imageCLASS
MF416dw
MF414dw
D1550
D1520

SERVICE MANUAL

Canon

March 10, 2016
Rev. 2

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.

Trademarks

The product names and company names used in this manual are the registered trademarks of the individual companies.

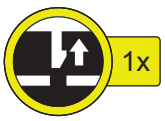
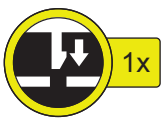
Copyright

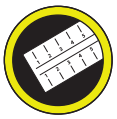
Caution

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.		Remove the claw.
	Check visually.		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

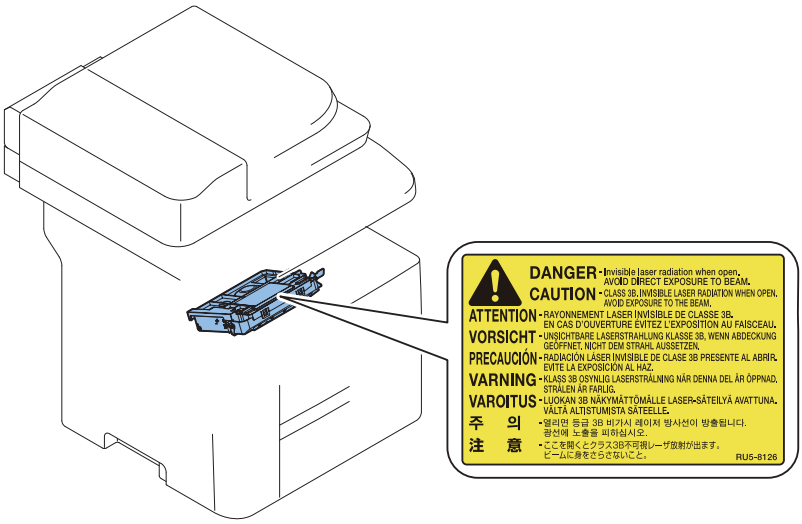
Since radiation emitted inside the machine is completely confined within protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.
Therefore this machine is classified in Class 1 laser products that are regarded as safe during normal use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



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

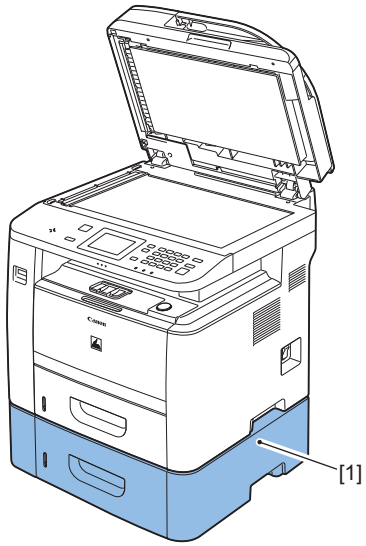
Function	D1550	D1520
External		
Copy	Yes	Yes
Print	Yes	Yes
Fax	Yes	-
Scan to USB	Yes	Yes
SEND	Yes	Yes
Remote UI	Yes	Yes
DADF	Yes	Yes
2-sided printing (only paper of 60 to 128 g)	Yes	Yes
Secured Print	Yes	Yes
MEAP	-	-
Network	Yes	Yes
Wireless LAN	Yes	-
Direct mode	Yes	-
NFC	Yes	-

Function	MF416dw/MF415dw	MF414dw	MF412dn	MF411dw
External				
Copy	Yes	Yes	Yes	Yes
Print	Yes	Yes	Yes	Yes
Fax	Yes	Yes	Yes	-
Scan to USB	Yes	Yes	Yes	Yes
SEND	Yes	Yes	Yes	Yes
Remote UI	Yes	Yes	Yes	Yes
DADF	Yes	Yes	Yes	Yes

Function	MF416dw/MF415dw	MF414dw	MF412dn	MF411dw
2-sided printing (only paper of 60 to 128 g/m^2)	Yes	Yes	Yes	Yes
Secured Print	Yes	Yes	Yes	Yes
MEAP	-	-	-	-
Network	Yes	Yes	Yes	Yes
Wireless LAN	Yes	Yes	-	Yes
Direct mode	Yes	Yes	-	Yes
NFC	Yes	-	-	-

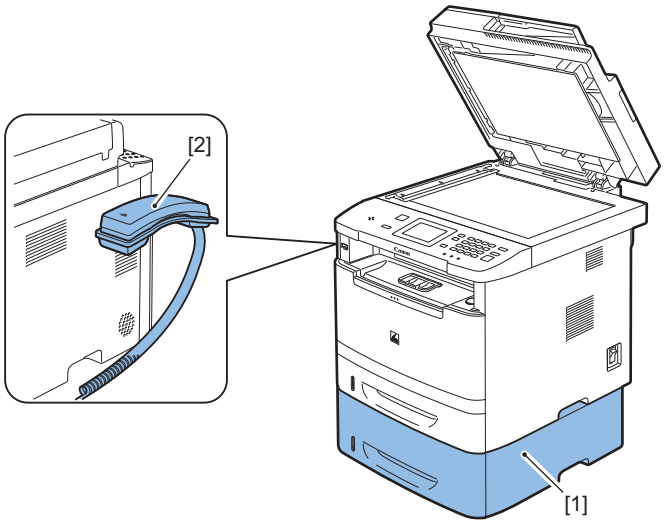
Options

D1550/ D1520



No.	Name	Description	Remarks
[1]	Cassette Feeding Unit-U1	Approx. 500 Sheets (Plain paper 60 to 89 g/m^2)	-

MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw



No.	Name	Description	Remarks
[1]	Paper Feeder Unit PF-44	Approx. 500 Sheets (Plain paper 60 to 89 g/m^2)	-

No.	Name	Description	Remarks
[2]	Canon TELEPHONE 6 KIT Long cord Cool White	Addition of phone	MF416dw EUR/ MF411dw EUR

Product Features

D1550/ D1520

MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw

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.

Support for direct mode (supported models only)

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

Faster printing from ADF

The speed of printing from the ADF has been increased from 28 ppm to 33 ppm for A4 paper.

Specifications

Product Specifications

Item		Specifications/Function
Copyboard type		Fixed Copyboard
Machine installation method		Desktop (DADF equipped as standard)
Light source		LED (RGB)
Photosensitive medium		OPC Drum (24mm dia.)
Image reading method		CIS (color)
Exposure method		Laser beam exposure
Charging method		Roller charging
Developing method		Toner projection development (dry one-component magnetic toner)
Transfer method		Roller transfer method
Separation method		Curvature separation
Pickup		Cassette: Pad separation method Multi-purpose Tray: Pad separation method
Drum cleaning method		Cleaning by rubber blade
Fixing method		On-demand fixing
Toner level detection function		Yes
Toner type		One-component magnetic toner
Toner supplying method		Replacement of all-in-one cartridge (drum + toner)
Toner saving mode		Yes
Document type		Copyboard Glass: Plain paper, heavy paper, photo, small document (such as a name card), special paper (such as tracing paper and OHP film), book (up to 20 mm in width) Feeder: Plain paper (one sheet of document, or multiple sheets of document of the same size, width and weight)
Max. size of document that can be read		D1550/D1520 215.9 mm x 355.6 mm MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw Copyboard Glass: 215.9 x 297.0 mm Feeder: 215.9 x 355.6 mm
Warm-up time*1 (Duration from power-on to standby)		16 sec. or less
Reading resolution		<Text/Photo> : 300 dpi x 600 dpi (default) <Text>, <Photo>, <Text/Photo (high image quality)>: 600 dpi x 600 dpi
Print resolution		600 x 600 dpi
First copy time		Copyboard Glass: 8 sec. or less (A4/LTR) Feeder: 10 sec. or less
First print time		6.3 sec. or less (A4/LTR)
Print speed		33 sheets/min (A4), 35 sheets/min (LTR)
Paper type	Cassette	Plain paper, Recycled paper, Color paper, Heavy paper (90 to 128 g/m^2)
	Multi-Purpose Tray	Plain paper, Recycled paper, Color paper, Heavy paper (90 to 163 g/m^2), Label paper, Envelope
Paper size	Cassette	A4, B5, A5, LGL, LTR, STMT, EXEC, OFFICIO, B-OFFICIO, M-OFFICIO, G-LTR, G-LGL, FLS, A-FLS, I-LGL, Custom (width: 105.0 to 216.0 mm, length: 148.0 to 356.0 mm)
	Multi-purpose Tray	A4, B5, A5, LGL, LTR, STMT, EXEC, OFFICIO, B-OFFICIO, M-OFFICIO, G-LTR, G-LGL, FLS, A-FLS, I-LGL, 76.2 × 127.0 mm (3"×5"), Envelope (No.10 (COM10), Monarch, C5, DL), Custom (width: 76.2 to 216.0 mm, length: 127.0 to 356.0 mm)
Cassette paper capacity		D1550/D1520 Approx. 500 sheets (80 g/m^2) MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw Approx. 250 sheets (80 g/m^2)
Multi-purpose Tray pickup capacity		Approx. 50 sheets (80 g/m^2)
Delivery Tray capacity		Approx. 150 sheets (80 g/m^2)
Continuous reproduction		1 to 999 sheets

Item		Specifications/Function
Auto 2-sided printing		Yes (auto 2-sided printing is available only for LTR, A4 and LGL that weighs between 60 g to 128 g/m^2)
Memory capacity		1 GB
Sleep mode		Yes
Range of use environment temperature		10 to 30 deg C
Environment humidity range		20 to 80% (Relative humidity; without dew condensation)
Operation noise (Measured based on ISO7779, Declared noise emission value based on ISO9296)		LwAd (declared A-weighted sound power level (1 B = 10 dB)) At standby: No noise At printing: 6.7 B or less (1-sided) At printing: 6.7 B or less (2-sided) LpAm (mean A-weighted emission sound-pressure level (bystander position)) At standby: No noise At printing : Approx. 53 dB (1-sided) At printing : Approx. 52 dB (2-sided)
Rated power supply		100V 50/60 Hz, 120V 60Hz, 120-127V 60Hz, 220-240V 50/60Hz
Power consumption (Reference value)	Maximum	930 W or less
	At standby	Average of approx. 10 W
	During sleep mode	Average of approx. 1.2 W (USB connection) Average of approx. 1.3 W (wired LAN connection) Average of approx. 2.1 W (wireless LAN connection)
	At turn-OFF of the main power switch	0.1 W or less
Dimensions (W x D x H)		D1550/D1520 450 × 472 × 465 mm (without options) MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw 390 × 473 × 431 mm (without options)
Weight*2		D1550/D1520 Approx. 21.4 kg MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw Approx. 19.2 kg
Interface		1000BASE-T 100BASE-TX 10BASE-T Hi-Speed USB USB IEEE 802.11 b/g/n (infrastructure mode)
Network		Yes
SEND		Yes

*1: It may vary depending on the usage conditions and environment of this machine.
*2: Including the Toner Cartridge

ADF Specifications

Item	Specification/Function
Position to set a document	Center reference
Document processing mode	1-sided document -> 1-sided copy/2-sided copy 2-sided document -> 1-sided copy/2-sided copy
Document reading method	Stream reading
Basis weight of document	Reading of 1-sided document: 50 g to 105 g Reading of 2-sided document: 64 g to 105 g
Document stack capacity	A4/LTR: 50 sheets (80 g/m^2), LGL: 30 sheets (80 g/m^2)
Document reading speed	A4: 300 × 300 dpi • Color: 9.3 sheets/min • Gray scale: 28 sheets/min

Item	Specification/Function
Stacking of mixed-size paper	Yes (Paper of AB configuration and inch configuration cannot be mixed)
Function to automatically detect document density	None
Function to detect document size	None
Stamp function	None
Use environment	Depends on the host machine

Wireless LAN Specifications

Item	Specification/Function
Standard	IEEE 802.11g / IEEE 802.11b / IEEE 802.11n
Transmission system	DS-SS system / OFDM system
Frequency range	2412 to 2472 MHz
Communication mode	Infrastructure mode / Access point mode
Security	WEP, WPA-PSK (TKIP/AES-CCMP), WPA2-PSK (TKIP/AES-CCMP)
Setting method	WPS (Wi-Fi Protected Setup), Manual setup

Specification of SEND

Item	Specification/Function		
	File server transmission	E-Mail transmission	I-Fax
Communication protocol	SMB (TCP/IP), FTP	SMTP, POP3 *1	
Data format	PDF, PDF (high compression), PDF (high compression/OCR), PDF(OCR), JPEG, TIFF		TIFF
Resolution	JPEG: 300 dpi TIFF: 300 dpi (MMR compression) PDF/PDF (OCR) (B&W): 300 dpi (MMR compression) PDF/PDF (OCR) (Color): 200 dpi (JPEG compression) PDF (Compact)/PDF (compact/OCR): Text 300 dpi, background 150 dpi		200 dpi (MH compression)
System environment	• Windows Vista/7/8/Server 2003/Server 2008/Server 2012 • Solaris Version 2.6 or later (and Samba 2.2 or later) • Mac OS X • Red Hat Linux 7.2 or later (and Samba 2.2 or later)		
Interface	1000BASE-T, 100BASE-TX, 10BASE-T		
Input image	Text, Text/Photo, Photo		
Color mode	Color, B&W		B&W
Original size	AB configuration: A4 / A5 / B5 Inch configuration: Legal (LGL), Letter (LTR), Statement (STMT)		

*1; In the case of E-mail transmission, POP3 can also be used only at authentication before transmission.

FAX specification

Item	Specifications/Function
Line used	Public Switched Telephone Network (PSTN) *1
Communication mode	Super G3, G3
Data compression method	MH, MR, MMR, JBIG
Modem speed	Super G3: 33.6 Kbps, G3: 14.4 Kbps (With automatic fallback function)
Transmission speed	Approx. 3 sec. per page*2 (ECM-JBIG, sent from memory at 33.6 kbps)
Send/Receive memory	Total number of sent/received pages: Approx. 512 pages *2 (Max. number of memory transmissions: 30, Max. number of memory receptions: 90)

Item	Specifications/Function
Fax resolution	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
Dial method	Favorites (19) Coded dial (281) Group dial (299) Address book dial Normal dial (entry by numeric keypad) Auto redial Manual redial Sequential broadcast (310)
Reception method	Auto RX Manual RX Remote reception by a telephone (initial setting ID: 25)
Report Output	TX Report Communication Management Report (to be output automatically for every 40 communications by default) RX Result Report
Number Display	Not supported
Phones that can be connected	Handset (option) / External phone / Answering machine / Data modem

*1: Communication may not be available depending on the conditions of telephone lines and regions.
*2: On ITU-T Test Chart No.1, by JBIG standard mode

Print speed

(Unit: sheets/min)

Paper size	1-sided	2-sided
A4	33	8.4
LTR	35	8.5

* The above values are the speed in the case of continuous printing of the same data on plain paper. Note that they may vary depending on the usage conditions and environment of this machine.

Paper type

(Yes: Pickup possible, -: Pickup not possible)

Paper type		Printer driver settings	Cassette	Multi-purpose Tray
Plain paper	60 to 89 g/m^2	Plain	Yes	Yes
	60 to 69 g/m^2	Plain L	Yes	Yes
Color paper	60 to 89 g/m^2	Color	Yes	Yes
Recycled paper	60 to 89 g/m^2	Recycled	Yes	Yes
Heavy paper	90 to 128 g/m^2	Heavy 1	Yes	Yes
	129 to 163 g/m^2	Heavy 2	-	Yes
Label paper		Labels	-	Yes
Envelope		Envelope	-	Yes

* Auto 2-sided printing is available only for LTR, A4 and LGL

Paper size

(Yes: Pickup possible, -: Pickup not possible)

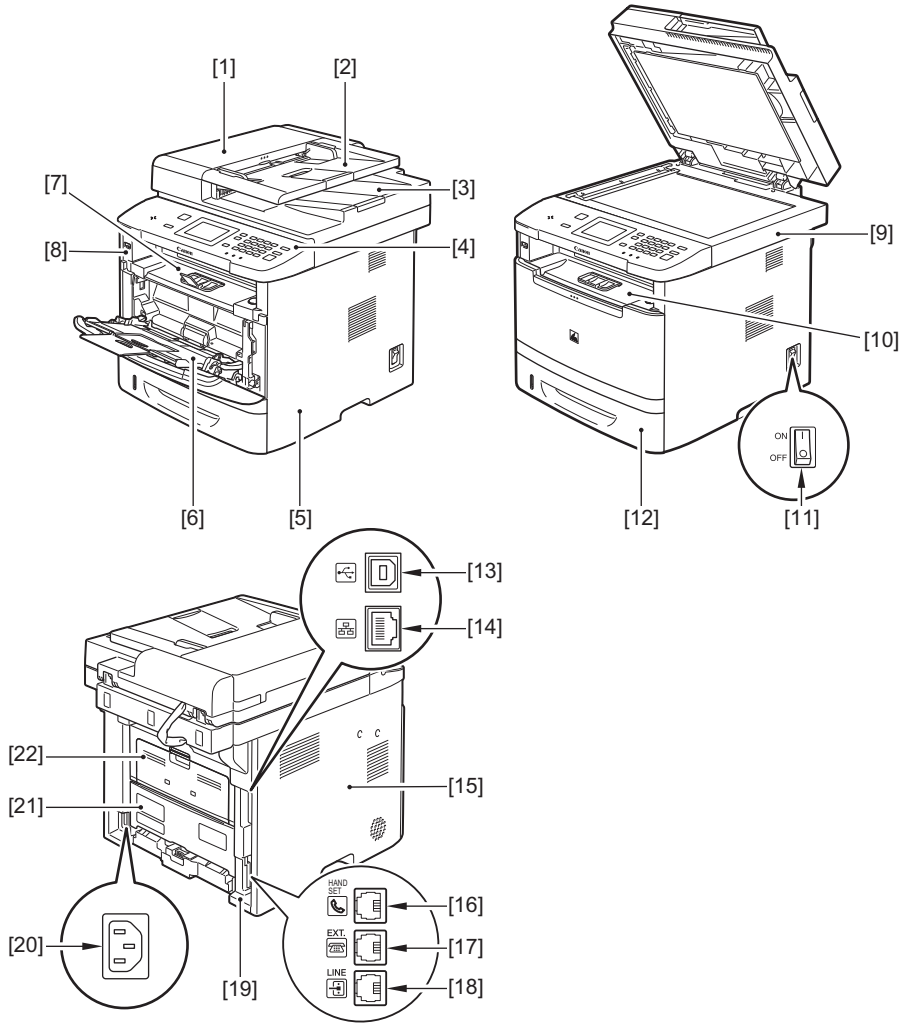
Paper size		Cassette	Multi-purpose Tray
A4	210.0 mm × 297.0 mm	Yes	Yes
B5	182.0 mm × 257.0 mm	Yes	Yes
A5	148.0 mm × 210.0 mm	Yes	Yes
Legal (LGL)	215.9 mm × 355.6 mm	Yes	Yes
Letter (LTR)	215.9 mm × 279.4 mm	Yes	Yes
Statement (STMT)	139.7 mm × 215.9 mm	Yes	Yes
Executive (EXEC)	184.1 mm × 266.7 mm	Yes	Yes
Oficio	215.9 mm × 317.5 mm	Yes	Yes
Oficio (Brazil)	215.9 mm × 355.0 mm	Yes	Yes
Oficio (Mexico)	215.9 mm × 341.0 mm	Yes	Yes
Letter (Government)	203.2 mm × 266.7 mm	Yes	Yes
Legal (Government)	203.2 mm × 330.2 mm	Yes	Yes
Foolscap	215.9 mm × 330.2 mm	Yes	Yes
Foolscap (Australia)	206.0 mm × 337.0 mm	Yes	Yes
Legal (India)	215.0 mm × 345.0 mm	Yes	Yes
3"×5"	76.2 mm × 127.0 mm	-	Yes
Envelope No.10 (COM10)	104.7 mm x 241.3 mm	-	Yes
Envelope Monarch	98.4 mm x 190.5 mm	-	Yes
Envelope C5	162.0 mm x 229.0 mm	-	Yes
Envelope DL	110.0 mm x 220.0 mm	-	Yes
Custom paper	-	Yes*1	Yes*2

*1: Custom paper whose width is between 105.0 mm and 216.0 mm and length between 148.0 mm and 356.0 mm can be loaded.
*2: Custom paper whose width is between 76.2 mm and 216.0 mm and length between 127.0 mm and 356.0 mm can be loaded.

Parts Name

External View

MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw



Key	Name	Key	Name
[1]	DADF	[12]	Pickup Cassette
[2]	Document Feeder Tray	[13]	USB Port 2
[3]	Document Delivery Tray	[14]	LAN Port
[4]	Control Panel	[15]	Left Cover Unit
[5]	Right Cover Unit	[16]	Handset Terminal
[6]	MP Pickup Tray	[17]	External Telephone Terminal
[7]	Upper Cover	[18]	Telephone Line Terminal
[8]	USB Port 1	[19]	Left Rear Cover
[9]	Reader Unit	[20]	Power Socket
[10]	Front Cover	[21]	Rear Lower Cover
[11]	Main Power Switch	[22]	Rear Upper Cover

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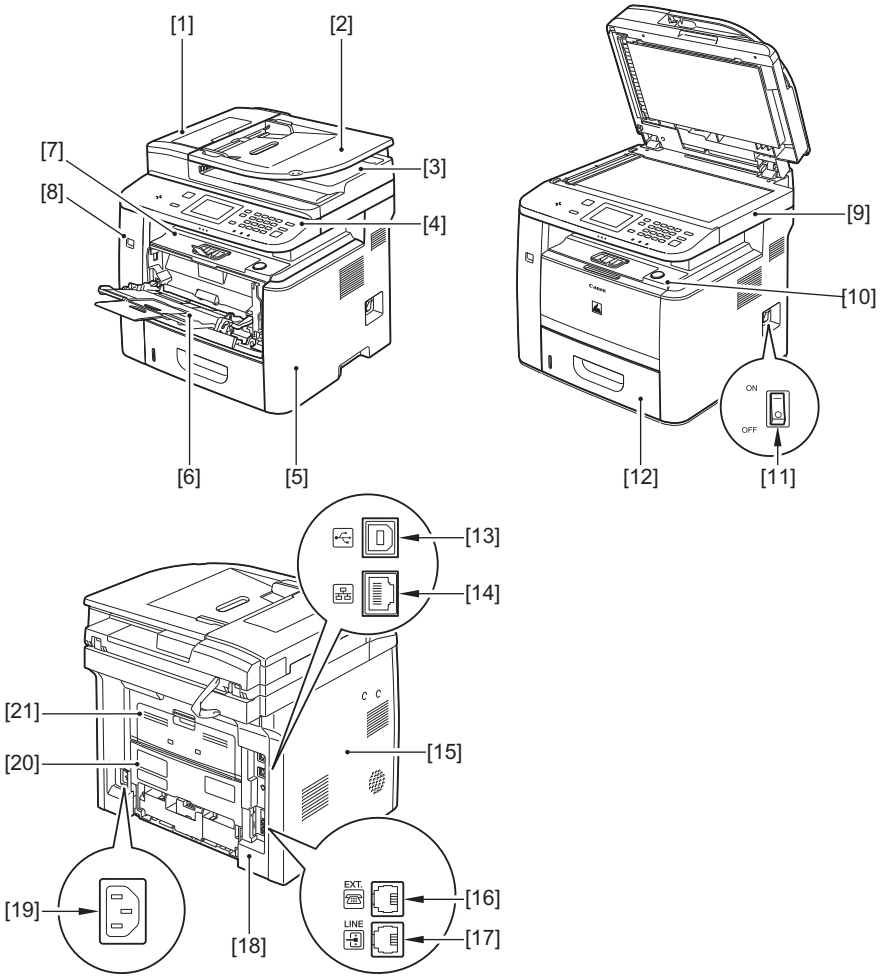

Key	Name	Key	Name
[1]	DADF	[12]	Pickup Cassette
[2]	Document Feeder Tray	[13]	USB Port 2
[3]	Document Delivery Tray	[14]	LAN Port
[4]	Control Panel	[15]	Left Cover Unit
[5]	Right Cover Unit	[16]	External Telephone Terminal *1
[6]	MP Pickup Tray	[17]	Telephone Line Terminal *1
[7]	Upper Cover	[18]	Left Rear Cover
[8]	USB Port 1	[19]	Power Socket
[9]	Reader Unit	[20]	Rear Lower Cover
[10]	Front Cover	[21]	Rear Upper Cover
[11]	Main Power Switch		

*1: D1550

Cross Sectional View

■ ADF/Reader Unit

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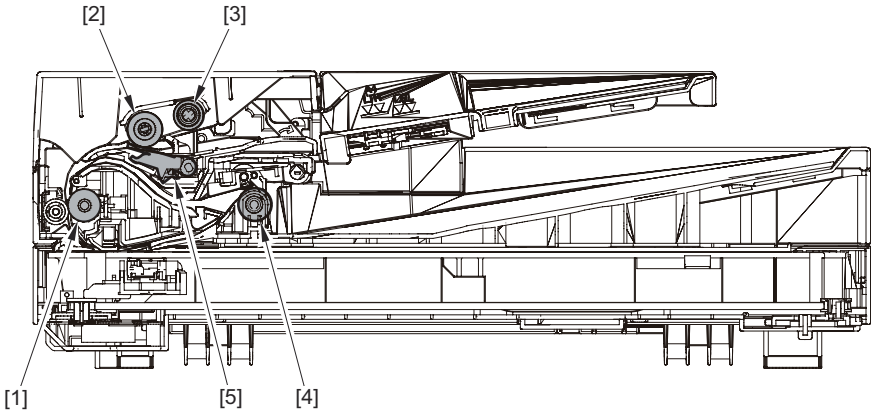

Key	Name	Reference
[1]	ADF Paper Feed Roller	
[2]	ADF Separation Roller	
[3]	ADF Pickup Roller	
[4]	ADF Delivery roller	
[5]	ADF Separation Pad	

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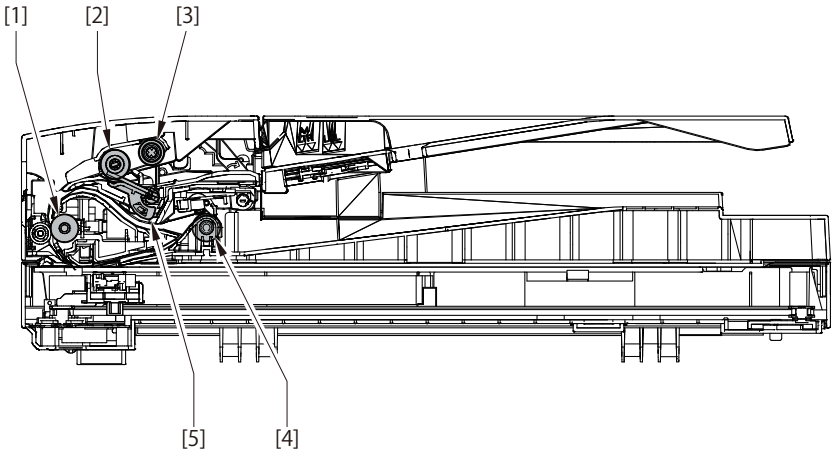

Key	Name
[1]	ADF Paper Feed Roller
[2]	ADF Separation Roller
[3]	ADF Pickup Roller
[4]	ADF Delivery roller
[5]	ADF Separation Pad

■ Host Machine

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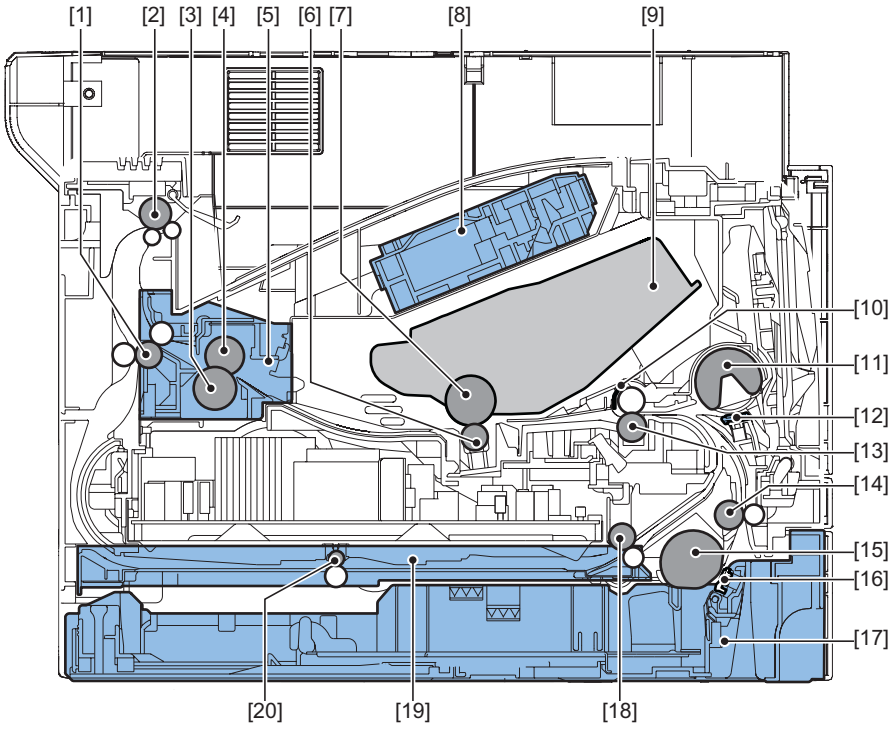

Key	Name	Key	Name
[1]	Fixing delivery roller	[11]	MP tray pickup roller
[2]	Face-down delivery roller	[12]	MP tray separation pad
[3]	Pressure roller	[13]	Registration roller
[4]	Fixing film unit	[14]	Feed roller
[5]	Fixing unit	[15]	Cassette pickup roller
[6]	Transfer roller	[16]	Cassette separation pad
[7]	Photosensitive drum	[17]	Cassette
[8]	Laser scanner unit	[18]	Duplex re-pickup roller
[9]	Cartridge	[19]	Duplex feed unitr
[10]	Registration shutterroller	[20]	Duplex feed roller

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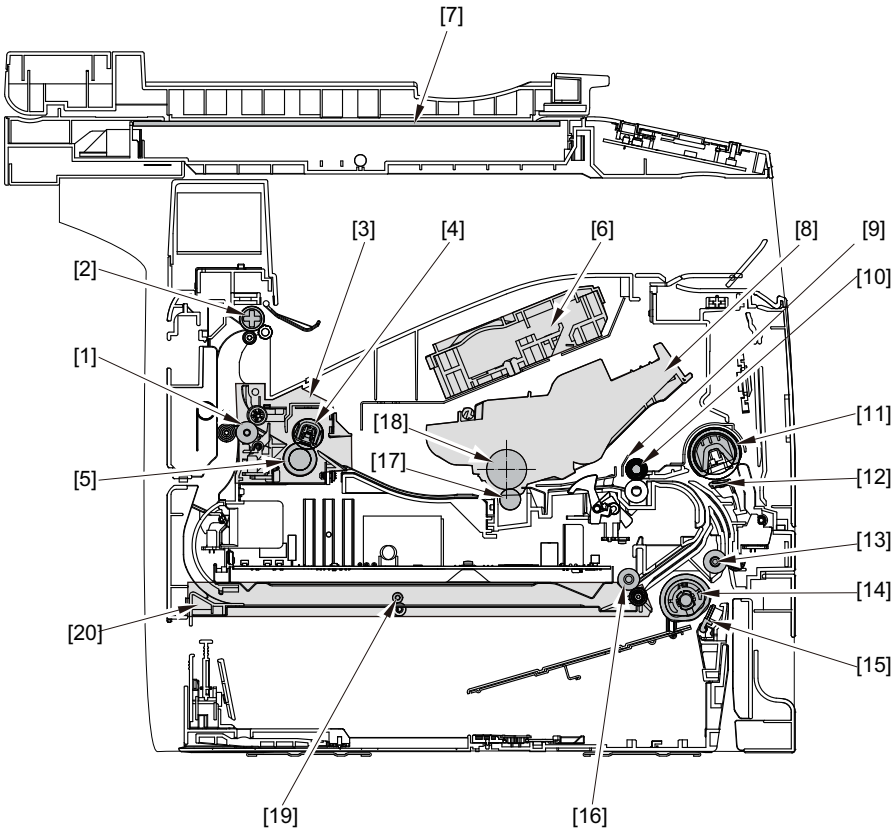
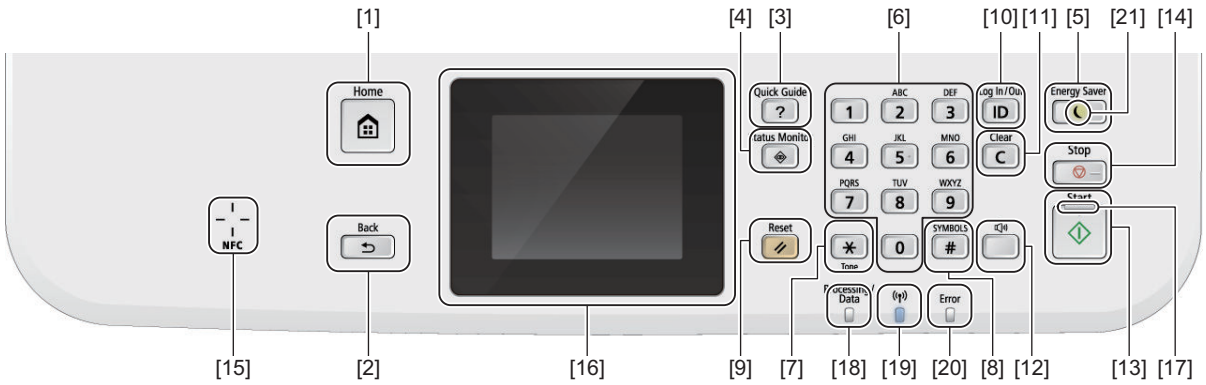


Key	Name	Key	Name
[1]	Fixing delivery roller	[11]	MP tray pickup roller
[2]	Face-down delivery roller	[12]	MP tray separation pad
[3]	Fixing unit	[13]	Feed roller
[4]	Fixing film unit	[14]	Cassette pickup roller
[5]	Pressure roller	[15]	Cassette separation pad
[6]	Laser scanner unit	[16]	Duplex re-pickup roller
[7]	Copyboard glass (scanning glass)	[17]	Transfer roller
[8]	Cartridge	[18]	Photosensitive drum
[9]	Registration shutter	[19]	Duplex feed roller
[10]	Registration roller	[20]	Duplex feed unit

Control Panel



Key	Name	Function
[1]	Home key	Press to return to the home screen.

Key	Name	Function
[2]	Back key	Press to return to the screen one layer above.
[3]	Quick Guide key	Press to view the operation methods and the causes/remedies of errors.
[4]	Status Monitor key	Press to check the job status or device status.
[5]	Energy Saver key	Press to manually enter/recover from energy saver mode.
[6]	Numeric keys	Press to enter the number of copies, zoom value and the names and numbers of address book.
[7]	Tone key	Press to send the tone signal from the dial line.
[8]	SYMBOLS key	Press to enter symbols.
[9]	Reset key	Press to reset the settings (to change the settings of copy/scan/fax/media print to standard mode).
[10]	ID key	Press after entering the ID and PIN to log on when Department ID Management is enabled. After using the machine, press again to log off.
[11]	Clear key	Press to clear numbers such as number of copies, or text.
[12]	Sound Volume key	Press to adjust the volume.
[13]	Start key	Press to start a job.
[14]	Stop key	Press to stop a job.
[15]	NFC tag *1	Hold a mobile device over this tag when performing NFC communication.
[16]	Touch Panel	Displays a message or operation status. Displays menu, selected item, texts, numbers and other information when changing settings. Tap or flick the panel when performing the operation.

*1: MF416dw/ MF415dw/ D1550

Key	LED	LED status	Condition
[17]	Start LED	Yellow and green are lit	When the machine can be started
		Unlit	When the machine cannot be started
[18]	Processing Data LED	Yellow and green are blinking	Job is being operated
		Yellow and green are lit	• When the memory has accumulated data • When received memory is waiting for processing * Lighting has priority when lighting and blinking simultaneously occur.
[19]	Wireless LAN LED *2	Blue is lit	Wireless LAN is connected
		Blue is blinking	Wireless LAN connection is being established
		Unlit	Wireless LAN is not connected
[20]	Error LED	Red is blinking	When an error that can be recovered by the user (such as paper jam, no paper/toner, etc.) occurs
		Red is lit	When an error that cannot be recovered by the user (service call) occurs * Lighting has priority when lighting and blinking simultaneously occur.
[21]	Energy Saver LED	Yellow and green are lit	During energy saver mode/low power mode/sleep mode
		Unlit	During standbys

*2: Except for MF412dn/ D1520

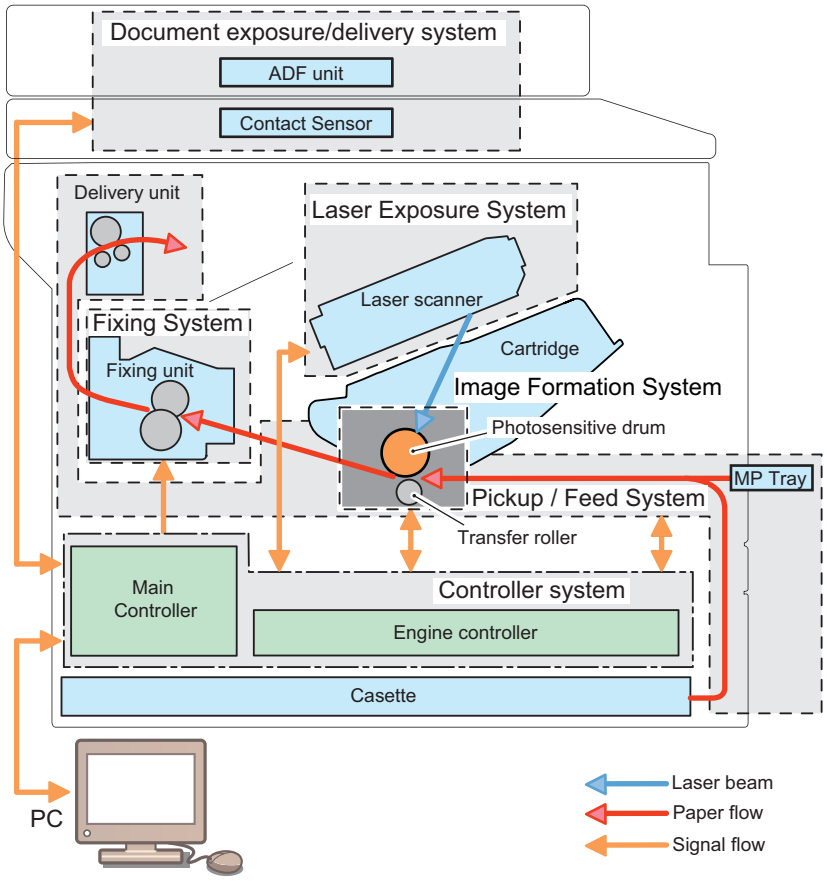
2 Technical Explanation (Device)

Basic Configuration

Configuration Function

This device is roughly composed of the 6 functional blocks as shown in the figure below

• Document Exposure/Delivery System	• Image Formation System
• Controller System	• Fixing System
• Laser Exposure System	• Pickup / Feed System



Basic Sequence

Basic Operational Sequence

The CPU on the Engine 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.

Status		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 Unit; 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 Unit to the target temperature.	To make the printer ready for print jobs, activate high-voltage bias PCBs, the Laser Scanner Unit and the Fixing Unit.
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.
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.

Document Exposure / Delivery System

Document Exposure System

■ Outline

Specifications / Control / Function List

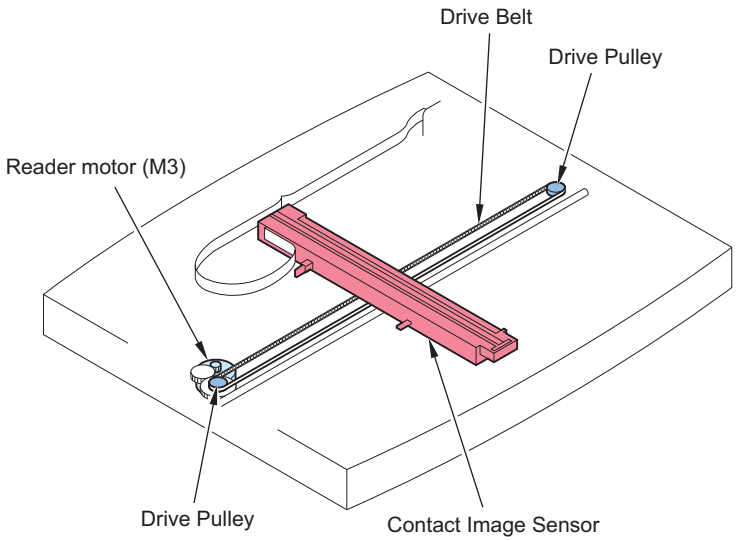
item	Function / Method
Document Exposure	LED
Document Scan	Book mode: scan by the shift of the contact Book mode: scan by the shift of the contact image sensor (CIS)
	ADF: document stream reading by fixed contact image sensor (CIS)
Scanning Resolution	300 or 600 dpi (horizontal scanner) X 600 dpi (vertical scanner)
Number Of Gradations	256 gradations
Magnification	50% to 200%
	Horizontal: image processing by Main Controller PCB
	Vertical: change of carriage shift speed, image processing by Main Controller PCB
Lens	Rod lens array
CMOS Sensor	Number of lines: 1 line
	Number of pixels: 5184 pixels as total pixels (5107 pixels as effective pixels)
	Maximum document scanning width: 216 mm
CS Drive Control	Drive control by Reader Motor (M3)
CS HP Detection	Yes
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 (M3), the Drive Pulley, the Drive Belt, to shift the Contact Sensor

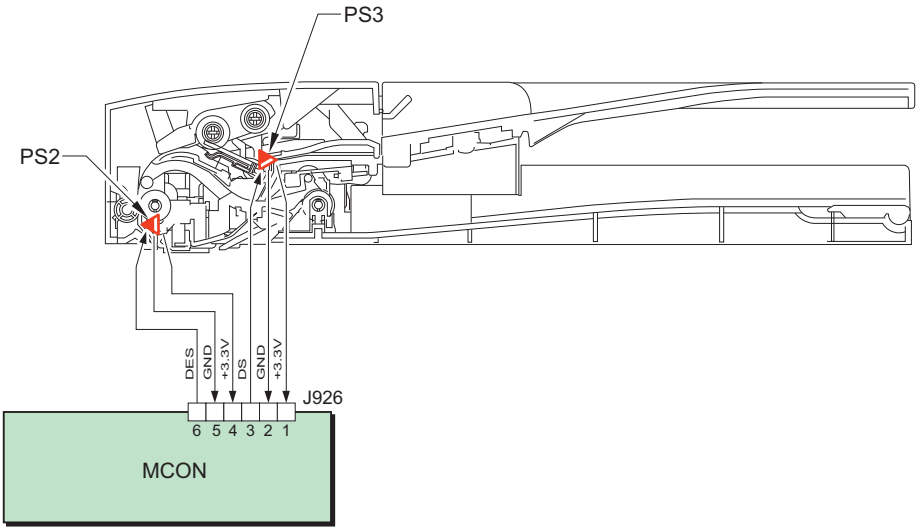
In image scanning control, the Contact Image Sensor is shifted by rotating the Reader Motor based on the drive signal from the Engine Controller PCB and scan the original on the Copyboard Glass. When ADF is in use, image is scanned by feeding the originals by ADF instead of shifting the Contact Image Sensor.



Document Feeder System

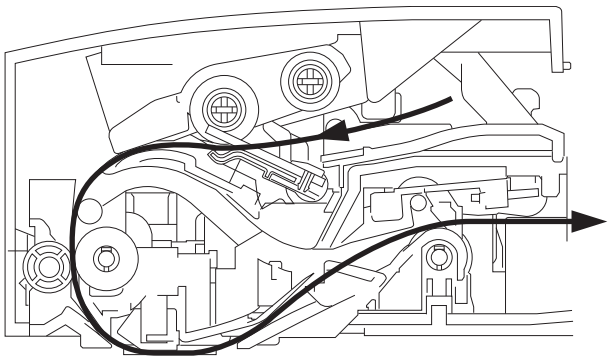
■ Outline

Pickup/Feed/Delivery Operation
The Auto Document Feeder (ADF) mounted onto this host machine is dedicated to stream-reading.
1 Motor (ADF Motor: M4) is engaged in pickup/feeding/delivery.
At the start of copy/fax/scan, the DADF Motor (M4) 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 Image Sensor when moving through the Copyboard Glass, and then delivered face down to the original delivery assembly.

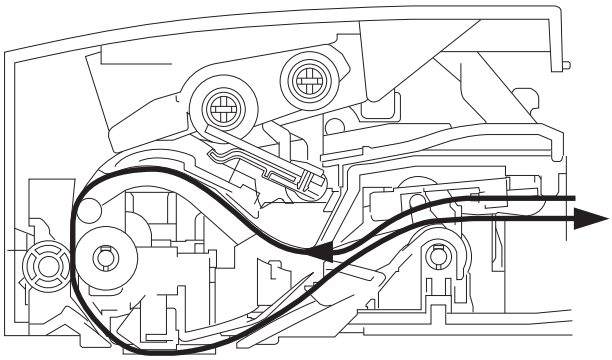


Operation at Duplex Reading

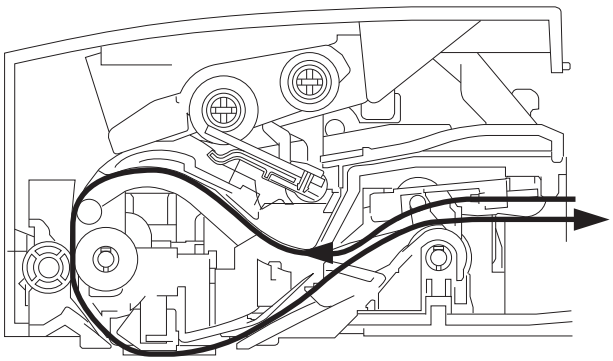
- In order to read from the back side, the paper is temporarily reversed.



- The paper is reversed, and the back side is read.



- The paper is reversed once more, and the front side ie read.



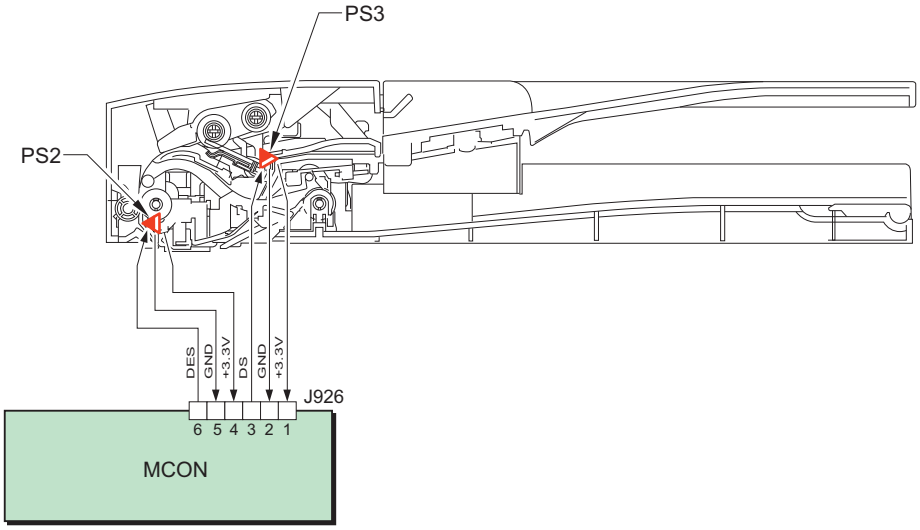
■ Controls

● Original Detection

There are two types of Original Detection in this Equipment.

1. Original Presence / Absence Detection
   Detected by DS (Document Sensor: PS3)
   Setting the original onto the original tray pushes up the actuator, activating (light shielded =>light transmitted) the DS (PS3), and resulting in detection of the presence of original.
2. Detection of the End of the Original
   Detected by the DES (Document End Sensor: PS2)
   The leading edge of the original that is fed pushes up the actuator, activating the DES (PS2) (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 DES (PS2) (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.
  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

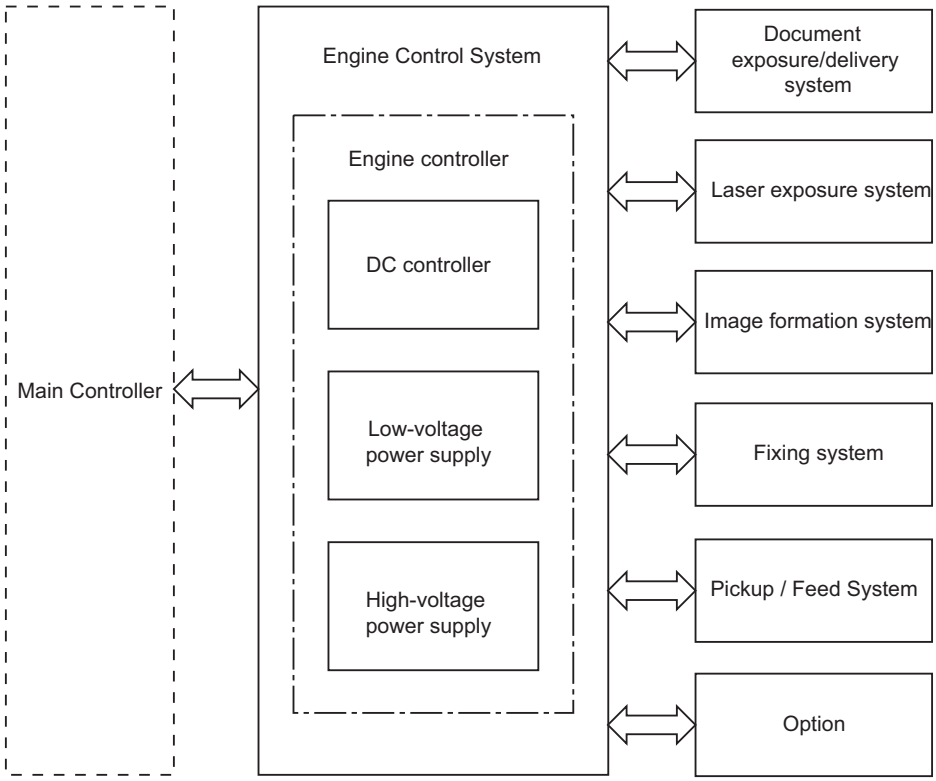
Controller System

Outline

The Engine Control System controls all the other systems according to commands from the Main Controller.
The Engine Control System contains the following components:

- DC Controller
- Low-voltage Power Supply
- High-voltage Power Supply

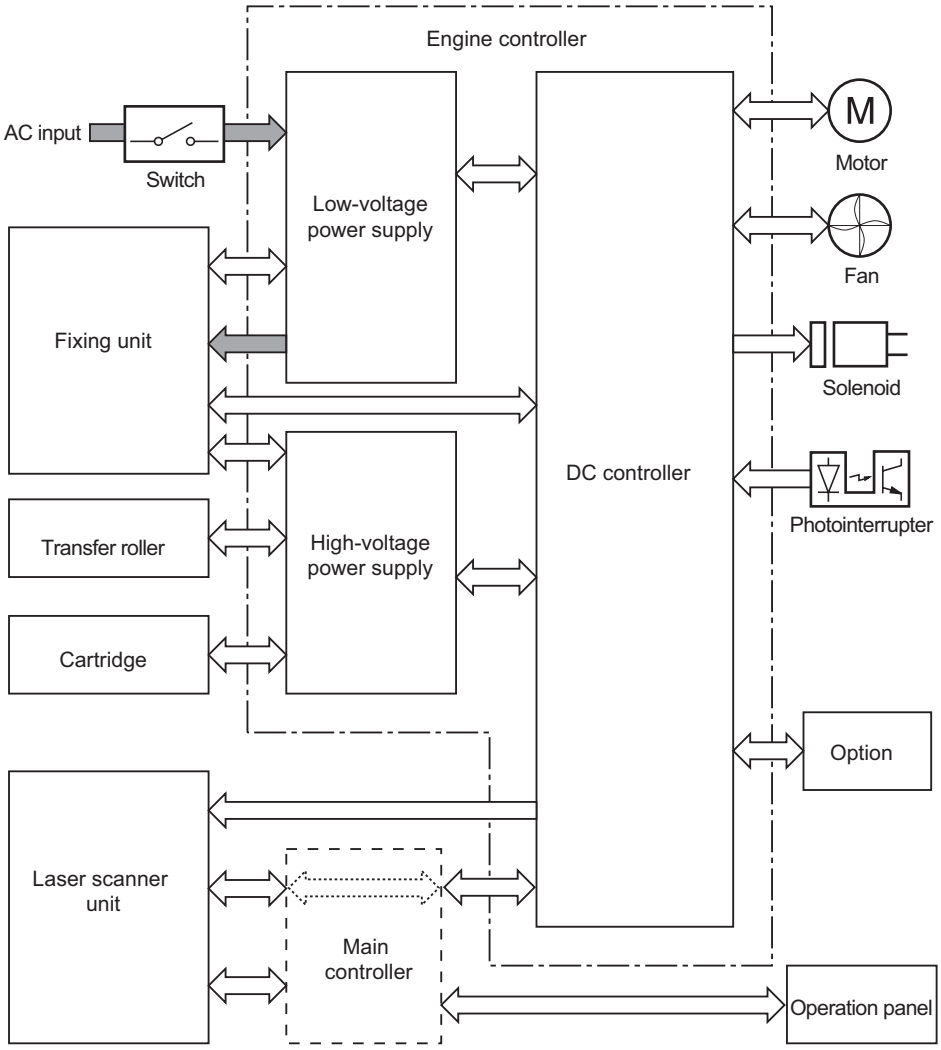
Block diagram of the Engine Control System is shown below.



Controls

■ Outline

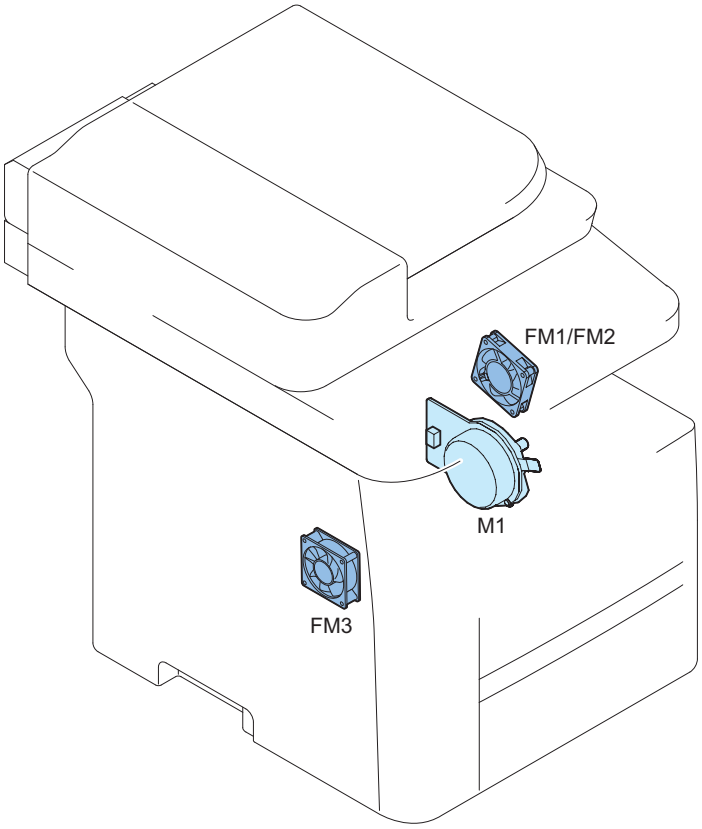
The Engine Controller controls the operational sequence of the printer.
Block diagram of the Engine Controller and table of the electrical components are shown below.



Symbol for component		Component	Remarks
Fan	FM3	Controller Fan	
	FM201	Main Fan	
	FM203	Controller Fan	
Motor	M201	Main Motor	
Solenoid	SL201	Cassette Pickup Solenoid	
	SL202	Duplex Reverse Solenoid	-
	SL203	MP Tray Pickup Solenoid	-
Switch	SW1	Power Switch	-
	SW2	Door Switch	-
Photointerrupter	PS201	Duplex Reverse Sensor	-
	PS202	MP Tray Media Presence Sensor	-
	PS203	Cassette Media Presence Sensor	-
	PS204	TOP Sensor	-
	PS205	Media Width Sensor	-
	PS206	FD Tray Media Full Sensor	-
	PS915	Fixing Delivery Sensor	-

■ Motor / Fan Control

This machine has a motor for paper feeding and image formation and 2 fans for control of temperature increase inside the printer. Arrangement of Motor and the specifications are shown below.



Symbol	Description	Function	Failure detection
M1	Main Motor	To drive the rollers of the printer and the rollers of the Paper Feeder	Yes
FM2(Except EUR) FM1(EUR only)	Main Fan	To cool inside the printer	
FM3	Controller Fan	To cool the Controller Assembly	

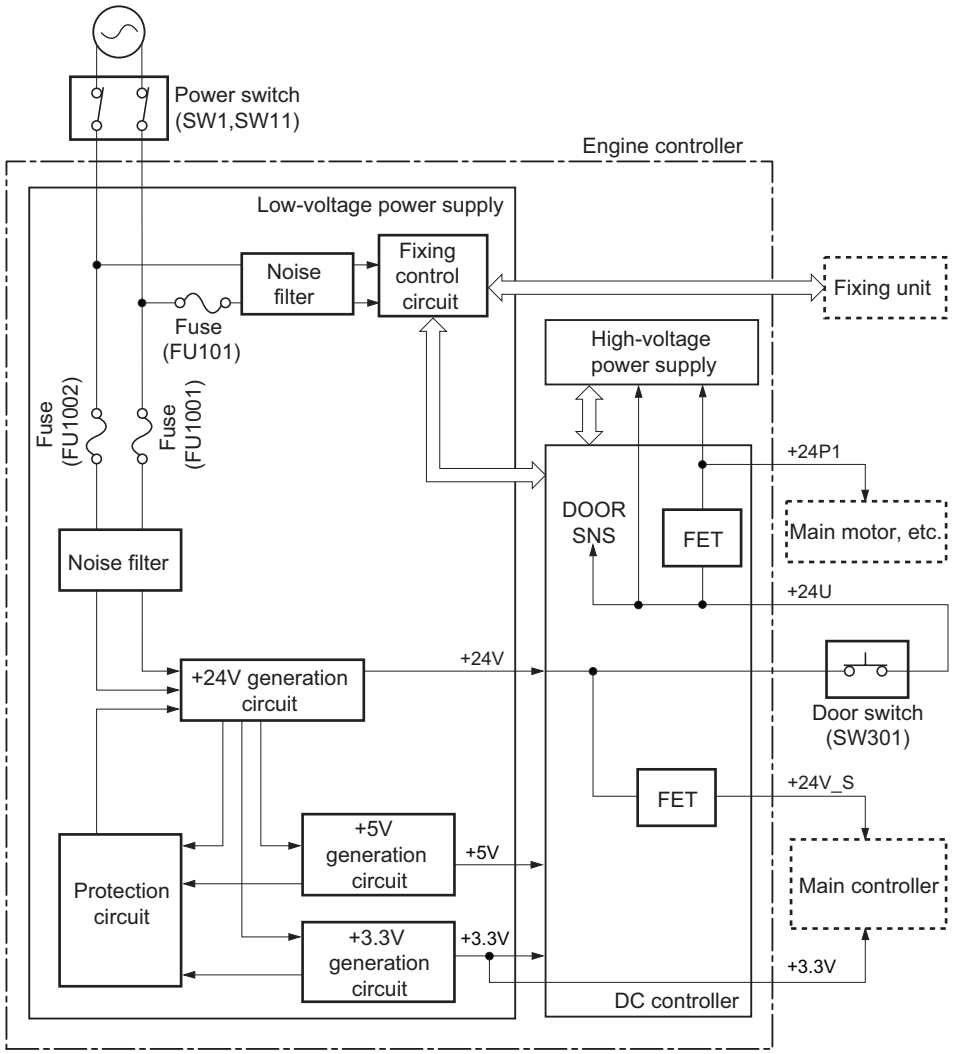
■ Failure Detection

Failure Point	Cause of Failure
Main Motor	In the case that the speed of Motor does not reach the specified speed after the specified time has passed since the startup of the Main Motor.
Main Fan	In the case that the Fan has been locked continuously for the specified period of time since the startup of the Main Fan Motor.

Low-voltage Power Supply

■ Outline

The Low-voltage power supply converts AC Power from the power receptacle into DC Power to cover the DC loads.
Block diagram of the Low Voltage Power Supply is shown below.



■ Protective Function

The Low-voltage Power Supply has a protective function against overcurrent and overvoltage to prevent failures in the power supply circuit. If there flows an overcurrent or an overvoltage, the system automatically cuts off the output voltage.
If the DC Power is not being supplied from the Low-voltage Power Supply, the protective function may be running. In such case, turn off the power switch and unplug the power cord. Do not plug in the power cord or turn the power switch on again until the root cause is found.
In addition, two fuses in the Low-voltage Power Supply protect against overcurrent.
If overcurrent lows into the AC line, the fuse blows and cuts off the power distribution.

■ Safety

For user and service technician's safety, the printer has a function to interrupt 24V power supply.
The door switch is turned off and 24V power supply to the Fixing Assembly and the High-voltage Power Supply Unit stops under the following condition:

- If the cartridge door is opened (SW2 is turned off)

■ Low-voltage Power Supply Unit Failure Detection

The Engine Controller determines a Low-voltage power supply unit failure and stops +24V output. Once 24V output is stopped, 3.3V of the engine CPU stops, so notification is not made. Likely, 3.3V of the controller stops, so the machine seems power-off.

- +24V is higher than a specified voltage
- +3.3V is higher than a specified voltage
- +5V is higher than a specified voltage

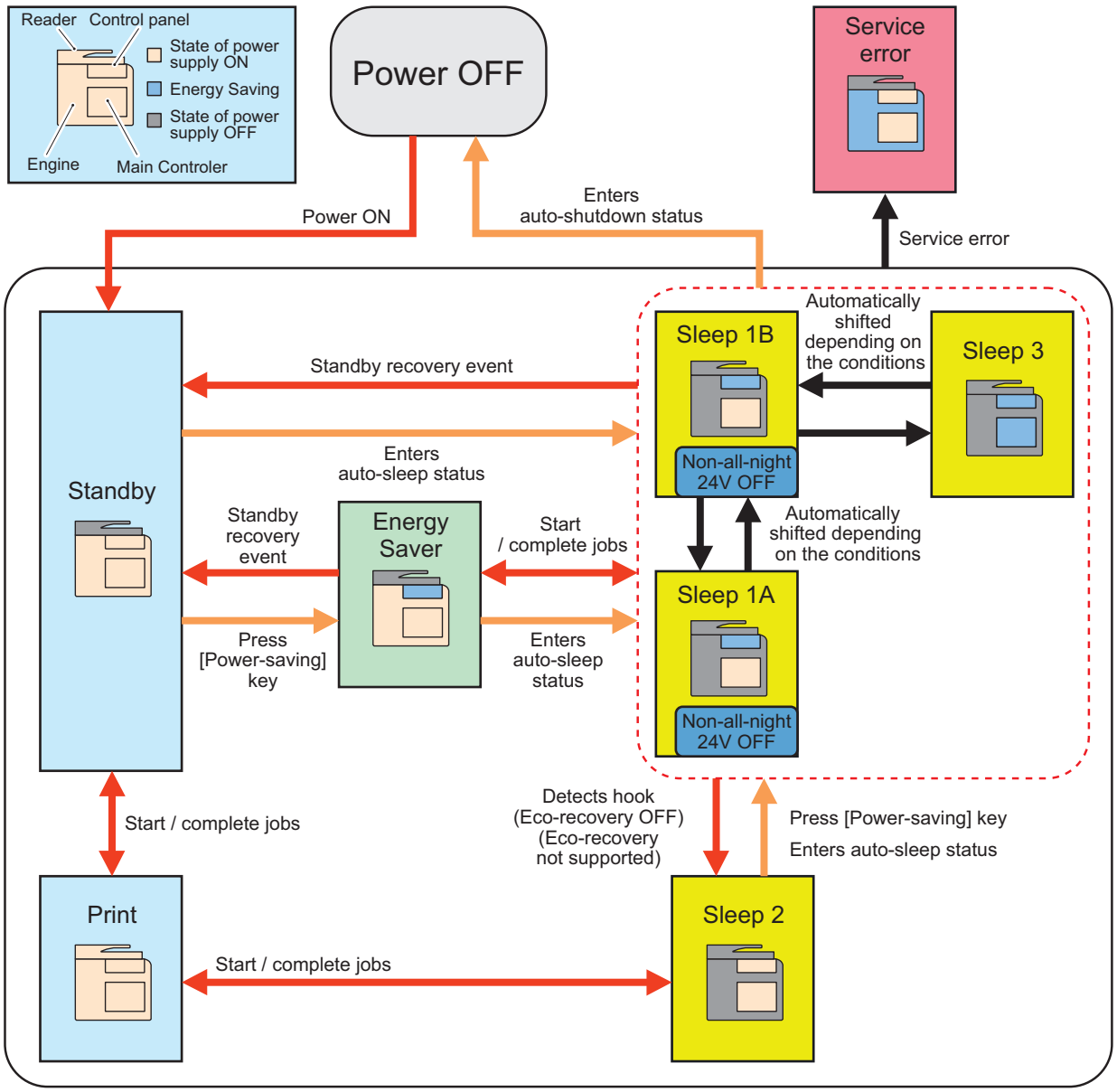
■ Power-Saving Mode

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 The control panel enters the power-saving mode.
Sleep	Sleep1 A / 1B	at power-OFF on the reader and the engine The control panel enters the power-saving mode.
	Sleep2	at power-OFF on the reader and the engine
	Sleep3	at power-OFF on the reader and the engine The control panel and main controler enters the power-saving mode.

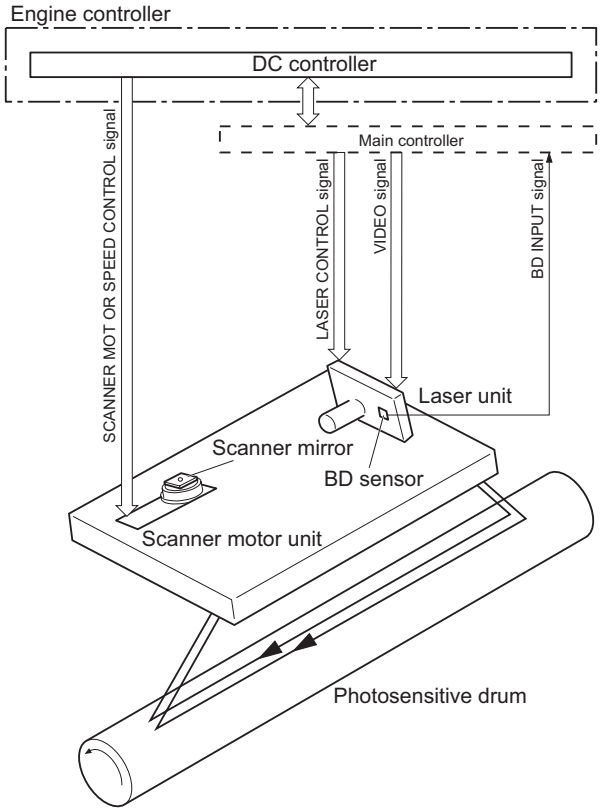
* The reader is turned ON only when it is used.



Laser Exposure System

Outline

The Laser Exposure System forms a latent image on the photosensitive drum according to the VIDEO signals sent from the Main Controller.
The main components of the Laser Scanner are the Laser Unit and the Scanner Motor Unit, which are controlled by the signals sent from the Engine Controller.
Diagram of the Laser Scanner Unit is shown below.



Optical Unit Failure Detection

The Optical Unit failure detection manages the Laser Scanner failure detection functions.
The Engine Controller determines an Optical Unit failure and notifies the Main Controller if the Laser Scanner encounters the following conditions:

- After the drive of Scanner Motor, BD within a specified period is not detected.
- If the Scanner Motor does not reach a specified rotation within a specified period of start-up.
- If an out of specified BD interval is detected during a print operation.

Image Formation System

Outline

The Image-Formation System forms a toner image on print media.
The following are the main components of the Image-Formation system:

- Cartridge
- Transfer Roller
- Fixing Unit
- Laser Scanner

The Engine Controller controls the Laser Scanner and High-voltage power supply to form the toner image on the photosensitive drum. The image is transferred to the print media and fixed.
Diagram of the image formation system is shown below.

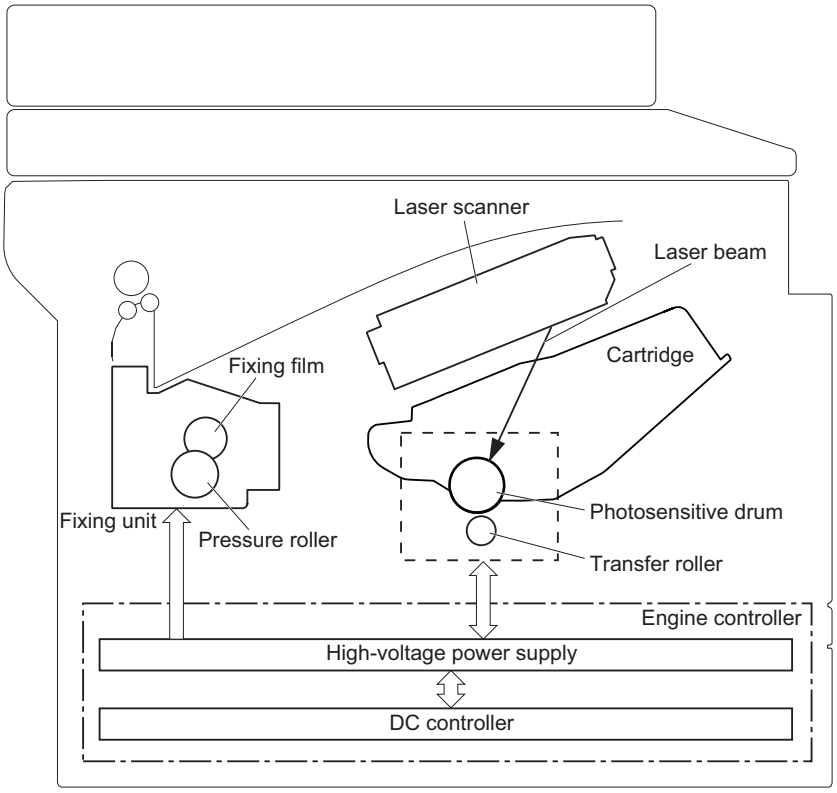
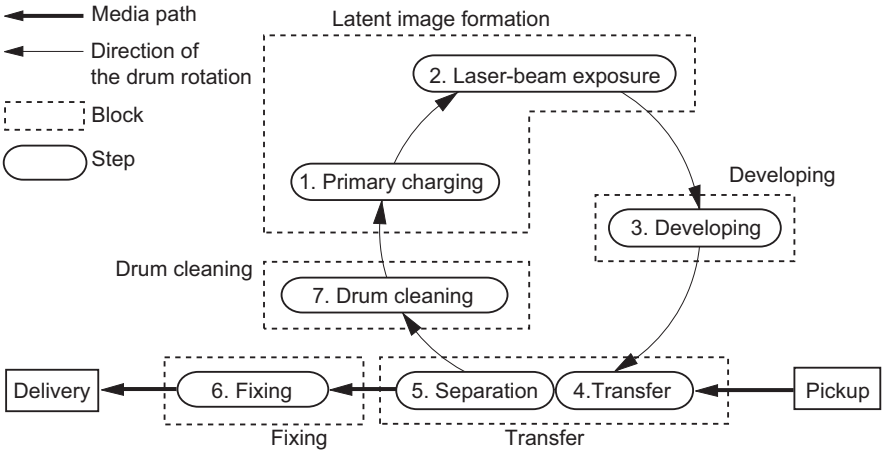


Image Formation Process

■ Outline

The Image-Formation process consists of the following seven steps divided among five functional blocks:
Latent Image Formation Block
Step 1: Primary charging
Step 2: Laser-beam exposure
Developing Block
Step 3: Developing
Transfer Block
Step 4: Transfer
Step 5: Separation
Fixing Block
Step 6: Fixing
Drum Cleaning Block
Step 7: Drum cleaning

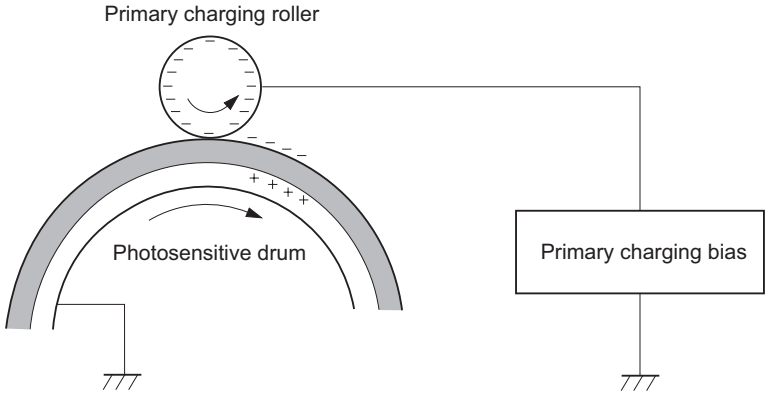


■ Latent Image Formation Block

During the two steps that comprise this block, an invisible latent image is formed on the photosensitive drum.

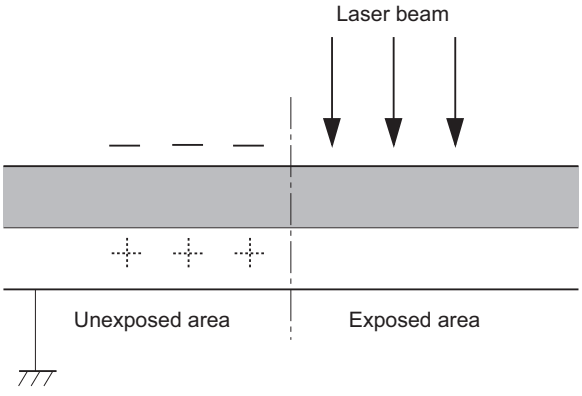
Step 1: Primary Charging

To prepare for latent image formation, the surface of the photosensitive drum is charged with a uniform negative potential. The primary charging bias is applied to the primary charging roller and the roller charges the drum directly.



Step 2: Laser-beam Exposure

The laser beam scans the photosensitive drum to neutralize the negative charge on portions of the drum surface. An electrostatic latent image forms where the negative charge was neutralized.

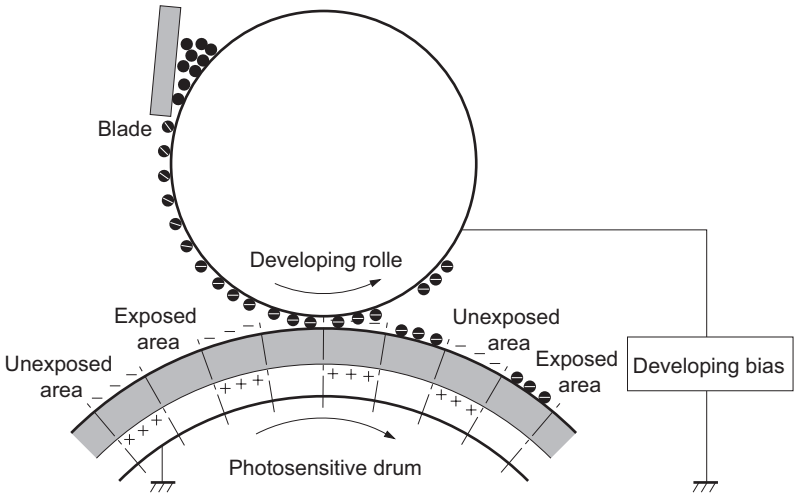


■ Developing Block

Toner adheres to the electrostatic latent image on the photosensitive drum, which becomes visible.

Step 3: Developing

Toner acquires a negative charge from the friction that occurs when the developing roller rotates against the developing blade. The negatively charged toner is attracted to the latent image on the photosensitive drum surface because the drum surface has a higher potential. The developing bias is applied to the developing roller.

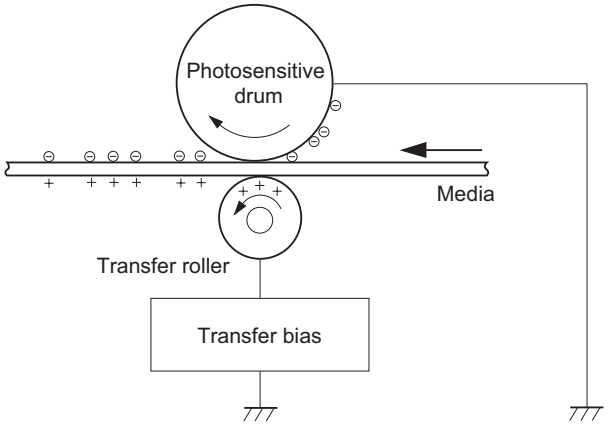


■ Transfer Block

During the two steps that comprise this block, a toner image on the photosensitive drum is transferred to the print media.

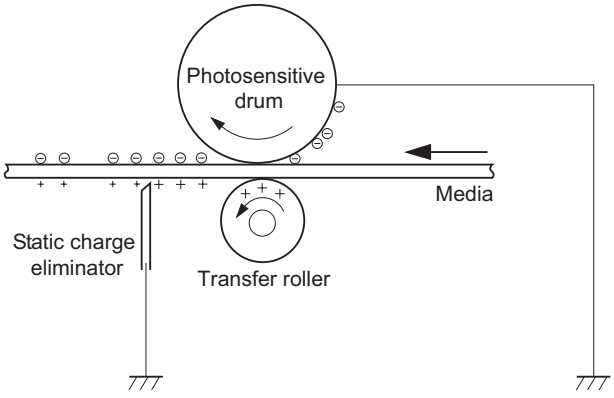
Step 4: Transfer

The transfer bias is applied to the transfer roller to charge the print media positive. The positively charged media attracts the negatively charged toner from the photosensitive drum surface.



Step 5: Separation

The elasticity of the print media and the curvature of the photosensitive drum cause the media to separate from the drum surface. The static charge eliminator reduces back side static discharge of the media for stable media feed and image quality.

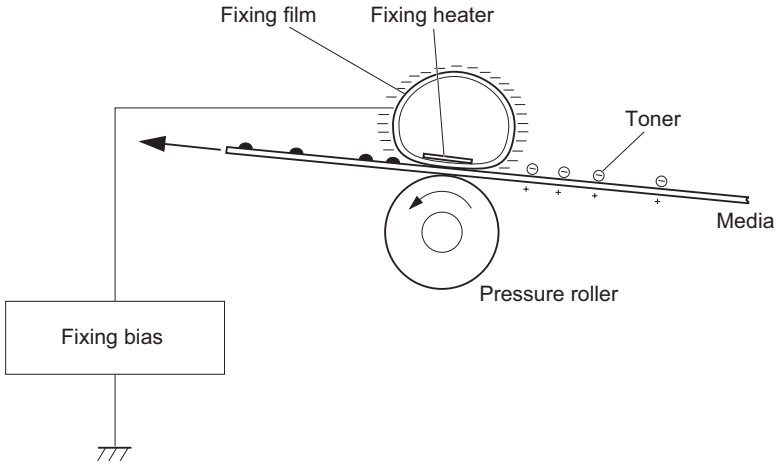


■ Fixing Block

The toner image is fixed onto the print media.

Step 6: Fixing

The printer uses an on-demand Fixing method. The toner image is permanently affixed to the print media by heat and pressure. The Fixing bias is applied to the Fixing Film to improve image quality.

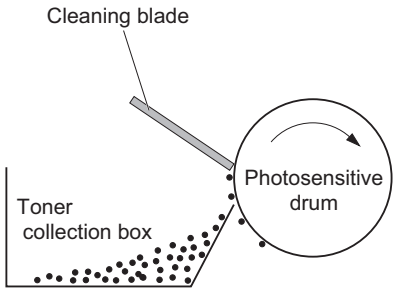


■ Drum Cleaning Block

The residual toner is cleared from the photosensitive drum surface.

Step 7: Drum Cleaning

The cleaning blade scrapes the residual toner off the surface of the photosensitive drum. The residual toner is deposited in the toner collection box.



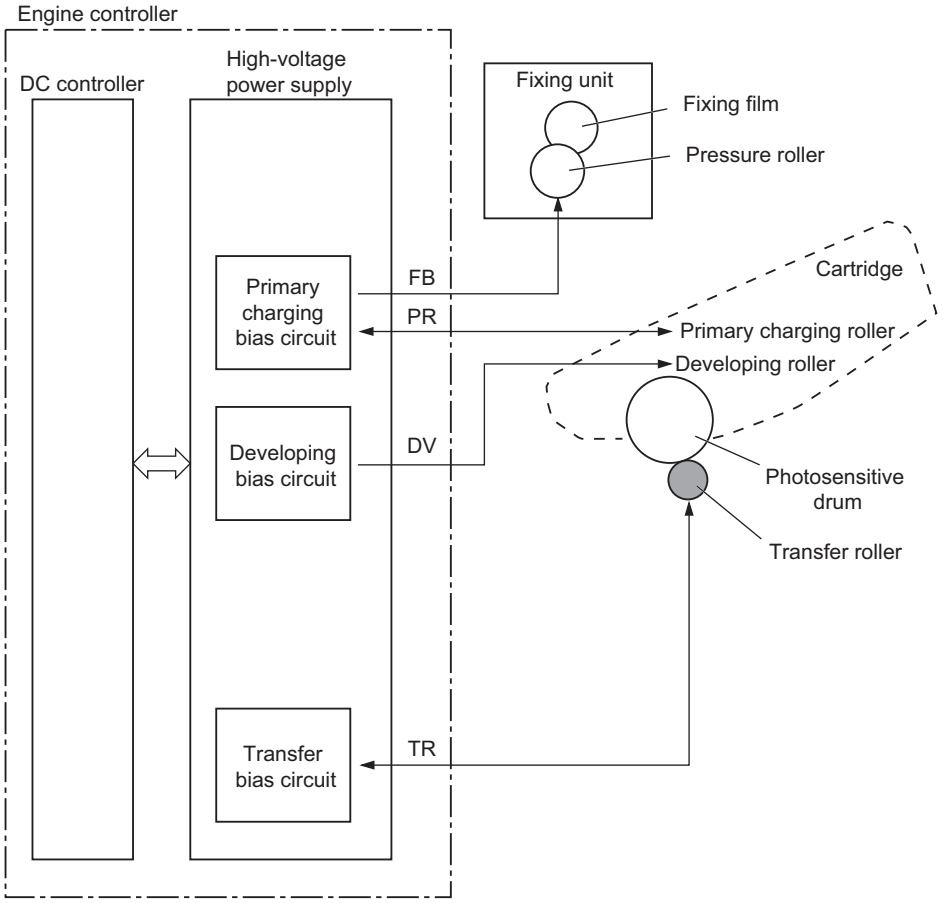
High-voltage Power Supply

■ Outline

The High-voltage Power Supply applies biases to the following components:

- Primary Charging Roller
- Developing Roller
- Transfer Roller
- Fixing Flm

The Engine controller controls the High-voltage Power Supply to generate biases.


Engine controller
DC controller
High-voltage power supply
Primary charging bias circuit
Developing bias circuit
Transfer bias circuit
FB
PR
DV
TR
Fixing unit
Fixing film
Pressure roller
Cartridge
Primary charging roller
Developing roller
Photosensitive drum
Transfer roller

Fixing System

Outline

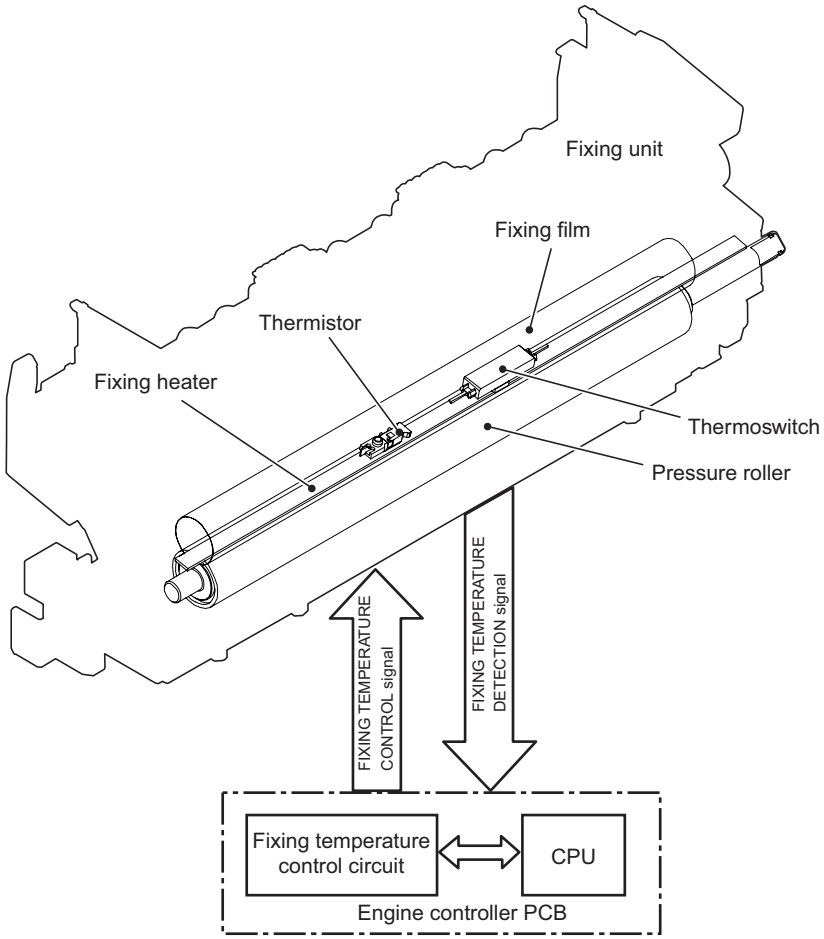
The Fixing/Delivery Unit fixes the toner onto a print paper and delivers it to the Delivery Tray.
The operation of the Fixing/Delivery Unit is explained in the following.

1. The print paper fed from the Pickup/Feed Unit is fused the toner by the Fixing Film and the pressure roller.
2. The print paper delivered from the Fixing Assembly is delivered to the face-down Delivery Tray or the face-up Delivery slot. When the engine controller detects that the heater temperature reaches 50 deg C after the last rotation is completed, it drives the main Motor for 50 msec. and dislocates the nip part. This prevents the toner adhering to the pressure roller.

The Fixing Assembly of this printer utilizes the on-demand Fixing method. It is structured as shown below.

- Heater:
  This Fixing Assembly incorporates one heater.
  Fixing Heater (H201/2010): To heat the Fixing Film (ceramic heater)
- Thermistor:
  This Fixing Assembly incorporates one thermistor.
  Thermistor (TH1/11): Sit almost at the center of the Fixing Film. (contact type)
  To control the temperature of the Fixing Film
- Thermal switch:

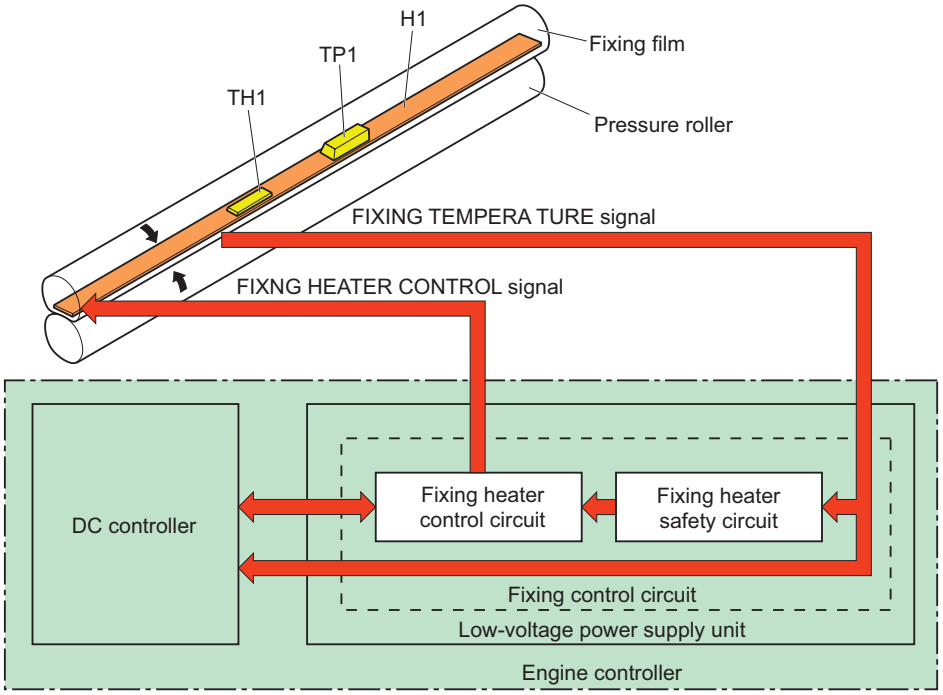
Thermoswitch (TP201/2010): Sit almost at the center of the Fixing Film (contact type)
If the temperature of the heater rises abnormally high, the contact gets broken and cuts off the AC Voltage Supply to the Fixing Heater to interrupt the power supply to the heater.
The temperature control of the Fixing Assembly incorporated as above is operated by the Fixing temperature control circuit according to the command from the CPU (IC201) on the DC Controller.
The followings describe the each circuit and function of the temperature control of the Fixing Assembly.



Controls

The Fixing control circuit controls the temperature in the Fixing Assembly.

The printer uses an on-demand Fixing method.
The figure below shows the configuration of the Fixing control circuit.



- Fixing Heater (H1): Heats the Fixing Film
- Thermistor (TH1): Detects Fixing temperature (Contact type)
- Thermoswitch (TP1):Prevents an abnormal temperature rise of the Fixing Heater (Contact type)

These temperature controls in the Fixing Assembly are performed by the Fixing Heater control circuit and the Fixing Heater safety circuit according to the commands from the DC Controller.

■ Throughput Reduction Control

During continuous printing, the throughput is changed to reduce heat buildup on parts not in contact with paper, to improve Fixing characteristics and reduce curling.
The throughput reduction is implemented according to the following conditions.

Small Size Paper Speed Control

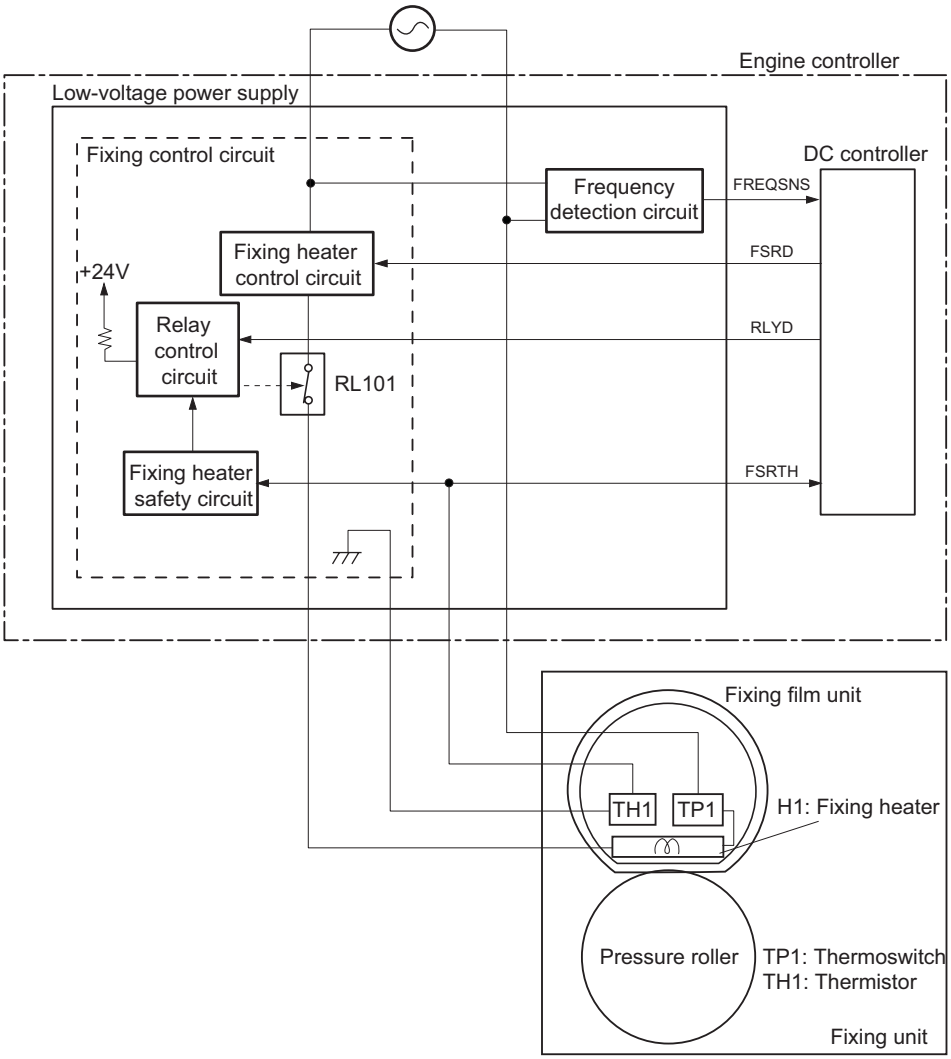
Fixing Mode		Throughput			
ENVELOPE		1 - 2 imprints	3 - 4 imprints	5 imprints 8	6 imprints or more
		17 ppm	12 ppm	8 ppm	6 ppm
ENVELOPE2		1 - 3 imprints	4 - 7 imprints	8 - 22 imprints	23 imprints or more
		17 ppm	12 ppm	8 ppm	6 ppm
ENVELOPE3		1 - 3 imprints	4 - 5 imprints	6 imprints or more	
		12 ppm	8 ppm	6 ppm	
Postcard		1 - 3 imprints	4 - 5 imprints	6 imprints or more	
		12 ppm	8 ppm	6 ppm	
Long Narrow	Normal / Light / OHT	1 - 280 imprints	281 imprints or more		
		2 ppm	1 ppm		
	Label / Heavy1 / Heavy2 Envelope / Envelope2 / Envelope3	1 imprints or more			
		3 ppm			

16K Paper Speed Control

Fixing Mode	Throughput				
Normal / Light / OHT (Normal mode)	1 - 27 imprints	28 - 39 imprints	40 - 79 imprints	80 - 199 imprints	200 imprints or more
	16 ppm	14 ppm	12 ppm	10 ppm	8 ppm
Normal / Light / OHT	1 imprints or more				
	6 ppm				
Envelope2 / Quiet	1 - 89 imprints	90 imprints or more			
	17 ppm	14 ppm			
Label / Envelope / Envelope3 Heavy1 / Heavy2 / Postcard	1 - 34 imprints	35 imprints or more			
	17 ppm	8 ppm			

■ Fixing Temperature Control

The Fixing temperature control maintains the temperature of the Fixing Heater at its targeted temperature.
Block diagram of this control is shown below.



The DC Controller monitors the FIXING TEMPERATURE (FSRTH) signal and sends the FIXING HEATER CONTROL (FSRD) signal according to the detected temperature. The Fixing Heater control circuit controls the Fixing Heater depending on the signal so that the heater remains at the targeted temperature.

■ Protective Function

The protective function detects an abnormal temperature rise in the Fixing Assembly and interrupts power supply to the Fixing Heater.

The following three protective components prevent an abnormal temperature rise of the Fixing Heater:

- DC Controller
- Fixing Heater safety circuit
- Thermoswitch

1. DC Controller
   The DC Controller monitors the detected temperature of the thermistor. The DC Controller makes the FIXING HEATER CONTROL signal inactive and releases the relay to interrupt power supply to the Fixing Heater under the following condition:
2. Fixing Heater safety circuit
   The Fixing Heater safety circuit monitors the detected temperature of the thermistor.
   The Fixing Heater safety circuit releases the relay control circuit to interrupt power supply to the Fixing Heater under the following condition:
3. Thermoswitch
   The contact of the thermoswitch is broken to interrupt power supply to the Fixing Heater under the following condition:

■ Failure Detection

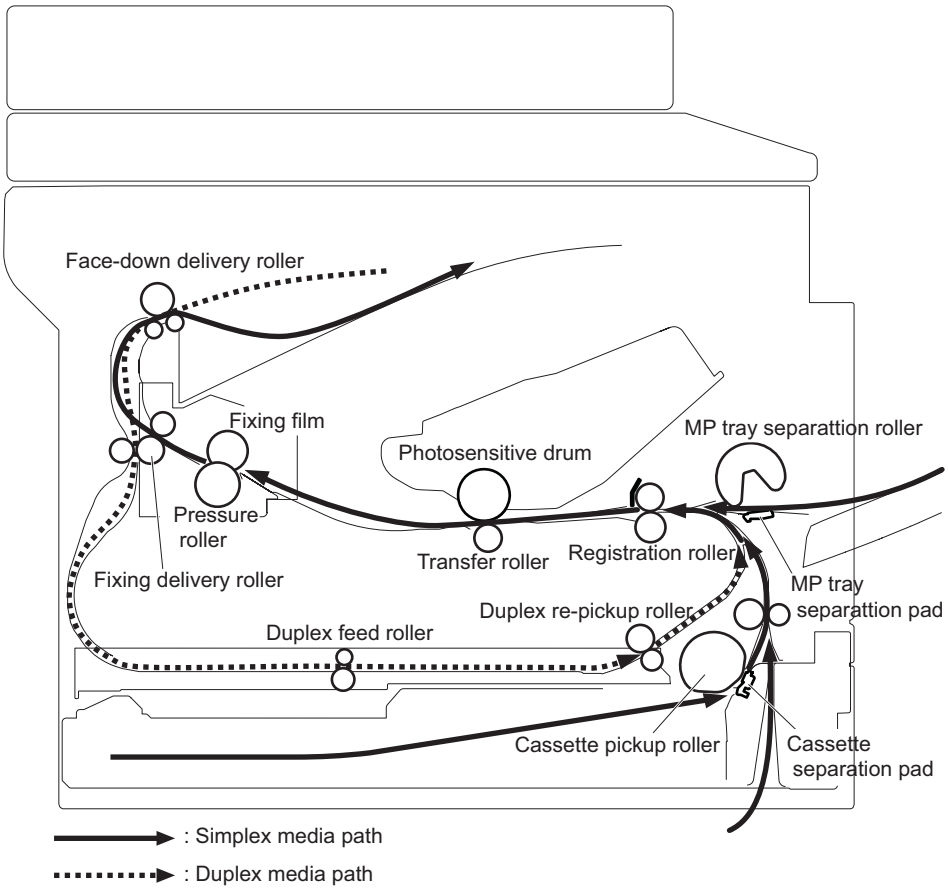
The DC Controller determines a Fixing Assembly failure, makes the FIXING HEATER CONTROL signal inactive, releases the relay to interrupt power supply to the Fixing Heater and notifies the formatter of a failure state when it encounters the following conditions:

1. Start-up failure
   - If the detected temperature of the thermistor is kept a specified degrees or higher for a specified period of heater start-up during the wait period.
   - If the detected temperature of the thermistor is kept a specified degrees or lower for a specified period under the heater temperature control during the print period.
   - If the detected temperature of the thermistor does not reach its targeted temperature within a specified period under the heater temperature control during the initial rotation period.
2. Abnormal low temperature
   - If the detected temperature of the thermistor is kept a specified degrees or lower for a specified period under the heater temperature control.
3. Abnormal high temperature
   - If the detected temperature of the main thermistor is kept a specified degrees or higher for a specified period.
4. Drive circuit failure
   - If a specified frequency of the FREQUENCY signal is not detected within a specified period after the printer is turned on.

Pickup / Feed System

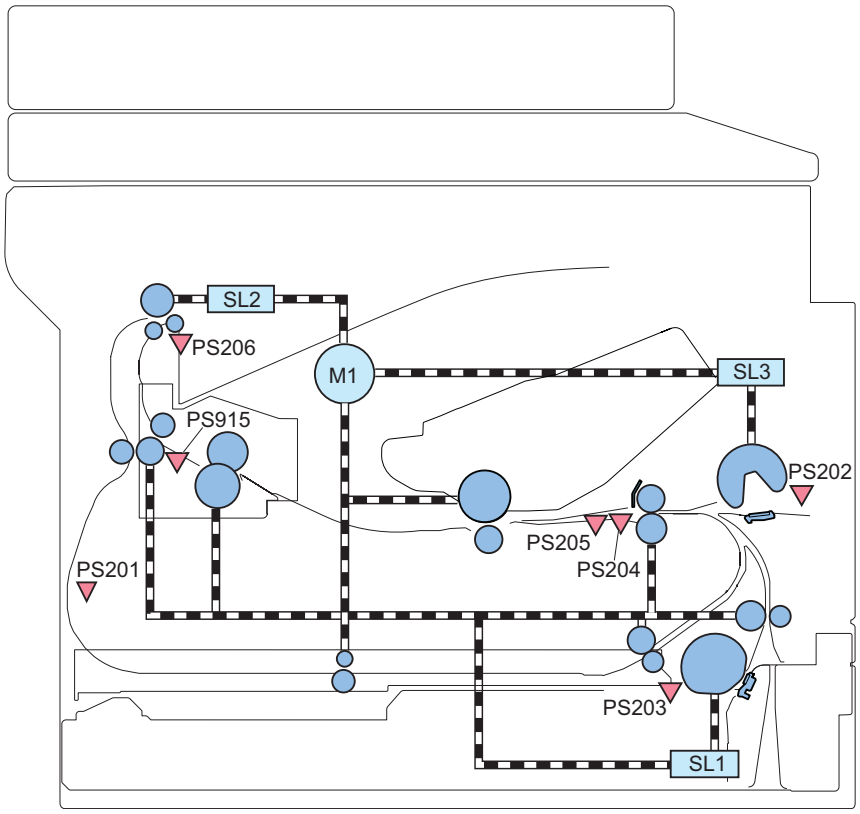
Outline

The Media Feed System picks up, feeds and delivers the print media. It consists of several types of rollers.
The Duplex Feed Unit in the Duplex model reverses and Refeeds the print media to print on both sides of media.
The media path is shown below.



Drive Configuration

Diagram and table of the electrical components are shown below.



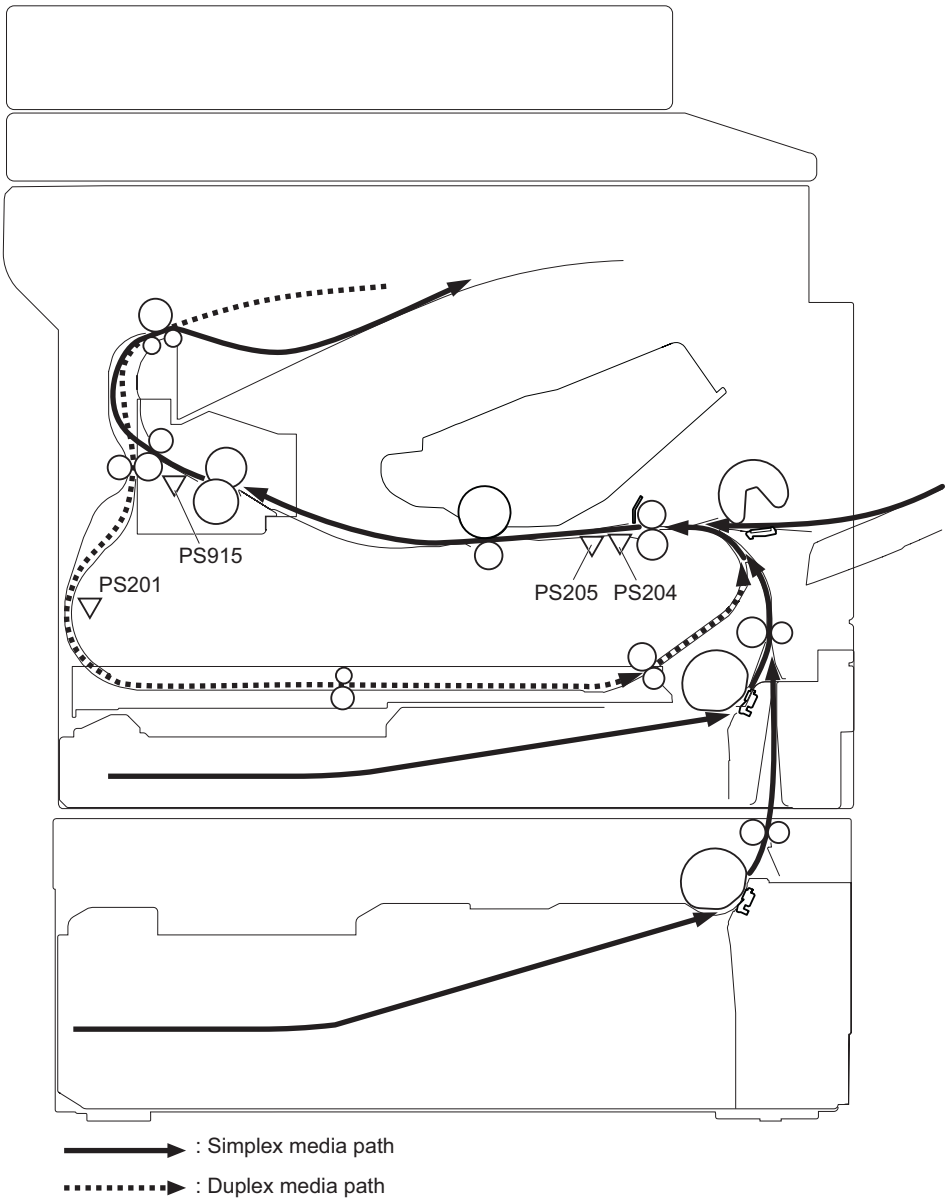
Electrical component	Symbol	Signal
Main Motor	M1	Main Motor Control Signal
Cassette Pickup Solenoid	SL1	Cassette Pickup Solenoid Control Signal
MP Tray Pickup Solenoid	SL3	MP Tray Pickup Solenoid Control Signal
Duplex Reverse Solenoid	SL2	Duplex Reverse Solenoid Control Signal
TOP Sensor	PS204	TOP Signal
Cassette Media Presence Sensor	PS203	Cassette Media Presence Signal
MP Tray Presence Sensor	PS202	MP Tray Media Presence Signal
Fixing Delivery Sensor	PS915	Fixing Delivery Signal
Duplex Reverse Sensor	PS201	Duplex Reverse Signal
FD Tray Media Full Sensor	PS206	FD Tray Media Full Signal
Media Width Sensor	PS205	Media Width Signal

Jam Detection

■ Outline

The printer uses the following sensors to detect the presence of media and to check whether media is being fed correctly or has jammed:

- TOP Sensor (PS204)
- Fixing Delivery Sensor (PS915)
- Duplex Reverse Sensor (PS201)
- Media Width Sensor (PS205)



■ Pickup Delay Jam

When the TOP Sensor (PS204) cannot detect the leading edge of paper within the specified time after starting pickup from a cassette, pickup retry is executed twice. After that, the sensor still cannot detect the leading edge of paper within the specified time, it is judged as a pickup jam.

■ Pickup Stationary Jam

When the TOP Sensor (PS204) cannot detect the trailing edge of paper after the specified time has passed since it detected the leading edge of paper, it is judged as a pickup stationary jam.

■ Delivery Delay Jam

When the Fixing Delivery Sensor (100V:PS915, 230V:PS9150) cannot detect the leading edge of paper after the specified time has passed since the TOP Sensor (PS204) detected the leading edge of paper, it is judged as a delivery delay jam.

■ Fixing Paper Wrap Jam

After judging that it is not a delivery delay jam, execute the detection of Fixing paper wrap jam.
It is judged as a Fixing paper wrap jam when all of the following conditions are met: after the specified time had passed since the Fixing Delivery Sensor (100V:PS915, 230V:PS9150) detected the leading edge of paper, after the specified time had passed since the TOP Sensor (PS204) detected the leading edge of paper, and the Fixing Delivery Sensor (100V:PS915, 230V:PS9150) detects no paper.

■ Delivery Stationary Jam

After judging that it is not a Fixing paper wrap, execute the detection of delivery stationary jam.
When the Fixing Delivery Sensor (100V:PS915, 230V:PS9150) does not detect no paper within the specified time since the TOP Sensor (PS204) detected the trailing edge of paper, it is judged as a delivery stationary jam.

■ Reverse Delay Jam

After judging that it is not a delivery stationary jam, execute the detection of reverse stationary jam.
When the Duplex Reverse Sensor (PS201) does not detect paper after the specified time has passed since the Fixing Delivery Sensor (100V:PS915, 230V:PS9150) detected the trailing edge of paper, it is judged as a reverse delay jam.

■ Reverse Stationary Jam

When the Duplex Reverse Sensor (PS201) cannot detect the trailing edge of paper after the specified time has passed since the sensor detected the leading edge of paper, it is judged as a reverse stationary jam.

■ Internal Residual Jam

When a paper is detected by the TOP Sensor (PS204), Fixing Delivery Sensor (100V:PS915, 230V:PS9150), Paper Width Sensor (PS205), or Duplex Reverse Sensor (PS201) at the time of starting initial rotation, it is judged as an internal residual jam.

■ Door Open Jam

When a door-open is detected while feeding papers, it is judged as a door open jam.

3 Technical Explanation (System)

Overview of System Management

This chapter describes information for service technicians on the system of this machine.
Although this chapter contains some information described in the User's Guide, for details on the functions for users, refer to the e-Manual.

Version Upgrade

Function Overview

The following firmware upgrade methods are available with this device.

Version upgrade using User Support Tool (UST)

Upgrade the firmware of the device using UST.
Open the file for UST version upgrade on a PC connected with the device and upgrade the firmware.
Since the work is performed by connecting the host machine and the PC using a USB Cable, version upgrade can be performed also in an environment where network is not available.

Version upgrade via Internet

Access the dedicated server, and download and update the firmware.
Provided that Internet connection is available, the system automatically configures the connection destination setting and executes processing such as download and version upgrade.

Version upgrade by replacing the PCB

Version upgrade by replacing the existing PCB with a PCB where the latest firmware is installed

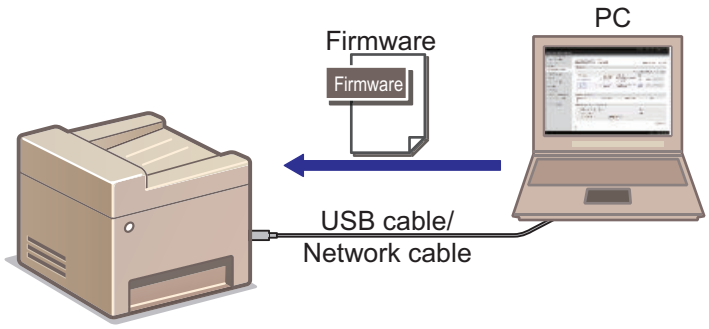
CAUTION:
A message appears when an attempt is made to upgrade a host machine to which specified firmware has been applied. This is a precaution not to use wrong firmware to upgrade a host machine to which specified firmware has been applied. See the following regarding the combination of whether the message will be displayed:

Function Overview

Type of firmware applied to the host machine	Firmware to upgrade	
	General firmware	Specified firmware
General firmware	No message	No message
Specified firmware	Message displayed	Message displayed

Version Upgrade Using UST

This section describes the procedure of [Version Upgrade Using UST] by directly connecting the host machine and the PC using a USB Cable and upgrading the firmware.



■ Required System Environment

PC (All the following conditions must be met.)

One of the following OS should be running.

- Microsoft Windows Server 2003
- Microsoft Windows Vista
- Microsoft Windows Server 2008
- Microsoft Windows 7
- Microsoft Windows Server 2012
- Microsoft Windows 8

All the following hardware requirements must be met.

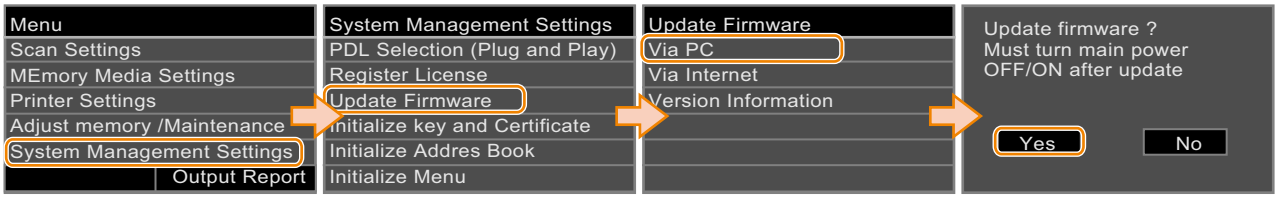
- Memory (RAM): 128 MB or more
- Hard disk: Free space of 100 MB or more
- Display: resolution of 640 x 480 pixels or more, 256 colors or more
- A USB port must be installed.

Others

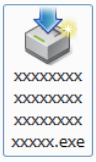
UST file of the device*1
USB Cable (USB 1.1/2.0)

■ Procedure for Upgrading the Firmware Using UST

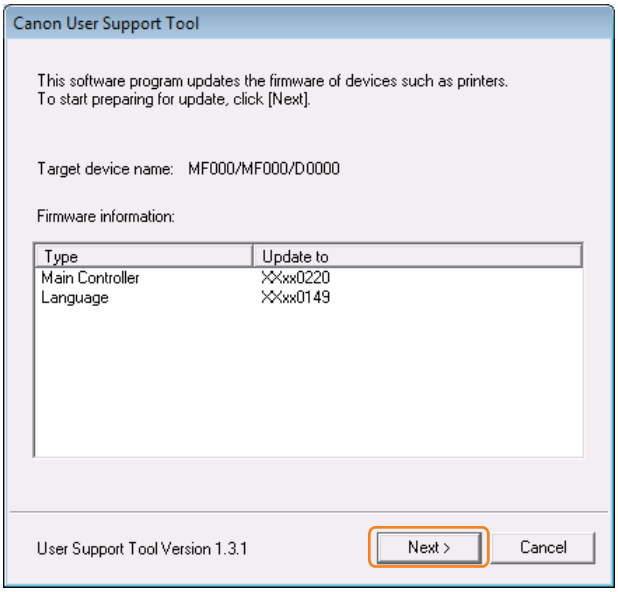
1. **Start a PC and connect it with the host machine using a USB Cable.**
2. **Turn ON the power of the machine and let it enter standby mode.**
3. **Select the key/menu shown below to enter download mode.**
   - Select the home key or [Menu] key > [System Management Settings] > [Update Firmware] > [Via PC] > select [Yes].



4. **Open the UST file (file for version upgrade) on the connected PC side.**

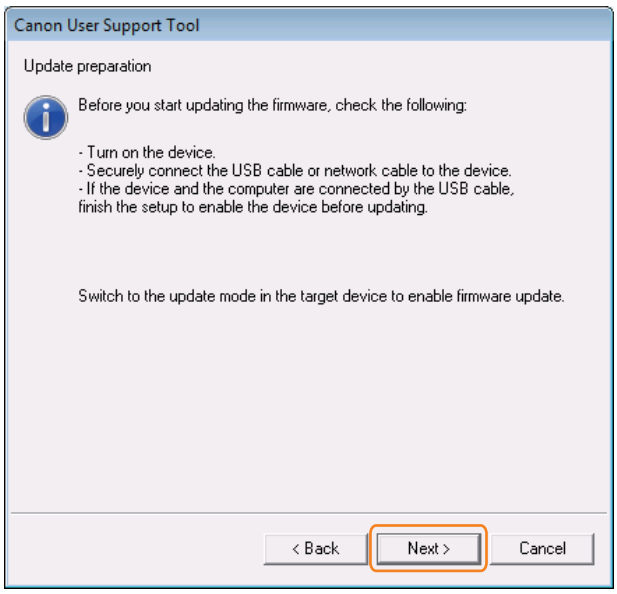


5. **Write down the version of the firmware to be updated, and then click "Next".**

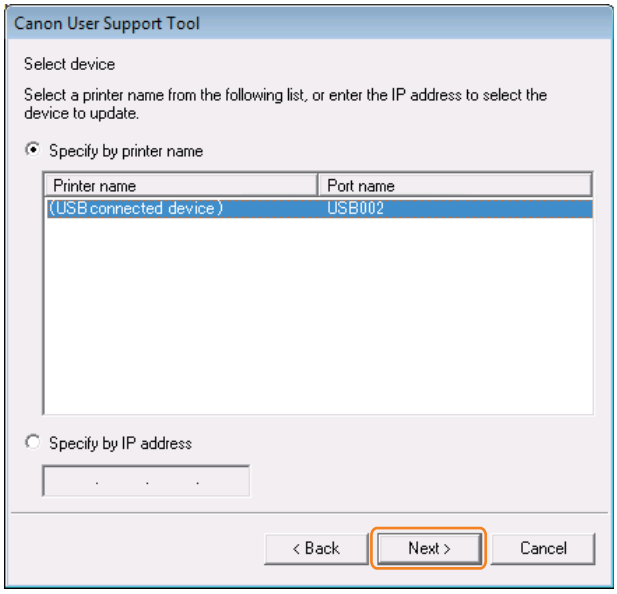


1. Available on system CD distributed by the sales company or by download from the release service website.

6. Check the displayed contents, and then click [Next].

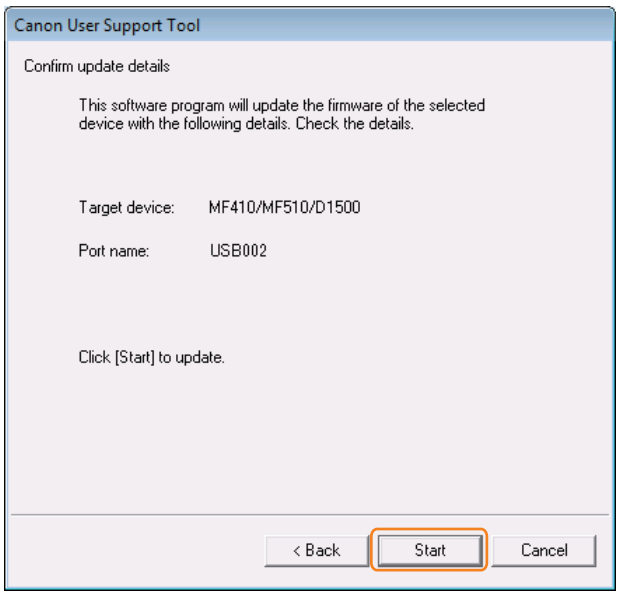


7. Select [USB connected device], and click [Next].

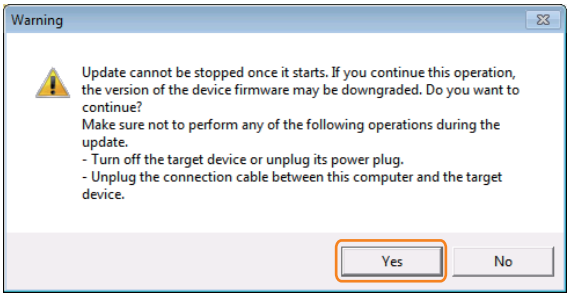


NOTE:
If you connect the host machine and the PC using a LAN Cable for this work, select [Specify by IP address], and enter the IP address of the device.

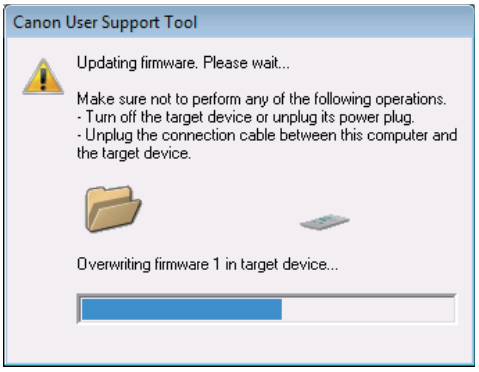
8. **Check the displayed contents, and then click [Start].**



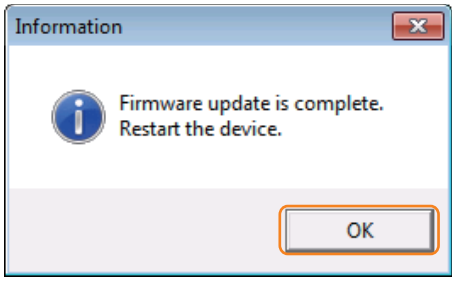
9. **A warning screen will appear. Click "Yes".**



Download will start.



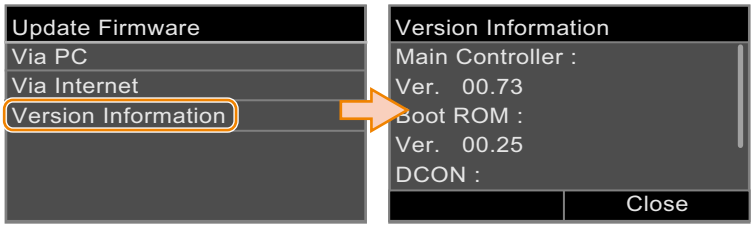
10. **When the download is completed, click "OK" and restart the host machine.**



CAUTION:
When the Control Panel still shows the download screen even after the host machine is restarted, the internal firmware update has not been completed. Leave it as is for 10 minutes or more and press the Stop button.

11. Select the following menu, and check that the firmware has been correctly upgraded:

- [System Management Settings] > [Update Firmware] > [Version Information]



Version Upgrade via Internet

Connect to the Internet using the network function of the device, and download and upgrade the latest firmware from the server. If the device is in an environment where Internet connection is available, firmware versions can be upgraded only by operation from the menu without using PC.

■ Prerequisite

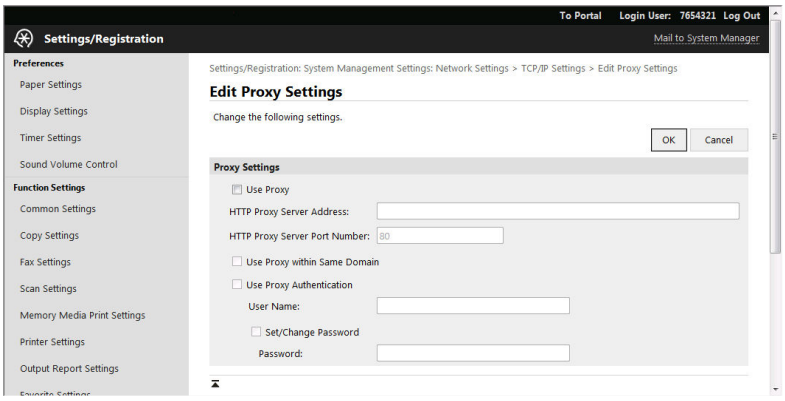
In order to perform version upgrade of the device via Internet, the following conditions must be met.

There should be no other jobs being executed.

Firmware cannot be upgraded while there is a job being executed. If there is a job being executed, wait for completion of the job and then perform the work.

The device should be able to be connected to the external network.

If connection is not available because, for example, there is a proxy server, follow the e-Manual to configure the proxy server settings and enable connection to the external network.

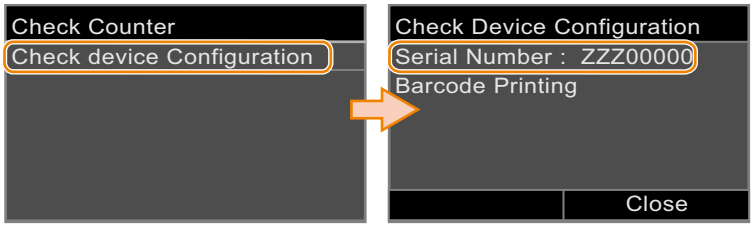


The serial number of the host machine should be shown on the Main Controller PCB.

Whether or not the serial number of the host machine is shown on the Main Controller PCB can be checked from the Control Panel or SPEC REPORT.

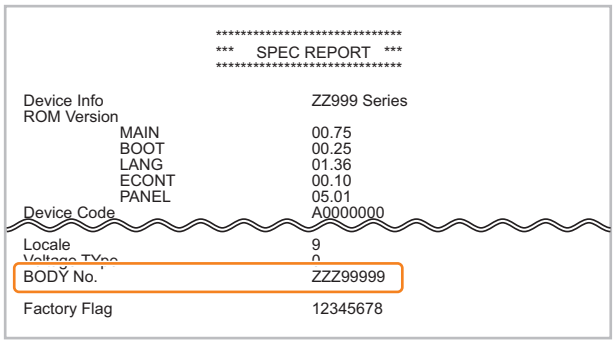
Procedure to check from the Control Panel

1. Press the counter key, and select [Check Device Configuration].



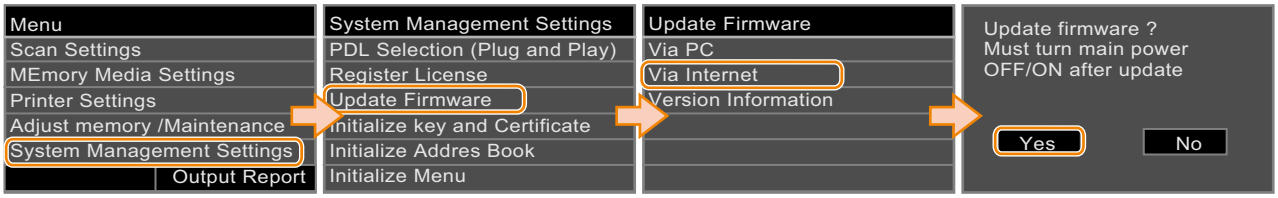
Procedure to check from SPEC REPORT

1. Execute the following service mode to print SPEC REPORT.
   - COPIER > FUNCTION > MISC-P> SPEC
2. Check if the serial number (3 alphabetical characters + 5-digit number) is shown in [BODY No.] of the printed SPEC REPORT.



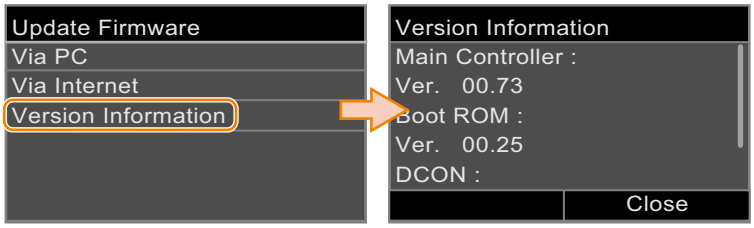
■ Procedure for Upgrading the Firmware via Internet

1. **Select the following menu to upgrade the firmware via Internet:**
   - [System Management Settings] > [Update Firmware] > [Via Internet] > [Yes]



When the upgrading of firmware is completed, the machine automatically restarts.

2. **Select the following menu, and check that the firmware has been correctly upgraded:**
   - [System Management Settings] > [Update Firmware] > [Version Information]



CAUTION:
This function does not support the operations from remote UI. ([System Management Settings] menu of remote UI does not have the item of [Update Firmware].)

■ 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	-

Setting Information Export/Import Function (DCM)

Overview

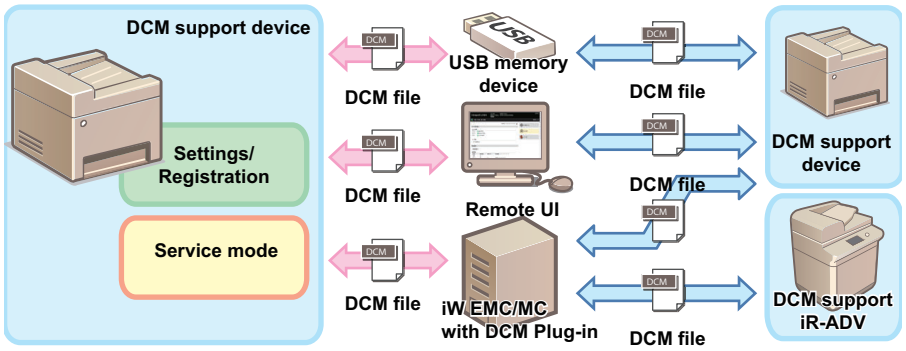
Various data is stored in the storage inside the device.
Depending on the works to be done such as replacing parts, this data needs to be backed up and restored.
There are some ways to back up and restore data, and the appropriate one should be used depending on the purpose and storage destination.
This section describes the procedure for backing up and restoring service mode setting values.
For the procedure for backing up and restoring other information, refer to the backup data list in the Appendix.

■ Function Overview

This machine has a setting information export/import function (hereinafter referred to as DCM (Device Configuration Management) function) which exports/imports the machine's setting value information as a file. The file exported/imported using the DCM function is called a DCM file, and the target setting information is as follows:

- 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.

■ Backup/Restoration for Service Technicians

Backup and Restoration from the [Settings/Registration] Menu

Setting information can be backed up and restored from the Control Panel of the device or from the [Settings/Registration] menu of remote UI.
Although the [Settings/Registration] menu is for users, the service mode settings information can be backed up and restored from the Import/Export function by changing the service mode setting.
In order to back up and restore the service mode setting information from the [Settings/Registration] menu, it is necessary to access from remote UI.

Backup/Restoration Using Service Mode

Some of the functions in service mode can be used to backup and restore data.
DC-CON/R-CON setting value information and service counter (DC-CON) values can be backed up and restored.

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

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			Save destination
		Setting values of menu options	Address book*1	Service mode setting values	
[Settings/Registration] menu	Control panel	Yes (fixed)*2	Yes (fixed)*2	No	USB flash drive
	Remote UI	Yes	Yes	With conditions*3	USB flash drive
Service mode	Control panel	No	No	Yes	USB flash drive / Storage in the host machine
	Remote UI	No	No	Yes	PC local disk

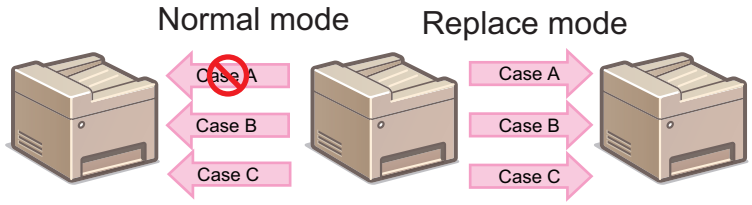
■ Compatibility of Data

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" on page 63.

Model	Serial number	Import process
Same	Same	Items corresponding to Case A are imported.*4
Same	Different*5	Items corresponding to Case B are imported.*4
Different	Different*5	Items corresponding to Case C are imported.*6
Different	Same	The file is judged to be invalid, and the process ends with an error.

■ Replacement Mode

When this function is used for migrating the setting data upon replacement of a device, some of the data cannot be migrated depending on the model to which the data is migrated.
When this function is used in normal mode, data that is applicable to either Case A (of different serial number) or Case B (of different mode) cannot be imported.
When replacement mode is enabled, data can be forcibly migrated even to a device of a different serial number or even between different models.



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 information on items that are imported, refer to "List of Items Which Can Be Imported" on page 63.

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

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

*6. Predetermined corrective processing may be performed.

The following shows the procedure to turn ON/OFF replacement mode:

1. **Set the following service mode setting value to "1":**
   - COPIER > OPTION > USER > RPL-IMP

NOTE:
Refer to “List of Items Which Can Be Imported” on page 63 for the target data of replacement mode.

CAUTION:
Since replacement mode does not automatically return to OFF, be sure to change the above service mode setting value back to "0".

Import/Export Procedure from [Settings/Registration] of Remote UI

This section describes the procedure for backing up and restoring service mode setting information by using the [Import/Export] function in the [Settings/Registration] menu of Remote UI.

CAUTION:
- The service mode setting information can be backed up and restored only from the [Settings/Registration] menu on Remote UI, and the operation cannot be performed from the [Settings/Registration] menu on the Control Panel.
- In the case of backing up and restoring only the setting information of the [Settings/Registration] menu or the address book, refer to the procedure described in the e-Manual.

■ Limitations

The following limitations exist when backing up and restoring the service mode settings information from the [Settings/Registrations] menu of remote UI.

A job must not be accepted during an import/export processing.

Except for the calibration requested by the engine, a job is not allowed to be accepted during a processing. In addition, import/export must not be performed during execution of a job.

Firmware must not be updated during an import/export processing.

Fax cannot be received while firmware is updated during a processing. In addition, import/export must not be performed also during firmware update.

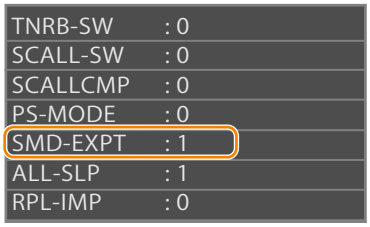
Power must not be turned off during an import/export processing.

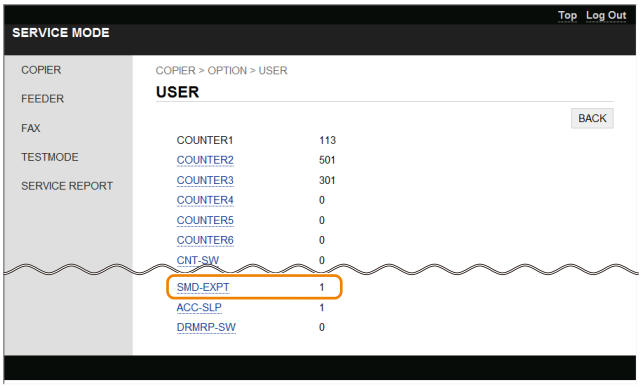
If power discontinuity occurs during an import processing, a rollback processing is not performed, therefore the settings imported up to that point are reflected while the rest of the settings remain as-is.
When power discontinuity occurs during an export processing, export is not executed.

■ 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".

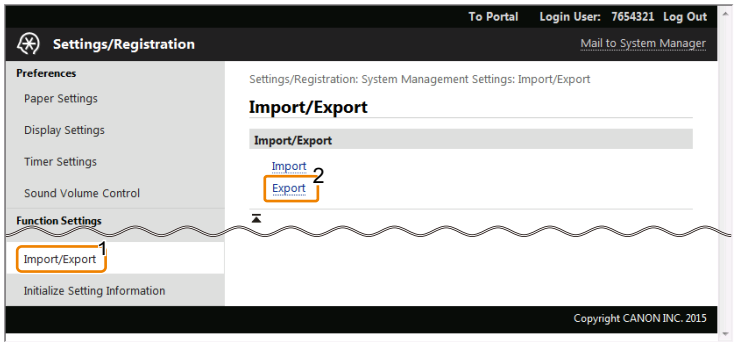
1. **Enter service mode, and set the following item to "1".**
   - COPIER > OPRION > USER > SMD-EXPT



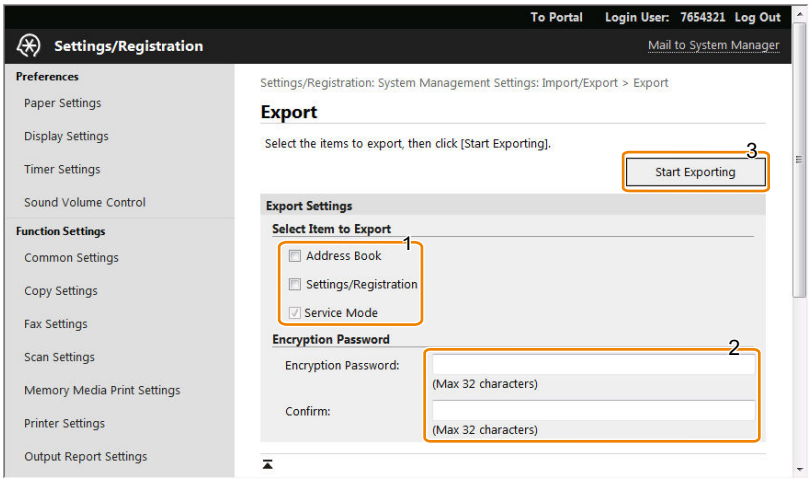


NOTE:
The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. **Exit service mode, start remote UI, log in as a system administrator, and then select the following item:**
   - [Settings/Registration] > [Import/Export] > [Export]



3. **After confirming that [Service Mode] is displayed/selected in [Select Item to Export], enter the password and click [Start Exporting].**



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.

Encryption Password

Enter 32 or less numeric characters set when the file was exported.

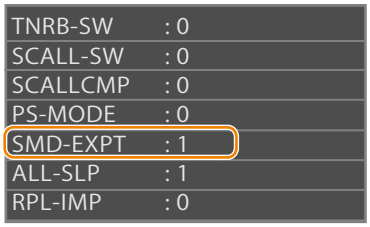
4. **The File Download dialog box will appear. Save the file to any location.**
5. **Enter service mode, and set the following item to "0".**
   - COPIER > OPTION > USER > SMD-EXPT

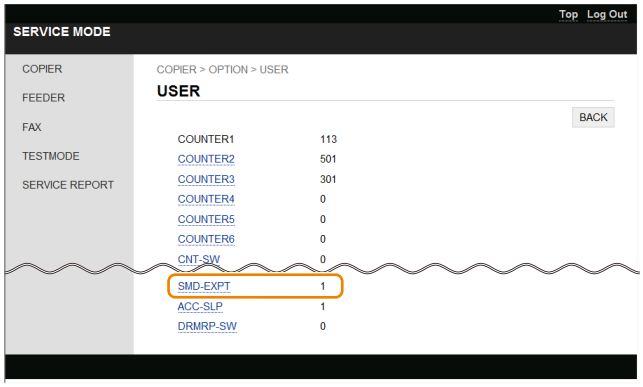
> **⚠ CAUTION:**
> Since the screen of export function can also be accessed by the user, be sure to disable the [SMD-EXPT] setting (setting value: 0).

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

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

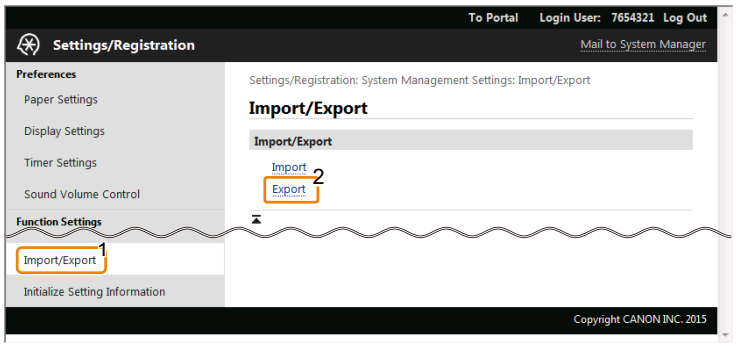
1. **Enter service mode, and set the following item to "1".**
   - COPIER > OPRION > USER > SMD-EXPT



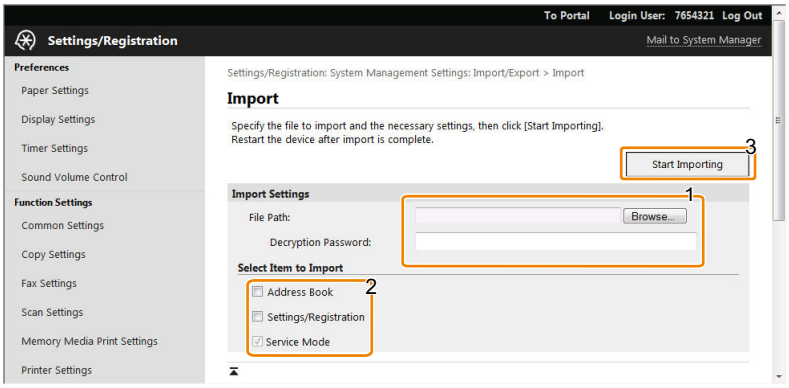


> **NOTE:**
> The [SMD-EXPT] setting can be specified either from the Control Panel or from the remote UI.

2. **Exit service mode, start remote UI, log in as a system administrator, and then select the following item:**
   - [Settigs/Registration] > [Import/Export] > [Import]



3. **Configure the import setting, and click [Start Importing].**
   Entering the encryption password and clicking [Start Importing] imports the menu option data.



[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.

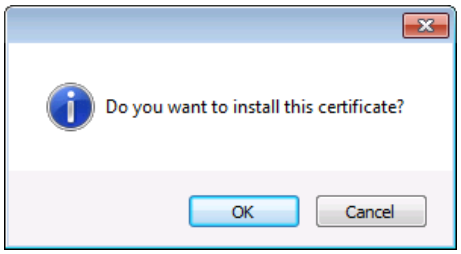
Address Book

Select the check box to import the Address Book data.

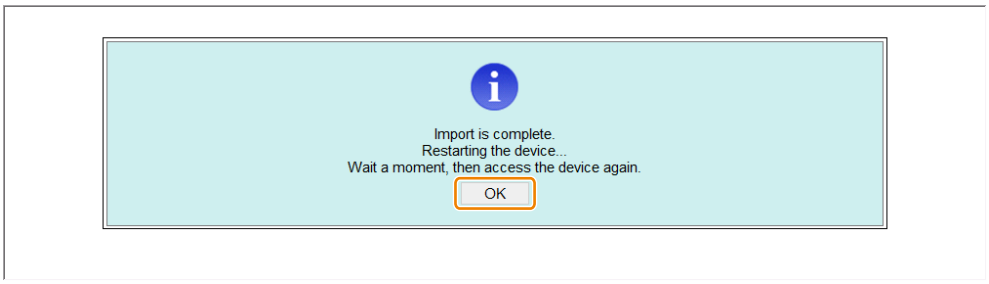
Settings/Registration

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

4. **A dialog box asking whether the user wants to execute import will appear. Click [OK].**



5. **A message will appear to indicate that the process has been completed. Click the [OK] button.**



6. **Restart the host machine, enter service mode, and then check that the setting information is reflected. This completes the procedure for importing a setting information file.**

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

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

Procedure for Exporting/Importing Service Mode Setting Information

Service mode setting information can be backed up and restored by using service mode functions. The backup file can be saved to a USB flash drive or a storage in the machine.

Backup/restoration to a USB flash drive

COPIER > FUNCTION >SYSTEM > EXPORT
COPIER > FUNCTION >SYSTEM > IMPORT

Backup/restoration to a storage in the machine

COPIER > FUNCTION >SYSTEM > SAVE-SM
COPIER > FUNCTION >SYSTEM > RSTR-SM

	Backup/restoration to a USB flash drive	Backup/restoration to a storage in the machine
Storage destination	USB flash drive	Storage in the machine
Number of files saved	Depends on the capacity of the USB flash drive	One
Duplication of the setting values for other machines	Possible	Not possible

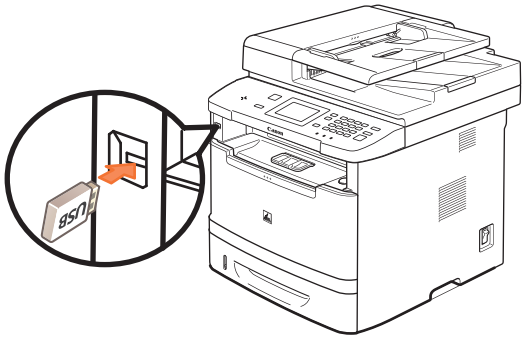
■ Procedure for Exporting to a USB Flash Drive

Use the service mode function to save the service mode setting information to a USB flash drive.
With this model, service mode can be used from the Remote UI.
The following USB flash drives can be used for export/import.

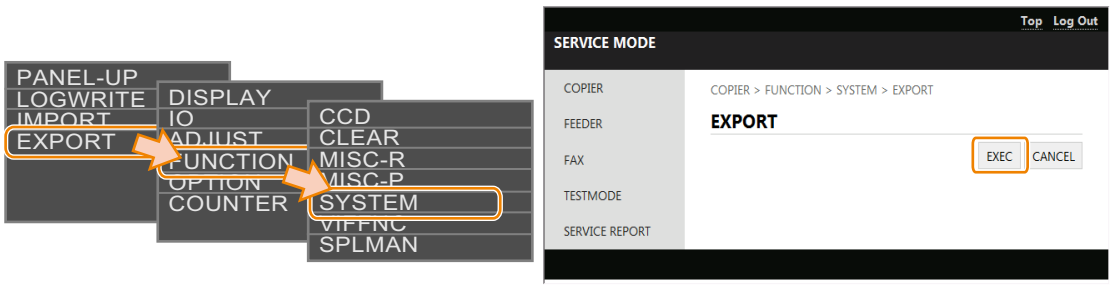
- USB flash drive in FAT 16 format (storage capacity: 2 GB)
- USB flash drive in FAT 32 format (storage capacity: 32 GB)

Note that the descriptions in parenthesis in the procedure are the descriptions in the case of remote UI.

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

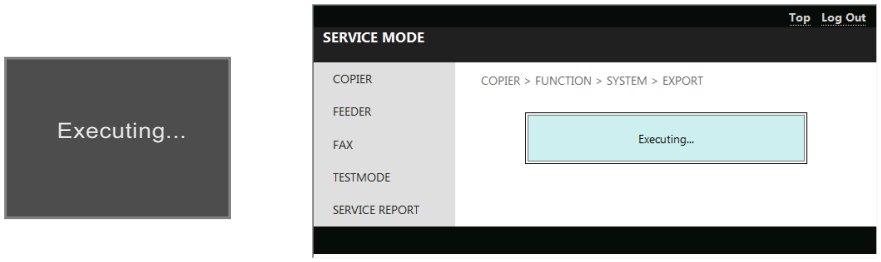


2. **Enter service mode, and execute the following service mode.**
   - COPIER > FUNCTION > SYSTEM > EXPORT



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.

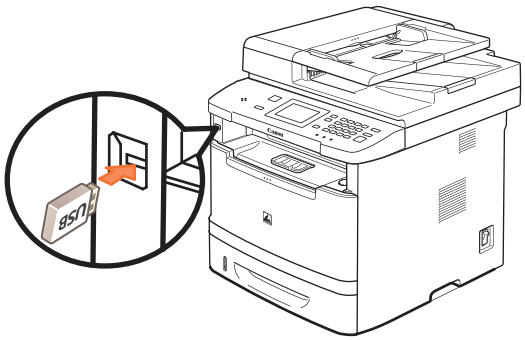
3. **The message shown below which is displayed during the process will disappear. When the display has returned to the original state, remove the USB flash drive.**



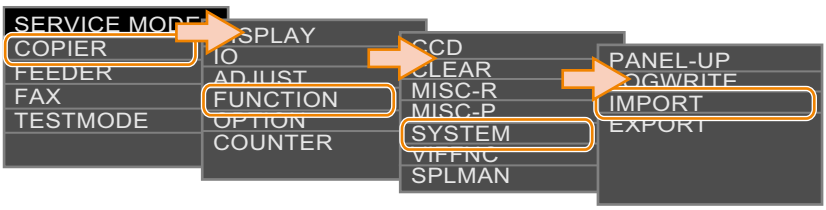
4. **Check that a setting information file (service.dcm) exists in the directory directly under the root of the USB flash drive.**
   This completes the procedure for exporting a setting information file.

■ Procedure for Import from USB Flash Drive

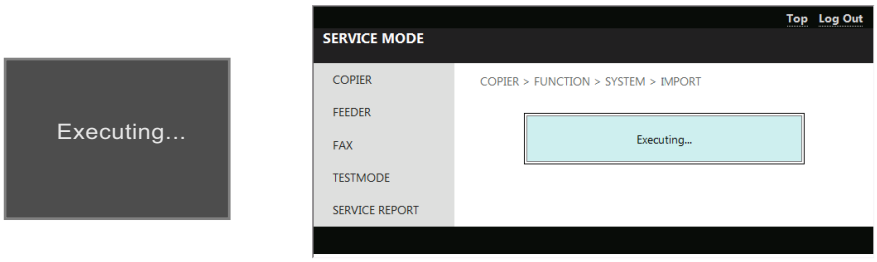
1. **To the directory directly under the root of the USB flash drive, save a setting information file (service.dcm) to be imported.**
2. **Connect a USB memory device to the USB memory port.**



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.**



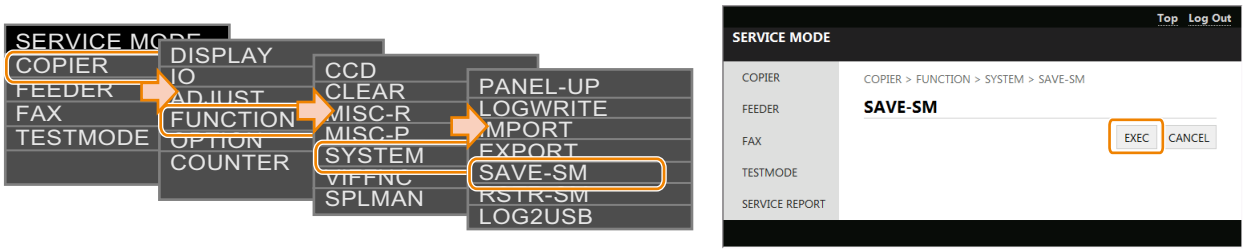
5. **Start the host machine, enter service mode, and then check that the setting information is reflected.**
   This completes the procedure for importing a setting information file.

■ Backup Procedure to the Storage in the Machine

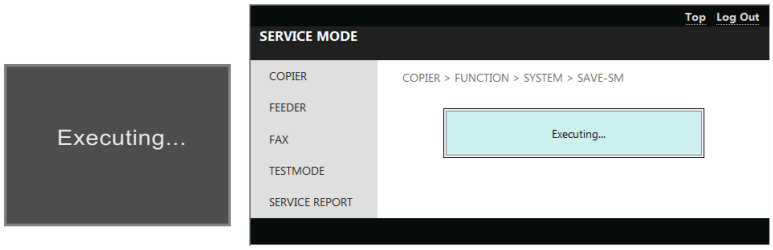
Use the service mode function to back up the service mode setting information to the storage in the machine.

This operation can be performed both from the Control Panel and remote UI.
The setting information that can be saved in the machine's storage is only one.

1. **Enter service mode, and execute the following service mode:**
   Access service mode, select COPIER > FUNCTION > SYSTEM > SAVE-SM, and click [OK (EXEC)].



2. **The following screen is displayed during the processing:**

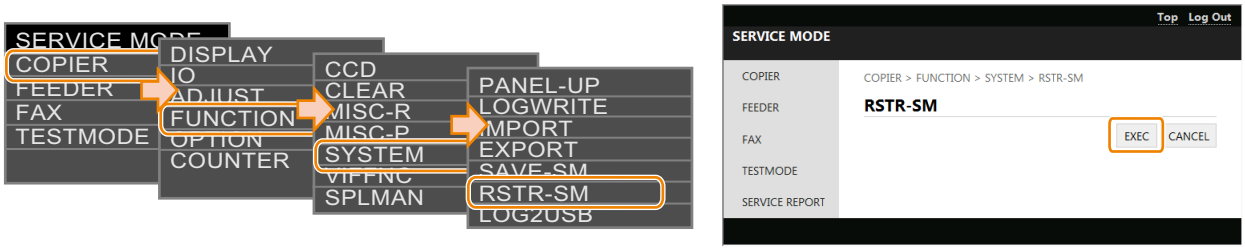


3. **Finish the operation after checking that the screen returns to the previous display.**

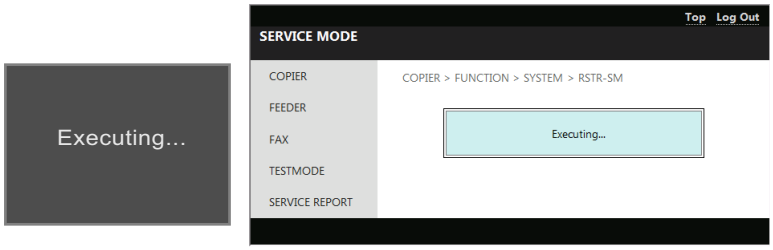
■ Procedure for Restoration from Internal Storage

Restore the service mode setting information that has been backed up to the storage in the machine in the previous procedure.

1. **Enter service mode, and execute the following service mode.**
   - COPIER > FUNCTION > SYSTEM > RSTR-SM



2. **The following screen is displayed during the processing:**



3. **The operation is complete after checking that the screen returns to the previous display.**

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)

■ Service Mode

Initial screen	Large	Middle	Small	Case A	Case B	Case C
COPIER	ADJUST	FEED-ADJ	ADJ-C1	Yes	-	-
COPIER	ADJUST	FEED-ADJ	ADJ-C2	Yes	-	-
COPIER	ADJUST	FEED-ADJ	ADJ-MF	Yes	-	-
COPIER	ADJUST	FEED-ADJ	ADJ-REFE	Yes	-	-
COPIER	FUNCTION	SPLMAN	SPL14159	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL65677	Yes	-	-
COPIER	FUNCTION	SPLMAN	SPL68676	Yes	-	-
COPIER	FUNCTION	SPLMAN	SPL68677	Yes	-	-
COPIER	FUNCTION	SPLMAN	SPL25607	Yes	-	-
COPIER	FUNCTION	SPLMAN	SPL93822	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL78788	Yes	Yes	Yes
COPIER	FUNCTION	SPLMAN	SPL71100*1	Yes	-	-
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	MIBCOUNT	Yes	Yes	Yes
COPIER	OPTION	BODY	NS-CMD5	Yes	-	-
COPIER	OPTION	BODY	NS-PLN	Yes	-	-
COPIER	OPTION	BODY	NS-LGN	Yes	-	-
COPIER	OPTION	BODY	SLPMODE	Yes	Yes	Yes
COPIER	OPTION	BODY	SDTM-DSP	Yes	Yes	Yes
COPIER	OPTION	FNC-SW	CRG-PROC	Yes	Yes	-
COPIER	OPTION	FNC-SW	CRGLF-K	Yes	Yes	-
COPIER	OPTION	DSPLY-SW	CRGLW-LV	Yes	Yes	Yes
COPIER	OPTION	IMG-MCON	REGM-SEL	Yes	-	-
COPIER	OPTION	USER	SCALL-SW	Yes	Yes	Yes
COPIER	OPTION	USER	SMD-EXPT	Yes	-	-
COPIER	OPTION	USER	ACC-SLP	Yes	Yes	Yes
FAX	SSSW	SW01 *1	-	Yes	-	-
FAX	SSSW	SW02 *1	-	Yes	-	-
FAX	SSSW	SW03 *1	-	Yes	-	-
FAX	SSSW	SW04 *1	-	Yes	-	-
FAX	SSSW	SW05 *1	-	Yes	-	-
FAX	SSSW	SW06 *1	-	Yes	-	-
FAX	SSSW	SW07 *1	-	Yes	-	-
FAX	SSSW	SW08 *1	-	Yes	-	-
FAX	SSSW	SW09 *1	-	Yes	-	-
FAX	SSSW	SW10 *1	-	Yes	-	-
FAX	SSSW	SW11 *1	-	Yes	-	-

*1. FAX model only

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	SSSW	SW12 *1	-	Yes	-	-
FAX	SSSW	SW13 *1	-	Yes	-	-
FAX	SSSW	SW14 *1	-	Yes	-	-
FAX	SSSW	SW15 *1	-	Yes	-	-
FAX	SSSW	SW16 *1	-	Yes	-	-
FAX	SSSW	SW17 *1	-	Yes	-	-
FAX	SSSW	SW18 *1	-	Yes	-	-
FAX	SSSW	SW19 *1	-	Yes	-	-
FAX	SSSW	SW20 *1	-	Yes	-	-
FAX	SSSW	SW21 *1	-	Yes	-	-
FAX	SSSW	SW22 *1	-	Yes	-	-
FAX	SSSW	SW23 *1	-	Yes	-	-
FAX	SSSW	SW24 *1	-	Yes	-	-
FAX	SSSW	SW25 *1	-	Yes	-	-
FAX	SSSW	SW26 *1	-	Yes	-	-
FAX	SSSW	SW27 *1	-	Yes	-	-
FAX	SSSW	SW28 *1	-	Yes	-	-
FAX	SSSW	SW29 *1	-	Yes	-	-
FAX	SSSW	SW30 *1	-	Yes	-	-
FAX	SSSW	SW31 *1	-	Yes	-	-
FAX	SSSW	SW32 *1	-	Yes	-	-
FAX	MENU	005 *1	-	Yes	-	-
FAX	MENU	006 *1	-	Yes	-	-
FAX	MENU	007 *1	-	Yes	-	-
FAX	MENU	008 *1	-	Yes	-	-
FAX	MENU	009 *1	-	Yes	-	-
FAX	MENU	010 *1	-	Yes	-	-
FAX	NUM	002 *1	-	Yes	-	-
FAX	NUM	003 *1	-	Yes	-	-
FAX	NUM	004 *1	-	Yes	-	-
FAX	NUM	005 *1	-	Yes	-	-
FAX	NUM	006 *1	-	Yes	-	-
FAX	NUM	008 *1	-	Yes	-	-
FAX	NUM	010 *1	-	Yes	-	-
FAX	NUM	011 *1	-	Yes	-	-
FAX	NUM	012 *1	-	Yes	-	-
FAX	NUM	013 *1	-	Yes	-	-
FAX	NUM	015 *1	-	Yes	-	-
FAX	NUM	016 *1	-	Yes	-	-
FAX	NUM	017 *1	-	Yes	-	-
FAX	NUM	018 *1	-	Yes	-	-
FAX	NUM	019 *1	-	Yes	-	-
FAX	NUM	020 *1	-	Yes	-	-
FAX	NUM	021 *1	-	Yes	-	-
FAX	NUM	022 *1	-	Yes	-	-
FAX	NUM	023 *1	-	Yes	-	-
FAX	NUM	024 *1	-	Yes	-	-
FAX	NUM	025 *1	-	Yes	-	-

*1. FAX model only

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	NUM	026 *1	-	Yes	-	-
FAX	NUM	027 *1	-	Yes	-	-
FAX	NUM	029 *1	-	Yes	-	-
FAX	NUM	049 *1	-	Yes	-	-
FAX	NUM	051 *1	-	Yes	-	-
FAX	NUM	053 *1	-	Yes	-	-
FAX	NUM	054 *1	-	Yes	-	-
FAX	NCU	TONE	001 *1	Yes	-	-
FAX	NCU	TONE	002 *1	Yes	-	-
FAX	NCU	PULSE	FORM *1	Yes	-	-
FAX	NCU	PULSE	001 *1	Yes	-	-
FAX	NCU	PULSE	002 *1	Yes	-	-
FAX	NCU	PULSE	003 *1	Yes	-	-
FAX	NCU	PULSE	004 *1	Yes	-	-
FAX	NCU	DIALTONE	BIT *1	Yes	-	-
FAX	NCU	DIALTONE	001 *1	Yes	-	-
FAX	NCU	DIALTONE	002 *1	Yes	-	-
FAX	NCU	DIALTONE	003 *1	Yes	-	-
FAX	NCU	DIALTONE	004 *1	Yes	-	-
FAX	NCU	DIALTONE	005 *1	Yes	-	-
FAX	NCU	DIALTONE	006 *1	Yes	-	-
FAX	NCU	DIALTONE	007 *1	Yes	-	-
FAX	NCU	DIALTONE	008 *1	Yes	-	-
FAX	NCU	3rd DLTN	BIT *1	Yes	-	-
FAX	NCU	4th DLTN	001 *1	Yes	-	-
FAX	NCU	5th DLTN	002 *1	Yes	-	-
FAX	NCU	6th DLTN	003 *1	Yes	-	-
FAX	NCU	7th DLTN	004 *1	Yes	-	-
FAX	NCU	8th DLTN	005 *1	Yes	-	-
FAX	NCU	9th DLTN	006 *1	Yes	-	-
FAX	NCU	10th DLTN	007 *1	Yes	-	-
FAX	NCU	11th DLTN	008 *1	Yes	-	-
FAX	NCU	BUSTONE1	BIT *1	Yes	-	-
FAX	NCU	BUSTONE2	001 *1	Yes	-	-
FAX	NCU	BUSTONE3	002 *1	Yes	-	-
FAX	NCU	BUSTONE4	003 *1	Yes	-	-
FAX	NCU	BUSTONE5	004 *1	Yes	-	-
FAX	NCU	BUSTONE6	005 *1	Yes	-	-
FAX	NCU	BUSTONE7	006 *1	Yes	-	-
FAX	NCU	BUSTONE8	007 *1	Yes	-	-
FAX	NCU	BUSTONE9	008 *1	Yes	-	-
FAX	NCU	BUSTONE2	BIT *1	Yes	-	-
FAX	NCU	BUSTONE3	001 *1	Yes	-	-
FAX	NCU	BUSTONE4	002 *1	Yes	-	-
FAX	NCU	BUSTONE5	003 *1	Yes	-	-
FAX	NCU	BUSTONE6	004 *1	Yes	-	-
FAX	NCU	BUSTONE7	005 *1	Yes	-	-
FAX	NCU	BUSTONE8	006 *1	Yes	-	-

*1. FAX model only

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	NCU	BUSTONE9	007 *1	Yes	-	-
FAX	NCU	BUSTONE10	008 *1	Yes	-	-
FAX	NCU	REORDRTN	BIT *1	Yes	-	-
FAX	NCU	REORDRTN	001 *1	Yes	-	-
FAX	NCU	REORDRTN	002 *1	Yes	-	-
FAX	NCU	REORDRTN	003 *1	Yes	-	-
FAX	NCU	REORDRTN	004 *1	Yes	-	-
FAX	NCU	REORDRTN	005 *1	Yes	-	-
FAX	NCU	REORDRTN	006 *1	Yes	-	-
FAX	NCU	REORDRTN	007 *1	Yes	-	-
FAX	NCU	REORDRTN	008 *1	Yes	-	-
FAX	NCU	AUTO RX	001 *1	Yes	-	-
FAX	NCU	AUTO RX	002 *1	Yes	-	-
FAX	NCU	AUTO RX	003 *1	Yes	-	-
FAX	NCU	AUTO RX	004 *1	Yes	-	-
FAX	NCU	AUTO RX	005 *1	Yes	-	-
FAX	NCU	AUTO RX	006 *1	Yes	-	-
FAX	NCU	AUTO RX	007 *1	Yes	-	-
FAX	NCU	AUTO RX	008 *1	Yes	-	-
FAX	NCU	AUTO RX	009 *1	Yes	-	-
FAX	NCU	CNGDTCT	001 *1	Yes	-	-
FAX	NCU	CNGDTCT	002 *1	Yes	-	-
FAX	NCU	CNGDTCT	006 *1	Yes	-	-
FAX	NCU	CNGDTCT	007 *1	Yes	-	-
FAX	NCU	CNGDTCT	008 *1	Yes	-	-
FAX	NCU	CNGDTCT	009 *1	Yes	-	-
FAX	NCU	CNGDTCT	011 *1	Yes	-	-
FAX	NCU	CNGDTCT	012 *1	Yes	-	-
FAX	NCU	SPECIALB	SW01 *1	Yes	-	-
FAX	NCU	SPECIALB	SW02 *1	Yes	-	-
FAX	NCU	SPECIALB	SW03 *1	Yes	-	-
FAX	NCU	SPECIALB	SW04 *1	Yes	-	-
FAX	NCU	SPECIALB	SW05 *1	Yes	-	-
FAX	NCU	SPECIALB	SW06 *1	Yes	-	-
FAX	NCU	SPECIALB	SW07 *1	Yes	-	-
FAX	NCU	SPECIALB	SW08 *1	Yes	-	-
FAX	NCU	SPECIALB	SW09 *1	Yes	-	-
FAX	NCU	SPECIALB	SW10 *1	Yes	-	-
FAX	NCU	SPECIALB	SW11 *1	Yes	-	-
FAX	NCU	SPECIALB	SW12 *1	Yes	-	-
FAX	NCU	SPECIALB	SW13 *1	Yes	-	-
FAX	NCU	SPECIALB	SW14 *1	Yes	-	-
FAX	NCU	SPECIALB	SW15 *1	Yes	-	-
FAX	NCU	SPECIALB	SW16 *1	Yes	-	-
FAX	NCU	SPECIALB	SW17 *1	Yes	-	-
FAX	NCU	SPECIALB	SW18 *1	Yes	-	-
FAX	NCU	SPECIALB	SW19 *1	Yes	-	-
FAX	NCU	SPECIALB	SW20 *1	Yes	-	-

*1. FAX model only

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	NCU	SPECIALB	SW21 *1	Yes	-	-
FAX	NCU	SPECIALB	SW22 *1	Yes	-	-
FAX	NCU	SPECIALB	SW23 *1	Yes	-	-
FAX	NCU	SPECIALB	SW24 *1	Yes	-	-
FAX	NCU	SPECIALB	SW25 *1	Yes	-	-
FAX	NCU	SPECIALB	SW26 *1	Yes	-	-
FAX	NCU	SPECIALB	SW27 *1	Yes	-	-
FAX	NCU	SPECIALB	SW28 *1	Yes	-	-
FAX	NCU	SPECIALB	SW29 *1	Yes	-	-
FAX	NCU	SPECIALB	SW30 *1	Yes	-	-
FAX	NCU	SPECIALN	004 *1	Yes	-	-
FAX	NCU	SPECIALN	005 *1	Yes	-	-
FAX	NCU	SPECIALN	006 *1	Yes	-	-
FAX	NCU	SPECIALN	007 *1	Yes	-	-
FAX	NCU	SPECIALN	008 *1	Yes	-	-
FAX	NCU	SPECIALN	009 *1	Yes	-	-
FAX	NCU	SPECIALN	011 *1	Yes	-	-
FAX	NCU	SPECIALN	012 *1	Yes	-	-
FAX	NCU	SPECIALN	013 *1	Yes	-	-
FAX	NCU	SPECIALN	014 *1	Yes	-	-
FAX	NCU	SPECIALN	015 *1	Yes	-	-
FAX	NCU	SPECIALN	016 *1	Yes	-	-
FAX	NCU	SPECIALN	017 *1	Yes	-	-
FAX	NCU	SPECIALN	019 *1	Yes	-	-
FAX	NCU	SPECIALN	020 *1	Yes	-	-
FAX	NCU	SPECIALN	024 *1	Yes	-	-
FAX	NCU	SPECIALN	025 *1	Yes	-	-
FAX	NCU	SPECIALN	026 *1	Yes	-	-
FAX	NCU	SPECIALN	027 *1	Yes	-	-
FAX	NCU	SPECIALN	030 *1	Yes	-	-
FAX	NCU	SPECIALN	040 *1	Yes	-	-
FAX	NCU	SPECIALN	041 *1	Yes	-	-
FAX	NCU	SPECIALN	042 *1	Yes	-	-
FAX	NCU	SPECIALN	044 *1	Yes	-	-
FAX	NCU	SPECIALN	045 *1	Yes	-	-
FAX	NCU	SPECIALN	046 *1	Yes	-	-
FAX	NCU	SPECIALN	047 *1	Yes	-	-
FAX	NCU	SPECIALN	048 *1	Yes	-	-
FAX	NCU	SPECIALN	065 *1	Yes	-	-
FAX	NCU	SPECIALN	066 *1	Yes	-	-
FAX	NCU	RKEY	001 *1	Yes	-	-
FAX	NCU	RKEY	002 *1	Yes	-	-
FAX	NCU	PBXDIALT	BIT *1	Yes	-	-
FAX	NCU	PBXDIALT	001 *1	Yes	-	-
FAX	NCU	PBXDIALT	002 *1	Yes	-	-
FAX	NCU	PBXDIALT	003 *1	Yes	-	-
FAX	NCU	PBXDIALT	004 *1	Yes	-	-
FAX	NCU	PBXDIALT	005 *1	Yes	-	-

*1. FAX model only

Initial screen	Large	Middle	Small	Case A	Case B	Case C
FAX	NCU	PBXDIALT	006 *1	Yes	-	-
FAX	NCU	PBXDIALT	007 *1	Yes	-	-
FAX	NCU	PBXDIALT	008 *1	Yes	-	-
FAX	NCU	PBXBUSYT	BIT *1	Yes	-	-
FAX	NCU	PBXBUSYT	001 *1	Yes	-	-
FAX	NCU	PBXBUSYT	002 *1	Yes	-	-
FAX	NCU	PBXBUSYT	003 *1	Yes	-	-
FAX	NCU	PBXBUSYT	004 *1	Yes	-	-
FAX	NCU	PBXBUSYT	005 *1	Yes	-	-
FAX	NCU	PBXBUSYT	006 *1	Yes	-	-
FAX	NCU	PBXBUSYT	007 *1	Yes	-	-
FAX	NCU	PBXBUSYT	008 *1	Yes	-	-

■ [Setting/Registration] menu

● System Management Settings

System Management Settings

User mode setting items			Setting description	Case A	Case B	Case C
System Manager Information Settings						
	System Manager ID		Up to 7 digits	Yes	Yes	Yes
	System Manager PIN		Set (7 digits)	Yes	Yes	Yes
	System Manager Name		32 characters	Yes	Yes	Yes
	Contact Information		32 characters	Yes	Yes	Yes
	E-mail Address		64 characters	Yes	Yes	Yes
	System Manager Comment		32 characters	Yes	Yes	Yes
Device Information Settings						
	Device Name		32 characters; Model name is displayed as an initial value	Yes		
	Location		32 characters	Yes		
	Support Link		128 characters	Yes	Yes	Yes
Information for Purchasing Consumables						
	Purchase From		32 characters	Yes	Yes	Yes
	E-mail Address		64 characters	Yes	Yes	Yes
	URL		256 characters	Yes	Yes	Yes
	Display Consumables Purchase Button		On/Off	Yes	Yes	Yes
	Toner Status Settings					
		Use Toner Status	On/Off	Yes	Yes	Yes
		Display Consumables Purchase Button	On/Off	Yes	Yes	Yes

Department ID Management

The * marks in [Setting description] indicates the default setting values.

User mode setting items		Setting description	Case A	Case B	Case C
Department ID Management (not displayed for models without N/W)		Off*/On	Yes	Yes	Yes
Register New Department (can be set from remote UI)			Yes	Yes	Yes
	Department ID	Up to 7 digits	Yes	Yes	Yes
	Set PIN	7 digits	Yes	Yes	Yes
	Restrict Functions				

1. FAX model only

User mode setting items	Setting description	Case A	Case B	Case C
Black & White Copy	Off*/On	Yes	Yes	Yes
Black & White Print	Off*/On	Yes	Yes	Yes
Scan	Off*/On	Yes	Yes	Yes
Fax	Off*/On	Yes	Yes	Yes
Allow Printer Jobs with Unknown IDs (can be set from remote UI)	Allow*/Reject	Yes	Yes	Yes
Allow Scan Jobs W/ Unknown IDs (can be set from remote UI)	Allow*/Reject	Yes	Yes	Yes

Network Settings

The * marks in [Setting description] indicates the default setting values.

User mode setting items	Setting description	Case A	Case B	Case C
TCP/IP settings				
IPv4 Settings				
Auto Acquire	Off/On*	Yes	Yes	Yes
AutoIP	Off/On*	Yes	Yes	Yes
Select Protocol	DHCP*/BOOTP/RARP/OFF	Yes	Yes	Yes
IP Address	IP address 0.0.0.0*	Yes		
Subnet Mask	IP address 0.0.0.0*	Yes	Yes	Yes
Gateway Address	IP address 0.0.0.0*	Yes	Yes	Yes
DNS Settings				
Primary DNS Server	Enter the server address	Yes	Yes	Yes
Secondary DNS Server	Enter the server address	Yes	Yes	Yes
		Yes		
Host Name	Enter the host name	Yes		
Domain Name	Enter the domain name	Yes		
DNS Dynamic Update Settings		Yes	Yes	Yes
DNS Dynamic Update	Off*/On	Yes	Yes	Yes
DNS Dynamic Update Interval	0 to 48 hr. (*24 hr.)	Yes	Yes	Yes
mDNS Settings				
mDNS Settings	Off/On*	Yes		
mDNS Name	mDNS name entryt	Yes		
DHCP Option Settings				
Acquire Host Name (option12)	Off/On*	Yes	Yes	Yes
DNS Dynamic Update (option81)	Off*/On	Yes	Yes	Yes
Acquire DNS Server Address (option6)	Off/On*	Yes	Yes	Yes
Acquire Domain Name (option15)	Off/On*	Yes	Yes	Yes
Acquire WINS Server Address (option44)	Off/On*	Yes	Yes	Yes
Acquire SMTP Server Address (option69)	Off*/On	Yes	Yes	Yes
Acquire POP3 Server Address (option70)	Off*/On	Yes	Yes	Yes
IPv6 Settings				
Use IPv6				
Use IPv6	Off*/On The Link-Local Address is displayed	Yes	Yes	Yes
Stateless Address Settings				
Use Stateless Address	Off/On* The Stateless Address and the Prefix Length are displayed (max 6 addresses)	Yes	Yes	Yes
Manual Address Settings				
Use Manual Address	Off*/On	Yes		
Manual Address	IP address entry screen	Yes		

User mode setting items	Setting description	Case A	Case B	Case C
Prefix Length	(0 to *64 to 128)	Yes		
Default Router Address	Router address entry screen	Yes		
Use DHCPv6				
Use DHCPv6	Off*/OnThe Stateful Address and the Prefix Length are displayed.	Yes	Yes	Yes
DNS Settings				
DNS Server Settings		Yes	Yes	Yes
Primary DNS Server	Enter the server address	Yes	Yes	Yes
Secondary DNS Server	Enter the server address	Yes	Yes	Yes
DNS Host Name/Domain Name Settings		Yes		
Use Same Host Name/Domain Name as IPv4	Off/On*	Yes		
Host Name	Enter the host name	Yes		
Domain Name	Enter the domain name	Yes		
DNS Dynamic Update Settings		Yes	Yes	Yes
DNS Dynamic Update	Off*/On	Yes	Yes	Yes
Register Manual Address	Off*/On	Yes	Yes	Yes
Register Stateful Address	Off*/On	Yes	Yes	Yes
Register Stateless Address	Off*/On	Yes	Yes	Yes
DNS Dynamic Update Interval	0 to 48 hr. (*24 hr.)	Yes	Yes	Yes
mDNS Settings				
mDNS Settings	Off/On*	Yes		
Use Same mDNS Name as IPv4	Off/On*	Yes		
mDNS Name	Enter the mDNS name	Yes		
DHCPv6 Option Settings				
Acquire DNS Server Address (option23)	Off/On*	Yes	Yes	Yes
Acquire Domain Name (option24)	Off/On*	Yes	Yes	Yes
WINS Settings				
WINS Resolution	Off*/On	Yes	Yes	Yes
WINS Server Address	WINS server's IP address (only in the case of WINS resolution) Initial value: 0.0.0.0	Yes	Yes	Yes
LPD Settings				
LPD Print Settings	Off/On*	Yes	Yes	Yes
Period Before Timeout	1 to 60 (*5)	Yes	Yes	Yes
RAW Settings				
RAW Print Settings	Off/On*	Yes	Yes	Yes
Period Before Timeout	1 to 60 (*5)	Yes	Yes	Yes
RAW Settings				
WSD Print Settings				
Use WSD Print	Off/On*	Yes	Yes	Yes
Use WSD Browsing	Off/On*	Yes	Yes	Yes
WSD Scan Settings				
Use WSD Scan	Off*/On	Yes	Yes	Yes
Use Computer Scan	Off*/On	Yes	Yes	Yes
Use Multicast Discovery	Off/On*	Yes	Yes	Yes
Use FTP PASV Mode	Off*/On	Yes	Yes	Yes
Use HTTP	Off/On*	Yes	Yes	Yes
Port Number Settings				
LPD	1 to 65535 (*515)	Yes	Yes	Yes
RAW	1 to 65535 (*9100)	Yes	Yes	Yes
HTTP	1 to 65535 (*80)	Yes	Yes	Yes
POP3	1 to 65535 (*110)	Yes	Yes	Yes
FTP	1 to 65535 (*21)	Yes	Yes	Yes
SMTP	1 to 65535 (*25)	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
SNMP	1 to 65535 (*161)	Yes	Yes	Yes
WSD Multicast Discovery	1 to 65535 (*3702)	Yes	Yes	Yes
Multicast Discovery	1 to 65535 (*427)	Yes	Yes	Yes
MTU Size	1300/1400/*1500	Yes	Yes	Yes
IPP Print Settings				
Use IPP Printing	Off/On*	Yes	Yes	Yes
Use TLS	Off*/On	Yes	Yes	Yes
Network Link Scan Settings				
Use Network Link Scan	Off/On*	Yes	Yes	Yes
SNTP Settings				
Use SNTP	Off*/On	Yes	Yes	Yes
Polling Interval	1 to 48 (*24)	Yes	Yes	Yes
NTP Server Address	(up to 255 characters) *NULL	Yes	Yes	Yes
Multicast Discovery Settings				
Respond to Discovery	Off/On*	Yes	Yes	Yes
Scope Name	(up to 32 characters) *default	Yes	Yes	Yes
Sleep Mode Notification Settings				
Sleep Mode Notification	Off/On*	Yes	Yes	Yes
Port Number	1 to 65535 (*11427)	Yes	Yes	Yes
Number of Routers to Traverse	0 to 254 (*3)	Yes	Yes	Yes
Notification Interval	60 to 65535 (*600)	Yes	Yes	Yes
Proxy Settings				
Use Proxy	Off*/On	Yes	Yes	Yes
HTTP Proxy Server Address	IP address or character strings (max. 128 bytes+ Null)	Yes	Yes	Yes
HTTP Proxy Server Port Number	1 to 65535 80*	Yes	Yes	Yes
Use Proxy within Same Domain	Off*/On	Yes	Yes	Yes
Use Proxy Authentication	Off*/On	Yes	Yes	Yes
User Name	(up to 24characters)	Yes	Yes	Yes
Password	(up to 24characters)	Yes	Yes	Yes
E-Mail/I-Fax Settings				
SMTP Server	Enter the server address	Yes	Yes	Yes
E-mail Address	Enter an e-mail address (max. 120 bytes)	Yes	Yes	Yes
POP Server	Enter the server address	Yes	Yes	Yes
User Name	Enter a user name	Yes	Yes	Yes
Password	Enter a password	Yes	Yes	Yes
POP RX	Off*/On	Yes	Yes	Yes
Pop Interval	* up to 99 (0=Off)	Yes	Yes	Yes
Authentication/Encryption Settings				
Use POP Auth. Before Sending	Off*/On	Yes	Yes	Yes
APOP	Off*/On	Yes	Yes	Yes
SMTP Authentication	Off*/On	Yes	Yes	Yes
User Name	Enter a user name	Yes	Yes	Yes
Allow TLS (SMTP)	Off*/On	Yes	Yes	Yes
Verify Certificate	On/Off*	Yes	Yes	Yes
Verify CN	On/Off*	Yes	Yes	Yes
Allow TLS (POP)	Off*/On	Yes	Yes	Yes
Verify Certificate	On/Off*	Yes	Yes	Yes
Verify CN	On/Off*	Yes	Yes	Yes
SMB Settings				
NetBIOS Name	NetBIOS name of own machine (15 bytes)	Yes		
Workgroup Name	Workgroup name (15 bytes) to which the user belongs	Yes		
SNMP Settings				

User mode setting items	Setting description	Case A	Case B	Case C
SNMPv1 Settings				
Use SNMPv1 Settings	Off/On*	Yes	Yes	Yes
Use Community Name 1	Off/On*	Yes	Yes	Yes
Community Name 1	Character strings; Public*	Yes	Yes	Yes
Use Community Name 2	Off*/On	Yes	Yes	Yes
Community Name 2	Character strings	Yes	Yes	Yes
MIB Access Permission 1	Read Only*/Read/Write	Yes	Yes	Yes
MIB Access Permission 2	Read Only*/Read/Write	Yes	Yes	Yes
Use Dedicated Community	Off/On*	Yes	Yes	Yes
Dedicated Community Settings	RW/RO*/Off; The value of DB: RW (0x00)/ RO(0x01)/Off(0x02)	Yes	Yes	Yes
SNMPv3 Settings				
Use SNMPv3 Settings	Off*/On	Yes	Yes	Yes
Context Settings				
Acquire Printer Management Information from Host	Off*/On	Yes	Yes	Yes
AirPrint Settings				
Use AirPrint	Off/On*	Yes	Yes	Yes
Printer Name	Enter the mDNS name	Yes		
Location	32 characters	Yes		
Latitude	N*/S, 0* to 90°, 0* to 59′, 0* to 59.999″	Yes		
Longitude	E*/W, 0* to 180°, 0* to 59′, 0* to 59.999″	Yes		
Mopria Settings				
Use Mopria	Off/On*	Yes	Yes	Yes
Dedicated Port Settings				
Dedicated Port Settings	Off/On*	Yes	Yes	Yes
Waiting Time for Connection at Startup	(0 to 300) sec *0 sec (NCA)	Yes	Yes	Yes
Ethernet Driver Settings				
Auto Detect	Off/On*	Yes	Yes	Yes
Communication Mode	Half Duplex*/Full Duplex	Yes	Yes	Yes
Ethernet Type	10 Base-T*/100 Base-TX /1000 Base-T	Yes	Yes	Yes
Wireless LAN Settings				
Wireless LAN Manual Settings				
SSID Settings				
SSID Manual Settings	Character strings (ASCII: 1 to 32 characters)	Yes	Yes	Yes
Securety Settings				
Security	WPA/WPA2 PSK*/WEP/None	Yes	Yes	Yes
WPA/WPA2 PSK Settings				
WPA/WPA2 Encryption Method	Auto (AES-CCMP or TKIP) */ AES-CCMP	Yes	Yes	Yes
Entry Format	ASCII (8 to 63 characters)/ Hex number (64 digits)	Yes	Yes	Yes
WPA/WPA2 PSK	Character strings (ASCII: 8 to 63 characters, Hex number: 64 digits)	Yes	Yes	Yes
WE Settings				
WEP Key Length	40bit WEP key* / 104bit WEP key	Yes	Yes	Yes
Entry Format	40-bit ASCII (5 characters)/104-bit ASCII (13 characters)/40-bit hex number (10 digits)//104-bit hex number (26 digits)	Yes	Yes	Yes
WEP Key 1	Character strings (ASCII: 5 characters/13 characters, Hex number: 10 digits/26 digits)	Yes	Yes	Yes
WEP Key 2	Character strings (ASCII: 5 characters/13 characters, Hex number: 10 digits/26 digits)	Yes	Yes	Yes
WEP Key 3	Character strings (ASCII: 5 characters/13 characters, Hex number: 10 digits/26 digits)	Yes	Yes	Yes
WEP Key 4	Character strings (ASCII: 5 characters/13 characters, Hex number: 10 digits/26 digits)	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
Select WEP Key	1 to 4 (*1)	Yes	Yes	Yes
802.11 Authentication	Open System*/Shared Key	Yes	Yes	Yes
Power Save Mode				
Power Save Mode	On/Off*	Yes	Yes	Yes
Select Wired/Wireless LAN				
Select Wired/Wireless LAN	Wired LAN*/Wireless LAN	Yes	Yes	Yes
Settings for Device Settings Management				
Use Device Settings Management	On*/Off	Yes	Yes	Yes

Security Settings

The * marks in [Setting description] indicates the default setting values.

User mode setting items	Setting description	Case A	Case B	Case C
IPv4 Address Filter				
Outbound Filter				
Use Filter	Off*/On	Yes	Yes	Yes
Default Policy	Reject/Allow*	Yes	Yes	Yes
Exception Addresses	Up to 16 send exception IPv4 addresses	Yes	Yes	Yes
Inbound Filter				
Use Filter	Off*/On	Yes	Yes	Yes
Default Policy	Reject/Allow*	Yes	Yes	Yes
Exception Addresses	Up to 16 send exception IPv4 addresses	Yes	Yes	Yes
IPv6 Address Filter				
Outbound Filter				
Use Filter	Off*/On	Yes	Yes	Yes
Default Policy	Reject/Allow*	Yes	Yes	Yes
Exception Addresses	Up to 16 send exception IPv6 addresses	Yes	Yes	Yes
Inbound Filter				
Use Filter	Off*/On	Yes	Yes	Yes
Default Policy	Reject/Allow*	Yes	Yes	Yes
Exception Addresses	Up to 16 send exception IPv6 addresses	Yes	Yes	Yes
MAC Address Filter				
Outbound Filter				
Use Filter	Off*/On	Yes	Yes	Yes
Default Policy	Reject/Allow*	Yes	Yes	Yes
Exception Addresses	Up to 32 MAC addresses	Yes	Yes	Yes
Inbound Filter				
Use Filter	Off*/On	Yes	Yes	Yes
Default Policy	Reject/Allow*	Yes	Yes	Yes
Exception Addresses	Up to 32 MAC addresses	Yes	Yes	Yes

Restrict TX Function

The * marks in [Setting description] indicates the default setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Address Book PIN	7 digits	Yes	Yes	Yes
Restrict New Destinations	Off*/On	Yes	Yes	Yes
Restrict Sending from Log	Off*/On	Yes	Yes	Yes
One-Touch/Coded Dial TX Confirmation	Off*/On	Yes	Yes	Yes

Register LDAP Server

The * marks in [Setting description] indicates the default setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Register New LDAP Server (For Search)				
Server Name	Character strings (UTF-8 in 24 characters, max. 96 bytes)	Yes	Yes	Yes
Server Address	IP address or character strings (47 bytes)	Yes	Yes	Yes
Position to Start Search	Specify the part of the tree of the directory server where search is started (120bytes)	Yes	Yes	Yes
Port Number	The communication port number of LDAP used by the LDAP server (1 to 65535); Initial value: 389	Yes	Yes	Yes
Search Timeout	Response time from the LDAP server (30 to 300 sec); Initial value: 60	Yes	Yes	Yes
Login Information	Do Not Use*/Use/Use (Security Authentication)	Yes	Yes	Yes
User Name	User name that can be authenticated for LADP server (120 bytes)	Yes	Yes	Yes
Domain Name	120byte	Yes	Yes	Yes
Display Authentication Screen When Searching	On/Off*	Yes	Yes	Yes
Use Auth. Info. at Send Start	On*/Off	Yes	Yes	Yes
Register New LDAP Server (For Authentication)				
Server Name	Character strings (UTF-8 in 24 characters, max. 96 bytes)	Yes	Yes	Yes
Server Address	IP address or character strings (47 bytes)	Yes	Yes	Yes
Position to Start Search	Specify the part of the tree of the directory server where search is started (120bytes).	Yes	Yes	Yes
Port Number	The communication port number of LDAP used by the LDAP server (1 to 65535); Initial value: 389	Yes	Yes	Yes
Auth/Attrib Acquisition Timeout	Response time from the LDAP server (15 to 150 sec); Initial value: 30	Yes	Yes	Yes
User Name Attribute	Attribute name used to obtain the user name from the authentication server (64 bytes)	Yes	Yes	Yes
E-Mail Address Attribute	Attribute name used to obtain the e-mail address from the authentication server (64 bytes)	Yes	Yes	Yes
Login Information	Use*/Use (Security Authentication)	Yes	Yes	Yes
Use System Manager ID	On/Off*	Yes	Yes	Yes
User Name	name that can be authenticated for LADP server (120 bytes)	Yes	Yes	Yes
Domain Name	120byte	Yes	Yes	Yes

Authentication Settings for Send Function

The * marks in [Setting description] indicates the default setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Display Authentication Screen When Sending Operation Starts	On/Off*	Yes	Yes	Yes
Display Confirmation Screen When Logging Out	On/Off*	Yes	Yes	Yes
E-Mail/I-Fax Sending Settings				
E-Mail/I-Fax Sending:	Do Not Allow/Allow*/Only Allow Sending to Myself	Yes	Yes	Yes
Authentication Method	Display the authentication screen using the same user name as when the sending operation started/Display the authentication screen without any authentication information/Use device-specific authentication information and do not display the authentication screen*	Yes	Yes	Yes
Specify Authentication User Destination as Sender	On*/Off	Yes	Yes	Yes
File Sending Settings				
File Sending	Do Not Allow/Allow*/Only Allow Sending to Myself or Specified Folder	Yes	Yes	Yes
When Sending File to Destination Registered in Address Book				

User mode setting items	Setting description	Case A	Case B	Case C
Authentication Method	Display the authentication screen using the same authentication information as when the sending operation started/ Display the authentication screen without any authentication information/Use the authentication information from the address book and do not display the authentication screen*	Yes	Yes	Yes
When Sending File to Myself				
Authentication Method	Use Same Authentication Information as When Send Operation Started/Display the authentication screen without any authentication information	Yes	Yes	Yes
Display Authentication Screen	On/Off*	Yes	Yes	Yes
Specify Destination Folder	On/Off*	Yes	Yes	Yes
Host Name	120byte	Yes	Yes	Yes
Folder Path	120byte	Yes	Yes	Yes
Add User Name	On*/Off	Yes	Yes	Yes
Fax Sending Settings				
Fax Sending	Do Not Allow/Allow*	Yes	Yes	Yes

Others

The * marks in [Setting description] indicates the default setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Display Job Log				
(Display Job Log)	Off/On*	Yes	Yes	Yes
USB Device Settings				
(Use as USB Device)	Off/On*	Yes	Yes	Yes
Memory Media Settings				
(Store to Memory Media)	<Dealer machines> Off*/On <Shop machines> Off/On*	Yes	Yes	Yes
Memory Media PrintF				
(Memory Media Print)	<Dealer machines> Off*/On <Shop machines> Off/On*	Yes	Yes	Yes
Enable Product Extended Survey Program				
(Use Product Extended Survey Program)	Off/On*	Yes	Yes	Yes
Canon Mobile Scanning				
(Canon Mobile Scanning)	Off/On*	Yes	Yes	Yes
Notify to Check Paper Settings				
(Notify to Check Paper Settings)	Off/On*	Yes	Yes	Yes
Secure Print Settings				
Secure Print	Off/On*	Yes	Yes	Yes
Secure Print Deletion Time	10 to 240 min (Default: 30 min)	Yes	Yes	Yes
PDL Selection (Plug and Play)				
USB	-	Yes	Yes	

● Other than System Management Settings

Preferences

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Sound Volume Control				
Fax Tone	Off/On* (1-3) 1*	Yes	Yes	Yes
Ring Tone	Off/On* (1-3) 1*	Yes	Yes	Yes
TX Done Tone	Off/On* (1-3) 1* /Only When Error Occurs (1-3) 1*	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
RX Done Tone	Off/On* (1-3) 1* /Only When Error Occurs (1-3) 1*	Yes	Yes	Yes
Scanning Done Tone	Off/On* (1-3) 1* /Only When Error Occurs (1-3) 1*	Yes	Yes	Yes
Entry Tone	Off/On*	Yes	Yes	Yes
Invalid Entry Tone	Off*/On	Yes	Yes	Yes
Restock Supplies Tone	Off*/On	Yes	Yes	Yes
Warning Tone	Off/On*	Yes	Yes	Yes
Job Done Tone	Off/On*	Yes	Yes	Yes
Energy Saver Alert	Off*/On	Yes	Yes	Yes
Original in Feeder Detection Tone	Off/On*	Yes	Yes	Yes
Display Settings				
Default Screen after Startup/Restoration	Home*1 /Copy*2 / Scan / Fax / Memory Media Print / Status Monitor/ Cancel	Yes	Yes	Yes
Language	Select the display language	Yes	Yes	Yes
Remote UI Language	Select the display language	Yes	Yes	Yes
Brightness	-4 to 0*	Yes	Yes	Yes
Invert Screen Colors	Off*/On	Yes	Yes	Yes
Millimeter/Inch Entry	Millimeter*/Inch (* Inch: Only when the country/region is set to USA)	Yes	Yes	Yes
Gram/Pound Switch	Gram/Pound*	Yes	Yes	Yes
Message Display Time	1-5 2*	Yes	Yes	Yes
Scrolling Speed	Slow/Standard*/Fast	Yes	Yes	Yes
Cursor Movement	Auto*/Manual	Yes	Yes	Yes
English Keyboard Layout	USA Layout/UK Layout	Yes	Yes	Yes

Timer Settings

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Date/Time Settings	Time zone			
Date Format	"MM/DD/YYYY","DD/MM YYYY","YYYY MM/DD"	Yes	Yes	Yes
Time Format	12 Hour (AM/PM) / 24 Hour	Yes	Yes	Yes
Time Zone	UTC-12:00 to UTC+14:00+City name	Yes	Yes	
Daylight Saving Time	Off*/On, When On: Start, End	Yes	Yes	Yes
Start	Month/Week/Day	Yes	Yes	Yes
End	Month/Week/Day	Yes	Yes	Yes
Auto Sleep Time	xxx to xxx min Default: xxx	Yes	Yes	Yes
Auto Reset Time	0=None, 1...2*...9 min. (1-minute increment)	Yes	Yes	Yes
Function After Auto Reset	Default Function*/Selected Function	Yes	Yes	Yes
Auto Offline Time	0=None, 1 to 60 min. (1-minute increment) Default: 5	Yes	Yes	Yes
Auto Shutdown Time	0=None, 1 to 8 hours (1-hour increment) Default: 4 (Europe), 0 (Other than Europe)	Yes	Yes	Yes

Common Settings

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Paper Drawer Auto Selection	Copy/Printer/RX or Fax/Other (Multi-Purpose Tray:*Off/On + Each Cassette:*Off/On)			
Copy				
Multi-purpose Tray	Off*/On	Yes	Yes	Yes
Drawer 1	Off/On*	Yes	Yes	Yes
Drawer 2	Off/On*	Yes	Yes	Yes

*1. Not displayed on models without Touch Panel.

*2. Default of models without Touch Panel.

User mode setting items	Setting description	Case A	Case B	Case C
Printer				
Drawer 1	Off/On*	Yes	Yes	Yes
Drawer 2	Off/On*	Yes	Yes	Yes
Fax/Receive	(Fax for Fax-only models, Receive for others)			
Multi-purpose Tray	Off*/On	Yes	Yes	Yes
Drawer 1	Off/On*	Yes	Yes	Yes
Drawer 2	Off/On*	Yes	Yes	Yes
Other				
Multi-purpose Tray	Off*/On	Yes	Yes	Yes
Drawer 1	Off/On*	Yes	Yes	Yes
Drawer 2	Off/On*	Yes	Yes	Yes
Switch Paper Feed Method				
Multi-purpose Tray	Speed Priority*/Print Side Priority	Yes	Yes	
Drawer 1	Speed Priority*/Print Side Priority	Yes	Yes	
Drawer 2	Speed Priority*/Print Side Priority	Yes	Yes	

Copy Settings

User mode setting items	Setting description	Case A	Case B	Case C
Change Default Settings	Register	Yes	Yes	

Fax Settings

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Basic Settings				
Unit Telephone Number				
Telephone number	Max. 20 digits	Yes	Yes	
Select Line Type	Auto/Manual*	Yes	Yes	Yes
Manual	120V, 230V: Tone*/Pulse(10PPS); 100V: Dial 20 PPS/ Dial 10 PPS/Tone*	Yes	Yes	Yes
Off-Hook Alarm	Off*/On (1-3)	Yes	Yes	Yes
Communication Management Settings				
TX Start Speed	33600*/14400/9600/7200/4800/2400 bps	Yes	Yes	Yes
RX Start Speed	33600*/14400/9600/7200/4800/2400 bps	Yes	Yes	Yes
R-Key Setting	PSTN*/PBX	Yes	Yes	Yes
PBX	HOOKING/PREFIX	Yes	Yes	Yes
Prefix Code	> Prefix Code	Yes	Yes	Yes
TX Function Settings				
Change Default Settings	Register	Yes	Yes	Yes
2-Sided Original	Off*/On	Yes	Yes	Yes
Resolution	standard*/fine/photo/sfine/ufine	Yes	Yes	Yes
Density	-4 to +4(0*)	Yes	Yes	Yes
Sharpness	-3 to +3(0*)	Yes	Yes	Yes
Register Unit Name (Fax)	Enter the unit name	Yes	Yes	Yes
ECM TX	Off/On*	Yes	Yes	Yes
Set Pause Time	1 to 15(sec)/4 to 11(sec)/3 to 6(sec) (2*)	Yes	Yes	Yes
Auto Redial	Off/On*	Yes	Yes	Yes
Number of Times to Redial	1-N	Yes	Yes	Yes
Redial Interval (min)	2-99(2*)	Yes	Yes	Yes
Redial When Err Occurs	Off/On*	Yes	Yes	Yes
Add TX Terminal ID	Off/On*	Yes	Yes	Yes
Print Position	Inside Image Area/Outside Image Area*	Yes	Yes	Yes
Mark Number as: TEL/FAX	FAX*/TEL	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
Check Dial Tone Before Sending	Off*/On	Yes	Yes	Yes
Allow Fax Driver TX	Off*/On	Yes	Yes	Yes
Confirm Entered Fax Number	Off*/On	Yes	Yes	Yes
Restrict Sequential Broadcast	Confirm Sequential Broadcast/Reject Sequential Broadcast/Off*	Yes	Yes	Yes
RX Function Settings				
ECM RX	Off/On*	Yes	Yes	Yes
Use Incoming Ring	Off/On*	Yes	Yes	Yes
Number of Rings	1 to N times *2 times	Yes	Yes	Yes
Remote RX	Off/On*	Yes	Yes	Yes
Remote RX ID	(Remote RX ID: 00 to 99, 25*)	Yes	Yes	Yes
Switch to Auto RX	Off*/On	Yes	Yes	Yes
Ring Time Until Auto RX	1 to 99 sec *15 sec	Yes	Yes	Yes
Memory Lock Setting				
PIN	Register a PIN (7 digits)	Yes	Yes	Yes
Use Memory Lock	Off*/On	Yes	Yes	Yes
Print Report	Off/On*	Yes	Yes	Yes
Specify Memory Lock Time	On/Off*	Yes	Yes	Yes
Memory Lock Start Time (hr.)	Set the time	Yes	Yes	Yes
Memory Lock Start Time (min.)	Set the time	Yes	Yes	Yes
Memory Lock End Time (hr.)	Set the time	Yes	Yes	Yes
Memory Lock End Time (min.)	Set the time	Yes	Yes	Yes
RX Print Settings				
Print on Both Sides	Off*/On	Yes	Yes	Yes
Reduce RX Size	Off/On*	Yes	Yes	Yes
Reduction Mode	Auto*/Fixed	Yes	Yes	Yes
Reduction Ratio	97/95/90*/75(%)	Yes	Yes	Yes
Reduction Direction	Vertical/Horizontal / Vertical Only*	Yes	Yes	Yes
Add RX Page Footer	Off*/On	Yes	Yes	Yes
Use K-Paper	Off*/On	Yes	Yes	Yes
Continue Printing When Amount in Cartridge Is Low	Off/On	Yes	Yes	Yes
Forwarding Settings				
Print Images	Off / Only When Error Occurs / On*	Yes	Yes	Yes
Store Images in Memory	Do Not Store* / Only When Error Occurs	Yes	Yes	Yes

Scan Settings

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
USB Memory Settings				
Change Default Settings	Register	Yes	Yes	Yes
Scan Size	Refer to the list of supported paper sizes	Yes	Yes	Yes
Color Mode	Color*/Black & White	Yes	Yes	Yes
File Format	PDF (Compact)/PDF*/PDF (Compact/OCR)/PDF (OCR)/JPEG/TIFF	Yes	Yes	Yes
Encrypted PDF	None*/Acrobat7.0 or later/Acrobat9.0 or equivalent/Acrobat10.0 or equivalent	Yes	Yes	Yes
Digital Signatures	None*/OK	Yes	Yes	Yes
Density	-4 to +4(0*)	Yes	Yes	Yes
Original Orientation	Portrait*/Landscape	Yes	Yes	Yes
Original Type	Text/ Text/Photo* / Photo	Yes	Yes	Yes
2-Sided Original	Off*/On	Yes	Yes	Yes
Sharpness	-3 to +3(0*)	Yes	Yes	Yes
Data Size	Memory Priority/Standard*/Image Quality Priority	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
E-mail Settings				
Register Default Settings	Register	Yes	Yes	Yes
Scan Size	Refer to the list of supported paper sizes	Yes	Yes	Yes
Color Mode	Color*/Black & White	Yes	Yes	Yes
File Format	PDF (Compact)/PDF*/PDF (Compact/OCR)/PDF (OCR)/JPEG/TIFF	Yes	Yes	Yes
Encrypted PDF	None*/Acrobat7.0 or later/Acrobat9.0 or equivalent/Acrobat10.0 or equivalent	Yes	Yes	Yes
Digital Signatures	None*/OK	Yes	Yes	Yes
Density	-4 to +4(0*)	Yes	Yes	Yes
Original Orientation	Portrait*/Landscape	Yes	Yes	Yes
Original Type	Text/ Text/Photo* / Photo	Yes	Yes	Yes
2-Sided Original	Off*/On	Yes	Yes	Yes
Sharpness	-3 to +3(0*)	Yes	Yes	Yes
Data size	Memory Priority/Standard*/Image Quality Priority	Yes	Yes	Yes
Subject	Enter the subject	Yes	Yes	Yes
Message	Enter the message	Yes	Yes	Yes
Reply-to	Specify from Address Book...	Yes	Yes	Yes
Priority	Low/Standard*/High	Yes	Yes	Yes
I-Fax Settings				
TX Function Settings				
Change Default Settings	Register	Yes	Yes	Yes
Scan Size	Refer to the list of supported paper sizes	Yes	Yes	Yes
Density	-4 to +4(0*)	Yes	Yes	Yes
Original Type	Text*/ Text/Photo / Photo	Yes	Yes	Yes
2-Sided Original	Off*/On	Yes	Yes	Yes
Sharpness	-3 to +3(0*)	Yes	Yes	Yes
Subject	Enter the subject	Yes	Yes	Yes
Message	Enter the message	Yes	Yes	Yes
Reply-to	Specify from Address Book...	Yes	Yes	Yes
Add TX Terminal ID	Off/On*	Yes	Yes	Yes
Print Position	Inside Image Area/Outside Image Area*	Yes	Yes	Yes
RX Print Settings				
Print on Both Sides	Off*/On	Yes	Yes	Yes
RX Print Size	Refer to the list of supported paper sizes. Default: AB configuration=>A4, AB/Inch configuration=>A4, Inch configuration=>LTR	Yes	Yes	Yes
Continue Printing When Amount in Cartridge Is Low	Off*/No	Yes	Yes	Yes
File Settings				
Change/Register Default Settings				
File	Register	Yes	Yes	Yes
Scan Size	Refer to the list of supported paper sizes	Yes	Yes	Yes
Color Mode	Color*/Black & White	Yes	Yes	Yes
File Format	PDF (Compact)/PDF*/PDF (Compact/OCR)/PDF (OCR)/JPEG/TIFF	Yes	Yes	Yes
Encrypted PDF	None*/Acrobat7.0 or later/Acrobat9.0 or equivalent/Acrobat10.0 or equivalent	Yes	Yes	Yes
Digital Signatures	None*/OK	Yes	Yes	Yes
Density	-4 to +4(0*)	Yes	Yes	Yes
Original Orientation	Portrait*/Landscape	Yes	Yes	Yes
Original Type	Text/ Text/Photo* / Photo	Yes	Yes	Yes
2-Sided Original	Off*/On	Yes	Yes	Yes
Sharpness	-3 to +3(0*)	Yes	Yes	Yes
Data size	Memory Priority/Standard*/Image Quality Priority	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
Common Settings				
Unit Name (E-Mail/I-Fax)	Enter the unit name	Yes	Yes	Yes
Output File Image Settings				
YCbCr Tx Gamma Value	γ1.0/γ1.4/γ1.8*/γ2.2	Yes	Yes	
OCR (Text Searchable) Settings				
Smart Scan	Off/On*	Yes	Yes	

Memory Media Print Settings

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Change Default Settings	Register	Yes	Yes	Yes
File Sort Default Settings	Name (Ascending)*/Name (Descending), Date/Time (Ascending) / Date/Time (Descending)	Yes	Yes	Yes
File Name Display Format	Short File Name/Long File Name*	Yes	Yes	Yes
Default Display Settings	Details*/Images	Yes	Yes	Yes

Printer Settings

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Custom Settings				
Prioritize Driver Settings When Printing		Yes	Yes	Yes
Multi-purpose Tray	*Off/On	Yes	Yes	Yes
	*Force Output/Display Error (displayed only when set to On)	Yes	Yes	Yes
Drawer 1	*Off/On	Yes	Yes	Yes
	*Force Output/Display Error (displayed only when set to On)	Yes	Yes	Yes
Drawer 2	*Off/On	Yes	Yes	Yes
	*Force Output/Display Error (displayed only when set to On)	Yes	Yes	Yes
Drawer 3	*Off/On	Yes	Yes	Yes
	*Force Output/Display Error (displayed only when set to On)	Yes	Yes	Yes
Copies	1* to 99	Yes	Yes	Yes
2-Sided Printing	Off*/On	Yes	Yes	Yes
Paper		Yes	Yes	
Default Paper Size	-	Yes	Yes	
Default Paper Type	-	Yes	Yes	
Paper Size Override	Off*/On	Yes	Yes	Yes
Print Quality		Yes	Yes	Yes
Density	-8 to +8 0*	Yes	Yes	Yes
Fine Adjust	High: -8 to +8 0*	Yes	Yes	Yes
	Medium: -8 to +8 0*	Yes	Yes	Yes
	Low: -8 to +8 0*	Yes	Yes	Yes
Toner Save	Off*/On	Yes	Yes	Yes
Resolution	600dpi*/1200dpi	Yes	Yes	Yes
Barcode Adjustment Mode	Off*/Mode 1/Mode 2/Mode 3	Yes	Yes	Yes
Layout				
Binding Location	Long Edge*/Short Edge	Yes	Yes	Yes
Gutter	mm/in; For mm:-50.0 to 50.0, Default: 0, in 0.5-mm increment; For inch: -1.90 to 1.90, Default: 0, in 0.01-inch increment	Yes	Yes	Yes
Offset Short Edge (Front)	mm/in; For mm:-50.0 to 50.0, Default: 0, in 0.5-mm increment; For inch: -2.00 to 2.00, Default: 0, in 0.01-inch increment	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
Offset Long Edge (Front)	Same as above	Yes	Yes	Yes
Offset Short Edge (Back)	Same as above	Yes	Yes	Yes
Offset Long Edge (Back)	Same as above	Yes	Yes	Yes
Auto Error Skip	Off*/On	Yes	Yes	Yes
Timeout	Timeout (Timeout: 5 to 300 sec) 15*	Yes	Yes	Yes
Personality	*Auto/PS/PCL/PDF/XPS	Yes	Yes	Yes
LIPSLX or UFRII				
Halftones				
Text	ColorResolution*/GradationBWResolution*/Color Tone/Gradation/High Resolution	Yes	Yes	Yes
Graphics	ColorResolution/Gradation*BWResolution/Color Tone*/Gradation/High Resolution	Yes	Yes	Yes
Image	ColorResolution/Gradation*BWResolution/Color Tone*/Gradation/High Resolution	Yes	Yes	Yes
PCL				
Paper Save	Off*/On	Yes	Yes	Yes
Orientation	Vertical*/Portrait	Yes	Yes	Yes
Font Number	0 to max. number of fonts	Yes	Yes	Yes
Point Size	Point : 4 to 999.75, Default: 12, in 0.25 increment; The value multiplied by 100 is retained as an internal value	Yes	Yes	Yes
Pitch	cpi : 0.44 to 99.99, Default: 10, in 0.01 increment; The value multiplied by 100 is retained as an internal value	Yes	Yes	Yes
Form Lines	Line: 5 to 128, Default: 60 (US), 64 (other than US)	Yes	Yes	Yes
Character Code	Default PC8	Yes	Yes	Yes
Set Custom Paper	Off*/On	Yes	Yes	Yes
Unit of Measure	For countries other than US: Millimeters*/Inch; For US; Millimeters/Inch*	Yes	Yes	Yes
X dimension	-	Yes	Yes	Yes
Y dimension	-	Yes	Yes	Yes
Append CR to LF	Yes/No*	Yes	Yes	Yes
Enlarge A4 Print Width	Off*/On	Yes	Yes	Yes
Halftones				
Text	Color:Resolution*/GradationBW:Resolution*/Color Tone/Gradation/High Resolution	Yes	Yes	Yes
Graphics	Color:Resolution/Gradation*BW:Resolution/Color Tone*/Gradation/High Resolution	Yes	Yes	Yes
Image	Color:Resolution/Gradation*BW:Resolution/Color Tone*/Gradation/High Resolution	Yes	Yes	Yes
BarDIMM	Disable*/Enable	Yes	Yes	Yes
FreeScape	Off, ~, ", #, $, /, \, ?, {, }, | Initial value~	Yes	Yes	Yes
PS				
Job timeout	0 to 3600[sec], Default: 0[sec]	Yes	Yes	Yes
Print PS Error	On/Off*	Yes	Yes	Yes
Halftones				
Text	Color:Resolution*/GradationBW:Resolution*/Gradation/High Resolution	Yes	Yes	Yes
Graphics	Color:Resolution/Gradation*BW:Resolution*/Gradation/High Resolution	Yes	Yes	Yes
Image	Color:Resolution/Gradation*BW:Resolution*/Gradation/High Resolution	Yes	Yes	Yes
Grayscale Con-version	sRGB/NTSC*/Uniform RGB	Yes	Yes	Yes
PDF				
Enlarge/Reduce to Fit Size	On/*Off	Yes	Yes	Yes
Enlarge Print Area	On/*Off	Yes	Yes	Yes

User mode setting items	Setting description	Case A	Case B	Case C
N on 1	*Off/2 on 1/4 on 1/6 on 1/8 on 1/9 on 1/16 on 1	Yes	Yes	Yes
Comment Print	Off/Auto*	Yes	Yes	Yes
Halftones				
Text	Color:Resolution*/GradationBW:Resolution*/Gradatio/High Resolution	Yes	Yes	Yes
Graphics	Color:Resolution/Gradation*BW:Resolution*/Gradatio/High Resolution	Yes	Yes	Yes
Image	Color:Resolution/Gradation*BW:Resolution*/Gradatio/High Resolution	Yes	Yes	Yes
Grayscale Conversion	sRGB/NTSC*/Uniform RGB	Yes	Yes	Yes
XPS				
Halftones				
Text	Color:Resolution*/GradationBW:Resolution*/Gradatio/High Resolution	Yes	Yes	Yes
Graphics	Color:Resolution/Gradation*BW:Resolution*/Gradatio/High Resolution	Yes	Yes	Yes
Image	Color:Resolution/Gradation*BW:Resolution*/Gradatio/High Resolution	Yes	Yes	Yes
Grayscale Conversion				
Text	sRGB/NTSC*/Uniform RGB	Yes	Yes	Yes
Graphics	sRGB/NTSC*/Uniform RGB	Yes	Yes	Yes
Image	sRGB/NTSC*/Uniform RGB	Yes	Yes	Yes
Compressed Image Output	Output*/Display Error	Yes	Yes	Yes
Imaging				
Halftones	Error Diffusion/Gradation*	Yes	Yes	Yes

Adjustment/Maintenance

The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Printer Density	-4 to +4 0*	Yes	Yes	
Toner Saver Mode	Off*/On	Yes	Yes	
Display Timing for Cartridge Preparation				
Auto		Yes	Yes	
Custom	1%-99%, *20%	Yes	Yes	
Special Processing				
Special Mode A	Off/MODE1*/MODE2/MODE3/MODE4	Yes	Yes	
Special Mode U	Off*/On	Yes	Yes	
Special Mode V	Off*/MODE1/MODE2	Yes	Yes	
Special Mode Z	Off/MODE1*/MODE2/MODE3	Yes	Yes	
Special Mode B	Off*/MODE1/MODE2/MODE3	Yes	Yes	
Special Mode C	Off*/On	Yes	Yes	
Special Mode D	Off*/On	Yes	Yes	
Special Mode G	Off*/On	Yes	Yes	

Report Output

Displayed when Report key is pressed. Not displayed in the Settings/Registration menu.
The * marks in [Setting description] indicates the initial setting values.

User mode setting items	Setting description	Case A	Case B	Case C
Output Report Settings				
Fax TX Result Report	Off / On / Only When Error Occurs*	Yes	Yes	
TX Image Report	Off/On*	Yes	Yes	
E-Mail/I-Fax/File TX Result Report	Off / On / Only When Error Occurs*	Yes	Yes	
Communication Management Report				
Auto Print After 40 Transmissions	Off/On*	Yes	Yes	
Separate TX/RX	Off*/On	Yes	Yes	

User mode setting items	Setting description	Case A	Case B	Case C
RX Result Report	Off* / On / Only When Error Occurs	Yes	Yes	

• Common settings

User mode setting items	Case A	Case B	Case C
Paper Settings			
Multi-purpose Tray			
Specify When Loading Paper	Yes	Yes	
Paper Size	Yes	Yes	
Paper Type	Yes	Yes	
Drawer 1			
Paper Size	Yes	Yes	
Paper Type	Yes	Yes	
Drawer 2			
Paper Size	Yes	Yes	
Paper Type	Yes	Yes	
Register Custom Paper	Yes	Yes	
Select Frequently Used Paper Sizes			
Multi-purpose Tray	Yes	Yes	
Drawer 1	Yes	Yes	
Drawer 2	Yes	Yes	
Address Book Settings (Model with FAX and/or SEND)			
One-touch Dial			
Fax	Yes	Yes	Yes
Fax Number	Yes	Yes	Yes
Name	Yes	Yes	Yes
Set Details	Yes	Yes	Yes
Long Distance	Yes	Yes	Yes
TX Speed	Yes	Yes	Yes
ECM TX	Yes	Yes	Yes
E-mail			
E-mail Address	Yes	Yes	Yes
Name	Yes	Yes	Yes
File: SMB			
Host Name	Yes	Yes	Yes
Name	Yes	Yes	Yes
Folder Path	Yes	Yes	Yes
User Name	Yes	Yes	Yes
Password	Yes	Yes	Yes
File: FTP			
Host Name	Yes	Yes	Yes
Name	Yes	Yes	Yes
Folder Path	Yes	Yes	Yes
User Name	Yes	Yes	Yes
Password	Yes	Yes	Yes
I-Fax			
I-Fax Address	Yes	Yes	Yes
Name	Yes	Yes	Yes

Monitoring Function (e-Maintenance/imageWARE Remote)

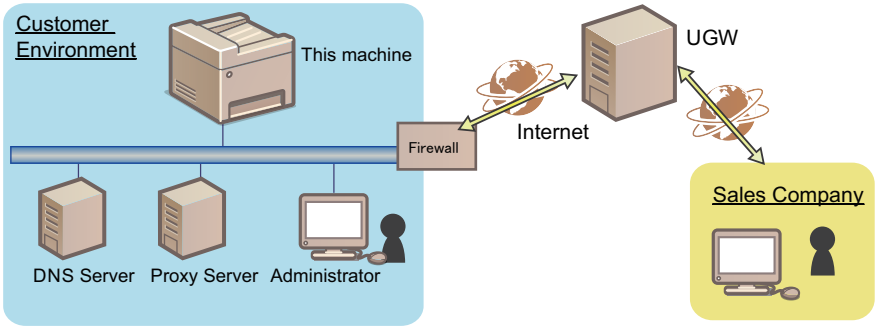
Overview of System

■ Function 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.



■ Features

E-RDS is embedded in the network module of the device, and the front-end module of the e-Maintenance/ imageWARE Remote system is realized without requiring hardware besides the device.

■ Main Functions

Functional category	Sub category	Description
Communication test	COM-TEST	Execute service mode to communicate with the server, retrieve schedule information, and establish communication.
Transmission of counters	Billing/all resources/parts/ mode-by-mode counters	Periodically send billing/all resources/parts/mode-by-mode counters to the server.
Transmission of event logs	Alerts	Each time the status of the device is changed, the status information is sent to the server.
	Service call/alarm/jam log	Each time a service call, alarm, or jam log occurs, the error log is sent to the server.
Data transmission	ROM version	Periodically send firmware information of the device.
	Schedule	Periodically send schedule information of the device.
	Debug log	Send debug information of E-RDS which exceeds a specific size to the server.
	Sublog transmission	Send data such as device Sublogs and DCON logs to the server.
Operation instruction	Operation check	Contact the server to check if there is processing to be executed, and receive the following instructions if any. • Change the schedule • Change the alarm level • Change the alert filter

Service cautions

- After clearing the Main Controller PCB, initialization of the E-RDS setting (ERDS-DAT) and a communication test (COMTEST) 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.
- 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.
  - Port number of UGW
    [COPIER] > [FUNCTION] > [INSTALL] > [RGW-PORT]
    Default : 443
- If the e-Maintenance/ imageWARE Remote contract of the device is invalid, be sure to turn OFF the E-RDS setting (E-RDS : 0).
- When the E-RDS function is enabled, a communication test can be performed from [Check Counter] of the machine's Control Panel. *1
  When conducting a communication test from [Check Counter], pay attention to the following points:
  - During a communication test, do not take any actions such as pressing a key. Actions are not accepted until the communication test is completed (actions are ignored).
  - When a communication test is being conducted from service mode or from [Check Counter], do not conduct a communication test from the other. Such operation is not guaranteed.

Setting Procedure

■ Preparation

Since this function communicates with the UGW server, it is necessary to connect to the external network.
Check the following items, and make the settings if not yet set.

- IP address settings
- DNS server settings
- Proxy server settings*2
- Installation of CA certificate (arbitrary *3)

CAUTION:
- Obtain the information on the network environment from the system administrator of the user.
- When having changed the network settings, turn OF and then ON the main power of the machine.

■ Procedure for Setting E-RDS

1. **In the following service mode, select the following service mode to initialize the E-RDS setting values:**
   - COPIER > Function > CLEAR > ERDS-DAT

NOTE:
This operation initializes the E-RDS settings to factory setting values.
For the setting values to be initialized, see the section of“Setting values and data to be initialized” on page 87 .

---

1. The user can perform a communication test or browse the result of communication test.

If the communication results in failure, an error code (hexadecimal number, 8 digit) is displayed on the Control Panel.

2. If authentication is necessary, make the settings of the authentication information as well.

3. When using a certificate other than those pre-installed in the device

2. **Enable the E-RDS function in the following service mode, and perform a communication test.**
   1. Select the following item:
      - [COPIER] > [FUNCTION] > [INSTALL] > [ERDS]
   2. Enter [1] from the keyboard, and press [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.

When the E-RDS function is enabled, the function to communicate with UGW is enabled.

3. **Select [COM-TEST] and then touch [Yes].**
   If the communication is successful, "OK" is displayed. If "NG" is displayed, check the network settings and USW server address (URL).

CAUTION:
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.

Maintenace

■ 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

Follow the procedure shown below to initialize E-RDS.

1. **Enter service mode as a system administrator user.**
2. **Select the following service mode, and press [OK] to execute.**
   - COPIER > Function > CLEAR > ERDS-DAT

● 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]

CAUTION:
If a certificate other than the CA certificate at the time of shipment has been installed, initializing the E-RDS setting will not change the settings back to those at the time of shipment. To change the certificate back to the CA certificate at the time of shipment, delete the certificate (install the CA certificate at the time of shipment) after initializing the E-RDS settings. For the detailed procedure, refer to “Procedure for Setting E-RDS” on page 86.

■ Report Output of Communication Error Log (COM-LOG)

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

● Report output procedure

1. **Select the following service mode, and press [Yes].**
   - [COPIER] > [Function] > [MISC-P] > [ERDS-LOG]

```
12/09 2015 10:14AM
                              ****************************
                              *** E-RDS-COM-LOG***
                              ****************************

No.01      DATE      12/09 2015          TIME 03:21 AM      CODE 05000003
   Information   SUSPEND: Communication test is not performed.

No.02      DATE      12/09 2015          TIME 03:21 AM      CODE 00000000
   Information   SUSPEND: mode changed.

No.03      DATE      12/09 2015          TIME 03:18 AM      CODE 05000003
   Information   SUSPEND: Communication test is not performed.

No.04      DATE      12/09 2015          TIME 03:18 AM      CODE 00000000
   Information   SUSPEND: mode changed.

No.05      DATE      12/09 2015          TIME 01:56 AM      CODE 05000003
   Information   SUSPEND: Communication test is not performed.
```

Output sample

4 Periodical Service

Periodically Replaced Parts

No periodically replaced parts is set for this product.

Consumable Parts

Parts name	Product No.	Q'ty	Interval	Remarks
ADF Separation Pad	FC7-6297	1	50,000 sheets	
ADF Separation Roller	FL2-6637	1	50,000 sheets	

Periodical Service

No periodically service is set for this product.

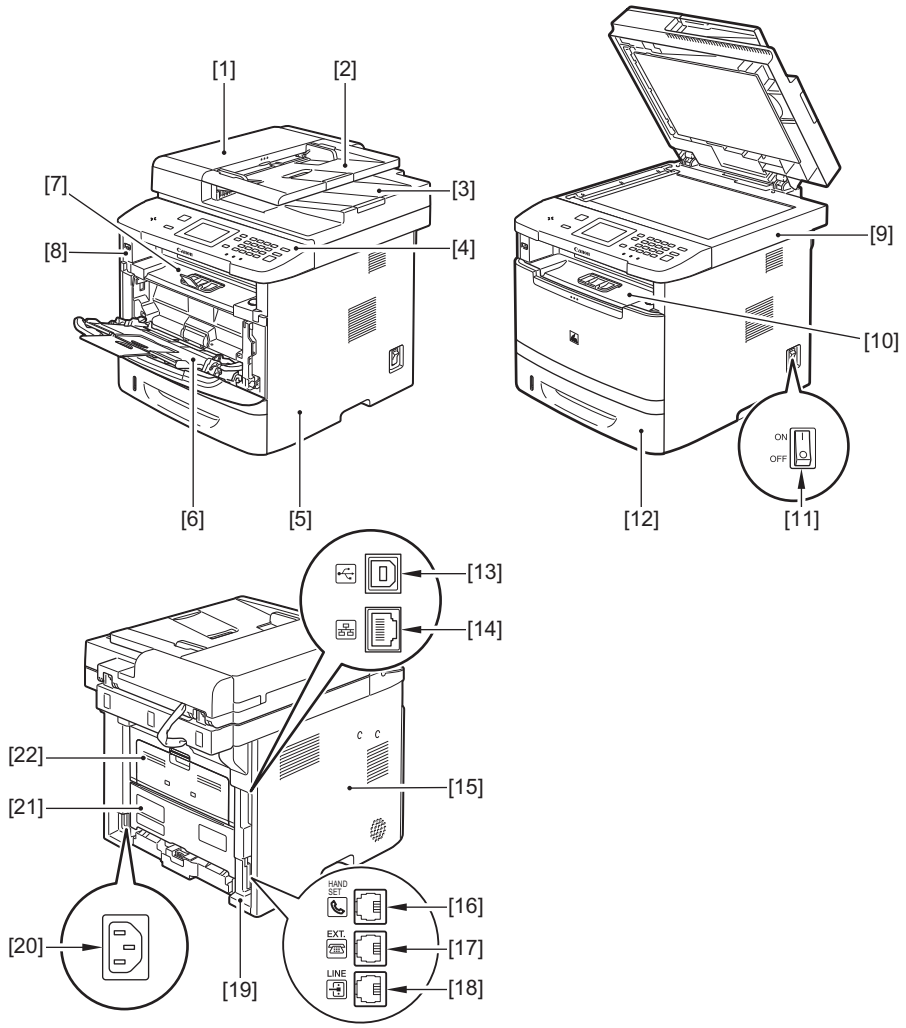
Cleaning

Component	Cleaning method
Scanning Area	Clean with Oil Glass Cleaner (FY9-6020) and lint-free paper.
Copy board glass	Wipe With a Lint-free Cloth.
Cassette Pickup Roller	
Transfer Guide Unit	
Media Feed Belt And Media Feed Guide Unit	
Fixing Inlet Guide	

5 Disassembly/ Assembly

External Cover

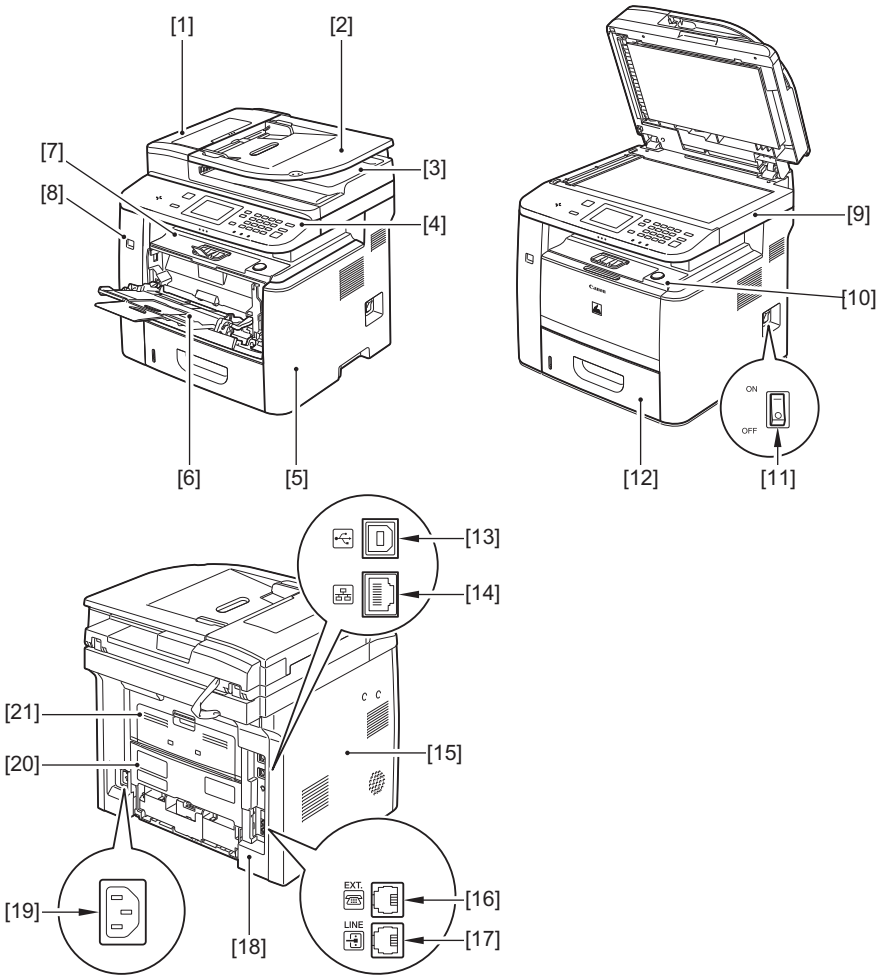
MF416dw/ MF415dw/ MF414dw/ MF412dn/ MF411dw



Key	Name	Remarks	Reference
[1]	DADF		“Removing the ADF Unit + Reader Unit” on page 116
[2]	Document Feeder Tray		
[3]	Document Delivery Tray		
[4]	Control Panel		“Removing the Control Panel” on page 131
[5]	Right Cover Unit		“Removing the Right Cover Unit” on page 110
[6]	MP Pickup Tray		
[7]	Upper Cover		“Removing the Upper Cover” on page 114
[8]	USB Port 1		
[9]	Reader Unit		“Removing the ADF Unit + Reader Unit” on page 116
[10]	Front Cover		“Removing the Front Cover Unit” on page 112
[11]	Main Power Switch		
[12]	Paper Cassette		
[13]	USB Port 2		
[14]	Ethernet Port		
[15]	Left Cover Unit		“Removing the Left Cover Unit” on page 108
[16]	Handset Terminal		
[17]	External Telephone Terminal		
[18]	Telephone Line Terminal		
[19]	Left Rear Cover		“Removing the Left Rear Cover” on page 109
[20]	Power Socket		

Key	Name	Remarks	Reference
[21]	Rear Lower Cover		
[22]	Rear Upper Cover		

D1550/ D1520

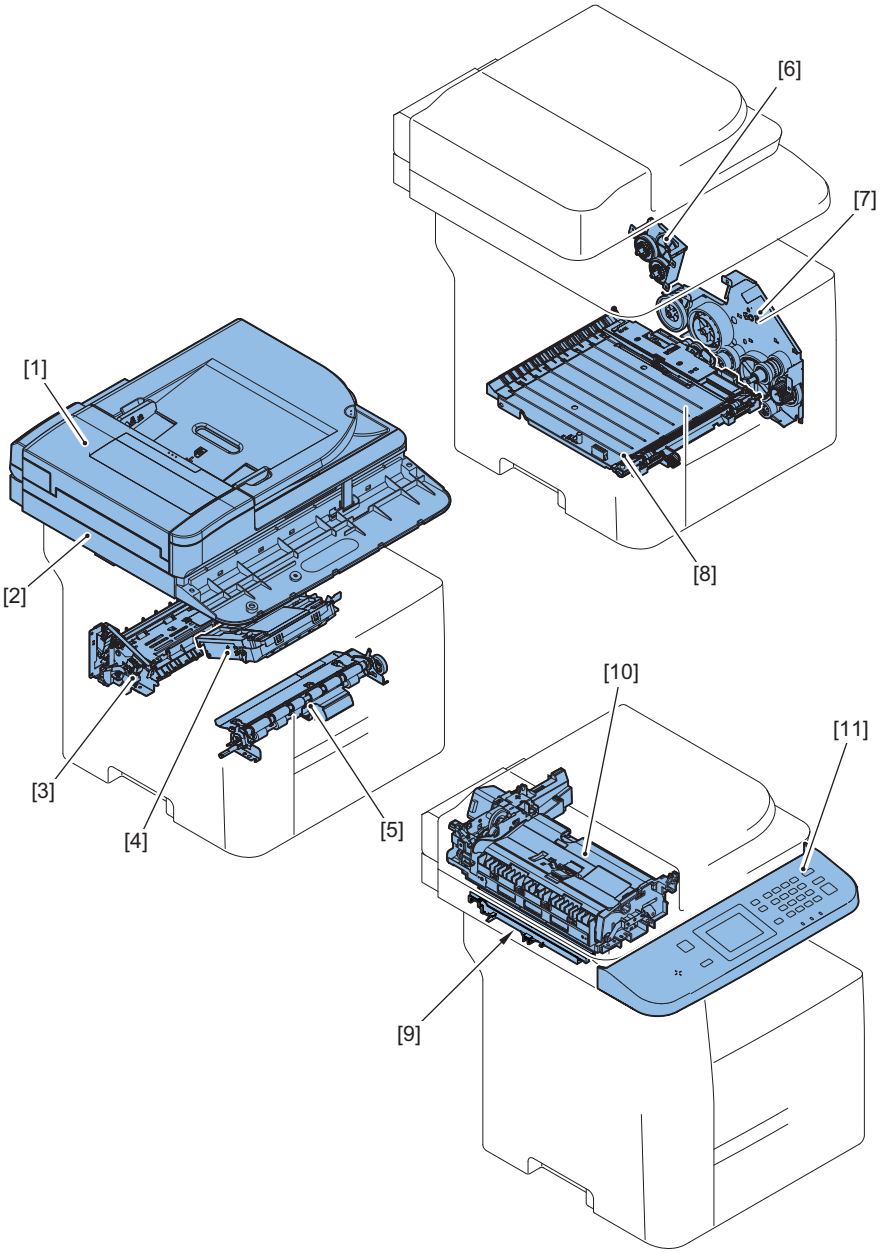


Key	Name	Remarks	Reference
[1]	DADF		“Removing the ADF Unit + Reader Unit” on page 116
[2]	Document Feeder Tray		
[3]	Document Delivery Tray		
[4]	Control Panel		“Removing the Control Panel” on page 131
[5]	Right Cover Unit		“Removing the Right Cover Unit” on page 110
[6]	MP Pickup Tray		
[7]	Upper Cover		“Removing the Upper Cover” on page 114
[8]	USB Port 1		
[9]	Reader Unit		“Removing the ADF Unit + Reader Unit” on page 116
[10]	Front Cover		“Removing the Front Cover Unit” on page 112
[11]	Main Power Switch		
[12]	Paper Cassette		
[13]	USB Port 2		
[14]	Ethernet Port		
[15]	Left Cover Unit		“Removing the Left Cover Unit” on page 108
[16]	External Telephone Terminal *1		
[17]	Telephone Line Terminal *1		
[18]	Left Rear Cover		“Removing the Left Rear Cover” on page 109
[19]	Power Socket		
[20]	Rear Lower Cover		

Key	Name	Remarks	Reference
[21]	Rear Upper Cover		

*1: D1550

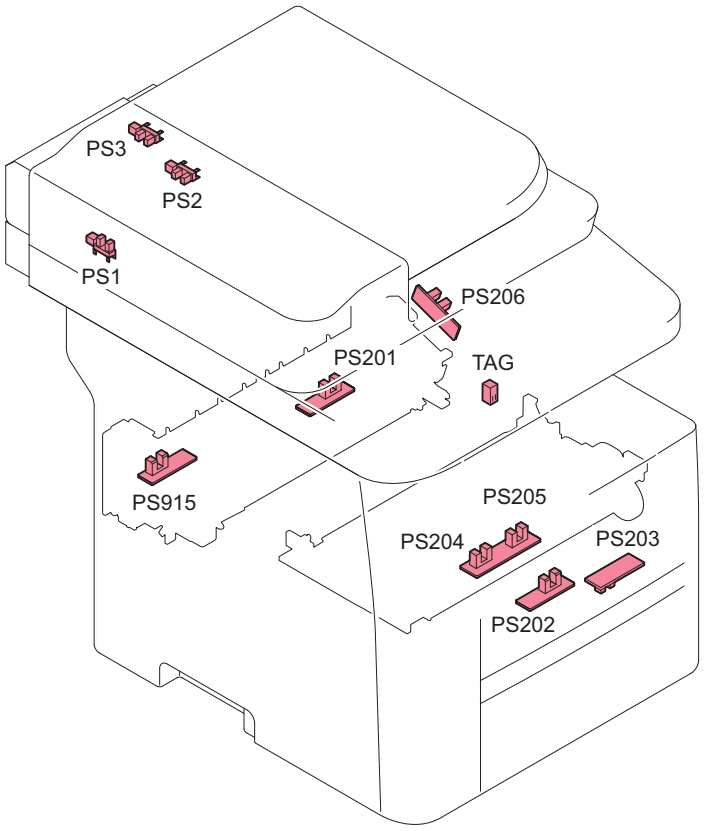
Main Unit



Key	Name	Remarks	Reference
[1]	DADF Unit		“Removing the ADF Unit + Reader Unit” on page 116
[2]	Reader Unit		“Removing the ADF Unit + Reader Unit” on page 116
[3]	Fixing Assembly		“Removing the Fixing Assembly” on page 143
[4]	Laser Scanner Unit		“Removing the Laser Scanner Unit” on page 140
[5]	Registration Unit		“Removing the Registration Unit” on page 141
[6]	Duplex Drive Unit		“Removing the Duplex Drive Unit” on page 137
[7]	Main Drive Unit		“Removing the Main Drive Unit ” on page 135
[8]	Duplex Feed Unit		“Removing the Duplex Feed Unit” on page 145
[9]	Contact Image Sensor		“Removing the CIS Unit” on page 123
[10]	ADF Pickup Feed Unit		“Removing the ADF Pickup Feed Unit” on page 120
[11]	Control Panel		“Removing the Control Panel” on page 131

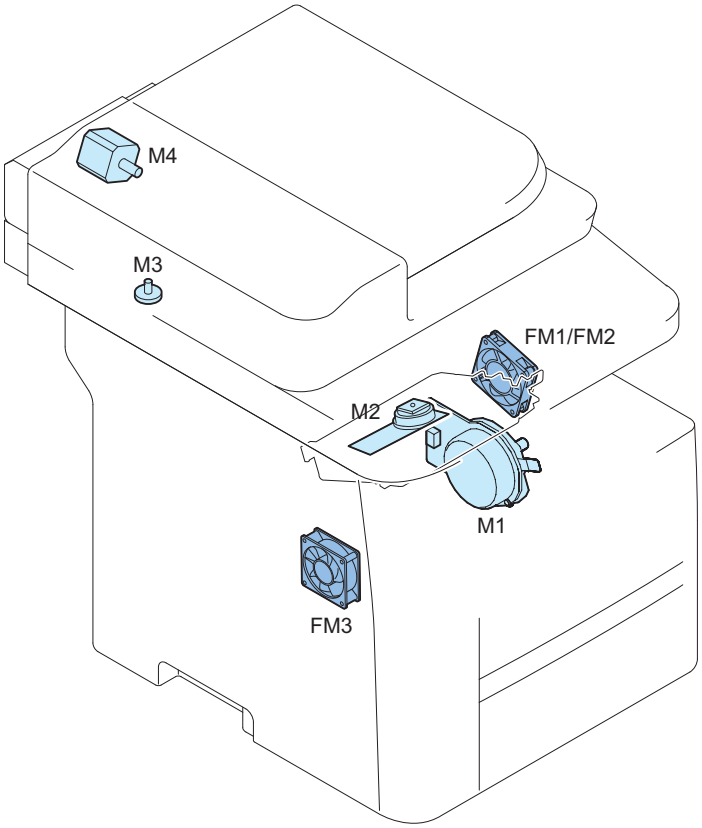
Electrical Components Layout Drawing

Sensor



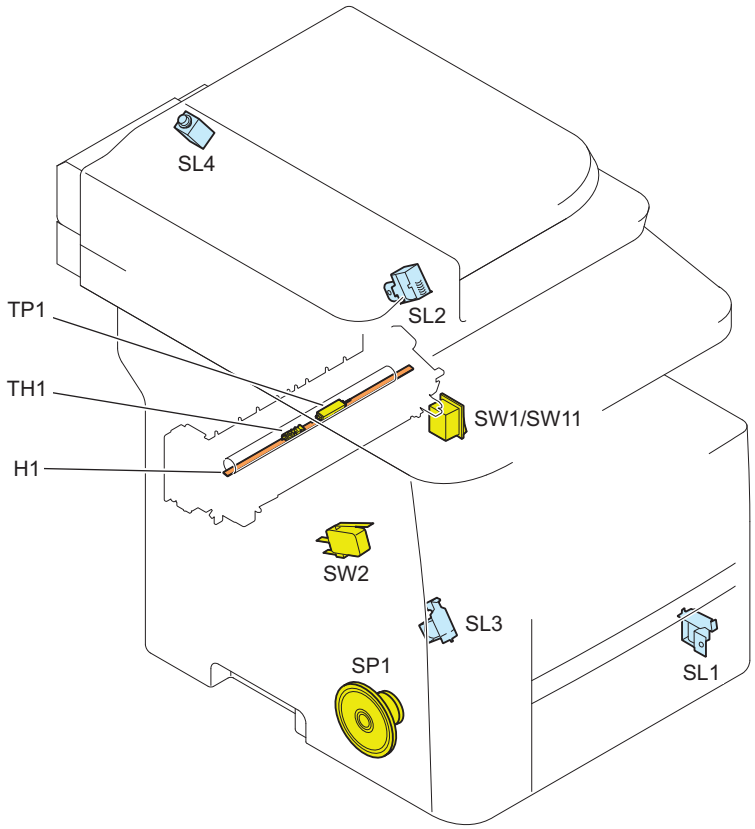
Symbol	Name	Remarks	Reference
PS1	CIS HP Sensor		
PS2	Document End Sensor		
PS3	Document Sensor		
PS201	Duplex Reverse Sensor		
PS202	MP Tray Media Presence Sensor		
PS203	Cassette Media Presence Sensor		
PS204	Top Sensor		
PS205	Media Width Sensor		
PS206	FD Tray Media Full Sensor		
PS915	Fixing Delivery Sensor		
TAG	Cartridge Sensor		

Motor/Fan



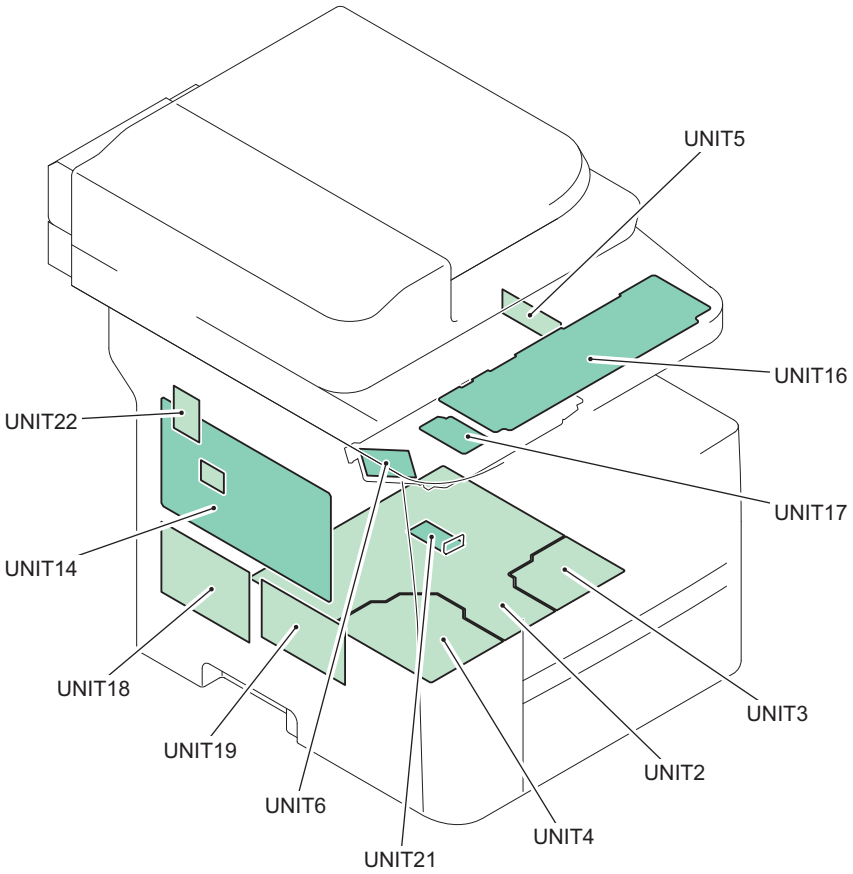
Symbol	Name	Remarks	Reference
FM2	Main Fan		“Removing the Main Fan” on page 134
FM3	Controller Fan		
M1	Main Motor		“Removing the Main Motor ” on page 133
M2	Laser Scanner Motor		
M3	Reader Motor		
M4	ADF Motor		“Removing the ADF Pickup Motor Unit” on page 121

Other



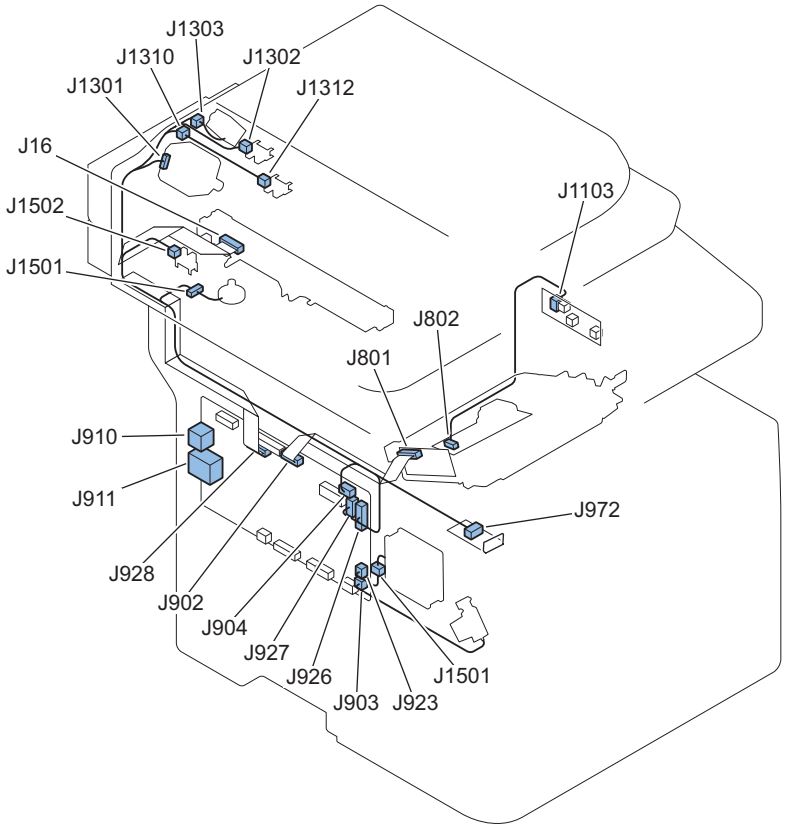
Symbol	Name	Remarks	Reference
SL1	Cassette Pickup Sorenoid		“Removing the Cassette Pickup Solenoid” on page 139
SL2	Duplex Reverse Sorenoid		“Removing the Duplex Reverse Solenoid” on page 138
SL3	MP Tray Pickup Sorenoid		
SL4	ADF Delivery Sorenoid		“Removing the ADF Delivery Solenoid Unit” on page 122
SP1	Speaker	Other than D1520/ MF411dw	
H1	Heater		
TH1	Thermistor		
TP1	Thermoswitch		
SW1	Main Switch	Other than EUR	
SW11	Main Switch	Only for EUR	
SW2	Door Switch		

PCB

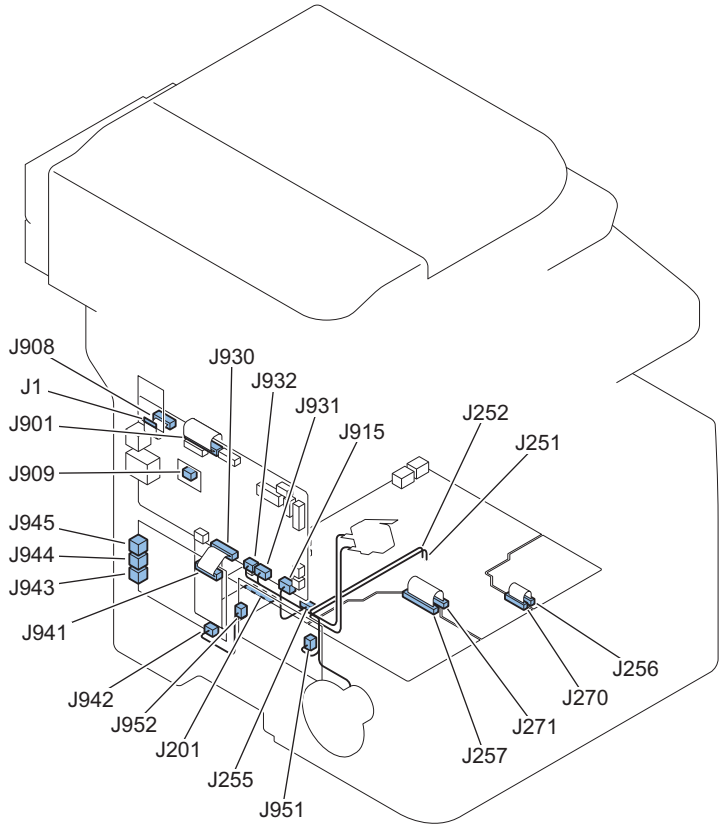


Symbol	Name	Remarks	Reference
UNIT2	Engine Controller PCB		“Removing the Engine Controller Unit ” on page 129
UNIT3	High Voltage Power Supply PCB		
UNIT4	Low Voltage Power Supply PCB		
UNIT5	Connecting PCB		
UNIT6	Laser Driver PCB		
UNIT14	Main Controller PCB		“Removing the Main Controller PCB” on page 125
UNIT16	Control Panel PCB		“Removing the Control Panel PCB” on page 132
UNIT17	NFC PCB	D1550/ MF416dw/ MF415dw	“Removing the NFC PCB (D1550/ MF416dw/ MF415dw)” on page 133
UNIT18	NCU PCB	Other than D1520/ MF411dw	“Removing the NCU PCB (Except for D1520/ MF411dw)” on page 126
UNIT19	OFF Hook PCB	Other than D1520/ MF411dw	“Removing the OFF Hook PCB (except for D1520/ MF411dw) ” on page 127
UNIT21	USB PCB		
UNIT22	Wireless LAN PCB	Other than D1520/ MF411dw	“Removing the Wireless LAN PCB (except for D1520/ MF412dn)” on page 125

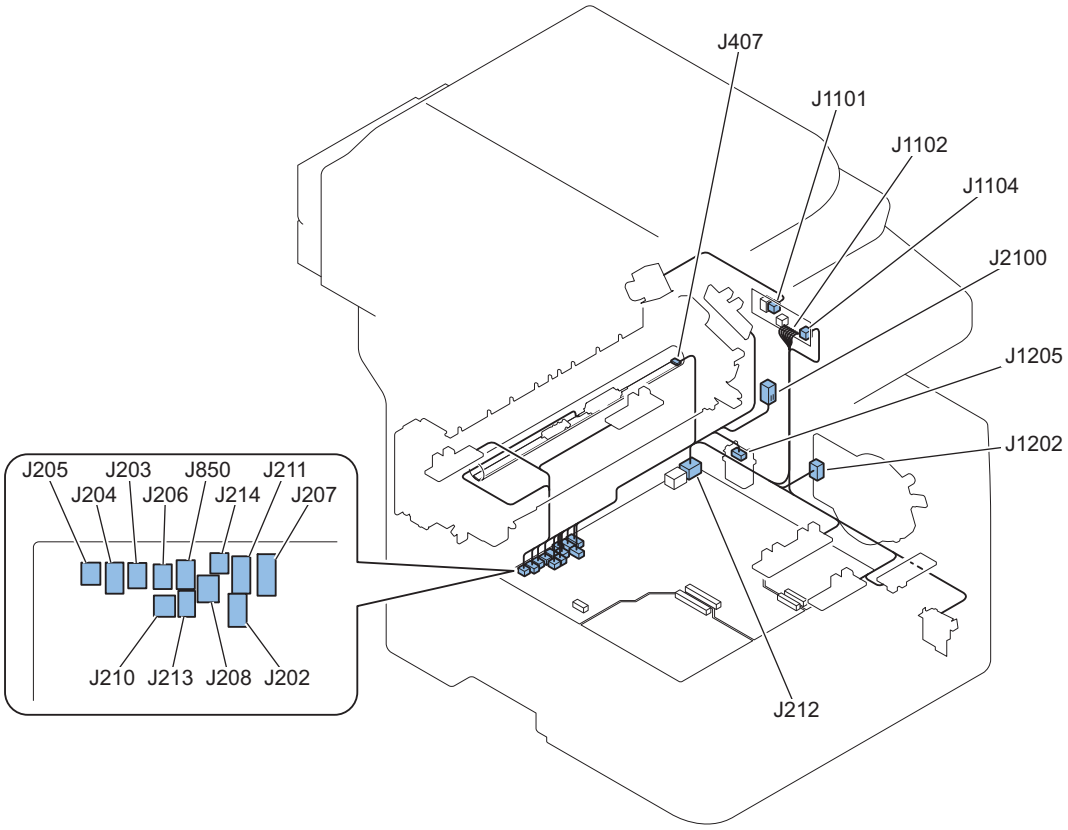
Connector Layout Drawing



J No.	Symbol	Name	Relay Connector	J No.	Symbol	Name	Remarks
J926	UNIT14	Main Controller PCB		J1301	M4	ADF Motor	
J926	UNIT14	Main Controller PCB	J1303	J1303	SL4	ADF Delivery Sorenoid	
J926	UNIT14	Main Controller PCB	J1310	J1312	PS2	Document End Sensor	
J926	UNIT14	Main Controller PCB		J1302	PS3	Document Sensor	
J927	UNIT14	Main Controller PCB	J1501	J1501	M3	Scanner Motor	
J927	UNIT14	Main Controller PCB		J1502	PS1	CIS HP Sensor	
J928	UNIT14	Main Controller PCB		J16	UNIT26	Contact Image Sensor	
J1103	UNIT5	Connecting PCB		J802	M2	Laser Scanner Motor	
J902	UNIT14	Main Controller PCB		J801	UNIT6	Laser Driver PCB	
J903	UNIT14	Main Controller PCB		J903	SL3	MP Tray Pickup Sorenoid	
J923	UNIT14	Main Controller PCB	J1501	J1501	FM3	Controller Fan	
J904	UNIT14	Main Controller PCB		J972	UNIT21	USB PCB	
J910	UNIT14	Main Controller PCB		-	-	-	USB
J911	UNIT14	Main Controller PCB		-	-	-	ETHERNET

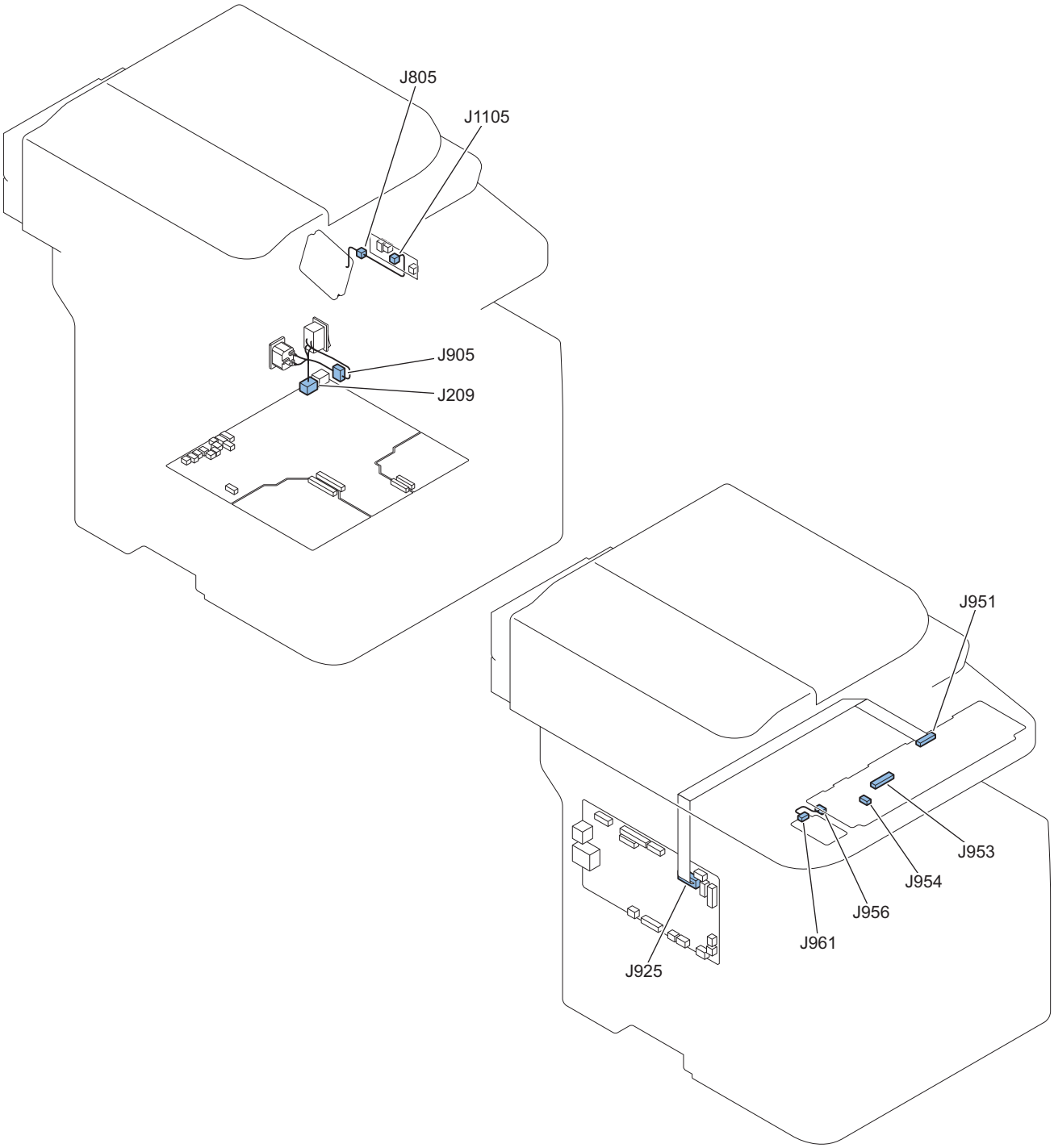


J No.	Symbol	Name	Relay Connector	J No.	Symbol	Name	Remarks
J251	UNIT2	Engine Controller PCB		-	SW2	Door Switch	
J252	UNIT2	Engine Controller PCB		-	SW2	Door Switch	
J271	UNIT2	Engine Controller PCB		J257	UNIT4	Low Voltage Power Supply PCB	
J270	UNIT2	Engine Controller PCB		J256	UNIT3	High Voltage Power Supply PCB	
J915	UNIT14	Main Controller PCB		J255	UNIT2	Engine Controller PCB	
J901	UNIT14	Main Controller PCB		J201	UNIT2	Engine Controller PCB	
J930	UNIT14	Main Controller PCB		J941	UNIT18	NCU PCB	Other than D1520/ MF411dw
J2001	UNIT19	OFF Hook PCB		J942	UNIT18	NCU PCB	Other than D1520/ MF411dw
J931	UNIT14	Main Controller PCB		J2000	UNIT19	OFF Hook PCB	Other than D1520/ MF411dw
J932	UNIT14	Main Controller PCB		J932	SP1	Speaker	Other than D1520/ MF411dw
J908	UNIT14	Main Controller PCB		J1	UNIT22	Wireless LAN PCB	Other than D1520/ MF411dw
J909	UNIT14	Main Controller PCB		J1	UNIT15	eMMC PCB	
J943	UNIT18	NCU PCB		-	-	-	LINE Other than D1520/ MF411dw
J944	UNIT18	NCU PCB		-	-	-	TEL Other than D1520/ MF411dw
J945	UNIT18	NCU PCB		-	-	-	HANDSET Other than D1520/ MF411dw



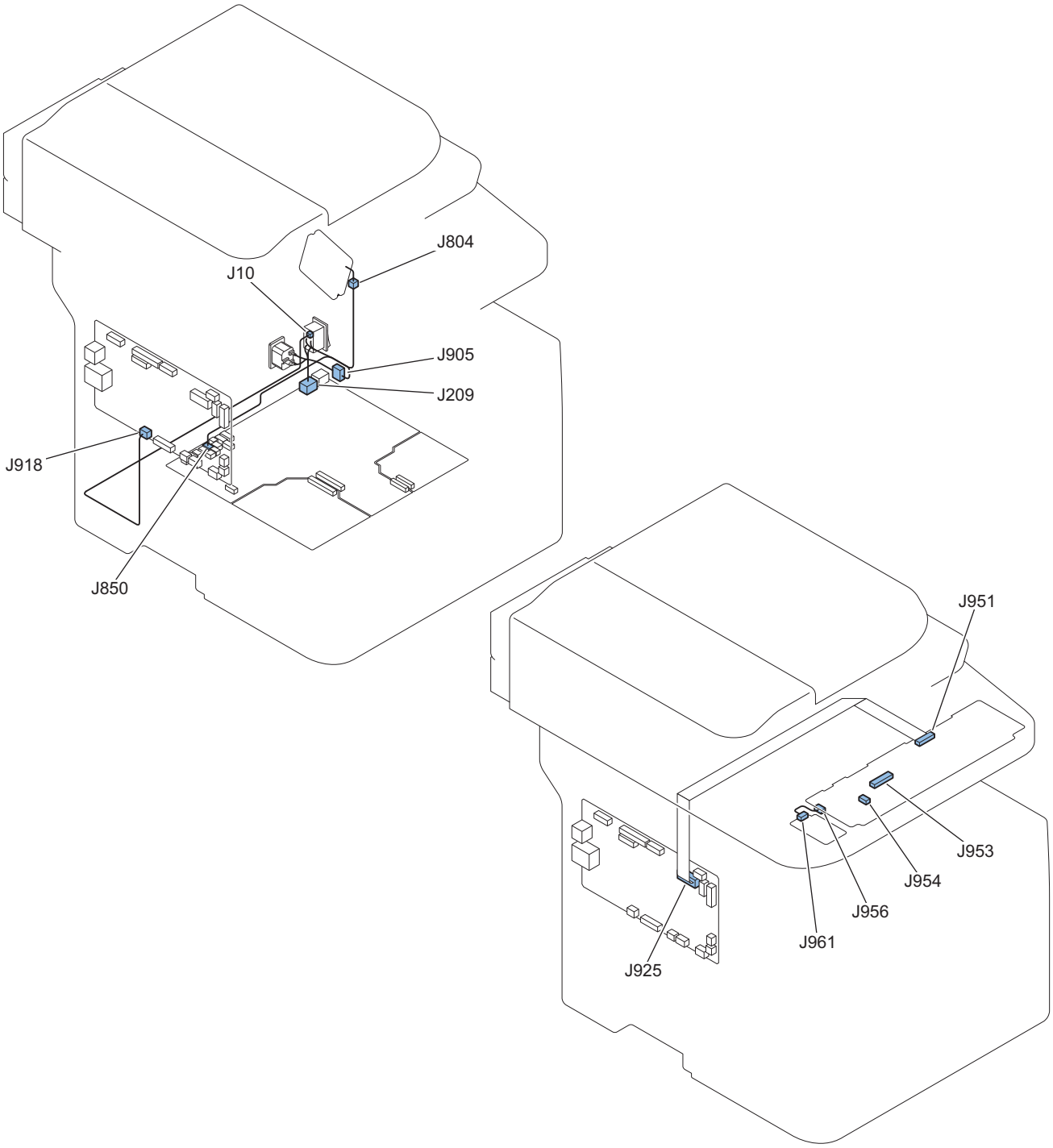
J No.	Symbol	Name	Relay Connector	J No.	Symbol	Name	Remarks
J211	UNIT2	Engine Controller PCB	J1205	-	-	-	
J214	UNIT2	Engine Controller PCB		J214	TAG	Cartridge Sensor	
J2100	TAG	Cartridge Sensor		-	-	-	
J208	UNIT2	Engine Controller PCB		J208	PS201	Duplex Reverse Sensor	
J205	UNIT2	Engine Controller PCB		J205	PS202	MP Tray Media Presence Sensor	
J204	UNIT2	Engine Controller PCB		J204	PS203	Cassette Media Presence Sensor	
J203	UNIT2	Engine Controller PCB		J203	UNIT10	Top Sensor Unit	PS204,PS205
J213	UNIT2	Engine Controller PCB		J213	PS206	FD Tray Media Full Sensor	
J202	UNIT2	Engine Controller PCB		J1202	M1	Main Motor	
J206	UNIT2	Engine Controller PCB		J206	PS915	Fixing Delivery Sensor	
J210	UNIT2	Engine Controller PCB		J210	TH1	Thermistor	
J212	UNIT2	Engine Controller PCB		J407	H1	Heater	
J207	UNIT2	Engine Controller PCB		J1102	UNIT5	Connecting PCB	
J1104	UNIT5	Connecting PCB		J1104	SL1	Cassette Pickup Sorenoid	
J1101	UNIT5	Connecting PCB		J1101	SL2	Duplex Reverse Sorenoid	

Other than EUR



J No.	Symbol	Name	Relay Connector	J No.	Symbol	Name	Remarks
J1105	UNIT5	Connecting PCB	J805	J805	FM2	Main Fan	
J209	UNIT2	Engine Controller PCB		-	SW1	Main Switch	
-	SW1	Main Switch	J905	J905	J1	INLET	
J925	UNIT14	Main Controller PCB		J951	UNIT16	Control Panel PCB	
J956	UNIT16	Control Panel PCB		J961	UNIT17	NFC PCB	D1550/ MF416dw/ MF415dw
J953	UNIT16	Control Panel PCB		J1	DSP1	LCD	
J954	UNIT16	Control Panel PCB		J1	UNIT27	Touch Panel	

Only for EUR



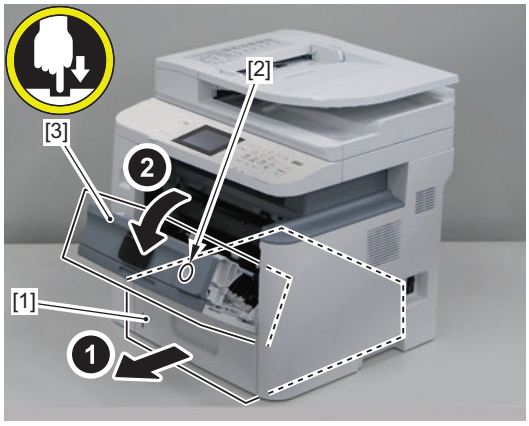
J No.	Symbol	Name	Relay Connector	J No.	Symbol	Name	Remarks
J850	UNIT2	Engine Controller PCB	J804	J804	FM1	Main Fan	
J209	UNIT2	Engine Controller PCB		-	SW11	Main Switch	
-	SW11	Main Switch	J905	J905	J1	INLET	
J918	UNIT14	Main Controller PCB		J10	SW11	Main Switch	
J925	UNIT14	Main Controller PCB		J951	UNIT16	Control Panel PCB	
J956	UNIT16	Control Panel PCB		J961	UNIT17	NFC PCB	D1550/ MF416dw/ MF415dw
J953	UNIT16	Control Panel PCB		J1	DSP1	LCD	
J954	UNIT16	Control Panel PCB		J1	UNIT27	Touch Panel	

External Cover

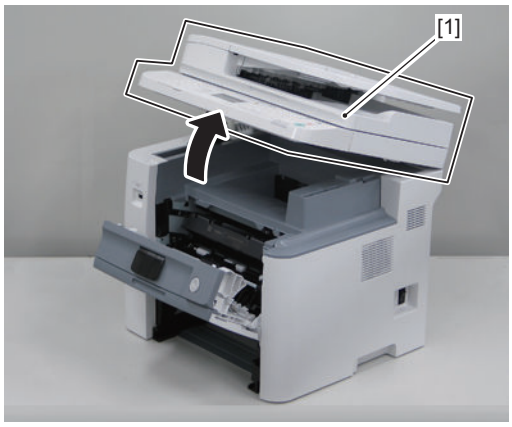
Removing the Left Cover Unit

■ Procedure

1. **Remove the cassette [1].**
2. **Press the Open button [2], and open the Front Cover Unit [3].**

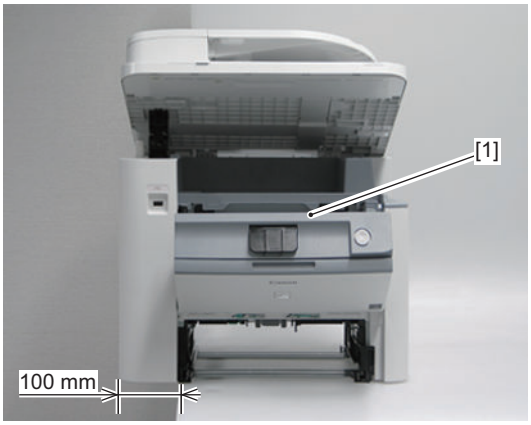


3. **Open the ADF + Reader Unit [1].**

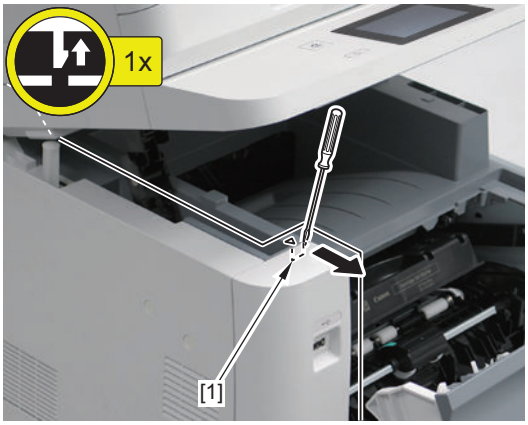


4. **Place the host machine [1] while shifting its left side approx. 10cm from the working table to release the claw on the lower side of the Left Cover Unit.**

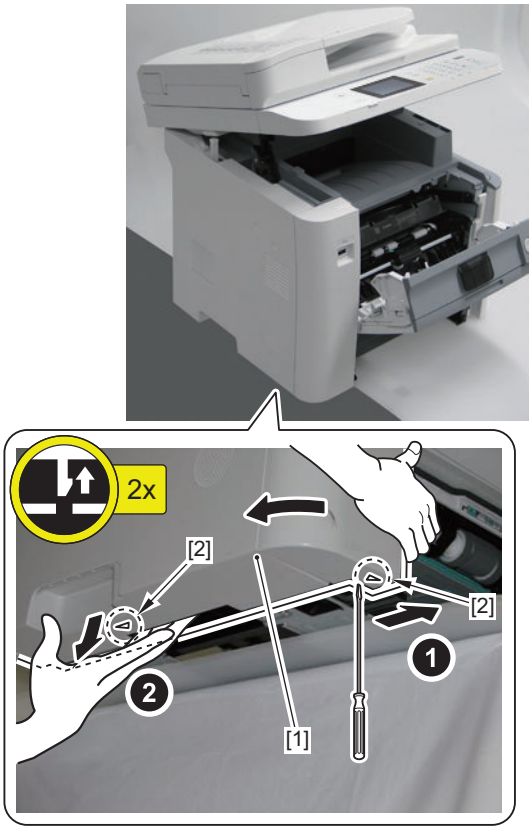
CAUTION:
Be careful not to drop the host machine when shifting it.



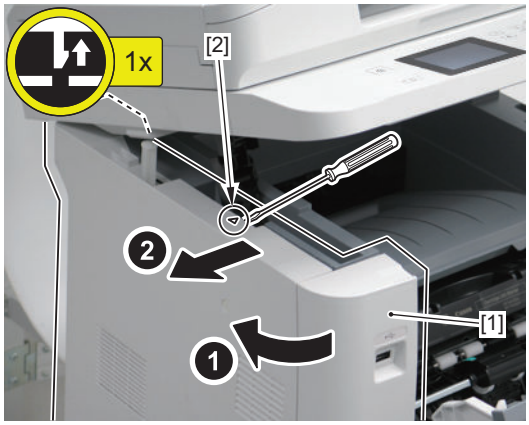
5. **Release the claw [1].**



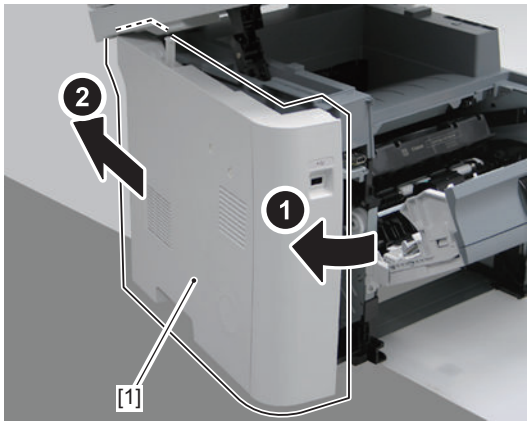
6. **While opening the Left Cover Unit [1] in the direction of the arrow, release the 2 claws [2] on the lower side.**



7. **Release the claw [2], and pull the Left Cover Unit [1] in the direction of the arrow.**



8. **Remove the Left Cover Unit [1] in the direction of the arrow.**



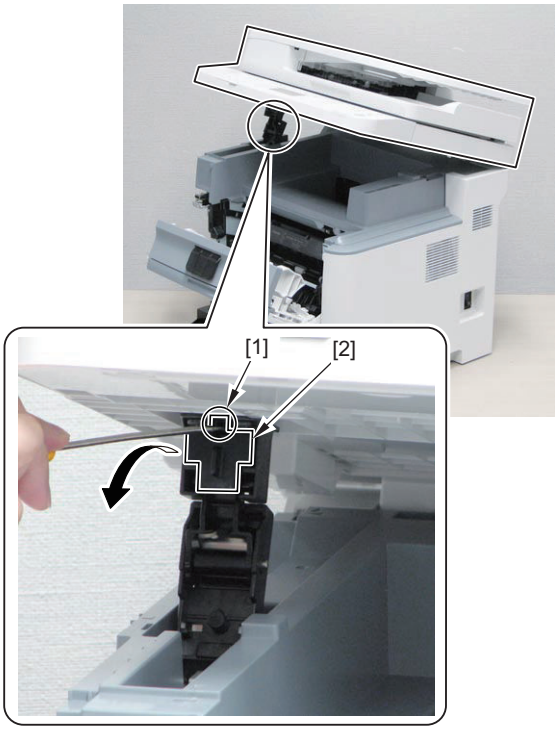
Removing the Left Rear Cover

■ Preparation

1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**

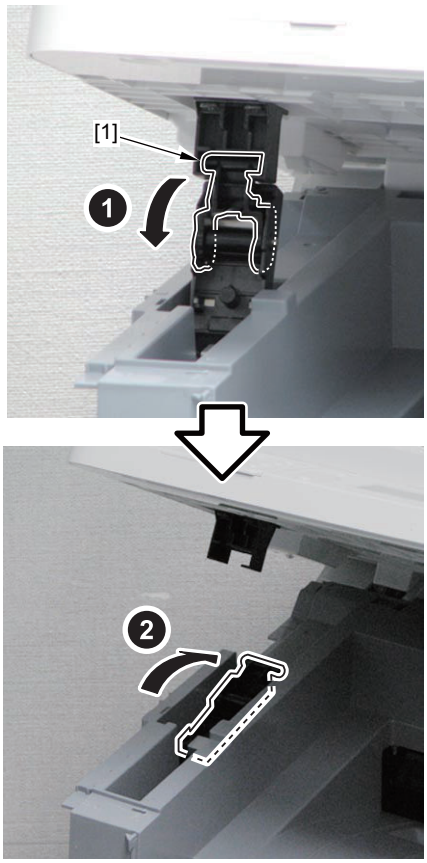
■ Procedure

1. **Remove the claw [1], and remove the Arm Cover [2].**



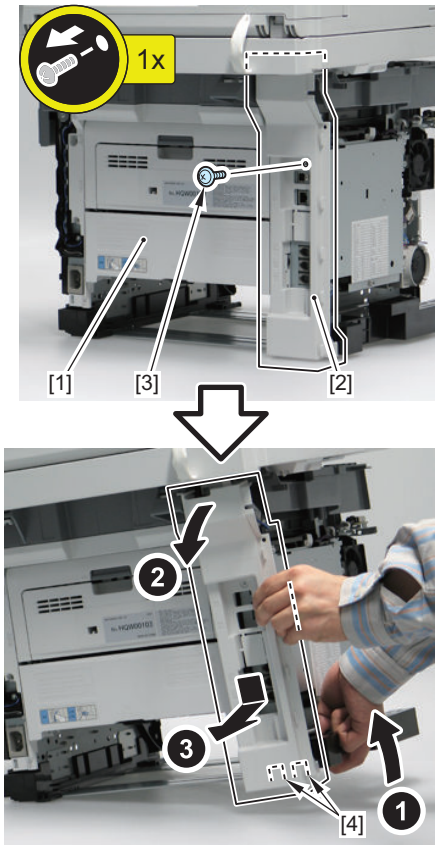
2. **Disconnect the arm [1], and turn it toward the rear.**

CAUTION:
When opening/closing the ADF + Reader Unit after releasing the arm, be sure to perform the work while supporting the ADF + Reader Unit. Be careful not to get your hand caught.



3. **Open the ADF + Reader Unit [1], and release the 2 Claws [2].**

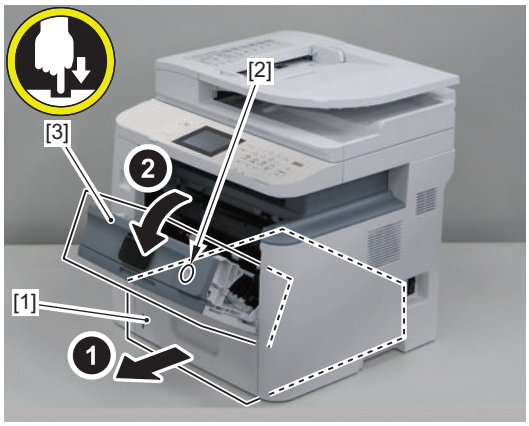
4. **Lift the host machine [1], and remove the Left Rear Cover [2].**
   - 1 Screw [3]
   - 2 Claws [4]



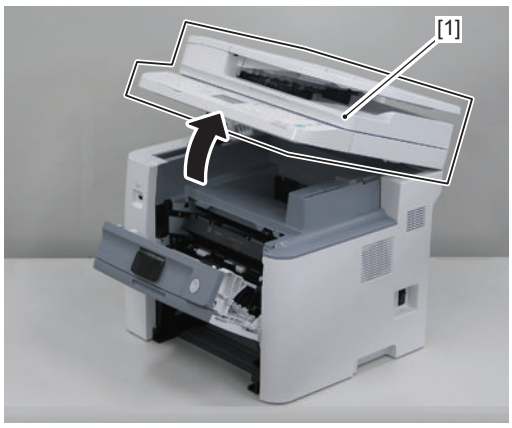
Removing the Right Cover Unit

■ Procedure

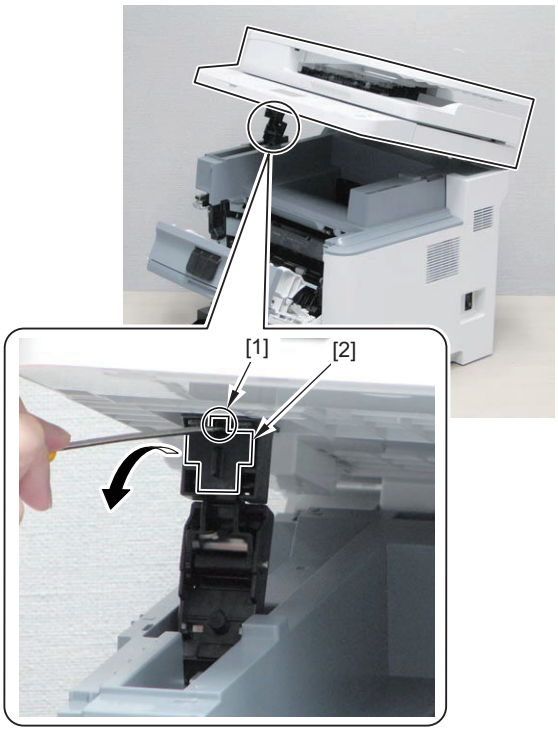
1. **Remove the cassette [1].**
2. **Press the Open button [2], and open the Front Cover Unit [3].**



3. **Open the ADF + Reader Unit [1].**

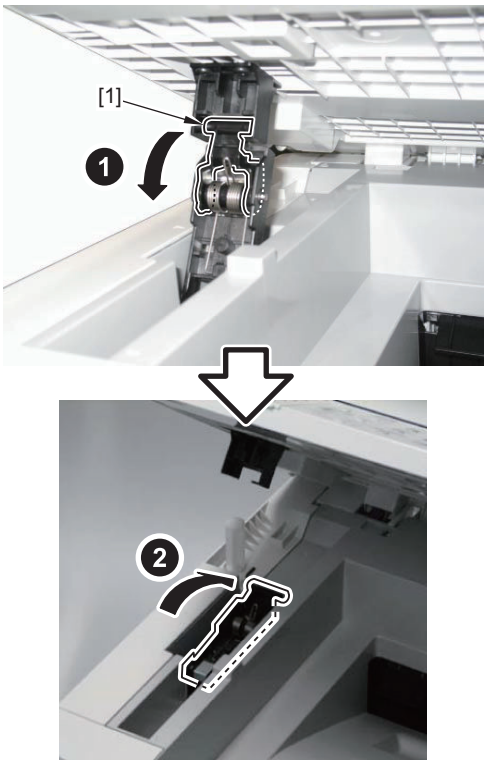


4. **Release the claw [1], and remove the Arm Cover [2].**



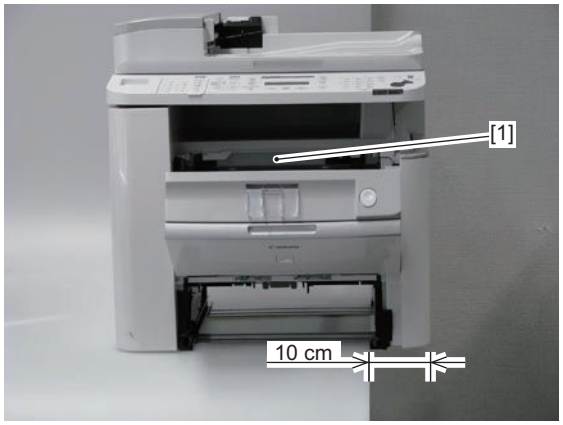
5. **Disconnect the arm [1], and turn it to the rear side.**

CAUTION:
When opening/closing the ADF+Reader Unit after releasing the arm, be sure perform the work while supporting the ADF+Reader Unit. Be careful not to get your hand caught.



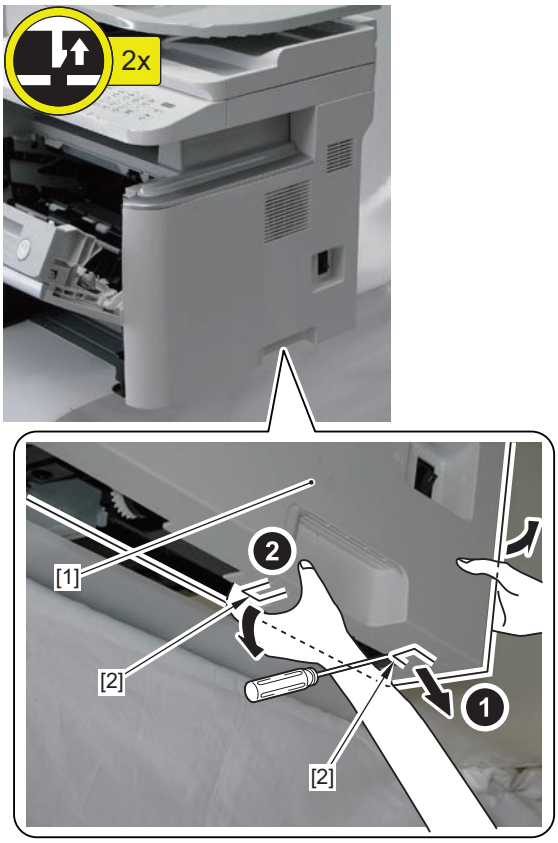
6. **Place the host machine [1] while shifting its right side approx. 10cm from the working table to release the claw on the lower side of the Right Cover Unit.**

CAUTION:
Be careful not to drop the host machine when shifting it.

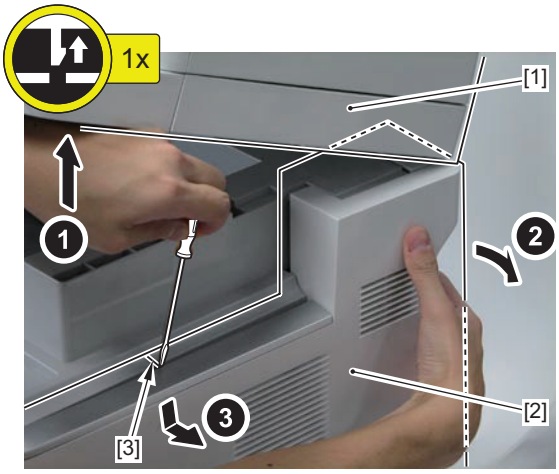


7. **Open the ADF + Reader Unit [1], and release the 2 claws [3] while pulling the Right Cover Unit [2] in the direction of the arrow.**

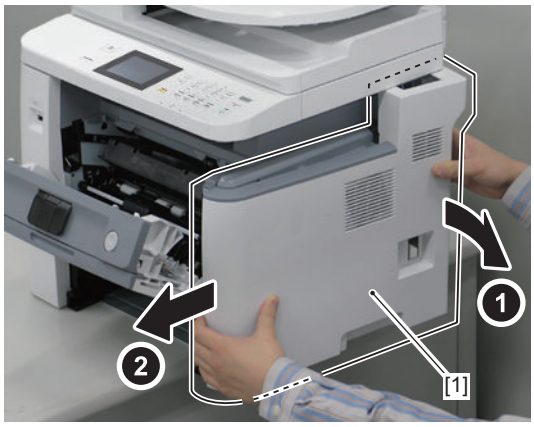
8. **Close the ADF + Reader Unit, and release the 2 claws [2] on the lower side while pulling the Right Cover Unit [1] in the direction of the arrow.**



9. **Open the ADF + Reader Unit [1], and release the claw [3] while pulling the Right Cover Unit [2] in the direction of the arrow.**



10. **Remove the Right Cover Unit [1] in the direction of the arrow.**



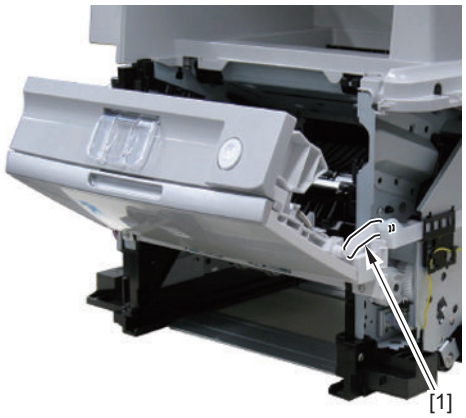
Removing the Front Cover Unit

■ Preparation

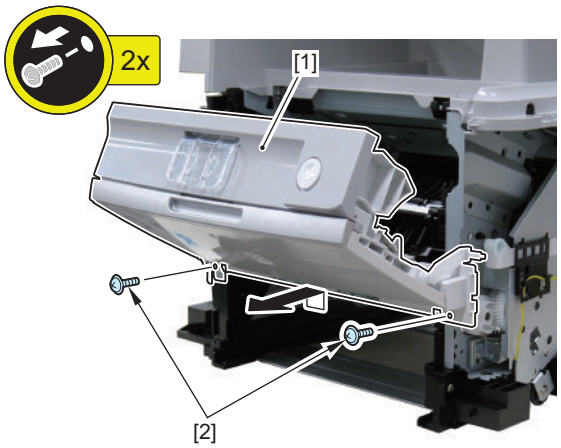
1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Right Cover Unit.** **"Removing the Right Cover Unit" on page 110**

■ Procedure

1. **Remove the Link Arm [1].**



2. **Remove the Front Cover Unit [1].**
   - 2 Screws [2]



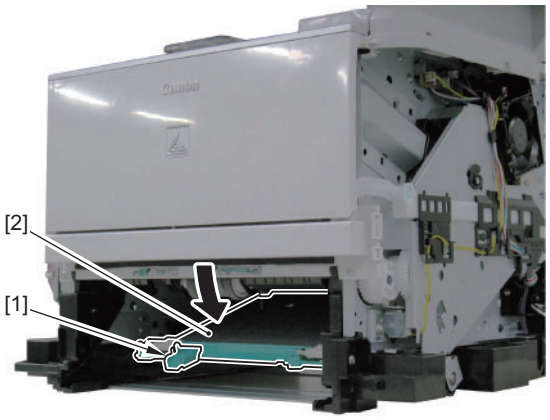
Removing the Rear Cover Unit

■ Preparation

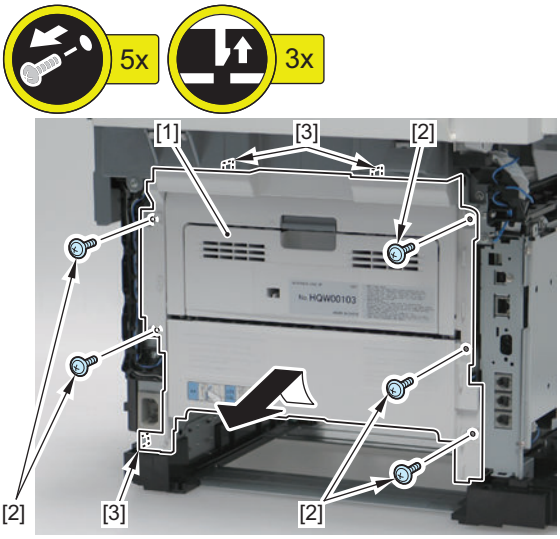
1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
3. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**

■ Procedure

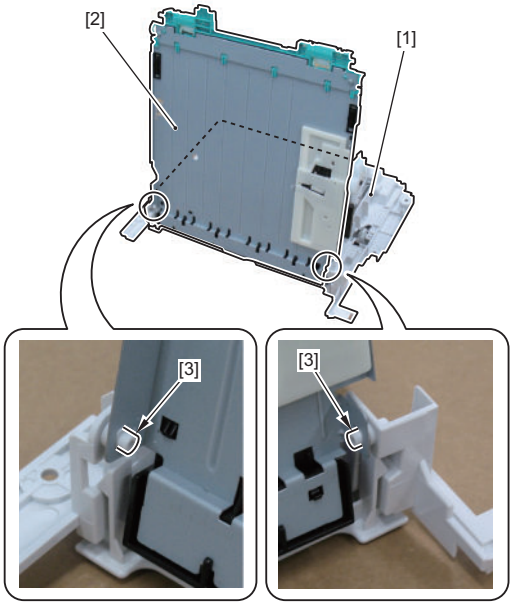
1. **Push down the handle [1] to open the Duplexing Feed Unit [2].**



2. **Remove the Rear Cover Unit [1].**
   - 5 Screws [2]
   - 3 Claws [3]

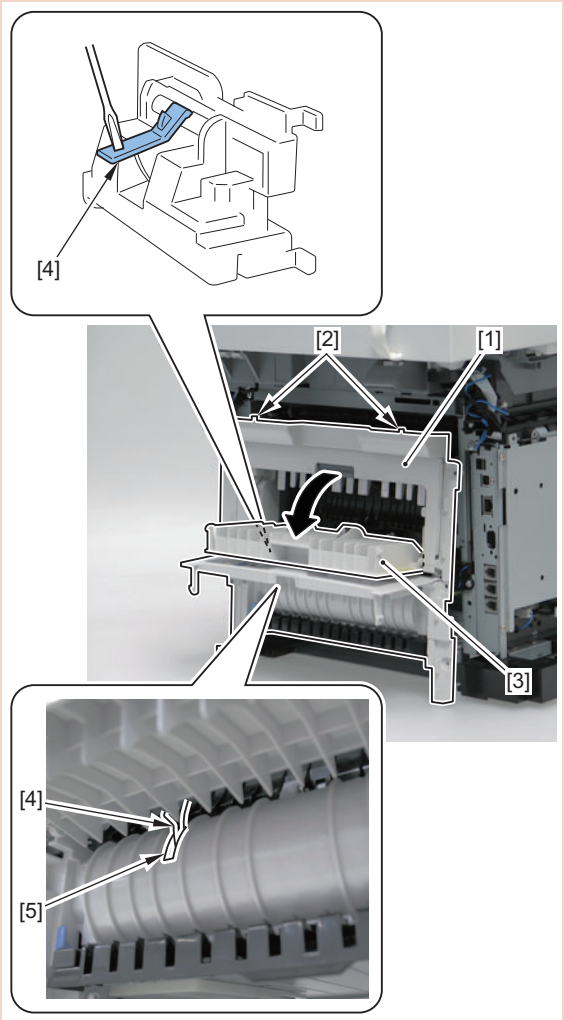


3. **Remove the Rear Cover Unit [1] from the Duplexing Feed Unit [2].**
   - 2 Bosses [3]



CAUTION:
Points to Note at Installation:

1. Hook the 2 upper claws [2] on the Upper Cover [1].
2. Open the Rear Sub Tray [3], and install the Rear Cover Unit while pressing down the Duplex Reverse Sensor Flag [4].



3. Check that the Sensor Flag [4] runs through the hole [5] on the back side of the Duplex Unit Cover.

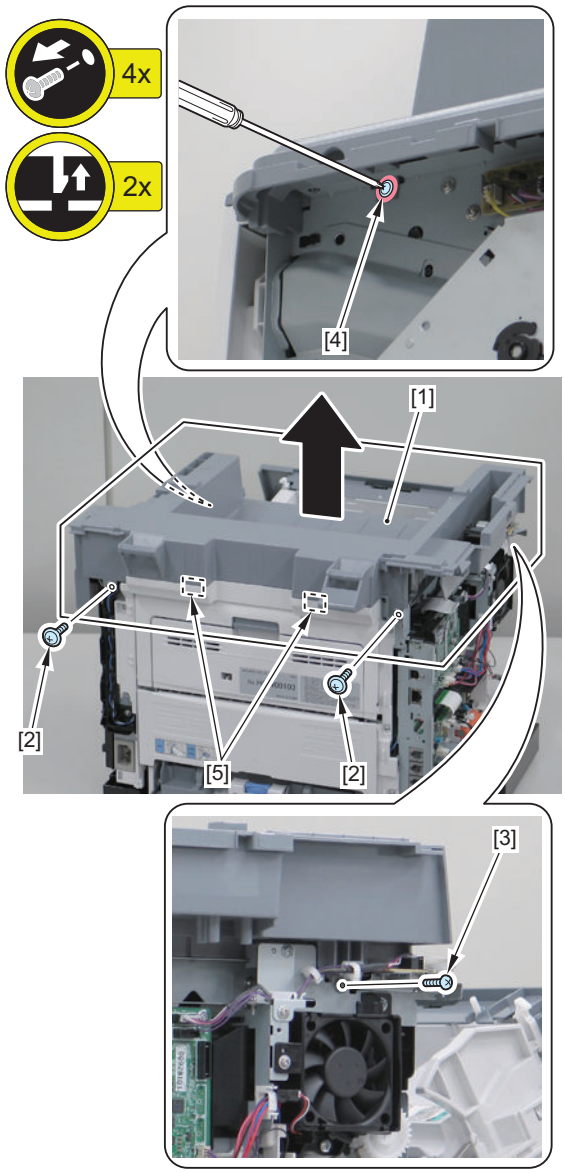
Removing the Upper Cover

■ Preparation

1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
4. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
5. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**

■ Procedure

1. **Remove the Upper Cover [1].**
   - 2 Screws (TP) [2]
   - 1 Screw (Tapping) [3]
   - 1 Screw [4] (to loosen)
   - 2 Claws [5]



Document Exposure / Delivery System

Removing the ADF Unit + Reader Unit

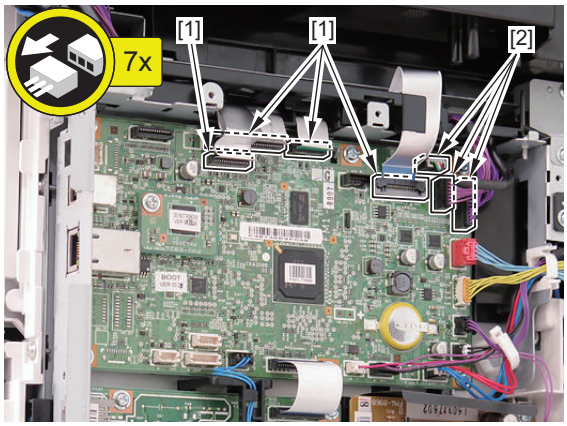
■ Preparation

CAUTION:
Actions after Replacement:
- "After Replacing the Reader Unit" on page 154

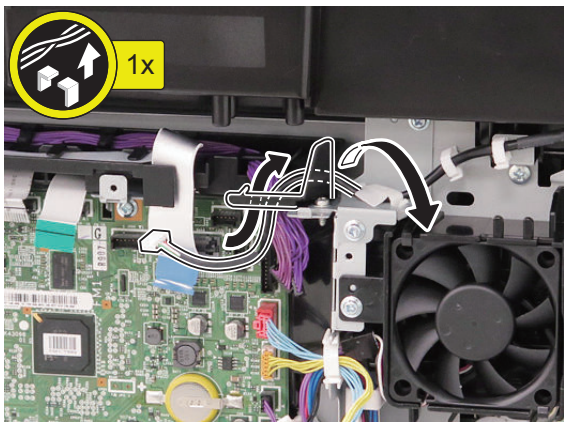
1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
3. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
4. **Remove the Wireless LAN PCB (except for D1520/ MF412dn).****"Removing the Wireless LAN PCB (except for D1520/ MF412dn)" on page 125**

■ Procedure

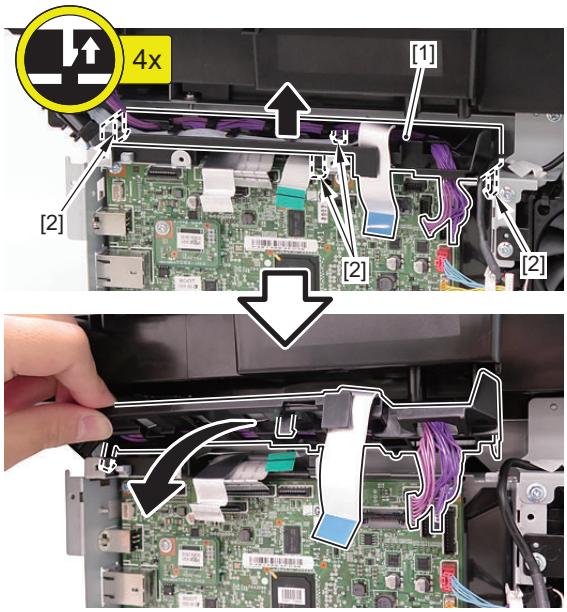
1. **Disconnect the 4 Flat Cables [1] and the 3 connectors [2].**



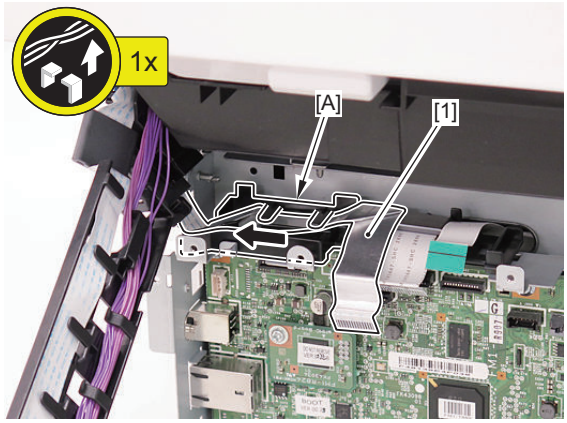
2. **Free the harness [1] from the guide [A].**



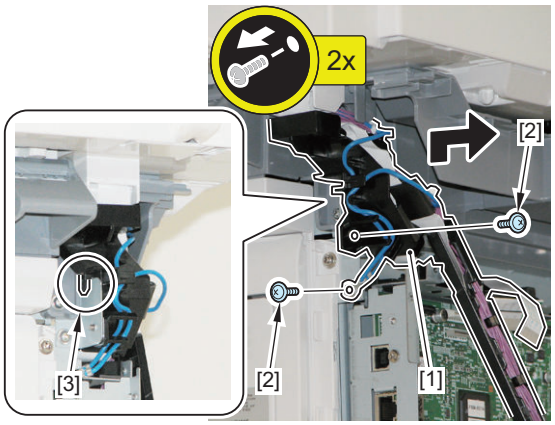
3. **Remove the Harness Guide [1].**
   - 4 Claws [2]



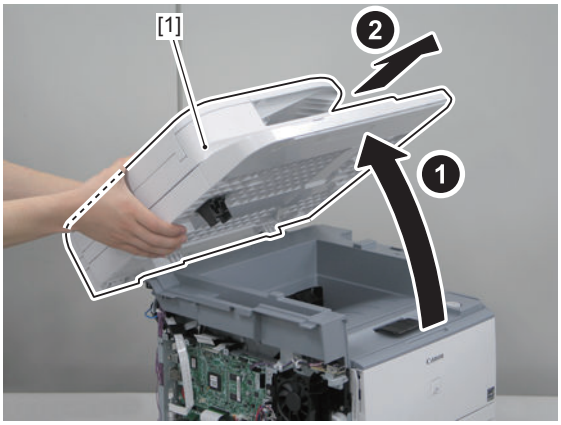
4. **Free the Flat Cable [1] from the guide [A].**



5. **Remove the ADF Harness Guide [1].**
   - 2 Screws [2]
   - 1 Hook [3]



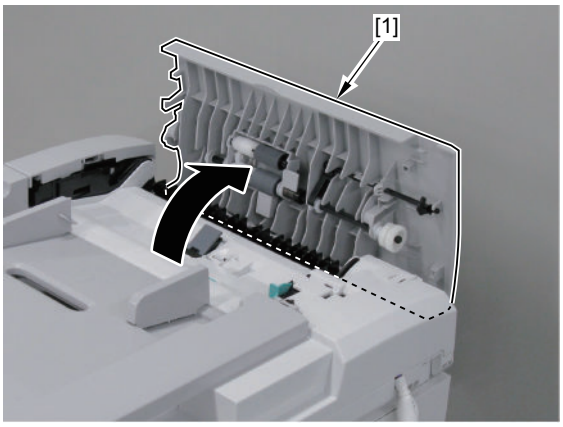
6. **Lift the ADF + Reader Unit [1] in the direction of the arrow and remove them.**



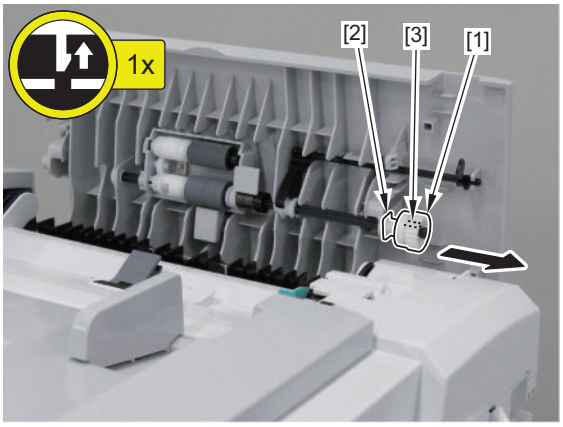
Removing the ADF Roller Unit

■ Procedure

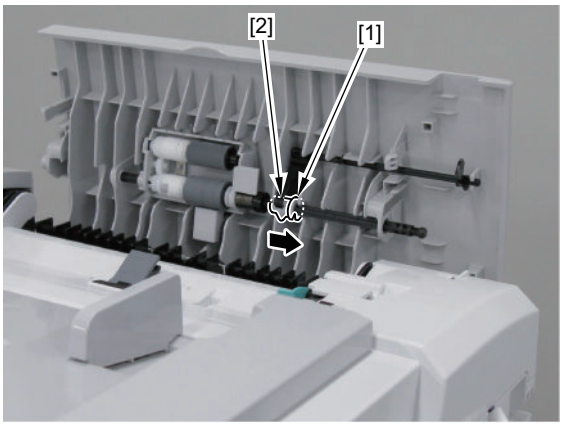
1. **Open the ADF Upper Cover [1].**



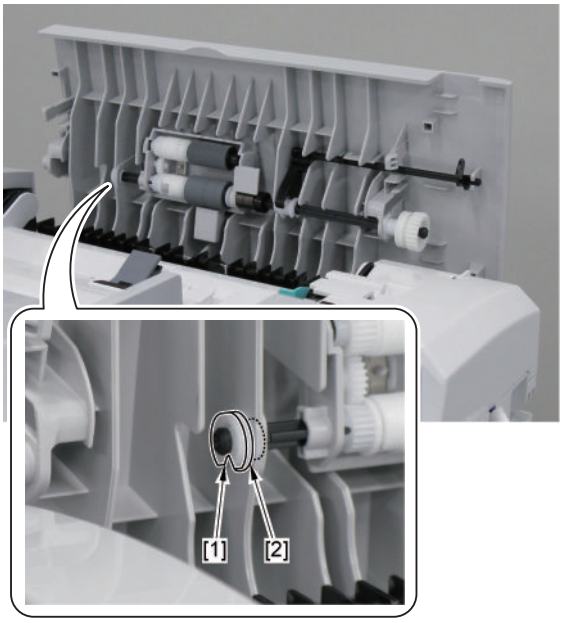
2. **Remove the gear [1] and the bushing [2].**
   - 1 Claw [3]



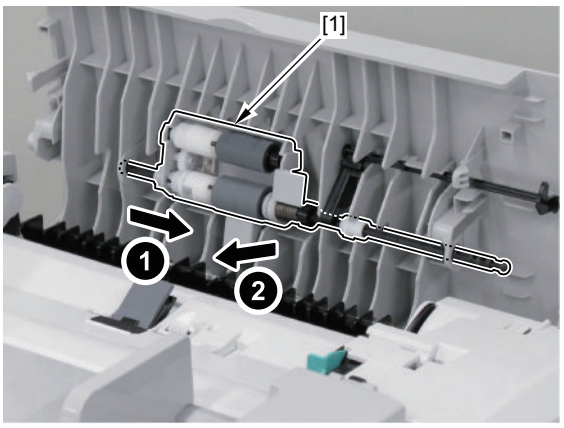
3. **Remove the resin E-ring [1].**
   - 1 Bushing [2]



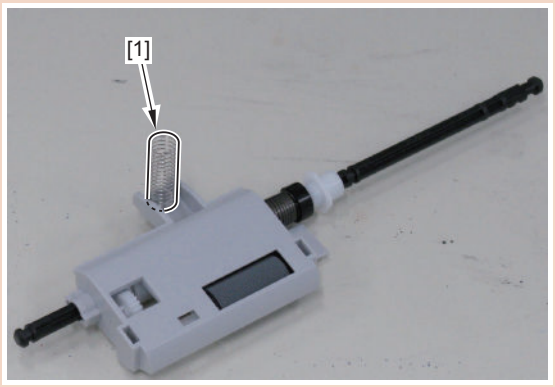
4. **Remove the resin E-ring [1] and the bushing [2].**



5. **Remove the ADF Roller Unit [1].**



CAUTION:
When removing the ADF Roller Unit, be careful not to lose the spring [1] on the back side.



Removing the ADF Pickup Roller

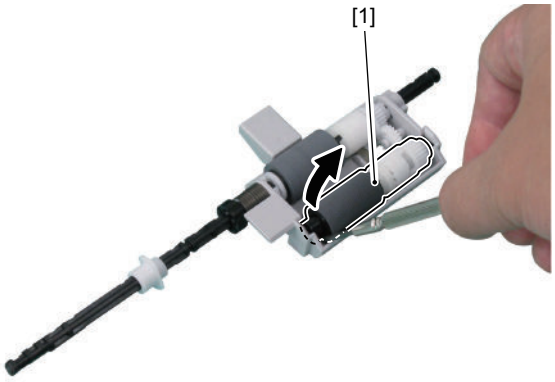
■ Preparation

1. **Remove the ADF Roller Unit.****"Removing the ADF Roller Unit" on page 117**

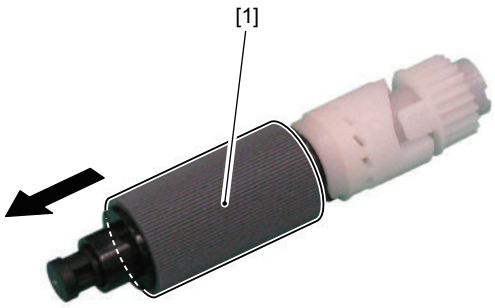
■ Procedure

CAUTION:
Do Not Touch the Surface of the ADF Pickup Roller When Removing or Mounting it.

1. **Insert the Precision Flat-screwdriver and Remove the Pickup Roller [1] Together With the Shaft.**



2. **Remove the Pickup Roller [1].**



Removing the ADF Separation Roller

■ Preparation

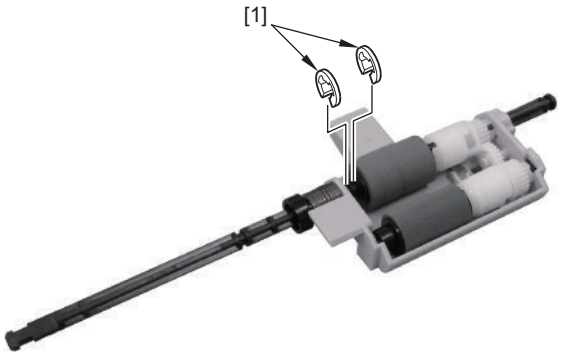
1. **Remove the ADF Roller Unit.****"Removing the ADF Roller Unit" on page 117**

■ Procedure

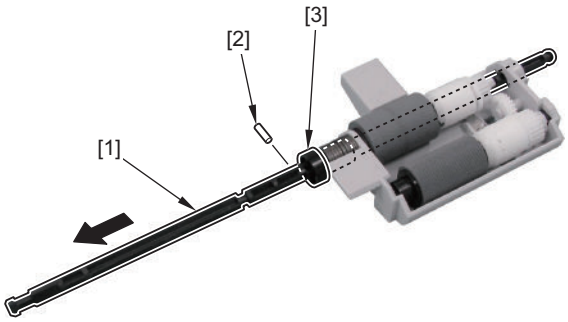
CAUTION:
Do not touch the surface of the roller or pad.

1. **Remove the bushing [1].**

2. **Remove the 2 resin E-rings [1].**

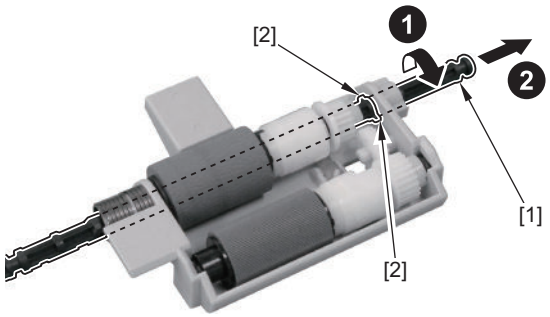


3. **Pull out the Roller Shaft [1] in the direction of the arrow, and remove the Parallel Pin [2] and the bushing [3].**

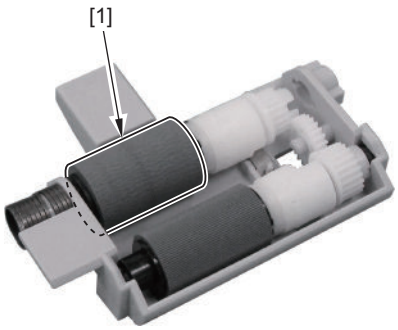


CAUTION:
Do not lose the Parallel Pin as it is a small part.

4. **Rotate the shaft [1] in the direction of the arrow, and pull it out by aligning the hole of the Roller Holder with the protrusion [2].**



5. **Remove the ADF Separation Roller [1].**

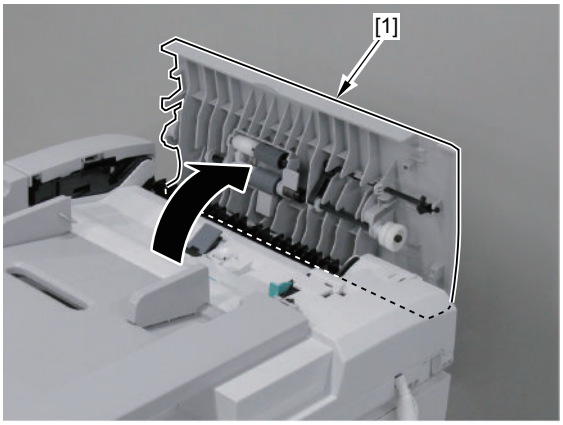


Removing the ADF Separation Pad

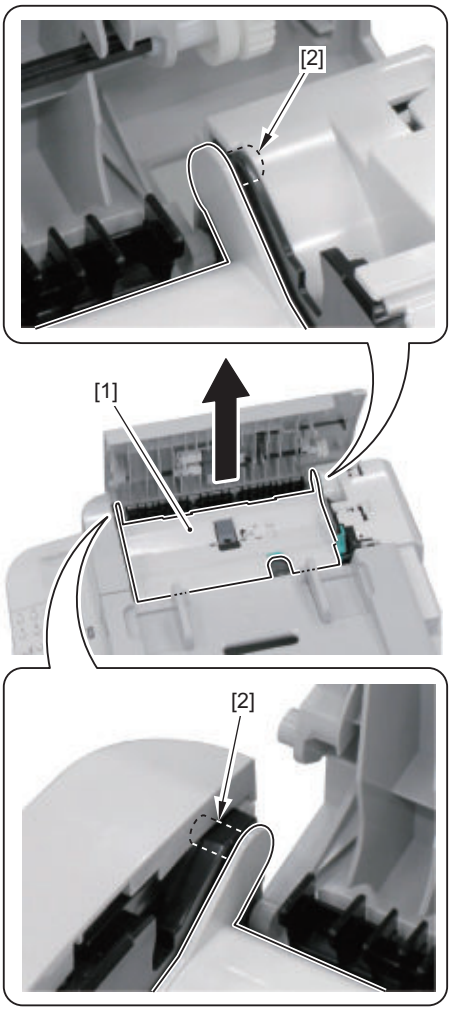
■ Procedure

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

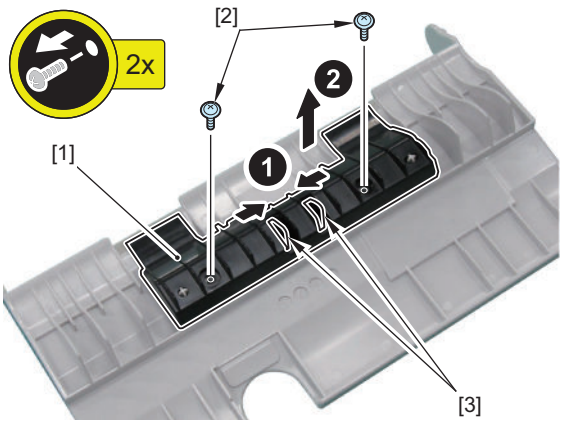
1. **Open the ADF Upper Cover [1].**



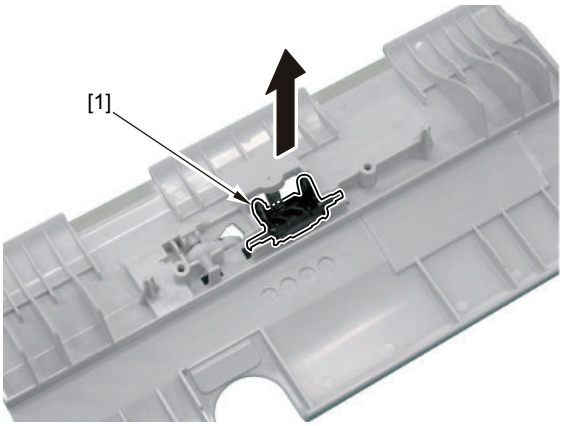
2. **Remove the Feed Guide [1].**
   - 2 Bosses [2]



3. **Remove the Retainer Plate [1] from the back side of the Feed Guide.**
   - 2 Screws [2]
   - 2 Protrusions [3] of the Separation Pad Holder



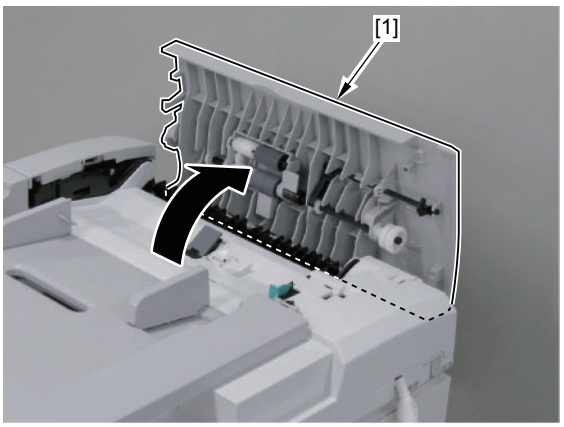
4. **Remove the Separation Pad Holder [1].**



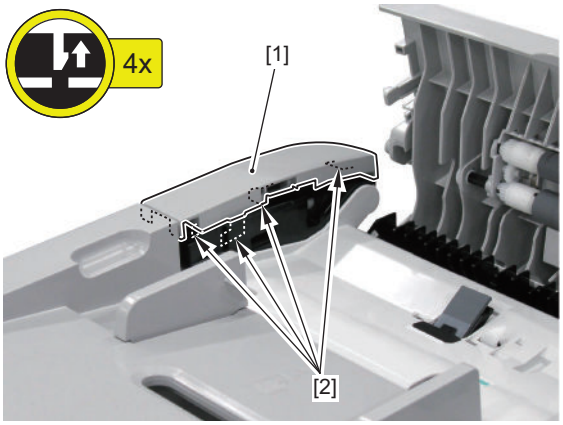
Removing the ADF Pickup Feed Unit

■ Procedure

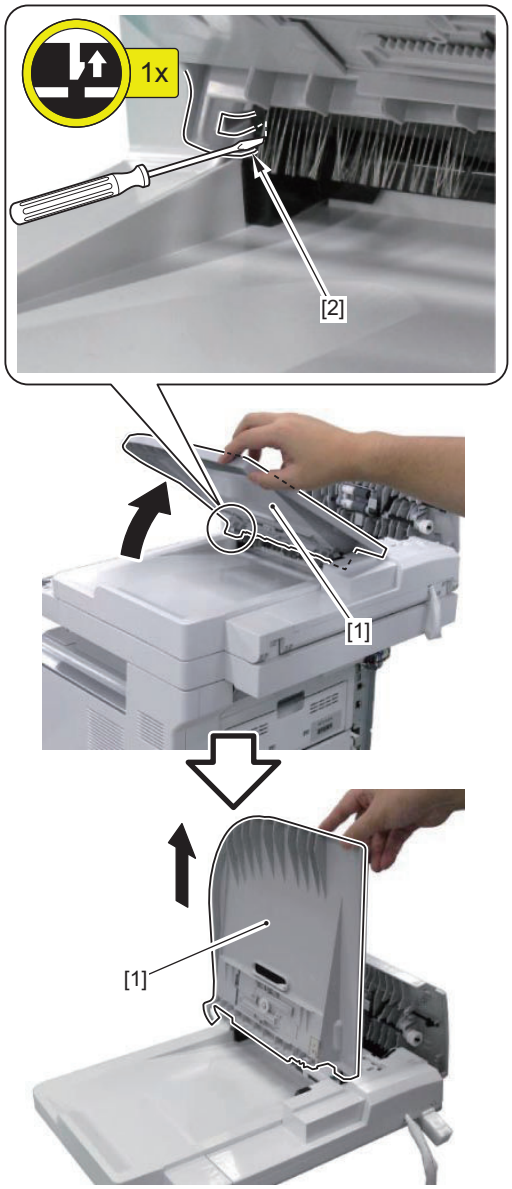
1. **Open the ADF Upper Cover [1].**



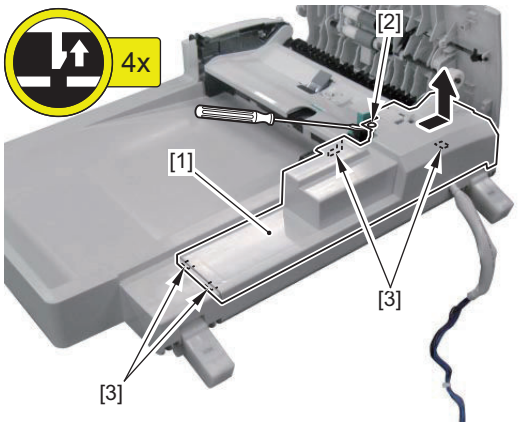
2. **Remove the ADF Front Cover [1].**
   - 4 Claws [2]



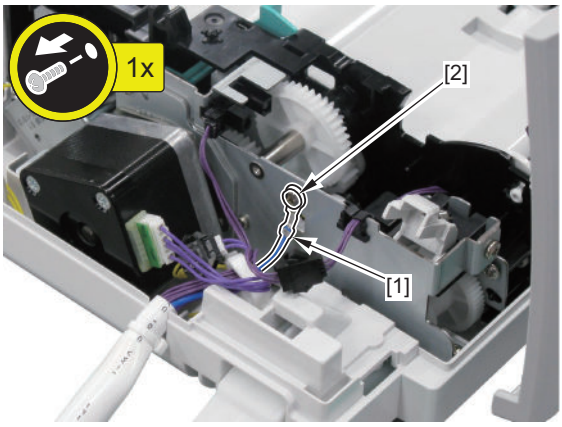
3. **Slightly lift the ADF Tray [1], release the claw [2], lift the tray to the angle of 90 degrees, and then remove it.**



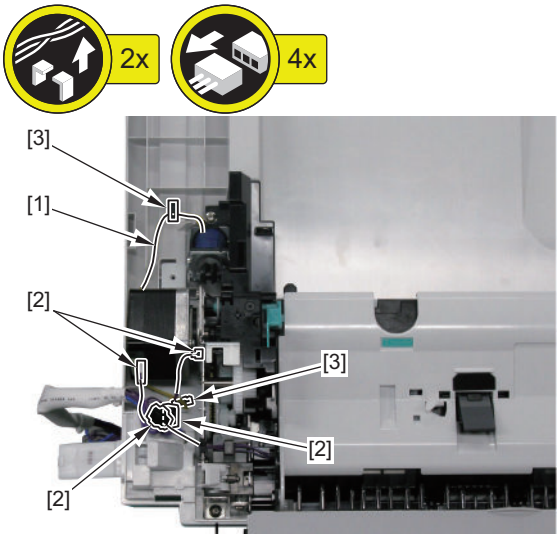
4. **Remove the ADF Rear Cover [1].**
   - 1 Boss [2]
   - 4 Claws [3]



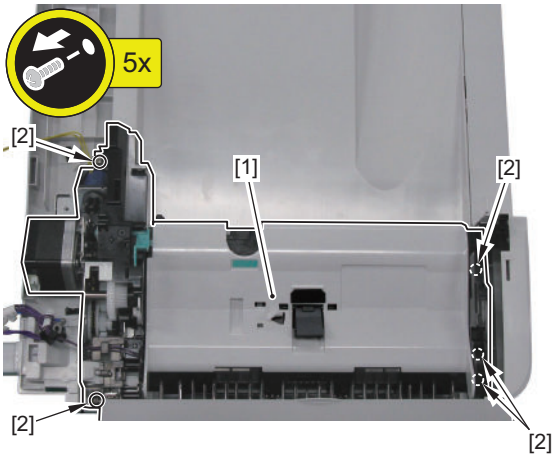
5. **Disconnect the Grounding Wire [1].**
   - 1 Screw [2]



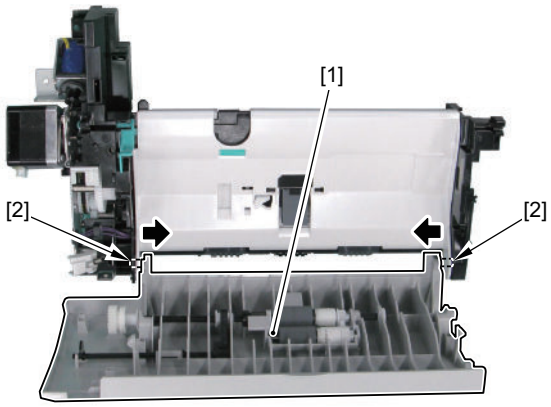
6. **Free the harness [1].**
   - 4 Connectors [2]
   - 2 Wire Saddles [3]



7. **Remove the ADF Pickup Feed Unit [1].**
   - 5 Screws [2]



8. **Remove the ADF Upper Cover Unit [1].**
   - 2 Bosses [2]



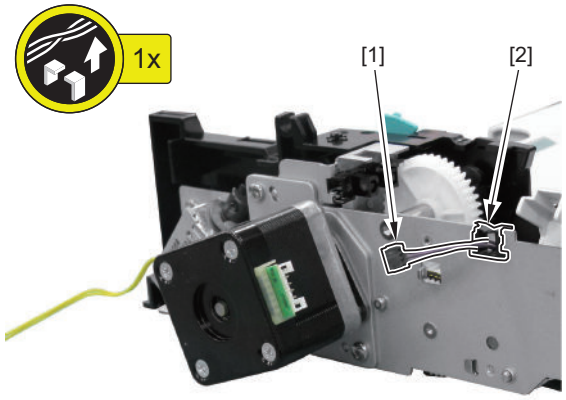
Removing the ADF Pickup Motor Unit

■ Preparation

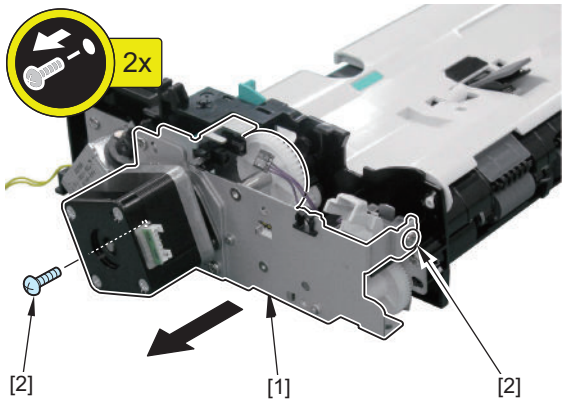
1. **Remove the ADF Pickup Feed Unit.****"Removing the ADF Pickup Feed Unit" on page 120**

■ Procedure

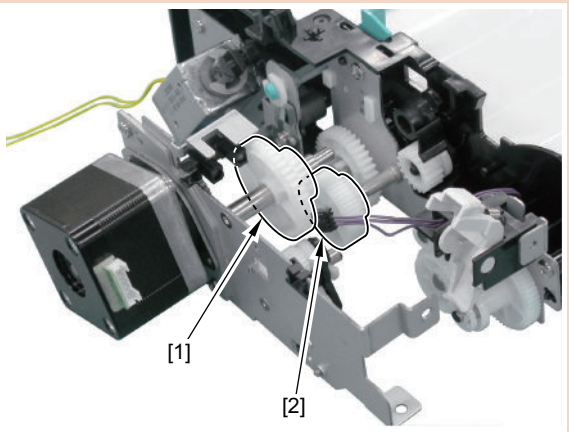
1. **Remove the Harness Guide [1] from the Edge Saddle [2].**



2. **Remove the ADF Motor Unit [1].**
   - 2 Screws [2]



CAUTION:
The gear [1] of the ADF Motor Unit and the gear [2] on the frame of the Pickup Feed Unit are not secured in place, so be careful not to lose them.



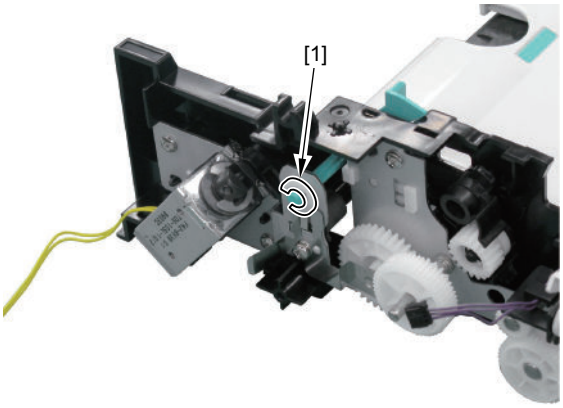
Removing the ADF Delivery Solenoid Unit

■ Preparation

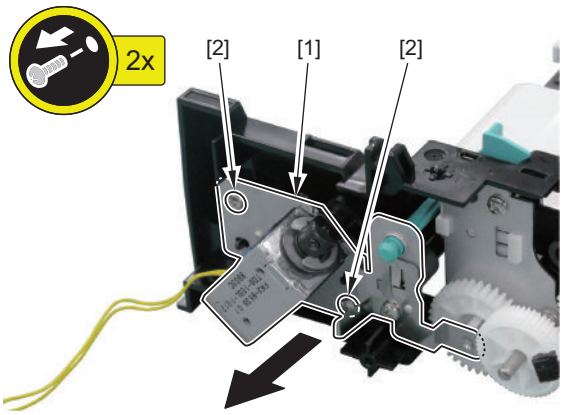
1. **Remove the ADF Pickup Feed Unit.****"Removing the ADF Pickup Feed Unit" on page 120**

■ Procedure

1. **Remove the E-ring [1].**



2. **Remove the ADF Pickup Feed Solenoid Unit [1].**
   - 2 Screws [2]



Removing the Reader Unit Upper Cover

■ Preparation

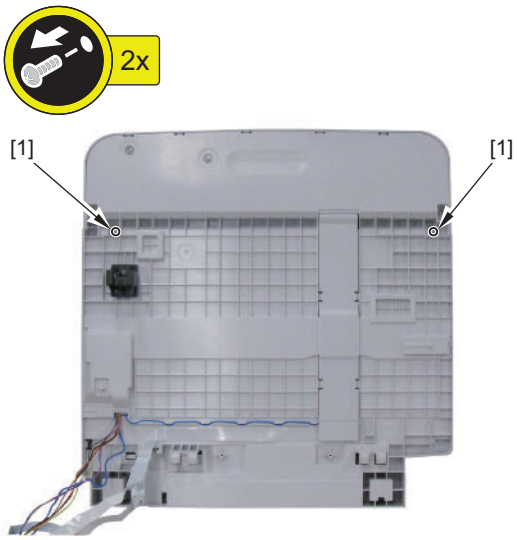
CAUTION:
Actions after Replacement:
- " After Replacing the Reader Upper Cover Unit " on page 156

1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**

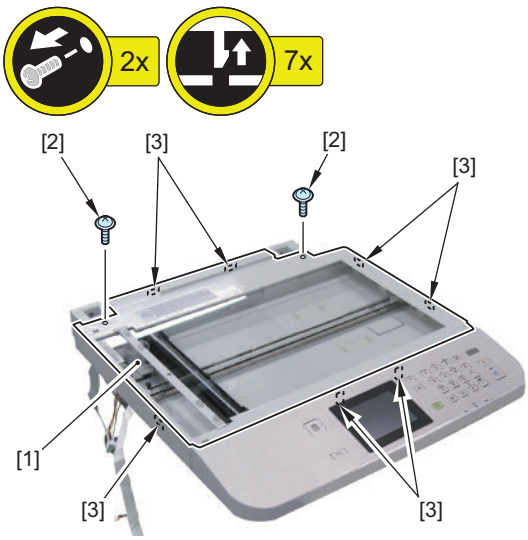
3. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
4. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**

■ Procedure

1. **Remove the 2 screws [1] from the bottom of the Reader Unit.**



2. **Remove the Reader Upper Cover Unit [1].**
   - 2 Screws [2]
   - 7 Claws [3]



Removing the CIS Unit

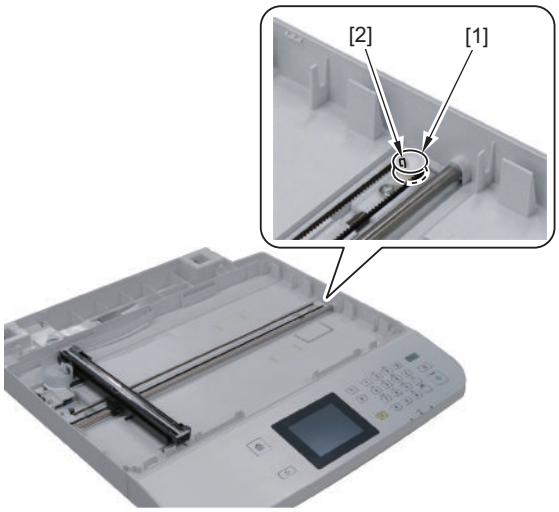
■ Preparation

CAUTION:
Actions after Replacement:
- " After Replacing the Scanner Unit (CIS) " on page 150

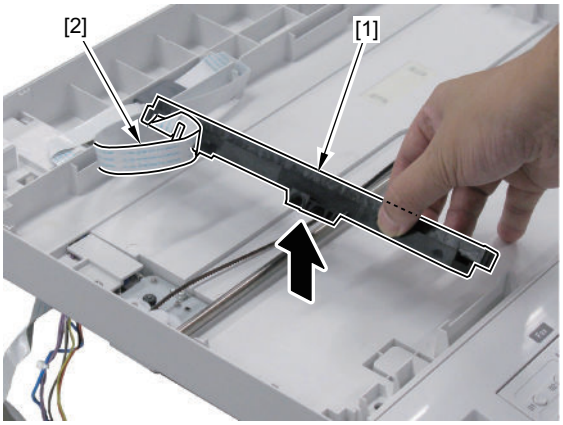
1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
3. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**
4. **Separate the ADF from the Reader Unit.**
5. **Remove the Reader Upper Cover Unit.****"Removing the Reader Unit Upper Cover" on page 122**

■ Procedure

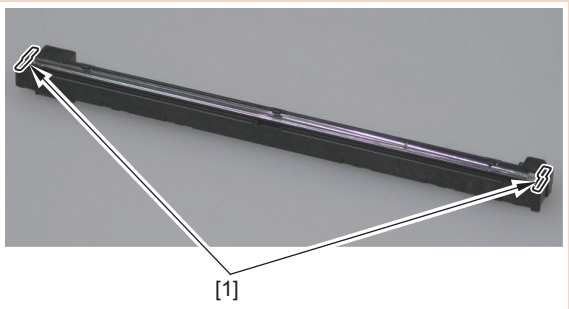
1. **Remove the Drive Pulley [1].**
   - 1 Claw [2]



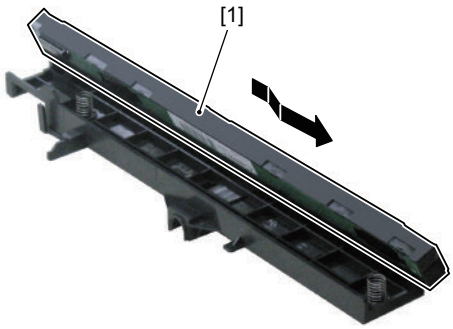
2. **Remove the CIS Mount [1] in the direction of the arrow, and disconnect the Flat Cable [2].**



CAUTION:
When removing the CIS Mount, be careful not to lose the CIS Spacers [1].



3. **Lift the CIS Unit [1], and remove it in the direction of the arrow.**



Controller System

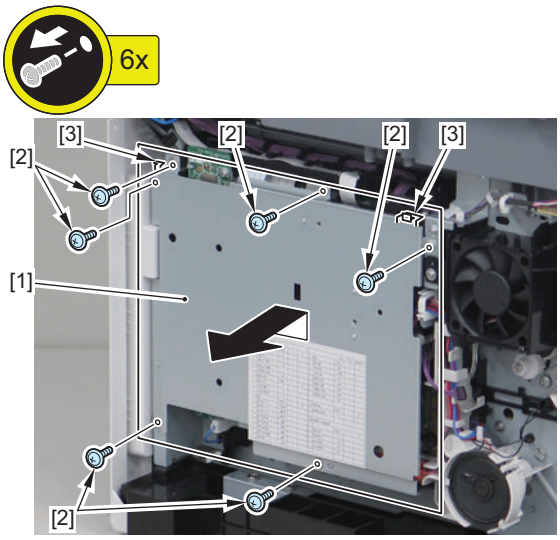
Removing the Controller Cover

■ Preparation

1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**

■ Procedure

1. **Remove the Controller Cover [1].**
   - 6 Screws [2]
   - 2 Hooks [3]



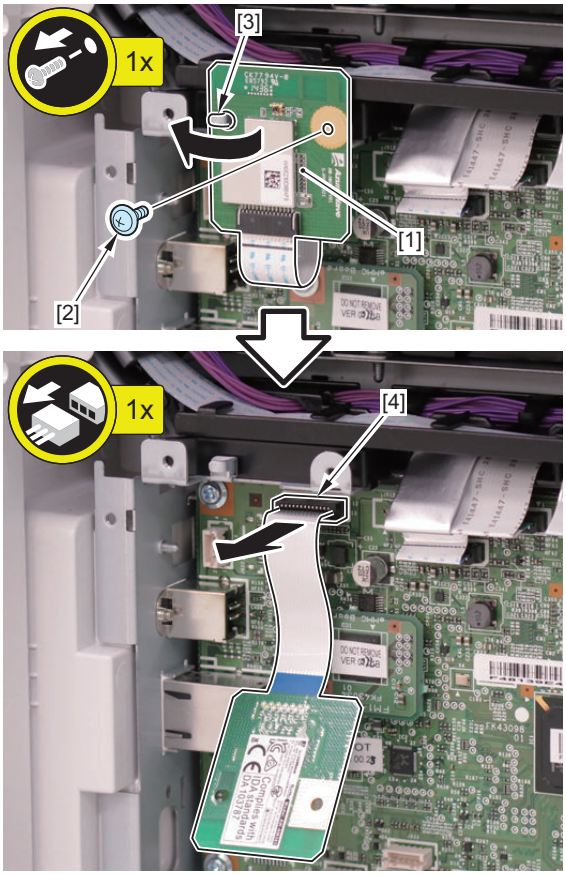
Removing the Wireless LAN PCB (except for D1520/ MF412dn)

■ Preparation

1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**

■ Procedure

1. **Remove the Wireless LAN PCB [1].**
   - 1 Screw [2]
   - 1 Hook [3]
   - 1 Flat Cable [4]



Removing the Main Controller PCB

■ Preparation

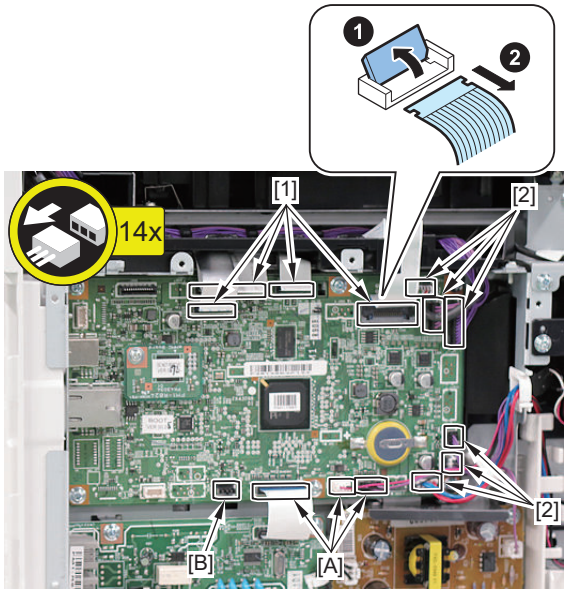
CAUTION:
Actions before Replacement:
- "Actions before Replacement" on page 162

Actions after Replacement:
- "After replacing main controller PCB" on page 163

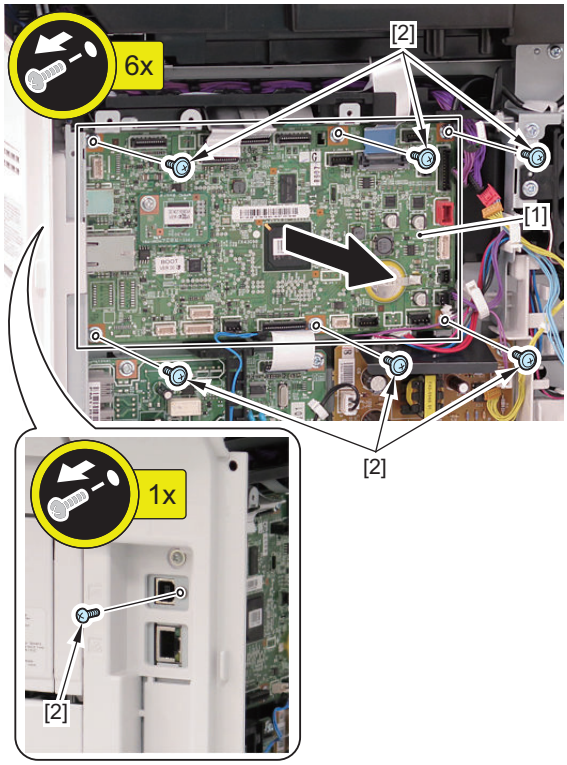
1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
3. **Remove the Wireless LAN PCB. (except for D1520/ MF412dn)** **"Removing the Wireless LAN PCB (except for D1520/ MF412dn)" on page 125**

■ Procedure

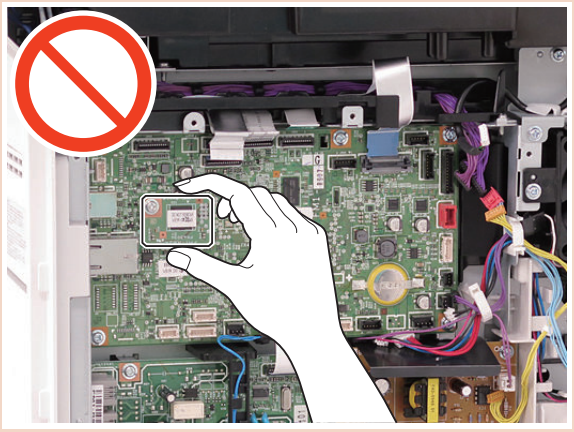
1. **Disconnect the 4 Flat Cables [1] and the 6 connectors [2] from the Main Controller PCB.**
   - 3 Connectors [A] (except for D1520/ MF411dw)
   - 1 Connector [B] (EUR only)



2. **Remove the Main Controller PCB [1].**
   - 7 Screws [2]



CAUTION:
Do not remove the eMMC PCB.



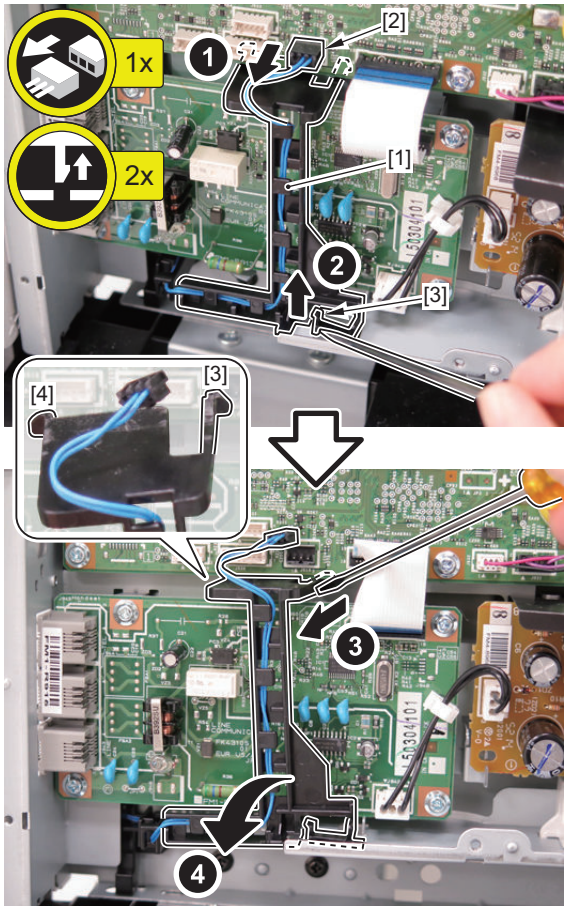
Removing the NCU PCB (Except for D1520/ MF411dw)

■ Preparation

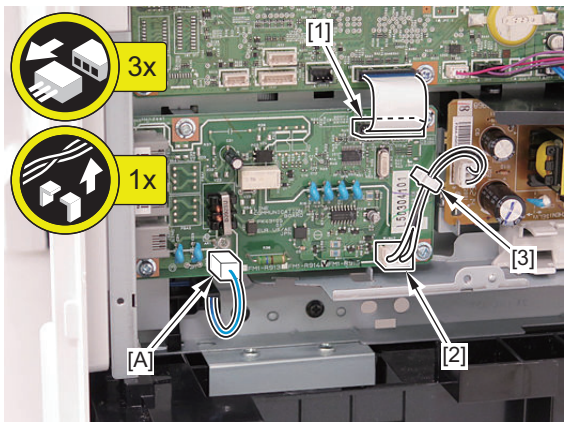
1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**

■ Procedure

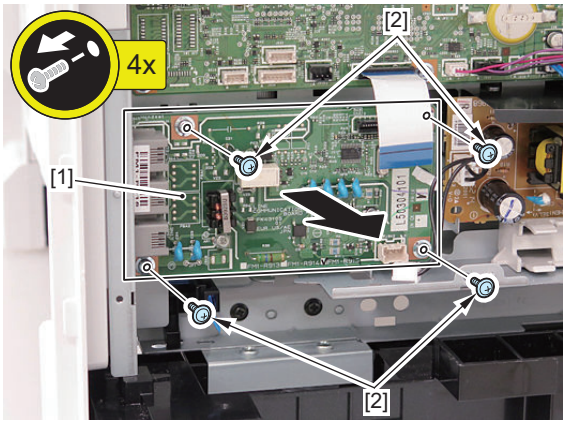
1. **Remove the Harness Guide [1] (EUR only).**
   - 1 Connector [2]
   - 2 Claws [3]
   - 1 Hook [4]



2. **Disconnect the cables.**
   - 1 Flat Cable [1]
   - 1 Connector [2]
   - 1 Wire Saddle [3]
   - 1 Connector [A] (JP only)



3. **Remove the NCU PCB [1].**
   - 4 Screws [2]



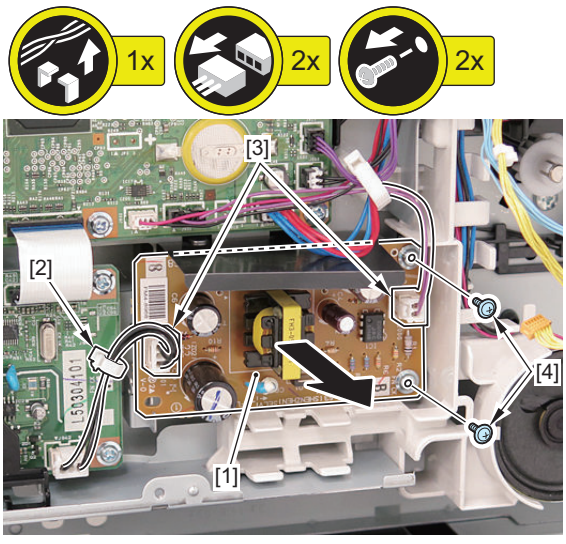
Removing the OFF Hook PCB (except for D1520/ MF411dw)

■ Preparation

1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**

■ Procedure

1. **Remove the OFF Hook PCB [1].**
   - 1 Wire Saddle [2]
   - 2 Connectors [3]
   - 2 Screws [4]



Removing the Controller Box

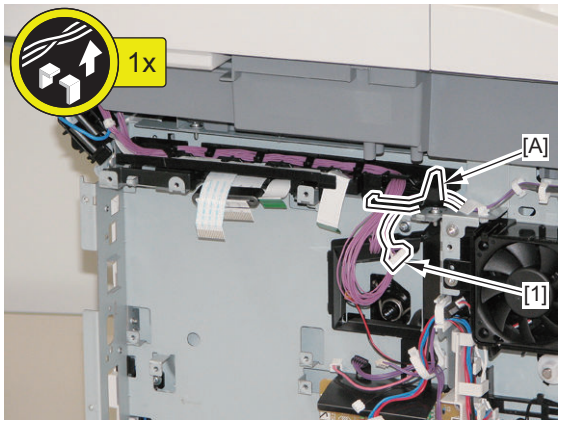
■ Preparation

1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**

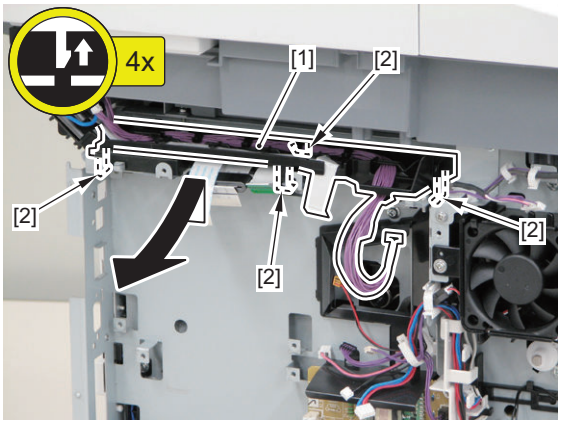
2. Remove the Left Cover Unit.“Removing the Left Cover Unit” on page 108
3. Remove the Left Rear Cover.“Removing the Left Rear Cover” on page 109
4. Remove the Controller Cover.“Removing the Controller Cover” on page 125
5. Remove the Wireless LAN PCB. (except for D1520/ MF412dn)“Removing the Wireless LAN PCB (except for D1520/ MF412dn)” on page 125
6. Remove the NCU PCB. (except for D1520/ MF411dw) “Removing the NCU PCB (Except for D1520/ MF411dw)” on page 126
7. Remove the Main Controller PCB. “Removing the Main Controller PCB” on page 125

■ Procedure

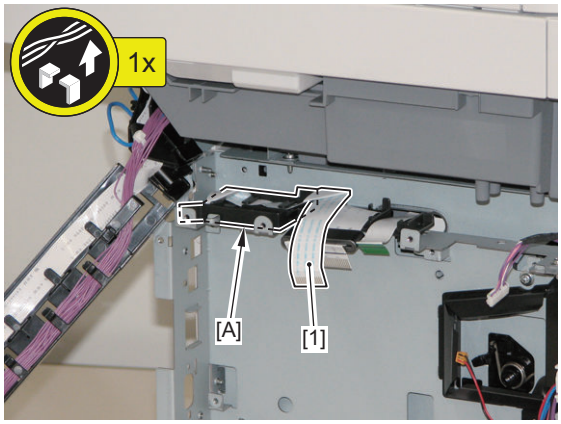
1. Free the harness [1] from the guide [A].



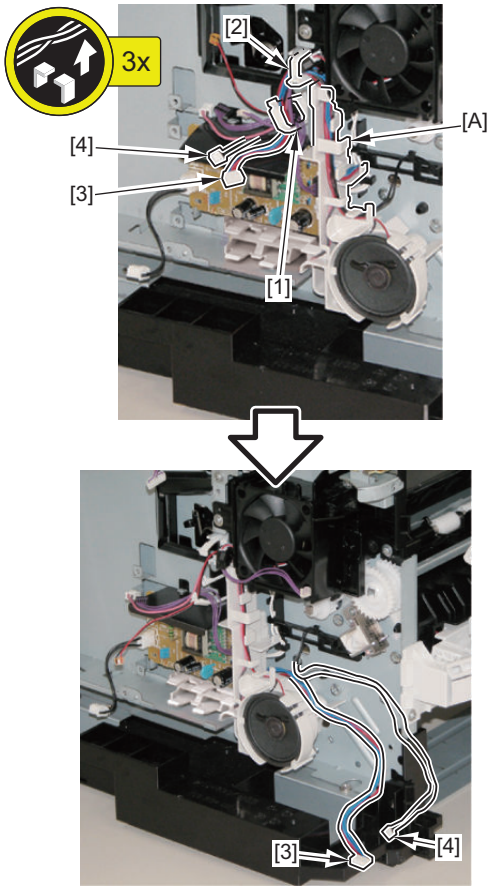
2. Remove the Harness Guide [1].
   - 4 Claws [2]



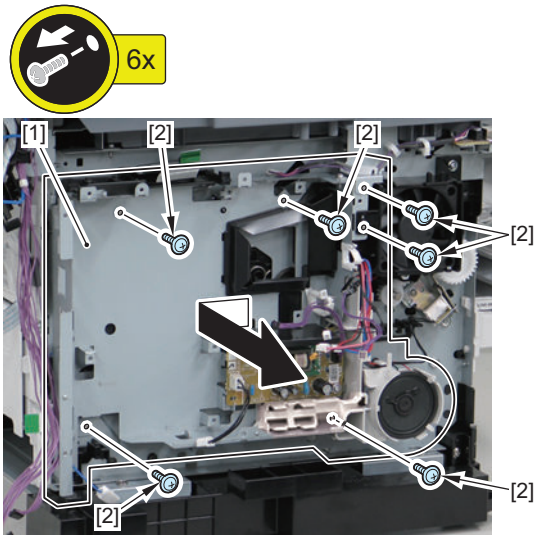
3. Free the Flat Cable [1] from the guide [A].



4. Open the Wire Saddle [1] and the Edge Saddle [2], and free the harnesses [3] and [4] from the guide [A].



5. **Remove the Controller Box [1].**
   - 6 Screws [2]



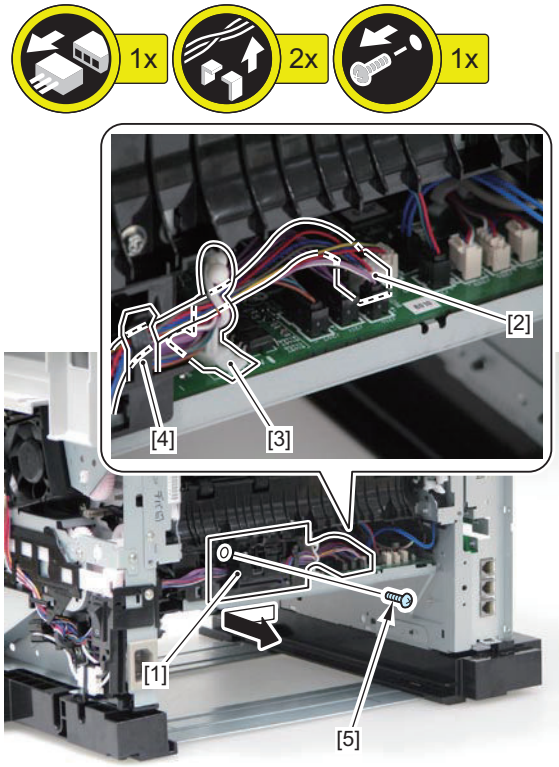
Removing the Engine Controller Unit

■ Preparation

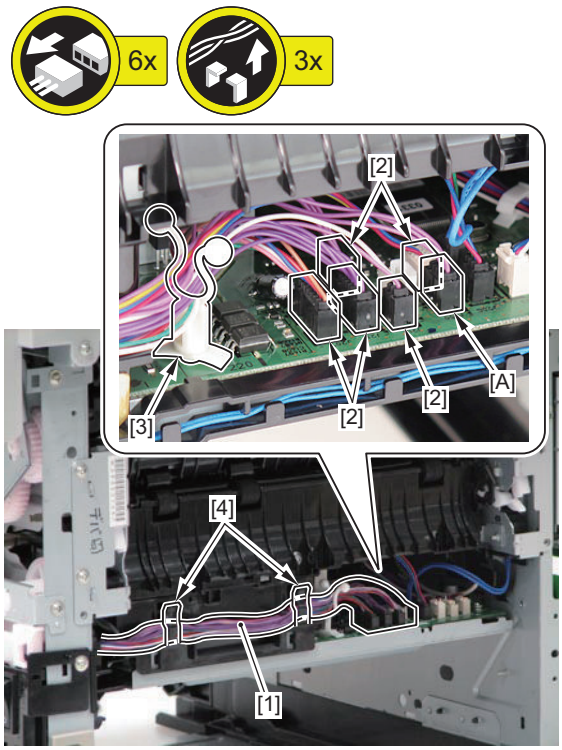
1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
4. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
5. **Remove the Wireless LAN PCB. (except for D1520/ MF412dn)****"Removing the Wireless LAN PCB (except for D1520/ MF412dn)" on page 125**
6. **Remove the NCU PCB. (except for D1520/ MF411dw)****"Removing the NCU PCB (Except for D1520/ MF411dw)" on page 126**
7. **Remove the Main Controller PCB.****"Removing the Main Controller PCB" on page 125**
8. **Remove the Controller Box.****"Removing the Controller Box" on page 127**
9. **Remove the Rear Cover Unit.****"Removing the Rear Cover Unit" on page 113**

■ Procedure

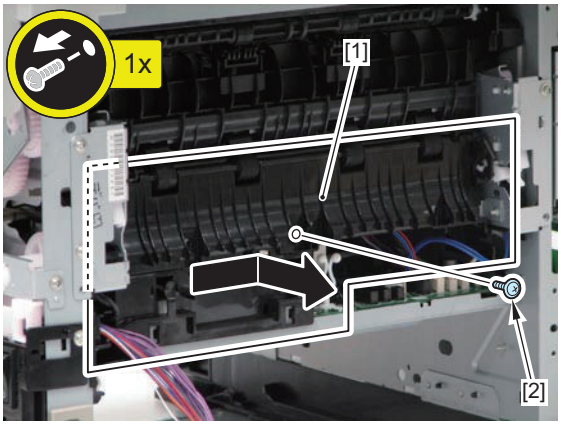
1. **Remove the Duplex Reverse Sensor Unit [1].**
   - 1 Connector [2]
   - 1 Wire Saddle [3]
   - 1 Harness Guide [4]
   - 1 Screw [5]



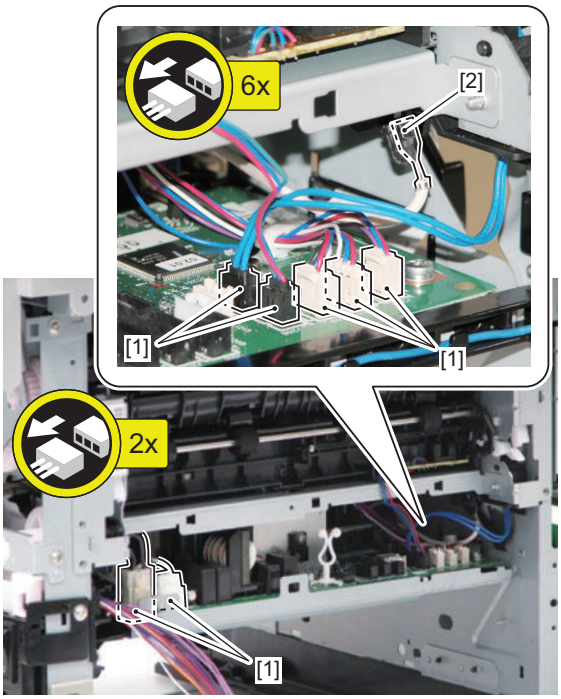
2. **Free the harness [1].**
   - 5 Connectors [2]
   - 1 Wire Saddle [3]
   - 2 Harness Guides [4]
   - 1 Connector [A] (EUR only)



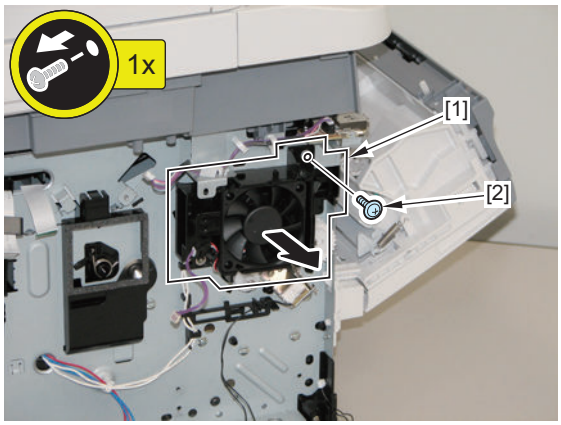
3. **Remove the Feed Guide [1].**
   - 1 Screw [2]



4. **Disconnect the 7 connectors [1] and remove the terminal [2].**

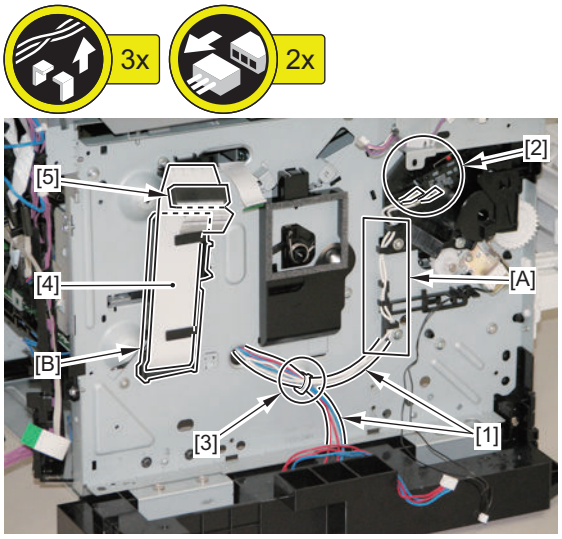


5. **Remove the Controller Fan Unit [1].**
   - 1 Screw [2]

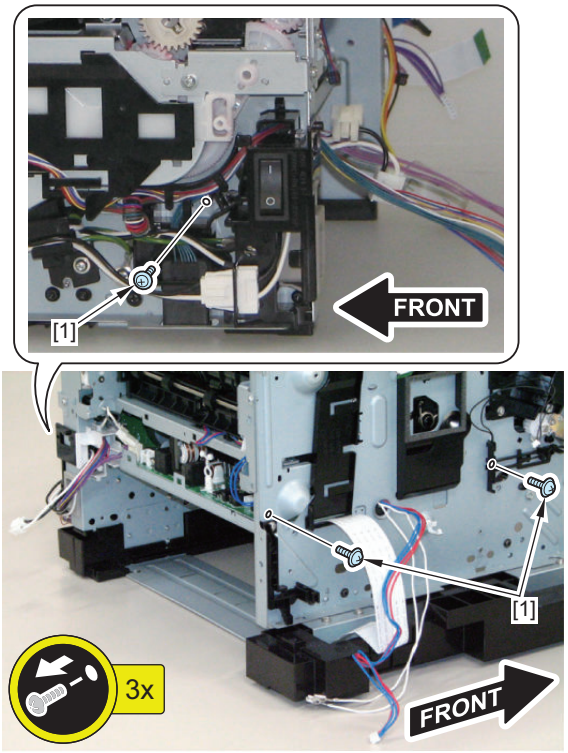


6. **Free the harness [1] from the guide [A].**
   - 2 Terminals [2]
   - 1 Wire Saddle [3]

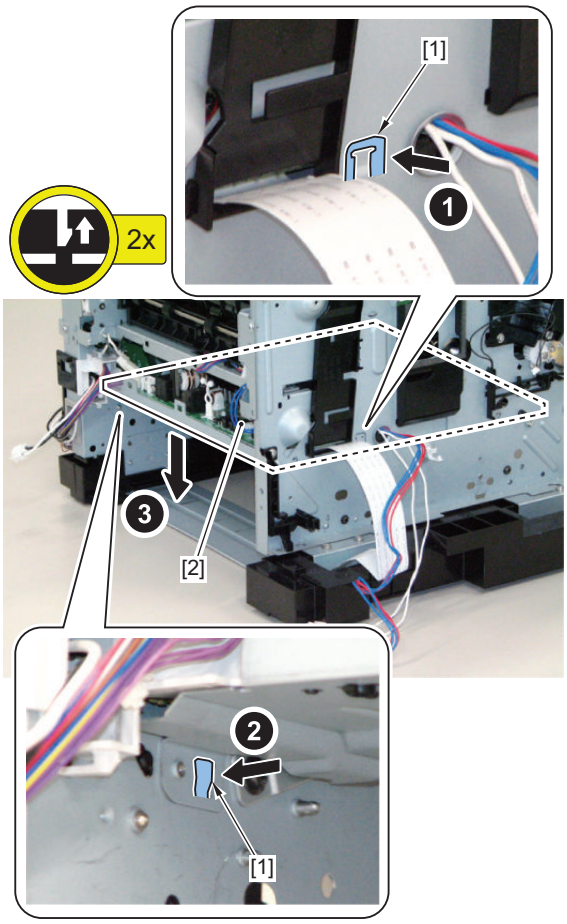
7. **Free the Flat Cable [4] from the guide [B].**
   - 1 Ferrite Core [5]



8. **Remove the 3 Fixation Screws [1] of the Engine Controller.**

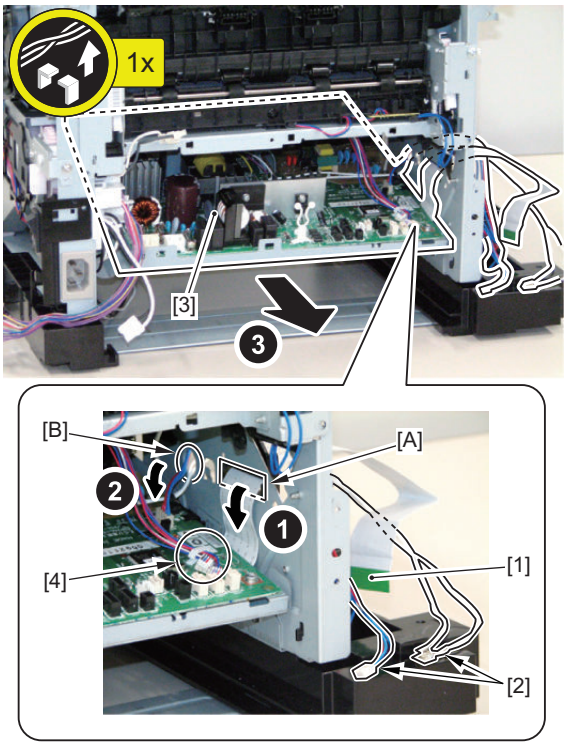


9. **Release the 2 claws [1], and move the Engine Controller Unit [2].**



10. **Free the Flat Cable [1] and the harness [2] from the holes [A] and [B] on the Side Plate, and remove the Engine Controller Unit [3].**
    - 1 Wire Saddle [4]

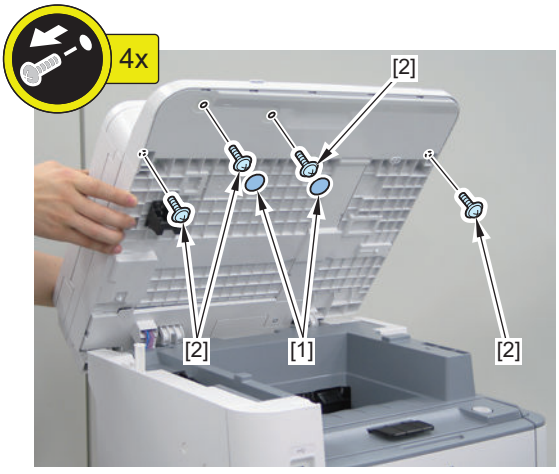
CAUTION:
Be sure to perform the work while holding the Engine Controller Unit due to the load being applied to the harness.



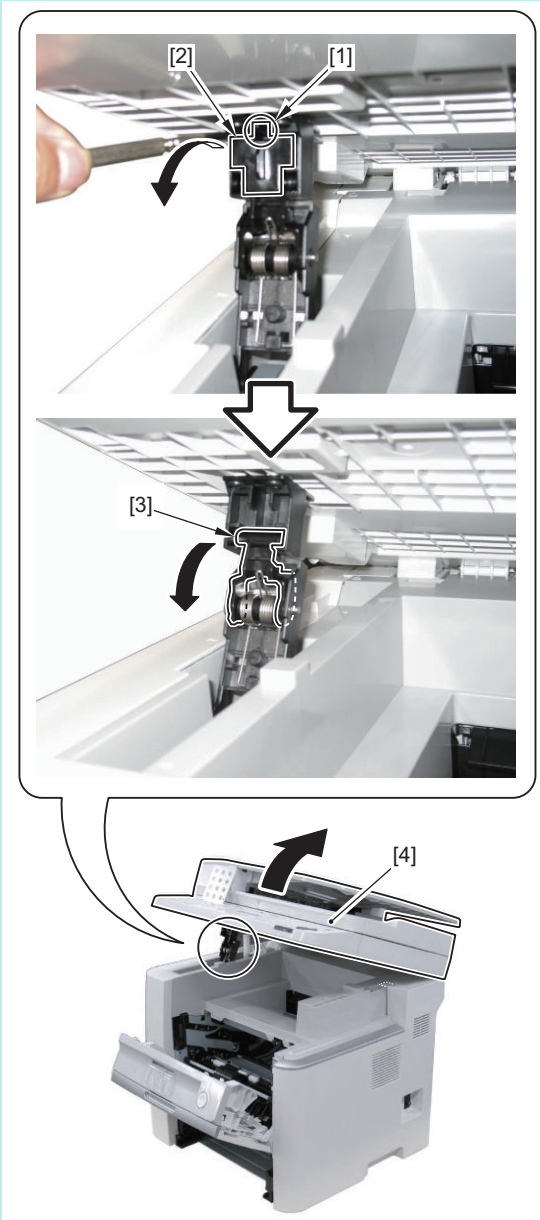
Removing the Control Panel

■ Procedure

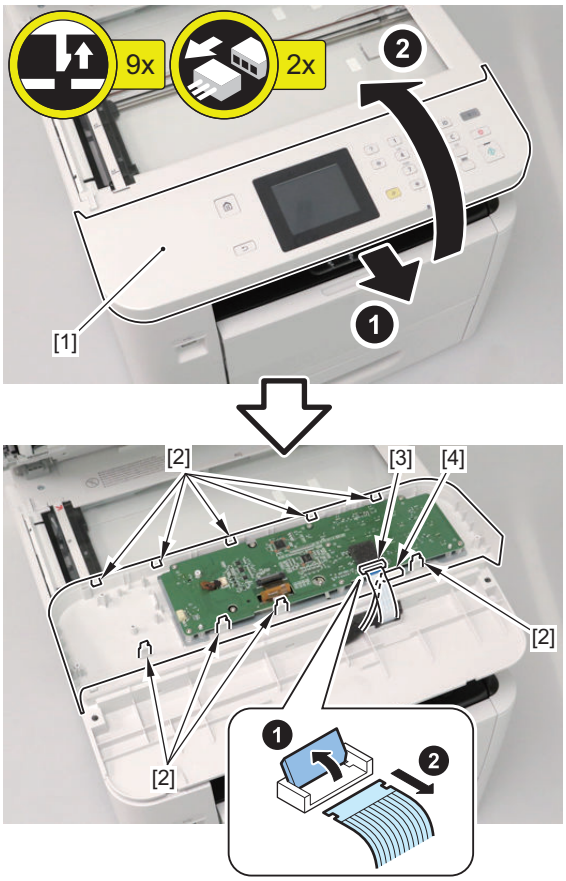
1. **Remove the 2 Face Seals [1] and the 4 screws [2] from the lower side of the Reader Unit.**



NOTE:
When removing the screws on the lower side of the Reader Unit, release the claw [1], and remove the Arm Cover [2].
Disconnecting the arm can make the work easier.



2. **Remove the Control Panel [1].**
   - 9 Claws [2]
   - 1 Flat Cable [3]
   - 1 Terminal [4]



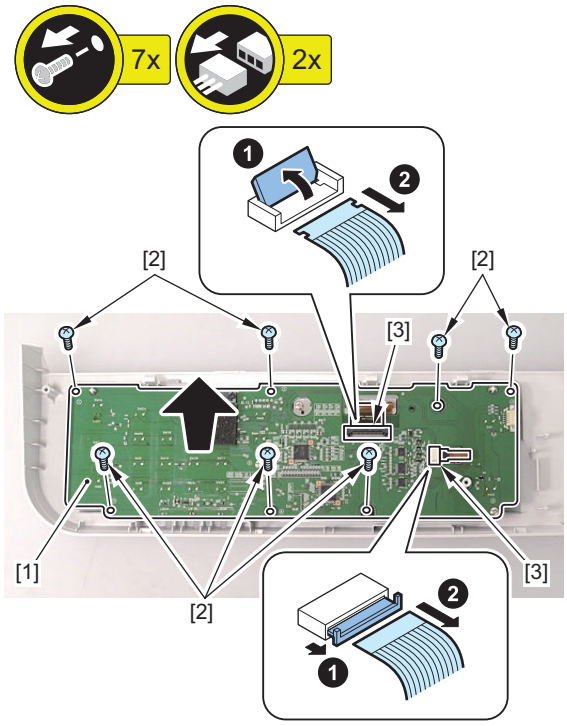
Removing the Control Panel PCB

■ Preparation

1. **Remove the Control Panel.****"Removing the Control Panel" on page 131**

■ Procedure

1. **Remove the Control Panel PCB [1].**
   - 7 Screws [2]
   - 2 Flat Cables [3]



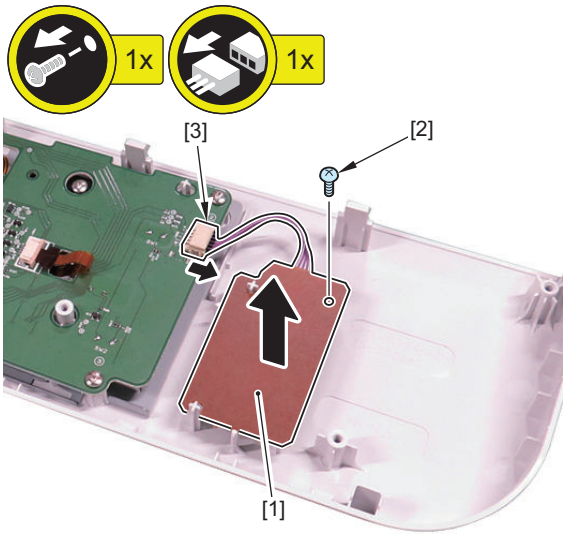
Removing the NFC PCB (D1550/ MF416dw/ MF415dw)

■ Preparation

1. **Remove the Control Panel.****"Removing the Control Panel" on page 131**

■ Procedure

1. **Remove the NFC PCB [1].**
   - 1 Screw [2]
   - 1 Connector [3]



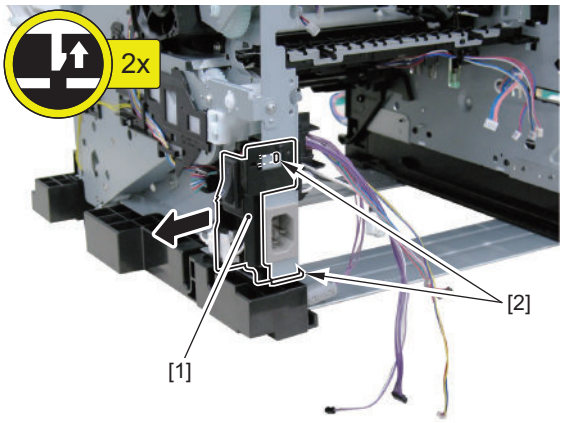
Removing the Main Motor

■ Preparation

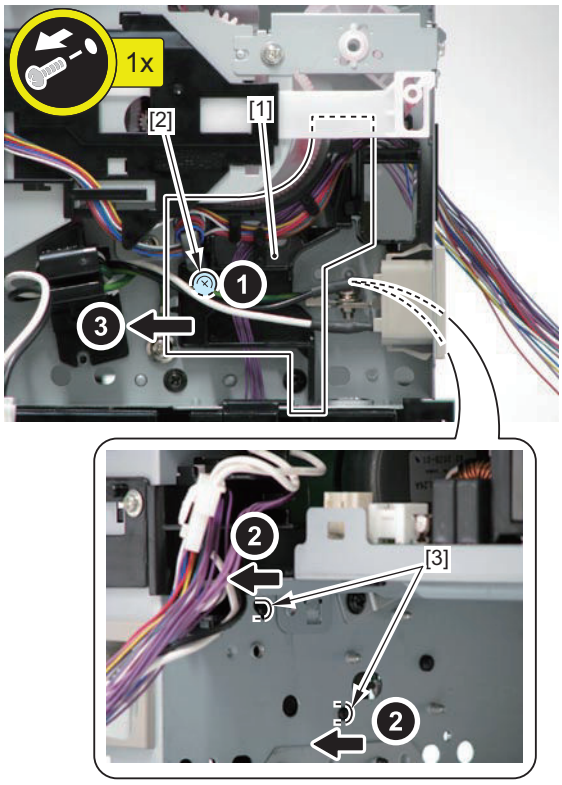
1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
4. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
5. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**
6. **Remove the Upper Cover.****"Removing the Upper Cover" on page 114**
7. **Remove the Wireless LAN PCB. (except for D1520/ MF412dn)****"Removing the Wireless LAN PCB (except for D1520/ MF412dn)" on page 125**
8. **Remove the NCU PCB. (except for D1520/ MF411dw)****"Removing the NCU PCB (Except for D1520/ MF411dw)" on page 126**
9. **Remove the Main Controller PCB.****"Removing the Main Controller PCB" on page 125**
10. **Remove the Controller Box.****"Removing the Controller Box" on page 127**
11. **Remove the Rear Cover Unit.****"Removing the Rear Cover Unit" on page 113**
12. **Remove the Fixing Assembly.****"Removing the Fixing Assembly" on page 143**

■ Procedure

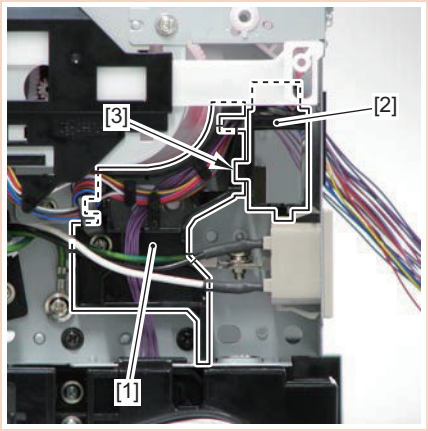
1. **Remove the Main Switch Mounting Base [1].**
   - 2 Claws [2]



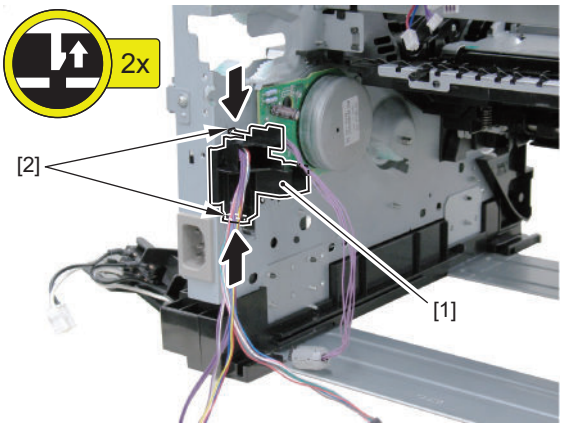
2. **Move the Harness Guide [1] to the left.**
   - 2 Screws [2]
   - 2 Bosses [3]



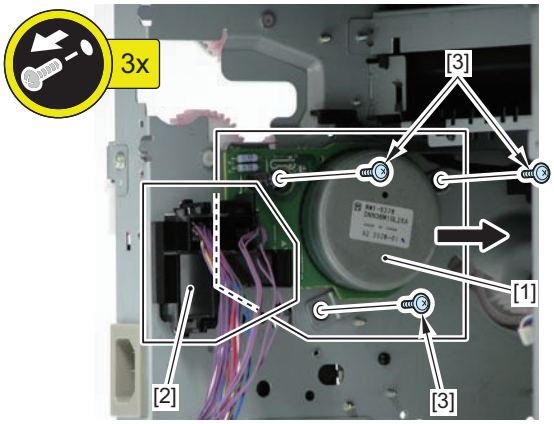
CAUTION:
At installation, place the Harness Guide [1] to the rear side of the hook [3] of the Harness Guide [2].



3. **Remove the Harness Guide [1].**
   - 2 Claws [2]



4. **Remove the Main Motor [1] and the Harness Guide [2].**
   - 3 Screws [3]



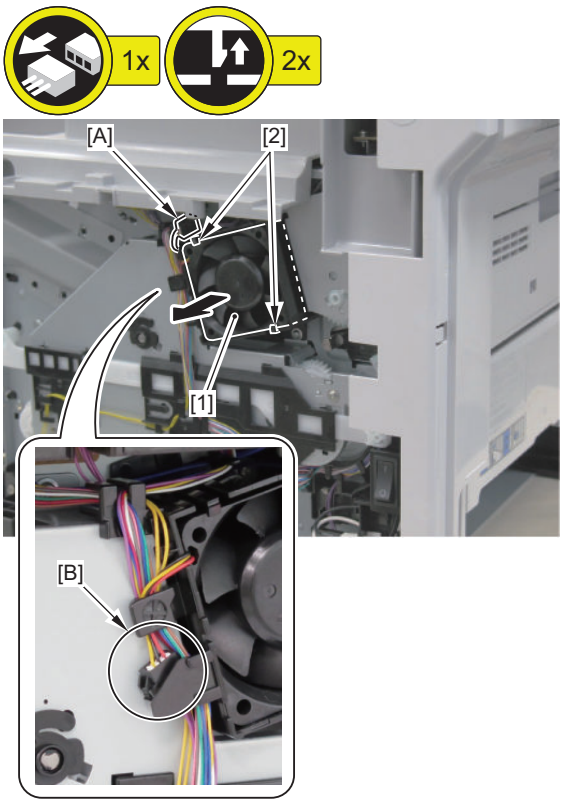
Removing the Main Fan

■ Preparation

1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**

■ Procedure

1. **Remove the Main Fan [1].**
   - 2 Claws [2]
   - 1 Connector [A] (except for EUR)
   - 1 Connector [B] (EUR only)



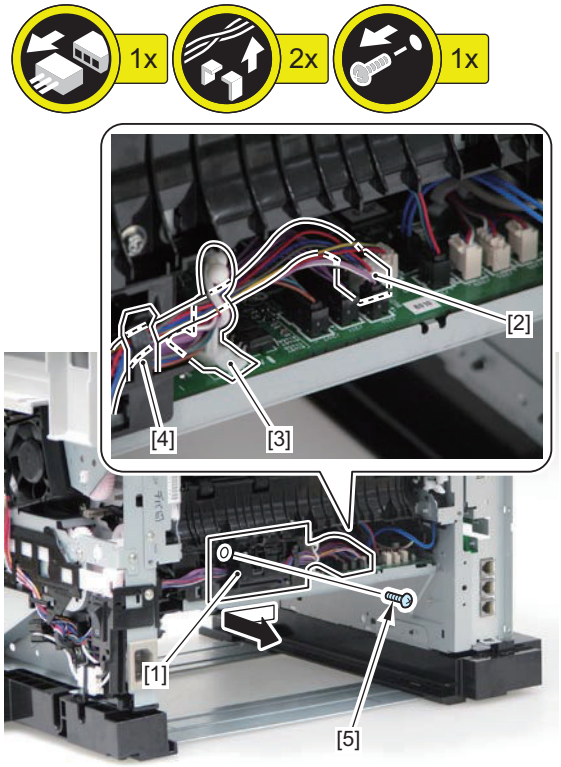
Removing the Main Drive Unit

■ Preparation

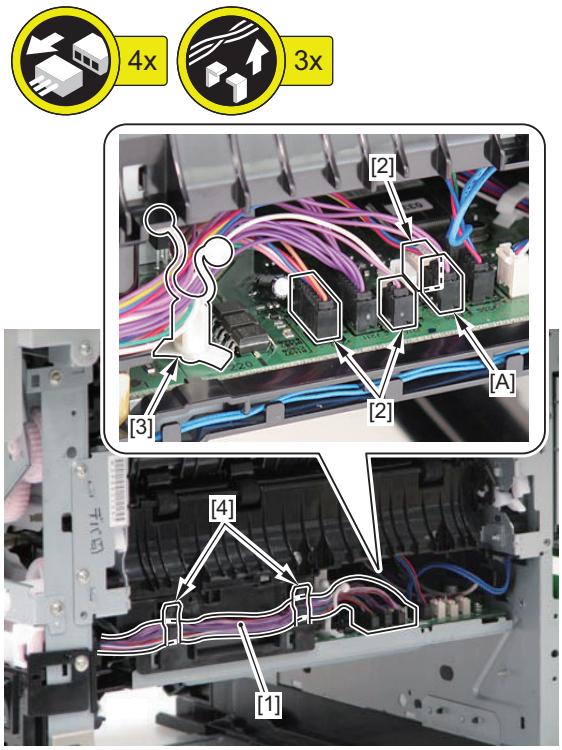
1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
4. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
5. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**
6. **Remove the Upper Cover.****"Removing the Upper Cover" on page 114**
7. **Remove the Rear Cover Unit.****"Removing the Rear Cover Unit" on page 113**

■ Procedure

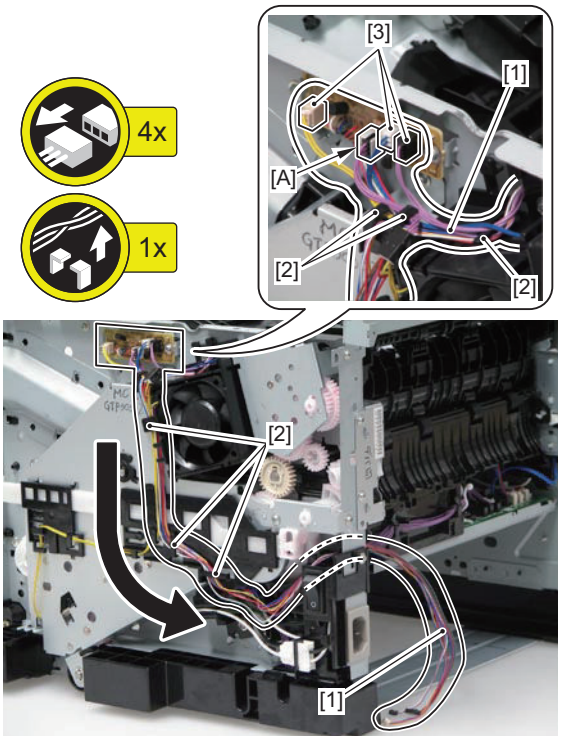
1. **Remove the Duplex Reverse Sensor Unit [1].**
   - 1 Connector [2]
   - 1 Wire Saddle [3]
   - 1 Harness Guide [4]
   - 1 Screw [5]



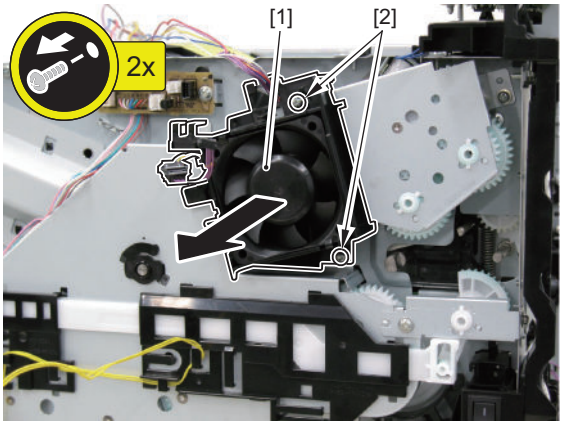
2. **Remove the harness [1].**
   - 3 Connectors [2]
   - 1 Wire Saddle [3]
   - 2 Harness Guides [4]
   - 1 Connector [A] (EUR only)



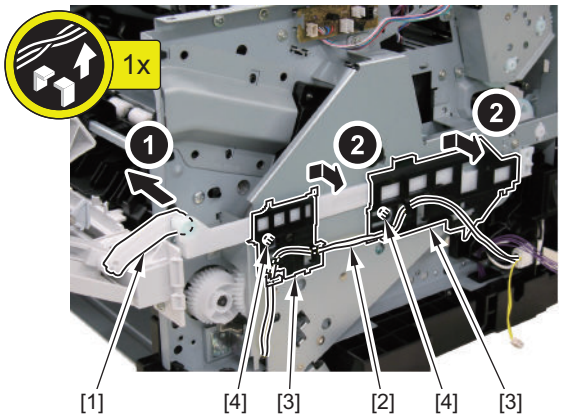
3. **Remove the harness [1].**
   - 6 Harness Guides [2]
   - 3 Connectors [3]
   - 1 Connector [A] (except for EUR)



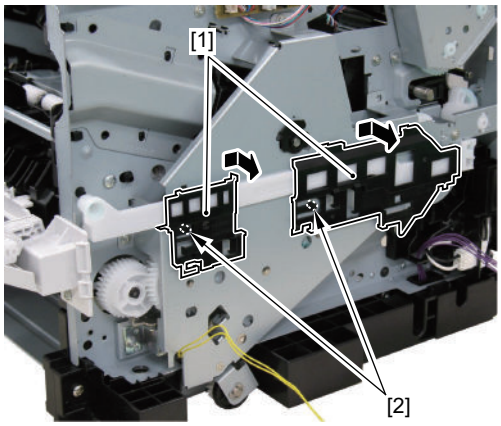
4. **Remove the Main Fan [1].**
   - 2 Screws [2]



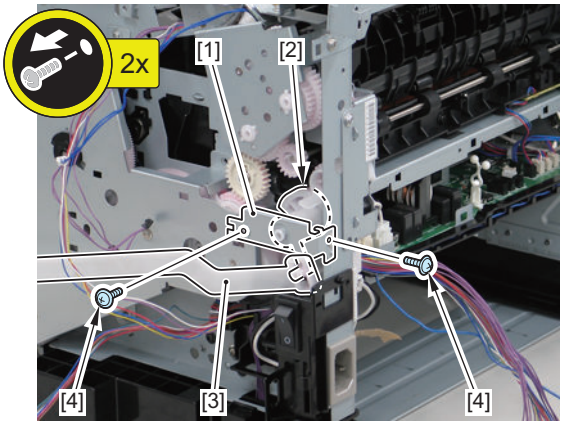
5. **Remove the link [1], and free the harness [2] from the Harness Guide [3].**
   - 2 Bosses [4]



6. **Remove the 2 Harness Guides [1].**
   - 2 Bosses [2]

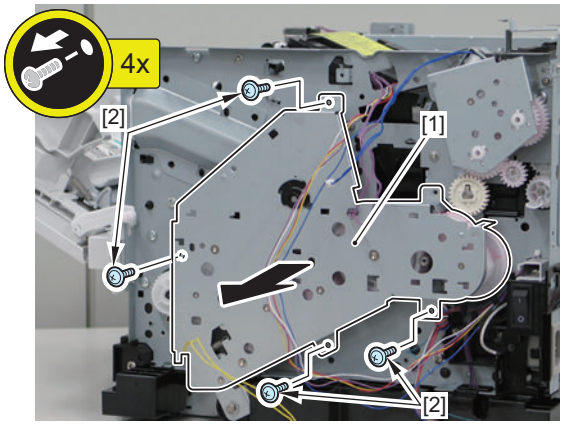


7. **Remove the plate [1], and disengage the gear [2] of the Fixing Assembly and the Link Arm [3].**
   - 2 Screws [4]



CAUTION:
When removing the Main Drive Unit, perform carefully so that the gears do not get disengaged.

8. **Remove the Main Drive Unit [1].**
   - 4 Screws [2]



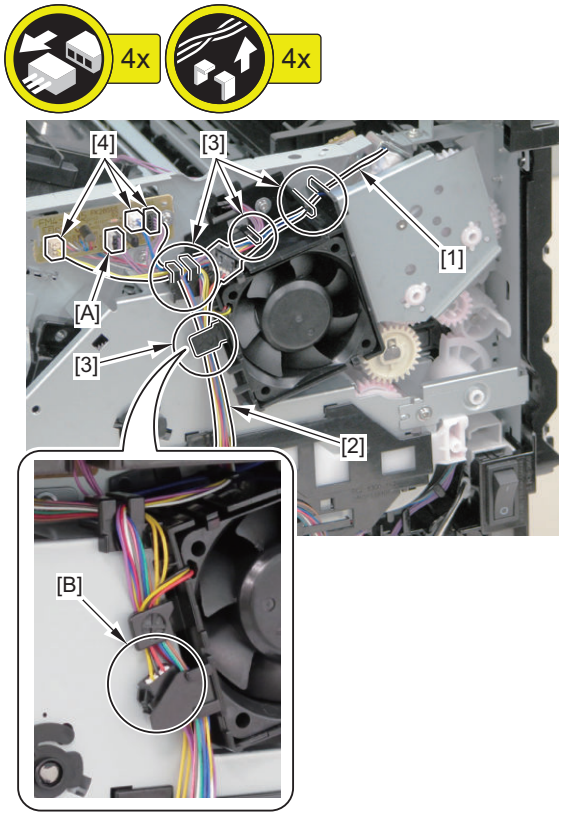
Removing the Duplex Drive Unit

■ Preparation

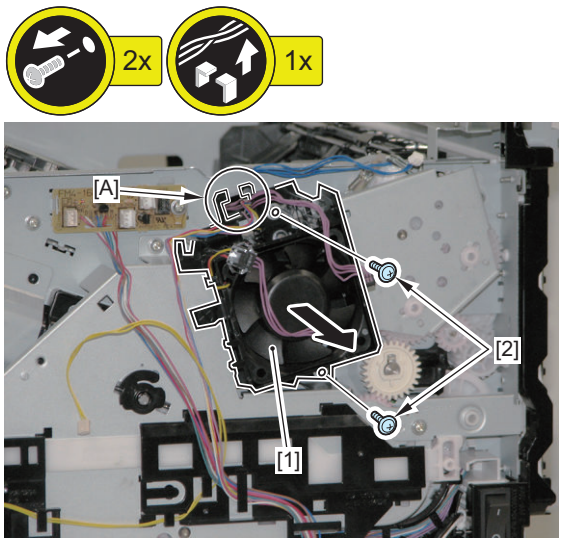
1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
4. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
5. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**
6. **Remove the Upper Cover.****"Removing the Upper Cover" on page 114**

■ Procedure

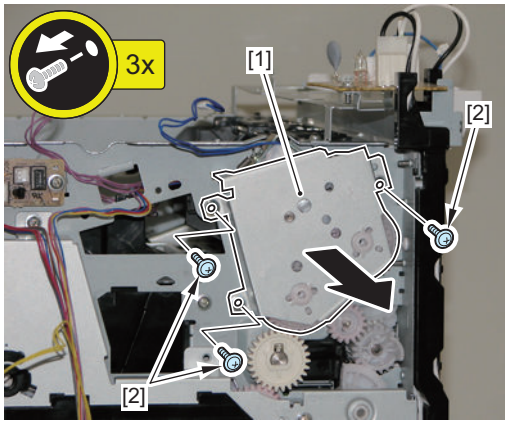
1. **Free the harnesses [1] and [2] from the 4 guides [3].**
   - 3 Connectors [4]
   - 1 Connector [A] (except for EUR)
   - 1 Connector [B] (EUR only)



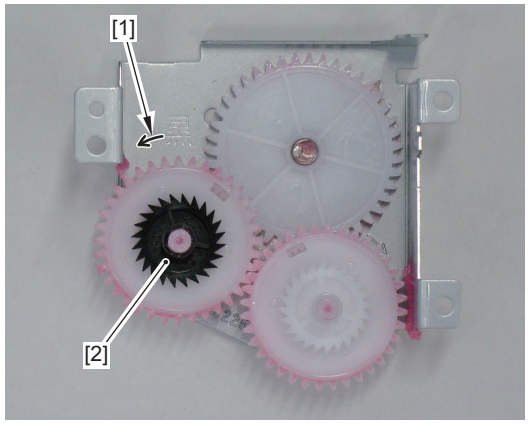
2. **Free the harness from the guide [A], and remove the Main Fan Unit [1].**
   - 2 Screws [2]



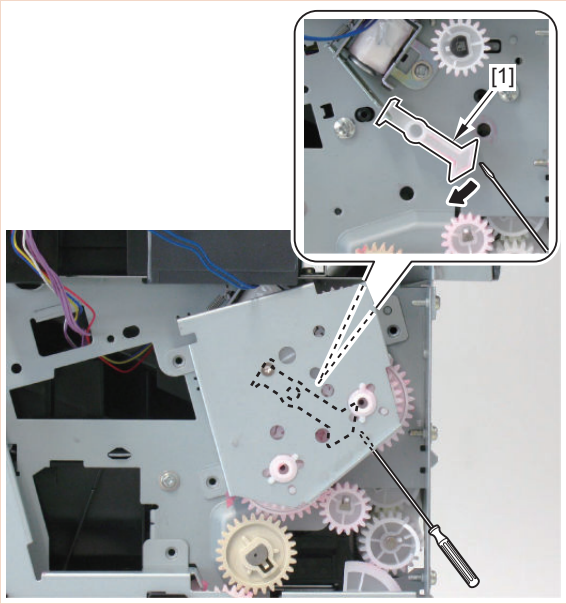
3. **Remove the Duplexing Drive Unit [1].**
   - 3 Screws [2]



CAUTION:
If the gears of the Duplexing Drive Unit have come off, return the black gear [2] to the side with an arrow mark [1].



CAUTION:
Secure the unit with screws while the stopper [1] is lowered and engaged with the gear.
When they are not engaged, the Duplexing Drive Unit is not installed properly.



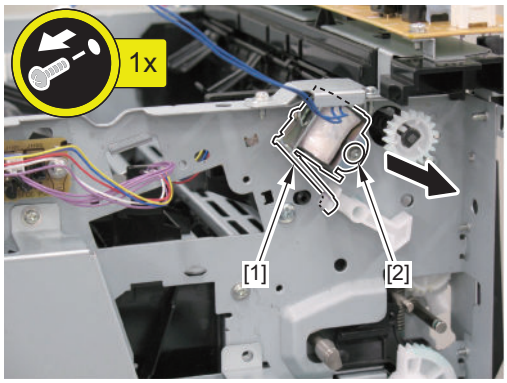
Removing the Duplex Reverse Solenoid

■ Preparation

1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
4. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
5. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**
6. **Remove the Upper Cover.****"Removing the Upper Cover" on page 114**
7. **Remove the Duplexing Drive Unit.****"Removing the Duplex Drive Unit" on page 137**

■ Procedure

1. **Remove the Duplex Reverse Solenoid [1].**
   - 1 Screw [2]



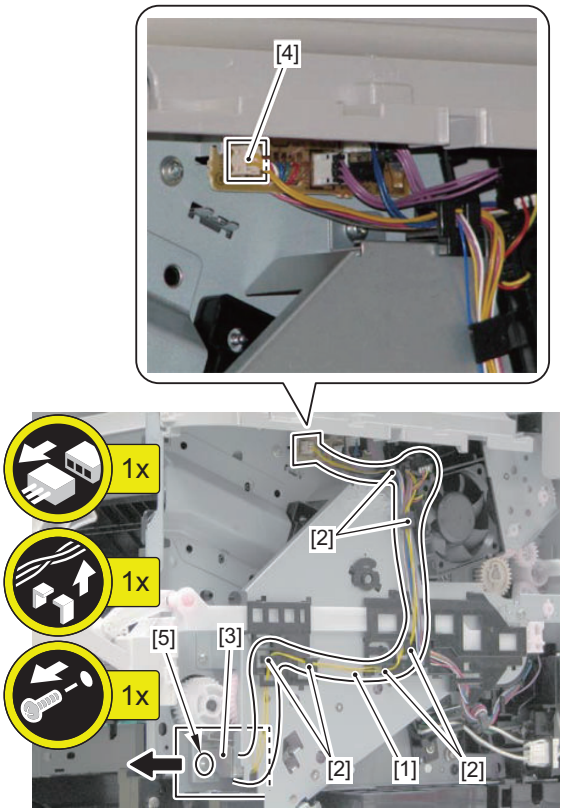
Removing the Cassette Pickup Solenoid

■ Preparation

1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**

■ Procedure

1. **Free the harness [1] from the guides [2], and remove the Cassette Pickup Solenoid [3].**
   - 1 Connector [4]
   - 1 Screw [5]



Laser Scanner System

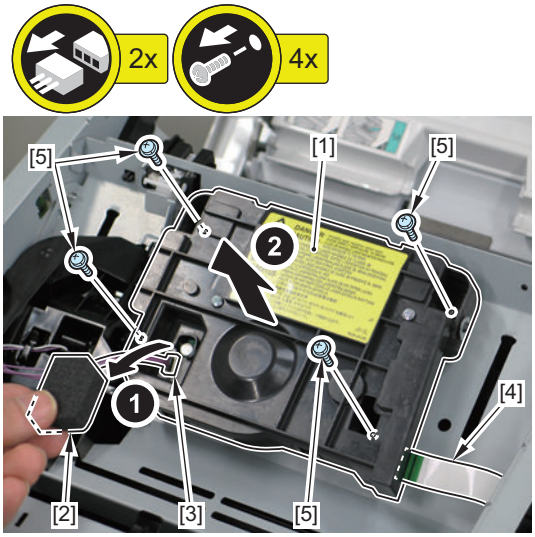
Removing the Laser Scanner Unit

■ Preparation

1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
4. **Remove the Controller Cover.****"Removing the Controller Cover" on page 125**
5. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**
6. **Remove the Upper Cover.****"Removing the Upper Cover" on page 114**

■ Procedure

1. **Remove the Laser Scanner Unit [1].**
   - 1 Sponge [2]
   - 1 Connector [3]
   - 1 Flat Cable [4]
   - 4 Screws [5]



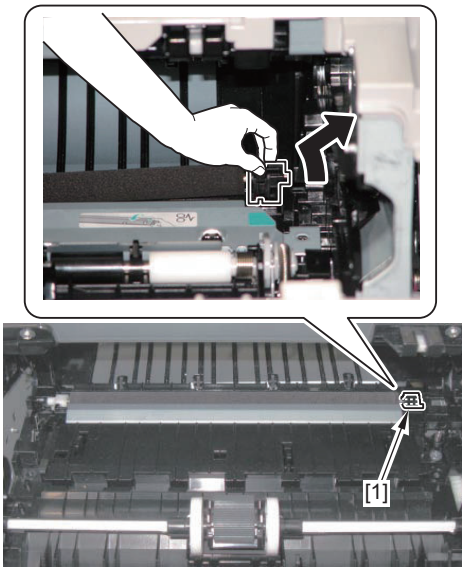
CAUTION:
Do not disassemble the Laser Scanner Unit because it requires adjustment.

Image Forming System

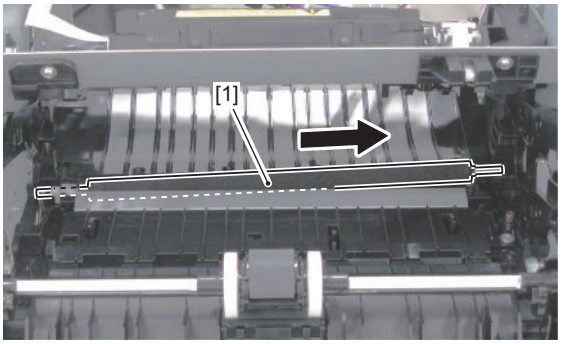
Removing the Transfer Roller

■ Procedure

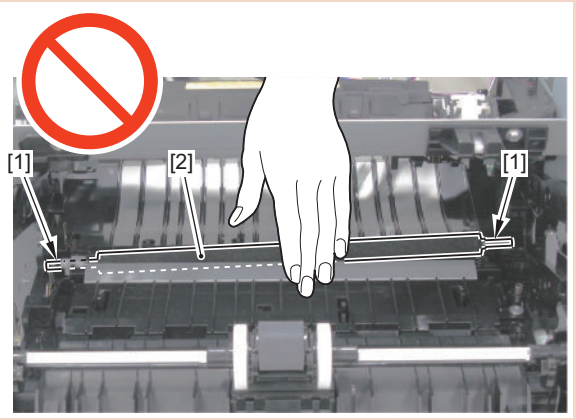
1. **Open the Cartridge Cover [1].**
2. **Hold the holder [1], and remove it in the direction of the arrow.**



3. **Remove the Transfer Roller [1] in the direction of the arrow.**



CAUTION:
When installing the Transfer Roller, be sure to hold its shaft [1], and do not touch its surface [2].



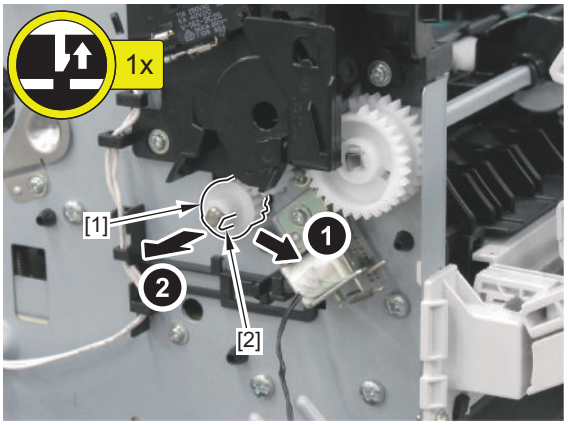
Removing the Registration Unit

■ Preparation

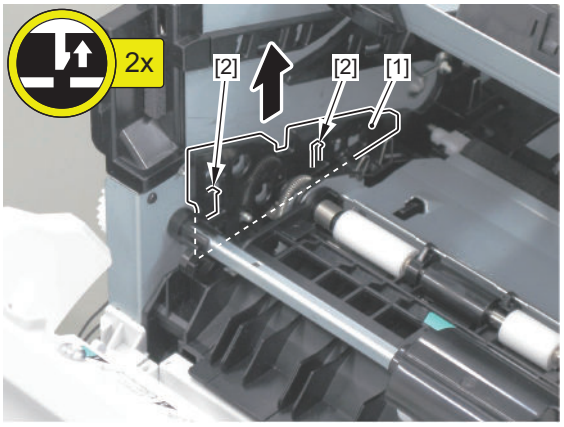
1. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
2. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
3. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
4. **Remove the ADF + Reader Unit.****"Removing the ADF Unit + Reader Unit" on page 116**
5. **Remove the Upper Cover.****"Removing the Upper Cover" on page 114**

■ Procedure

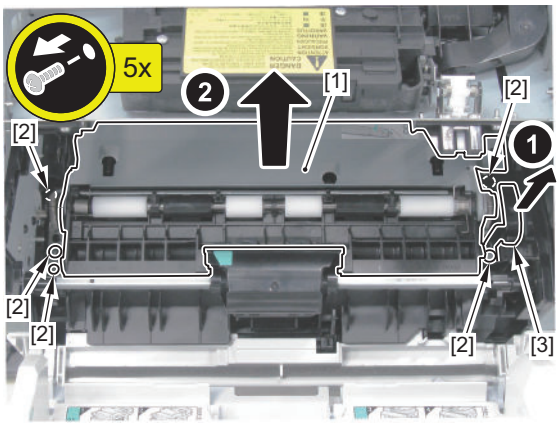
1. **Remove the gear [1].**
   - 1 Claw [2]



2. **Remove the guide [1].**
   - 2 Claws [2]



3. **Remove the Registration Unit [1].**
   - 5 Screws [2]
   - 1 Gear Cover [3]



Fixing System

Removing the Fixing Assembly

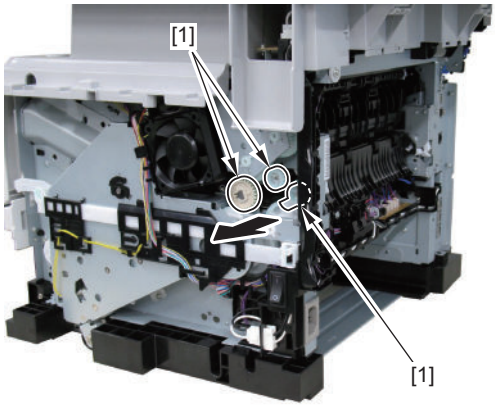
■ Preparation

1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
3. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**
4. **Remove the Rear Cover Unit.****"Removing the Rear Cover Unit" on page 113**

■ Procedure

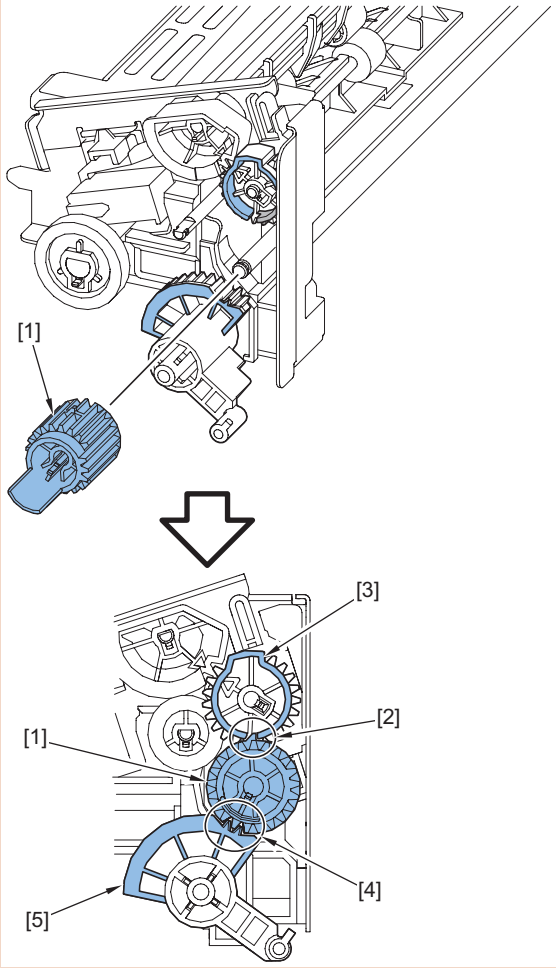
CAUTION:
Be careful when removing the Fixing Assembly because it is hot immediately after the power is turned OFF.

1. **Close the Front Cover, and move the gears to the position where the Fixing Assembly can be removed.**
2. **Remove the 3 gears [1].**

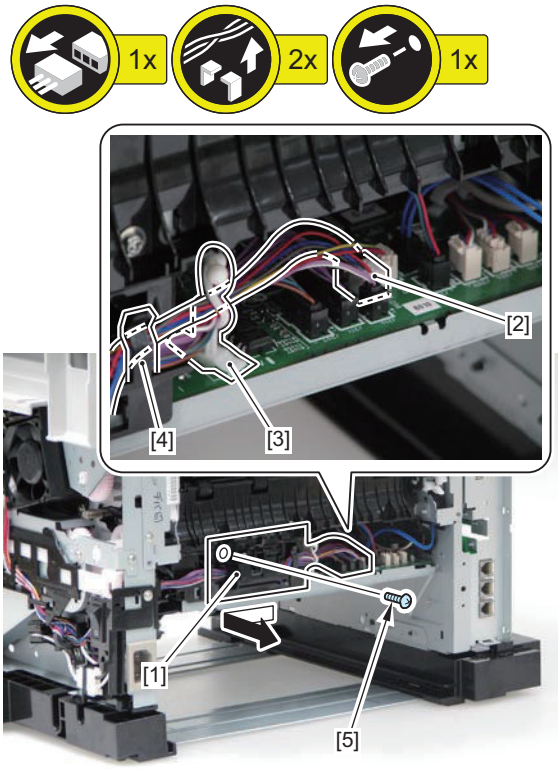


CAUTION:
Points to Note at Installation:

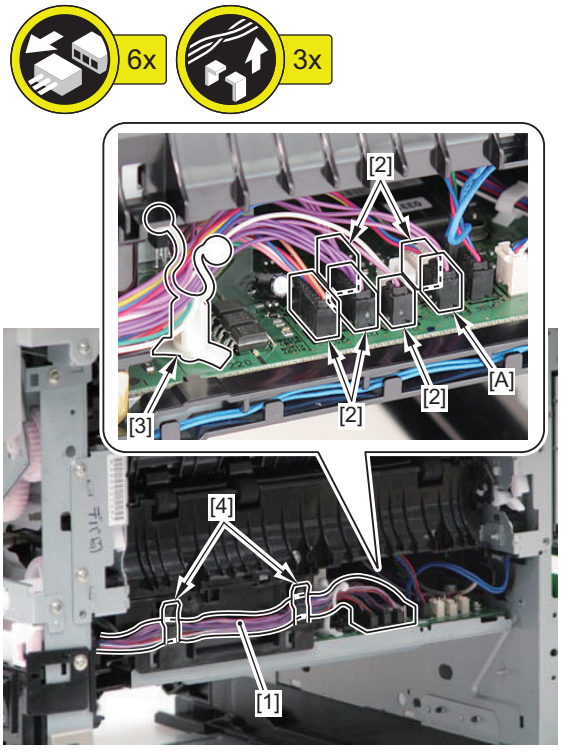
- The Front Cover should be closed.
- Be sure that the protrusion of the gear [1] is aligned with the cut-off of the gear [3].
- Be sure to align the gear [1] with the cut-off of the gear [5].



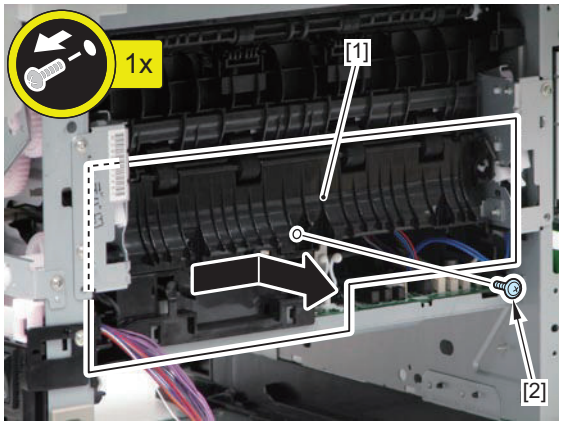
3. **Remove the Duplex Reverse Sensor Unit [1].**
   - 1 Connector [2]
   - 1 Wire Saddle [3]
   - 1 Harness Guide [4]
   - 1 Screw [5]



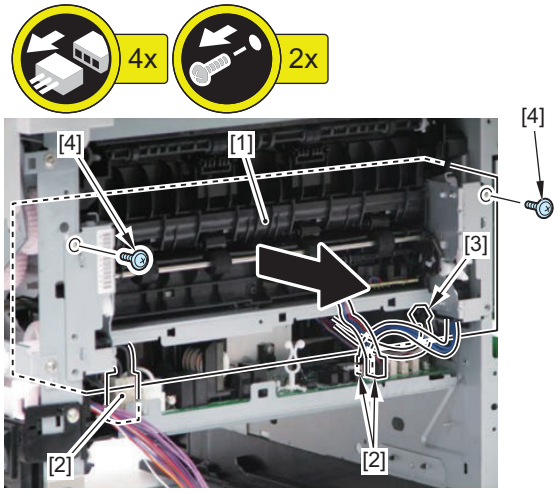
4. **Free the harness [1].**
   - 5 Connectors [2]
   - 1 Wire Saddle [3]
   - 2 Harness Guides [4]
   - 1 Connector [A] (EUR only)



5. **Remove the Feed Guide [1].**
   - 1 Screw [2]



6. **Remove the Fixing Assembly [1].**
   - 3 Connectors [2]
   - 1 Terminal [3]
   - 2 Screws [4]



CAUTION:
Do not disassemble the Fixing Assembly because it requires adjustment.

Pickup / Feed System

Removing the Duplex Feed Unit

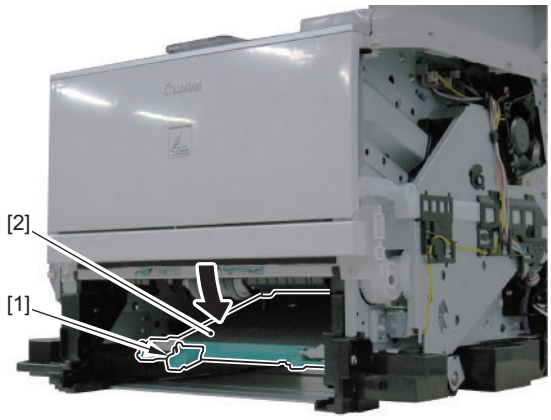
■ Preparation

1. **Remove the Left Cover Unit.****"Removing the Left Cover Unit" on page 108**
2. **Remove the Left Rear Cover.****"Removing the Left Rear Cover" on page 109**
3. **Remove the Right Cover Unit.****"Removing the Right Cover Unit" on page 110**

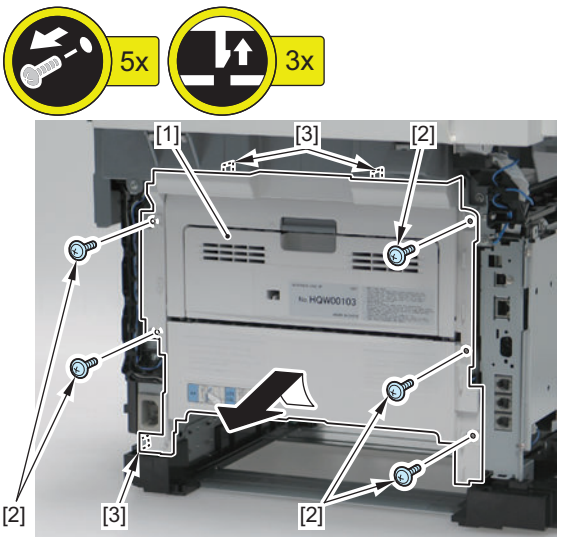
■ Procedure

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

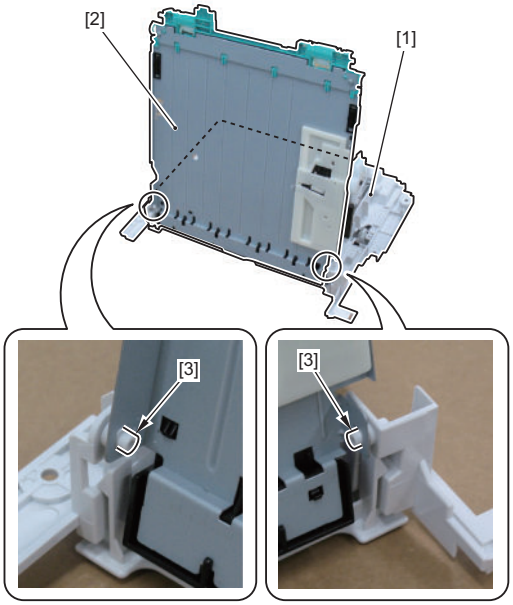
1. **Push down the handle [1] to open the Duplexing Feed Unit [2].**



2. **Remove the Rear Cover Unit [1].**
   - 5 Screws [2]
   - 3 Claws [3]



3. **Remove the Duplexing Feed Unit [2] from the Rear Cover Unit [1].**
   - 2 Bosses [3]



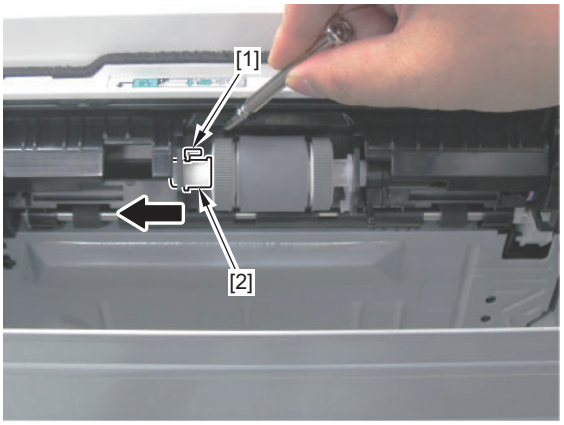
Removing the Cassette Pickup Roller

■ Procedure

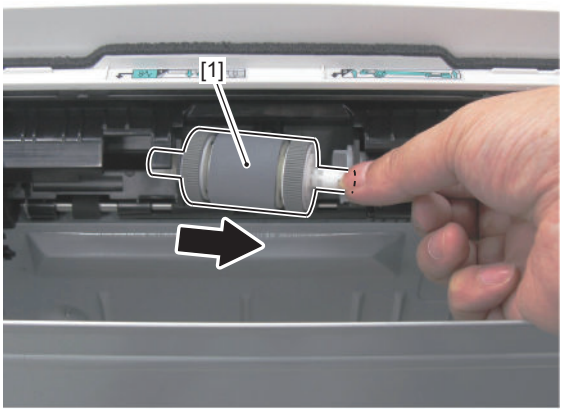
CAUTION:
Do not touch the surface of the roller or pad.

1. **Remove the cassette [1].**

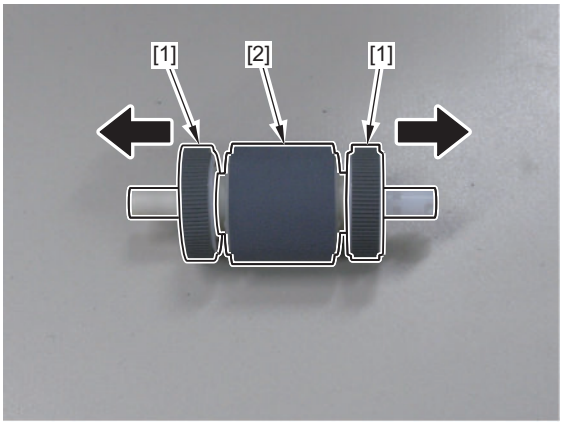
2. **Remove the stopper [1] of the Shaft Support [2] with a flat-blade screwdriver, and rotate the Shaft Support [2].**



3. **Remove the Cassette Pickup Roller Unit [1] in the direction of the arrow.**



4. **Remove the Rubber Rollers [1] from both ends, and remove the Pickup Roller [2] from the shaft.**



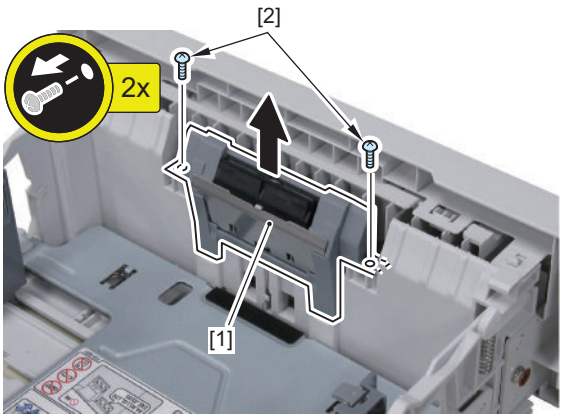
Removing the Cassette Separation Pad

■ Procedure

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

1. **Remove the cassette [1].**

2. **Remove the Separation Pad [1].**
   - 2 Screws [2]



Removing the Multi-purpose Tray Pickup Roller

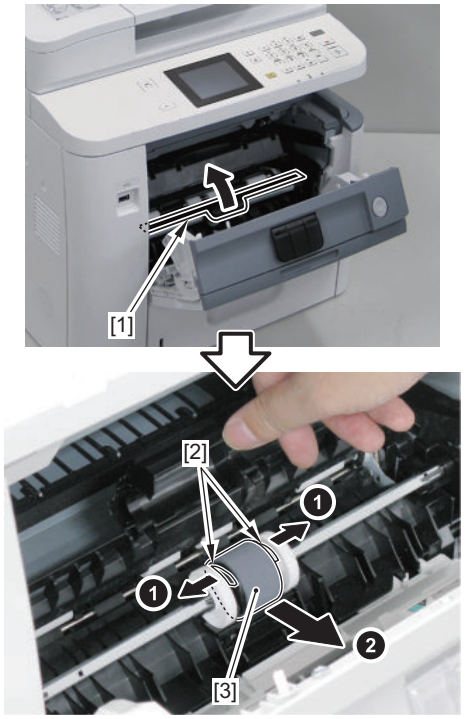
■ Procedure

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

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

2. **Open the Multi-purpose Tray Pickup Roller Cover [1], move the Roller Holder [2] in the direction of the**

arrow, and remove the Multi-purpose Tray Pickup Roller [3].

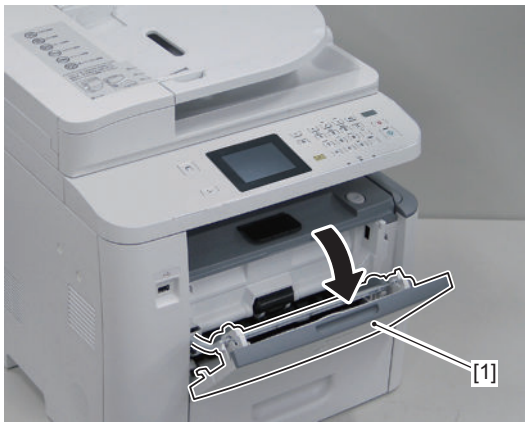


Removing the Multi-purpose Tray Separation Pad

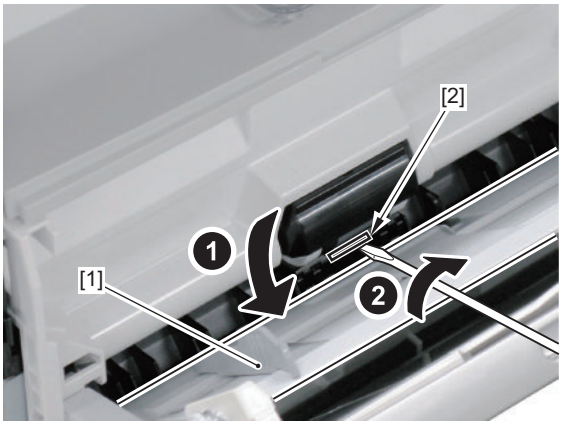
■ Procedure

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

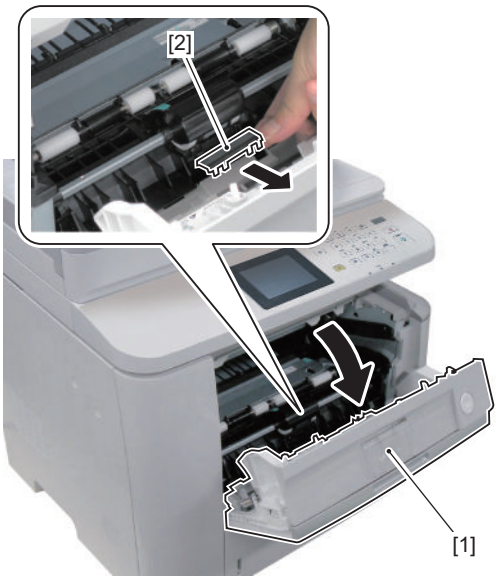
1. **Open the Multi-purpose Tray Pickup Cover [1].**



2. **Lower the Multi-purpose Tray pickup Guide [1], and remove the Multi-purpose Tray Separation Pad with a flat-blade screwdriver.**



3. **Open the Front Cover [1], and remove the Multi-purpose Tray Separation Pad [2].**



Adjustment

Overview

Adjustment required in the field service works when following parts are replaced. The parts are classified by 2 function blocks.

Category	Parts	Reference
Document Exposure / Feed System	Scanner Unit (CIS)	“ After Replacing the Scanner Unit (CIS) ” on page 150
	Reader Unit	“After Replacing the Reader Unit” on page 154
	Reader Upper Cover Unit	“ After Replacing the Reader Upper Cover Unit ” on page 156
	Scoopup Sheet Holder	“ After Replacing the Scoopup Sheet Holder ” on page 161
Controller System	Main Controller PCB	“After Replacing the Main Controller PCB” on page 162

Actions after Replacement Parts

Document Exposure / Delivery System

■ After Replacing the Scanner Unit (CIS)

1. CIS light intensity adjustment

1. Enter a provisional value.
   Change all the adjustment values of the LED lighting time for RGB colors to "0".
   - COPIER > ADJUST > CCD > LED-BW-R
   - COPIER > ADJUST > CCD > LED-BW-G
   - COPIER > ADJUST > CCD > LED-BW-B
   - COPIER > ADJUST > CCD > LED-CL-R
   - COPIER > ADJUST > CCD > LED-CL-G
   - COPIER > ADJUST > CCD > LED-CL-B
2. Execute light intensity adjustment for the Scanner Unit (CIS) at ADF reading. (Be sure to close the ADF)
   - COPIER > FUNCTION > CCD > BW-AGC
   - COPIER > FUNCTION > CCD > CL-AGC
3. Check the adjustment result.
   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.
   If the values entered in step 1 have been changed, the operation result is judged to be "successful" (end of adjustment).
   If all the values entered in step 1 remain "0", turn OFF and then ON the power and perform step 2 again.

2. Automatic adjustment of the stream reading position

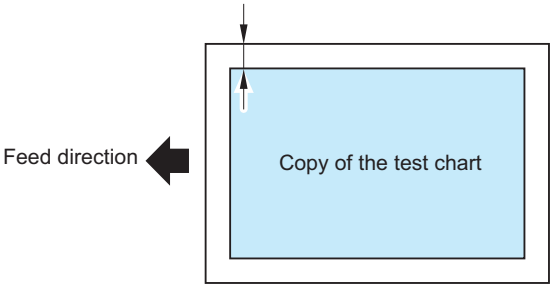
1. Enter a provisional value.
   Change the adjustment value of the reading position at ADF stream reading to "-20".
   - COPIER > ADJUST> ADJ-XY > STRD-POS
2. Execute automatic detection of CIS reading position at ADF stream reading.
   - COPIER > FUNCTION > INSTALL > STRD-POS
3. Check the adjustment result.
   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.
   If the value entered in step 1 has been changed, the operation result is judged to be "successful" (end of adjustment).
   Write the new adjustment value on the service label.
   If the value entered in step 1 remains "-20", turn OFF and then ON the power and perform step 2 again.

3. Adjustment of the white level

1. Enter a provisional value.
   Change all the shading target values at ADF reading to "0".
   - COPIER > ADJUST > CCD > DFTAR-R
   - COPIER > ADJUST > CCD > DFTAR-G
   - COPIER > ADJUST > CCD > DFTAR-B
   - COPIER > ADJUST > CCD > DFTAR-BW
2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader, and execute white level adjustment (color) at copyboard reading
   - COPIER > FUNCTION > CCD > DF-WLVL1
3. Place the same blank paper on the ADF, and execute white level adjustment (color) at ADF reading.
   - COPIER > FUNCTION > CCD > DF-WLVL2
4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader again, and execute white level adjustment (B&W) at copyboard reading.
   - COPIER > FUNCTION > CCD > DF-WLVL3
5. Place the same blank paper on the ADF again, and execute white level adjustment (B&W) at ADF reading.
   - COPIER > FUNCTION > CCD > DF-WLVL4
6. Check the adjustment result.
   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.
   If the values entered in step 1 have been changed, the operation result is judged to be "successful" (end of adjustment).
   Write the new adjustment values on the service label.
   If the values entered in step 1 remain "0", turn OFF and then ON the power and perform steps 2 to 5 again.

4. Adjustment of the image position (horizontal scanning direction) at ADF reading

1. Place a test chart on the ADF, and make one single-sided copy.
2. Compare the side registration of the test chart with that of the copied paper, and perform adjustment if necessary.



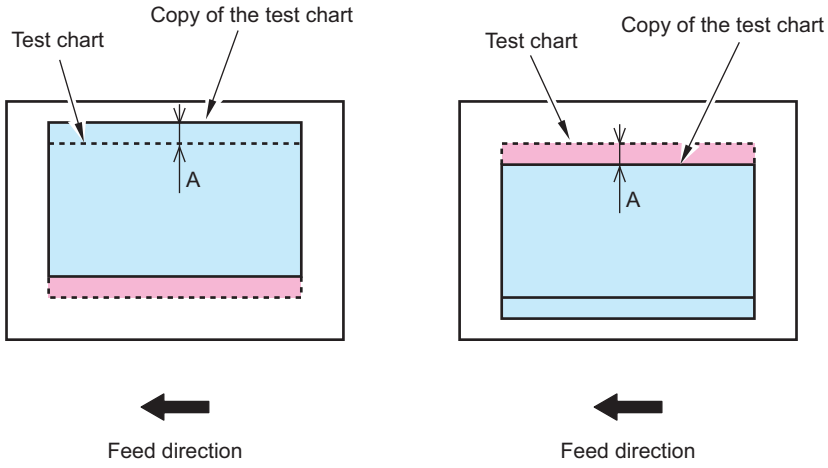
Execute the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-Y-DF

Enter the value and adjust the image position. (Adjustment value: in increments of 0.1 mm)

- If the image is displaced toward the rear side => Decrease the value.
- If the image is displaced toward the front side => Increase the value.

< When a copied image moves to the rear > < When a copied image moves to the front >

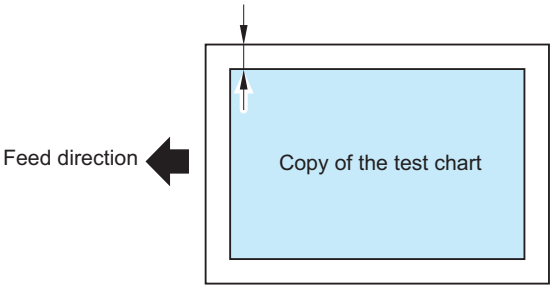


3. Write the new adjustment value on the service label.

5. Adjustment of the image position (horizontal scanning direction) at copyboard reading

1. Place a test chart on the Copyboard Glass, and make one single-sided copy.

2. Compare the side registration of the test chart with that of the copied paper, and perform adjustment if necessary.



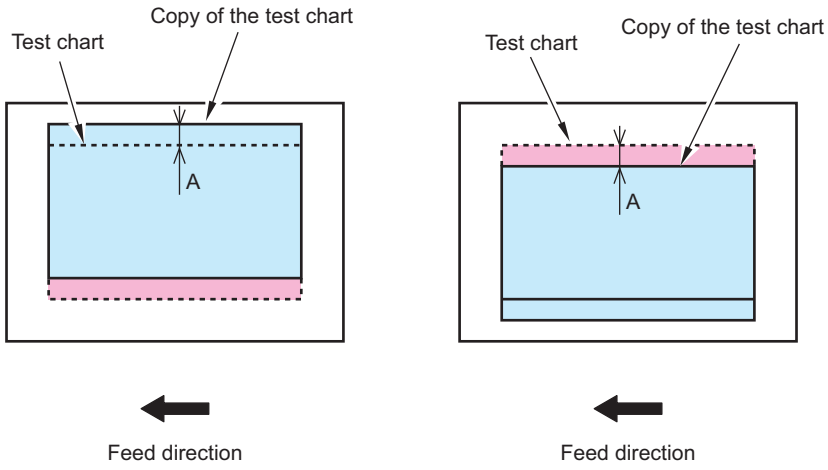
Execute the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-Y

Enter the value and adjust the image position. (Adjustment value: in increments of 0.1 mm)

- If the image is displaced toward the rear side => Decrease the value.
- If the image is displaced toward the front side => Increase the value.

< When a copied image moves to the rear > < When a copied image moves to the front >

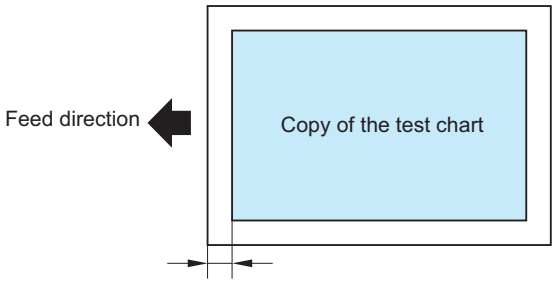


3. Write the new adjustment value on the service label.

6. Adjustment of the image position (vertical scanning direction) at copyboard reading

1. Place a test chart on the Copyboard Glass, and make one single-sided copy.

2. Compare the image leading edge of the test chart with that of the copied paper, and perform adjustment if necessary.

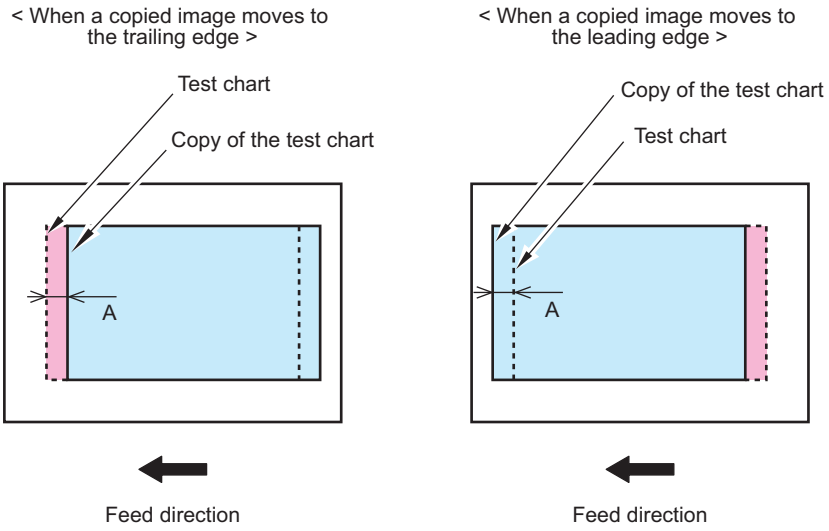


Execute the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-X

Enter the value and adjust the image position. (Adjustment value: in increments of 0.1 mm)

- If the image is displaced toward the trailing edge => Decrease the value.
- If the image is displaced toward the leading edge => Increase the value.



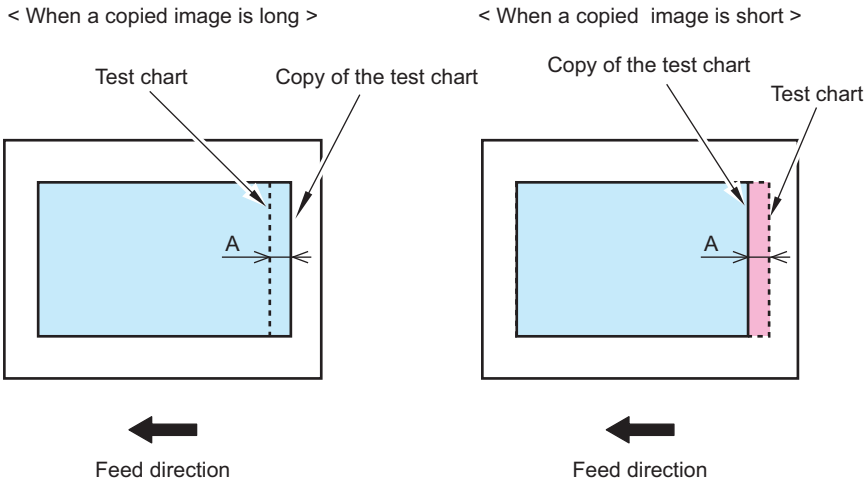
3. Write the new adjustment value on the service label.

7. Fine adjustment of image magnification ratio (vertical scanning direction) at copyboard reading

1. Place a test chart on the Copyboard Glass with the front side facing upward, and make one single-sided copy.

2. Compare the length of the image in the feed direction of the test chart with that of the copied paper, and perform adjustment if necessary.
   Execute the following service mode.
   - COPIER > ADJUST > ADJ-XY > ADJ-X-MG

   Enter the value and adjust the image position. (Adjustment value: in increments of 0.01%)
   - To enlarge the copied image => Increase the value.
   - To reduce the copied image => Decrease the value.

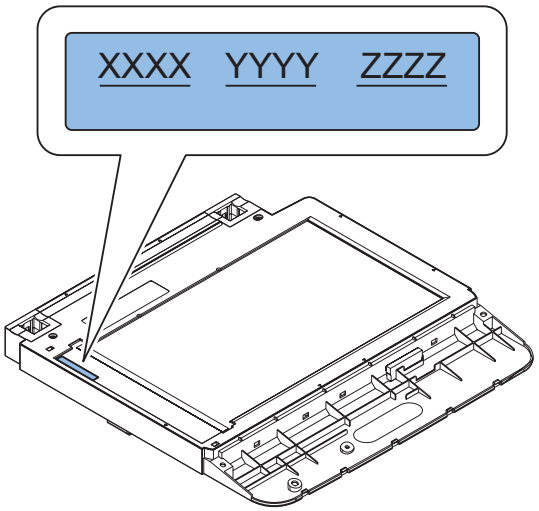


3. Write the new adjustment value on the service label.

8. Make one copy of the image, and check the copied image.

■ After Replacing the Reader Unit

1. Enter the values of the Standard White Plate signal data (X, Y, Z) written on the label affixed at the upper left of the Copyboard Glass, and write the entered values on the service label.



- COPIER > ADJUST > CCD > W-PLT-X
- COPIER > ADJUST > CCD > W-PLT-Y
- COPIER > ADJUST > CCD > W-PLT-Z

2. CIS light intensity adjustment

1. Enter a provisional value.
   Change all the adjustment values of the LED lighting time for RGB colors to "0".
   - COPIER > ADJUST > CCD > LED-BW-R
   - COPIER > ADJUST > CCD > LED-BW-G
   - COPIER > ADJUST > CCD > LED-BW-B
   - COPIER > ADJUST > CCD > LED-CL-R
   - COPIER > ADJUST > CCD > LED-CL-G
   - COPIER > ADJUST > CCD > LED-CL-B
2. Execute light intensity adjustment for the Scanner Unit (CIS) at ADF reading. (Be sure to close the ADF.)
   - COPIER > FUNCTION > CCD > BW-AGC
   - COPIER > FUNCTION > CCD > CL-AGC
3. Check the adjustment result.
   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.
   If the values entered in step 1 have been changed, the operation result is judged to be "successful" (end of adjustment).
   If all the values entered in step 1 remain "0", turn OFF and then ON the power and perform step 2 again.

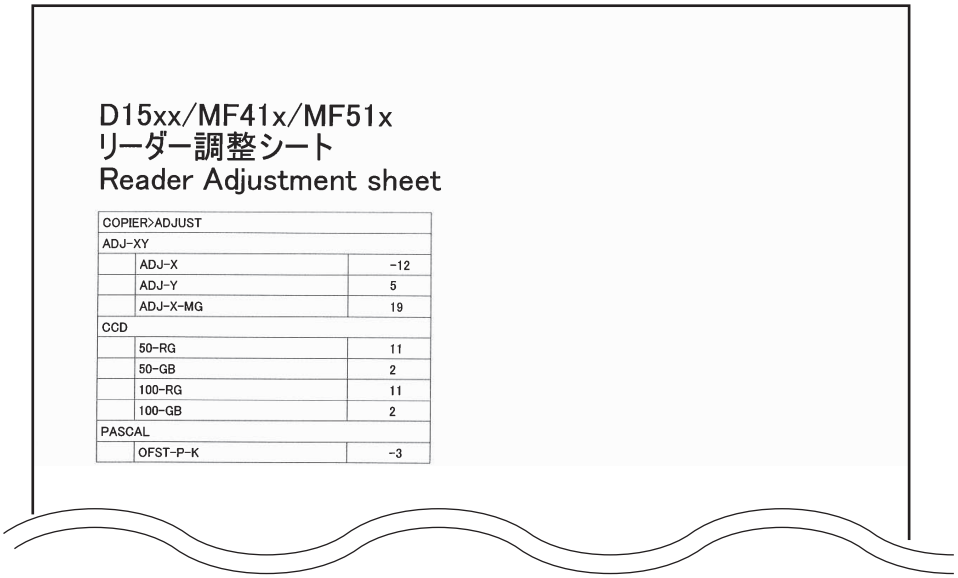
3. Automatic adjustment of the stream reading position

1. Enter a provisional value.
   Change the adjustment value of the reading position at ADF stream reading to "-20".
   - COPIER > ADJUST> ADJ-XY > STRD-POS
2. Execute automatic detection of CIS reading position at ADF stream reading.
   - COPIER > FUNCTION > INSTALL > STRD-POS
3. Check the adjustment result.
   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.
   If the value entered in step 1 has been changed, the operation result is judged to be "successful" (end of adjustment).
   Write the new adjustment value on the service label.
   If the value entered in step 1 remains "-20", turn OFF and then ON the power and perform step 2 again.

4. Adjustment of the white level

1. Enter a provisional value.
   Change all the shading target values at ADF reading to "0".
   - COPIER > ADJUST > CCD > DFTAR-R
   - COPIER > ADJUST > CCD > DFTAR-G
   - COPIER > ADJUST > CCD > DFTAR-B
   - COPIER > ADJUST > CCD > DFTAR-BW
2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader, and execute white level adjustment (color) at copyboard reading.
   - COPIER > FUNCTION > CCD > DF-WLVL1
3. Place the same blank paper on the ADF, and execute white level adjustment (color) at ADF reading.
   - COPIER > FUNCTION > CCD > DF-WLVL2
4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader again, and execute white level adjustment (B&W) at copyboard reading.
   - COPIER > FUNCTION > CCD > DF-WLVL3
5. Place the same blank paper on the ADF again, and execute white level adjustment (B&W) at ADF reading.
   - COPIER > FUNCTION > CCD > DF-WLVL4
6. Check the adjustment result.
   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.
   If the values entered in step 1 have been changed, the operation result is judged to be "successful" (end of adjustment).
   Write the new adjustment values on the service label.
   If the values entered in step 1 remain "0", turn OFF and then ON the power and perform steps 2 to 5 again.

5. **Enter the parameter values written on the "D15xx/MF41x/MF51x Reader Adjustment Sheet" included with the Reader Unitinservice mode, and write the entered values on the service label.**

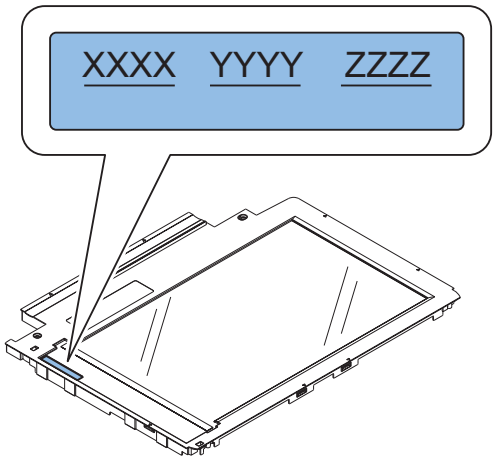

D15xx/MF41x/MF51x
リーダー調整シート
Reader Adjustment sheet

COPIER>ADJUST		
ADJ-XY		
	ADJ-X	-12
	ADJ-Y	5
	ADJ-X-MG	19
CCD		
	50-RG	11
	50-GB	2
	100-RG	11
	100-GB	2
PASCAL		
	OFST-P-K	-3

- COPIER > ADJUST > ADJ-XY > ADJ-X
- COPIER > ADJUST > ADJ-XY > ADJ-Y
- COPIER > ADJUST > ADJ-XY > ADF-X-MG
- COPIER > ADJUST > CCD > 50-RG
- COPIER > ADJUST > CCD > 50-GB
- COPIER > ADJUST > CCD > 100-RG
- COPIER > ADJUST > CCD > 100-GB
- COPIER > ADJUST > PASCAL > OFST-P-K

■ After Replacing the Reader Upper Cover Unit

1. **Enter the values of the Standard White Plate signal data (X, Y, Z) written on the label affixed at the upper left of the Copyboard Glass, and write the entered values on the service label.**



- COPIER > ADJUST > CCD > W-PLT-X
- COPIER > ADJUST > CCD > W-PLT-Y
- COPIER > ADJUST > CCD > W-PLT-Z

2. **CIS light intensity adjustment**
   1. Enter a provisional value.
      Change all the adjustment values of the LED lighting time for RGB colors to "0".
      - COPIER > ADJUST > CCD > LED-BW-R
      - COPIER > ADJUST > CCD > LED-BW-G
      - COPIER > ADJUST > CCD > LED-BW-B
      - COPIER > ADJUST > CCD > LED-CL-R
      - COPIER > ADJUST > CCD > LED-CL-G
      - COPIER > ADJUST > CCD > LED-CL-B

2. Execute light intensity adjustment for the Scanner Unit (CIS) at ADF reading. (Be sure to close the ADF.)
   - COPIER > FUNCTION > CCD > BW-AGC
   - COPIER > FUNCTION > CCD > CL-AGC
3. Check the adjustment result.
   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.
   If the values entered in step 1 have been changed, the operation result is judged to be "successful" (end of adjustment).
   If all the values entered in step 1 remain "0", turn OFF and then ON the power and perform step 2 again.

3. Automatic adjustment of the stream reading position

1. Enter a provisional value.
   Change the adjustment value of the reading position at ADF stream reading to "-20".
   - COPIER > ADJUST> ADJ-XY > STRD-POS
2. Execute automatic detection of CIS reading position at ADF stream reading.
   - COPIER > FUNCTION > INSTALL > STRD-POS
3. Check the adjustment result.
   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.
   If the value entered in step 1 has been changed, the operation result is judged to be "successful" (end of adjustment).
   Write the new adjustment value on the service label.
   If the value entered in step 1 remains "-20", turn OFF and then ON the power and perform step 2 again.

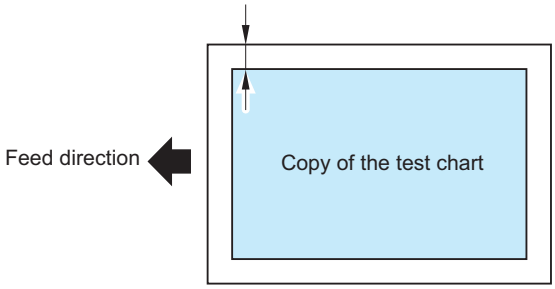
4. Adjustment of the white level

1. Enter a provisional value.
   Change all the shading target values at ADF reading to "0".
   - COPIER > ADJUST > CCD > DFTAR-R
   - COPIER > ADJUST > CCD > DFTAR-G
   - COPIER > ADJUST > CCD > DFTAR-B
   - COPIER > ADJUST > CCD > DFTAR-BW
2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader, and execute white level adjustment (color) at copyboard reading.
   - COPIER > FUNCTION > CCD > DF-WLVL1
3. A Place the same blank paper on the ADF, and execute white level adjustment (color) at ADF reading.
   - COPIER > FUNCTION > CCD > DF-WLVL2
4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader again, and execute white level adjustment (B&W) at copyboard reading.
   - COPIER > FUNCTION > CCD > DF-WLVL3
5. Place the same blank paper on the ADF again, and execute white level adjustment (B&W) at ADF reading.
   - COPIER > FUNCTION > CCD > DF-WLVL4
6. Check the adjustment result.
   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.
   If the values entered in step 1 have been changed, the operation result is judged to be "successful" (end of adjustment).
   Write the new adjustment values on the service label.
   If the values entered in step 1 remain "0", turn OFF and then ON the power and perform steps 2 to 5 again.

5. Adjustment of the image position (horizontal scanning direction) at ADF reading

1. Place a test chart on the ADF, and make one single-sided copy.

2. Compare the side registration of the test chart with that of the copied paper, and perform adjustment if necessary.



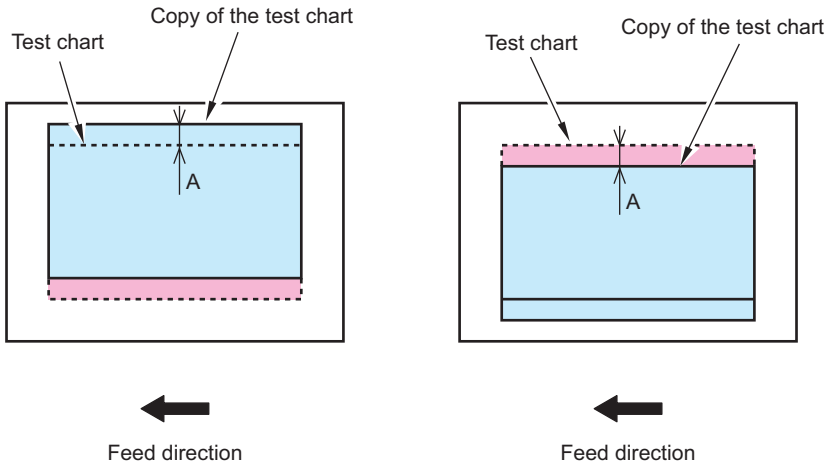
Execute the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-Y-DF

Enter the value and adjust the image position. (Adjustment value: in increments of 0.1 mm)

- If the image is displaced toward the rear side => Decrease the value.
- If the image is displaced toward the front side => Increase the value.

< When a copied image moves to the rear > < When a copied image moves to the front >

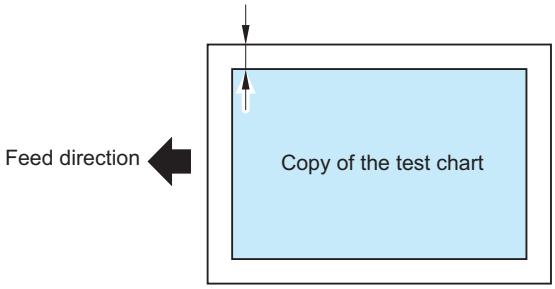


3. Write the new adjustment value on the service label.

6. Adjustment of the image position (horizontal scanning direction) at copyboard reading

1. Place a test chart on the Copyboard Glass, and make one single-sided copy.

2. Compare the side registration of the test chart with that of the copied paper, and perform adjustment if necessary.



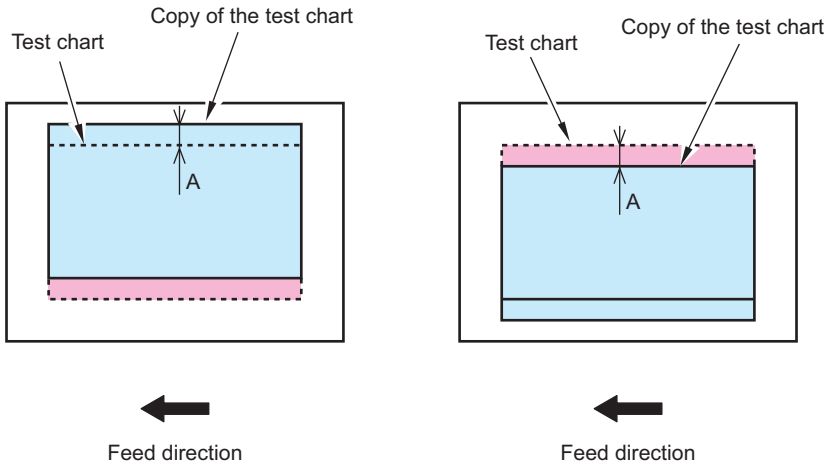
Execute the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-Y

Enter the value and adjust the image position. (Adjustment value: in increments of 0.1 mm)

- If the image is displaced toward the rear side => Decrease the value.
- If the image is displaced toward the front side => Increase the value.

< When a copied image moves to the rear > < When a copied image moves to the front >

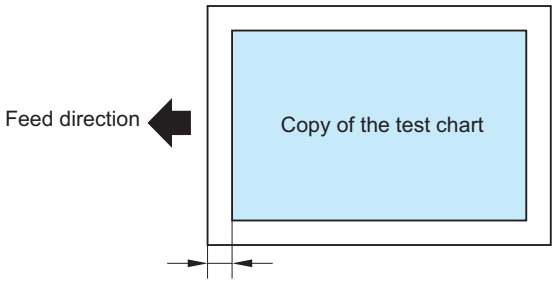


3. Write the new adjustment value on the service label.

7. Adjustment of the image position (vertical scanning direction) at copyboard reading

1. Place a test chart on the Copyboard Glass, and make one single-sided copy.

2. Compare the image leading edge of the test chart with that of the copied paper, and perform adjustment if necessary.

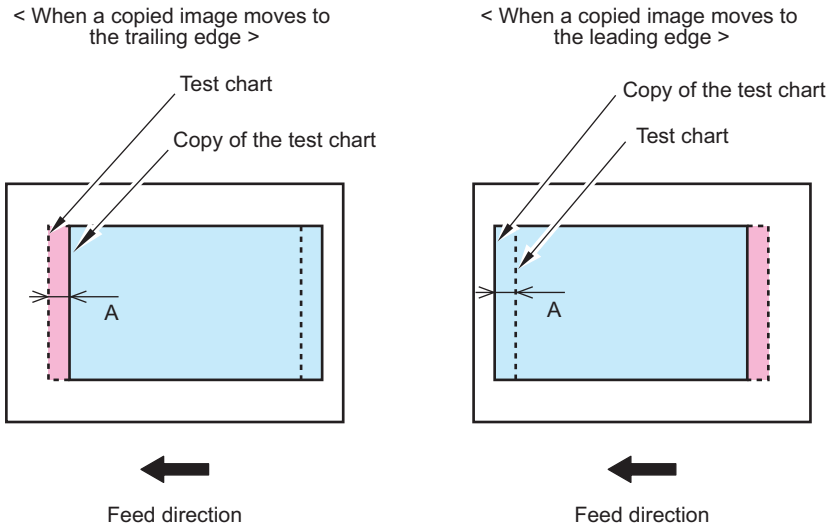


Execute the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-X

Enter the value and adjust the image position. (Adjustment value: in increments of 0.1 mm)

- If the image is displaced toward the trailing edge => Decrease the value.
- If the image is displaced toward the leading edge => Increase the value.



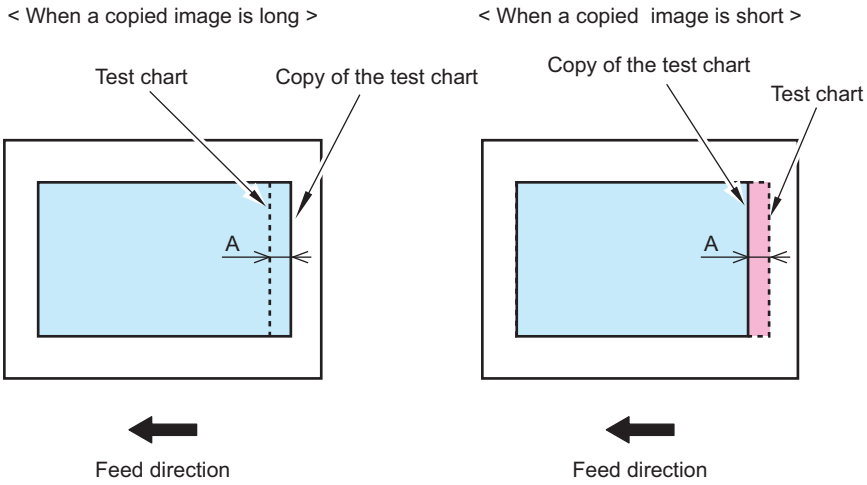
3. Write the new adjustment value on the service label.

8. Fine adjustment of image magnification ratio (vertical scanning direction) at copyboard reading

1. Place a test chart on the Copyboard Glass with the front side facing upward, and make one single-sided copy.

2. Compare the length of the image in the feed direction of the test chart with that of the copied paper, and perform adjustment if necessary.
   Execute the following service mode.
   - COPIER > ADJUST > ADJ-XY > ADJ-X-MG

   Enter the value and adjust the image position. (Adjustment value: in increments of 0.01%)
   - To enlarge the copied image => Increase the value.
   - To reduce the copied image => Decrease the value.



3. Write the new adjustment value on the service label.

9. Make one copy of the image, and check the copied image.

■ After Replacing the Scoopup Sheet Holder

[1]: Scoopup Sheet Holder

1. Automatic adjustment of the stream reading position

1. Enter a provisional value.
   Change the adjustment value of the reading position at ADF stream reading to "-20".
   - COPIER > ADJUST> ADJ-XY > STRD-POS
2. Execute automatic detection of CIS reading position at ADF stream reading.
   - COPIER > FUNCTION > INSTALL > STRD-POS
3. Check the adjustment result.
   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.
   If the value entered in step 1 has been changed, the operation result is judged to be "successful" (end of adjustment).
   Write the new adjustment value on the service label.
   If the value entered in step 1 remains "-20", turn OFF and then ON the power and perform step 2 again.

2. **Adjustment of the white level**
   1. Enter a provisional value.
      Change all the shading target values at ADF reading to "0".
      - COPIER > ADJUST > CCD > DFTAR-R
      - COPIER > ADJUST > CCD > DFTAR-G
      - COPIER > ADJUST > CCD > DFTAR-B
      - COPIER > ADJUST > CCD > DFTAR-BW
   2. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader, and execute white level adjustment (color) at copyboard reading.
      - COPIER > FUNCTION > CCD > DF-WLVL1
   3. Place the same blank paper on the ADF, and execute white level adjustment (color) at ADF reading.
      - COPIER > FUNCTION > CCD > DF-WLVL2
   4. Place a sheet of A4 or LTR blank paper (paper recommended by Canon: GF-C081) on the Copyboard Glass of the reader again, and execute white level adjustment (B&W) at copyboard reading.
      - COPIER > FUNCTION > CCD > DF-WLVL3
   5. Place the same blank paper on the ADF again, and execute white level adjustment (B&W) at ADF reading.
      - COPIER > FUNCTION > CCD > DF-WLVL4
   6. Check the adjustment result.
      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.
      If the values entered in step 1 have been changed, the operation result is judged to be "successful" (end of adjustment).
      Write the new adjustment values on the service label.
      If the values entered in step 1 remain "0", turn OFF and then ON the power and perform steps 2 to 5 again.

Controller System

■ After Replacing the Main Controller PCB

● Actions before Replacement

CAUTION:
- Write down the serial number of the host machine.
- [Status Monitor] key > Device Status > Serial Number
- 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.

Backup Procedure

Perform backup of user data (such as Settings/Registration data) and service mode data in preparation to set/register them again after replacing the PCB. Write down the data which cannot be backed up.

1. Write down the data of Menu > System Settings > Device Information> Location.
2. Export user data using remote UI.
3. Insert the USB memory into the host machine, and execute COPIER > FUNCTION > SYSTEM > EXPORT to write the setting values of the service mode to the USB memory.
4. Write down the serial number of the host machine.
5. Write down the each factory adjustment value written on the service label. (Enter them after replacement.)

Reference: The data recorded on the Main Controller can be backed up and restored by the following procedure.

Storage destination	Backup target	Backup procedure
USB flash drive	Settings of [Menu]	Connect the USB flash drive . (The USB port on the rear side of the host machine cannot be used.) • Home key > Menu > System Management Settings > Import/Export of Settings > Export Remove the USB flash drive. • [Status Monitor] key > Device Status > Remove Memory Media

Storage destination	Backup target	Backup procedure
USB flash drive	Service mode setting values	Connect the USB flash drive . (The USB port on the rear side of the host machine cannot be used.) • COPIER > FUNCTION > SYSTEM > EXPORT Remove the USB flash drive. • [Status Monitor] key > Device Status > Remove Memory Media
PC	Settings of [Menu] , Service mode setting values	• COPIER > OPTION > USER > SMD-EXPT > 1 Save the backup file to any location. • Remote UI: Menu > Import/Export > Export > Start Exporting

● After replacing main controller PCB

1. **Setting of destination/paper size group**
   COPIER > OPTION > BODY > LOCALE
   - [Settings] 1: Japan, 2: North America, 3: Korea, 4: China, 5: Taiwan, 6: Europe, 7: Asia, 8: Oceania

   COPIER > OPTION > BODY > SIZE-LC
   - [Settings] 1: AB series, 2: Inch series, 3: A series, 4: AB/Inch series

2. **Clearing Setting/Registration data**
   COPIER > FUNCTION > CLEAR > ALL
   Once executed, the following data are cleared according to the values of LOCALE and SIZE-LC set in step 1
   - Setting/Registration data (Change the settings back to the initial settings)
   - Service Mode data. (Change the settings back to the initial settings)
   - Job IDs
   - Log data
   - Dates

   Following data is not cleared.
   - Service counter
   - Reader/ADF Adjustment data

3. **Turn OFF and then ON the main power.**
4. **Operate according to the instruction on the screen since the initial installation mode is activated. (Setting the date/time)**
5. **Enter the serial number (8-digit alphanumeric) in Menu > System Settings > Device Information > Location.**
6. **After selecting COPIER > OPTION > SERIAL > SN-MAIN, press Apply key to write the serial number entered in step 5 in the Main Controller PCB. After writing, the serial number entered in "Location" in step 5 is deleted.**
7. **Turn OFF and then ON the main power.**
8. **Execute COPIER > FUNCTION > MISC-P > SPEC to output the spec report to check the serial number (Body.No.).**
9. **Enter the data backed up earlier in Menu > System Settings > Device Information > Location.**
10. **Import the service mode data backed up before replacement.**
    Insert the USB flash drive into the host machine, and execute COPIER > FUNCTION > SYSTEM > IMPORT.
11. **Import user data using remote UI.**
12. **Uninstall the drivers on the user's PC.**
    *For the procedure, refer to the MF Driver Installation Guide.
13. **Reinstall the drivers which were uninstalled.**
    *For the procedure, refer to the MF Driver Installation Guide.
14. **Execute COPIER > FUNCTION > CLEAR > COUNTER to clear the service counter.**
15. **Correction of coordinate position of Touch Panel in the following service mode.**
    COPIER > ADJUST > PANEL > TOUCHCHK

Troubleshooting

Test Print

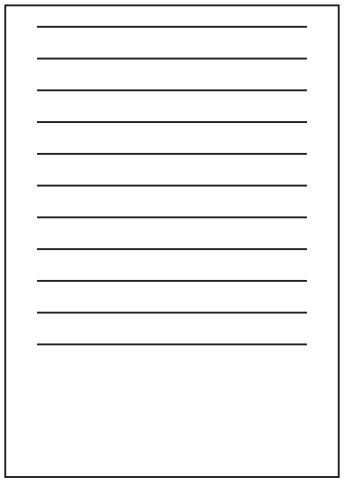
Test Pages

Printing test pages helps determine if the printer is functioning.

CAUTION:
There are two types of test pages: engine-test page and formatter-test page. Print a test page to make sure the printer engine and the formatter are functioning.

■ Engine-test Page

There are two types of engine-test pages simplex print and duplex print.
a. Simplex print
Open and close the cartridge door three times continuously within 2 seconds during the standby period. The engine-test page should have a test print pattern on one side of media as shown below.
b. Duplex print
Open and close the cartridge door five times continuously within 2 seconds during the standby period. The engine-test page should have a test print pattern on both sides of media as shown below.



■ Controller Test Print

This product provides the following 8 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. can be selected in TESTMODE > PRINT > PG-TYPE.

TYPE No.	pattern	image check item
0	Grid chart	Right angle accuracy Straight line accuracy
1	Halftone	Transfer failure, Black line, White line, Margin
2	Solid black	Transfer failure, White line, Margin
3	Solid white	Fogging
4	17 gradations	Gradation, Black line, White line
5	Thin horizontal line	Black line, White line, Parallelism
6	PASCAL correction chart	-
7	Chart 128	-

Trouble Shooting Items

Special Mode

This product has settings called Special Mode to solve print quality troubles. This function can be executed in the following user mode.

- Menu> Adjust / Maintenance > Special mode

Special mode	Options	Details
Special Mode A	OFF Mode 1 Mode 2 Mode 3 Mode 4	Streaks may appear on printouts depending on the paper type or the environmental conditions. In this case, setting this item may solve the problem. The improvement effect is increased in the following order. (Effect: Weak) <Off> -> <Mode 1> -> <Mode 2> -> <Mode 3> -> <Mode 4>(Effect: Strong) • When printing from the computer, the setting in the printer driver takes precedence. When the setting of [Graphics Mode] in the printer driver is changed to [UFR II Mode], the setting in the operation panel takes precedence. • This item cannot be set when <Barcode Adjustment Mode> is set to one of <Mode 1> to <Mode 3>. • Print density will be lighter when you select stronger improvement. It may also result in less sharp edges and rougher details. • If the problem cannot be solved in spite of this item having been set, set <Special Printing Mode D> to <On>.
Special Mode U	OFF ON	Toner smudges and splatters may appear around printed characters, graphics, etc. depending on the paper type or the environmental conditions (more specifically when you print on heavy paper or use the machine in an environment with low humidity). In this case, setting this item to <On> may solve the problem. When you set this item to <On>, print quality may be lower depending on the paper type or the operating environment (more specifically when you print on thin paper or use the machine in an environment with high humidity).
Special Mode V	OFF Mode 1 Mode 2	If the printed paper curls when you are using paper having absorbed moisture, set this item. The improvement effect is increased in the following order. (Effect: Weak) <Off> -> <Mode 1> -> <Mode 2> (Effect: Strong) • Paper curls and creases can be minimized by changing the paper type and usage conditions, without needing to change the setting. • Printing speed becomes slower when you select stronger improvement.
Special Mode Z (only for copying)	OFF Mode 1 Mode 2 Mode 3	Blurred smudges may appear on copied paper depending on the paper type or the environmental conditions. In this case, setting this item may solve the problem. The improvement effect is increased in the following order. (Effect: Weak) <Off> -> <Mode 1> -> <Mode 2> -> <Mode 3> (Effect: Strong) • Streaks can be minimized by changing the paper type or usage conditions, without needing to change the setting. • Print density will be lighter when you select stronger improvement. It may also result in less sharp edges and rougher details. • If the problem cannot be solved in spite of this item having been set, set <Special Printing Mode D> to <On>.
Special Mode B	OFF Mode 1 Mode 2 Mode 3	Streaks may appear on printouts immediately after you replace the toner cartridge or when you print for the first time after a long time. In this case, setting this item may solve the problem. The improvement effect is increased in the following order. (Effect: Weak) <Off> -> <Mode 1> -> <Mode 2> -> <Mode 3> (Effect: Strong) • If you change the paper type or the printing environment, liner stains may not appear on the printed paper without any setting. • Printing speed becomes slower when you select stronger improvement.
Special Mode C	OFF ON	When printing received fax documents or reports or lists, blurred smudges may appear on printouts depending on the paper type or the environmental conditions. In this case, setting this item to <On> may solve the problem. • This item is only effective for printing received fax documents or reports or lists. • If you set this item to <On>, the printing speed becomes slower. • If the problem cannot be solved in spite of this item having been set, set <Special Printing Mode D> to <On>.

Special mode	Options	Details
Special Mode D	OFF ON	Streaks may appear on printouts depending on the paper type or the environmental conditions. Setting this item to <On> may solve the problem. Also, setting this item to <On> will reduce the operating noise during printing. • Streaks can be minimized by changing the paper type or usage conditions, without needing to change the setting. • If you set this item to <On>, the printing speed becomes slower.

Trailing edge image soiling

[Cause]

The image is extended when the paper feed speed is increased due to the temperature rising in the machine.
This causes the trailing edge margin to become narrow, resulting in the occurrence of image soiling (transfer toner scattering).

NOTE:
Because paper slightly shrinks due to its passing through the Fixing Assembly once when printing the 1st side, this symptom is likely to occur on the 2nd side.

[Field Remedy]

Remedy (1): Set the Special Mode U to ON.
Effect: Image soiling is controlled by changing the settings of transfer high voltage current.
Remedy (2): Change the paper type mode from "Plain" to "Plain L".
Effect: Fixing control temperature is reduced => Temperature rising in the machine is controlled => Reduction of trailing edge margin is controlled.
When the effect is not enough with remedy (1), perform the remedies (1) + (2).

Repetitive Image Defects Ruler

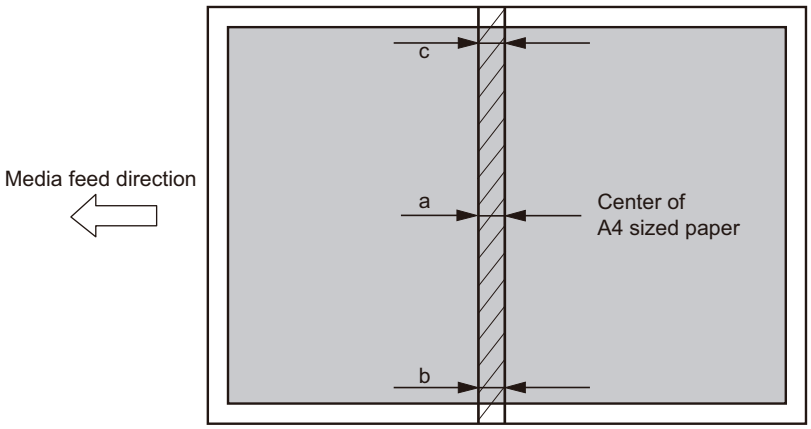
Component	Distance between defects (mm)
Registration roller	About 43
Primary charging roller	About 38
Photosensitive drum	About 75
Developing roller	About 42
Transfer roller	About 39
Fixing film unit	About 57
Pressure roller	About 63

Nip-width Specifications

The nip-width of the fixing unit is not adjustable in this printer, however the improper nip-width may cause the poor fixing.

1. **Select TESTMODE > PRINT > PG-TYPE, and set the value to "2". (Solid black is printed.)**
2. **Select TESTMODE > PRINT > START, and press the Apply key.**
3. **Turn the printed side of the solid black printed paper down, and place it in the cassette of the machine.**
4. **Select TESTMODE > PRINT > PG-TYPE, and set the value to "3". (Blank image is printed.)**
5. **Select TESTMODE > PRINT > START, and press the Apply key.**
6. **Open the Front Door immediately before the paper is delivered (when the paper is fed through the Fixing Assembly), and take out the printed paper after leaving it for 10 seconds or longer.**

7. **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): 7.1±1.0 mm
   - Edge (b) , (c): 7.1±1.0 mm



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.

CAUTION:
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

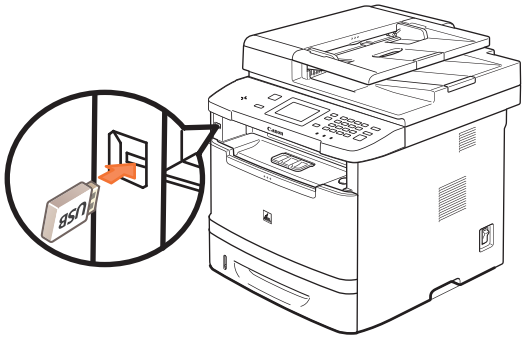
A USB flash drive that satisfies the following conditions is required to obtain the debug logs of the machine:

- Formatted in FAT 16/FAT32
- There is a free space of approx. 100MB.
- Can be recognized by the machine

Collection procedure

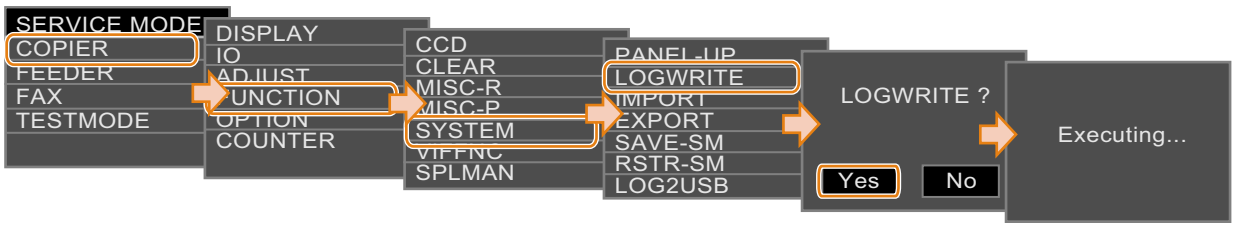
The following shows the procedure for collecting the debug log from the Control Panel.

1. **Connect a USB flash drive to the machine. In the case of a model having a USB connector on a side of the Control Panel, be sure to connect the USB flash drive to the Control Panel. In the case of a model having a USB connector only on the rear side, connect the USB flash drive to the USB connector on the rear side.**



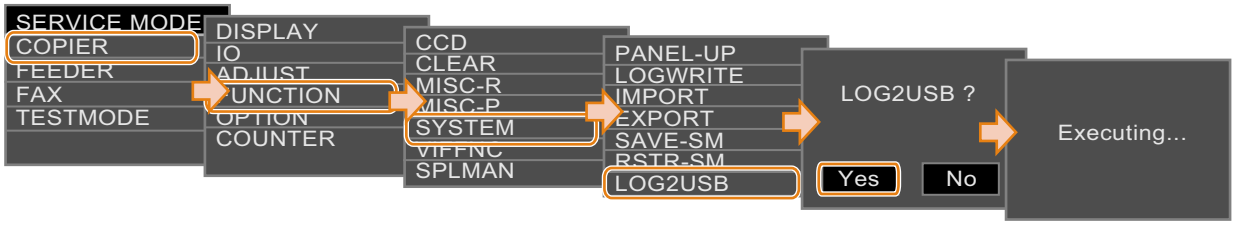
CAUTION:
In the case of a model having a USB connector on the Control Panel, if the USB flash drive is connected to the USB connector on the rear side, debug logs are not transferred to the USB flash drive.

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. **Execute the following service mode from the Control Panel or Remote UI.**
   - COPIER > FUNCTION > SYSTEM > LOG2USB



   "Executing..." is displayed while log collection is executed. When it is completed, the screen shows the service mode screen again.

4. **Remove the USB flash drive by the correct procedure.**

   Connect the USB flash drive to the PC, and check that the log file shown below has been saved.
   - Output by LOGWRITE : SUBLOG.TXT
   - Output by LOG2USB : SUBLOG_yyyymmdd.HHMMSS_xxx.gz (the file may be divided into multiple files)

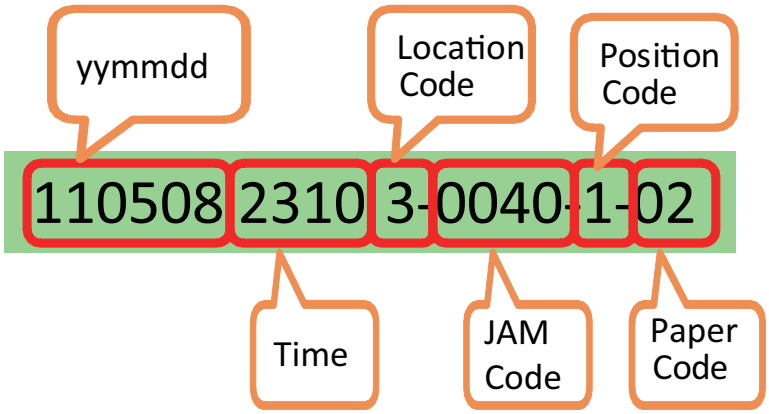
Error/Jam/Alarm

Overview

This section describes codes shown in case any problem is occurred.
Since this product does not collect logs for alarms, no alarm code is shown.

Code type	Explanation	Reference
Error code	This code is displayed when an error occurs on the machine.	“Error codes” on page 173
Jam code	This code is displayed when a jam occurs inside the machine.	“Jam code” on page 175
Alarm code	None	-

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 wuth the following pickup position code.

Device	position code
ADF	0
MP Tray	0
Cassette 1	1
Option Cassette	2
Duplex	7

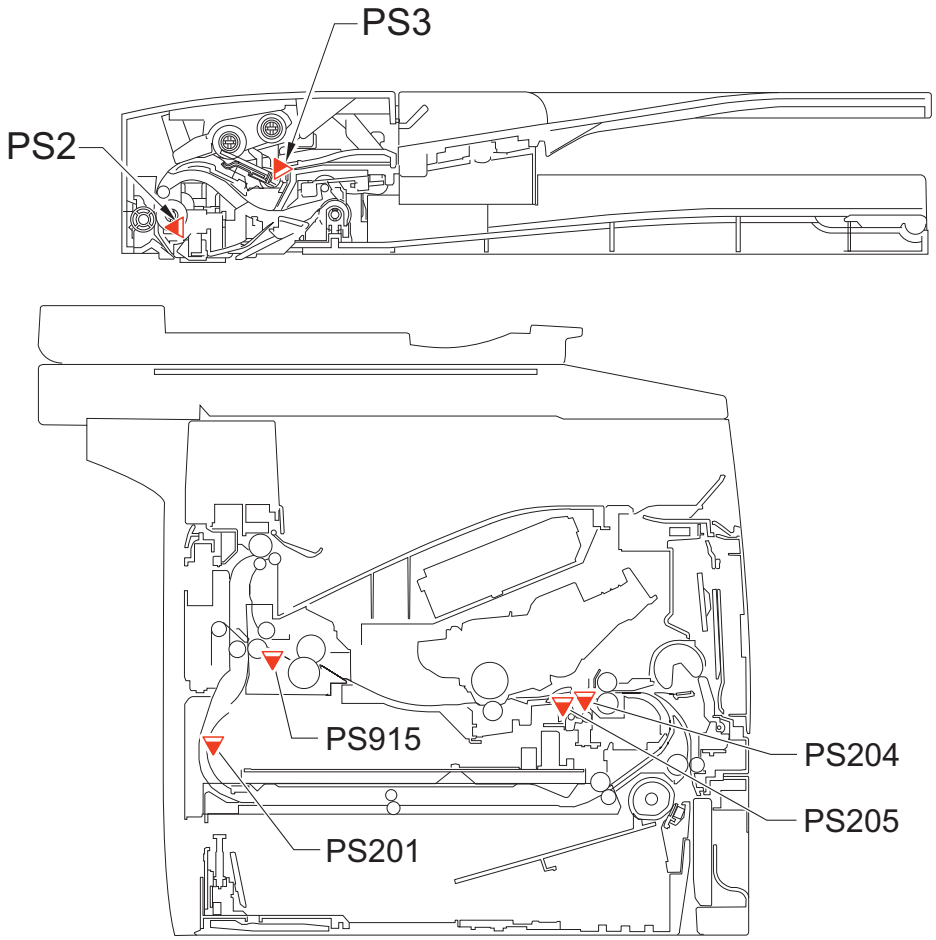
Error codes

If an error occurs, turn OFF and then ON the power first to check whether the same error occurs. (In the case of controller-related errors, the machine may recover by turning OFF and then ON the power.)
*: Supported by model with FAX only

E Code	Title	Detection description	Remedy
E000 - 0000	Error in temperature rising of Fixing Assembly	Temperature of the Fixing Assembly did not reach a certain temperature within the specified period of time.	1. Check the connector connection between the Fixing Assembly and the Engine Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the Engine Controller PCB.
E001 - 0000	Abnormal high temperature of Fixing Assembly	It was detected that the temperature of the Fixing Assembly was abnormally high.	1. Check the connector connection between the Fixing Assembly and the Engine Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the Engine Controller PCB.
E003 - 0000	Abnormal low temperature of Fixing Assembly	It was detected that the temperature of the Fixing Assembly was abnormally low.	1. Check the connector connection between the Fixing Assembly and the Engine Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the Engine Controller PCB.
E004 - 0000	Error in fixing power supply drive circuit	The zero cross signal was not detected for the specified period of time or more.	1. Check the connector connection between the Fixing Assembly and the Engine Controller PCB. 2. Replace the Fixing Assembly. 3. Replace the Engine Controller PCB.
E014 - 0000	Error in startup of the Main Motor	Revolution of the Main Motor did not reach the specified value.	1. Check the connector connection between the Main Motor and the Engine Controller PCB. 2. Replace the Main Motor. 3. Replace the Engine Controller PCB.
E100 - 0000	Laser Scanner Assembly error	BD cycle of the Laser Scanner Unit was not within the specified range.	1. Check the connector connection between the Main Controller PCB and the Laser Scanner Unit. 2. Check the connector connection between the Relay PCB and the Laser Scanner Unit. 3. Replace the Laser Scanner Unit.
E196 - 2000	Main Controller PCB writing/reading error	Error in writing/reading of the setting values storage area in the Main Controller PCB	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E196 - 3000	ROM writing/reading error (eMMC)	An error occurred when writing/reading data to/from the ROM.	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E196 - 3001	ROM-ID mismatch (eMMC)	An error occurred when writing/reading data to/from the ROM.	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.
E202 - 0001	CIS Unit HP error (outward)	The CIS Unit did not move to HP even it moved backward. Reader HP Sensor error, Reader Motor error, CIS Unit error	1. Replace the Reader HP Sensor. 2. Replace the Reader Motor. 3. Replace the CIS Unit. 4. Replace the Reader Unit.
E202 - 0002	CIS Unit HP error (homeward)	The CIS Unit did not move to HP even it moved forward. Reader HP Sensor error, Reader Motor error, CIS Unit error	1. Replace the Reader HP Sensor. 2. Replace the Reader Motor. 3. Replace the CIS Unit. 4. Replace the Reader Unit.
E302 - 0001	Light intensity of the CIS Unit below the reference level	When the light intensity is below the reference level at shading	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).
E732 - 0000	Scanner communication error	Scanner communication error	1. Install the set of the controller firmware. 2. Replace the Main Controller PCB.

E Code	Title	Detection description	Remedy
E733 - 0000	Printer communication error	Communication error between the Engine Controller PCB and the Main Controller PCB occurred.	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	Communication error with CCU/modem	Communication error with CCU/modem, NCU PCB type error	1. Install the set of the controller firmware. 2. Replace the NCU PCB. 3. Replace the Main Controller PCB.
E736* - 0001	Error in ROM for backing up fax data	An error occurred in ROM for backing up fax data	1. Install the set of the controller firmware. 2. Replace the NCU PCB. 3. Replace the Main Controller PCB.
E744 - 4000	Engine ID error	Invalid engine connection was detected.	1. Turn OFF and then ON the main power. 2. Check the Engine Controller PCB. 3. Install the Engine 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	Error in the Control Panel PCB	Error in the Control Panel PCB (microcomputer)	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	Communication error with Wireless LAN PCB	Communication with the Wireless LAN PCB could not be established.	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 Wireless LAN PCB. 5. Replace the Main Controller PCB.
E804 - 0004	Controller Fan error	Since the startup of the Controller Fan, the Fan was locked for a specified consecutive period of time.	1. Check power supply to the Controller Fan. 2. Replace the Controller Fan.
E805 - 0000	Main Fan error	The Main Fan was locked for a specified consecutive period of time.	1. Check the connection of the Main Fan. 2. Replace the Main Fan.
E808 - 0000	Low-voltage power supply failure detection	Printer detected low-voltage power supply failure.	1. Replace the Engine Controller PCB.

Jam code



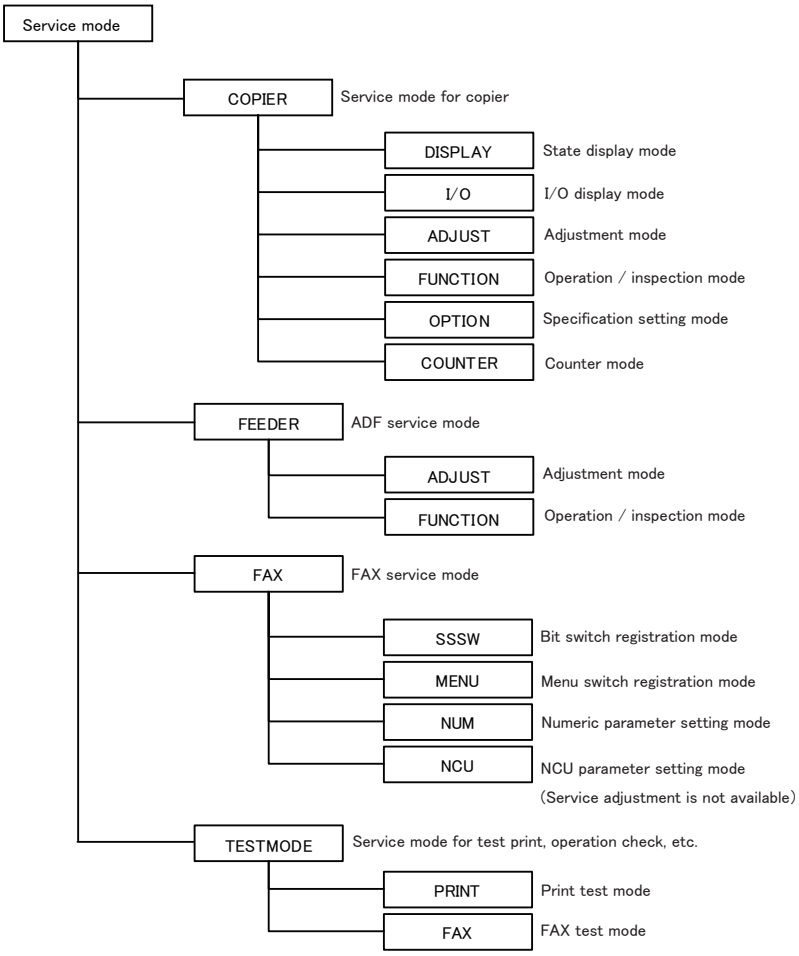
Location	Jam code	Types of jam	Sensor name/Detection description	Sensor number
04	0001	Delay Jam	Document End Sensor	PS2
04	0002	Stationary Jam	Document End Sensor	PS2
04	0004	Delay Jam	Document End Sensor (2nd side)	PS2
04	0005	Stationary Jam	Document End Sensor (2nd side)	PS2
04	0071	Sequence jam	Timing error	-
04	0094	Power-on jam	Document End Sensor	PS2
03	0104	Pickup Delay Jam 1	Top Sensor	PS204
03	010C	Fixing Delivery Delay Jam 1	Fixing Delivery Sensor	PS915
03	0144	Pickup Delay Jam 1	Top Sensor	PS204
03	014C	Fixing Delivery Delay Jam 1	Fixing Delivery Sensor	PS915
03	0184	Pickup Delay Jam 1	Top Sensor	PS204
03	018C	Fixing Delivery Delay Jam 1	Fixing Delivery Sensor	PS915
03	01C4	Pickup Delay Jam 1	Top Sensor	PS204
03	01CC	Fixing Delivery Delay Jam 1	Fixing Delivery Sensor	PS915
03	0208	Pickup Stationary Jam 1	Top Sensor	PS204
03	0210	Fixing Delivery Station-ary Jam 1	Fixing Delivery Sensor	PS915
03	021C	Paper Wrap Jam 1	Fixing Delivery Sensor	PS915
03	0220	Reverse area Jam	Duplex Reverse Sensor	PS201
03	0221	Reverse area Jam 2	Duplex Reverse Sensor	PS201

Location	Jam code	Types of jam	Sensor name/Detection description	Sensor number
03	0248	Pickup Stationary Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor	PS204/PS205/ PS915
03	0250	Fixing Delivery Station-ary Jam 1	Fixing Delivery Sensor	PS915
03	025C	Paper Wrap Jam 1	Fixing Delivery Sensor	PS915
03	0260	Reverse area Jam	Duplex Reverse Sensor	PS201
03	0261	Reverse area Jam 2	Duplex Reverse Sensor	PS201
03	0288	Pickup Stationary Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor	PS204/PS205/ PS915
03	0290	Fixing Delivery Station-ary Jam 1	Fixing Delivery Sensor	PS915
03	029C	Paper Wrap Jam 1	Fixing Delivery Sensor	PS915
03	02A0	Reverse area Jam	Duplex Reverse Sensor	PS201
03	02A1	Reverse area Jam 2	Duplex Reverse Sensor	PS201
03	02C8	Pickup Stationary Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor	PS204/PS205/ PS915
03	02DC	Paper Wrap Jam 1	Fixing Delivery Sensor	PS915
03	02D0	Fixing Delivery Station-ary Jam 1	Fixing Delivery Sensor	PS915
03	02E0	Reverse area Jam	Duplex Reverse Sensor	PS201
03	02E1	Reverse area Jam 2	Duplex Reverse Sensor	PS201
03	1014	Internal Residual Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201
03	1054	Internal Residual Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201
03	1094	Internal Residual Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201
03	10D4	Internal Residual Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201
03	1118	Door Open Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201
03	1158	Door Open Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201
03	1198	Door Open Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201
03	11D8	Door Open Jam 1	Top Sensor/ Media Width Sensor/ Fixing Delivery Sensor/ Duplex Reverse Sensor	PS204/PS205/ PS915/ PS201

9 Service Mode

Overview

Service Mode Menu



Backing up Service Mode

Each device is tuned at the time of shipment and the tuned values are written on the service label.
Because setting values and management data of the host machine are stored in the eMMC of the Main Controller PCB, they need to be backed up before replacing the Main Controller PCB.(Do not remove the eMMC PCB form Main Controller PCB.)
Also, restoration of the backup data is necessary after replacing the Main Controller PCB.

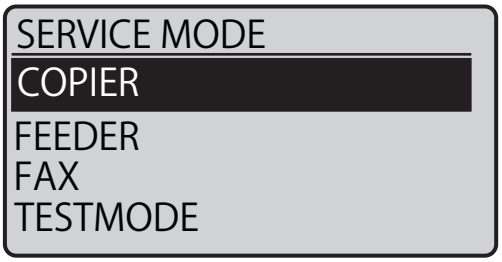
- Backup: Connect a USB memory device to the USB memory port.
  FUNCTION > SYSTEM > EXPORT
- Restore: Restore backup data of the USB memory
  FUNCTION > SYSTEM > IMPORT

Reference:
Saving Registered Data: Remote UI > Settings/Registration > Import/Export > Export
Loading Registered Data: Remote UI > Settings/Registration > Import/Export > Import

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

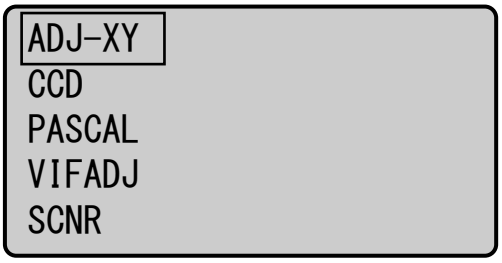


- Category / Sub category selection screen

Scroll the screen.	: Flick the screen.
Go to Item selection screen	: Tap the screen.
Go to Initial screen	: Return key

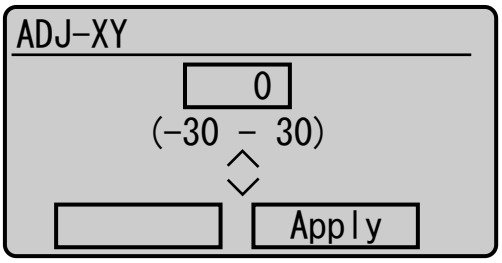
- Item selection screen

Select the item	: Flick the screen.
Go to Numeric value entry screen	: Tap the screen.
Go to Category / Sub category selection screen	: Return key



- 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

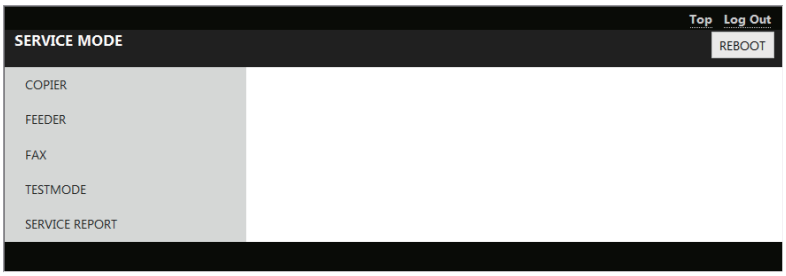


- Method to display the setting value of switch
  - On decimal display format, display is left aligned. (Comma is put every 3 digits.)
  - On binary display format, the most significant bit is placed at the leftmost position and the least significant bit is placed at the rightmost position.

Remote UI Service Mode

■ Function Overview

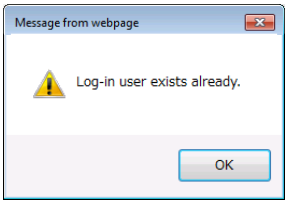
It is possible to display, configure, and execute various service mode modes as well as restart the host machine by using remote UI.



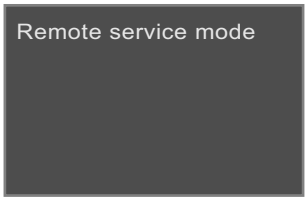
■ Operating conditions

In order to operate service mode using Remote UI, the following conditions must be met.

- Service mode is not used on the Control Panel.
  If service mode is accessed from the Control Panel of the host machine, "Log-in user exists already." is displayed when service mode is accessed from Remote UI.



- When Remote UI service mode (this function) is not being logged in by other users
  When service mode is being accessed from Remote UI, "Remote service mode" is displayed on the UI of the host machine.



- When Remote UI is enabled in the setting on the Control Panel
  [Settings/Registration] > [System Settings] > [Remote UI Settings] > [Use Remote UI] > [ON]
- When the following setting is enabled (setting value: 1) in service mode
  COPIER > OPTION > BODY > RMT-SW (Remote UI service mode function)
  0:OFF(default), 1:ON

■ How to Use

1. **Activate the Web browser, and access the following URL:**
   http://<Host machine's IP address or host name>/servicemode.html

2. **Enter the password, and click [LOGIN].**
   Password required for authentication differs depending on the following service mode setting:
   COPIER > OPTION > BODY > PSWD-SW

PSWD-SW value	Password required for authentication
0	• Password of RUI service mode
1	• Password of RUI service mode • Service mode password
2	• Password of RUI service mode • User's system administrator ID • Password of system administrator • Service mode password

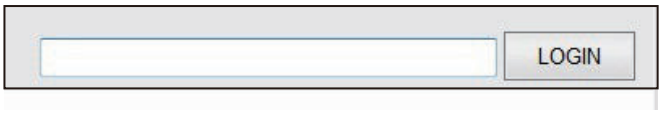
* Password of service mode can be changed in COPIER > OPTION > BODY > SM-PSWD.

3. **When finishing the operation, click [Log Out].**

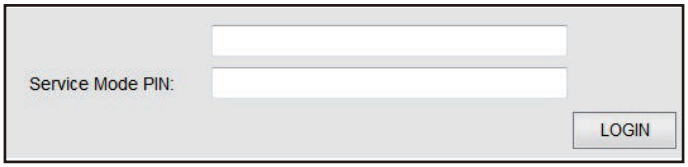
NOTE:
If you logged in and then closed the browser without "logging out", you are recognized as "logged in". Therefore, when logging in service mode again, wait for a fixed time (3 minutes) from the last access to let the session time out, or turn OFF and then ON the power.

● Authentication screen

- PSWD-SW : 0



- PSWD-SW : 1



- PSWD-SW : 2

COPIER

DISPLAY

■ VERSION

COPIER > DISPLAY > VERSION

MAIN	**Display of MAIN (main program) version**
Detail	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	**Boot ROM version**
Detail	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	**Language pack version**
Detail	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	**Demo print data version**
Detail	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	**ECONT version**
Detail	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	**Dspl of Control Panel CPU PCB ROM ver**
Detail	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

■ CCD

COPIER > DISPLAY > CCD

TARGET-B	Shading target value (B)
Detail	To display the shading target value of Blue. Continuous display of 0 (minimum) or 2048 (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	0 to 2048
Default Value	1202
Related Service Mode	COPIER > ADJUST > CCD > DFTAR-B

TARGET-G	Shading target value (G)
Detail	To display the shading target value of Green. Continuous display of 0 (minimum) or 2048 (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	0 to 2048
Default Value	1163
Related Service Mode	COPIER > ADJUST > CCD > DFTAR-G

TARGET-R	Shading target value (R)
Detail	To display the shading target value of Red. Continuous display of 0 (minimum) or 2048 (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	0 to 2048
Default Value	1135
Related Service Mode	COPIER > ADJUST > CCD > DFTAR-R

TARGETBW	Shading target value (BW)
Detail	To display the shading target value at B&W jobs. Continuous display of 0 (minimum) or 2048 (maximum) is considered a failure of the Main Controller PCB.
Use Case	At scanned image failure
Adj/Set/Operate Method	N/A (Display only)
Display/Adj/Set Range	0 to 2048
Default Value	1072
Related Service Mode	COPIER > ADJUST > CCD > DFTAR-BW

■ 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.

ADJUST

■ ADJ-XY

COPIER > ADJUST > ADJ-XY

ADJ-X	Adj of img pstn in book mode: vert scan
Detail	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	Adjustment of image position at copyboard reading (horizontal scanning direction)
Detail	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	-15 to 15
Unit	0.1 mm
Default Value	0

ADJ-Y-DF	Adj img pstn in ADF mode:horz scan
Detail	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	-15 to 15
Unit	0.1 mm
Default Value	0

COPIER > ADJUST > ADJ-XY

ADJ-X-MG	Fine adj image ratio: vertical scanning
Detail	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	Enter the setting value (switch negative / positive by * key) and press Apply key.
Adj/Set/Operate Method	After the setting value is changed, write the changed value in the service label.
Caution	-200 to 200
Display/Adj/Set Range	0.01%
Appropriate Target Value	0

STRD-POS	Adjustment of reading position at ADF stream reading
Detail	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

ADJ-S	Adj image read start position: horz scan
Detail	To adjust the image reading start position in horizontal scanning direction when black line/white line occurs. When replacing the CCD Unit/clearing the RAM data of the Reader Unit, enter the value of service label. As the value is incremented by 1, the image position moves to the trailing edge side by 0.1 mm.
Use Case	When clearing the Reader-related RAM data
Adj/Set/Operate Method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	When COPIER> FUNCTION> INSTALL> RDSHDPOS is executed, the value of this item may change. If the value is changed, write the 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> RDSHDPOS
Supplement/Memo	The shading position can be adjusted automatically by COPIER> FUNCTION> INSTALL> RDSHDPOS.

■ CCD

COPIER > ADJUST > CCD

W-PLT-X	White level data (X) entry of white plate
Detail	To enter the white level data (X) for the Standard White Plate. Enter the value (XXXXYYYYZZZZ) shown on the Barcode Label affixed at the upper left of the Copyboard Glass when replacing the ADF / Reader Unit, Reader Upper Cover Unit, and Main Controller PCB.
Use Case	- When replacing the ADF / Reader Unit - When replacing the Reader Upper Cover Unit - When replacing the Main Controller PCB
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/Adj/Set Range	7000 to 9999
Default Value	8273
Related Service Mode	COPIER. > ADJUST > CCD > W-PLT-Y, W-PLT-Z

W-PLT-Y	White level data (Y) entry of white plate
Detail	To enter the white level data (Y) for the Standard White Plate. When replacing the Main Controller PCB / clearing RAM data, enter the value of service label. When replacing the Copyboard Glass, enter the value of barcode label which is affixed on the glass.
Use Case	- When replacing the ADF / Reader Unit - When replacing the Reader Upper Cover Unit - When replacing the Main Controller PCB
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/Adj/Set Range	7000 to 9999
Default Value	8737
Related Service Mode	COPIER.> ADJUST > CCD > W-PLT-X, W-PLT-Z

W-PLT-Z	White level data (Z) entry of white plate
Detail	To enter the white level data (Z) for the Standard White Plate. When replacing the Main Controller PCB / clearing RAM data, enter the value of service label. When replacing the Copyboard Glass, enter the value of barcode label which is affixed on the glass.
Use Case	- When replacing the ADF / Reader Unit - When replacing the Reader Upper Cover Unit - When replacing the Main Controller PCB
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Caution	After the setting value is changed, write the changed value in the service label.
Display/Adj/Set Range	7000 to 9999
Default Value	9427
Related Service Mode	COPIER.> ADJUST > CCD > W-PLT-X, W-PLT-Y

COPIER > ADJUST > CCD

DFTAR-R	Adjustment of shading target value (R) at ADF reading
Detail	To adjust the shading target value of Red at ADF reading. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. When replacing the Copyboard Glass / Scanner Unit (for front side), execute COPIER > FUNCTION > CCD > DF-WLVL1, DF-WLVL2 and write the value which is automatically set in the service label.
Use Case	- When replacing the ADF / Reader Unit - When replacing the Scanner (CIS) Unit - When replacing the Reader Upper Cover Unit - When replacing the Main Controller PCB
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Display/Adj/Set Range	0 to 2048
Default Value	1105
Related Service Mode	COPIER > DISPLAY > CCD > TARGET-R COPIER > FUNCTION > CCD > DF-WLVL1, DF-WLVL2

DFTAR-G	Adjustment of shading target value (G) at ADF reading
Detail	To adjust the shading target value of Green at ADF reading. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. When replacing the Copyboard Glass / Scanner Unit (for front side), execute COPIER > FUNCTION > CCD > DF-WLVL1, DF-WLVL2 and write the value which is automatically set in the service label.
Use Case	- When replacing the ADF / Reader Unit - When replacing the Scanner (CIS) Unit - When replacing the Reader Upper Cover Unit - When replacing the Main Controller PCB
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Display/Adj/Set Range	0 to 2048
Default Value	1129
Related Service Mode	COPIER > DISPLAY > CCD > TARGET-G COPIER > FUNCTION > CCD > DF-WLVL1, DF-WLVL2

DFTAR-B	Adjustment of shading target value (B) at ADF reading
Detail	To adjust the shading target value of Blue at ADF reading. When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. When replacing the Copyboard Glass / Scanner Unit (for front side), execute COPIER > FUNCTION > CCD > DF-WLVL1, DF-WLVL2 and write the value which is automatically set in the service label.
Use Case	- When replacing the ADF / Reader Unit - When replacing the Scanner (CIS) Unit - When replacing the Reader Upper Cover Unit - When replacing the Main Controller PCB
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Display/Adj/Set Range	0 to 2048
Default Value	1151
Related Service Mode	COPIER > DISPLAY > CCD > TARGET-B COPIER > FUNCTION > CCD > DF-WLVL1, DF-WLVL2

COPIER > ADJUST > CCD

DFTAR-BW	Adjustment of shading target value (B&W) at ADF reading
Detail	When replacing the Main Controller PCB / clearing the RAM data, enter the value of service label. When replacing the Copyboard Glass / Scanner Unit (for front side), execute COPIER > FUNCTION > CCD > DF-WLVL3, DF-WLVL4 and write the value which is automatically set in the service label.
Use Case	- When replacing the ADF / Reader Unit - When replacing the Scanner (CIS) Unit - When replacing the Reader Upper Cover Unit - When replacing the Main Controller PCB
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Display/Adj/Set Range	0 to 2048
Default Value	1072
Related Service Mode	COPIER > DISPLAY > CCD > TARGETBW COPIER > FUNCTION > CCD > DF-WLVL3, DF-WLVL4

50-RG	Color displacement (R and G lines) correction value in the vertical scanning direction (50%)
Detail	To correct the color displacement between R and G lines in vertical scanning direction at 50% copyboard reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	-333
Supplement/Memo	50% reading: 300 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.

50-GB	Color displacement (G and B lines) correction value in the vertical scanning direction (50%)
Detail	To correct the color displacement between G and R lines in vertical scanning direction at 50% copyboard reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	333
Supplement/Memo	50% reading: 300 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.

COPIER > ADJUST > CCD

100-RG	**Color displacement (R and G lines) correction value in the vertical scanning direction (100%)**
Detail	To correct the color displacement between R and G lines in vertical scanning direction at 100% copyboard reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	-333
Supplement/Memo	100% reading: 600 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.
100-GB	**Color displacement (G and B lines) correction value in the vertical scanning direction (100%)**
Detail	To correct the color displacement between G and B lines in vertical scanning direction at 100% copyboard reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	333
Supplement/Memo	100% reading: 600 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.
50DF-RG	**Color displacement (R and G lines) correction value in the vertical scanning direction at ADF reading (50%)**
Detail	To correct the color displacement between R and G lines in vertical scanning direction at 50% ADF reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	-333
Supplement/Memo	50% reading: 300 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.

COPIER > ADJUST > CCD

50DF-GB	**Color displacement (G and B lines) correction value in the vertical scanning direction at ADF reading (50%)**
Detail	To correct the color displacement between G and B lines in vertical scanning direction at 50% ADF reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	333
Supplement/Memo	50% reading: 300 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.
100DF-RG	**Color displacement (R and G lines) correction value in the vertical scanning direction at ADF reading (100%)**
Detail	To correct the color displacement between R and G lines in vertical scanning direction at 100% ADF reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	-333
Supplement/Memo	100% reading: 600 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.
100DF-GB	**Color displacement (G and B lines) correction value in the vertical scanning direction at ADF reading (100%)**
Detail	To correct the color displacement between G and B lines in vertical scanning direction at 100% ADF reading 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 (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	-512 to 512
Unit	0.001 line
Default Value	333
Supplement/Memo	100% reading: 600 dpi in horizontal scanning direction x 600 dpi in vertical scanning direction reading mode.
OFST-BW0	**Adjustment of CIS (Rear) at B&W reading**
Detail	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.
Display/Adj/Set Range	-128 to 127
Default Value	0
Related Service Mode	COPIER > FUNCTION > CCD > BW-AGC

COPIER > ADJUST > CCD

OFST-BW1	Adjustment of CIS (Center) at B&W reading
Detail	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	-128 to 127
Default Value	0
Related Service Mode	COPIER > FUNCTION > CCD > BW-AGC

OFST-BW2	Adjustment of CIS (Front) at B&W reading
Detail	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	-128 to 127
Default Value	0
Related Service Mode	COPIER > FUNCTION > CCD > BW-AGC

OFST-CL0	Adjustment of CIS (Rear) at color reading
Detail	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	-128 to 127
Default Value	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC

OFST-CL1	Adjustment of CIS (Center) at color reading
Detail	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	-128 to 127
Default Value	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC

OFST-CL2	Adjustment of CIS (Front) at color reading
Detail	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	-128 to 127
Default Value	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC

COPIER > ADJUST > CCD

OFST2CL0	Adj CIS-ch0 offset: color mode, 600 dpi
Detail	To adjust the offset (black level) of the Scanner Unit on channel 0 in color mode with 600 dpi.
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	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC
Supplement/Memo	It is updated automatically when the value of CL-AGC is changed.

OFST2CL1	Adj CIS-ch1 offset: color mode, 600 dpi
Detail	To adjust the offset (black level) of the Scanner Unit on channel 1 in color mode with 600 dpi.
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	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC
Supplement/Memo	It is updated automatically when the value of CL-AGC is changed.

OFST2CL2	Adj CIS-ch2 offset: color mode, 600 dpi
Detail	To adjust the offset (black level) of the Scanner Unit on channel 2 in color mode with 600 dpi.
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	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC
Supplement/Memo	It is updated automatically when the value of CL-AGC is changed.

GAIN-BW0	Adjustment of gain at B&W 300 dpi reading
Detail	To adjust the gain when reading B&W 300 dpi 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	0
Related Service Mode	COPIER > FUNCTION > CCD > BW-AGC

GAIN2BW0	Adjustment of gain at B&W 600 dpi reading
Detail	To adjust the gain when reading B&W 600 dpi 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	0
Related Service Mode	COPIER > FUNCTION > CCD > BW-AGC

COPIER > ADJUST > CCD

GAIN-CL0	Adjustment of gain at color 300 dpi reading
Detail	To adjust the gain when reading color 300 dpi 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	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC

GAIN2CL0	Adjustment of gain at color 600 dpi reading
Detail	To adjust the gain when reading color 600 dpi 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	0
Related Service Mode	COPIER > FUNCTION > CCD > CL-AGC

LED-BW-R	Adjustment of LED light-up time (R) at B&W reading
Detail	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	Adjustment of LED light-up time (G) at B&W reading
Detail	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	Adjustment of LED light-up time (B) at B&W reading
Detail	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

COPIER > ADJUST > CCD

LED-CL-R	**Adjustment of R color LED lighting time at reading color 300 dpi (primary light source)**
Detail	To adjust the lighting time of the red color LED which is a primary light source of the Scanner Unit in color mode with 300 dpi.
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 8192
Default Value	2818
Related Service Mode	COPIER> FUNCTION> CCD> CL-AGC
LED-CL-G	**Adjustment of G color LED lighting time at reading color 300 dpi (primary light source)**
Detail	To adjust the lighting time of the green color LED which is a primary light source of the Scanner Unit in color mode with 300 dpi.
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 8192
Default Value	896
Related Service Mode	COPIER> FUNCTION> CCD> CL-AGC
LED-CL-B	**Adjustment of B color LED lighting time at reading color 300 dpi (primary light source)**
Detail	To adjust the lighting time of the blue color LED which is a primary light source of the Scanner Unit in color mode with 300 dpi.
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 8192
Default Value	1721
Related Service Mode	COPIER> FUNCTION> CCD> CL-AGC
LED2CL-R	**Adjustment of R color LED lighting time at reading color 600 dpi (primary light source)**
Detail	To adjust the lighting time of the red color LED which is a primary light source of the Scanner Unit in color mode with 600 dpi.
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 8192
Default Value	3826
Related Service Mode	COPIER> FUNCTION> CCD> CL-AGC
LED2CL-G	**Adjustment of G color LED lighting time at reading color 600 dpi (primary light source)**
Detail	To adjust the lighting time of the green color LED which is a primary light source of the Scanner Unit in color mode with 600 dpi.
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 8192
Default Value	1792
Related Service Mode	COPIER> FUNCTION> CCD> CL-AGC

COPIER > ADJUST > CCD

LED2CL-B	Adjustment of B color LED lighting time at reading color 600 dpi (primary light source)
Detail	To adjust the lighting time of the blue color LED which is a primary light source of the Scanner Unit in color mode with 600 dpi.
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 8192
Default Value	5924
Related Service Mode	COPIER> FUNCTION> CCD> CL-AGC

■ PASCAL

COPIER > ADJUST > PASCAL

OFST-P-K	Bk density adj at test print reading
Detail	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.
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

■ FEED-ADJ

COPIER > ADJUST > FEED-ADJ

ADJ-C1	Adjustment of the image write start position in the horizontal scanning direction at pickup from the standard cassette
Detail	To adjust the image write start position in the horizontal scanning direction when picking up paper from the standard cassette.
Adj/Set/Operate Method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/Adj/Set Range	-12 to 12
Default Value	0 (According to the setting at shipment)

ADJ-C2	Adjustment of the image write start position in the horizontal scanning direction at pickup from the option cassette
Detail	To adjust the image write start position in the horizontal scanning direction when picking up paper from the option cassette.
Adj/Set/Operate Method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/Adj/Set Range	-12 to 12
Default Value	0 (According to the setting at shipment)

ADJ-MF	Adjustment of the image write start position in the horizontal scanning direction at pickup from the Multi-purpose Tray
Detail	To adjust the image write start position in the horizontal scanning direction when picking up paper from the Multi-purpose Tray.
Adj/Set/Operate Method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/Adj/Set Range	-12 to 12
Default Value	0 (According to the setting at shipment)

COPIER > ADJUST > FEED-ADJ

ADJ-REFE	Adjustment of the image write start position in the horizontal scanning direction at 2-sided pickup
Detail	To adjust the image write start position in the horizontal scanning direction at 2-sided pickup.
Adj/Set/Operate Method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/Adj/Set Range	-12 to 12
Default Value	0 (According to the setting at shipment)

■ PANEL

COPIER > ADJUST > PANEL

TOUCHCHK	Correction of coordinate position of Touch Panel
Detail	To correct the coordinate on the Touch Panel.
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.

TOUCH_R	Flag to check whether the correction of coordinates on the Touch Panel was properly executed
Detail	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

DF-WLVL1	White level adj in book mode: color
Detail	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, DFTAR-G, DFTAR-B COPIER > FUNCTION > CCD > DF-WLVL2

COPIER > FUNCTION > CCD

DF-WLVL2	**White level adj in ADF mode: color**
Detail	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, DFTAR-G, DFTAR-B COPIER > FUNCTION > CCD > DF-WLVL1
DF-WLVL3	**White level adj in book mode (B&W)**
Detail	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-WLVL4 in a row.
Related Service Mode	COPIER > ADJUST > CCD > DFTAR-BW COPIER > FUNCTION > CCD > DF-WLVL4
DF-WLVL4	**White level adj in ADF mode (B&W)**
Detail	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	**CIS intensity adjustment in ADF (color)**
Detail	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

COPIER > FUNCTION > CCD

BW-AGC	CIS intensity adjustment in ADF (B&W)
Detail	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-BW0/1/2, GAIN-BW0, LED-BW-R/G/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

R-CON	Initialization of Reader / ADF
Detail	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.

SRVC-DAT	Clearing of service mode setting values
Detail	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	Clearing of service counter
Detail	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	Clear of logs
Detail	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.

ALL	Clearing of setting information
Detail	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 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

COPIER > FUNCTION > CLEAR

ERDS-DAT	Initialization of Embedded-RDS setting value
Detail	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	Select the item, and then 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

SCANLAMP	Lighting check of CIS Unit LED
Detail	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	Execution of copyboard reading
Detail	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

SRVC-DAT	Output of system data list/system dump list
Detail	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.
Supplement/Memo	FAX model only

SYS-DAT	Output of system data list
Detail	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.
Supplement/Memo	FAX model only

COPIER > FUNCTION > MISC-P

SYS-DMP	Output of system dump list
Detail	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.
Supplement/Memo	FAX model only

CNTR	Output of counter report
Detail	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	Output of error log report
Detail	To output the error log report.
Adj/Set/Operate Method	Select the item, and then press Yes key.

SPEC	Output of spec report
Detail	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	Output of Embedded-RDS log
Detail	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	Output of key log report
Detail	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.
Supplement/Memo	FAX model only

■ SYSTEM

COPIER > FUNCTION > SYSTEM

PANEL-UP	Download from USB memory (PANEL)
Detail	To perform downloading when PANEL exists in the root directory of the USB memory.
Use Case	At upgrade
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

COPIER > FUNCTION > SYSTEM

LOGWRITE	**Writing sublog to USB memory**
Detail	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	**Reading of service mode setting value from USB memory**
Detail	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	**Writing of service mode setting value to USB memory**
Detail	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.
SAVE-SM	**Backup of service mode**
Detail	To record the backup of service mode in the device using DCM.
Use Case	When saving the state of the device before changing the service mode setting values.
RSTR-SM	**Restoration of service mode**
Detail	To restore the backup data in the device.
Use Case	When returning the state of the device to a previous one after having changed the service mode setting values.
LOG2USB	**Output of log saved in eMMC to a USB**
Detail	Output of log saved in eMMC to a USB
Use Case	When collecting debug log.
Adj/Set/Operate Method	1) Install the USB memory. 2) Select the item, and then press Yes.
LOG-DEL	**Deletion of log saved in eMMC**
Detail	Deletion of log saved in eMMC
Use Case	When deleting log that has become unnecessary

■ SPLMAN

COPIER > FUNCTION > SPLMAN

SPL14159	Fixing of USB device ID
Detail	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

SPL65677	Increase of paper leading edge margin
Detail	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	Decrease of paper leading edge margin
Detail	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	Increase of paper right and left margins
Detail	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

COPIER > FUNCTION > SPLMAN

SPL25607	Decrease of paper right and left margins
Detail	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	Setting of department ID count all clear
Detail	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	Setting of department ID count clear
Detail	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

SPL71100	Setting of the duty of Off-hook PCB
Detail	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
Supplement/Memo	FAX model only

SPL00171	To change the maximum auto sleep shift time.
Detail	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.
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

COPIER > FUNCTION > SPLMAN

SPL80100	**Mask setting at copyboard scanning**
Detail	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	**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	**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	**Switching to enable / disable PC-less update**
Detail	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	**Switching to display the connection destination URL setting of GoogleCloudPrint on the remote UI**
Detail	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
SPL71700	**Saving of Sublog stored in eMMC to a USB memory**
Detail	To save Sublog stored in eMMC to a USB memory.
Display/Adj/Set Range	0 to 1
Default Value	0

COPIER > FUNCTION > SPLMAN

SPL01734	ON/OFF of RUI service mode function
Detail	To turn ON/OFF the RUI service mode function. (linked with OPTION>BODY>RMT-SW) 0: OFF* 1: ON This should be supported together with OPTION>BODY>RMT-SW as a set.
Display/Adj/Set Range	0 to 1
Default Value	0

■ INSTALL

COPIER > FUNCTION > INSTALL

STRD-POS	Scan position auto adj in ADF mode
Detail	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

E-RDS	ON / OFF of Embedded-RDS
Detail	To set ON / OFF of Embedded-RDS function.
Use Case	When using Embedded-RDS
Adj/Set/Operate Method	1) Enter the value, and then press Apply 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 > RGW-PORT, COM-TEST, COM-RSLT, 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	Setting of UGW port number when using Embedded-RDS
Detail	To set the port number of UGW to be used for Embedded-RDS.
Use Case	When using Embedded-RDS
Adj/Set/Operate Method	1) Enter the value, and then press Apply 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, COM-TEST, COM-RSLT, 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

COPIER > FUNCTION > INSTALL

COM-TEST	Execution of Embedded-RDS communication test
Detail	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, RGW-PORT, COM-RSLT, 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	Embedded-RDS communication test result
Detail	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, RGW-PORT, COM-TEST, 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	Embedded-RDS communication error log
Detail	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, RGW-PORT, COM-TEST, 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

LOCALE	Setting of location
Detail	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	Setting of paper size configuration
Detail	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

COPIER > OPTION > BODY

NS-CMD5	Setting of CRAM-MD5 authentication method at SMTP authentication
Detail	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	Setting of plaintext authentication at SMTP authentication
Detail	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	Setting of LOGIN authentication at SMTP authentication
Detail	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.

COPIER > OPTION > BODY

SLPMODE	Setting of shift to sleep mode
Detail	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.
Default Value	0

SDTM-DSP	Setting of automatic shutdown menu display
Detail	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	ON/OFF of RUI service mode function
Detail	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	0

PSWD-SW	Service mode password level
Detail	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	Password for service engineer
Detail	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

CRG-PROC	Setting of the operation at the end of CRG life
Detail	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	0

CRGLF-K	Reference value of components other than toner included in the CRG life (for K)
Detail	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

■ DSPLY-SW

COPIER > OPTION > DSPLY-SW

CRGLW-LV	SW to display / hide the setting menu (user mode) of toner low threshold value
Detail	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

REGM-SEL	Adjustment of fine density correction
Detail	To adjust fine density correction.
Use Case	When the density of fine line or text is dark of light at 1200 dpi printing.
Adj/Set/Operate Method	Set +1 to make the density of fine line or text darker, and -1 to make it lighter at 1200 dpi printing.
Display/Adj/Set Range	-1, 0, +1
Default Value	0

■ USER

COPIER > OPTION > USER

SCALL-SW	ON/OFF of Service Call button display
Detail	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

COPIER > OPTION > USER

SCALLCMP	Setting of Service Call complete notice
Detail	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	Setting of compatible mode at PS usage
Detail	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.
Display/Adj/Set Range	0 to 63 8 : Change of default value of StrokeAdjust
Default Value	0

SMD-EXPT	Export of service mode
Detail	To enable the export of service mode setting values from RUI.
Display/Adj/Set Range	0 to 1 0: Disabled 1: Enabled
Default Value	0

ACC-SLP	Switching of the restriction to shift to sleep mode 3 when the card is connected
Detail	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

RPL-IMP	Turning ON/OFF at replacement mode
Detail	To be able to import the settings values (which are exported by DCM and can only be imported to host machine) unique to the model such as IPv4 addresses to a different machine by turning ON the replacement mode.
Use Case	When migrating the settings at replacement of a host machine with a different one of the same model.
Display/Adj/Set Range	0 to 1
Default Value	0

■ ACC

COPIER > OPTION > ACC

WLAN	**Presence/absence of the wireless LAN function**
Detail	To set whether to enable the wireless LAN 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 Value	0 (Model where wireless LAN is provided as an option), 1 (Wireless LAN model)
WLANMODE	**Setting of IEEE802.11n**
Detail	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	**Forcible deactivation of the uniFLOW function**
Detail	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

■ SERIAL

COPIER > OPTION > SERIAL

SN-MAIN	Entry of serial number
Detail	To write the serial number of this machine in the Main Controller PCB. When this item is executed, the 8-digit alphanumeric entered in System Settings > Device Information > Location in user mode is written in the Main Controller PCB. When replacing the Main Controller PCB, be sure to write the serial number in the new PBC to prepare for trouble since the serial number of the device is not succeeded.
Use Case	- When replacing the Main Controller PCB
Adj/Set/Operate Method	1) Write down the current data in System Settings > Device Information > Location in user mode. 2) After turning OFF the main power, replace the Main Controller PCB. 3) Enter the serial number (8-digit alphanumeric) in "Location" of step 1. 4) Execute SN-MAIN. After writing, the serial number entered in step 3 is deleted. 5) Turn OFF and the ON the main power. 6) Execute COPIER > FUNCTION > MISC-P> SPEC to output the spec report to check the serial number. 7) Enter the data backed up in step 1 in "Location".
Caution	Since the above "Location" is only temporarily used to store data, back up the data before input and enter it again after writing is completed.
Related Service Mode	COPIER > FUNCTION > MISC-P > SPEC
Additional Functions Mode	System Settings > Device Information> Location

COUNTER

■ TOTAL

COPIER > COUNTER > TOTAL

SERVICE1	Service-purposed total counter 1
Detail	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	Service-purposed total counter 2
Detail	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	Total counter
Detail	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, PDL-PRT, FAX-PRT, RPT-PRT, MD-PRT

COPIER > COUNTER > TOTAL

COPY	**Total copy counter**
Detail	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	**PDL print counter**
Detail	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	**FAX reception print counter**
Detail	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
Unit	Number of sheets
Default Value	0
Related Service Mode	COPIER > COUNTER > TOTAL > TTL
Supplement/Memo	FAX model only
RPT-PRT	**Report print counter**
Detail	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
Related Service Mode	COPIER > COUNTER > TOTAL > TTL
MD-PRT	**Media print counter**
Detail	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	**2-sided copy/print counter**
Detail	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

COPIER > COUNTER > TOTAL

SCAN	Scan counter
Detail	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

■ PICK-UP

COPIER > COUNTER > PICK-UP

C1	Cassette 1 pickup total counter
Detail	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	Cassette 2 pickup total counter
Detail	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	Multi-purpose Tray pickup total counter
Detail	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	2-sided pickup total counter
Detail	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

FEED	ADF original pickup total counter
Detail	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

TOTAL	**Printer total jam counter**
Detail	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	**ADF total jam counter**
Detail	When checking the total jam counter of ADF
Display/Adj/Set Range	0 to 99999999
Unit	Number of times
Default Value	0
2-SIDE	**Duplex Unit jam counter**
Detail	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	**Multi-purpose Pickup Tray jam counter**
Detail	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	**Cassette 1 pickup jam counter**
Detail	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	**Cassette 2 pickup jam counter**
Detail	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

DF-SP-PD	Separation Pad parts counter: ADF
Detail	When counting the number of sheets fed, a sheet of paper whose length in the vertical scanning direction exceeds 324 mm is counted as 2, and a sheet of paper other than that is counted as 1. 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	ADF Pickup Roller parts counter
Detail	When counting the number of sheets fed, a sheet of paper whose length in the vertical scanning direction exceeds 324 mm is counted as 2, and a sheet of paper other than that is counted as 1. 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

FEEDER

ADJUST

FEEDER > ADJUST

DOCST	Fine adjustment of VSYNC timing at ADF reading [front side]
Detail	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	Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [front side]
Detail	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	Fine adjustment of VSYNC timing at ADF reading [back side]
Detail	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

FEEDER > ADJUST

LA-SPD2	Fine adjustment of magnification ratio in vertical scanning direction at ADF stream reading [back side]
Detail	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

DOCSTDUP	DADF img lead edge margin:front, 2-sided
Detail	To adjust the margin at the leading edge of the image on the front side at DADF 2-sided reading. 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.) Execute this item when the output image after DADF installation is displaced. When replacing the Scanner Unit or Controller PCB/clearing the Reader-related RAM data, enter the value of service label.
Use Case	- When installing DADF - When replacing the Scanner Unit - When clearing the Reader-related RAM data
Adj/Set/Operate Method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Caution	Be sure to use DOCST at the time of 1-sided reading.
Display/Adj/Set Range	-30 to 30
Unit	0.1 mm
Default Value	0
Related Service Mode	FEEDER> ADJUST> DOCST, DOCST2
Supplement/Memo	Since the front side reading operation differs between 1-sided and 2-sided reading, separate service modes have been prepared to improve the accuracy.

FUNCTION

FEEDER > FUNCTION

MTR-ON	Operation check of ADF Motor
Detail	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	Operation check of ADF individual feed
Detail	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

FEEDER > FUNCTION

FEED-CHK	Setting of ADF individual feed mode
Detail	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

List 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

Numeric parameter setting mode		
No.	**Parameter**	**Allowable setting range**
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	-	-	-

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

PG-TYPE	Setting of PG number
Detail	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 7 0: Grid Bk 1: HT 2. Solid black 3: Solid white 4: 17 gradations 5: Thin horizontal line 6: Pascal correction chart 7: Chart128
Default Value	0

COUNT	Setting of PG output quantity
Detail	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	Setting of PG 2-sided mode
Detail	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	Setting of test print image formation method
Detail	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 4 0: TBIC 1: Resolution dithering 2: Gradation dithering 3: Color tone dithering 4: High-resolution dithering
Default Value	0

TESTMODE > PRINT

THRU	Setting of image correction table at test print
Detail	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.
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

DENS	Adjustment of test print engine F value
Detail	This setting is used to adjust the F value of the engine of test print.The density increases as the value increases.
Use Case	At trouble analysis
Adj/Set/Operate Method	Enter the setting value (switch negative / positive by * key) and press Apply key.
Display/Adj/Set Range	-4 to 4 -4: Light +4: Dark
Default Value	0

MABK	Set toner thinning process at test print
Detail	To execute the thinning process to alleviate the toner scattering at test print. The thinning amount of toner increases in accordance with Mode 1 to Mode 4.
Use Case	Print Test print
Adj/Set/Operate Method	Enter the setting value, and then press Apply key.
Display/Adj/Set Range	0 to 3 0: OFF 1: Mode1 2: Mode2 3: Mode3
Default Value	0

FEED	Setting of paper source at test print
Detail	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	Output of test print
Detail	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

TESTMODE > FAX > MODEM	
Item	**Description**
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.
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

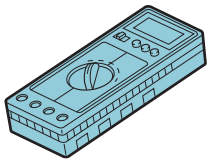
TESTMODE > FAX > FACULTY	
Item	**Description**
Details	To check calling tone signal and FED. Set the CML relay to ON and detect the calling tone. The detection results are displayed on the console (UART).
Adj/set/operate method	Enter the setting value, and then press Apply key.
Caution	Be sure to set 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.

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. 

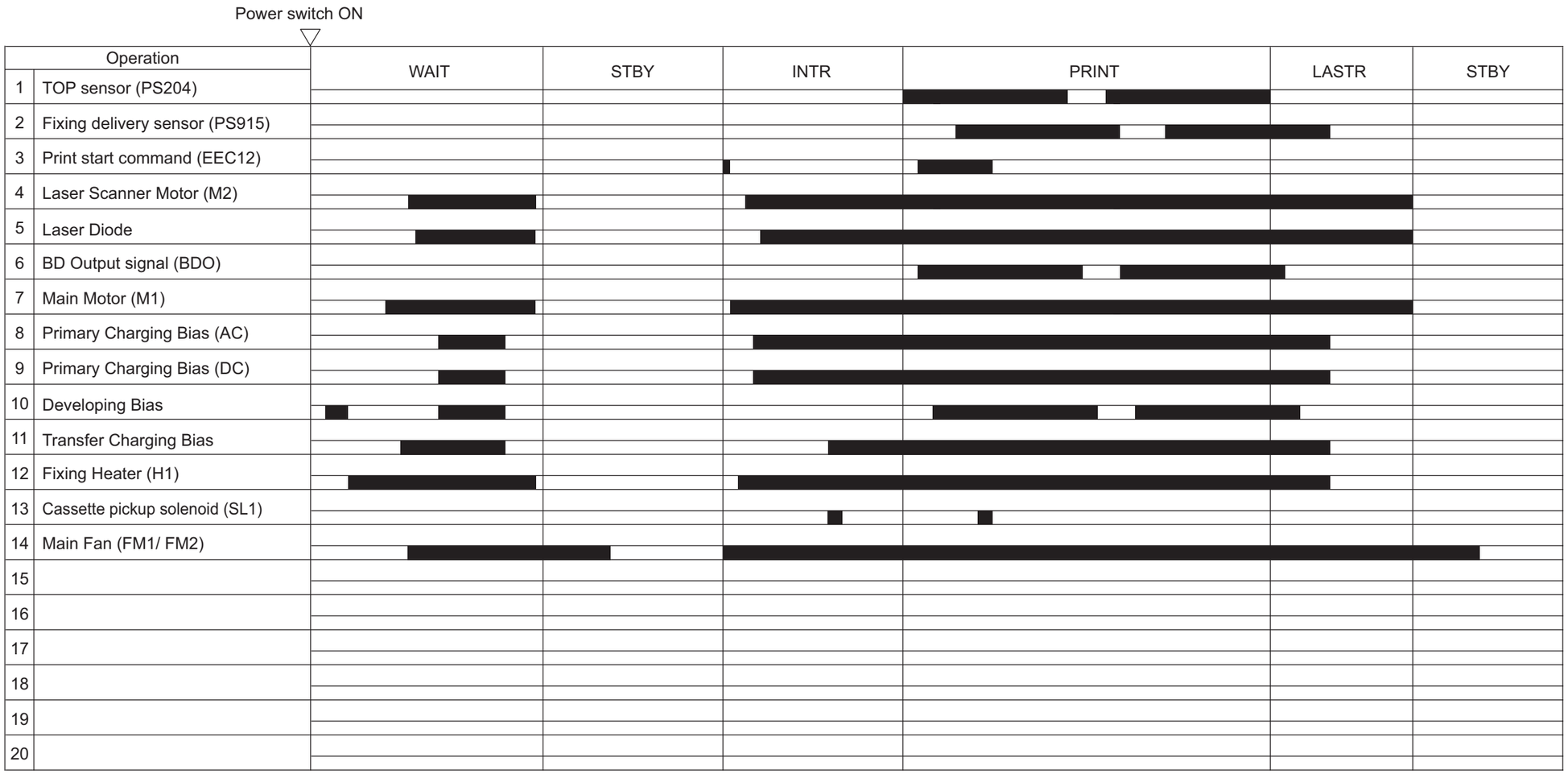
Solvents and Oils

The table below lists the standard tools required in service works for this product.

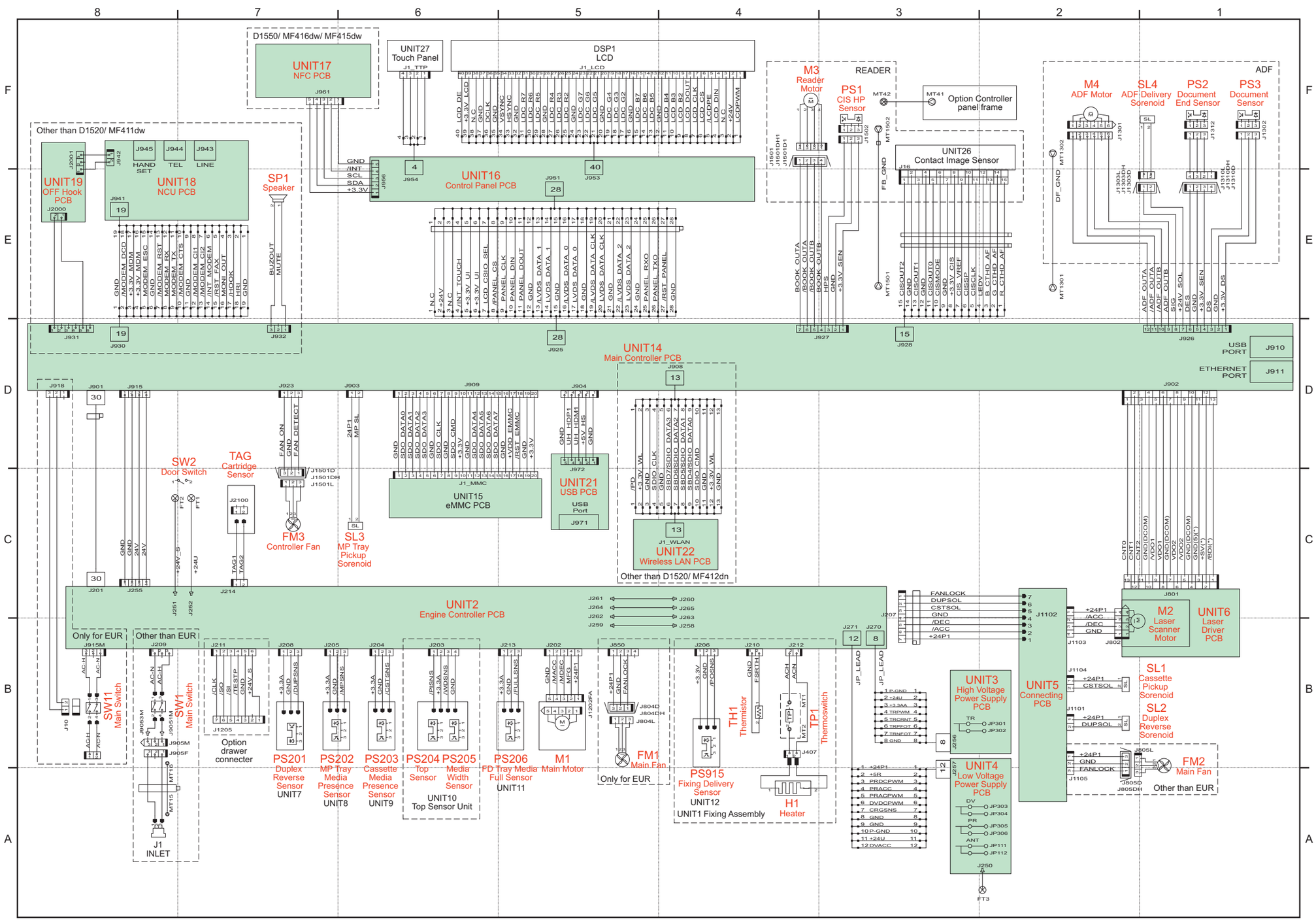
No.	Name of Tool	Use	Remarks
1	Alcohol	Cleaning: Plastic Rubber Metal part Oil stain Toner stain	• Keep away from flame • Purchase locally
2	Lubricant	Apply to gear	• HY9-0007 (MOLYCOTE EM-50L)
3	Lubricant	Apply to ADF scanning area	• FY9-6020(Oil glass cleaner)

General Timing Chart

Timing chart two consecutive prints on LTR paper



General Circuit Diagram



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	Initialize All Data / Settings	Initializing Key and Certificate	Initializing Address Book	Initializing Menu > Initialize All	System Management Settings	R-CON *2	SRVC-DAT *3	COUNTER	HIST *4	ALL *5	ERDS-DAT	Yes/No	Method	Location to be stored	Yes/No	Method	Location to be stored
Address Book	Main Controller PCB	-	Clear	-	-	Clear	-	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Settings Manu																				
Paper Settings	Main Controller PCB	-	Clear	Clear	-	-	-	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Network Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	Clear	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Preferences	Main Controller PCB	-	Clear	Clear	-	-	Clear	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Timer Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Common Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Copy Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Fax Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	-	-	-	-	-	Clear	-	Yes *6	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Scan Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	-	-	-	-	-	Clear	-	Yes *7	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Memory Media Print Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear		-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Printer Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Adjustment / Maintenance	Main Controller PCB	-	Clear	Clear	-	-	-	-	-	-	-	-	Clear	-	Yes	Remote UI *9 LUI *10	PC, USB memory	No	-	-
System Management Settings	Main Controller PCB	-	Clear	Clear	-	-	Clear	Clear	-	-	-	-	Clear *12	-	Yes *13	Remote UI *9 LUI *10	PC, USB memory	No	-	-
Key and Certificate	Main Controller PCB	-	Clear	Clear	Clear *11	-	-	-	-		-		Clear	-	No	-	-	No	-	-
eRDS	Main Controller PCB	-	Clear	Clear	-	-	-	-	-	-	-	-	Clear	Clear	No	-	-	No	-	-
Serial Number	Main Controller PCB	-	Clear *14	-	-	-	-	-	-	-	-	-	-	-	No	-	-	Yes*15	-	-
Job History	Main Controller PCB	-	Clear	Clear	-	-	-	-	-	-	-	Clear	Clear	-	No	-	-	No	-	-
Page counter	Main Controller PCB	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	-	No	-	-
Part counter	None	-	Clear	-	-	-	-	-	-	-	Clear	-	-	-	No	-	-	No	-	-
Service mode																				
Service mode setting values (Reader)	Main Controller PCB	-	Clear	-	-	-	-	-	Clear	-	-	-	-	-	No	-	-	No	-	-
Service mode setting values(Main Controller)	Main Controller PCB	-	Clear	-	-	-	-	-	-	Clear	-	-	Clear	-	No	Remote UI *9	PC, USB memory	Yes	Service mode *8	PC, USB memory

Data	Location	Replace		Delete										Backup by User			Backup by Service		
				Menu > System Management Settings					COPIER > FUNCTION > CLEAR										
		Engine Controller PCB	Main Controller PCB	Initialize All Data / Settings	Initializing Key and Certificate	Initializing Address Book	Initializing Menu > Initialize All	System Management Settings	R-CON *2	SRVC-DAT *3	COUNTER	HIST *4	ALL *5	ERDS-DAT	Yes/No	Method	Location to be stored	Yes/No	Method	Location to be stored
Service mode setting values (Engine Controller)	Main Controller PCB	-	Clear	-	-	-	-	-	-	-	-	-	-	-	No	Remote UI *9	PC, USB memory	Yes	Service mode *8	PC, USB memory

*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. Excluding the shortcut key
*8. FUNCTION > SYSTEM > IMPORT / FUNCTION > SYSTEM > EXPORT
*9. Settings/Registration > Import/Export
*10. Setting Menu List > System Management Settings > Import/Export of Settings.
*11. When the key and certificate are initialized, TLS authentication of IEEE802.1X and the SSL setting are changed to "OFF".
*12. The system administrator ID and the password are changed back to the default values.
*13. Excluding [Forwarding Settings], [Remote UI On/Off], [Update Firmware], [Initialize Key and Certificate], [Initialize Address Book], and [Initialize System Management Settings]
*14. After replacement of the PCB, resetting is required. FUNCTION > SERIAL > SN-MAIN
*15. The device serial number can be entered in FUNCTION > SERIAL > SN-MAIN.