MF729 Series

Service Manual

Introduction

Important Notices

🔵 Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair of products.
This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

🔵 Corrections

This manual may contain technical inaccuracies or typographical errors due to improvements or changes in products.
When changes occur in applicable products or in the contents of this manual, Canon will release technical information as the need arises. In the event of major changes in the contents of this manual over a long or short period, Canon will issue a new edition of this manual.

The following paragraph does not apply to any countries where such provisions are inconsistent with local law.

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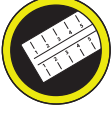
🔵 Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

🔵 Explanation of Symbols

The following symbols are used throughout this Service Manual.

Symbols	Explanation	Symbols	Explanation
👍	Check.	⬆️ 1x	Remove the claw.
👁️➡️	Check visually.	⬇️ 1x	Insert the claw.
👂	Check a sound.	👇	Push the part.

Symbols	Explanation	Symbols	Explanation
	Disconnect the connector.		Connect the power cable.
	Connect the connector.		Disconnect the power cable.
	Remove the cable/wire from the cable guide or wire saddle.		Turn on the power.
	Install the cable/wire to the cable guide or wire saddle.		Turn off the power.
	Remove the screw.		Loosen the screw.
	Install the screw.		Tighten the screw.
	Cleaning is needed.		Measurement is needed.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

   In the diagrams, ▮▮▮▮ represents the path of mechanical drive; where a signal name accompanies the symbol, the arrow ⟶ indicates the direction of the electric signal.

   The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.

   In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine.

Contents

Safety Precautions

Laser Safety

Since radiation emitted inside the machine is completely confined within protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.
Therefore this machine is classified in Class 1 laser products that are regarded as safe during normal use according to International Standard IEC60825-1.

How to Handle the Laser Scanner Unit

This machine is classified in Class 1 laser products.
However, inside the scanner unit, there is source of Class 3B laser beam and the laser beam is hazardous when entered into an eye. So, be sure not to disassemble the laser scanner unit. No adjustment can be made to the laser scanner unit in this machine in the field.
The label show in the following figure is attached on the laser scanner unit.

The following warnings are given to comply with Safety Principles (EN60950-1).

Diese Maschine ist der Klasse 1 der Laserprodukte zugeordnet.
Innerhalb der Scannereinheit befindet sich jedoch die Laserstrahlquelle der Klasse 3B und es ist gefährlich, wenn dieser Strahl in die Augen gerät. Die Laserscannereinheit darf unter keinen Umständen entfernt werden. Es dürfen in diesem Umfeld der Maschine keine Justagen an der Laserscannereinheit vorgenommen werden.
Das Etikett in folgendem Bild ist auf der Laserscannereinheit angebrachtt.
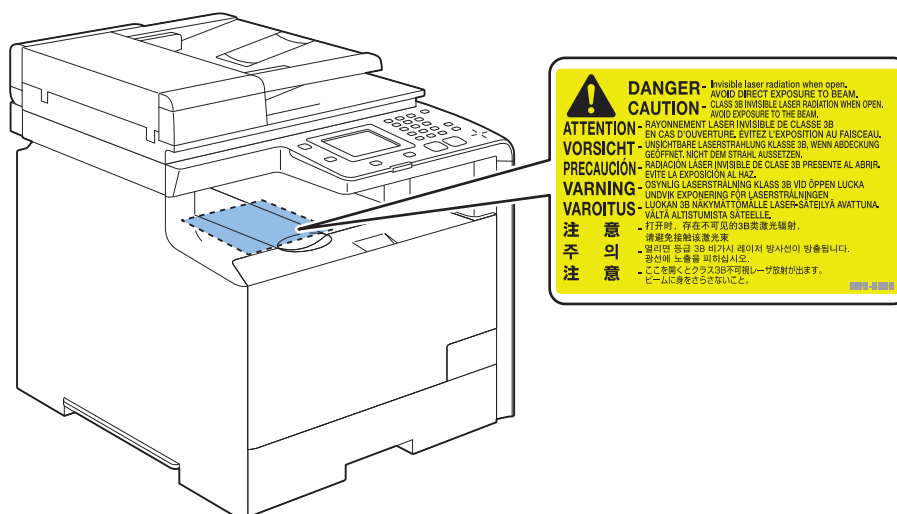
Toner Safety

About Toner

Toner is a nontoxic matter composed of plastic, iron and a trace of pigments.

> ⚠ **CAUTION:**
> Never throw toner in flames to avoid explosion.

Handling Adhered Toner

- Use dry tissue paper to wipe off toner adhered to skin or clothes and wash in water.

- Never use warm water for cleaning up toner to prevent toner particles from being gelated to soak into fibers permanently.
- Toner particles are reactive with vinyl polymers. Avoid contacting these materials.

Notes When Handling a Lithium Battery

⚠ CAUTION:
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

The following warnings are given to comply with Safety Principles (EN60950-1).

⚠ CAUTION:
Wenn mit dem falschen Typ ausgewechselt, besteht Explosionsgefahr.
Gebrauchte Batterien gemäß der Anleitung beseitigen.

警告

如果更換不正確之電池型式會有爆炸的風險

請依製造商說明書處理用過之電池

Notes on Assembly/Disassembly

Follow the items below to assemble/disassemble the device.
1. Disconnect the power plug to avoid any potential dangers during assembling/disassembling works.
2. If not specially instructed, reverse the order of disassembly to reinstall.
3. Ensure to use the right screw type (length, diameter, etc.) at the right position when assembling.
4. To keep electric conduction, binding screws with washers are used to attach the grounding wire and the varistor. Ensure to use the right screw type when assembling.
5. Unless it is specially needed, do not operate the device with some parts removed.
6. Never remove the paint-locked screws when disassembling.

CAUTION:
Double pole/neutral fusing

CAUTION

DOUBLE POLE/NEUTRAL FUSING

ACHTUNG

Zweipolige bzw. Neutralleiter-Sicherung

1 Product Overview

Product Lineups

● Host Machine

Function	MF729 Series (COUNTRY / REGION)	
	MF729Cx (EUR, AUS, AE/IND)	MF729Cdw (US/CND/LTN, TWN)
Appearance		
Copy	Yes	
Print	Yes	
Fax	Yes	
USB Scan	Yes	
Network Scan	Yes	
Wireless LAN	Yes	
Direct Mode	Yes	
NFC	Yes	
SEND	Yes	
Sequre Print	Yes	
Remote UI	Yes	
ADF (2-side)	Yes	
Automatic 2-sided Print	Yes	

● Options

■ Hardware Products
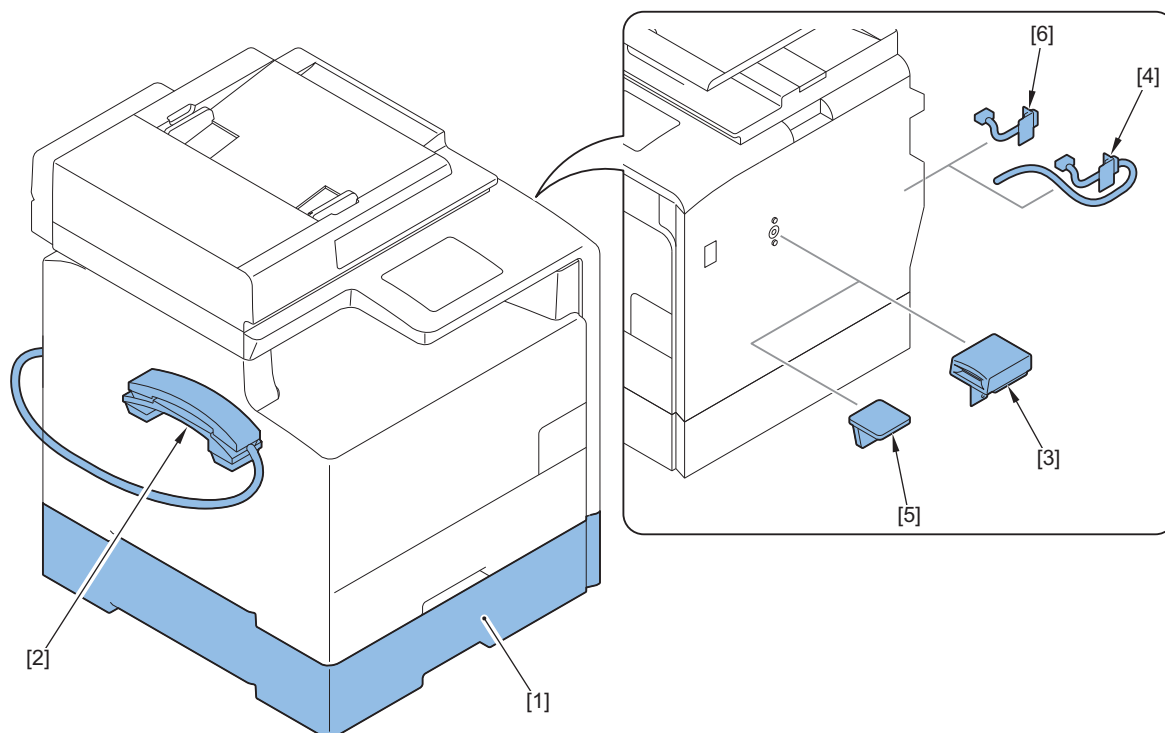
No.	Name	Description & Conditions	Remarks
1	Cassette Feeding Module-V1	Expansion of the number of sheets picked up: 250 sheets (60 to 90 g/m^2)	
2	TELEPHONE 6 KIT Long cord Cool White	Addition of phone	MF729Cx (EUR/AUS)
	HANDSET KIT 3 Long cord Cool White		MF729Cx (ASIA) Standard: MF729Cdw (TWN)
3	Copy Card Reader-F1	Copy Card Reader • Copy Card Reader Attachment-J1 is required • Cannot be installed with the MiCARD Attachment Kit-B1	
4	Copy Card Reader Attachment-J1	A base for installing the Copy Card Reader • It is required when installing the Copy Card Reader-F1 • Cannot be installed with the Copy Control Interface Kit-C1	
5	MiCARD Attachment Kit-B1	A base for installing the MiCARD • Cannot be installed with the Copy Card Reader-F1	
6	Copy Control Interface Kit-C1	Connector for connecting the coin vendor (CC-VI) • Cannot be installed with the Copy Card Reader Attachment-J1	

■ License Products

At the time of installation, obtain the license number according to the license certificate included. Then, enter the obtained license number from the Control Panel of the machine. The applicable functions are enabled.
There is no physical installation work at the time of installation.

Name	Description
Barcode Printing Kit-E1	Expansion of barcode font
Send PDF Security Feature Set-E1	Expansion kit for Signature PDF/Encryption PDF

Product Features

🔵 Features

■ Compact Size MFP

A compact body size for A4 color laser MFP has been realized.

478.5 mm

434 mm
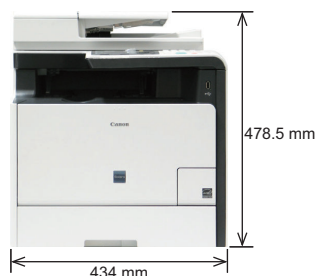
■ Improved Control Panel operability

A 3.5-inch color Touch Panel is installed. Support for touch and flick has realized the operability like a smartphone.
In addition, reducing the hard keys and changing them to icons in the display have realized the UI that allows for easy customization while maintaining the level of operability.

■ Direct Mode supported (supported models only)

Direct communication between the host machine and smartphone, tablet, PC, etc. has been realized.

■ Mobile print supported (Apple Air Print, Google Cloud Print)

Mobile print that enables printing from smartphone, tablet, PC, etc. via an application such as Google Docs™ and Gmail™ has been realized.

■ Wireless LAN supported

Connection between the host machine and PC by wireless communication (radio wave) via wireless LAN router has been realized.

Specifications

● Specifications of Host Machine

Item		Specification / Function
Copyboard		Fixed
Device Installation		Desktop
Light source		LED (RGB)
Photoreceptor		OPC drum (φ24)
Image scanning		CIS (color)
Light exposure method		Laser beam exposure
Charging method		Roller charging
Developing method		Contact development
Transfer method		Primary transfer: Sequential 4 colors transfer to Intermediate Transfer Belt Secondary transfer: 4-color batch transfer onto the transfer material by the Transfer Roller
Separation method		Curvature separation
Cassette paper feed		Simple separation retard
MP Tray paper feed		Pad separation method
Drum cleaning method		Cleaning blade
Transfer cleaning method		Cleaning brush and roller
Fixing method		On-demand fixing
Paper delivery method		Face-down
Toner level sensor		Mounted
Toner type		Non-magnetic one-component toner
Toner supply method		All-in-one cartridge (drum + toner)
Toner save mode		N/A
Document types		Sheet / book
Maximum document size		Copyboard Glass: 216 mm × 297 mm Feeder: 216 mm × 356 mm
Document size sensor		N/A
Image size magnification		AB series: 25.0%, 50.0%, 70.7%, 81.6%, 86.5%, 100.0%, 115.4%, 122.4%, 141.4%, 200.0%, 400.0% INCH series: 25.0%, 50.0%, 64.7%, 78.5%, 100.0%, 129.4%, 200.0%, 400.0% A series: 25.0%, 50.0%, 70.7%, 100.0%, 141.4%, 200.0%, 400.0% AB/INCH series: 25.0%, 50.0%, 70.7%, 81.6%, 86.5%, 100.0%, 115.4%, 122.4%, 141.4%, 200.0%, 400.0% Zoom: 25 to 400% (1% increment)
Warm-up Time *1		About 20 seconds or less
Print area	Cassette	For print jobs (Non-envelope): 　• Leading edge: 5.0 +/- 2.0 mm 　• Left Side: 5.0 +/- 1.5 mm For print jobs (envelope): 　• Leading edge: 10.0 +/- 2.0 mm 　• Left Side: 10.0 +/- 1.5 mm For copy jobs: 　• Leading edge: 5.0 +/- 2.0 mm 　• Left Side: 5.0 +/- 1.5 mm FAX / Report: 　• Leading edge: 5.0 +/- 2.0 mm 　• Left Side: 5.0 +/- 1.5 mm

Item		Specification / Function
Print area	MP Tray	(Non-envelope) For print jobs: • Leading edge: 5.0 +/- 2.0 mm • Left Side: 5.0 +/- 1.5 mm For copy jobs: • Leading edge: 5.0 +/- 2.0 mm • Left Side: 5.0 +/- 1.5 mm FAX / Report: • Leading edge: 5.0 +/- 2.0 mm • Left Side: 5.0 +/- 1.5 mm (envelope) For print jobs / For copy jobs: • Leading edge: 10.0 +/- 2.5 mm • Left Side: 10.0 +/- 2.5 mm
Reading resolution		Color: 600 x 600 dpi, 300 x 600 dpi, 300 x 300 dpi B&W: 600 x 600 dpi, 300 x 600 dpi
Reading Speed		Fixed (A4/LTR): • N/A Continuous reading, SEND: • Color: 10 images / minute (A4/LTR) • B&W: 20 images / minute (A4) • B&W: 21 images / minute (LTR)
Copy resolution		600 x 600 dpi
Print resolution		600 x 600 dpi
First copy time		Fixed (A4/LTR): • Color: 16.2 seconds or less • B&W: 15.5 seconds or less Continuous reading (A4/LTR): • Color: 16.7 seconds or less • B&W: 16.4 seconds or less
First print time		Color / B&W: 14.5 seconds or less (A4/LTR)
Print Speed		1-sided print (A4/LTR): • Color / B&W: 20 ppm 2-sided print (A4/LTR): • Color / B&W: 10 ppm
Available paper type for cassette		Plain paper, Recycled paper, Color paper, Thick paper, Coated paper, Label, Postcard, Envelope (Refer to "Paper types / Paper size" on page 13)
Available paper type for MP Tray		Plain paper, Recycled paper, Color paper, Thick paper, Coated paper, Transparency, Label, Postcard, Envelope (Refer to "Paper types / Paper size" on page 13)
Available paper size in cassette		A4, B5, A5, LGL, LTR, STMT, EXEC, OFFICIO, B-OFFICIO, M-OFFICIO, GLTR, GLGL, FLS, AFLS, indLGL, K16, Postcard, Reply Postcard, Envelopes (COM10, Monarch, Nagata 3, Yougatanaga 3, C5, DL), Custom Paper Size (Refer to "Paper types / Paper size" on page 13)
MP Tray paper size		A4, B5, A5, LGL, LTR, STMT, EXEC, OFFICIO, B-OFFICIO, M-OFFICIO, GLTR, GLGL, FLS, AFLS, indLGL, K16, Postcard, Reply Postcard, Envelopes (COM10, Monarch, Nagata 3, Yougatanaga 3, C5, DL), Custom Paper Size (Refer to "Paper types / Paper size" on page 13)
Cassette capacity		Cassette: 250 sheets (60 to 90 g/m^2) Option: 250 sheets (60 to 90 g/m^2)
MP Tray capacity		50 sheets (60 to 90 g/m^2)
Delivery tray stacking capacity *2		125 sheets (60 to 90 g/m^2)
Continuous copying		1 to 99 sheets
Automatic 2-sided		Available (A4, B5, LGL, LTR, EXEC, FLS)
Memory capacity		1 GB
Sleep mode		Available
Allowable environmental temperature		10 to 30 deg C
Allowable humidity		20 to 80% in relative humidity (no condensation)

Item	Specification / Function
Operational noise	At stand-by: • 43 dB or lower (acoustic power level) During copy jobs: • Color: 67 dB or lower • B&W: 66 dB or lower
Power rating	Rated input voltage: 100 V (100 V system), 120 to 127 V (120 V system), 220 to 240 V (200 V system) Rated input frequency: 50/60 Hz
Maximum power consumption	100 V / 120 V / 230 V: 1200 W or lower
Average power at operation	100 V / 120 V / 230 V: 550 W or lower
Average power at standby	100 V / 120 V: 23 W 230 V: 25 W
Average power at sleep mode	100 V / 120 V / 230 V: 1 W (wired) / 2 W (wireless)
Power consumption at Main Power Switch OFF	0.5 W or lower
Ozone emission	Color: 3.0 mg/h B&W: 1.5 mg/h
Dimensions (W x D x H)	ADF model: 434 × 484 × 478.5 mm ADF model (with the optional cassette): 434 × 484 × 578.5 mm
Weight	Device (including toner cartridges): Approx. 31 kg Optional cassette: Approx. 4 kg
Accessories	Refer to "Options" on page 6

*1 : Warm-up time is an interval between when the machine is turned ON and when the main screen appears on the display. Warm-up time may vary depending on the use conditions and environment of the machine.

*2 : The actual stack capacity varies depending on the site environment and the type of paper used.

ADF Specifications

Item	Specification / Function
Document setting direction	Set the document face up (face-up method)
Document setting position	Center reference
Document processing mode	1-sided document: 1-sided copy/2-sided copy 2-sided document: 1-sided copy/2-sided copy
Document scanning	Continuous reading
Loadable sheets	A4/LTR: 50 sheets (80 g/m^2), LGL: 30 sheets (80 g/m^2)
Mixed paper reading	Copyboard Glass: 216 mm × 297 mm Feeder: 216 mm × 356 mm
Mixed paper	Available
Document AE sensor	N/A
Document size sensor	N/A
Stamp function	N/A
Allowable environment	Same as device

Wireless LAN Specifications

Item	Specification / Function
Standard	IEEE 802.11g / IEEE 802.11b / IEEE 802.11n *
Transmission Scheme	DS-SS System / OFDM System
Frequency Range	2.412 to 2.462GHz

Item	Specification / Function
Data Transmission Rate	IEEE 802.11g: • 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps IEEE 802.11b: • 1/2/5.5/11 Mbps IEEE 802.11n: • SGI Invalidated 20 MHz : 6.5 / 13 / 19.5 / 26 / 39 / 52 / 58.5 / 65 Mbps • SGI Validated 20 MHz : 7.2 / 14.4 / 21.7 / 28.9 / 43.3 / 57.8 / 72.2 Mbps • SGI Invalidated 40 MHz : 13.5 / 27 / 40.5 / 81 / 108 / 121.5 / 135 Mbps • SGI Validated 40 MHz : 15 / 30 / 45 / 60 / 90 / 120 / 150 Mbps
Communication Mode	• Infrastructure Mode • Direct Mode
Security	WEP, WPA-PSK (TKIP/AES-CCMP), WPA2-PSK (TKIP/AES-CCMP)

*: WPS (Wi-Fi Protected Setup), Connection can be established by manually setting values.

● SEND Specifications

Item	Specification / Function			
	File Server Transmission	**E-mail Sending**	**IFAX**	
			Reception	**Transmission**
Communication Protocol	SMB (TCP/IP) , FTP	SMTP		
Data Format	PDF, PDF (Compact), PDF(Compact/OCR), PDF(OCR), JPEG, TIFF	PDF, PDF (Compact), PDF(Compact/OCR), PDF(OCR), JPEG, TIFF	TIFF (BW)	JPEG, TIFF (Profile-S, Profile-F)
System Environment	• Windows XP / Vista / 7 / 8 / Server 2003 / Server 2008 / Server 2012 • Solaris Version 2.6 or later • Mac OS X (Mac OS X 10.7 and 10.8 are not supported.) • Red Hat Linux 7.2 or later	• Windows XP / Vista / 7 / 8 / Server 2003 / Server 2008 / Server 2012 • Solaris Version 2.6 or later • Mac OS X • Red Hat Linux 7.2 or later		
Interface	100BASE-TX, 10BASE-T			
Inputted Image	Text, Text / Photo, Photo			
Color Mode	Color, Black/White			
Paper Size	AB configuration: A4, A5, B5 Inch configuration: Legal (LGL), Letter (LTR), Statement (STMT)			

*1: Size of recording paper at I-Fax reception is A4 size or larger.

🔵 FAX Specifications

Item	Specification / Function
Suitable line	Public Switched Telephone Network (PSTN) * Telephone line connection: 1
Communication Protocol	Super G3, G3
Modulation method	Image modulation: V.34 / V.17 / V.29 / V.27ter Transmission procedure: V.21
Transmission speed	33,600 bps
Compression method	JBIG, MMR, MR, MH
Error correction method	ECM

Minimum receivable input level	V.17 / V.27ter / V.29:
	  • -6 to -43 dBm
	V.34:
	  • 24.0 k to 28.8 k bps: -43 dBM
	  • 28.8 k to 33.6 k bps: -38 dBm
	  • 33.6 k bps: -9 dBm

Modem IC	SiliconLabs Si2435
Scanning line density	Normal: 200 x 100 dpi Fine: 200 x 200 dpi Photo: 200 x 200 dpi Super fine: 200 x 400 dpi Ultra fine: 400 x 400 dpi
Half tone	256 tones
Receivable reduction setting	Automatic reduction: 75-100% (1% increment)
FAX/TEL switching	Available
Answering machine transfer setting	Available
Remote reception	Available
Auto-dialing	Available
Delayed transmission	N/A
Broadcast transmission	Destinations: up to 210
Dual access	Up to 10 schedules
Image data backup	Available

*: Up to 33.6Kbps in modem speed is currently available in PSTN. Note that available modem speed is telephone-line dependent.

● Paper types / Paper size

Type	Size	Width direction (mm)	Feeding direction (mm)	Pickup position	
				MP Tray	Cassette
Recycled paper (60 to 74 g/m^2) Color paper (60 to 74 g/m^2) Plain paper 1 (60 to 74 g/m^2) Plain paper 2 (70 to 84 g/m^2) Plain paper 3 (75 to 90 g/m^2) Thick paper 1 (86 to 119 g/m^2) Thick paper 2 (120 to 128 g/m^2) Thick paper 3 (129 to 163 g/m^2)	A4 *2	210.0	297.0	Yes	Yes
	B5	182.0	257.0	Yes	Yes
	A5	148.0	210.0	Yes	Yes
	LGL	215.9	355.6	Yes	Yes
	LTR *2	215.9	279.4	Yes	Yes
	STMT	139.7	215.9	Yes	Yes
	EXEC	184.1	266.7	Yes	Yes
	OFFICIO	215.9	317.5	Yes	Yes
	B-OFFICIO	215.9	355.0	Yes	Yes
	M-OFFICIO	215.9	341.0	Yes	Yes
	GLTR	203.2	266.7	Yes	Yes
	GLGL	203.2	330.2	Yes	Yes
	FLS	215.9	330.2	Yes	Yes
	AFLS	206.0	338.0	Yes	Yes
	indLGL	215.0	345.0	Yes	Yes
	K16	195.0	270.0	Yes	Yes
	Custom Paper Size	-		Yes *3	Yes *4
Coated paper 1 (100 to 110 g/m^2) Coated paper 2 (120 to 130 g/m^2) Coated paper 3 (155 to 165 g/m^2)	A4	210.0	297.0	Yes	Yes
	LTR	215.9	279.4	Yes	Yes
Coated paper 4 (210 to 220 g/m^2)	A4	210.0	297.0	Yes	No
	LTR	215.9	279.4	Yes	No
Transparency *1	A4	210.0	297.0	Yes	No
	LTR	215.9	279.4	Yes	No
Label	A4	210.0	297.0	Yes	Yes
	LTR	215.9	279.4	Yes	Yes
	Custom Paper Size	-		Yes *3	Yes *4
Postcard	Postcard	100	148	Yes	Yes
	Reply Postcard	148	200	Yes	Yes
Envelopes	Envelopes COM10	104.7	241.3	Yes	Yes
	Envelopes Monarch	98.4	190.5	Yes	No
	Envelopes Nagagata 3	120	235	Yes	Yes
	Envelopes Yougatanaga 3	120	235	Yes	Yes
	Envelopes C5	162	229	Yes	Yes
	Envelopes DL	110	220	Yes	Yes
	Custom Paper Size	-		Yes *3	Yes *4

*1: Use transparency sheets for laser printers. (Canon's genuine transparency sheets are specially recommended.)

*2: Fax-received documents or reports can be printed. (excluding heavy paper)

*3: Paper of the following custom paper sizes can be loaded.
 • Width 3" to 8 1/2" (76.2 to 215.9 mm); Length 5" to 14"(127 to 355.6 mm)

*4: Paper of the following custom paper sizes can be loaded.
 • Width 4" to 8 1/2" (100 to 215.9 mm); Length 5 7/8" to 14" (148 to 355.6 mm)

Name of Parts

● External View

■ Front Side
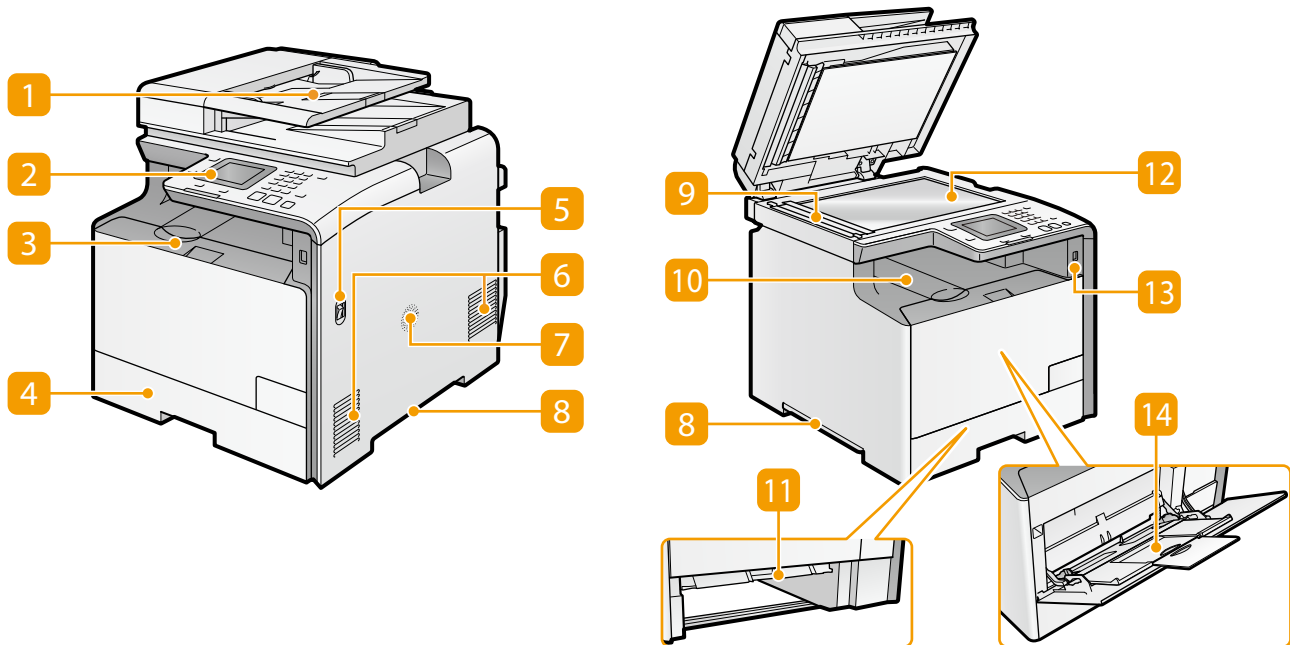
No.	Name	No.	Name
1	Feeder	8	Grip
2	Control panel	9	Paper scanner for document from feeder
3	Front cover	10	Delivery tray
4	Paper cassette	11	Manual feed guide
5	Main power switch	12	Copyboard glass
6	Vent-hole	13	USB memory port
7	Speaker	14	Multi-purpose tray (MP tray)

■ Rear Side
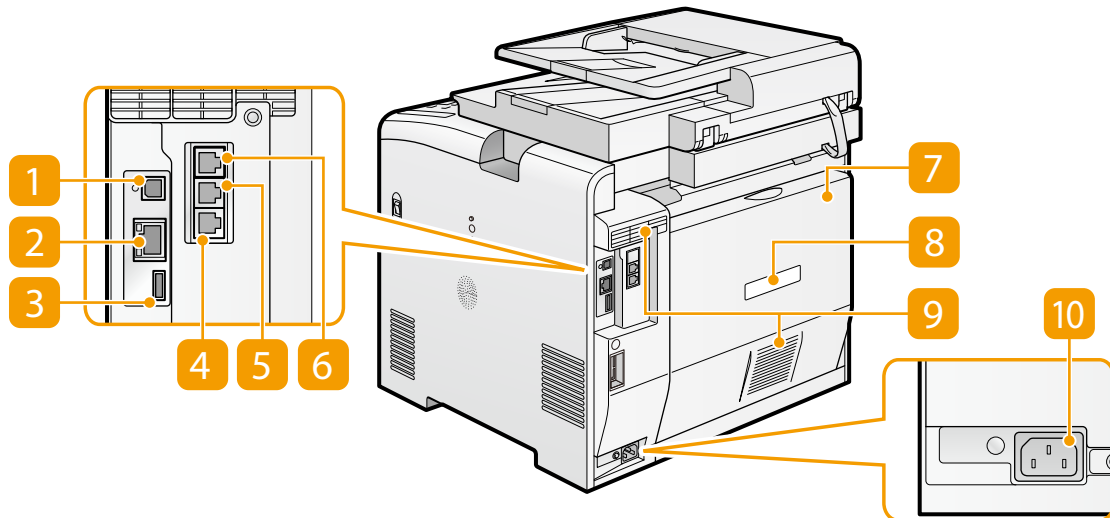
No.	Name	No.	Name
1	USB port	6	Handset terminal
2	LAN port	7	Rear cover
3	USB port	8	Rating plate
4	Telephone line terminal	9	Vent-hole
5	External telephone terminal	10	Power socket

■ Inside
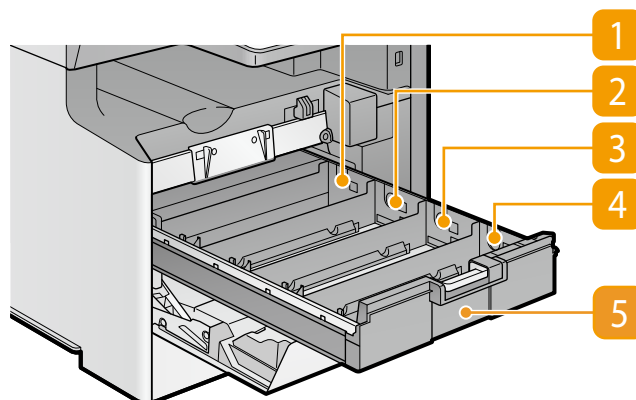
No.	Name
1	Y toner cartridge slot
2	M toner cartridge slot
3	C toner cartridge slot
4	Bk toner cartridge slot
5	Toner cartridge tray

Cross Section View

■ Host Machine
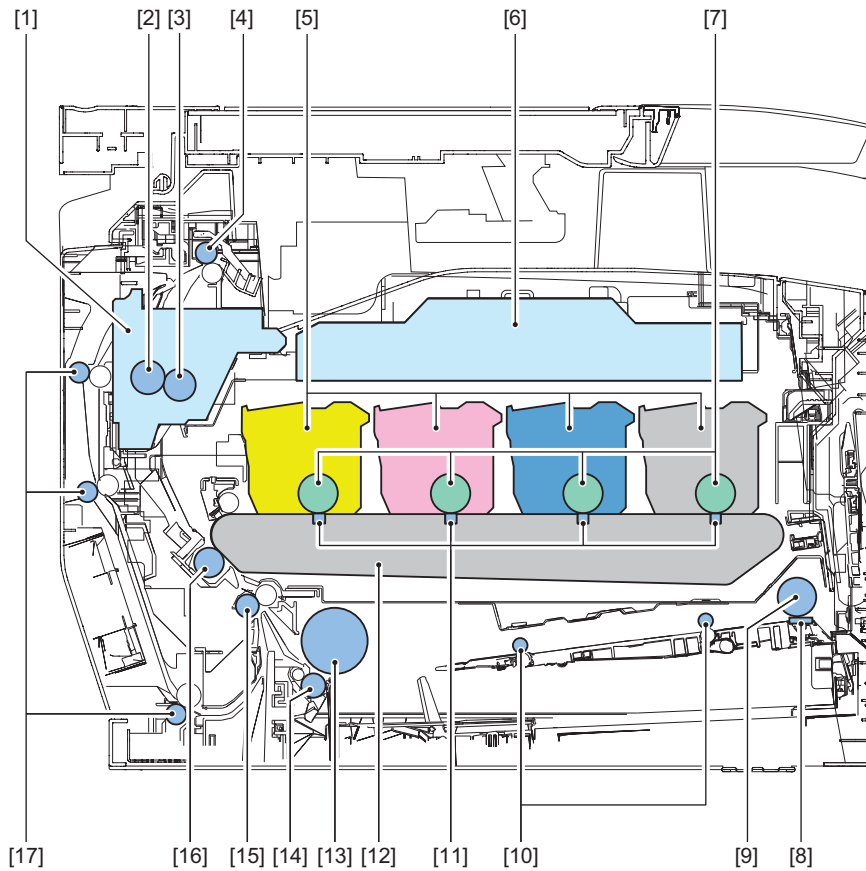
No.	Name	No.	Name
1	Fixing assembly	10	MP tray feed roller
2	Pressure roller	11	Primary transfer pad
3	Fixing film unit	12	ITB unit
4	Delivery roller	13	Cassette pickup roller
5	Toner cartridge	14	Cassette separation roller
6	Laser scanner unit	15	Registration roller
7	Photosensitive drum	16	Secondary transfer external roller
8	MP tray separation pad	17	Duplex feed roller
9	MP tray pickup roller		

■ Reader / ADF Unit
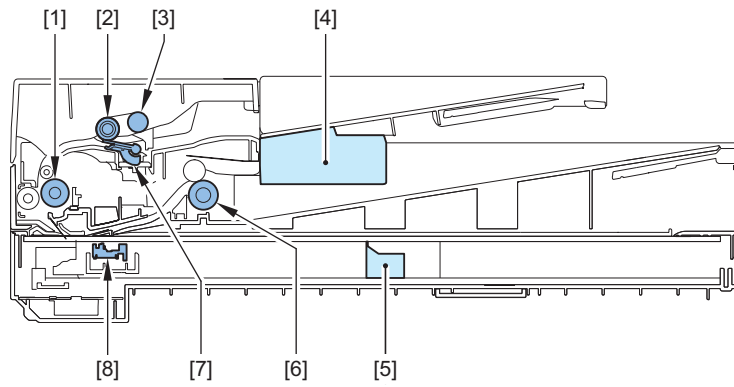
No.	Name	No.	Name
1	ADF registration roller	5	Reader unit
2	ADF separation roller	6	ADF delivery roller
3	ADF pickup roller	7	ADF separation pad
4	ADF unit	8	CIS unit

Control Panel
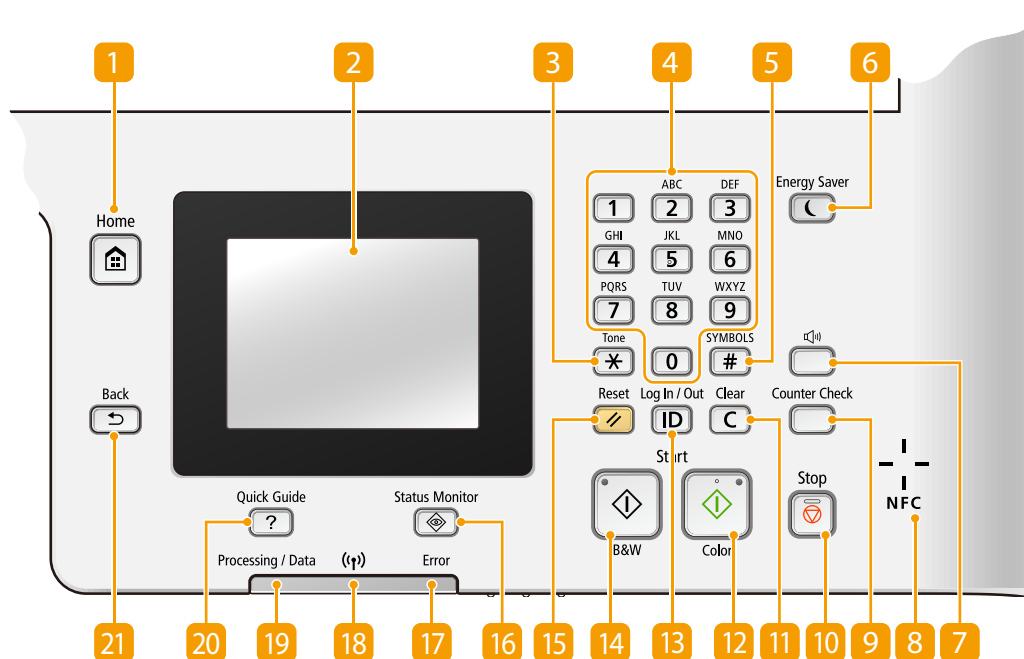
No.	Name	Explanation
1	[Home] key	Press to display the <Home> Screen.
2	Display	You can view the progress of copy, fax, and other jobs and error statuses. The display is a touch panel, allowing you to operate the screen by touch to specify settings.
3	[*] key	• Press to switch the type of text that is entered. • Press to use tone dialing such as when receiving fax information services.
4	Numeric keys ([0]-[9] keys)	Press to enter numbers and text.
5	[#] key	Press to enter symbols such as "@" or "/".
6	[Energy Saver] key	Press to put the machine into sleep mode. The key lights up green when the machine is in sleep mode. Press the key again to exit sleep mode.
7	[Sound Volume] key	Press to adjust volume.
8	NFC (Near Field Communication) mark	Pass an NFC-enabled smartphone,etc. with a Canon NFC-compliant application installed on it over this mark to perform printing and other operations.
9	[Counter Check] key	Press to view the counter values of printouts as well as the list of the available optional equipment.
10	[Stop] key	Press to cancel copying, faxing, and other operations.
11	[Clear] key	Press to delete the entered numbers and text.
12	[Start] (Color) key	Press to scan or copy documents in color. In addition, if you press this key when you start printing images from a USB memory device, printouts are printed in color.
13	[ID] key	Press after entering the ID and PIN to log on when Department ID Management is enabled. After you finish using the machine, press this key again to log off.
14	[Start] (B&W) key	Press to scan or copy documents in black and white. In addition, if you press this key when you start printing images from a USB memory device, printouts are printed in black and white.
15	[Reset] key	Press to cancel the settings and restore the previously specified settings.
16	[Status Monitor] key	Press to check the status of printing or faxing, to view the usage history, or to view the network settings such as the IP address of the machine. You can also check the status of the machine, such as the remaining amounts of paper and toner, or whether any errors occurred.
17	[Error] indicator	Blinks or lights up when an error such as a paper jam occurs.
18	Wi-Fi indicator	Lights up when the machine is connected to wireless LAN.
19	[Processing/Data] indicator	Blinks while operations such as sending or printing are being performed. Lights up when there are documents waiting to be processed.
20	[Quick Guide] key	Press to view operation guidance and error causes/solutions.
21	[Back] key	Press to return to the previous screen. If you press this key when specifying settings, for example, the settings are not applied and the display returns to the previous screen.

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2 Technical Explanation

Basic Configuration

🔵 Configuration function

This device is roughly composed of the 6 functional blocks as shown in the figure below
- Document exposure/delivery system
- Controller system
- Laser exposure system
- Image formation system
- Fixing system
- Pickup / Feed System
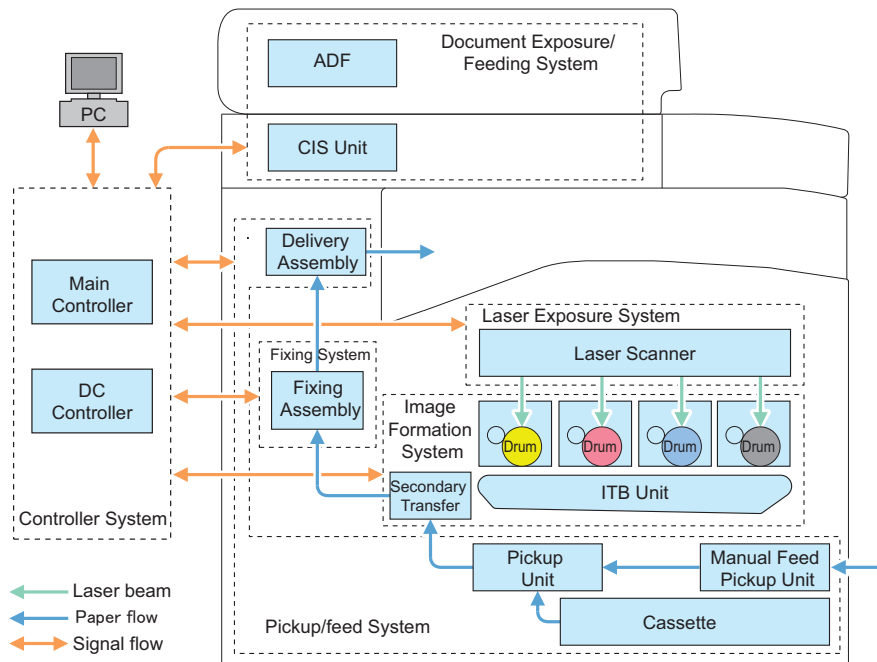
🔵 Basic Sequence

■ Basic Operational Sequence

The CPU on the DC controller PCB controls the operational sequence. The table below shows the operation and the purposes in each status from start-up of the device and to last rotation after print job completion.

Section	Outline	Operation
WAIT (Wait)	Interval from power-ON or reactivation from sleep mode upon shutting the door(s) to entering the print-ready status	Activate the printer to be ready for printing. During WAIT time, the following operations are done: pressure is applied to the pressure roller of the fixing assembly; check cartridges and units being in place; move the developing unit to the home position; and, clean the ITB. When needed, color displacement is corrected and the image is stabilized.
STBY (STBY)	Interval from the wait time or the last rotation to issuance of a print command from the main controller or power-OFF.	Maintain the print-ready status. The printer enters the sleep mode upon receiving a "sleep" command from the main controller during the stand-by status. The printer executes color displacement correction or image stabilization upon receiving corresponding commands from the main controller.
INTR (IINTR)	Interval from issuance of a print command from the main controller during the stand-by status to warming up the fixing assembly to the target temperature.	To make the printer ready for print jobs, activate high-voltage bias PCBs, the laser scanner unit and the fixing assembly.
PRINT (Print)	Interval from the initial rotation to completion of last page fixation.	Based on the video signals input from the main controller, form the static latent image on the photosensitive drum to transfer and fix the toner image on paper. When a certain pages are printed after power-ON, the device undergoes color displacement correction and/or image stabilization.

Section	Outline	Operation
LSTR (Last rotation)	Interval from print job completion to motor deactivation.	The last page of the print job is completely delivered. In this status, the laser scanner unit and high-voltage bias PCBs are inactive. The printer starts the initial rotation upon receiving a print command from the main controller during this status.

■ Print Sequence

See "Appendix" > "Print Sequence" in this manual.

■ Print Mode

The models of this series switch among 3 print modes to optimize the paper feed speed for printing.

Print mode	Paper feed speed	Paper type	Print speed	Remarks
Normal speed mode	1/1 speed	Plain paper 1 (60 to 74 g/m^2) Plain paper 2 (70 to 84 g/m^2) Plain paper 3 (75 to 90 g/m^2) Recycled paper (60 to 74 g/m^2) Color paper (60 to 74 g/m^2) Thick paper 1 (86 to 119 g/m^2)[1] Thick paper 2 (120 to 128 g/m^2)[2] Coated paper 1 (100 to 110 g/m^2)[4]	20 ppm[6]	Common to color and B&W printing
1/2 speed mode	1/2 speed	Thick paper 1 (91 to128 g/m^2)[1] Thick paper 2 (120 to 128 g/m^2)[2] Thick paper 3 (129 to163 g/m^2)[3] Coated paper 1 (100 to 110 g/m^2)[4] Postcards[5]	9.7 ppm[6]	
1/3 speed mode	1/3 speed	Thick paper 3 (129 to 163 g/m^2)[2] Coated paper 2 (120 to 130 g/m^2) Coated paper 3 (155 to 165 g/m^2) Coated paper 4 (210 to 220 g/m^2) Transparency Labels Postcards[5] Envelopes	7.6 ppm[6]	

[1]: For Thick Paper 1 (86 to 119 g/m^2), switched to normal mode when environment temperature is 20 deg C and above, and switched to 1/2 speed mode when the temperature is lower than 20 deg C.

[2]: For Thick Paper 2 (120 to 128 g/m^2), switched to normal mode when environment temperature is 20 deg C and above, and switched to 1/2 speed mode when the temperature is lower than 20 deg C.

[3]: For Ticick Paper 3 (129 to 163 g/m^2), switched to 1/2 speed mode when environment temperature is 20 deg C and above, and switched to 1/3 speed mode when the temperature is lower than 20 deg C.

[4]: For Coated paper 1 (100 to 110 g/m^2), switched to normal mode when environment temperature is 20 deg C and above, and switched to 1/2 speed mode when the temperature is lower than 20 deg C.

[5]: For Postcard, switched to 1/2 speed mode when environment temperature is 20 deg C and above, and switched to 1/3 speed mode when the temperature is lower than 20 deg C.

[6]: The fastest print speed in each mode.

Document Exposure/Feeder System

⬤ Document Exposure System

■ Overview

Specifications / Control / Function List

Item	Function / Method
Document Exposure	LED

Document Scan	Book Mode:
	  • Scan by the shift of the contact sensor (CIS)
	ADF:
	  • Document stream reading by fixed contact sensor (CIS)

Scanning Resolution	Color:
	  • 600 dpi (horizontal scanning) x 600 dpi (vertical scanning)
	  • 300 dpi (horizontal scanning) x 600 dpi (vertical scanning)
	  • 300 dpi (horizontal scanning) x 300 dpi (vertical scanning)
	Black and White:
	  • 600 dpi (horizontal scanning) x 600 dpi (vertical scanning)
	  • 300 dpi (horizontal scanning) x 600 dpi (vertical scanning)

Number of Gradations	256 Gradations
Magnification	25% to 400% Horizontal scanning direction: Image processing by the Main Controller PCB Vertical scanning direction: The speed at which the carriage moves and image processing by the Main Controller PCB
Lens	CIS/Color
CIS	Number of lines: 1 line Number of pixels: 5184 pixels as total pixels (5107 pixels as effective pixels) Maximum document scanning width: 216mm
CIS Drive Control	Drive Control by Reader Motor (M720)
Document Size Detection	None
Dirt Sensor Detection	None

■ Major Components

Followings are the major components for Document Exposure System.
- The contact sensor to scan document.
- The Reader motor (M720), The drive pulley, The drive belt, to shift The contact sensor

In image scanning control, the contact sensor is shifted by rotating the Reader motor based on the drive signal from the Main Controller PCB and scan the original on the copyboard glass. When ADF is in use, image is scanned by feeding the originals by ADF instead of shifting the contact sensor.

Drive Belt

Drive Pulley

Reader Motor (M720)

Drive Pulley

Contact Image Sensor (CIS)
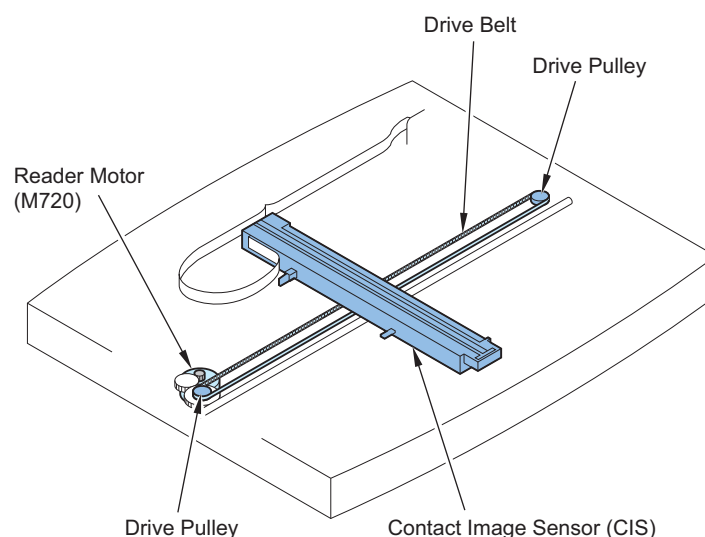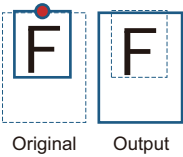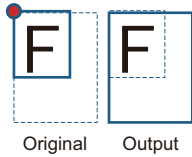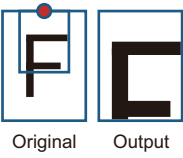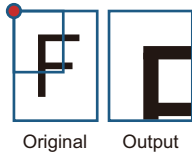
■ Reference Position for Reading/Printing

The reference position for reading/printing from the copyboard or ADF is explained below.

● Reference Position for Reading
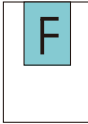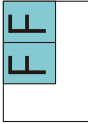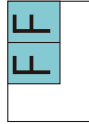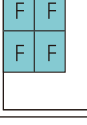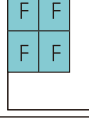
Upper left alignment is applied when the original is read from the copyboard, and center alignment is applied when the original is read from the ADF.
In the case where only a part of the document is read due to the scaling setting, the read area and the output result differ between copyboard reading and ADF reading.

	ADF (center alignment)		Copyboard (upper left alignment)	
Set scaling (original size < recording paper size)	Original	Output	Original	Output
Set scaling (enlargement)	Original	Output	Original	Output

● Reference Position for Printing

Only when the original is read from ADF without reduction layout setting (1 on 1), it is printed in center alignment. In other cases, upper left alignment is applied for printing.

	ADF (center alignment)	Copyboard (upper left alignment)
1 in 1		
2 in 1		
4 in 1		

⬤ Document Feeder System

■ Overview

Pickup/Feed/Delivery Operation
The Auto Document Feeder (ADF) mounted onto this host machine is dedicated to stream-reading.
1 Motor (ADF Motor: M721) is engaged in Pickup/Feeding/Delivery.
At the start of Copy/Fax/Scan, the ADF Motor (M721) is driven by the drive command from the Main Controller PCB to Pickup/ Feed the originals set face up on the original tray one by one in order from the top. The original is scanned by the contact sensor when moving through the copyboard glass, and then delivered face down to the original Delivery Assembly.
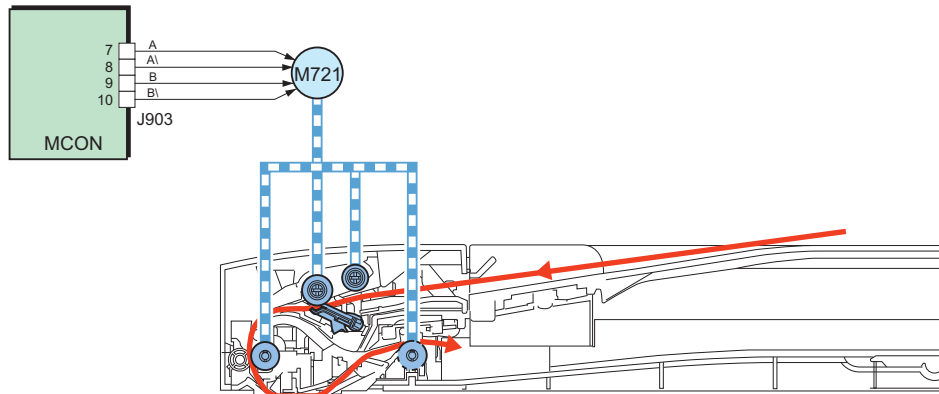
■ Various Control

● Original Detection

There are two types of Original Detection in this Equipment.

1. Original Presence / Absence Detection
   Setting the original onto the original tray pushes up the actuator, activating (light shielded =>light transmitted) the Document Sensor (SR703), and resulting in detection of the presence of original.

2. Detection of the End of the Original
   The leading edge of the original that is fed pushes up the actuator, activating the Document End Sensor (SR702) (light shielded =>light transmitted) and resulting in detection of the reach of the leading edge of original. Furthermore, when the trailing edge of the original passes the actuator position, the actuator returns to the original position, inactivating the Document End Sensor (SR702) (light transmitted => light shielded). The trailing edge of the original is detected by this mechanism. The original length that can be scanned with this equipment is less than 400 mm. Passing of the original longer than this results in jam stop. The original length is calculated by the time it takes from detection of the leading edge of the original to detection of the trailing edge of the original.

> **NOTE:**
> There is no function to detect the original size (original width, length) in this equipment.
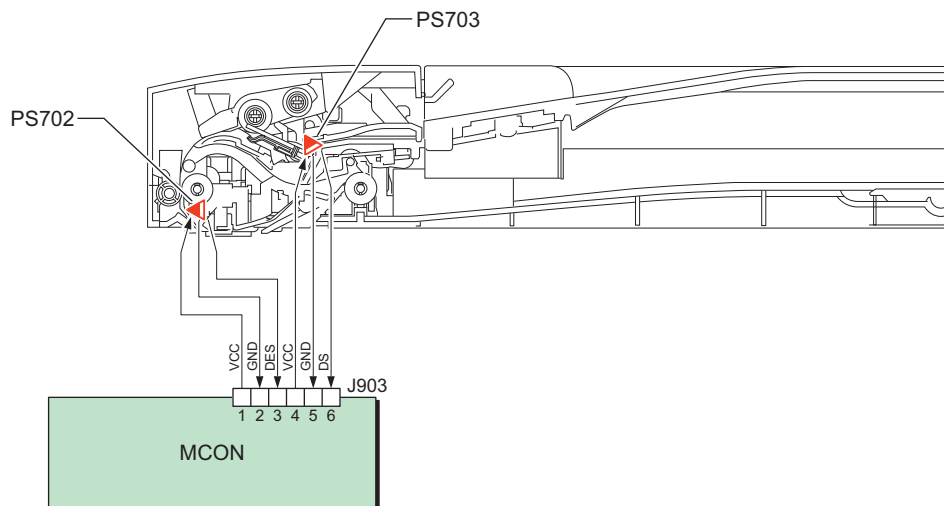
● Jam Detection

The following cases are judged as jam.

1. In case of delay in reaching DS/DES or stationary during scanning of original
2. In case DS/DES is detected as ON at power-on (residual paper jam)
3. In case of detecting original of which length is 400 mm or longer

Operation after Detection of Jam

The host machine stops scanning operation and displays "CHECK DOCUMENT" on the control panel. No jam code is displayed.
In case of the model equipped with fax function (with built-in speaker), the warning beep occurs at the detection of jam.

How to release Jam.

Remove the jammed paper and open / close the ADF upper cover

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Controller System

Overview

This product is mainly controlled by the main and DC controllers.
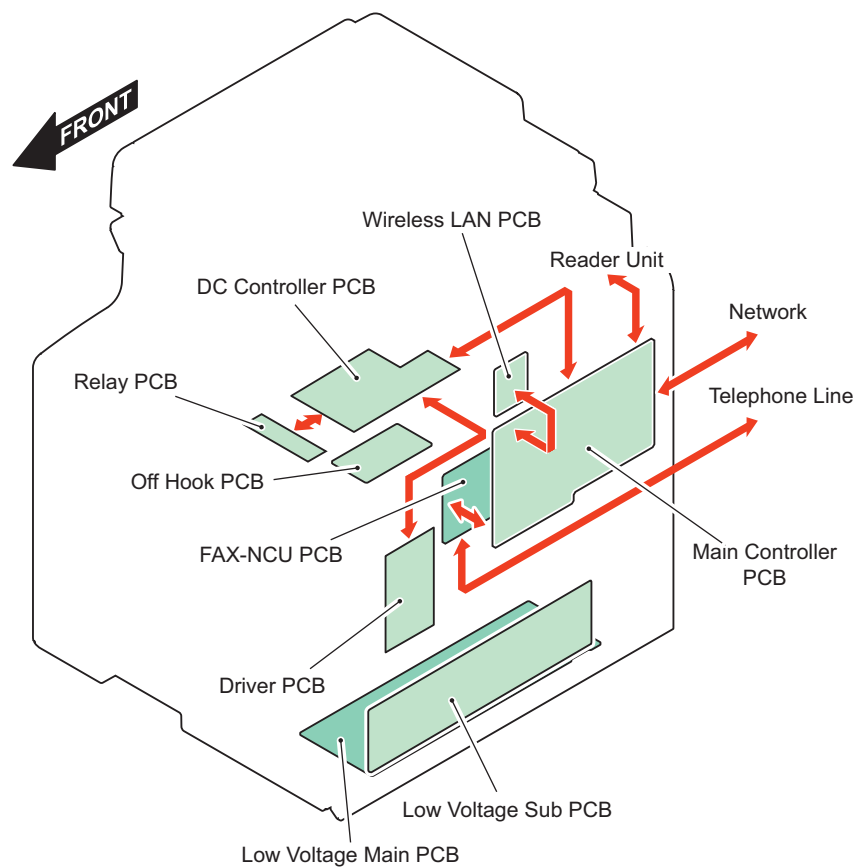
Parts name	Role
Main Controller PCB	Provides controls on the system, image processing, reader / ADF, FAX and network and maintain various setting values.
DC Controller PCB	Provides controls on printer, laser, high-voltage PCBs, I/O, etc. and maintain setting values.

Controls

■ Motor Controls

This product uses 3 motors for paper feed and image formation.
The tables below show motor specifications used in this product.

Name	Symbol	Driven parts	Type	Failure detection
Drum Motor	M1	Photosensitive drum, developing cylinder, ITB	DC Motor	Available
Registration Motor	M3	Registration Roller	Stepping Motor	Not Available
Developing Motor	M2	Developing Cylinder	DC Motor	Available
Fixing Motor	M4	Pressure Roller, Delivery Roller, Diplex Feed Roller	Stepping Motor	Not Available
Pickup Motor	M5	Pickup Roller, Multi Manual feed Roller, Multi Purpose Tray Pickup Roller	Stepping Motor	Not Available

■ Open door detection

This product detects door opening by the door open sensor.

Sensor Name	Function
Front Cover Sensor (SR612)	Detect open the Front Cover.
Rear Cover Sensor (SR613)	Detect open the Rear Cover.

When this sensor detects door opening, the DC controller stops driving motors and solenoids.

■ Low-Voltage Power Supply Control

This circuit converts AC voltage input from the power supply receptacle through the fixing power supply into DC power supply and supplies it to each load.
See the figures below for low-voltage / fixing power supply block diagrams.
  • Low-voltage power supply: generates DC power supply required in the printer.
  • Fixing power supply: supplies AC power supply to the low-voltage power supply and control the fixing heater temperatures.
The low-voltage power supply is actuated when the AC power supply is attached to the inlet and the power switch is turned on.
The AC power supply supplied through the fixing power supply is converted to + 24V and + 3.3V of the DC power supply in the low-voltage power supply before supplied to the printer engine.
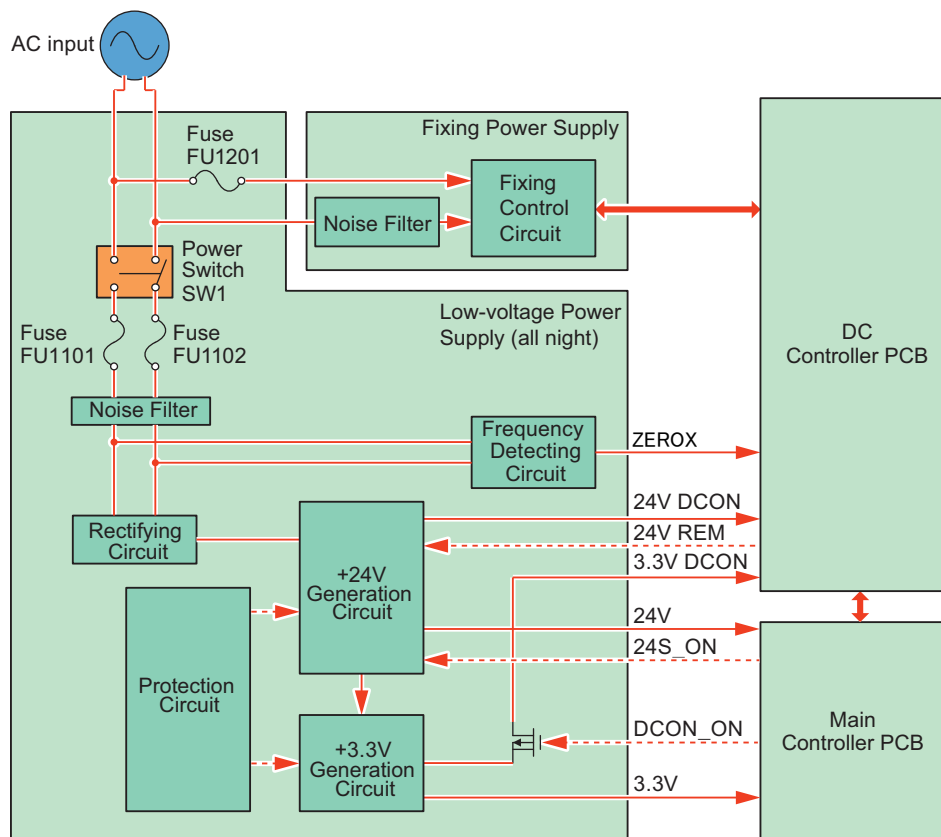
■ Protective control

The low-voltage power supply has protective controls against excessive current and voltage, which automatically detect excessive current or abnormal voltage to shut off the output voltage for avoiding the power supply circuit failures.
In case the DC voltage output is not detected from the low-voltage power supply, the protective control may be activated. Turn off the power switch and remove the AC power supply from the inlet to settle load troubles. Once these are settled, turn on the power switch again.
Another protective control is provided by 2 power fuses on the fixing power supply. These are open when excessive current is detected to shut off power supply to low-voltage power supply.

■ Power-Saving Mode

This is the function to save power consumed by the printer.
The table below lists various power-saving modes.

Power-Saving Mode		Status
Stand-by		at power-OFF on the reader
Power-saving		at power-OFF on the reader and the display (LCD)
Sleep	Sleep 1	at power-OFF on the reader, engine and the display (LCD)
	Sleep 2	at power-OFF on the reader and the engine.
	Sleep 3 (3W sleep)	at power-off on the reader, the engine and the display (LCD) The main controller enters the power-saving mode.
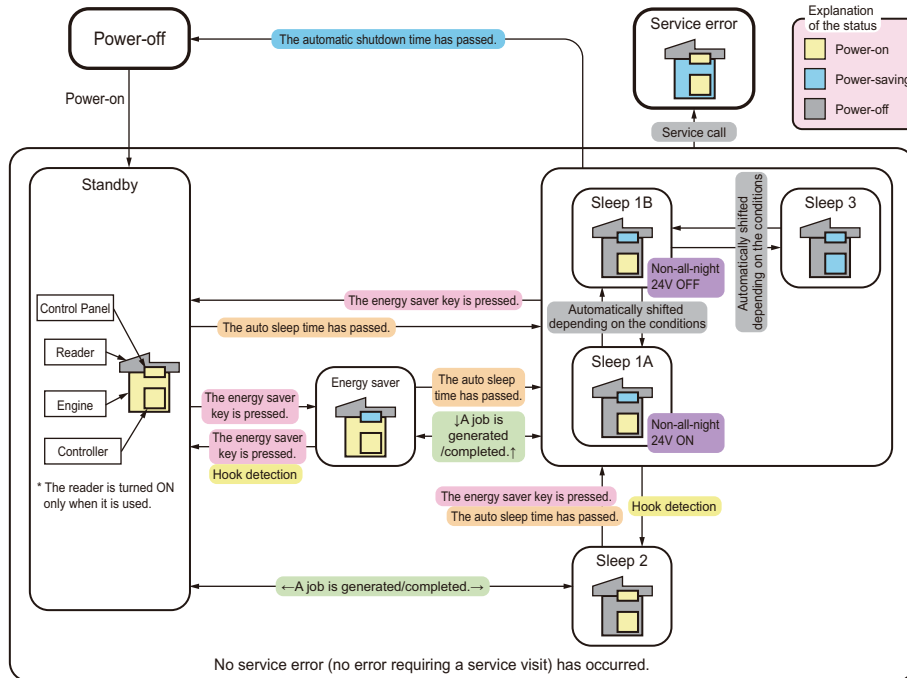
Laser Control System

● Overview

The Laser Scanner system is to form a static latent image on the photosensitive drum based on the video signal sent from the Main Controller.
The Laser Scanner Unit is composed of the laser driver, the Scanner Motor Unit and other components, which are controlled based on signals input by the DC Controller.
The figure below shows the Laser Scanner Unit schematically.
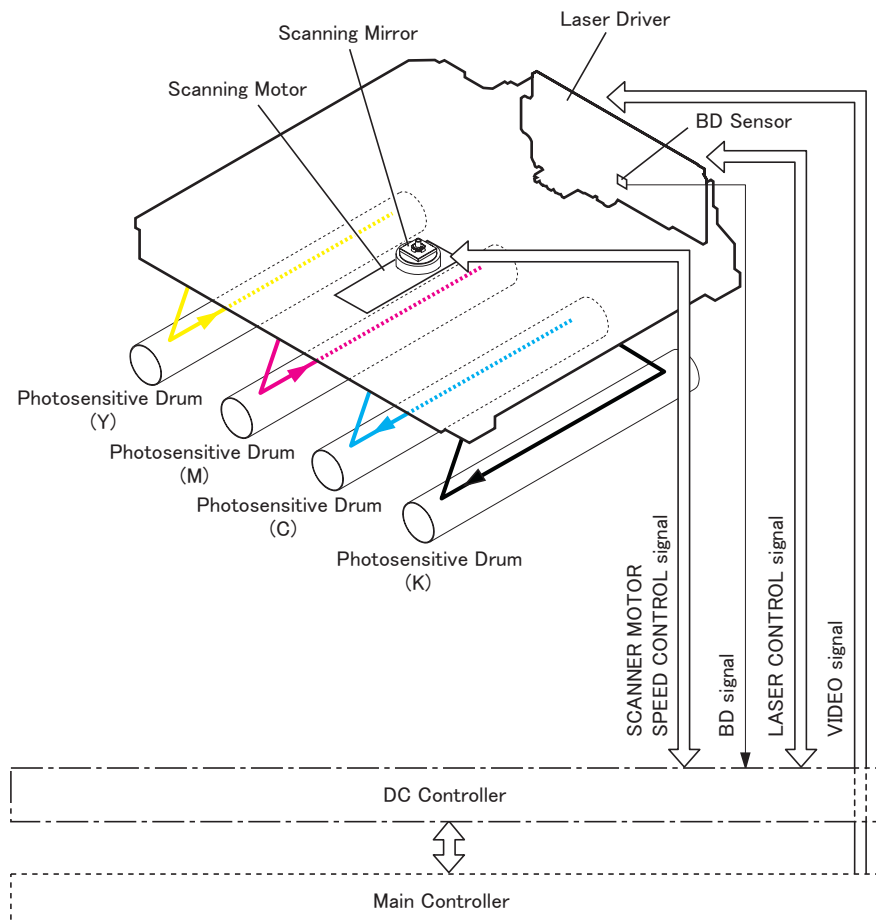
● Controls

■ Failure detection

1. Scanner Motor failures
   - The rotation does not reach the pre-defined value after a certain time elapsed from the Scanner Motor actuated.
   - The rotation failed to meet the tolerable range consecutively within a certain time during the Scanner Motor in drive.
     Error Code: E110-0000
2. BD failures
   - When out-of-range BD cycle is detected during printing.

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Image Formation System

Overview

The image formation system holds the core function of this product to form toner images on paper.
To form toner images, the DC controller controls various high-voltage power supply PCBs.
This product is a compact and high-speed color printing device that employs the 4-drum and intermediate transfer method.
The image formation system is composed of the following components.

- 4 cartridges
- ITB unit
- Secondary transfer external roller

The figure below shows the image formation system schematically.
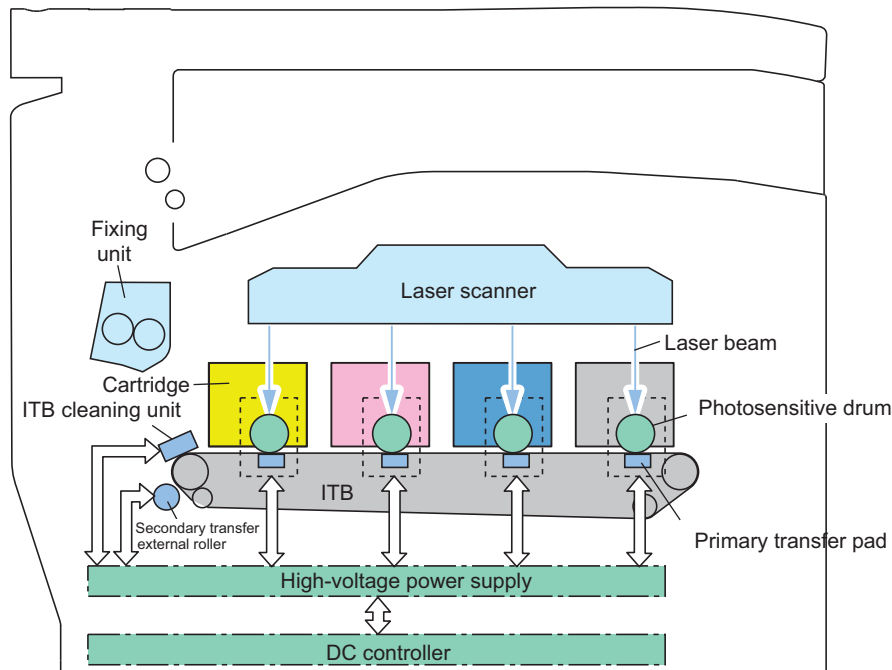
Parts
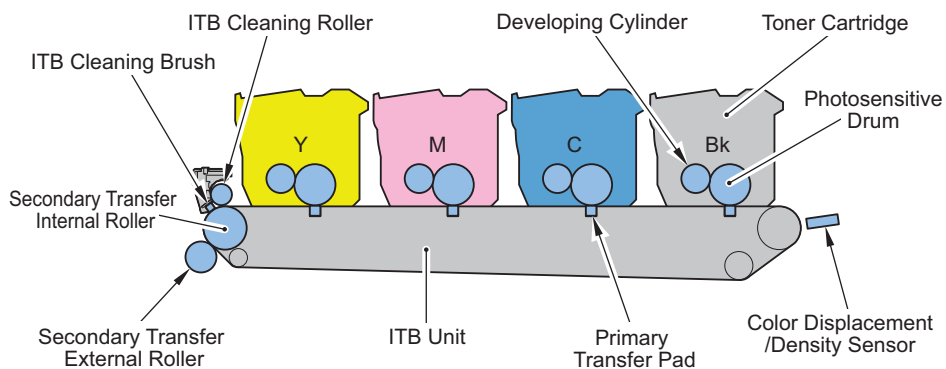
Image Forming Process

■ Overview

The image forming process of this product is composed roughly of 6 blocks and 9 steps.

Block		Step		Description
1	Static latent image forming	1	Primary charging	Charge the photosensitive drum surface negatively.
		2	Laser beam exposure	Form a static latent image on the photosensitive drum.
2	Development	3	Development	Deposit toner to visualize the static latent image.
3	Transfer	4	Primary transfer	Transfer the toner image on the photosensitive drum to the ITB.
		5	Secondary transfer	Transfer the toner image on the ITB to the paper.
		6	Separation	Separate the paper from the ITB.
4	Fixing	7	Fixing	Fix the toner image on the paper.
5	ITB cleaning	8	ITB cleaning	Clean the residual toner on the ITB.
6	Drum cleaning	9	Drum cleaning	Clean the residual toner on the photosensitive drum.
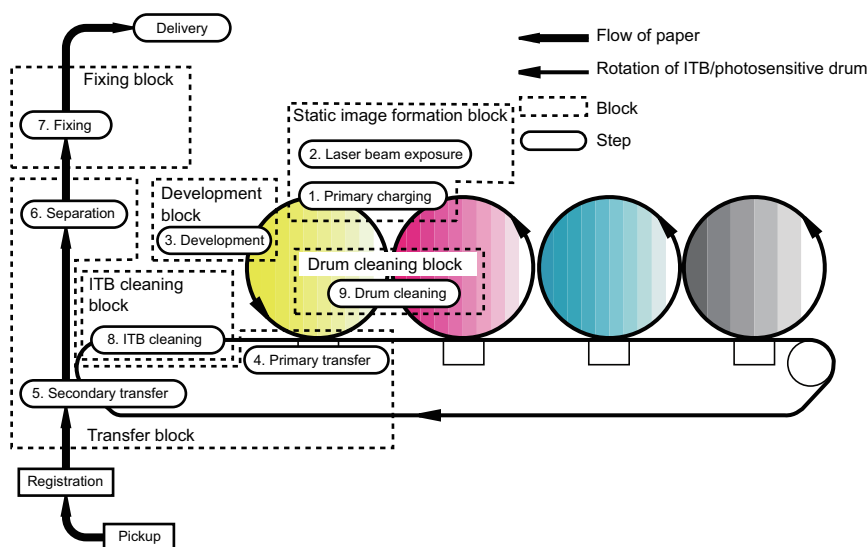
■ Block 1 : Static latent image forming block

This block consists of 2 steps to form a static latent image on the photosensitive drum.

● Step 1: Primary charging

Before forming a static latent image, the photosensitive drum surface should be charged negatively.
This product employs the method to charge the photosensitive drum directly from the primary charging roller, applying the DC negative bias in order to negatively charge the photosensitive drum surface.
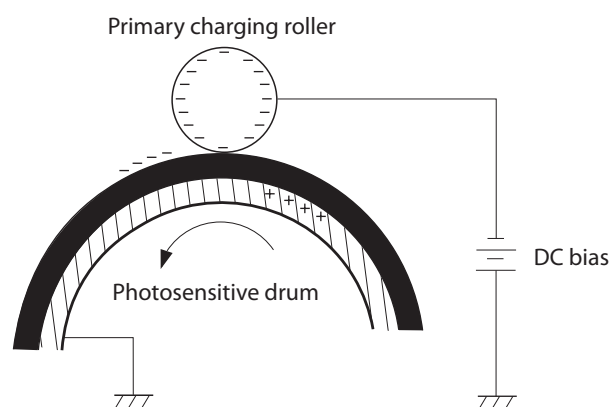
● Step 2: Laser beam exposure

Expose the photosensitive drum with laser beams to form a static latent image.
The static latent image is formed by laser beam scanning that neutralizes or strips negative potentials on the scanned parts.

Laser beam

Unexposed area   Exposed area
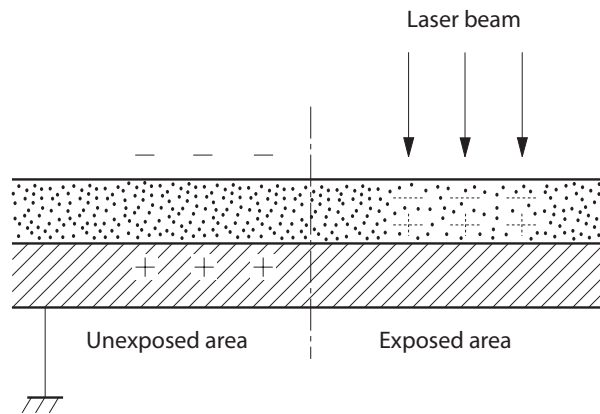
■ Block 2 : Development

The static latent image formed on the photosensitive drum is visualized by toner deposited in this block.

● Step 3: Development

Toner is deposited on the static latent image formed on the photosensitive drum.
Toner is then charged negatively through friction between the developing cylinder and the developing blade surface. The DC bias is applied to the developing cylinder to generate potential difference from the photosensitive drum. When the negatively charged toner contacts the photosensitive drum, it is deposited on the static latent image due to potential difference between the drum and the developing cylinder.

Developing blade

Developing cylinder

DC negative bias

Exposed area

Unexposed area

Unexposed area

Exposed area

Photosensitive drum
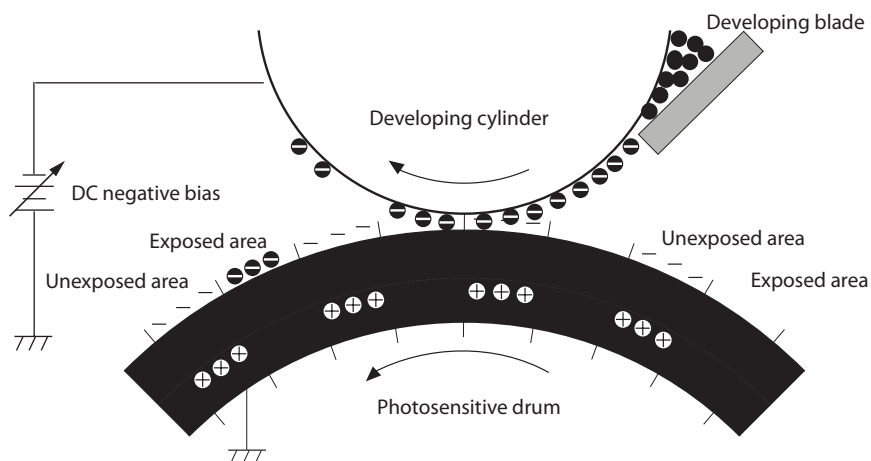
■ Block 3 : Transfer

The toner image on the photosensitive drum is transferred to paper through 3 steps in this block.

● Step 4: Primary transfer

Transfer the toner image on the photosensitive drum to the ITB.
The DC positive bias is applied to the primary transfer pad to charge the ITB positively. By this, the negatively charged toner on the photosensitive drum is transferred to the ITB.
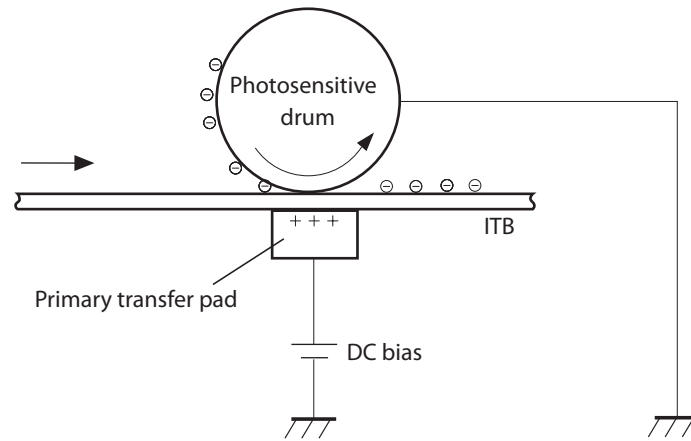
● Step 5: Secondary transfer

Transfer the toner image on the ITB to paper.
The DC positive bias is applied to the secondary transfer external roller to charge the paper positively. By this, the negatively charged toner image on the ITB is transferred to the paper.
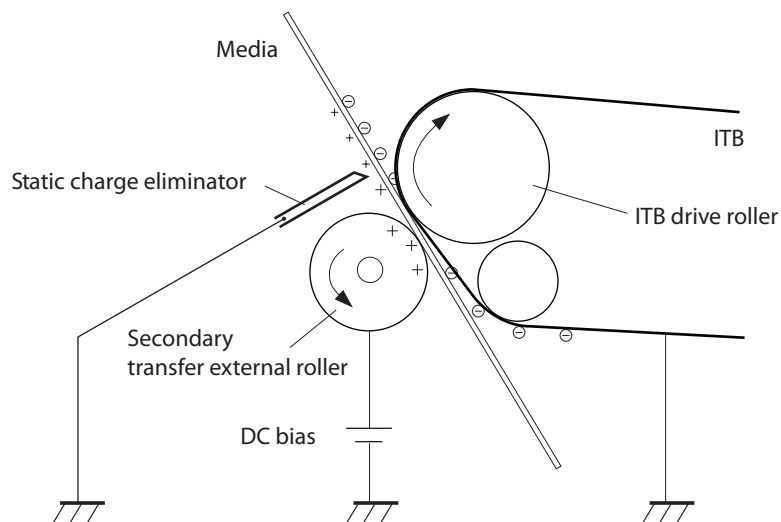
● Step 6: Separation

Separate the paper from the ITB using paper elasticity and curvature of the ITB drive motor. To stabilize the paper delivery and image quality, use the static eliminator to decay the potential on the back of the paper after image transfer.
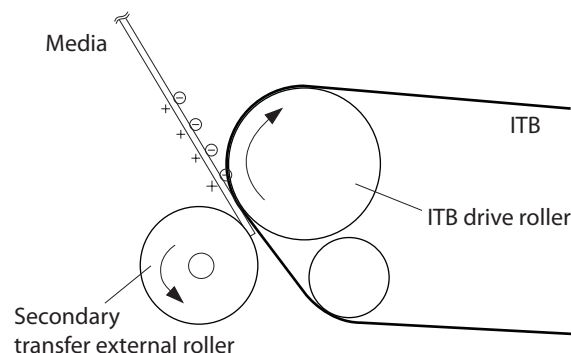
■ Block 4 : Fixing

The toner image is fixed on the paper in this block.

● Step 7: Fixing

This product employs the on-demand fixing method.
By applying pressure and heat on the paper and the toner image on it, the toner is fused to develop the permanent image.
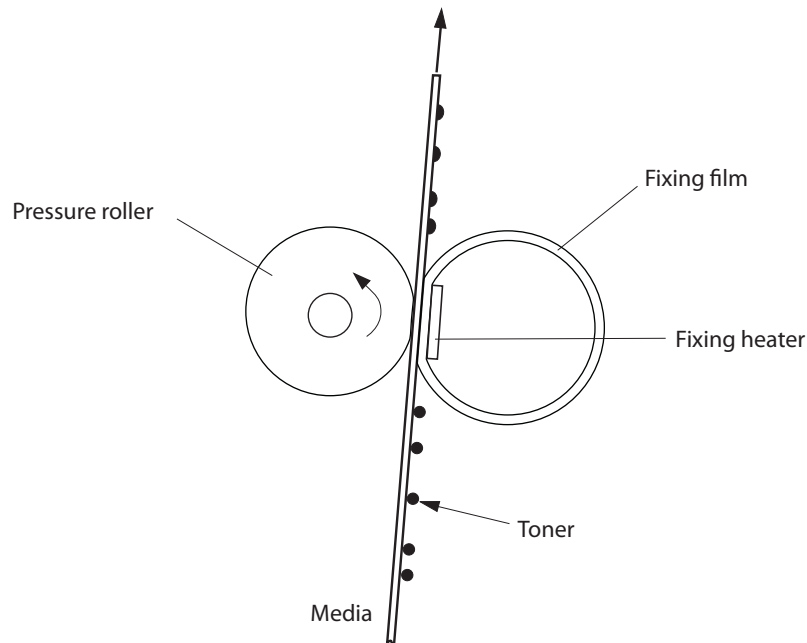
■ Block 5 : ITB Cleaning

The residual toner on the ITB surface is cleaned in this step.

● Step 8: ITB cleaning

The DC positive bias is applied to the ITB cleaning roller and the ITB cleaning brush to charge the collected toner positively. The positively charged collected toner is reversely transferred from the ITB to the photosensitive drum by the primary transfer pad.
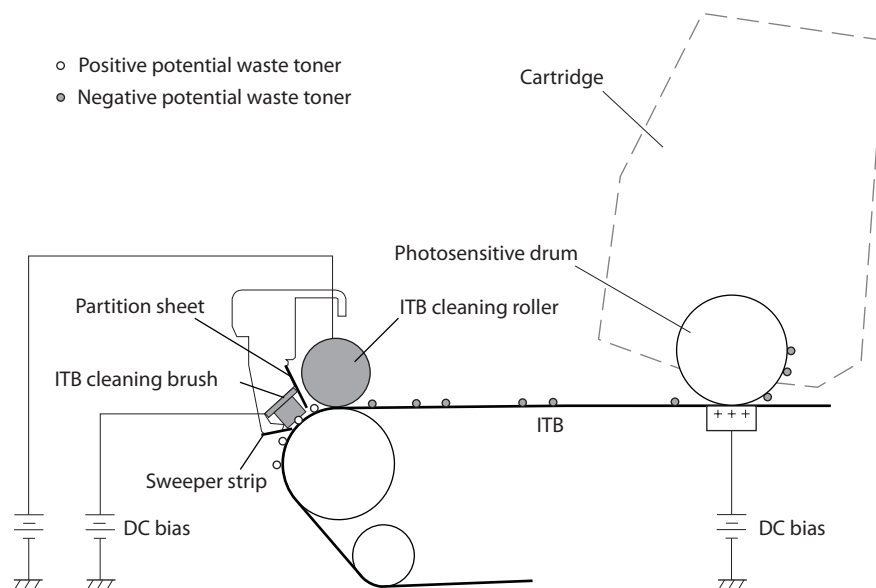
■ Block 6 : Drum Cleaning

The residual toner on the photosensitive drum is cleaned in this block.

● Step 9: Drum cleaning

The cleaning blade scrapes off the residual toner on the photosensitive drum to collect into the cleaner container. Now the photosensitive drum is cleaned.

Cleaning blade

Photosensitive drum

Waste toner container

Sweeper strip
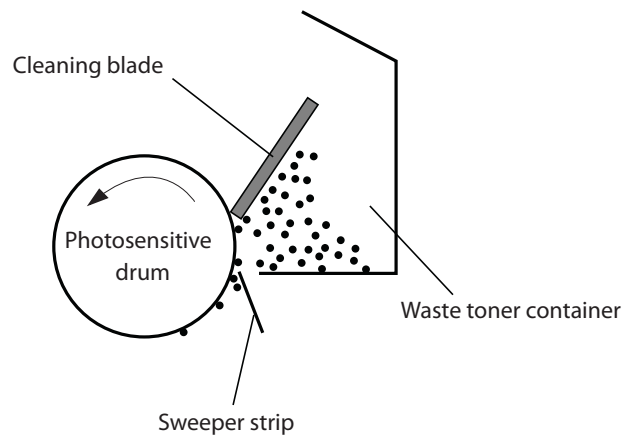
Controls

High-voltage power supply control

● Overview

The high-voltage power supply PCBs are to apply high-voltage bias to the primary charging roller, the primary transfer pad, the secondary transfer external roller, and the ITB cleaning unit. Such high-voltage bias is generated through control by the DC controller on the high-voltage power supply PCBs.
The figure below shows the high-voltage power source schematically.

Type	Bias applied	Purpose	Applied to
Primary charging bias	DC negative	Charge the photosensitive drum surface negatively.	Primary charging roller (cartridge)
Developing bias	DC negative	Deposit toner on the static latent image formed on the photosensitive drum.	Developing cylinder (cartridge)
Blade bias	DC negative	Adjust the charged toner amount on the developing cylinder.	Developing blade (cartridge)
Primary transfer bias	DC negative	Transfer the toner image on the photosensitive drum to the ITB.	Developing blade (cartridge)
Secondary transfer bias	DC positive	Transfer the toner image on the ITB to the paper.	Secondary transfer external roller
	DC negative	Clean the secondary transfer external roller.	
ITB cleaning brush bias	DC positive	Charge the toner on the ITB positively.	ITB cleaning brush
ITB cleaning roller bias	DC positive	Charge the toner on the ITB positively.	ITB cleaning roller
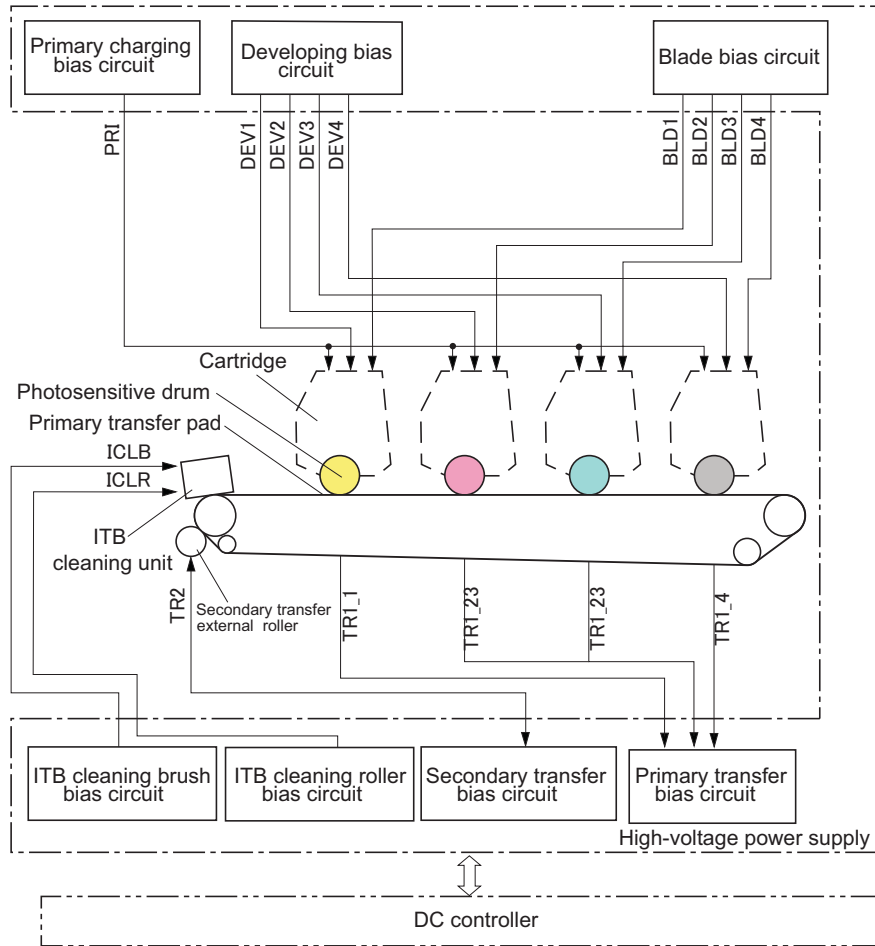
■ Image stabilization control

● Overview

This product controls image stabilization to avoid faulty images due to environmental changes, deteriorated photosensitive drum or toner, etc. The controls listed in the table below are executed when needed to stabilize image quality.

Control	Description
D-max control	Correct values of the primary charging bias and/or developing bias based on signals from the environment sensor.
D-half control	Correct the gradation data in the main controller PCB based on signals from the color displacement / density sensor.
Color displacement correction control	Correct the video signal output timing based on signals from the color displacement / density sensor.
Auto-gradation correction control	To stabilize the image gradation density characteristics, users execute full or quick correction, or copy image correction.
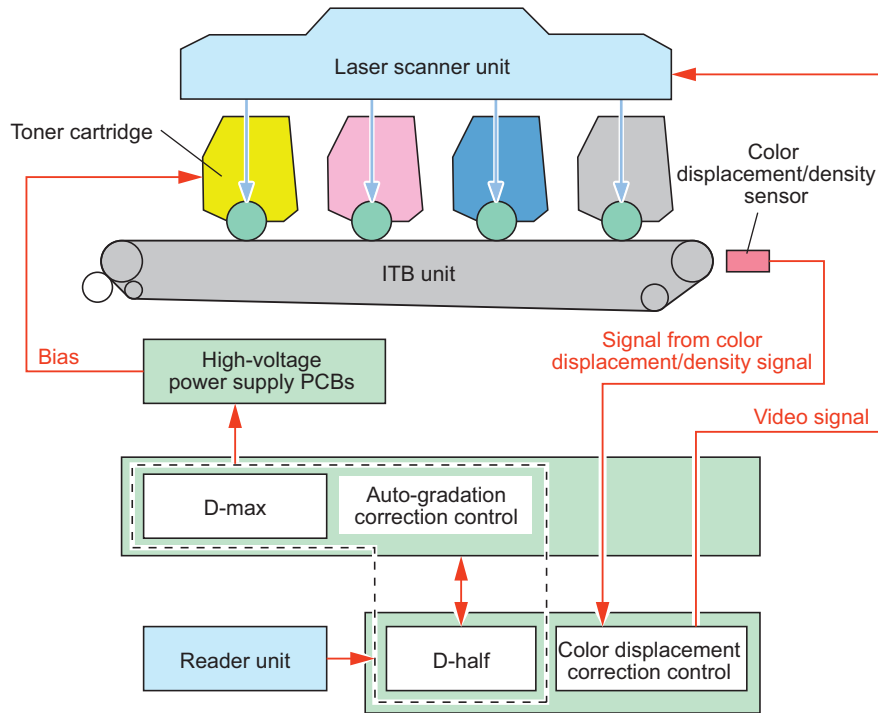
● Execution timing

The table below lists the execution timing and duration of each control.

No.	Executiontiming	Duration	D-max	D-half	Color dis-placement correction	Remarks
1	Power-ON	Approx.195sec-onds	Yes	Yes	Yes	Executed at initial rotation
2	Toner cartridge replacement	Approx.195sec-onds	Yes	Yes	Yes	Executed at initial rotation
3	Environmentalchanges	Approx.195sec-onds	Yes	Yes	Yes	Executed after job completionDe-tected by the environment sensor
4	After the pre-defined counts printed	Approx.195sec-onds	Yes	Yes	Yes	Executed after job completion
5	After the pre-defined time elapsed	Approx.195sec-onds	Yes	Yes	Yes	Executed after job completion
6	Resumed from sleep (after 8 hours or more)	Approx.100sec-onds	Yes	Yes	-	Executed after job completion upon resumed
7	Full correction	Approx.100sec-onds	Yes	Yes	-	Executed by users
8	Quick correction	Approx.100sec-onds	Yes	Yes	-	
9	Copy image correction	Approx.100sec-onds	Yes	Yes	-	

● Image density correction control (D-max control)

This control is to stabilize the print image density.
The DC controller PCB triggers D-max control under the pre-defined conditions.
1. Measure the density detection patterns for each color on the ITB.

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2. To optimize the density of the measured patterns, control the primary charging bias and the developing bias.
   The image density correction control is triggered under the conditions below.
   - In the case of Menu > Adjustment/Cleaning > Auto Adjustment Settings > Auto Adjustment Image Regularly: OFF (default)
     1. At power ON (When the environmental change is great compared with the condition before turning OFF the power (more than +/-10 degC))
     2. When replacing the Toner Cartridge
     3. When the environmental change is great while not getting into the sleep state (more than +/-5 degC)
     4. After printing the specified number of sheet (every 500 sheets)
     5. After printing or after 300 min. since the execution of the image density correction
     6. At recovery from the sleep state (When the environmental change is great compared with the condition before getting into the sleep state (more than +/-10 degC))
     7. When the user commands execution of the calibration
   - In the case of Menu > Adjustment/Cleaning > Auto Adjustment Settings > Auto Adjustment Image Regularly: ON, the operation of (1) and (6) mentioned in the above conditions will be as follow:
     1'. Must execute at power ON
     6'. Must execute at recovery from the 8-hour (or longer) sleep state

● Image gradation correction control (D-half control)

This control is to correct the gradation by the main controller PCB based on the half-tone density measured by the DC controller PCB.

Upon D-max control completed, the DC controller PCB and the main controller PCB enter the following steps of D-half control.
1. The DC controller PCB measures the density detection patterns on the ITB by applying the primary charging bias and the developing bias optimized through D-max control to send the density data to the main controller PCB.
2. The main controller PCB corrects gradation based on the density data to reproduce the ideal half-tone images.

● Color displacement control

This control is to correct color displacement due to variability of the laser units or toner cartridges.
The following displacements are corrected through this control.
   - Horizontal scanning start position
   - Horizontal scanning magnification
   - Vertical scanning start position
The DC controller PCB controls the color displacement/density sensor and the color displacement sensor under the conditions below.

In the case of Menu > Adjustment/Cleaning > Auto Adjustment Settings > Correct Color Mismatch when turned ON: OFF (default)
1. When completing the first job after power ON
2. When replacing the Toner Cartridge
3. After printing the specified number of sheet (every 150 sheets)
4. After the specified time has passed(60 min, after that every 240 min)
5. When completing the first job after recovering from the 8-hour (or longer) sleep state
6. When the user commands execution of the color displacement correction

In the case of Menu > Adjustment/Cleaning > Auto Adjustment Settings > Correct Color Mismatch when turned ON:
ON, the operation of (1) and (5) mentioned in the above conditions will be as follow:
   1'. At power ON, execute before executing a job
   5'. At recovery from the 8-hour (or longer) sleep state, execute before executing a job

● Auto-gradation correction control

This control is to stabilize the image gradation density characteristic.
To execute this control, go to "Adjustment / Cleaning > Auto-gradation correction" in User mode.
This control is performed in the following 3 approaches.

Item	Description	Test pattern	
		Output sheets	Type
Full correction (PAS-CAL)	Gradation is corrected based on the gradation density read on output test patterns by the reader.	2 sheets	1: for error diffusion process 2: for screen
Quick correction	Gradation is corrected by D-half control not using output test patterns.	-	-

Item	Description	Test pattern	
		Output sheets	**Type**
Copy image correction	Gradation of copy images is corrected based on the gradation density read on output test pattern by the reader.	1 sheet	for for error diffusion process

Operational flow

Gradation is corrected either in the 3 approaches above in the following flow.
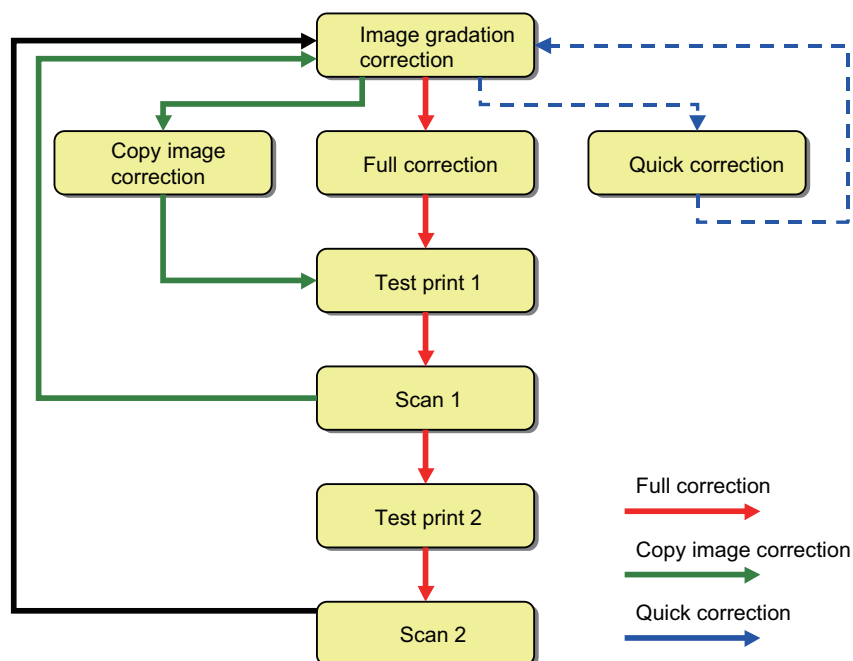
■ Toner cartridges

● Developing cylinder contact control

The control makes the developing cylinder engagement / disengagement to the photosensitive drum as required in the specified print mode (full color or monochrome).
By controlling the developing cylinder engagement to the photosensitive drum only when needed, this control effectively prevents the photosensitive drums from being deteriorated to maximize the service life.
The DC controller actuates the motor (MF8500: Developing motor, MF8200: Main motor) to switch the direction of the engagement / disengagement cam to contact / separate the developing cylinder to / from the photosensitive drum.
The DC controller controls the developing cylinder (engagement / disengagement) by regulating the main motor rotation upon detecting signals from the development home position sensor.
The state of the Developing Cylinder for each color (engagement / disengagement) differs depending on the condition of the Main Body.

Condition of the Main Body	Y	M	C	Bk
Power OFF/Standby	Disengagement			
Monochrome print	Disengagement			Engagement
full-color print	Engagement			

Related Error Code
 • E015-000 (Error in developing roller contact)
  Failed to detect changes in developing home position sensor signals within the pre-defined time after actuating motor (MF8500: Developing motor, MF8200: Main motor) to control the developing roller contact.

■ Transfer unit

● Pad transfer method

This product employs the pad transfer method in the primary transfer mechanism.

Enhanced image stabilization is achieved by replacing the conventional transfer roller with the transfer pad. The characteristic of the pad transfer method is:
  • It maintains the wider nip to the photosensitive drum to increase transferability.
The figures below show the difference between the pad transfer method and the conventional roller transfer method schematically.

<Pad transfer method>   <Roller transfer method>
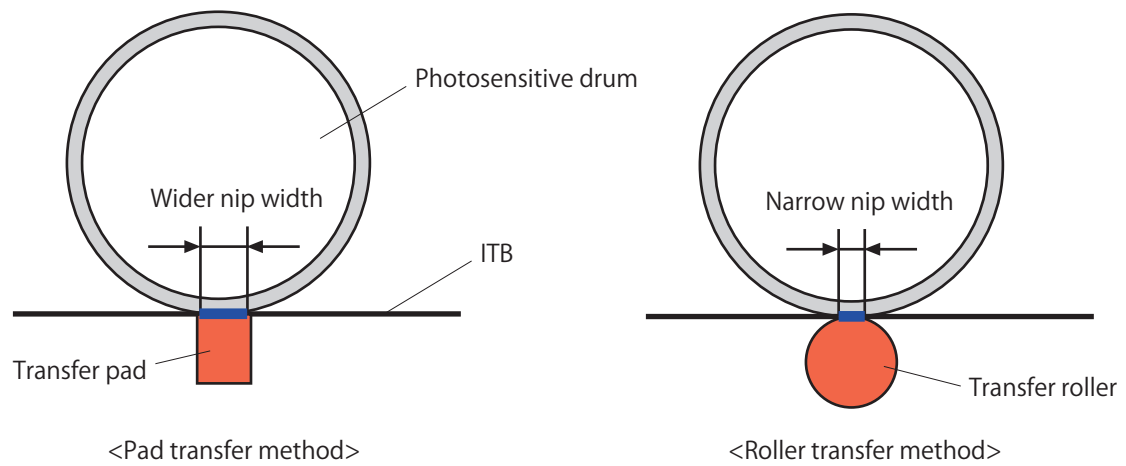
Fixing System

Overview

The fixing power supply controls temperatures of the Fixing Assembly.
This product employs the on-demand fixing method in the Fixing Assembly. The figure below shows the structure schematically.
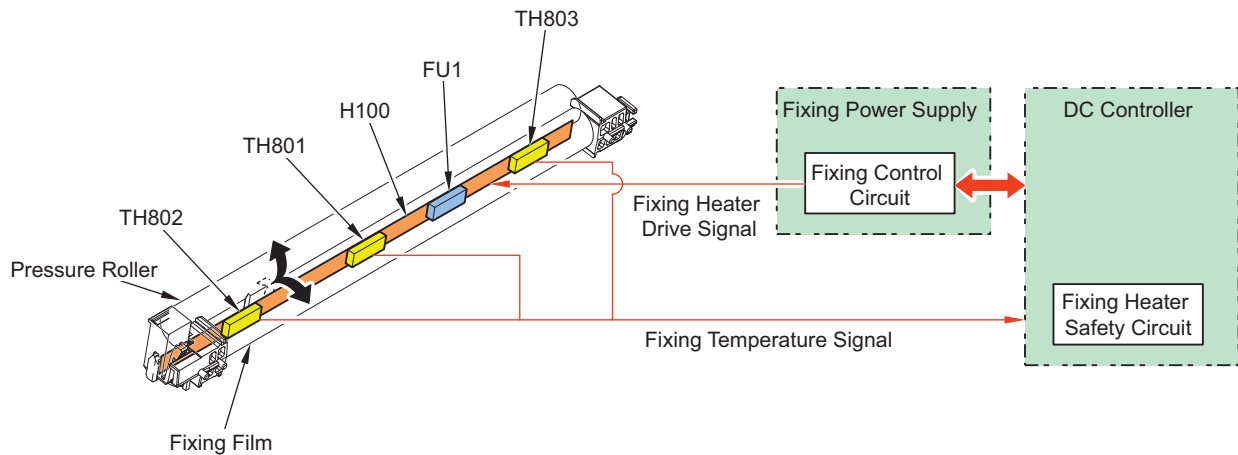
Name		Symbol	Role
Fixing heater	100V	H100	To heat the fixing film
	120V	H120	
	230V	H220	
Main thermistor		TH801	To detect the fixing heater temperature (center of the heater, contact thermistor)
Sub thermistor 1		TH802	To detect the fixing heater temperature (heater ends, contact thermistor)
Sub thermistor 2		TH803	
Temperature fuse		FU1	To prevent abnormal temperature rise in the fixing heater

The temperature fuse is attached to the center of the fixing heater.
When the fixing heater comes to be abnormally hot, the temperature fuse is open to shut off the power supply to the fixing heater.
The thermistor detects the fixing heater temperature to input the temperature detection signal to the DC controller. Note that temperatures at heater ends are not detected in models of MF8200 series with slower print speed.
The temperatures in the whole fixing assembly are controlled by the fixing control circuit and the fixing heater safety circuit based on commands from the DC controller.

Controls

■ Fixing Speed Control

● Reduction of Throughput Based on Detected Temperature of Sub Thermistor

Paper interval extension time is determined based on the detected temperature of the Sub Thermistor.
Paper interval extension time determined by the detected temperature of the Sub Thermistor is added to the paper interval extension time derived from the paper width detection result and paper length detection result.
Detection of temperature by the Sub Thermistor is performed when the Delivery Sensor turns OFF.
When the Paper Width Sensor is ON, reduction of throughput based on the detected temperature of the Sub Thermistor is not executed.

Tempreture of Sub Thermistor: Tx	Paper interval (sec)
T1	3
T2	6
T3	9
T4	15

> **NOTE:**
> - With MF8200 series, this control is not executed since detection of temperature by the Sub Thermistor is not performed.
> - Tempreture of Sub Thermistor: T1 < T2 < T3 < T4

● Reduction of Throughput by Feeding Small Size Paper

> **NOTE:**
> When paper size is specified by user, paper interval is increased from the 2nd sheet of the job.
> When a sensor detects that the paper size is small, paper interval is increased from 3rd or 4th sheet of the job.

Based on the combination of detection result of the Pre-registration Detection Sensor and detection result of paper length (L), paper interval extension time is determined according to the table shown below.

Category	Paper type
1	Plain paper (environment temperature is 18 deg C or lower), heavy paper 1, heavy paper 2
2	Plain paper (environment temperature is higher than 18 deg C), heavy paper 3, label paper
3	Others

Pre-registration Detection Sensor	Paper length (L)	Paper interval extension time (seconds)		
		1	2	3
ON	-	0 (Not extended)		
OFF	L >/= 270 mm	10	8	6
	L < 270mm	8	4	2

■ Fixing temperature control

The fixing control circuit controls temperatures of the fixing heater to attain the respective target temperatures.
The figure below shows this circuit schematically.
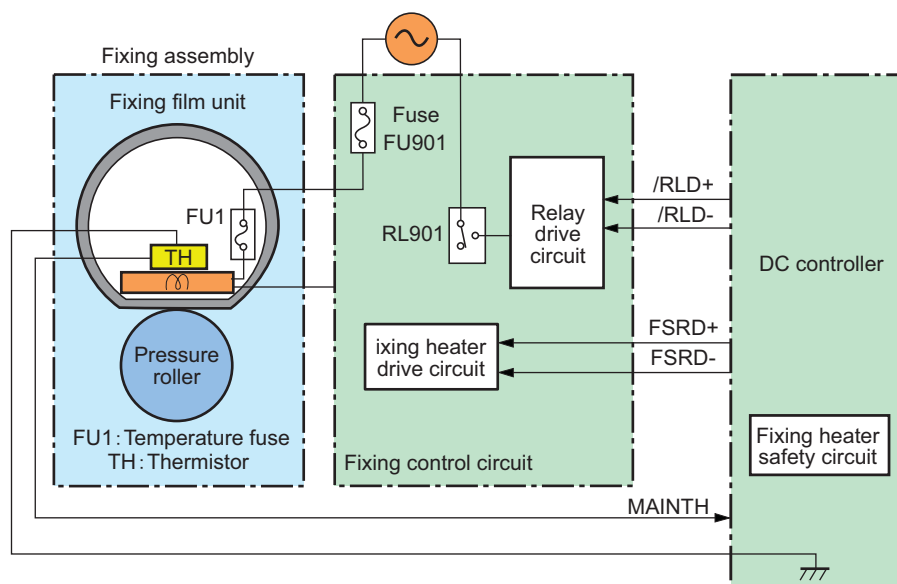
The DC controller monitors the fixing heater temperature detection signal (MAINTH) to output the respective fixing heater drive signals (FSRD+, FSRD-) depending on the detected temperatures. The fixing heater drive circuit controls the fixing heater based on the output signal to attain the target temperature in the fixing heater.

1. Start-up temperature control
   This controls the fixing heater warm-up to the target temperature.
   Different temperatures are targeted depending on elapsed time after the last print job, paper types or the environment.

2. Printing temperature control
This controls the fixing film temperature during printing to maintain the target.
Different temperatures are set in the fixing film depending on paper types.
3. Sheet-to-sheet temperature control
This control lowers the sheet-to-sheet fixing heater temperature during continuous printing in the low-speed mode to prevent temperature rise on the pressure roller.
Different sheet-to-sheet temperatures are set depending on sheet intervals or paper types.

■ Protective Control

his control is to detect abnormal temperature rise in the fixing assembly to shut off power supply to the fixing heater.
This product has the following 3 protective controls to prevent abnormal temperature rise in the fixing assembly.
- DC controller
- Fixing heater safety circuit
- Temperature fuse

The descriptions below are the details of each protective control.
1. DC controller
When DC Controller monitors temperature of the central thermistor of the fixing heater and exceeds the pre-defined temperature, which is thought abnormally high temperature, therefore the drive signal (FSRD+, FSRD-) of the fixing heater is stopped outputting and the relay is turned off and the power distribution to the heater is stopped.

2. Fixing heater safety circuit
This circuit detects abnormal temperatures in the center of the fixing heater to shut off power supply to the heater.

3. Temperature fuse
When the temperature of the fixing heater abnormally rises, the temperature fuse is open to shut off power supply to the heater.
- 226 deg C or higher detected at the temperature fuse.

■ Failure detection

The DC controller determines failures of the fixing assembly under conditions below to stop the fixing heater drive signal output (FSRD+, FSRD-) and shut off relay and power supply to the heater. At the same time, it notifies the failure occurrence to the main controller.
1. Start-up failure detection
- The thermistor temperature does not exceed startup temperature 1 within the pre-defined time after start-up of the heater from the waiting status.
- The thermistor temperature does not exceed startup temperature 2 within the pre-defined time after reaching startup temperature 1 upon start-up of the heater from the waiting status.
- The thermistor temperature does not reach the target temperature within the pre-defined time after heater temperature control during initial rotation.
[Related error code]
E000-0000
2. Abnormally high temperature failure
- The thermistor temperature remains at pre-defined temperature or higher for the pre-defined time.
[Related error code]
E001-0000 main thermistor
E001-0001 sub thermistor
3. Abnormally low temperature failure
- The thermistor temperature remains at pre-defined temperature or lower within the pre-defined time after heater temperature control during printing.
[Related error code]
E003-0000 main thermistor
E003-0001 sub thermistor (MF8500 Series only)
4. Fixing heater drive circuit failure
- The zero-cross signal has not been detected for a certain times within the pre-defined time after power-ON.
- The zero-cross signal is detected after power-ON but has not been detected continuously within the pre-defined time during printing.
[Related error code]
E004-0000

Pickup / Feed System

Overview

The Pickup / Feed System is responsible for paper pickup and delivery, made up with multiple rollers.
The figure below shows the structure of the Pickup/Feed System schematically.

Face-down Delivery

Duplexing
Feeding

MP Tray
Pickup
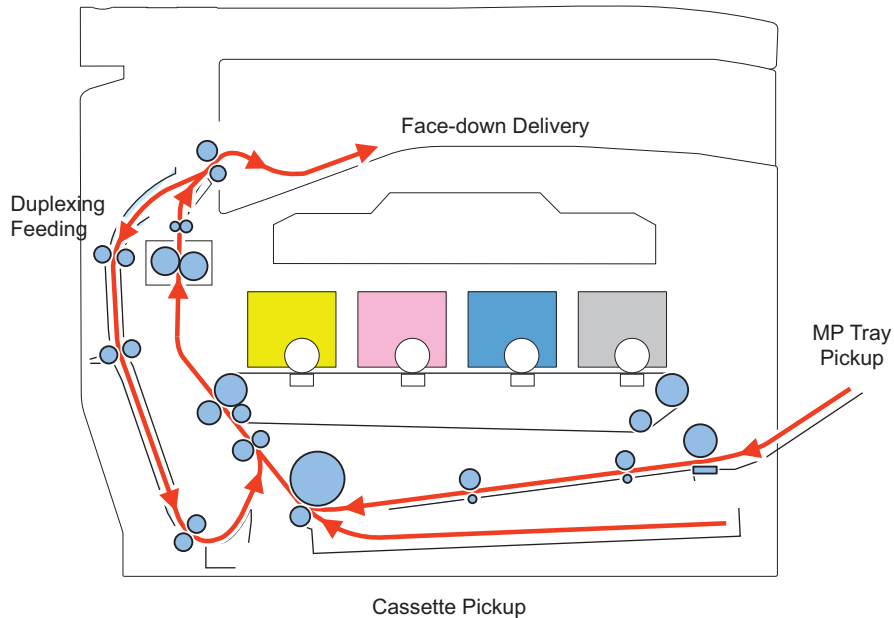
Cassette Pickup

Pickup slot
> Cassette
> MP tray

Delivery slot
> Face-down tray

Automatic 2-sided
> Available

Parts Configuration

Delivery Roller

Duplexing Flapper

Pressure
Roller

Duplex
Feed
Roller

MP Tray
Pickup
Roller

Secondary
Transfer
External Roller

MP Tray
Separation
Pad

Duplex
Feed Roller

Registration
Roller

Cassette
Separation Roller

Cassette
Pickup Roller

MP Tray Feed Roler
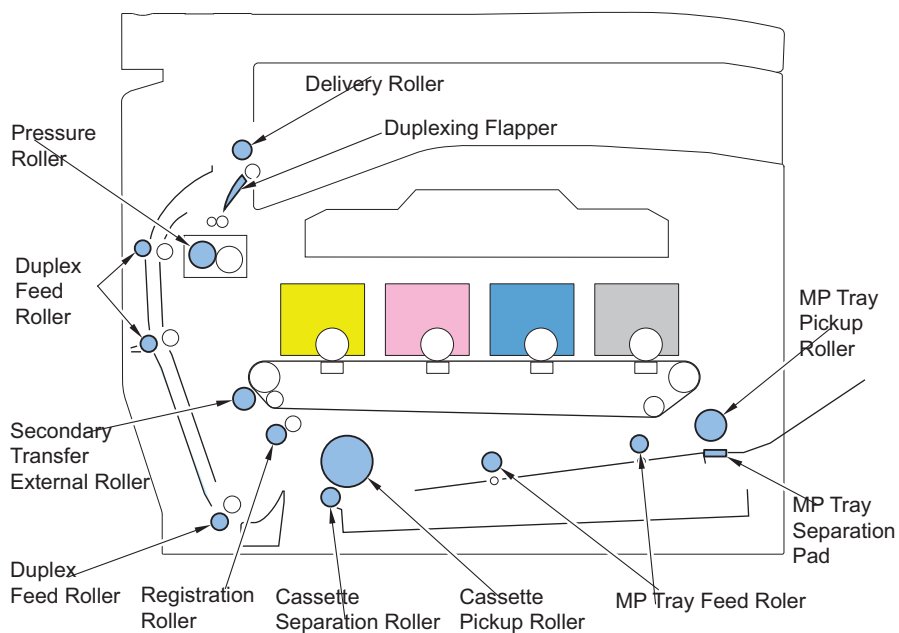
Drive Configuration
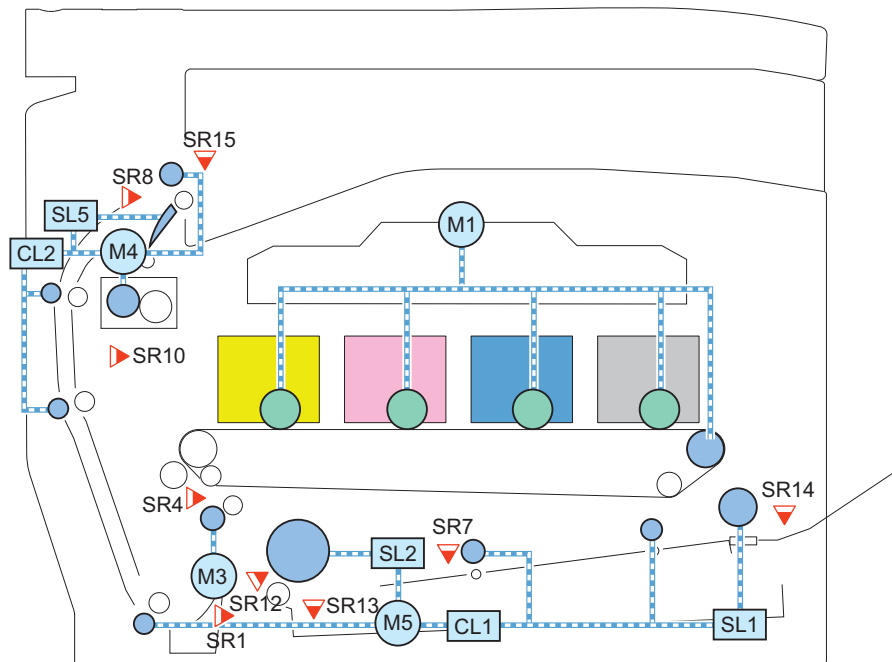
Symbol	Name	Symbol	Name
M1:	Drum Motor	SR1:	Paper feeder pre-registration sensor
M3:	Registration Motor	SR4:	Registration sensor
M4:	Fixing Motor	SR7:	MP tray pre-registration sensor
M5:	Pickup Motor	SR8:	Fixing delivery sensor
SL1:	MP Tray Pickup Solenoid	SR10:	Fixing arch sensor
SL2:	Cassette Pickup solenoid	SR12:	Pre-registration sensor
SL5:	Duplex reversal solenoid	SR13:	Cassette paper sensor
CL1:	MP Tray Feeding Clutch	SR14:	MP tray paper sensor
CL2:	Duplex feeding clutch	SR15:	Delivery full sensor

Controls

■ Cassette paper feed

● Roller separation method

This product employs the separation roller method to avoid multi-feeding.
This method prevents multiple sheets from being fed by the driven separation roller. The separation roller is driven by the pickup roller.

When normally operated

The separation roller is driven by the pickup roller to feed paper. By this, the separation roller rotates in the paper feed direction.

When multiple sheets are fed

Multiple sheets weaken friction between rollers, decaying the driving force conveyed from the pickup roller to the separation roller. This product has the mechanism to regulate the separation roller rotation, which stops the roller rotation at multi-feeding under weaker driving force conveyed from the pickup roller. This enables to avoid multi-feeding.

The figure below shows the multi-feeding prevention mechanism employed in this product.

Pickup roller

Media

Separation roller

Lifting plate

The separation roller does not rotate.

<Normal-feed>   <Multiple-feed>
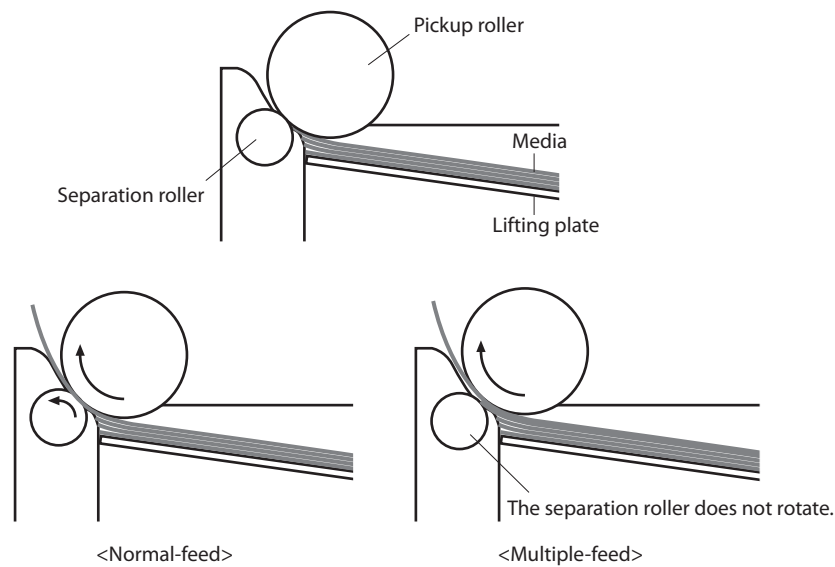
■ Jam detection

● Overview

This product has the paper sensors as listed below to detect paper level and paper feed status.
- Registration sensor
- MP tray pre-registration sensor
- Fixing delivery sensor
- Fixing arch sensor
- Pre-registration sensor
- Cassette paper sensor
- Delivery full sensor

The following jams are detected in this product.
1. Pickup delay jam 1
2. Pickup delay jam 2
3. Pickup stationary jam
4. Fixing / delivery delay jam
5. Delivery stationary jam
6. Fixing seizure jam
7. Internal paper remaining jam
8. Duplex re-pickup jam
9. Open door jam

● Delay jams

Pickup delay jam 1

This occurs when the leading edge of the paper is not detected by the registration sensor[*] from the start of image formation to re-pickup.

[*]: SR4

Pickup delay jam 2

This occurs when the leading edge of the paper is not detected by the MP tray pre-registration sensor (SR7) within the pre-defined duration after the paper is fed from the multi-purpose tray.

Fixing / delivery delay jam

This occurs when the leading edge of the paper is not detected by the fixing delivery sensor[*1] within the pre-defined duration after re-pickup; or when the leading edge of the paper is not detected by the delivery full sensor[*2] during the pre-defined duration after the trailing edge of the paper is detected by the registration sensor.

[*1]: SR8

[*2]: SR15

● Stationary jams

Pickup stationary jam

This occurs when the trailing edge of the paper is not detected by the registration sensor[*] within the pre-defined duration after re-pickup.

[*]: SR4

Fixing / delivery stationary jam

This occurs when the trailing edge of the paper is not detected by the fixing delivery sensor[*2] within the pre-defined duration after the trailing edge of the paper is detected by the registration sensor[*1].

[*1]: SR4

[*2]: SR8

● Other jams

Fixing seizure jam

This occurs when the fixing / delivery sensor (SR8) detected the leading edge of the paper but the sensor went off before starting the fixing / delivery stationary detection.

[*]: SR8

Internal paper remaining jam

When the sensor below detects "Paper Sensor" before-and-after Power on, Door close, Print operation.

- Paper feeder pre-registration sensor (SR1)
- Registration sensor (SR4)
- MP tray pre-registration sensor (SR7)
- Fixing delivery sensor (SR8)
- Fixing arch sensor (SR10)
- Pre-registration sensor (SR12)

Duplex re-pickup jam

This occurs when the leading edge of the paper is not detected by the registration sensor (SR4) within the pre-defined duration elapsed from starting reversing.

Open door jam

This occurs when any of sensors detected paper in the device and the door opening is detected during print jobs.

External Auxiliary System

● Controls

■ Software Counter

The host machine is equipped with counters that indicate the counts of output according to types of job. These counters are indicated in response to a press on the Counter Check Key on the control panel. Counters for each country (model) are listed below.

Count-up timing

- 1-sided print / 2nd side of 2-sided print : Delivery Full Sensor (SR15)
- 1st side of 2-seded print : Pre-registration Sensor (SR12)

Target	Number displayed for each counter (in service mode) / Item						Target country code
	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6	
120 V TW model	Total 1	Total (Black 1)	Copy+Print (Full Color / Small)	*1	*1	*1	TAIWAN
	101	108	402	0	0	0	
120 V UL model	Total 1	Total (Black 1)	Copy (Full Color + Single Color / Small)	Print (Full Color + Single Color / Small)	*1	*1	Group 4
	101	108	230	322	0	0	
230 V General model AE	Total 1	Total (Black 1)	Copy+Print (Full Color / Small)	Total 1 (2-sided)	*1	*1	Group 3
	101	108	402	114	0	0	
230 V EU model type1 (existing type)	Total (Black / Small)	Total (Full Color + Single Color / Small)	Scan (Total 1)	Print (Total 1)	*1	*1	Group 1
	113	123	501	301	0	0	
230 V EU model type2 (new method)	Total 1	*1	*1	*1	*1	*1	Group 1
	101	0	0	0	0	0	
230 V AUS model	Total 1	Total (Black 1)	(Copy (Full Color + Single Color / Small)	Print (Full Color + Single Color / Small)	*1	*1	Group 2
	101	108	230	322	0	0	
120 V CLA model	Total 1	Total (Black 1)	(Copy (Full Color + Single Color / Small)	Print (Full Color + Single Color / Small)	*1	*1	Brazil
	101	108	230	322	0	0	
230 V CLA model	Total 1	Total (Black 1)	Copy+Print (Full Color / Small)	Total 1 (2-sided)	*1	*1	Group 5
	101	108	402	114	0	0	

*1: Nothing is displayed as a default. The setting can be changed in the service mode.

<Description of symbols>

- Small: Small size paper (when paper length is 364 mm or less in paper feed direction)
- Total: When a piece of paper is delivered, the counter is advanced by 1

- The three-digit numbers in the counter column show the setting value of the following service mode items:
  - COPIER > OPTION > USER > COUNTER 1
  - COPIER > OPTION > USER > COUNTER 2
  - COPIER > OPTION > USER > COUNTER 3
  - COPIER > OPTION > USER > COUNTER 4
  - COPIER > OPTION > USER > COUNTER 5
  - COPIER > OPTION > USER > COUNTER 6
- Counters 2 to 6 can be changed in service mode (COPIER > OPTION > USER > COUNTER 2 to 6).
- The type of counter display can be switched between the former and new methods in service mode (COPIER > OPTION > USER > CNT-SW).

Group	Country	Default	User mode type setting
BRA	BRAZIL	0	BRA2
Group 1 EUR Middle East Africa	Austria	-	AUSTRIA
	Belarus	-	BELARUS
	Belgium	-	BELGIUM
	Czech	-	CZECH
	Denmark	-	DENMARK
	Egypt	-	EU3
	Finland	-	FINLAND
	France	-	FRANCE
	Germany	-	GERMANY
	Greece	-	GREECE
	Hungary	-	HUNGARY
	Ireland	-	IRELAND
	Italy	-	ITALY
	Jordan	-	EU3
	Luxembourg	-	LUXEMBOURG
	Netherlands	-	N.L.
	Norway	-	NORWAY
	Poland	-	POLAND
	Portugal	-	PORTUGAL
	Russia	-	RUSSIA
	Saudi Arabia	-	EU3
	Slovenia	-	SLOVENIA
	South Africa	-	SAF
	Spain	-	SPAIN
	Sweden	-	SWEDEN
	Switzerland	-	SWISS
	Ukraine	-	UKRAINE
	United Kingdom	0	U.K.
	Others	-	EU1
		-	EU2
Group 2 Oceania	Australia	0	AUSTRALIA
	New Zealand	-	N.Z.
	Others	-	AUSTRALIA
Group 3 Asia Latin America 230V	Hong Kong	-	HONG KONG
	Singapore	0	SINGAPORE
	Malaysia	-	MALAYSIA
	Vietnam	-	EU1
	Argentina	-	ARG
	Others(ASIA)	-	ASIA
	Others(Latin)	-	EU1
Group 4 North America Latin America 120V	USA	-	USA
	Canada	-	USA
	BRAZIL	-	BRA
	Mexico	-	LATIN

Group	Country	Default	User mode type setting
Group 4 North America Latin America 120V	Others	-	LATIN
Group 5	Argentina	0	ARG
	Others(Latin)	-	EU1

Embedded RDS

🔵 Product Overview

■ Overview

Embedded RDS (hereinafter referred to as E-RDS) is a monitoring program that runs on the host machine. When the monitoring option is enabled by making the setting on this machine, information such as the status change of the machine, counter information, and failure information are collected. The collected device information is sent to a remote maintenance server called UGW (Universal Gateway Server) via Internet, thus allowing for e-Maintenance/ imageWARE Remote (Remote Diagnosis System).

The following device information/ status can be monitored.
- Billing counts
- Parts counter
- Firmware info
- Service call error log
- Jam log
- Alarm log
- Status changes (Toner low/ out, etc.)

Since high confidentiality is required for the information shown above, it performs communication between this machine and the UGW using HTTPS/ SOAP protocol.
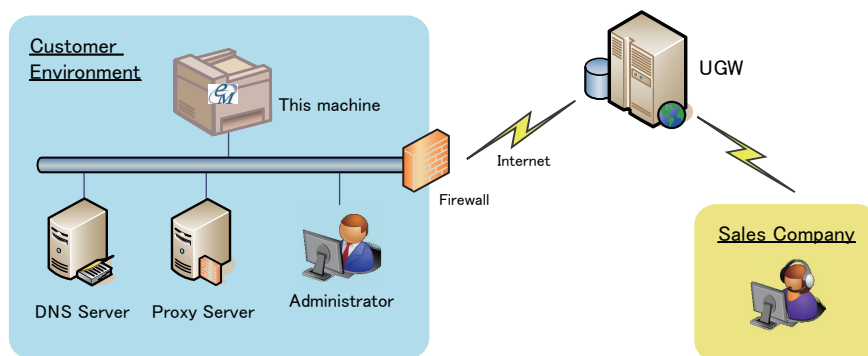
The e–Maintenance/ imageWARE Remote system configuration

■ Features and benefits

E-RDS embedded with a network module in advance can realize a front-end processing of e-Maintenance/ imageWARE Remote system without attaching any extra hardware equipment.

🔵 Service cautions

1. After clearing the Main Controller PCB, initialization of the E-RDS setting (ERDS-DAT) and a communication test (COM-TEST) need to be performed. Failure to do so will result that the counter transmitting value to the UGW may become unusual. Also, after replacing the main controller board, all settings must be reprogrammed.
2. The following settings in service mode must not be change unless there are specific instructions to do so.
   Changing these values will cause error in communication with UGW.
   - Set port number of UGW
     [COPIER] > [FUCTION] > [INSTALL] > [RGW-PORT]
     Default : 443
3. If the e-Maintenance/ imageWARE Remote contract of the device is invalid, be sure to turn OFF the E-RDS setting (E-RDS : 0).

● E-RDS Setup

■ Confirmation and preparation in advance

To monitor this machine with e-Maintenance/ imageWARE Remote, the following settings are required.

● Advance preparations

The following network-related information needs to be obtained from the user's system administrator in advance.

Information item 1

IP address settings
- Automatic setting : DHCP
- Manual setting : IP address, subnet mask and gateway address to be set

Information item 2

Is there a DNS server in use?
If there is a DNS server in use, find out the following.
- Primary DNS server address
- Secondary DNS server address

Information item 3

Is there a proxy server?
If there is a proxy server in use, find out the following.
- Proxy server address
- Port No. for proxy server

Information item 4

Is proxy server authentication required?
If proxy server authentication is required, find out the following.
- User name and password required for proxy authentication

● Network settings

Based on the results of the information obtained in "Advance preparations", make this machine network related settings.
See Users' Guide for detailed procedures.

> **CAUTION:**
> When changes are made to the above-mentioned network settings, be sure to turn OFF and then ON the main power of this machine.

■ Steps to E-RDS settings

1. **Start [SERVICE MODE].**

2. **Select [COPIER] > [FUNCTION] > [CLEAR] > [ERDS-DAT] and touch the [Yes].**

> **NOTE:**
> This operation initializes the E-RDS settings to factory setting values.
> For the setting values to be initialized, see the section of "Initialization procedure" on page 53.

3. **Select [COPIER] > [FUNCTION] > [INSTALL] > [ERDS].**

4. **Press the numeric key [1] on the control panel (the setting value is changed to 1) and touch the [Apply].**

> **CAUTION:**
> The following settings i.e. RGW-PORT in Service mode must not be change unless there are specific instructions to do so. Changing these values will cause error in communication with UGW.

> **NOTE:**
> This initiates the communication test between the device and the UGW.

5. **Select [COM-TEST] and then touch [Yes].**

   The communication test with UGW will be executed.

6. **Select [COM-RSLT] .**

   If the communication is successful, "OK" is displayed. If "NG" (failed) appears, refer to the ""Troubleshooting"" on page 56 and repeat until "OK" is displayed.

> **NOTE:**
> The communication results with UGW can be distinguished by referring to the COM-LOG. By performing the communication test with UGW, E-RDS acquires schedule information and starts monitoring and meter reads operation.

■ Initializing E-RDS settings

It is possible to clear the FLASH data of E-RDS and change the E-RDS setting back to the default value.

● Initialization procedure

1. **Start [SERVICE MODE].**

2. **Select [COPIER] > [FUNCTION] > [CLEAR] > [ERDS-DAT] and touch the [Yes].**

● Setting values and data to be initialized

The following E-RDS settings, internal data, and Alarm filtering information are initialized.
- [COPIER] > [FUNCTION] > [INSTALL] > [ERDS]
- [COPIER] > [FUNCTION] > [INSTALL] > [RGW-PORT]
- [COPIER] > [FUNCTION] > [INSTALL] > [COM-LOG]

■ COM-LOG Report

A report of communication error log information on five affairs can be output.

● Report output procedure

1. **Start [SERVICE MODE] .**

2. **Select [COPIER] > [FUNCTION] > [MISC-P] > [ERDS-LOG] and touch the [Yes].**

Output sample

```
12/03 2015 10:14AM
                         ***********************
                         *** E-RDS-COM-LOG ***
                         ***********************

No.01    DATE 12/03 2015    TIME 03:21 AM    CODE 05000003
    Information    SUSPEND: Communication test is not performed.

No.02    DATE 12/03 2015    TIME 03:21 AM    CODE 00000000
    Information    SUSPEND: mode changed.

No.03    DATE 12/03 2015    TIME 03:18 AM    CODE 05000003
    Information    SUSPEND: Communication test is not performed.

No.04    DATE 12/03 2015    TIME 03:18 AM    CODE 00000000
    Information    SUSPEND: mode changed.

No.05    DATE 12/03 2015    TIME 01:56 AM    CODE 05000003
    Information    SUSPEND: Communication test is not performed.
```

FAQ

Q: In what case does a communication test with UGW fail?

Ans.

The following cases can be considered in the becoming "NG" case.
- Name resolution was failed due to an incorrect host name or DNS server has been halted.
- Network cable is blocked off.
- Proxy server settings is not correct.

Q: When does E-RDS send counter information to UGW? How many data is sent?

Ans.

The schedule of data transmitting, the start time are determined by settings in the UGW side. The send time cannot be specified on the E-RDS side. Data is sent once every 16 hours.
The data size of counter information is approx. 285 KB.

Q: Will data which failed to be sent due to an error in communication with UGW be resent?

Ans.

Data shown below will be resent.
- Jam log
- Service call log
- Alarm log
- Browser information
  It is resent only when the web browser option is enabled.

Data is resent endlessly (after 5, 10, 15, 20, 25, and 30 minutes since the occurrence of communication error; once 30 minutes have passed, it is resent at 30-minute intervals) until it is sent successfully. Resend continues even if the power is turned OFF and then ON.

Q: What is the upper limit of the number of COM-LOGs? What is the upper limit of the number of characters of error information displayed in a COM-LOG?

Ans.

Up to 5 log data can be saved.

Q: Although Microsoft ISA as a proxy server is introduced, the authentication check is failed. Can E-RDS adopt with Microsoft ISA?

Ans.

E-RDS must comply with "Basic" while "Integrated" authentication is used for Microsoft ISA (as default); therefore, authentication with E-RDS is available if you change the setting to "Basic" authentication on the server.

Q: Can I turn this machine power off during the e-Maintenance/ imageWARE Remote system operation?

Ans.

While operating the e-Maintenance/ imageWARE Remote system, the power of the device must be ON. If power OFF is needed, do not leave the device power OFF for long time.
It will become "Device is busy, try later" errors if the power supply of network equipment such as HUB is made prolonged OFF.

Q: Although a Service call error may not be notified to UGW, the reason is what?

Ans.

If a service technician in charge turns off the power supply of this machine immediately after error occurred once, It may be unable to notify to UGW because data processing does not take a time from the controller of this machine to NIC though, the data will be saved on the RAM.
If the power supply is blocked off while starting up, the data will be inevitably deleted.

Q: How does E-RDS operate while this machine is placed in the sleep mode?

Ans.

While being in Real Deep Sleep, and if data to be sent is in E-RDS, the system wakes up asleep, then starts to send the data to the UGW. The system also waits for completion of data transmission and let the device to shift to asleep status again. However, transition time to the Real Deep Sleep depends on the device, and the transition to sleep won't be done if the next data transmission will be done within 10 minutes.

Q: Is E-RDS compatible with Department counter?

Ans.

No, E-RDS does not support Department counter.

Q: Counter information could not be sent at the scheduled send time due to the power of this machine being turned OFF. Will the counter information be sent later when the power of this machine is turned ON?

Ans.

Yes. When a scheduled send such as that for counter could not be executed due to the power of this machine being turned OFF, etc., and the scheduled send time has already passed at power-on, the send is executed immediately.
The following shows data send according to the status of this machine.

Send types	Status of this machine		
	Power ON	**Power OFF**	**Sleep**
Scheduled send	Sent	Not sent *1	Sent *2
Immediate send (Service call log / Alarm log / Jam log)	Sent	-	Sent *2

*1: Immediately sent if the send time has already passed at power-on.
*2: Sent after recovery from sleep mode.

Q: What is the number of the network port used by E-RDS?

Ans.

The port number used by E-RDS for communication with UGW is "443".
If this setting is changed, an error occurs during communication with UGW. Therefore this setting should not be changed unless otherwise instructed.

Q: After the setting for E-RDS was made, the IP address of the host machine was changed. In that case, is it necessary to execute COM-TEST again?

Ans.

It is not necessary to execute COM-TEST again because the IP address used by E-RDS is automatically changed. However, it is necessary to turn OFF and then ON the main power of this machine to reflect the change in the setting of the IP address.

Troubleshooting

Symptom: A communication test (COM-TEST) results NG.

Cause:

Initial settings or network conditions is incomplete.

Remedy 1:

Check and take actions mentioned below.
1. Check network connections
   Is the status indicator LED for the HUB port to which this machine is connected ON?
      YES: Proceed to Step 2.
      NO: Check that the network cable is properly connected.
2. Confirm loop back address (* In case of IPv4)
   Select [Settings/Registration] > [Preferences] > [Network] > [TCP/IP Settings] > [IPv4 Settings] > [PING Command], enter "127.0.0.1", and touch the [Start] button.
   Does the screen display "Response from the host."?
      YES: Proceed to Step 3.
      NO: There is a possibility that this machine's network settings are wrong. Check the details of the IPv4 settings once more.
3. Confirmation from another PC connected to same network.
   Request the user to ping this machine from a PC connected to same network. Does this machine respond?
      YES: Proceed to Step 4.
      NO: Confirm the details of this machine's IP address and subnet mask settings.
4. Confirm DNS connection
   (a) Select [Settings/Registration] > [Preferences] > [Network] > [TCP/IP Settings] > [DNS Settings] > [DNS Server Address Settings], write down the primary and secondary addresses of the DNS server, and touch the [Cancel] button.
   (b) Touch the [Up] button.
   (c) [Select IPv4 Settings] > [PING Command], enter the primary DNS server noted down in step (a) as the IP address, and touch the [Start] button.
   Does the screen display "Response from the host."?
      YES: Proceed to Remedy 2.
      NO: Proceed to step (d).
   (d) Enter the secondary DNS server noted down in step (a) as the IP address, and then touch the [Start] button.
   Does the screen display "Response from the host."?
      YES: Proceed to Remedy 2.
      NO: There is a possibility that the DNS server address is wrong. Reconfirm the address with the user's system administrator.

Remedy 2:

Troubleshooting using communication error log (COM-LOG)
1. Start [SERVICE MODE].
2. Select [COPIER] > [FUNCTION] > [MISC-P] > [ERDS-LOG], and press [Yes] to execute report output of the communication error log information.
3. When a message is displayed, take an appropriate action referring to "Error code and strings" on page 57.

Symptom: A communication test results NG even if network setting is set properly.

Cause:

The network environment is inappropriate, or RGW-ADR or RGW-PORT settings for E-RDS have been changed.

Remedy:

The following points should be checked.
1. Check network conditions such as proxy server settings and so on.

2. Check the E-RDS setting values.
   - Check the communication error log from COM-LOG.
   - Check whether RGW-ADR or RGW-PORT settings has changed. If RGW-ADR or RGW-PORT settings has changed, restore initial values. For initial values, see "Service cautions" on page 51.

Symptom: Registration information of the E-RDS machine was deleted from the device information on Web Portal, and then registered again. After that, if a communication test is left unperformed, the device setting in the UGW becomes invalid.

Cause:

When the registration information of the E-RDS machine is deleted, information related to E-RDS is also deleted. Therefore, when 7 days have passed without performing a communication test after registering the E-RDS machine again, the device setting becomes invalid.

Remedy:

Perform a communication test before the device setting becomes invalid.

Symptom: There was a log, indicating "Network is not ready, try later" in error details of COM-LOG list.

Cause:

A certain problem occurred in networking.

Remedy:

Check and take actions mentioned below.
1. Check networking conditions and connections.
2. Turn on the power supply of this machine and perform a communication test about 60 seconds later.

Symptom: "Unknown error" is displayed though a communication test (COM-TEST) has done successfully.

Cause:

It could be a problem at the UGW side or the network load is temporarily faulty.

Remedy:

Try again after a period of time. If the same error persists, check the UGW status with a network and UGW administrator.

Symptom: When a communication test (COM-TEST) is repeatedly executed, an error occurs.

Cause:

During communication conducted after execution of a COM-TEST, another COM-TEST was executed again.

Remedy:

When repeatedly executing COM-TEST, execute COM-TEST at intervals of 5 minutes or more.

Error code and strings

The following error information is displayed on the communication error log details screen.
(Here, "server" means UGW.)
- The error information are displayed in the following form.
  [*] [Character strings] [Functional classification (Method name)] [Error details provided by UGW]

> **NOTE:**
> "*" is added to the top of the error text in the case of an error in communication test (method name: getConfiguration or communicationTest) only.

No.	Code	Character strings	Cause	Remedy
1	0000 0000	SUSPEND: mode changed.	Unmatched Operation Mode	Initialize the E-RDS setting (ERDS-DAT).
2	0500 0003	SUSPEND: Communication test is not performed.	Turning OFF and then ON the main power of this machine while the communication test had not been performed although E-RDS is enabled.	Perform a communication test (COM-TEST).

No.	Code	Character strings	Cause	Remedy
3	0xxx 0003	Server schedule is not exist	Blank schedule data have been received from UGW.	Perform and complete a communication test (COM-TEST).
4	0xxx 0003	Communication test is not performed	Communication test has not completed.	Perform and complete a communication test (COM-TEST).
5	84xx 0003	E-RDS switch is setted OFF	A communication test has been attempted with the E-RDS switch being OFF.	Set E-RDS switch (E-RDS) to 1, and then perform a communication test (COM-TEST).
6	8600 0002 8600 0003 8600 0101 8600 0201 8600 0305 8600 0306 8600 0401 8600 0403 8600 0414 8600 0415	Event Registration is Failed	Processing (event processing) within the device has failed.	Turn the device OFF/ ON. If the error persists, replace the device system software. (Upgrade)
7	8700 0306	SRAM version unmatch!	Improper value is written in at the head of the NVMEM domain (nonvolatile memory domain) of E-RDS.	Turn the device OFF/ ON.
8	8700 0306	SRAM AeRDS version unmatch!	Improper value is written in at the head of the NVMEM domain (nonvolatile memory domain) of Ae-RDS.	Turn the device OFF/ ON.
9	8xxx 0004	Operation is not supported	Method which E-RDS is not supporting attempted.	Contact help desk.
10	8xxx 0101	Server response error (NULL)	Communication with UGW has been successful, but an error of some sort has prevented UGW from responding. When (Null) is displayed at the end of the message, this indicates that there has been an error in the HTTPS communication method.	Perform and complete a communication test (COM-TEST).
11	8xxx 0201 8xxx 0202 8xxx 0203 8xxx 0204 8xxx 0206	Server schedule is invalid	During the communication test, there has been some kind of error in the schedule values passed from UGW.	When the error occurs, report the details to the support section. After the UGW side has responded, try the communication test again.
12	8xxx 0207 8xxx 0208	Internal Schedule is broken	The schedule data in the inside of E-RDS is not right.	Perform a communication test (COM-TEST).
13	8xxx 0221	Server specified list is too big	Alarm/Alert filtering error: The number of elements of the list specified by the server is over restriction value.	Alert filtering is not supported by UGW.
14	8xxx 0222	Server specified list is wrong	Alarm filtering error: Unjust value is included in the element of the list specified by the server.	Alert filtering is not supported by UGW.
15	8xxx 0304	Device is busy, try later	The semaphore consumption error at the time of a communication test.	Try again a communication test after a period of time.
16	8xxx 0709	Tracking ID is notmatch	When upgrading firmware, the TrackingID notified by Updater differs from the thing of UGW designates.	Obtain the sublog, and contact the support department of the sales company.
17	8xxx 2000	Unknown error	Some other kind of communication error has occurred.	Perform and complete a communication test (COM-TEST).
18	8xxx 2001	URL Scheme error(not https)	The header of the URL of the registered UGW is not in https format.	Check that the value of URL of UGW (RGW-ADR) is https://a01.ugwdevice.net/ugw/agentif010.

No.	Code	Character strings	Cause	Remedy
19	8xxx 2002	URL server specified is illegal	A URL different to that specified by the UGW has been set.	Check that the value of URL of UGW (RGW-ADR) is https://a01.ugwdevice.net/ugw/agentif010.
20	8xxx 2003	Network is not ready, try later	Communication attempted without confirming network connection, just after turning OFF and then ON the main power of this machine in which the network preparations are not ready.	Check the network connection, as per the initial procedures described in the troubleshooting. Perform a communication test (COM-TEST) about 60 seconds later, after turn on the device.
21	8xxx 2004	Server response error ([Hexadecimal]) [Error detailed in UGW]*1	Communication with UGW has been successful, but an error of some sort has prevented UGW from responding.	Try again after a period of time. Check detailed error code (Hexadecimal) and [Error details in UGW] from UGW displayed after the message.
22	8xxx 200A	Server connection error	• TCP/IP communication fault • The IP address of device is not set.	• Check the network connection, as per the initial procedures described in the troubleshooting. • When proxy is used, make the settings for proxy, and check the status of the proxy server.
23	8xxx 200B	Server address resolution error	Server address name resolution has failed.	• Check that the value of URL of UGW (RGW-ADR) is https://a01.ugwdevice.net/ugw/agentif010. • Check that Internet connection is available in the environment.
24	8xxx 2014	Proxy connection error	Could not connect to proxy server due to improper address.	Check proxy server address / port and re-enter as needed.
25	8xxx 2015	Proxy address resolution error	Could not connect to proxy server due to name resolution error of proxy address.	• Check that the proxy server name is correct. If the proxy server name is correct, check the DNS connection, as per the initial procedures described in the troubleshooting. • Specify the IP address as the proxy server name.
26	8xxx 201E	Proxy authentication error	Proxy authentication is failed.	Check the user name and password required in order to login to the proxy, and re-enter as needed.
27	8xxx 2028	Server certificate error	• No route certificate installed in device. • Certificate other than that initially registered in the user's operating environment is being used, but has not been registered with the device. • The date and time of the device is not correct.	• Install the latest device system software. (Upgrade) • Correctly set the date and time of the device. • Execute CLEAR > CA-KEY, and turn OFF and then ON the device. (The CA certificate at the time of shipment is automatically installed.)
28	8xxx 2029	Server certificate verify error	The server certificate verification error occurred.	Check that the value of URL of UGW (RGW-ADR) is https://a01.ugwdevice.net/ugw/agentif010.
29	8xxx 2046	Server certificate expired	• The route certificate registered with the device has expired. • Certificate other than that initially registered in the user's operating environment is being used, but has not been registered with the device. • The device time and date is outside of the certificated period.	Check that the device time and date are correctly set. If the device time and date are correct, upgrade to the latest system software.

No.	Code	Character strings	Cause	Remedy
30	8xxx 2047	Server response time out	Due to network congestion, etc., the response from UGW does not come within the specified time. (HTTPS level time out)	If this error occurs when the communication test is being run or Service Browser is being set, try again after a period of time.
31	8xxx 2048	Service not found	There is a mistake in the UGW URL, and UGW cannot be accessed. (Path is wrong)	Check that the value of URL of UGW (RGW-ADR) is https://a01.ugwdevice.net/ugw/agentif010.
32	8xxx 2052	URL error	The data which is not URL is inputted into URL field.	Check that the value of URL of UGW (RGW-ADR) is https://a01.ugwdevice.net/ugw/agentif010.
33	8xxx 2058	Unknown error	SOAP Client fails to obtain SOAP Response. Possibility of a problem in UGW or of a temporary problem in the network load.	Perform and complete a communication test (COM-TEST).
34	8xxx 2063	SOAP Fault	SOAP communication error has occurred.	Check that the value of port number of UGW (RGW-PORT) is 443.
35	xxxx xxxx	Device internal error	An internal error, such as memory unavailable, etc., has occurred during a device internal error phase.	Turn the device OFF/ ON. Or replace the device system software. (Upgrade)
36	xxxx xxxx	SUSPEND: Initialize Failure!	Internal error occurred at the initiating E-RDS.	Turn the device OFF/ ON.

*1: [Hexadecimal]: indicates an error code returned from UGW.

[Error details in UGW]: indicates error details returned from UGW.

Setting Information Export/Import Function (DCM)

🔵 Function Overview

This function (DCM: Device Configuration Management) is used to export/import setting value information in the host machine as a file (DCM file).
The following setting information is exported/imported.
- Setting information of [Settings/ Registration]
- Setting information of service mode
- Address Book

The DCM file is exported to a USB flash drive or PC local disk from the Control Panel or remote UI.
The exported DCM file can be returned to the original device or imported to a different device.
When the file is returned to the original device, this can be used as a setting backup function, and when the file is imported to a different device, this can be used as a setting information migration function.
Data can also be imported to or exported from an iR-ADV machine by using iW EMC/MC DCM Plug-in.
In the case of the setting value backup function before DCM, an exported file could be imported to the same device, but the DCM function enables import of an exported file to a different device.
Image
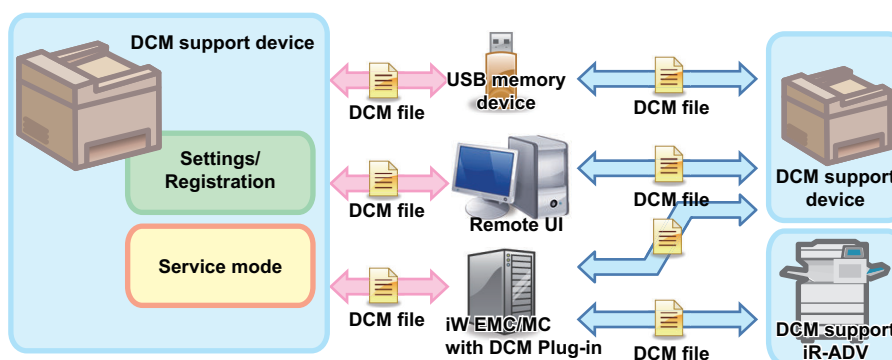
> **NOTE:**
> In order to export or import setting information using DCM, it is necessary that the device supports DCM.

■ Purpose for Using the Function

The purpose of using the DCM function is described below using three use cases.

Case	Export/ Import	Use Case
A	Export from and import to the same device	• Used as backup in preparation for a device failure • Used as backup before changing settings
B	Export from and import to a different device of the same model	• Collectively migrate data when replacing the host machine • Copy the settings to multiple devices (during kitting)
C	Export from and import to a different model	• Migrate the settings from the old model to the new model when replacing the host machine • Migrate the settings of the base machine to a different model for a large-scale user

● Export from and Import to the Same Device (Case A)

In this use case, setting information is exported as backup in preparation for a device failure or backup before changing settings. Information of various settings is backed up just in case.
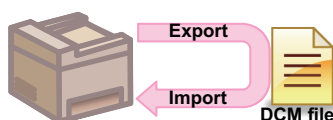
● Export from and Import to a Different Device of the Same Model (Case B)

In this use case, the exported setting information is copied to a different device of the same model.
This enables efficient installation in the case of installing multiple devices of the same model at a time (for example, kitting).

Export → **DCM file** → **Import** → A different machine of the same model

● Export from and Import to a Different Model (Case C)

In this use case, the exported setting information is copied to a device of a different model.
Not that all the information that can be exported using DCM can be imported, but this is effective in the case of replacing an old device or copying the settings of the base machine in an environment where various models exist.

Export → **DCM file** → **Import** → A different model

■ Combination of Information Exported/Imported by DCM, Means, and Storage Locations

● Information Exported/Imported as a DCM File

A DCM file is exported and imported using the Control Panel, remote UI, or the iW EMC server, depending on the situation of the site.
The information exported/imported differs depending on the means.
Combinations of them are shown in the following table.

Menu used	Operation	Information exported		
		Setting values of menu options	Address book[*1]	Service mode setting values
[Settings/Registration] menu	Control panel	Yes (fixed) [*2]	Yes (fixed) [*2]	No
	Remote UI	Yes	Yes	With conditions[*3]
Service mode	Control panel	No	No	Yes
	Remote UI	No	No	Yes
iW EMC/ MC DCM Plug-in	iW EMC/ MC DCM Plug-in	Yes	Yes	With conditions[*4]

*1: Models without address books are excluded. In the case of a fax option model without SEND function, address books are exported only if a fax option is connected with the device.

*2: When the [Settings/ Registration] menu is used from the Control Panel, both the setting menu information and the address book are imported/exported. It is not possible to export/import only either of them.
Information which is not included in the data to be imported is not imported.

*3: Service mode is added to the data to be exported only when service mode level 1 > COPIER > OPTION > USER > SMD-EXPT is set.
For items to be imported, refer to "List of Items Which Can Be Imported".

*4: It is included only in the data to be imported. If service mode data is not included in the data to be imported, the data is not imported.

● DCM File Storage Location

DCM files are saved in the following locations.

Operation	Menu used	Storage destination
Operation Panel	[Settings/ Registration] menu	USB flash drive
	Service mode	
Remote UI	[Settings/ Registration] menu	PC local disk
	Service mode	
DCM Pug-in	DCM Pug-in	Local disk of the iW EMC/MC server

■ Compatibility

● Compatibility of DCM Files

Compatibility of DCM files differs depending on the export/import method as shown below.

Exported from	Imported to				
	iR series not supporting DCM	iR series supporting DCM		iR-ADV series	
	Remote UI	Via DCM Plug-in	Remote UI/USB	DCM Plug-in	Remote UI/ USB
iR series not supporting DCM	Yes	No	With conditions *1	No	No
iR series supporting DCM	No	Yes	Yes	With conditions *2	No
iR-ADV series	No	With conditions *2	No	Yes	Yes

Yes: Compatible

With conditions *1: Address books can be imported. Other information cannot be imported.

With conditions *2: A part of address book can be imported using ABM Plug-in. Other information cannot be imported.

Compatibility of the DCM file imported via DCM Plug-in depends on the specification of DCM Plug-in.

No: Incompatible

● Compatibility of Data

The following table shows compatibility of data in the case where the device from which the data is exported and the device to which the data is imported differ in model and/or serial number.

For items that are imported in Cases A, B, and C, refer to "List of Items Which Can Be Imported".

Model	Serial number	Import Process
Same	Same	Items corresponding to Case A are imported. *1
Same	Different *3	Items corresponding to Case B are imported. *1
Different	Different *3	Items corresponding to Case C are imported. *2
Different	Same	The file is judged to be invalid, and the process ends with an error.

*1: If the firmware version at the time of import differs from that at the time of export, predetermined corrective processing may be performed.

*2: Predetermined corrective processing may be performed.

*3: If a serial number is missing, the serial numbers are judged to be mismatched.

⬤ Specifications

■ Specifications Related to DCM Files

● Overall Specifications Related to DCM Files

- The DCM file to be exported is created directly under the root of the USB flash drive.
- The file name is not case sensitive.
- The DCM file exported/imported from the Control Panel or service mode is named as shown below:
  - Control Panel: compact.dcm
  - Service mode: service.dcm
- When the file is exported, if a file of the same name exists in the export destination, the behavior will be as shown below.
  - When the file is exported from the Control Panel: A message asking whether the user wants to overwrite appears.
  - When the file is exported from service mode: The file is always overwritten.

● Import of an Invalid File

- When an invalid file is imported, the process ends with an error.
- When a file which does not contain any data to be imported is imported, the process ends with an error.
- When there is an error in the imported file, the import process ends with an error in some cases.
- When there is an error in the imported data, the data is skipped and the import process continues.
- When the imported file fails to be read in the middle of the reading process or when the format is invalid, the import process is stopped. In that case, the machine is not rebooted. The data is not rolled back to the state it was before import.

● Encryption Password

- It is necessary to set a password during the export process because data such as the password of the address book set by the user are encrypted when the DCM file is exported/imported.
- The password must consist of 32 or less ASCII characters. A password exceeding 32 characters cannot be entered.
- If a wrong password is entered at import, the encrypted setting values cannot be decoded, and the import of the setting values end with an error.
- It is necessary to specify a password even when the data to be exported does not contain any data to be encrypted. However, in the case of export from service mode, it is not necessary to enter the password, and the password (28282828) is entered automatically.

■ Specifications Related to Department ID Management

- Department ID information is exported only when the Department ID management setting is enabled.Regardless of the state of the department ID management setting, the state of department ID management (enabled/disabled) and the system administrator information are exported. The department ID counter is not exported.
- When importing department ID information, the import process differs depending on the combination of the department ID set in the host machine and the department ID set in the data to be imported.

	"ID_1" has not been set in the host machine.	"ID_1" has been set in the host machine.
"ID_1" has been set in the data to be imported.	Information of "ID_1" is imported. The department ID counter is "0".	Information excluding the department ID counter information of "ID_1" in the host machine is imported.
"ID_1" has not been set in the data to be imported.	Not overwritten	Information of "ID_1" is deleted.
Department ID information has not been set in the data to be imported.	Not overwritten	Not overwritten

* ID_1 indicates a department ID.

■ Specifications during Execution of a Process

● Control Panel/Remote UI during a Process

- During export or import, a screen is displayed to prohibit operation from the Control Panel and remote UI.
- During export or import, the keys excluding the energy saver key are disabled.

● Cancel during a Process

During export or import, the process cannot be canceled by user operation.

● Behavior when a Service Error Occurs

Even when a service error has occurred, export and import can be executed.
However, this does not include errors which disable the DCM function.

● Export/import process from service mode

When performing export/import process from service mode, no error is displayed even when an error has occurred.

● Process after Import

After the setting file is imported using the DCM function, the following process is performed.

Import method	Process
Operation Panel	When the import process is completed successfully, the device will be restarted in 25 seconds.
Remote UI	When the import process is completed successfully, the device will be restarted in 25 seconds. However, the device will not be restarted if only the address book is imported.
iW EMC /MC DCM Plug-in	When the import process is completed successfully, the device will be restarted in 90 seconds (time for DCM Plug-in to obtain the import result). However, the device will not be restarted if only the address book is imported.

■ Specifications Related to Address Books

● Import of an Address Book

- The address book is imported after the existing address book in the host machine has been cleared.
- If an error occurs during import, the data is not returned to the state of data cleared before import.
- Addresses which exceed the number of addresses that can be registered are not imported.
- Group addresses which include addresses that were not imported are not registered.
- When entering the password for the address book from the Control Panel, if authentication is skipped, the address book is excluded from the process.

● Import of an Address Book in an Old Format

It is possible to import an address book in an old format that was exported from a device not supporting DCM, but it is not possible to export an address book in an old format.

There is no encryption password for an address book of an old format, but something needs to be entered, therefore a dummy password (enter anything and the passwords will match) needs to be entered.

The specifications of import of an address book in an old format are as shown below.

- When an address book is imported, the consistency is checked while reading a record, not that the consistency of all records is checked before import.
- If an accidental error (such as power discontinuity during import) occurs during import, the address book data which was partially imported does not remain and returns to the state before import.
- Passwords such as the password for SMB are not recorded in an address book in an old format. Therefore these passwords are not set in the address book to be imported.
- When an address book is imported, the data previously stored is not cleared but overwritten with the records stored in the new address book. In other words, after the address book is overwritten with a new address book, some of the previously stored records remain in some cases. All the registered call keys will be cleared.

Image of overwriting an address book
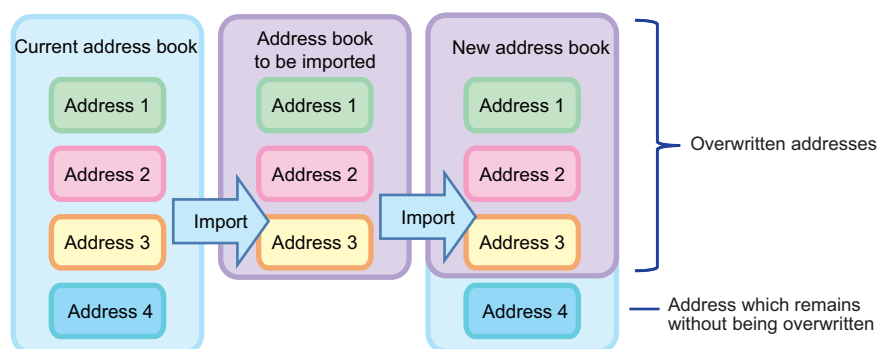
- Even if other data (settings of menu, service mode, etc.) is specified as data to be imported, only the address book is imported.
- Addresses whose required field shown below is not filled in are skipped and the import process is executed. In that case, the import process is continued without displaying an error message.

Type	Required field
Group address	Addresses included in the group
Fax	Dial number
E-Mail	E-mail address
File server (SMB)	Host name (IP address) protocol

- When an address book is imported, if there is a field with an attribute that is not any of the foregoing required fields and cannot be interpreted, import of only that attribute is skipped without abandoning the entire record. In that case, the import process is continued without displaying an error message.
- If the number of characters exceeds the upper limit at import, the excess characters are truncated on the right.

🔵 Limitations

■ Job Control

Do not execute the following processes during import or export.

- Reception of a new job (Execution of calibration requested by the engine is allowed.)
- Firmware update (during which faxes cannot be received due to busy line.)

If any of the following conditions is met, import/export is not executed.
- A job exists. (If calibration is requested by the engine, import/export is executed, ignoring the calibration job.)
- A firmware update is being performed.
- Another import or export is being executed.

> **CAUTION:**
> During import, print/fax jobs from the PC are not received and are stuck in the spooler on the PC.Those jobs stuck in the spooler may not be printed properly after reboot of the host machine. In that case, those jobs have not been received and are not even recorded in history.

■ Control Characters

If the character string to be exported (e.g. a destination name in the address book) includes an ASCII control character (0x01-0x08, 0xb, 0xc, 0xe-0x19, or 0x7f), the character string excluding the control character is exported.

■ Corrective Processing

When data is imported, corrective processing of setting values (changing a process to another process that can be performed) may be performed. Corrective processing is performed to process data so that it can be used by the import destination device. Even when a setting value has been changed by corrective processing, the import process is treated as successful.
Examples are shown below. Please note that the following cases are just examples, and how each item is processed by corrective processing varies depending on the initial settings and the service mode settings.

- When the length of the character string exceeds the limit
  If a character string exceeding the length permitted by the import destination device is registered as, for example, a device name, only the length of the character string that can be registered on the import destination device is registered. The excess characters of the character string are deleted.

- When an out-of-range value is imported
  Since the value is not comprehensible to the import destination device, the out-of-range value is not imported.In that case, the default value is not set but the originally registered value remains effective.

- When a necessary license or software option does not exist
  In that case, the specification differs depending on the setting value.
  Depending on the type of the license or software option, import is executed without the license or software option in some cases. Therefore the following behaviors may occur.

  Assumption
  There is "Setting 1" (default value: 0) which is required only when "License 1" has been activated.
  Device A: "License 1" activated, "Setting 1" set to "1"
  Device B: "License 1" not activated, "Setting 1" set to "0"
  Device C: "License 1" activated, "Setting 1" set to "2"

  Operation
  Export the settings of Device A and import them to Device B.
  Export the settings of Device B and import them to Device C.

  Result
  "Setting 1" of Device C is set to "1".
  The foregoing behavior may occur because the setting value related to the license is not always the default value in Device B where the license has not been activated.
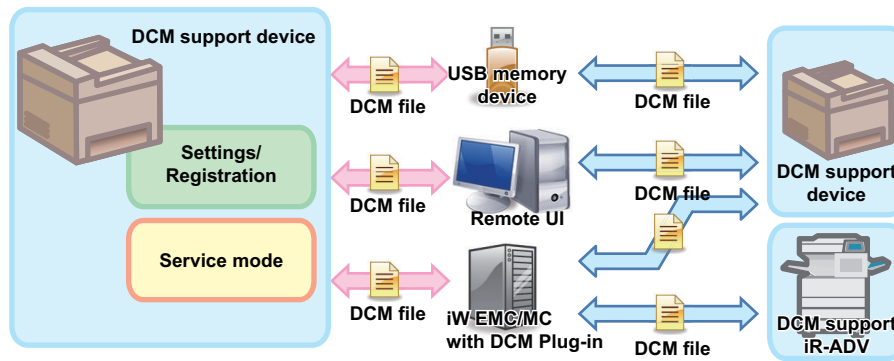
Image of DCM file import

- When a necessary hardware option does not exist
  The corrective processing performed is the same as that performed when an option has been changed during power discontinuity.

  Example

  Corrective processing performed when "Paper Source = Optional Deck" has been set as a favorite setting. Examples are shown below:
  - When this connection is released due to a failure of the optional deck, etc.
  - When a setting file exported from a device with an optional deck is imported to a device without an optional deckPlease note that this rule does not always apply to all the setting values.

  Please note that this rule does not always apply to all the setting values.

■ Power Supply Control

When power discontinuity occurs during export or import, the following behavior occurs.
- The import process that had been performed before the power discontinuity remains reflected, and the data is not rolled back.
- When power discontinuity occurs during an export process, export is not executed. Moreover, since the import/export history is not retained in the host machine, no records remain.

■ Sleep Operation during a Process

The device does not enter deep sleep mode during import or export.
Although this is not disclosed to users, sleep mode internally changes according to the usage conditions of the host machine. Sleep mode ranges from energy saver mode where indicators such as LEDs are turned OFF to deep sleep mode where even the CPU stops.
Even if the conditions for entering deep sleep mode are met, the device does not enter deep sleep mode during export or import. If a process is started from remote UI or iW EMC/ MC, the host machine recovers to energy saver mode and performs the process. However, if service mode data is not included in the process, the process is started without waiting for recovery of the engine.

⬤ Procedure for Exporting/Importing Service Mode Setting Information

This chapter describes the procedure for exporting/importing the service mode setting information using DCM.
For the procedure for exporting/importing [Settings/Registration] or address book data that can be performed by users, refer to the User's Guide (e-Manual).

■ Procedure for Export/Import Using the Control Panel (Service Mode)

By operating from the Control Panel (service mode), it is possible to export/import a file (service.dcm) containing service mode setting information from/to a USB flash drive connected to the host machine.
The following USB flash drives can be used as the export destination.
- USB flash drive in FAT 16 format (storage capacity: 2 GB)
- USB flash drive in FAT 32 format (storage capacity: 32 GB)

● Procedure for Export Using Service Mode

1. **Connect a USB memory device to the USB memory port.**
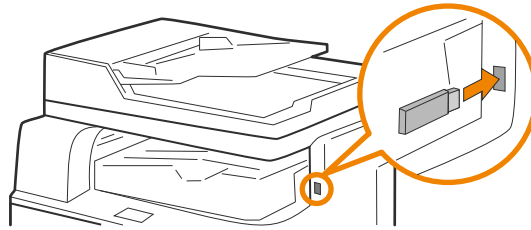
2. **Enter service mode, and execute the following service mode.**
    - COPIER > FUNCTION > SYSTEM > EXPORT

3. **The message shown below which is displayed during the process will disappear. When the display has returned to the original state, remove the USB flash drive.**
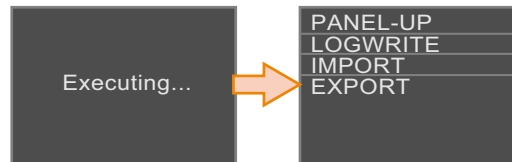
The procedure for removing the USB flash drive is shown below.
1. Press the [Reset] (⫽)key.
2. Press the [Status Monitor] (▢)key.
3. Tap "Device Status".
4. Tap "Remove Memory Media".
   Wait until the message "The memory media can be safely removed." is displayed.
5. Remove the USB flash drive.

CAUTION:
When exporting setting information using the [Settings/Registration] menu, if a USB flash drive is not connected, a message prompting the user to connect a USB flash drive will appear and the process cannot be executed.On the other hand, when this function is used, export can be executed without connecting a USB flash drive, therefore be sure to connect a USB flash drive before executing export.

4. **Check that a setting information file (service.dcm) exists in the directory directly under the root of the USB flash drive.**

   This completes the procedure for exporting a setting information file.

● **Procedure for Import Using Service Mode**

1. **To the directory directly under the root of the USB flash drive, save a setting information file (service.dcm) to be imported.**

2. **Connect a USB memory device to the USB memory port.**
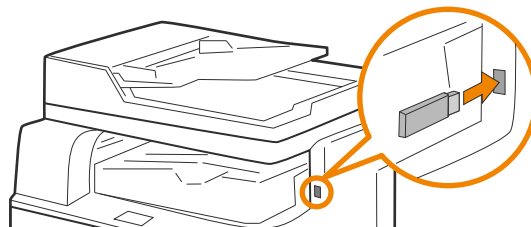
3. **Enter service mode, and execute the following service mode.**
    - COPIER > FUNCTION > SYSTEM > IMPORT
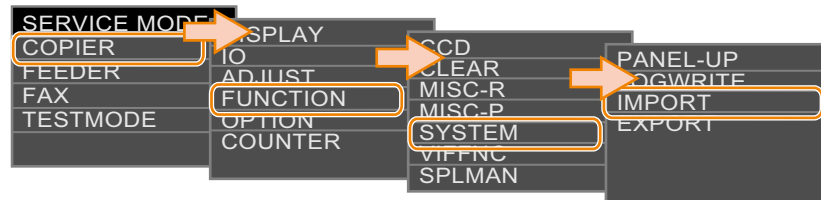
4. **The message shown below which is displayed during the process will disappear. When the display has returned to the original state, remove the USB flash drive.**
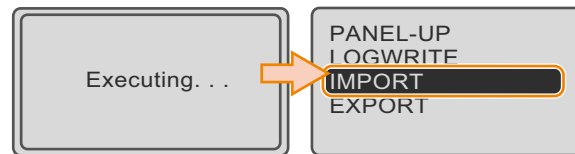
5. **Enter service mode, and check that the setting information is reflected.**

   This completes the procedure for importing a setting information file.

■ Procedure for Export/Import Using Remote UI (Service Mode)

By operating from the remote UI, it is possible to export/import a file containing service mode setting information from/to a USB flash drive connected to the host machine or the local disk on the PC.

● Procedure for Export Using Service Mode (Remote UI)

With this model, service mode can be used from the Remote UI.
Setting information can be exported by remote control by following the procedure shown below.
Since the information can be output only to a USB flash drive connected to the host machine, this is not strictly remote operation.
The following USB flash drives can be used for export/import.
   • **USB flash drive in FAT 16 format (storage capacity: 2 GB)**
   • **USB flash drive in FAT 32 format (storage capacity: 32 GB)**

1. **Connect a USB memory device to the USB memory port.**
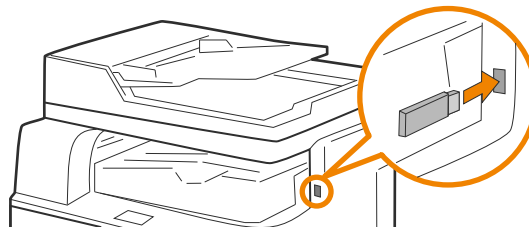
2. **Enter service mode, and execute the following service mode.**

   Access service mode (Remote UI), select COPIER > FUNCTION > SYSTEM > EXPORT, and click [EXEC].
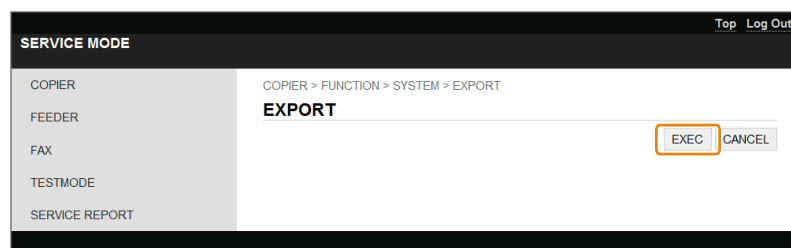
CAUTION:
When it is executed without connecting USB flash drive, the error message is not displayed.
Processing doesn't export anywhere of any though it seems to have completed it correctly.
Confirm USB memory device has been connected before it executes it from the above-mentioned reason without fail.

3. **The message shown below which is displayed during the process will disappear. When the display has returned to the original state, remove the USB flash drive.**

```
                                                           Top   Log Out
SERVICE MODE

COPIER              COPIER > FUNCTION > SYSTEM > EXPORT
FEEDER
FAX                              Executing...
TESTMODE
SERVICE REPORT
```
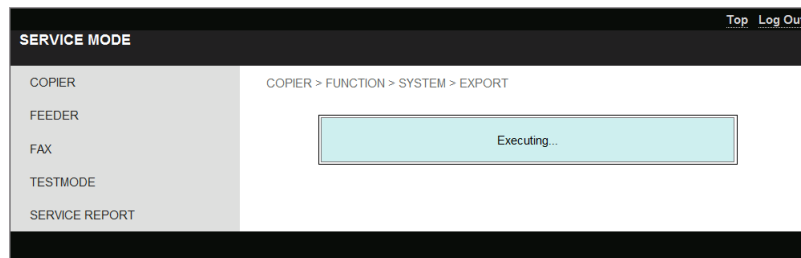
4. **Check that a setting information file (service.dcm) exists in the directory directly under the root of the USB flash drive.**

   This completes the procedure for exporting a setting information file.

● Procedure for Import Using Service Mode (Remote UI)

Import the service mode setting file that was exported to the USB flash drive in the previous procedure into the host machine.

1. **To the directory directly under the root of the USB flash drive, save a setting information file (service.dcm) to be imported.**

2. **Connect a USB memory device to the USB memory port.**

3. **Enter service mode, and execute the following service mode.**

   Access service mode (remote UI), select COPIER > FUNCTION > SYSTEM > EXPORT, and click [EXEC].

```
                                                           Top   Log Out
SERVICE MODE

COPIER              COPIER > FUNCTION > SYSTEM > IMPORT
FEEDER              IMPORT
FAX                                              EXEC   CANCEL
TESTMODE
SERVICE REPORT
```

4. **The message shown below which is displayed during the process will disappear. When the display has returned to the original state, remove the USB flash drive.**

```
                                                           Top   Log Out
SERVICE MODE

COPIER              COPIER > FUNCTION > SYSTEM > IMPORT
FEEDER
FAX                              Executing...
TESTMODE
SERVICE REPORT
```

5. **Enter service mode, and check that the setting information is reflected.**

   This completes the procedure for importing a setting information file.

■ Procedure for Export/Import Using Remote UI ([System Management Settings] Menu)

● Procedure for Export Using Remote UI ([System Management Settings] Menu)

Service mode setting information can be exported from the [System Management Settings] menu by setting the following service mode setting value to "1".

1. **Enter service mode, and set the following item to "1".**
   - COPIER > OPTION > USER > SMD-EXPT
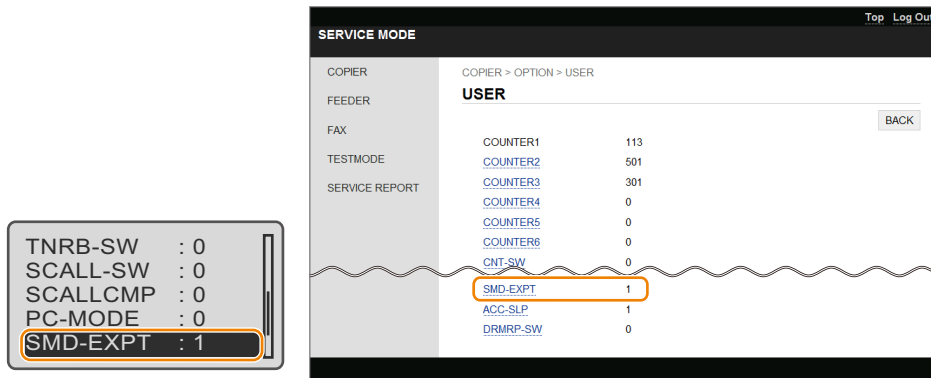
> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. **Exit service mode, and start the remote UI and log on in System Manager Mode.**
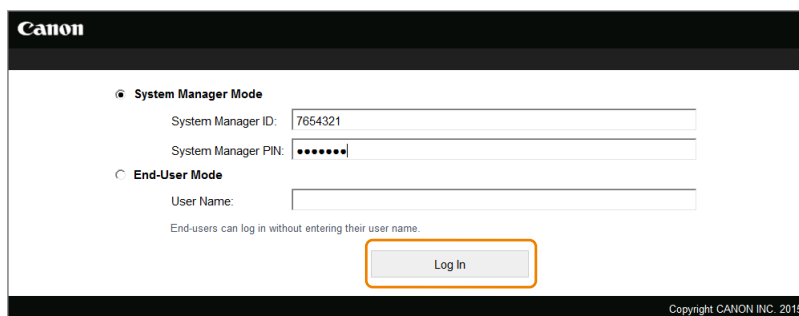
3. **Click [Settings/ Registration].**
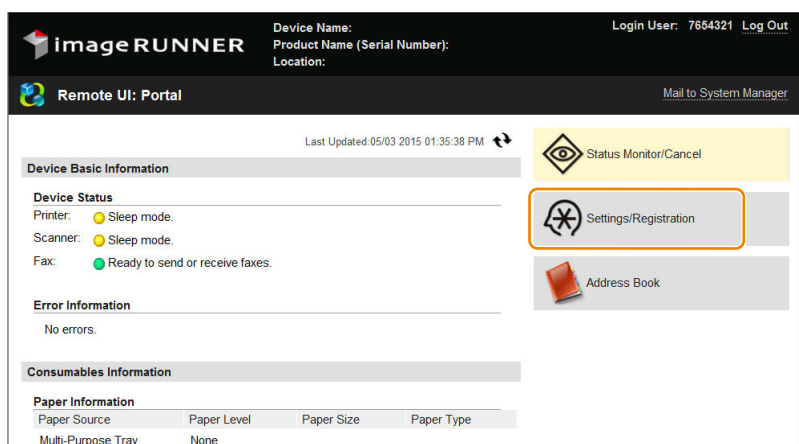
4. **Click[Import/Export] > [Export].**

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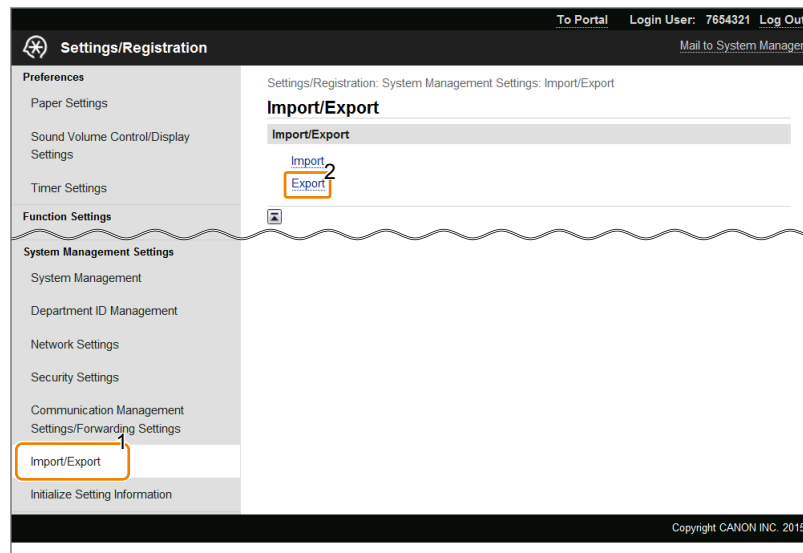
5. Specify the settings for exporting, and click [Start Exporting].

Enter the encryption password and click [Start Exporting]. The menu options data will be exported.
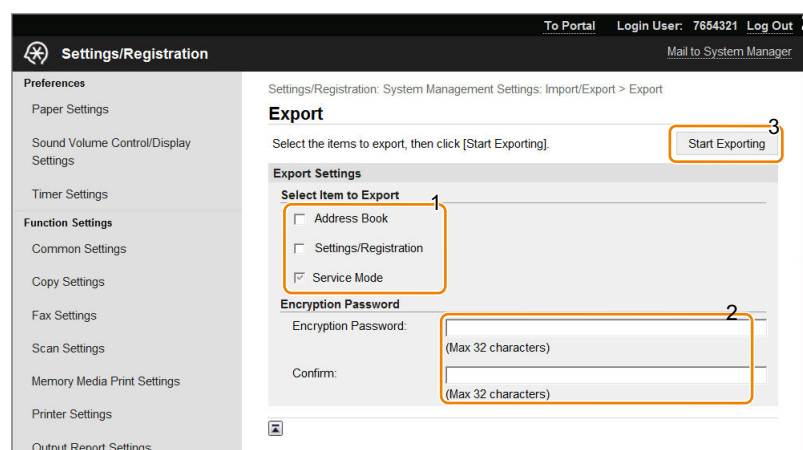
Address Book

Select the check box to export the Address Book data.

Settings/ Registration

Select the check box to export the setting data of the menu options.

Service Mode

Selected and grayed out. If this item does not exist, perform step 1 again

Encryption Password

Enter up to 32 alphanumeric characters for the encryption password. For confirmation, enter the same password in the [Confirm:] text box. This password will be required when you import the data to the machine.

6. Follow the on-screen instructions to specify the location where the exported data is saved.
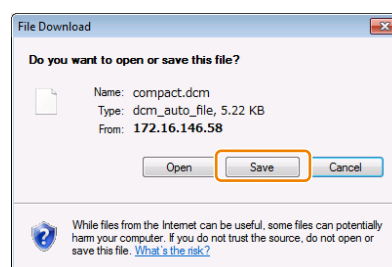
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7. **Enter service mode, and set the following item to "0".**
   • COPIER > OPTION > USER > SMD-EXPT

NOTE:
The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

● Procedure for Import Using Remote UI ([System Management Settings] Menu)

Import the service mode setting information file that was exported in the previous procedure.

1. **Enter service mode, and set the following item to "1".**
   • COPIER > OPTION > USER > SMD-EXPT

NOTE:
The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. **Exit service mode, and start the remote UI and log on in System Manager Mode.**

3. **Click [Settings/Registration].**

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4. Click[Import/Export] > [Import].
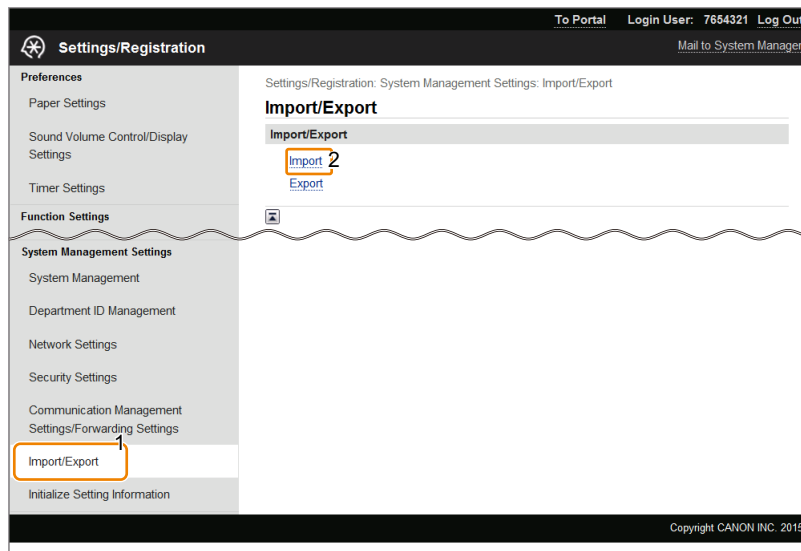
5. **Specify the settings for Importing, and click [Start Import].**

    Enter the encryption password and click [Start Import]. The menu options data will be Imported.
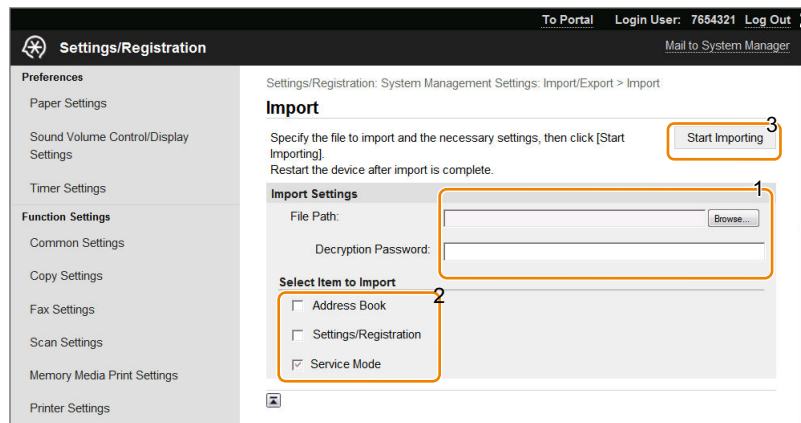
[Browse..]button

> Click to select the file to import.

Decryption Password

> Enter up to 32 alphanumeric characters for the password that was set when the file was exported.

Address Book

> Select the check box to import the Address Book data.

Address Book PIN

> If the Address Book PIN is set, enter the PIN in the [Address Book PIN:] text box. Setting a PIN for Address Book

Settings/Registration

> Select the check box to import the setting data of the menu options.

6. **A dialog box asking whether the user wants to execute import will appear. Click [OK].**
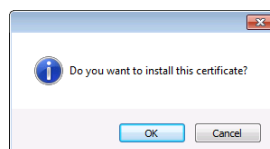
7. **A message will appear to indicate that the process has been completed. Click the [OK] button.**

8. **Restart the host machine, enter service mode, and then check that the setting information is reflected.**

9. **Enter service mode, and set the following item to "0".**
   - COPIER > OPTION > USER > SMD-EXPT
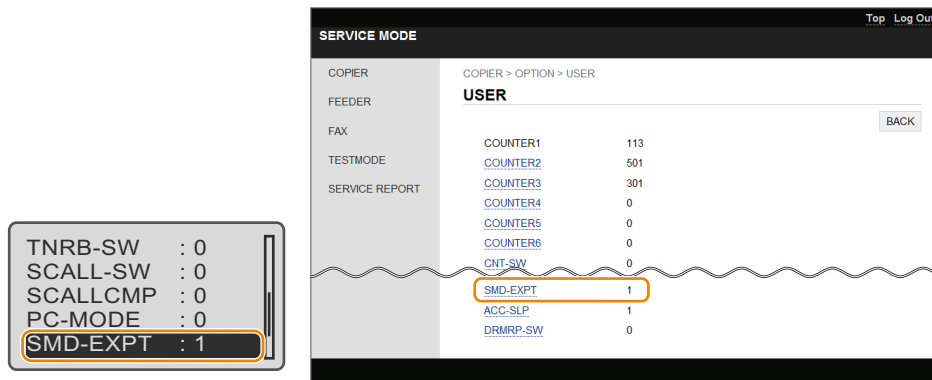
> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

List of Items Which Can Be Imported

The following shows the items to be imported for this model.
Note that the setting values are not imported in cases such as below:
- Items which are originally not included in a DCM file (e.g.:"Settings/Registration Basic Information" of a DCM file exported using service mode)
- Not included in the import coverage (Cases A to C)
- There are no options and functions related to setting values

The import coverage shown in the table below is as shown below. Those that are not described here cannot be imported.

Import coverage	Description
Case A: The same machine	Import to the same machine (for backup and restoration, etc.)
Case B: The same model	Import to a different machine of the same model (the same series)
Case C: Different model	Import to a different machine of a different model (a different series)

■ Settings/Registration Basic Information

● Preferences

Setting Information	Case A	Case B	Case C
Volume Settings			
Fax Volume	Yes	Yes	Yes
Ring Tone	Yes	Yes	Yes
TX Done Tone	Yes	Yes	Yes
RX Done Tone	Yes	Yes	Yes
Scanning Done Tone	Yes	Yes	Yes
Entry Tone	Yes	Yes	Yes
Invalid Entry Tone	Yes	Yes	Yes
Restock Supplies Tone	Yes	Yes	Yes
Warning Tone	Yes	Yes	Yes
Job Done Tone	Yes	Yes	Yes
Energy Saver Alert	Yes	Yes	Yes
Original in Feeder Detection Tone	Yes	Yes	Yes
Display Settings			
Default Screen after Startup/Restoration	Yes	Yes	Yes
Language	Yes	Yes	Yes

Setting Information	Case A	Case B	Case C
Remote UI Language	Yes	Yes	Yes
Brightness	Yes	Yes	Yes
Invert Screen Colors	Yes	Yes	Yes
Millimeter/Inch Entry Switch	Yes	Yes	Yes
Gram/Pound Switch	Yes	Yes	Yes
Message Display Time	Yes	Yes	Yes
Scrolling Speed	Yes	Yes	Yes
Cursor Movement Type	Yes	Yes	Yes
English Keyboard Layout	Yes	Yes	Yes

● Timer Settings

Setting Information	Case A	Case B	Case C
Date/Time Settings			
Date Format	Yes	Yes	Yes
Time Format	Yes	Yes	Yes
Time Zone	Yes	Yes	Yes
Daylight Saving Time Settings	Yes	Yes	Yes
Start	Yes	Yes	Yes
End	Yes	Yes	Yes
Auto Sleep Time	Yes	Yes	Yes
Auto Reset Time	Yes	Yes	Yes
Function After Auto Reset	Yes	Yes	Yes
Auto Offline Time	Yes	Yes	Yes

● Common Settings

Setting Information	Case A	Case B	Case C
Drawer Auto Selection On/Off			
Copy			
Multi-Purpose Tray	Yes	Yes	Yes
Drawer 1	Yes	Yes	Yes
Drawer 2	Yes	Yes	Yes
Printer			
Drawer 1	Yes	Yes	Yes
Drawer 2	Yes	Yes	Yes
Fax			
Multi-Purpose Tray	Yes	Yes	Yes
Drawer 1	Yes	Yes	Yes
Drawer 2	Yes	Yes	Yes
Other			
Multi-Purpose Tray	Yes	Yes	Yes
Drawer 1	Yes	Yes	Yes
Drawer 2	Yes	Yes	Yes
Switch Paper Feed Method			
Multi-Purpose Tray	Yes	Yes	No
Drawer 1	Yes	Yes	No
Drawer 2	Yes	Yes	No

● Copy Settings

Setting Information	Case A	Case B	Case C
Change Default Settings	Yes	Yes	No

● **Fax Settings**

Setting Information	Case A	Case B	Case C
Basic Settings			
Register Unit Telephone Number			
Telephone Number	Yes	Yes	No
Select Line Type	Yes	Yes	Yes
Pulse	Yes	Yes	Yes
Tone			
Off-Hook Alarm	Yes	Yes	Yes
Communication Management Settings			
TX Start Speed	Yes	Yes	Yes
RX Start Speed	Yes	Yes	Yes
TX Function Settings			
Change Default Setting	Yes	Yes	Yes
2-Sided Original	Yes	Yes	Yes
Resolution	Yes	Yes	Yes
Density	Yes	Yes	Yes
Sharpness	Yes	Yes	Yes
Register Unit Name (Fax)	Yes	Yes	Yes
ECM TX	Yes	Yes	Yes
Set Pause Time	Yes	Yes	Yes
Auto Redial	Yes	Yes	Yes
Number of Times to Redial	Yes	Yes	Yes
Redial Interval	Yes	Yes	Yes
Redial When Error Occurs	Yes	Yes	Yes
TX Terminal ID	Yes	Yes	Yes
Print Position	Yes	Yes	Yes
Mark Number as:	Yes	Yes	Yes
Check Dial Tone Before Sending	Yes	Yes	Yes
Allow Fax Driver TX	Yes	Yes	Yes
Confirm Entered Fax Number	Yes	Yes	Yes
Restrict Sequential Broadcast	Yes	Yes	Yes
RX Function Settings			
ECM RX	Yes	Yes	Yes
Incoming Ring	Yes	Yes	Yes
times	Yes	Yes	Yes
Remote RX	Yes	Yes	Yes
specific ID number	Yes	Yes	Yes
Switch to Auto RX	Yes	Yes	Yes
Switch to Auto RX	Yes	Yes	Yes
Memory Lock Settings			
Memory Lock PIN	Yes	Yes	Yes
Report Print	Yes	Yes	Yes
Memory Lock Time	Yes	Yes	Yes
Memory Lock Start Time	Yes	Yes	Yes
Memory Lock End Time	Yes	Yes	Yes
RX Print Settings			
Print on Both Sides	Yes	Yes	Yes
Reduce RX Size	Yes	Yes	Yes
Ratio	Yes	Yes	Yes
Direction	Yes	Yes	Yes
RX Page Footer	Yes	Yes	Yes
Continue Printing When Amount in Cartridge Is Low	Yes	Yes	Yes
Forwarding Settings			

Setting Information	Case A	Case B	Case C
Print Images	Yes	Yes	Yes
Store Images in Memory	Yes	Yes	Yes

● Scan Settings

Setting Information	Case A	Case B	Case C
USB Memory Settings			
Change Default Settings	Yes	Yes	Yes
Scan Size	Yes	Yes	Yes
File Format	Yes	Yes	Yes
Encryption Level	Yes	Yes	Yes
Digital Signatures	Yes	Yes	Yes
Density	Yes	Yes	Yes
Original Orientation	Yes	Yes	Yes
Original Type	Yes	Yes	Yes
2-Sided Original	Yes	Yes	Yes
Sharpness	Yes	Yes	Yes
Data Size	Yes	Yes	Yes
E-Mail Settings			
Change Default Settings	Yes	Yes	Yes
Scan Size	Yes	Yes	Yes
File Format	Yes	Yes	Yes
Encryption Level	Yes	Yes	Yes
Digital Signatures	Yes	Yes	Yes
Density	Yes	Yes	Yes
Original Orientation	Yes	Yes	Yes
Original Type	Yes	Yes	Yes
2-Sided Original	Yes	Yes	Yes
Sharpness	Yes	Yes	Yes
Data Size	Yes	Yes	Yes
Subject	Yes	Yes	Yes
Message	Yes	Yes	Yes
Reply To	Yes	Yes	Yes
Priority	Yes	Yes	Yes
I-Fax Settings			
TX Function Settings			
Change Default Settings	Yes	Yes	Yes
Scan Size	Yes	Yes	Yes
Density	Yes	Yes	Yes
Original Type	Yes	Yes	Yes
2-Sided Original Sharpness	Yes	Yes	Yes
Sharpness	Yes	Yes	Yes
Subject	Yes	Yes	Yes
Message	Yes	Yes	Yes
Reply To	Yes	Yes	Yes
TX Terminal ID	Yes	Yes	Yes
Print Position	Yes	Yes	Yes
RX Print Settings			
Print on Both Sides RX Print Size	Yes	Yes	Yes
RX Print Size	Yes	Yes	Yes
File Settings			
Change Default Settings			
Scan Size	Yes	Yes	Yes
File Format	Yes	Yes	Yes

Setting Information	Case A	Case B	Case C
Density	Yes	Yes	Yes
Original Orientation	Yes	Yes	Yes
Original Type	Yes	Yes	Yes
2-Sided Original	Yes	Yes	Yes
Sharpness	Yes	Yes	Yes
Data Size	Yes	Yes	Yes
Output File Image Settings			
YCbCr TX Gamma Value	Yes	Yes	No
PDF (Compact) Image Quality Level			
Image Level in Text/Photo Mode or Photo Mode	Yes	Yes	Yes
Image Level in Text Mode	Yes	Yes	Yes
OCR (Text Searchable) Settings			
Smart Scan	Yes	Yes	No

● Memory Media Print Settings

Setting Information	Case A	Case B	Case C
Change Default Settings	Yes	Yes	Yes
File Sort Default Settings	Yes	Yes	Yes
File Name Display Format	Yes	Yes	Yes
Default Display Settings	Yes	Yes	Yes

● Printer Settings

Setting Information	Case A	Case B	Case C
Prioritize Driver Settings When Printing	Yes	Yes	Yes
Multi-Purpose Tray	Yes	Yes	Yes
Drawer 1	Yes	Yes	Yes
Drawer 2	Yes	Yes	Yes
Copies	Yes	Yes	Yes
2-Sided Printing	Yes	Yes	Yes
Default Paper Size	Yes	Yes	No
Default Paper Type	Yes	Yes	No
Paper Size Override	Yes	Yes	Yes
Print Quality	Yes	Yes	Yes
Gradation	Yes	Yes	Yes
Density	Yes	Yes	Yes
Density (Fine Adjust)	Yes	Yes	Yes
Toner Save	Yes	Yes	Yes
Line Control	Yes	Yes	Yes
Special Smoothing Mode	Yes	Yes	Yes
Layout			
Binding Location	Yes	Yes	Yes
Gutter	Yes	Yes	Yes
Offset Short Edge (Front)	Yes	Yes	Yes
Offset Long Edge (Front)	Yes	Yes	Yes
Offset Short Edge (Back)	Yes	Yes	Yes
Offset Long Edge (Back)	Yes	Yes	Yes
Auto Error Skip	Yes	Yes	Yes
Timeout	Yes	Yes	Yes
Personality	Yes	Yes	Yes
Color Mode	Yes	Yes	Yes
Gradation Settings	Yes	Yes	Yes
Gradation	Yes	Yes	Yes

Setting Information	Case A	Case B	Case C
Apply to Graphics	Yes	Yes	Yes
Apply to Images	Yes	Yes	Yes
Compressed Image Output*	Yes	Yes	Yes
PCL			
Paper Save	Yes	Yes	Yes
Orientation	Yes	Yes	Yes
Font Number	Yes	Yes	Yes
Point Size	Yes	Yes	Yes
Pitch	Yes	Yes	Yes
Form Lines	Yes	Yes	Yes
Character Code	Yes	Yes	Yes
Custom Paper	Yes	Yes	Yes
Unit of Measure	Yes	Yes	Yes
X dimension	Yes	Yes	Yes
Y dimension	Yes	Yes	Yes
Append CR to LF	Yes	Yes	Yes
Enlarge A4 Print Width	Yes	Yes	Yes
Halftones			
Error Diffusion	Yes	Yes	Yes
Resolution/Gradation			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
RGB Source Profile			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
Output Profile			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
Matching Method			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
Gray Compensation			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
CMS (Matching) Selection	Yes	Yes	Yes
CMS (Matching)/Gamma			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
Gamma Correction			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
Advanced Smoothing	Yes	Yes	Yes
Apply to Graphic	Yes	Yes	Yes
Apply to Text	Yes	Yes	Yes
BarDIMM	Yes	Yes	Yes
FreeScape	Yes	Yes	Yes
PS Yes			

Setting Information	Case A	Case B	Case C
Job Timeout	Yes	Yes	Yes
Job Timeout	Yes	Yes	Yes
Pure Black Text	Yes	Yes	Yes
Black Overprint	Yes	Yes	Yes
RGB Source Profile	Yes	Yes	Yes
CMYK Simulation Profile	Yes	Yes	Yes
Use Grayscale Profile	Yes	Yes	Yes
Output Profile	Yes	Yes	Yes
Matching Method	Yes	Yes	Yes
RGB Pure Black Process	Yes	Yes	Yes
CMYK Pure Black Process	Yes	Yes	Yes
Halftones			
Error Diffusion	Yes	Yes	Yes
Resolution/Gradation			
Text	Yes	Yes	Yes
Graphics	Yes	Yes	Yes
Image	Yes	Yes	Yes
Brightness	Yes	Yes	Yes
Composite Overprint	Yes	Yes	Yes
Advanced Smoothing	Yes	Yes	Yes
Apply to Graphics	Yes	Yes	Yes
Apply to Text	Yes	Yes	Yes
Grayscale Conversion	Yes	Yes	Yes

● Adjustment/Maintenance

Setting Information	Case A	Case B	Case C
Auto Correction Settings			
Auto Adjust Image Regularly	Yes	Yes	No
Correct Print Color Mismatch When Main Power is ON	Yes	Yes	No
Display Timing for Cartridge Preparation Notification			
Auto	Yes	Yes	No
Custom	Yes	Yes	No
Black Text Processing			
Feeder	Yes	Yes	Yes
Platen Glass	Yes	Yes	Yes
Special Processing			
Special Paper Processing			
Manual Back Side Settings (for 2-Sided Only)			
Multi-Purpose Tray	Yes	Yes	No
Drawer 1	Yes	Yes	No
Drawer 2	Yes	Yes	No
Rough Paper Settings			
Multi-Purpose Tray	Yes	Yes	No
Drawer 1	Yes	Yes	No
Drawer 2	Yes	Yes	No
Envelope Cling Prevention	Yes	Yes	No
Envelope Switch	Yes	Yes	No
Special Mode P	Yes	Yes	No

■ System Management Settings

● System Manager Information Settings

Setting Information	Case A	Case B	Case C
System Manager ID and PIN			
System Manager ID	Yes	Yes	Yes
System Manager PIN	Yes	Yes	Yes
System Manager Name	Yes	Yes	Yes
Device Information Settings			
Device Name	Yes	No	No
Location	Yes	No	No
Display Consumables Information (RUI/Toner Status)			
Display Consumables Purchase Button (RUI)	Yes	Yes	Yes
Toner Status Settings	Yes	Yes	Yes

● Setting the Department ID Management

Setting Information	Case A	Case B	Case C
Department ID Management	Yes	Yes	Yes
Register New Department	Yes	Yes	Yes
Department ID	Yes	Yes	Yes
Set PIN	Yes	Yes	Yes
Restrict Functions	Yes	Yes	Yes
Black & White Copy	Yes	Yes	Yes
Color Copy	Yes	Yes	Yes
Black & WhitePrint	Yes	Yes	Yes
Color Print	Yes	Yes	Yes
Scan	Yes	Yes	Yes
Fax	Yes	Yes	Yes
Department ID Management			
Allow Print Jobs with Unknown IDs	Yes	Yes	Yes
Allow Scan Jobs with Unknown IDs	Yes	Yes	Yes
Allow Black & White Copy Jobs	Yes	Yes	Yes

● Network Settings

TCP/IP Settings

Setting Information	Case A	Case B	Case C
IPv4 Settings			
Auto IP	Yes	Yes	Yes
Select Protocol	Yes	Yes	Yes
IP Address	Yes	No	No
Subnet Mask	Yes	Yes	Yes
Gateway Address	Yes	Yes	Yes
Primary DNS Server	Yes	Yes	Yes
Secondary DNS Server	Yes	Yes	Yes
DNS Host Name/Domain Name Settings	Yes	No	No
Host Name	Yes	No	No
Domain Name	Yes	No	No
DNS Dynamic Update Settings	Yes	Yes	Yes
DNS Dynamic Update	Yes	Yes	Yes
DNS Dynamic Update Interval	Yes	Yes	Yes
Use mDNS	Yes	No	No
mDNS Name	Yes	No	No

Setting Information	Case A	Case B	Case C
DHCP Option Settings			
Acquire Host Name	Yes	Yes	Yes
DNS Dynamic Update	Yes	Yes	Yes
Acquire DNS Server Address	Yes	Yes	Yes
Acquire Domain Name	Yes	Yes	Yes
Acquire WINS Server Address	Yes	Yes	Yes
Acquire SMTP Server Address	Yes	Yes	Yes
Acquire POP Server Address	Yes	Yes	Yes
IPv6 Settings			
Use IPv6	Yes	Yes	Yes
Use Stateless Address	Yes	Yes	Yes
Use Manual Address	Yes	No	No
IP Address	Yes	No	No
Prefix Length	Yes	No	No
Default Router Address	Yes	No	No
Use DHCPv6	Yes	Yes	Yes
DNS Server Settings	Yes	Yes	Yes
Primary DNS Server	Yes	Yes	Yes
Secondary DNS Server	Yes	Yes	Yes
DNS Host Name/Domain Name Settings	Yes	No	No
Use IPv4 Host/Domain	Yes	No	No
Host Name	Yes	No	No
Domain Name	Yes	No	No
DNS Dynamic Update Settings	Yes	Yes	Yes
DNS Dynamic Update	Yes	Yes	Yes
Register Manual Address	Yes	Yes	Yes
Register Stateful Address	Yes	Yes	Yes
Register Stateless Address	Yes	Yes	Yes
DNS Dynamic Update Interval	Yes	Yes	Yes
Use mDNS	Yes	No	No
Use Same mDNS Name as IPv4	Yes	No	No
mDNS Name	Yes	No	No
DHCP Option Settings			
Acquire DNS Server Address	Yes	Yes	Yes
Acquire Domain Name	Yes	Yes	Yes
WINS Settings			
WINS Resolution	Yes	Yes	Yes
WINS Server Address	Yes	Yes	Yes
LPD Settings			
LPD Print Settings	Yes	Yes	Yes
RX Timeout	Yes	Yes	Yes
RAW Settings			
RAW Print Settings	Yes	Yes	Yes
RX Timeout	Yes	Yes	Yes
WSD Settings			
WSD Print Settings			
Use WSD Print	Yes	Yes	Yes
Use WSD Browsing	Yes	Yes	Yes
WSD Scan Settings			
Use WSD Scan	Yes	Yes	Yes
Use Computer Scan	Yes	Yes	Yes
Use Multicast Discovery	Yes	Yes	Yes
Use FTP PASV Mode	Yes	Yes	Yes
Use HTTP	Yes	Yes	Yes

Setting Information	Case A	Case B	Case C
Port Number Settings			
LPD	Yes	Yes	Yes
LPD	Yes	Yes	Yes
HTTP	Yes	Yes	Yes
POP3	Yes	Yes	Yes
HTTP	Yes	Yes	Yes
SMTP	Yes	Yes	Yes
SNMP	Yes	Yes	Yes
WSD Multicast Discovery	Yes	Yes	Yes
Multicast Discovery	Yes	Yes	Yes
MTU Size	Yes	Yes	Yes
IPP Print Settings			
Use IPP Printing	Yes	Yes	Yes
Use SSL	Yes	Yes	Yes
Network Link Scan Settings			
Use Network Link Scan	Yes	Yes	Yes
SNMP Settings			
Use SNTP	Yes	Yes	Yes
Polling Interval	Yes	Yes	Yes
NTP Server Name	Yes	Yes	Yes
Multicast Discovery Settings			
Respond to Discovery	Yes	Yes	Yes
Scope Name	Yes	Yes	Yes
Sleep Mode Notification Settings			
Notify	Yes	Yes	Yes
Port Number	Yes	Yes	Yes
Number of Routers to Traverse	Yes	Yes	Yes
Notification Interval	Yes	Yes	Yes

Google Cloud Print Settings

Setting Information	Case A	Case B	Case C
Using Google Cloud Print	Yes	Yes	Yes
Local Print	Yes	Yes	Yes
Server Connection Checking Interval	Yes	Yes	Yes
Veryfy Server Certificate	Yes	Yes	Yes
Add CN to Verification Items	Yes	Yes	Yes

Proxy Settings

Setting Information	Case A	Case B	Case C
Use Proxy	Yes	Yes	Yes
HTTP Proxy Server Address	Yes	Yes	Yes
HTTP Proxy Server Port Number	Yes	Yes	Yes
Use Proxy within Same Domain	Yes	Yes	Yes
Use Proxy Authentication	Yes	Yes	Yes
User Name	Yes	Yes	Yes
Password	Yes	Yes	Yes

Configuring E-mail/I-Fax Communication Settings

Setting Information	Case A	Case B	Case C
SMTP Server	Yes	Yes	Yes
E-Mail Address	Yes	Yes	Yes
POP Server	Yes	Yes	Yes
User Name	Yes	Yes	Yes

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Setting Information	Case A	Case B	Case C
Password	Yes	Yes	Yes
POP RX	Yes	Yes	Yes
POP Interval	Yes	Yes	Yes
Setting up authentication before sending and encrypted communication with the server			
Use POP Authentication Before Sending	Yes	Yes	Yes
Use APOP Authentication	Yes	Yes	Yes
Use SMTP Authentication (SMTP AUTH)	Yes	Yes	Yes
User Name	Yes	Yes	Yes
Password	Yes	Yes	Yes
Use SSL for SMTP	Yes	Yes	Yes
Verify Certificate	Yes	Yes	Yes
Add CN to Verification Items	Yes	Yes	Yes
Use SSL for POP	Yes	Yes	Yes
Verify Certificate	Yes	Yes	Yes
Add CN to Verification Items	Yes	Yes	Yes

SMB Settings

Setting Information	Case A	Case B	Case C
NetBIOS Name	Yes	No	No
Workgroup Name	Yes	No	No

SNMP Settings

Setting Information	Case A	Case B	Case C
SNMPv1 Settings			
Use SNMPv1	Yes	Yes	Yes
Use Community Name 1	Yes	Yes	Yes
Community Name 1	Yes	Yes	Yes
Use Community Name 2	Yes	Yes	Yes
Community Name 2	Yes	Yes	Yes
MIB Access Permission 1	Yes	Yes	Yes
MIB Access Permission 2	Yes	Yes	Yes
Use Dedicated Community	Yes	Yes	Yes
Dedicated Community Settings	Yes	Yes	Yes
Specify SNMPv3 settings.			
Use SNMPv3	Yes	Yes	Yes
Enable User			
User Name	Yes	Yes	Yes
MIB Access Permission	Yes	Yes	Yes
Security Settings	Yes	Yes	Yes
Authentication Algorithm	Yes	Yes	Yes
Encryption Algorithm	Yes	Yes	Yes
Authentication Password	Yes	Yes	Yes
Encryption Password	Yes	Yes	Yes
Enable User	Yes	Yes	Yes
Context Settings			
Context Name	Yes	Yes	Yes
Acquire Printer Management Information from Host	Yes	Yes	Yes

Wireless LAN Settings

Setting Information	Case A	Case B	Case C
Setting Up Connection by Specifying Detailed Settings			
SSID Settings	Yes	Yes	Yes
Security Settings	Yes	Yes	Yes

Setting Information	Case A	Case B	Case C
WPA/WPA2 PSK Settings			
WPA/WPA2 Encryption Method	Yes	Yes	Yes
Entry type	Yes	Yes	Yes
WPA/WPA2 PSK	Yes	Yes	Yes
WEP Settings			
WEP key length	Yes	Yes	Yes
Key form	Yes	Yes	Yes
WEP key 1	Yes	Yes	Yes
WEP key 2	Yes	Yes	Yes
WEP key 3	Yes	Yes	Yes
WEP key 4	Yes	Yes	Yes
Select WEP Key	Yes	Yes	Yes
802.11 Authentication	Yes	Yes	Yes
Power Save Mode			
Power Save Mode	Yes	Yes	Yes
Select Wired/Wireless LAN			
Select Wired/Wireless LAN	Yes	Yes	Yes
Device Settings Management Settings			
Device Settings Management On/Off	Yes	Yes	Yes

Other Settigs

Setting Information	Case A	Case B	Case C
AirPrint Settings			
Use AirPrint	Yes	Yes	Yes
Latitude	Yes	No	No
Longitude	Yes	No	No
Mopria Settings			
Use Mopria	Yes	Yes	Yes
Dedicated Port Settings			
Dedicated Port Settings	Yes	Yes	Yes
Waiting Time for Connection at Startup			
Waiting Time for Connection at Startup	Yes	Yes	Yes
Ethernet Driver Settings			
Ethernet Driver Settings	Yes	Yes	Yes
Auto Detect	Yes	Yes	Yes
Communication Mode	Yes	Yes	Yes

● Security Settings

Setting Information	Case A	Case B	Case C
IPv4 Address Filter			
Set Outbound Filter			
Use Filter	Yes	Yes	Yes
Default Policy	Yes	Yes	Yes
Exception Address	Yes	Yes	Yes
Inbound Filter			
Use Filter	Yes	Yes	Yes
Default Policy	Yes	Yes	Yes
Exception Address	Yes	Yes	Yes
IPv6 Address Filter			
Outbound Filter			
Use Filter	Yes	Yes	Yes
Default Policy	Yes	Yes	Yes
Exception Address	Yes	Yes	Yes

Setting Information	Case A	Case B	Case C
Inbound Filter			
Use Filter	Yes	Yes	Yes
Default Policy	Yes	Yes	Yes
Exception Address	Yes	Yes	Yes
MAC Address Filter			
Outbound Filter			
Use Filter	Yes	Yes	Yes
Default Policy	Yes	Yes	Yes
Exception Address	Yes	Yes	Yes
Inbound Filter			
Use Filter	Yes	Yes	Yes
Default Policy	Yes	Yes	Yes
Exception Address	Yes	Yes	Yes

● Restrict TX Function

Setting Information	Case A	Case B	Case C
Address Book PIN	Yes	Yes	Yes
Restrict New Destinations	Yes	Yes	Yes
Restrict Resending from Log	Yes	Yes	Yes
Coded Dial TX Confirmation	Yes	Yes	Yes

● LDAP Server Settings

Setting Information	Case A	Case B	Case C
Register the server used for searches			
Server Name	Yes	Yes	Yes
Server Address	Yes	Yes	Yes
ition to Start Search	Yes	Yes	Yes
Port Number	Yes	Yes	Yes
Search Timeout	Yes	Yes	Yes
Login Information	Yes	Yes	Yes
User Name	Yes	Yes	Yes
Password	Yes	Yes	Yes
Domain Name	Yes	Yes	Yes
Display Authentication Screen When Searching	Yes	Yes	Yes
Use Same Authentication Information as When Send Operation Started	Yes	Yes	Yes
Registering the authentication server			
Server Name	Yes	Yes	Yes
Server Address	Yes	Yes	Yes
Position to Start Search	Yes	Yes	Yes
Port Number	Yes	Yes	Yes
Search Timeout	Yes	Yes	Yes
User Name Attribute	Yes	Yes	Yes
E-Mail Address Attribute	Yes	Yes	Yes
Login Information	Yes	Yes	Yes
Use System Manager ID	Yes	Yes	Yes
User Name	Yes	Yes	Yes
Password	Yes	Yes	Yes
Use SSL	Yes	Yes	Yes
Domain Name	Yes	Yes	Yes

● Authentication Settings for Send Function

Setting Information	Case A	Case B	Case C
Display Authentication Screen When Sending Operation Starts	Yes	Yes	Yes
Display Confirmation Screen When Logging Out	Yes	Yes	Yes
E-Mail Sending Settings			
E-Mail Sending	Yes	Yes	Yes
Authentication Method	Yes	Yes	Yes
Specify Authentication User Destination as Sender	Yes	Yes	Yes
File Sending Settings			
File Sending	Yes	Yes	Yes
When Sending Files to Destinations Registered In Address Book.			
Authentication Method	Yes	Yes	Yes
When Sending Files to Myself			
Authentication Method	Yes	Yes	Yes
Display Authentication Screen	Yes	Yes	Yes
Specify Destination Folder			
Host Name	Yes	Yes	Yes
Folder Path	Yes	Yes	Yes
Add User Name	Yes	Yes	Yes
Fax Sending Settings	Yes	Yes	Yes

● Other Settings

Setting Information	Case A	Case B	Case C
Display Job Log	Yes	Yes	Yes
Use as USB Device	Yes	Yes	Yes
Store to USB Memory	Yes	Yes	Yes
Memory Media Print On/Off	Yes	Yes	Yes
Enable Product Extended Survey Program	Yes	Yes	Yes
Canon Mobile Scanning ON/OFF	Yes	Yes	Yes
Google Cloud Print Settings	Yes	Yes	Yes
Notify to Check Paper Settings	Yes	Yes	Yes
Secure Print Settings			
Secured Print	Yes	Yes	Yes
Secure Print Deletion Time	Yes	Yes	Yes
Select OS for USB Connected PC	Yes	Yes	
PDL Selection (Plug and Play)			
USB	Yes	Yes	No
Auto Online for Remote Scan	Yes	Yes	Yes
Enable NFC	Yes	Yes	Yes

■ Service Mode

Initial screen	Large	Middle	Small	Case A	Case B	Case C
COPIER	ADJUST	VIFADJ	DEV-HV-Y	Yes	No	No
COPIER	ADJUST	VIFADJ	DEV-HV-M	Yes	No	No
COPIER	ADJUST	VIFADJ	DEV-HV-C	Yes	No	No
COPIER	ADJUST	VIFADJ	DEV-HV-K	Yes	No	No
COPIER	ADJUST	VIFADJ	TR1-HV-Y	Yes	No	No
COPIER	ADJUST	VIFADJ	TR1-HV-M	Yes	No	No
COPIER	ADJUST	VIFADJ	TR1-HV-C	Yes	No	No
COPIER	ADJUST	VIFADJ	TR1-HV-K	Yes	No	No
COPIER	ADJUST	VIFADJ	TR2SF-HV	Yes	No	No
COPIER	ADJUST	VIFADJ	TR2BK-HV	Yes	No	No

Initial screen	Large	Middle	Small	Case A	Case B	Case C
COPIER	ADJUST	VIFADJ	ICL-HV	Yes	No	No
COPIER	ADJUST	VIFADJ	FU-TMP	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-Y0	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-M0	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-C0	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-K0	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-Y1	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-M1	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-C1	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-K1	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-Y2	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-M2	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-C2	Yes	No	No
COPIER	ADJUST	SCNR	SUB-S-K2	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-Y0	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-M0	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-C0	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-K0	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-Y1	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-M1	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-C1	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-K1	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-Y2	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-M2	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-C2	Yes	No	No
COPIER	ADJUST	SCNR	MAI-S-K2	Yes	No	No
COPIER	FUNCTION	VIFFNC	SMEAR-PV	Yes	No	No
COPIER	FUNCTION	VIFFNC	FEED-IMP	Yes	No	No
COPIER	FUNCTION	VIFFNC	FOG-PV	Yes	No	No
COPIER	FUNCTION	VIFFNC	ICL-IMP	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL14159	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL27767	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL89793	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL26433	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL14682	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL83279	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL50288	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL41971	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL35607	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL37510	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL65677	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL68676	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL68677	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL25607	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL93822	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL78788	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL71100	Yes	No	No
COPIER	FUNCTION	SPLMAN	SPL00171	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL80100	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL84194	Yes	Yes	Yes
COPIER	FUNCTION	INSTALL	ERDS	Yes	Yes	Yes
COPIER	FUNCTION	INSTALL	RGW-PORT	Yes	Yes	Yes
COPIER	OPTION	BODY	NS-CMD5	Yes	No	No
COPIER	OPTION	BODY	NS-PLN	Yes	No	No

Initial screen	Large	Middle	Small	Case A	Case B	Case C
COPIER	OPTION	BODY	NS-LGN	Yes	No	No
COPIER	OPTION	BODY	SLPMODE	Yes	Yes	Yes
COPIER	OPTION	BODY	SDTM-DSP	Yes	Yes	Yes
COPIER	OPTION	FNC-SW	IMGCNTPR	Yes	Yes	Yes
COPIER	OPTION	IMG-MCON	TMIC-BK	Yes	No	No
COPIER	OPTION	IMG-MCON	TMIC-CMY	Yes	No	No
FAX	SSSW	SW01	-	Yes	No	No
FAX	SSSW	SW02	-	Yes	No	No
FAX	SSSW	SW03	-	Yes	No	No
FAX	SSSW	SW04	-	Yes	No	No
FAX	SSSW	SW05	-	Yes	No	No
FAX	SSSW	SW06	-	Yes	No	No
FAX	SSSW	SW07	-	Yes	No	No
FAX	SSSW	SW08	-	Yes	No	No
FAX	SSSW	SW09	-	Yes	No	No
FAX	SSSW	SW10	-	Yes	No	No
FAX	SSSW	SW11	-	Yes	No	No
FAX	SSSW	SW12	-	Yes	No	No
FAX	SSSW	SW13	-	Yes	No	No
FAX	SSSW	SW14	-	Yes	No	No
FAX	SSSW	SW15	-	Yes	No	No
FAX	SSSW	SW16	-	Yes	No	No
FAX	SSSW	SW17	-	Yes	No	No
FAX	SSSW	SW18	-	Yes	No	No
FAX	SSSW	SW19	-	Yes	No	No
FAX	SSSW	SW20	-	Yes	No	No
FAX	SSSW	SW21	-	Yes	No	No
FAX	SSSW	SW22	-	Yes	No	No
FAX	SSSW	SW23	-	Yes	No	No
FAX	SSSW	SW24	-	Yes	No	No
FAX	SSSW	SW25	-	Yes	No	No
FAX	SSSW	SW26	-	Yes	No	No
FAX	SSSW	SW27	-	Yes	No	No
FAX	SSSW	SW28	-	Yes	No	No
FAX	SSSW	SW29	-	Yes	No	No
FAX	SSSW	SW30	-	Yes	No	No
FAX	SSSW	SW31	-	Yes	No	No
FAX	SSSW	SW32	-	Yes	No	No
FAX	MENU	005	-	Yes	No	No
FAX	MENU	006	-	Yes	No	No
FAX	MENU	007	-	Yes	No	No
FAX	MENU	008	-	Yes	No	No
FAX	MENU	009	-	Yes	No	No
FAX	MENU	010	-	Yes	No	No
FAX	NUM	002	-	Yes	No	No
FAX	NUM	003	-	Yes	No	No
FAX	NUM	004	-	Yes	No	No
FAX	NUM	005	-	Yes	No	No
FAX	NUM	006	-	Yes	No	No
FAX	NUM	008	-	Yes	No	No
FAX	NUM	010	-	Yes	No	No
FAX	NUM	011	-	Yes	No	No
FAX	NUM	012	-	Yes	No	No
FAX	NUM	013	-	Yes	No	No

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	NUM	015	-	Yes	No	No
FAX	NUM	016	-	Yes	No	No
FAX	NUM	017	-	Yes	No	No
FAX	NUM	018	-	Yes	No	No
FAX	NUM	019	-	Yes	No	No
FAX	NUM	020	-	Yes	No	No
FAX	NUM	021	-	Yes	No	No
FAX	NUM	022	-	Yes	No	No
FAX	NUM	023	-	Yes	No	No
FAX	NUM	024	-	Yes	No	No
FAX	NUM	025	-	Yes	No	No
FAX	NUM	026	-	Yes	No	No
FAX	NUM	027	-	Yes	No	No
FAX	NUM	029	-	Yes	No	No
FAX	NUM	049	-	Yes	No	No
FAX	NUM	051	-	Yes	No	No
FAX	NUM	053	-	Yes	No	No
FAX	NUM	054	-	Yes	No	No
FAX	NCU	TONE	001	Yes	No	No
FAX	NCU	TONE	002	Yes	No	No
FAX	NCU	PULSE	FORM	Yes	No	No
FAX	NCU	PULSE	001	Yes	No	No
FAX	NCU	PULSE	002	Yes	No	No
FAX	NCU	PULSE	003	Yes	No	No
FAX	NCU	PULSE	004	Yes	No	No
FAX	NCU	DIALTONE	BIT	Yes	No	No
FAX	NCU	DIALTONE	001	Yes	No	No
FAX	NCU	DIALTONE	002	Yes	No	No
FAX	NCU	DIALTONE	003	Yes	No	No
FAX	NCU	DIALTONE	004	Yes	No	No
FAX	NCU	DIALTONE	005	Yes	No	No
FAX	NCU	DIALTONE	006	Yes	No	No
FAX	NCU	DIALTONE	007	Yes	No	No
FAX	NCU	DIALTONE	008	Yes	No	No
FAX	NCU	3rd DLTN	BIT	Yes	No	No
FAX	NCU	4th DLTN	001	Yes	No	No
FAX	NCU	5th DLTN	002	Yes	No	No
FAX	NCU	6th DLTN	003	Yes	No	No
FAX	NCU	7th DLTN	004	Yes	No	No
FAX	NCU	8th DLTN	005	Yes	No	No
FAX	NCU	9th DLTN	006	Yes	No	No
FAX	NCU	10th DLTN	007	Yes	No	No
FAX	NCU	11th DLTN	008	Yes	No	No
FAX	NCU	BUSTONE1	BIT	Yes	No	No
FAX	NCU	BUSTONE2	001	Yes	No	No
FAX	NCU	BUSTONE3	002	Yes	No	No
FAX	NCU	BUSTONE4	003	Yes	No	No
FAX	NCU	BUSTONE5	004	Yes	No	No
FAX	NCU	BUSTONE6	005	Yes	No	No
FAX	NCU	BUSTONE7	006	Yes	No	No
FAX	NCU	BUSTONE8	007	Yes	No	No
FAX	NCU	BUSTONE9	008	Yes	No	No
FAX	NCU	BUSTONE2	BIT	Yes	No	No
FAX	NCU	BUSTONE3	001	Yes	No	No

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	NCU	BUSTONE4	002	Yes	No	No
FAX	NCU	BUSTONE5	003	Yes	No	No
FAX	NCU	BUSTONE6	004	Yes	No	No
FAX	NCU	BUSTONE7	005	Yes	No	No
FAX	NCU	BUSTONE8	006	Yes	No	No
FAX	NCU	BUSTONE9	007	Yes	No	No
FAX	NCU	BUSTONE10	008	Yes	No	No
FAX	NCU	REORDRTN	BIT	Yes	No	No
FAX	NCU	REORDRTN	001	Yes	No	No
FAX	NCU	REORDRTN	002	Yes	No	No
FAX	NCU	REORDRTN	003	Yes	No	No
FAX	NCU	REORDRTN	004	Yes	No	No
FAX	NCU	REORDRTN	005	Yes	No	No
FAX	NCU	REORDRTN	006	Yes	No	No
FAX	NCU	REORDRTN	007	Yes	No	No
FAX	NCU	REORDRTN	008	Yes	No	No
FAX	NCU	AUTO RX	001	Yes	No	No
FAX	NCU	AUTO RX	002	Yes	No	No
FAX	NCU	AUTO RX	003	Yes	No	No
FAX	NCU	AUTO RX	004	Yes	No	No
FAX	NCU	AUTO RX	005	Yes	No	No
FAX	NCU	AUTO RX	006	Yes	No	No
FAX	NCU	AUTO RX	007	Yes	No	No
FAX	NCU	AUTO RX	008	Yes	No	No
FAX	NCU	AUTO RX	009	Yes	No	No
FAX	NCU	CNGDTCT	001	Yes	No	No
FAX	NCU	CNGDTCT	002	Yes	No	No
FAX	NCU	CNGDTCT	006	Yes	No	No
FAX	NCU	CNGDTCT	007	Yes	No	No
FAX	NCU	CNGDTCT	008	Yes	No	No
FAX	NCU	CNGDTCT	009	Yes	No	No
FAX	NCU	CNGDTCT	011	Yes	No	No
FAX	NCU	CNGDTCT	012	Yes	No	No
FAX	NCU	SPECIALB	SW01	Yes	No	No
FAX	NCU	SPECIALB	SW02	Yes	No	No
FAX	NCU	SPECIALB	SW03	Yes	No	No
FAX	NCU	SPECIALB	SW04	Yes	No	No
FAX	NCU	SPECIALB	SW05	Yes	No	No
FAX	NCU	SPECIALB	SW06	Yes	No	No
FAX	NCU	SPECIALB	SW07	Yes	No	No
FAX	NCU	SPECIALB	SW08	Yes	No	No
FAX	NCU	SPECIALB	SW09	Yes	No	No
FAX	NCU	SPECIALB	SW10	Yes	No	No
FAX	NCU	SPECIALB	SW11	Yes	No	No
FAX	NCU	SPECIALB	SW12	Yes	No	No
FAX	NCU	SPECIALB	SW13	Yes	No	No
FAX	NCU	SPECIALB	SW14	Yes	No	No
FAX	NCU	SPECIALB	SW15	Yes	No	No
FAX	NCU	SPECIALB	SW16	Yes	No	No
FAX	NCU	SPECIALB	SW17	Yes	No	No
FAX	NCU	SPECIALB	SW18	Yes	No	No
FAX	NCU	SPECIALB	SW19	Yes	No	No
FAX	NCU	SPECIALB	SW20	Yes	No	No
FAX	NCU	SPECIALB	SW21	Yes	No	No

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	NCU	SPECIALB	SW22	Yes	No	No
FAX	NCU	SPECIALB	SW23	Yes	No	No
FAX	NCU	SPECIALB	SW24	Yes	No	No
FAX	NCU	SPECIALB	SW25	Yes	No	No
FAX	NCU	SPECIALB	SW26	Yes	No	No
FAX	NCU	SPECIALB	SW27	Yes	No	No
FAX	NCU	SPECIALB	SW28	Yes	No	No
FAX	NCU	SPECIALB	SW29	Yes	No	No
FAX	NCU	SPECIALB	SW30	Yes	No	No
FAX	NCU	SPECIALN	004	Yes	No	No
FAX	NCU	SPECIALN	005	Yes	No	No
FAX	NCU	SPECIALN	006	Yes	No	No
FAX	NCU	SPECIALN	007	Yes	No	No
FAX	NCU	SPECIALN	008	Yes	No	No
FAX	NCU	SPECIALN	009	Yes	No	No
FAX	NCU	SPECIALN	011	Yes	No	No
FAX	NCU	SPECIALN	012	Yes	No	No
FAX	NCU	SPECIALN	013	Yes	No	No
FAX	NCU	SPECIALN	014	Yes	No	No
FAX	NCU	SPECIALN	015	Yes	No	No
FAX	NCU	SPECIALN	016	Yes	No	No
FAX	NCU	SPECIALN	017	Yes	No	No
FAX	NCU	SPECIALN	019	Yes	No	No
FAX	NCU	SPECIALN	020	Yes	No	No
FAX	NCU	SPECIALN	024	Yes	No	No
FAX	NCU	SPECIALN	025	Yes	No	No
FAX	NCU	SPECIALN	026	Yes	No	No
FAX	NCU	SPECIALN	027	Yes	No	No
FAX	NCU	SPECIALN	030	Yes	No	No
FAX	NCU	SPECIALN	040	Yes	No	No
FAX	NCU	SPECIALN	041	Yes	No	No
FAX	NCU	SPECIALN	042	Yes	No	No
FAX	NCU	SPECIALN	044	Yes	No	No
FAX	NCU	SPECIALN	045	Yes	No	No
FAX	NCU	SPECIALN	046	Yes	No	No
FAX	NCU	SPECIALN	047	Yes	No	No
FAX	NCU	SPECIALN	048	Yes	No	No
FAX	NCU	SPECIALN	065	Yes	No	No
FAX	NCU	SPECIALN	066	Yes	No	No
FAX	NCU	RKEY	001	Yes	No	No
FAX	NCU	RKEY	002	Yes	No	No
TESTMODE	NCU	PBXDIALT	BIT	Yes	No	No
TESTMODE	NCU	PBXDIALT	001	Yes	No	No
TESTMODE	NCU	PBXDIALT	002	Yes	No	No
TESTMODE	NCU	PBXDIALT	003	Yes	No	No
TESTMODE	NCU	PBXDIALT	004	Yes	No	No
TESTMODE	NCU	PBXDIALT	005	Yes	No	No
TESTMODE	NCU	PBXDIALT	006	Yes	No	No
TESTMODE	NCU	PBXDIALT	007	Yes	No	No
TESTMODE	NCU	PBXDIALT	008	Yes	No	No
TESTMODE	NCU	PBXBUSYT	BIT	Yes	No	No
TESTMODE	NCU	PBXBUSYT	001	Yes	No	No
TESTMODE	NCU	PBXBUSYT	002	Yes	No	No
TESTMODE	NCU	PBXBUSYT	003	Yes	No	No

Initial screen	Large	Middle	Small	Case A	Case B	Case C
TESTMODE	NCU	PBXBUSYT	004	Yes	No	No
TESTMODE	NCU	PBXBUSYT	005	Yes	No	No
TESTMODE	NCU	PBXBUSYT	006	Yes	No	No
TESTMODE	NCU	PBXBUSYT	007	Yes	No	No
TESTMODE	NCU	PBXBUSYT	008	Yes	No	No

3 Periodical Service

Periodically Replaced Parts

No periodically replaced parts is set for this product.

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Durable Parts

No durable parts is set for this product.

Periodical Services

No periodical service is set for this product.

99
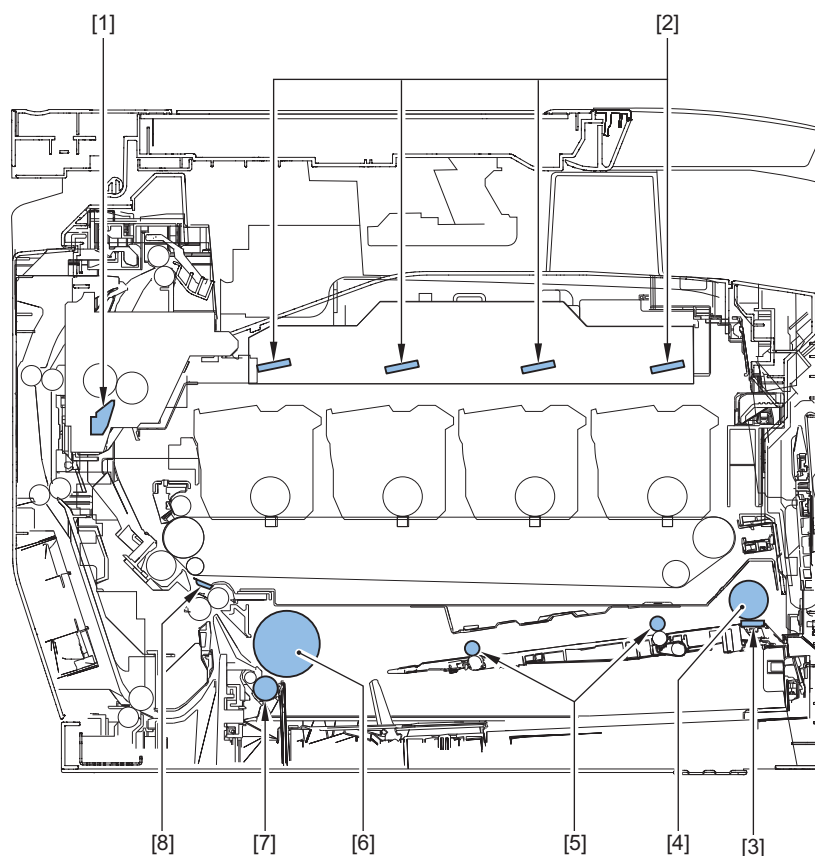
Cleaning

No.	Cleaning parts	Procedure
1	Fixing front guide	Clean with lint-free paper. For heavy soils, use alcohol to wipe off with lint-free paper.
2	Laser beam window glass	Clean with lint-free paper.
3	Multi-purpose tray separation pad	Clean with lint-free paper. For heavy soils, use alcohol to wipe off with lint-free paper.
4	Multi-purpose tray pickup roller	
5	Multi-purpose tray feed roller	
6	Cassette pickup roller	
7	Cassette separation roller	
8	Registration upper guide	Clean with lint-free paper.

4 Disassembly/Assembly

List of Parts

◯ List of External / Internal Cover

■ Front Side

No.	Parts Name	Remarks	Reference
[1]	ADF Front Upper Cover	-	-
[2]	ADF Upper Cover	-	-
[3]	Side Guide (Front)	-	-
[4]	Side Guide (Rear)	-	-
[5]	Document Tray	-	-
[6]	Extension Tray	-	-
[7]	Sub Tray	-	-
[8]	Delivery Tray	-	-
[9]	Right Cover	-	"Removing the Right Cover" on page 121
[10]	Control Panel Lower Cover	-	-
[11]	Control Panel	-	"Removing the Control Panel Unit" on page 168
[12]	Upper Cover	-	"Removing the Upper Cover" on page 126
[13]	USB Port	-	-
[14]	Right Front Cover	-	"Removing the Right Front Cover" on page 122
[15]	Front Cover	-	"Removing the Front Cover" on page 123
[16]	Cassette	-	-
[17]	Multi-Purpose Tray Transport Guide	-	-
[18]	Left Cover	-	"Removing the Left Cover" on page 119
[19]	Reader Cover	-	-

■ Rear Side

No.	Parts Name	Remarks	Reference
[1]	ADF Rear Cover	-	-
[2]	Rear Upper Cover	-	"Removing the Rear Upper Cover" on page 124
[3]	Rear Cover	-	"Removing the Rear Cover" on page 124
[4]	Rear Lower Cover	-	"Removing the Rear Lower Cover" on page 124
[5]	Power Socket	-	-
[6]	Telephone Line Jack	-	-
[7]	LAN Port	-	-
[8]	USB Port	-	-
[9]	External Device Jack	-	-
[10]	Handset Terminal	-	-

⬤ List of Main Unit

■ 1/2
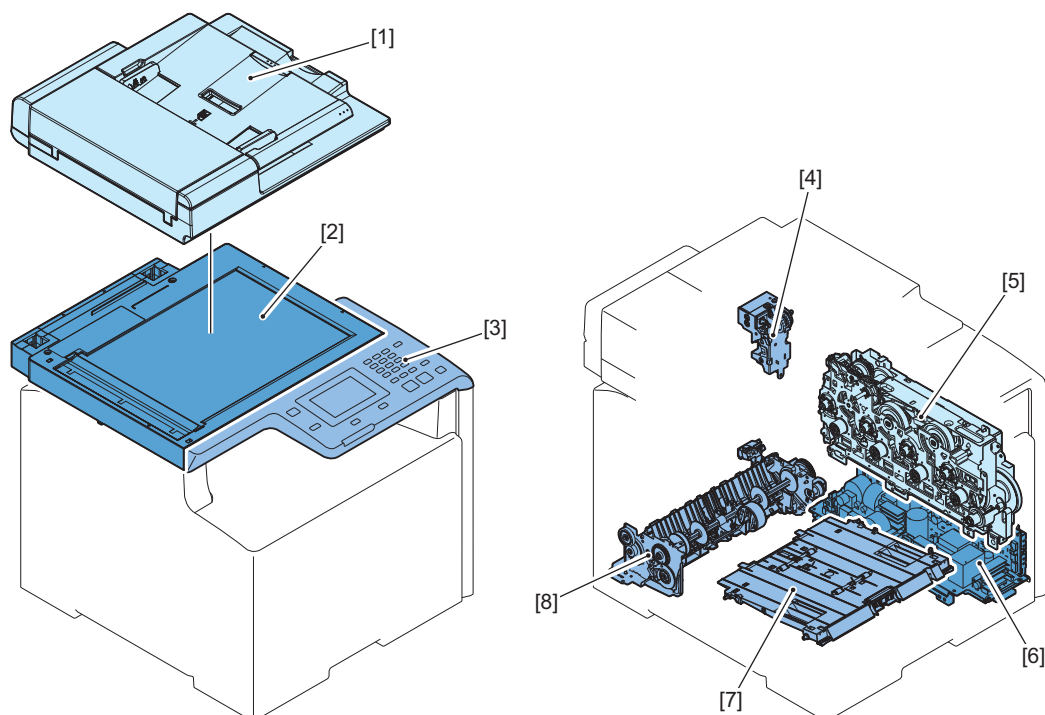
No.	Parts Name	Re-marks	Reference	Adjastment during parts replace-ment
[1]	ADF Unit	-	"Separating the ADF Unit + Reader Unit" on page 132	"After Replacing the ADF Units" on page 133
[2]	Reader Unit	-	"Separating the ADF Unit + Reader Unit" on page 132	"After Replacing the Reader Unit" on page 134
[3]	Control Panel Unit	-	"Removing the Control Panel Unit" on page 168	-
[4]	Duplexing Reverse Drive Unit	-	"Removing the Duplex Reverse Drive Unit" on page 179	-
[5]	Main Drive Unit	-	"Removing the Main Drive Unit" on page 171	-
[6]	Low Voltage Power Supply Unit	-	"Removing the Low Voltage Unit" on page 164	-
[7]	MP Paper Pickup Unit	-	"Removing the MP Tray Pickup Unit" on page 218	-
[8]	Paper Pickup Unit	-	"Removing the Pickup Unit" on page 213	-

■ 2/2
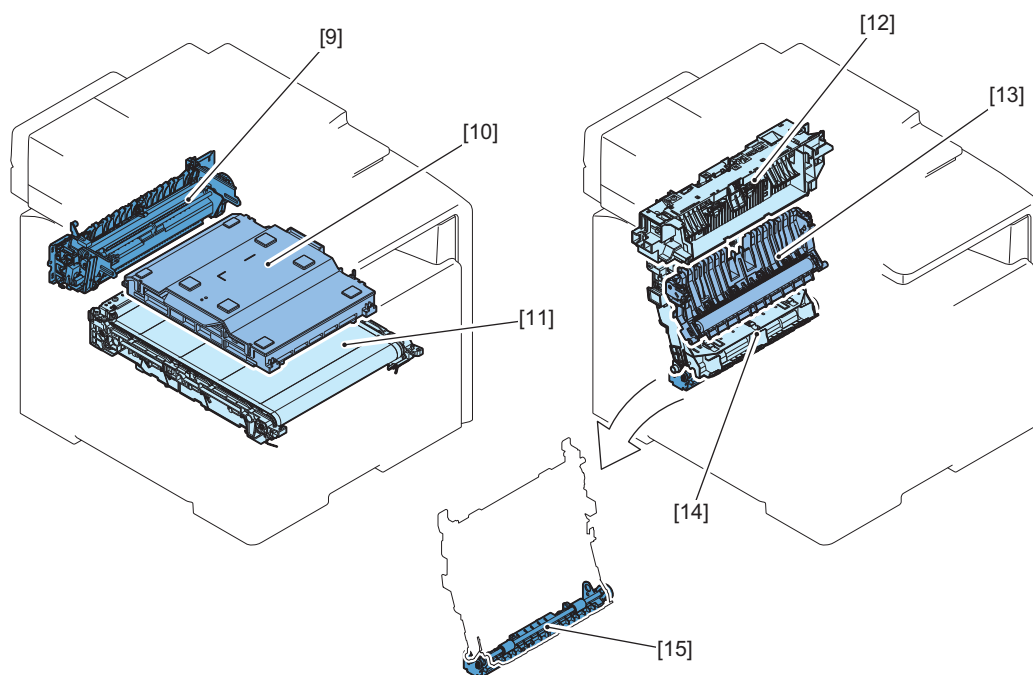
No.	Parts Name	Remarks	Reference	Adjastment during parts re-placement
[9]	Fixing Assembly	-	"Removing the Fixing Assembly" on page 200	-
[10]	Laser Scanner Unit	-	"Removing the Laser Scanner Unit" on page 185	"After Replacing the Laser Scanner Unit" on page 188
[11]	ITB Unit	-	"Removing the ITB Unit" on page 191	-
[12]	Delivery Unit	-	"Removing the Delivery Unit" on page 220	-
[13]	Secondary Transfer Feed Unit	-	"Removing the Secondary Transfer Feed Unit" on page 219	-
[14]	Duplex Feed Unit	-	"Removing the Duplex Feed Unit" on page 221	-
[15]	Re-Pickup Guide Unit	-	"Removing the Re-pickup Guide Unit" on page 222	-

⬤ List of Motor / Fan
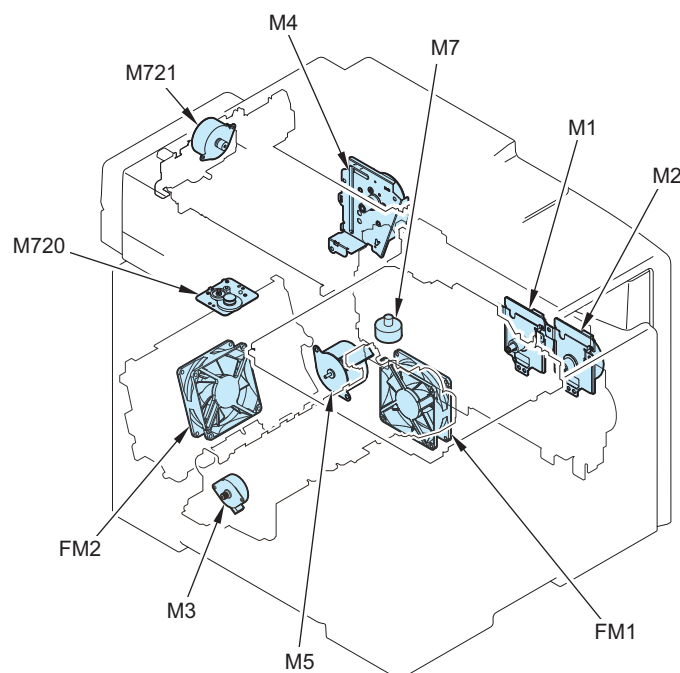
No.	Parts Name	Main Unit	Remarks	Reference	Adjastment during parts replacement
FM1	Fixing /Fixing Power Supply Cooling Fan	Product configuration	-	"Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180	-
FM2	Duplex Feeding Fan	Rear Cover Rib Unit	-	"Removing the Duplex Feeding Fan" on page 181	-
M1	Drum Motor	Main Drive Unit	-	"Removing the Drum Motor" on page 196	-
M2	Developing Motor	Main Drive Unit	-	"Removing the Developing Motor" on page 195	-
M3	Registration Motor	Pickup Unit	-	-	-
M4	Fixing Motor	Product configuration	-	"Removing the Fixing Motor Unit" on page 205	-
M5	Pickup Motor	Product configuration	-	"Removing the Pickup Motor" on page 212	-
M7	Laser Scanner Motor	Laser Scanner Unit	-	-	-
M720	Reader Motor	Reader Unit	-	"Removing the Reader Scanner Motor" on page 152	-
M721	ADF Motor	ADF Paper Feeder Unit	-	"Removing the ADF Pickup Motor" on page 142	-

⬤ List of Clutch / Solenoid / Heater / Thermistor / Switch / Speaker
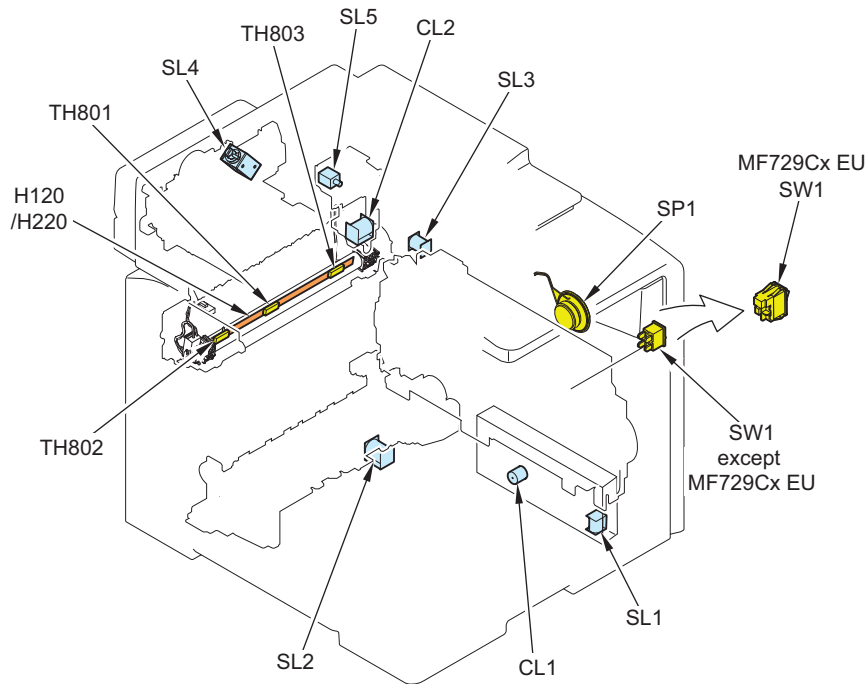
No.	Parts Name	Main Unit	Remarks	Reference	Adjastment during parts replacement
H120	Fixing heater	Fixing Film Unit	120V	-	-
H220	Fixing heater	Fixing Film Unit	230V	-	-
TH801	Main Thermistor	Fixing Film Unit	-	-	-
TH802	Sub Thermistor 1	Fixing Film Unit	-	-	-
TH803	Sub Thermistor 2	Fixing Film Unit	-	-	-
SP1	Speaker	Product configuration	-	"Removing the Speaker" on page 182	-
SW1	Main Power Switch	Product configuration	except MF729Cx EU	-	-
SW1	Main Power Switch	Product configuration	MF729Cx EU	-	-
CL1	MP Tray Feeding Clutch	Product configuration	-	-	-
CL2	Duplex Feeding Clutch	Duplex Reversing Drive Unit	-	-	-
SL1	MP Tray Pickup Solenoid	Product configuration	-	-	-
SL2	Cassette Pickup Solenoid	Pickup Unit	-	-	-
SL3	Developing Separation Solenoid	Main Drive Unit	-	-	-
SL4	ADF Pickup Solenoid	ADF Paper Feeder Unit	-	-	-
SL5	Duplex Reversal Solenoid	Duplex Reversing Drive Unit	-	-	-

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● List of Sensor
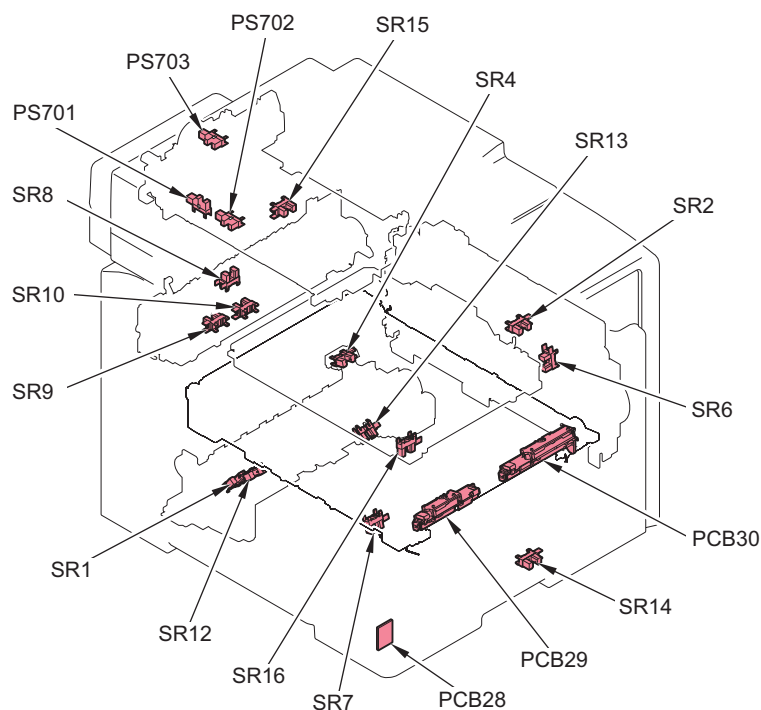
No.	Parts Name	Main Unit	Remarks	Reference	Adjustment during parts replacement
PCB28	Environment Sensor	Product configuration	-	-	-
PCB29	Patch Sensor	Patch Density/Registration Sensor Unit	-	-	-
PCB30	Patch Registration Sensor	Patch Density/Registration Sensor Unit	-	-	-
PS701	CIS Unit Homeposition Sensor	Reader Unit	-	-	-
PS702	Document End Sensor	ADF Paper Feeder Unit	-	-	-
PS703	Document Sensor	ADF Paper Feeder Unit	-	-	-
SR1	Paper Feeder Pre-Registration Detection Sensor	Pickup Unit	-	-	-
SR2	Front Cover Sensor	Product configuration	-	-	-
SR4	Registration Detection Sensor	Pickup Unit	-	-	-
SR6	Developing Homeposition Sensor	Main Drive Unit	-	-	-
SR7	MP Tray Pre-Registration Detection Sensor	Product configuration	-	-	-
SR8	Fixing Delivery Sensor	Fixing Assembly	-	-	-
SR9	Fixing Pressure Release Sensor	Fixing Assembly	-	-	-
SR10	Fixing Loop Sensor	Fixing Assembly	-	-	-
SR12	Pre-registration Detection Sensor	Pickup Unit	-	-	-
SR13	Cassette Paper Detection Sensor	Pickup Unit	-	-	-
SR14	MP Tray Paper Detection Sensor	Product configuration	-	-	-
SR15	Delivery Full Sensor	Delivery Unit	-	-	-
SR16	ITB Pressure Release Sensor	ITB Unit	-	-	-

⬤ PCB
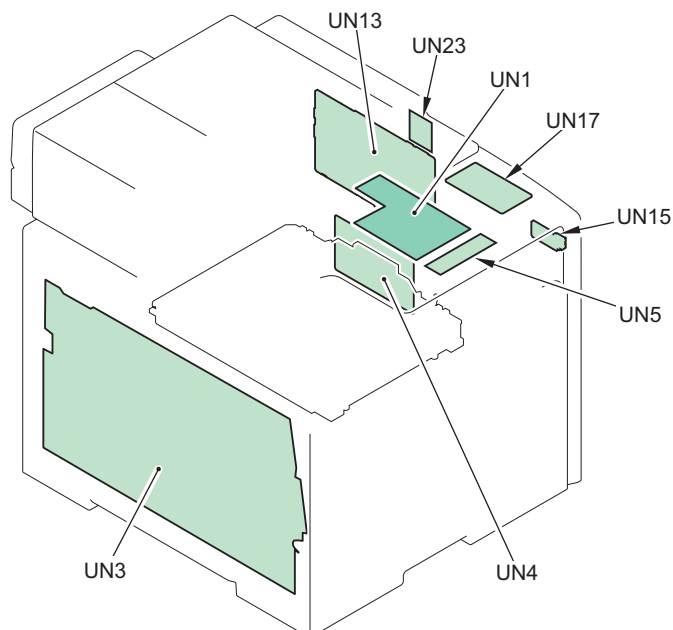
No.	Parts Name	Main Unit	Remarks	Reference	Adjastment during parts replacement
UN1	DC Controller PCB	Product configuration	-	"Removing the DC Controller PCB" on page 162	"Before Replacing the DC Controller PCB" on page 162 "After Replacing the DC Controller PCB" on page 162
UN3	High Voltage Power Supply PCB	Product configuration	-	"Removing the High Voltage Power Supply PCB" on page 163	-
UN4	Laser Driver PCB	Laser Scanner Unit	-	-	-
UN5	Relay PCB	Product configuration	-	"Removing the Relay PCB" on page 167	-
UN13	Main Controller PCB	Product configuration	-	"Removing the Main Controller PCB" on page 157	"Before Replacing the Main Controller PCB" on page 157 "After Replacing the Main Controller PCB" on page 159
UN15	USB Host PCB	Product configuration	-	-	-
UN17	Off Hook PCB	Product configuration	-	"Removing the Off Hook PCB" on page 171	-
UN23	Wireless LAN PCB	Product configuration	-	"Removing the Wireless LAN PCB" on page 157	-
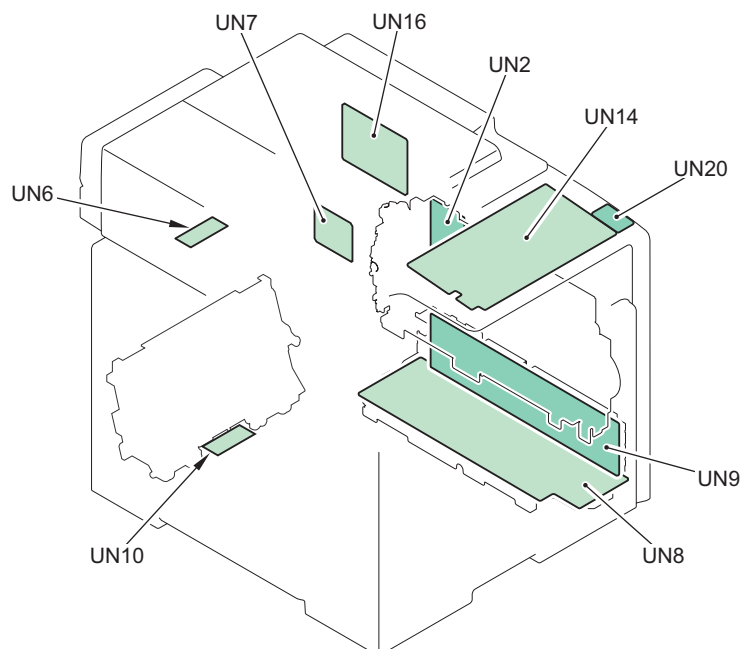
No.	Parts Name	Main Unit	Remarks	Reference	Adjastment during parts replacement
UN2	Driver PCB	Product configuration	-	"Removing the Driver PCB" on page 166	-
UN6	Fixing Relay PCB	Product configuration	-	-	-
UN7	Fixing Sub PCB	Product configuration	-	"Removing the Fixing Sub PCB" on page 165	-
UN8	Low Voltage Main PCB	Low Voltage Power Supply Unit	-	-	-
UN9	Low Voltage Sub PCB	Low Voltage Power Supply Unit	-	-	-
UN10	Duplex Driver PCB	Re-Pickup Guide Unit	-	-	-
UN14	Control Panel NFC PCB	Control Panel Unit	-	-	-
UN20	NFC PCB	Control Panel Unit	-	"Removing the NFC PCB" on page 170	-
UN16	FAX-NCU PCB	Product configuration	-	"Removing the FAX PCB" on page 171	-

⬤ List of Connector

■ 1/5
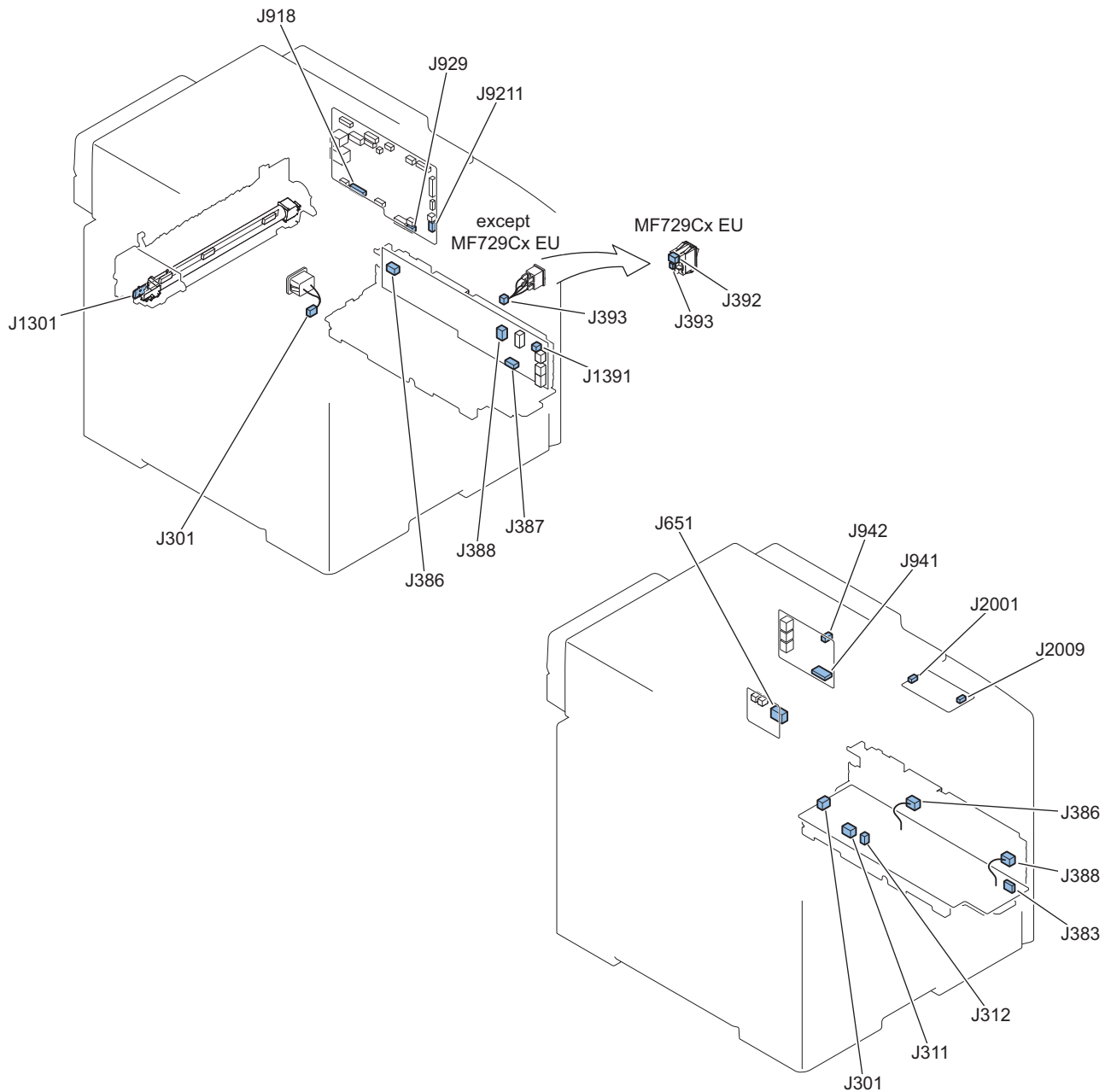
J No.	Symbol	Name	Relay connector			J No.	Symbol	Name	Remarks
J651	UN7	Fixing Sub PCB	J4003			J1301	H120	Fixing heater	120V
J311	UN8	Low Voltage Main PCB	J4003			J1301	H120	Fixing heater	120V
J651	UN7	Fixing Sub PCB	J4003			J1301	H220	Fixing heater	230V
J311	UN8	Low Voltage Main PCB	J4003			J1301	H220	Fixing heater	230V
J651	UN7	Fixing Sub PCB				J312	UN8	Low Voltage Main PCB	
J301	UN8	Low Voltage Main PCB				J301	-	INLET	
J386	UN8	Low Voltage Main PCB				J386	UN9	Low Voltage Sub PCB	
J383	UN8	Low Voltage Main PCB				J387	UN9	Low Voltage Sub PCB	
J388	UN8	Low Voltage Main PCB				J388	UN9	Low Voltage Sub PCB	

J No.	Symbol	Name	Relay connector		J No.	Symbol	Name	Remarks
J1391	UN9	Low Voltage Sub PCB			J393	SW1	Main Power Switch	except MF729Cx EU
J1391	UN9	Low Voltage Sub PCB			J393	SW1	Main Power Switch	MF729Cx EU
J929	UN13	Main Controller PCB			J392	SW1	Main Power Switch	MF729Cx EU
J918	UN13	Main Controller PCB			J941	UN16	FAX-NCU PCB	
J9211	UN13	Main Controller PCB			J2009	UN17	Off Hook PCB	
J942	UN16	FAX-NCU PCB			J2001	UN17	Off Hook PCB	

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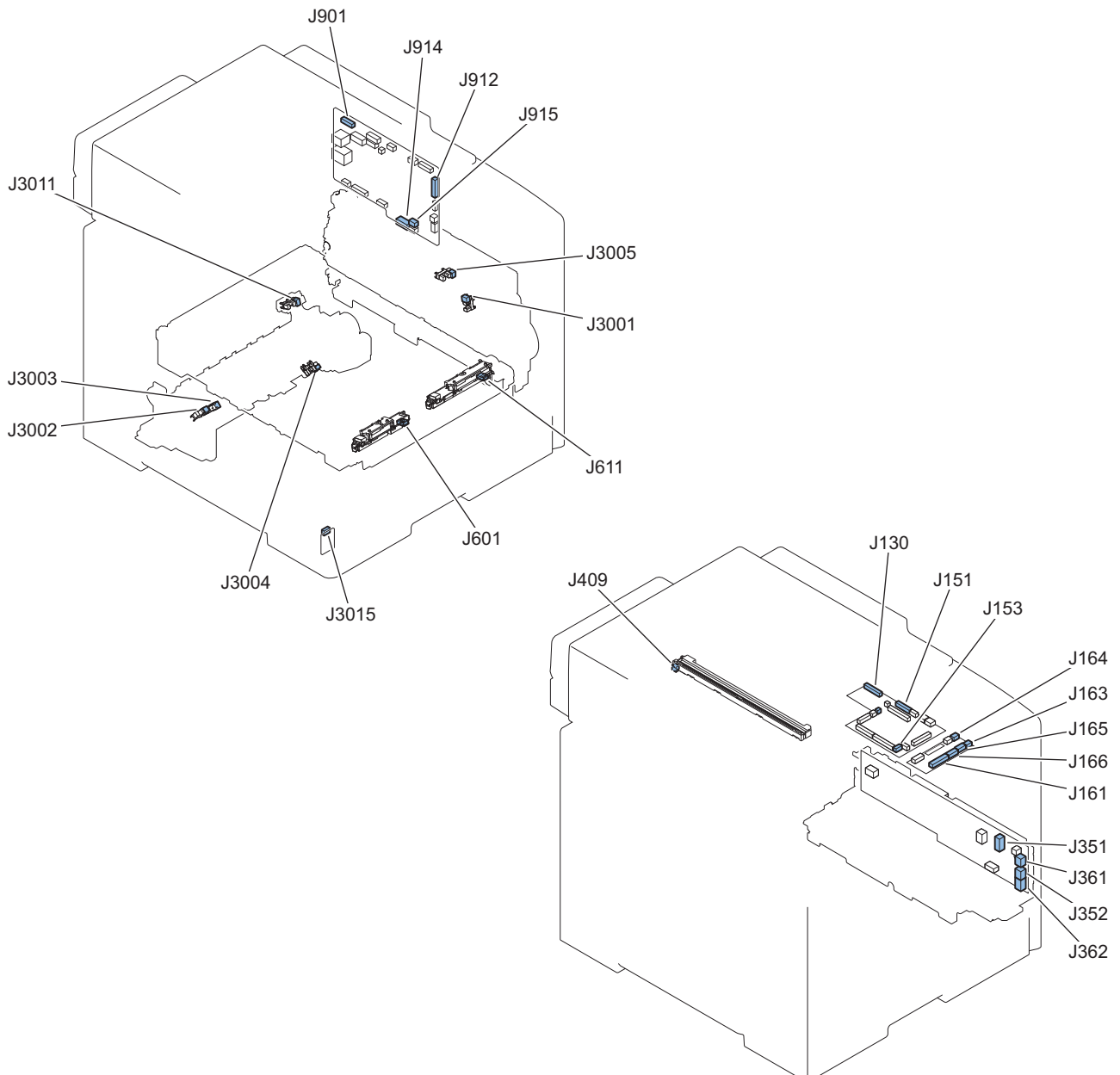
J No.	Symbol	Name	Relay connector		J No.	Symbol	Name	Re-marks
J130	UN1	DC Controller PCB			J912	UN13	Main Controller PCB	
J151	UN1	DC Controller PCB			J361	UN9	Low Voltage Sub PCB	
J151	UN1	DC Controller PCB			J362	UN9	Low Voltage Sub PCB	
J153	UN1	DC Controller PCB			J3015	PCB28	Environment Sensor	
J161	UN5	Relay PCB			J601	PCB29	Patch Sensor	
J161	UN5	Relay PCB			J611	PCB30	Patch Registration Sensor	

J No.	Symbol	Name	Relay connector			J No.	Symbol	Name	Re-marks
J163	UN5	Relay PCB				J3011	SR4	Registration Detection Sensor	
J164	UN5	Relay PCB				J3002	SR1	Paper Feeder Pre-Registration Detection Sensor	
J165	UN5	Relay PCB				J3003	SR12	Pre-registration Detection Sensor	
J165	UN5	Relay PCB				J3004	SR13	Cassette Paper Detection Sensor	
J166	UN5	Relay PCB				J3001	SR6	Developing Homeposition Sensor	
J166	UN5	Relay PCB				J3005	SR2	Front Cover Sensor	
J901	UN13	Main Controller PCB				J409	UN12	CIS Unit	
J914	UN13	Main Controller PCB				J351	UN9	Low Voltage Sub PCB	

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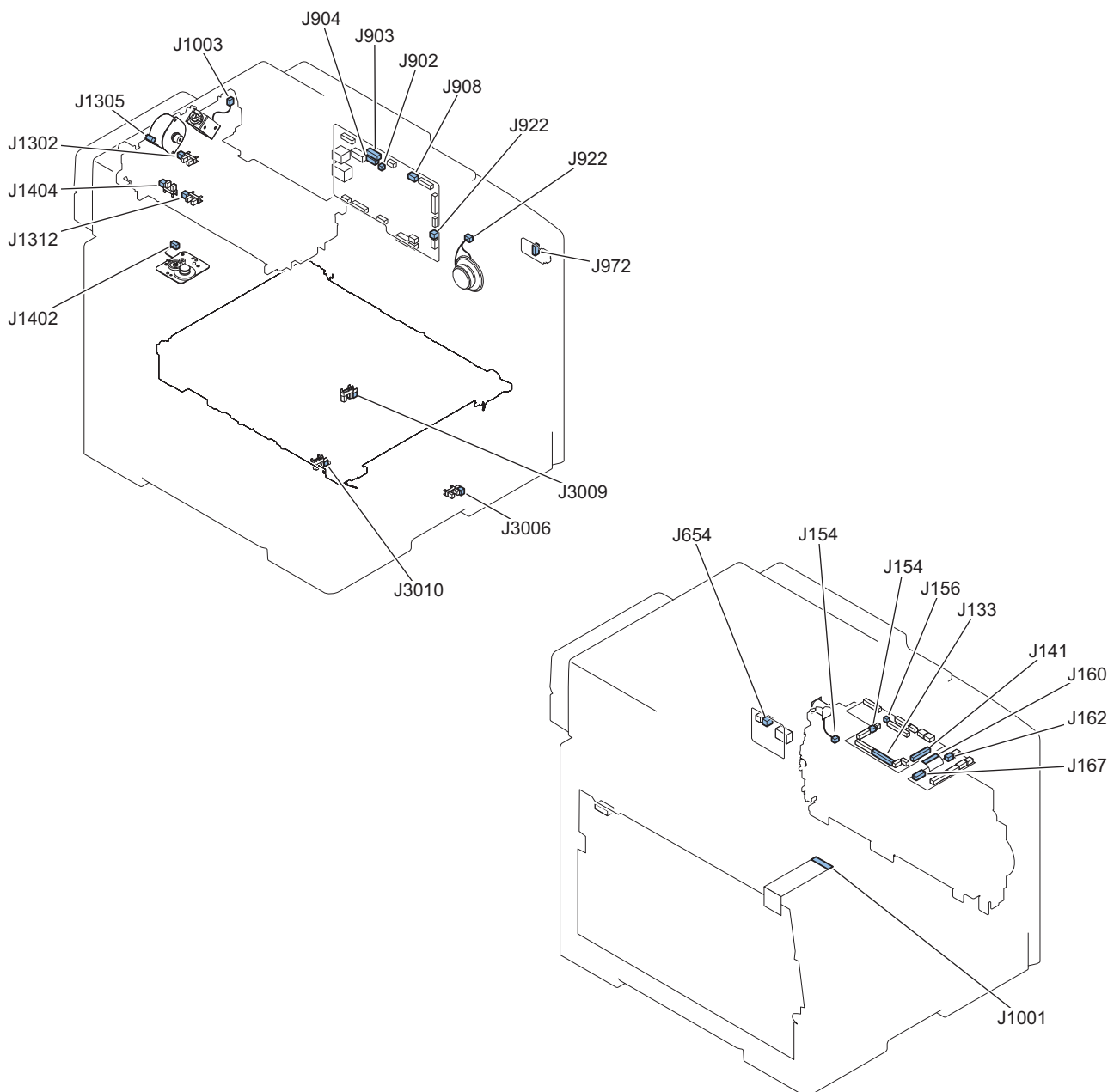
J No.	Symbol	Name	Relay connector		J No.	Symbol	Name	Remarks
J133	UN1	DC Controller PCB			J1001	UN3	High Voltage Power Supply PCB	
J141	UN1	DC Controller PCB			J160	UN5	Relay PCB	
J154	UN1	DC Controller PCB			J154	SL3	Developing Separation Solenoid	
J156	UN1	DC Controller PCB			J654	UN7	Fixing Sub PCB	
J162	UN5	Relay PCB			J3010	SR7	MP Tray Pre-Registration Detection Sensor	
J167	UN5	Relay PCB			J3006	SR14	MP Tray Paper Detection Sensor	
J167	UN5	Relay PCB	J4017		J3009	SR16	ITB Pressure Release Sensor	
J903	UN13	Main Controller PCB			J1302	PS703	Document Sensor	
J903	UN13	Main Controller PCB			J1305	M721	ADF Motor	
J903	UN13	Main Controller PCB	J1310		J1312	PS702	Document End Sensor	
J908	UN13	Main Controller PCB			J972	UN15	USB Host PCB	
J904	UN13	Main Controller PCB	J1402		J1402	M720	Reader Motor	
J904	UN13	Main Controller PCB	J1401		J1404	PS701	CIS Unit Homeposition Sensor	
J922	UN13	Main Controller PCB			J922	SP1	Speaker	
J902	UN13	Main Controller PCB	J1003		J1003	SL4	ADF Pickup Solenoid	

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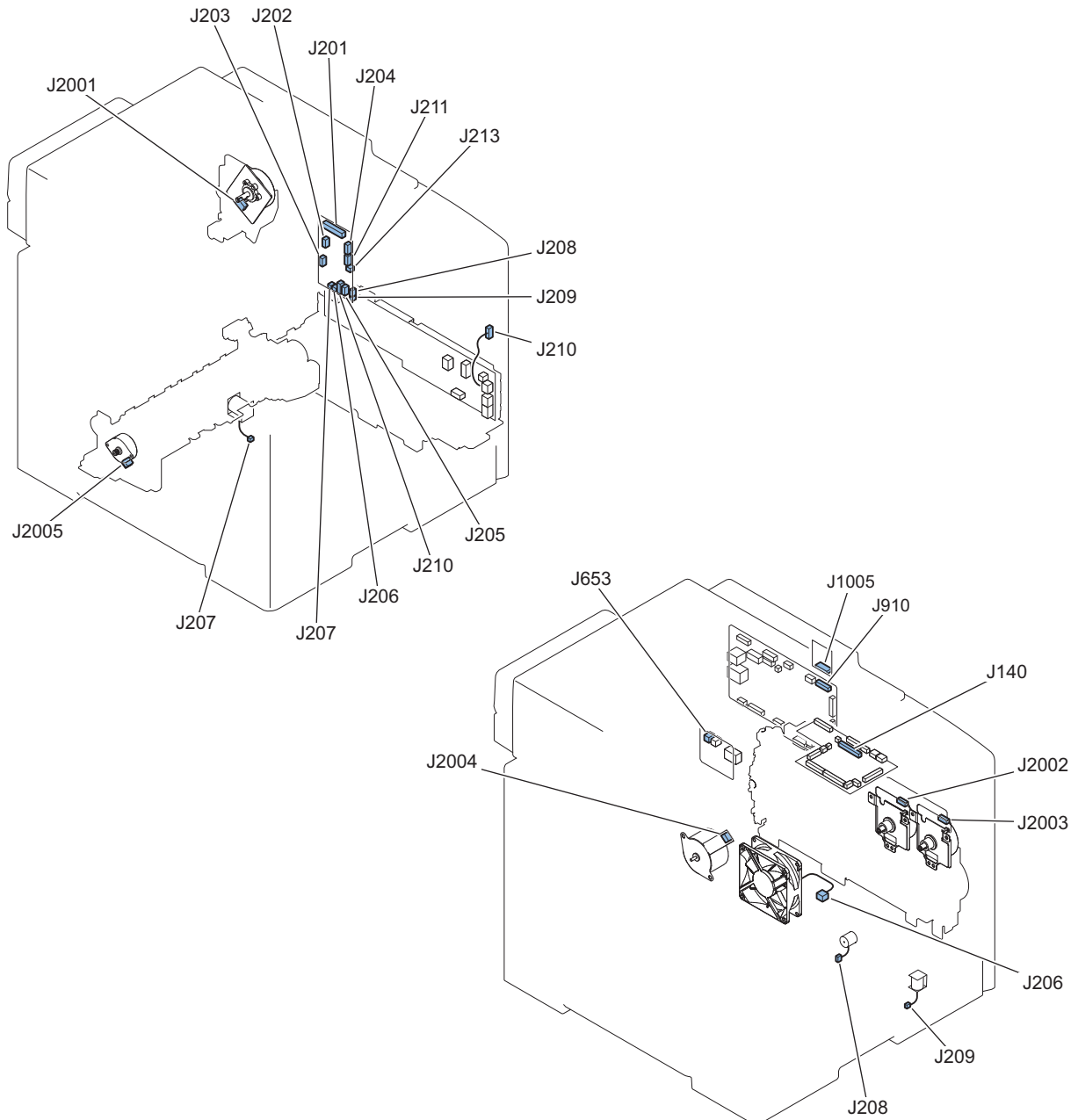
J No.	Symbol	Name	Relay connector			J No.	Symbol	Name	Re-marks
J140	UN1	DC Controller PCB				J201	UN2	Driver PCB	
J202	UN2	Driver PCB				J2004	M5	Pickup Motor	
J203	UN2	Driver PCB				J2005	M3	Registration Motor	
J204	UN2	Driver PCB				J2003	M2	Developing Motor	
J205	UN2	Driver PCB				J2001	M4	Fixing Motor	
J206	UN2	Driver PCB				J206	FM1	Fixing/Fixing Power Supply Cooling Fan	
J207	UN2	Driver PCB				J207	SL2	Cassette Pickup Solenoid	
J208	UN2	Driver PCB				J208	CL1	MP Tray Feeding Clutch	
J209	UN2	Driver PCB				J209	SL1	MP Tray Pickup Solenoid	
J210	UN2	Driver PCB				J210	UN9	Low Voltage Sub PCB	
J211	UN2	Driver PCB				J2002	M1	Drum Motor	
J213	UN2	Driver PCB	J4004			-	-	-	
J653	UN7	Fixing Sub PCB	J4004			-	-	-	
J910	UN13	Main Controller PCB				J1005	UN23	Wireless LAN PCB	

■ 5/5
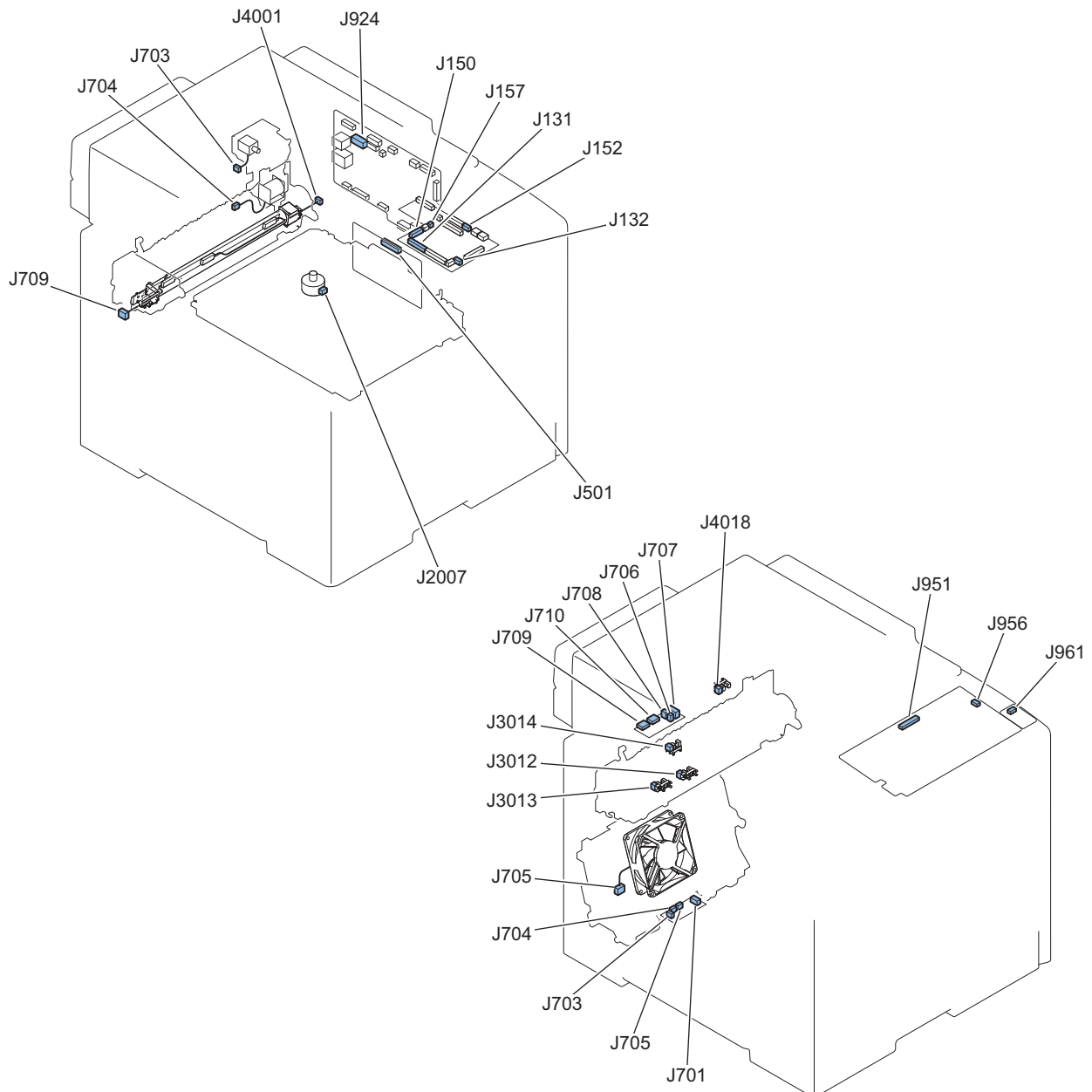
J No.	Sym-bol	Name	Relay con-nector		J No.	Symbol	Name	Remarks
J131	UN1	DC Controller PCB			J501	UN4	Laser Driver PCB	
J132	UN1	DC Controller PCB			J2007	M7	Laser Scanner Motor	
J150	UN1	DC Controller PCB	J4001		J4001	TH801, TH802	Main Thermistor, Sub Thermistor 1	
J150	UN1	DC Controller PCB			J707	UN6	Fixing Relay PCB	
J152	UN1	DC Controller PCB			J701	UN10	Duplex Driver PCB	
J157	UN1	DC Controller PCB			J706	UN6	Fixing Relay PCB	
J703	UN10	Duplex Driver PCB			J703	SL5	Duplex Reversal Solenoid	
J704	UN10	Duplex Driver PCB			J704	CL2	Duplex Feeding Clutch	
J705	UN10	Duplex Driver PCB			J705	FM2	Duplex Feeding Fan	
J708	UN6	Fixing Relay PCB			J4018	SR15	Delivery Full Sensor	
J709	UN6	Fixing Relay PCB			J709	TH803	Sub Thermistor 2	
J710	UN6	Fixing Relay PCB			J3012	SR10	Fixing Loop Sensor	

J No.	Symbol	Name	Relay connector		J No.	Symbol	Name	Remarks
J710	UN6	Fixing Relay PCB			J3013	SR9	Fixing Pressure Release Sensor	
J710	UN6	Fixing Relay PCB			J3014	SR8	Fixing Delivery Sensor	
J924	UN13	Main Controller PCB			J951	UN14	Control Panel NFC PCB	
J961	UN20	NFC PCB			J956	UN14	Control Panel NFC PCB	

External Cover, Internal Cover

🔵 Location

■ Front Side

No.	Parts Name	Remarks	Reference
[1]	ADF Front Upper Cover	-	-
[2]	ADF Upper Cover	-	-
[3]	Side Guide (Front)	-	-
[4]	Side Guide (Rear)	-	-
[5]	Document Tray	-	-
[6]	Extension Tray	-	-
[7]	Sub Tray	-	-
[8]	Delivery Tray	-	-
[9]	Right Cover	-	"Removing the Right Cover" on page 121
[10]	Control Panel Lower Cover	-	-
[11]	Control Panel	-	"Removing the Control Panel Unit" on page 168
[12]	Upper Cover	-	"Removing the Upper Cover" on page 126
[13]	USB Port	-	-
[14]	Right Front Cover	-	"Removing the Right Front Cover" on page 122
[15]	Front Cover	-	"Removing the Front Cover" on page 123
[16]	Cassette	-	-
[17]	Multi-Purpose Tray Transport Guide	-	-
[18]	Left Cover	-	"Removing the Left Cover" on page 119
[19]	Reader Cover	-	-

■ Rear Side

No.	Parts Name	Remarks	Reference
[1]	ADF Rear Cover	-	-
[2]	Rear Upper Cover	-	"Removing the Rear Upper Cover" on page 124
[3]	Rear Cover	-	"Removing the Rear Cover" on page 124
[4]	Rear Lower Cover	-	"Removing the Rear Lower Cover" on page 124
[5]	Power Socket	-	-
[6]	Telephone Line Jack	-	-
[7]	LAN Port	-	-
[8]	USB Port	-	-
[9]	External Device Jack	-	-
[10]	Handset Terminal	-	-

External Cover, Internal Cover Disassembly/Assembly Procedure

🔵 Removing the Left Cover

■ Procedure

1. To remove the lower claw of the Left Cover, shift the host machine by 5cm from the base.

2. Remove the Cassette [1].

3. Open the ADF Unit + Reader Unit [2] and the Front Cover [3].
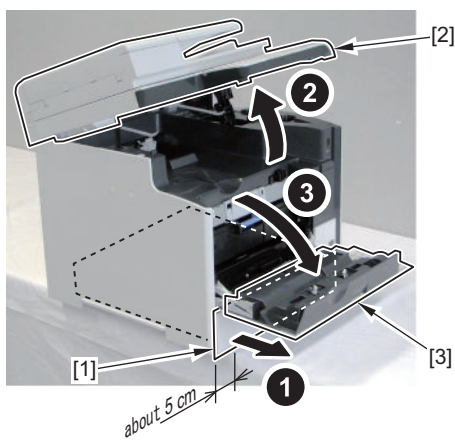
4. Remove the 2 screws [2].
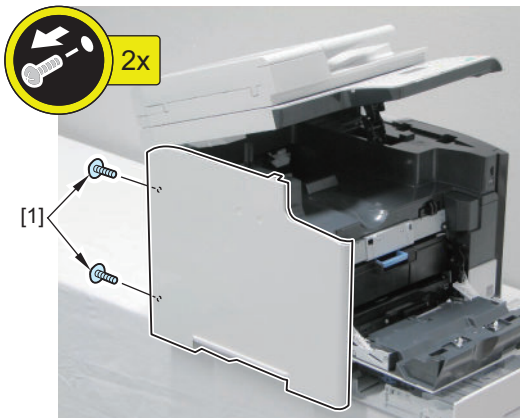
5. While pushing the claw [2] of the Left Cover [1], hold the top of the host machine, and push the Left Cover

directly upward with your finger on the [A] part of the Left Cover.

CAUTION:
Do not open [A] part of the Left Cover in the direction of the arrow when removing the Left Cover; otherwise, the projection [1] of the Left Cover can be damaged/broken.
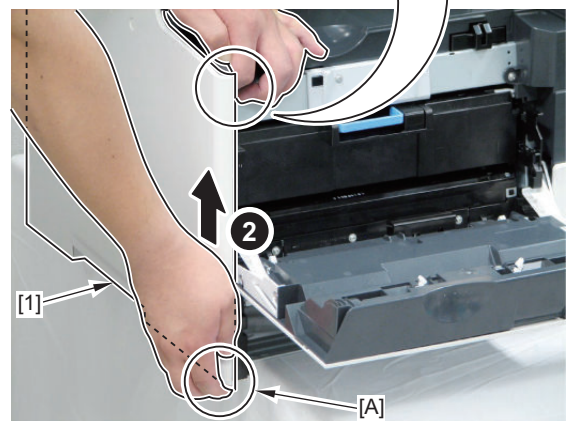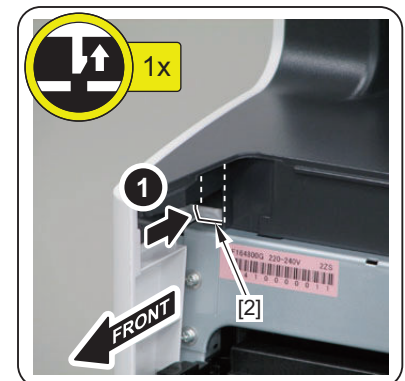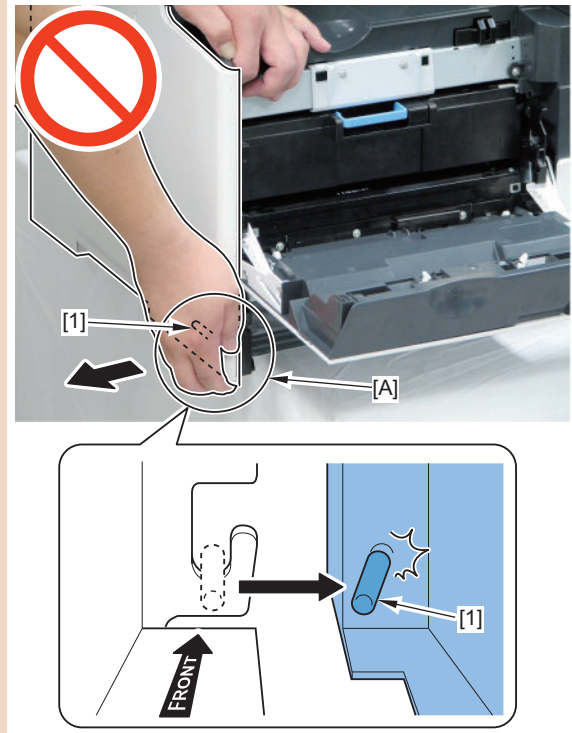
6. Release the hook [2] and remove the Left Cover [1] while opening the rear of the Left Cover [1].
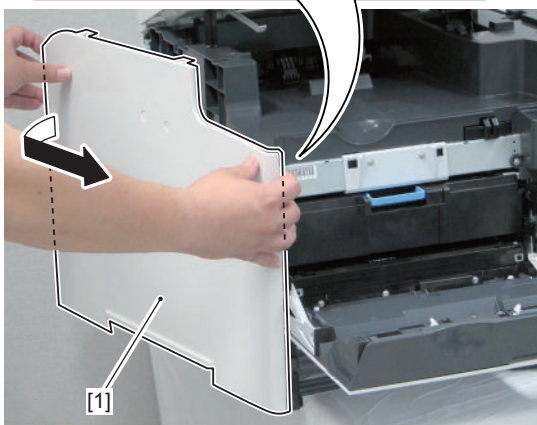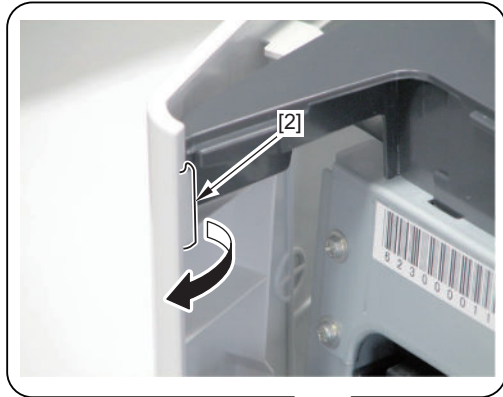
3. Insert the claw [3] of the Left Cover to the groove [4] of the Upper Cover to match the Left Cover to the machine.
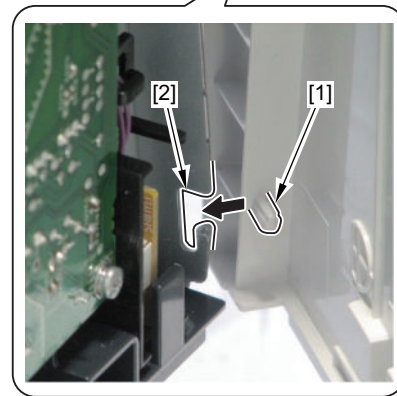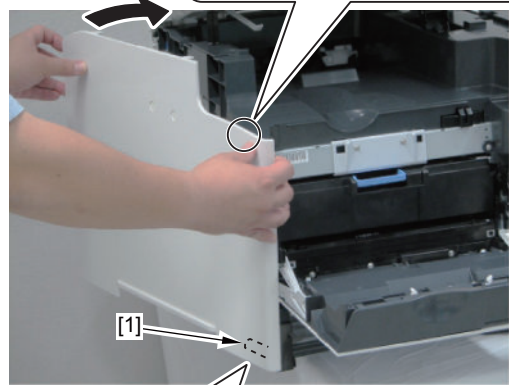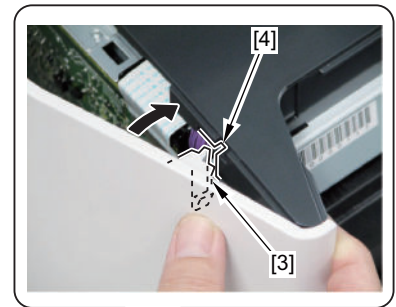
■ Installing the Left Cover

1. Fit the hook [1] at the upper right side of the Left Cover to the upper left area [2] of the Upper Cover.
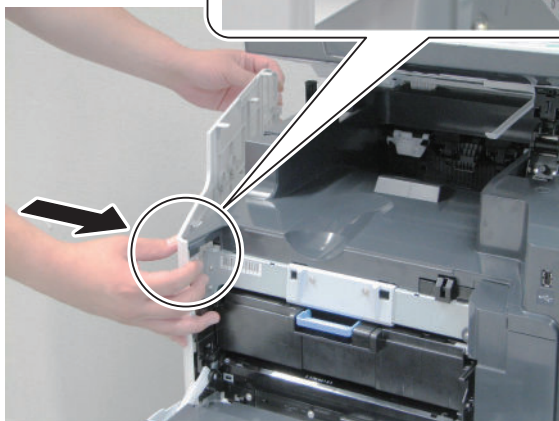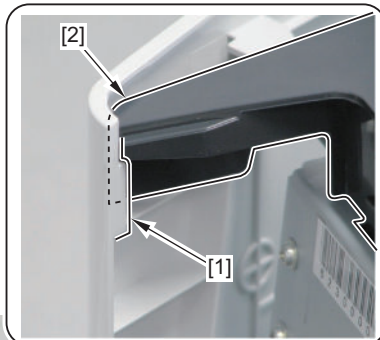
2. Fit the protrusion [1] of Left Cover to the groove [2] of the frame.

4. Install the Left Cover [1].

- 1 Claw [2]
- 8 Hooks [3]
- 2 Screws [4]

Removing the Right Cover

■ Procedure

1. Open the ADF Unit + Reader Unit [1], and remove the Right Cover [2].
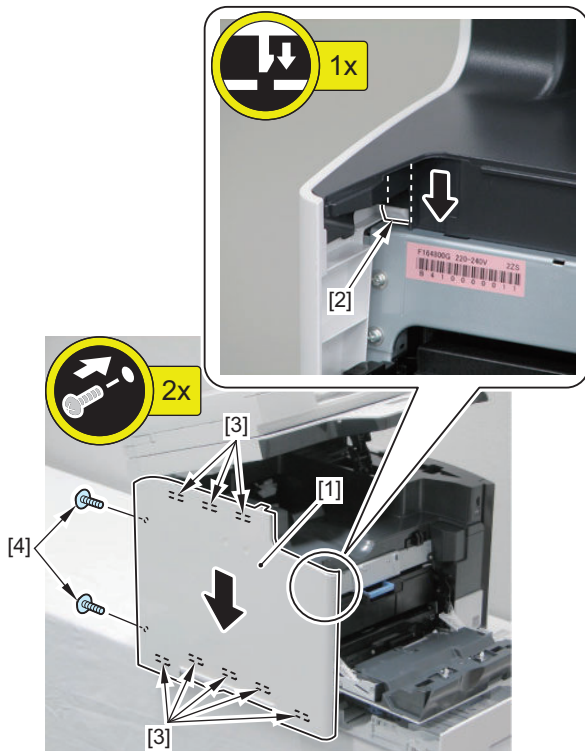
- 4 Screws [3]
- 3 Hooks [4]

■ Installing the Right Cover

1. Fit the 3 hooks [2] of the Right Cover into the holes [3] of the Upper Cover.
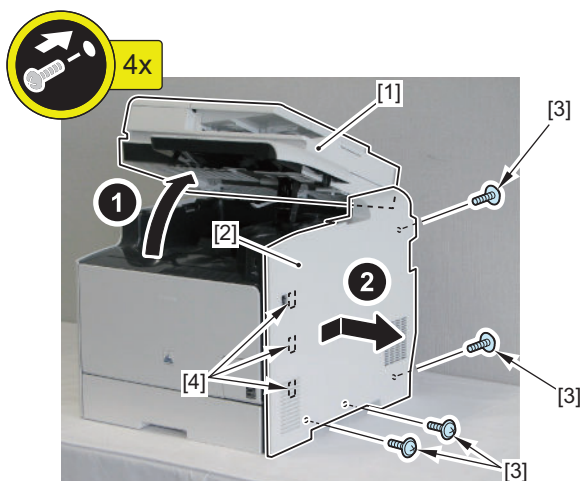
2. While pushing the Right Cover [1] to the Host Machine, fit the left surface [A] of the Right Cover to the right surface [B] of the Right Front Cover.

121
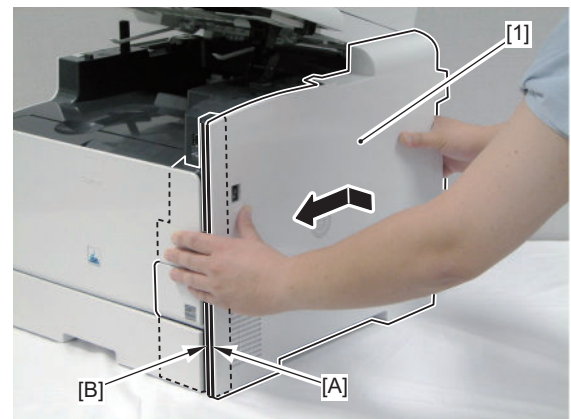
3. **Install the 3 hooks [1] at the left side of the Right Cover and the 3 holes [2] of the Right Front Cover.**

4. **Install the Right Cover [1].**
   - 4 screws [2]

Removing the Right Front Cover

■ Preparation

1. **Remove the Right Cover.(Refer to)**

■ Procerdure

1. **Remove the Cassette.**

2. **Open the ADF Unit + Reader Unit [1] and the Front Cover [2].**

3. **Draw out the Cartridge Tray.**
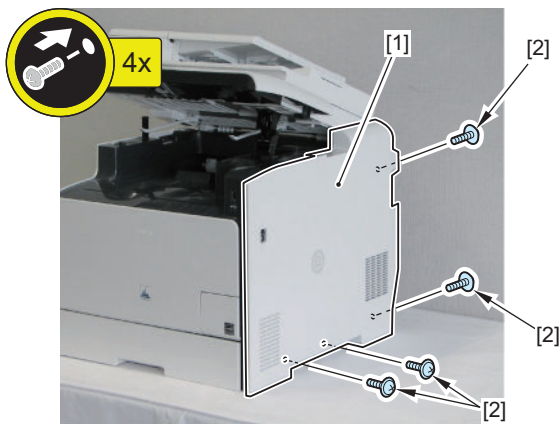
4. **Remove the 2 screws [2].**
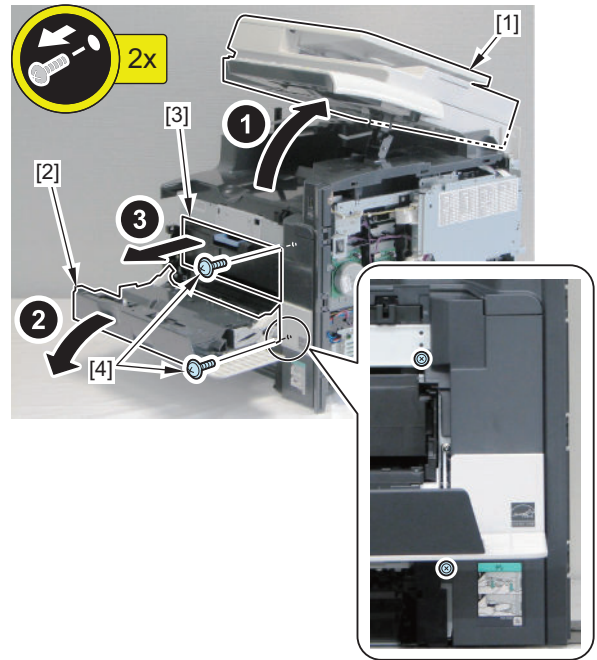
5. **Remove the claw [1] at the lower right side of the Right Front Cover.**

6. **Put a flat-blade screwdriver into the gap [A] between the upper area of the Right Front Cover and the Upper Cover to remove the claw [2] in the direction of the arrow.**

Removing the Front Cover

■ Preparation

1. Remove the Cartridge Tray.(Refer to **"Removing the Cartridge Tray" on page 128**)

2. Remove the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

3. Remove the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

4. Remove the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

■ Procerdure

1. Remove the bushing support [1].
   • 2 screws [2]
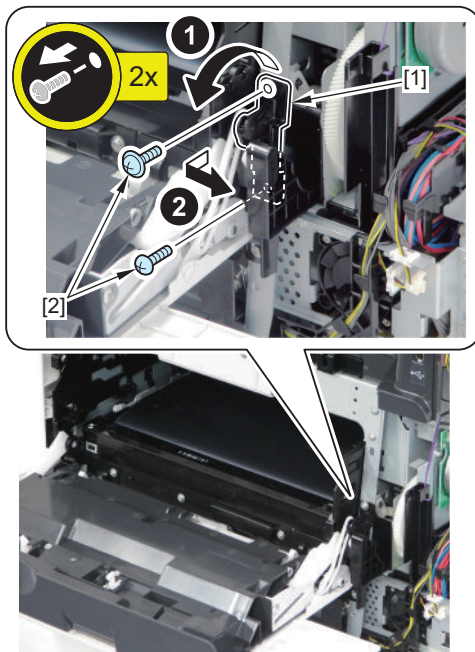
2. Remove the 2 pins [1] using a screwdriver.
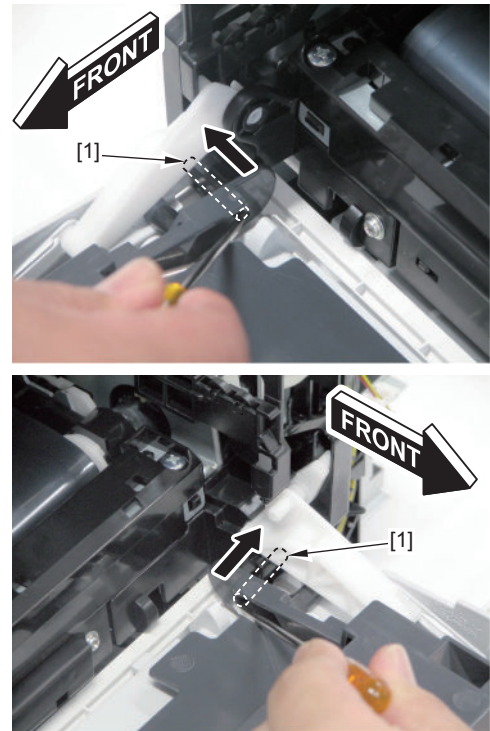
3. While closing the Front Cover [1], release the shaft [3] of the Left Link [2] and the protrusion [4].

4. While closing the Front Cover [1], release the shaft [6] of the Right Link [5] and the protrusion [7], and remove the Front Cover [1].

123
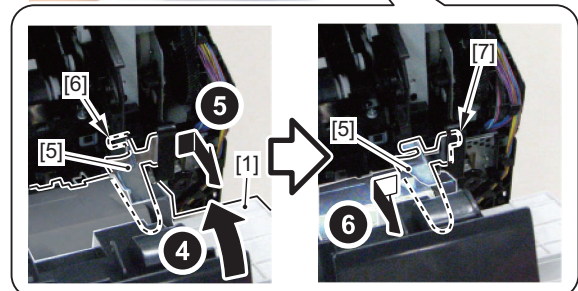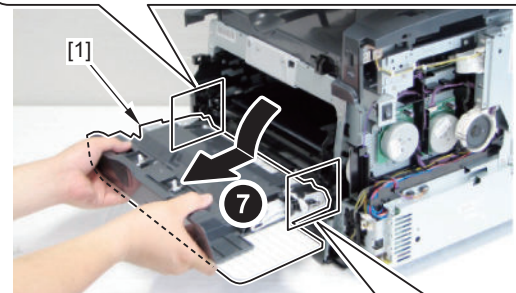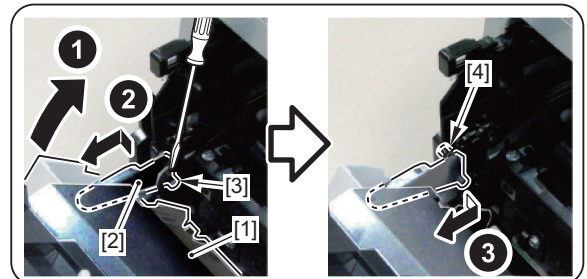
🔵 Removing the Rear Upper Cover

■ Preparation

1. Remove the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Remove the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

■ Procedure

1. **Close the ADF Unit/Copyboard + Reader Unit.**

2. **Open the Rear Cover.**

3. **Remove the 2 screws [1].**
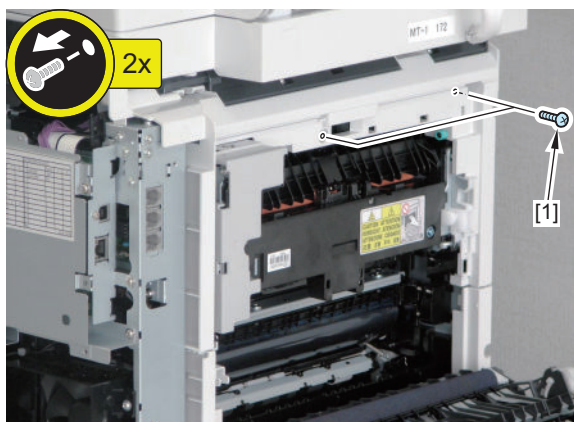
4. **Push the 2 claws [1] to remove the Rear Upper Cover [2].**
   - 1 Hook [3]
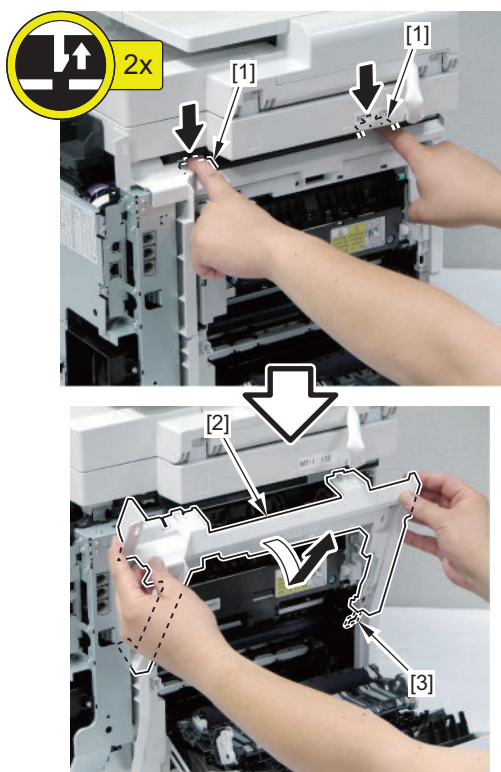
🔵 Removing the Rear Cover

■ Procedure

1. **Open the Rear Cover [1].**

2. **Close the Duplex Feed Unit [2].**
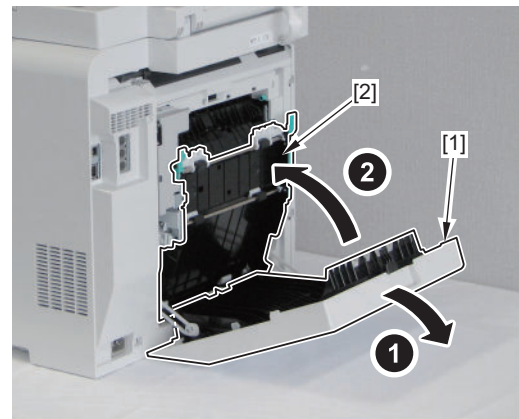
3. **Remove the Rear Cover [1].**
   - 2 screws [2]
   - 4 hooks [3]
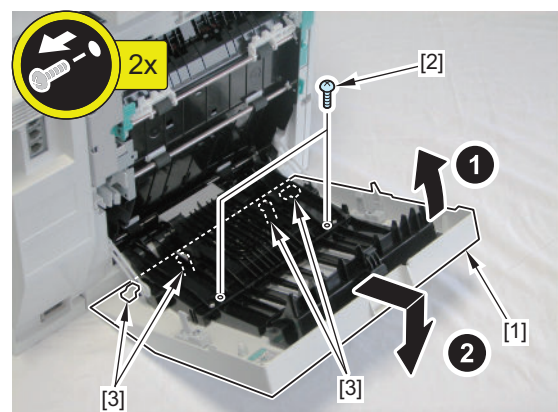
🔵 Removing the Rear Lower Cover

■ Preparation

1. Remove the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Remove the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Remove the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

4. Remove the Rear Cover.(Refer to **"Removing the Rear Cover" on page 124**)

■ Procedure

1. **Remove the arm [1].**
   - 2 link caps [2]
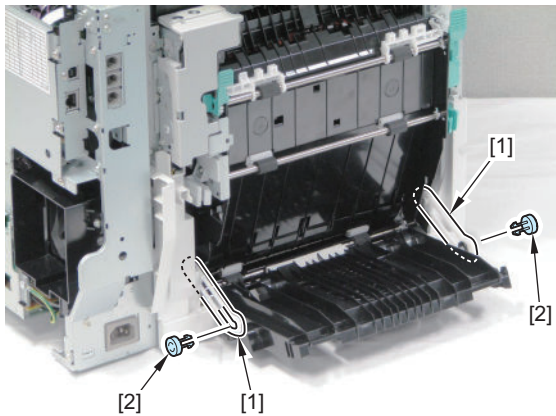
2. **Open the Duplex Feed Unit [1] and remove the 2 claws [2] and 2 bosses [3].**
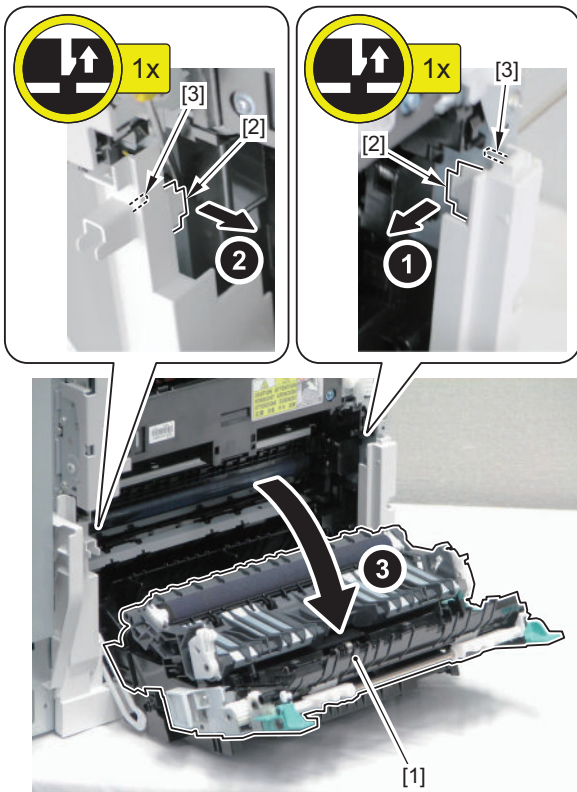
3. **Close the Duplex Feed Unit [1].**
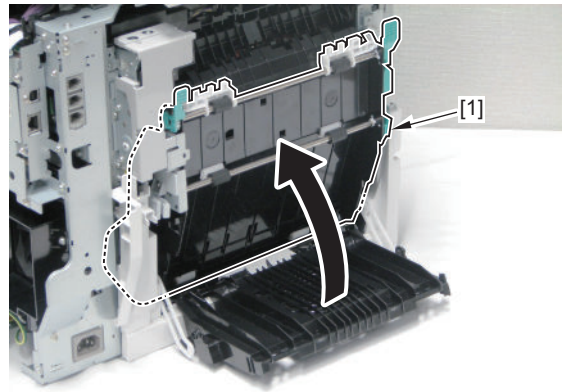
4. **Move the Rear Lower Cover [1] aside from the [A] part of the Duplex Reverse Drive Unit [2].**

5. **Hold the Rear Cover Rib Unit [3] and remove the Rear Lower Cover [1].**
   - 2 Hooks [4]
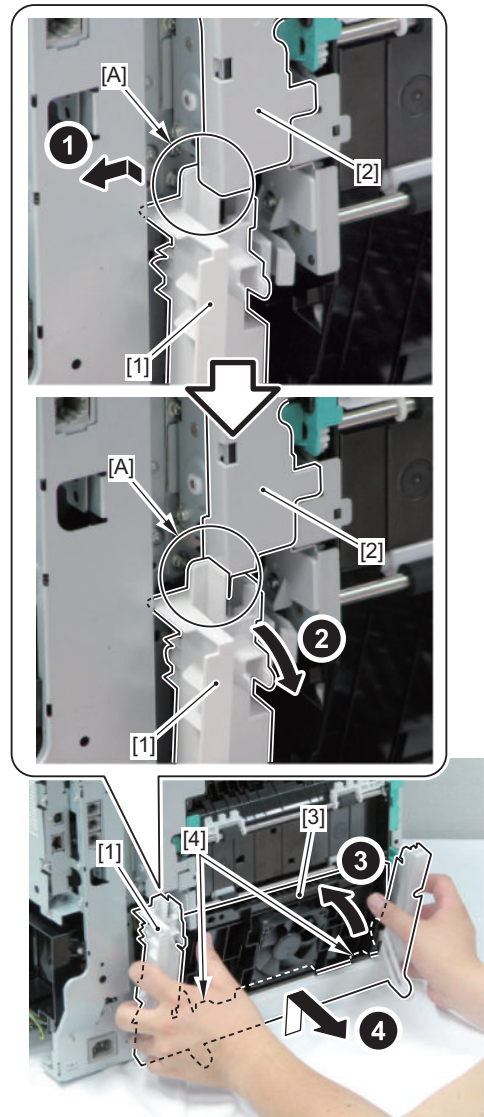
🔵 Removing the Rear Cover Rib Unit

■ Preparation

1. Remove the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Remove the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Remove the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

4. Remove the Rear Cover.(Refer to **"Removing the Rear Cover" on page 124**)

5. Remove the Rear Lower Cover.(Refer to **"Removing the Rear Lower Cover" on page 124**)

■ Procedure

1. Remove the Rear Cover Rib Unit **[1]**.
   • 2 bearing holders [2]
   • 1 fixing guide [3]
   • 1 connector [4]
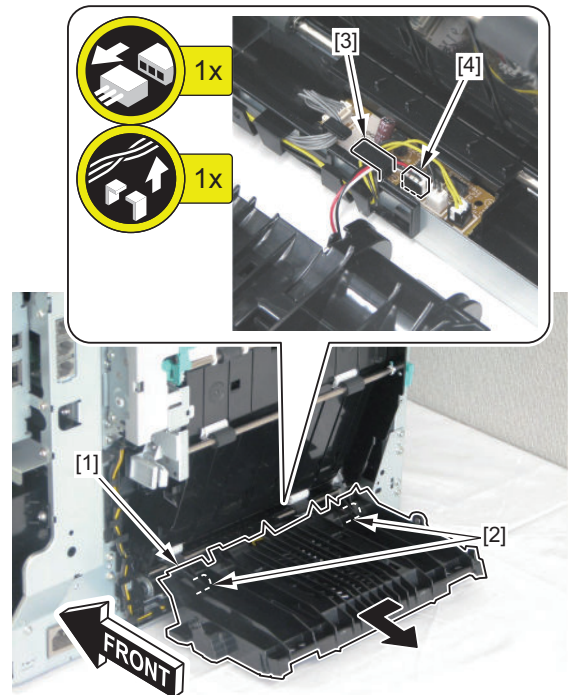
CAUTION:
At installation, make sure that the spring [1] is installed on [A] part before installing the Rear Cover Rib Unit.
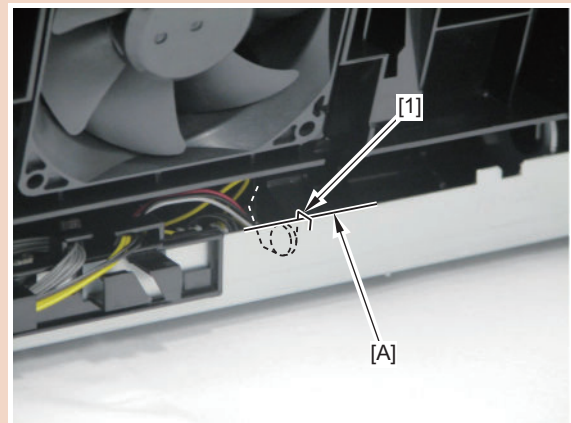
🔵 Removing the Upper Cover

■ Preparation

1. Remove the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Remove the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Remove the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

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4. **Remove the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

5. **Remove the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

■ Procedure

1. **Remove the USB Host PCB Unit [1].**
   - 1 screw [2]
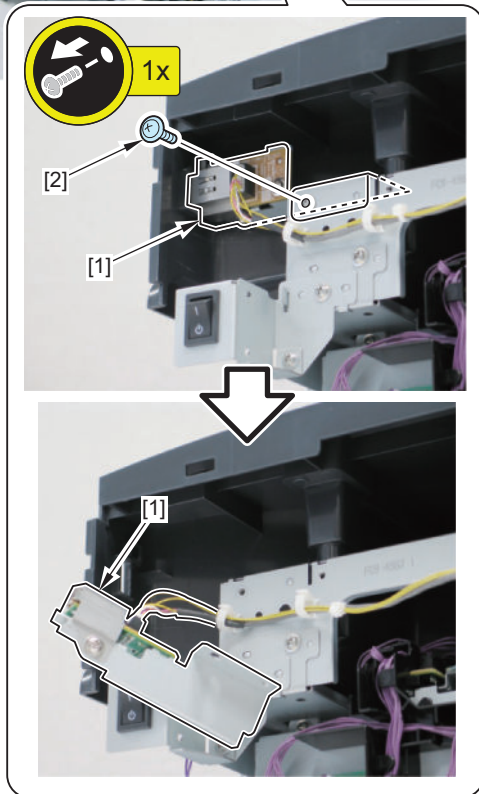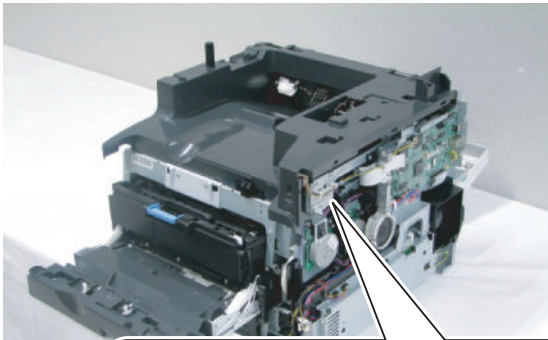
2. **Remove 6 screws [1].**
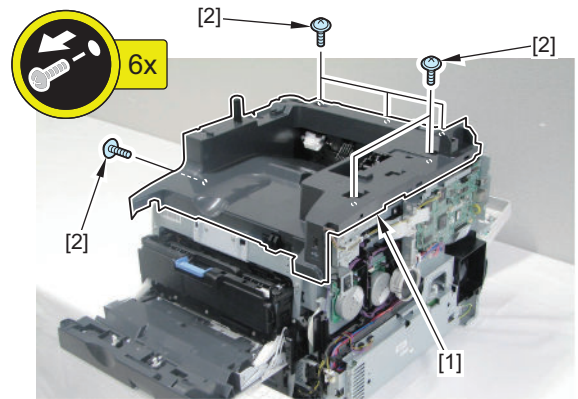
3. **Release 2 claws [1] of the Upper Cover with a flat-blade screwdriver.**
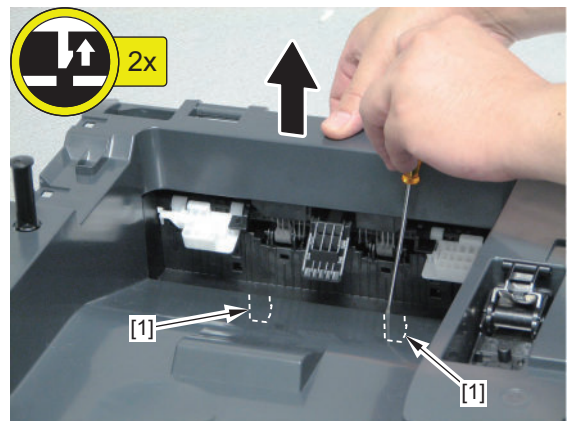
4. **Push down the flag [1] and remove the rear side of the Upper Cover [2].**
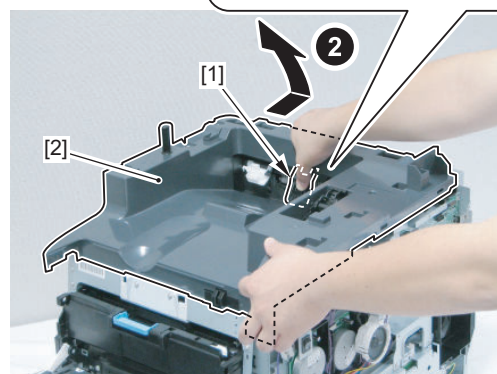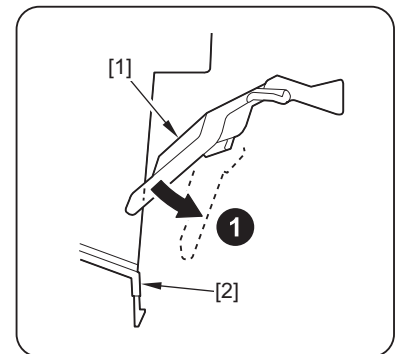
5. **Remove the Upper Cover [1].**
   - 3 Hooks [2]

Removing the Cartridge Tray

■ Procedure

> **CAUTION:**
> When removing the Toner Cartridge, be careful not to damage the Photosensitive Drum. Also, be sure to block light.

1. **Open the Front Cover.**

2. **Pull out the Cartridge Tray [1].**

3. **Remove the toner cartridges (Y, M, C, Bk) [2].**
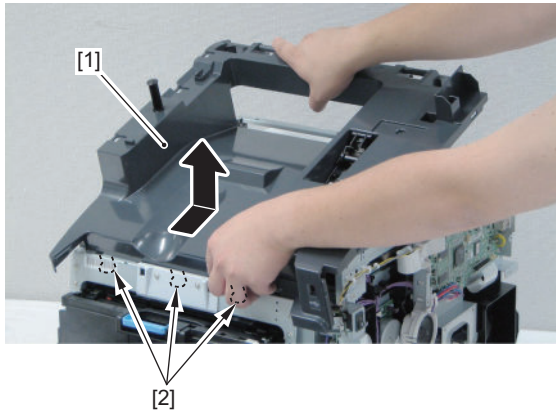
4. **While raising the stopper [1], remove the Cartridge Tray [2].**
   - 1 Protrusion [3]
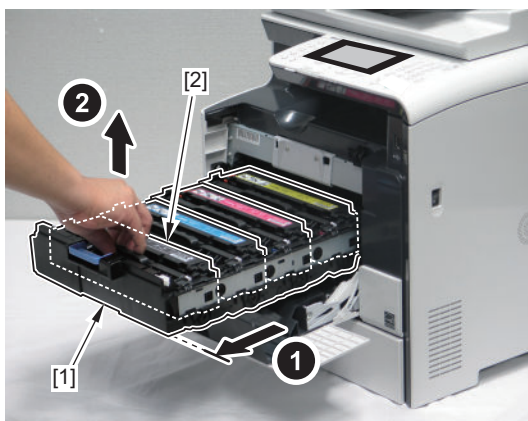
Document Exposure, Feed System

🔵 Location
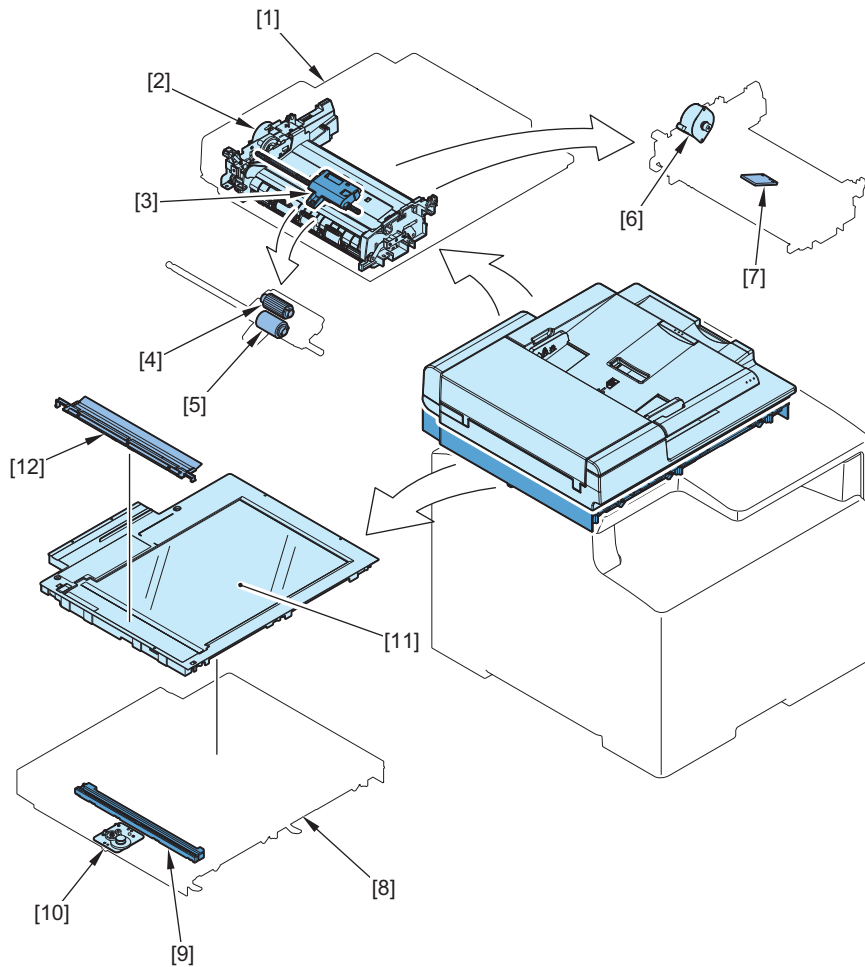
No.	Parts Name	Main Unit	Re-marks	Reference	Adjastment during parts replacement
[1]	ADF Unit	Product Configuration	-	"Removing the ADF Unit + Reader Unit" on page 131	"After Replacing the ADF Units" on page 133
[2]	ADF Paper Feeder Unit	ADF Unit	-	"Removing the ADF Pickup Feed Unit" on page 141	-
[3]	ADF Roller Unit	ADF Unit	-	"Removing the ADF Roller Unit" on page 137	-
[4]	ADF Pickup Roller	ADF Roller Unit	-	"Removing the ADF Pickup Roller" on page 138	-
[5]	ADF Separation Roller	ADF Roller Unit	-	"Removing the ADF Separation Roller" on page 139	-
[6]	ADF Motor	ADF Paper Feeder Unit	M721	"Removing the ADF Pickup Motor" on page 142	-
[7]	ADF Separation Pad	ADF Paper Feeder Unit	-	"Removing the ADF Separation Pad" on page 139	-
[8]	Reader Unit	Product Configuration	-	"Removing the ADF Unit + Reader Unit" on page 131	"After Replacing the Reader Unit" on page 134
[9]	CIS Unit	Reader Unit	UN12	"Removing the CIS Unit" on page 147	"After replacing CIS units" on page 150
[10]	Reader Motor	Reader Unit	M720	"Removing the Reader Scanner Motor" on page 152	-

No.	Parts Name	Main Unit	Remarks	Reference	Adjastment during parts replacement
[11]	Reader Unit Upper Cover	Reader Unit	-	"Removing the Reader Unit Upper Cover" on page 145	"After Replacing the Reader Upper Cover Unit" on page 146
[12]	Scoopup sheet holder	Reader Unit	-	"Removing the Scoopup sheet holder" on page 143	"After Replacing the Scoopup Sheet Holder" on page 144

Document Exposure, Feed System Disassembly/ Assembly Procedure

⬤ Removing the ADF Unit + Reader Unit

■ Preparation

1. Remove the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Remove the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

■ Procedure

> **CAUTION:**
> Be sure to perform "After replacing ADF unit (Refer to "After Replacing the ADF Units" on page 133)" and "After replacing reader unit (Refer to "After Replacing the Reader Unit" on page 134)" when replacing the ADF Unit and Reader Unit, respectively.

1. **Open the ADF Unit + Reader Unit.**

2. **Remove the claw [1] to remove the Reader Shaft Retainer [2].**

3. **While supporting the ADF Unit + Reader Unit [3], remove the Reader Support Shaft [4].**
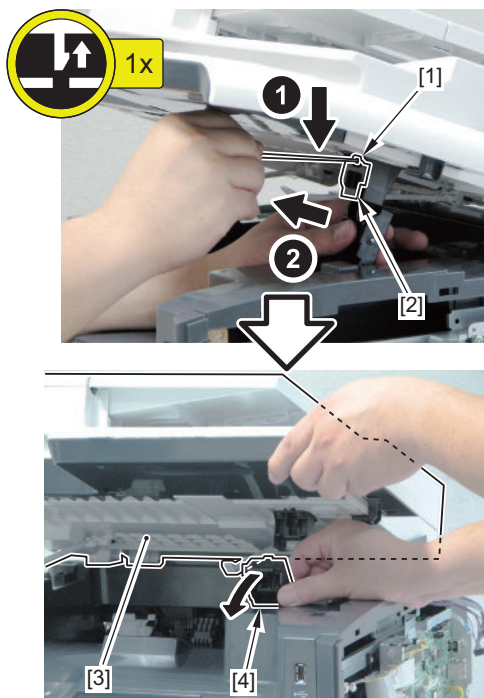
4. **Bring down the Reader Support Shaft [1] to close the ADF Unit +Reader Unit [2].**
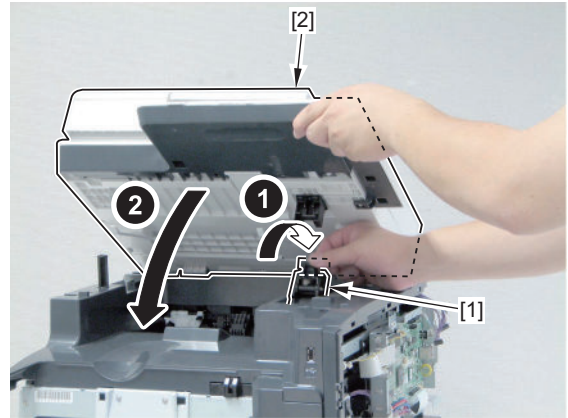
5. **Remove the Controller Cover [1] at the right side of the host machine.**
   - 9 screws [2]
   - 2 Hooks [3]
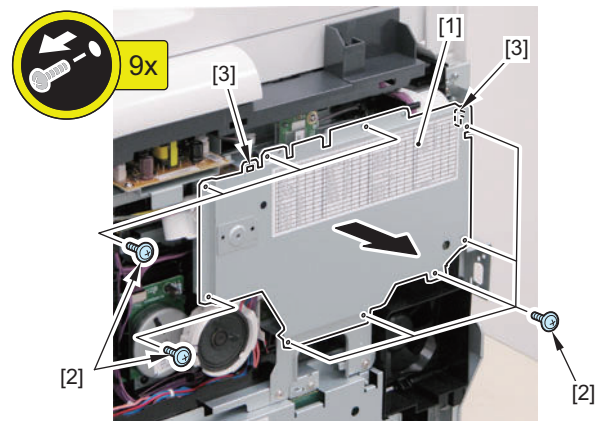
6. **Remove the 2 Flat Cables [1] and the Ferrite Core [2] on the right side of the machine.**
   - 1 Flat Cable Connector Lock [3]
   - 3 Connectors [4]
   - 1 Claw [5]
   - 3 Harness Guides [6]
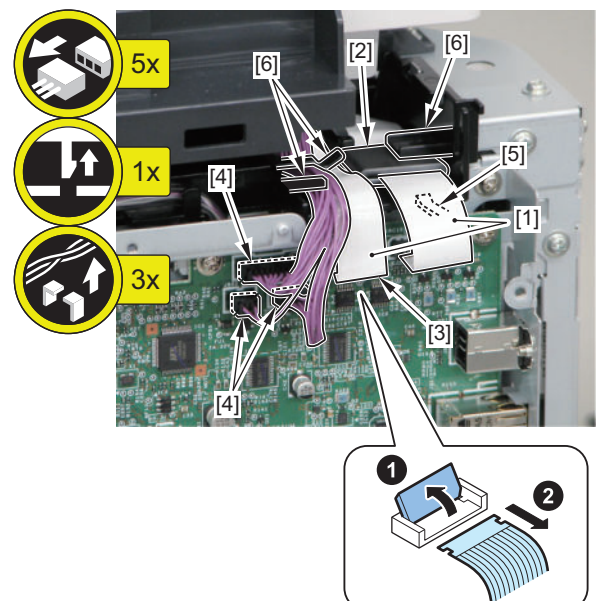
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CAUTION:

When connecting the Flat Cable, be sure to perform the following; while pushing the Flat Cable [1] against the connector with a lock [2], check that the line on the edge [A] of the Flat Cable Connector and the line on the edge [B] of the Flat Cable Connector Lock are parallel, and then close the Flat Cable Connector Lock [3].
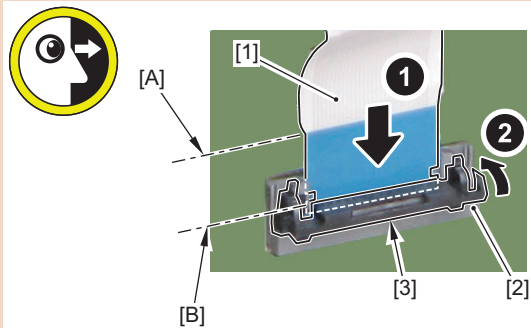
7. **Put the 2 Grounding Wires [1] through the hole [A] and open and remove the ADF Unit + Reader Unit [2].**

    - 2 Screws [3]
    - 2 Hooks [4]
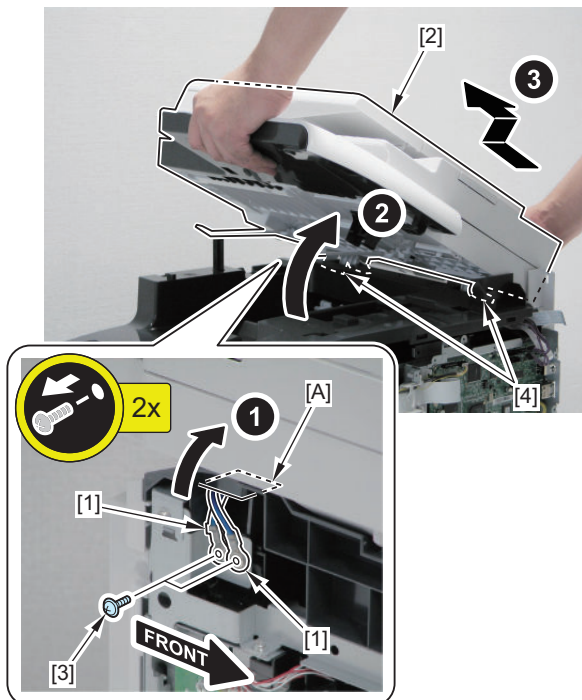
⬤ Separating the ADF Unit + Reader Unit

■ Preparation

1. **Remove the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Remove the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Remove the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

■ Procedure

CAUTION:

Be sure to perform "After replacing ADF unit (Refer to "After Replacing the ADF Units" on page 133)" and "After replacing reader unit (Refer to "After Replacing the Reader Unit" on page 134)" when replacing the ADF Unit and Reader Unit, respectively.

1. **Place the ADF Unit and Reader Unit in the open status as shown in the figure below.**
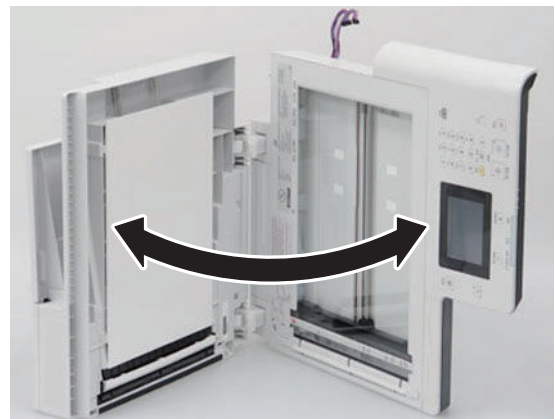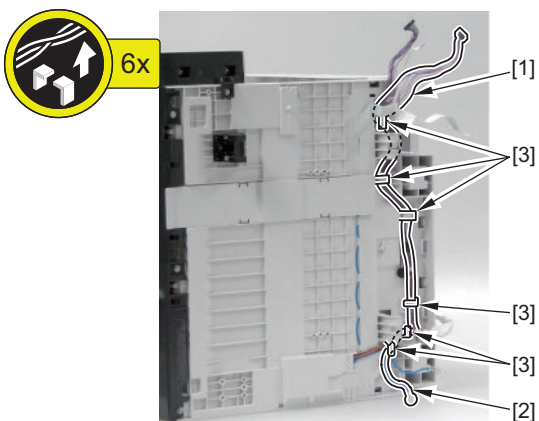
2. Remove the Reader Unit Lower Cover [1].

- • 1 Screw [2]
- • 4 Claws [3]
- • 3 Harnesses [4]
- • 2 Flat Cables [5]
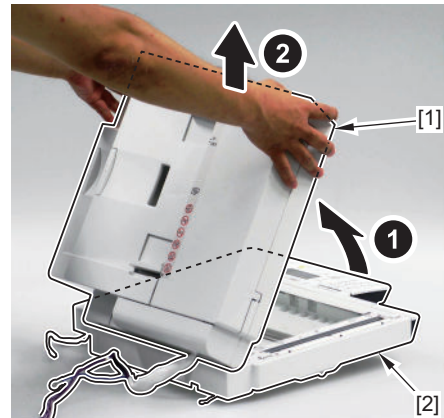- • 2 Grounding Wires [6]
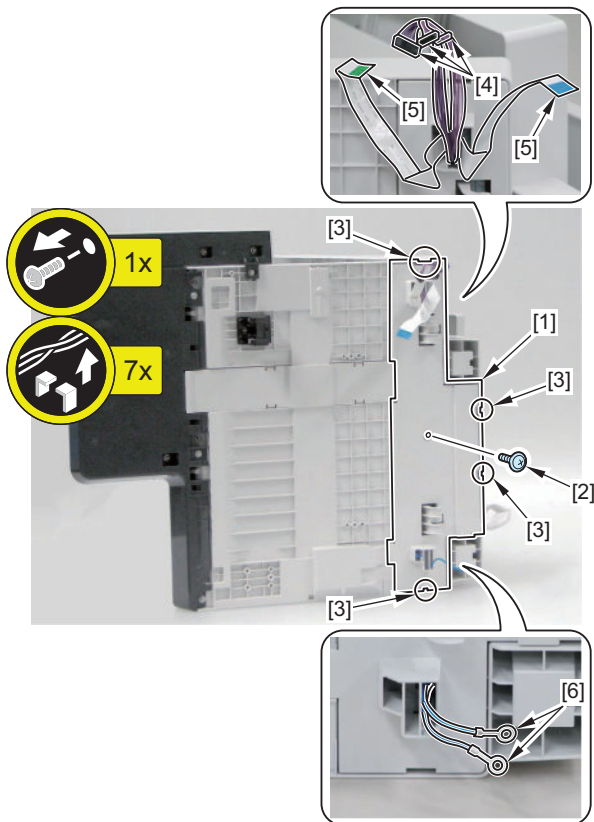
3. Remove the harness [1] and the grounding [2].
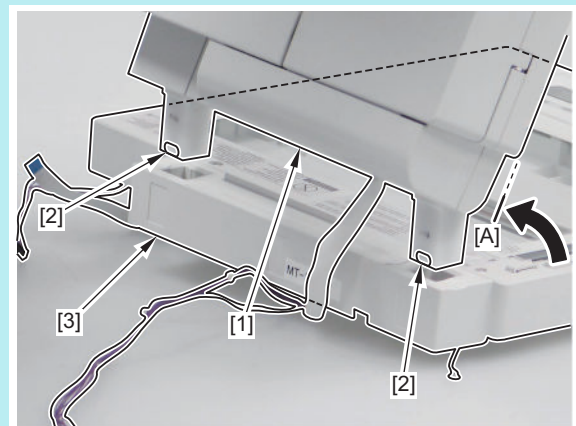
- • 6 harness guides [3]

4. Raise the ADF Unit [1] to separate from the Reader Unit [2] in the direction of the arrow.

NOTE:
Be sure to open the ADF Unit [1] to the degree indicated with the direction of the arrow [A]; otherwise, the ADF Unit cannot be separated from the Reader Unit [3] because of the 2 claws [2].

■ After Replacing the ADF Units

1. Adjust the white level in the following service mode, and write the final setting values on the service label.

1. Enter the values in the following service mode items respectively.
   - • In COPIER > ADJUST > CCD > DFTAR-R, set "299".
   - • In COPIER > ADJUST > CCD > DFTAR-G, set "309".
   - • In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
   - • In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
   - • COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
3. Place the same blank paper on the ADF, and execute
   - • COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))

4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
5. Place the same blank paper on the ADF again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
6. If the operation was successful, write the setting value on the service label.
7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

   Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".
8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)
   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)
   again.
9. Checking the value of DFTAR-BW
   Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)
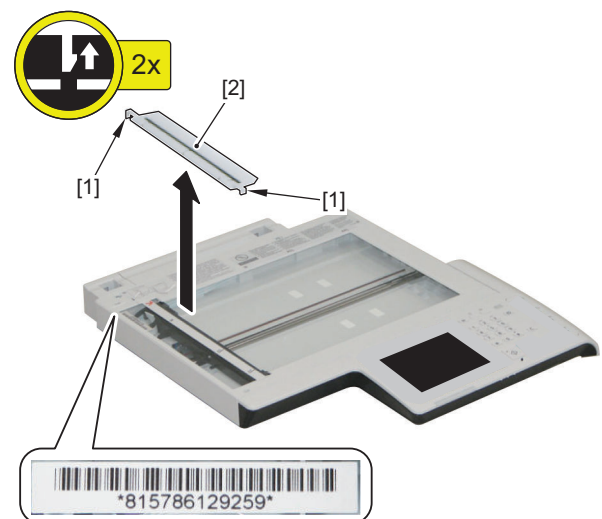
   If the value remains the same as the value you entered, the operation result is judged to be "failed".
10. If the operation result is "failed", turn OFF and then ON the power, execute
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
    and then execute
    - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
    again.

2. **ADF geometric adjustment**
   1. On an image copied using the ADF, check the non-image width in the X and Y directions and the expansion/contraction in the X direction.
      In the case of E353MGMH, perform 2-sided original reading from the ADF.
      If adjustment is needed, enter necessary adjustment values in the following service mode:
      - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adj img pstn in ADF mode:horz scan)
      - FEEDER > ADJUST > DOCST (Fine adjustment of VSYNC timing at ADF reading [front side])
      - FEEDER > ADJUST > DOCST2 (Fine adjustment of VSYNC timing at ADF reading [back side])
      - FEEDER > ADJUST > LA-SPD (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side])
      - FEEDER > ADJUST > LA-SPD2 (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side])
   2. If you enter adjustment values, write the final values on the service label.

■ After Replacing the Reader Unit

1. **Release the 2 claws [1], remove the Scoop-up Sheet Holder [2], and check the setting values of the Standard White Plate indicated under the barcode that was hidden beneath the Scoop-up Sheet Holder.**

2. **Enter the X, Y, and Z values indicated under the barcode on the Copyboard Glass in**
   - COPIER > ADJUST > CCD > W-PLT-X (White level data (X) entry of white plate) ,
   - COPIER > ADJUST > CCD > W-PLT-Y (White level data (Y) entry of white plate) , and
   - COPIER > ADJUST > CCD > W-PLT-Z (White level data (Z) entry of white plate) ,
   and then write the entered values (the the X, Y, and Z values shown under the barcode on the Copyboard Glass) on the service label.

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NOTE:
The value of W-PLT-X: The first four digits of the value on the label
The value of W-PLT-Y: The four digits in the middle of the value on the label
The value of W-PLT-Z: The last four digits of the value on the label

3. **Return the Scoop-up Sheet to its original position.**

4. **AGC adjustment**
   1. Entering a provisional value
      Change the foregoing values to "1,000".
      - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
      Change the foregoing values to "1,200"
      - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
   2. Adjust the white level in the following service mode.
      - COPIER > FUNCTION > CCD > BW-AGC (CIS intensity adjustment in ADF (B&W))
      - COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))
   3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)
   4. How to judge whether the operation was successful or failed
      Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
      B&W mode
      - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
      Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.
      Color mode
      - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
      Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

5. **Automatic adjustment of the stream reading position**
   1. Entering a provisional value
      Set the value of
      - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
      to "-20".
   2. Automatic adjustment of the stream reading position
      Execute
      - COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)
      If the operation was successful, write the value of STRD-POS on the service label.

3. How to judge whether the operation was successful or failed

Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.

Check the value of
- COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)

If it remains "-20", the operation is judged to be "failed".

If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

6. **Adjust the white level in the following service mode, and write the final setting values on the service label.**

   1. Enter the values in the following service mode items respectively.
      - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
      - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
      - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
      - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
   2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
   3. Place the same blank paper on the ADF, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))
   4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
   5. Place the same blank paper on the ADF again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
   6. If the operation was successful, write the setting value on the service label.

7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

   Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".
8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)

   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)

   again.
9. Checking the value of DFTAR-BW
   Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)

   If the value remains the same as the value you entered, the operation result is judged to be "failed".
10. If the operation result is "failed", turn OFF and then ON the power, execute
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))

    and then execute
    - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))

    again.

7. **Copyboard color displacement offset adjustment**

   Enter the value shown on the label that comes with the part in the following service mode.

   Enter the values of 50-RG, 50-GB, 100-RG, and 100-GB shown on the replacement label in the following service mode, and write the entered values on the service label.
   - COPIER > ADJUST > CCD > 50-RG (Color displacement (R and G lines) correction value in the vertical scanning direction (50%))
   - COPIER > ADJUST > CCD > 50-GB (Color displacement (G and B lines) correction value in the vertical scanning direction (50%))
   - COPIER > ADJUST > CCD > 100-RG (Color displacement (R and G lines) correction value in the vertical scanning direction (100%))
   - COPIER > ADJUST > CCD > 100-GB (Color displacement (G and B lines) correction value in the vertical scanning direction (100%))

8. PASCAL adjustment

Enter the values shown on the label that comes with the part in the following service mode items.
Enter the values of OFST-P-Y, OFST-P-M, OFST-P-C, and OFST-P-K in the following service mode, and write the entered values on the service label.

- COPIER>ADJUST>PASCAL>OFST-P-Y (Y density adj at test print reading)
- COPIER>ADJUST>PASCAL>OFST-P-M (M density adj at test print reading)
- COPIER>ADJUST>PASCAL>OFST-P-C (C density adj at test print reading)
- COPIER>ADJUST>PASCAL>OFST-P-B (Bk density adj at test print reading)

9. Copyboard geometric adjustment

Enter the values shown on the label that comes with the part in the following service mode items.

- COPIER > ADJUST > ADJ-XY > ADJ-X (Adj of img pstn in book mode: vert scan)
- COPIER > ADJUST > ADJ-XY > ADJ-Y (Adj of img pstn in book mode: (horizontal scanning direction)
- COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine adj image ratio: vertical scanning)

Enter the values in the foregoing service mode.

10. ADF geometric adjustment

1. On an image copied using the ADF, check the non-image width in the X and Y directions and the expansion/contraction in the X direction.
   In the case of E353MGMH, perform 2-sided original reading from the ADF.
   If adjustment is needed, enter necessary adjustment values in the following service mode:
   - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adj img pstn in ADF mode:horz scan)
   - FEEDER > ADJUST > DOCST (Fine adjustment of VSYNC timing at ADF reading [front side])
   - FEEDER > ADJUST > DOCST2 (Fine adjustment of VSYNC timing at ADF reading [back side])
   - FEEDER > ADJUST > LA-SPD (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side])
   - FEEDER > ADJUST > LA-SPD2 (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side])
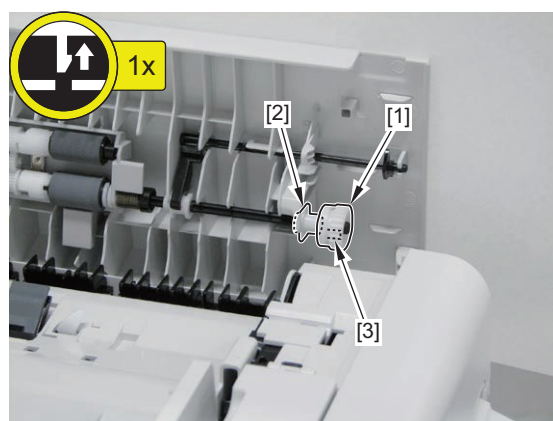2. If you enter adjustment values, write the final values on the service label.

⬤ Removing the ADF Roller Unit

■ Procedure

> **CAUTION:**
> Do not touch the surface of the roller.

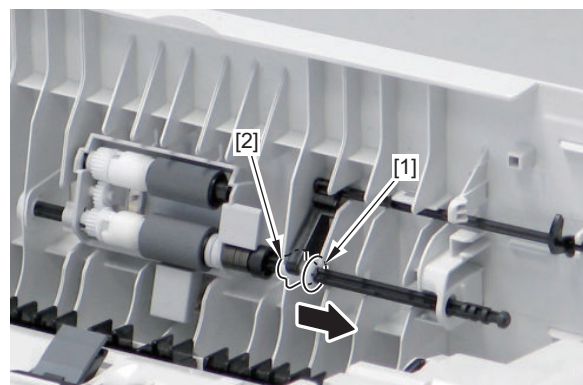**1. Open the ADF Upper Cover [1].**

2. Remove the gear [1] and the bushing [2].

- 1 claw [3]

3. Remove the plastic E-ring [1] and slide the bushing [2].
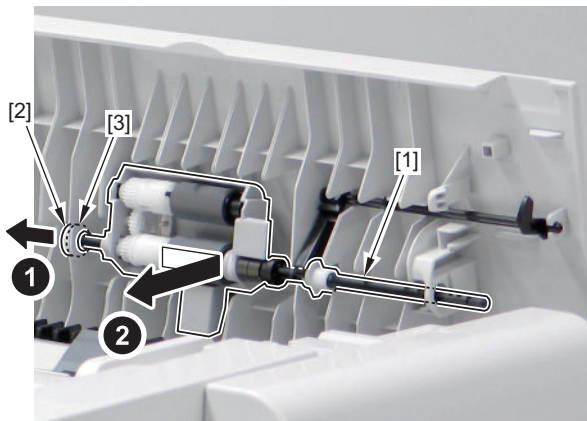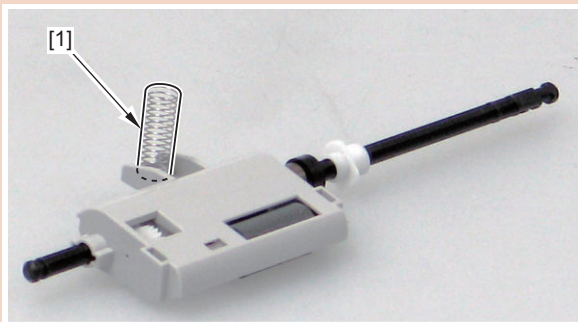
4. Remove the ADF Roller Unit [1].
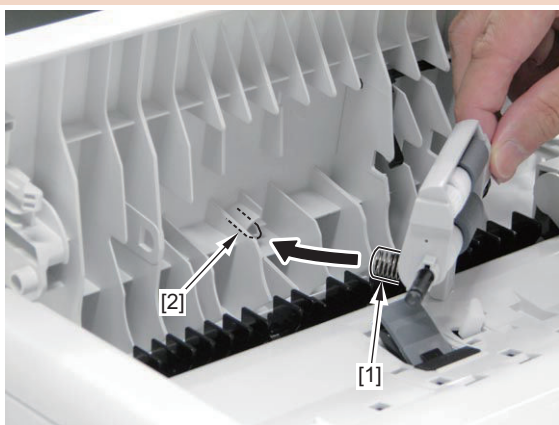
- 1 plastic E-ring [2]
- 1 bushing [3]

CAUTION:
Be careful not to lose the spring [1] attached to the ADF Roller Unit.
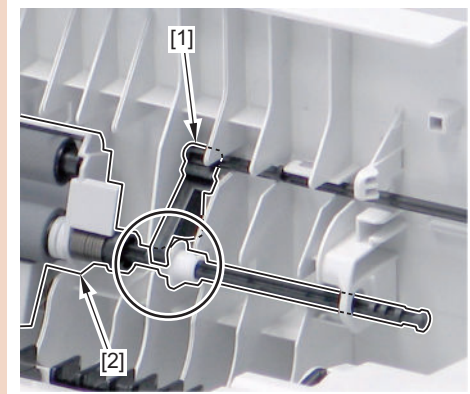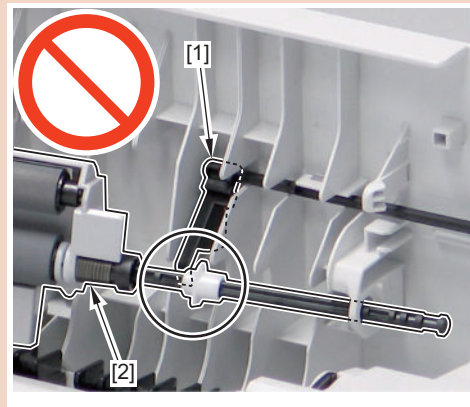

CAUTION:
When installing, match the spring [1] of the ADF Roller Unit to the boss [2].

CAUTION:
Be sure to put the Sensor Flag [1] above the ADF Roller Unit [2] at installation work.

Removing the ADF Pickup Roller

■ Preparation

1. Remove the ADF Roller Unit.(Refer to **"Removing the ADF Roller Unit" on page 137**)
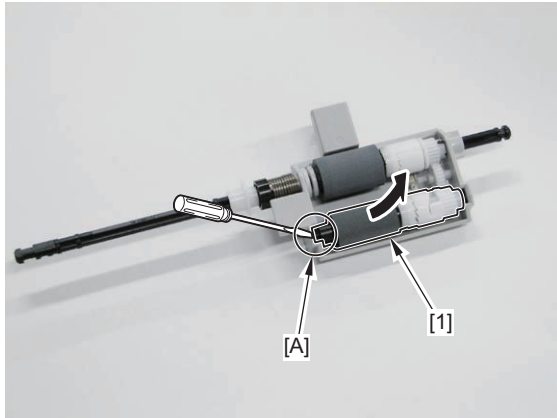
■ Procedure

CAUTION:
Do not touch the surface of the roller.

1. Insert the end of the flat-blade screwdriver into the [A] part to remove the ADF Pickup Roller Unit [1].

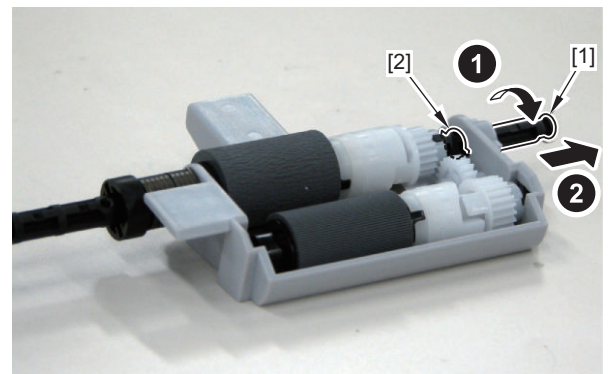2. Remove the ADF Pickup Roller [1].

Removing the ADF Separation Roller

■ Preparation

1. Remove the ADF Roller Unit.(Refer to "Removing the ADF Roller Unit" on page 137)

■ Procedure

CAUTION:
Do not touch the surface of the roller.

1. Remove the bushing [1] and the 2 plastic E-rings [2].
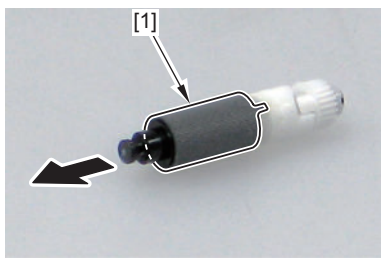
2. Slide the Roller Shaft [1] to remove the parallel pin [2] and the bushing [3].
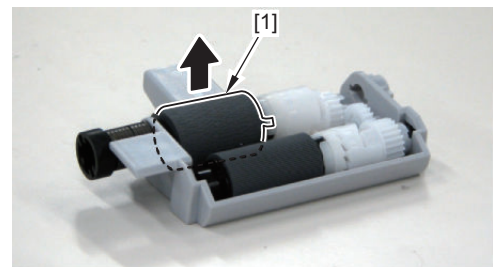
CAUTION:
Be careful not to lose the parallel pin [2] at assembly/disassembly.
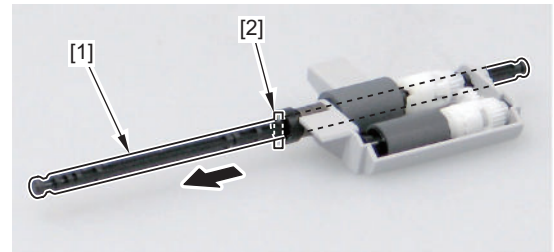
3. Turn the Roller Shaft [1] in the direction of the arrow and fit the projection [2] to the hole of the Roller Holder to remove.

4. Remove the ADF Separation Roller [1].
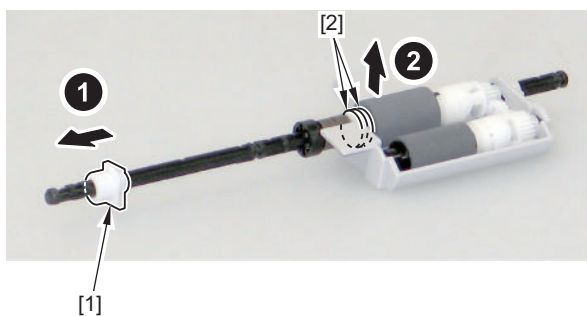

Removing the ADF Separation Pad

■ Procedure

CAUTION:
Do not touch the surface of the roller or pad.

1. Open the ADF Upper Cover [1].
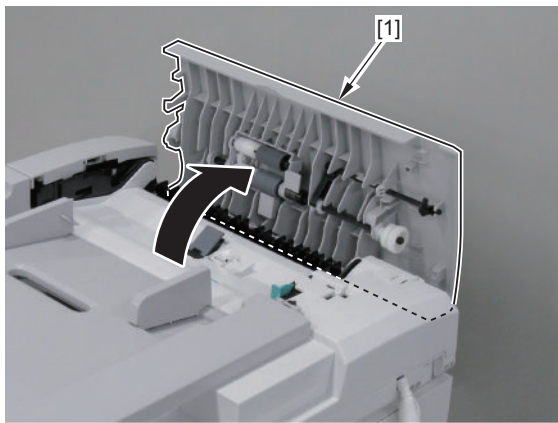
2. Remove the Feed Guide [1].

- 2 Bosses [2]

3. Remove the Retaining Plate [1] On the Back of the Feed Guide.

- 2 Screws [2]
- 2 Tabs [3] of the Separation Pad Holder

4. Remove the Separation Pad Holder [1].
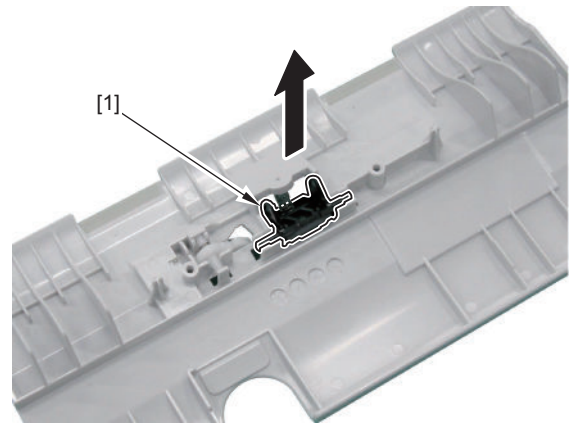
CAUTION:
Be careful not to lose the Spring [1] on the Separation Pad Holder.
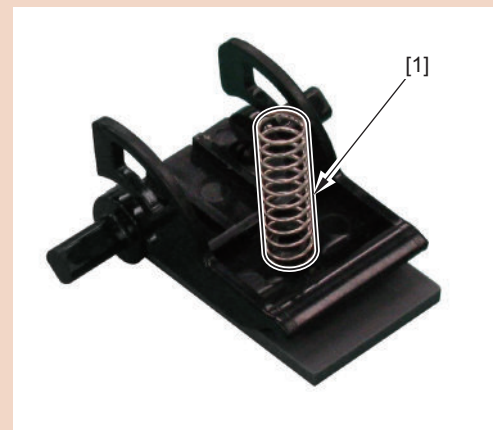
5. Remove the ADF Separation Pad [1].

- Pad Retainer [2]
- Sheet [3]

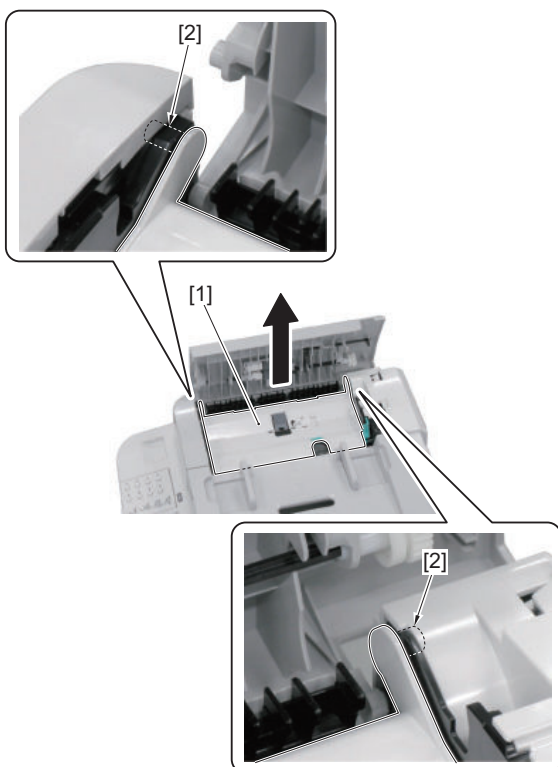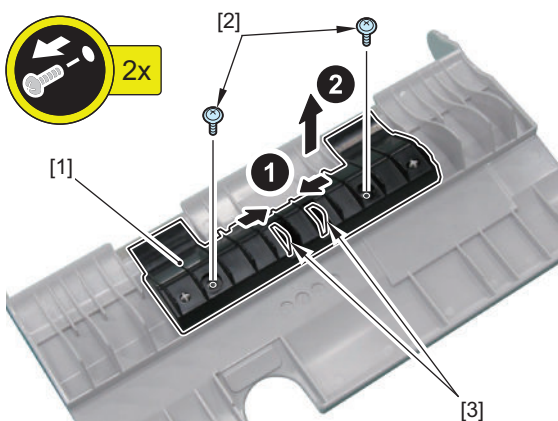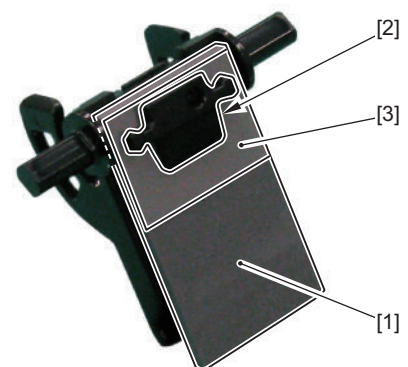# Removing the ADF Pickup Feed Unit

■ Procedure

1. **Open the ADF Upper Cover [1].**
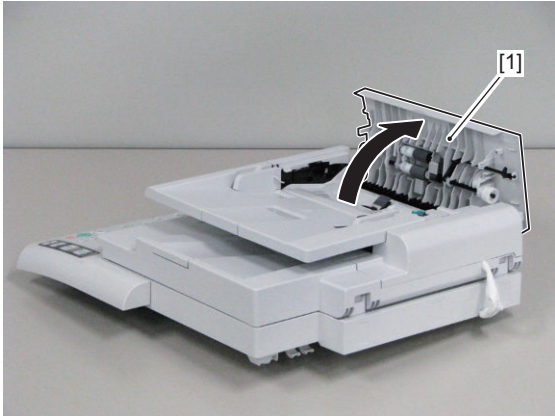
2. **Remove the hook [1] using flat-head driver, and remove the ADF Front Cover [2] in the direction of the arrow.**
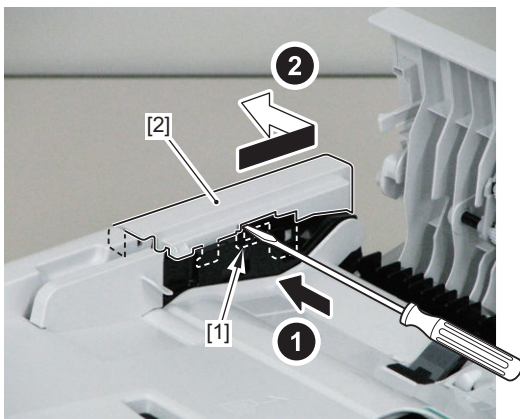
3. **Lift the ADF Tray [1] until it stops and release the hook [2] to tip the tray into the perpendicular position and remove by pulling upward.**
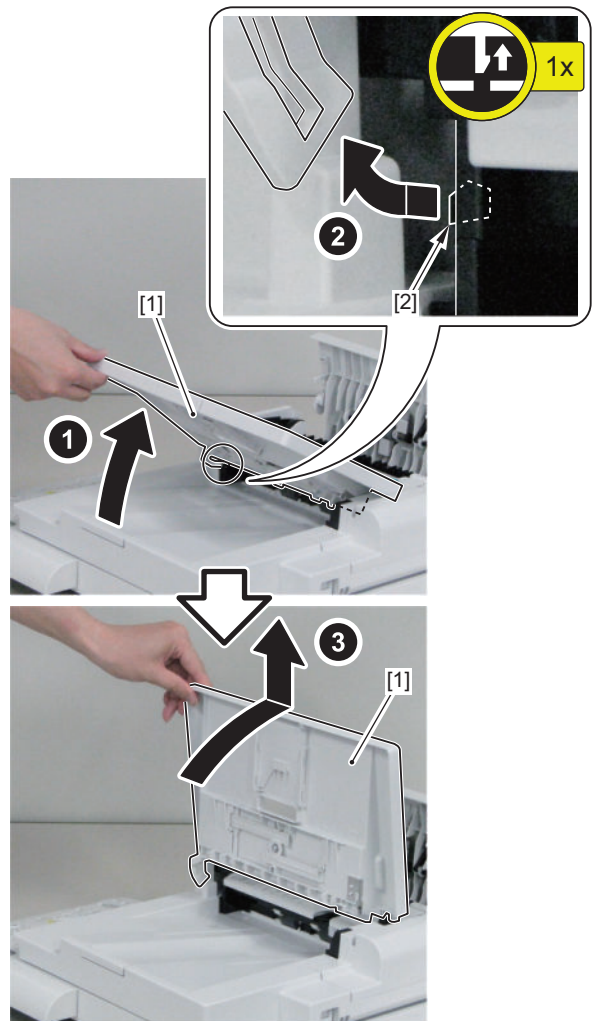
4. **Remove the boss [1] to remove the ADF Rear Cover [2] in the direction of the arrow.**
   - 4 claws [3]
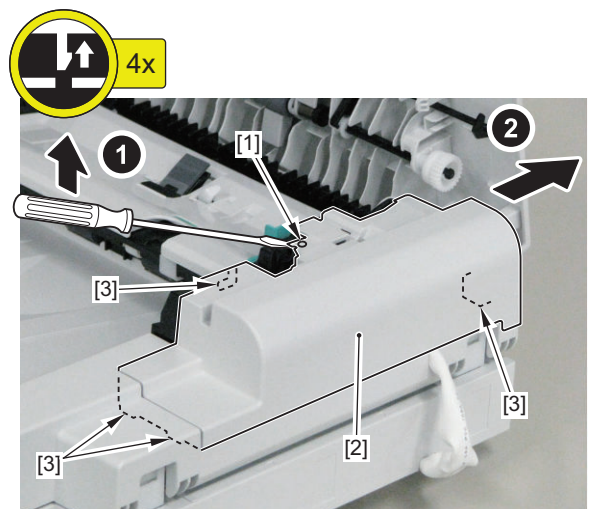
5. Remove the harness [1] and the grounding cord [2].

- 1 screw (binding) [3]
- 4 connectors [4]
- 2 Harness Guide [5]
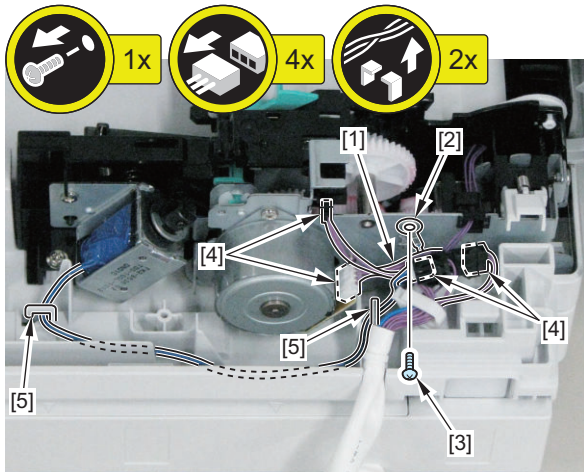
6. Remove the 3 screws [1] of the ADF Pickup Feed Unit.
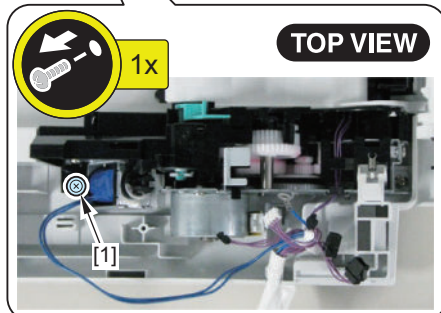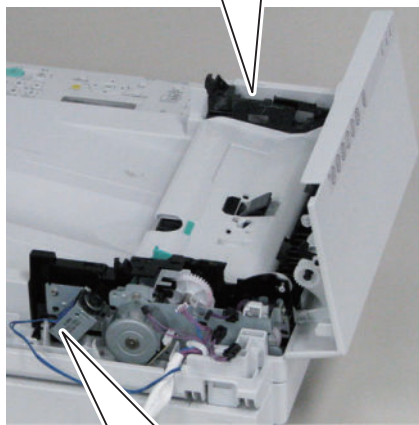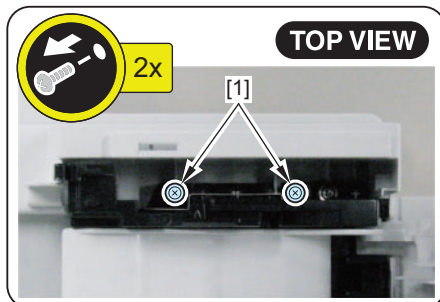
7. Close the ADF Upper Cover [1] to remove the ADF Pickup Feed Unit [2].
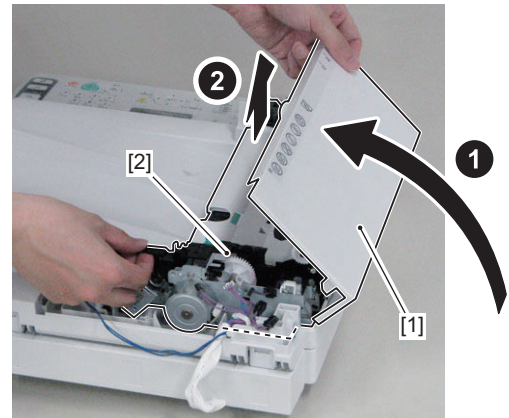
8. Remove the ADF Upper Cover Unit [1].

- 2 bosses [2]
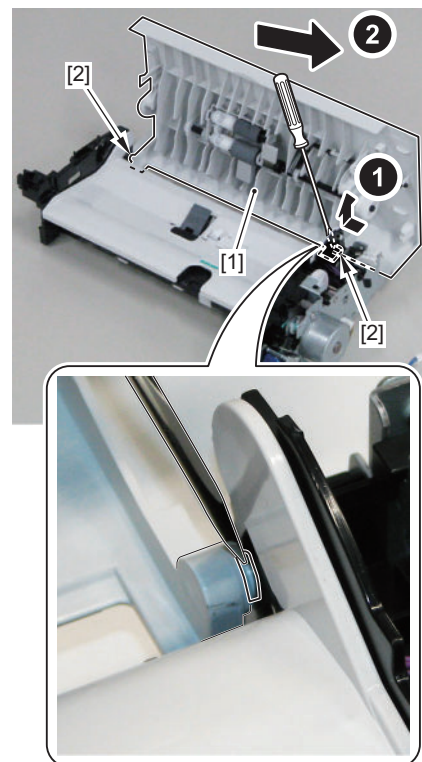
Removing the ADF Pickup Motor

■ Preparation

1. Remove the ADF Pickup Feed Unit.(Refer to "Removing the ADF Pickup Feed Unit" on page 141)

■ Procedure

> **NOTE:**
> When removing the ADF Pickup Motor, it is not necessary to remove the ADF Upper Cover Unit described in the previous step.

1. **Remove the ADF Motor [1] in the direction of the arrow.**
   - 2 screws [2]
   - 1 belt [3]
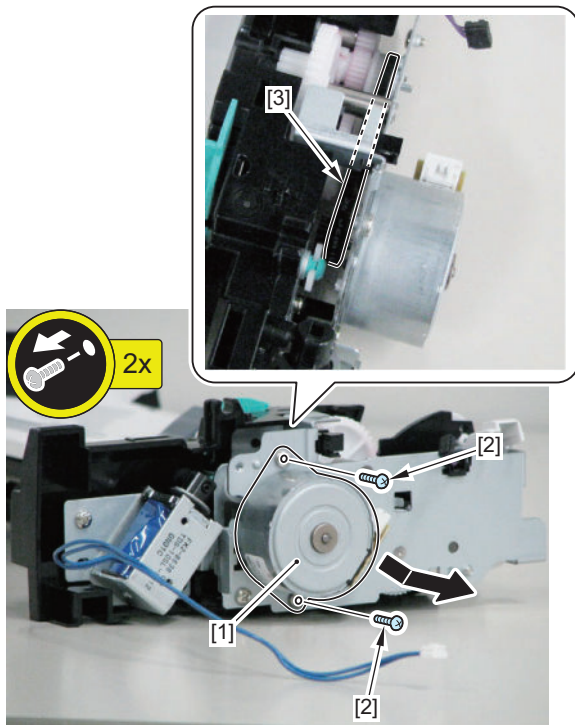
CAUTION:
When installing the ADF Pickup Motor, be sure to hook the gear [1] of the motor on the belt [2].
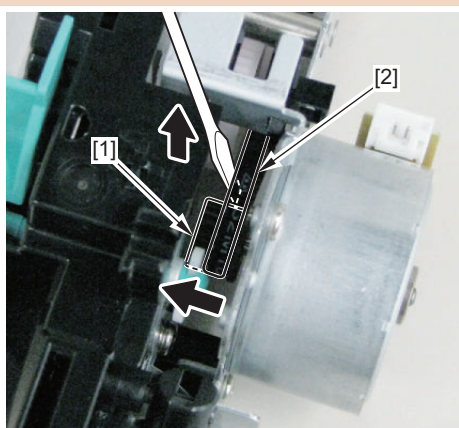
CAUTION:
When installing the ADF Pickup Motor, be sure to install with the connector [1] on the right side.
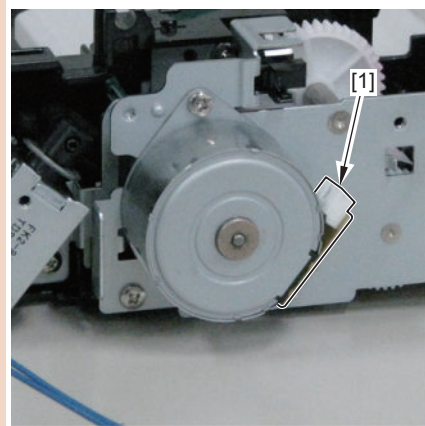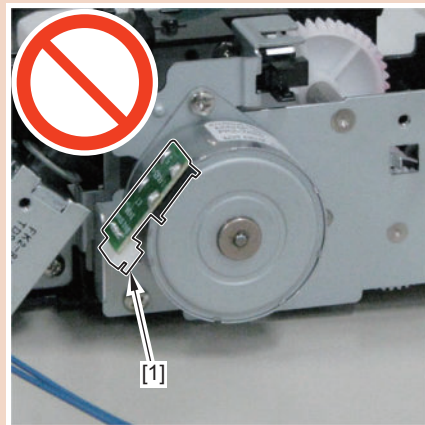
🔵 Removing the Scoopup sheet holder

■ Preparation

1. Remove the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Remove the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Remove the ADF Unit + Reader Unit.(Refer to **"Removing the ADF Unit + Reader Unit" on page 131**)

4. Seaparare the ADF Unit from the Reader Unit.(Refer to **"Separating the ADF Unit + Reader Unit" on page 132**)

■ Procedure

CAUTION:
Be sure to perform "After Replacing the Scoopup sheet holder (Refer to "After Replacing the Scoopup Sheet Holder" on page 144)" when replacing the Scoopup sheet holder, respectively.

1. **Remove the 3 screws [1] at the bottom of the Reader Unit.**
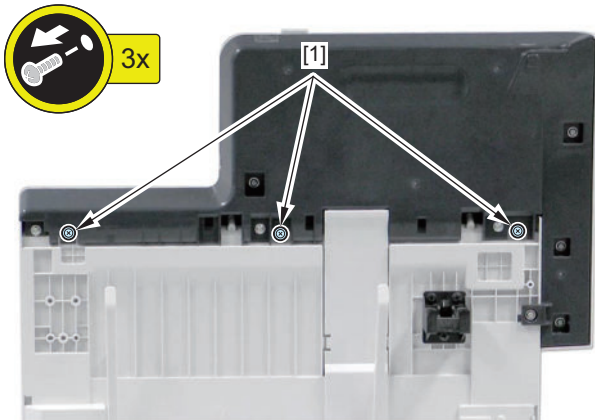
2. **Remove the Scoopup sheet holder [1].**
   - 2 claws [2]

■ After Replacing the Scoopup Sheet Holder

1. **Automatic adjustment of the stream reading position**
   1. Entering a provisional value
      Set the value of
      - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
      to "-20".
   2. Automatic adjustment of the stream reading position
      Execute
      - COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)
      If the operation was successful, write the value of STRD-POS on the service label.

3. How to judge whether the operation was successful or failed
   Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
   Check the value of
   - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
   If it remains "-20", the operation is judged to be "failed".
   If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

2. **Adjust the white level in the following service mode, and write the final setting values on the service label.**
   1. Enter the values in the following service mode items respectively.
      - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
      - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
      - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
      - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
   2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
   3. Place the same blank paper on the ADF, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))
   4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
   5. Place the same blank paper on the ADF again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
   6. If the operation was successful, write the setting value on the service label.

7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

   Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".

8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)

   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)

   again.

9. Checking the value of DFTAR-BW
   Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)

   If the value remains the same as the value you entered, the operation result is judged to be "failed".

10. If the operation result is "failed", turn OFF and then ON the power, execute
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))

    and then execute
    - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))

    again.

## 🔵 Removing the Reader Unit Upper Cover

■ Preparation

1. **Remove the Right Cover. (Refer to "Removing the Right Cover" on page 121)**

2. **Remove the Left Cover. (Refer to "Removing the Left Cover" on page 119)**

3. **Remove the ADF Unit + Reader Unit. (Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

4. **Seaparare the ADF Unit from the Reader Unit. (Refer to "Separating the ADF Unit + Reader Unit" on page 132)**

5. **Remove the Scoopup sheet holder. (Refer to "Removing the Scoopup sheet holder" on page 143)**

■ Procedure

> **CAUTION:**
> Be sure to perform "After Replacing the Reader Upper Cover Unit (Refer to "After Replacing the Reader Upper Cover Unit" on page 146)" when replacing the Reader Upper Cover Unit, respectively.
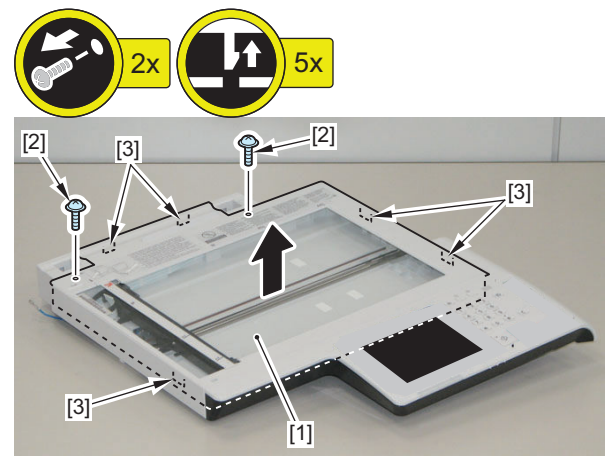
> **CAUTION:**
> To replace the Copyboard Glass, be sure to replace the Copyboard Glass together with the Reader Unit Upper Cover.

1. **Remove the Reader Unit Upper Cover [1].**
   - 2 screws [2]
   - 5 claws [3]

> **CAUTION:**
> Because the Copyboard Glass [2] is attached to the Upper Cover [1], be careful not to drop or damage the Upper Cover.

■ After Replacing the Reader Upper Cover Unit

1. **Enter the X, Y, and Z values indicated under the barcode on the Copyboard Glass in**

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• COPIER > ADJUST > CCD > W-PLT-X (White level data (X) entry of white plate) ,
• COPIER > ADJUST > CCD > W-PLT-Y (White level data (Y) entry of white plate) , and
• COPIER > ADJUST > CCD > W-PLT-Z (White level data (Z) entry of white plate) ,

and then write the entered values (the the X, Y, and Z values shown under the barcode on the Copyboard Glass) on the service label.

NOTE:
The value of W-PLT-X: The first four digits of the value on the label
The value of W-PLT-Y: The four digits in the middle of the value on the label
The value of W-PLT-Z: The last four digits of the value on the label

2. **AGC adjustment**
   1. Entering a provisional value
      Change the foregoing values to "1,000".
      • COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
      • COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
      • COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
      Change the foregoing values to "1,200"
      • COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
      • COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
      • COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)

   2. Adjust the white level in the following service mode.
      • COPIER > FUNCTION > CCD > BW-AGC (CIS intensity adjustment in ADF (B&W))
      • COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))
   3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)
   4. How to judge whether the operation was successful or failed
      Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
      B&W mode
      • COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
      • COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
      • COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
      Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.
      Color mode
      • COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
      • COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
      • COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
      Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

3. **Automatic adjustment of the stream reading position**
   1. Entering a provisional value
      Set the value of
      • COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
      to "-20".
   2. Automatic adjustment of the stream reading position
      Execute
      • COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)
      If the operation was successful, write the value of STRD-POS on the service label.

3. How to judge whether the operation was successful or failed
Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
Check the value of
- COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)

If it remains "-20", the operation is judged to be "failed".

If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

4. **Adjust the white level in the following service mode, and write the final setting values on the service label.**
   1. Enter the values in the following service mode items respectively.
      - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
      - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
      - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
      - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
   2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
   3. Place the same blank paper on the ADF, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))
   4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
   5. Place the same blank paper on the ADF again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
   6. If the operation was successful, write the setting value on the service label.

7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".

8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)
   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)
   again.

9. Checking the value of DFTAR-BW
   Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)

   If the value remains the same as the value you entered, the operation result is judged to be "failed".

10. If the operation result is "failed", turn OFF and then ON the power, execute
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
    and then execute
    - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
    again.

5. **Copyboard geometric adjustment**
   Enter the values shown on the label that comes with the part in the following service mode items.
   - COPIER > ADJUST > ADJ-XY > ADJ-X (Adj of img pstn in book mode: vert scan)
   - COPIER > ADJUST > ADJ-XY > ADJ-Y (Adj of img pstn in book mode: (horizontal scanning direction)
   - COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine adj image ratio: vertical scanning)
   Enter the values in the foregoing service mode.

Removing the CIS Unit

■ Preparation

1. **Remove the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Remove the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Remove the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

4. **Separate the ADF Unit from the Reader Unit.(Refer to "Separating the ADF Unit + Reader Unit" on page 132)**

5. **Remove the Reader Unit Upper Cover Unit.(Refer to "Removing the Reader Unit Upper Cover" on page 145)**

■ Procedure

> **CAUTION:**
> Be sure to perform "After replacing CIS unit (Refer to "After replacing CIS units" on page 150)" when replacing the CIS unit, respectively.

1. **Pull the Drive Belt [1] to move the CIS Unit [2].**

2. **Loosen the screw [3] and move the Pulley Holder [4] in the direction of the arrow to remove the Drive Belt [1].**
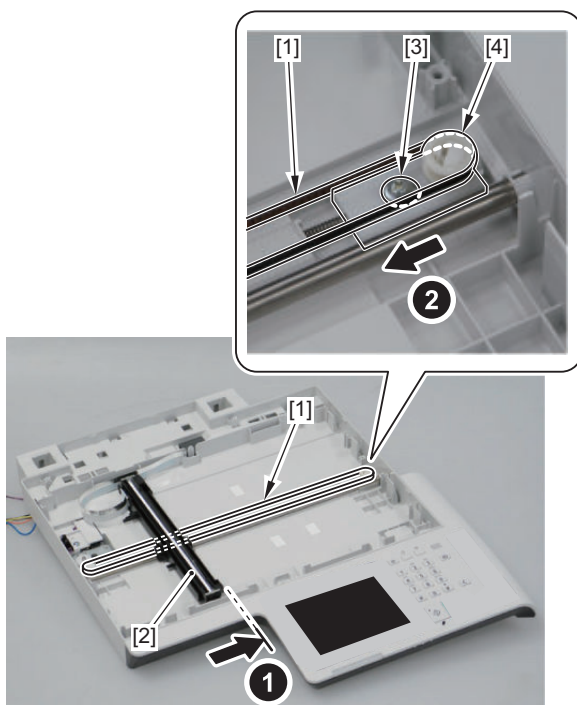
3. **Remove the CIS Unit Mount [1] and remove the flat cable [2].**
   - 1 guide [3]

> **CAUTION:**
> - When assembling/disassembling the copyboard glass, take care not to lose the 2 CIS unit spacers [1].
> - When assembling/disassembling the copyboard glass, do not touch the copy reading area [2] of the CIS unit.
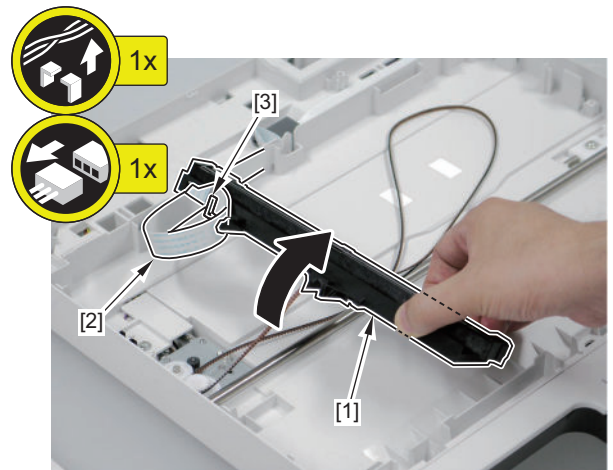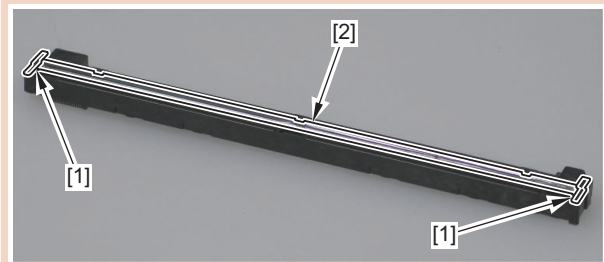
4. Bring up the CIS Unit [1] to remove in the direction of the arrow.
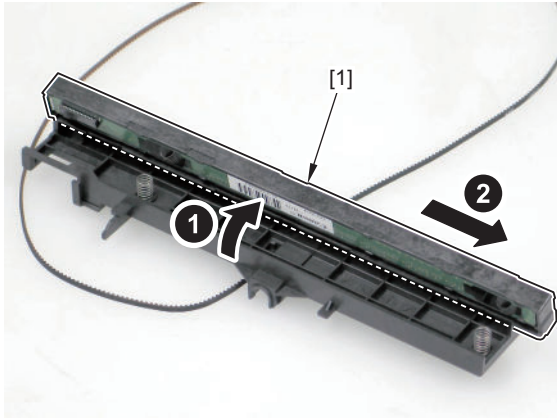
CAUTION:
When replacing the CIS Unit [1], be sure to replace the CIS Unit [1] and the CIS Spacer [2], which are included in the package of the service part, at the same time. If a different spacer is used, image reading error may occur.
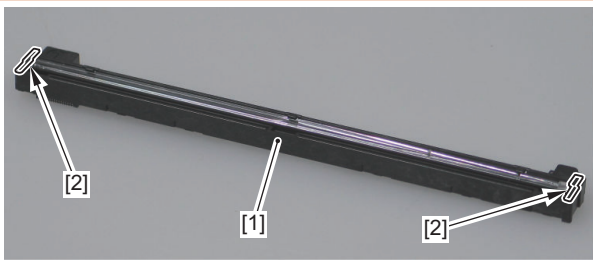
CAUTION:
When installing the CIS Unit [1], be sure to replace the CIS Spacer [2] together with the CIS Unit [1] (included in the pacage of the Service Parts).
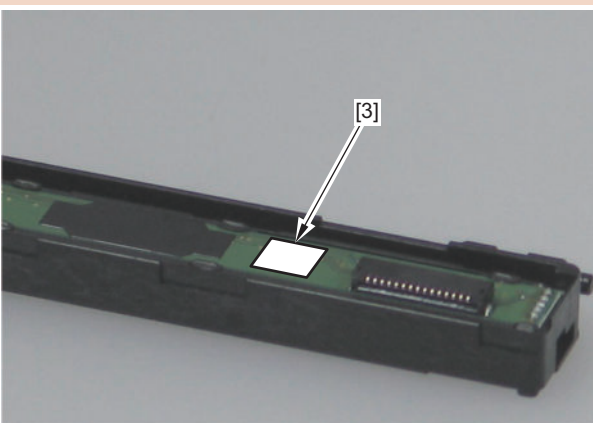
CAUTION:
When the CIS Spacers are mixed up or lost, check the CIS Rank Label [3] to use, and use the appropriate CIS Spacer that fits the rank of the CIS Unit.

Rank	Color of spacer	Dimension (Height of spacer)
rank A	light gray	1.17 mm
rank B	dark gray	1.27 mm
rank C	brown	1.37 mm

CAUTION:
When installing the CIS Unit, be sure to check that the projection [1] is fitted to the dent [2] to install.

■ After replacing CIS units

1. **AGC adjustment**
   1. Entering a provisional value
      Change the foregoing values to "1,000".
      - COPIER > ADJUST > CCD > LED-BW-R
        (Adjustment of LED light-up time (R) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-G
        (Adjustment of LED light-up time (G) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-B
        (Adjustment of LED light-up time (B) at B&W reading)

      Change the foregoing values to "1,200"
      - COPIER > ADJUST > CCD > LED-CL-R
        (Adjustment of LED light-up time (R) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-G
        (Adjustment of LED light-up time (G) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-B
        (Adjustment of LED light-up time (B) at color reading)
   2. Adjust the white level in the following service mode.
      - COPIER > FUNCTION > CCD > BW-AGC
        (CIS intensity adjustment in ADF (B&W))
      - COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))
   3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)

   4. How to judge whether the operation was successful or failed
      Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
      B&W mode
      - COPIER > ADJUST > CCD > LED-BW-R
        (Adjustment of LED light-up time (R) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-G
        (Adjustment of LED light-up time (G) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-B
        (Adjustment of LED light-up time (B) at B&W reading)

      Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.
      Color mode
      - COPIER > ADJUST > CCD > LED-CL-R
        (Adjustment of LED light-up time (R) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-G
        (Adjustment of LED light-up time (G) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-B
        (Adjustment of LED light-up time (B) at color reading)

      Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

2. **Automatic adjustment of the stream reading position**
   1. Entering a provisional value
      Set the value of
      - COPIER > ADJUST > ADJ-XY > STRD-POS
        (Adjustment of reading position at ADF stream reading)

      to "-20".
   2. Automatic adjustment of the stream reading position
      Execute
      - COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)

      If the operation was successful, write the value of STRD-POS on the service label.

3. How to judge whether the operation was successful or failed

Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.

Check the value of
- COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)

If it remains "-20", the operation is judged to be "failed".

If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

3. **Adjust the white level in the following service mode, and write the final setting values on the service label.**

1. Enter the values in the following service mode items respectively.
   - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
   - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
   - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
   - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
3. Place the same blank paper on the ADF, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))
4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
5. Place the same blank paper on the ADF again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
6. If the operation was successful, write the setting value on the service label.

7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".

8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)

and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)

again.

9. Checking the value of DFTAR-BW
Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)

If the value remains the same as the value you entered, the operation result is judged to be "failed".

10. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))

and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))

again.

4. **Copyboard geometric adjustment**

Enter the values shown on the label that comes with the part in the following service mode items.
- COPIER > ADJUST > ADJ-XY > ADJ-X (Adj of img pstn in book mode: vert scan)
- COPIER > ADJUST > ADJ-XY > ADJ-Y (Adj of img pstn in book mode: (horizontal scanning direction)
- COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine adj image ratio: vertical scanning)

Enter the values in the foregoing service mode.

5. **ADF geometric adjustment**
   1. On an image copied using the ADF, check the non-image width in the X and Y directions and the expansion/contraction in the X direction.
   In the case of E353MGMH, perform 2-sided original reading from the ADF.
   If adjustment is needed, enter necessary adjustment values in the following service mode:
      - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adj img pstn in ADF mode:horz scan)
      - FEEDER > ADJUST > DOCST (Fine adjustment of VSYNC timing at ADF reading [front side])
      - FEEDER > ADJUST > DOCST2 (Fine adjustment of VSYNC timing at ADF reading [back side])
      - FEEDER > ADJUST > LA-SPD (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side])
      - FEEDER > ADJUST > LA-SPD2 (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side])
   2. If you enter adjustment values, write the final values on the service label.

Removing the Reader Scanner Motor

■ Preparation

1. **Remove the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Remove the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Remove the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

4. **Separate the ADF Unit from the Reader Unit.(Refer to "Separating the ADF Unit + Reader Unit" on page 132)**

5. **Remove the Reader Unit Upper Cover Unit.(Refer to "Removing the Reader Unit Upper Cover" on page 145)**

■ Procedure

1. **Free the harness [2] while holding the Reader Unit [1].**
   - 1 Connector [3]
   - 3 Harness Guides at the [A] location

> **CAUTION:**
> To prevent parts on the top side of the Reader Unit, do not tip the Reader Unit [1] into the perpendicular position.
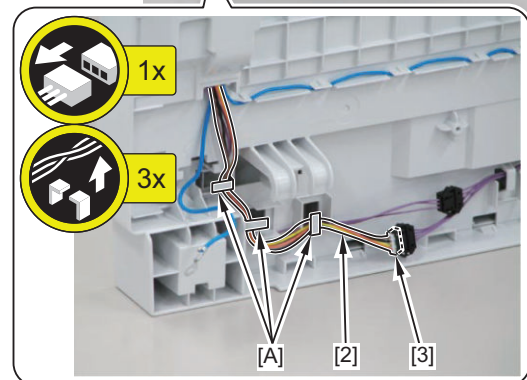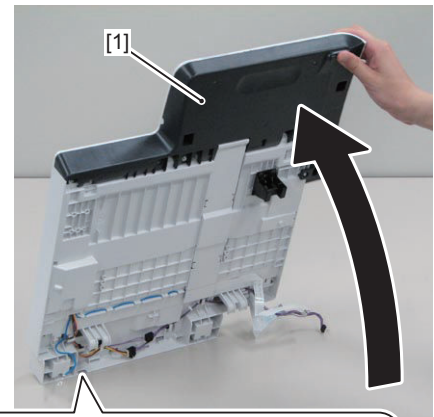
2. **Pull the Drive Belt [1] to move the CIS Unit [2].**

3. **Loosen the screw [3] and move the Pulley Holder [4] in the direction of the arrow to remove the Drive Belt [1].**
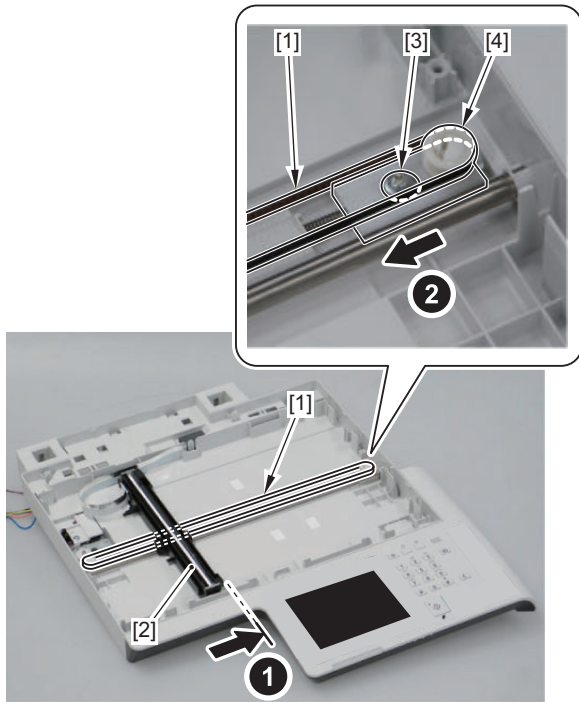
4. **Remove the gear [1].**
   - 1 claw [2]
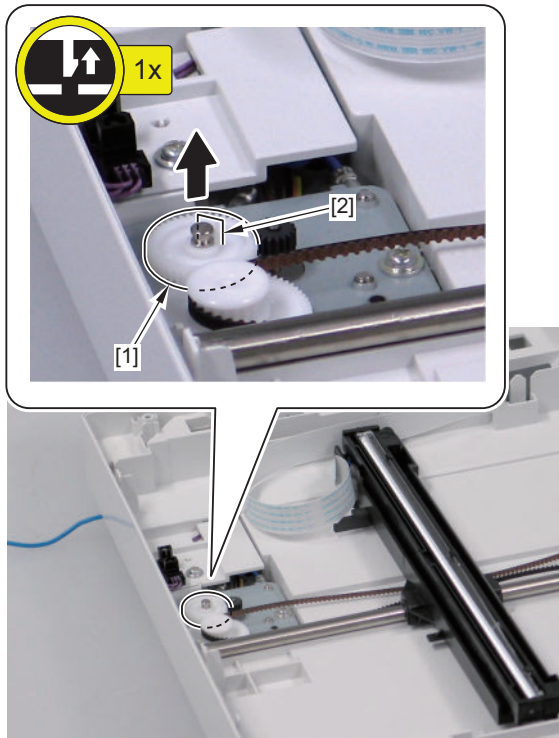
5. **Remove the Shaft Retaining Plate [1].**
   - 1 screw [2]
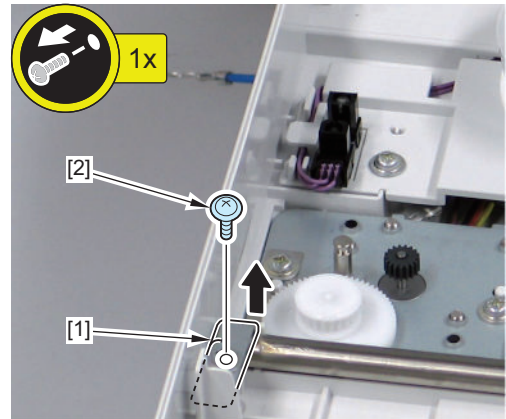
6. **Move the Sensor Mount [1].**
   - 1 screw [2]
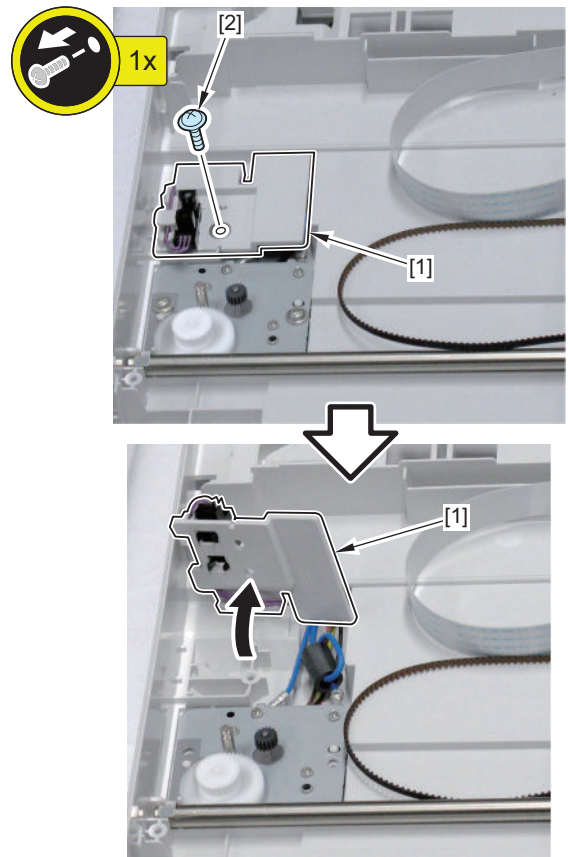
7. **Move the Motor Mounting Plate [1] and turn it over.**
   - 2 screws [2]
   - 1 Grounding Plate [3]
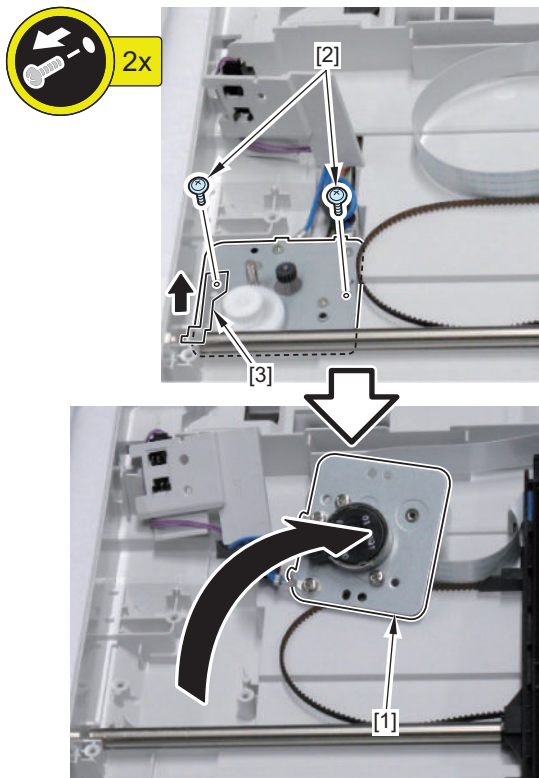
8. **Pass the connector [1] through the hole [A].**

9. **Remove the Reader Scanner Motor [3] from the Motor Mounting Plate [2].**
   - 2 screws [4]
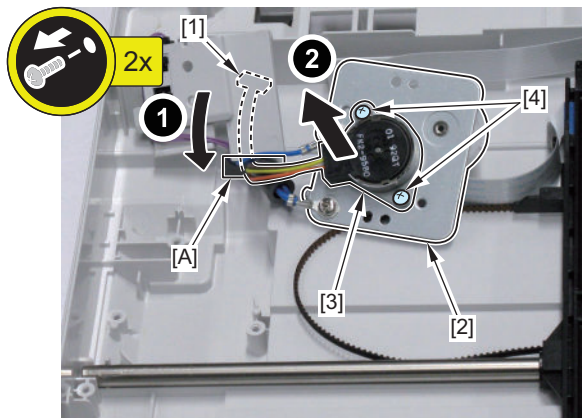
Controller System

🔵 Location

■ 1/2
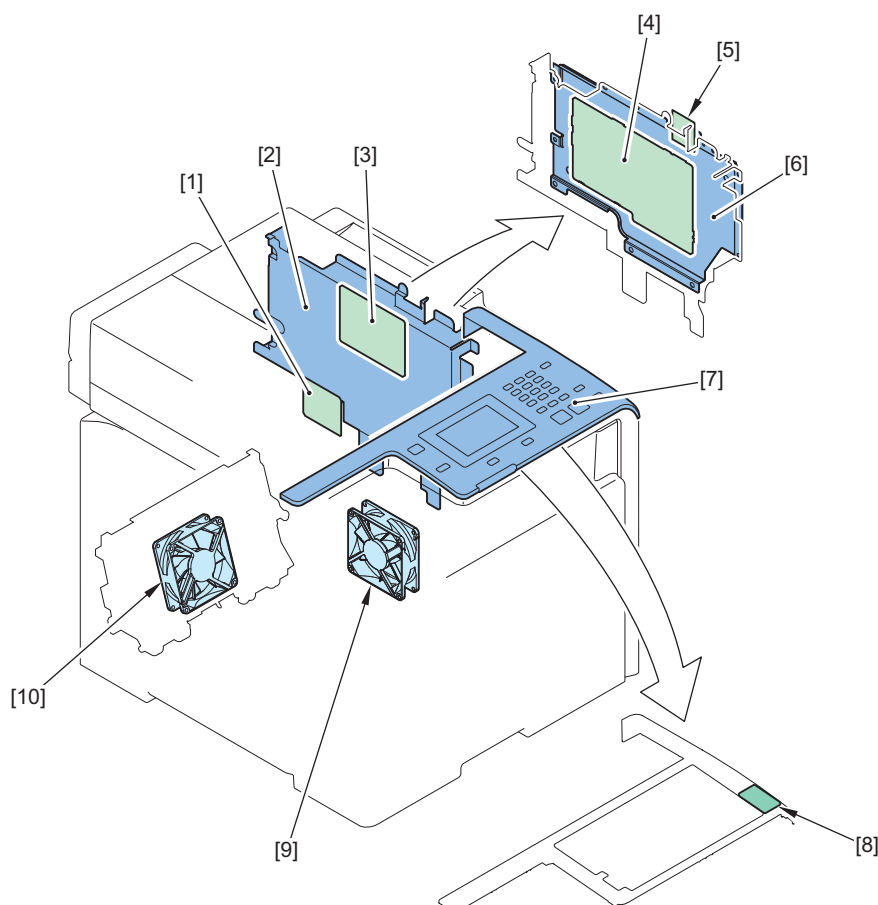
No.	Parts Name	Main Unit	Remarks	Reference	Adjastment during parts replacement
[1]	Fixing Sub PCB	Product Configuration	UN7	"Removing the Fixing Sub PCB" on page 165	-
[2]	Main Controller Support Plate	Product Configuration		"Removing the Main Controller Support Plate" on page 161	-
[3]	FAX-NCU PCB	Product Configuration	UN16	"Removing the FAX PCB" on page 171	-
[4]	Main Controller PCB	Product Configuration	UN13	"Removing the Main Controller PCB" on page 157	"Before Replacing the Main Controller PCB" on page 157 "After Replacing the Main Controller PCB" on page 159
[5]	Wireless LAN PCB	Product Configuration	UN23	"Removing the Wireless LAN PCB" on page 157	-
[6]	Controller Cover	Product Configuration		"Removing the Controller Cover" on page 157	-
[7]	Control Panel Unit	Product Configuration		"Removing the Control Panel Unit" on page 168	-
[8]	NFC PCB	Control Panel Unit	UN20	"Removing the NFC PCB" on page 170	-

No.	Parts Name	Main Unit	Remarks	Reference	Adjustment during parts replacement
[9]	Fixing/Fixing Power Supply Cooling Fan	Product Configuration	FM1	"Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180	-
[10]	Duplex Feeding Fan	Rear Cover Rib Unit	FM2	"Removing the Duplex Feeding Fan" on page 181	-

■ 2/2
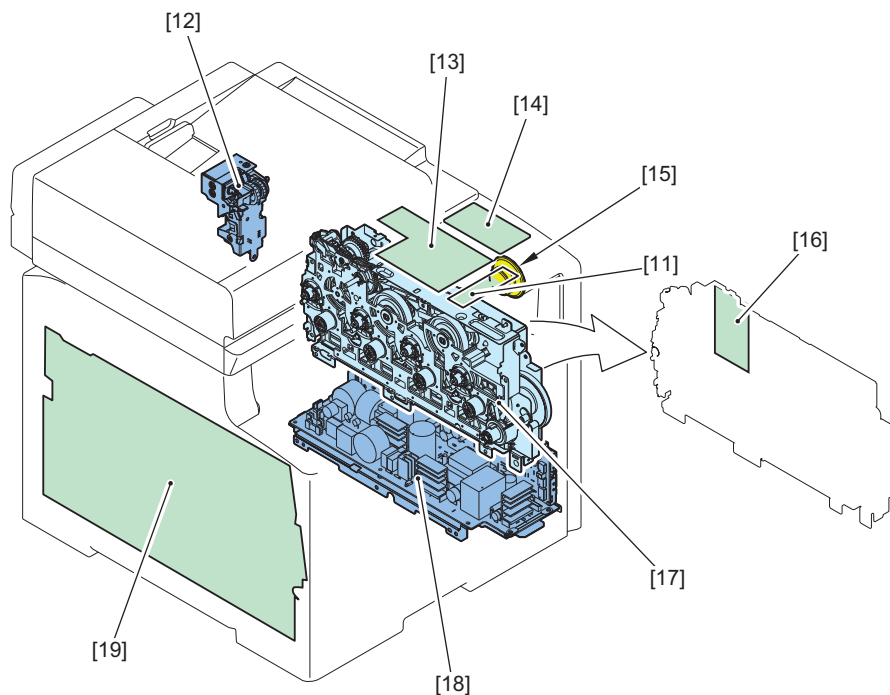
No.	Parts Name	Main Unit	Remarks	Reference	Adjustment during parts replacement
[11]	Relay PCB	Product Configuration	UN5	"Removing the Relay PCB" on page 167	-
[12]	Duplex Reverse Drive Unit	Product Configuration		"Removing the Duplex Reverse Drive Unit" on page 179	-
[13]	DC Controller PCB	Product Configuration	UN1	"Removing the DC Controller PCB" on page 162	"Before Replacing the DC Controller PCB" on page 162 "After Replacing the DC Controller PCB" on page 162
[14]	Off Hook PCB	Product Configuration	UN17	"Removing the Off Hook PCB" on page 171	-
[15]	Speaker	Product Configuration	SP1	"Removing the Speaker" on page 182	-
[16]	Driver PCB	Product Configuration	UN2	"Removing the Driver PCB" on page 166	-
[17]	Main Drive Unit	Product Configuration		"Removing the Main Drive Unit" on page 171	-
[18]	Low Voltage Power Supply Unit	Product Configuration		"Removing the Low Voltage Unit" on page 164	-
[19]	High Voltage Power Supply PCB	Product Configuration	UN3	"Removing the High Voltage Power Supply PCB" on page 163	-

Controller System Disassembly/Assembly Procedure

🔵 Removing the Controller Cover

■ Preparation

1. Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)

■ Procedure

1. Remove the Controller Cover [1].
   - 9 Screws [2]
   - 2 Hooks [3]
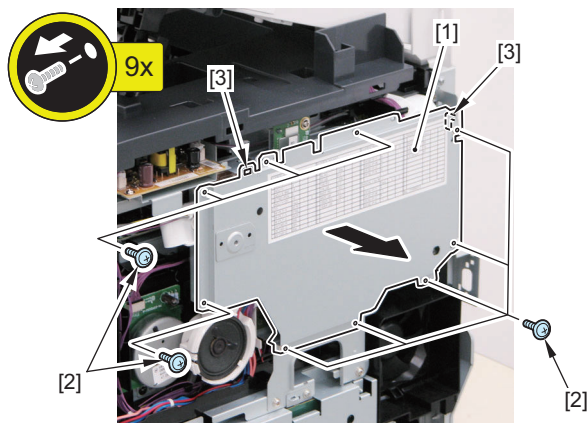
🔵 Removing the Wireless LAN PCB

■ Preparation

1. Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)

2. Removing the Controller Cover.(Refer to "Removing the Controller Cover" on page 157)

■ Procedure

1. Remove the Wireless LAN PCB [1].
   - 1 Screw [2]
   - 1 Flat Cable [3]
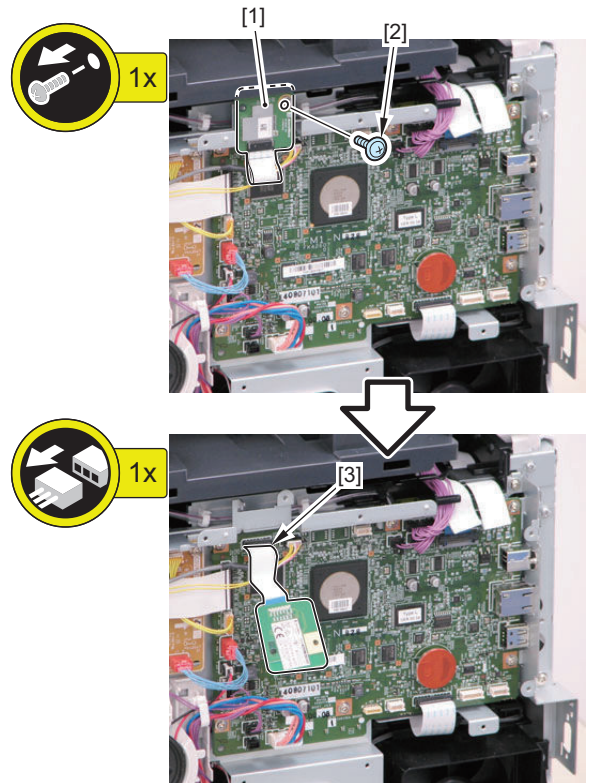
🔵 Removing the Main Controller PCB

> **CAUTION:**
> When replacing the Main Controller PCB, be sure to perform the works to be done before replacing the Main Controller PCB (Refer to "Before Replacing the Main Controller PCB" on page 157) and the works be done after replacing the Main Controller PCB (Refer to "After Replacing the Main Controller PCB" on page 159).

■ Before Replacing the Main Controller PCB

Back up user data (settings, registered data, etc.) and service mode data for setting and registration after PCB replacement. Take notes if data is unable to back up.

1. **Enter service mode, and set the following item to "1".**
   - COPIER > OPTION > USER > SMD-EXPT

SERVICE MODE		Top
COPIER	COPIER > OPTION > USER	
FEEDER	**USER**	
FAX		
TESTMODE	COUNTER1 113	
SERVICE REPORT	COUNTER2 501	
	COUNTER3 301	
	COUNTER4 0	
	COUNTER5 0	
	COUNTER6 0	
	CNT-SW 0	
	SMD-EXPT 1	
	ACC-SLP 1	
	DRMRP-SW 0	

```
TNRB-SW    : 0
SCALL-SW   : 0
SCALLCMP   : 0
PC-MODE    : 0
SMD-EXPT   : 1
```
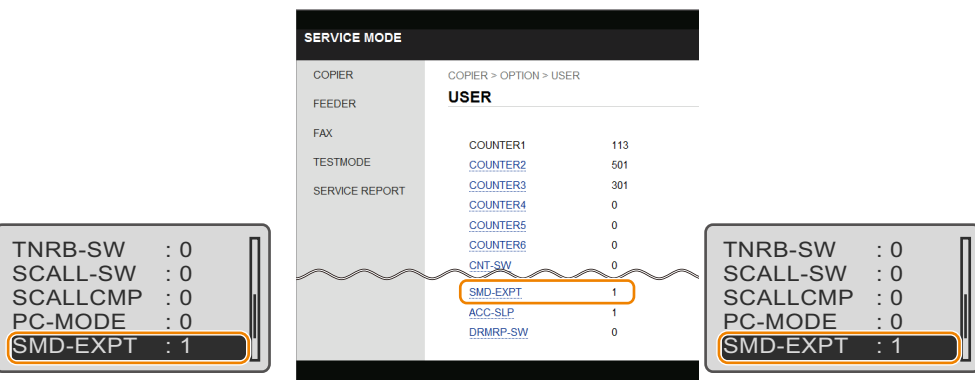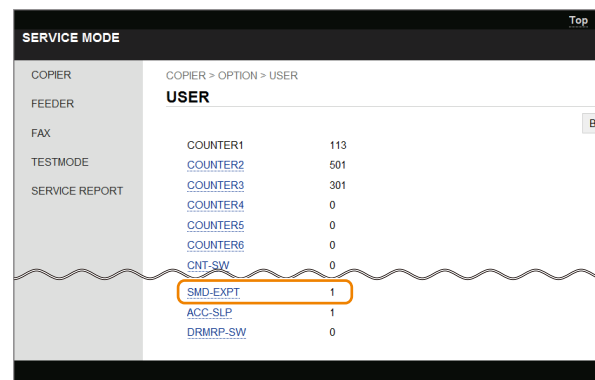
NOTE:
The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. **Using the DCM function (Refer to "Setting Information Export/Import Function (DCM)" on page 61), export the following information.**
   - User data (the settings of the [Settings/Registration] menu and the address book)
   - Service mode setting information

3. **Write down the following information because these settings need to be configured (entered) after replacing the PCB.**
   - The default settings shown on the service label [1]
   - Settings/Registration > System Settings > Device Information> Location

[1]

4. **Enter service mode, and set the following item to "0".**
   - COPIER > OPTION > USER > SMD-EXPT

SERVICE MODE		
COPIER	COPIER > OPTION > USER	
FEEDER	**USER**	
FAX		B
TESTMODE	COUNTER1 113	
SERVICE REPORT	COUNTER2 501	
	COUNTER3 301	
	COUNTER4 0	
	COUNTER5 0	
	COUNTER6 0	
	CNT-SW 0	
	SMD-EXPT 1	
	ACC-SLP 1	
	DRMRP-SW 0	

```
TNRB-SW    : 0
SCALL-SW   : 0
SCALLCMP   : 0
PC-MODE    : 0
SMD-EXPT   : 1
```

NOTE:
The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Controller Cover.(Refer to "Removing the Controller Cover" on page 157)**

3. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

■ Procedure

1. **Remove the Main Controller PCB [1].**
   - 1 Flat Cable Connector Lock [2]
   - 4 Flat Cables [3]
   - 9 Connectors [4]
   - 6 Screws [5] (TP)
   - 1 Screw [6] (Binding)
   - 1 Hook [7]
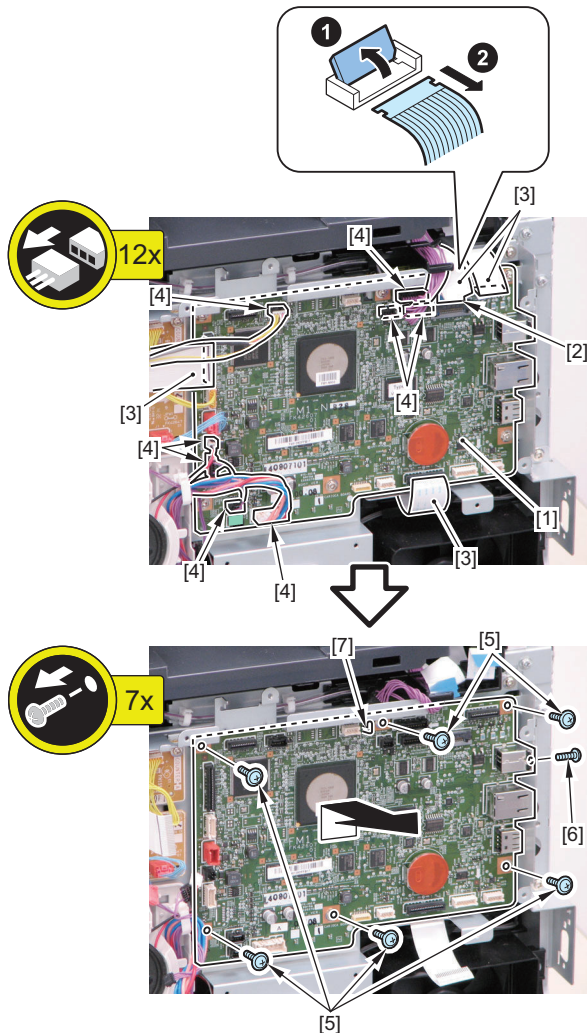
CAUTION:
When connecting the Flat Cable, be sure to perform the following; while pushing the Flat Cable [1] against the connector with a lock [2], check that the line on the edge [A] of the Flat Cable Connector and the line on the edge [B] of the Flat Cable Connector Lock are parallel, and then close the Flat Cable Connector Lock [3].

■ After Replacing the Main Controller PCB

1. **Setting of destination/paper size group**
   1. COPIER > OPTION > BODY > LOCALE (to set destination groups)
      [Settings]
      1: Japan, 2: North America, 3: Korea, 4: China, 5: Taiwan, 6: Europe, 7: Asia, 8: Oceania
   2. COPIER > OPTION > BODY > SIZE-LC (to set paper size groups)
      [Settings]
      1: AB series, 2: Inch series, 3: A series, 4: AB/Inch series

2. **Executing initial settings.**

   Perform the following procedure to change the settings back to the initial settings.
   1. Execute the following service mode to initialize the data according to the setting values in step 1.
      COPIER > FUNCTION > CLEAR > ALL (to clear all data)
      - Setting / Registration data (the default value for each destination is set).
      - Service mode data (the default value for each destination is set).
      - Job IDs
      - Log data
      - Dates
   2. Execute the following service mode to clear the reader/DF-related factory adjustment values.
      COPIER > FUNCTION > CLEAR > R-CON

3. AGC adjustment

1. Entering a provisional value
   Change the foregoing values to "1,000".
   - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)

   Change the foregoing values to "1,200"
   - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)

2. Adjust the white level in the following service mode.
   - COPIER > FUNCTION > CCD > BW-AGC (CIS intensity adjustment in ADF (B&W))
   - COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))

3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)

4. How to judge whether the operation was successful or failed
   Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
   B&W mode
   - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)

   Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.
   Color mode
   - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)

   Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed". If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

4. Executing initial adjustment.

Follow the procedure shown below to execute initial adjustment and enter the factory adjustment values.

1. Enter default setting values indicated on the service label in the corresponding service mode items.

2. Execute the following service mode to back up the DC Controller setting values.
   COPIER > FUNCTION > VIFFNC > STOR-DCN

3. The initial installation mode will be activated by turning OFF and then ON the power. Configure the following settings according to the instruction on the screen.
   - Setting of date/time
   - Auto-gradation correction

4. Correction of coordinate position of Touch Panel in the following service mode.
   COPIER > ADJUST > PANEL > TOUCHCHK

5. Migrating user data and service mode data

1. Enter service mode, and set the following item to "1".
   - COPIER > OPTION > USER > SMD-EXPT

> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. Using the DCM function (Refer to "Setting Information Export/Import Function (DCM)" on page 61), restore the following information.
   - User data (the settings of the [Settings/Registration] menu and the address book)
   - Service mode setting information
3. Enter service mode, and set the following item to "0".
   - COPIER > OPTION > USER > SMD-EXPT

> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

6. Reinstall the drivers.

1. Uninstalling Old Drivers.
   - Printer Driver
   - FAX Driver
   - Scanner Driver
   - Network Scan Utility. (for machines with network connection)
     * As for the procedure, refer to "Uninstalling the Software" in the Starter Guide.
2. Refer to the following items in the Startup Guide and install the drivers which were uninstalled.
   - In case of network connection: "Installing via Network Connection"
   - In case of USB connection: "Installing with USB Connection"

> **NOTE:**
> MAC address information is changed after replacement of the Main Controller PCB. Therefore, when the PC and the machine are connected by the network, the PC will not be able to recognize the machine on the network. When the PC and the machine are connected by the USB memory device, the PC will not be able to recognize the machine if the USB ID is changed. It becomes therefore necessary to reinstall the driver.

⬤ Removing the Main Controller Support Plate

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Controller Cover.(Refer to "Removing the Controller Cover" on page 157)**

3. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

4. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

■ Procedure

1. **Remove the Main Controller Sub PCB [1].**
   - 2 Screws [2]
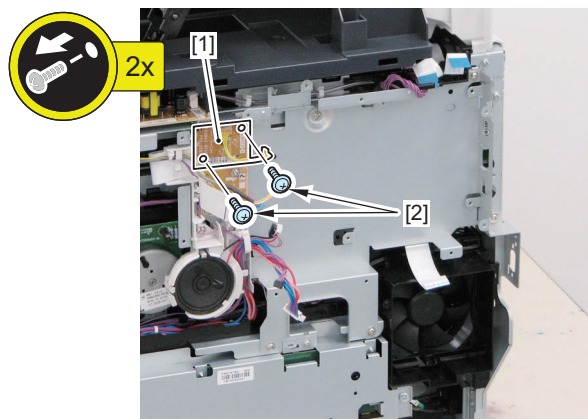
2. **Remove the Main Controller Support Plate [1].**
   - 1 Wire Saddle [2]
   - 1 Harness Guide [A]
   - 7 Screws [3]
   - 2 Hooks [4]

🔵 Removing the DC Controller PCB

CAUTION:

When replacing the DC Controller PCB, be sure to perform the works to be done before replacing the DC Controller PCB (Refer to "Before Replacing the DC Controller PCB" on page 162) and the works be done after replacing the DC Controller PCB (Refer to "After Replacing the DC Controller PCB" on page 162).

■ Before Replacing the DC Controller PCB

1. **Execute the following service mode to restore the DC Controller setting values that were backed up in the previous step.**

   COPIER > FUNCTION > VIFFNC > STOR-DCN

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

4. **Removing the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

5. **Removing the Right Front Cover.(Refer to "Removing the Right Front Cover" on page 122)**

6. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

■ Procedure

1. **Remove the Harness Cover Plate [1].**
   - 2 screws [2]
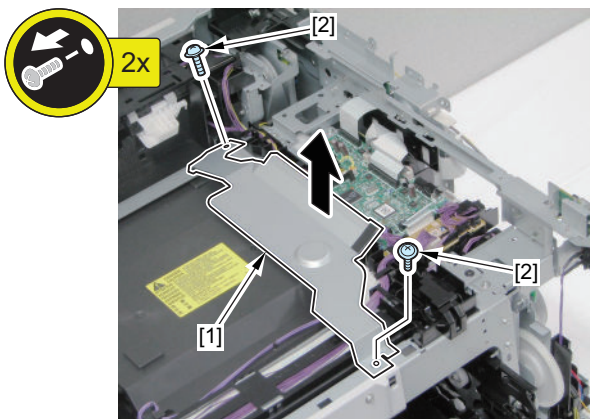
2. **Disconnect the 5 flat cables [1].**
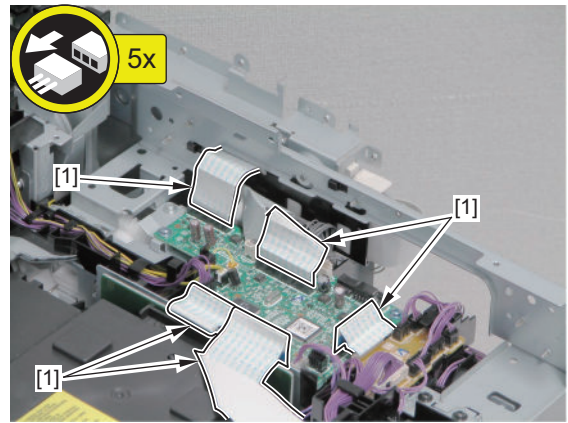
3. **Remove the DC Controller PCB [1].**
   - 8 connectors [2]
   - 5 screws [3]

■ After Replacing the DC Controller PCB

1. **In service mode, perform the following procedure to restore the DC Controller setting values.**

   COPIER > FUINCTION > VIFFNC > RSTR-DCN
   When restoration is executed, "ACTIVE" will be displayed, and then "OK!" will be displayed in about 2 minutes at the completion of restoration.

2. **When backup data cannot be uploaded before replacement due to reasons such as damage of the DC Controller PCB, enter the value of each service mode item described on the service label.**

3. **Turn OFF and then ON the power.**

4. **Configure the following settings from the Control Panel.**
   - Menu > Adjustment/Maintenance > Print Color Displacement Correction
   - Menu > Adjustment/Maintenance > Auto Gradation Correction > Quick Correction

5. **Turn OFF and then ON the power.**

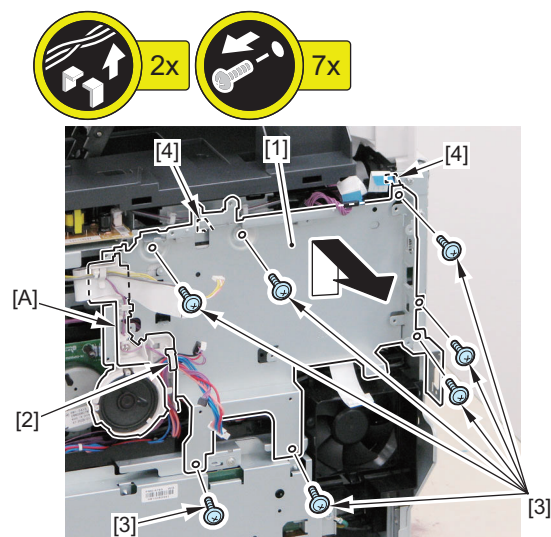## 🔵 Removing the High Voltage Power Supply PCB

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

4. Removing the ADF Unit + Reader Unit.(Refer to **"Removing the ADF Unit + Reader Unit" on page 131**)

5. Removing the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

6. Removing the Upper Cover.(Refer to **"Removing the Upper Cover" on page 126**)

■ Procedure

1. Remove the Harness Cover Plate [1].
   - 2 screws [2]

2. Remove the harness guide [1].
   - 6 claws [2]

3. Disconnect the flat cable [1].
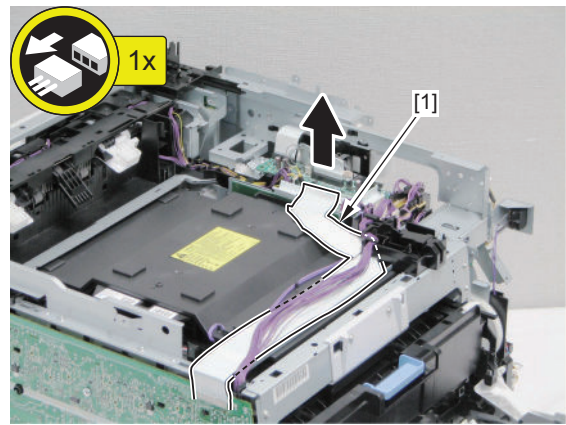
4. Remove the 6 screws [1] and disconnect the connector [2].

163
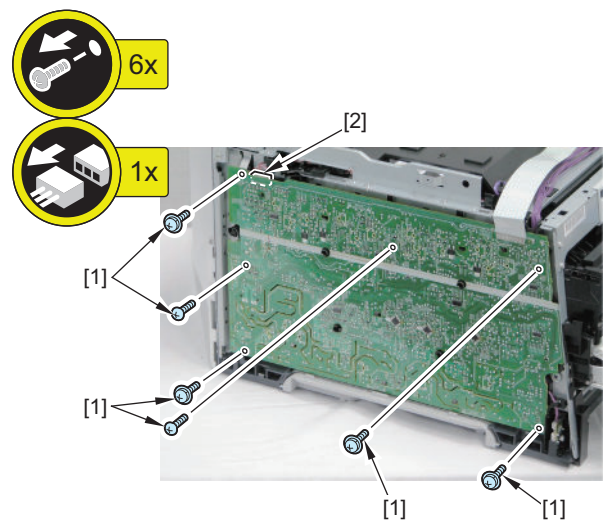
5. Remove the High Voltage Power Supply PCB [1].

  - 9 claws [2]
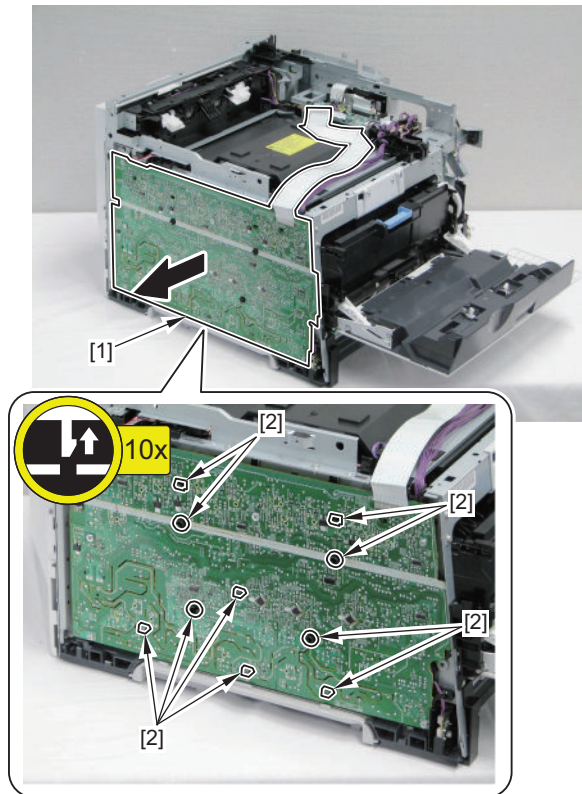
CAUTION:

When installing the High-voltage Power PCB [1] to the host machine, make sure that the contact spring [3] is connected from the 18 round holes [2].
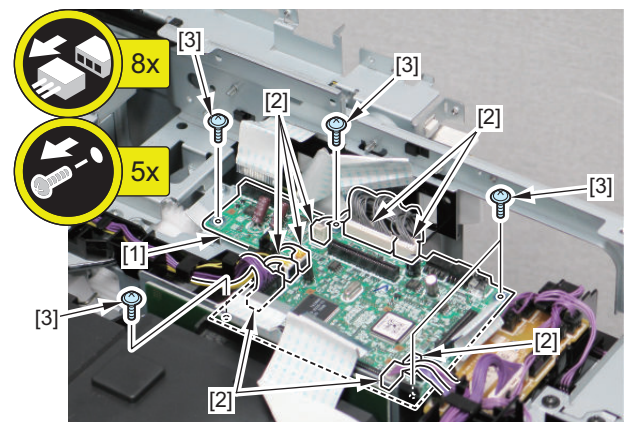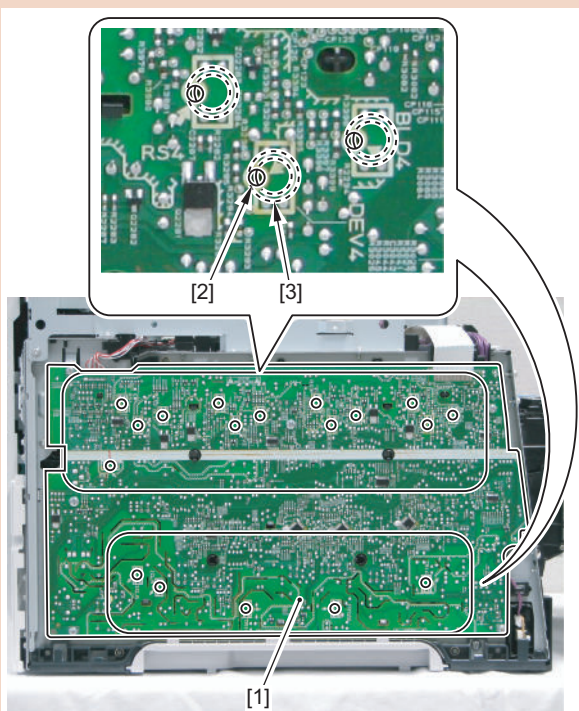

⬤ Removing the Low Voltage Unit

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

3. Removing the Controller Cover.(Refer to **"Removing the Controller Cover" on page 157**)

4. Removing the Wireless LAN PCB.(Refer to **"Removing the Wireless LAN PCB" on page 157**)

5. Removing the Main Controller PCB.(Refer to **"Removing the Main Controller PCB" on page 157**)

6. Removing the Main Controller Support Plate.(Refer to **"Removing the Main Controller Support Plate" on page 161**)

7. Removing the Fixing/Fixing Power Supply Cooling Fan Unit.(Refer to **"Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180**)

■ Procedure

1. **Free the harness [1] from the guide [A].**
  - 1 Connector [2]

2. **Free the harness [3] from the guide [B].**
  - 1 Connector [4]

3. **Slide and open the Power Supply Unit [1] in the direction of the arrow.**
   - 6 Screws [2]
   - 1 Screw [3] (Toothed washer screw)
   - 2 Claws [4]
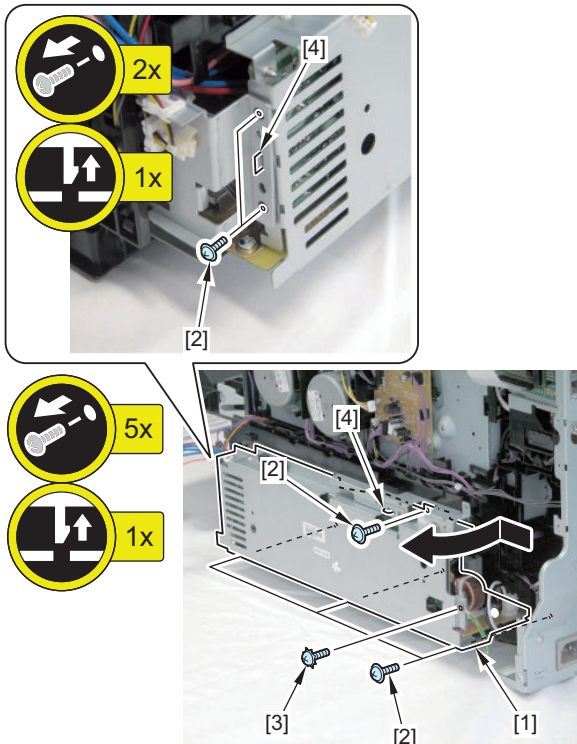
4. **Remove 3 connectors [1].**
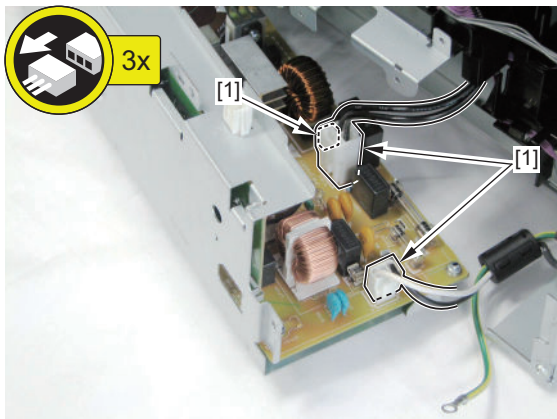
5. **Remove the Low Voltage Unit [1]**
   - 3 connectors [2]
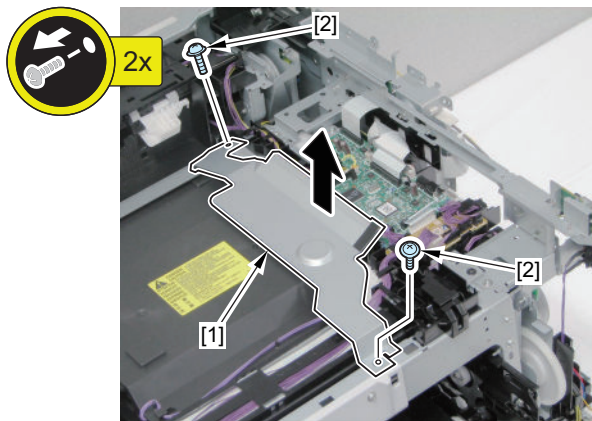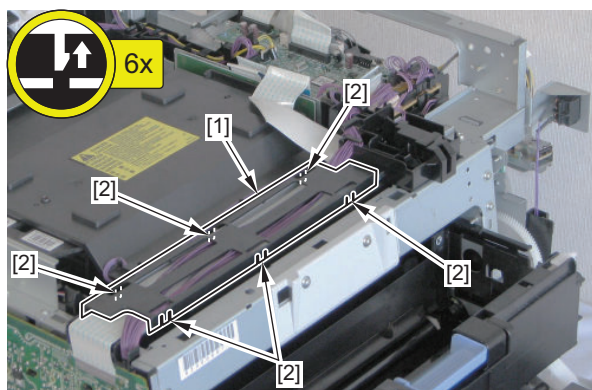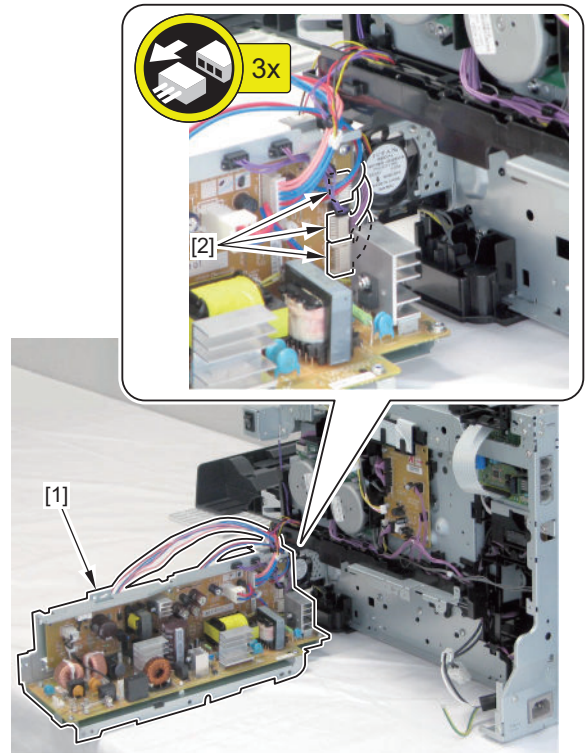

Removing the Fixing Sub PCB

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Controller Cover.(Refer to "Removing the Controller Cover" on page 157)**

3. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

4. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

5. **Removing the Main Controller Support Plate.(Refer to "Removing the Main Controller Support Plate" on page 161)**

6. **Removing the FAX PCB.(Refer to "Removing the FAX PCB" on page 171)**

7. **Removing the Fixing/Fixing Power Supply Cooling Fan Unit.(Refer to "Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180)**

■ Procedure

1. **Remove the PCB Fixation Plate [1].**
   - 2 Screws [2]

2. **Remove the wire harness [1], and remove the wire harness guide [2].**
   - 3 connectors [3]
   - 4 fixing guides [4]
   - 1 claw [5]
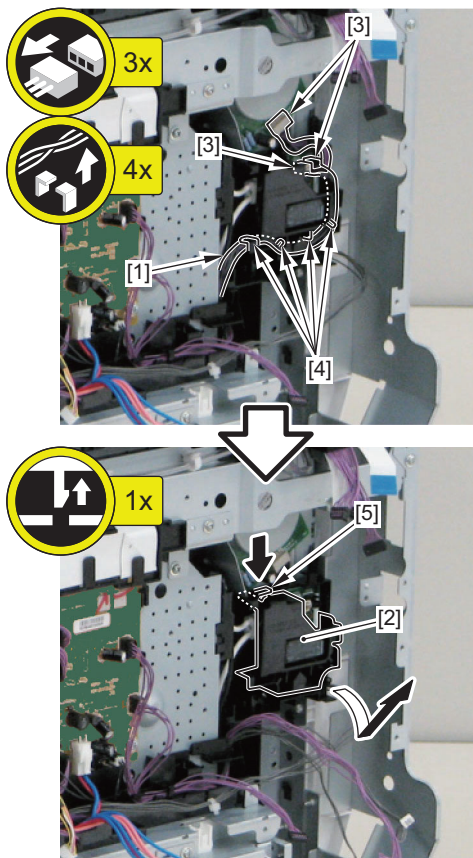
3. **Remove the Fixing Sub PCB [1].**
   - 1 screw [2]
   - 1 connector [3]
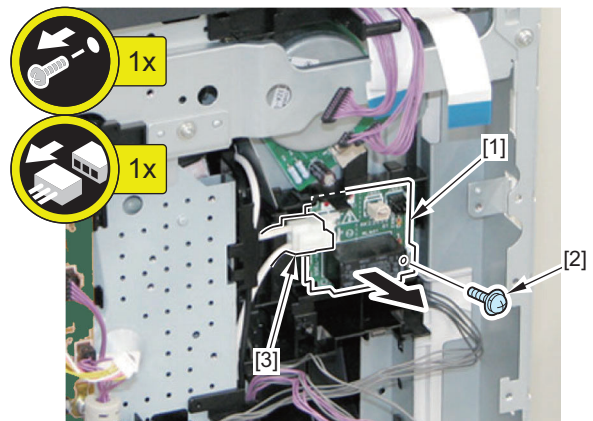
● Removing the Driver PCB

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Right Front Cover.(Refer to "Removing the Right Front Cover" on page 122)**

4. **Removing the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

5. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

6. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

7. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

8. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

9. **Removing the Main Controller Support Plate.(Refer to "Removing the Main Controller Support Plate" on page 161)**

■ Procedure

1. **Remove the flat cable guide case [1].**
   - 1 screw [2]
   - 2 claws [3]

2. **Remove the Driver PCB [1].**
   - 11 connectors [2]
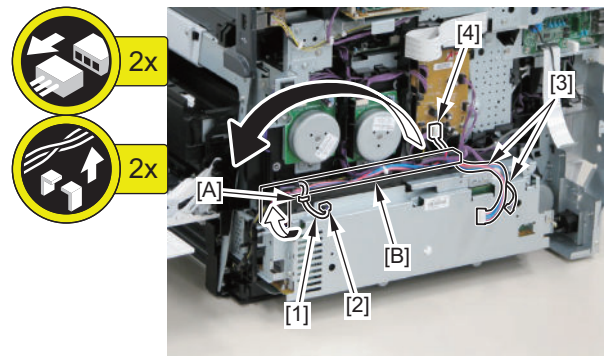   - 1 flat cable [3]
   - 3 screws [4]
   - 1 claw [5]

🔵 Removing the Relay PCB

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

4. Removing the ADF Unit + Reader Unit.(Refer to **"Removing the ADF Unit + Reader Unit" on page 131**)

5. **Removing the Right Front Cover.(Refer to "Removing the Right Front Cover" on page 122)**

6. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

■ Procedure

1. **Disconnect the flat cable [1] and the 7 connectors [2].**
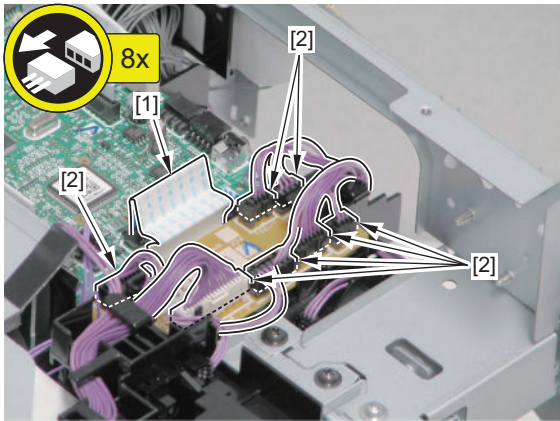
2. **Remove the harness guide [1].**
   - 1 screw [2]
   - 1 hook [3]
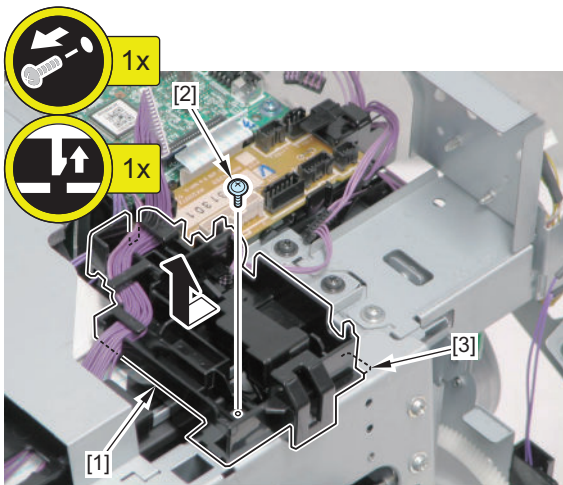
3. **Remove the Relay PCB [1].**
   - 1 screw [2]
   - 1 harness guide [3]
   - 1 protrusions [4]
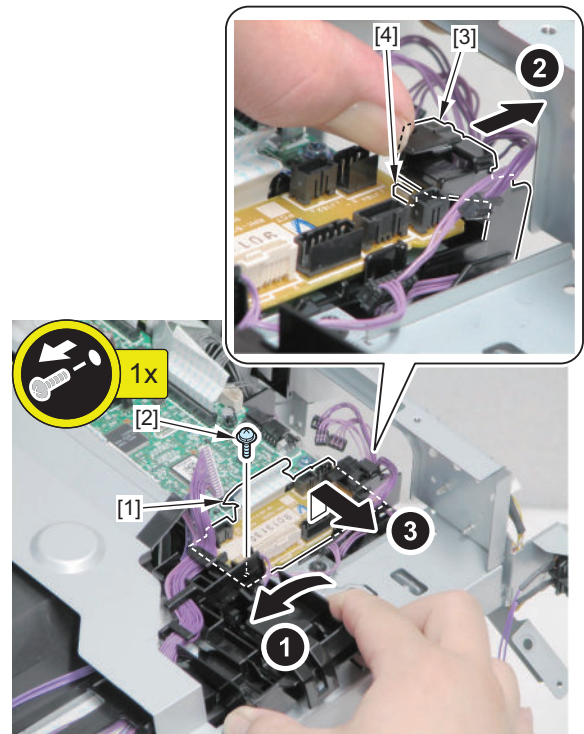
⬤ Removing the Control Panel Unit

■ Procedure

1. **Remove the claw [1] to remove the Reader Shaft Retainer [2].**

2. **While supporting the ADF Unit/Copyboard + Reader Unit [3], remove the Reader Support Shaft [4].**

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3. Bring down the Reader Support Shaft [4] to close the ADF Unit/Copyboard + Reader Unit [3].

4. Remove the screws at the bottom of the Reader Unit [1].
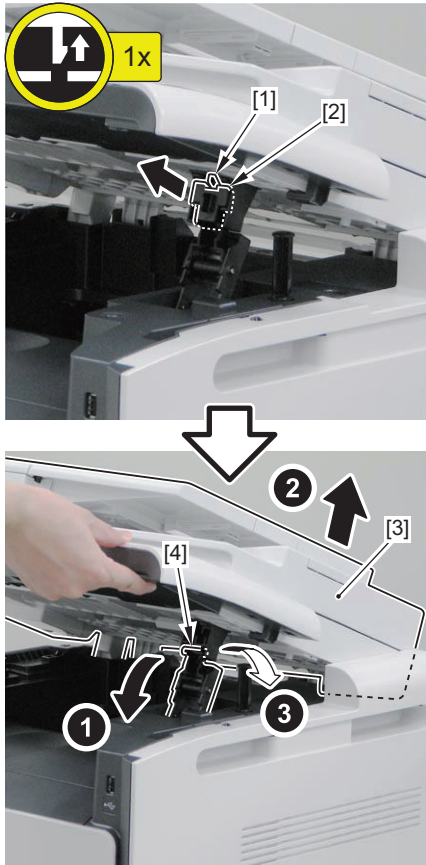
• 6 Screws [2]

5. Open the ADF Unit/Copyboard [1] and place a sheet of paper [2] on the copyboard.
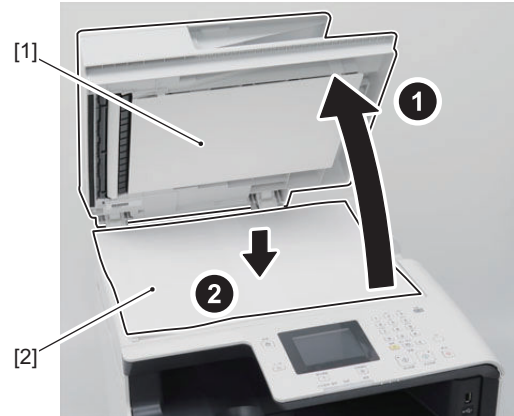
6. Shift the Control Panel Unit [1], and disconnect the Faston Connector [2].

• 11 Claws [3]
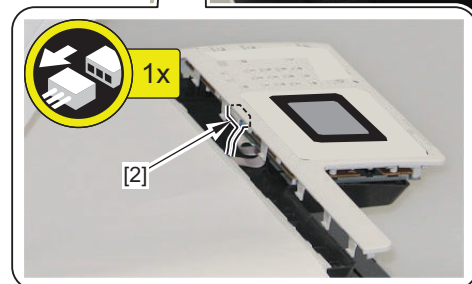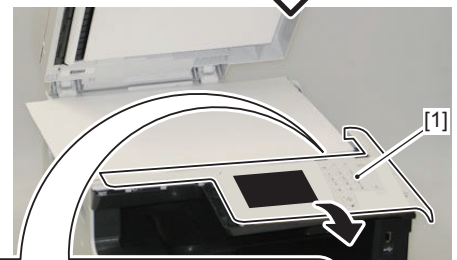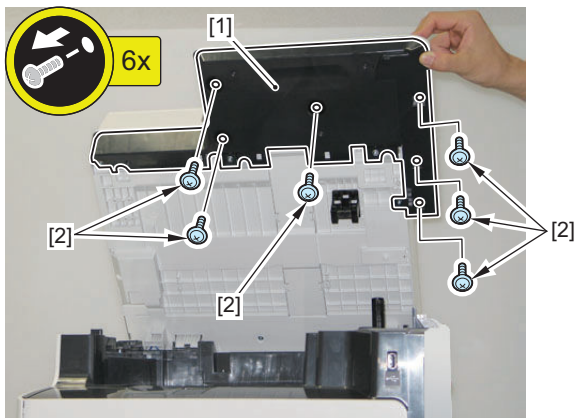
CAUTION:
Do not touch the IC part [A] of the LCD Flat Cable [1].
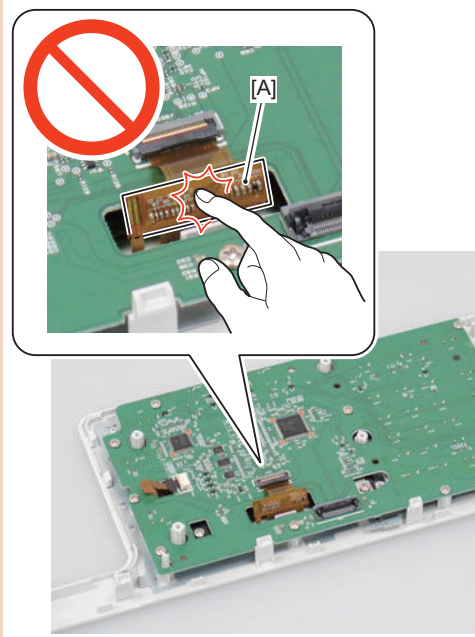
7. **Turn the Control Panel Unit [1] over, and disconnect the Flat Cable [2].**

CAUTION:
* Do not damage and cut the Flat Cable [2].
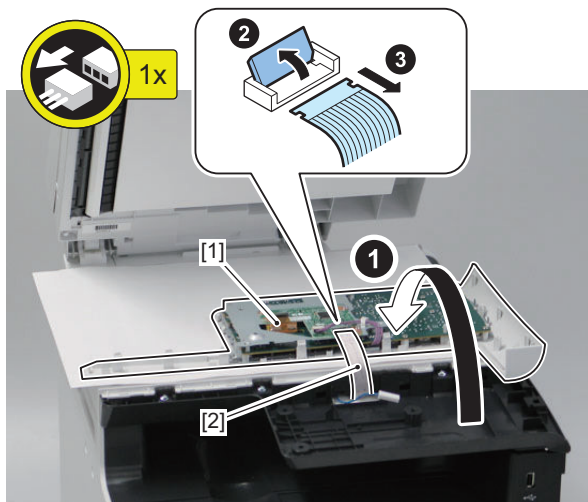
CAUTION:
When connecting the Flat Cable, be sure to perform the following; while pushing the Flat Cable [1] against the connector with a lock [2], check that the line on the edge [A] of the Flat Cable Connector and the line on the edge [B] of the Flat Cable Connector Lock are parallel, and then close the Flat Cable Connector Lock [3].
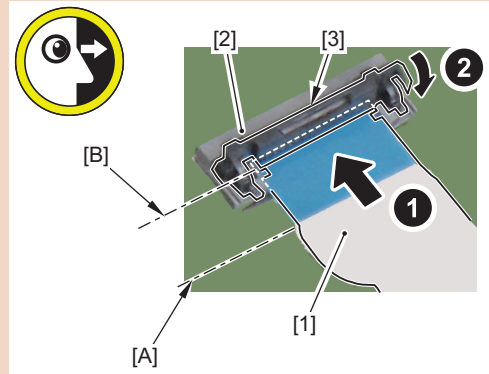
Removing the NFC PCB

■ Preparation

1. **Remove the the Control Panel Unit.(Refer to**
)

■ Procedure

CAUTION:
Do not touch the IC part [A] of the LCD Flat Cable [1].
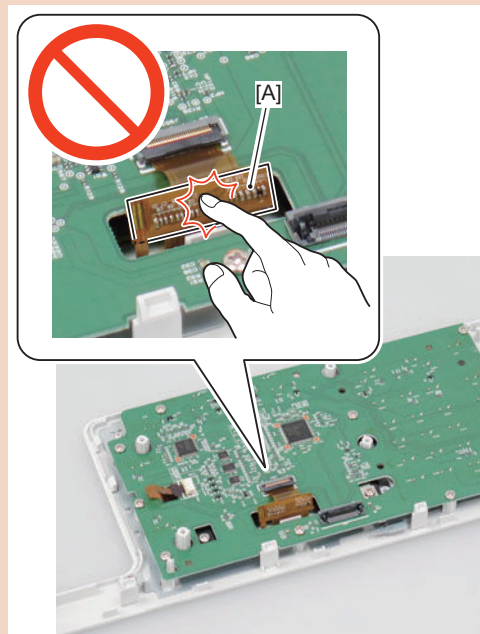
1. **Remove the NFC PCB [1].**
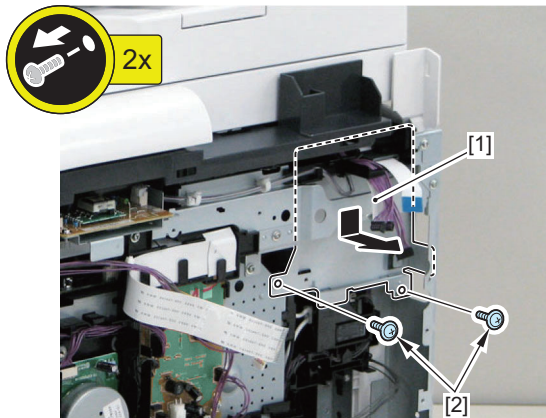   - 1 Connector [2]
   - 1 Screws [3]
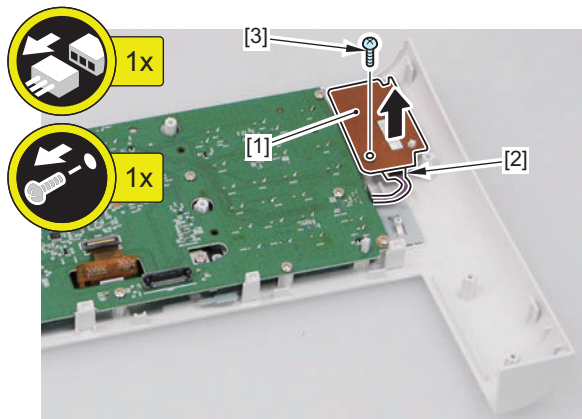
Removing the FAX PCB

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Controller Cover.(Refer to "Removing the Controller Cover" on page 157)**

3. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

4. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

5. **Removing the Main Controller Support Plate.(Refer to "Removing the Main Controller Support Plate" on page 161)**

■ Procedure

1. **Remove the Fax PCB [1].**
   - 1 Flat Cable [2]
   - 1 Connector [3]
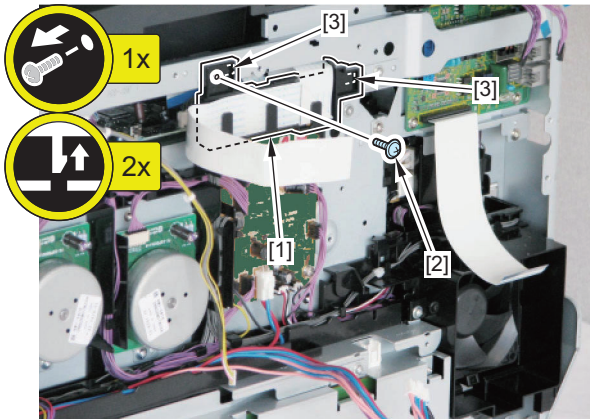   - 4 Screws [4]

Removing the Off Hook PCB

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Right Front Cover.(Refer to "Removing the Right Front Cover" on page 122)**

4. **Removing the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

5. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

6. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

■ Procedure

1. **Remove the Off Hook PCB [1].**
   - 2 Connector [2]
   - 2 Screws [3]
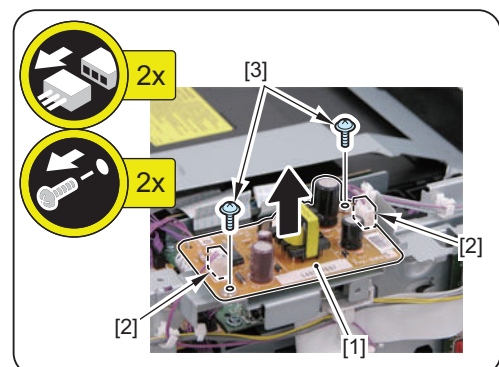
Removing the Main Drive Unit

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Right Front Cover.(Refer to "Removing the Right Front Cover" on page 122)**

4. **Removing the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

5. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

6. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

7. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

8. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

9. **Removing the Main Controller Support Plate.(Refer to "Removing the Main Controller Support Plate" on page 161)**
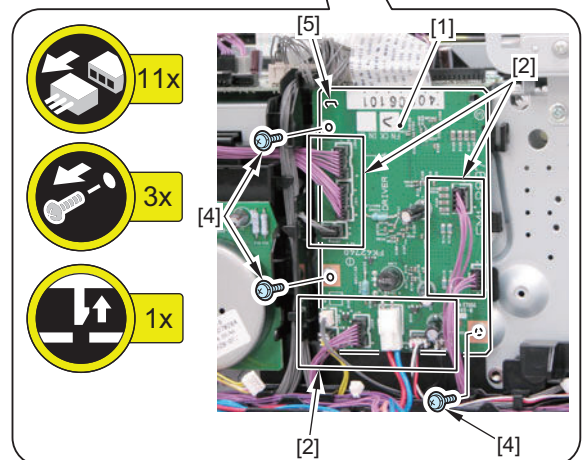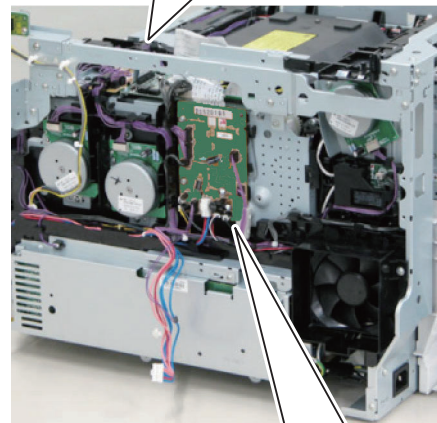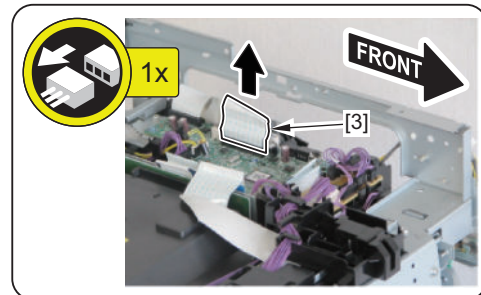
10. **Removing the Drum Motor.(Refer to "Removing the Drum Motor" on page 196)**

11. **Removing the Developing Motor.(Refer to "Removing the Developing Motor" on page 195)**

12. **Removing the Driver PCB.(Refer to "Removing the Driver PCB" on page 166)**

13. **Removing the FAX PCB.(Refer to "Removing the FAX PCB" on page 171)**

14. **Removing the Fixing/Fixing Power Supply Cooling Fan Unit.(Refer to "Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180)**

15. **Removing the Fixing Sub PCB.(Refer to "Removing the Fixing Sub PCB" on page 165)**

16. **Removing the Fixing Motor Unit.(Refer to "Removing the Fixing Motor Unit" on page 205)**

17. **Removing the Low Voltage Unit.(Refer to "Removing the Low Voltage Unit" on page 164)**

18. **Removing the DC Controller PCB.(Refer to "Removing the DC Controller PCB" on page 162)**

19. **Removing the Relay PCB.(Refer to "Removing the Relay PCB" on page 167)**

20. **Removing the Off Hook PCB.(Refer to "Removing the Off Hook PCB" on page 171)**

■ Procedure

1. **Remove the Harness Guide and plate [1].**
   - 1 Connector [2]
   - 1 Harness Guide [A]
   - 2 Screws [3]

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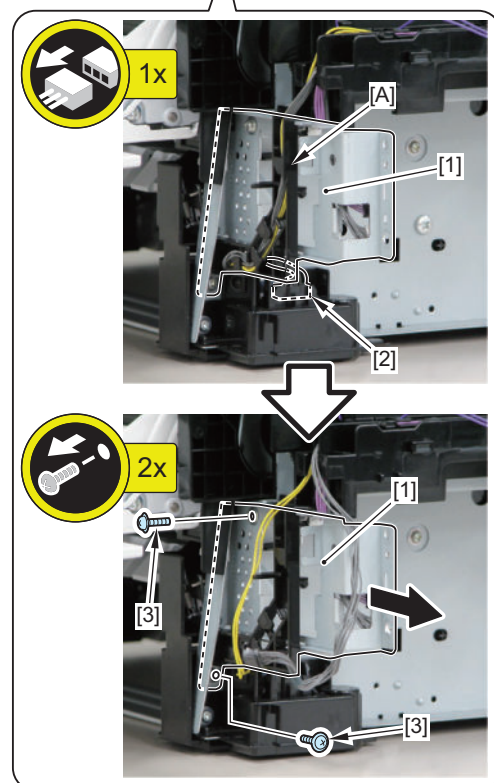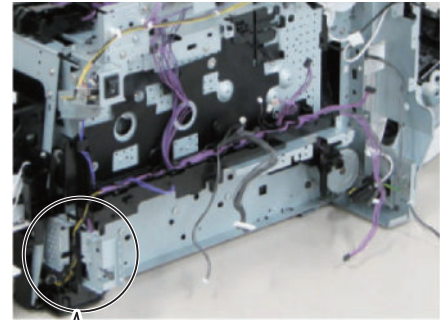
2. Free the harness [1].

- 4 Harness Guides [A]
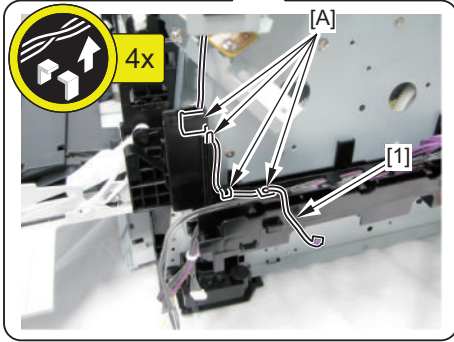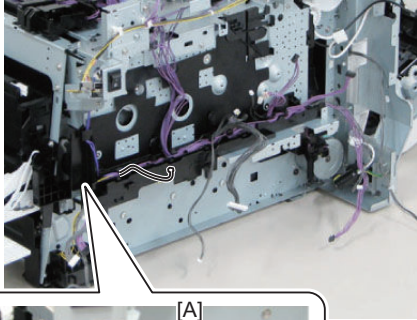
3. Free the harness [1] from the guides [A] and [B].
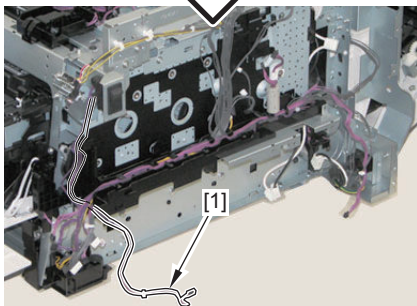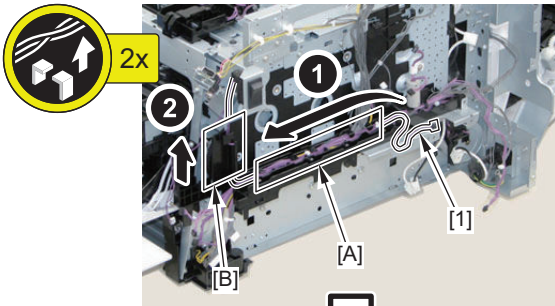
4. Free the harness [1] from the Harness Guide [A].
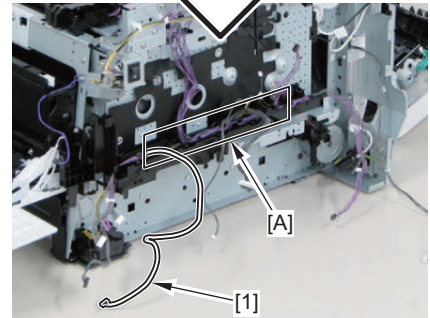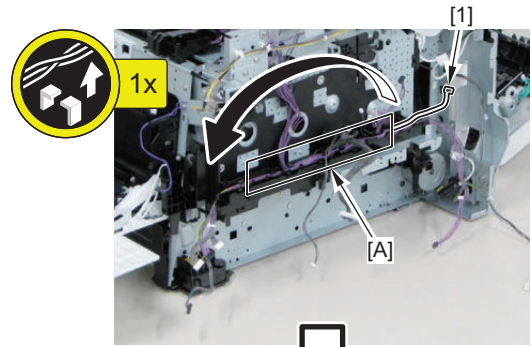
5. Free the harness [1] extruding out of the rear side [B] and [C] of the machine from the Harness Guide [A].
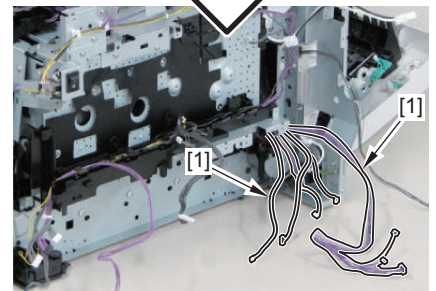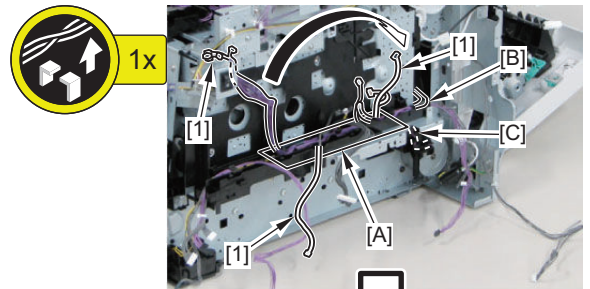
6. Remove the Harness Guide and Power Auxiliary Plate [1].

- 2 Screws [2]
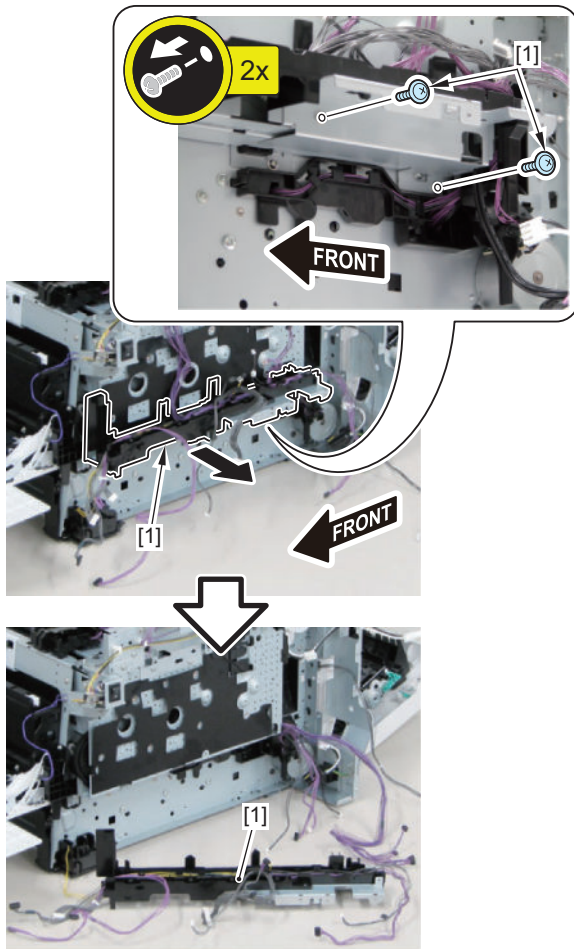
7. Remove the DC Controller Support Plate [1].

- 1 Special Flat-head Screw [2]
- 2 Black Screws [3]
- 3 Screws [4]
- 2 Bosses [5]
- 1 Protrusion [6]

CAUTION:

Since the Special Flat-head Screw [2] adjusts the interval between the plate [1] and parts in the vicinity, be sure to install the Special Flat-head Screw [2] in the location it was in before removal.
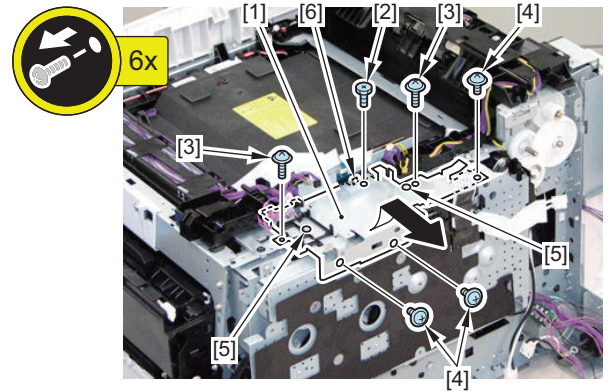
CAUTION:

When installing, be sure to place the [A] part of DC Controller Support Plate under the [B] part of the Harness Guide.
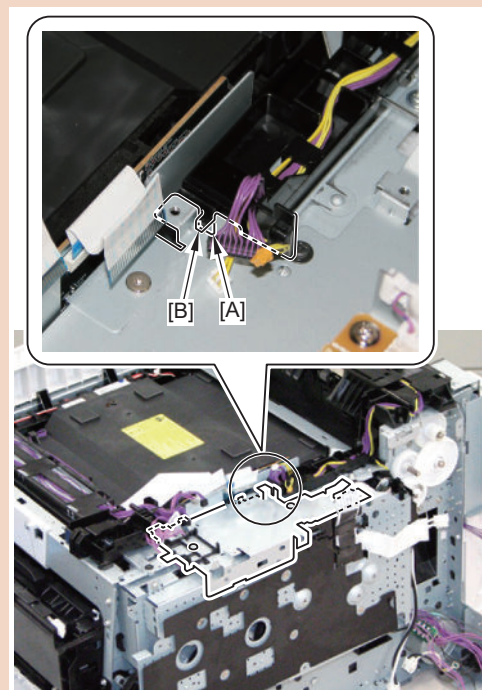
8. Remove the Main Switch Unit [1].
- 2 Screws [2]
- 1 Hook [3]
- 1 Reuse Band [4]

9. Remove the Main Switch Unit Connecting Plate [1].
- 3 Screws [2]
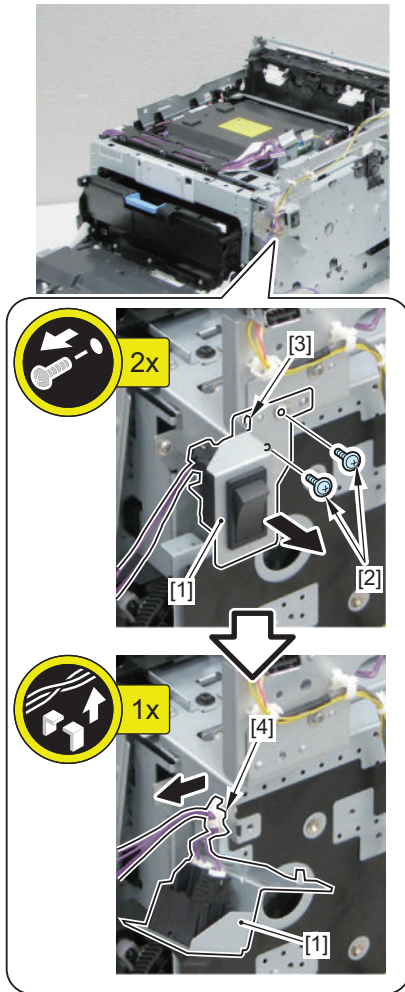
10. Remove the Right Frame Supporting Plate [1].
- 3 Screws [2]
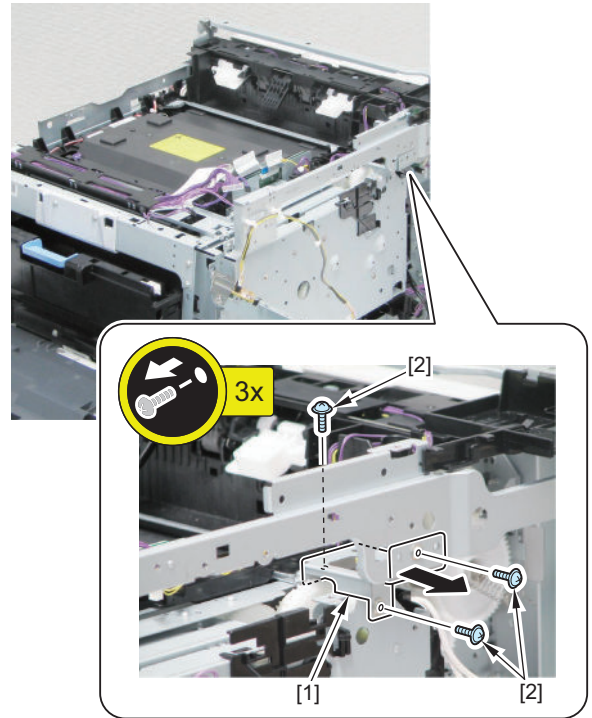
11. Remove the wire harness guide [1].
- 2 Claws [2]
- 1 Hook [3]

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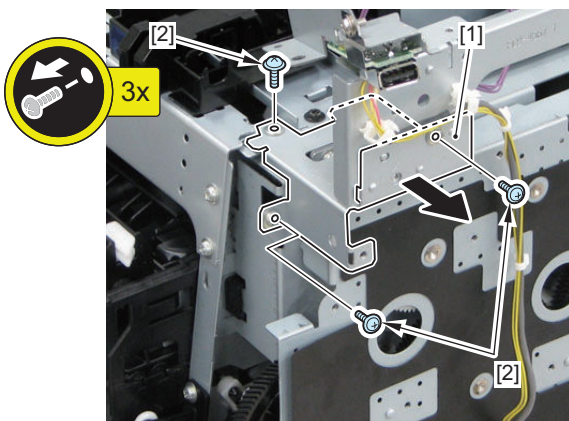
12. Remove the sheet [1].

- 3 Hooks [2]
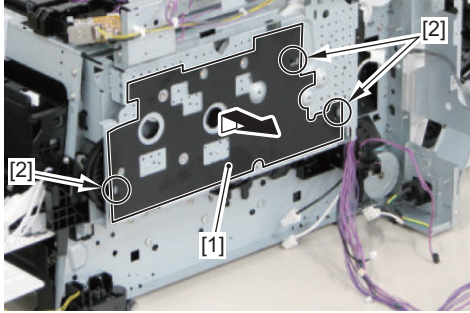
13. Free the harness [1] and [2] from the Harness Guide [A] and [B].
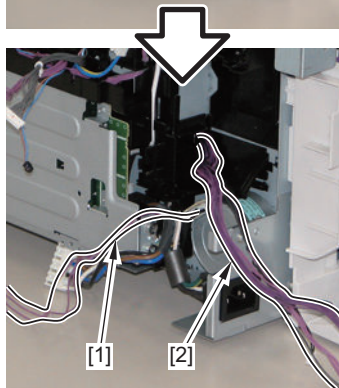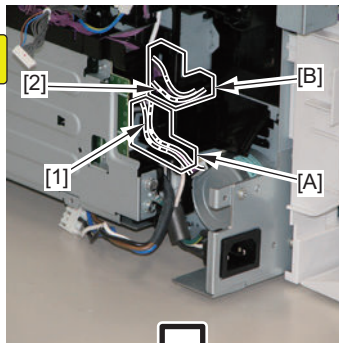
14. Remove the Harness Guide [1].

- Harness Guide [A]
- 2 Boss [2]
- 2 Hooks [3]
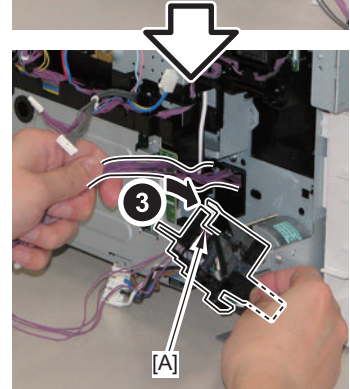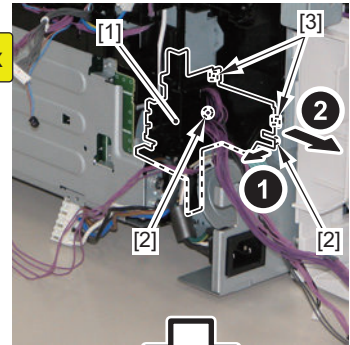
15. **Remove the wire harness [1] from the wire harness guide [2], and remove the wire harness guide [2] in the arrow direction.**
    - 1 Claw [3]
    - 2 Fixing Guides [4]
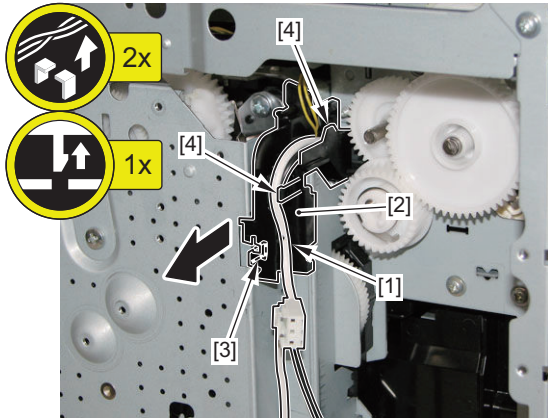
CAUTION:

When removing the Main Drive Unit, the Contact Spring [1] may come off so be sure not to lose it. When it comes off, attach it on the protrusion [A] on the plate at the right side of the host machine.
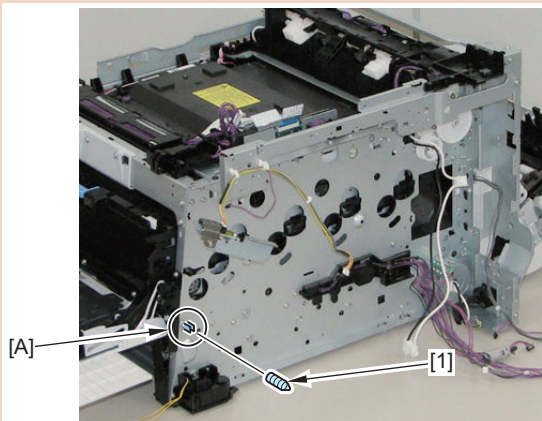
16. **Remove the wire harness [1], and remove the Drive Unit [2].**
    - 5 Fixing Guides [3]
    - 1 Connector [4]
    - 6 Screws [5]
    - 1 Claw [6]
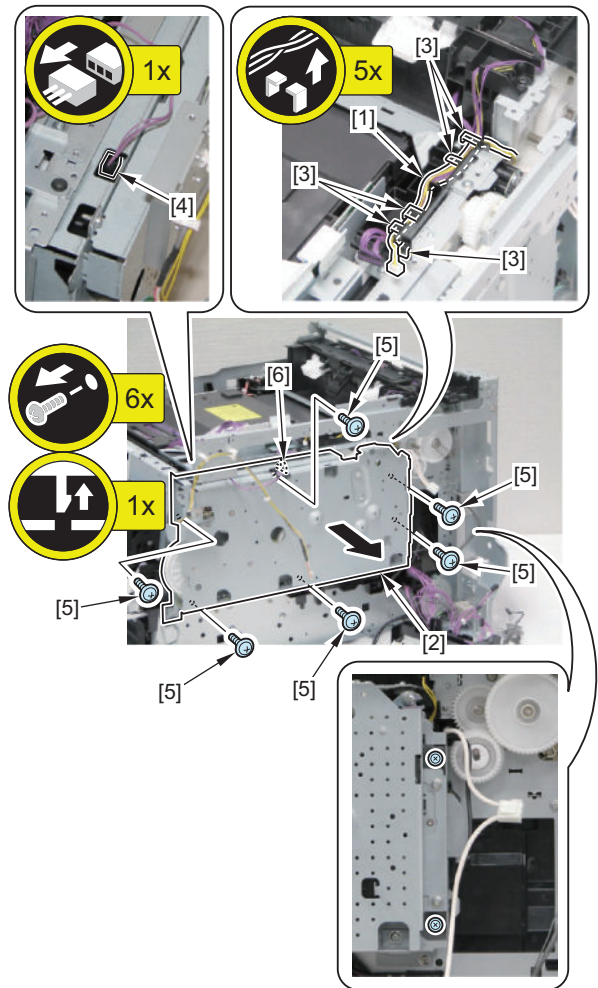
NOTE:

The Main Drive Unit side needs to be in the following condition when installing the Main Drive Unit.
    - 4 Arm Shafts [1] are on the right side.
    - 1 Front Door Arm [2] is pulled out.
    - 1 link [3] is on the right side.
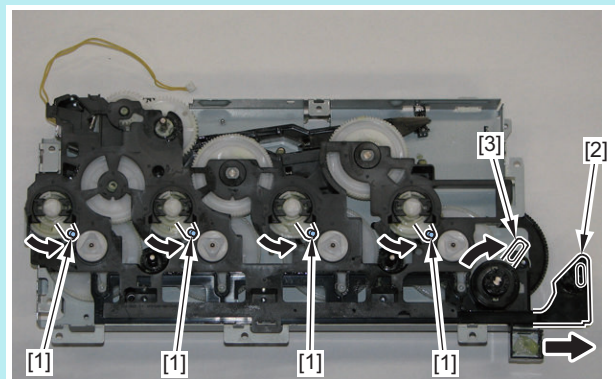
NOTE:
The Main Drive Unit side needs to be in the following condition when installing the Main Drive Unit.
- The directions of the groove [A] of the gear [1] of the Main Drive Unit and the groove [B] of the Gear Cover of the Main Drive Unit are aligned.
  If the directions are not aligned, rotate the gear [2] to align the directions of the groove [A] of the gear and groove [B] of the Gear Cover.
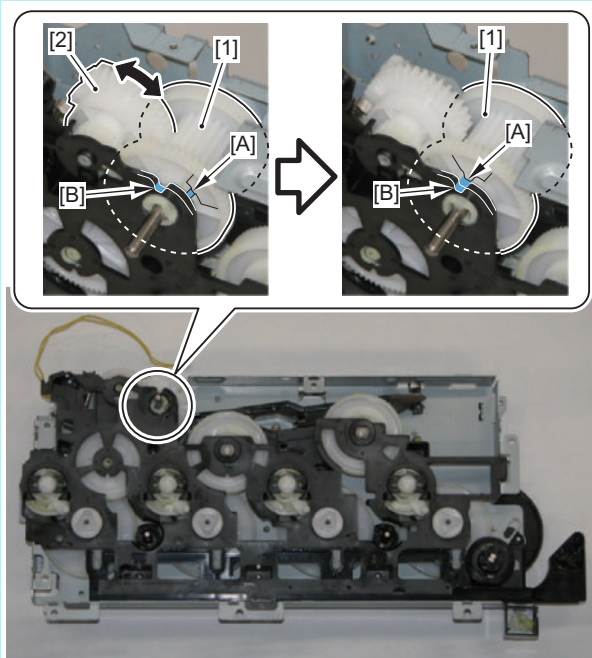
NOTE:
The host machine side needs to be in the following condition when installing the Main Drive Unit.
- The direction of the joint [1] on the host machine side is as shown in the figure below (at this time, the hole [A] of the plate and hole [B] of the joint [1] are aligned in a straight line).
  If the direction is not correct, rotate the joint [1] to the direction as shown in the figure below.
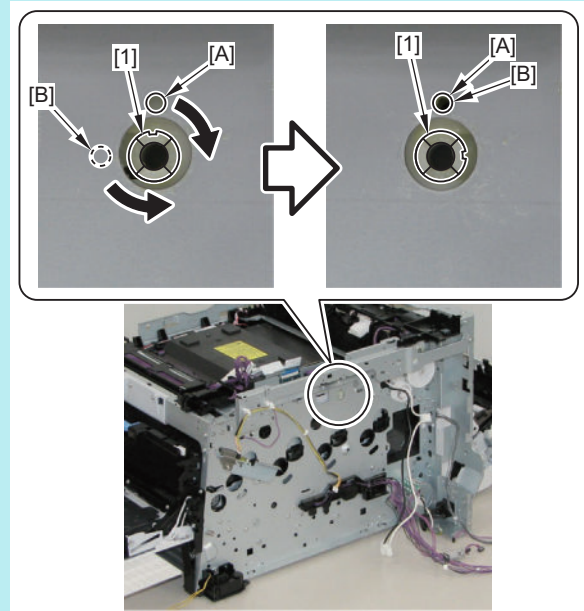
- The Front Cover is open.

CAUTION:
When installing the Main Drive Unit, be sure to pay attention to the following points:
- Fit the joint [1] of the gear of the Main Drive Unit with the joint [2] of the host machine.
- Fit the hole [3] of the link with the shaft [4] of the host machine.
- Fit the hole [5] of the Front Door Arm with the shaft [6] of the host machine.
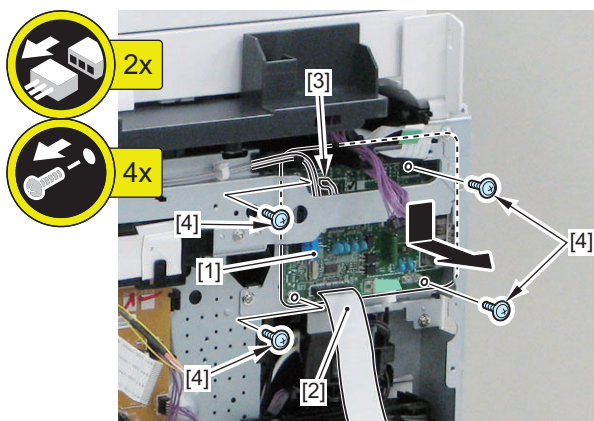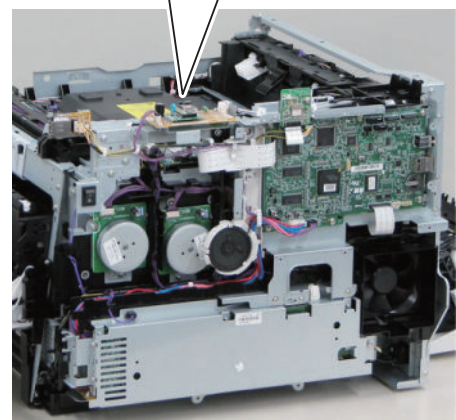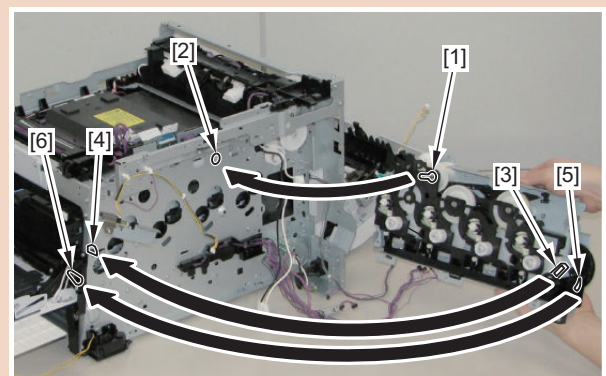
🔵 Removing the Duplex Reverse Drive Unit

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

4. Removing the Rear Cover.(Refer to **"Removing the Rear Cover" on page 124**)

5. Removing the Rear Lower Cover.(Refer to **"Removing the Rear Lower Cover" on page 124**)

6. Removing the Rear Cover Rib Unit.(Refer to **"Removing the Rear Cover Rib Unit" on page 126**)

■ Procedure

1. **Remove the wire harness [1] from the wire harness cover [2].**
   - 2 connectors [3]
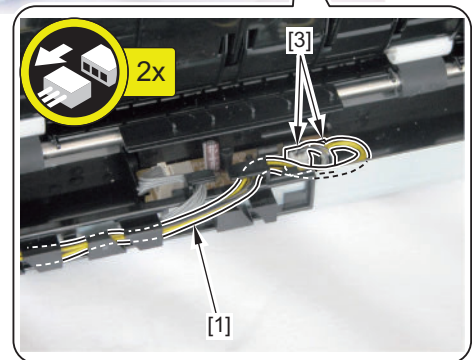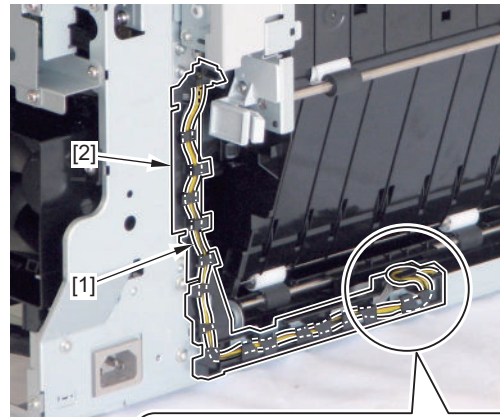
CAUTION:

Be sure to insert the 2 harnesses [1] at the bottom of the Guide [A] when installing.
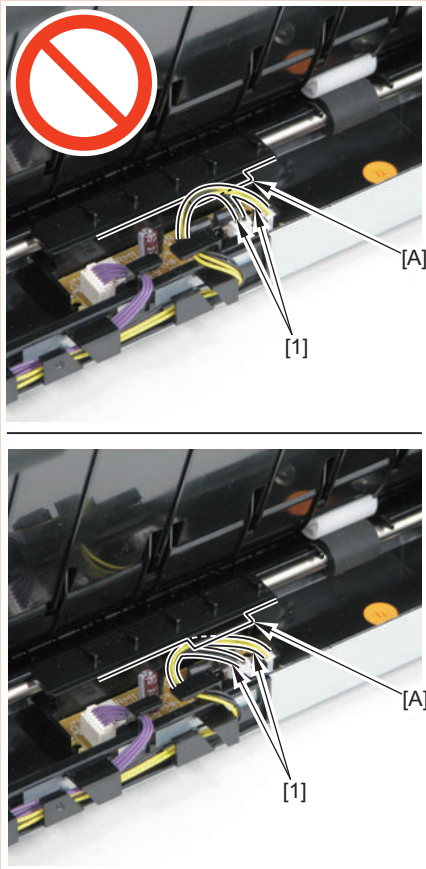
2. **Open [1] the Duplex Feed Unit, and remove the Duplex Reverse Drive Unit [2].**
   - 3 screws [3]
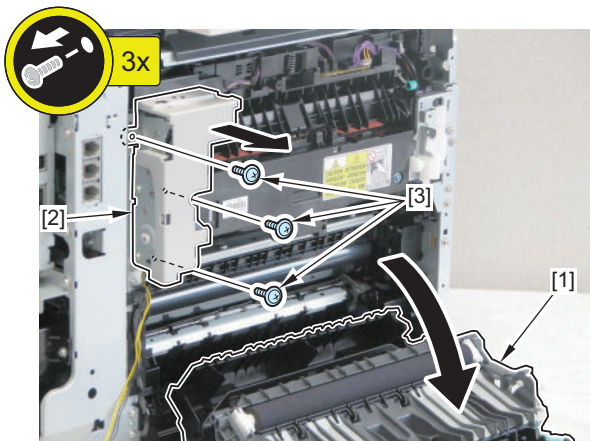
🔵 Removing the Fixing/Fixing Power Supply Cooling Fan Unit

■ Preparation

1. **Removing the Right Cover.(Refer to)**

2. **Removing the Controller Cover.(Refer to)**

3. **Removing the Wireless LAN PCB.(Refer to)**

4. **Removing the Main Controller PCB.(Refer to)**

5. **Removing the Main Controller Support Plate.(Refer to)**

■ Procedure

1. **Remove the Cooling Fan Unit [1].**
   - 1 Connector [2]
   - 2 Screws [3]
   - 2 Harness Guides [A]
   - 1 Harness Guide [B]

2. Remove the Fixing/Fixing Power Supply Cooling Fan [1].

- 1 claw [2]
- 2 protrusions [3]
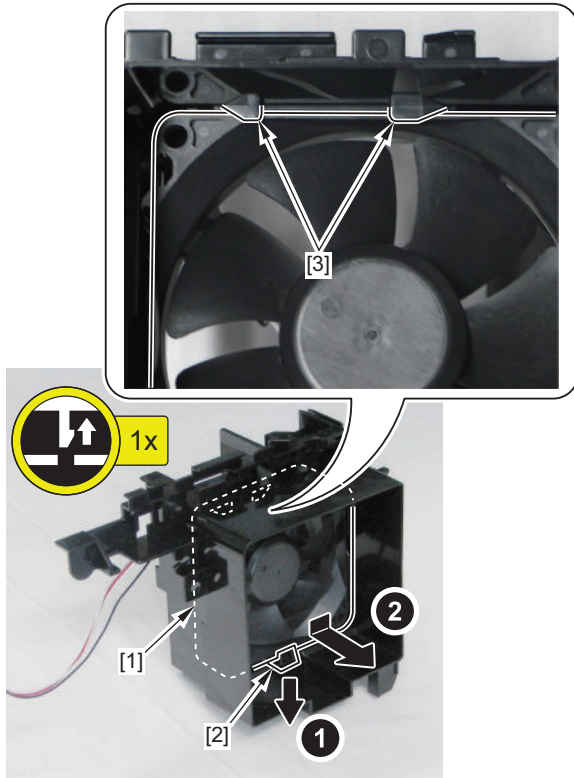
CAUTION:

When installing the Cooling Fan, be careful of the installation direction.

- Place the Fan Cable [1] in the indicated position.
- Make sure that the fan label [2] faces to the inside of the host machine.
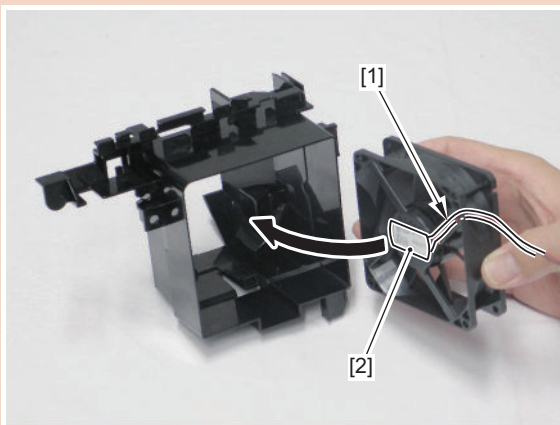
# Removing the Duplex Feeding Fan

■ Preparation

1. Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)

2. Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)

3. Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)

4. Removing the Rear Cover.(Refer to "Removing the Rear Cover" on page 124)

5. Removing the Rear Lower Cover.(Refer to "Removing the Rear Lower Cover" on page 124)

6. Removing the Rear Cover Rib Unit.(Refer to "Removing the Rear Cover Rib Unit" on page 126)

■ Procedure

1. Remove the spring [1].

- 3 bosses [2]

2. Free the harness [2] from the spring [1].

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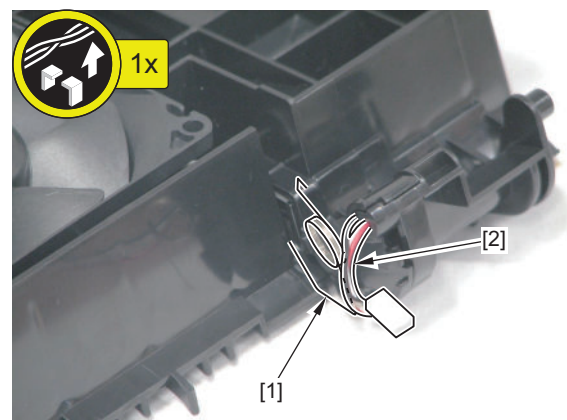
3. **Remove the fixing guide [1] and free the harness [2] from the harness guide.**
   - 3 fixing guides [3]
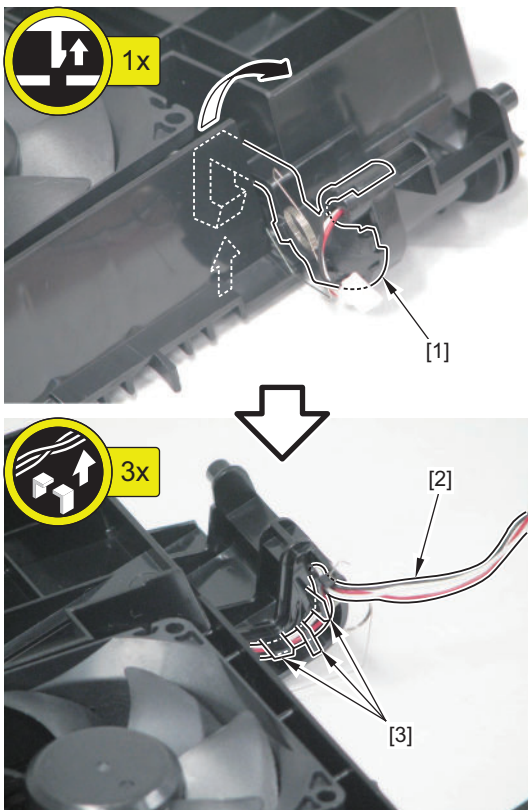
4. **Remove the 2 claws [1] to remove the Duplex Feeding Fan [2].**
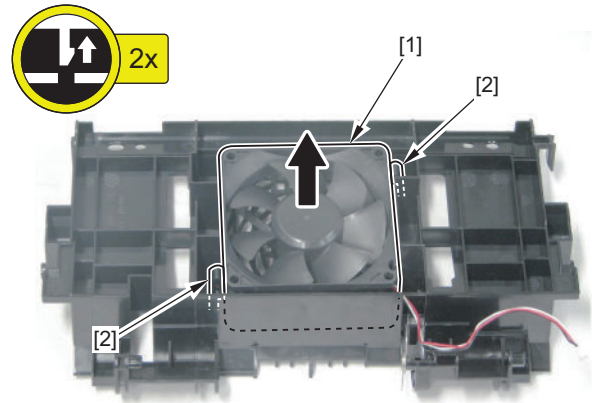
CAUTION:
When installing the Duplex Feeding Fan, be careful of the installation direction.
- Place the Fan Cable [1] in the indicated position.
- Make sure that the fan label [2] faces to the Duplex Feeding Unit side.
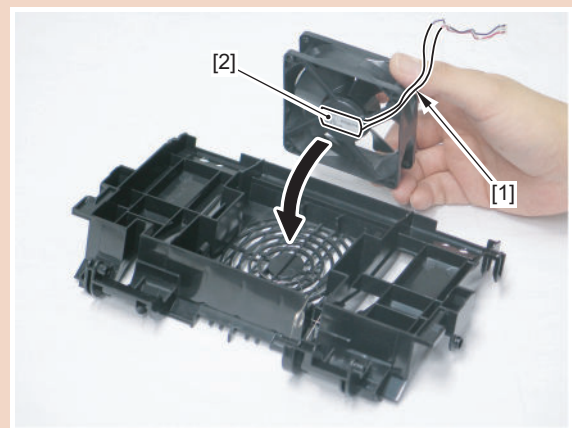
🔵 Removing the Speaker

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Controller Cover.(Refer to "Removing the Controller Cover" on page 157)**

■ Procedure

1. **Remove the Speaker [1].**
   - 1 connector [2]
   - 1 wire saddle [3]
   - 2 claws [4]

Laser Exposure System

🔵 Location
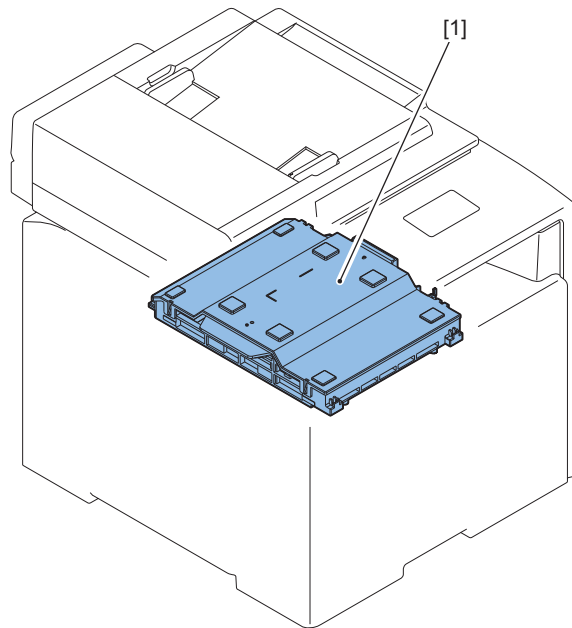
No.	Parts Name	Main Unit	Remarks	Reference	Adjastment during parts replacement
[1]	Laser Scanner Unit	Product Configuration	-	"Removing the Laser Scanner Unit" on page 185	"After Replacing the Laser Scanner Unit" on page 188

Laser Exposure System Disassembly/Assembly Procedure

🔵 Removing the Laser Scanner Unit

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

4. Removing the ADF Unit + Reader Unit.(Refer to **"Removing the ADF Unit + Reader Unit" on page 131**)

5. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

6. Removing the Upper Cover.(Refer to **"Removing the Upper Cover" on page 126**)

7. Removing the Rear Cover.(Refer to **"Removing the Rear Cover" on page 124**)

8. Removing the Rear Lower Cover.(Refer to **"Removing the Rear Lower Cover" on page 124**)

9. Removing the Rear Cover Rib Unit.(Refer to **"Removing the Rear Cover Rib Unit" on page 126**)

10. Removing the Duplex Printing Reverse Drive Unit. (Refer to **"Removing the Duplex Reverse Drive Unit" on page 179**)

11. Removing the Fixing Assembly.(Refer to **"Removing the Fixing Assembly" on page 200**)

12. Removing the Delivery Unit.(Refer to **"Removing the Delivery Unit" on page 220**)

■ Procedure

CAUTION:
When replacing the Laser Scanner Unit, be sure to perform the following procedure.(Refer to "After Replacing the Laser Scanner Unit" on page 188)

CAUTION:
The ITB Unit is under the Laser Scanner Unit. Ensure to close a Cartridge Tray when performing this procedure, because there is a possibility that the ITB Unit might be damaged when the Laser Scanner Unit is mistakenly dropped during installation/removal.
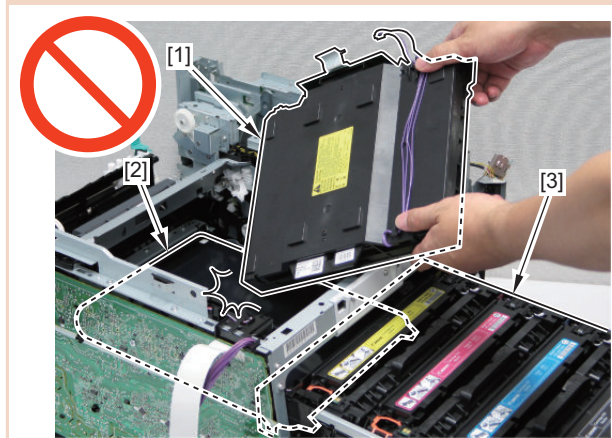
1. **Remove the wire harness cover plate [1].**
   - 2 screws [2]
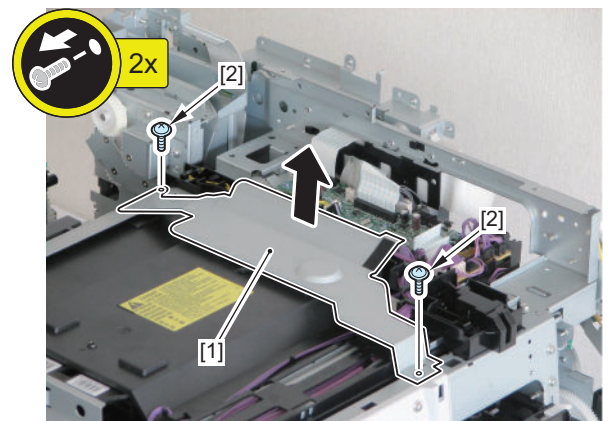
2. **Remove the Harness Guide [1] and free the harness [2] and the Flat Cable [3].**
    - 2 Flat Cables [4]
    - 5 Connectors [5]
    - 3 Fixation Guides [6]
    - 6 Claws [7]
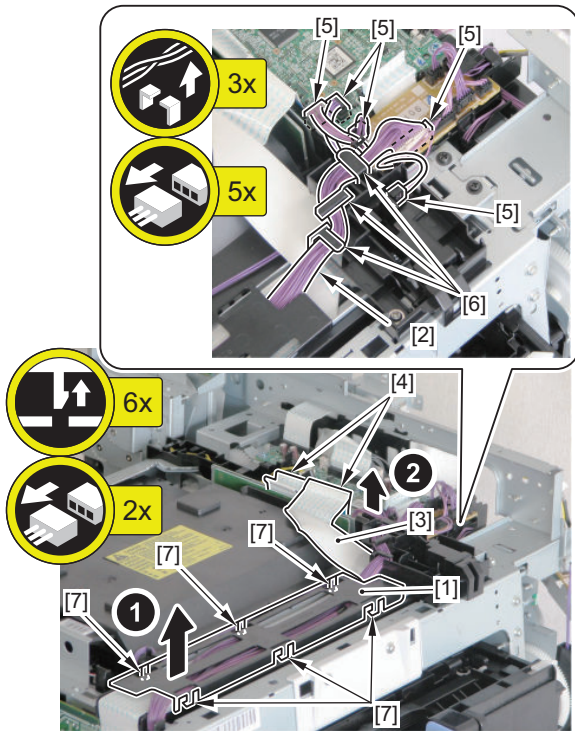
3. **Remove the Harness Guide [1].**
    - 1 Screw [2]
    - 1 Spring [3]
    - 2 Hooks [4]

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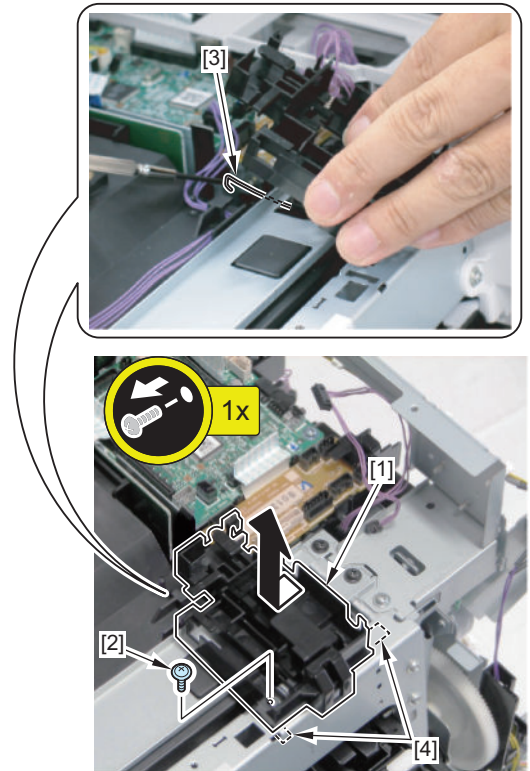
CAUTION:

Be sure to put the flag [1] of the Harness Guide through the hole [A] of the plate, and hook the spring [2] on the flag [3] of the Laser Scanner Unit when installing.
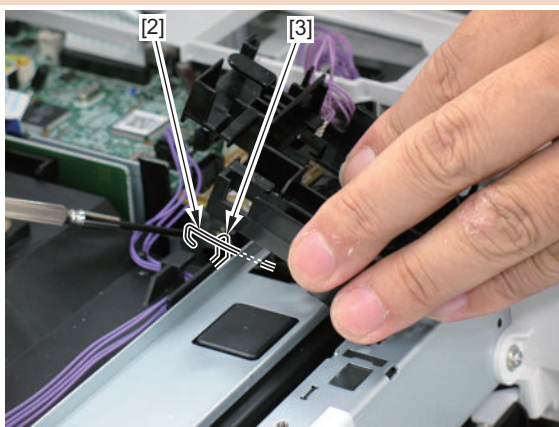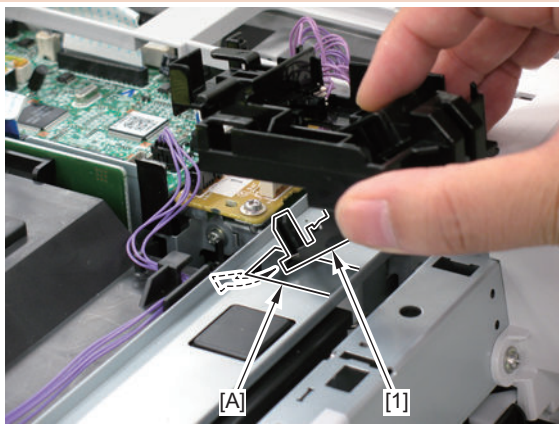
4. **Remove the Upper Front Supporting Plate [1].**

   - 4 screws [2]
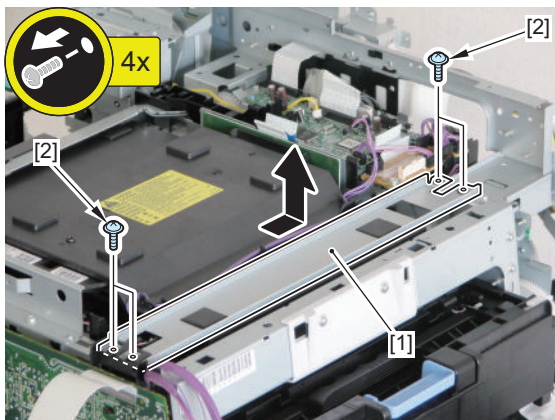
5. **Remove the Scanner Fixing Spring [1] on the right side from 1 hook [2].**

6. **Remove the Scanner Fixing Spring [3] on the left from the 1 hook [4].**
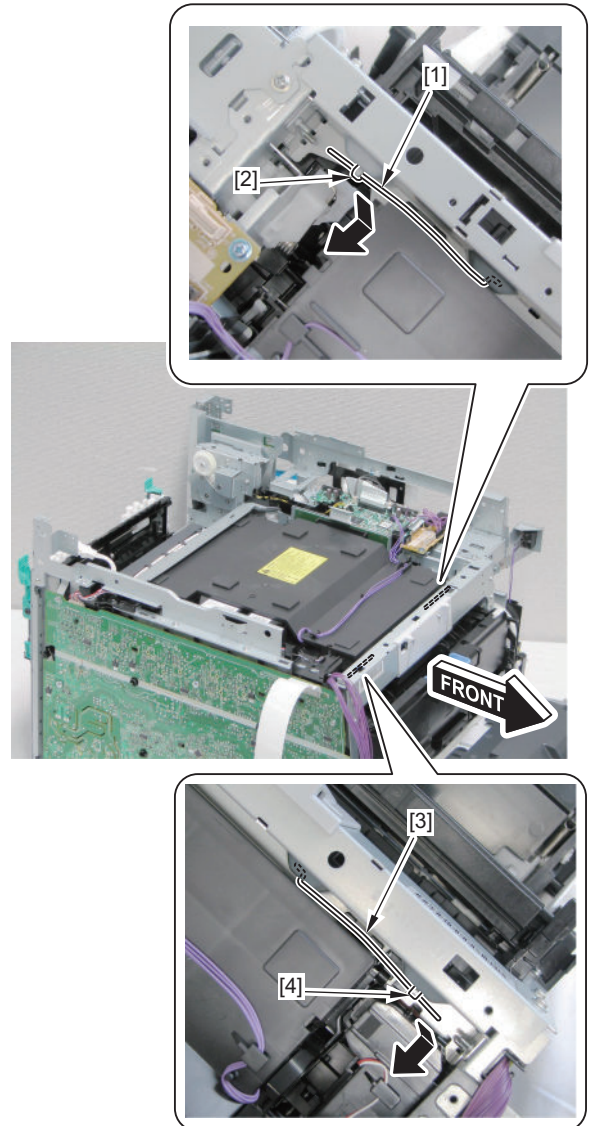
7. Remove the Scanner Fixing Spring [1] in the rear from 1 hook [2].
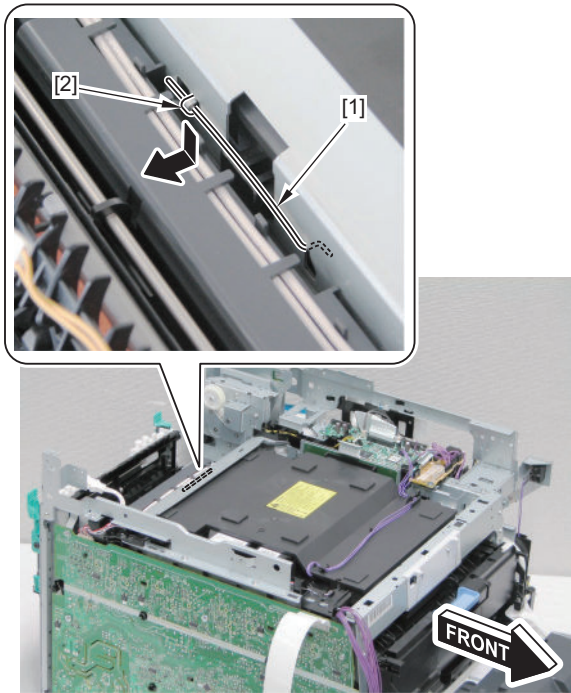
8. Remove the Laser Scanner Unit [1].
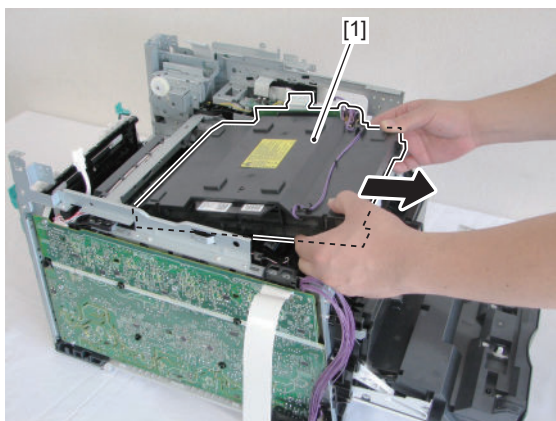
CAUTION:
Insert 2 bosses [1] into 2 boss holes [2] when installing.

■ After Replacing the Laser Scanner Unit

1. **Register values indicated on the label packaged with the Laser Scanner Unit in the following service mode items.**
   - COPIER > ADJUST > SCNR > SUB-S-Y0 (Laser output correction value, vertical scanning irradiation position0 Y)
   - COPIER > ADJUST > SCNR > SUB-S-M0 (Laser output correction value, vertical scanning irradiation position0 M)
   - COPIER > ADJUST > SCNR > SUB-S-C0 (Laser output correction value, vertical scanning irradiation position0 C)
   - COPIER > ADJUST > SCNR > SUB-S-K0 (Laser output correction value, vertical scanning irradiation position0 K)
   - COPIER > ADJUST > SCNR > SUB-S-Y1 (Laser output correction value, vertical scanning irradiation position1 Y)
   - COPIER > ADJUST > SCNR > SUB-S-M1 (Laser output correction value, vertical scanning irradiation position1 M)
   - COPIER > ADJUST > SCNR > SUB-S-C1 (Laser output correction value, vertical scanning irradiation position1 C)
   - COPIER > ADJUST > SCNR > SUB-S-K1 (Laser output correction value, vertical scanning irradiation position1 K)
   - COPIER > ADJUST > SCNR > SUB-S-Y2 (Laser output correction value, vertical scanning irradiation position2 Y)
   - COPIER > ADJUST > SCNR > SUB-S-M2 (Laser output correction value, vertical scanning irradiation position2 M)
   - COPIER > ADJUST > SCNR > SUB-S-C2 (Laser output correction value, vertical scanning irradiation position2 C)
   - COPIER > ADJUST > SCNR > SUB-S-K2 (Laser output correction value, vertical scanning irradiation position2 K)
   - COPIER > ADJUST > SCNR > MAI-S-Y0 (Laser output correction value, horizontal scanning irradiation position0 Y)
   - COPIER > ADJUST > SCNR > MAI-S-M0 (Laser output correction value, horizontal scanning irradiation position0 M)
   - COPIER > ADJUST > SCNR > MAI-S-C0 (Laser output correction value, horizontal scanning irradiation position0 C)
   - COPIER > ADJUST > SCNR > MAI-S-K0 (Laser output correction value, horizontal scanning irradiation position0 K)
   - COPIER > ADJUST > SCNR > MAI-S-Y1 (Laser output correction value, horizontal scanning irradiation position1 Y)
   - COPIER > ADJUST > SCNR > MAI-S-M1 (Laser output correction value, horizontal scanning irradiation position1 M)

- COPIER > ADJUST > SCNR > MAI-S-C1 (Laser output correction value, horizontal scanning irradiation position1 C)
- COPIER > ADJUST > SCNR > MAI-S-K1 (Laser output correction value, horizontal scanning irradiation position1 K)
- COPIER > ADJUST > SCNR > MAI-S-Y2 (Laser output correction value, horizontal scanning irradiation position2 Y)
- COPIER > ADJUST > SCNR > MAI-S-M2 (Laser output correction value, horizontal scanning irradiation position2 M)
- COPIER > ADJUST > SCNR > MAI-S-C2 (Laser output correction value, horizontal scanning irradiation position2 C)
- COPIER > ADJUST > SCNR > MAI-S-K2 (Laser output correction value, horizontal scanning irradiation position2 K)

2. **After values are registered, affix the label [1] packaged with the unit on the inside [2] of the right cover.**

Image Formation System

● Location
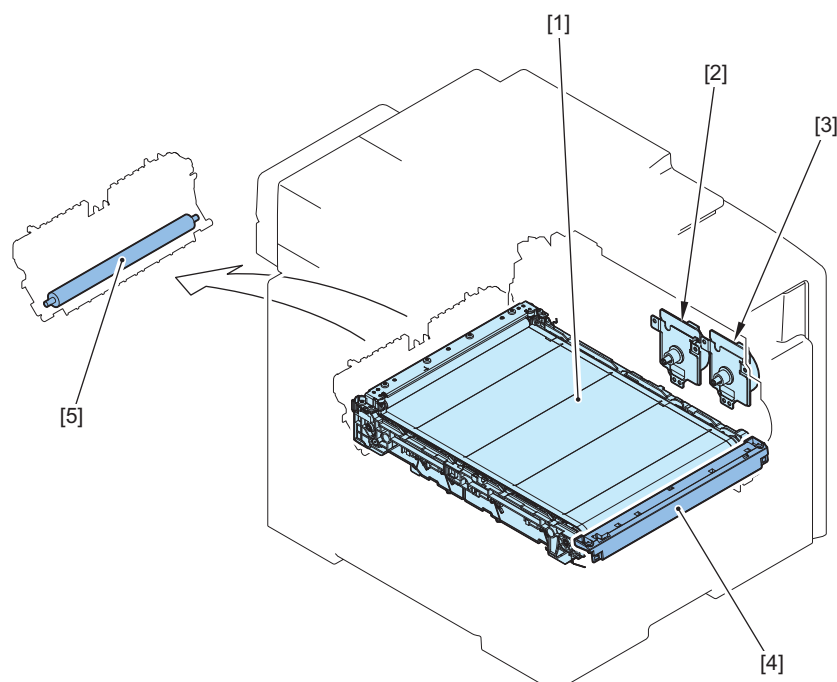
No.	Parts Name	Main Unit	Re-marks	Reference	Adjastment dur-ing parts re-placement
[1]	ITB Unit	Product Configuration	-	"Removing the ITB Unit" on page 191	-
[2]	Drum Motor	Main Drive Unit	M1	"Removing the Drum Motor" on page 196	-
[3]	Developing Motor	Main Drive Unit	M2	"Removing the Developing Motor" on page 195	-
[4]	Patch Density/Registration Sensor Unit	Product Configuration	-	"Removing the Patch Density and Registra-tion Sensor unit" on page 193	-
[5]	Secondary Transfer Outer Roller	Secondary Transfer Feed Unit	-	"Removing the Secondary Transfer Outer Roller" on page 198	-

Image Formation System Disassembly/Assembly Procedure

🔵 Removing the ITB Unit

■ Preparation

1. **Removing the Cartridge Tray.(Refer to "Removing the Cartridge Tray" on page 128)**

■ Procedure

> **CAUTION:**
> Be sure not to touch the surface of the ITB and the Secondary Transfer Roller when disassembling/assembling.

1. **Pull out the Patch Density/Registration Sensor Unit [1] toward the front.**
   - 2 Screws [2]
   - 2 Bosses [3]
   - 2 Protrusions [4]
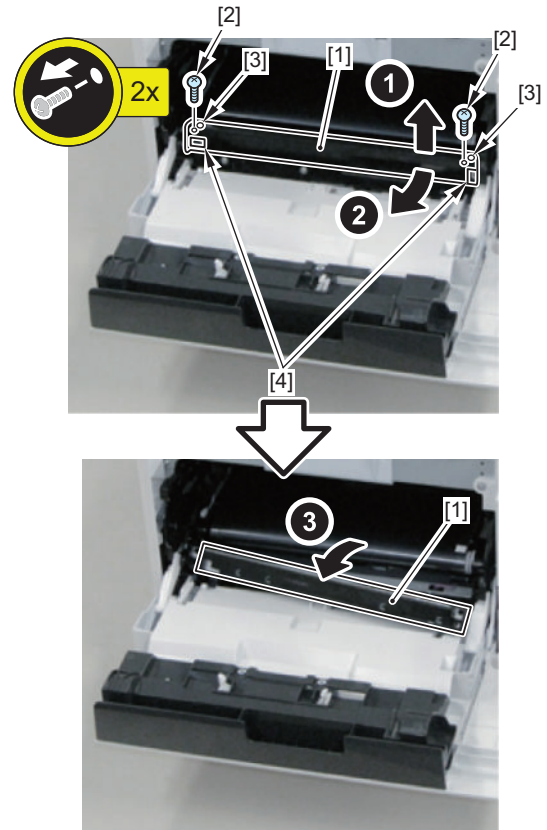
When it is difficult to pull out the Patch Density/Registration Sensor Unit toward the front and there is a risk of contact with the ITB, refer to "Removing the Patch Density and Registration Sensor Unit" so that the Patch Density/Registration Sensor Unit [1] can be further pulled out. (Refer to "Removing the Patch Density and Registration Sensor unit" on page 193)

2. **Disconnect the connector [1].**
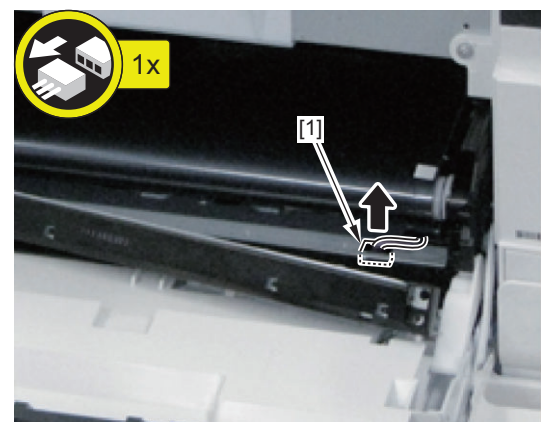
3. Lift the 2 parts [A] at the front side of the ITB Unit to release the 2 protrusions [1].
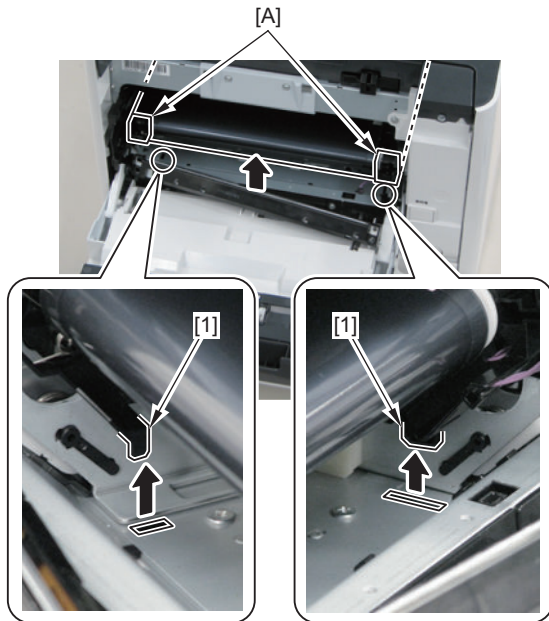
CAUTION:

Be careful not to hit the ITB [1] against the Patch Density/Registration Sensor Unit [2] at the lower side and the frame [3] at the upper side when installing/removing.
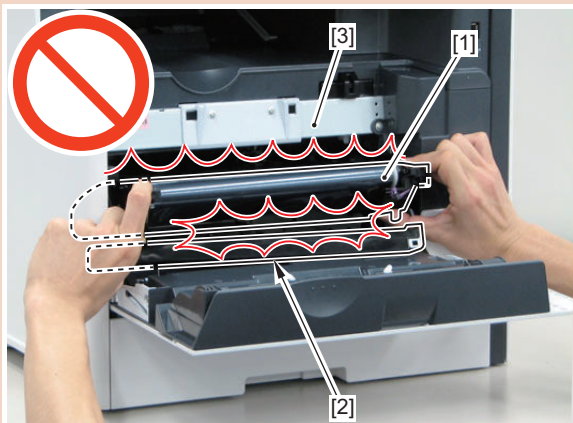
4. Open the Rear Cover [1].

5. Hold the 2 parts [A] at the front side of the ITB Unit to tilt the ITB Unit [2].

6. Slide the 2 parts [B] at the rear side of the ITB Unit along the rails [3], and remove the ITB Unit [2] by pulling it out.
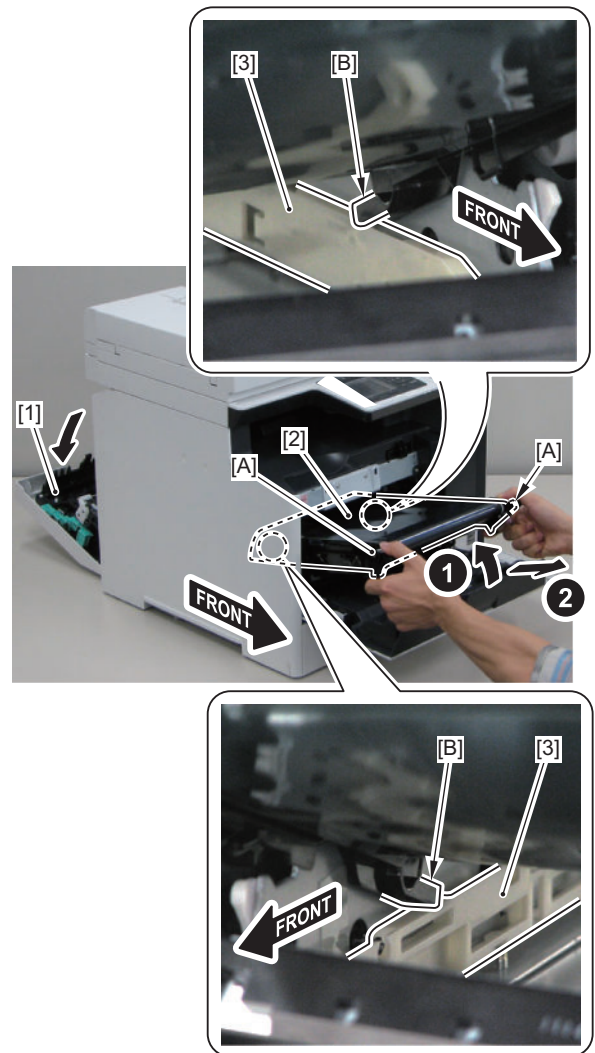
CAUTION:
Be sure to install the harness [1] to the guide [A] of the ITB Unit when installing.

● Removing the Patch Density and Registration Sensor unit

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

4. Removing the ADF Unit + Reader Unit.(Refer to **"Removing the ADF Unit + Reader Unit" on page 131**)

5. Removing the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

6. Removing the Upper Cover.(Refer to **"Removing the Upper Cover" on page 126**)

7. Removing the High Voltage Power Supply PCB. (Refer to **"Removing the High Voltage Power Supply PCB" on page 163**)

8. Removing the Cartridge Tray.(Refer to **"Removing the Cartridge Tray" on page 128**)

■ Procedure

CAUTION:
Be sure not to touch the surface of the ITB and the Secondary Transfer Roller when disassembling/ assembling.

1. **Remove 1 connector [1], and remove the wire harness [2] from the wire harness guide [3].**
   • 8 fixing guides [4]
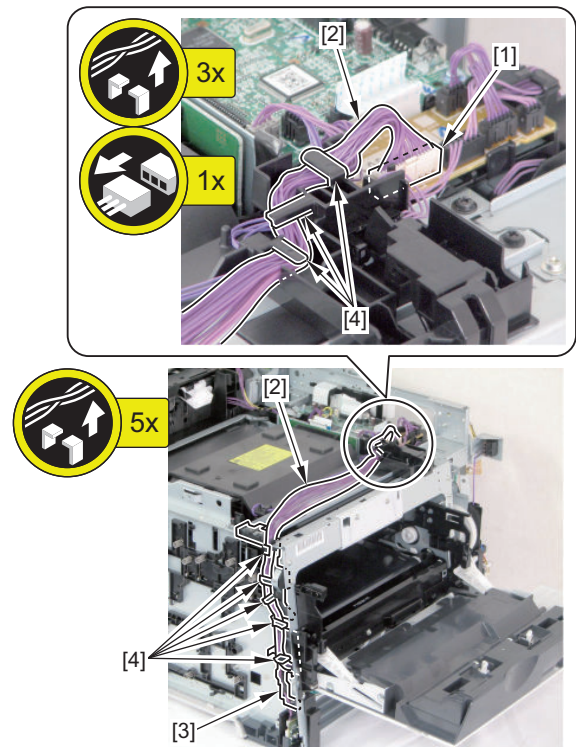
2. **Move the Patch Density and Registration Sensor Unit [1].**
   - 2 Screws [2]
   - 2 Bosses [3]
   - 2 Protrusions [4]
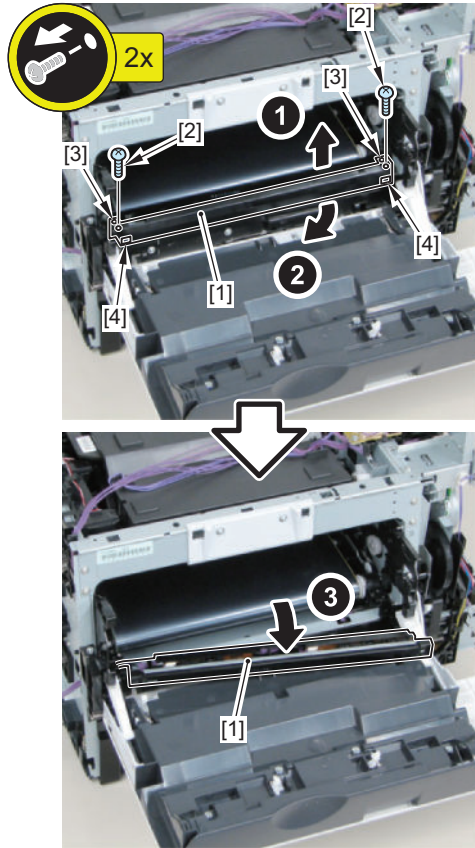
3. **Disconnect the connector [1].**
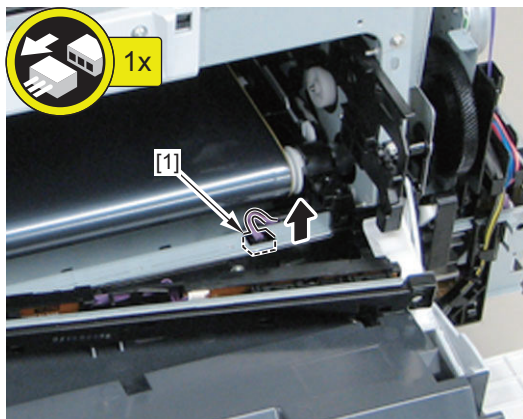
4. **Lift the 2 parts [A] at the front side of the ITB Unit to release the 2 protrusions [1].**
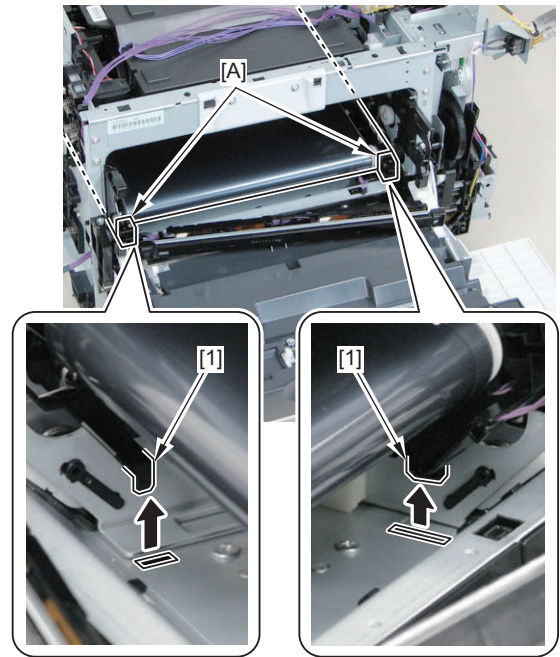
5. **Put the connector [1] through the hole [A] and remove the Patch Density/Registration Patch Sensor Unit [2].**
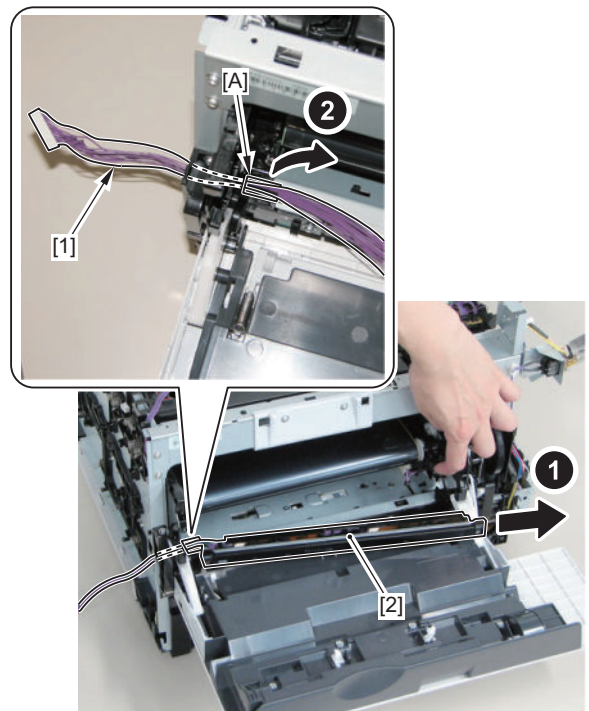
NOTE:
When it is difficult to put the connector [1] of the Patch Density/Registration Sensor Unit [2] through the hole [A], refer to the following steps to remove the Front Cover Link Arm (Left) so that the connector [1] can be put through the hole [A] more easily.

● Removing the Front Cover Link Arm (Left)

1. Remove the Front Cover. (Refer to **"Removing the Front Cover" on page 123**)

2. Lift the Patch Density/Registration Sensor Unit [1] to remove the Front Cover Link Arm (Left) [2].
   - 3 Screws [3]
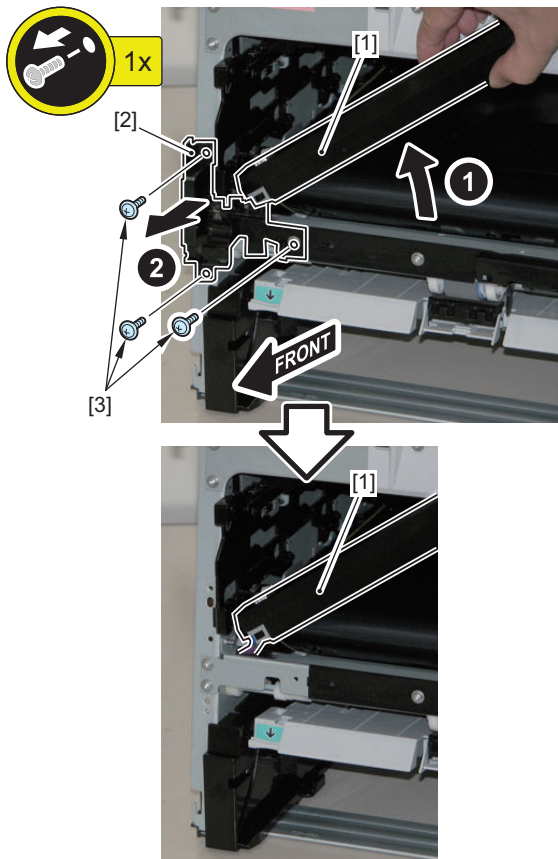
🔵 Removing the Developing Motor

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)
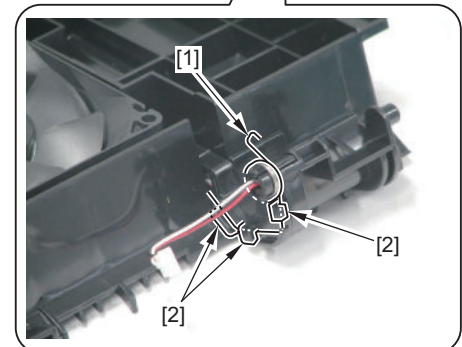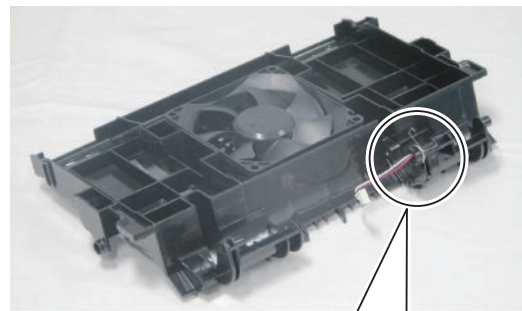
2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

4. Removing the ADF Unit + Reader Unit.(Refer to **"Removing the ADF Unit + Reader Unit" on page 131**)

5. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

6. Removing the Upper Cover.(Refer to **"Removing the Upper Cover" on page 126**)

7. Removing the Upper Cover.(Refer to **"Removing the Wireless LAN PCB" on page 157**)

8. Removing the Main Controller PCB.(Refer to **"Removing the Main Controller PCB" on page 157**)

9. Removing the Main Controller Support Plate.(Refer to **"Removing the Main Controller Support Plate" on page 161**)

■ Procedure

1. Remove the fixing guide [1] and the wire harness [2].
   - 1 screw [3]
   - 11 connectors [4]

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2. Remove the wire harness guide [1].

- 1 claw [2]
- 2 hooks [3]

3. Remove the Developing Motor [1].

- 3 screws [2]
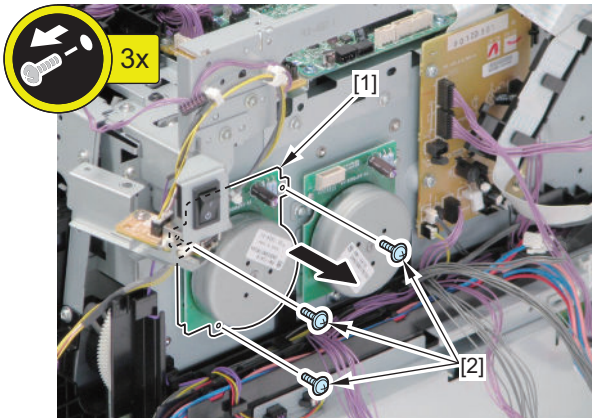
CAUTION:

Be sure to identify the Drum Motor and the Developing Motor by the difference in gears.

- Gear [1] of the Drum Motor: White, with a groove [A] on its side
- Gear [2] of the Developing Motor: Black, with no groove
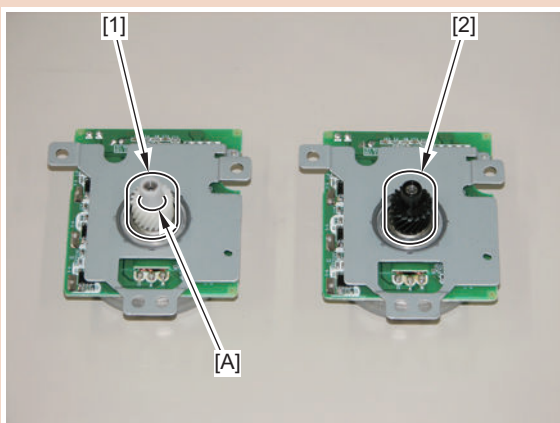
Removing the Drum Motor

■ Preparation

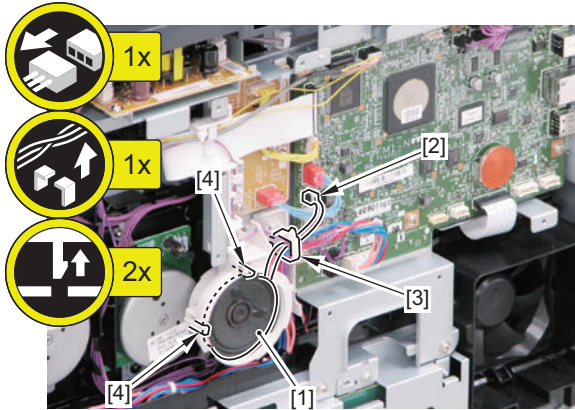1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Right Front Cover.(Refer to **"Removing the Right Front Cover" on page 122**)

4. Removing the ADF Unit + Reader Unit.(Refer to **"Removing the ADF Unit + Reader Unit" on page 131**)

5. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

6. Removing the Upper Cover.(Refer to **"Removing the Upper Cover" on page 126**)

7. Removing the Wireless LAN PCB.(Refer to **"Removing the Wireless LAN PCB" on page 157**)

8. Removing the Main Controller PCB.(Refer to **"Removing the Main Controller PCB" on page 157**)

9. Removing the Main Controller Support Plate.(Refer to **"Removing the Main Controller Support Plate" on page 161**)

■ Procedure

1. **Remove the fixing guide [1] and the wire harness [2].**
   - 1 screw [3]
   - 11 connectors [4]

2. **Remove the wire harness guide [1].**
   - 1 claw [2]
   - 2 hooks [3]
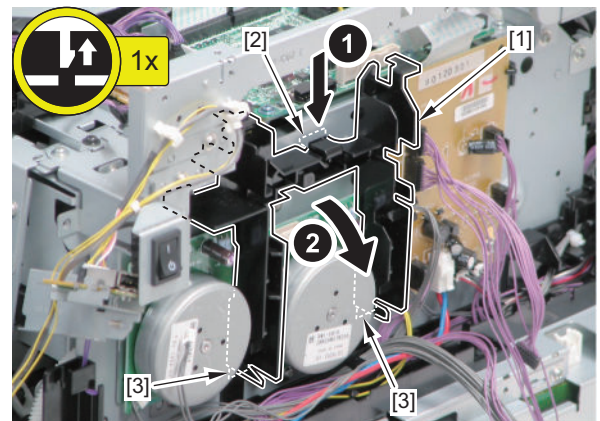
3. **Remove the Drum Motor [1].**
   - 3 screws [2]
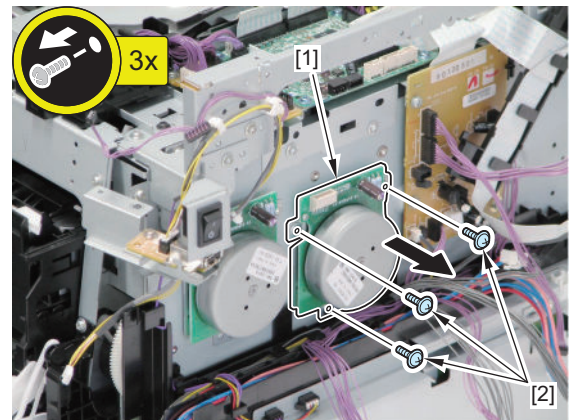
CAUTION:
Be sure to identify the Drum Motor and the Developing Motor by the difference in gears.
   - Gear [1] of the Drum Motor: White, with a groove [A] on its side
   - Gear [2] of the Developing Motor: Black, with no groove
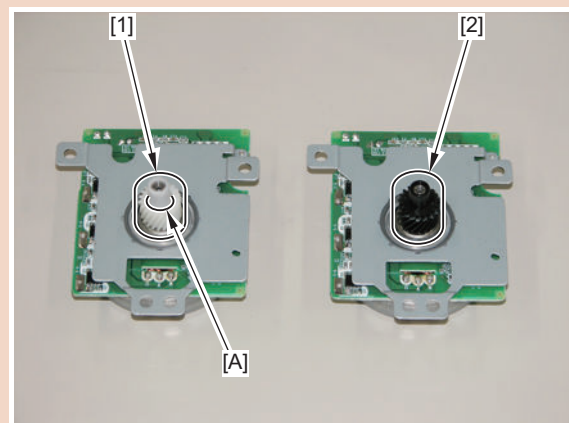
⬤ Removing the Secondary Transfer Outer Roller

CAUTION:
Secondary Transfer Outer Roller is included in Secondary Transfer FeedUnit so when replacing the Secondary Transfer Outer Roller, be sure toreplace the Secondary Transfer Feed Unit itself. (Refer to)

Fixing System

🔵 Location
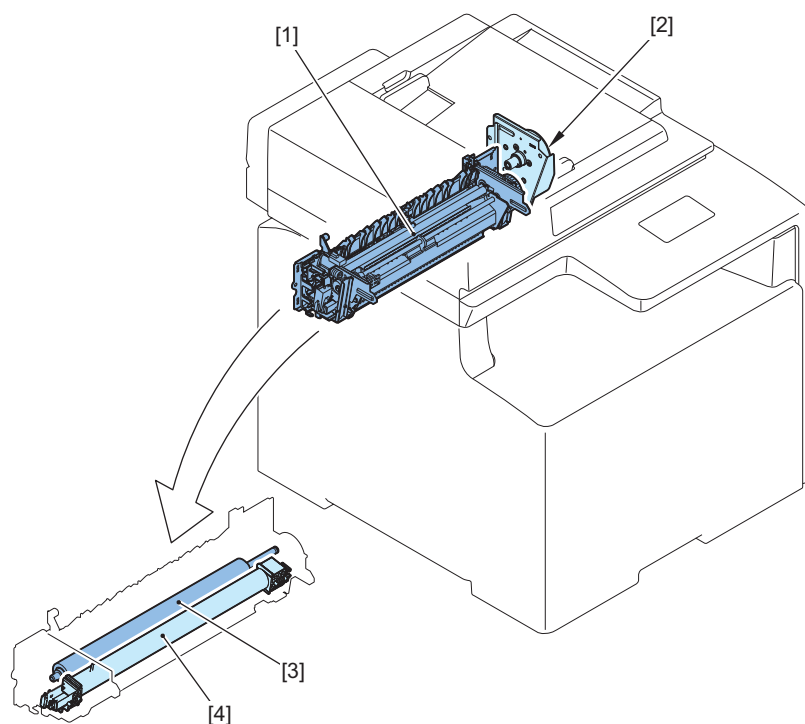
No.	Parts Name	Main Unit	Re-marks	Reference	Adjastment during parts replacement
[1]	Fixing Assembly	Product Configuration	-	"Removing the Fixing Assembly" on page 200	-
[2]	Fixing Motor Unit	Product Configuration	M4	"Removing the Fixing Motor Unit" on page 205	-
[3]	Fixing Pressure Roller	Fixing Assembly	-	"Removing the Fixing Pressure Roller" on page 205	-
[4]	Fixing Film Unit	Fixing Assembly	-	"Removing the Fixing Film Unit" on page 201	-

Fixing System Disassembly/ Assembly Procedure

🔵 Removing the Fixing Assembly

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

4. Removing the Rear Cover.(Refer to **"Removing the Rear Cover" on page 124**)

5. Removing the Rear Lower Cover.(Refer to **"Removing the Rear Lower Cover" on page 124**)

6. Removing the Rear Cover Rib Unit.(Refer to **"Removing the Rear Cover Rib Unit" on page 126**)

7. Removing the Duplex Printing Reverse Drive Unit. (Refer to **"Removing the Duplex Reverse Drive Unit" on page 179**)

■ Procedure

> **CAUTION:**
> When removing the fixing unit, be sure to turn OFF the power.
> Since the fixing assembly is extremely hot just after the printing, do not handle it unless it cools down completely.
> If you touch the high-temperature assembly, it may cause a burn.

1. Remove the claw [2] of the harness guide [1] and disconnect the connector [3].
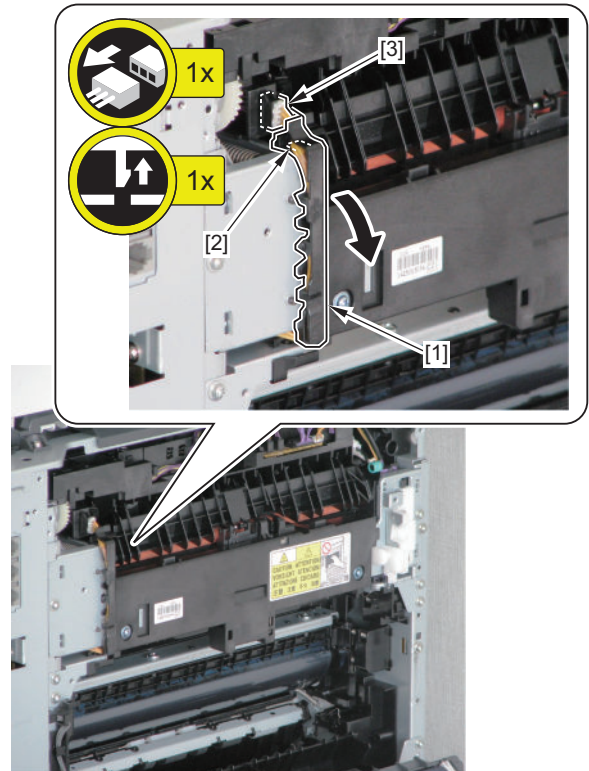
2. **Free the harness [1] from the harness guide [2].**
   - 3 connectors [3]
   - 2 fixing guides [4]
   - 1 wire saddle [5]
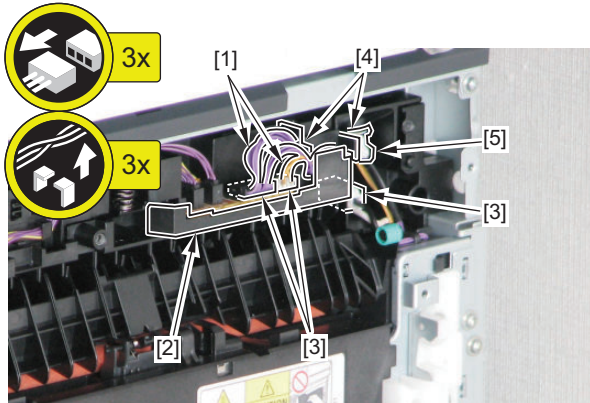
CAUTION:

When the fixing assembly is installed, handle the harness [1] like the figure to prevent papers from the interference at the transit.
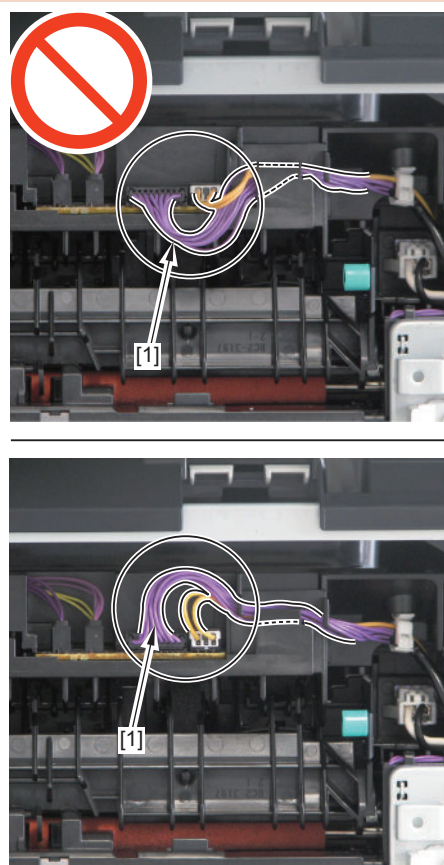
3. **Remove the Fixing Assembly [1].**
   - 2 screws [2]
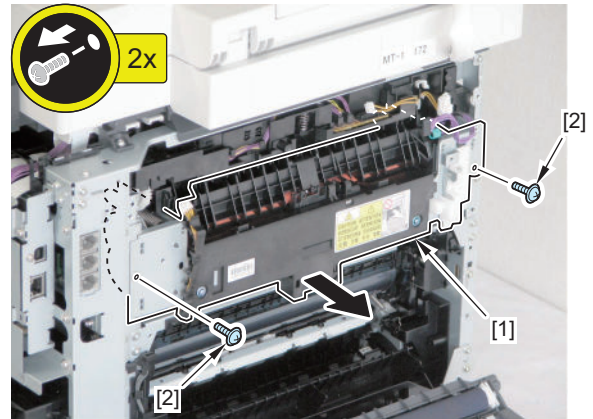
● Removing the Fixing Film Unit

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

4. **Removing the Rear Cover.(Refer to "Removing the Rear Cover" on page 124)**

5. **Removing the Rear Lower Cover.(Refer to "Removing the Rear Lower Cover" on page 124)**

6. **Removing the Rear Cover Rib Unit.(Refer to "Removing the Rear Cover Rib Unit" on page 126)**

7. **Removing the Duplex Printing Reverse Drive Unit. (Refer to "Removing the Duplex Reverse Drive Unit" on page 179)**

8. **Removing the Fixing Assembly.(Refer to "Removing the Fixing Assembly" on page 200)**

■ Procedure

1. **Remove the 2 Pressure Springs [1] on the right and left and the 2 Pressure Plates [2].**

    - 4 Hooks [3]
    - 4 Bosses [4]
    - 2 Protrusions [5]
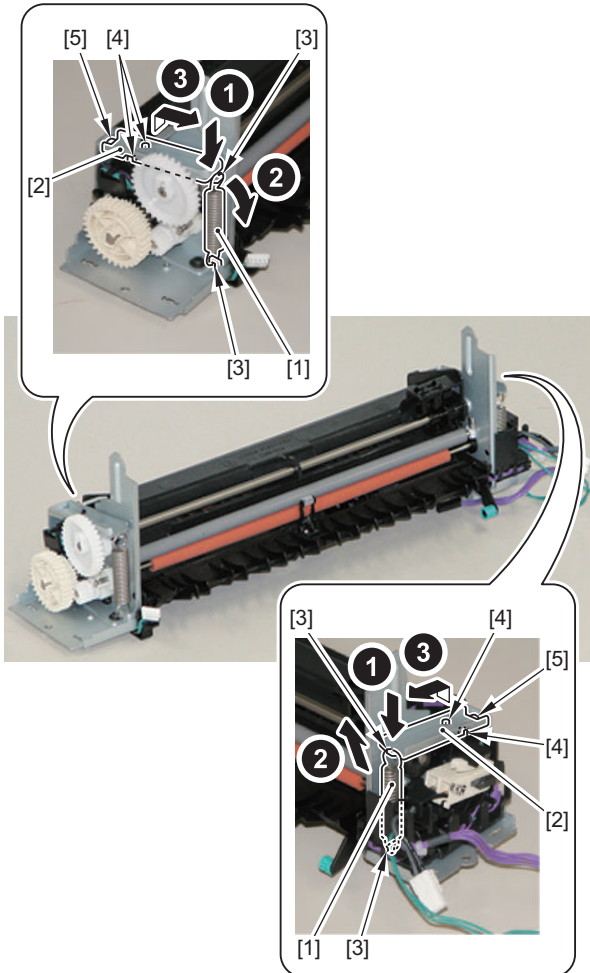
2. **Remove the gear [1], 2 Parallel Pins [2], E-Ring [3], cam [4], and bushing [5].**

    - 1 Claws [6]
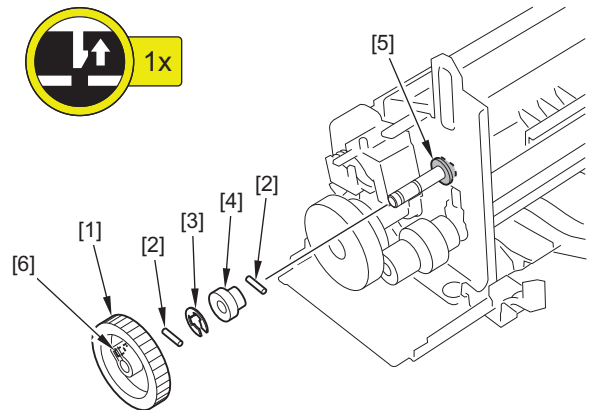
CAUTION:
At installation, be sure to match the direction of the cam [4] with that of the cam [6] on the other side of the Fixing Assembly.
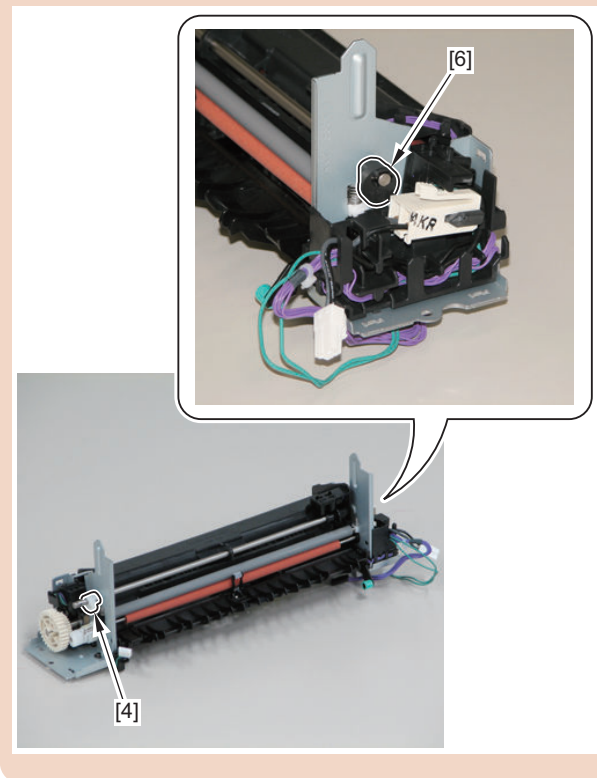
3. **After sliding the shaft [1] to remove the Parallel Pins [2] and the cam [3], remove the shaft [1] and the Sensor Flag [4].**
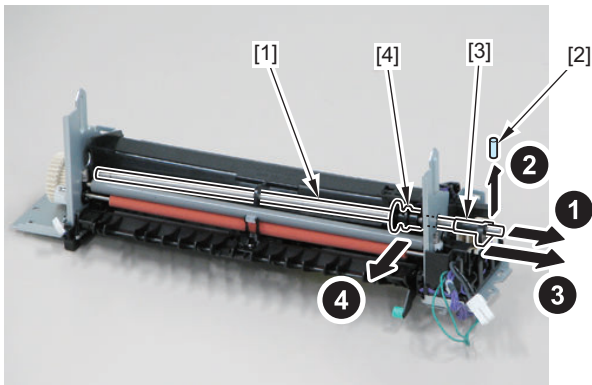
CAUTION:

At installation, be sure to align the protrusion of the cam [1] with the groove of the Sensor Flag [2].
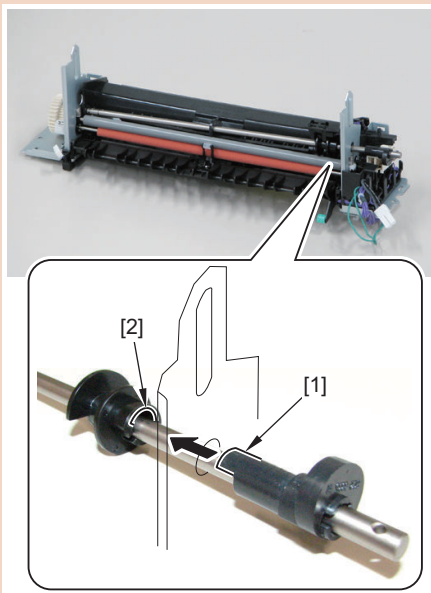
CAUTION:

Be sure to prevent the guide [1] from hitting against the Fixing Film Unit [2] when installing/removing.
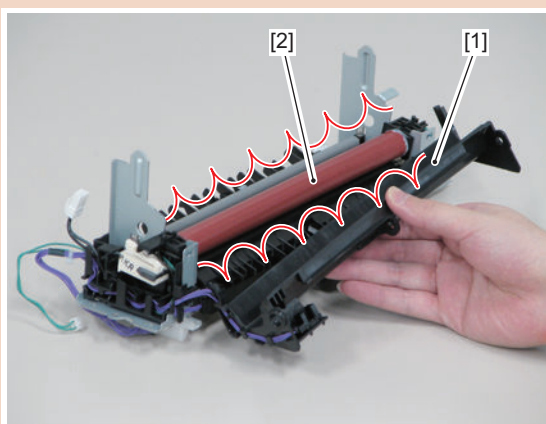
4. **While securing the harness [1] to the guide [A], remove the harness [1] and the guide [2].**

   • Harness Guide [B]
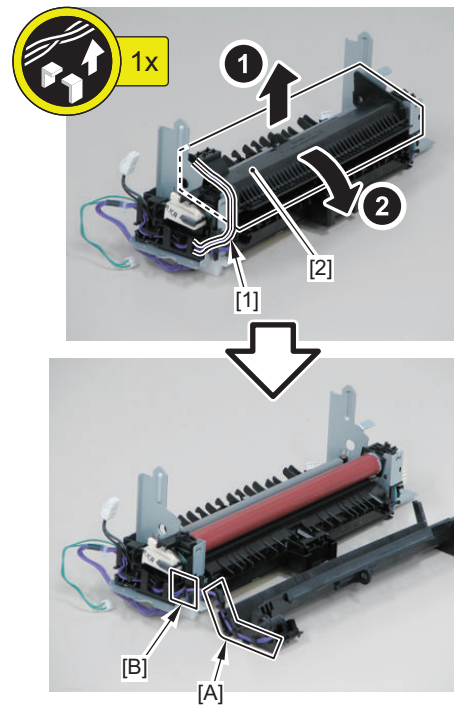
5. **Free the harness (black) [1] from the Harness Guide [A], [B], [C] and [D].**
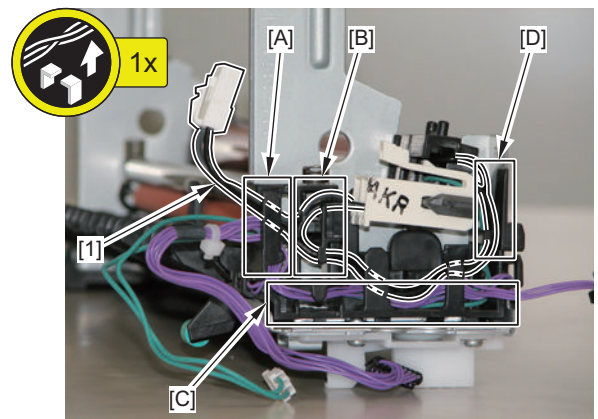
6. **Free the harness (purple) [1] from the Harness Guide [A] and [C].**

7. **Free the harness (green) [2] from the Harness Guide [A], [C] and [D].**
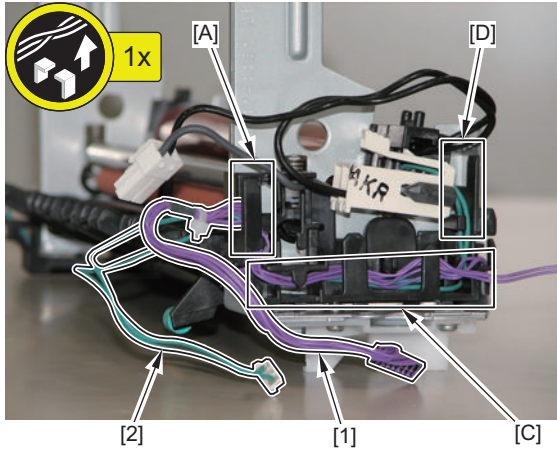
8. **Remove the harness [1] and the guide [2].**
   - 1 Claws [3]
   - 2 Bosses [4]
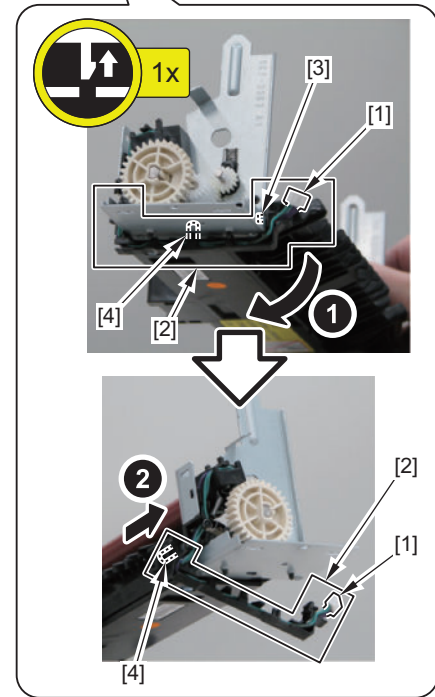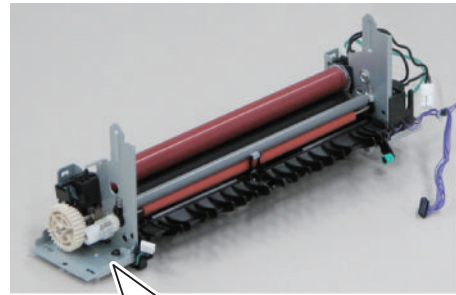
CAUTION:
When installing/removing the Fixing Film Unit, be sure not to touch the Fixing Film [1].

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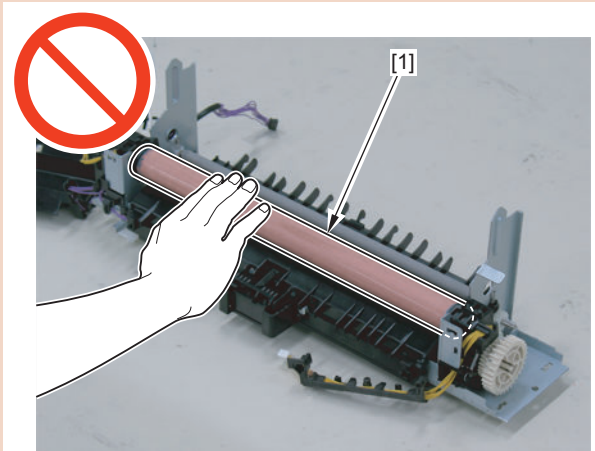
9. **Remove the spring [1] and the Fixing Film Unit [2].**
   - 2 Hooks [3]
   - Harness Guide [A]
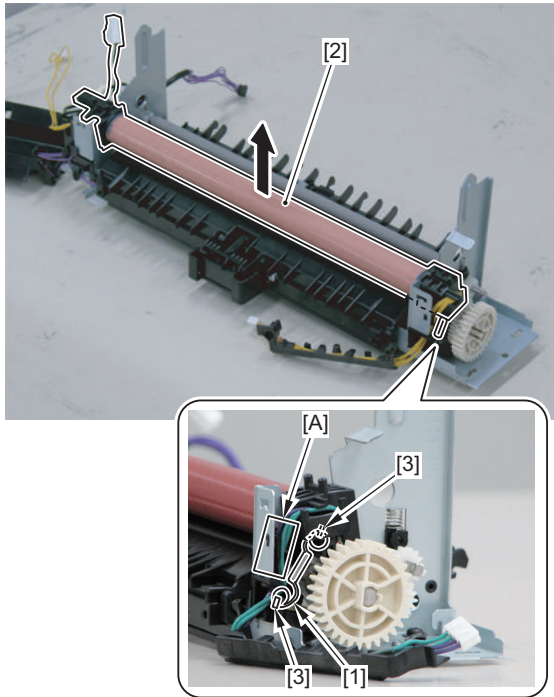
CAUTION:
Be careful not to lose the spring because the spring is small.

🔵 Removing the Fixing Pressure Roller

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

4. **Removing the Rear Cover.(Refer to "Removing the Rear Cover" on page 124)**

5. **Removing the Rear Lower Cover.(Refer to "Removing the Rear Lower Cover" on page 124)**

6. **Removing the Rear Cover Rib Unit.(Refer to "Removing the Rear Cover Rib Unit" on page 126)**

7. **Removing the Duplex Printing Reverse Drive Unit. (Refer to "Removing the Duplex Reverse Drive Unit" on page 179)**

8. **Removing the Fixing Assembly.(Refer to "Removing the Fixing Assembly" on page 200)**

9. **Removing the Fixing Film Unit.(Refer to "Removing the Fixing Film Unit" on page 201)**

■ Procedure

CAUTION:
Be sure not to touch the surface of the Fixing Pressure Roller.

1. **Remove the Fixing Pressure Roller [1].**
   - 2 Bushings [2]
   - 1 Gear [3]
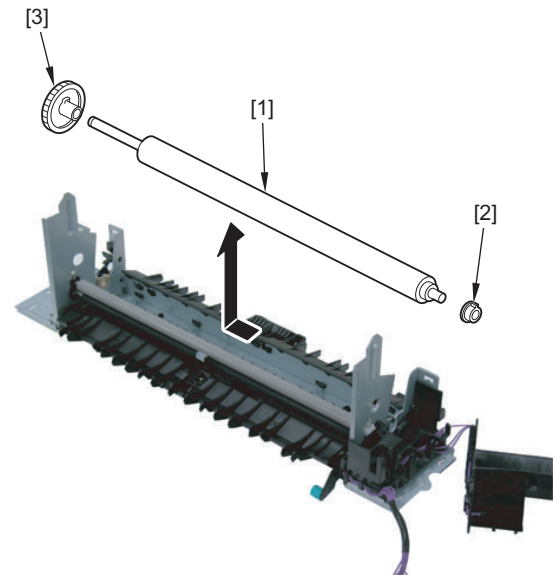
🔵 Removing the Fixing Motor Unit

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Controller Cover.(Refer to "Removing the Controller Cover" on page 157)**

3. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

4. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

5. **Removing the Main Controller Support Plate.(Refer to "Removing the Main Controller Support Plate" on page 161)**

6. **Removing the FAX PCB.(Refer to "Removing the FAX PCB" on page 171)**

7. **Removing the Fixing/Fixing Power Supply Cooling Fan Unit.(Refer to "Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180)**

8. **Removing the Fixing Sub PCB.(Refer to "Removing the Fixing Sub PCB" on page 165)**

■ Procedure

1. **Free the harness [1] to remove the Sub Power Supply PCB Holder [2].**

   - 2 Claws [3]
   - 2 Bosses [4]
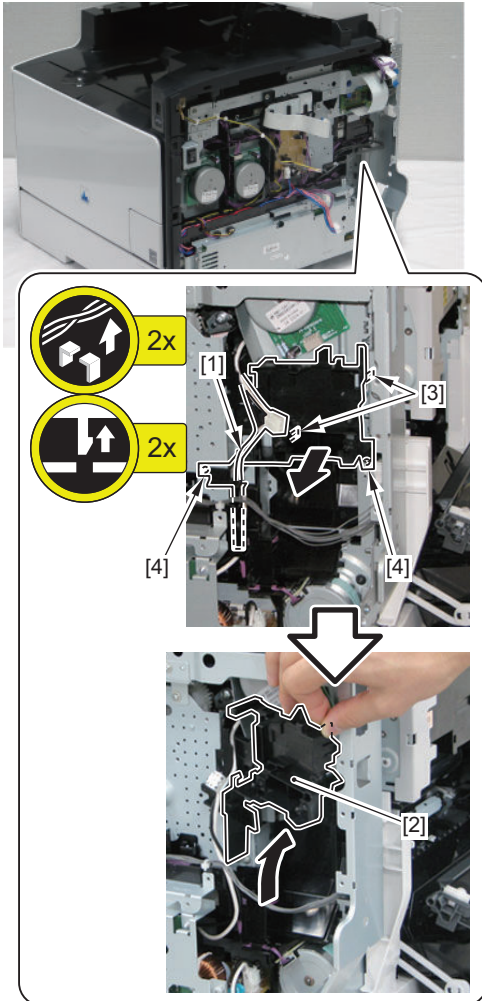
2. **Remove the Fixing Motor unit [1].**

   - 3 screws [2]
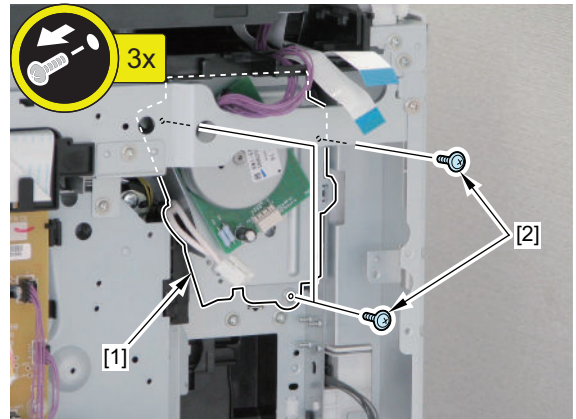
CAUTION:
When removing the Fixing Motor Unit, do not lose the spring [1] in the backside.

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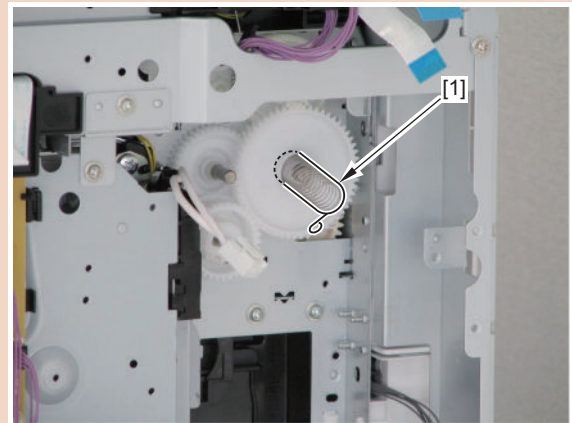
CAUTION:

In installation, put the edge of the spring [1] and the projection [2] of the gear into the hole on the sheet metal.
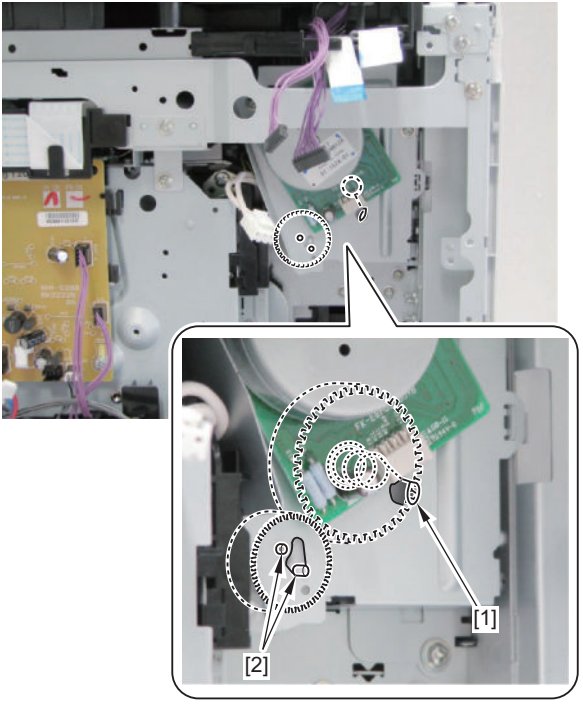
Pickup Feeder System

🔵 Location
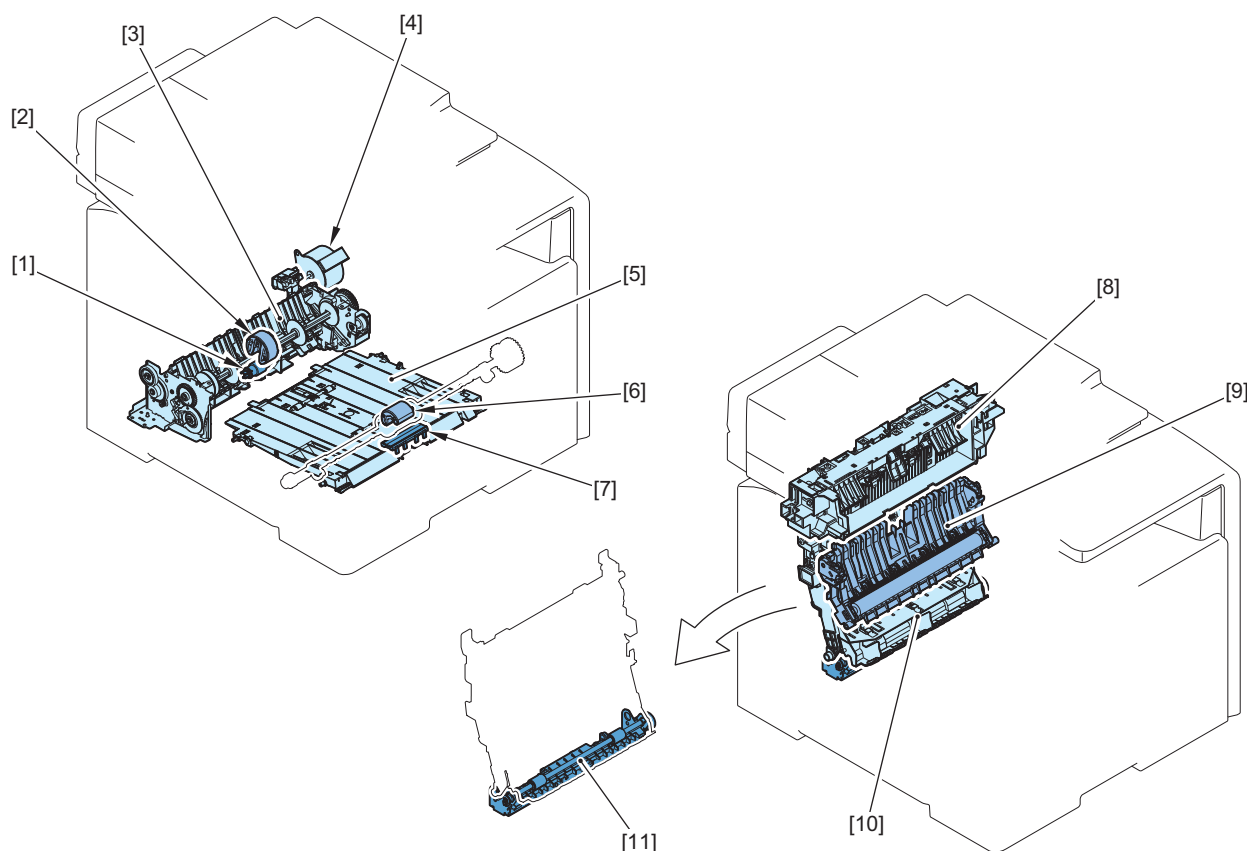
No.	Parts Name	Main Unit	Re-marks	Reference	Adjust-ment during parts re-place-ment
[1]	Cassette Separation Roller	Paper Pickup Unit	-	"Removing the Cassette Separation Roller" on page 210	-
[2]	Cassette Pickup Roller	Paper Pickup Unit	-	"Removing the Cassette Pickup Roller" on page 209	-
[3]	Paper Pickup Unit	Product Configuration	-	"Removing the Pickup Unit" on page 213	-
[4]	Pickup Motor	Product Configuration	M5	"Removing the Pickup Motor" on page 212	-
[5]	MP Paper Pickup Unit	Product Configuration	-	"Removing the MP Tray Pickup Unit" on page 218	-
[6]	MP Paper Pickup Roller	MP Paper Pickup Roller Unit	-	"Removing the MP Tray Pickup Roller" on page 211	-
[7]	MP Separation Pad	MP Paper Pickup Unit	-	"Removing the MP Tray Separation Pad" on page 211	-
[8]	Delivery Unit	Product Configuration	-	"Removing the Delivery Unit" on page 220	-
[9]	Secondary Transfer Feed Unit	Product Configuration	-	"Removing the Secondary Transfer Feed Unit" on page 219	-
[10]	Duplex Feed Unit	Product Configuration	-	"Removing the Duplex Feed Unit" on page 221	-
[11]	Re-Pickup Guide Unit	Product Configuration	-	"Removing the Re-pickup Guide Unit" on page 222	-

Pickup Feeder System Disassembly/Assembly Procedure

🔵Removing the Cassette Pickup Roller

■ Procedure

CAUTION:
Be sure not to touch the surface of the Cassette Pickup Roller [1] and the Cassette Separation Roller [2].
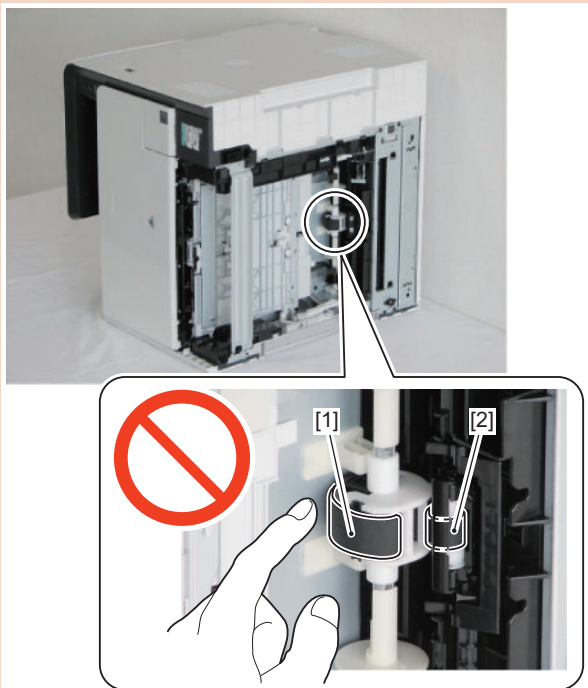
1. **Turn ON the power switch.**

2. **Execute the following items in Service mode.**
   COPIER > FUNCTION > VIFFNC > FD-R-CHG

3. **The Pickup Roller rotates and stops at the replacement position.**

4. **Disconnect the Inlet Connector.**

5. **Remove the cassette.**

CAUTION:
Before tilting a host machine, remove toner cartridges (Y, M, C, Bk).

6. **Place a host machine [1] as the Left Cover faces to the bottom.**

CAUTION:
When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening. In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.

BOTTOM VIEW
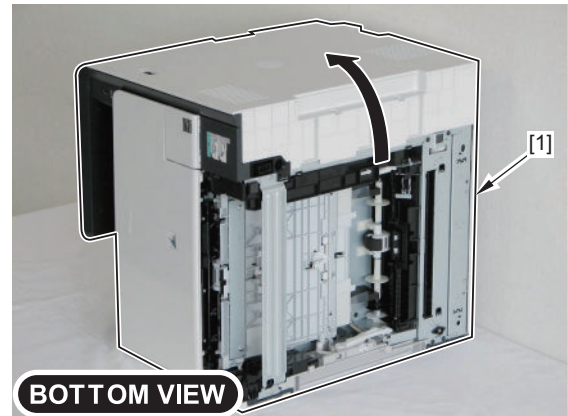
7. **Open 2 projections [1], and remove the Pickup Roller [2].**
   - 2 Claws [3]
   - 2 Hooks [4]
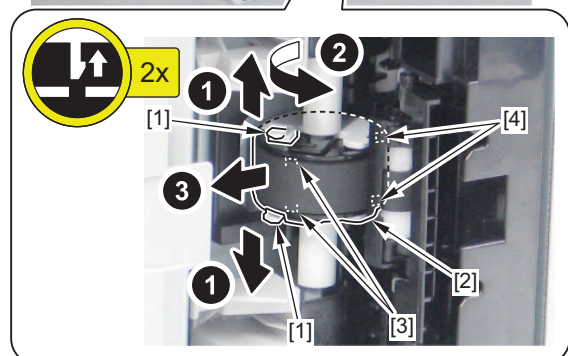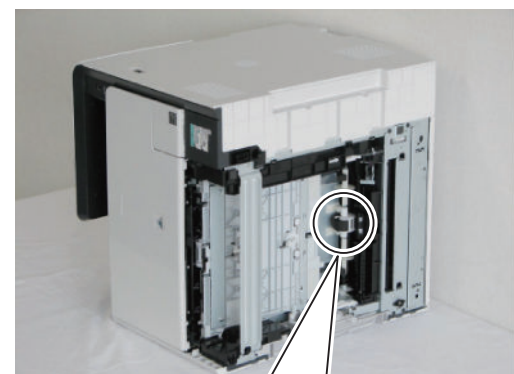
8. **After replacing the Pickup Roller, turn ON the power, and return it to its original position from the replacement position.**

🔵 Removing the Cassette Separation Roller

■ Procedure

CAUTION:
Be sure not to touch the surface of the Cassette Pickup Roller [1] and the Cassette Separation Roller [2].

CAUTION:
When tilting the host machine, remove the Toner Cartridge (Y, M, C, Bk) beforehand.

1. **Remove the cassette.**

2. **Make the Left Cover face down and place the host machine [1].**

CAUTION:
When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.
In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.
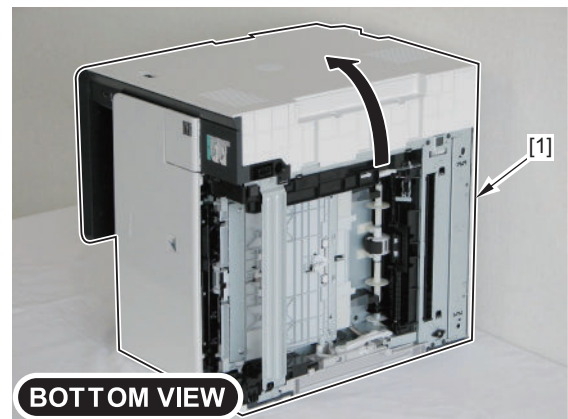
3. **Remove the 2 projections [1] to remove the Cover [2].**
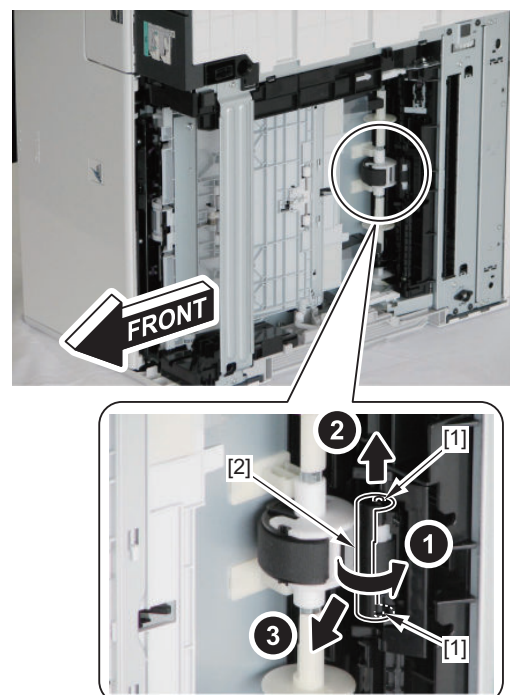
4. **Open the Holder [1] remove the Cassette Separation Roller [2].**
   - 2 Claws [3]
   - 1 projection [4]
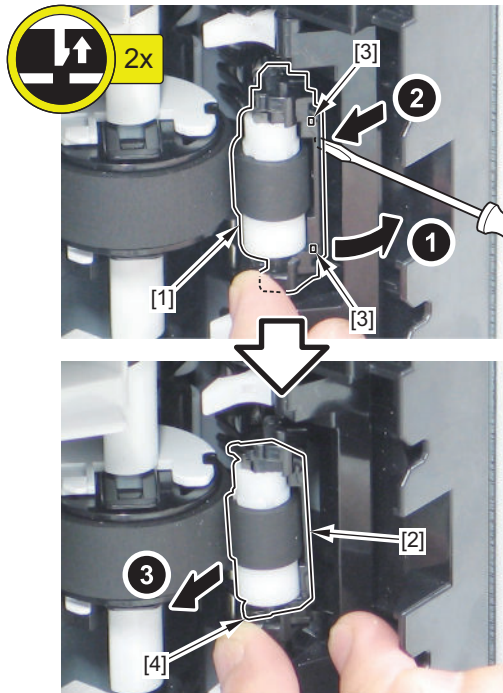
CAUTION:
At installation, be sure to align the protrusion [A] of the Cassette Separation Roller [2] with the groove [B] of the holder while opening the holder [1].
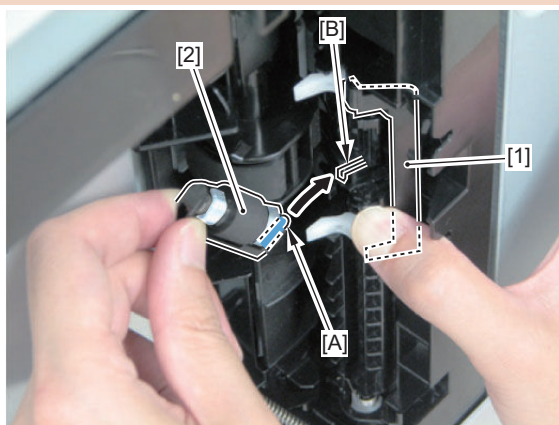
Removing the MP Tray Pickup Roller

■ Procedure

CAUTION:
Do not touch the surface of the Multi-purpose Tray Pickup Roller.

1. **Turn ON the power switch.**

2. **Execute the following items in Service mode.**
   COPIER > FUNCTION > VIFFNC > FD-R-CHG

3. **The Multi-purpose Tray Pickup Roller rotates to the replacement position.**

4. **Remove the cassette.**

5. **Lower the Multi-purpose Tray [1].**

6. **Remove the Multi-purpose Tray Pickup Roller [2].**
   - 2 Claws [3]
   - 2 Shafts [4]
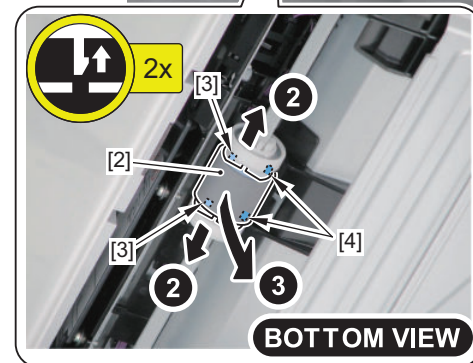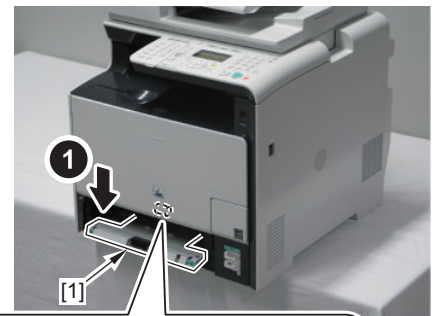
7. **After replacing the Multi-purpose Tray Pickup Roller, turn OFF and then ON the power, and then return it to its original position from the replacement position.**

Removing the MP Tray Separation Pad

■ Procedure

CAUTION:
Do not touch the surface of the Multi-purpose Tray Separation Pad.

1. **Put a Screwdriver into the gap [2] between the MP Tray Separation Pad [1] and the Pad Holder.**
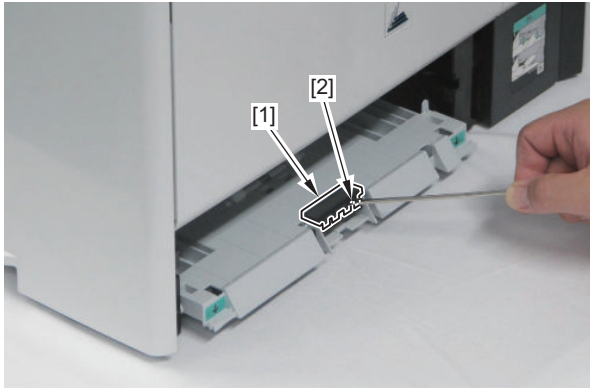
2. **Turn the Screwdriver in the direction of the arrow to remove the MP Tray Separation Pad [1].**
   - 4 claws [2]

Removing the Pickup Motor

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Right Front Cover.(Refer to "Removing the Right Front Cover" on page 122)**

4. **Removing the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

5. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

6. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

7. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

8. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

9. **Removing the Main Controller Support Plate.(Refer to "Removing the Main Controller Support Plate" on page 161)**

10. **Removing the Fixing/Fixing Power Supply Cooling Fan Unit.(Refer to "Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180)**

■ Procedure

1. **Remove the wire harness [2] from the wire harness guide [1].**
   - 8 connectors [3]
   - 10 fixing guides [4]

2. Free the harness [1] and [2] from the Harness Guide [A] and [B].

3. Remove the Harness Guide [1].

- Harness Guide [A]
- 2 Boss [2]
- 2 Hooks [3]

4. Remove the Pickup Motor [1].

- 2 Screws [2]
- 1 Connector [3]
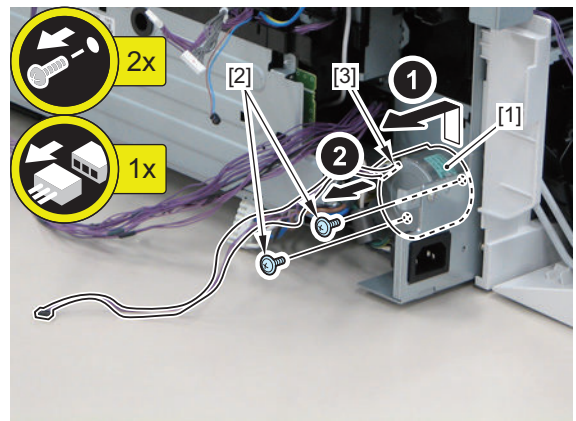
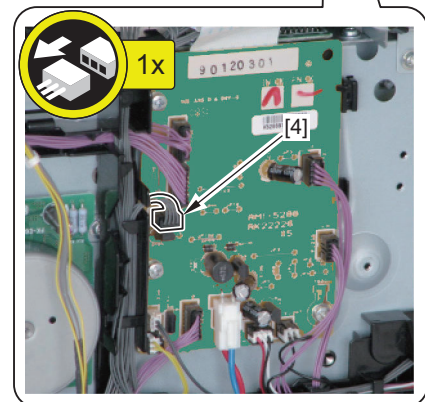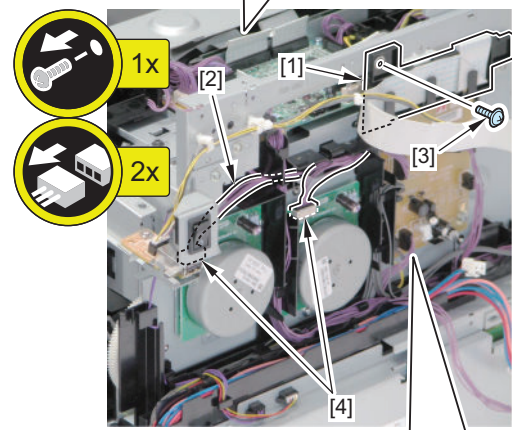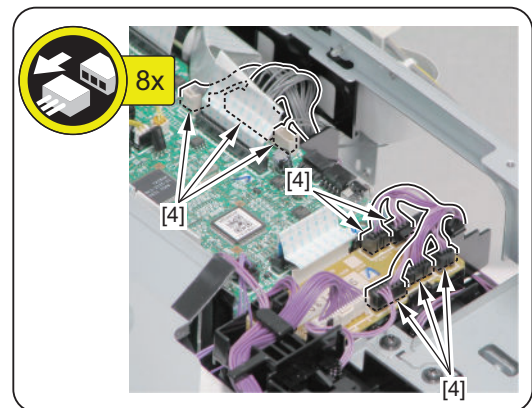
Removing the Pickup Unit

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Right Front Cover.(Refer to "Removing the Right Front Cover" on page 122)**

4. **Removing the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

5. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

6. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

7. **Removing the Wireless LAN PCB.(Refer to "Removing the Wireless LAN PCB" on page 157)**

8. **Removing the Main Controller PCB.(Refer to "Removing the Main Controller PCB" on page 157)**

9. **Removing the Main Controller Support Plate.(Refer to "Removing the Main Controller Support Plate" on page 161)**
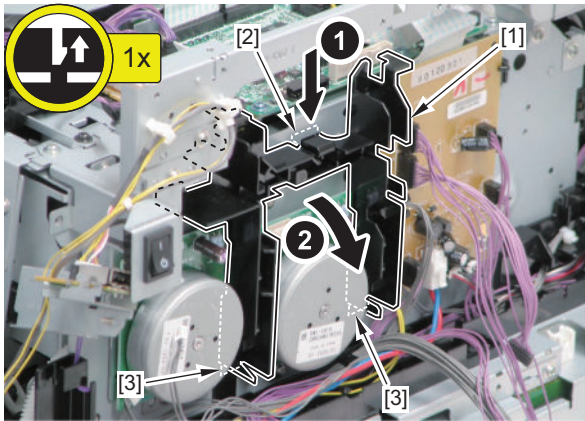
10. **Removing the Fixing/Fixing Power Supply Cooling Fan Unit.(Refer to "Removing the Fixing/Fixing Power Supply Cooling Fan Unit" on page 180)**

■ Procedure

CAUTION:

Be sure not to touch the Secondary Transfer Roller [1] and the ITB [2].
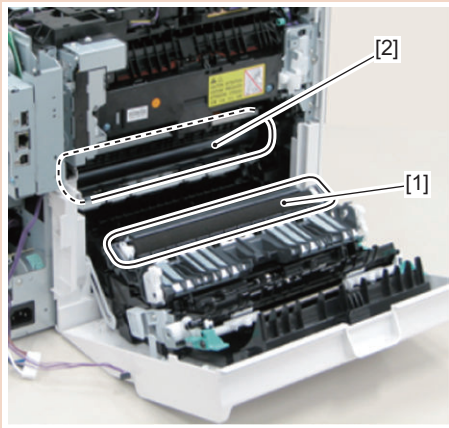
1. **Remove the wire harness [2] from the wire harness guide [1].**
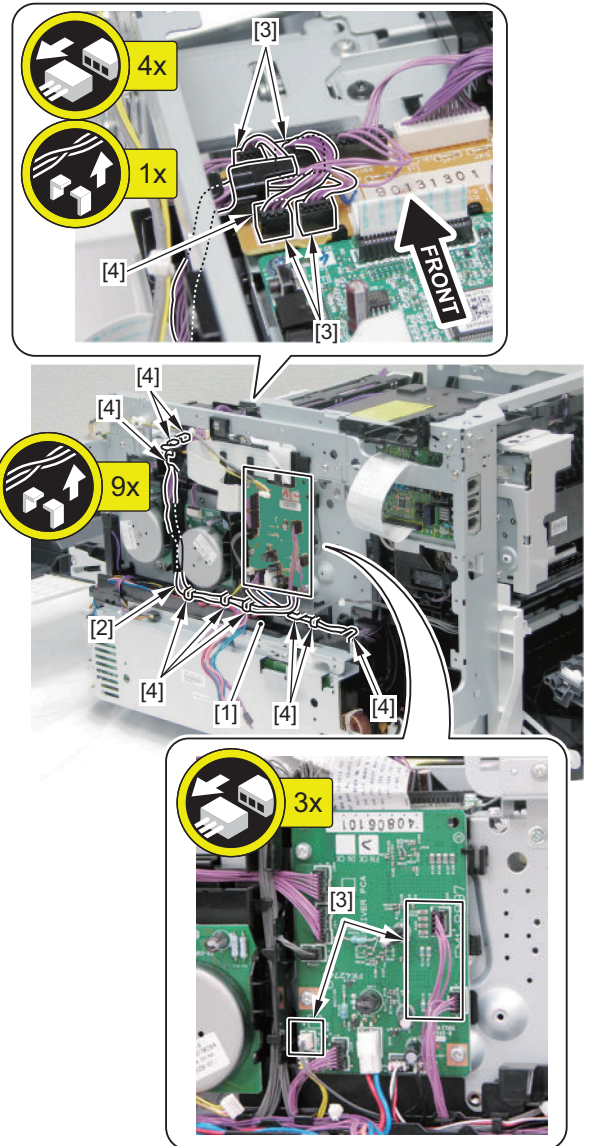
   - 8 connectors [3]
   - 10 fixing guides [4]

2. Free the harness [1] and [2] from the Harness Guide [A] and [B].
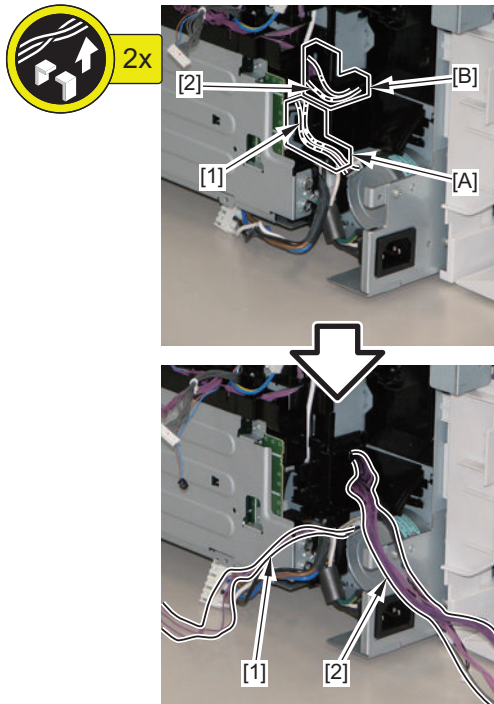
3. Remove the Harness Guide [1].

- Harness Guide [A]
- 2 Boss [2]
- 2 Hooks [3]
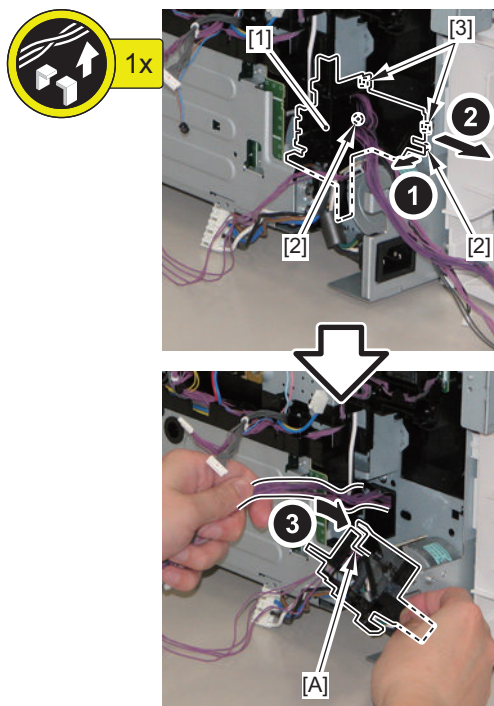
4. Release 2 claws [1], and turn the guide [2] to align the hook [4] with the hole on the arm [3], and remove the arm [3].

- 3 hooks [5]
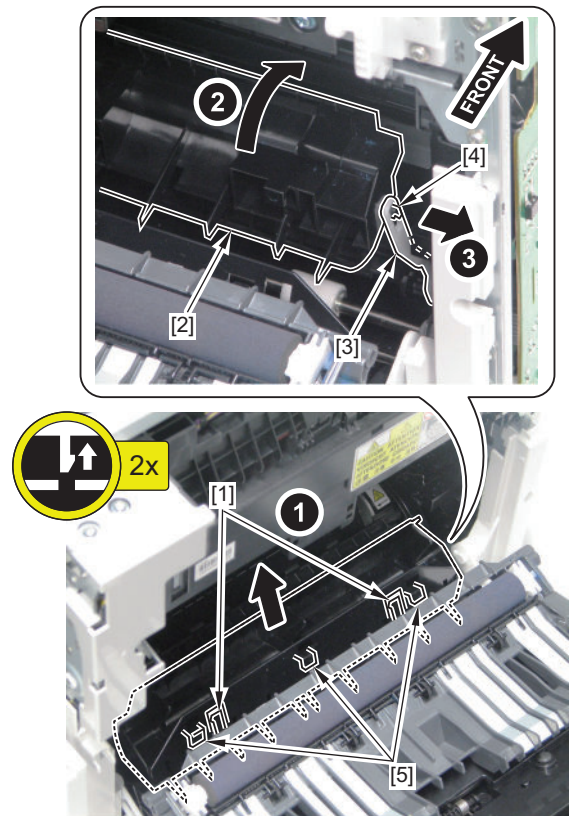
CAUTION:

1. When tilting the host machine, remove the Toner Cartridge (Y, M, C, Bk) beforehand.
2. For protection, install each cover before tilting the machine.
   - Close the Rear Cover [1].
   - Install the Upper Cover [2].
   - Install the Left Cover [3].
   - Close the Front Cover [4].

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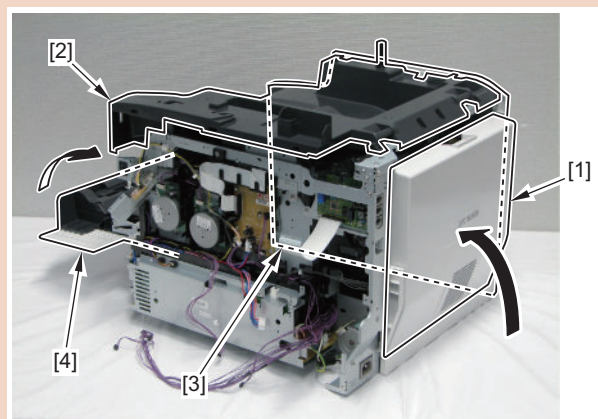
5. Please the machine as the Left Cover faces to the bottom.

BOTTOM VIEW

[1]
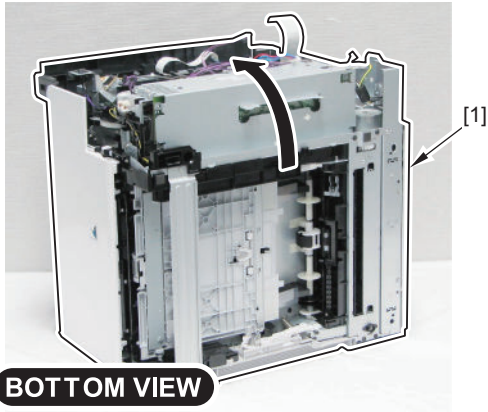
6. Remove the 2 stoppers [2].
- 2 Bosses [3]
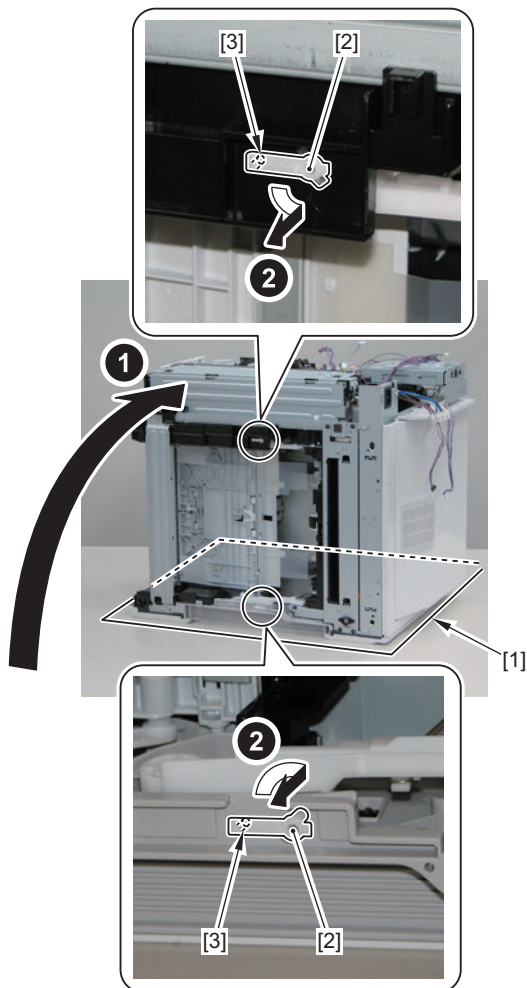
7. Remove the 2 arms [1] and the 2 springs [2].
- 2 Shafts [3]
- 5 Hooks [4]
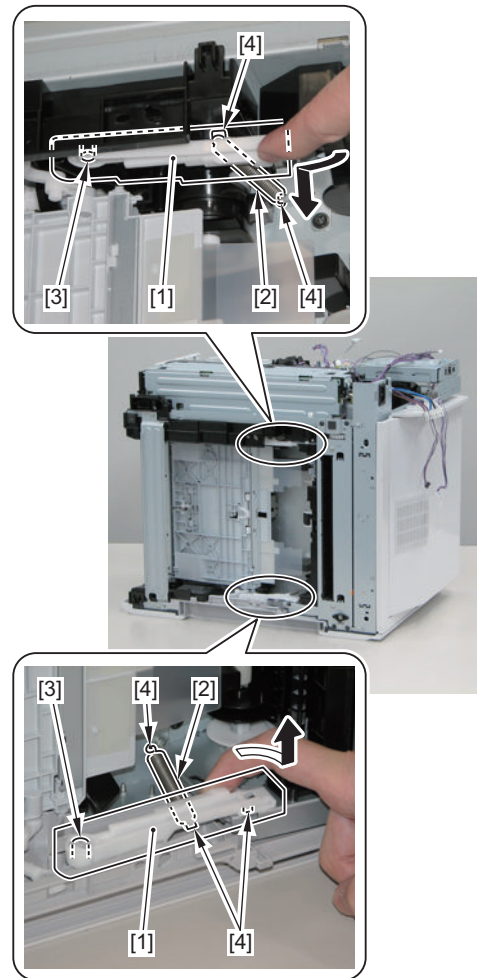
8. **Put the harness [1] through the hole [A] of the Side Plate, and remove the Pickup Unit [2].**

    • 6 Screws [3]
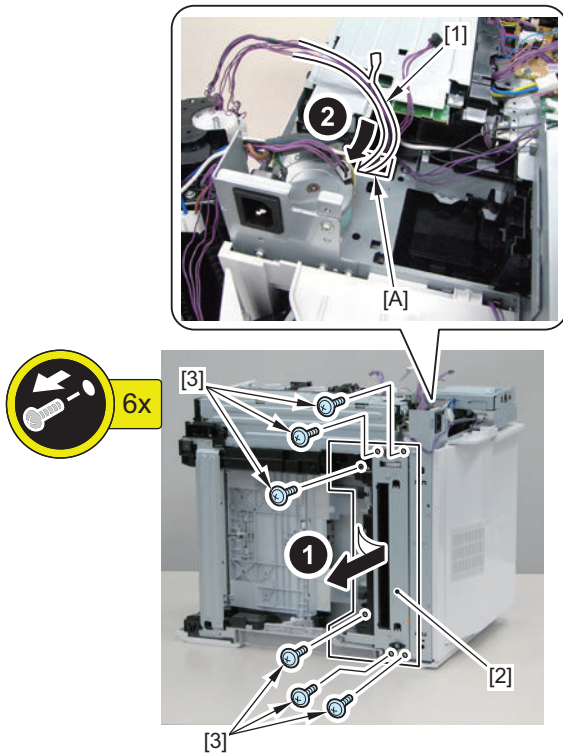
1. **Open the Rear Cover [1], Put the harness [2] through the hole [A] of the Side Plate, and Install the Pickup Unit [3] to the host machine.**
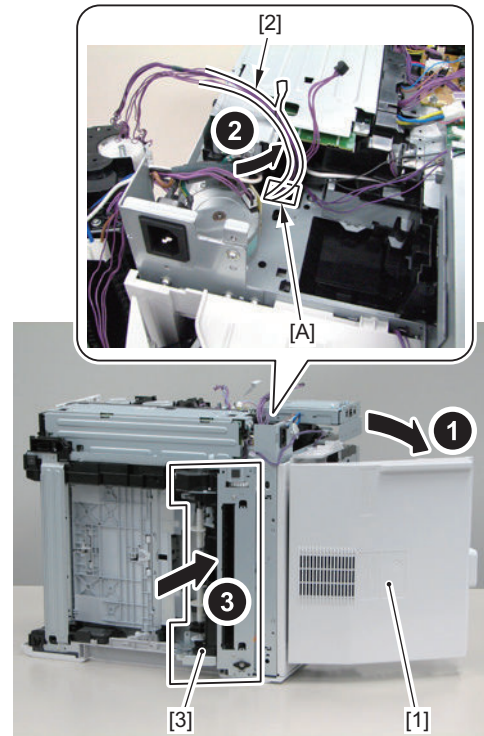
■ Installation Method

CAUTION:

Be sure not to touch the Pickup Roller [1] and the Secondary Transfer Roller [2].

REAR VIEW
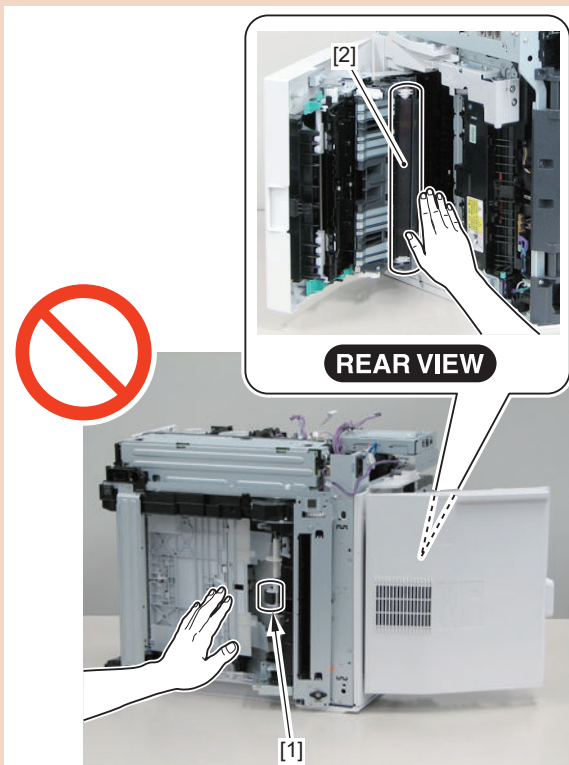
2. **Place the edge [A] of the guide of the Pickup Unit over the spring [1] of the host machine.**
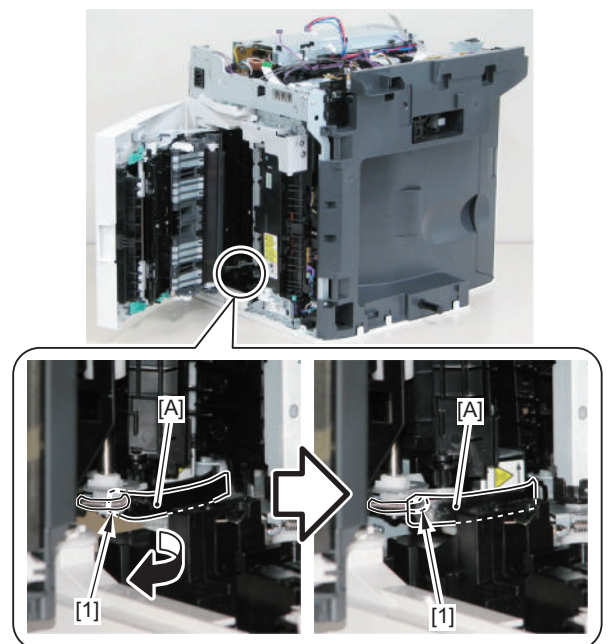
3. **Place the Sensor Flag Cover [B] of the Pickup Unit over the plate [C] of the Roller Unit of the host machine.**
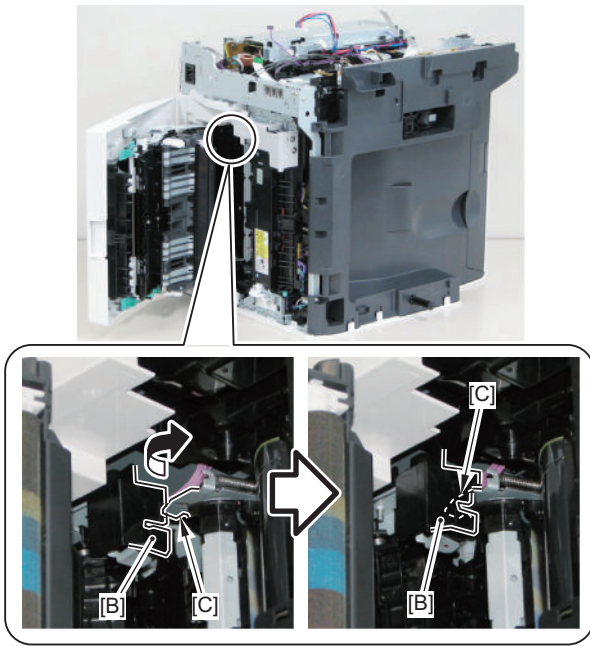
4. **Place the edge [D] of the Feed Guide of the Pickup Unit over the edge [E] of the Roller Unit of the host machine.**
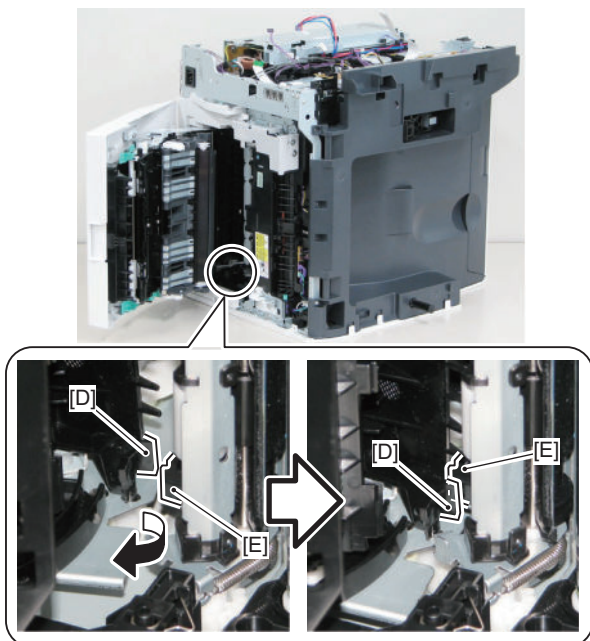
5. **Align the 4 protrusions [1], and secure the Pickup Unit with the 6 screws [2].**
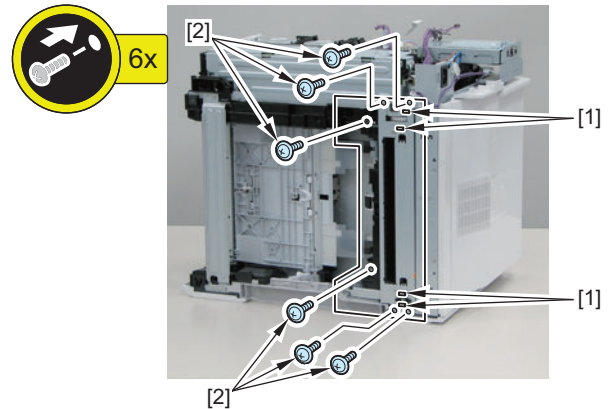
🔵 Removing the MP Tray Pickup Unit

■ Procedure

> **CAUTION:**
> When tilting the host machine, make sure to remove the Toner Cartridge (Y, M, C, Bk) beforehand.

1. **Remove the cassette.**

2. **Make the Left Cover face down and place the host machine [1].**

> **CAUTION:**
> When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.
> In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.

BOTTOM VIEW
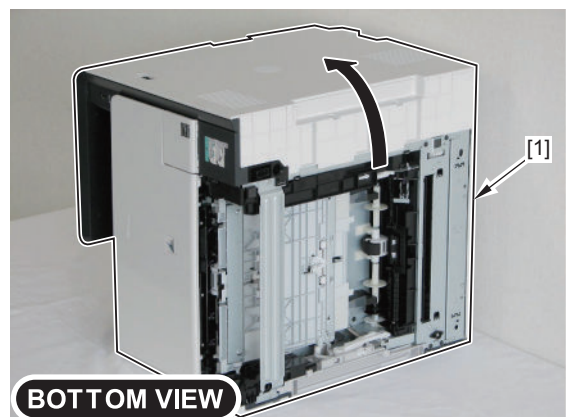
3. **Move the MP Tray Pickup Unit [1] in the direction of the arrow.**
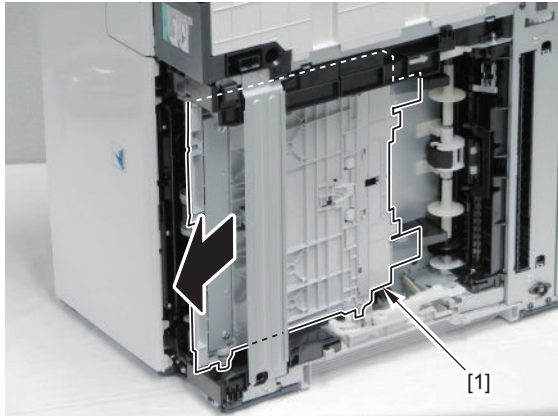
4. **Remove the 2 Links [1] (left and right) from the bushings [2] of the MP Tray Pickup Unit.**

CAUTION:
When removing the MP Tray Pickup Unit, be careful not to lose the link.
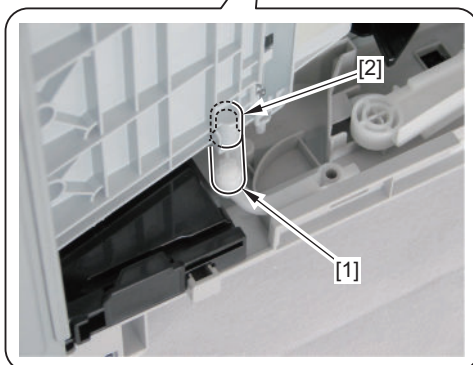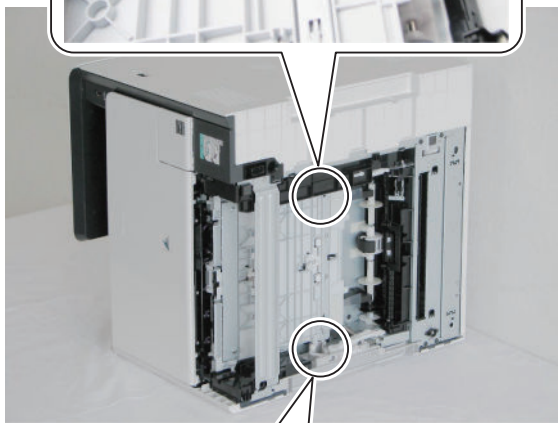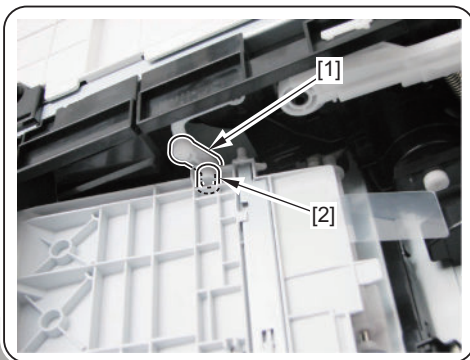
5. **Push a flat-blade screwdriver to the stopper [1] and remove the MP Tray Pickup Unit [2] in the direction of the arrow.**
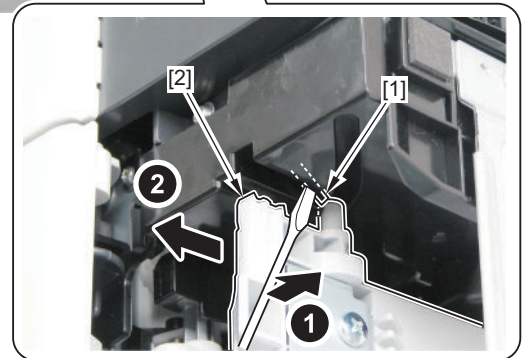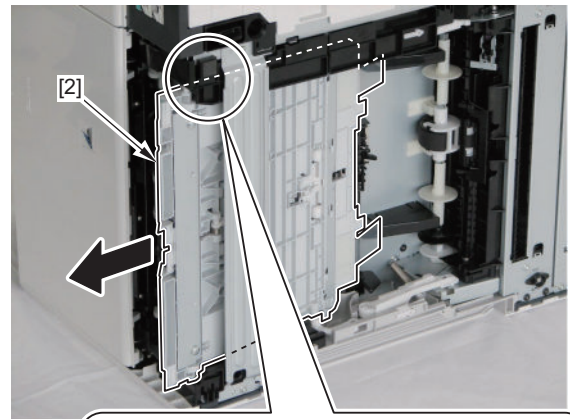
⬤ Removing the Secondary Transfer Feed Unit

CAUTION:
Secondary Transfer Outer Roller is included in Secondary Transfer Feed Unit so when replacing the Secondary Transfer Outer Roller, be sure to replace the Secondary Transfer Feed Unit itself.

■ Procedure

1. **Open the Rear Cover [1].**
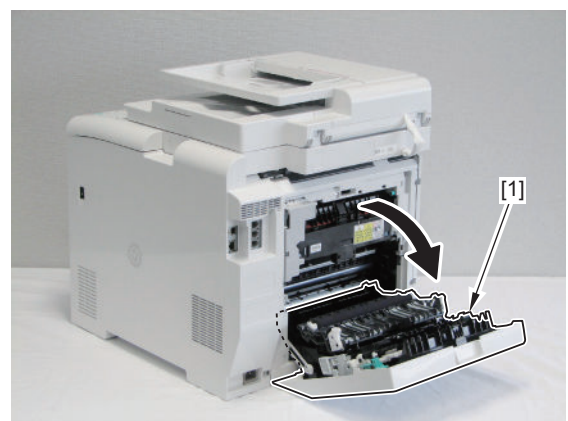
2. Remove the Secondary Transfer Feed Unit [1].

- 1 screw [2]

CAUTION:

When removing the screw, be careful not to lose the guide cap [1] because the guide cap is removed together with the screw.
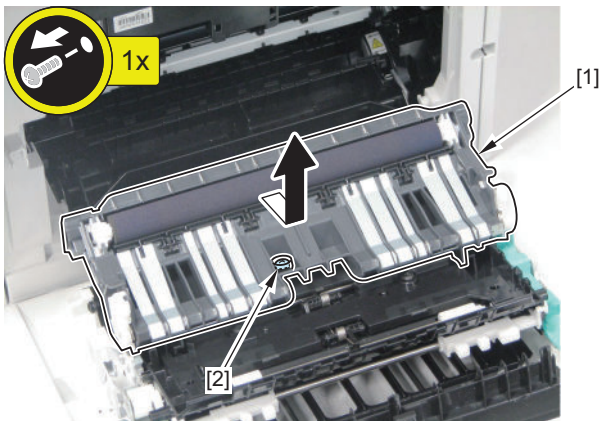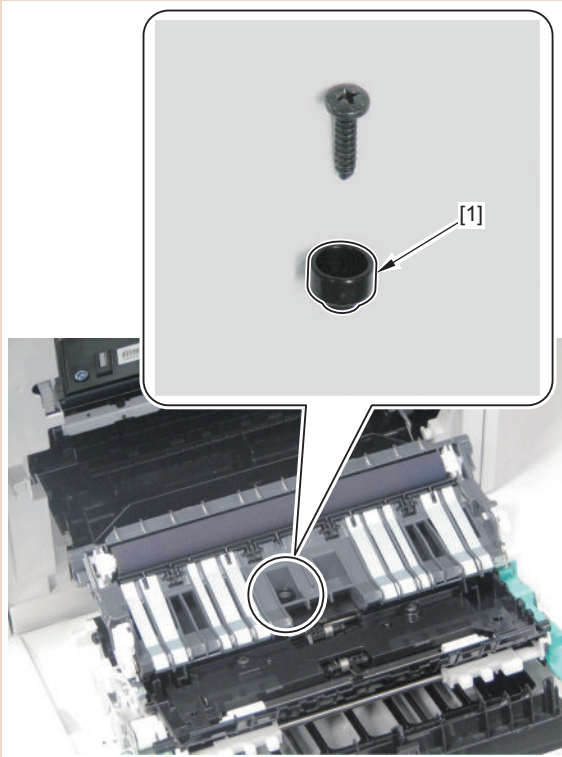
Removing the Delivery Unit

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

4. **Removing the Rear Cover.(Refer to "Removing the Rear Cover" on page 124)**

5. **Removing the Rear Lower Cover.(Refer to "Removing the Rear Lower Cover" on page 124)**

6. **Removing the Rear Cover Rib Unit.(Refer to "Removing the Rear Cover Rib Unit" on page 126)**

7. **Removing the Duplex Printing Reverse Drive Unit. (Refer to "Removing the Duplex Reverse Drive Unit" on page 179)**

8. **Removing the Fixing Assembly.(Refer to "Removing the Fixing Assembly" on page 200)**

9. **Removing the ADF Unit + Reader Unit.(Refer to "Removing the ADF Unit + Reader Unit" on page 131)**

10. **Removing the Upper Cover.(Refer to "Removing the Upper Cover" on page 126)**

■ Procedure

1. **Remove the frame [1].**

- 6 screws [2]
- 2 hooks [3]

2. **Release the 2 claws [1], and disconnect the connector [2].**
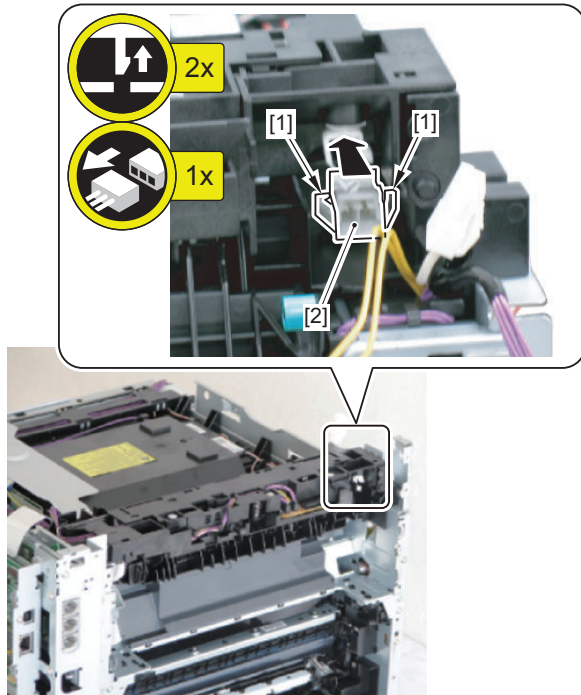
3. **Remove the wire harness [1] from the wire harness guide.**
   - 3 connectors [2]
   - 6 fixing guides [3]
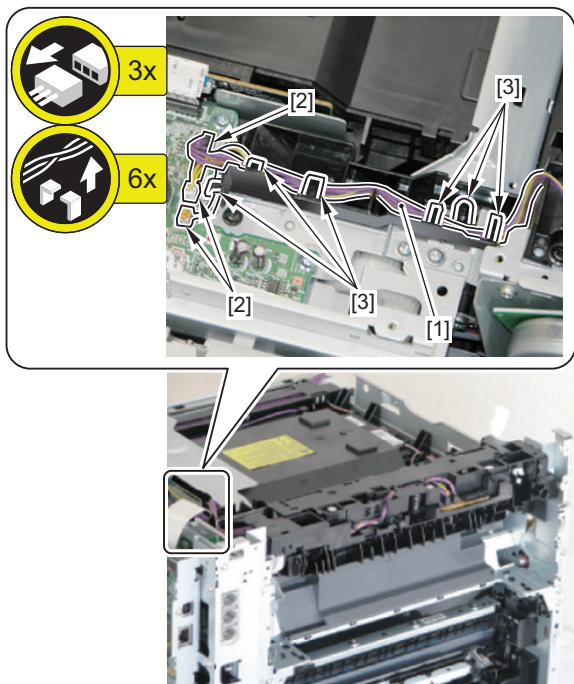
4. **Remove the Delivery Unit [1].**
   - 3 screws [2]
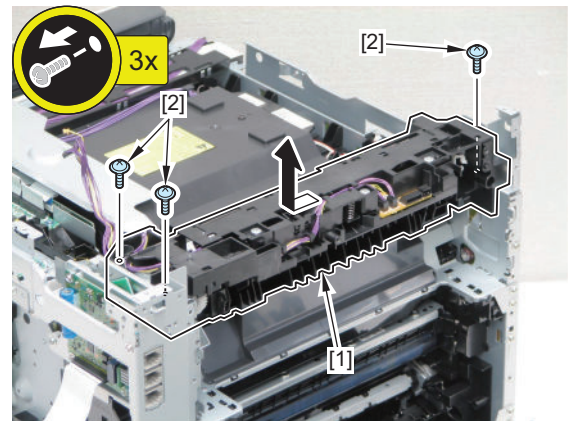
🔵 Removing the Duplex Feed Unit

■ Preparation

1. **Removing the Right Cover.(Refer to "Removing the Right Cover" on page 121)**

2. **Removing the Left Cover.(Refer to "Removing the Left Cover" on page 119)**

3. **Removing the Secondary Transfer Feed Unit.(Refer to "Removing the Secondary Transfer Feed Unit" on page 219)**

4. **Removing the Rear Upper Cover.(Refer to "Removing the Rear Upper Cover" on page 124)**

5. **Removing the Rear Cover.(Refer to "Removing the Rear Cover" on page 124)**

6. **Removing the Rear Lower Cover.(Refer to "Removing the Rear Lower Cover" on page 124)**

■ Procedure

1. **Shift the Duplex Feed Unit [1] in the direction of the arrow and remove the 2 bearings [2].**
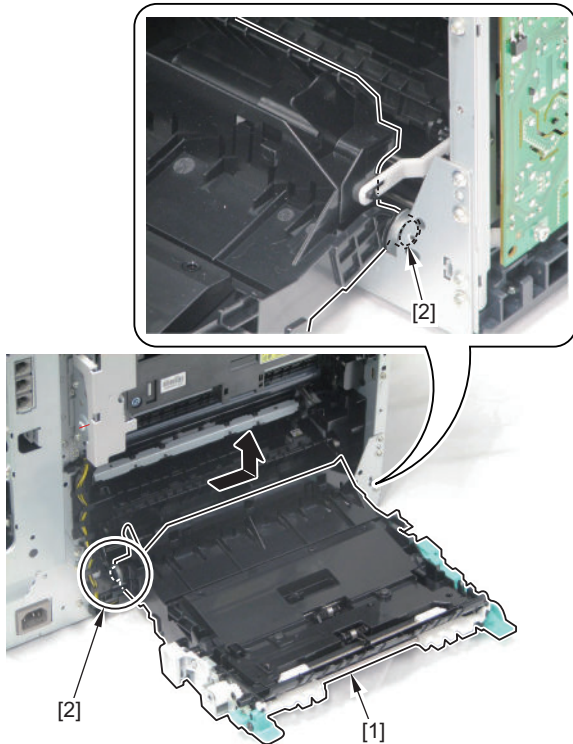
2. **Align the claw [1] with the hole of the link [2] and remove the Duplex Feed Unit [3] in the direction of the arrow.**
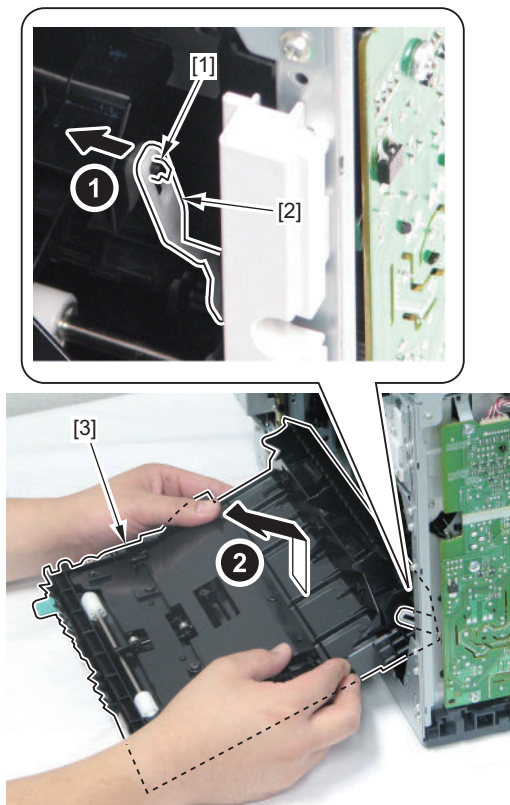
🔵 Removing the Re-pickup Guide Unit

■ Preparation

1. Removing the Right Cover.(Refer to **"Removing the Right Cover" on page 121**)

2. Removing the Left Cover.(Refer to **"Removing the Left Cover" on page 119**)

3. Removing the Secondary Transfer Feed Unit.(Refer to **"Removing the Secondary Transfer Feed Unit" on page 219**)

4. Removing the Rear Upper Cover.(Refer to **"Removing the Rear Upper Cover" on page 124**)

5. Removing the Rear Cover.(Refer to **"Removing the Rear Cover" on page 124**)

6. Removing the Rear Lower Cover.(Refer to **"Removing the Rear Lower Cover" on page 124**)

7. Removing the Rear Cover Rib Unit.(Refer to **"Removing the Rear Cover Rib Unit" on page 126**)

8. Removing the Duplex Feed Unit.(Refer to **"Removing the Duplex Feed Unit" on page 221**)

■ Procedure

1. **Remove the Re-pickup Guide Unit [1].**
   - 3 connectors [2]
   - 4 screws [3]

CAUTION:

Be sure to insert the 2 harnesses [1] at the bottom of the Guide [A] when installing.

5 Adjustment

Overview

Adjustment required in the field service works when following parts are replaced. The parts are classified by 3 function blocks.

Category	Parts	Reference
Document Exposure / Feed System	ADF Units	"After Replacing the ADF Units" on page 226
	Reader Units	"After Replacing the Reader Unit" on page 227
	Scoopup Sheet Holder	"After Replacing the Scoopup Sheet Holder" on page 233
	Reader Upper Cover Unit	"After Replacing the Reader Upper Cover Unit" on page 230
	CIS Units	"After replacing CIS units" on page 232
Controller System	Main Controller PCB	"Main Controller PCBs" on page 234
	DC Controller PCB	"DC Controller PCB" on page 238
Laser Exposure System	Laser Scanner Unit	"After Replacing the Laser Scanner Unit" on page 238

Adjustment at Parts Replacement

Document Exposure / Feed System

■ After Replacing the ADF Units

1. **Adjust the white level in the following service mode, and write the final setting values on the service label.**
   1. Enter the values in the following service mode items respectively.
      - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
      - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
      - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
      - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
   2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
   3. Place the same blank paper on the ADF, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))
   4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
   5. Place the same blank paper on the ADF again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
   6. If the operation was successful, write the setting value on the service label.
   7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
      - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
      - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
      - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

      Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".
   8. If the operation result is "failed", turn OFF and then ON the power, execute
      - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)

      and then execute
      - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)

      again.
   9. Checking the value of DFTAR-BW

      Check the value of
      - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)

      If the value remains the same as the value you entered, the operation result is judged to be "failed".
   10. If the operation result is "failed", turn OFF and then ON the power, execute
       - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))

       and then execute
       - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))

       again.

2. **ADF geometric adjustment**
   1. On an image copied using the ADF, check the non-image width in the X and Y directions and the expansion/contraction in the X direction.

      In the case of E353MGMH, perform 2-sided original reading from the ADF.

      If adjustment is needed, enter necessary adjustment values in the following service mode:
      - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adj img pstn in ADF mode:horz scan)
      - FEEDER > ADJUST > DOCST (Fine adjustment of VSYNC timing at ADF reading [front side])
      - FEEDER > ADJUST > DOCST2 (Fine adjustment of VSYNC timing at ADF reading [back side])
      - FEEDER > ADJUST > LA-SPD (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side])
      - FEEDER > ADJUST > LA-SPD2 (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side])
   2. If you enter adjustment values, write the final values on the service label.

■ After Replacing the Reader Unit

1. **Release the 2 claws [1], remove the Scoop-up Sheet Holder [2], and check the setting values of the Standard White Plate indicated under the barcode that was hidden beneath the Scoop-up Sheet Holder.**

2. **Enter the X, Y, and Z values indicated under the barcode on the Copyboard Glass in**
   - COPIER > ADJUST > CCD > W-PLT-X (White level data (X) entry of white plate) ,
   - COPIER > ADJUST > CCD > W-PLT-Y (White level data (Y) entry of white plate) , and
   - COPIER > ADJUST > CCD > W-PLT-Z (White level data (Z) entry of white plate) ,

   and then write the entered values (the the X, Y, and Z values shown under the barcode on the Copyboard Glass) on the service label.

   > **NOTE:**
   > The value of W-PLT-X: The first four digits of the value on the label
   > The value of W-PLT-Y: The four digits in the middle of the value on the label
   > The value of W-PLT-Z: The last four digits of the value on the label

3. **Return the Scoop-up Sheet to its original position.**

4. **AGC adjustment**
   1. Entering a provisional value
      Change the foregoing values to "1,000".
      - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
      Change the foregoing values to "1,200"
      - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
   2. Adjust the white level in the following service mode.
      - COPIER > FUNCTION > CCD > BW-AGC (CIS intensity adjustment in ADF (B&W))
      - COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))
   3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)

4. How to judge whether the operation was successful or failed
Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
B&W mode
- COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
- COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
- COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)

Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed".

If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.

Color mode
- COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
- COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
- COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)

Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed".

If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

5. **Automatic adjustment of the stream reading position**
   1. Entering a provisional value
   Set the value of
   - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
   to "-20".
   2. Automatic adjustment of the stream reading position
   Execute
   - COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)
   If the operation was successful, write the value of STRD-POS on the service label.
   3. How to judge whether the operation was successful or failed
   Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
   Check the value of
   - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
   If it remains "-20", the operation is judged to be "failed".
   If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

6. **Adjust the white level in the following service mode, and write the final setting values on the service label.**
   1. Enter the values in the following service mode items respectively.
      - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
      - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
      - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
      - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
   2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
   3. Place the same blank paper on the ADF, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))
   4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
   5. Place the same blank paper on the ADF again, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
   6. If the operation was successful, write the setting value on the service label.
   7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
      - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
      - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
      - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

      Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".

8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)
   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)
   again.
9. Checking the value of DFTAR-BW
   Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)
   If the value remains the same as the value you entered, the operation result is judged to be "failed".
10. If the operation result is "failed", turn OFF and then ON the power, execute
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
    and then execute
    - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
    again.

7. Copyboard color displacement offset adjustment

Enter the value shown on the label that comes with the part in the following service mode.
Enter the values of 50-RG, 50-GB, 100-RG, and 100-GB shown on the replacement label in the following service mode, and write the entered values on the service label.
- COPIER > ADJUST > CCD > 50-RG (Color displacement (R and G lines) correction value in the vertical scanning direction (50%))
- COPIER > ADJUST > CCD > 50-GB (Color displacement (G and B lines) correction value in the vertical scanning direction (50%))
- COPIER > ADJUST > CCD > 100-RG (Color displacement (R and G lines) correction value in the vertical scanning direction (100%))
- COPIER > ADJUST > CCD > 100-GB (Color displacement (G and B lines) correction value in the vertical scanning direction (100%))

8. PASCAL adjustment

Enter the values shown on the label that comes with the part in the following service mode items.
Enter the values of OFST-P-Y, OFST-P-M, OFST-P-C, and OFST-P-K in the following service mode, and write the entered values on the service label.
- COPIER>ADJUST>PASCAL>OFST-P-Y (Y density adj at test print reading)
- COPIER>ADJUST>PASCAL>OFST-P-M (M density adj at test print reading)
- COPIER>ADJUST>PASCAL>OFST-P-C (C density adj at test print reading)
- COPIER>ADJUST>PASCAL>OFST-P-B (Bk density adj at test print reading)

9. Copyboard geometric adjustment

Enter the values shown on the label that comes with the part in the following service mode items.
- COPIER > ADJUST > ADJ-XY > ADJ-X (Adj of img pstn in book mode: vert scan)
- COPIER > ADJUST > ADJ-XY > ADJ-Y (Adj of img pstn in book mode: (horizontal scanning direction)
- COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine adj image ratio: vertical scanning)
Enter the values in the foregoing service mode.

10. ADF geometric adjustment

1. On an image copied using the ADF, check the non-image width in the X and Y directions and the expansion/contraction in the X direction.
   In the case of E353MGMH, perform 2-sided original reading from the ADF.
   If adjustment is needed, enter necessary adjustment values in the following service mode:
   - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adj img pstn in ADF mode:horz scan)
   - FEEDER > ADJUST > DOCST (Fine adjustment of VSYNC timing at ADF reading [front side])
   - FEEDER > ADJUST > DOCST2 (Fine adjustment of VSYNC timing at ADF reading [back side])
   - FEEDER > ADJUST > LA-SPD (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side])
   - FEEDER > ADJUST > LA-SPD2 (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side])
2. If you enter adjustment values, write the final values on the service label.

■ After Replacing the Reader Upper Cover Unit

1. Enter the X, Y, and Z values indicated under the barcode on the Copyboard Glass in

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- COPIER > ADJUST > CCD > W-PLT-X (White level data (X) entry of white plate) ,
- COPIER > ADJUST > CCD > W-PLT-Y (White level data (Y) entry of white plate) , and
- COPIER > ADJUST > CCD > W-PLT-Z (White level data (Z) entry of white plate) ,

and then write the entered values (the the X, Y, and Z values shown under the barcode on the Copyboard Glass) on the service label.

> **NOTE:**
> The value of W-PLT-X: The first four digits of the value on the label
> The value of W-PLT-Y: The four digits in the middle of the value on the label
> The value of W-PLT-Z: The last four digits of the value on the label

2. AGC adjustment

1. Entering a provisional value
   Change the foregoing values to "1,000".
   - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
   Change the foregoing values to "1,200"
   - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
2. Adjust the white level in the following service mode.
   - COPIER > FUNCTION > CCD > BW-AGC (CIS intensity adjustment in ADF (B&W))
   - COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))
3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)
4. How to judge whether the operation was successful or failed
   Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
   B&W mode
   - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
   Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed".
   If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.
   Color mode
   - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
   Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed".
   If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

3. Automatic adjustment of the stream reading position

1. Entering a provisional value
   Set the value of
   - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
   to "-20".

2. Automatic adjustment of the stream reading position
   Execute
   - COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)
   If the operation was successful, write the value of STRD-POS on the service label.

3. How to judge whether the operation was successful or failed
   Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
   Check the value of
   - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
   If it remains "-20", the operation is judged to be "failed".
   If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

4. Adjust the white level in the following service mode, and write the final setting values on the service label.

1. Enter the values in the following service mode items respectively.
   - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
   - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
   - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
   - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".

2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))

3. Place the same blank paper on the ADF, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))

4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))

5. Place the same blank paper on the ADF again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))

6. If the operation was successful, write the setting value on the service label.

7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)
   Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".

8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)
   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)
   again.

9. Checking the value of DFTAR-BW
   Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)
   If the value remains the same as the value you entered, the operation result is judged to be "failed".

10. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
   again.

5. Copyboard geometric adjustment

Enter the values shown on the label that comes with the part in the following service mode items.
   - COPIER > ADJUST > ADJ-XY > ADJ-X (Adj of img pstn in book mode: vert scan)
   - COPIER > ADJUST > ADJ-XY > ADJ-Y (Adj of img pstn in book mode: (horizontal scanning direction)
   - COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine adj image ratio: vertical scanning)
Enter the values in the foregoing service mode.

■ After replacing CIS units

1. **AGC adjustment**
   1. Entering a provisional value
      Change the foregoing values to "1,000".
      - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
      Change the foregoing values to "1,200"
      - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
   2. Adjust the white level in the following service mode.
      - COPIER > FUNCTION > CCD > BW-AGC (CIS intensity adjustment in ADF (B&W))
      - COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))
   3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)
   4. How to judge whether the operation was successful or failed
      Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
      B&W mode
      - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
      - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
      Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed".
      If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.
      Color mode
      - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
      - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
      Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed".
      If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

2. **Automatic adjustment of the stream reading position**
   1. Entering a provisional value
      Set the value of
      - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
      to "-20".
   2. Automatic adjustment of the stream reading position
      Execute
      - COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)
      If the operation was successful, write the value of STRD-POS on the service label.
   3. How to judge whether the operation was successful or failed
      Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
      Check the value of
      - COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
      If it remains "-20", the operation is judged to be "failed".
      If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

3. **Adjust the white level in the following service mode, and write the final setting values on the service label.**
   1. Enter the values in the following service mode items respectively.
      - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
      - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
      - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
      - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
   2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
   3. Place the same blank paper on the ADF, and execute
      - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))

4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
   • COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
5. Place the same blank paper on the ADF again, and execute
   • COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
6. If the operation was successful, write the setting value on the service label.
7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   • COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   • COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   • COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)
   Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".
8. If the operation result is "failed", turn OFF and then ON the power, execute
   • COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)
   and then execute
   • COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)
   again.
9. Checking the value of DFTAR-BW
   Check the value of
   • COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)
   If the value remains the same as the value you entered, the operation result is judged to be "failed".
10. If the operation result is "failed", turn OFF and then ON the power, execute
   • COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
   and then execute
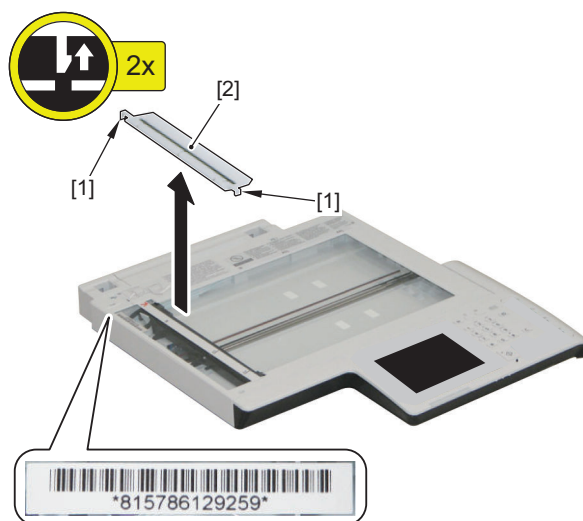   • COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
   again.

4. **Copyboard geometric adjustment**
   Enter the values shown on the label that comes with the part in the following service mode items.
   • COPIER > ADJUST > ADJ-XY > ADJ-X (Adj of img pstn in book mode: vert scan)
   • COPIER > ADJUST > ADJ-XY > ADJ-Y (Adj of img pstn in book mode: (horizontal scanning direction)
   • COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine adj image ratio: vertical scanning)
   Enter the values in the foregoing service mode.

5. **ADF geometric adjustment**
   1. On an image copied using the ADF, check the non-image width in the X and Y directions and the expansion/contraction in the X direction.
      In the case of E353MGMH, perform 2-sided original reading from the ADF.
      If adjustment is needed, enter necessary adjustment values in the following service mode:
      • COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adj img pstn in ADF mode:horz scan)
      • FEEDER > ADJUST > DOCST (Fine adjustment of VSYNC timing at ADF reading [front side])
      • FEEDER > ADJUST > DOCST2 (Fine adjustment of VSYNC timing at ADF reading [back side])
      • FEEDER > ADJUST > LA-SPD (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side])
      • FEEDER > ADJUST > LA-SPD2 (Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side])
   2. If you enter adjustment values, write the final values on the service label.

■ After Replacing the Scoopup Sheet Holder

1. **Automatic adjustment of the stream reading position**
   1. Entering a provisional value
      Set the value of
      • COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)
      to "-20".
   2. Automatic adjustment of the stream reading position
      Execute
      • COPIER > FUNCTION > INSTALL > STRD-POS (Scan position auto adj in ADF mode)
      If the operation was successful, write the value of STRD-POS on the service label.

3. How to judge whether the operation was successful or failed
Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.
Check the value of
- COPIER > ADJUST > ADJ-XY > STRD-POS (Adjustment of reading position at ADF stream reading)

If it remains "-20", the operation is judged to be "failed".
If the operation is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > INSTALL > STRD-POS again.

2. Adjust the white level in the following service mode, and write the final setting values on the service label.

1. Enter the values in the following service mode items respectively.
   - In COPIER > ADJUST > CCD > DFTAR-R, set "299".
   - In COPIER > ADJUST > CCD > DFTAR-G, set "309".
   - In COPIER > ADJUST > CCD > DFTAR-B, set "307" .
   - In COPIER > ADJUST > CCD > DFTAR-BW, set "315".
2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode (color))
3. Place the same blank paper on the ADF, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode (color))
4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon) on the Platen Glass of the reader again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
5. Place the same blank paper on the ADF again, and execute
   - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
6. If the operation was successful, write the setting value on the service label.
7. Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation is successful or not.
   - COPIER > ADJUST > CCD > DFTAR-R (Adjustment of shading target value (R) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-G (Adjustment of shading target value (G) at ADF reading)
   - COPIER > ADJUST > CCD > DFTAR-B (Adjustment of shading target value (B) at ADF reading)

   Check the foregoing values, and if all the values remain the same with those you entered, the operation result is judged to be "failed".
8. If the operation result is "failed", turn OFF and then ON the power, execute
   - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adj in book mode: color)
   and then execute
   - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adj in ADF mode: color)
   again.
9. Checking the value of DFTAR-BW
   Check the value of
   - COPIER > ADJUST > CCD > DFTAR-BW (Adjustment of shading target value (B&W) at ADF reading)
   If the value remains the same as the value you entered, the operation result is judged to be "failed".
10. If the operation result is "failed", turn OFF and then ON the power, execute
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adj in book mode (B&W))
    and then execute
    - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adj in ADF mode (B&W))
    again.

Controller System

■ Main Controller PCBs

● Before Replacing the Main Controller PCB

Back up user data (settings, registered data, etc.) and service mode data for setting and registration after PCB replacement. Take notes if data is unable to back up.

1. **Enter service mode, and set the following item to "1".**
   - COPIER > OPTION > USER > SMD-EXPT

NOTE:
The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. **Using the DCM function (Refer to** **), export the following information.**
   - User data (the settings of the [Settings/Registration] menu and the address book)
   - Service mode setting information

3. **Write down the following information because these settings need to be configured (entered) after replacing the PCB.**
   - The default settings shown on the service label [1]
   - Settings/Registration > System Settings > Device Information> Location

4. Enter service mode, and set the following item to "0".

- COPIER > OPTION > USER > SMD-EXPT

> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

● After Replacing the Main Controller PCB

1. Setting of destination/paper size group

1. COPIER > OPTION > BODY > LOCALE (to set destination groups)
   [Settings]
   1: Japan, 2: North America, 3: Korea, 4: China, 5: Taiwan, 6: Europe, 7: Asia, 8: Oceania
2. COPIER > OPTION > BODY > SIZE-LC (to set paper size groups)
   [Settings]
   1: AB series, 2: Inch series, 3: A series, 4: AB/Inch series

2. Executing initial settings.

Perform the following procedure to change the settings back to the initial settings.

1. Execute the following service mode to initialize the data according to the setting values in step 1.
   COPIER > FUNCTION > CLEAR > ALL (to clear all data)
   - Setting / Registration data (the default value for each destination is set).
   - Service mode data (the default value for each destination is set).
   - Job IDs
   - Log data
   - Dates
2. Execute the following service mode to clear the reader/DF-related factory adjustment values.
   COPIER > FUNCTION > CLEAR > R-CON

3. AGC adjustment

1. Entering a provisional value
   Change the foregoing values to "1,000".
   - COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
   - COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)
   Change the foregoing values to "1,200"
   - COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
   - COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)
2. Adjust the white level in the following service mode.
   - COPIER > FUNCTION > CCD > BW-AGC (CIS intensity adjustment in ADF (B&W))
   - COPIER > FUNCTION > CCD > CL-AGC (CIS intensity adjustment in ADF (color))
3. If the operation was "successful", this procedure is completed. (There is no need to write the value on the service label.)

4. How to judge whether the operation was successful or failed

Whether the operation was successful or failed is not shown on the UI, so perform the following procedure to judge if the operation was successful or failed.

B&W mode
- COPIER > ADJUST > CCD > LED-BW-R (Adjustment of LED light-up time (R) at B&W reading)
- COPIER > ADJUST > CCD > LED-BW-G (Adjustment of LED light-up time (G) at B&W reading)
- COPIER > ADJUST > CCD > LED-BW-B (Adjustment of LED light-up time (B) at B&W reading)

Check the foregoing values. If all of them remain "1,000", the operation result is judged to be "failed".

If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > BW-AGC again.

Color mode
- COPIER > ADJUST > CCD > LED-CL-R (Adjustment of LED light-up time (R) at color reading)
- COPIER > ADJUST > CCD > LED-CL-G (Adjustment of LED light-up time (G) at color reading)
- COPIER > ADJUST > CCD > LED-CL-B (Adjustment of LED light-up time (B) at color reading)

Check the foregoing values. If all of them remain "1,200", the operation result is judged to be "failed".

If the operation result is judged to be "failed", turn OFF and then ON the power, and execute COPIER > FUNCTION > CCD > CL-AGC again.

4. Executing initial adjustment.

Follow the procedure shown below to execute initial adjustment and enter the factory adjustment values.
1. Enter default setting values indicated on the service label in the corresponding service mode items.
2. Execute the following service mode to back up the DC Controller setting values.
   COPIER > FUNCTION > VIFFNC > STOR-DCN
3. The initial installation mode will be activated by turning OFF and then ON the power. Configure the following settings according to the instruction on the screen.
   - Setting of date/time
   - Auto-gradation correction
4. Correction of coordinate position of Touch Panel in the following service mode.
   COPIER > ADJUST > PANEL > TOUCHCHK

5. Migrating user data and service mode data

1. Enter service mode, and set the following item to "1".
   - COPIER > OPTION > USER > SMD-EXPT

> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. Using the DCM function (Refer to), restore the following information.
   - User data (the settings of the [Settings/Registration] menu and the address book)
   - Service mode setting information
3. Enter service mode, and set the following item to "0".
   - COPIER > OPTION > USER > SMD-EXPT

> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

6. **Reinstall the drivers.**
   1. Uninstalling Old Drivers.
      • Printer Driver
      • FAX Driver
      • Scanner Driver
      • Network Scan Utility. (for machines with network connection)
        * As for the procedure, refer to "Uninstalling the Software" in the Starter Guide.
   2. Refer to the following items in the Startup Guide and install the drivers which were uninstalled.
      • In case of network connection: "Installing via Network Connection"
      • In case of USB connection: "Installing with USB Connection"

> **NOTE:**
> MAC address information is changed after replacement of the Main Controller PCB. Therefore, when the PC and the machine are connected by the network, the PC will not be able to recognize the machine on the network. When the PC and the machine are connected by the USB memory device, the PC will not be able to recognize the machine if the USB ID is changed. It becomes therefore necessary to reinstall the driver.

■ DC Controller PCB

● Before Replacing the DC Controller PCB

1. **Execute the following service mode to restore the DC Controller setting values that were backed up in the previous step.**
   COPIER > FUNCTION > VIFFNC > STOR-DCN

● After Replacing the DC Controller PCB

1. **In service mode, perform the following procedure to restore the DC Controller setting values.**
   COPIER > FUINCTION > VIFFNC > RSTR-DCN
   When restoration is executed, "ACTIVE" will be displayed, and then "OK!" will be displayed in about 2 minutes at the completion of restoration.

2. **When backup data cannot be uploaded before replacement due to reasons such as damage of the DC Controller PCB, enter the value of each service mode item described on the service label.**

3. **Turn OFF and then ON the power.**

4. **Configure the following settings from the Control Panel.**
   • Menu > Adjustment/Maintenance > Print Color Displacement Correction
   • Menu > Adjustment/Maintenance > Auto Gradation Correction > Quick Correction

5. **Turn OFF and then ON the power.**

⬤ Laser Exposure System

■ After Replacing the Laser Scanner Unit

1. **Register values indicated on the label packaged with the Laser Scanner Unit in the following service mode items.**
   • COPIER > ADJUST > SCNR > SUB-S-Y0 (Laser output correction value, vertical scanning irradiation position0 Y)
   • COPIER > ADJUST > SCNR > SUB-S-M0 (Laser output correction value, vertical scanning irradiation position0 M)
   • COPIER > ADJUST > SCNR > SUB-S-C0 (Laser output correction value, vertical scanning irradiation position0 C)
   • COPIER > ADJUST > SCNR > SUB-S-K0 (Laser output correction value, vertical scanning irradiation position0 K)
   • COPIER > ADJUST > SCNR > SUB-S-Y1 (Laser output correction value, vertical scanning irradiation position1 Y)
   • COPIER > ADJUST > SCNR > SUB-S-M1 (Laser output correction value, vertical scanning irradiation position1 M)
   • COPIER > ADJUST > SCNR > SUB-S-C1 (Laser output correction value, vertical scanning irradiation position1 C)
   • COPIER > ADJUST > SCNR > SUB-S-K1 (Laser output correction value, vertical scanning irradiation position1 K)
   • COPIER > ADJUST > SCNR > SUB-S-Y2 (Laser output correction value, vertical scanning irradiation position2 Y)
   • COPIER > ADJUST > SCNR > SUB-S-M2 (Laser output correction value, vertical scanning irradiation position2 M)
   • COPIER > ADJUST > SCNR > SUB-S-C2 (Laser output correction value, vertical scanning irradiation position2 C)
   • COPIER > ADJUST > SCNR > SUB-S-K2 (Laser output correction value, vertical scanning irradiation position2 K)
   • COPIER > ADJUST > SCNR > MAI-S-Y0 (Laser output correction value, horizontal scanning irradiation position0 Y)

- COPIER > ADJUST > SCNR > MAI-S-M0 (Laser output correction value, horizontal scanning irradiation position0 M)
- COPIER > ADJUST > SCNR > MAI-S-C0 (Laser output correction value, horizontal scanning irradiation position0 C)
- COPIER > ADJUST > SCNR > MAI-S-K0 (Laser output correction value, horizontal scanning irradiation position0 K)
- COPIER > ADJUST > SCNR > MAI-S-Y1 (Laser output correction value, horizontal scanning irradiation position1 Y)
- COPIER > ADJUST > SCNR > MAI-S-M1 (Laser output correction value, horizontal scanning irradiation position1 M)
- COPIER > ADJUST > SCNR > MAI-S-C1 (Laser output correction value, horizontal scanning irradiation position1 C)
- COPIER > ADJUST > SCNR > MAI-S-K1 (Laser output correction value, horizontal scanning irradiation position1 K)
- COPIER > ADJUST > SCNR > MAI-S-Y2 (Laser output correction value, horizontal scanning irradiation position2 Y)
- COPIER > ADJUST > SCNR > MAI-S-M2 (Laser output correction value, horizontal scanning irradiation position2 M)
- COPIER > ADJUST > SCNR > MAI-S-C2 (Laser output correction value, horizontal scanning irradiation position2 C)
- COPIER > ADJUST > SCNR > MAI-S-K2 (Laser output correction value, horizontal scanning irradiation position2 K)

2. After values are registered, affix the label [1] packaged with the unit on the inside [2] of the right cover.

6 Troubleshooting

Test Print

● Engine test print

The engine test print is to check normal operation of the device.
Print the engine test chart in the following steps.

1. **Detach the right cover (Refer to :"Removing the Right Cover" on page 121).**

2. **Turn on the device on standby to press the test print switch [1] on the right side of the device.**
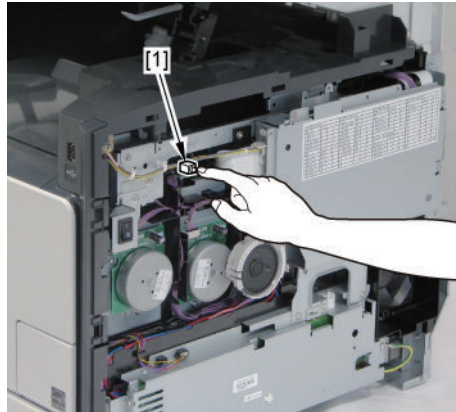
3. **The engine test chart is printed in the horizontal line patterns on a sheet as shown below.**
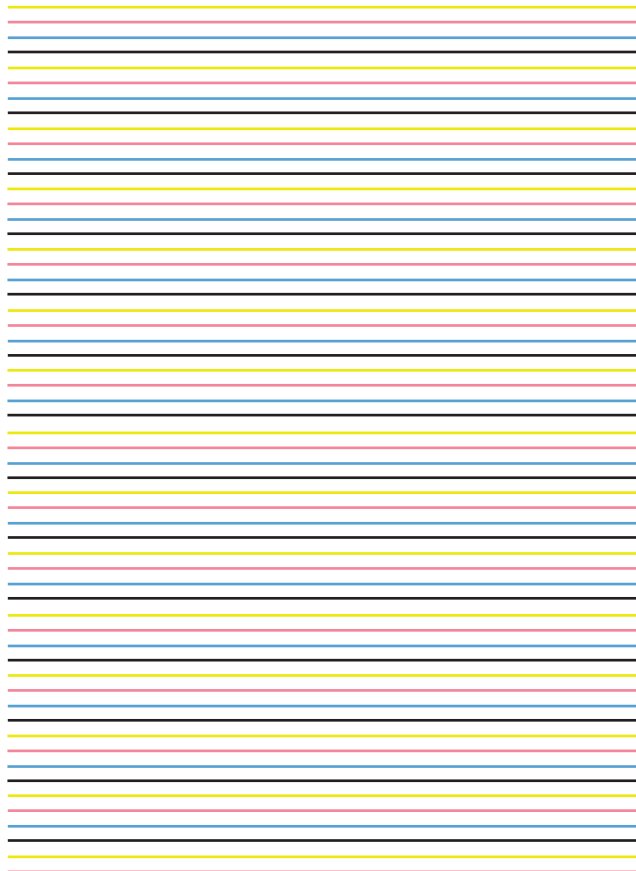
● Controller test print

■ Overview

This product provides the following 6 test chart types to determine causes of faulty images.

The data for test charts are created in the main controller. If no problem is found on the output test charts, the cause may lie in the PDL input or the reader.

TYPE NO.	Test chart type	Purpose
0	Pascal correction chart 1	For checking density characteristic (Error diffusion)
1	Pascal correction chart 2	For checking density characteristic (Screen)
2	Color chart	For checking color reproduction characteristic
3	Color displacement correction chart	For checking color displacement correction
4	Rainbow chart (vertical scanning direction)	For checking color displacement (Vertical scanning)
5	Rainbow chart (horizontal scanning direction)	For checking color displacement (Horizontal scanning)
6	Grid Bk	For checking geometric characteristics and thin lines

■ Selecting test chart

1. **Select the following item in service mode.**
   - TESTMODE > PRINT > PG-TYPE

2. **Enter TYPE NO from the numeric keypad and press [Apply] key.**

3. **Setting for test print can be changed in the following service mode. If no setting is made in Service mode, the test chart is output based on the default value of each Service mode item.**

Item	Description	Default value
TESTMODE > PRINT > COUNT	Enter the number of sheets to output. Settings: 1-99	1
TESTMODE > PRINT > PHASE	Select [1-side] or [2-side]. [2-side] selected for 1-side devices is invalid. Settings: 0=1-side, 1=2-side	0
TESTMODE > PRINT > MODE	Specify how to form the image to be output. Regardless of PG-TYPE settings (0 or 1), the image is processed in the fixed method. Settings: 0: T-MIC 1: High LPI screen 2: Low LPI screen 3: T-BIC	0
TESTMODE > PRINT > THRU	Select ON or OFF for gamma correction. Setting: 0: Normal gamma 1: Through (linear) gamma	0
TESTMODE > PRINT > NRKE	Flag to switch the color displacement correction processing 1 0: Adopt without processing 1: Adopt with processing	0
TESTMODE > PRINT > BLND	Flag to switch the color displacement correction processing 2 0: Adopt without processing 1: Adopt with processing	0
TESTMODE > PRINT > FEED	Select the paper source and press [Start] key to output in the specified settings as set in above steps. When the multi-purpose tray is selected, the sheet is fed only when paper in the specified size is set in the tray. When Cassette 2 is selected but the device has only a cassette, paper is fed from Cassette 1. *Any paper source with color paper is invalid for printing. Setting: 0: MPTray 1: Cassette 1 2: Cassette 2	1

4. **Select the following item in service mode.**
   - TESTMODE > PRINT > PG-TYPE > START

Trouble shooting items

● Recurring faulty image

Foreign matters or lines on rollers along the paper feed path may cause faulty images in the vertical scanning direction.

Field action

See the roller pitches listed in the tables below to clean and/or replace the corresponding parts.

Roller pitch	Parts
about 44 mm	Registration roller
about 58 mm	Secondary transfer external roller
about 75 mm	Photosensitive drum
about 22 mm	Developing cylinder
about 58 mm	Fixing film
about 63 mm	Pressure roller
about 713 mm	ITB (drive roller, secondary transfer internal roller)

● Confirming nip width

This product does not provide the function to adjust nip width. Improper nip width, however, may cause faulty fixing.
To avoid potential faults, confirm the nip width of the fixing assembly in the following steps.
1. Output a A4 sheet printed in solid black using the cartridges for this product and bring it to the customer site.
2. Set the solid black sheet face-down to the cassette of this product.
3. Use an external device to print out a solid white image on the sheet.
4. Open the front door after about 25 seconds from the step above and leave it for 10 seconds or more in the device to take out the printed sheet.
5. Measure the glossy part on the printed sheet as shown in the figure below to confirm if the width is in the tolerable ranges.
   • Center (a): 6.0+-1mm
   • Sides (b), (c): 5.0-7.5mm
   • Difference (b-c): 1.0mm or less
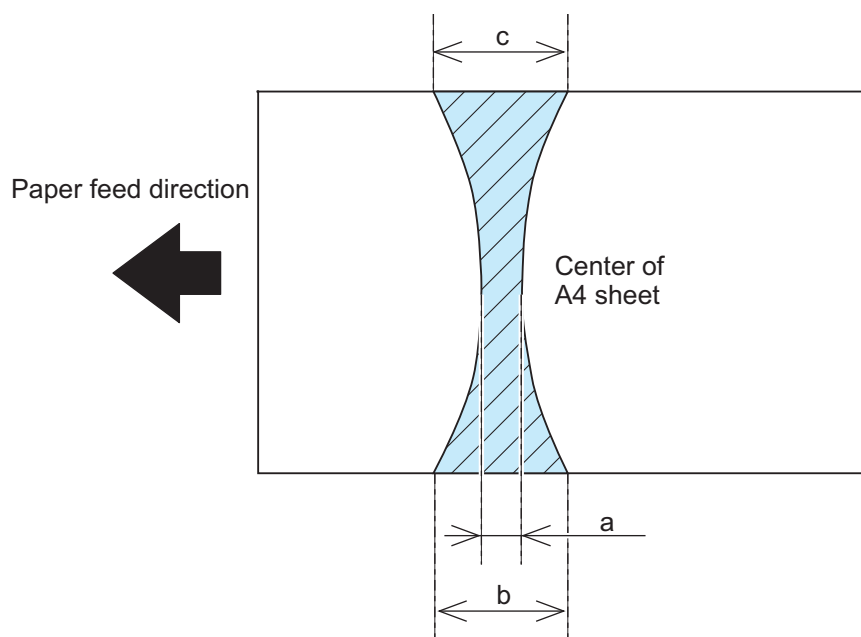
Version Upgrade

Overview

This machine supports the following two methods for upgrading the firmware.
1. User Support Tool (UST)
2. Via Internet

Upgrading by UST
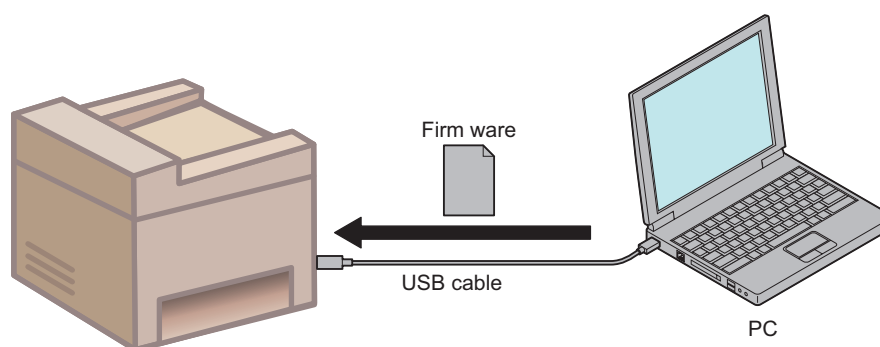
Firmware configuration

Firmware	Function	Stored in
Boot ROM	Start the main controller.	Main controller PCB
Main Controller	Control overall performance.	Main controller PCB
LANGUAGE	Manage languages used in panel / Remote UI and font data.	Main controller PCB
DCON	Control the printer unit.	DC controller PCB

Some UST versions meet less numbers of firmware than those listed above.

Preparation

■ System Requirements

- OS (one of the following)
    - Microsoft Windows Server 2003
    - Microsoft Windows Vista
    - Microsoft Windows Server 2008
    - Microsoft Windows 7
    - Microsoft Windows Server 2012
    - Microsoft Windows 8
- PC
    - Compatible to the selected
    - OSMemory (RAM): 32MB or more free space
    - Hard Disk: 100MB or more free space
    - Display: 640x480 pixels or more in resolution, 256 tones or more
    - With USB ports
- UST file for this product*
    *: Download the corresponding file from the system CD or the service site (ask the service technician in charge for details)
- USB cable (USB1.1/2.0)

■ Preparation

1. **Start the PC.**

2. **Connect the device to the PC with the USB cable.**

3. **Turn on the device on standby.**

4. **Press [Menu] key to upgrade firmware in User mode.**

   System Management Settings > Update Firmware > Via PC
   The message, "Will you restart the device to upgrade firmware?", is shown on the display. Select [Yes].

5. **Press [OK] to automatically restart the device. "***DOWNLOAD MODE***" is shown on the display.**

6. **Wait for the motor of the host machine to stop.**

NOTE:
Press STOP key to cancel Download mode and return to the normal operation.

Downloading System Software

1. **Open UST.**

USTUPD.exe

2. **Take a note of the firmware version to upgrade and click [Next] button.**
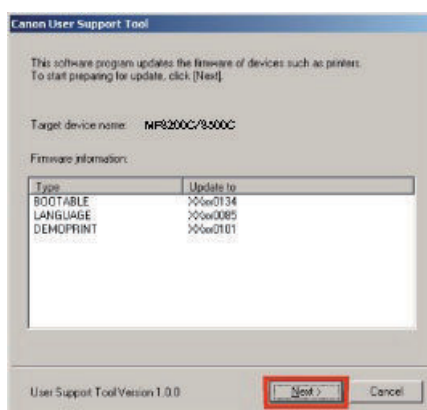
3. **Click [Next] button.**
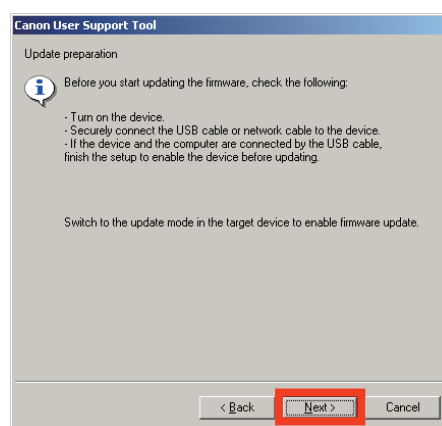
4. Select [USB Device] and click [Next] button.
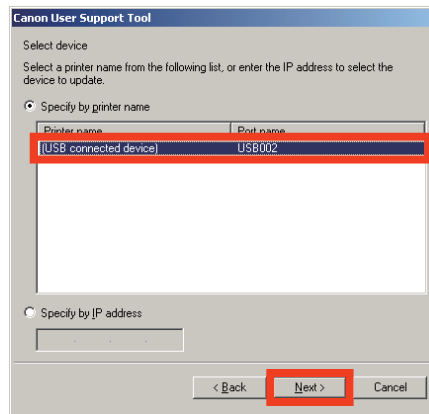
5. Click [Start] button.
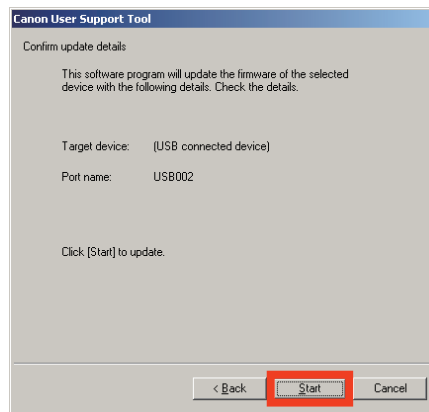
6. Click [Yes] button for the warning message to start download.
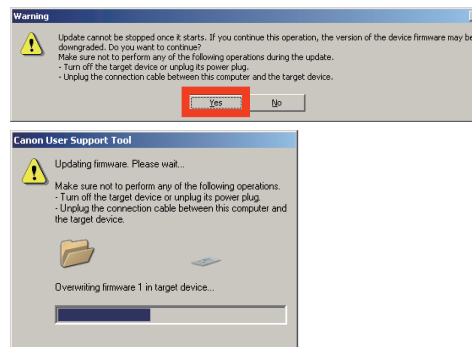
7. Click [OK] button when download is completed.
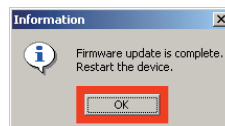
8. Turn off and on the power to restart the device.

9. Output the spec report from Service mode to confirm if the firmware version is the same as that on the note taken in Step 2).
COPIER> FUNCTION> MISC-P> SPEC

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Upgrading via Internet

■ Overview

Select to automatically install the firmware update without using a computer.

■ Preparation

1. **Check that there are no other jobs being executed.**

2. **In an environment where access is obtained via a proxy server, the proxy setting is made from the remote UI.**
   Settings/Registration > System Management Settings > Network Settings >TCP/IP Settings > Proxy Settings > Edit... > Use Proxy(select)Select the [Use Proxy] check box and specify the required settings.

3. **Check that the serial number of the host machine is shown on the Main Controller PCB.**

> **NOTE:**
> To upgrade the firmware of the host machine via Internet, the serial number of the machine need to be written on the Main Controller PCB.
> Execute COPIER > FUNCTION > MISC-P > SPEC, and check that the BODY No. is registered.

■ Procedure

1. **Press the [Menu] key, and update the firmware via the Internet in user mode.**
   System Management Settings > Update Firmware > Via Internet

> **NOTE:**
> • Refer to the User's Manual of the device for how to connect the device to the external network.
> • This is applicable either in a wired LAN environment or a wireless LAN environment.

■ Messages

The message displayed on the device operation panel is as follows.

No.	Error message	The timing of occurrence	Remedy
1	Job in progress... Wait a moment, then try again.	If there is a job being executed:	1. Wait until the job is completed. 2. Cancel the job.
2	Cannot check the firmware version. (Server communication error.)	Network error	1. Check whether the device can be connected to the external network. 2. Check whether the proxy setting has been made (in case of access via a proxy server).
3	Cannot download the firmware. (Error during download.)		1. Check whether the device can be connected to the external network. 2. Check whether the proxy setting has been made (in case of access via a proxy server). 3. Check that the serial number of the host machine is shown on the Main Controller PCB.
4	***DOWNLOAD MODE*** NETWORK AVAILABLE IP ADRESS IP address of the machine PRESS STOP KEY TO EXIT	If update (writing) of the firmware has ended in failure:	1. Update the firmware again using UST.
5	***DOWNLOAD MODE*** FAILED TO UPDATE		
6	***DOWNLOAD MODE*** UPDATE IS COMPLETE	If the update of the firmware is successful	-

Debug Log

Function Overview

The debug log is a log that analyzes the program behavior of the machine to enable developers to identify problems.
This machine is embedded with a function that compiles the log of the behavior of each software module as debug log and outputs it as integrated log for analyzing problems.
Be sure to collect the debug log when the Support Dept. of sales company so instructs.
Note that there is no need for service technicians to check the content of collected debug log.

■ Cases in which collection of debug log is effective

Collection of debug log is effective in the following cases:
- Neither the Support Dept. of sales company nor CINC can reproduce the trouble that occurred at the customer site
- When the error frequency is low
- When the failure is suspected to be due to firmware rather than a mechanical/electrical failure.

> **NOTE:**
> If the procedure for reproducing the failure is clear and the Support Dept. of sales company and CINC can reproduce it, collection of debug log is not necessary.

Conditions for collecting logs

■ Conditions for not being able to collect logs

In the following cases, the procedure for obtaining logs is not required because logs cannot be obtained.
- Service mode screen cannot be accessed
- The machine cannot recognize a USB flash drive
- No USB port is installed in the machine (when the model has only a copy function)

■ What is necessary to collect logs

A USB flash drive that satisfies the following conditions is required to obtain the debug logs of the machine:
- Formatted in FAT 16/FAT32
- With sufficient free space (of several MB)
- Can be recognized by the machine

Collection procedure

The following shows the procedure for collecting the debug log from the Control Panel.

1. **Connect a USB flash drive to the machine.**

2. **Execute the following service mode from the Control Panel or Remote UI.**
   - COPIER > FUNCTION > SYSTEM > LOGWRITE

   "Executing..." is displayed while log collection is executed. When it is completed, the screen shows the service mode screen again.

3. **Remove the USB flash drive by the correct procedure.**
   Connect the USB flash memory to the PC, and check that the log file (SUBLOG.TXT) has been saved.

CAUTION:
The debug log file (SUBLOG.TXT) that can be collected from the machine is saved in clear text data that is not encrypted.
As this data may contain information attributed to the user, it is necessary to gain approval from the user before collecting it.
Also, the collected file needs to be handled in the same manner as that for user data necessary for reproduction.

NOTE:
The following information is not included in the debug log of the machine:
- Job list (job name, user name, address)
- Communications log (address, user name)
- Job log (user name, job name)

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Error/Jam/Alarm

Outline

This section describes codes shown in case any problem is occurred.

Code type	Description	Reference
Error code	Shown for any problem occurred in the device.	List of error codes
Jam code	This code is displayed when a jam occurs inside the machine.	List of jam codes
Alarm code	Displays when a part of function is lost.	List of alarm code

● Outline

This section describes codes shown in case any problem is occurred.
Since this product does not collect logs for jams and alarms, no alarm code is shown.

Code type	Description	Reference
Error code	Shown for any problem occurred in the device.	List of error codes
Jam code	This code is displayed when a jam occurs inside the machine.	List of jam codes
Alarm code	N/A	-

● Jam code

■ Location code

Location information is displayed as 1-digit number as follows.

Device	Location code
Host machine	3
ADF	4

■ Position code

When jam occurs, pickup location is indicated with the following pickup position code.

Device	Position code
ADF	0
MP Tray	0
Cassette 1	1
Option Cassette (Cassette Feeding Module-V1)	2
Duplex	7

Error Codes

Whenever an error occurs, firstly turn off and on the power to check if the error is persistent.(Controller-related errors tend to recover by power-OFF/ON.)

* : Supported by model with FAX only

E Code	Detail Code	Item	Description
E000	0000	Title	Error in temperature rising of Fixing Assembly
		Description	Temperature of the Fixing Assembly did not reach a certain temperature within the specified period of time.
		Remedy	1. Check the connector connection between the Fixing Assembly and the DC Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the DC Controller PCB.
E001	0000	Title	Abnormal high temperature of Fixing Assembly
		Description	It was detected that the temperature of the Fixing Assembly was abnormally high.
		Remedy	1. Check the connector between the Fixing Assembly and the DC Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the DC Controller PCB.
E001	0001	Title	Abnormal high temperature of Fixing Assembly (caused by Sub Thermistor)
		Description	It was detected that the temperature of the Sub Thermistor of the Fixing Assembly was abnormally high.
		Remedy	1. Check the connector between the Fixing Assembly and the DC Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the DC Controller PCB.
E003	0000	Title	Abnormal low temperature of Fixing Assembly
		Description	It was detected that the temperature of the Fixing Assembly was abnormally low.
		Remedy	1. Check the connector between the Fixing Assembly and the DC Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the DC Controller PCB.
E003	0001	Title	Abnormal low temperature of Fixing Assembly (caused by Sub Thermistor)
		Description	It was detected that the temperature of the Sub Thermistor of the Fixing Assembly was abnormally low.
		Remedy	1. Check the connector between the Fixing Assembly and the DC Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the DC Controller PCB.
E004	0000	Title	Error in fixing power supply drive circuit
		Description	The zero cross signal was not detected for the specified period of time or more.
		Remedy	1. Check the connector connection between the Fixing Assembly and the DC Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the DC Controller PCB.
E012	0000	Title	Revolution of the ITB Motor did not reach the specified value
		Description	The cycle of the ITB Motor speed detection signal did not become the specified cycle since the ITB Motor started to be driven.
		Remedy	1. Check the connector between the ITB Motor and the DC Controller PCB. 2. Replace the ITB Motor. 3. Replace the DC Controller PCB.
E012	0001	Title	Revolution of the ITB Motor was out of the specified range
		Description	After the cycle of the ITB Motor speed detection signal became the specified cycle once, it deviated from the specified cycle.
		Remedy	1. Check the connector between the ITB Motor and the DC Controller PCB. 2. Replace the ITB Motor. 3. Replace the DC Controller PCB.
E014	0000	Title	Error in startup of Fixing Motor
		Description	Revolution of the Fixing Motor did not reach the specified value.
		Remedy	1. Check the connector between the ITB Motor and the DC Controller PCB. 2. Replace the ITB Motor. 3. Replace the DC Controller PCB.

E Code	Detail Code	Item	Description
E014	0001	Title	Revolution of the Fixing Motor was out of the specified range
		Description	After the cycle of the Fixing Motor speed detection signal became the specified cycle once, it deviated from the specified cycle.
		Remedy	1. Check the connector between the ITB Motor and the DC Controller PCB. 2. Replace the ITB Motor. 3. Replace the DC Controller PCB.
E015	0001	Title	Error in Developing Disengagement Motor
		Description	Change in signal status of the Developing Home Position Sensor could not be detected although a specified period of time has passed after rotating the Main Motor for engagement/disengagement operation of the Developing Cylinder.
		Remedy	1. Check the connectors connecting the Developing Home Position Sensor, Main Motor and the DC Controller PCB. 2. Replace the Developing Home Position Sensor. 3. Replace the Main Motor. 4. Replace the DC Controller PCB.
E020	0000	Title	Density Sensor error
		Description	Sufficient amount of light could not be received when detecting image density.
		Remedy	1. Check the connector of the DC Controller PCB. 2. Replace the ITB Unit. 3. Replace the DC Controller PCB. 4. Replace the Toner Cartridge.
E021	1003	Title	Developing Motor error
		Description	The Developing Motor failed to rotate.
		Remedy	1. Check the connector between the Developing Motor and the DC Controller PCB. 2. Replace the Developing Motor. 3. Replace the DC Controller PCB.
E021	2003	Title	Developing Motor error
		Description	The cycle of the Developing Motor speed detection signal did not become the specified cycle since the Developing Motor started to be driven.
		Remedy	1. Check the connector between the Developing Motor and the DC Controller PCB. 2. Replace the Developing Motor. 3. Replace the DC Controller PCB.
E024	0000	Title	Toner Level Sensor error
		Description	Error in output of the Toner Level Sensor (Yellow)
		Remedy	1. Replace the Toner Cartridge. 2. Replace the High Voltage Power Supply PCB. 3. Replace the DC Controller PCB.
E024	0001	Title	Toner Level Sensor error
		Description	Error in output of the Toner Level Sensor (Magenta)
		Remedy	1. Replace the Toner Cartridge. 2. Replace the High Voltage Power Supply PCB. 3. Replace the DC Controller PCB.
E024	0002	Title	Toner Level Sensor error
		Description	Error in output of the Toner Level Sensor (Cyan)
		Remedy	1. Replace the Toner Cartridge. 2. Replace the High Voltage Power Supply PCB. 3. Replace the DC Controller PCB.
E024	0003	Title	Toner Level Sensor error
		Description	Error in output of the Toner Level Sensor (Black)
		Remedy	1. Replace the Toner Cartridge. 2. Replace the High Voltage Power Supply PCB. 3. Replace the DC Controller PCB.
E052	0000	Title	Duplex Unit detection error
		Description	Duplex Unit detection error
		Remedy	1. Check the connector between the Duplex Unit and the DC Controller PCB. 2. Replace the DC Controller PCB.
E066	0000	Title	Environment Sensor error
		Description	Environment Sensor error

E Code	Detail Code	Item	Description
E066	0000	Remedy	1. Check the connector between the Environment Sensor and DC Controller PCB. 2. Replace the Environment Sensor. 3. Replace the DC Controller PCB.
E070	0000	Title	ITB/TOP Sensor error
		Description	ITB/TOP Sensor error
		Remedy	1. Check the connector between the ITB Unit and DC Controller PCB. 2. Replace the ITB Unit. 3. Replace the DC Controller PCB.
E078	0000	Title	Primary transfer disengagement error
		Description	Primary transfer disengagement mechanism did not work properly.
		Remedy	1. Check the disengagement mechanism. 2. Check the connectors of the ITB Tension Sensor, Developing Motor, and DC Controller PCB. 3. Replace the ITB Tension Sensor. 4. Replace theDeveloping Motor / DC Controller PCB.
E100	0000	Title	Error in Laser Scanner Motor or Laser Scanner Unit (Y)
		Description	Error in the BD detection value in the Laser Scanner Motor or the Laser Scanner Unit (Y)
		Remedy	1. Check the connector between the Laser Scanner Unit and the DC Controller PCB. 2. Replace the Laser Scanner Unit. 3. Replace the DC Controller PCB.
E100	0001	Title	Error in Laser Scanner Motor or Laser Scanner Unit (Y)
		Description	Error in the BD detection value in the Laser Scanner Motor or the Laser Scanner Unit (Y)
		Remedy	1. Check the connector between the Laser Scanner Unit and the DC Controller PCB. 2. Replace the Laser Scanner Unit. 3. Replace the DC Controller PCB.
E100	0002	Title	Error in Laser Scanner Motor or Laser Scanner Unit (C)
		Description	Error in the BD detection value in the Laser Scanner Motor or the Laser Scanner Unit (C)
		Remedy	1. Check the connector between the Laser Scanner Unit and the DC Controller PCB. 2. Replace the Laser Scanner Unit. 3. Replace the DC Controller PCB.
E100	0003	Title	Error in Laser Scanner Motor or Laser Scanner Unit (Bk)
		Description	Error in the BD detection value in the Laser Scanner Motor or the Laser Scanner Unit (Bk)
		Remedy	1. Check the connector between the Laser Scanner Unit and the DC Controller PCB. 2. Replace the Laser Scanner Unit. 3. Replace the DC Controller PCB.
E110	0000	Title	Laser Scanner error
		Description	The Laser Scanner Motor did not become ready although a specified period of time had passed.
		Remedy	1. Replace the Laser Scanner Unit. 2. Replace the DC Controller PCB.
E194	0000	Title	Color Displacement Sensor error
		Description	An error in the Color Displacement Sensor was detected.
		Remedy	1. Check the connector of the DC Controller PCB. 2. Replace the ITB Unit. 3. Replace the DC Controller PCB. 4. Replace the Toner Cartridge.
E196	0000	Title	DCON ROM error
		Description	The ROM of the DC Controller PCB failed to be updated.
		Remedy	1. Install the set of the controller firmware. 2. Replace the DC Controller PCB.
E196	1000	Title	Main Controller PCB writing/reading error
		Description	Error in writing/reading of main program in the Main Controller PCB
		Remedy	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E196	2000	Title	Main Controller PCB writing/reading error
		Description	Error in writing/reading of the setting values storage area in the Main Controller PCB
		Remedy	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E198	0000	Title	DC Controller memory error

E Code	Detail Code	Item	Description
E198	0000	Description	Error in the nonvolatile memory on the DC Controller
		Remedy	Replace the DC Controller PCB.
E202	0001	Title	CIS Unit HP error (outward)
		Description	The CIS Unit did not move to HP even it moved backward. Reader HP Sensor error, Reader Motor error, CIS Unit error
		Remedy	1. Replace the Reader HP Sensor. 2. Replace the Reader Motor. 3. Replace the CIS Unit. 4. Replace the Reader Unit.
E202	0002	Title	CIS Unit HP error (homeward)
		Description	The CIS Unit did not move to HP even it moved forward. Reader HP Sensor error, Reader Motor error, CIS Unit error
		Remedy	1. Replace the Reader HP Sensor. 2. Replace the Reader Motor. 3. Replace the CIS Unit. 4. Replace the Reader Unit.
E225	0001	Title	Light intensity of the CIS Unit below the reference level
		Description	When the light intensity is below the reference level at shading
		Remedy	1. Disconnect and then connect the Flexible Cable. 2. Replace the Flexible Cable. 3. Replace the CIS Unit. 4. Replace the Main Controller PCB (PCB2).
E246	0000	Title	System error
		Description	System error
		Remedy	Contact to the sales company's HQ.
E247	0000	Title	System error
		Description	System error
		Remedy	Contact to the sales company's HQ.
E248	0001	Title	Error in access to backup data for Reader (reading error at power-on)
		Description	The Reader-related adjustment values could not be read.
		Remedy	1. Clear the backup RAM of RCON. Execute COPIER > FUNCTION > CLEAR > RCON. 2. Enter all the values written on the service label in service mode again. 3. Turn OFF and then ON the main power.
E250	0000	Title	Error in the One-Touch Key Cover Sensor
		Description	Error in the One-Touch Key Cover Sensor
		Remedy	1. Check the One-Touch Key Cover Sensor. 2. Turn OFF and then ON the power. 3. Replace the Control Panel.
E350	0000	Title	System error
		Description	System error
		Remedy	Contact to the sales company's HQ .
E351	0000	Title	System error
		Description	System error
		Remedy	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E354	0000	Title	System error
		Description	System error
		Remedy	Contact to the sales company's HQ .
E355	0000	Title	System error
		Description	System error
		Remedy	Contact to the sales company's HQ .
E355	0004	Title	System error
		Description	System error
		Remedy	Contact to the sales company's HQ .
E355	0005	Title	System error
		Description	System error
		Remedy	Contact to the sales company's HQ .
E719	0000	Title	Card Reader communication error (serial communication)

E Code	Detail Code	Item	Description
E719	0000	Description	Communication with the Card Reader could not be started at startup.
		Remedy	1. After turning OFF the power, check the connection of the Card Reader-F1 and the short connector [A], and turn ON the power 2. After turning OFF the power, replace the cable included in the package of the Card Reader-F1 or the Copy Card Reader Attachment-J1, and turn ON the power.
E732	0000	Title	Scanner communication error
		Description	Scanner communication error
		Remedy	1. Check the connector connection between the Engine Controller PCB and the Main Controller PCB. 2. Install the set of the controller firmware. 3. Replace the Main Controller PCB. 4. Replace the Engine Controller PCB.
E733	0000	Title	Printer communication error
		Description	Communication error between the Engine Controller PCB and the Main Controller PCB occurred.
		Remedy	1. Check the connector connection between the Engine Controller PCB and the Main Controller PCB. 2. Install the set of the controller firmware. 3. Replace the Main Controller PCB. 4. Replace the Engine Controller PCB.
E736 *	0000	Title	Communication error with CCU/modem
		Description	Communication error with CCU/modem NCU PCB type error
		Remedy	1. Install the set of the controller firmware. 2. Replace the NCU PCB. 3. Replace the Main Controller PCB.
E736 *	0001	Title	Error in ROM for backing up fax data
		Description	An error occurred in ROM for backing up fax data
		Remedy	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E744	0001	Title	Language file version error
		Description	Language file version was not matched with the main program.
		Remedy	Install the set of the controller firmware.
E744	0002	Title	Language file size error
		Description	The size of the language file exceeded the upper limit.
		Remedy	Install the set of the controller firmware.
E744	1001	Title	Firmware version error
		Description	Versions of the main program and the start-up program were not matched.
		Remedy	Install the set of the controller firmware.
E744	4000	Title	Engine ID error
		Description	Invalid engine connection was detected.
		Remedy	1. Turn OFF and then ON the main power. 2. Check the DC Controller PCB. 3. Install the DC Controller PCB. 4. Install the set of the controller firmware. 5. Check the model code. (When the model code and the engine code are mismatched, E744-4000 occurs.)
E744	5000	Title	Error in the Control Panel PCB
		Description	Error in the Control Panel PCB (microcomputer)
		Remedy	1. Check the Control Panel PCB, and install the firmware (PANEL). 2. Install the set of the controller firmware. 3. Replace the Main Controller PCB.
E744	6000	Title	Communication error with Wireless LAN PCB
		Description	Communication with the Wireless LAN PCB could not be established.
		Remedy	1. Turn OFF and then ON the main power. 2. Check the connection of the Wireless LAN PCB. 3. Install the set of the controller firmware. 4. Replace the Main Controller PCB.
E744	7000	Title	Main Controller PCB error
		Description	An error in the microcomputer which retains fax job information of the Main Controller PCB

E Code	Detail Code	Item	Description
E744	7000	Remedy	1. Install the firmware of BKUP. 2. Install the set of the controller firmware. 3. Replace the Main Controller PCB.
E746	0000	Title	Main Controller PCB error
		Description	Main Controller communication error occurred (other than scan).
		Remedy	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E766	xxxx[*1]	Title	Firmware error
		Description	An error in connection occurred due to controller software.
		Remedy	Due to firmware error, the possibility of solving the error by replacing the Main Controller PCB is low. Check the installed engine again.
E766	8000	Title	Firmware error
		Description	Information at color displacement correction could not be obtained.
		Remedy	1. Install the DC Controller firmware. 2. Install the set of the controller firmware. 3. Replace the DC Controller PCB.
E766	9000	Title	Scanner power state error (firmware-dependent)
		Description	Error in power state of the Laser Scanner Unit (firmware-dependent)
		Remedy	1. Install the set of the controller firmware. 2. Replace the Laser Scanner Unit.
E805	0005	Title	Duplex Cooling Fan error
		Description	The Duplex Cooling Fan failed to rotate at the specified revolution.
		Remedy	1. Check the connector between the Duplex Cooling Fan and the DC Controller PCB. 2. Replace the Duplex Cooling Fan. 3. Replace the DC Controller PCB.
E806	0000	Title	Fixing Power Supply Cooling Fan error
		Description	The Fixing Power Supply Cooling Fan failed to rotate at the specified revolution.
		Remedy	1. Check the connector between the Fixing Power Supply Cooling Fan and the DC Controller PCB. 2. Replace the Fixing Power Supply Cooling Fan. 3. Replace the DC Controller PCB.
E808	0000	Title	Low-voltage power supply failure detection
		Description	Printer detected low-voltage power supply failure.
		Remedy	1. Check the connector between the Power Supply Unit and the DC Controller PCB. 2. Replace the Power Supply Unit. 3. Replace the DC Controller PCB.
E840	0000	Title	Error in pressure release mechanism of the Fixing Assembly
		Description	Although the Fixing Assembly started moving to the home position, it failed to be at the position.
		Remedy	1. Replace the Fixing Drive Assembly. 2. Replace the Fixing Pressure Release Cam.

Jam Code
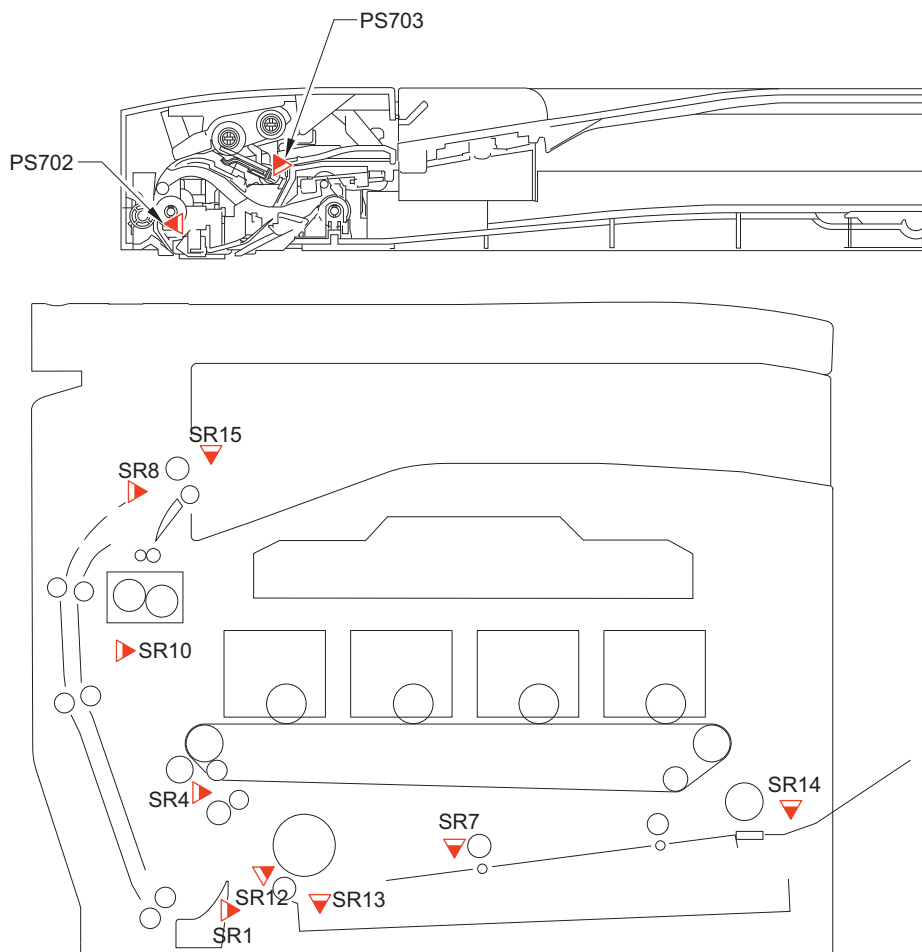
ACC ID	JamCode	Type	Sensor Name/Detection Contents	Sensor ID
04	0001	Delay	Document End Sensor Delay	PS702
04	0002	Stationary	Document End Sensor	PS702
04	0004	Delay	Document End Sensor Delay (2nd side)	PS702
04	0005	Stationary	Document End Sensor (2nd side)	PS702
03	0040	Size error	Size error	-
03	0060	Size error	Size error	-
04	0071	Sequence	Sequence Error	-
04	0094	Power ON	Document End Sensor / Document Sensor	PS702/PS703
03	0104	Delay	Registration Detection Sensor	SR4
03	0105		MP Tray Pre-Registration Detection Sensor	SR7
03	010C		Fixing Delivery Sensor	SR8
03	014C		Delivery Full Sensor	SR15
03	0184		Registration Detection Sensor	SR4
03	0208	Stationary	Registration Detection Sensor	SR4
03	0210		Fixing Delivery Sensor	SR8
03	0217		Registration Detection Sensor Fixing Delivery Sensor Fixing Loop Sensor MP Tray Pre-Registration Detection Sensor Paper Feeder Pre-Registration Detection Sensor	SR1/SR4/SR7/SR8/SR10
03	021C	Wrap	Fixing Delivery Sensor	SR8
03	0248	Stationary	Registration Detection Sensor	SR4
03	0250		Fixing Delivery Sensor	SR8

ACC ID	JamCode	Type	Sensor Name/Detection Contents	Sensor ID
03	0257	Stationary	Registration Detection Sensor Fixing Delivery Sensor Fixing Loop Sensor MP Tray Pre-Registration Detection Sensor Paper Feeder Pre-Registration Detection Sensor	SR1/SR4/SR7/SR8/SR10
03	025C	Wrap	Fixing Delivery Sensor	SR8
03	02A4	Duplex revers	Registration Detection Sensor	SR4
03	1014	Power ON	Registration Detection Sensor Fixing Delivery Sensor Fixing Loop Sensor MP Tray Pre-Registration Detection Sensor Paper Feeder Pre-Registration Detection Sensor	SR1/SR4/SR7/SR8/SR10
03	1054			
03	1094			
03	10D4			
03	1118	Door Open	Front Cover Sensor Registration Detection Sensor Pre-registration Detection Sensor Fixing Delivery Sensor	SR2/SR4/SR8/SR12
03	1158			
03	1198			
03	11D8			

Alarm Code

Alarm Code	Title	A. Operation / B. Cause / C. Action
85-0001	System error	Contact the sales company.
85-0002	System error	Contact the sales company.
85-0003	System error	Contact the sales company.
85-0004	System error	Auto recovery due to replacement with a new Main Controller PCB, which is a service part.
85-0005	System error	Auto recovery due to replacement with a used Main Controller PCB.

8 Service Mode

Overview

Service Mode Menu

```
Service mode
   │
   ├──── COPIER ───── Service mode for copier
   │        │
   │        ├──── DISPLAY ──── Service mode for copier
   │        ├──── I/O ──────── I/O display mode
   │        ├──── ADJUST ───── Adjustment mode
   │        ├──── FUNCTION ─── Operation / inspection mode
   │        ├──── OPTION ───── Specification setting mode
   │        └──── COUNTER ──── Counter mode
   │
   ├──── FEEDER ───── ADF service mode
   │        │
   │        ├──── ADJUST ───── Adjustment mode
   │        └──── FUNCTION ─── Operation / inspection mode
   │
   ├──── FAX ──────── FAX service mode
   │        │
   │        ├──── SSSW ─────── Bit switch registration mode
   │        ├──── MENU ─────── Menu switch registration mode
   │        ├──── NUM ──────── Numeric parameter setting mode
   │        └──── NCU ──────── NCU parameter setting mode
   │                           (Service adjustment is not available)
   │
   └──── TESTMODE ─── Service mode for test print, operation check, etc.
            │
            ├──── PRINT ────── Print test mode
            └──── FAX ──────── FAX test mode
```

Backing up Service Mode

Each device is tuned at the time of shipment and the tuned values are written on the service label.
However, when replacing the main controller PCBs / DC controller PCBs or clearing RAM, tuned ADJUST and OPTION values are reset to defaults. Each service technician should adjust these values in field and ensure to write values after changes in the service label. If the corresponding item is not found on the service label, enter the value in the blank space.
Service label position (1)

[1]
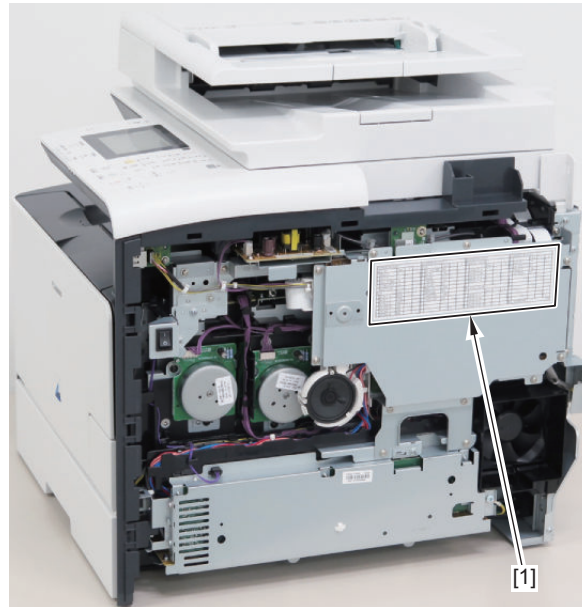
● Screen flow of Service mode

- Initial screen

Scroll the screen.	: Flick the screen.
Go to Category / Sub category selection screen	: Tap the screen.
Go to Up category screen	: Return key

```
SERVICE MODE
COPIER
FEEDER
FAX
TESTMODE
```
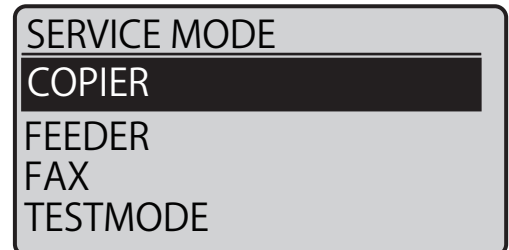
- Category / Sub category selection screen

Scroll the screen.	: Flick the screen.
Go to Item selection screen	: Tap the screen.
Go to Initial screen	: Return key

```
DISPLAY
IO
ADJUST
FUNCTION
OPTION
```

- Item selection screen

Select the item	: Flick the screen.
Go to Numeric value entry screen	: Tap the screen.
Go to Category / Sub category selection screen	: Return key

```
ADJ-XY
CCD
PASCAL
VIFADJ
SCNR
```
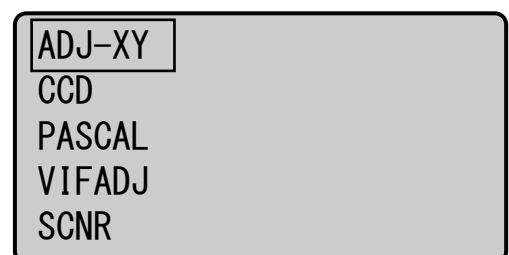
• Numeric value entry screen

Enter the setting value.	: numeric keypad
Switch the sign (+/-) of the value	: [*] Key
Increment the setting value one by one	: [▲] (Tap the screen)
Decrease the setting value one by one	: [▼] (Tap the screen)
Change the setting	: [Apply] Key (Tap the screen)
Change no settings	: Return key

```
ADJ-XY
┌──────────┐
│    0     │
└──────────┘
 (-30 - 30)
     ∧
     ∨
┌────────┐  ┌──────┐
│        │  │ Apply│
└────────┘  └──────┘
```
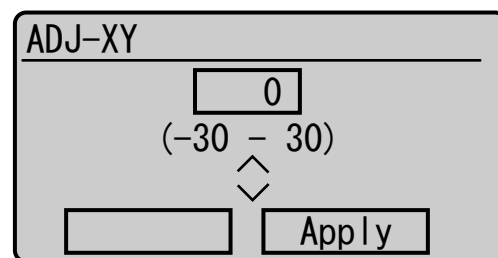
• Method to display the setting value of switch
   • On decimal display format, display is left aligned. (Comma is put every 3 digits.)
   • On binary display format, the most significant bit is placed at the leftmost position and the least significant bit is placed at the rightmost position.

⬤ Remote UI service mode

■ Function Overview

Remote UI can be used to display, set and implement various service mode in addition to rebooting the machine. In this case, machine's UI displays "Remote service mode".

■ Operating condition

Operation of service mode using remote UI becomes possible in the following cases:
   • Service mode is not used on LUI.
   • There is no user who has been logged in to the remote UI service mode (this function).
   • Remote UI is enabled in the setting of LUI.
     Setting Menu > System Management Settings > Remote UI On/Off
   • "RMT-SW" is enabled in service mode (Enabled when the setting value is "1".)
     COPIER > OPTION > BODY > RMT-SW (remote UI service mode function)
     0: OFF, 1: ON (default)

■ Usage method

1. **Activate the Web browser.**

2. **Enter the following URL in the address input field.**
   http://<IP address of the machine or host name>/servicemode.html

3. **Enter the password and click "Log In".**
   * Password required for authentication differs depending on the service mode setting.
   COPIER > OPTION > BODY > PSWD-SW
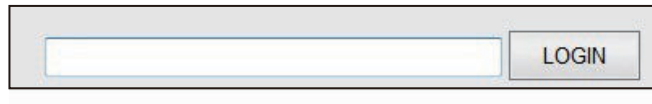
PSWD-SW	Password required for authentication
0	1. Password of RUI service mode
1	1. Password of RUI service mode 2. Password of service mode
2	1. Password of RUI service mode 2. User's system administrator ID 3. Password of system administrator 4. Password of service mode

* Password of service mode can be changed in COPIER > OPTION > BODY > SM-PSWD.
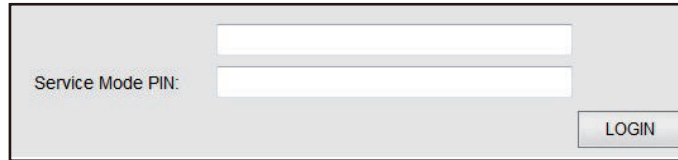
● Authentication screen

1. PSWD-SW: 0
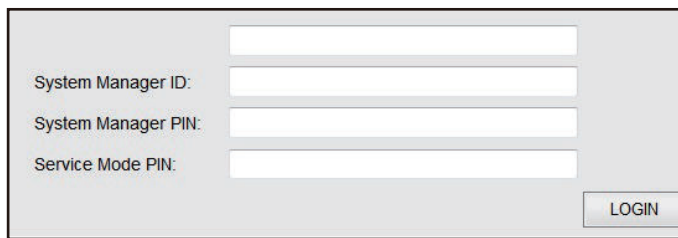
2. PSWD-SW: 1

Service Mode PIN:

LOGIN

3. PSWD-SW: 2

System Manager ID:
System Manager PIN:
Service Mode PIN:

LOGIN

4. Click "Logout" to end the operation.

> **NOTE:**
> After login, if you close the browser without "logout", it is recognized that you have been "logged in". Therefore, in order to log in to service mode again, you must wait for a certain period of time (3 minutes) from the last access to make the system timeout or turn OFF/ON the power.

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COPIER

🔵 DISPLAY

■ VERSION

COPIER > DISPLAY > VERSION	
Item	**Description**
MAIN	
Title	Display of MAIN (main program) version
Details	To display the firmware version of Main Controller PCB.
Use case	When upgrading the firmware
Adj/set/operate method	N/A (Display only)
Display/adj/set range	00.00 to 99.99
BOOT	
Title	Boot ROM version
Details	To display the version of Boot ROM (BOOT program).
Use case	When upgrading the firmware
Adj/set/operate method	N/A (Display only)
Display/adj/set range	00.01 to 99.99
LANG	
Title	Language pack version
Details	To display the version of language pack.
Use case	When upgrading the firmware
Adj/set/operate method	N/A (Display only)
Display/adj/set range	00.00 to 99.99
DEMODATA	
Title	Demo print data version
Details	To display the version of demo print data. Since this machine does not have demo print function, "FF.FF" is displayed.
Use case	When upgrading the firmware
Adj/set/operate method	N/A (Display only)
Display/adj/set range	00.01 to 99.99
ECONT	
Title	ECONT version
Details	To display the version of Engine Controller PCB.
Use case	When upgrading the firmware
Adj/set/operate method	N/A (Display only)
Display/adj/set range	00.01 to 99.99
PANEL	
Title	Dspl of Control Panel CPU PCB ROM ver
Details	To display the ROM version of Control Panel CPU PCB.
Use case	When upgrading the firmware
Adj/set/operate method	N/A (Display only)
Display/adj/set range	00.00 to 99.99
Related service mode	COPIER > FUNCTION > SYSTEM > PANEL-UP
ECO	
Title	For R&D
DEMOMODE	
Title	Version of data for shop demonstration
Details	To display the version of data for shop demonstration.
Use case	When checking the version of data for shop demonstration
Display/adj/set range	00.00 to 99.99

■ USER

COPIER > DISPLAY > USER	
Item	**Description**
SPDTYPE	
Title	To display the engine speed type (ppm) of Controller Board.
Details	To display the engine speed type (ppm) of Controller Board.
Use case	When checking the engine speed type
Adj/set/operate method	None (display only)
Display/adj/set range	00 to 99

■ ERR

Error code display screen
Up to 20 E codes and detailed codes for system errors can be shown.

■ JAM

Jam code display screen
Up to 20 Jam codes and detailed codes for system errors can be shown.

■ CCD

COPIER > DISPLAY > CCD	
Item	**Description**
TARGET-B	
Title	Shading target value (B)
Details	To display the shading target value of Blue. Continuous display of 128 (minimum) or 384 (maximum) is considered a failure of the CIS Unit.
Use case	At scanned image failure
Adj/set/operate method	N/A (Display only)
Display/adj/set range	128 to 384
Default value	269
Related service mode	COPIER > ADJUST > CCD > DFTAR-B
TARGET-G	
Title	Shading target value (G)
Details	To display the shading target value of Green. Continuous display of 128 (minimum) or 384 (maximum) is considered a failure of the CIS Unit.
Use case	At scanned image failure
Adj/set/operate method	N/A (Display only)
Display/adj/set range	128 to 384
Default value	270
Related service mode	COPIER > ADJUST > CCD > DFTAR-G
TARGET-R	
Title	Shading target value (R)
Details	To display the shading target value of Red. Continuous display of 128 (minimum) or 384 (maximum) is considered a failure of the CIS Unit.
Use case	At scanned image failure
Adj/set/operate method	N/A (Display only)
Display/adj/set range	128 to 384
Default value	263
Related service mode	COPIER > ADJUST > CCD > DFTAR-R
TARGETBW	
Title	Shading target value (BW)
Details	To display the shading target value at B&W jobs. Continuous display of 128 (minimum) or 384 (maximum) is considered a failure of the Main Controller PCB.
Use case	At scanned image failure

COPIER > DISPLAY > CCD	
Item	**Description**
Adj/set/operate method	N/A (Display only)
Display/adj/set range	128 to 384
Default value	276
Related service mode	COPIER > ADJUST > CCD > DFTAR-BW

🔵 I/O

■ R-CON

COPIER>IO>R-CON			
Address	**BIT**	**Description**	**Remarks**
P001	0	Display sensor status (Document end sensor)	While the screen is open, the values are updated periodically (with an interval of 1 second).
	1	Display sensor status (Document sensor)	
	2	Display sensor status (HPS)	
P002	-	No sensor allocated; 0 is always shown	While the screen is open, the values are updated periodically (with an interval of 1 second).

🔵 ADJUST

■ ADJ-XY

COPIER > ADJUST > ADJ-XY	
Item	**Description**
ADJ-X	
Title	Adj of img pstn in book mode: vert scan
Details	To adjust the image reading start position (image leading edge position) in the vertical scanning direction at copyboard reading. When replacing the Main Controller PCB, enter the value of service label. When the non-image width is larger than the standard value, set the smaller value. When out of original area is copied, set the larger value. As the value is incremented by 1, the image position moves to the trailing edge side by 0.1mm.
Use case	• When replacing the Reader Unit • When replacing the CIS Unit (Scanner Unit) • When replacing the Main Controller PCB
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-30 to 30
Unit	0.1 mm
Default value	0
ADJ-Y	
Title	Adjustment of image position at copyboard reading (horizontal scanning direction)
Details	To adjust the image reading start position in the horizontal scanning direction at copyboard reading. When replacing the Main Controller PCB, enter the value of service label. When the non-image width is larger than the standard value, set the smaller value. When out of original area is copied, set the larger value. As the value is incremented by 1, the image position moves to the front by 0.1mm.
Use case	• When replacing the Reader Unit • When replacing the CIS Unit (Scanner Unit) • When replacing the Main Controller PCB
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-10 to 10

COPIER > ADJUST > ADJ-XY	
Item	**Description**
Unit	0.1 mm
Default value	0
ADJ-Y-DF	
Title	Adj img pstn in ADF mode:horz scan
Details	To adjust the image reading start position in the horizontal scanning direction at ADF reading. When replacing the Main Controller PCB, enter the value of service label. As the value is incremented by 1, the image position moves to the front by 0.1mm.
Use case	• When replacing the ADF • When replacing the CIS Unit (Scanner Unit) • When replacing the Main Controller PCB
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-10 to 10
Unit	0.1 mm
Default value	0
ADJ-X-MG	
Title	Fine adj image ratio: vertical scanning
Details	To make a fine adjustment of image magnification ratio in the vertical scanning direction by changing the reading cycle of CIS When replacing the Engine Controller PCB / clearing the RAM data, enter the value of service label. As the value is changed by 1, the image magnification ratio is changed by 0.01%. +: Reduce -: Enlarge
Use case	• When replacing the ADF • When replacing the CIS Unit (Scanner Unit) • When replacing the Main Controller PCB
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-200 to 200
Unit	0.01%
Default value	0
STRD-POS	
Title	Adjustment of reading position at ADF stream reading
Details	To adjust the reading position at ADF stream reading. When replacing the Main Controller PCB, enter the value of service label.
Use case	• When replacing the ADF • When replacing the CIS Unit (Scanner Unit) • When replacing the Main Controller PCB
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-20 to 20
Unit	0.1 mm
Default value	0
Related service mode	COPIER > FUNCTION > INSTALL > STRD-POS

■ CCD

COPIER > ADJUST > CCD	
Item	**Description**
OFST-BW0	
Title	Adjustment of CIS (Rear) at B&W reading
Details	To adjust the offset of the CIS (Rear) when reading B&W original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.

COPIER > ADJUST > CCD	
Item	**Description**
Display/adj/set range	0 to 255
Default value	8
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
OFST-BW1	
Title	Adjustment of CIS (Center) at B&W reading
Details	To adjust the offset of the CIS (Center) when reading B&W original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 255
Default value	8
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
OFST-BW2	
Title	Adjustment of CIS (Front) at B&W reading
Details	To adjust the offset of the CIS (Front) when reading B&W original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 255
Default value	8
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
OFST-CL0	
Title	Adjustment of CIS (Rear) at color reading
Details	To adjust the offset of the CIS (Rear) when reading color original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 255
Default value	8
Related service mode	COPIER > FUNCTION > CCD > CL-AGC
OFST-CL1	
Title	Adjustment of CIS (Center) at color reading
Details	To adjust the offset of the CIS (Center) when reading color original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 255
Default value	8
Related service mode	COPIER > FUNCTION > CCD > CL-AGC
OFST-CL2	
Title	Adjustment of CIS (Front) at color reading
Details	To adjust the offset of the CIS (Front) when reading color original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 255
Default value	8
Related service mode	COPIER > FUNCTION > CCD > CL-AGC
GAIN-BW0	
Title	Adjustment of gain at B&W reading
Details	To adjust the gain when reading B&W original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.

COPIER > ADJUST > CCD	
Item	**Description**
Display/adj/set range	1 to 255
Default value	64
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
GAIN-CL0	
Title	Adjustment of gain at color reading
Details	To adjust the gain when reading color original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	1 to 255
Default value	64
Related service mode	COPIER > FUNCTION > CCD > CL-AGC
LED-BW-R	
Title	Adjustment of LED light-up time (R) at B&W reading
Details	To adjust the red color LED lighting time when reading B&W original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 2432
Default value	1000
Related service mode	COPIER > FUNCTION > CCD > CL-AGC
LED-BW-G	
Title	Adjustment of LED light-up time (G) at B&W reading
Details	To adjust the green color LED lighting time when reading B&W original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 2432
Default value	1000
Related service mode	COPIER > FUNCTION >CCD > BW-AGC
LED-BW-B	
Title	Adjustment of LED light-up time (B) at B&W reading
Details	To adjust the blue color LED lighting time when reading B&W original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 2432
Default value	1000
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
LED-CL-R	
Title	Adjustment of LED light-up time (R) at color reading
Details	To adjust the red color LED lighting time when reading color original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 2432
Default value	1200
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
LED-CL-G	
Title	Adjustment of LED light-up time (G) at color reading
Details	To adjust the green color LED lighting time when reading color original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.

COPIER > ADJUST > CCD	
Item	**Description**
Display/adj/set range	0 to 2432
Default value	1200
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
LED-CL-B	
Title	Adjustment of LED light-up time (B) at color reading
Details	To adjust the blue color LED lighting time when reading color original. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 2432
Default value	1200
Related service mode	COPIER > FUNCTION > CCD > BW-AGC

■ PASCAL

COPIER > ADJUST > PASCAL	
Item	**Description**
OFST-P-Y	
Title	Y density adj at test print reading
Details	To adjust the offset of Y color test print reading signal at Auto Adjust Gradation (Full Adjust). When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. As the greater value is set, the image after adjustment gets darker.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-32 to 32
Default value	0
OFST-P-M	
Title	M density adj at test print reading
Details	To adjust the offset of M color test print reading signal at Auto Adjust Gradation (Full Adjust). When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. As the greater value is set, the image after adjustment gets darker.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-32 to 32
Default value	0
OFST-P-C	
Title	C density adj at test print reading
Details	To adjust the offset of C color test print reading signal at Auto Adjust Gradation (Full Adjust). When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. As the greater value is set, the image after adjustment gets darker.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-32 to 32
Default value	0
OFST-P-K	
Title	Bk density adj at test print reading
Details	To adjust the offset of Bk color test print reading signal at Auto Adjust Gradation (Full Adjust). When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. As the greater value is set, the image after adjustment gets darker.
Use case	When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.

COPIER > ADJUST > PASCAL	
Item	**Description**
Caution	After the setting value is changed, write the changed value in the service label.
Display/adj/set range	-32 to 32
Default value	0

■ VIFADJ

COPIER > ADJUST > VIFADJ	
Item	**Description**
DEV-HV-Y	
Title	Adjustment of developing bias setting value (Y)
Details	To adjust the setting value of Y-color developing bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > DEV-HV-M COPIER > ADJUST > VIFADJ > DEV-HV-C COPIER > ADJUST > VIFADJ > DEV-HV-K
DEV-HV-M	
Title	Adjustment of developing bias setting value (M)
Details	To adjust the setting value of M-color developing bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > DEV-HV-Y COPIER > ADJUST > VIFADJ > DEV-HV-C COPIER > ADJUST > VIFADJ > DEV-HV-K
DEV-HV-C	
Title	Adjustment of developing bias setting value (C)
Details	To adjust the setting value of C-color developing bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > DEV-HV-Y COPIER > ADJUST > VIFADJ > DEV-HV-M COPIER > ADJUST > VIFADJ > DEV-HV-K
DEV-HV-K	
Title	Adjustment of developing bias setting value (Bk)
Details	To adjust the setting value of Bk-color developing bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > DEV-HV-Y COPIER > ADJUST > VIFADJ > DEV-HV-M COPIER > ADJUST > VIFADJ > DEV-HV-C
TR1-HV-Y	
Title	Adjustment of primary transfer bias setting value (Y)
Details	To adjust the setting value of Y-color primary transfer bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5

COPIER > ADJUST > VIFADJ	
Item	**Description**
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > TR1-HV-M COPIER > ADJUST > VIFADJ > TR1-HV-C COPIER > ADJUST > VIFADJ > TR1-HV-K
TR1-HV-M	
Title	Adjustment of primary transfer bias setting value (M)
Details	To adjust the setting value of M-color primary transfer bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > TR1-HV-Y COPIER > ADJUST > VIFADJ > TR1-HV-C COPIER > ADJUST > VIFADJ > TR1-HV-K
TR1-HV-C	
Title	Adjustment of primary transfer bias setting value (C)
Details	To adjust the setting value of C-color primary transfer bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUS T > VIFADJ > TR1-HV-Y COPIER > ADJUS T > VIFADJ > TR1-HV-M COPIER > ADJUS T > VIFADJ > TR1-HV-K
TR1-HV-K	
Title	Adjustment of primary transfer bias setting value (Bk)
Details	To adjust the setting value of Bk-color primary transfer bias.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > TR1-HV-Y COPIER > ADJUST > VIFADJ > TR1-HV-M COPIER > ADJUST > VIFADJ > TR1-HV-C
TR2SF-HV	
Title	Adjustment of secondary transfer bias setting value (front side)
Details	To adjust the setting value of secondary transfer bias (front side).
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > TR2BK-HV
TR2BK-HV	
Title	Adjustment of secondary transfer bias setting value (back side)
Details	To adjust the setting value of secondary transfer bias (back side).
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
Related service mode	COPIER > ADJUST > VIFADJ > TR2SF-HV
ICL-HV	
Title	Adjustment of bias setting value for ITB cleaning
Details	To adjust the bias setting value to be used for ITB cleaning.
Use case	When an image failure occurs

COPIER > ADJUST > VIFADJ	
Item	**Description**
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-5 to 5
Default value	0
FU-TMP	
Title	Adjustment of setting value of Fixing Roller surface temperature
Details	To adjust the setting value of the surface temperature of the Fixing Roller.
Use case	When an image failure occurs
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-2 to 2
Default value	0

■ SCNR

COPIER > ADJUST > SCNR	
Item	**Description**
SUB-S-Y0	
Title	Adjustment of emitting position 1 (Y) in the vertical scanning direction
Details	To adjust the Y-color emitting position 1 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-M0	
Title	Adjustment of emitting position 1 (M) in the vertical scanning direction
Details	To adjust the M-color emitting position 1 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-C0	
Title	Adjustment of emitting position 1 (C) in the vertical scanning direction
Details	To adjust the C-color emitting position 1 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-K0	
Title	Adjustment of emitting position 1 (Bk) in the vertical scanning direction
Details	To adjust the Bk-color emitting position 1 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-Y1	
Title	Adjustment of emitting position 2 (Y) in the vertical scanning direction
Details	To adjust the Y-color emitting position 2 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023

COPIER > ADJUST > SCNR	
Item	**Description**
Default value	0
SUB-S-M1	
Title	Adjustment of emitting position 2 (M) in the vertical scanning direction
Details	To adjust the M-color emitting position 2 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-C1	
Title	Adjustment of emitting position 2 (C) in the vertical scanning direction
Details	To adjust the C-color emitting position 2 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-K1	
Title	Adjustment of emitting position 2 (Bk) in the vertical scanning direction
Details	To adjust the Bk-color emitting position 2 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-Y2	
Title	Adjustment of emitting position 3 (Y) in the vertical scanning direction
Details	To adjust the Y-color emitting position 3 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-M2	
Title	Adjustment of emitting position 3 (M) in the vertical scanning direction
Details	To adjust the M-color emitting position 3 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-C2	
Title	Adjustment of emitting position 3 (C) in the vertical scanning direction
Details	To adjust the C-color emitting position 3 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
SUB-S-K2	
Title	Adjustment of emitting position 3 (Bk) in the vertical scanning direction
Details	To adjust the Bk-color emitting position 3 in the vertical scanning position.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit

COPIER > ADJUST > SCNR	
Item	**Description**
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-1023 to 1023
Default value	0
MAI-S-Y0	
Title	Adjustment of scan time 1 (Y) in the horizontal scanning direction
Details	To adjust the Y-color scan time 1 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-M0	
Title	Adjustment of scan time 1 (M) in the horizontal scanning direction
Details	To adjust the M-color scan time 1 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-C0	
Title	Adjustment of scan time 1 (C) in the horizontal scanning direction
Details	To adjust the C-color scan time 1 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-K0	
Title	Adjustment of scan time 1 (Bk) in the horizontal scanning direction
Details	To adjust the Bk-color scan time 1 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-Y1	
Title	Adjustment of scan time 2 (Y) in the horizontal scanning direction
Details	To adjust the Y-color scan time 2 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-M1	
Title	Adjustment of scan time 2 (M) in the horizontal scanning direction
Details	To adjust the M-color scan time 2 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-C1	
Title	Adjustment of scan time 2 (C) in the horizontal scanning direction
Details	To adjust the C-color scan time 2 in the horizontal scanning direction.

COPIER > ADJUST > SCNR	
Item	**Description**
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-K1	
Title	Adjustment of scan time 2 (Bk) in the horizontal scanning direction
Details	To adjust the Bk-color scan time 2 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-511 to 511
Default value	0
MAI-S-Y2	
Title	Adjustment of scan time 3 (Y) in the horizontal scanning direction
Details	To adjust the Y-color scan time 3 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-127 to 127
Default value	0
MAI-S-M2	
Title	Adjustment of scan time 3 (M) in the horizontal scanning direction
Details	To adjust the M-color scan time 3 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-127 to 127
Default value	0
MAI-S-C2	
Title	Adjustment of scan time 3 (C) in the horizontal scanning direction
Details	To adjust the C-color scan time 3 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-127 to 127
Default value	0
MAI-S-K2	
Title	Adjustment of scan time 3 (Bk) in the horizontal scanning direction
Details	To adjust the Bk-color scan time 3 in the horizontal scanning direction.
Use case	When replacing the Laser Scanner Unit, enter the value written on the label included in the package of the Laser Scanner Unit
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-127 to 127
Default value	0

■ PANEL

COPIER > ADJUST > PANEL	
Item	**Description**
TOUCHCHK	
Title	Correction of coordinate position of Touch Panel
Details	To correct the coordinate on the Touch Panel.

COPIER > ADJUST > PANEL	
Item	**Description**
Use case	When a problem occurs to the coordinate position in such a way that a position different from the one that was touched reacts.
Adj/set/operate method	Touch the "+ (plus)" mark displayed on the Touch Panel with something with a sharp tip such as a pen.
TOUCHCHK-R	
Title	Flag to check whether the correction of coordinates on the Touch Panel was properly executed
Details	To check whether the correction of coordinates on the Touch Panel was properly executed. 1 is displayed when the correction of coordinates is properly executed. 0 is displayed when it fails.
Use case	When executing the correction of coordinates after replacing the Touch Panel with a new one
Display/adj/set range	0 to 1 0: Not executed 1: Executed
Default value	0

◉ FUNCTION

■ CCD

COPIER > FUNCTION > CCD	
Item	**Description**
DF-WLVL1	
Title	White level adj in book mode: color
Details	To adjust the white level for copyboard scanning automatically by setting the paper which is usually used by the user on the Copyboard Glass.
Use case	• When replacing the Copyboard Glass • When replacing the CIS Unit • When replacing the ADF / Reader Unit
Adj/set/operate method	1. Set paper on the Copyboard Glass. 2. Select the item, and then press Yes key.
Caution	Be sure to execute DF-WLVL2 in a row.
Related service mode	COPIER > ADJUST > CCD > DFTAR-R COPIER > ADJUST > CCD > DFTAR-G COPIER > ADJUST > CCD > DFTAR-B COPIER > FUNCTION > CCD > DF-WLVL2
DF-WLVL2	
Title	White level adj in ADF mode: color
Details	To adjust the white level for ADF scanning automatically by setting the paper which is usually used by the user on the ADF.
Use case	• When replacing the Copyboard Glass • When replacing the CIS Unit • When replacing the ADF / Reader Unit
Adj/set/operate method	1. Set paper on the ADF. 2. Select the item, and then press Yes key.
Caution	Be sure to execute this item after DF-WLVL1.
Related service mode	COPIER > ADJUST > CCD > DFTAR-R COPIER > ADJUST > CCD > DFTAR-G COPIER > ADJUST > CCD > DFTAR-B COPIER > FUNCTION > CCD > DF-WLVL1
DF-WLVL3	
Title	White level adj in book mode (B&W)
Details	To adjust the white level for copyboard scanning automatically by setting the paper which is usually used by the user on the Copyboard Glass.
Use case	• When replacing the Copyboard Glass • When replacing the CIS Unit • When replacing the ADF / Reader Unit

COPIER > FUNCTION > CCD	
Item	**Description**
Adj/set/operate method	1. Set paper on the Copyboard Glass. 2. Select the item, and then press Yes key.
Caution	Be sure to execute DF-WLVL4 in a row.
Related service mode	COPIER > ADJUST > CCD > DFTAR-BW COPIER > FUNCTION > CCD > DF-WLVL4
DF-WLVL4	
Title	White level adj in ADF mode (B&W)
Details	To adjust the white level for ADF scanning automatically by setting the paper which is usually used by the user on the DADF.
Use case	• When replacing the Copyboard Glass • When replacing the CIS Unit • When replacing the ADF / Reader Unit
Adj/set/operate method	1. Set paper on the ADF. 2. Select the item, and then press Yes key.
Caution	Be sure to execute this item after DF-WLVL3.
Related service mode	COPIER > ADJUST > CCD > DFTAR-BW COPIER > FUNCTION > CCD > DF-WLVL3
CL-AGC	
Title	CIS intensity adjustment in ADF (color)
Details	To adjust the black/white level of the CIS for ADF scanning automatically by setting the paper which is usually used by the user on the ADF. (For color scanning)
Use case	• When replacing the Reader Unit • When replacing the CIS Unit
Adj/set/operate method	1. Set paper on the ADF. 2. Select the item, and then press Yes key.
Related service mode	COPIER > FUNCTION > CCD > BW-AGC
BW-AGC	
Title	CIS intensity adjustment in ADF (B&W)

Details	To adjust the black/white level of the CIS for ADF scanning automatically by setting the paper which is usually used by the user on the ADF. (For B&W scanning)
	Setting values of the following service modes are automatically calculated:
	  COPIER > ADJUST > CCD > OFST-BW0
	  COPIER > ADJUST > CCD > OFST-BW1
	  COPIER > ADJUST > CCD > OFST-BW2
	  COPIER > ADJUST > CCD > GAIN-BW0
	  COPIER > ADJUST > CCD > LED-BW-R
	  COPIER > ADJUST > CCD > LED-BW-G
	  COPIER > ADJUST > CCD > LED-BW-B

Use case	• When replacing the Reader Unit • When replacing the CIS Unit
Related service mode	COPIER > FUNCTION > CCD > CL-AGC COPIER > ADJUST > CCD > OFST-BW0 COPIER > ADJUST > CCD > OFST-BW1 COPIER > ADJUST > CCD > OFST-BW2 COPIER > ADJUST > CCD > GAIN-BW0 COPIER > ADJUST > CCD > LED-BW-R COPIER > ADJUST > CCD > LED-BW-G COPIER > ADJUST > CCD > LED-BW-B

■ CLEAR

COPIER > FUNCTION > CLEAR	
Item	**Description**
R-CON	
Title	Initialization of Reader / ADF
Details	To initialize the factory adjustment values of the Reader / ADF.
Use case	When clearing RAM data of the Main Controller PCB
Adj/set/operate method	Press Yes key.

COPIER > FUNCTION > CLEAR	
Item	**Description**
SRVC-DAT	
Title	Clearing of service mode setting values
Details	To clear the service mode setting values. The user mode setting values are not cleared. The factory adjustment values of the Reader / ADF are not initialized.
Adj/set/operate method	1. Press Yes key. 2. Turn OFF / ON the main power switch.
COUNTER	
Title	Clearing of service counter
Details	To clear the counter by maintenance / part/mode. The numerator printed on a system dump list becomes 0.
Adj/set/operate method	1. Press Yes key. 2. Turn OFF / ON the main power switch.
HIST	
Title	Clear of logs
Details	To clear the communication management / print / jam / error log.
Use case	When clearing logs
Adj/set/operate method	1. Press Yes key. 2. Turn OFF / ON the main power switch.
CARD	
Title	Clearing of Card Reader connection info
Details	To clear the information on connection of the Copy Card Reader-F1. The data related to the card ID (department) is cleared, and the ID and password of the system administrator are initialized.
Use case	When removing the Card Reader-F1
Adj/set/operate method	When removing the Card Reader-F1 1. Disable the department ID management. 2. Press Yes key. 3. In COPIER > FUNCTION > CLEAR > CARD, clear the information on connection of the Copy Card Reader-F1. 4. Execute COPIER > FUNCTION > CLEAR > E719-CLR. 5. Turn OFF the main power. 6. Remove the Card Reader-F1. 7. Turn ON the main power.
Caution	• Execute this item after disabling the department ID management via LUI or RUI • Then, clear the information on connection of the Copy Card Reader-F1 and execute E719-CLR (clear E71)
Related service mode	COPIER > FUNCTION > CLEAR > E719-CLR
E719-CLR	
Title	Clearing of E719 error
Details	To clear E719 error (communication error with the Card Reader).
Use case	When removing the Card Reader-F1
Adj/set/operate method	When removing the Card Reader-F1 1. Disable the department ID management. 2. Press Yes key. 3. In COPIER > FUNCTION > CLEAR > CARD, clear the information on connection of the Copy Card Reader-F1. 4. Execute COPIER > FUNCTION > CLEAR > E719-CLR. 5. Turn OFF the main power. 6. Remove the Card Reader-F1. 7. Turn ON the main power.
Related service mode	COPIER > FUNCTION > CLEAR > CARD
ALL	
Title	Clearing of setting information

COPIER > FUNCTION > CLEAR	
Item	**Description**
Details	Clear/initialize the following setting information according to the location set in COPIER > OPTION > BODY > LOCALE, SIZE-LC: • User mode setting values • Service mode setting values (excluding service counter) • ID and password of the system administrator • Communication management / printing / jam / error history • E719-CLR (counter meter-installed models only) The following is not initialized: • Service counter • Factory adjustment values of the Reader / ADF
Use case	At installation
Adj/set/operate method	1. Press Yes key. 2. Turn OFF / ON the main power switch.
Related service mode	COPIER > OPTION > BODY > LOCALE, SIZE-LC
ERDS-DAT	
Title	Initialization of Embedded-RDS setting value
Details	To initialize the Embedded-RDS setting values. ON / OFF of Embedded-RDS, UGW (remote monitoring service system) port number, and communication error log set in service mode are initialized.
Use case	When upgrading the version of Bootable in the Embedded-RDS environment
Adj/set/operate method	Press Yes key.
Caution	Use of the SRAM in Embedded-RDS differs depending on the Bootable version. Therefore, unless initialization is executed at the time of version upgrade, data inconsistency occurs.
Related service mode	COPIER > FUNCTION > INSTALL > E-RDS, RGW-PORT, COM-LOG
Supplement/memo	Embedded-RDS: Function to send device information such as the device counter, failure, and consumables to UGW via SOAP protocol UGW (Universal Gate Way): Remote monitoring service system

■ MISC-R

COPIER > FUNCTION > MISC-R	
Item	**Description**
SCANLAMP	
Title	Lighting check of CIS Unit LED
Details	To light up CIS Unit LED for 3 seconds. It lights up in the order of R, G, B, R, G and B.
Use case	When replacing the CIS Unit LED
Adj/set/operate method	Select the item, and then press Yes key.
Display/adj/set range	0 to 1
Default value	0
Required time	3 seconds
SCAN-ON	
Title	Execution of copyboard reading
Details	To execute reading of the original on the Copyboard Glass.
Adj/set/operate method	1. Place paper on the Copyboard Glass. 2. Select the item, and then press Yes key.
Display/adj/set range	0 to 1
Default value	0

■ MISC-P

COPIER > FUNCTION > MISC-P	
Item	**Description**
SRVC-DAT *	
Title	Output of system data list/system dump list

COPIER > FUNCTION > MISC-P	
Item	**Description**
Details	To execute report output of the system data list and the system dump list. System data list: The service software switches and parameters used in FAX function System dump list: The number of sends/receives, the number of pages sent/received, the number of sheets printed / read, the number of errors, etc.
Adj/set/operate method	Select the item, and then press Yes key.
SYS-DAT *	
Title	Output of system data list
Details	To execute report output of the system data list. The service software switches and parameters used in FAX function are output.
Adj/set/operate method	Select the item, and then press Yes key.
SYS-DMP *	
Title	Output of system dump list
Details	To execute report output of the system dump list. The number of sends/receives, the number of pages sent/received, the number of sheets printed/read, the number of errors, etc. are output.
Adj/set/operate method	Select the item, and then press Yes key.
CNTR	
Title	Output of counter report
Details	To output the counter report. The usage of functions (reading, recording, communication and copy) is output.
Adj/set/operate method	Select the item, and then press Yes key.
ERR-LOG	
Title	Output of error log report
Details	To output the error log report.
Adj/set/operate method	Select the item, and then press Yes key.
SPEC	
Title	Output of spec report
Details	To output the spec report. The current device specifications such as the location, model information, and ROM version are output.
Adj/set/operate method	Select the item, and then press Yes key.
ERDS-LOG	
Title	Output of Embedded-RDS log
Details	To execute report output of the log relating to Embedded-RDS. The date, time, code, and details (up to 130 characters) of each error that occurred are output.
Use case	When using Embedded-RDS
Adj/set/operate method	Select the item, and then press Yes key.
Related service mode	COPIER> FUNCTION> INSTALL> COM-LOG
Supplement/memo	Embedded-RDS: Function to send device information such as the device counter, failure, and consumables to UGW via SOAP protocol UGW (Universal Gate Way): Remote monitoring service system
KEY-HIST *	
Title	Output of key log report
Details	To output the key log report. The key log up to the time the FAX transmission task was input (the [START] key was pressed) is output.
Adj/set/operate method	Select the item, and then press Yes key.

*: Fax model only

■ SYSTEM

COPIER > FUNCTION > SYSTEM	
Item	**Description**
PANEL-UP	
Title	Download from USB memory (PANEL)
Details	To perform downloading when PANEL exists in the root directory of the USB memory.
Use case	At upgrade

COPIER > FUNCTION > SYSTEM	
Item	**Description**
Adj/set/operate method	1. Install the USB memory. 2. Select the item, and then select Yes. 3. Turn OFF and the ON the main power.
Caution	Do not turn OFF / ON the power before "Executing..." disappears.
Display/adj/set range	Yes / No
Related service mode	COPIER > FUNCTION > SYSTEM > DOWNLOAD, BKUP-UP
LOGWRITE	
Title	Writing sublog to USB memory
Details	To write sublog that includes the following information to the USB memory. • Job list (job name, user name, address book) • Communications log (address book, user name) • Job log (user name, job name)
Use case	When analyzing the cause of a problem
Adj/set/operate method	1. Install the USB memory. 2. Select the item, and then select Yes. 3. Turn OFF and the ON the main power.
Caution	Do not turn OFF / ON the power before "Executing..." disappears.
Display/adj/set range	Yes / No
IMPORT	
Title	Reading of service mode setting value from USB memory
Details	To write the service mode setting values (excluding those related to Reader / ADF) to the USB memory.
Use case	After replacing the Main Controller PCB
Adj/set/operate method	1. Install the USB memory. 2. Select the item, and then press Yes. 3. Turn OFF and the ON the main power.
Caution	Do not turn OFF / ON the power before "Executing..." disappears.
EXPORT	
Title	Writing of service mode setting value to USB memory
Details	To write the service mode setting values (excluding those related to Reader/ADF) to the USB memory.
Use case	When replacing the Main Controller PCB as a measure against failures
Adj/set/operate method	1. Install the USB memory. 2. Select the item, and then press Yes.
Caution	"Executing..." disappears when writing is completed.

■ VIFFNC

COPIER > FUNCTION > VIFFNC	
Item	**Description**
SMEAR-PV	
Title	Execution of image smear prevention mode
Details	To execute the image smear prevention mode. Depending on the paper type or environment (especially in a high humidity environment), thin line or fine halftone may become lighter. In this case, execute the image smear prevention mode (rotate the drum for 60 seconds after toner ejection of all colors).
Use case	When thin line or fine halftone becomes lighter
Adj/set/operate method	Enter the value, and then press Apply key.

Display/adj/set range	0 to 1
	  0 : OFF
	  1 : ON

Default value	0
FEED-IMP	
Title	Execution of pickup jam reduction mode

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COPIER > FUNCTION > VIFFNC	
Item	**Description**
Details	When using paper with which double feed is more likely to occur, pickup operation cannot be performed at the appropriate timing because of double feed. As a result of that, pickup delay jam may occur. In this case, extend the pickup interval. Jam occurrence can be prevented, but productivity decreases.
Use case	When pickup jam occurs with paper with which double feed is more likely to occur
Adj/set/operate method	Enter the value, and then press Apply key.
Caution	Be sure to get approval from the user by telling that the productivity decreases to prevent jam occurrence.

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
FOG-PV	
Title	Execution of image fogging prevention mode 2

Details	To execute the image fogging prevention mode 2 (the following 4 processing) when fogging which looks like fine vertical lines occurs on the image.
	    • Toner ejection of all colors
	    • Rotation of the drum for 60 seconds
	    • Offset of charging
	    • Cleaning sequence for talc paper

Use case	When fogging which looks like fine vertical lines occurs
Adj/set/operate method	Enter the value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL14682
ICL-IMP	
Title	Execution of ITB cleaning failure prevention 1
Details	To execute cleaning for one round of the ITB after printing 2 sheets. (It becomes 2 sheets intermittent mode.)
Use case	When an image that was on 2 sheets before appears lightly depending on paper type and print pattern (especially high printing ratio) In such a case, image failure can be prevented by setting this mode.
Adj/set/operate method	Enter the value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL50288
FD-R-CHG	
Title	Execution of Pickup Roller replacement mode
Details	To move the Pickup Roller to the replacement position by executing this mode.
Use case	When replacing the Pickup Roller
Adj/set/operate method	Select the item, and then press Yes key.
STOR-DCN	
Title	Backup of Engine Controller PCB NVRAM
Details	To back up the setting data in NVRAM of the Engine Controller PCB to NVRAM of the Main Controller PCB.
Use case	Before replacing the Engine Controller PCB
Adj/set/operate method	Select the item, and then press Yes key.
Caution	During operation, the setting data changes by manual or automatic adjustment. When backup data which has been left for a long period of time is restored, it is overwritten with the old setting data and the new data is deleted.
Related service mode	COPIER > FUNCTION > SYSTEM > RSTR-DCN
RSTR-DCN	
Title	Restoration of Engine Controller PCB NVRAM
Details	To restore backup information of the Engine Controller PCB NVRAM stored in the Main Controller PCB NVRAM to the Engine Controller PCB NVRAM.
Use case	After replacing the Engine Controller PCB

COPIER > FUNCTION > VIFFNC	
Item	**Description**
Adj/set/operate method	1. Select the item, and then press Yes key. 2. Turn OFF / ON the main power switch.
Caution	During operation, the setting data changes by manual or automatic adjustment. When backup data which has been left for a long period of time is restored, it is overwritten with the old setting data and the new data is deleted.
Related service mode	COPIER > FUNCTION > SYSTEM > STOR-DCN

■ SPLMAN

COPIER > FUNCTION > SPLMAN	
Item	**Description**
SPL14159	
Title	Fixing of USB device ID
Details	To fix the USB device ID to "000000000000". Driver for each machine is installed to a PC. However, by fixing the serial number, the PC considers that any connected machine to be the same machine; thus, there will be no need to install the drivers many times.
Adj/set/operate method	1. Enter the value, and then press Apply key. 2. Turn OFF / ON the main power switch.

Display/adj/set range	0 to 1
	  0 : OFF
	  1 : ON

Default value	0
SPL27767	
Title	Setting of highly-resistive paper
Details	To increase the secondary transfer bias.
Use case	When a trace which looks like toner scattering occurs around the text or print pattern depending on the paper type or environment (especially in a low humidity environment)
Adj/set/operate method	Select the item, and then press Apply key.

Display/adj/set range	0 to 1
	  0 : OFF
	  1 : ON

Default value	0
Related service mode	COPIER > FUNCTION > SPL26535
SPL89793	
Title	Execution of re-transfer prevention mode
Details	To lower the primary transfer bias.
Use case	When re-transfer occurs due to strong primary transfer bias
Adj/set/operate method	Select the item, and then press Apply key.

Display/adj/set range	0 to 1
	  0 : OFF
	  1 : ON

Default value	0
SPL26433	
Title	Execution of drum idle rotation mode
Details	To execute idle rotation of the drum.
Use case	When thin, sharp horizontal lines appear in halftone images after a long downtime
Adj/set/operate method	Select the item, and then press Apply key.

Display/adj/set range	0 to 1
	  0 : OFF
	  1 : ON

Default value	0
SPL14682	
Title	Execution of image fogging prevention mode 1
Details	To change the developing bias.

COPIER > FUNCTION > SPLMAN	
Item	**Description**
Use case	When toner is lightly transferred to the white area in case of printing an image with large white area using glossy paper
Adj/set/operate method	Select the item, and then press Apply key.
Display/adj/set range	0 to 1 　0 : OFF 　1 : ON
Default value	0
Related service mode	COPIER > FUNCTION > VIFFNC > FOG-PV
SPL83279	
Title	Setting of Chinese paper
Details	To change the transfer bias.
Use case	When a trace which looks like toner scattering occurs around the text or print pattern in case of using Chinese paper
Adj/set/operate method	Select the item, and then press Apply key.
Display/adj/set range	0 to 1 　0 : OFF 　1 : ON
Default value	0
SPL50288	
Title	Execution of ITB cleaning failure prevention 2
Details	To execute cleaning for one round of the ITB after printing 2 sheets. (It becomes 2 sheets intermittent mode.) More effective than CL-IMP.
Use case	When an image that was on 2 sheets before appears lightly depending on paper type and print pattern (especially high printing ratio) When the trailing edge of paper is soiled In such a case, image failure can be prevented by setting this mode.
Adj/set/operate method	Select the item, and then press Apply key.
Display/adj/set range	0 to 1 　0 : OFF 　1 : ON
Default value	0
SPL41971	
Title	Execution of curl prevention mode 1
Details	To extend the initial rotation time and paper interval, and lower the control temperature.
Use case	When paper which has been printed is curled toward the printed side depending on the paper type, environment (especially in a low humidity environment) or print pattern (especially high printing ratio)
Adj/set/operate method	Select the item, and then press Apply key.
Display/adj/set range	0 to 1 　0 : OFF 　1 : ON
Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL69399
SPL35607	
Title	Execution of down sequence prevention mode
Details	Execute this mode when down sequence occurs. To lower the control temperature of the Fixing Assembly without exception.
Use case	When down sequence occurs
Adj/set/operate method	Select the item, and then press Apply key.
Caution	Be sure to get approval from the user in advance by explaining that there is a possibility that fixing failure may occur depending on the paper type by lowering the fixing control temperature.
Display/adj/set range	0 to 1 　0 : OFF 　1 : ON
Default value	0
SPL37510	
Title	ON / OFF of ITB cleaning at paper size mismatch

COPIER > FUNCTION > SPLMAN	
Item	**Description**
Details	Normally, when paper other than that of the specified size is fed, ITB cleaning is executed to remove toner. When 1 is set, ITB cleaning is not executed even if paper size is mismatched. Productivity improves, but toner soiling may occur.
Use case	When paper size is mismatched
Adj/set/operate method	Enter the value, and then press Apply key.
Caution	Be sure to get approval from the user by telling that toner soiling may occur to improve productivity.
Display/adj/set range	0 to 1 　0 : OFF 　1 : ON
Default value	0
SPL65677	
Title	Increase of paper leading edge margin
Details	To increase the margin on the leading edge of paper. As the value is incremented by 1, the margin is increased by 0.1 mm. The value obtained by adding this value and SPL68676 (decrease of the margin) is applied.
Adj/set/operate method	1.　Enter the setting value, and then press Apply key. 2.　Turn OFF/ON the main power switch.
Display/adj/set range	0 to 20
Unit	0.1 mm
Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL68676
SPL68676	
Title	Decrease of paper leading edge margin
Details	To decrease the margin on the leading edge of paper. As the value is incremented by 1, the margin is decreased by 0.1 mm. The value obtained by adding this value and SPL65677 (increase of the margin) is applied.
Adj/set/operate method	1.　Enter the setting value, and then press Apply key. 2.　Turn OFF/ON the main power switch.
Display/adj/set range	0 to 20
Unit	0.1 mm
Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL65677
SPL68677	
Title	Increase of paper right and left margins
Details	To increase the margin on the right and left of paper. As the value is incremented by 1, the margin is increased by 0.1 mm. The value obtained by adding this value and SPL25607 (decrease of the margin) is applied.
Adj/set/operate method	1.　Enter the setting value, and then press Apply key. 2.　Turn OFF/ON the main power switch.
Display/adj/set range	0 to 20
Unit	0.1 mm
Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL25607
SPL25607	
Title	Decrease of paper right and left margins
Details	To decrease the margin on the right and left of paper. As the value is incremented by 1, the margin is decreased by 0.1 mm. The value obtained by adding this value and SPL68677 (increase of the margin) is applied.
Adj/set/operate method	1.　Enter the setting value, and then press Apply key. 2.　Turn OFF/ON the main power switch.
Display/adj/set range	0 to 20
Unit	0.1 mm
Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL68677
SPL93822	
Title	Setting of department ID count all clear

COPIER > FUNCTION > SPLMAN	
Item	**Description**
Details	To set whether to disable clearing of all department ID counts.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	Be sure to perform this mode after consulting with the system administrator at user's site.

Display/adj/set range	0 to 1
	  0: Disabled
	  1: Enabled

Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL78788
SPL78788	
Title	Setting of department ID count clear
Details	To set whether to disable clearing of department ID count.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	Be sure to perform this mode after consulting with the system administrator at user's site.

Display/adj/set range	0 to 1
	  0: Disabled
	  1: Enabled

Default value	0
Related service mode	COPIER > FUNCTION > SPLMAN > SPL93822
SPL41250	
Title	Reset of calibration
Details	When the user allows printing at absence of toner, calibration using toner is disabled. As a remedy, calibration reset is executed by this switch.
Use case	When the user allows printing after absence of toner is displayed.
Adj/set/operate method	Select the item, and then press Applt key.

Display/adj/set range	0 to 1
	  0 : OFF
	  1 : ON

Default value	0
SPL89821	
Title	Shop demonstration mode
Details	To display image data on color UI repeatedly to appeal the product features to potential users.
Use case	When appealing the product features to users at shops
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 1
Default value	0
Supplement/memo	When the setting value is 1 at startup, the shop demonstration mode is enabled.
SPL71100 *	
Title	Setting of the duty of Off-hook PCB
Details	This is the mode to make handsets of particular manufacturers to ring when fax reception mode is set to "Fax / Tel (Auto Switch)".
Use case	When fax reception mode is set to FAX/TEL switching
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	1 to 99
Default value	50
SPL00171	
Title	To change the maximum auto sleep shift time.
Details	To change the maximum value of auto sleep shift time in Settings/Registration > Timer Settings > Auto Sleep Time.
Use case	When changing the setting time to shift to auto sleep mode
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.

COPIER > FUNCTION > SPLMAN	
Item	**Description**
Display/adj/set range	From 0 (Default for Europe) to 60 min From 1 (Default for locations other than Europe) to Maximum value for each model
Default value	1
SPL80100	
Title	Mask setting at copyboard scanning
Details	To cancel the image mask occurs on the left edge at copyboard scanning.
Use case	Upon request from user who does not satisfy with the mask on the left edge
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0: Mask value according to the specifications of each job 1: No mask (0 mm)
Default value	0
SPL27354	
Title	PC-less update, RMDS environment setting
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0: Production environment / Release environment 1: Production environment / Staging environment 2: Maintenance environment 1 / Release environment 3: Maintenance environment 1 / Staging environment 4: Maintenance environment 2 / Release environment 5: Maintenance environment 2 / Staging environment
Default value	0
SPL84194	
Title	ON / OFF of E-RDS function
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 1
Default value	0
SPL32620	
Title	Switching to enable / disable PC-less update
Details	To switch whether to enable the PC-less update function.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.

Display/adj/set range	0 to 1
	  0 : Disabled
	  1 : Enabled (default)

Default value	1
SPL60061	
Title	Switching to display the connection destination URL setting of GoogleCloudPrint on the remote UI
Details	To display the connection destination URL setting of GoogleCloudPrint on the remote UI.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.

Display/adj/set range	0 to 1
	  0: Do not display
	  1: Display

Default value	0

*: FAX model only

■ INSTALL

COPIER > FUNCTION > INSTALL	
Item	**Description**
STRD-POS	
Title	Scan position auto adj in ADF mode

COPIER > FUNCTION > INSTALL	
Item	**Description**
Details	To adjust the ADF scanning position automatically.
Use case	At ADF installation/uninstallation
Adj/set/operate method	1. Set a paper for stream reading position adjustment, and then close the ADF. 2. Select the item, and then press Yes key. The operation automatically stops after the adjustment. 3. Write the value displayed by COPIER > ADJUST > ADJ-XY > STRD-POS in the service label.
Caution	Write the adjusted value in the service label.
Related service mode	COPIER > ADJUST > ADJ-XY > STRD-POS
CARD-NUM	
Title	Card first number setting
Details	To set the card first number to be used for Copy Card Reader-F1.
Use case	At installation of the Card Reader-F1
Adj/set/operate method	Enter the value, and then press Apply key.
Display/adj/set range	1 to 2701
Default value	1
Related service mode	COPIER > FUNCTION > INSTALL > CARD
CARD	
Title	Set Card Reader management information
Details	To set the following management information at installation of the Card Reader-F1. • Register numbers of 300 cards from the number set in CARD-NUM to the department ID. • Initialize ID and password of the system administrator.
Use case	At installation of the Card Reader-F1
Adj/set/operate method	1. Select the item, and then press Yes key. 2. Turn OFF / ON the main power switch.
Related service mode	COPIER > FUNCTION > INSTALL > CARD-NUM
E-RDS	
Title	ON / OFF of Embedded-RDS
Details	To set ON / OFF of Embedded-RDS function.
Use case	When using Embedded-RDS
Adj/set/operate method	1. Select the item, and then press Yes key. 2. Turn OFF / ON the main power switch.
Caution	Be sure to use ERDS, RGW-PORT, COM-TEST, COM-RSLT, and COM-LOG as a set.
Display/adj/set range	0 to 1 0 : OFF 1 : ON
Default value	0
Related service mode	COPIER > FUNCTION > INSTALL > COPIER > FUNCTION > INSTALL > RGW-PORT COPIER > FUNCTION > INSTALL > COM-TEST COPIER > FUNCTION > INSTALL > COM-RSLT COPIER > FUNCTION > INSTALL > COM-LOG
Supplement/memo	Embedded-RDS: Function to send device information such as the device counter, failure, and consumables to UGW via SOAP protocol UGW (Universal Gate Way): Remote monitoring service system
RGW-PORT	
Title	Setting of UGW port number when using Embedded-RDS
Details	To set the port number of UGW to be used for Embedded-RDS.
Use case	When using Embedded-RDS
Adj/set/operate method	1. Select the item, and then press Yes key. 2. Turn OFF / ON the main power switch.
Caution	Be sure to use ERDS, RGW-PORT, COM-TEST, COM-RSLT, and COM-LOG as a set.
Display/adj/set range	1 to 65535
Default value	443
Related service mode	COPIER > FUNCTION > INSTALL > ERDS COPIER > FUNCTION > INSTALL > COM-TEST COPIER > FUNCTION > INSTALL > COM-RSLT COPIER > FUNCTION > INSTALL > COM-LOG

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COPIER > FUNCTION > INSTALL	
Item	**Description**
Supplement/memo	Embedded-RDS: Function to send device information such as the device counter, failure, and consumables to UGW via SOAP protocol UGW (Universal Gate Way): Remote monitoring service system
COM-TEST	
Title	Execution of Embedded-RDS communication test
Details	To execute Embedded-RDS communication test. If the connection fails, the information is added to the communication error log.
Use case	When using E-RDS
Adj/set/operate method	Select the item, and then press Yes key.
Caution	Be sure to use ERDS, RGW-PORT, COM-TEST, COM-RSLT, and COM-LOG as a set.
Display/adj/set range	0 to 1
Default value	0
Related service mode	COPIER > FUNCTION > INSTALL > ERDS COPIER > FUNCTION > INSTALL > RGW-PORT COPIER > FUNCTION > INSTALL > COM-RSLT COPIER > FUNCTION > INSTALL > COM-LOG
Supplement/memo	Embedded-RDS: Function to send device information such as the device counter, failure, and consumables to UGW via SOAP protocol UGW (Universal Gate Way): Remote monitoring service system
COM-RSLT	
Title	Embedded-RDS communication test result
Details	To display the Embedded-RDS communication test result.
Use case	When using E-RDS
Adj/set/operate method	N/A (Display only)
Caution	Be sure to use ERDS, RGW-PORT, COM-TEST, COM-RSLT, and COM-LOG as a set.
Display/adj/set range	When not in execution : Unknown, When connection is completed : OK, When connection is failed : NG
Default value	Unknown
Related service mode	COPIER > FUNCTION > INSTALL > ERDS COPIER > FUNCTION > INSTALL > RGW-PORT COPIER > FUNCTION > INSTALL > COM-TEST COPIER > FUNCTION > INSTALL > COM-LOG
Supplement/memo	Embedded-RDS: Function to send device information such as the device counter, failure, and consumables to UGW via SOAP protocol UGW (Universal Gate Way): Remote monitoring service system
COM-LOG	
Title	Embedded-RDS communication error log
Details	To display the Embedded-RDS communication error log. The dates, times, and error codes of the latest 5 errors that occurred are displayed. As for the error detail information, the report can be output by executing COPIER > FUNCTION > MISC-P > ERDS-LOG.
Use case	When using Embedded-RDS
Caution	Be sure to use ERDS, RGW-PORT, COM-TEST, COM-RSLT, and COM-LOG as a set.
Display/adj/set range	Date : 6 digits Time : 4 digits Error code : 8 digits
Related service mode	COPIER > FUNCTION > INSTALL > ERDS COPIER > FUNCTION > INSTALL > RGW-PORT COPIER > FUNCTION > INSTALL > COM-TEST COPIER > FUNCTION > INSTALL > COM-RSLT COPIER > FUNCTION > MISC-P > ERDS-LOG
Supplement/memo	Embedded-RDS: Function to send device information such as the device counter, failure, and consumables to UGW via SOAP protocol UGW (Universal Gate Way): Remote monitoring service system

🔵 OPTION

■ BODY

COPIER > OPTION > BODY	
Item	**Description**
LOCALE	
Title	Setting of location
Details	To set the location. At installation in areas other than Japan, perform the following procedure to match the setting information with that of the location.
Use case	• At installation • When changing the location information
Adj/set/operate method	1. Enter the setting value under LOCALE, and then press Apply key. 2. Set the paper size configuration under SIZE-LC. 3. Execute COPIER > FUNCTION > CLEAR > ALL. 4. Turn OFF/ON the main power switch.
Caution	Since COPIER> FUNCTION> CLEAR> ALL is executed when changing the location, the setting information of user mode, service mode, etc. is initialized. The setting information of this item is not initialized.

Display/adj/set range	1 to 10
	   1 : Japan
	   2 : North America
	   3 : Korea
	   4 : China
	   5 : Taiwan
	   6 : Europe
	   7 : Asia
	   8 : Oceania
	   9 : Brazil
	   10 : Latin

Default value	1
Related service mode	COPIER> FUNCTION> CLEAR> ALL COPIER> OPTION> BODY> SIZE-LC
SIZE-LC	
Title	Setting of paper size configuration
Details	To set the paper size configuration. At installation in areas other than Japan, perform the following procedure to match the setting information with that of the location.
Use case	• At installation • Upon user's request
Adj/set/operate method	1. Set the location under LOCALE. 2. Set the paper size configuration under SIZE-LC, and then press Apply key. 3. Execute COPIER > FUNCTION > CLEAR > ALL. 4. Turn OFF / ON the main power switch.
Caution	Since COPIER > FUNCTION > CLEAR > ALL is executed when changing the location, the setting information of user mode, service mode, etc. is initialized. The setting information of this item is not initialized.

Display/adj/set range	1 to 4
	   1 : AB configuration
	   2 : Inch configuration
	   3 : A configuration
	   4 : AB / Inch configuration

Related service mode	COPIER > FUNCTION > CLEAR > ALL COPIER > OPTION > BODY > LOCALE
MIBCOUNT	
Title	Setting of MIB collection charge counter
Details	To set the range of charge counter information that can obtain MIB (Management Information Base).
Use case	When preventing the Charge Counter MIB from being used by a third party
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.

Display/adj/set range	0 to 2
	   0: All charge counters are obtained
	   1: Only the displayed counter* is obtained
	   2: All charge counters are not obtained
	*: Counter specified by the following: COPIER > OPTION > USER > COUNTER 1 to 6

COPIER > OPTION > BODY	
Item	**Description**
Default value	0
Related service mode	COPIER > OPTION > USER > COUNTER1 to 6
NS-CMD5	
Title	Setting of CRAM-MD5 authentication method at SMTP authentication
Details	Restriction of the use of CRAM-MD5 authentication method at SMTP authentication When 1 is set, CRAM-MD5 authentication method is not used.
Use case	Upon user's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.

Display/adj/set range	0 to 1
	  0 : Used (SMTP server-dependent),
	  1 : Not used

Default value	0
Supplement/memo	SMTP authentication: Protocol in which user authentication function is added to SMTP, which is the protocol to be used for e-mail transmission. At the time of e-mail transmission, this protocol executes authentication of the user account and the password between the SMTP server and the user to approve e-mail transmission only when it's authenticated.
NS-PLN	
Title	Setting of plaintext authentication at SMTP authentication
Details	To restrict use of PLAIN / LOGIN authentication, which is plaintext authentication, at the time of SMTP authentication under the environment where the communication packet is not encrypted. When 1 is set, plaintext authentication is not used.
Use case	Upon user's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.

Display/adj/set range	0 to 1
	  0 : Used (SMTP server-dependent),
	  1 : Not used

Default value	0
Supplement/memo	SMTP authentication: Protocol in which user authentication function is added to SMTP, which is the protocol to be used for e-mail transmission. At the time of e-mail transmission, this protocol executes authentication of the user account and the password between the SMTP server and the user to approve e-mail transmission only when it's authenticated.
NS-LGN	
Title	Setting of LOGIN authentication at SMTP authentication
Details	Restriction of the use of LOGIN authentication method at SMTP authentication When 1 is set, LOGIN authentication method is not used.
Use case	Upon user's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.

Display/adj/set range	0 to 1
	  0 : Used (SMTP server-dependent),
	  1 : Not used

Default value	0
Supplement/memo	SMTP authentication: Protocol in which user authentication function is added to SMTP, which is the protocol to be used for e-mail transmission. At the time of e-mail transmission, this protocol executes authentication of the user account and the password between the SMTP server and the user to approve e-mail transmission only when it's authenticated.
SLPMODE	
Title	Setting of shift to sleep mode
Details	To restrict shift to sleep mode 1/sleep mode 3. When 1 is set, the machine does not shift to sleep mode.
Use case	When sleep failure occurs
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.

Display/adj/set range	0 to 1
	  0 : Shift is available.
	  1 : Shift is not available.

COPIER > OPTION > BODY	
Item	**Description**
Default value	0
SDTM-DSP	
Title	Setting of automatic shutdown menu display
Details	It is a new function added to support LOT6.To display the auto shutdown menu in the machine supporting LOT6.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Caution	Even the models not supporting auto shutdown function display the service mode item (In such case, the menu will not be displayed even 1 is set).
Display/adj/set range	0 to 1 0 : Hide the menu 1 : Display the menu
Default value	0
RMT-SW	
Title	ON/OFF of RUI service mode function
Details	To set whether to enable the service mode function that can be used on remote UI.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Display/adj/set range	0 to 1 0 : OFF 1 : ON
Default value	1
PSWD-SW	
Title	Service mode password level
Details	To change the service mode password level.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Display/adj/set range	0 to 2 0: Password is not required 1: Password for service engineer is required 2: Passwords for service engineer and system administrator at user's site are required
Default value	0
SM-PSWD	
Title	Password for service engineer
Details	To set the password for service technician in 8-digit decimal number.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Display/adj/set range	1 to 99999999
Default value	11111111

■ FNC-SW

COPIER > OPTION > FNC-SW	
Item	**Description**
IMGCNTPR	
Title	Switching of PS / PDF image quality mode
Details	To switch the image quality mode of PS/PDF. The UI value (default) of PS / PDF is changed according to the value (mode) of IMGCNTPR.
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 1 In the case of 0 Output profile => PS Photo RGB pure black process => No CMYK pure black process => No In the case of 1 Output profile =>PS TR Photo RGB pure black process => Yes CMYK pure black process => Yes

COPIER > OPTION > FNC-SW	
Item	**Description**
Default value	1
LCDSFLG	
Title	Flag to enable LOCAL CDS
Details	To enable Local CDS.
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : Disabled
	    1 : Enabled

Default value	0
CRG-PROC	
Title	Setting of the operation at the end of CRG life
Details	To set the following 3 kinds of operations at the end of CRG life: Not stopped / Stopped once/Completely stopped.
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 2
	    0 : Not stopped (default of B&W machine)
	    1 : Stopped once (default for color machine)
	    2 : Completely stopped

Default value	1
CRGLF-K	
Title	Reference value of components other than toner included in the CRG life (for K)
Details	Reference value of the life of the components other than toner (Drum / Developing Assembly / waste toner) included in the life of CRG (for K)
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	100 to 200
Default value	100
CRGLF-CL	
Title	Reference value of component other than toner included in the CRG life (for CMY)
Details	Reference value of the life of the components other than toner (Drum / Developing Assembly / waste toner) included in the life of CRG (for CMY)
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	100 to 200
Default value	100

■ DSPL-SW

COPIER > OPTION > DSPL-SW	
Item	**Description**
CRGLW-LV	
Title	SW to display / hide the setting menu (user mode) of toner low threshold value
Details	To switch whether to display the menu to set the threshold value in user mode which generates toner low.
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 1
Default value	1

■ IMG-MCON

COPIER > OPTION > IMG-MCON	
Item	**Description**
TMIC-BK	
Title	ON/OFF of TMIC Bk PASCAL gamma LUT trailing edge correction

COPIER > OPTION > IMG-MCON	
Item	**Description**
Details	To set ON/OFF of the trailing edge correction of Bk color PASCAL gamma LUT used by TMIC. When 1 is set, the density of the high density area is high. Therefore, while text and thin lines are clear, gradation of photos may become unnatural. When 0 is set, the density of the high density area becomes low. Therefore, while the gradation is improved, thin lines may be partly missing or characters may be faded.
Use case	• When gradation of photos become unnatural • When thin lines are partly missing or characters are faded
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 1 0: OFF, 1: ON
Default value	1
Supplement/memo	TMIC: Error diffusion correction of photo/high image quality.
TMIC-CMY	
Title	ON/OFF of TMIC Y/M/C PASCAL gamma LUT trailing edge correction
Details	To set ON/OFF of the trailing edge correction of Y/M/C color PASCAL gamma LUT used by TMIC. When 1 is set, the density of the high density area is high. Therefore, while text and thin lines are clear, the hue of gradation area of photos may change. When 0 is set, the density of the high density area becomes low. Therefore, while the gradation is improved, thin lines may be partly missing or characters may be faded.
Use case	• When gradation of photos become unnatural • When thin lines are partly missing or characters are faded
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 1 0: OFF, 1: ON
Default value	1
Supplement/memo	TMIC: Error diffusion correction of photo/high image quality.

■ USER

COPIER > OPTION > USER	
Item	**Description**
COUNTER1	
Title	Display of counter 1 type
Details	To display counter type for counter 1 on the Counter Check screen.
Use case	Upon user / dealer's request
Adj/set/operate method	N/A (Display only)
Caution	No change is available.
Display/adj/set range	0 to 999 0 : No registration
Default value	It differs according to the location.
COUNTER2	
Title	Display of counter 2 type
Details	To display counter type for counter 2 on the Counter Check screen.
Use case	Upon user / dealer's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 999 0 : No registration
Default value	It differs according to the location.
COUNTER3	
Title	Display of counter 3 type
Details	To display counter type for counter 3 on the Counter Check screen.
Use case	Upon user/dealer's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 999 0 : No registration

COPIER > OPTION > USER	
Item	**Description**
Default value	It differs according to the location.
COUNTER4	
Title	Display of counter 4 type
Details	To display counter type for counter 4 on the Counter Check screen.
Use case	Upon user/dealer's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 999 0 : No registration
Default value	0
COUNTER5	
Title	Display of counter 5 type
Details	To display counter type for counter 5 on the Counter Check screen.
Use case	Upon user / dealer's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 999 0 : No registration
Default value	0
COUNTER6	
Title	Display of counter 6 type
Details	To display counter type for counter 6 on the Counter Check screen.
Use case	Upon user / dealer's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 999 0 : No registration
Default value	0
CNT-SW	
Title	Setting of charge counter display method
Details	To set display method of the charge counter on the Counter Check screen. Set 1 to 3 to select a new method.
Use case	Upon user's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 3 0 : Conventional method (type 1) 1: New method (type 2) 2: New method (type 3) 3: New method (type 4)
Default value	0
CONTROL	
Title	Setting of PDL job charge method by CC-VI
Details	To set charge method for PDL job by the control card interface "CC-VI" When outputting at insertion of the control card, set 1 (not counted) / 2 (counted)
Use case	Upon user's request
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	0 to 2 0 : Output is available without control card. Not counted. 1 : Output is available at insertion of the card. Counted. 2 : Output is available at insertion of the card. Not counted.
Default value	0
CTCHKDSP	
Title	ON/OFF of charge counter print
Details	To set whether to print the charge counter on the Counter Check screen in the System Manager Data List. When 1 is set, the charge counter is printed.
Use case	Upon user's request
Adj/set/operate method	Enter the setting value, and then press Apply key.

COPIER > OPTION > USER	
Item	**Description**

Display/adj/set range	0 to 1
	   0 : OFF
	   1 : ON

Default value	1
TNRB-SW	
Title	ON/OFF of toner replacement counter display
Details	To set whether to display the toner replacement counter on the Counter Check screen. When 1 is set, the user can check the toner replacement counter.
Use case	Upon user's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Display/adj/set range	0 to 3 <Cartridge model> 0 : Hide the Toner Cartridge replacement counter 1 : Display the Toner Cartridge replacement counter (No. 19x) 2 : Not used (same as the setting value of 0) 3 : Not used (same as the setting value of 0) <Toner supply model> 0 : Hide the Toner Bottle / Unidentified Toner Bottle replacement counter 1 : Display the Toner Bottle replacement counter (No. 07x) 2 : Not used (same as the setting value of 1) 3 : Display the Toner Bottle / Unidentified Toner Bottle replacement counter (No. 017x/No. 18x) * TNRB-SW setting is not used with the machines for China. It is to always display the Toner Bottle / Unidentified Toner Bottle replacement counter (No. 017x/No. 18x) (cannot be hidden)
Default value	0
SCALL-SW	
Title	ON/OFF of Service Call button display
Details	To set whether to display or hide the Service Call button on the Touch Panel. When 1 is set, the button is displayed.
Use case	When the sales company supports service initiated by the Service Call button
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 1
	   0 : OFF
	   1 : ON

Default value	0
SCALLCMP	
Title	Setting of Service Call complete notice
Details	To set whether to notify the completion of Service Call. With this setting enabled, a notification of repair completion is sent to UGW to clear the Service Call status that is retained internally.
Use case	When service technician uses this mode after completing repair
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	After executing "1: Notified", the setting value becomes 0 immediately.

Display/adj/set range	0 to 1
	   0 : Not notified
	   1 : Notified

Default value	0
PS-MODE	
Title	Setting of compatible mode at PS usage
Details	To set for compatibility with existing machine regarding image process or print specification with PS print. Setting of a value other than the setting values means that multiple settings are combined. (Example: 7=1+2+4)
Use case	At replacement
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.

COPIER > OPTION > USER	
Item	**Description**

Display/adj/set range	0 to 63
	    1 : Compatible with PS Type3 dither E201 (NCA not used)
	    2 : Conventionally compatible with PS Type9 dither (NCA not used)
	    4 : Compatible with EFI at PS 2-sided delivery
	    8 : Change of default value of StrokeAdjust
	    16 : Change of default value of DeferredMediaSelection
	    32 : Change of printing accuracy of SmallText horizontal line

Default value	0
SMD-EXPT	
Title	Enabling of the export of service mode setting values from RUI
Details	To enable the export of service mode setting values from RUI.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.

Display/adj/set range	0 to 1
	    0: Disabled
	    1: Enabled

Default value	0
ACC-SLP	
Title	Switching of the restriction to shift to sleep mode 3 when the card is connected
Details	To switch whether to restrict the shift to sleep 3 when the card is connected.
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : The machine does not shift to sleep mode 3.
	    1 : The machine shifts to sleep mode 3.

Default value	1

■ ACC

COPIER > OPTION > ACC	
Item	**Description**
CARD-SW	
Title	Setting of the screen display when the Coin Manager is connected
Details	To set the screen display when the Coin Manager is connected.
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 2
	    0 : "Insert the card."
	    1 : "Use external device for authentication."
	    2 : "Use the external device for payment."

Default value	0
CC-SPSW	
Title	Setting of Control Interface Kit-C1
Details	To set whether to support the Control Interface Kit-C1.
Use case	At installation of Coin Manager
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	Parallel use with Card Reader-F1 is not available.

Display/adj/set range	0 to 1
	    0 : Not supported
	    1 : Supported

Default value	0
WLAN	
Title	Presence/absence of the wireless LAN function
Details	To set whether to enable the wireless LAN function.
Use case	Upon user's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.

COPIER > OPTION > ACC	
Item	**Description**

Display/adj/set range	0 to 1
	    0: Disabled
	    1: Enabled

Default value	0 (Model where wireless LAN is provided as an option) 1 (Wireless LAN model)
WLANMODE	
Title	Setting of IEEE802.11n
Details	To set whether to enable IEEE802.11n which is the wireless LAN standard.
Use case	Upon user's request
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.

Display/adj/set range	0 to 1
	    0: Disabled
	    1: Enabled

Default value	1 (All models)
UNIF-OF	
Title	Forcible deactivation of the uniFLOW function
Details	If this switch is set to 1 and the device power is turned OFF and then ON while the uniFLOW function is in active state, the uniFLOW function is forcibly deactivated. In addition, when this switch is set to 1, Activate/Deactivate request from the server is ignored.
Use case	Avoidance operation performed by a service engineer in the event of a uniFLOW failure. Used when, for example, connection to the uniFLOW server fails due to an error in the device.
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	Use only when necessary. After the work is completed, set the value back to 0.

Display/adj/set range	0 to 1
	    0: Disabled
	    1: Enabled

Default value	0

■ LCNS-TR

COPIER > OPTION > LCNS-TR	
Item	**Description**
ST-BRDIM	
Title	Disabling and transfer of the license of barcode reading (BarDIMM) function
Details	To disable and then transfer the license of barcode reading (BarDIMM) function. The function is turned OFF by changing the setting value from 1 to 0 and then turning OFF and then ON the power.device is displayed under TR-BRDIM. Once 0 is set, the function is not turned ON even if returning the setting value to 1. The license key needs to be reissued from LMS to use the function again.
Use case	• When transferring the license to another device • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF / ON the power.

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
Supplement/memo	LMS (License Management Server): Server which issues licenses
TR-BRDIM	
Title	Transfer license key display of BarDIMM function

COPIER > OPTION > LCNS-TR	
Item	**Description**
Details	To display the transfer license key issued when disabling and then transferring the BarDIMM function. When the setting value is changed from 1 to 0 and then the power is turned OFF and then ON, the function is turned OFF, but the transfer license key is not issued. (The license is not transferred to other devices.) The transfer license key is used to transfer the license from this device to another one to use the function in the device.
Use case	When replacing the device
Adj/set/operate method	1. Select ST-BRDIM. 2. Enter 0, and then press Apply key. The transfer license key is displayed under TR-BRDIM.
Display/adj/set range	24 digits
Default value	0
ST-ENPDF	
Title	Disabling and transfer of the license of SEND encrypted PDF transmission function
Details	To disable and then transfer the license of SEND encrypted PDF transmission function. The function is turned OFF by changing the setting value from 1 to 0 and then turning OFF and then ON the power.device is displayed under TR-BRDIM. Once 0 is set, the function is not turned ON even if returning the setting value to 1. The license key needs to be reissued from LMS to use the function again.
Use case	• When transferring the license to another device • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF / ON the power.

Display/adj/set range	0 to 1
	   0 : OFF
	   1 : ON

Default value	0
Supplement/memo	LMS (License Management Server): Server which issues licenses
TR-ENPDF	
Title	Transfer license key display of SEND encrypted PDF transmission function
Details	To display the transfer license key issued when disabling and then transferring the SEND encrypted PDF transmission function The transfer license key is used to transfer the license from this device to another one to use the function in the device.
Use case	When replacing the device
Adj/set/operate method	1. Select ST-ENPDF. 2. Enter 0, and then press Apply key. The transfer license key is displayed under TR-ENPDF.
Display/adj/set range	24 digits
Default value	0
ST-DVPDF	
Title	Disabling and transfer of the license of device signature PDF transmission function
Details	To disable and then transfer the license of device signature PDF transmission function. The function is turned OFF by changing the setting value from 1 to 0 and then turning OFF and then ON the power.device is displayed under TR-BRDIM. Once 0 is set, the function is not turned ON even if returning the setting value to 1. The license key needs to be reissued from LMS to use the function again.
Use case	• When transferring the license to another device • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF / ON the power.

Display/adj/set range	0 to 1
	   0 : OFF
	   1 : ON

Default value	0
Supplement/memo	LMS (License Management Server): Server which issues licenses
TR-DVPDF	

COPIER > OPTION > LCNS-TR	
Item	**Description**
Title	Transfer license key display of device signature PDF transmission function
Details	To display the transfer license key issued when disabling and then transferring the device signature PDF transmission function The transfer license key is used to transfer the license from this device to another one to use the function in the device.
Use case	When replacing the device
Adj/set/operate method	1. Select ST-DVPDF. 2. Enter 0, and then press Apply key. The transfer license key is displayed under TR-DVPDF.
Display/adj/set range	24 digits
Default value	0
ST-U-RDS	
Title	Disabling and transfer of the license of ERDS function
Details	To disable and then transfer the license of ERDS function The function is turned OFF by changing the setting value from 1 to 0 and then turning OFF and then ON the power.device is displayed under TR-BRDIM. Once 0 is set, the function is not turned ON even if returning the setting value to 1. The license key needs to be reissued from LMS to use the function again.
Use case	• When transferring the license to another device • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF / ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF / ON the power.

Display/adj/set range	0 to 1
	  0 : OFF
	  1 : ON

Default value	0
Supplement/memo	LMS (License Management Server): Server which issues licenses
TR-U-RDS	
Title	Transfer license key display of ERDS function
Details	To display the transfer license key issued when disabling and then transferring theERDS function The transfer license key is used to transfer the license from this device to another one to use the function in the device.
Use case	When replacing the device
Adj/set/operate method	1. Select ST-U-RDS. 2. Enter 0, and then press Apply key. The transfer license key is displayed under TR-U-RDS.
Display/adj/set range	24 digits
Default value	0

■ LCNS-OF

COPIER > OPTION > LCNS-OF	
Item	**Description**
ST-BRDIM	
Title	Disabling and non-transfer of the license of barcode reading (BarDIMM) function
Details	To disable and then not transfer the license of barcode reading (BarDIMM) function. The function is turned OFF when changing the setting value from 1 to 0, but the transfer license key is not issued. (The license is not transferred to other devices.) When 1 is set, the function is turned ON since the license key in use is enabled.
Use case	• When the function is turned OFF • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF/ON the power. The function is not turned ON even if changing the setting from 0 to 1. (Reregistration of the license key is required.)

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COPIER > OPTION > LCNS-OF	
Item	**Description**

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
ST-ENPDF	
Title	Disabling and non-transfer of the license of SEND encrypted PDF transmission function
Details	To disable and then not transfer the license of SEND encrypted PDF transmission function. The function is turned OFF when changing the setting value from 1 to 0, but the transfer license key is not issued. (The license is not transferred to other devices.) When 1 is set, the function is turned ON since the license key in use is enabled.
Use case	• When the function is turned OFF • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF/ON the power. The function is not turned ON even if changing the setting from 0 to 1. (Reregistration of the license key is required.)

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
ST-DVPDF	
Title	Disabling and non-transfer of the license of device signature PDF transmission function
Details	To disable and then not transfer the license of device signature PDF transmission function. The function is turned OFF when changing the setting value from 1 to 0, but the transfer license key is not issued. (The license is not transferred to other devices.) When 1 is set, the function is turned ON since the license key in use is enabled.
Use case	• When the function is turned OFF • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF/ON the power. The function is not turned ON even if changing the setting from 0 to 1. (Reregistration of the license key is required.)

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
ST-U-RDS	
Title	Disabling and non-transfer of the license of Setting of ERDS function
Details	To disable and then not transfer the license of ERDS function The function is turned OFF when changing the setting value from 1 to 0, but the transfer license key is not issued. (The license is not transferred to other devices.) When 1 is set, the function is turned ON since the license key in use is enabled.
Use case	• When the function is turned OFF • When checking the installation status
Adj/set/operate method	1. Enter the setting value, and then press Apply key. 2. Turn OFF/ON the main power switch.
Caution	The function is turned OFF after changing the setting value from 1 to 0 and turning OFF/ON the power. The function is not turned ON even if changing the setting from 0 to 1. (Reregistration of the license key is required.)

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0

🔵 COUTER

■ TOTAL

COPIER > COUNTER > TOTAL	
Item	**Description**
SERVICE1	
Title	Service-purposed total counter 1
Details	To advance the counter when a paper is delivered outside the printer. The counter is advanced regardless of the original size. The counter is not advanced by delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
SERVICE2	
Title	Service-purposed total counter 2
Details	To advance the counter when a paper is delivered outside the printer. The counter is advanced regardless of the original size. The counter is not advanced by delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
TTL	
Title	Total counter
Details	To display the total of counters of COPY, PDL-PRT, FAX-PRT, RPT-PRT, and MD-PRT.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
Related service mode	COPIER > COUNTER > TOTA L> COPY COPIER > COUNTER > TOTA L> PDL-PRT COPIER > COUNTER > TOTA L> FAX-PRT COPIER > COUNTER > TOTA L> RPT-PRT COPIER > COUNTER > TOTA L> MD-PRT
COPY	
Title	Total copy counter
Details	To advance the counter when a paper is delivered outside the printer. The counter is advanced regardless of the original size. The counter is not advanced by delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
Related service mode	COPIER > COUNTER > TOTAL > TTL
PDL-PRT	
Title	PDL print counter
Details	To count up when the PDL print is delivered outside the machine/2-sided printout is stacked. The counter is advanced regardless of the original size. The counter is not advanced by blank paper or delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
Related service mode	COPIER > COUNTER > TOTAL > TTL
FAX-PRT*	
Title	FAX reception print counter
Details	To count up when the FAX reception print is delivered outside the machine/2-sided printout is stacked. The counter is advanced regardless of the original size. The counter is not advanced by blank paper or delivery in service mode.
Display/adj/set range	0 to 99999999

COPIER > COUNTER > TOTAL	
Item	**Description**
Unit	Number of sheets
Default value	0
Related service mode	COPIER > COUNTER > TOTAL > TTL
RPT-PRT	
Title	Report print counter
Details	To count up when the report print is delivered outside the machine/2-sided printout is stacked. The counter is advanced regardless of the original size. The counter is not advanced by blank paper or delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
Related service mode	COPIER > COUNTER > TOTAL > TTL
MD-PRT	
Title	Media print counter
Details	To count up when the media print is delivered outside the machine. The counter is advanced regardless of the original size. The counter is not advanced by blank paper or delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
Related service mode	COPIER > COUNTER > TOTAL > TTL
2-SIDE	
Title	2-sided copy/print counter
Details	To count up the number of 2-sided copies/prints when the copy/printout is delivered outside the machine/ 2-sided copy/printout is stacked. The counter is advanced regardless of the original size. The counter is not advanced by blank paper or delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0
SCAN	
Title	Scan counter
Details	To count up the number of scan operations when the scanning operation is complete. The counter is advanced regardless of the original size. The counter is not advanced by delivery in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0

*: FAX model only

■ PICK-UP

COPIER > COUNTER > PICK-UP	
Item	**Description**
C1	
Title	Cassette 1 pickup total counter
Details	To count up the number of sheets picked up from the Cassette 1 (standard Pickup Cassette). The counter is advanced regardless of the original size. The counter is advanced by printout in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
C2	
Title	Cassette 2 pickup total counter

COPIER > COUNTER > PICK-UP	
Item	**Description**
Details	To count up the number of sheets picked up from the Cassette 2 (option Pickup Cassette). The counter is advanced regardless of the original size. The counter is advanced by printout in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
MF	
Title	Multi-purpose Tray pickup total counter
Details	To count up the number of sheets picked up from the Multi-purpose Tray Pickup Unit. The counter is advanced regardless of the original size. The counter is advanced by printout in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
2-SIDE	
Title	2-sided pickup total counter
Details	To count up the number of sheets picked up in duplex mode. The counter is advanced regardless of the original size. The counter is advanced by printout in service mode.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0

■ FEEDER

COPIER > COUNTER > FEEDER	
Item	**Description**
FEED	
Title	ADF original pickup total counter
Details	To count up the number of originals picked up from the ADF. The counter is advanced regardless of the original size.
Use case	When checking the total counter of original pickup by ADF
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0

■ JAM

COPIER > COUNTER > JAM	
Item	**Description**
TOTAL	
Title	Printer total jam counter
Details	To count up the number of total jam occurrences.
Use case	When checking the total jam counter of printer
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0
FEEDER	
Title	ADF total jam counter
Details	When checking the total jam counter of ADF
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0
2-SIDE	

COPIER > COUNTER > JAM	
Item	**Description**
Title	Duplex Unit jam counter
Details	To count up the number of jam occurrences in the Duplex Unit.
Use case	When checking the jam counter of Duplex Unit
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0
MF	
Title	Multi-purpose Pickup Tray jam counter
Details	To count up the number of jam occurrences in the Multi-purpose Tray Pickup Unit. The counter is advanced by paper size mismatch or misprint.
Use case	When checking the jam counter of Multi-purpose Pickup Tray
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0
C1	
Title	Cassette 1 pickup jam counter
Details	To count up the number of jam occurrences in the Cassette 1 (standard Pickup Cassette). The counter is advanced by paper size mismatch or misprint.
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0
C2	
Title	Cassette 2 pickup jam counter
Details	To count up the number of jam occurrences in the Cassette 2 (option Pickup Cassette). The counter is advanced by paper size mismatch or misprint.
Display/adj/set range	0 to 99999999
Unit	Number of times
Default value	0

■ DRBL-2

COPIER > COUNTER > DRBL-2	
Item	**Description**
DF-SP-PD	
Title	Separation Pad parts counter: ADF
Details	To count up the number of sheets to be fed regardless of 1-sided/2-sided mode. Accumulated counter value
Use case	When checking the consumption level of parts/replacing the parts
Adj/set/operate method	To clear the counter value: Select the item, and then enter 0. Press Apply key.
Caution	Clear the counter value after replacement.
Display/adj/set range	0 to 99999999
Unit	Number of sheets
Default value	0
DF-SP-RL	
Title	ADF Pickup Roller parts counter
Details	To count up the number of sheets to be fed regardless of 1-sided/2-sided mode. Accumulated counter value
Use case	When checking the consumption level of parts/replacing the parts
Adj/set/operate method	To clear the counter value: Select the item, and then enter 0. Press Apply key.
Caution	Clear the counter value after replacement.
Display/adj/set range	0 to 99999999
Unit	Number of sheets

COPIER > COUNTER > DRBL-2	
Item	**Description**
Default value	0

FEEDER

ADJUST

FEEDER > ADJUST	
Item	**Description**
DOCST	
Title	Fine adjustment of VSYNC timing at ADF reading [front side]
Details	To make a fine adjustment of the VSYNC timing when reading the front side of original with ADF. Execute this item when the output image after ADF installation is displaced. When replacing the Main Controller PCB / clearing RAM, enter the value of service label. As the value is incremented by 1, the margin at the leadgin edge of image is reduced by 0.1%.(The image moves in the direction of the leading edge of the sheet.)
Use case	• When installing the ADF • When replacing the Main Contoroller PCB/ clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-30 to 30
Unit	0.1 mm
Default value	0
LA-SPD	
Title	Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side]
Details	To make a fine adjustment of the image magnification ratio in vertical scanning direction when stream reading the front side of original with ADF. As the value is incremented by 1, the image is reduced by 0.01% in vertical scanning direction. (The feeding speed increases, and the image is reduced.)
Use case	• When installing the ADF • When replacing the Main Controller PCB/ clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-200 to 200
Unit	0.01%
Default value	0
DOCST2	
Title	Fine adjustment of VSYNC timing at ADF reading [back side]
Details	To make a fine adjustment of the VSYNC timing when reading the back side of original with ADF. Execute this item when the output image after ADF installation is displaced. When replacing the Main Controller PCB / clearing RAM, enter the value of service label. As the value is incremented by 1, the margin at the leading edge of the image is decreased by 0.1mm. (The image moves in the direction of the leading edge of the sheet.)
Use case	• When installing the ADF • When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-30 to 30
Unit	0.1 mm
Default value	0
DOCST-R	
Title	Fine adjustment of trailing edge at ADF reading
Details	To make a fine adjustment of trailing edge when reading original with ADF. Execute this item when the output image after ADF installation is displaced. When replacing the Main Controller PCB / clearing RAM, enter the value of service label. As the value is incremented by 1, the margin at the trailing edge of the image is decreased by 0.1mm. (The image moves in the direction of the trailing edge of the sheet.)
Use case	• When installing the ADF • When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-30 to 30
Unit	0.1 mm
Default value	0

FEEDER > ADJUST	
Item	**Description**
LA-SPD2	
Title	Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side]
Details	To make a fine adjustment of the image magnification ratio in vertical scanning direction when stream reading the back side of original with ADF. As the value is incremented by 1, the image is reduced by 0.01% in vertical scanning direction. (The feeding speed increases, and the image is reduced.)
Use case	• When installing the ADF • When replacing the Main Controller PCB / clearing RAM data
Adj/set/operate method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/adj/set range	-200 to 200
Unit	0.01%
Default value	0

🔵 FUNCTION

FEEDER > FUNCTION	
Item	**Description**
MTR-ON	
Title	Operation check of ADF Motor
Details	To start operation check of ADF Motor (M702).
Use case	At operation check
Adj/set/operate method	1. Select the item, and then press Yes key. It is driven for approximately 5 seconds and is automatically stopped. 2. Press Yes key. The operation check is completed.
Required time	5 secons
FEED-ON	
Title	Operation check of ADF individual feed
Details	To start operation check of the ADF individual feed in the mode specified by FEED-CHK.
Use case	At operation check
Adj/set/operate method	Select the item, and then press Yes key.
Related service mode	FEEDER > FUNCTION > FEED-CHK
FEED-CHK	
Title	Setting of ADF individual feed mode
Details	To set the ADF feed mode. Feed operation is activated in the specified feed mode by executing FEED-ON.
Use case	At operation check
Adj/set/operate method	Enter the value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : One-sided
	    1 : 2-sided

Default value	0
Related service mode	FEEDER > FUNCTION > FEED-ON

FAX

Lis of SSSW

SSSW No.	Bit No.	Function
SW 01		(Switch relating to error and copy)
	Bit 0	Output of error code for service technician
	Bit 1	Error memory dump
SW 02		(Switch relating to settings for network connection condition)
	Bit 7	Connect the terminal as F network type 2
SW 03		(Switch relating to echo prevention)
	Bit 0	TCF EQM check
	Bit 7	Output 1080Hz before CED
SW 04		(Switch relating to prevention of communication problems)
	Bit 1	Frequency check of CI signal
	Bit 3	Prohibit T.30 node F kept by both parties
	Bit 4	T.30 node F echo timer
	Bit 5	Frequency check of CI signal at PBX settings
	Bit 6	No CNG transmission at the time of manual transmission
	Bit 7	No CED transmission at the time of manual transmission
SW 05		(Switch relating to standard functions and DIS signal settings)
	Bit 2	mm/inch conversion (text/photo mode / photo mode)
	Bit 3	Prohibition of bit transmission after DIS bit 33
	Bit 4	Declaration of cut paper
SW 06		(Switch relating to settings for reading condition)
	Bit 4	Scan width 0: A4, 1: LTR
SW 07 to 11		Not in use
SW 12		(Switch relating to settings for page timer)
	Bit 0	Timeout period for 1 page (transmission)
	Bit 1	Timeout period for 1 page (transmission)
	Bit 2	Timeout period for 1 page (Halftone transmission)
	Bit 3	Timeout period for 1 page (Halftone transmission)
	Bit 4	Timeout period for 1 page (Reception)
	Bit 5	Timeout period for 1 page (Reception)
	Bit 7	Timeout period for 1 page
SW 13	Bit 2	Execution of mm/inch conversion when sending the received image
SW 14	Bit 2	Setting whether to execute inch to mm conversion in horizontal and vertical scanning directions or in vertical scanning direction only
	Bit 4	Declaration of inch-configuration resolution
SW 16		Not in use
SW 17	Bit 1	Range of selection of transmission level of modem (0 : 8 to 15, 1 : 0 to 15)
SW 18	Bit 0	Detection of carrier disconnection between DCS and TCF
	Bit 1	Time to wait for carrier disconnection between DCS and TCF
	Bit 2	Prohibition of communication control for IP network
SW 19 to 21		Not in use
SW 22	Bit 3	Prohibition of manual polling operation
SW 23 to 24		Not in use
SW 25		(Setting for report display function)
	Bit 0	Prioritize the received abbreviated name to the dialed abbreviated name
SW 26 to 27		Not in use

SSSW No.	Bit No.	Function
SW 28	Bit 0	Prohibit calling party for V8 procedure
	Bit 1	Prohibit called party from V8 procedure
	Bit 2	Prohibit calling party from V8 late-start
	Bit 3	Prohibit called party from V8 late-start
	Bit 4	Prohibit V.34 called party from starting fallback
	Bit 5	Prohibit V.34 calling party from starting fallback
SW 29 to 35		Not in use

● List of MENU

No.	Parameter	Selection
01 to 05	Not in use	
06	Telephone line monitor	0 to 3 　0: DIAL 　1: SERVICEMAN1 　2: SERVICEMAN2 　3: OFF
07	Transmission level (ATT)	0 to 15
08	Upper limit of V.34 modulation speed	0 to 5 　0: 3429 BAUD 　1: 3200 BAUD 　2: 3000 BAUD 　3: 2800 BAUD 　4: 2743 BAUD 　5: 2400 BAUD
09	Upper limit of V.34 data speed	0 to 13 　0: 33.6 kbps 　1: 31.2 kbps 　2: 28.8 kbps 　3: 26.4 kbps 　4: 24.0 kbps 　5: 21.6 kbps 　6: 19.2 kbps 　7: 16.8 kbps 　8: 14.4 kbps 　9: 12.0 kbps 　10: 9.6 kbps 　11: 7.2 kbps 　12: 4.8 kbps 　13: 2.4 kbps
10	OFF Hook signal frequency	0 to 2 　0: 50 Hz 　1: 25 Hz 　2: 17 Hz
11 to 20	Not in use	

● List of NUM

Numeric parameter setting mode		
No.	Parameter	Allowable setting range
01	Not in use	
02	RTN transmission criteria X	1 to 99 %
03	RTN transmission criteria n	2 to 99 times
04	RTN transmission criteria m	1 to 99 lines
05	NCC pause (before ID code)	1 to 60 sec
06	NCC pause (after ID code)	1 to 60 sec

No.	Parameter	Allowable setting range
	Numeric parameter setting mode	
07	Spare	
08	STORED_DIAL_MODE wait timer	0 to 65 sec
09	Not in use	
10	T.30 T0 timer	55 sec principally
11	T.30 T1 timer (for incoming transmission)	0 to 9999 (France: 3500, Others: 3000)
12	Maximum incoming lines	0 to 65535 (line)0: without limitation
13	T.30 EOL timer	500 to 3000 (set to 55 sec by default)
14	Not in use	
15	Threshold between hokking nad on-hook	0 to 999
16	Lead time to the first response when switching between FAX and TEL	0 to 9
17	Duration to activate pseudo-RBT cadence	0 to 999
18	Duration to deactivate pseudo-RBT cadence (short)	0 to 999
19	Duration to deactivate pseudo-RBT cadence (long)	0 to 999
20	Duration to activate pseudo-ring cadence	0 to 999
21	Duration to deactivate OFF Hook cadence (short)	0 to 999
22	Duration to deactivate OFF Hook cadence (long)	0 to 7
23 to 24	Not in use	
25	CNG monitor duration while the answering device is activated	0 to 999
26 to 28	Not in use	
29	Off-hook PCB duty settings(For NAC, setting can be made with SPL71100 in special management mode.)	20 (*10ms)
30 to 48	Not in use	
49	NSX MODEL ID	0 to 4095
50	Not in use	
51	Threshold to detect hook	10 to 9999
52	Not in use	
53	Set DTMF calling counts when receiving FAX remotely	10 to 9999 (default 25)
54	Set Busy Tone outgoing duration when using handset	
55 to 80	Not in use	

● Setting of NCU Parameters

■ TONE/PULSE

Operation Method
1. Setting of Tone Parameters
   Operate as follows, and change to the parameter setting mode.
   1. While "#NCU" is displayed, press "OK" key
   2. Press "#TONE" key
   3. Press "OK" key
2. Setting of Pulse Parameters
   Operate as follows, and change to the pulse setting mode.
   1. While "#NCU" is displayed, press "OK" key
   2. Press "#PULSE" key
   3. press "OK" key

Item			Function	Setting range
TONE		01;	Tone signal sending time (PSTN)	10 to 9999 (msec)
		02;	Minimum pause time (PSTN)	10 to 9999 (msec)
PULSE	PULSE FORM		Pulse digit format	0 to DP (N) 1 to DP (N+1) 2 to DP (10-N)
	PULSE NUM	01;	Not in use	
		02;	Not in use	
		03;	Pulse dial make ratio	10 to 90 (%)

Item			Function	Setting range
PULSE	PULSE NUM	04;	Minimum pause time	10 to 9999 (msec)

■ DIAL TONE

● Bit Switch

Bit No.	Function	1	0
Bit 0	-	-	-
Bit 1	Cadence pattern check	Not detected	Detected
Bit 2	Signal frequency	Changed	Not changed
Bit 3	-	-	-
Bit 4	Judgment of intermittent signal	start from valid ON signal	start from either valid ON signal or OFF signal
Bit 5	-	-	-
Bit 6	Signal form	Continuous	Intermittent
Bit 7	Signal detection	Detected	Not detected

● Numeric value parameter

Parameter No.	Function	Setting range
01;	T0 timer	0 to 9999 (x 10 msec)
02;	T1 timer	0 to 9999 (x 10 msec)
03;	T2 timer	0 to 9999 (x 10 msec)
04;	T3 timer	0 to 9999 (x 10 msec)
05;	T4 timer	0 to 9999 (x 10 msec)
06;	Signal detection table	0 to 16
07;	Signal detection level	0 to 7
08;	Number of signal frequency	0 to 9999

■ 2nd DIAL TONE

Not in use

■ BUSY TONE 0

● Bit Switch

Bit No.	Function	1	0
Bit 0	-	-	-
Bit 1	-	-	-
Bit 2	-	-	-
Bit 3	-	-	-
Bit 4	-	-	-
Bit 5	-	-	-
Bit 6	-	-	-
Bit 7	Signal detection	Detected	Not detected

● Numeric value parameter

Not in use

■ BUSY TONE 1

● Bit Switch

Bit No.	Function	1	0
Bit 0	-	-	-

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Bit No.	Function	1	0
Bit 1	-	-	-
Bit 2	-	-	-
Bit 3	-	-	-
Bit 4	-	-	-
Bit 5	-	-	-
Bit 6	-	-	-
Bit 7	Signal detection	Detected	Not detected

● Numeric value parameter

Parameter No.	Function	Setting range
01;	-	-
02;	T1 timer	0 to 9999 (x 10 msec)
03;	T2 timer	0 to 9999 (x 10 msec)
04;	T3 timer	0 to 9999 (x 10 msec)
05;	T4 timer	0 to 9999 (x 10 msec)
06;	Signal detection table	0 to 16
07;	Signal detection level	0 to 7
08;	Number of signal frequency	0 to 9999

■ REORDER TONE

● Bit Switch

Bit No.	Function	1	0
Bit 0	-	-	-
Bit 1	-	-	-
Bit 2	Signal frequency	Changed	Not changed
Bit 3	-	-	-
Bit 4	Judgment of intermittent signal	start from valid ON signal	start from either valid ON signal or OFF signal
Bit 5	-	-	-
Bit 6	Signal form	Continuous	Intermittent
Bit 7	Signal detection	Detected	Not detected

● Numeric value parameter

Parameter No.	Function	Setting range
01;	-	-
02;	T1 timer	0 to 9999 (x 10 msec)
03;	T2 timer	0 to 9999 (x 10 msec)
04;	T3 timer	0 to 9999 (x 10 msec)
05;	T4 timer	0 to 9999 (x 10 msec)
06;	Signal detection table	0 to 16
07;	Signal detection level	0 to 7
08;	Number of signal frequency	0 to 9999

■ MULTI

Not in use

■ AUTO RX

● Numeric value parameter

Parameter No.	Function	Setting range
01;	CI ON time	0 to 9999 (x 10 msec)
02;	CI LONG ON time	0 to 9999 (x 10 msec)
03;	CI OFF time	0 to 9999 (x 10 msec)
04;	CI LONG OFF time	0 to 9999 (x 10 msec)
05;	CI MAX OFF time	0 to 9999 (x 10 msec)
06;	CI WAIT time	0 to 9999 (x 10 msec)
07;	CI frequency	0 to 9999 (cycle)
08;	CI frequency lower limit	0 to 9999 (Hz)
09;	CI frequency upper limit	0 to 9999 (Hz)

■ CNG DETECT

● Numeric value parameter

Parameter No.	Description		Setting range
01;	At F/T switching	CNG MIN ON time	0 to 9999 (x10 msec)
02;		CNG MAX ON time	0 to 9999 (x 10 msec)
03;		-	-
04;		-	-
05;		-	-
06;		-	-
07;	At direct connecting to answering phone	CNG MIN ON time	0 to 9999 (x 10 msec)
08;		CNG MAX ON time	0 to 9999 (x 10 msec)
09;		Tolerable time of instantaneous interruption	0 to 9999 (x 10 msec)
10;		-	-
11;		Number of detection	0 to 9999 (times)
12;		Hit ratio	0 to 9999 (%)

■ RKEY

● Numeric value parameter

Parameter No.	Function	Setting range
01;	Connection time of flash	0 to 9999 (x 10 msec)
02;	Connection time of grounding wire	0 to 9999 (x 10 msec)

■ PBX DIAL TONE 1

Not in use

■ PBX BUSY TONE

Not in use

TESTMODE

⬤ PRINT

TESTMODE > PRINT	
Item	**Description**
PG-TYPE	
Title	Setting of PG number
Details	To set the PG number of the test print.
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 6
	    0 : PASCAL correction chart 1
	    1 : PASCAL correction chart 2
	    2 : Color chart
	    3 : Skew correction chart
	    4 : Rainbow chart (vertical scanning direction)
	    5 : Rainbow chart (horizontal scanning direction)
	    6 : Grid Bk

Default value	0
COUNT	
Title	Setting of PG output quantity
Details	To set the number of sheets for PG output.
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.
Display/adj/set range	1 to 99
Unit	1 sheet
Default value	1
PHASE	
Title	Setting of PG 2-sided mode
Details	To set 1-sided/2-sided print for PG output. Even if 2-sided print is set for a machine that only supports 1-sided print, the setting is disabled.
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : 1-sided
	    1 : 2-sided

Default value	0
MODE	
Title	Setting of test print image formation method
Details	To set the image formation method for the test print. If PG-TYPE is 0/1, this setting is disabled because a specific image formation method is applied.
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 3
	    • 0 : T-MIC(T-MIC)
	    • 1 : High screen ruling (SCA)
	    • 2 : Low screen ruling (SCB)
	    • 3 : TBIC

Default value	0
THRU	
Title	Setting of image correction table at test print
Details	It is possible to check the density characteristics due to the density correction process when normal gamma LUT is used, and the density characteristics of the engine when the linear gamma LUT is used.
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.

TESTMODE > PRINT	
Item	**Description**

Display/adj/set range	0 to 1
	    0 : Normal gamma LUT
	    1 : Through (linear) gamma LUT

Default value	0
Supplement/memo	Gamma LUT: Density gradation characteristic table
NRKE	
Title	ON/OFF of laser scanning transfer process of test print
Details	To perform line transfer process for skew correction of test print engine's laser scanning.
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
Supplement/memo	Transfer process: A process to correct skew of laser scanning toward vertical scanning direction
BLND	
Title	ON/OFF of interpolation process at test print
Details	To set ON/OFF of interpolation process at test print (linked with NSC). When 1 is set, interpolation process is performed (no phase shift).
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 1
	    0 : OFF
	    1 : ON

Default value	0
Supplement/memo	Interpolation process: A process to predict, for pixels holding no color information, color based on the surrounding pixels, and then set up the color information.
FEED	
Title	Setting of paper source at test print
Details	To set the paper source at the time of test print output. If this mode is set when there is no Cassette 2 (option Pickup Cassette), the output is made from Cassette 1 (standard Pickup Cassette).
Use case	At trouble analysis
Adj/set/operate method	Enter the setting value, and then press Apply key.

Display/adj/set range	0 to 4
	    0 : MP Tray
	    1 : Cassette1
	    2 : Cassette2
	    3 : Cassette3
	    4 : Cassette4

Default value	1
START	
Title	Output of test print
Details	To output a test print with the PG pattern set in PG-TYPE, MODE, etc.
Use case	At trouble analysis
Adj/set/operate method	Press Apply key.
Display/adj/set range	0 to 1
Default value	0

● FAX

■ MODEM

FAX model only

TESTMODE > FAX > MODEM	
Item	**Description**
RELAY-1	
Title	NCU relay test 1
Details	N To test ON/OFF of relay and port switch of NCU. This mode is disabled for an NCU with no relay and port switch.
Use case	When analyzing the cause of a problem
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 6
	    0: All OFF
	    1: CML ON/OFF
	    2: P ON/OFF
	    3: S ON/OFF
	    4: H ON/OFF
	    5: HD ON/OFF
	    6: R ON/OFF

Default value	0
Related service mode	TESTMODE > FAX > MODEM > RELAY-2
RELAY-2	
Title	NCU relay test 2
Details	To test ON/OFF of relay and port switch of NCU. This mode is disabled for an NCU with no relay and port switch.
Use case	When analyzing the cause of a problem
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 7
	    0: All OFF
	    1: CIST2 ON/OFF
	    2: C1 ON/OFF
	    3: NORG ON/OFF
	    4: DCSEL ON/OFF
	    5: DCLIM ON/OFF
	    6: IPSEL1 ON/OFF
	    7: IPSEL2 ON/OFF

Default value	0
Related service mode	TESTMODE > FAX > MODEM > RELAY-1
FREQ	
Title	To test whether the specified frequency is oscillated. By closing or opening the DC circuit in accordance with the setting value, the specified frequency is oscillated by the tone transmission function of the modem. Check this with the speaker.
Details	When analyzing the cause of a problem
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 7
	    0: OFF
	    1: 462 Hz
	    2: 1100 Hz
	    3: 1300 Hz
	    4: 1500 Hz
	    5: 1650 Hz
	    6: 1850 Hz, 7: 2100 Hz

Default value	0
G3TX	
Title	G3 signal transmission test
Details	To test whether the specified G3 signal is transmitted. By closing or opening the DC circuit in accordance with the setting value, the specific G3 signal pattern is transmitted at the specified transmission speed by the G3 signal transmission function of the modem. Check this with the speaker.

TESTMODE > FAX > MODEM	
Item	**Description**
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 9
	   0: OFF
	   1: 300 bps
	   2: 2400 bps
	   3: 4800 bps
	   4: 7200 bps
	   5: 9600 bps
	   6: TC7200 bps
	   7: TC9600 bps
	   8: 12000 bps
	   9: 14400 bps

Default value	0
DTMFTX	
Title	DTMF transmission test
Details	To test whether the specified DTMF signal is transmitted. By closing or opening the DC circuit in accordance with the setting value, the specified DTMF signal is transmitted by the DTMF transmission function of the modem. Check this with the speaker.
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 12
	   0: OFF
	   1: 1
	   2: 2
	   3: 3
	   4: 4
	   5: 5
	   6: 6
	   7: 7
	   8: 8
	   9: 9
	   10: 0
	   11: *
	   12: #

Default value	0
Supplement/memo	DTMF (Dual Tone Multi Frequency): Signal method combining two specific frequencies like a push-tone phone.
V34G3TX	
Title	V.34 G3 signal transmission test
Details	To test whether the specified V.34 G3 signal is transmitted. By closing or opening the DC circuit in accordance with the setting value, the specific G3 signal pattern is transmitted at the specified transmission speed and modulation speed by the G3 signal transmission function (V.34) of the modem.Check this with the speaker. A setting value other than 0 is indicated as a 3-digit integer (1st digit: modulation speed, last 2 digits: transmission speed). A value other than the specified numerical value is invalid.
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

TESTMODE > FAX > MODEM	
Item	**Description**

Display/adj/set range	0 to 614
	0: OFF
	 • First digit (Modulation speed/baud rate)
	    1: 2400 baud
	    2: 2743 baud
	    3: 2800 baud
	    4: 3000 baud
	    5: 3200 baud
	    6: 3429 baud
	 • Last 2 digits (Transmission speed)
	    01: 2400 bps
	    02: 4800 bps
	    03: 7200 bps
	    04: 9600 bps
	    05: 12000 bps
	    06: 14400 bps
	    07: 16800 bps
	    08: 19200 bps
	    09: 21600 bps
	    10: 24000 bps
	    11: 26400 bps
	    12: 28800 bps
	    13: 31200 bps
	    14: 33600 bps

Default value	0

■ FACULTY

FAX model only

TESTMODE > FAX > FACULTY	
Item	**Description**
G34800TX	
Title	G3 4800 bps signal transmission test
Details	To test whether the G3 signal is transmitted at 4800 bps. By closing or opening the DC circuit, the specific G3 signal pattern is transmitted at 4800 bps by the G3 signal transmission function. Check this with the speaker.
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 1
	   0: OFF
	   1: ON

Default value	0
DETECT1	
Title	Ring detection
Details	To check the ON/OFF state of CI, FC, and hook from the line. The detection results are displayed on the console (UART).
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 1
	   0: OFF
	   1: ON

Default value	0
Supplement/memo	CI (Calling Identification): Ring signal UART (Universal Asynchronous Receiver Transmitter): Console
DETECT2	
Title	Calling tone detection test 1

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TESTMODE > FAX > FACULTY	
Item	**Description**
Details	To check calling tone signal and FED. Set the CML relay to ON and detect the calling tone. The detection results are displayed on the console (UART).
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 1
	    0: OFF
	    1: ON

Default value	0
Supplement/memo	CML (Connect Modem to Line) relay: Relay installed at the NCU (Network Control Unit) Board to switch between the telephone and fax.
DETECT3	
Title	Calling tone detection test 2
Details	To check calling tone signal and FED. Set the CML relay to OFF and detect the calling tone. The detection results are displayed on the console (UART).
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set the value back to 0 after the test.

Display/adj/set range	0 to 1
	    0: OFF
	    1: ON

Default value	0
Supplement/memo	CML (Connect Modem to Line) relay: Relay installed at the NCU (Network Control Unit) Board to switch between the telephone and fax.

9

Installation

Copy Card Reader-F1

● Points to Note at Installation

The Copy Card Reader Attachment is required for the installation of the equipment.
The following options cannot be used in combination with this equipment.
- MiCARD Attachment Kit-B1 + IC-Card Reader that is a sales company's option
- Copy Control Interface Kit-C1
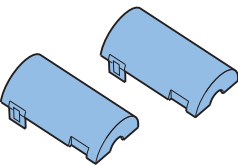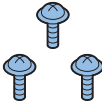
● Checking the Contents

< Copy Card Reader-F1 >

☐ [1] Card Reader Unit X 1	☐ [2] Screw (RS Tightening; M4x10) X 1	☐ [3] Toothed washer X 1

< Copy Card Reader Attachment-J1 >

☐ [1] Connector Unit X 1	☐ [2] Outer Cable X 1	☐ [3] Connector Cover X 1	☐ [4] Cord Guide X 1
☐ [5] Connector Case X 1	☐ [6] Ring Core X 1	☐ [7] Screw (RS Tightening; M4x10) X 1	☐ [8] Screw (TP; M3x6) X 3

Installation Procedure

Installation Outline Drawing

Check Items When Turning OFF the Main Power

Check that the main power switch is OFF.

1. **Turn OFF the main power switch of the host machine.**

2. **Be sure that Control Panel Display and Main Power Lamp are both turned OFF, and then disconnect the power plug.**

Installation Procedure

☐

1. **Remove the Right Cover.**
   - 4 Screws
   - 9 Hooks

☐
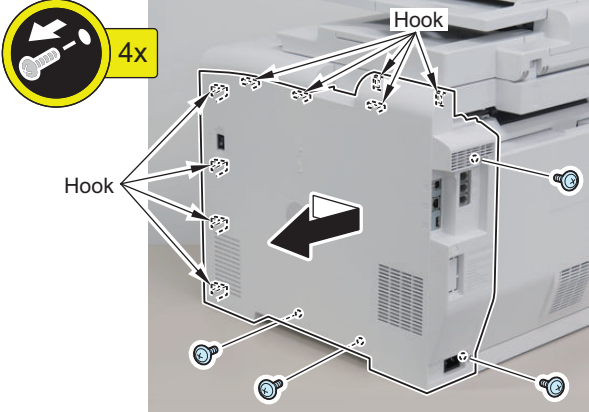
2. **Remove the Controller Cover.**
   - 9 Screws
   - 2 Bosses
   - 2 Hooks

☐
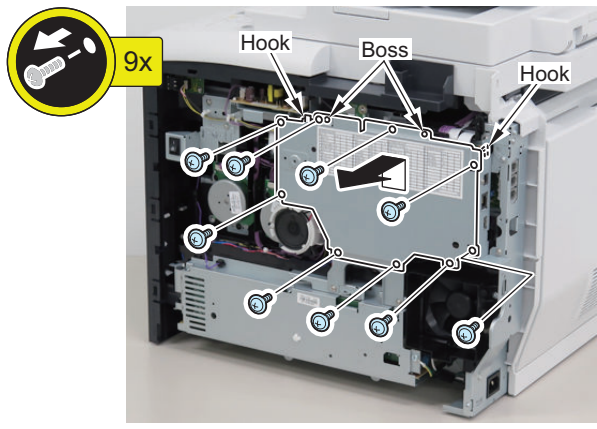
3. **Install the Connector Unit to the host machine.**
   - 2 Screws (TP; M3x6)
   - 1 Connector

☐
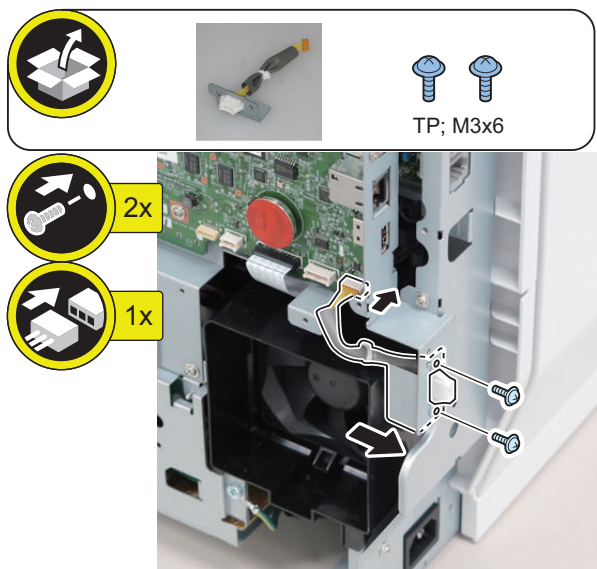
4. Install the Controller Cover.
- 2 Hooks
- 2 Bosses
- 9 Screws

☐
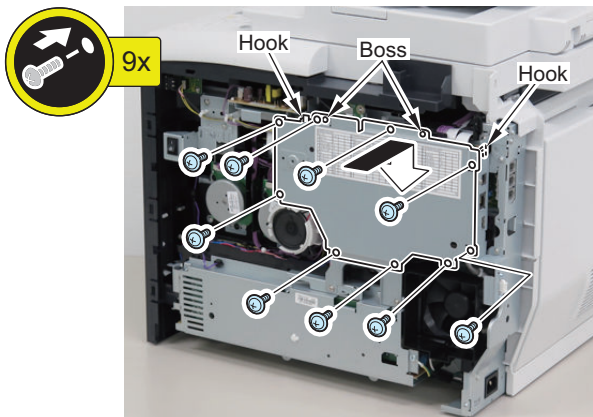
5. Cut off the Face Plate of the Right Cover with nippers.

CAUTION:
When cutting off the part, be sure not to make burrs.

☐
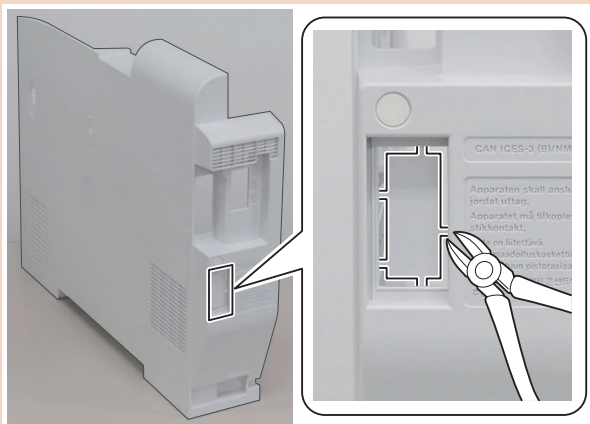
6. Fit the connector of the Connector Unit into the cut-off hole on the Right Cover and install the Right Cover as shown in the figure.
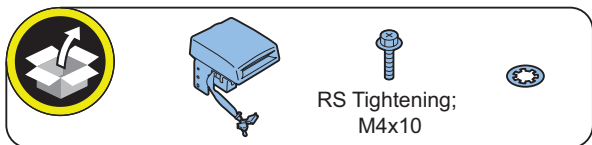- 9 Hooks
- 4 Screws
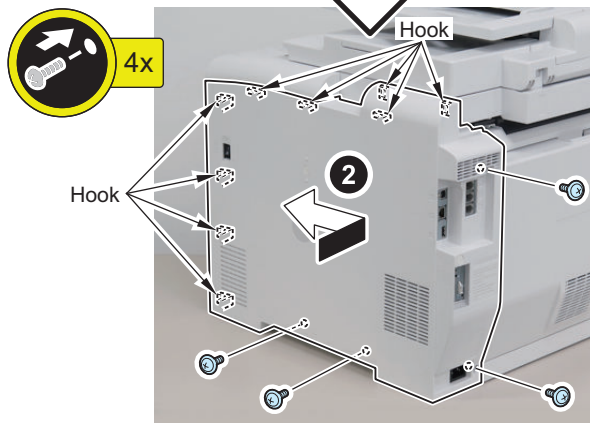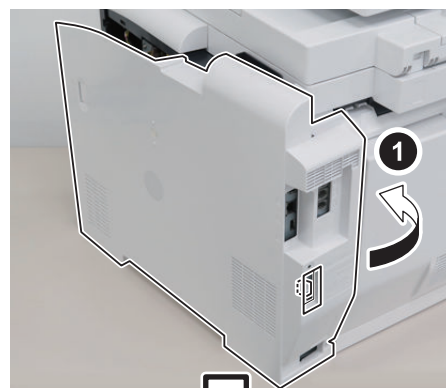
CAUTION:
If there is a gap on the front side of the Right Cover, pinch the cover to hook the claws.
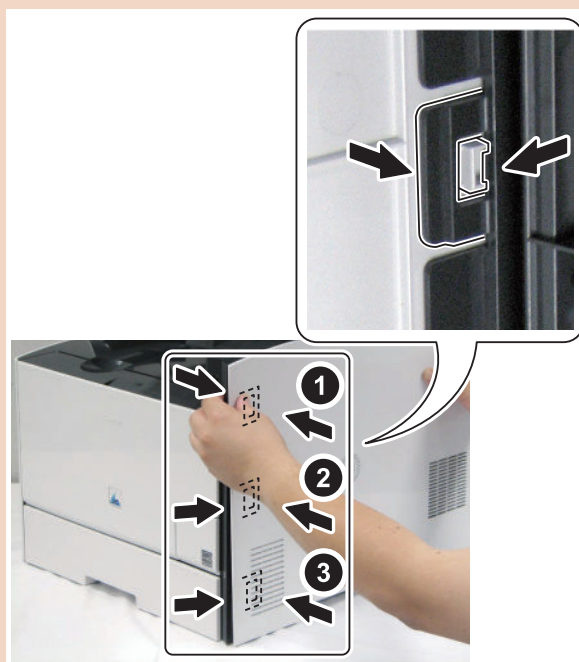
7. **Remove the Face Seal, and install the Card Reader Unit. (The removed Face Seal will not be used.)**
   - 2 Bosses
   - 1 Toothed Washer
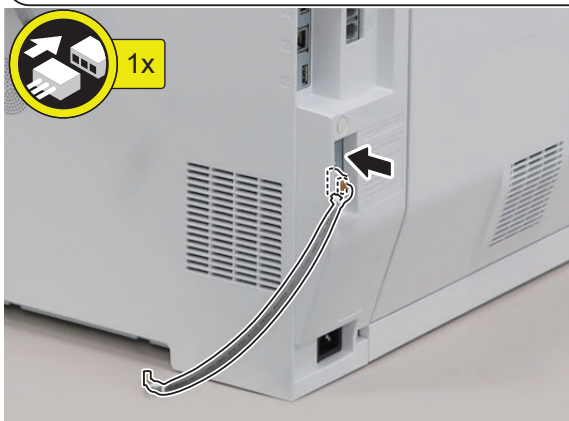   - 1 Screw (RS Tightening; M4x10)

RS Tightening; M4x10

1x

1

2

Boss

8. **Connect a connector of the Outer Cable to the Connector Unit.**

1x
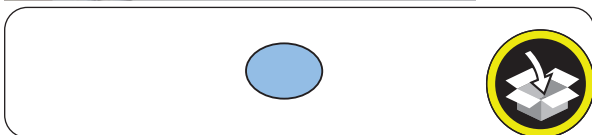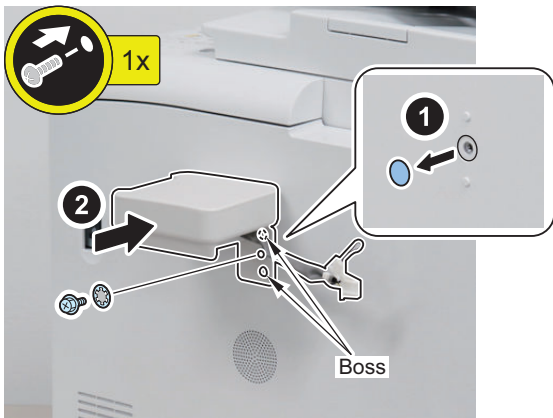
9. **Install the Connector Cover.**
   - 1 Hook
   - 1 Boss
   - 1 Screw (TP; M3x6)

CAUTION:
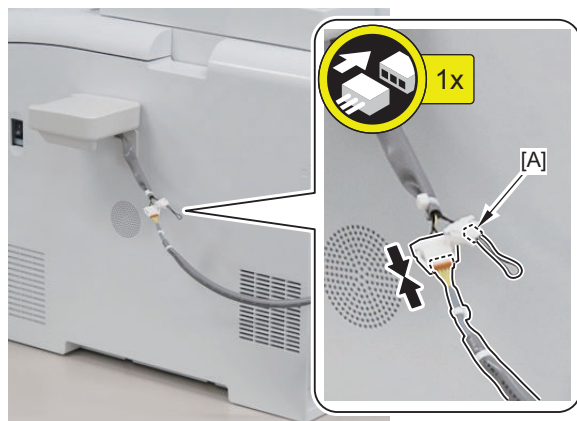When installing the Connector Cover, be sure to place the Harness Band [A] inside the Connector Cover.

TP; M3x6

1x

Boss   [A]

Hook

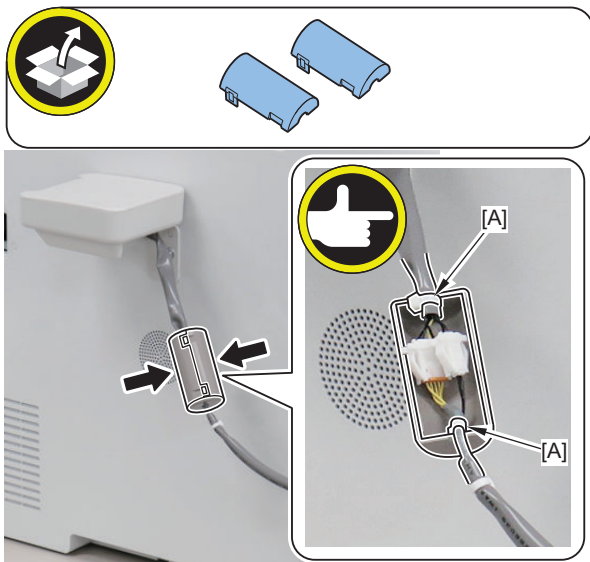10. **Connect the other connector of the Outer Cable to the Card Reader.**

CAUTION:
Do not disconnect the short connector [A].

1x

[A]

☐

11. Install the 2 Connector Cases.

> **CAUTION:**
> • When installing the Connector Case, be sure to place the 2 Harness Bands [A] inside the groove of the Connector Case.
> • Be careful not to trap cables.

☐

12. Remove the cover of the Cord Guide.

13. Remove the release paper, and affix the Cord Guide to the area indicated in the figure.

☐

14. Put the Outer Cable through the Cord Guide, and install the Cord Guide Cover.

15. Connect the power plug to the outlet.

16. Turn ON the main power switch.

Setting after Installation

Configure the card management information settings in service mode.

☐

1. COPIER > FUNCTION > INSTALL > CARD-NUM, and enter the first number of the card to be used.

Enter the smallest card number to be used by the user.

2. Sequence numbers beginning with the number specified in COPIER > FUNCTION > INSTALL > CARD are automatically registered.

From the entered card number, 300 cards can be used.

3. Select ON for the Dept ID control.

[Menu] > [System Management Settings] > [Department ID Management ON/OFF] > [ON]

4. Turn OFF and then ON the main power switch to enable the setting values.

5. Check that a message [Insert the card.] appears.

> **NOTE:**
> How to enter System Manager Settings
> 1. Enter the Manager ID: 7654321. (Default values)
> 2. Enter the PIN: 7654321. (Default values)
> 3. Press the "ID" key.

MiCARD Attachment Kit-B1
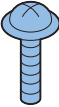
Points to Note at Installation

Prepare a Card Reader (sales company's option) in advance. Although the shape of the Card Reader may differ, the installation procedure is the same.
The following options cannot be used in combination with this equipment.
- Copy Card Reader-F1
- Copy Control Interface Kit-C1

Checking the Contents

< MiCARD Attachment Kit-B1 >

[1] IC-Card Reader Base X1	[2] Ring Core X 1	[3] Cord Guide X 1
[4] Screw (TP; M4x16) X 1	[5] Wire Saddle X1	

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Installation Procedure

Installation Outline Drawing

Check Items When Turning OFF the Main Power
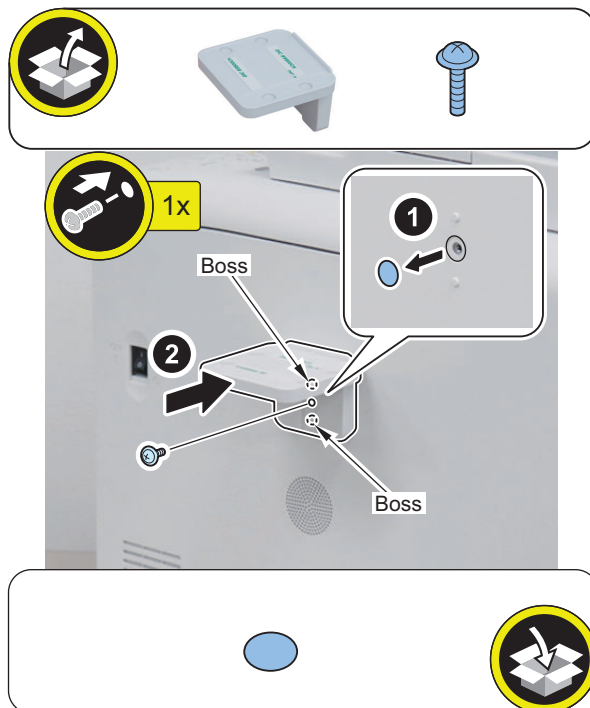
Check that the main power switch is OFF.

1. **Turn OFF the main power switch of the host machine.**

2. **Be sure that Control Panel Display and Main Power Lamp are both turned OFF, and then disconnect the power plug.**

☐

1. **Remove the Face Seal, and install the IC-Card Reader Base. (The removed Face Seal will not be used.)**
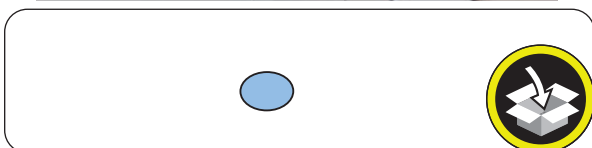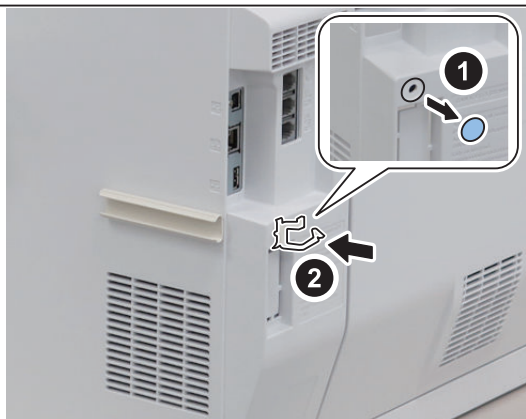   - 2 Bosses
    - 1 Screw (TP; M4x16)

Boss

Boss

1x

☐

2. **Remove the cover of the Cord Guide.**

3. **Remove the release paper, and affix the Cord Guide to the area indicated in the figure.**

☐

4. **Remove the Face Seal, and install the Wire Saddle. (The removed Face Seal will not be used.)**

☐

7. Put the Cable through the Cord Guide, and install the Cord Guide Cover.

☐

8. Secure the excess cable length in place using the Wire Saddle as shown in the figure.

NOTE:
Regardless of the length of the cable, secure it in this way.

☐
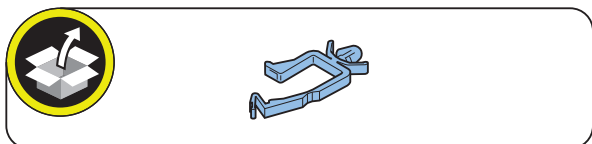
5. Remove the 2 release papers of double-sided tape from the IC-Card Reader Base.

☐

6. Fix the IC Card Reader to the IC Card Reader Base, and connect the cable.

☐

9. Install the Ring Core as shown in the figure.

NOTE:
The Ring Core may slide down depending on the thickness of the cable, but it will not pose any problems.

☐
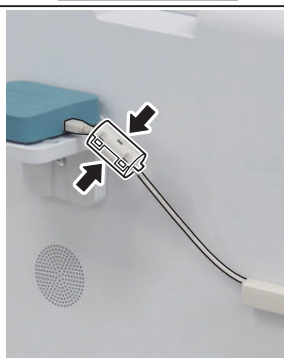
10. Connect the power plug to the outlet.

11. Turn ON the main power switch.

333
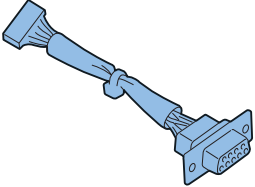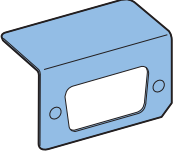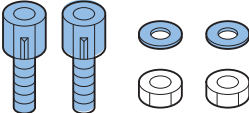
Copy Control Interface Kit-C1

Points to Note at Installation

The following options cannot be used in combination with this equipment.
- Copy Card Reader-F1
- MiCARD Attachment Kit-B1 + IC-Card Reader that is a sales company's option

Checking the Contents

[1] CC-VI Cable X 1	[2] D-SUB Support Plate X 1	[3] Hexagonal Screw (Spring Washer ,Nut) X 2 Do not use a Nut	[4] Washer X 2

Installation Procedure
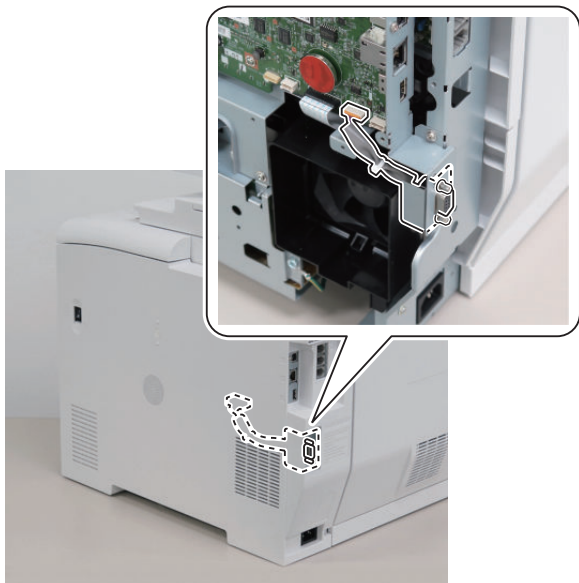
Installation Outline Drawing

Check Items When Turning OFF the Main Power

Check that the main power switch is OFF.

1. **Turn OFF the main power switch of the host machine.**

2. **Be sure that Control Panel Display and Main Power Lamp are both turned OFF, and then disconnect the power plug.**

Installation Procedure

☐

1. **Remove the Right Cover.**
   - 4 Screws
   - 9 Hooks

☐

2. **Remove the Controller Cover.**
   - 9 Screws
   - 2 Bosses
   - 2 Hooks

☐

3. **Put the CC-VI Cable through the D-SUB Support Plate.**

☐
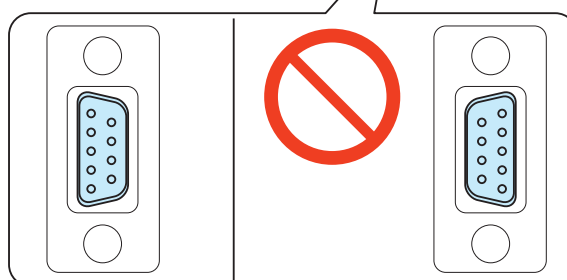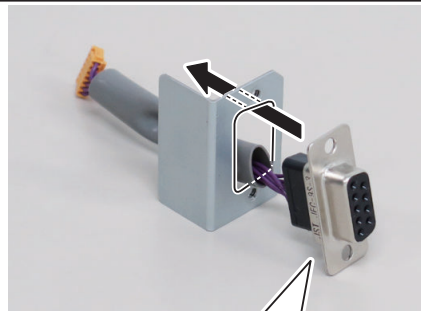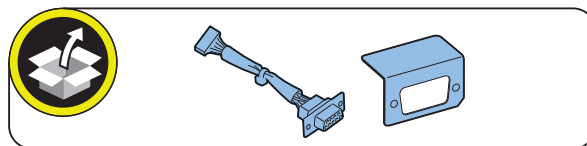
4. Install the CC-VI Cable to the host machine.

- 2 Hexagonal Screws
- 2 Spring Washes
- 2 Washers
- 1 Connector

> **CAUTION:**
> Be sure to tighten the Hexagon Screws with needlenose pliers.

Washer

Spring Washer

☐
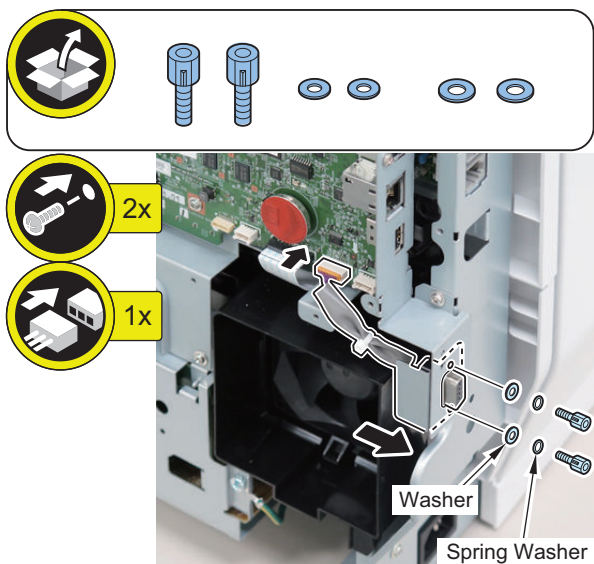
5. Install the Controller Cover.

- 2 Hooks
- 2 Bosses
- 9 Screws

Hook   Boss   Hook

☐
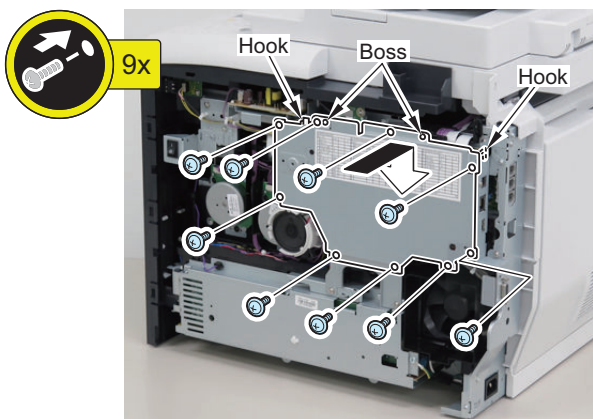
6. Cut off the Face Plate of the Right Cover with nippers.

> **CAUTION:**
> When cutting off the part, be sure not to make burrs.

☐
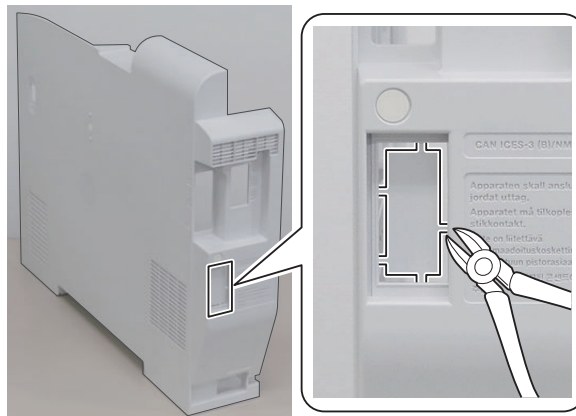
7. Fit the connector of the CC-VI Cable into the cut-off hole on the Right Cover and install the Right Cover as shown in the figure.

- 9 Hooks
- 4 Screws
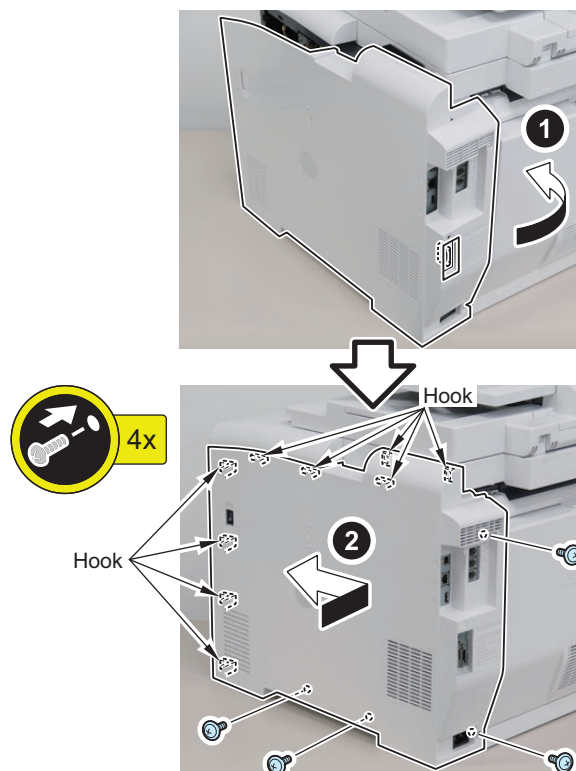
Hook

Hook

CAUTION:
If there is a gap on the front side of the Right Cover, pinch the cover to hook the claws.
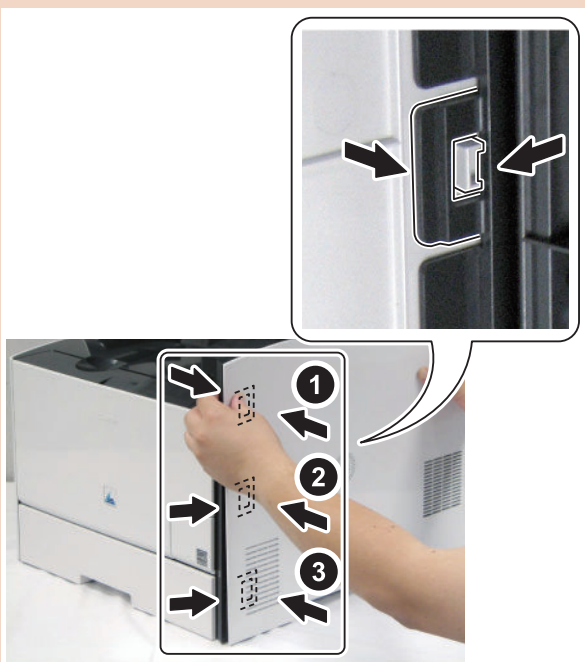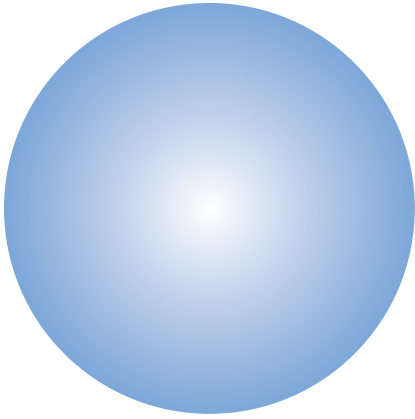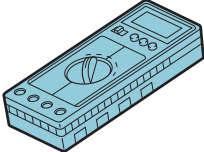
APPENDICES

Service Tools

Special Tools

In addition to the standard tools set, the following special tools are required when servicing the machine:

Name of Tool	Parts.No	Use
Digital Multimeter	FY9-2002	Used as a probe extension when making electrical checks.

Solvents and Oils

The table below lists the standard tools required in service works for this product.

No.	Name of Tool	Use	Remarks
1	Alcohol	Cleaning: Plastic Rubber Metal part Oil stain Toner stain	• Keep away from flame • Purchase locally
2	Lubricant	Apply to gear	• HY9-0007 (MOLYCOTE EM-50L)
3	Lubricant	Apply to ADF scanning area	• FY9-6020(Oil glass cleaner)

General Circuit Diagram
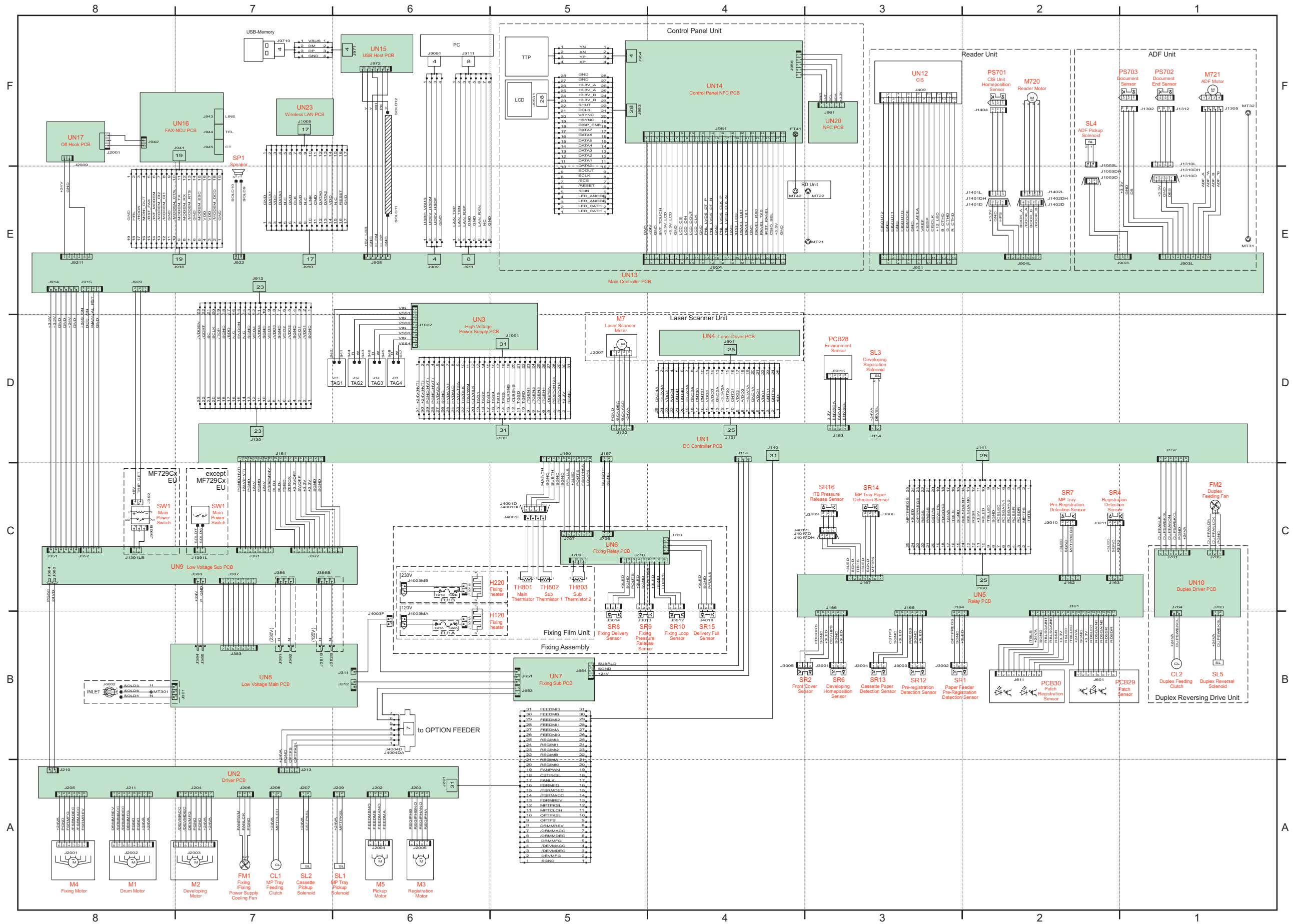
Print Sequence

Full-color print on A4 plain paper (3 pages)

	Operation	STBY	INTR	PRNT	LSTR	STBY
1	Fixing temperature control					
2	Drum motor (M1)		1.0			
3	Developing motor (M2)		1.2			
4	Pickup motor (M3)			0.7		
5	Fixing motor (M4)		0.2			
6	Scanner motor (M7)					
7	Cassette pickup solenoid (SL2)		4.5			
8	Development contact solenoid (SL3)		4.0			
9	Registration sensor (SR4)		5.2			
10	Fixing / delivery sensor (SR5)			11.5		
11	Vertical sync signal (/TOP)		4.5			
12	Primary charging bias		1.7			
13	Development bias (Y, M, C)		3.6			
14	Development bias (Bk)		3.6			
15	Primary transfer bias (Y)		2.5	2.2		
16	Primary transfer bias (M, C)			2.9		
17	Primary transfer bias (Bk)		2.0	4.7		
18	Secondary transfer bias		1.0	9 .2		
19				ATVC Print bias Sheet-to-sheet bias		
20						

Backup Data

Data		Location	Replace		Delete										Backup by User			Backup by Service		
					Menu > System Management Settings				COPIER > FUNCTION > CLEAR											
			Engine Controller PCB	Main Controller PCB *1	Initializing Address Book	Initializing Key and Certificate	Initializing Menu	System Management Settings	R-CON *2	SRVC-DAT *3	COUNTER	HIST *4	CARD *12	ALL *5	Yes/No	Method	Location to be stored	Yes/No	Method	Location to be stored
Address Book		Main Controller	-	Clear	Clear	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
Settings Manu	Preferences	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
	Timer Settings	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
	Common Settings	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
	Copy Settings	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
	Fax Settings	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes *6	Remote UI	PC, USB memory	No	-	-
	Scan Settings	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
	Memory Media Print Settings	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
	Printer Settings	Main Controller	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	Yes	Remote UI	PC, USB memory	No	-	-
	System Management Settings	Main Controller	-	Clear	-	-	Clear	Clear	-	-	-	-	Clear	Clear *8	Yes	Remote UI	PC, USB memory	No	-	-
Department ID Management		Main Controller	-	Clear	-	-	- *11	- *11	-	-	-	-	-	- *11	No	-	-	No	-	-
Key and Certificate		Main Controller	-	Clear	-	Clear *7	-	-	-	-	-	-	-	Clear	No	-	-	No	-	-
Serial Number		Main Controller	-	-	-	-	-	-	-	-	-	-	-	-	No	-	-	No	-	-
Job History		Main Controller	-	Clear	-	-	-	-	-	-	-	Clear	-	Clear	No	-	-	No	-	-
Service mode	Service mode setting values (Reader)	Main Controller	-	Clear	-	-	-	-	Clear	-	-	-	-	-	No	-	-	No	-	-
	Service mode setting values (Main Controller)	Main Controller	-	Clear	-	-	-	-	-	Clear	-	-	-	Clear	No	-	-	Yes	Service mode *9	USB memory
	Service mode setting values (Engine Controller)	Engine Controller	Clear	-	-	-	-	-	-	-	-	-	-	-	No	-	-	Yes	Service mode *10	Main Controller
To clear the counter by maintenance / part/mode. (Including the fax-related counters shown in the system dump list)		Main Controller	Clear	Clear	-	-	-	-	-	-	Clear	-	-	-	No	-	-	No	-	-

*1: Log data such as Mac address, USB serial number, printer-related setting values, scanner-related setting values, user data, and logs are initialized.

*2: The factory adjustment values of the Reader and ADF are initialized.

*3: Service data is cleared. User data is not cleared. The factory adjustment values of the Reader and ADF are not initialized.

*4: The logs (communication management, print, jam, error, and alarm) are cleared.

*5: The user data, service data, logs, and system administrator are initialized. (The system manager ID and password are changed back to the default values.) The factory adjustment values of the Reader and ADF are not initialized.

*6: Excluding Fax Setup Guide

*7: When the key and certificate are initialized, TLS authentication of IEEE802.1X and the SSL setting are changed to "OFF".

*8: The system administrator ID and the password are changed back to the default values. ID: 7654321 / PWD: 7654321.

*9: FUNCTION > SYSTEM > IMPORT / FUNCTION > SYSTEM > EXPORT

*10: FUNCTION > VIFFNC > STOR-DCN / FUNCTION > VIFFNC > STOR-DCN

*11: The "Department ID Management On/Off" returns to OFF.

*12: To clear the information on connection of the Copy Card Reader-F1.

- The data related to the card ID (department) is cleared, and the ID and password of the system administrator are initialized.

When removing the Card Reader-F1

1. Disable the department ID management.
2. Select the item, and then press Yes key.
3. In COPIER > FUNCTION > CLEAR > CARD, clear the information on connection of the Copy Card Reader-F1.
4. Execute COPIER > FUNCTION > CLEAR > E719-CLR.
5. Turn OFF the main power.
6. Remove the Card Reader-F1.
7. Turn ON the main power.

Soft Counter Specifications

The numbers entered for software counters are classified as follows:

No.	Counter Details
000 to 199	Total
200 to 299	Copy
300 to 399	Print
400 to 499	Copy and print
500 to 599	Scan
600 to 699	Memory media print
700 to 799	Reception print
800 to 899	Report print
900 to 999	Transmission

Meanings of symbols in tables
- Copy: Local copy
- Copy A: Local copy
- Print: PDL print + report print
- Print A: PDL print + report print
- Scan: Black and white scan + color scan
  *This product does not have the function of "Remote Copy" and "Box Print".

No.	Counter Name
071	Toner Bottle (Black) *2
072	Toner Bottle (yellow) *2
073	Toner Bottle (magenta) *2
074	Toner Bottle (cyan) *2
101	Total 1
102	Total 2
104	Total (Small)
105	Total (full color1)
106	Total (full color2)
108	Total (Black1)
109	Total (Black2)
113	Total (Black / Small)
114	Total 1 (2-Sided)
115	Total 2 (2-Sided)
117	Small (2-Sided)
121	Total (full color /small)
123	Total (full color +mono color /small)
124	Total (full color +mono color 2)
125	Total (full color +mono color 1)
126	Total A1
127	Total A2
129	Total A (Small)
130	Total A (full color 1)
131	Total A (full color 2)
132	Total A (Black1)
133	Total A (Black2)
137	Total A (Black / Small)
138	Total A1 (2-Sided)
139	Total A2 (2-Sided)
141	SmallA (2-Sided)
145	Total A (full color /small)
147	Total A (full color +mono color /small)

No.	Counter Name
148	Total A (full color +mono color 2)
149	Total A (full color +mono color 1)
150	Total B1
151	Total B2
153	Total B (Small)
154	Total B (full color 1)
155	Total B (full color 2)
156	Total B (Black1)
157	Total B (Black2)
161	Total B (Black / Small)
162	Total B1 (2-Sided)
163	Total B2 (2-Sided)
165	SmallB (2-Sided)
169	Total B (full color /small)
170	Total B (full color +mono color /large)
171	Total B (full color +mono color /small)
172	Total B (full color +mono color 2)
173	Total B (full color +mono color 1)
181	Black Toner *2
182	Yellow Toner *2
183	Magenta Toner *2
184	Cyan Toner *2
191	Toner replacement /Yellow *1
192	Toner replacement /Magenta *1
193	Toner replacement /Cyan *1
194	Toner replacement /Black *1
201	Copy (Total 1)
202	Copy (Total 2)
204	Copy (Small)
205	CopyA (Total 1)
206	CopyA (Total 2)
208	CopyA (Small)
209	Local Copy (Total 1)
210	Local Copy (Total 2)
212	Local Copy (Small)
217	Copy (full color 1)
218	Copy (full color 2)
221	Copy (Black1)
222	Copy (Black2)
224	Copy (full color /small)
228	Copy (Black / Small)
230	Copy (full color +mono color /small)
231	Copy (full color +mono color 2)
232	Copy (full color +mono color 1)
234	Copy (full color /small /double sided)
238	Copy (Black / Small / 2-Sided)
245	CopyA (full color 1)
246	CopyA (full color 2)
249	CopyA (Black1)
250	CopyA (Black2)
252	CopyA (full color /small)
256	CopyA (Black / Small)
258	CopyA (full color +mono color /small)
259	CopyA (full color +mono color 2)

No.	Counter Name
260	CopyA (full color +mono color 1)
262	CopyA (full color /small/double sided)
266	CopyA (Black / Small / 2-Sided)
273	Local (full color 1)
274	Local (full color 2)
277	Local Copy (Black1)
278	Local Copy (Black2)
280	Local Copy (full color /small)
284	Local Copy (Black / Small)
286	Local Copy (full color +mono color /small)
287	Local Copy (full color +mono color 2)
288	Local Copy (full color +mono color 1)
290	Local Copy (full color /small/double sided)
294	Local Copy (Black / Small / 2-Sided)
301	Print (Total 1)
302	Print (Total 2)
304	Print (Small)
305	Print A (Total 1)
306	Print A (Total 2)
308	Print A (Small)
309	Print (full color 1)
310	Print (full color 2)
313	Print (Black1)
314	Print (Black2)
320	Print (Black / Small)
322	Print (full color +mono color /small)
323	Print (full color +mono color 2)
324	Print (full color +mono color 1)
326	Print (full color /small/double sided)
330	Print (Black / Small / 2-Sided)
331	PDLPrint (Total 1)
332	PDLPrint (Total 2)
334	PDLPrint (Small)
335	PDLPrint (full color 1)
336	PDLPrint (full color 2)
339	PDLPrint (Black1)
340	PDLPrint (Black2)
342	PDLPrint (full color /small)
346	PDLPrint (Black / Small)
352	PDLPrint (full color /small/double sided)
356	PDLPrint (Black / Small / 2-Sided)
402	Copy + Print (full color /small)
404	Copy + Print (Black / Small)
405	Copy + Print (Black2)
406	Copy + Print (Black1)
408	Copy + Print (full color +mono color /small)
409	Copy + Print (full color +mono color 2)
410	Copy + Print (full color +mono color 1)
412	Copy + Print (Small)
413	Copy + Print (2)
414	Copy + Print (1)
418	Copy + Print (full color /small/double sided)
422	Copy + Print (Black / Small / 2-Sided)
501	Scan (Total 1)

No.	Counter Name
505	BlackScan (Total 1)
506	BlackScan (Total 2)
508	BlackScan (Small)
509	Color Scan (Total 1)
510	Color Scan (Total 2)
512	Color Scan (Small)
631	Memory Media Print (Total 1)
632	Memory Media Print (Total 2)
634	Memory Media Print (Small)
635	Memory Media Print (full color 1)
636	Memory Media Print (full color 2)
639	Memory Media Print (Black1)
640	Memory Media Print (Black2)
642	Memory Media Print (full color /small)
646	Memory Media Print (Black / Small)
648	Memory Media Print (full color +mono color /small)
649	Memory Media Print (full color +mono color 2)
650	Memory Media Print (full color +mono color 1)
652	Memory Media Print (full color /small/double sided)
656	Memory Media Print (Black / Small / 2-Sided)
701	Receive Print (Total 1)
702	Receive Print (Total 2)
704	Receive Print (Small)
705	Receive Print (full color 1)
706	Receive Print (full color 2)
709	Receive Print (Black1)
710	Receive Print (Black2)
712	Receive Print (full color /small)
716	Receive Print (Black / Small)
722	Receive Print (full color /small/double sided)
726	Receive Print (Black / Small / 2-Sided)
801	Report Print (Total 1)
802	Report Print (Total 2)
804	Report Print (Small)
809	Report Print (Black1)
810	Report Print (Black2)
816	Report Print (Black / Small)
921	TX ScanTotal 5 (Color)
922	TX ScanTotal 5 (Black)
939	Remote Scan (Color)
940	Remote Scan (Black)
945	TX Scan / E-Mail (Color)
946	TX Scan / E-Mail (Black)
959	Memory Media Scan (Color)
960	Memory Media Scan (Black)

*1 : The counter can be displayed in COPIER > OPTION > USER > TNRB-SW.

Settings of Counter 2 to 6 which are service mode items are not supported.

*2 : With the machines for China, it is always ON.

Display can be switched in COPIER > OPTION > USER > TNRB-SW.

* With the machines for North/Latin America, it is displayed at the time of shipment.

* With the machines for locations other than North/Latin America, it is hidden at the time of shipment.

Settings of Counter 2 to 6 which are service mode items are not supported