March 24, 2010
Revision 0

imageRUNNER 2545/2535 Series

Service Manual

Product Overview
Technology
Periodical Service
Parts Replacement and Cleaning
Adjustment
Troubleshooting
Error Code
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Appendix
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Application

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

Corrections

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

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

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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
	Check.
	Check visually.
	Check the noise.
	Disconnect the connector.
	Connect the connector.
	Remove the cable/wire from the cable guide or wire saddle.
	Set the cable/wire to the cable guide or wire saddle.
	Remove the screw.
	Tighten the screw.

Symbols	Explanation
	Remove the claw.
	Insert the claw.
	Use the bundled part.
	Push the part.
	Plug the power cable.
	Turn on the power.

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

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Safety Precautions

- CDRH Act
- Laser Safety
- Handling of Laser System
- Turn power switch ON
- Points to Note About Turning Off the Main Power Switch
- Safety of Toner
- Notes When Handling a Lithium Battery
- Notes Before Servicing

imageRUNNER 2545/2535 Series

CDRH Act

The Center for Devices and Radiological Health of the US Food and Drum Administration put into force regulations concerning laser products on August 2, 1976. These regulations apply to laser products manufactured on and after August 1, 1976, and the sale of laser products not certified under the regulations is banned within the Untied States. The label shown here indicates compliance with the CDRH regulations, and its attachment is required on all laser products that are soled in the United States.

CANON INC.
30-2,SHIMOMARUKO,3-CHOME,OHTA-KU,TOKYO,JAPAN

MANUFACTURED:

THIS PRODUCT CONHORMS WITH DHHS RADIATION PERFORMANCE STANDARD 21CFR CHAPTER 1 SUBCHAPTER J.

F-0-1

⚠

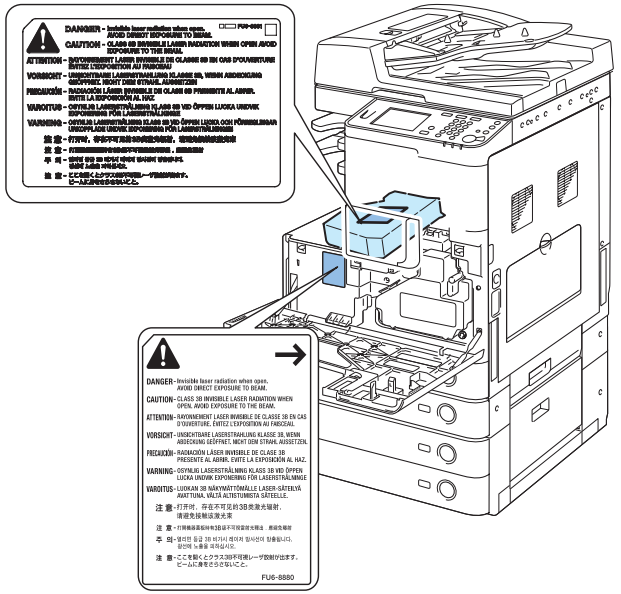
A different description may be used for a different product.

Laser Safety

When servicing the area around the laser assembly, be sure to turn off the main power. The machine's covers that can reflect laser light are identified by means of a warning label (Figure). If you must detach a cover showing the label, be sure to take extra caution during the work.

Handling of Laser System

When servicing the area around the laser assembly, be sure to turn off the main power. The machine's covers that can reflect laser light are identified by means of a warning label (Figure). If you must detach a cover showing the label, be sure to take extra caution during the work.

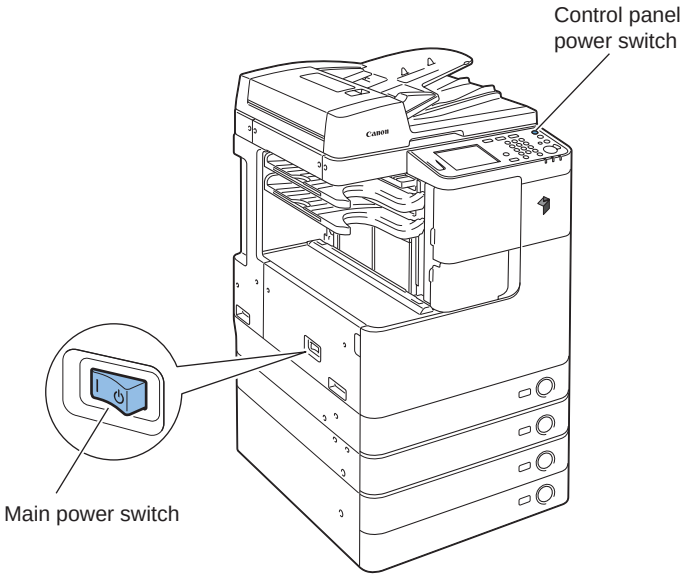


F-0-2

Turn power switch ON

The machine is equipped with 2 power switches: main power switch and control panel power switch.

The machine goes on when the main power switch is turned on (i.e., other than in low power mode, sleep mode).

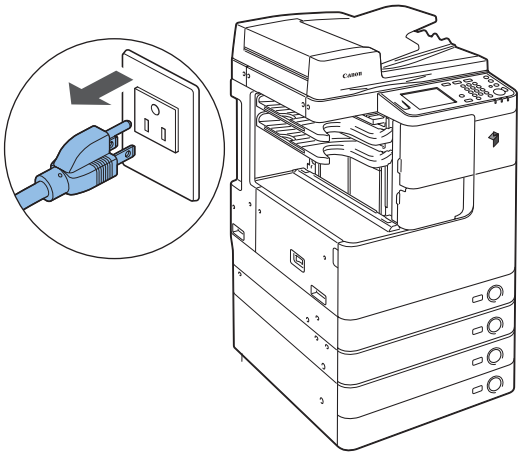


F-0-3

Power Supply

⚠

1. As a general rule, do not use extension cords. Using an extension cord may result in a fire or electrical shock. If an extension cord must be used, however, use one for local rated voltage and over, untie the cord binding, and insert the power plug completely into the extension cord outlet to ensure a firm connection between the power cord and the extension cord.
2. The socket-outlet shall be installed near the equipment and shall be easily accessible.



F-0-4

Safety of Toner

About Toner

The machine's toner is a non-toxic material made of plastic, iron, and small amounts of dye.

Do not throw toner into fire. It may cause explosion.

Toner on Clothing or Skin

- If your clothing or skin has come into contact with toner, wipe it off with tissue; then, wash it off with water.
- Do not use warm water, which will cause the toner to jell and fuse permanently with the fibers of the cloth.
- Tonner is easy to react with plastic material, avoid contact with plastic.

Notes When Handling the Lithium and Ni-MH Batteries

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).

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

Notes Before Servicing

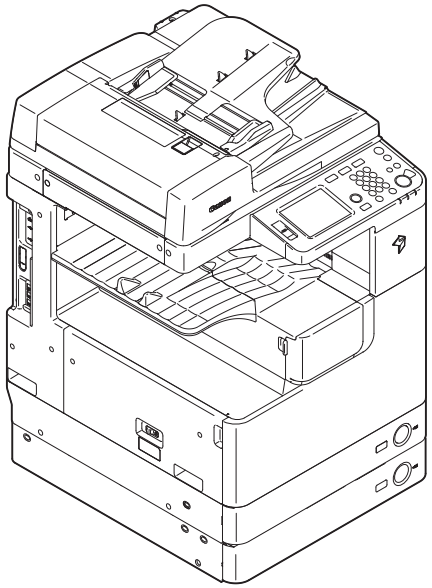
At servicing, be sure to turn OFF the power source according to the specified steps and disconnect the power plug.

Product Overview

- Product Lineup
- Feature
- Specifications
- Name of Parts

Product Lineup

Host machine



F-1-1

Host machine configuration

Host machine configuration
Reader + DADF (standard or optional) + Printer

T-1-1

Model type

	imageRUNNER 2545	imageRUNNER 2535
Print Speed	45ppm	35ppm
Positioning	Target machine: imageRUNNER 3235/3225/2030/2025 Series	

T-1-2

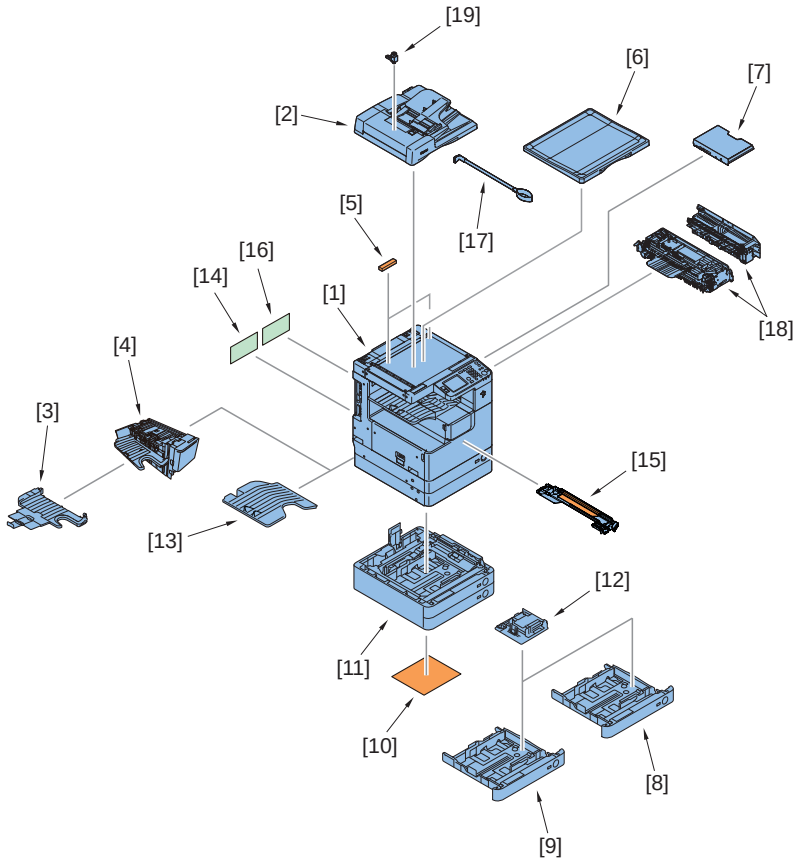
imageRUNNER 2545 / 2535

Underlined (2-digit) numeric figures indicate print speed (ppm: print per minute).

F-1-2

Option

Pickup delivery / image reading options

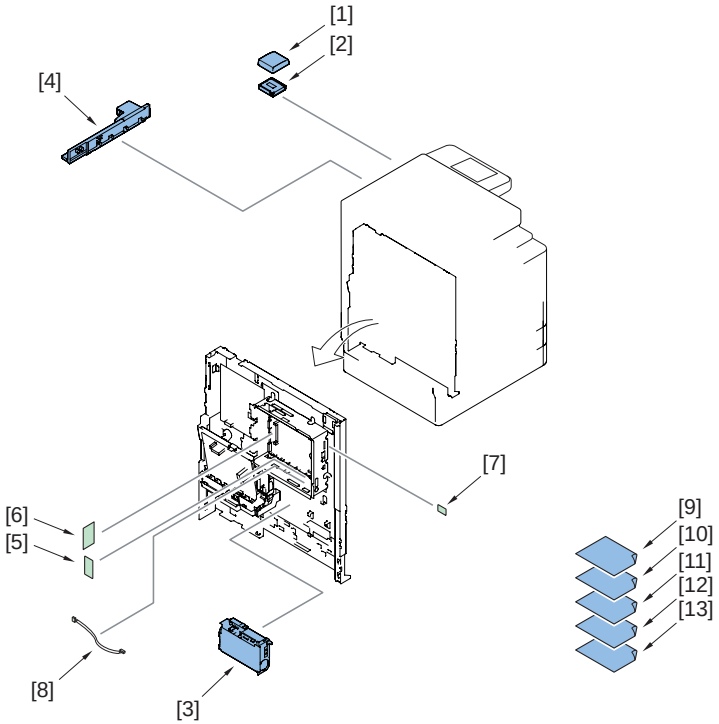


F-1-3

No.	Product name	Remarks and condition
1	imageRUNNER 2545i/2545/2535i/2535	
2	DADF-AA1	
3	Inner Finisher Additional Tray-B1	
4	Inner Finisher-B1	Built-in finisher Power Supply Unit-U1 is required.
5	Reader Heater Unit-H1	Cst Heater Kit-J1 is required.
6	Platen Cover Type Q	
7	Document Tray-J1	
8	FL Cassette-AJ1	
9	FL Cassette-AK1	
10	Cassette Heater Unit-37	Cst Heater Kit-J1 is required.
11	CST. Feeding Unit-AE1	
12	Envelope Feeder Attachment-D1	
13	Inner 2Way Tray-G1	For host machine delivery additional tray.
14	Cst Heater Kit-J1	
15	Drum Heater-C1	Cst Heater Kit-J1 is required.
16	Power Supply Unit-U1	
17	ADF Access Handle-A1	
18	2 Way Unit-B1	
19	Stamp Unit-B1	

T-1-3

Function expanding option



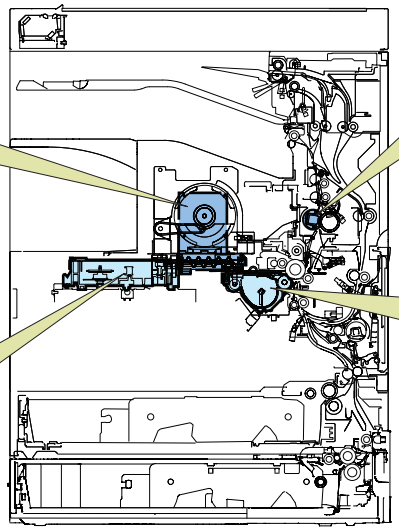
F-1-4

No.	Product name	Remarks and condition
1	Card Reader-E1	Card Reader Attachment-D3 is required.
2	Card Reader Attachment-D3	
3	Super G3 Fax Board-AG1	
4	USB Application 3-Port Interface Kit-A1	
5	Serial Interface Kit-J2	
6	System Upgrade RAM-C1	
7	System Upgrade SD Card-A1	
8	Copy Control Interface Cable-A1	
9	Barcode Printing Kit-B1	PCL Printer Kit-AF1 is required.
10	PCL Printer Kit-AF1	System Upgrade RAM-C1 is required.
11	PS Printer Kit-AF1	System Upgrade RAM-C1 is required.
12	Color Send Kit-Y1	System Upgrade RAM-C1 is required.
13	Color Send Searchable PDF Kit-C1	System Upgrade RAM-C1 is required.

T-1-4

Feature

Product feature



F-1-5

Specifications

Specifications

Item	Specifications
Copyboard	Stream reading, original fixed reading
Body	Desktop
Light source type	LED (white)
Photosensitive medium	OPC drum (30 mm dia)
Image reading method	CCD
Reproduction method	Indirect electrostatic method
Exposure method	Laser exposure system
Charging method	Roller charge
Development method	Dry single component projection developing
Transfer method	By transfer roller
Separation method	Curvature and static eliminator
Pickup method	Cassette: Retard separation method Manual feed pickup tray: Pad separation method
Fixing method	On demand
Delivery method	Face down delivery (in-body delivery)
Reproduction ratio	25% to 400%
Drum cleaning method	By cleaning blade
Toner type	Magnetic negative charge toner
Toner replenish method	Toner cartridge
Toner level detection function	Yes
Top margin	2.5 -/+ 1.5 mm
Left margin	2.5 -/+ 1.5 mm
Non-image width (leading edge)	2.5 -/+ 1.5 mm
Non-image width (left edge)	2.5 -/+ 1.5 mm * Using the feeder: 2.5 -/+ 2.0 mm
Warm-up time	At power ON: 30 sec or less
Number of gradations	256 gradations
Reading resolution	600 dpi x 600 dpi
Writing resolution	1200 dpi x 1200 dpi
First print time	3.9 sec or less
Paper type (Cassette 1/3/4)	Weight: 64 g/m2 to 90 g/m2 Type: Plain, Recycled, Color (64 g/m2 to 80 g/m2), 3-hole punch
Paper type (Cassette 2)	Weight: 64 g/m2 to 90 g/m2 Type: Plain, Recycled, Color (64 g/m2 to 80 g/m2), 3-hole punch, Envelopes* (No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL) * The optional Envelope Feeder Attachment-D1 is required.
Paper type (Manual feed pickup tray)	Weight: 64 g/m2 to 128 g/m2 Type: Plain, Recycled, Color (64 g/m2 to 80 g/m2), 3-hole punch, Bond (75 g/m2 to 90 g/m2), Heavy Paper 1 (81 g/m2 to 90 g/m2), Heavy Paper 2 (91 g/m2 to 105 g/m2), Heavy Paper 3 (106 g/m2 to 128 g/m2), Transparencies, Labels, Envelopes (No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL)
Paper size (Cassette 1/3/4)	Standard size (A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LG, 11" x 17", STMTR)
Paper size (Cassette 2)	Standard size (A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LG, 11"" x 17"", STMTR) Envelopes* (No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL) * The optional Envelope Feeder Attachment-D1 is required.
Paper size (Manual feed pickup tray)	Standard size (A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LG, 11"" x 17"", STMTR) Free size (99 mm x 297 mm to 148 mm x 432 mm) Envelopes (No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL)
Pickup capacity	Cassette: 550 sheets (80g/m2) Manual feed pickup tray: 100 sheets (80g/m2)
Duplex method	Through path duplex
Acoustic noise	imageRUNNER 2545i/2545: operation: 74.75 dB or less *1 / stand-by: 53.00 dB or less imageRUNNER 2535i/2535: operation: 71.25 dB or less *1 / stand-by: 53.00 dB or less *1 Except for china model. China model: 71.00 dB or less (operation)
Ozone	Max: 0.035 ppm or less
Power supply rating	imageRUNNER 2545i/2545/2535i/2535 (US): 120 - 127 V AC, 50Hz/60Hz, 9.3 A imageRUNNER 2545i/2545/2535i/2535 (Except US): 220 - 240 V AC, 50Hz/60Hz, 4.2 A
Maximum power consumption	120 - 127 V model: Approx. 1.690 kW 220 - 240 V model: Approx. 1.827 kW
Dimensions (W x D x H)	565mm x 680mm x 806mm (with the platen cover) 565mm x 689mm x 907mm (with the feeder)
Weight	Max (with the feeder, double cassette and 2 way unit): Approx. 78.8 kg Min (with the platen cover and double cassette): Approx 69.5 kg

T-1-5

Weight / Size

Product name	Width (mm)	Depth (mm)	Height (mm)	Weight Approx. (kg)
imageRUNNER 2545i/2545/ 2535i/2535 (with the platen cover)	565	680	806	69.5 * with the double cassette
imageRUNNER 2545i/2545/ 2535i/2535 (with the feeder)	565	689	907	78.8 * with the double cassette and 2 way unit
DADF-AA1	565	540	137	7.9
Inner Finisher-B1	416	554	350	12.5
2 Way Unit-B1	444	550	236	2.5
CST. Feeding Unit-AE1	565	680	248	24
Inner 2Way Tray-G1	426	413	109	0.6
Card Reader-E1	88	100	32	0.295

T-1-6

Productivity (Print speed)

Size	Mode	Paper type	Paper basis weight (g/m2)	imageRUNNER			
				2545i/2545		2535i/2535	
				Cassette	Manual feed pickup tray	Cassette	Manual feed pickup tray
A4	1-sided	Plain paper	64-90	45	30	35	30
		Heavy Paper	91-105	-	30	-	30
			106-128	-	28	-	28
	2-sided (with the 2 way unit)	Plain paper	64-90	44	29	34	29
		Heavy Paper	91-105	-	-	-	-
			106-128	-	-	-	-
	2-sided (without the 2 way unit)	Plain paper	64-90	31	21	24	21
		Heavy Paper	91-105	-	-	-	-
			106-128	-	-	-	-
A3	1-sided	Plain paper	64-90	22	15	22	15
		Heavy Paper	91-105	-	14	-	14
			106-128	-	14	-	14
	2-sided (with the 2 way unit)	Plain paper	64-90	21	14	21	14
		Heavy Paper	91-105	-	-	-	-
			106-128	-	-	-	-
	2-sided (without the 2 way unit)	Plain paper	64-90	15	10	15	10
		Heavy Paper	91-105	-	-	-	-
			106-128	-	-	-	-

T-1-7

Paper type

For free size paper, refer to the table below.

Type	Feeding direction (mm)	Width direction (mm)
Free size	148 to 432	99 to 297

T-1-8

Pickup

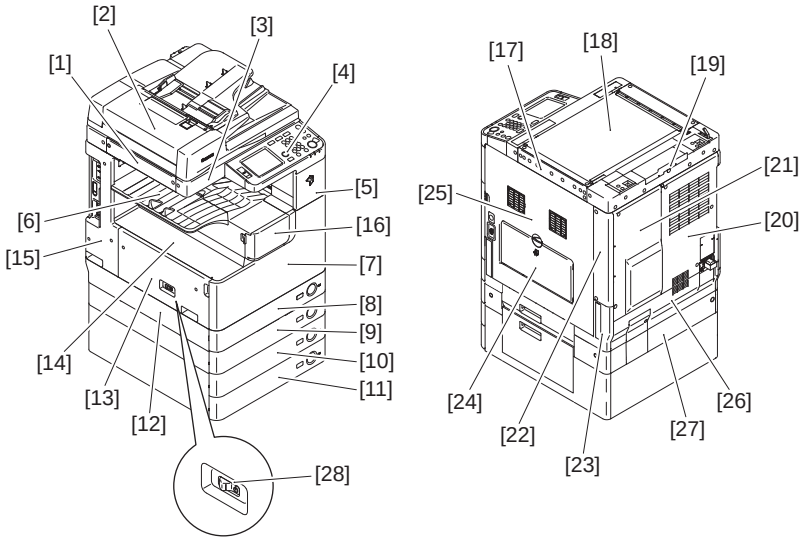
Usable paper types are shown.

Paper type (g/m2)	Size	Manual feed pickup tray	Cassette 1	Cassette 2		Cassette 3	Cassette 4
				with the envelope feeder	without the envelope feeder		
- Plain (64 to 90) - Color (64 to 90) - Recycled (64 to 90) - Bond (75 to 90)	A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LGL, 11" x 17", STMTR	Yes	Yes	No	Yes	Yes	Yes
- Heavy Paper (91 to 128)"	A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LGL, 11" x 17", STMTR	Yes	No	No	No	No	No
- Labels	A4, B4, LTR	Yes	No	No	No	No	No
- Transparencies	A4, LTR	Yes	No	No	No	No	No
- 3-hole punch	LTR	Yes	Yes	Yes	Yes	Yes	Yes
- Envelopes	No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL	Yes	No	Yes	No	No	No
- Free size	99 mm x 297 mm to 148 mm x 432 mm	Yes	No	No	No	No	No

T-1-9

Name of Parts

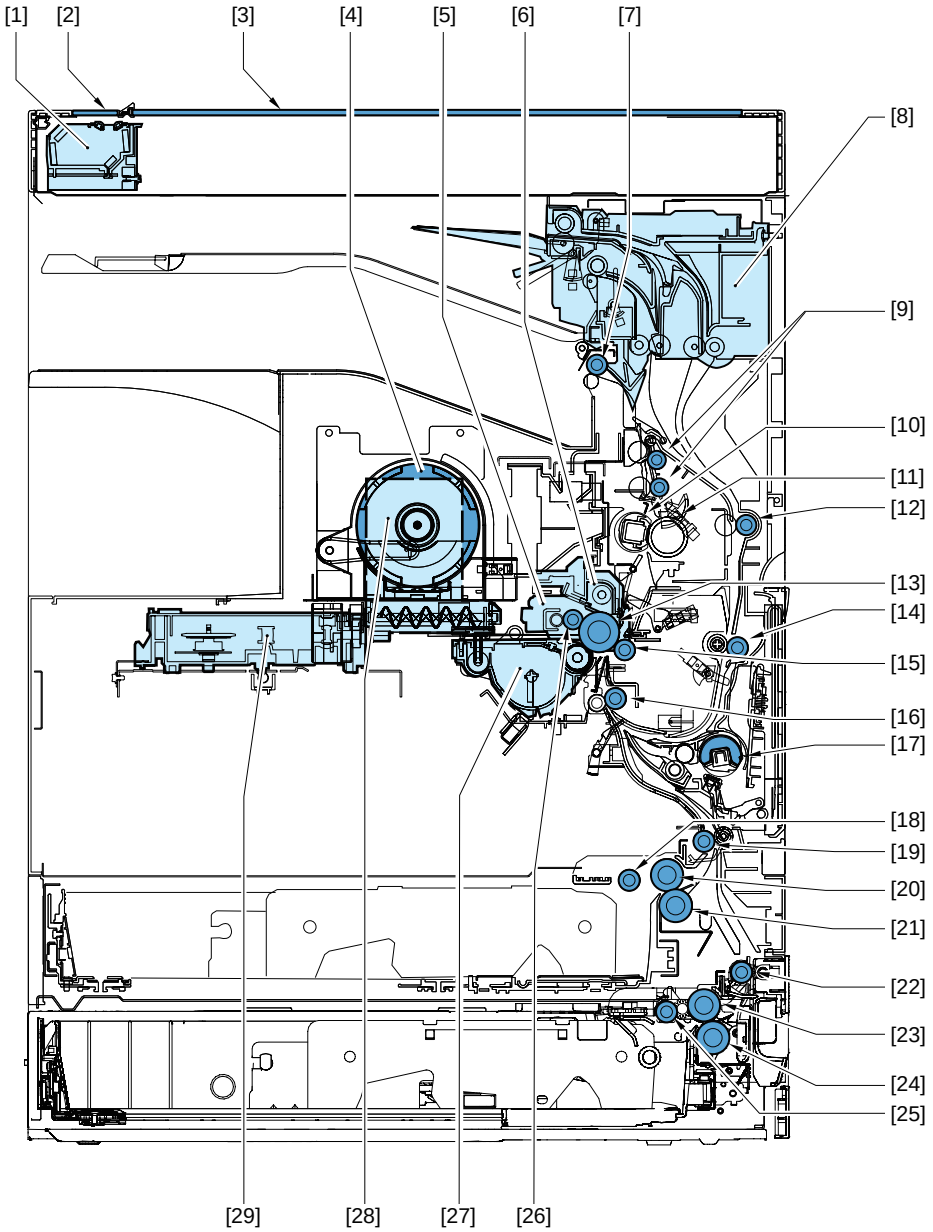
External View



F-1-6

[1] Reader left cover
[2] DADF (standard or optional)
[3] Reader front cover
[4] Control panel
[5] Support cover
[6] Delivery tray
[7] Front cover
[8] Cassette 1
[9] Cassette 2 (standard or optional)
[10] Cassette 3 (option)
[11] Cassette 4 (option)
[12] Lower left cover
[13] Left cover
[14] Inside base cover
[15] Rear left cover
[16] Toner supply cover
[17] Reader right cover
[18] Platen glass
[19] Reader rear cover
[20] Rear cover (right)
[21] Rear cover (left)
[22] Right cover (upper rear)
[23] Right cover (lower rear)
[24] Manual feed pickup tray
[25] Right cover
[26] Lower rear cover
[27] Cassette 2 rear cover
[28] Main power switch

Cross Sectional View



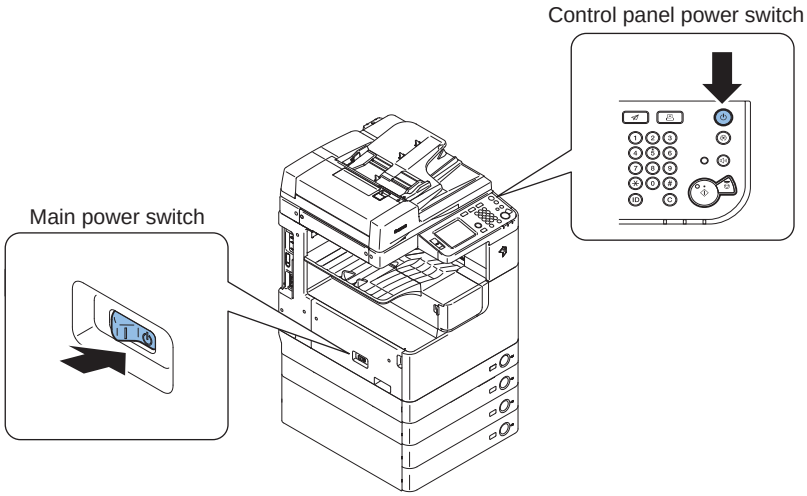
F-1-7

[1] CCD unit
[2] ADF reading glass
[3] Platen glass
[4] Toner bottle
[5] Drum unit
[6] Drum cleaning unit
[7] Delivery roller
[8] 2 way unit
[9] Fixing outlet roller
[10] Fixing film unit
[11] Pressure roller
[12] Duplex feed roller 1
[13] Photosensitive drum
[14] Duplex feed roller 2
[15] Transfer roller
[16] Registration roller
[17] Manual feed pickup roller
[18] Pickup roller (cassette 1)
[19] Vertical path roller 1
[20] Feed roller (cassette 1)
[21] Separation roller (cassette 1)
[22] Vertical path roller 2
[23] Feed roller (cassette 2)
[24] Separation roller (cassette 2)
[25] Pickup roller (cassette 2)
[26] Primary charging roller
[27] Developing unit
[28] Sub hopper
[29] Laser scanner unit

Operation

Power Switch

Types of power switch



F-1-8

This machine is equipped with the Main Power Switch and Control Panel Power Switch.

[1] Main Power Switch

This switch is used to turn OFF / ON the power of host machine.

[2] Control Panel Power Switch

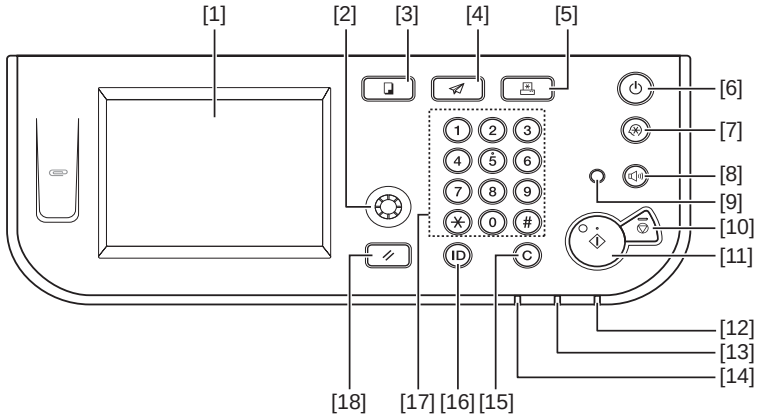
This switch is to shift the machine to power-save mode or to restore it to normal mode.

How to turn ON / OFF the power and points to note

- To turn off the power, turn off the Main power Switch. (Conventional shutdown sequence operation is not required.)
- After power-off (After the Main power Switch is turned off), do not reactivate the Main power Switch until a screen disappears.
- do not turn off the power while download is processing.

Description of Control Panel

Control Panel



F-1-9

[1]	Touch panel display	[10]	Stop key
[2]	Display Contrast dial	[11]	Start key
[3]	COPY key	[12]	Main Power Indicator
[4]	SEND key	[13]	Error Indicator
[5]	SCAN/OPTIONS key	[14]	Processing/Data Indicator
[6]	Control Panel Power Switch (Sub Power Supply)	[15]	Clear key
[7]	Additional Function key	[16]	Log in/Out key
[8]	Volume Control key	[17]	Numeric keys
[9]	Counter Check key	[18]	Reset key

Main Menu

Functions	Key	Location
Copy	COPY key	Control Panel
Send or Fax	SEND key	
Remote Scan	SCAN/OPTIONS key	
System Monitor	[System Monitor]	Touch Panel Display

T-1-10

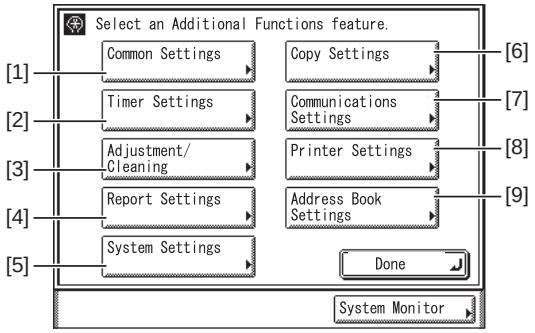
* The Send function is available only when the Color Send Kit-Y1 is activated.
* The Fax function is available only when the Super G3 Fax Board-AG1 is activated.

Difference of main menu

imageRUNNER 2030/2025 Series	imageRUNNER 2545/2535 Series
Copy	Copy
Send or Fax	Send or Fax
Scan	Scan or Direct print
System Monitor	System Monitor

T-1-11

Settings / Registration menu



F-1-10

[1] Common Settings
[2] Timer Settings
[3] Adjustment/Cleaning
[4] Report Settings
[5] System Settings
[6] Copy Settings
[7] Communications Settings
[8] Printer Settings
[9] Address Book Settings

Difference of Settings / Registration menu

imageRUNNER 2030/2025 Series	imageRUNNER 2545/2535 Series
Common Settings	Common Settings
Timer Settings	Timer Settings
Adjustment/Cleaning	Adjustment/Cleaning
Report Settings	Report Settings
System Settings	System Settings
Copy Settings	Copy Settings
Communications Settings	Communications Settings
Printer Settings	Printer Settings
Address Book Settings	Address Book Settings

T-1-12

2

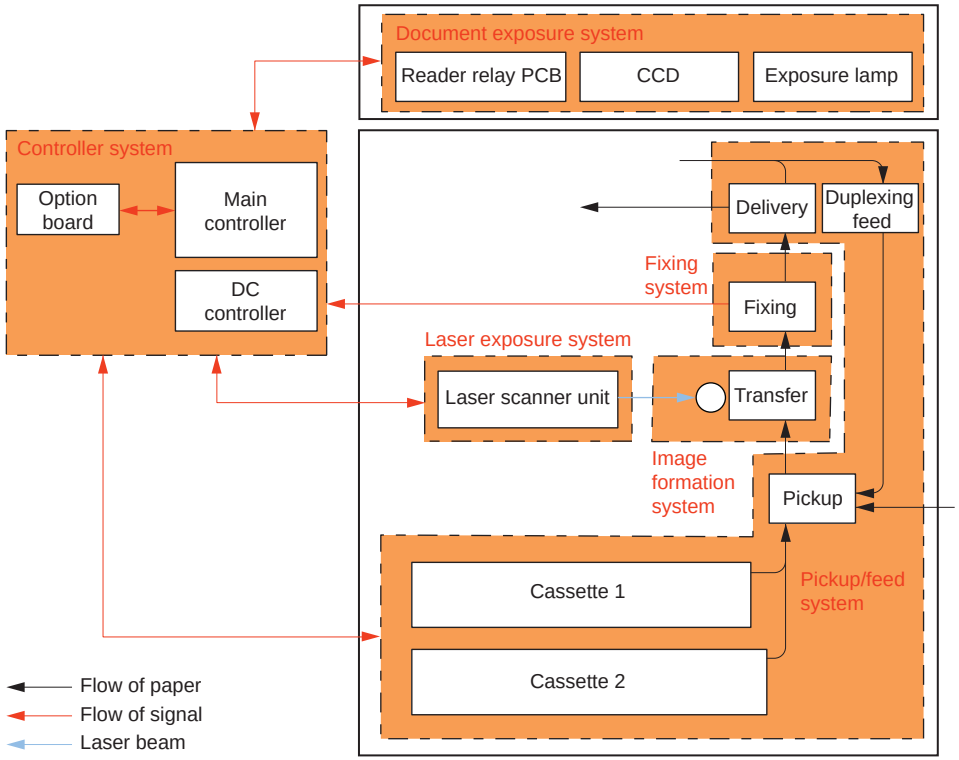
Technology

- Basic Configuration
- Original Expusure System
- Controller System
- Laser Exposure System
- Image Formation System
- Fixing System
- Pickup Feed System
- E-RDS

Basic Configuration

Functional Configuration

The machine may broadly be divided into the following functional system blocks; document exposure system block, controller system block, laser exposure system block, image formation system block, fixing system block and pickup/feed system block.

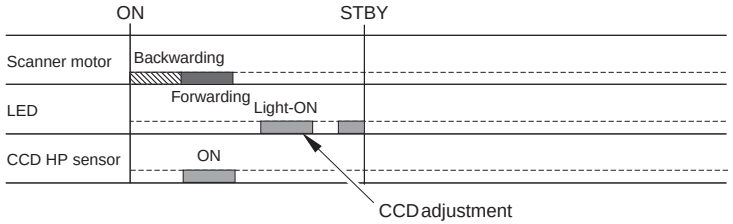


F-2-1

Basic sequence

Sequence at Power-On

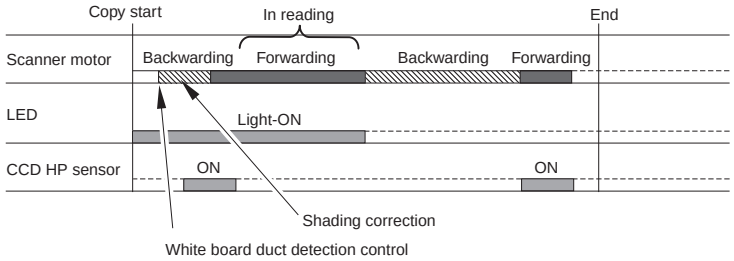
- Reader



F-2-2

Print sequence

- Reader (Book mode, 1 original)



F-2-3

Original Exposure System

Construction

Specifications/controls/functions

The major specifications, controls and functions of the original exposure system are described below.

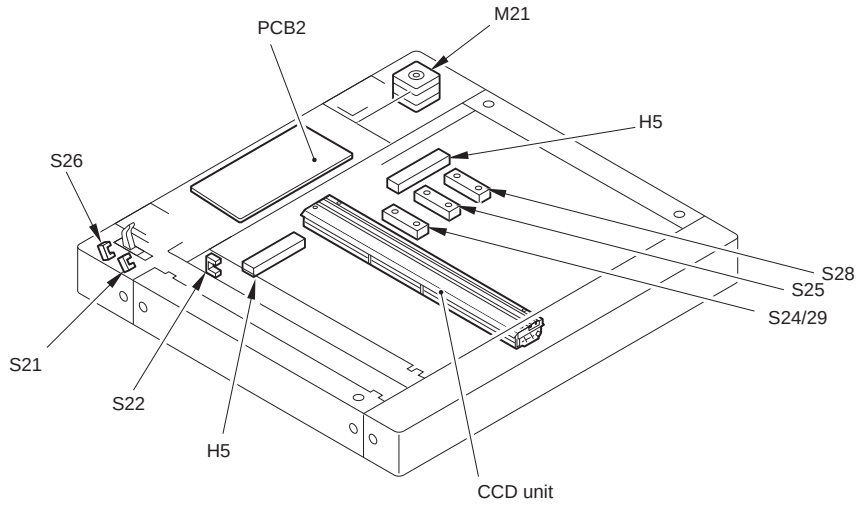
Item		Specification/function
Original exposure		Indirect exposure by LED (LED & photoconductive body)
Original scan	In book mode	Scan by movement of CCD
	In ADF mode	Stream reading with CCD fixed
Read resolution		B/W: 600 dpi (main scanning) x 600 dpi (sub scanning) (Color SEND): 300 dpi (sub scanning)
Gradation		256 gradation
Carriage position detection		CCD HP sensor (S22)
Magnification		25% to 400%
	Main scanning direction	Image is processed on main controller PCB
	Sub scanning direction	In book mode: speed change by carriage travel, image process on main controller PCB *1 In ADF mode: original feed speed change, image process on main controller PCB *1
Lens		Gauss lens
CCD		Number of lines: 4 (R, G, B, B/W)
		Number of pixels: 7500 x 3 color lines, 7500 x 1 B/W line
		Maximum original read width: 304mm
CCD unit drive control		By scanner motor (M21)
Original size detection	In book mode	Main scanning direction: by CCD
		Sub scanning direction: by reflection sensor (AB/INCH)
	In ADF mode	Main scanning direction: by photo interrupter on DADF
		Sub scanning direction: by photo interrupter on DADF

*1 Controls differ depending on magnifications. Refer to [Magnifications] for more information.

T-2-1

Major Components

Following shows major components of document exposure system.



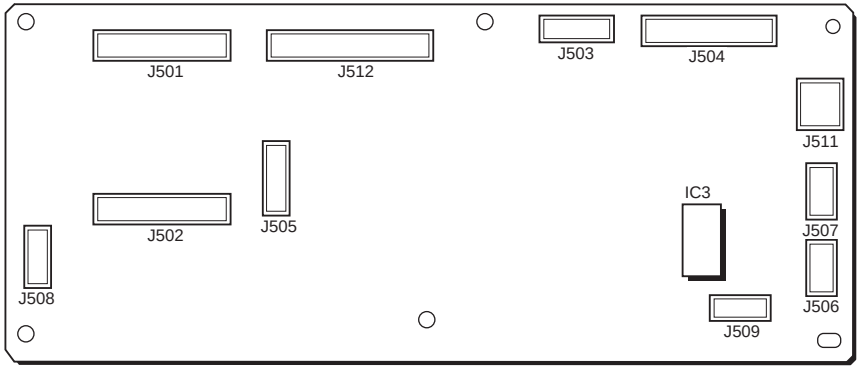
F-2-4

Item	Notation	Specification/function
Scanner motor	M21	Pulse motor: controls the carriage drive
CCD HP sensor	S22	Detects CCD home position
Copyboard Cover Open/Closed Sensor (front)	S21	Ends original size identification with the copy board cover at 5 deg
Copyboard Cover Open/Closed Sensor (rear)	S26	Detects the copyboard cover open/close. Starts original size identification with the copy board cover at 30 deg.
Original Size Sensor 0	S24	Helps identify original size(AB, INCH/AB/K, A)
Original Size Sensor 0	S29	Helps identify original size(INCH/A)
Original Size Sensor 1	S25/28	Helps identify original size(AB, INCH/AB/K, INCH/A, A)
CCD unit	-	Indirect exposure by LED (LED & photoconductive body)
Reader Heater (Option)	H5	Prevents condensation on the copyboard glass
Reader relay PCB	PCB2	Controls the reader unit drive and image process

T-2-2

Reader Relay PCB

The function configuration of reader controller PCB is described below.



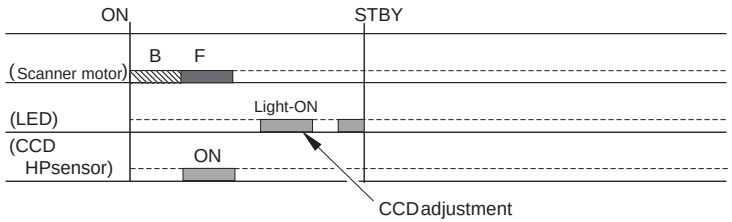
F-2-5

Jack No	Description
J501	Communication with main controller PCB
J502	Communication with CCD
J503	Communication with DADF
J504	Communication with DADF
J505	Connection to copyboard cover open/close sensor and CCD HP sensor
J506	Connection to Scanner motor
J507	Receives power from the machine (printer unit)
J508	Not used
J509	Connection to original size sensor (0A/0B/1)
J511	Power supply to DADF
J512	Communication with main controller PCB

T-2-3

Basic Sequence

Basic Sequence at Power-On

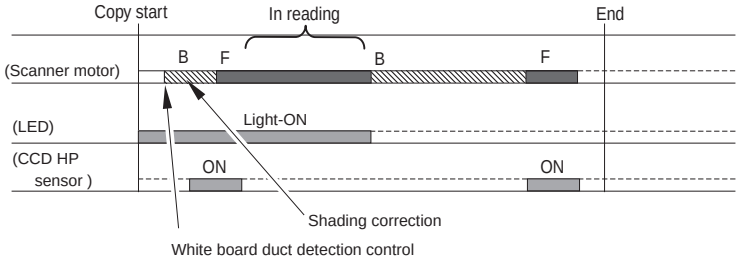


F-2-6

Footnote

- F: Scanner motor moves forward (toward right).
- B: Scanner motor moves backward (toward left).
- Light-ON: LED on CCD unit lights-on.
- ON: When CCD HP sensor (photo interrupter type) detects.

Basic Sequence at Start Key ON (book mode/1 original)

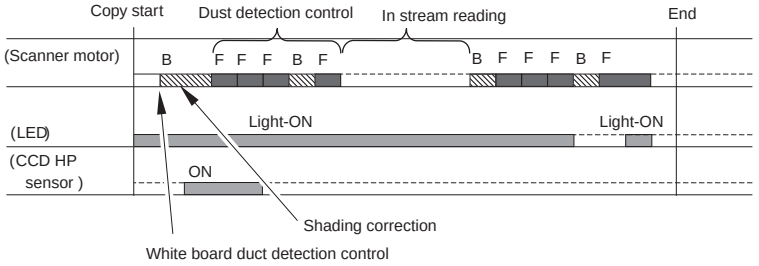


F-2-7

Footnote

- F: Scanner motor moves forward (toward right).
- B: Scanner motor moves backward (toward left).
- Light-ON: LED on CCD unit lights-on.
- ON: When CCD HP sensor (photo interrupter type) detects.

Basic Sequence at Start Key ON (ADF mode/1 original)



F-2-8

Dust detection control

This is activated when any of the following conditions is true.

- Dust has been detected in all 3 locations at previous 1 job.
- Dust detection could not be activated due to JAM etc at previous job.

Footnote

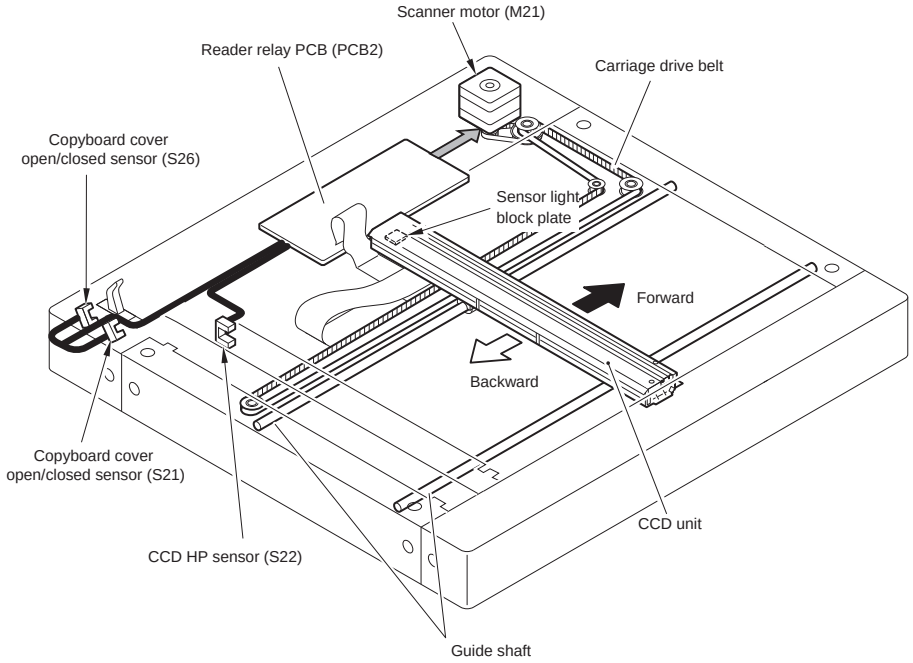
- F: Scanner motor moves forward (toward right).
- B: Scanner motor moves backward (toward left).
- Light-ON: LED on CCD unit lights-on.
- ON: When CCD HP sensor (photo interrupter type) detects.

Controls

Controlling the Scanner Drive System

Overview

Parts configuration of scanner drive is described below.

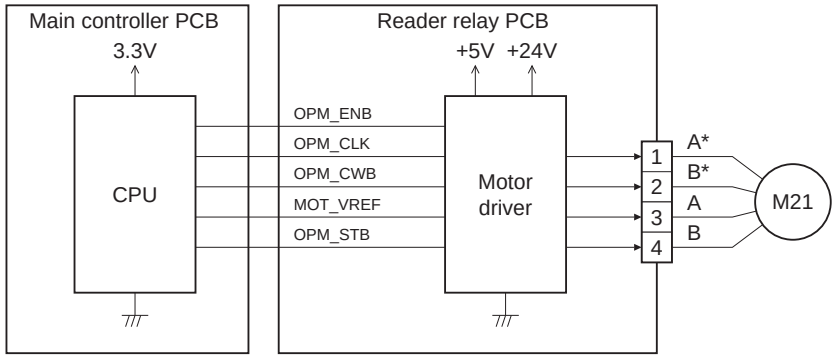


F-2-9

- Scanner motor (M21) drive signal
  Turns on/off the motor and controls its direction/speed of rotation.
- CCD HP sensor (S22) detection signal
  Checks if CCD is at home position.
- Copyboard cover open/closed sensor (front: S21/rear: S26) detection signal
  Detects the open/close status of the copyboard cover

Scanner Motor Control

Scanner motor driver turns on/off the motor and controls its direction/speed of rotation according to the signals from CPU.

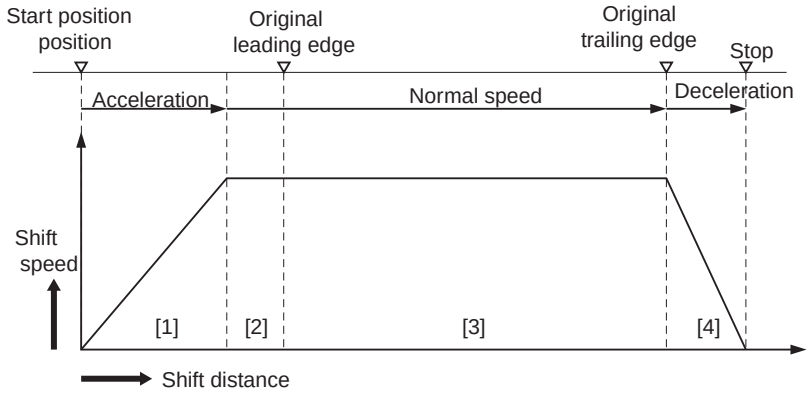


F-2-10

MEMO:
The scanning speed of this machine is as follows.
Black/white (600dpi x 600dpi):249.5mm/sec
Color SEND(600dpi x 300dpi):173.2mm/sec

1) Forward movement when scanning an image

CCD operation is controlled by the following sensors when scanning the image.



[1]Acceleration area: Accelerates until a speed suited to the selected mode is reached
[2]Run-up speed area: Run-up margin to ensure a stable speed.
[3]Image reading area: Reads an image at a specific speed.
[4]Deceleration area: Decelerates and stops promptly once the image end is reached.

F-2-11

2) Backward movement after scanning an image

After scanning an image, CCD moves backward to CCD shading position at a specific speed (249.5 mm/sec).

■ CCD

● Overview

The machine uses the CCD to expose and read an image and the image is read on a line-by-line basis.

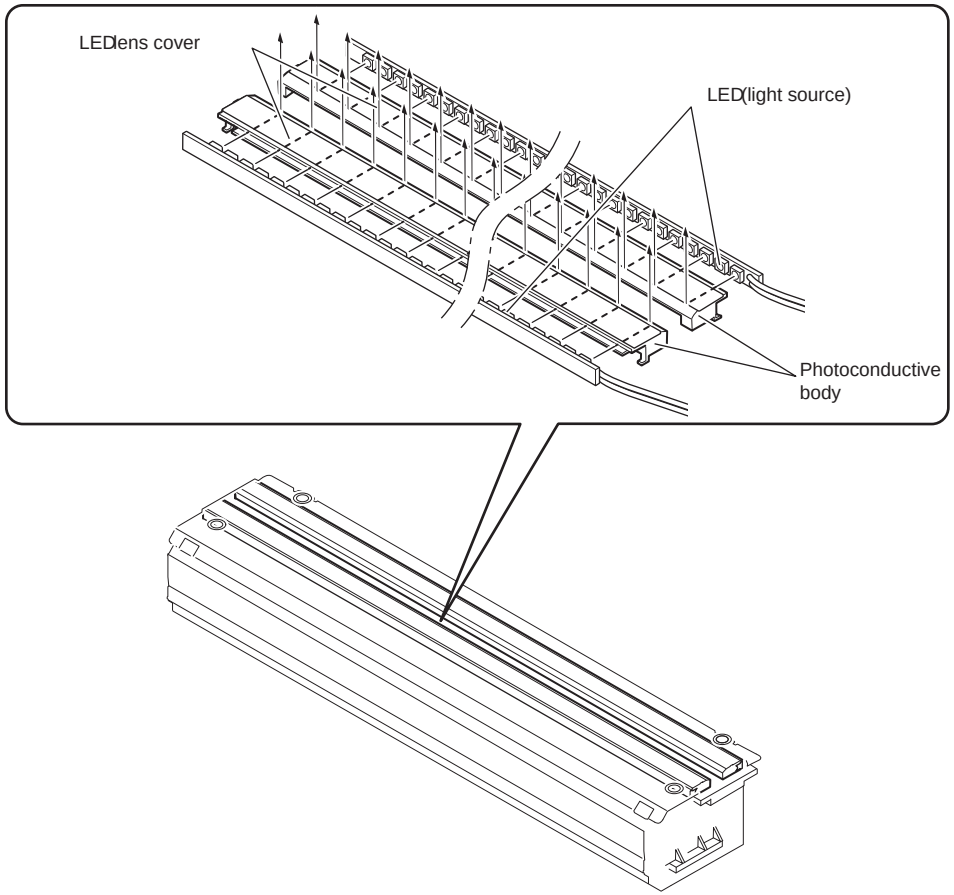
CCD features 4 lines (R, G, B, B/W) and B/W line is used in B/W copy and R, G, B lines are used at color scan.

CCD overview

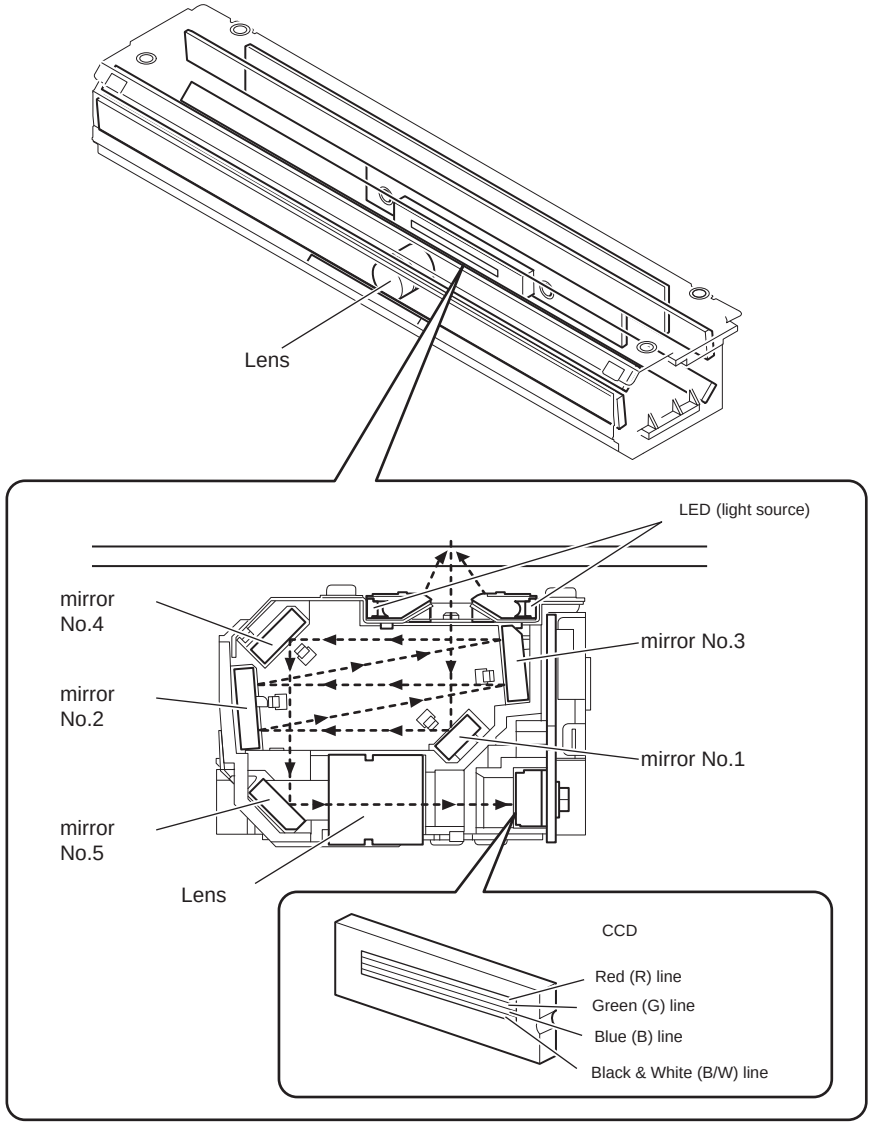
1. Integrated scanning configuration; CCD, lens, light source and mirror are integrated.
2. CCD elemental size: 4.7 mm
3. Lens diameter: 18mm dia
4. Light source: LED
5. Effective number of pixel: 7500 pix x 3 color lines, 7500 pix x 1 B/W line

[Optical path from LED]

The light generated from LED is reflected by an original and by the 5 mirrors. And then it is irradiated to the CCD through the lens.



F-2-12



F-2-13

Items	Description
CCD	Receives the reflected light that has gone through the lens and converts it into electric signal to output it.
Lens	Collects the light reflected by an original.
LED(light source)	Light source to expose an original to laser
mirror No. 1 - 5	Return the light

T-2-4

Enlargement/Reduction

Magnifications in Main Scanning Direction

In book mode/ADF mode

An image is read at 100% in main scanning direction. Magnification variation and its data process are controlled on main controller PCB.

Magnification in Sub Scanning Direction

To vary the magnification of sub scanning direction, the machine operates as below depending on the original reading methods and the magnifications.

1) Magnifications in book mode

To suite the selected rate of magnification, the machine changes the speed of original reading and executes data processing on main controller PCB.

e.g.) Reduction to 25%: an original is read at 249.5mm/s, and the data is processed for 25% reduction (skipping for 4/1) by the main controller PCB.

e.g.) at 100%: an original is read at 249.5mm/s.

Operation	Magnifications		
	25% to 50%	50.1% to 199.9%	200% to 400%
Speed change of original reading (mm/sec)	249.5	249.5	124.7
Digital magnification process (%) on the main controller PCB	25 to 50	50.1 to 199.9	100 to 200

T-2-5

2) Magnifications in ADF mode

To suite the selected rate of magnification, the machine changes the speed of original reading and executes data processing on main controller PCB.

e.g.) Reduction to 25%: an original is read at 249.5mm/s and the data is processed for 25% reduction (skipping 4/1) by the main controller PCB.

e.g.) Enlargement to 200%: an original is read at 124.7mm/s and the data is processed for 100% direct reproduction by main controller PCB.

Operation	Magnifications		
	25% to 50%	50.1% to 199.9%	200% to 400%
Speed change of original reading (mm/sec)	249.5	249.5	124.7
Digital magnification process (%) on the main controller PCB	25 to 50	50.1 to 199.9	100 to 200

T-2-6

Detecting the Size of Originals

Overview

The machine identifies the original size by the combination of measurement result of reflection light from the reflection sensor and specific points of CCD. Also to identify it accurately even though an original moves when ADF is closed, the machine measures 2 points for each size.

- Main scanning direction: CCD (AB type: 8 points measurement, inch type: 6 points measurement)
- Sub scanning direction: Reflection type photo sensor (AB type: 1 point, inch type: 1 point (original sensor 2 is not used.))

The followings are the procedures of original size identification.

1) External light search (main scanning direction only)

According to the LED status, the machine identifies the CCD level of each detection position in main scanning direction.

2) Output level detection of each sensor

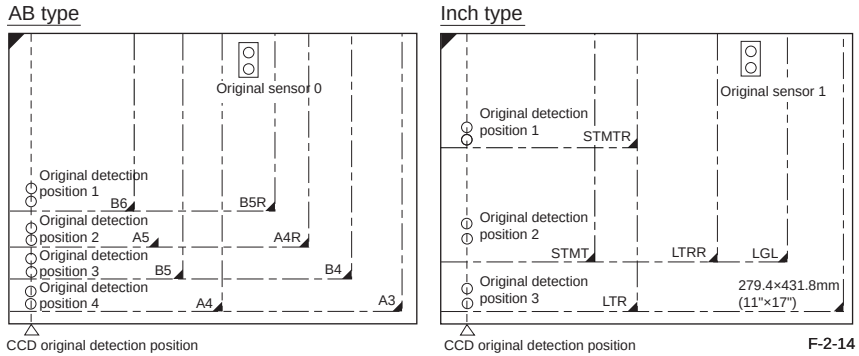
The machine turns on the LED on CCD unit and measures the CCD level of each detection position in main scanning direction.

Also, turns on the LED on reflection type photo sensor in sub scanning direction and measures the sensor output.

The original size is identified by the combination of these output result.

Control Details

For main scanning direction, the machine moves the CCD unit to the following CCD original detection positions according to the location of original to measure the CCD level of each detection position. For sub scanning direction, the machine uses the original sensor 0, 1 to identify sizes.



F-2-14

1. 2 points original detection at each detection position

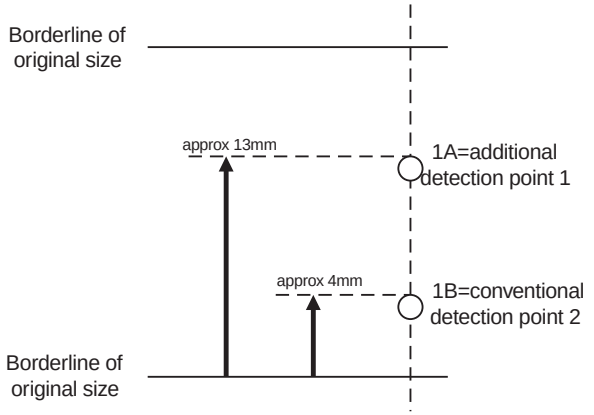
For each point of measurement in main scanning direction, the machine checks the presence/absence of an original with reference to the CCD output at 2 points near the point of measurement.

* The machine checks if the signal is changed or not from ADF (pressure plate) open to close at both points of 1A and 1B.

Change in the signal: Yes

Change in the signal: No

Judgment is done by the measurement results of 1A and 1B, and it indicates the presence of original if either point shows absence (absence). It indicates absence of original if both signals show Yes (presence).



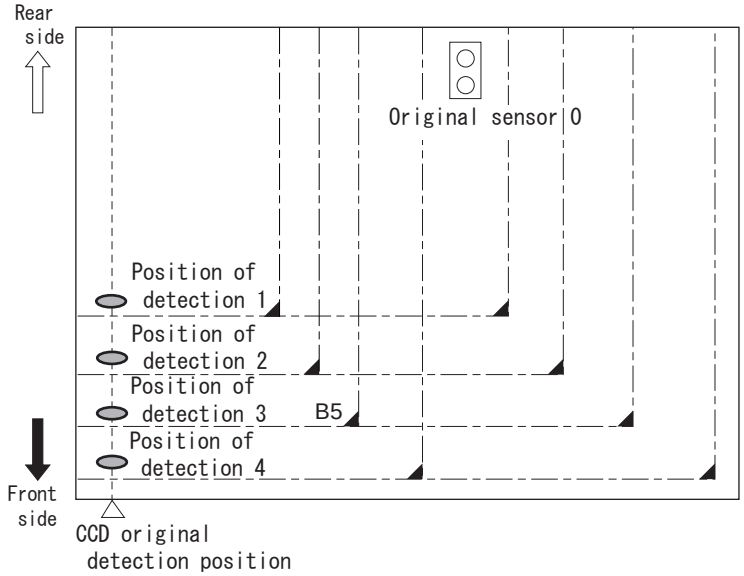
F-2-15

Change		Result of detection
1A	1B	
Yes	Yes	Original absence
No	Yes	Original presence
Yes	No	Original presence
No	No	Original presence

T-2-7

2. Priority on the front sensor

When checking the measurements for main scanning direction, if the absence of an original is indicated at the rear while the presence of an original is indicated at the front, the machine will give priority to the indication at the front.



F-2-16

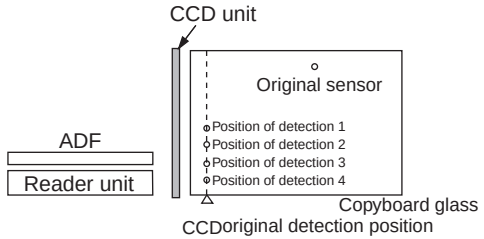
In case of B5 size original

Position of detection	Result of detection	Result of identification
1	Yes	Yes
2	No	Yes
3	Yes	Yes
4	No	No

T-2-8

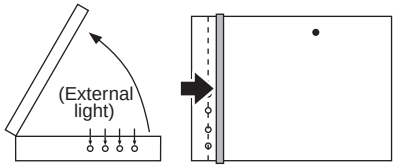
Detection Operation Overview

1) Standby state (The following is in case that the AB type, A4R size is set.)
CCD unit: shading position
LED: OFF
Original sensor: OFF



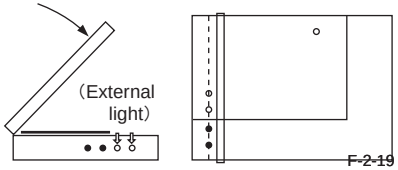
F-2-17

2) ADF opened
CCD unit: moves to original detection position
LED: OFF
Original sensor: OFF

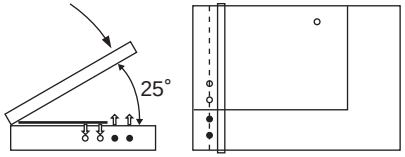


F-2-18

3) ADF closed
CCD unit: in original detection position
LED: OFF to ON
Original sensor: in original detection operation
- With the ADF angle at 25 deg or less, the external light is blocked at the original width area. Then, the machine determines that the original is absent at the points that the external light is detected (external light search operation). When the original mount sensor (rear) detects [close], original size detection is started. In this case, B5/B4/A4/A3 size is eliminated at this point.
- After external light search, LED is turned ON at main scanning side and the CCD checks the reflection light (4 points). For sub scanning direction, original sensor detects the size.

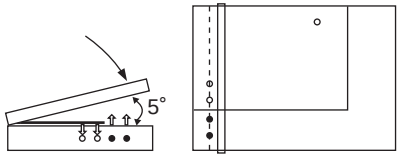


F-2-19



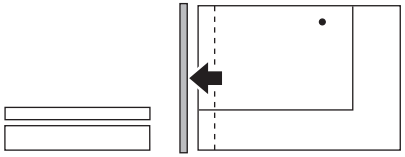
F-2-20

4) ADF fully closed (5 deg or less)
CCD unit: in original detection position
LED: ON
Original sensor: in original detection operation
- For 2 sec from the original mount sensor (front) detected [close], this monitors the changes of output level of each sensor. The machine determines that the original is present in the position where the level is not changed.
The machine identifies the original size by the combination of level changes at 5 points (in case of AB type size).



F-2-21

5) Standby status (waiting for start key)
CCD unit: in original detection position
LED: OFF
Original sensor: OFF



F-2-22

ABtype

Original size	CCD detection position 1 A	1 B	2 A	2 B	3 A	3 B	4 A	4 B	Original sensor 0
A3	○	○	○	○	○	○	○	○	○ ○
B4	○	○	○	○	○	○	●	●	○ ○
A4R	○	○	○	○	●	●	●	●	○ ○
A4	○	○	○	○	○	○	○	○	● ●
B5	○	○	○	○	○	○	●	●	● ●
B5R	○	○	●	●	●	●	●	●	○ ○
A5	○	○	○	○	●	●	●	●	● ●
B6	○	○	●	●	●	●	●	●	● ●
Absent	●	●	●	●	●	●	●	●	● ●

Inch type

Original size	CCD detection position 1 A	1 B	2 A	2 B	3 A	3 B	Original sensor 1
11"×17"	○	○	○	○	○	○	○ ○
LGL	○	○	○	○	●	●	○ ○
LTRR	○	○	○	○	●	●	● ●
LTR	○	○	○	○	○	○	● ●
STMTR	○	○	●	●	●	●	● ●
STMT	○	○	○	○	●	●	● ●
Absent	●	●	●	●	●	●	● ●

○: No change ●: Changed

F-2-23

Dirt Sensor Control

Overview

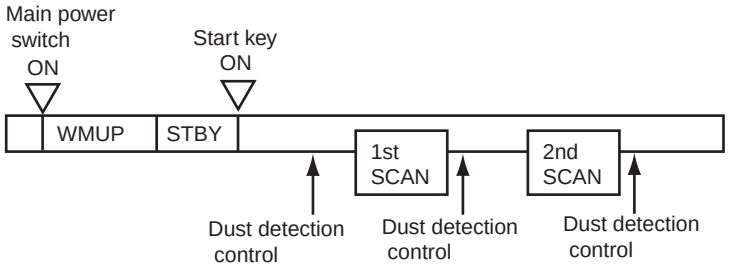
The machine changes the original read point or executes image correction depending on the presence/absence of dust on the stream reading glass or the platen roller of the ADF to prevent the dust from showing up in the output. These operations are carried out only when the ADF is in use and, in addition, is closed.

[Control timing]

- At the end of a job
- Between sheets (for each reading of a sheet)
- At the start of a job (only when any of the following conditions is true.)

Dust detected at all points of detection at the end of the previous job

Dust detection failed to end normally at the end of the previous job (e.g., ADF opened)



F-2-24

[Particulars of control]

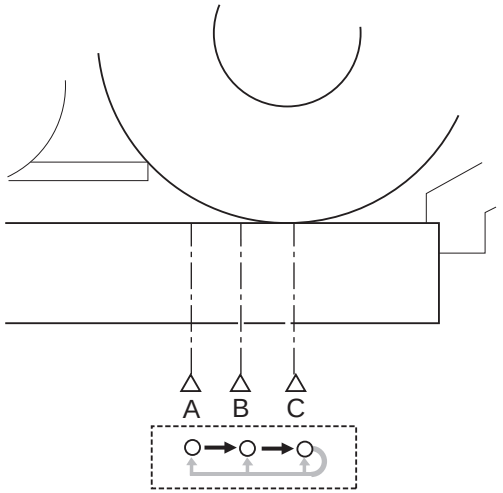
- At the end of a job (dust detection)

CCD checks the light reflected by the surface of the platen roller of the ADF at the read point to detect the presence/absence of dust. Presence of dust is detected at points A, B, and C in this order. The point where least dust is detected will be used as the read position for the next job.

The point selected here will be used as the read position for the next job.

- At the start of a job (dust bypass)

Presence of dust is detected at points A, B, and C in this order in the same manner as at the end of the job. Read will take place at the point where least dust is detected.

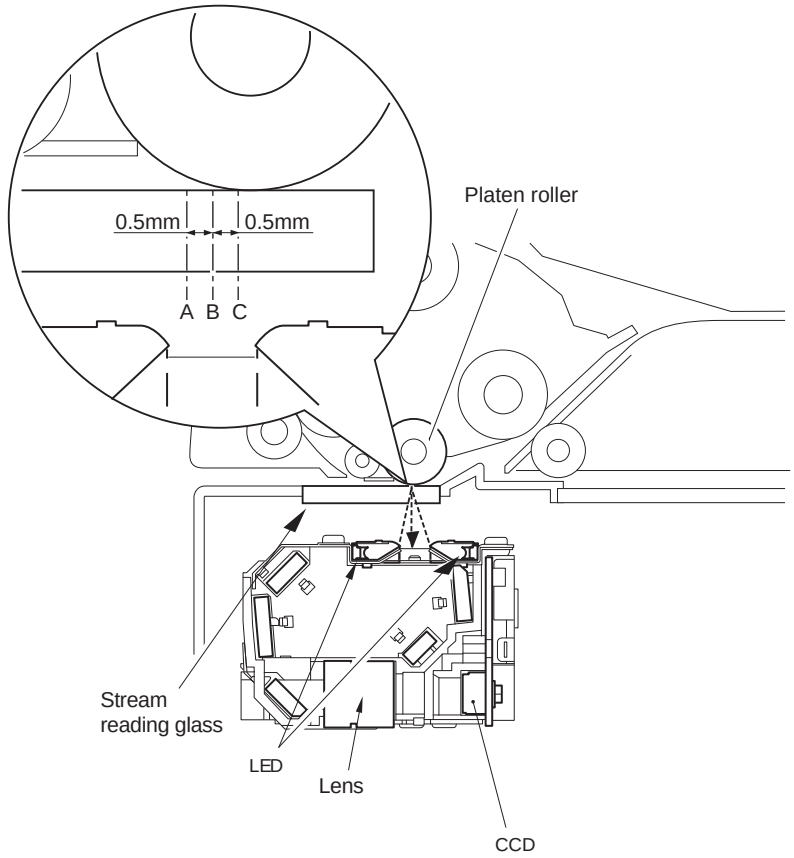


F-2-25

- Between sheets

The machine does not move CCD.

It reads the original using the position determined at the end or start of a job; however, if the presence of dust is still detected at the position, the machine will execute image correction.



F-2-26

Service Mode
(Lv1) COPIER > OPTION > IMG-RDR > DFDST-L1
(used to adjust the dust detection level between sheets)
(Lv1) COPIER > OPTION > IMG-RDR > DFDST-L2
(used to adjust the dust detection level at the end of a job)

Image Processing

Overview

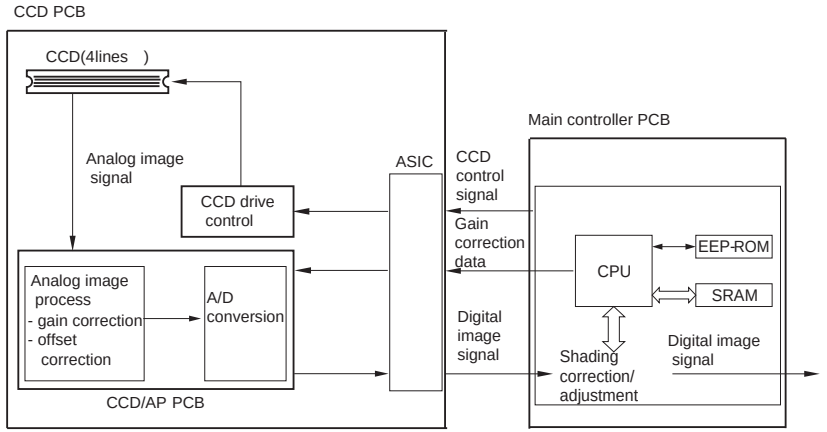
The functions of image processing system's PCB are described below.

- Main controller PCB	CCD drive, analog image process, A/D conversion, shading correction (executed per each job), shading adjustment (executed at power-on)
- CCD PCB	Analog image process, A/D conversion

The machine uses the main controller PCB to process images for every single image line.
Specific functions are as follows.

a. Main controller PCB
- Shading correction

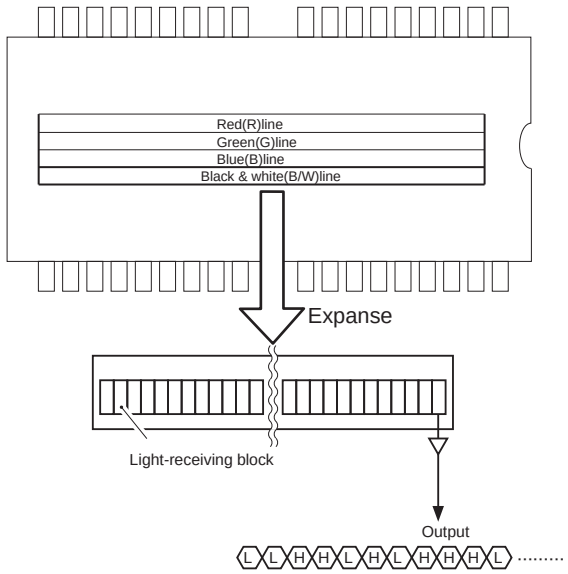
b. CCD PCB (inside CCD unit)
- CCD drive
- CCD output gain correction, offset correction



F-2-27

CCD Drive

The machine's CCD sensor is a 4-line linear image sensor consisting of 7500 pixels. After completion of photoelectric conversion in the light-receiving block, the signals are output to the analog front end PCB unit on CCD PCB in parallel for each channel (R, G, B, B/W) of the CCD array.



F-2-28

Gain Correction and Offset Correction of CCD Output

The analog video signal generated by the CCD is corrected so that it will have a specific level (gain correction); moreover, the output voltage occurring in the absence of incident light is also corrected so that it will have a specific level (offset correction).

A/D Conversion of CCD Output

The corrected analog video signal is converted into a digital signal that is suited to the voltage level of individual pixels by the A/D converter.

Shading Correction (Overview)

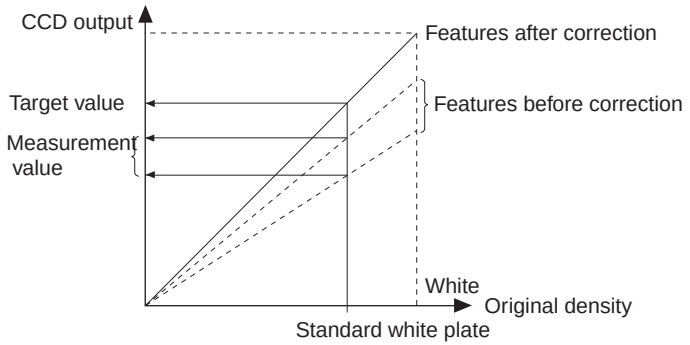
The output of the CCD is not necessarily even for the following factors even when the density of the original is uniform:

1) Variation in the sensitivity of the CCD among pixels
2) Variation in the intensity of the rod lens array
3) Variation in the intensity of light that goes through the center and surroundings of lens
4) Variation in the intensity of light at the center and surroundings of LED
5) LED deterioration

The machine executes shading correction to even out the output of the CCD.
Shading correction may be the shading correction executed for each job.

Shading Correction

The machine executes the shading correction for every scan made.
In this correction, the analog image process unit on CCD PCB digitalizes the LED light reflected by the standard white board. After the reflected light is digitalized, it is held in the shading correction circuit on main controller PCB as a shading coefficient.
Shading correction circuit compares the stored target value with the shading coefficient. The difference between the two will be held as the shading correction value for use in correcting variation among CCD pixels when scanning the original, thus evening out the density levels of the image.



F-2-29

Service Operations

Action to take when replacing parts

Part name	Action	Reference
CCD unit	• The values input of service data list (Service mode) • Platen board cover white level automatic adjustment • ADF white level adjustment (This action is applicable only when the DFDA is installed in the host machine.) • The values input of the label affixed to the CCD unit	Refer to page 4-29
Copyboard glass	• White plate data adjustment • Platen board cover white level automatic adjustment • ADF white level adjustment (This action is applicable only when the DFDA is installed in the host machine.)	Refer to page 4-32
Stream reading glass	• Platen board cover white level automatic adjustment • ADF white level adjustment	Refer to page 4-33

T-2-9

Consumables

None.

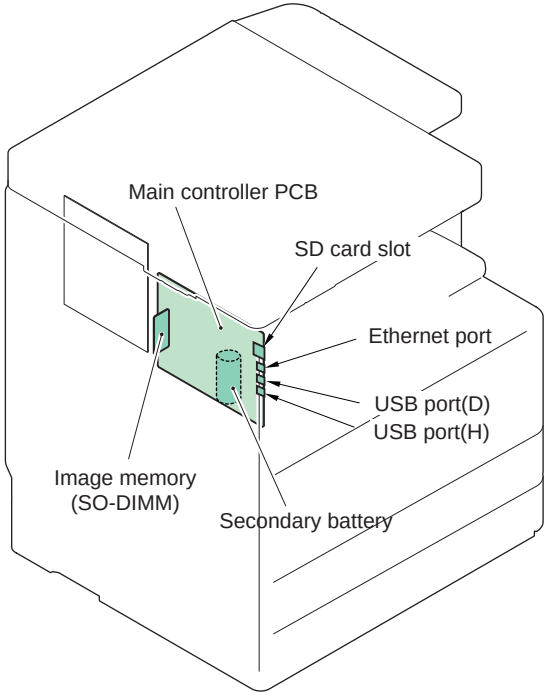
Service precautions

None.

Controller System

Overview

Functional Configuration

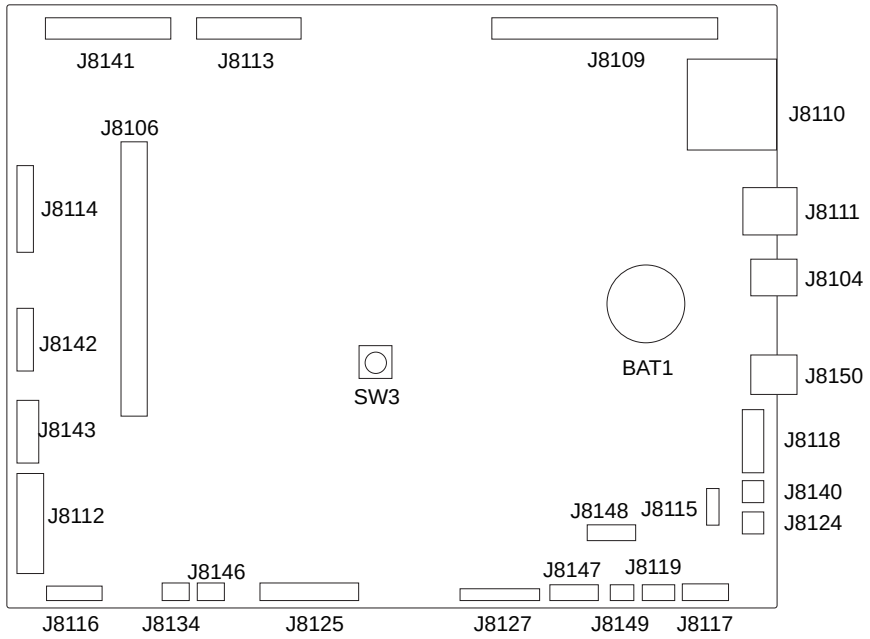


F-2-30

Item		Details
Main controller PCB		System control/memory control/printer unit output image processing control, reader unit input image processing, card reader interface, image processing for FAX, USB extension hub interface
	Image memory (SO-DIMM)	Temporary saving of image data. Capacity: 256MB (maximum 512 MB)
	Flash ROM	Stores system software. Boot ROM: 16 MB Program ROM: 128 MB
	SRAM	Stores user data / service data information
	USB port	USB2.0 device I/F, USB2.0 host I/F
	Ethernet port	Ethernet I/F
	SD card slot	SD I/F
Secondary battery		Installed only in the machine supporting the FAX or the SEND function. Secondary battery used for image backup in case of power failure (It lasts one hour when charged for two hours.)

T-2-10

Main controller PCB



F-2-31

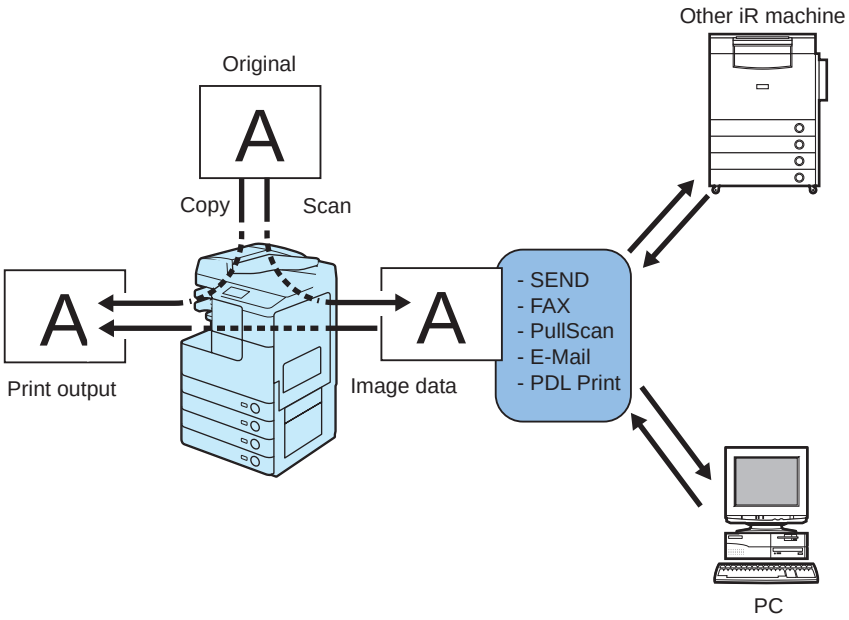
Connector No.	Function
J8104	USB port (device)
J8106	SO-DIMM slot
J8109	ROM board slot (for market-related measures)
J8110	SD card connector
J8111	LAN connector
J8112	DC controller PCB connector
J8113	Reader unit connector
J8114	Control panel connector
J8115	SOFT counter board connector
J8116	SOFT ID board connector
J8117	Control card connector
J8118	Serial interface connector
J8119	Card reader connector
J8124	Secondary battery unit connector
J8125	Power supply connector
J8127	NCU board connector
J8134	Pseudo CI connector

Connector No.	Function
J8140	Serial interface connector
J8141	Reader unit connector
J8142	Laser scanner unit connector
J8143	Laser scanner unit connector
J8146	Pseudo CI connector
J8147	NCU board connector
J8148	Modem board connector
J8149	Speaker connector
J8150	USB (Host) connector USB hub kit connection
BAT1	Lithium battery for RTC Life: About 10 years
SW3	Used to turn off the power when replacing the SO-DIMM.

T-2-11

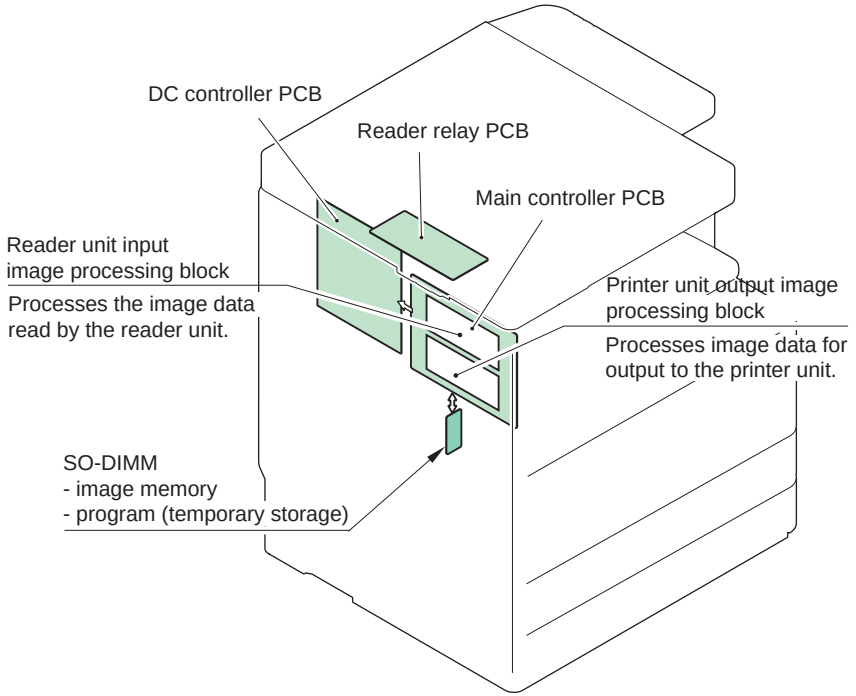
Controls

Flow of Image Data



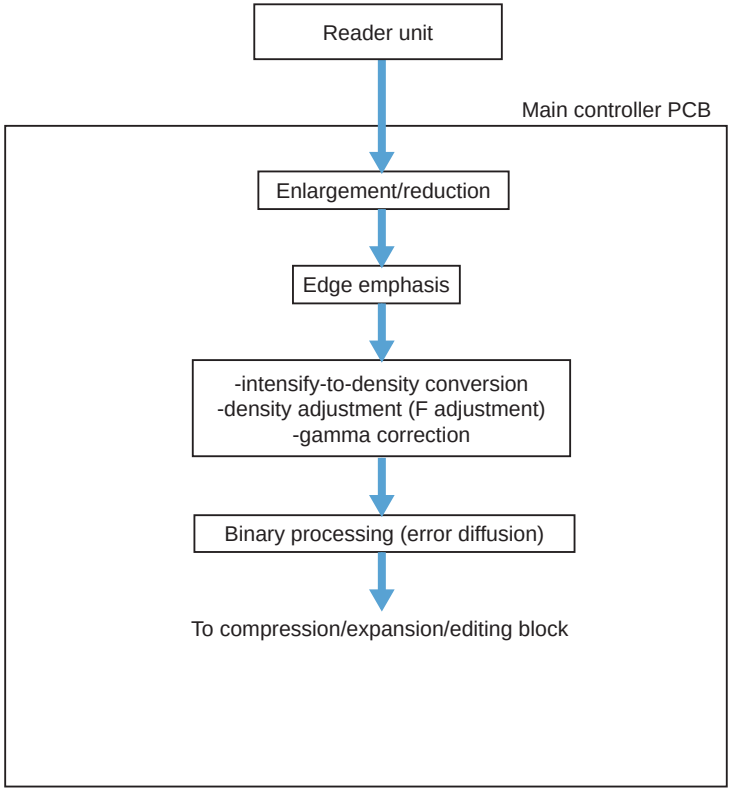
F-2-32

Construction of the Image Processing Module



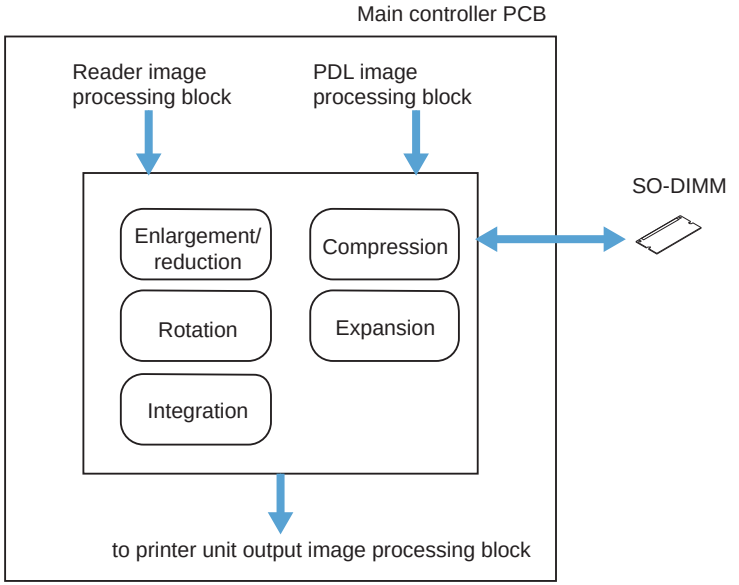
F-2-33

Reader Unit Input Image Processing



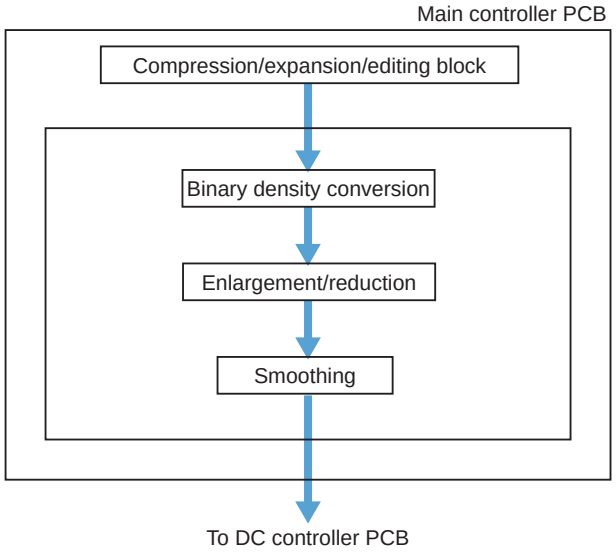
F-2-34

Compressio/ Extesion/ Editing Block



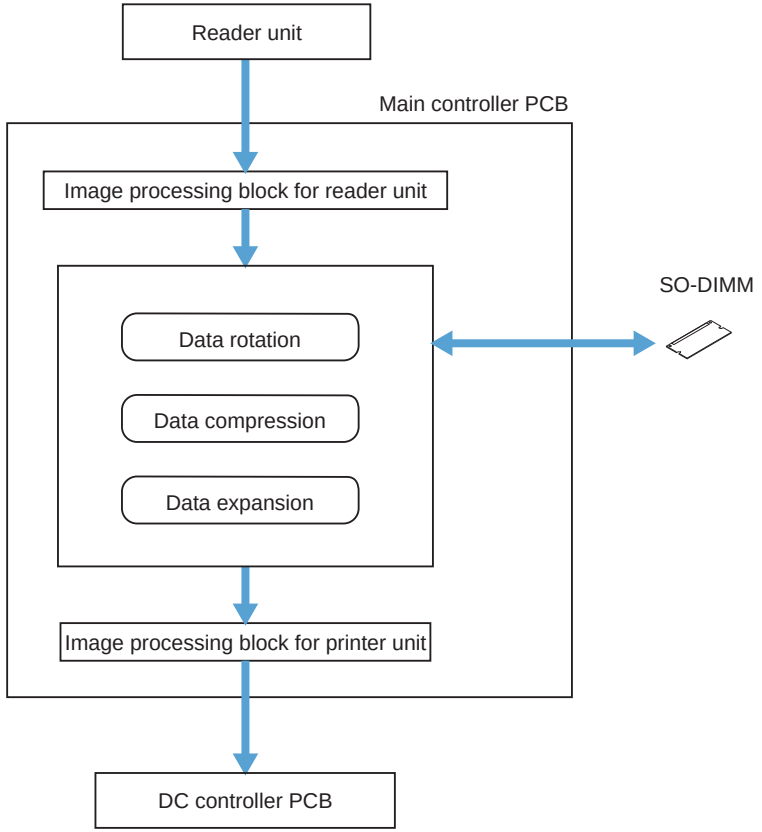
F-2-35

Printer unit Output Image Processing



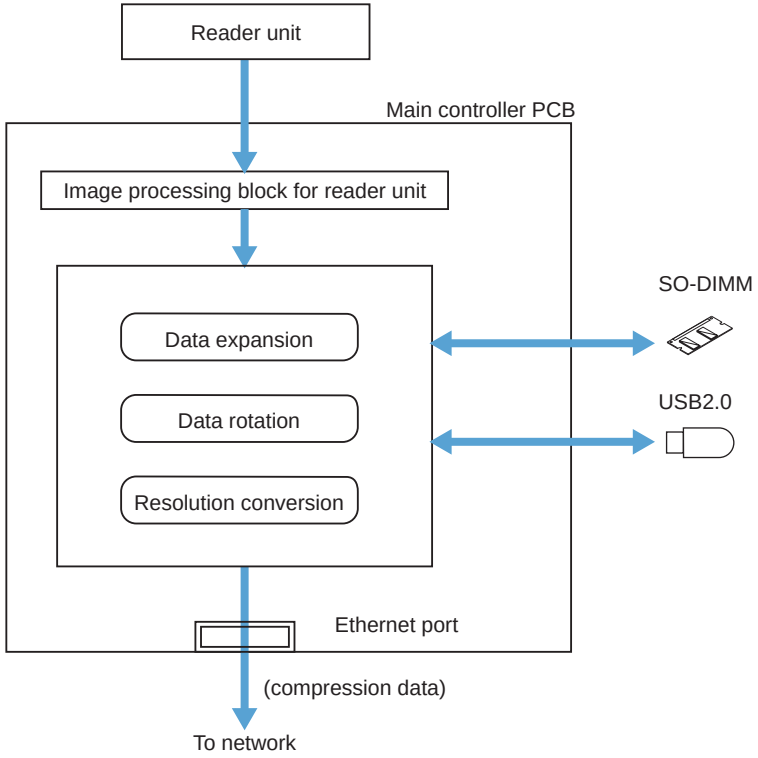
F-2-36

Flow of Image Data According to Copy Functions



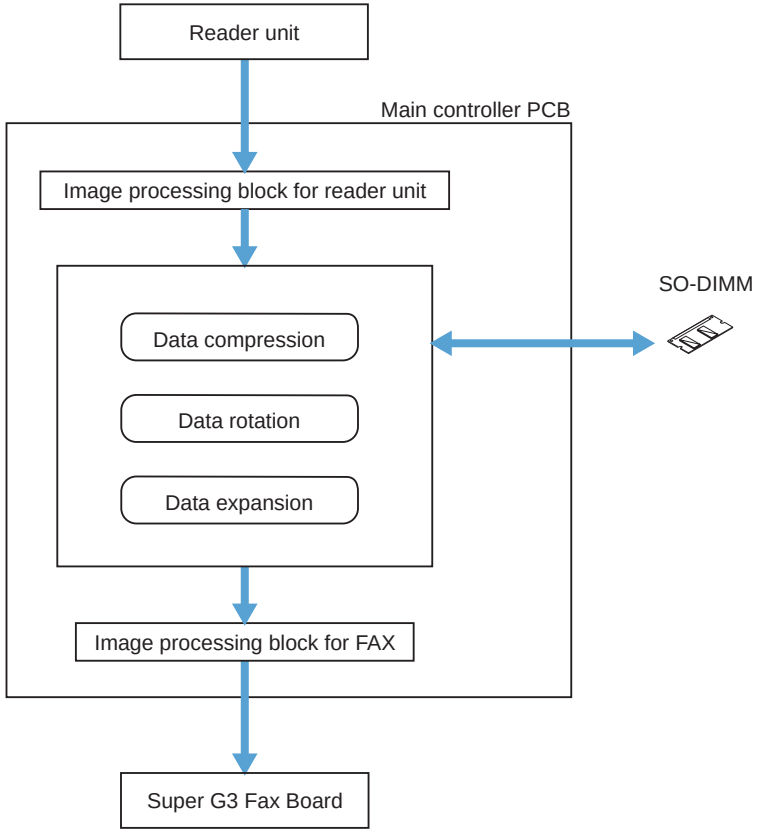
F-2-37

Flow of Image Data for the SEND Function



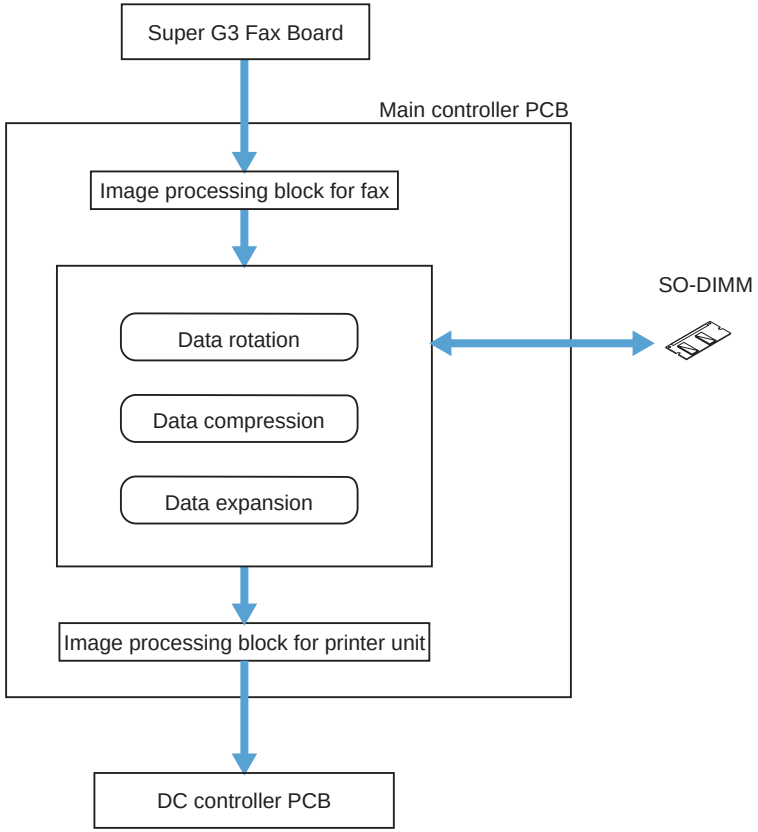
F-2-38

Flow of Image Data for the Fax Transmission



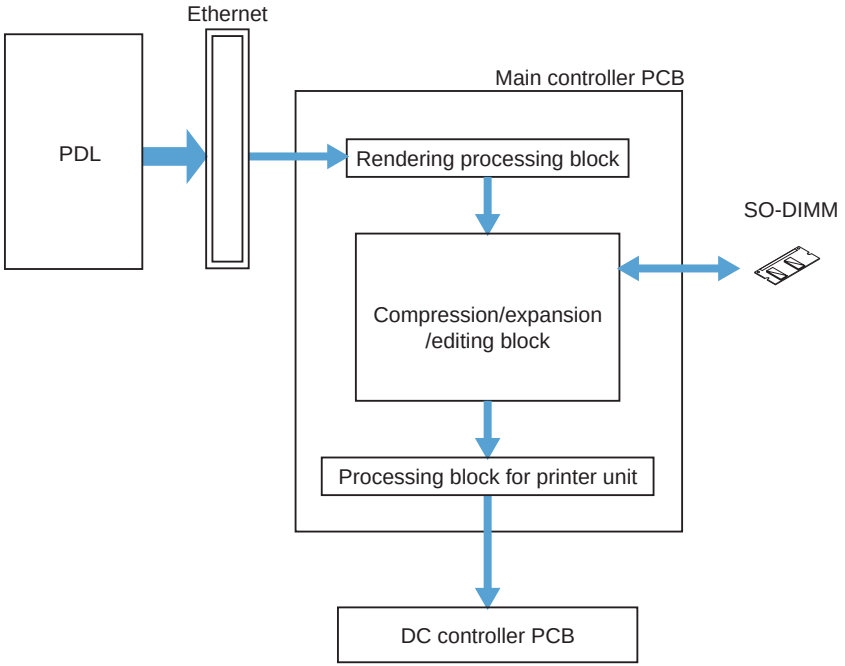
F-2-39

Flow of Image Data for the Fax Reception Function



F-2-40

Flow of Image Data for the PDL Function



F-2-41

Software counter

The timing at which the count is incremented differs depending on the following:
- Printing mode (single-sided/double sided (2nd side) or double sided (1st side))
- Target of delivery (inner finisher)

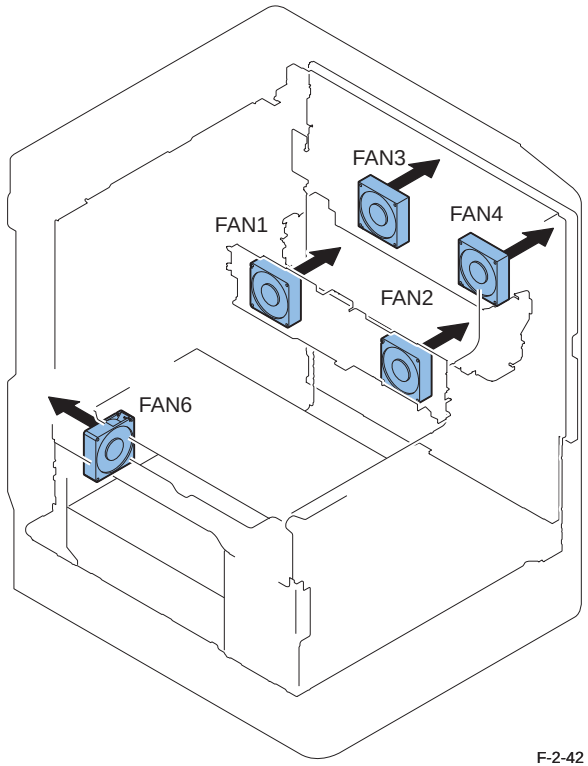
Target of delivery		Print mode	
		Single-sided/Double-sided (2nd side)	Double-sided (1st side)
		Count-up timing	
Host machine	1st delivery tray	No.1 delivery sensor (S12)	Duplex feed sensor (S7)
	2nd delivery tray	No. 2 delivery sensor (S42)	
Inner finisher		Inner finisher inlet sensor (S1)	

T-2-12

Fan

Overview

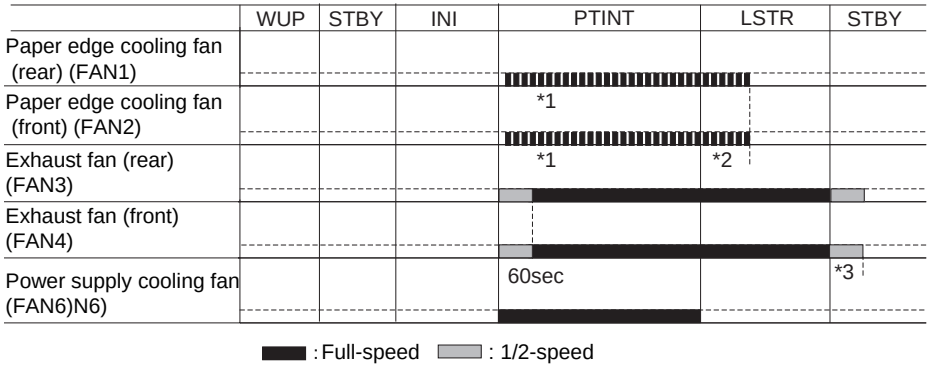
Fan layout



F-2-42

No.	Name	Function	Error code
FAN1	Paper edge cooling fan (rear)	Blows air to both ends of the fixing film to cool the sections where paper is not fed when paper narrower than the A4 width (297 mm) is fed.	E806-0001 E805-0002
FAN2	Paper edge cooling fan (front)		E806-0003 E805-0004
FAN3	Exhaust fan (rear)	Cools the fixing unit.	E805-0000 E805-0001
FAN4	Exhaust fan (front)	Cools the fixing unit.	E805-0002 E805-0003
FAN6	Power supply cooling fan	Cools the power supply.	E804-0000 E804-0001

T-2-13



F-2-43

*1:The fan intermittently operates every second.
*2:When the width of the last paper is narrower than the A4 size (297 mm), the fans operate when the difference in temperature between sub thermistors TH1 and TH2 becomes 20 degree or less. When the width of the last paper is wider than the A4 size (297 mm), the fans operate for 10 seconds after completion of printing.
*3:The fan operates at 1/2 speed only when the machine enters the standby mode after running for more than 8 minutes for fixing.

Paper edge cooling fan (rear)/(front) control

Purpose

These fans are used to prevent the sections where paper is not fed from heating excessively when narrow paper (narrower than the A4 size (297 mm)) is fed.
They cool the paper passed through the fixing unit, preventing it from sticking to the surrounding parts during delivery.

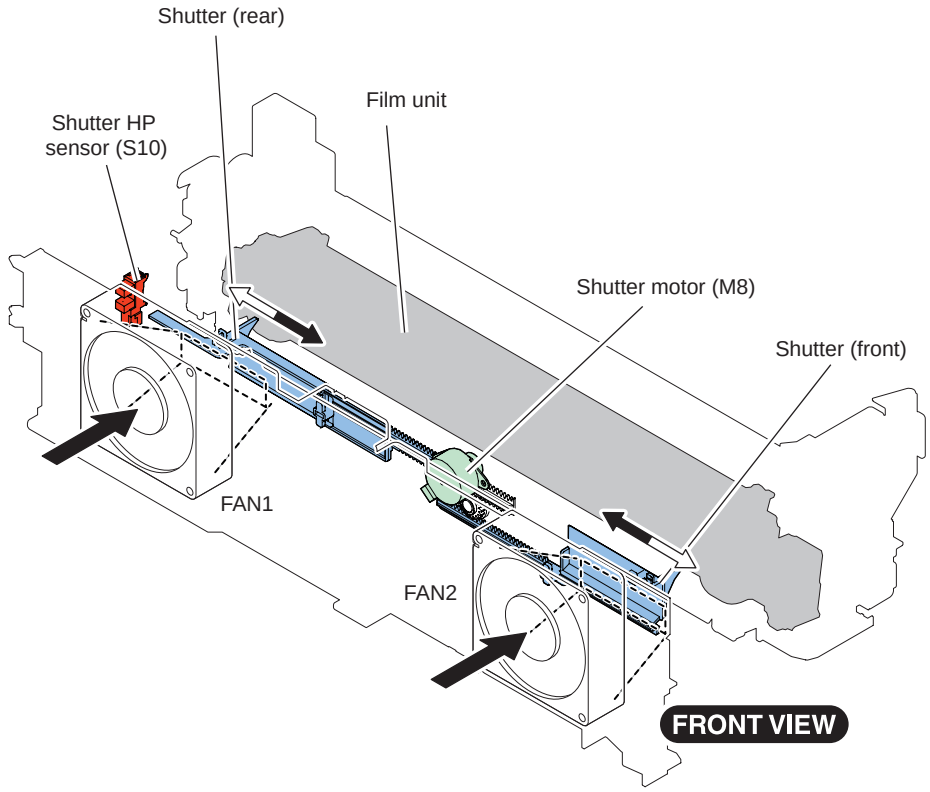
Overview

When paper narrower than the A4 width (297 mm) is fed, the air outlet of the paper edge cooling fan (rear)/(front) opens to blow air to both ends of the fixing film, thus cooling the sections where paper is not fed.

When paper wider than the A4 width (297 mm) is fed, the air outlet of the paper edge cooling fan (rear)/(front) closes to cool the paper that has passed through the fixing unit.

Control sequence

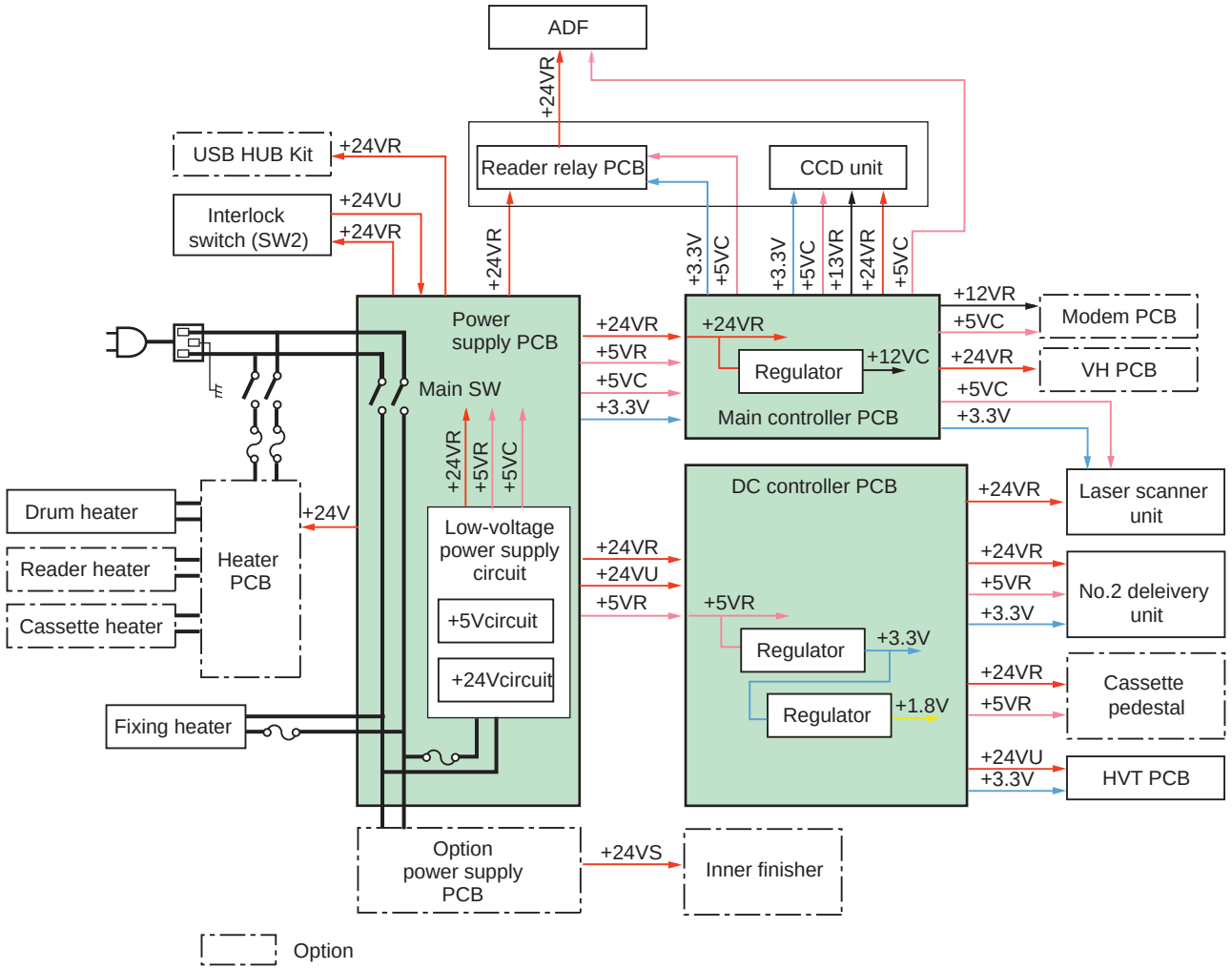
1) The shutter motor (M8) is driven and the home position of the edge cooling shutter is detected with the shutter HP sensor (S10).
2) The opening width of the edge cooling shutter is determined according to the paper size.
3) After completion of adjustment of the paper feed temperature for the first sheet, the paper edge cooling fans (rear)/(front)(FAN1/FAN2) start operating intermittently every second.
   * The opening width of the shutter is changed, the rotational speed is increased to the full speed, or the fans are stopped according to the difference in temperature between sub thermistors TH1 and TH2.
4) When the width of the last paper is narrower than the A4 size (297 mm), the fans stop when the difference in temperature between sub thermistors TH1 and TH2 becomes 20 degree or more.
   When the width of the last paper is wider than the A4 size (297 mm), the fans stop after operating for 10 seconds after completion of printing.



F-2-44

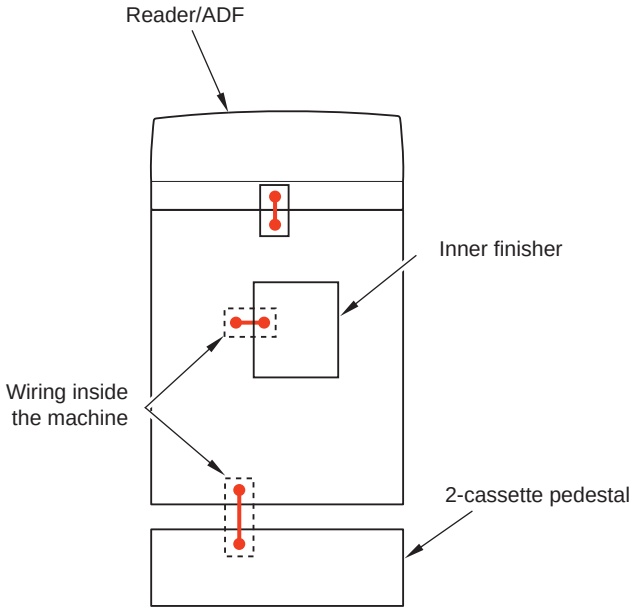
Power supply

Internal power supply



F-2-45

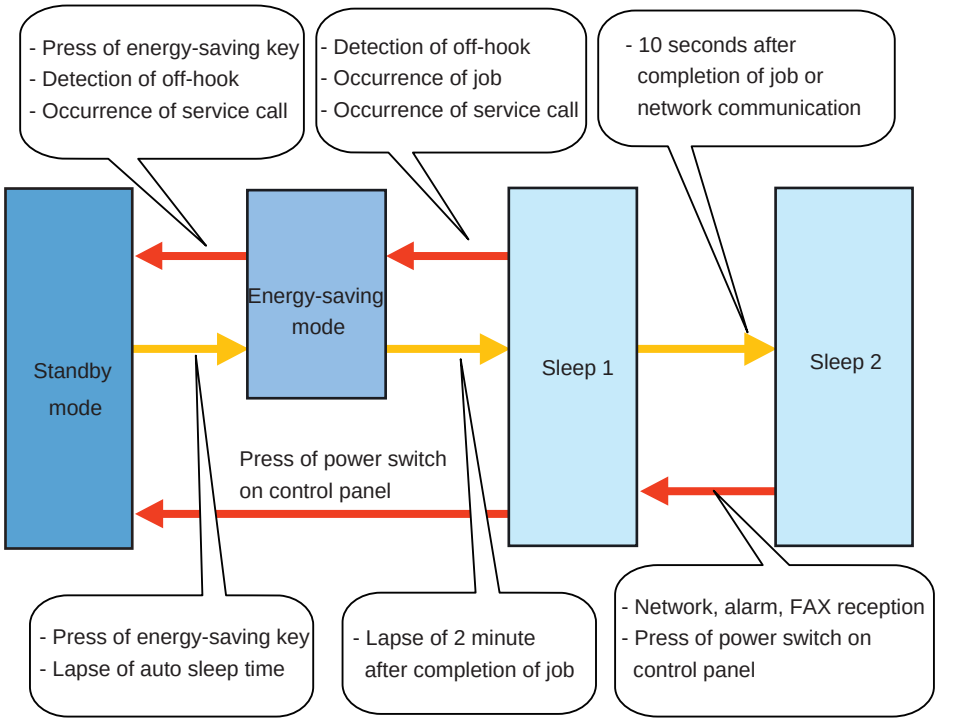
Connection to Options



F-2-46

The inner finisher is connected to the 2-cassette pedestal with the connectors inside the covers.
It is connected to the ADF with a cable outside the machine.

Energy-saving Function



F-2-47

Standby mode

The machine is operating or ready to start operating with all power supplies provided.

Energy-saving mode

Only the LCD backlight for the control panel is turned off. The machine enters this mode when auto sleep timer is activated in the user mode or the energy-saving key is pressed.

Sleep 1

The controller is powered but the engine is not powered.

Sleep 2

The controller is not powered.
The sleep 2 mode is transitioned to the sleep 1 mode when the following event occurs:
- Start of print job
- Press of power switch on control panel
- FAX reception

● Heater operating condition

		Cassette heater	Reader heater	Drum heater
Turning on the environment heater switch	Standby mode	ON	OFF	ON
	Printing	ON	OFF	OFF
	Turning off the main power switch	ON	ON	ON
	Sleep mode	ON	ON	ON

T-2-14

Service Operations

■ Action to take when replacing parts

Part name	Action	Reference
Secondary battery SO-DIMM	The secondary battery is powered even after the main power switch is turned off. 1) Press the SW3 on the main controller. 2) The LED10 on the main controller goes out. 3) Now, you can replace parts.	(p. 4-42.)
Main controller PCB	Print the set/loaded data. Install the parts (removed from the old PCB) on the new PCB. Set/load data again.	(p. 4-41.)

T-2-15

■ Consumables

None.

■ Service precautions

None.

Laser Exposure System

Construction

Specifications/Controls/Functions

Laser light

The number of laser light	4
Output	10mW
Wave length	775nm to 899nm (Infrared laser)

T-2-16

Scanner motor

Motor type	DC brushless motor
The number of rotation	Approx 27000 rpm/16000 rpm (2-speed control)
Type of bearing	Oil

T-2-17

Polygon mirror

The number of facet	6 (40)

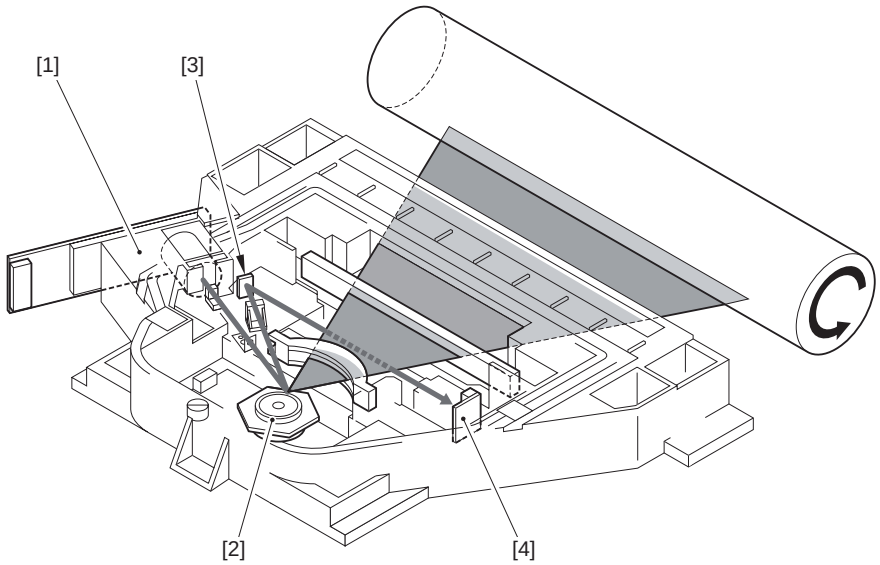
T-2-18

Controls

Synchronous control	Main scanning direction synchronous control
Laser intensity control	APC control
Others	Laser ON/OFF control
	Laser scanner motor control
	Laser shutter control

T-2-19

Main Configuration Parts



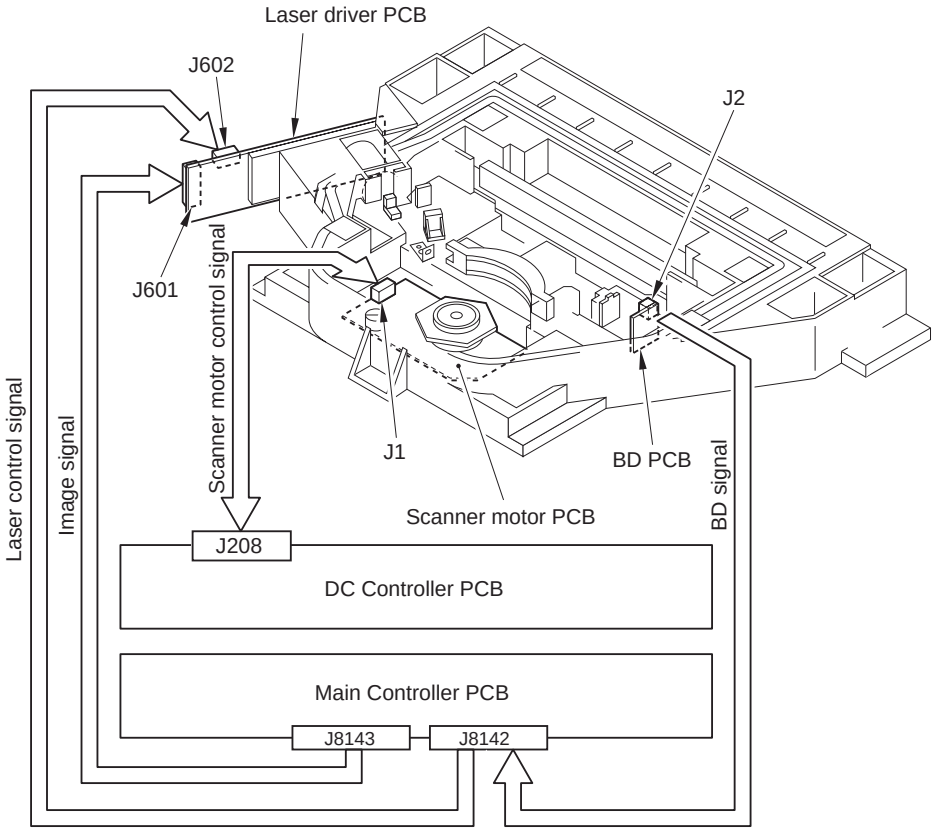
F-2-48

Name	Function
[1] Laser Unit	Emits laser
[2] Polygon mirror	Scans the laser light in the main scanning direction
[3] BD mirror	Reflects the laser light in the BD PCB direction
[4] BD PCB	Generates the BD signa

T-2-20

Control System Configuration

Controls for the laser exposure system are mainly performed by the DC controller PCB and image PCB.



F-2-49

Signal name	Function
Image signal	
DATA C+	C laser image data signal entry
DATA C-	C laser image data signal entry
DATA B-	B laser image data signal entry
DATA B+	B laser image data signal entry
DATA A-	A laser image data signal entry
DATA A+	A laser image data signal entry
DATA D+	D laser image data signal entry
DATA D-	D laser image data signal entry
Laser control signal	
CTRL0-0	A/B laser control signal
CTRL0-1	A/B laser control signal
CTRL0-2	A/B laser control signal
CTRL1-0	C/D laser control signal
CTRL1-1	C/D laser control signal
CTRL1-2	C/D laser control signal
Scanner motor control signal	
POLYGON_M_FG*	FG output signal
POLYGON_M_ACC*	Motor speed-up signal
POLYGON_M_DEC*	Motor speed-down signal
BD signal	
BD	BD signal

T-2-21

Basic Sequence

Basic Sequence

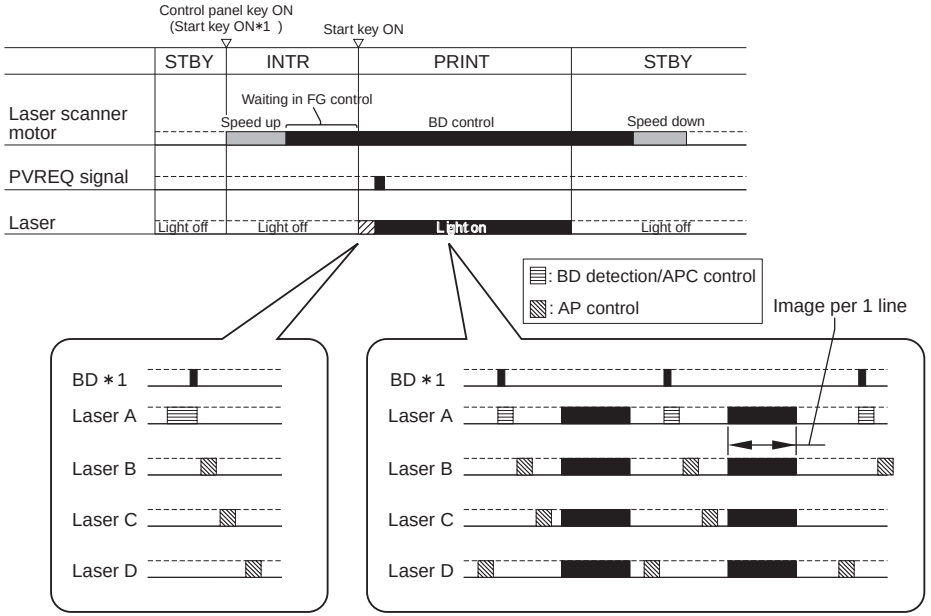
Basic Sequence

Initial rotation INTR):After the control panel key is ON, the machine starts the scanner motor and rotates the laser scanner motor until it reaches the number of target rotation while keepingall laser OFF. Once it reaches the target, the machine enters stand-by mode. (FG control)

If pressing the start key before the control panel key is ON*, standby time gets shorter after the scanner motor reaches the target.Print (PRINT)]

When copy start key is ON, the machine drives A laser. After BD PCB detects A laser, the machine performs the APC (laser intensity) control of each laser. Oncethe BD signal reaches the specified cycle, the machine is ready to print. Image data is output from the main controller based on the synchronous signal and laser isemitted corresponding to it.

<In the case of A4, 1 sheet>



*1: BD signal is generated based on A laser light. Only A laser light reaches BD sensor on BD PCB and B/C/D laser does not reach.

F-2-50

Various Controls

Controlling the Laser Activation Timing

Laser ON/OFF Control

Laser ON/OFF control is dependent on the combination of the laser control signal (A/B laser: CNT1-0/1-1/1-2, C/D laser: CNT0-0/0-1/0-2) from the image PCB.

<A laser/B laser>

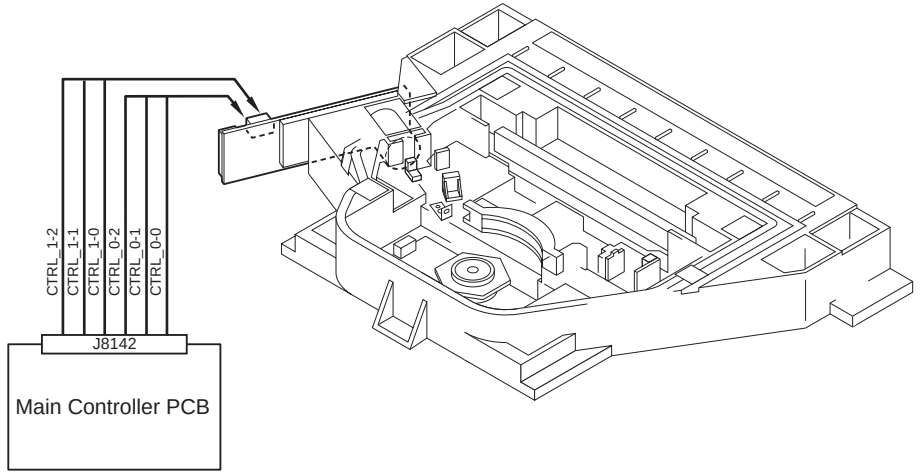
Laser control signal			Laser status	
CNT1-2	CNT1-1	CNT1-0	A Laser	B Laser
0	1	0	ON (For APC control)	OFF
0	1	1	OFF	OFF
0	0	1	OFF	ON (For APC control)
0	1	1	OFF	OFF
1	1	1	Video signal entry arrowed	Video signal entry arrowed
0	1	1	OFF	OFF
0	0	1	OFF	ON (For APC control)
0	1	1	OFF	OFF

T-2-22

<C laser/D laser>

Laser control signal			Laser status	
CNT1-2	CNT1-1	CNT1-0	C Laser	D Laser
0	0	1	ON (For APC control)	OFF
0	1	1	OFF	OFF
0	1	0	OFF	ON (For APC control)
0	1	1	OFF	OFF
1	1	1	Video signal entry arrowed	Video signal entry arrowed
0	1	1	OFF	OFF
0	0	1	OFF	ON (For APC control)
0	1	0	OFF	OFF

T-2-23



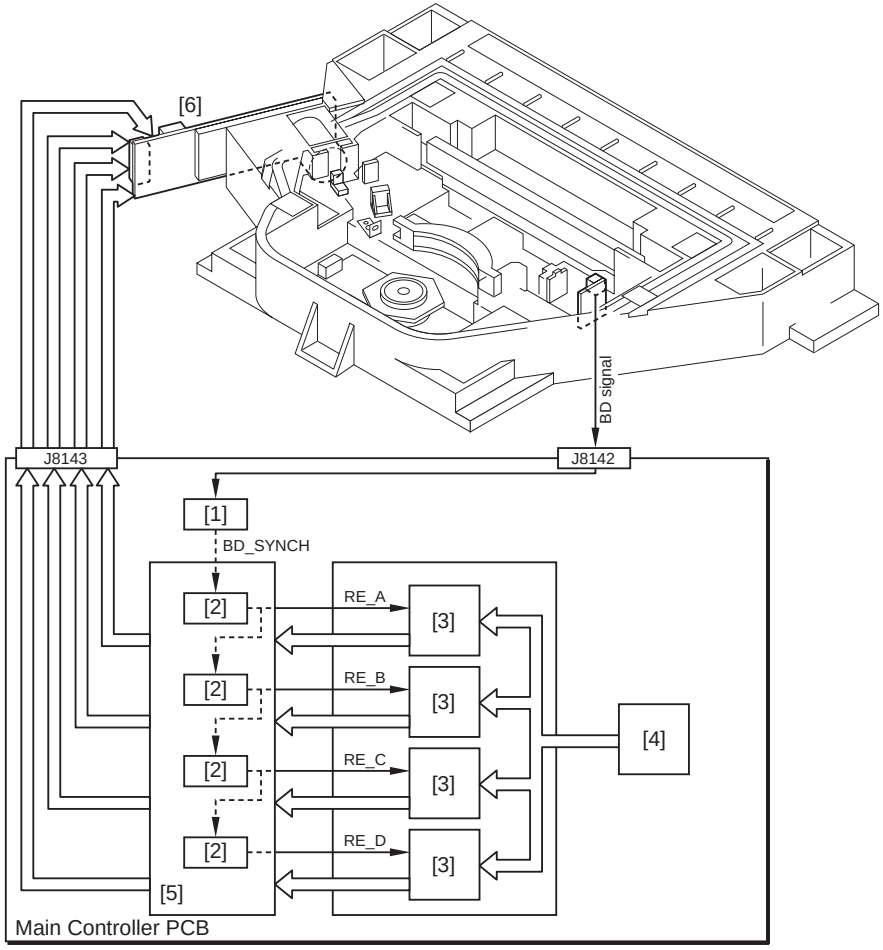
F-2-51

Main Scanning Synchronous Control

Main scanning synchronous control is operated at synchronous PCB based on BD synchronous signal.

Based on BD signal that is formed from A laser light detected by BD PCB, BD synchronous signal for each laser is formed inside image PCB.

Image data written in the line memory is read out by the readable signal (RE_A, RE_B, RE_C, RE_D) according to the 4 phase differences formed inside the delayPCB based on the BD synchronous signal (BD_SYNCH) and is sent to the laser driver.



F-2-52

[1] Synchronous PCB
[2] Delay PCB
[3] Line memory
BD_SYNCH: BD synchronous signal
RE_A/B/C/D: Readable signal

[4] VDO
[5] VDO signal process unit
[6] Laser driver PCB

MEMO:
Regarding BD signal formation
Not B laser but A laser only reaches BD sensor on BD PCB. BD signal is formed based on A laser light.

Controlling the Intensity of Laser Light

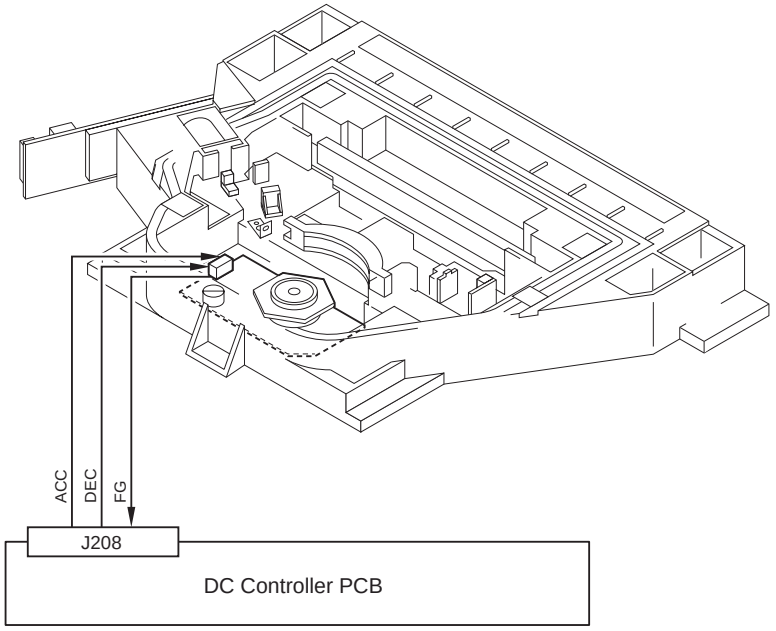
APC Control

The machine monitors the laser light that is emitted to the built-in photo diode of laser diode and adjusts the laser to appropriate intensity.

Controlling the Laser Scanner Motor

Controlling the Laser Scanner Motor

From when the laser scanner motor starts and the laser scanner motor reaches the number of target rotation to before image formation starts, the machine controlsthe rotation speed by referring to the laser scanner motor rotation speed signal (FG signal).
During image formation, it controls the laser scanner motor rotationspeed based on BD signal.
Laser scanner motor rotation speed is controlled by speed-up signal (ACC signal) and speed-down signal (DEC signal).

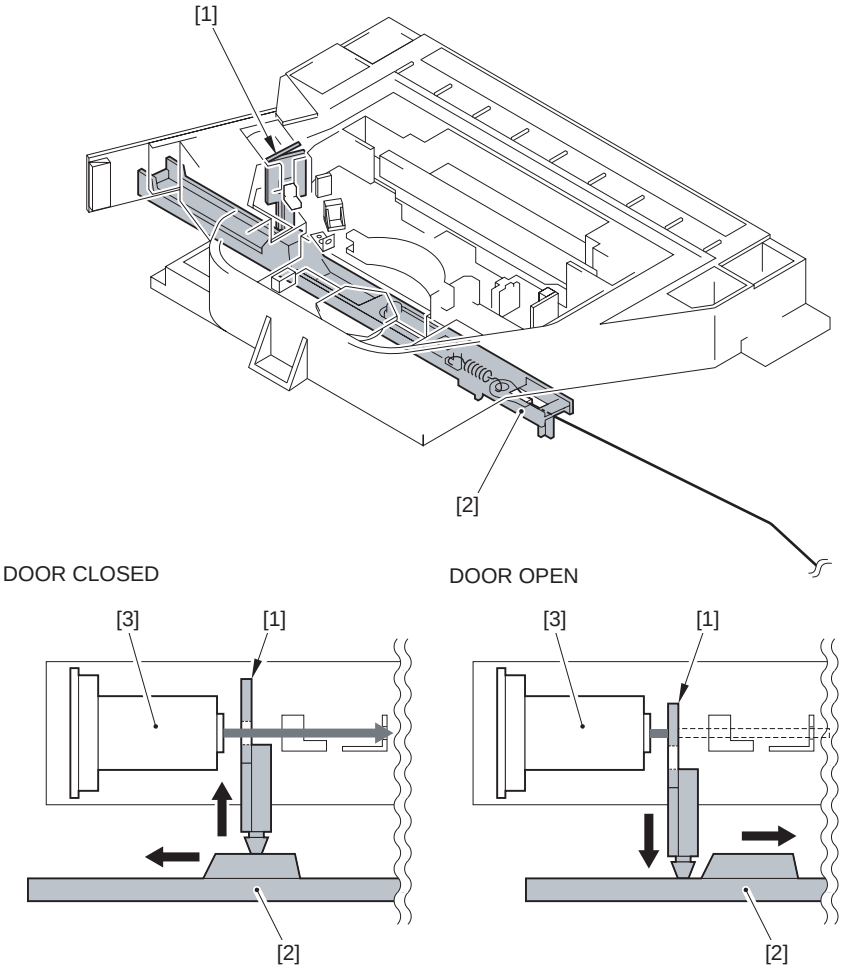


F-2-53

Controlling the Laser Shutter

Laser Shutter Control

When the right door opens, laser shutter will be closed by laser shutter link that works in conjunction with the right door and the laser light is blocked. Also, whenthe front door or right door open is detected, laser scanner motor and the laser emission will be turned OFF.



F-2-54

[1] Laser shutter
[2] Laser shutter link (works in conjunction with the right door)
[3] Laser unit

Image Formation System

Basic Configuration

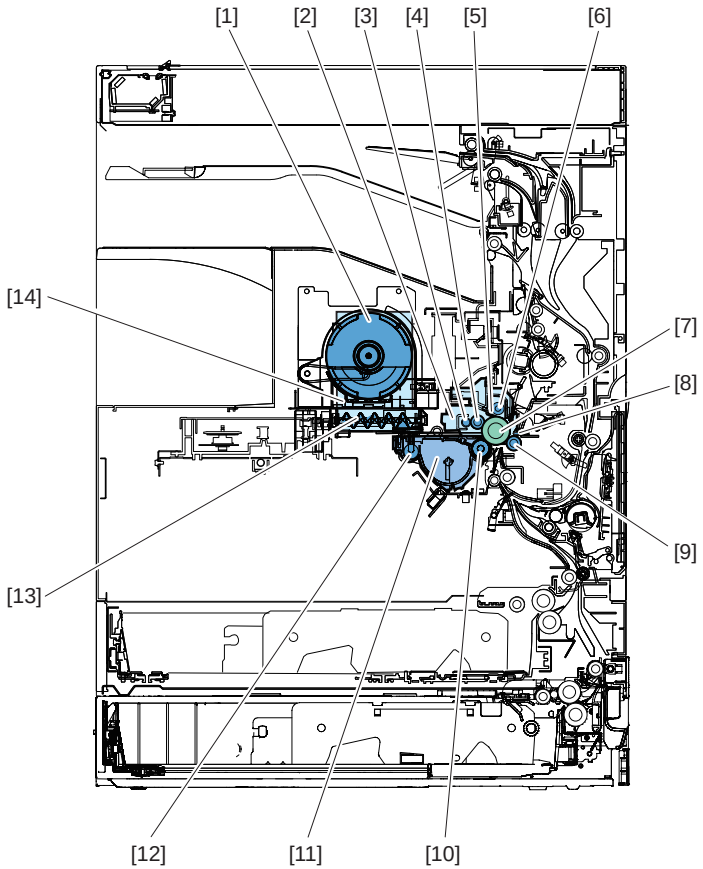
Specifications of Image Formation System

Item		Specifications/Mechanism/Method
Photosensitive drum	Material	OPC high durability drum (E-drum)
	Drum diameter	30
	Cleaning method	Cleaning blade
	Process speed	230mm/sec (at cassette pickup) 137mm/sec (at manual feeder pickup)
Primary charging	Charging method	Primary charging roller AC bias constant voltage control: approx. 550 to 2600Vp-p DC bias constant voltage control: approx. -400 to -800V DC bias switch control (variable according to environment sensor detection)
	roller diameter	14
	Charging method	Brush roller (10)
Developing	Developing method	Dry one-component jumping development AC bias constant voltage control: approx. 800Vp-p DC bias control: approx. -300 to -700V DC bias switch control (variable according to density setting, environment sensor detection)
	Developing cylinder diameter	20
	Toner	Magnetic negative toner
	Toner level detection	Toner detection by toner level sensor (inside sub hopper and developing unit)
Transfer	Transfer method	Transfer roller DC constant current control: approx. 20 µA Cleaning bias control: -2700V (DC constant voltage control) DC current level control (variable according to environment sensor detection, paper type, paper width, source of paper)
	Roller diameter	16
	Charging method	Cleaning bias application
Separation	Separation method	Static separation (Static eliminator) + Curvature separation DC constant voltage control: -2800V (high bias), -2300 (low bias)
Waste toner		Collected into waste toner box Waste toner box capacity: approx. 750g

T-2-24

Major Components of Image Formation System

The major components of image formation system are described below.



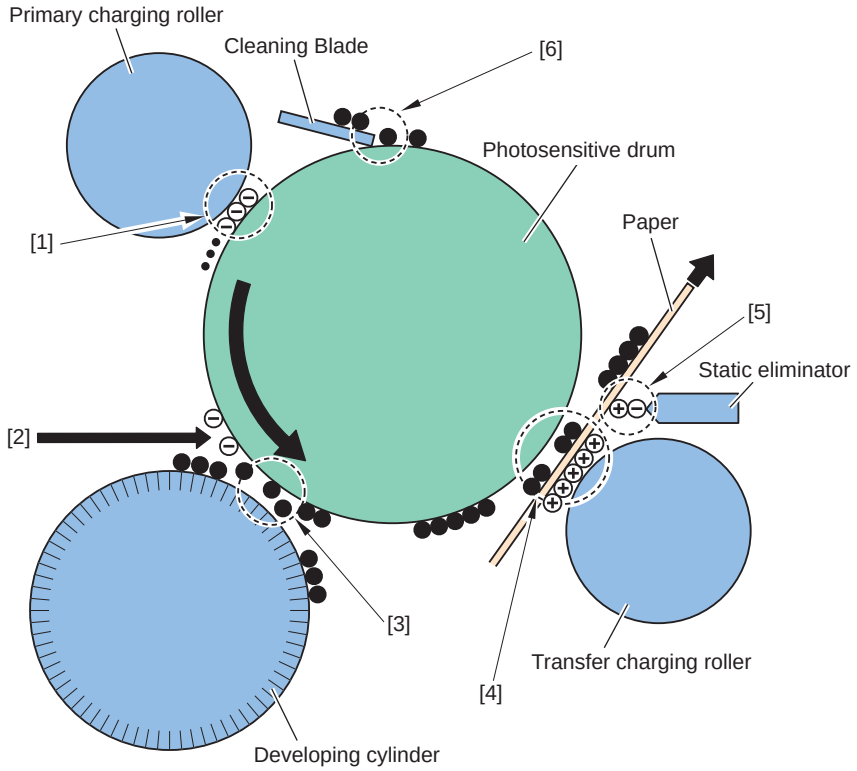
F-2-55

	Name	Function
[1]	Toner cartridge	Cartridge filled with the toner for supply
[2]	Drum unit	Unit consisting of the photosensitive drum, primary charging roller, etc.
[3]	Brush roller	Rotates in connection with the primary charging roller to clean its surface.
[4]	Primary charging roller	Rotates in connection with the photosensitive drum to cause it negatively charged.
[5]	Cleaning blade	Scrapes off the residual toner on the photosensitive drum.
[6]	Waste toner feed screw	Feeds the toner scraped off by the cleaning blade to the waste toner box.
[7]	Photosensitive drum	Forms images on the surface of the photosensitive drum.
[8]	Static eliminator	Applies negative charge to the back of paper to cause it separated from the photosensitive drum.
[9]	Transfer roller	Applies positive charge to the back of a paper to cause the toner to be transferred to it.
[10]	Developing cylinder	Transfers the toner in the developing unit to the photosensitive drum.
[11]	Developing unit	Unit consisting of the developing cylinder, developing blade, etc.
[12]	Toner feed screw (Inside developing unit)	Feeds the toner supplied from the sub hopper into the developing unit.
[13]	Toner feed screw (Inside sub hopper)	Feeds the toner supplied from the toner cartridge to the developing unit.
[14]	Sub hopper	Stores the toner supplied from the toner cartridge.

T-2-25

Image Formation Process

The image formation system of the machine mainly consists of the photosensitive drum, primary charging roller, developing cylinder, transfer charging roller, static eliminator, and cleaning blade. The image formation process around the drum unit contains the six blocks.



F-2-56

	Image Formation Process	Description
[1]	Primary charging block	Charges the surface of the photosensitive drum to a uniform negative potential.
[2]	Laser exposure block	Exposes laser beam on the surface of the drum for charge neutralization to form the latent image formation.
[3]	Developing block	Causes the negatively-charged toner on the developing cylinder to adhere to the latent image formation on the surface of the photosensitive drum to form a visible image.
[4]	Transfer block	Applies positive charge to the back of a paper to transfer the toner on the drum to the paper.
[5]	Separation block	Separates a paper from the photosensitive drum with its elastic force and at the same time applies negative charge to the back of paper to facilitate paper separation.
[6]	Drum cleaning block	Scrapes off the residual toner on the surface of the drum using the cleaning blade and feeds it to the waste toner box.

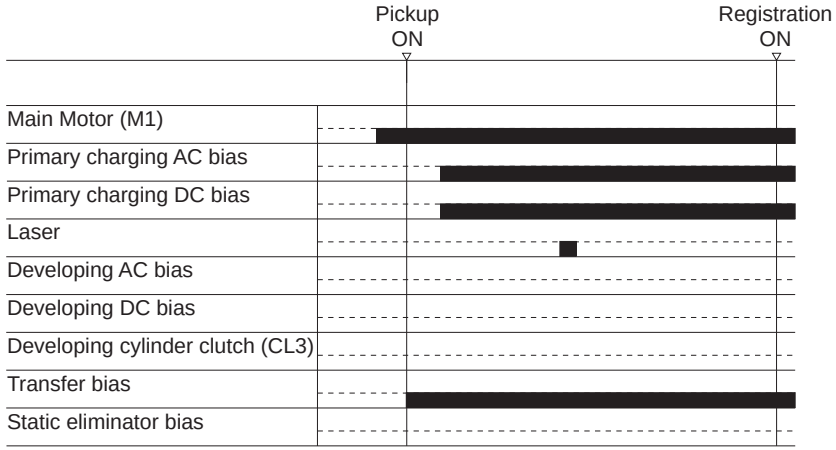
T-2-26

Basic Sequence

The basic sequence is as follows.

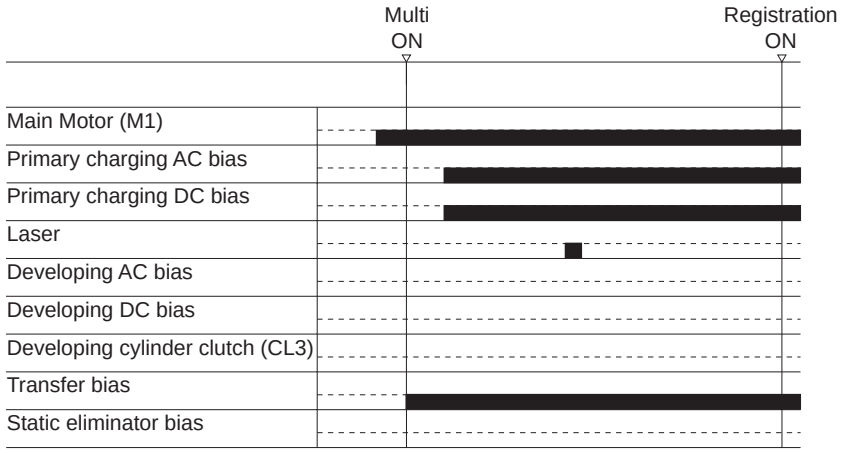
Sequence of Operation (initial rotation)

- Pickup from cassette



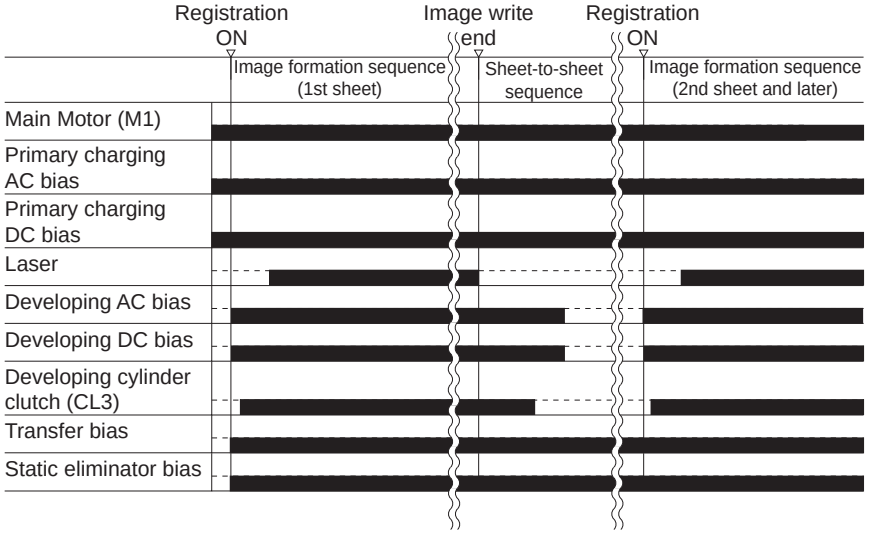
F-2-57

- Pickup from manual feeder



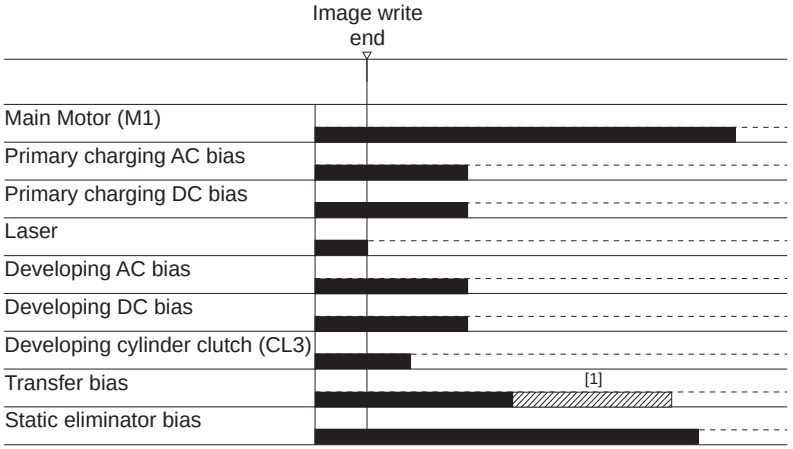
F-2-58

Sequence of Operation (printing)



F-2-59

Sequence of Operation (last rotation)



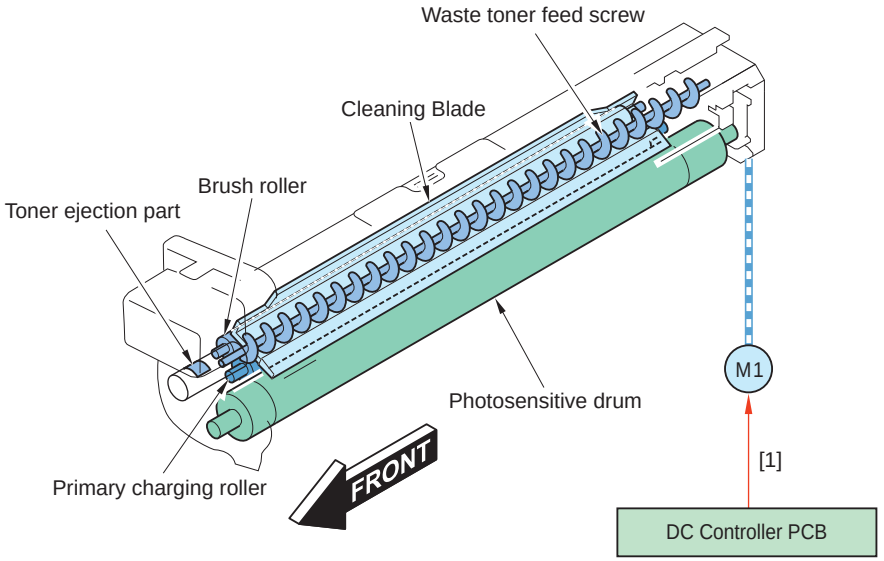
In [1] above, a cleaning bias (-2700V) is applied.

F-2-60

Controls

Drum Unit

The drum unit mainly consists of the photosensitive drum, primary charging roller, brush roller, cleaning blade, and waste toner feed screw, and is driven by the main motor (M1).
Cleaning blade in contact with the photosensitive drum scrapes off the residual toner on its surface without being transferred to a paper. The residual toner scraped off by the cleaning blade is fed from the toner ejection part into the waste toner box by the waste toner feed screw. The primary charging roller is cleaned by the brush roller in contact with it.

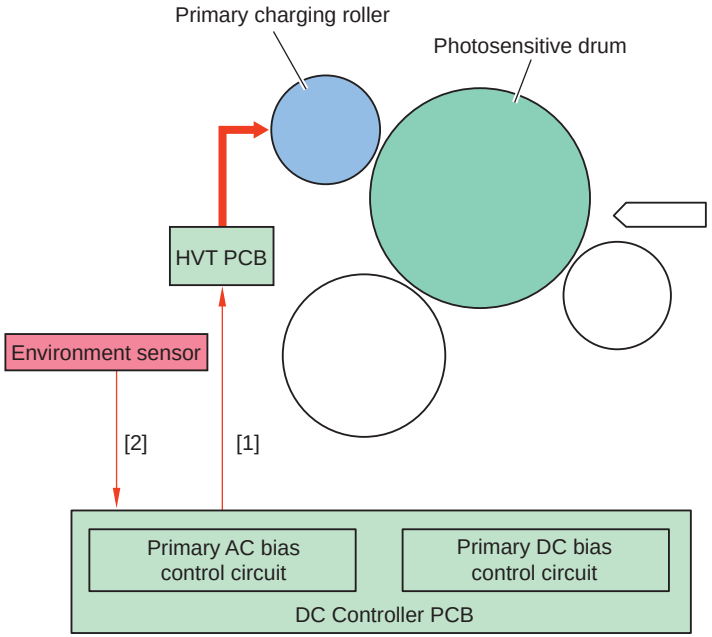


F-2-61

M1 Main motor
[1] Main motor drive signal

Primary Charging Bias Control

The machine is directly charged by the charging roller. DC bias and AC bias that stabilized the charge is applied to the primary charging roller.



F-2-62

[1] Primary charging bias control signal
[2] Environment sensor detection signal

Constant voltage control of DC bias and AC bias

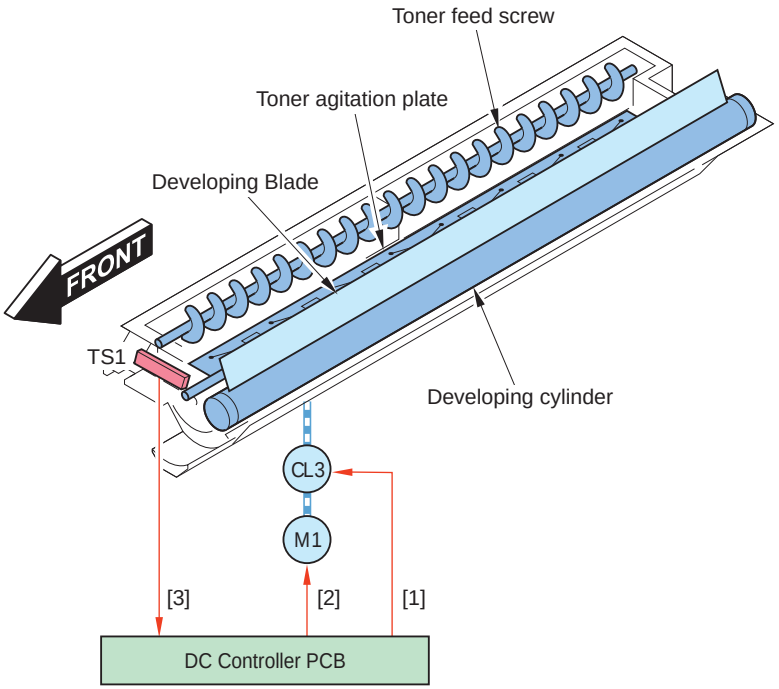
The DC bias and AC bias control circuits on the DC controller PCB control the DC bias and AC bias applied to the primary charging roller to keep their voltage at the fixed level.

DC bias switch control

The DC bias output varies according to the environment detected by the environment sensor (HU1).

Developing Unit

The developing unit mainly consists of the developing cylinder, developing blade, toner agitation plate, and toner feed screw, and driven by the main motor (M1) and developing cylinder clutch (CL3).
The toner supplied from the toner cartridge is fed into the drum unit by the toner feed screw and toner agitation plate. The toner presence/absence in the drum unit is detected by the developing unit toner sensor (TS1) which is a magnetic permeability sensor.

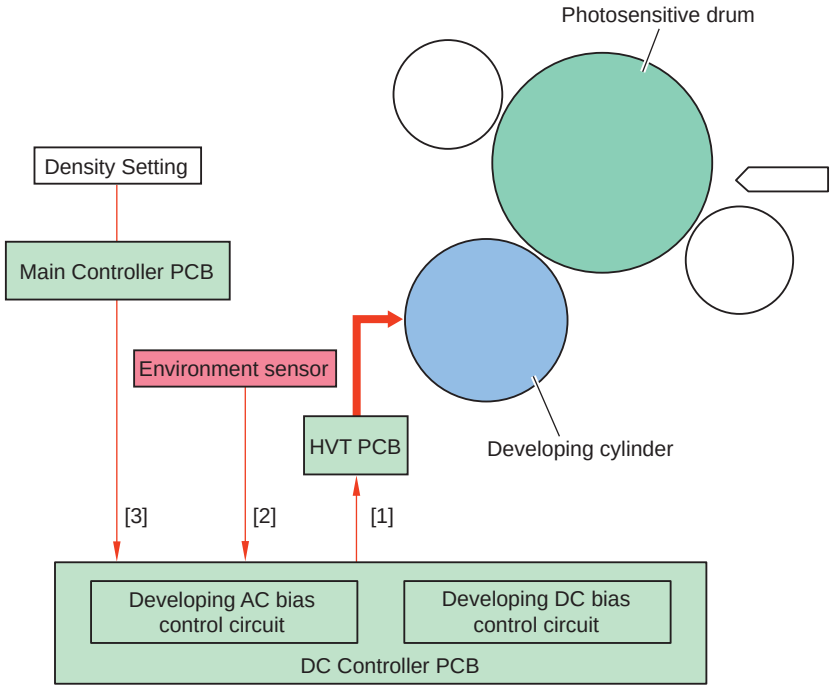


F-2-63

TS1 Developing unit toner sensor
CL3 Developing cylinder clutch
M1 Main motor
[1] Developing cylinder clutch drive signal
[2] Main motor drive signal
[3] Developing unit toner sensor detection signal

Developing Bias Control

The DC bias and AC bias are applied to the developing cylinder.



F-2-64

[1] Developing bias control signal
[2] Environment sensor detection signal
[3] Density setting signal

Constant voltage control of DC bias and AC bias

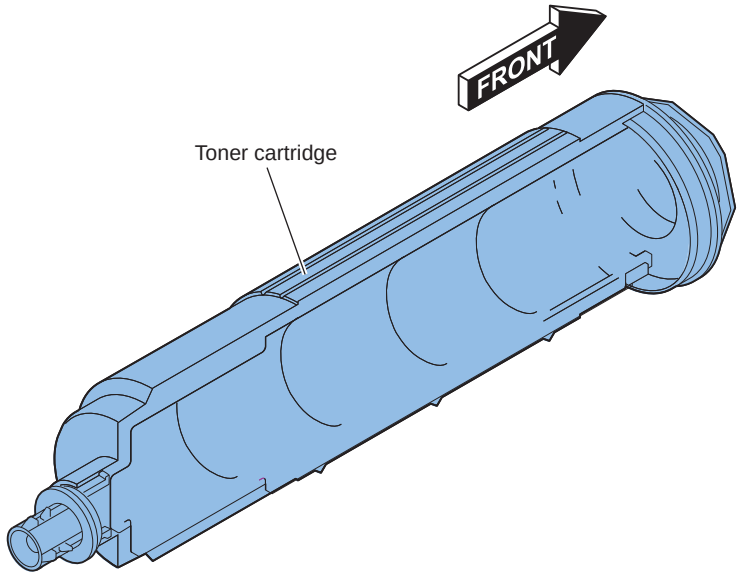
The DC bias and AC bias control circuits on the DC controller PCB control the DC bias and AC bias applied to the developing cylinder to keep their voltage at the fixed level.

DC bias switch control

The DC bias output varies according to the environment or density setting detected by the environment sensor (HU1).

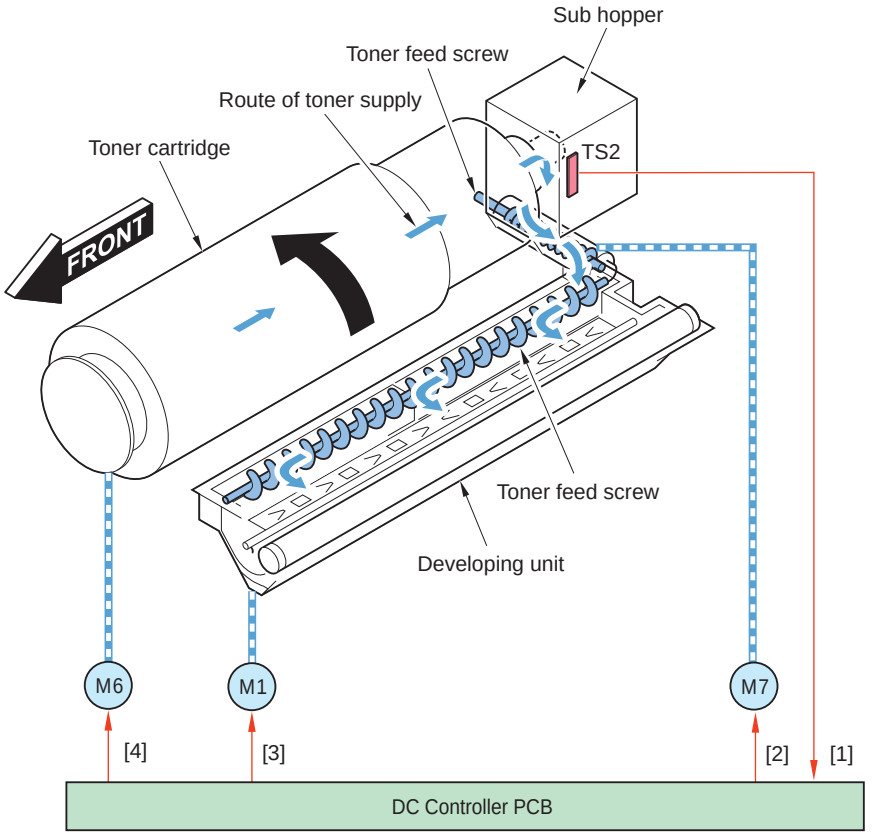
Toner Container

Toner cartridge is filled with toner and supplies to the drum unit.



F-2-65

The toner in the toner cartridge is fed to the sub hopper and then to the developing unit by the toner feed screw. The toner presence/absence in the sub hopper is detected by the sub hopper toner sensor (TS2) which is a magnetic permeability sensor.
If the developing unit toner sensor (TS1) detects the absence of the toner in the developing unit, the hopper motor (M7) drives to rotate the toner feed screw to feed toner in the sub hopper to the developing unit. Also, if the sub hopper toner sensor (TS2) detects the absence of the toner in the sub hopper, the bottle motor (M7) drives to rotate the toner cartridge to feed the toner in the toner cartridge to the sub hopper.
If the sub hopper toner sensor (TS2) keeps detecting the absence of the toner for more than the specified period of time, no toner in the toner cartridge is assumed and the message to replace the toner cartridge will be displayed. Also, if the developing unit toner sensor (TS1) keeps detecting the absence of the toner for more than the specified period of time, no toner in the developing unit is assumed and a "No Toner" error message will be displayed.

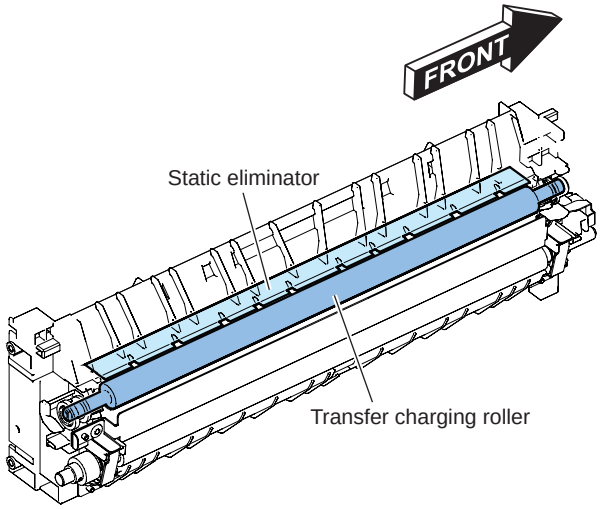


F-2-66

TS2	Sub hopper toner sensor
M1	Main motor
M6	Hopper motor
M7	Bottle motor
[1]	Sub hopper toner sensor detection signal
[2]	Bottle motor drive signal
[3]	Main motor drive signal
[4]	Hopper motor drive signal

Transfer Unit

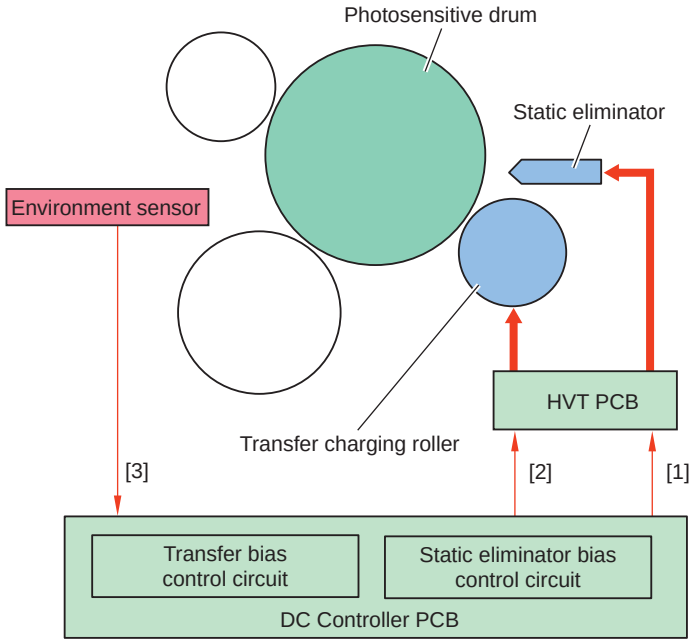
The transfer unit mainly consists of the static eliminator and transfer roller which rotates in connection with the drum unit.



F-2-67

Transfer Bias/Separation Static Eliminator Bias Control

DC bias is applied to the transfer roller and static eliminator.



F-2-68

[1] Separation static eliminator bias control signal
[2] Transfer bias control signal
[3] Environment sensor detection signal

Transfer Bias Constant Current Control

The transfer bias control circuit on the DC controller PCB controls the transfer bias applied to the transfer roller to keep the constant current.

Transfer bias level control

The transfer bias output varies according to the environment, paper type, paper width, and/or source of paper detected by the environment sensor (HU1).

Cleaning Bias Control

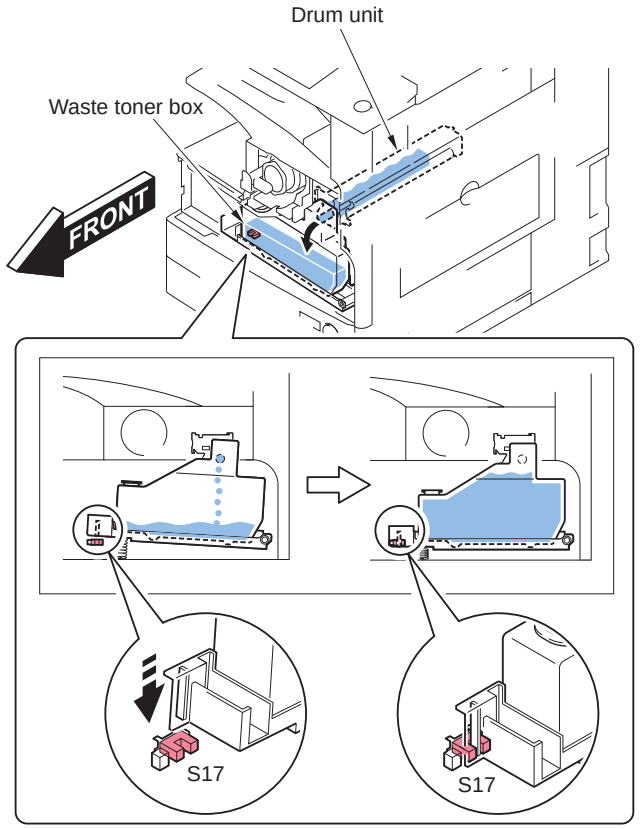
To return the toner adhered on the transfer roller to the photosensitive drum, negative voltage is applied at the last rotation.

Separation Static Eliminator Bias Control

Either of the two types of negative voltage (low bias or high bias) is applied to the static eliminator depending on the print mode and sequence for reducing electrostatic suction to facilitate separation of paper from the photosensitive drum.

Waste Toner Box

Residual toner adhered on the photosensitive drum without being transferred to a paper is scraped off by the cleaning blade in contact with the photosensitive drum, then fed into the waste toner box by the waste toner feed screw.
The waste toner box is supported by a spring. If the waste toner box sinks down lower than specified with the weight of collected toner, the waste toner full sensor (S17) detects the waste toner box full.



F-2-69

S17 Waste toner full sensor

Work of Service

When Replacing the Components

None

Periodical Service

None

Points to Note about Service

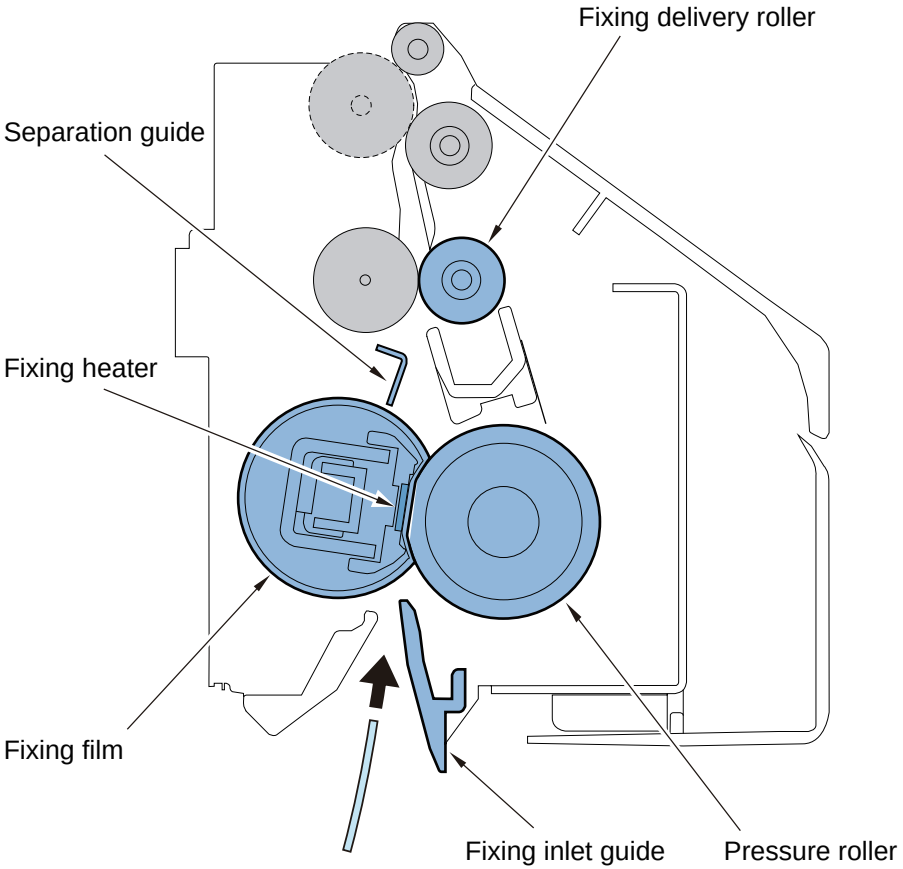
None

Fixing System

Overview

Features

This machine introduces the on-demand fixing method.



F-2-70

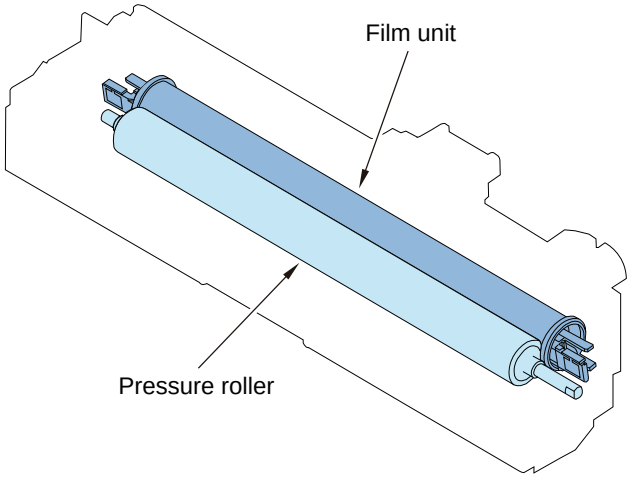
Specifications

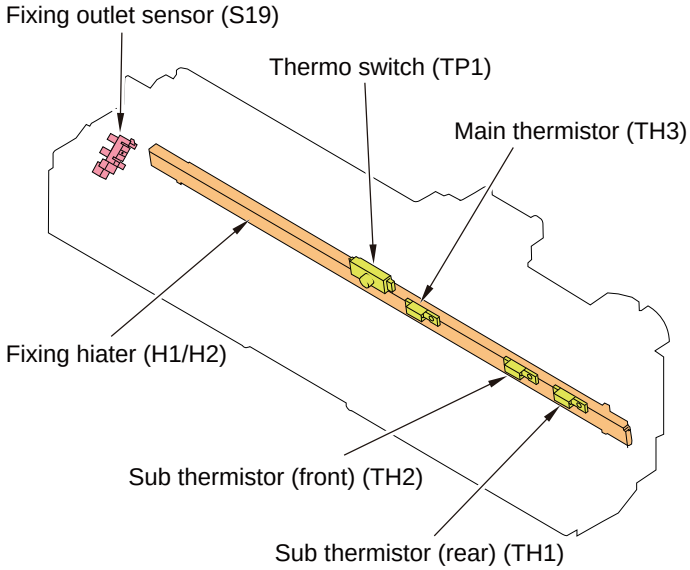
Item	Function/method	
Fixing method	On-demand fixing	
Fixing speed	Cassette feeding	233mm/sec (1/1-high speed: 0.8% speed-up)
		230mm/sec (1/1-speed)
		224mm/sec (1/1-slow speed: 3.1% speed-down)
	Manual feeding	139mm/sec (1/1-high speed: 0.8% speed-up)
		137mm/sec (1/1-speed)
		133mm/sec (1/1-slow speed: 3.1% speed-down)
Fixing heater	Ceramic heater	
Control temperature	Cassette feeding	225 deg C (plain paper) *1
	Manual feeding	180 deg C (plain paper) *1
Temperature detection	By the main thermistors and the sub thermistors (front) and (rear)	
Cleaning control	Cleaning sequence control	
Edge heat rising prevention control	Paper edge cooling fans (front)/(rear) and sequence control	
Fixing loop control	Loop sensor	
Protective Function	Main thermistor and Sub thermistors (front)/(rear) Thermo Switch (operating temperature: 250 deg C)	

*1. Target temperature is specified depending on the fixing mode and the fixing temperature at the start of warm-up control.

LP2-27

Major parts configuration





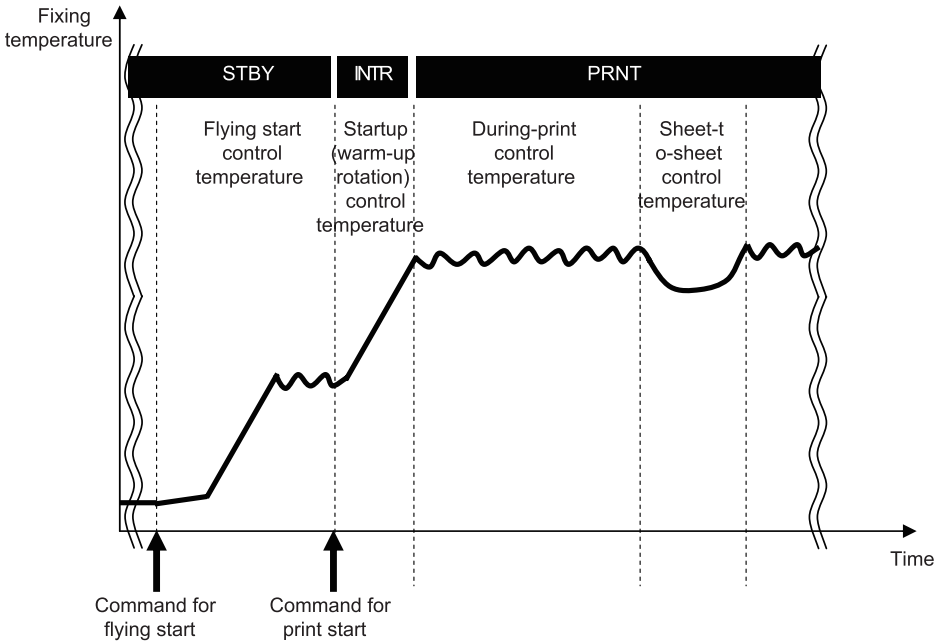
F-2-71

Part name		Function / method
---	Film unit	Applying heat and pressure makes the toner image on paper fixed (fused).
---	Pressure roller	
H1/H2	Fixing heater	Ceramic heater
TH3	Main thermistor	To be in contact with the heater Temperature control, detection of abnormal temperature rise
TH2	Sub thermistor (front)	To be in contact with the heater (non-feeding area) Temperature control, detection of abnormal temperature rise, temperature detection/cooling control on the edges
TH1	Sub thermistor (rear)	To be in contact with the heater (non-feeding area) Temperature control, detection of abnormal temperature rise, temperature detection/cooling control on the edges
TP1	Thermo Switch	Non-contact type with the heater To block AC electric power supply when a failure is detected.
S19	Fixing outlet sensor	Jam detection

T-2-28

Controls

Fixing temperature control: overview



F-2-72

Standby temperature control

To preheat the fixing assembly to reduce time for starting print.

- Flying start temperature control

Print temperature control

To increase temperature to meet the fixing target temperature and keep the target temperature during printing.

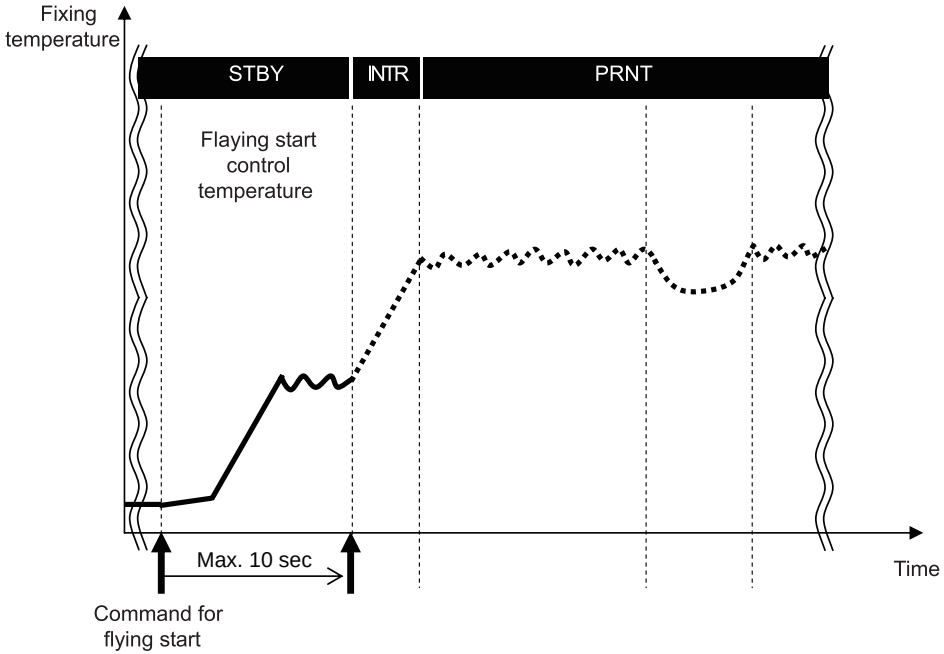
- Startup (warm-up rotation) temperature control
- Print temperature control
- Sheet-to-sheet temperature control

Down sequence control

To prevent fixing failure due to rising temperature at the edge or fall in temperature. This control causes reduced the productivity (through-put).

- Down sequence when feeding small size paper
- Down sequence when switching paper size

Standby temperature control



F-2-73

Flying start temperature control

Purpose:

- To reduce the print time (FPOT) of the 1st sheet

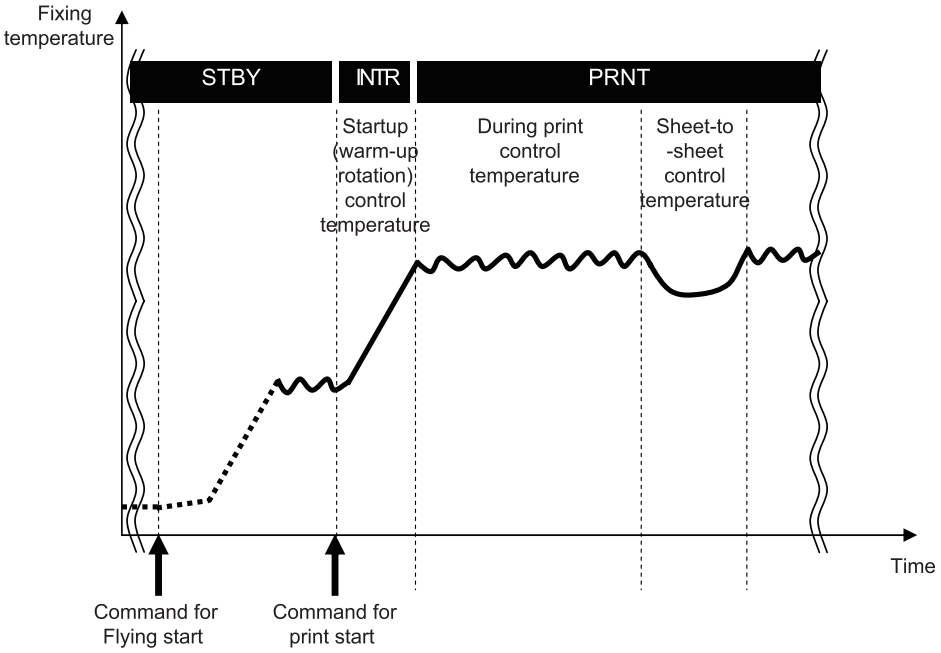
Starting conditions:

- When opening the copyboard cover or ADF, and also the detection temperature of the main thermistor is less than 100 deg C.
- When the original sheet is set on the ADF tray, and also the detection temperature of the main thermistor is less than 100 deg C.
- When the main power switch is turned ON or the machine condition is shift from the sleep mode to standby, and also the detection temperature of the main thermistor is less than 180 deg C.

Control description:

- The target control temperature is set to 155 deg C and the fixing motor starts to rotate with a half speed. The control continues for maximum 10 seconds.

Print temperature control



F-2-74

Startup (warm-up rotation) temperature control

To increase fixing temperature to be ready for printing after receiving the print-start command

Print temperature control

To set optimal target temperature to prevent fixing failure or offset, and keep the specified target temperature during printing

A.Setting target temperature

Target temperature is specified depending on the paper type, paper size, elapsed time since the last control (including the standby control) of fixing temperature and fixing temperature at the start of warm-up control.

B.Temperature control during printing

When the paper passes in the fixing unit, the fixing temperature is controlled to keep the target value (see the table on the next page) according to the detection result of main thermistor.

C.Sheet-to-sheet distance temperature control

To prevent the excessive temperature rise and to save the power consumption, the target temperature is set 5 deg C low (in case of plain paper *1) from the printing temperature.

*1. Set to 5, 15 or 20 deg C low according paper type

Target temperature during printing

The control temperature is determined according to the fixing mode or to the fixing temperature at the start of warm-up control. The 12 modes are provided as the fixing mode for the selected feed table and paper type.

The following table is the control temperature when the fixing temperature is less than 55 deg C at the start of warm-up control.

Cassette feeding

Fixing mode	Setting	Target temperature (deg C)	
		1-sided/first of 2-sided	Second of 2-sided
Plain paper	Paper type	225	215
Thin paper		215	205
S-thin paper		210	200
Envelope		195	---
N1		180	170
N3		142	139

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Manual feeding

Fixing mode	Setting	Target temperature (deg C)	
		1-sided/first of 2-sided	Second of 2-sided
Plain paper	Paper type	180	175
Thin paper		170	165
S-thin paper		165	160
Heavy paper		185	180
Heavy paper-H		190	185
Bond paper		190	185
OHP		170	165
Postcard		195	---
S-Postcard		205	---
Envelope		195	---
N1		142	139
N3		142	139

T-2-30

Related Service Mode
Offset of fixing control temperature (High and low of control temperature)
PRINT > SW
> 62 (Control temperature during cassette feeding)
> 63 (Control temperature in Heavy/Heavy-H/Bond paper modes)
> 166 (Control temperature during manual feeding)
> 173 (Control temperature for the second side of 2-sided copying)
> 179 (Control temperature in Postcard/S-Postcard/Envelope modes)

<Setting value>
0 to 2: +15 deg C
3 to 11: +12 to -15 deg C (each 3 deg C) [Default: 7]
12 to 14: -15 deg C

■ Down sequence control

● Down sequence when feeding small size paper

Purpose:

To prevent temperature rise of non-feeding area in the case of continuous print of small size paper (less than A4 of length in width direction), fixing offset or deterioration of fixing film.

Starting conditions:

When the detected temperature of sub thermistor (front) or (rear) reaches 255 deg C or higher for 400 msec continuously.

Operation:

Temperature is reduced by making wider sheet-to-sheet distance with the maximum 4 steps to control the temperature at lower than the target temperature for normal print.

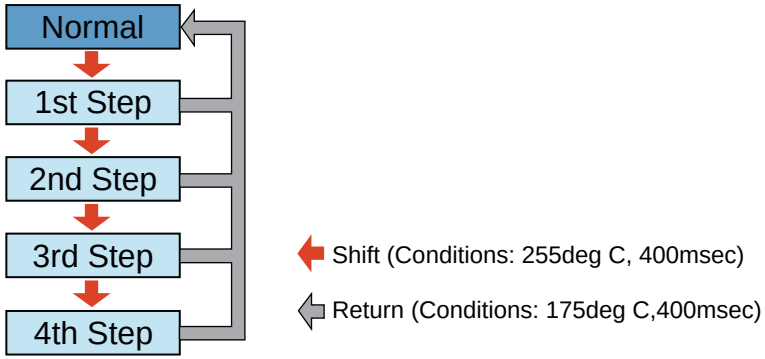
Fixing mode	Step	B4 LGL	B5 EXE	A4R LTRR	A5R B5R EXE-R	Free size	Postcard	Envelope
Plain paper Thin paper S-thin paper	Normal	26	45	32	20	13	---	---
	1	20	20	20	18	8	---	---
	2	12	12	12	14	8	---	---
	3	10	10	10	14	8	---	---
	4	8	8	8	14	8	---	---
Heavy paper	Normal	17	30	21	17	13	---	---
	1	12	20	20	14	8	---	---
	2	10	12	12	14	8	---	---
	3	8	10	10	14	8	---	---
	4	8	8	8	14	8	---	---
Heavy-H paper	Normal	17	25	17	17	13	---	---
	1	12	20	12	14	8	---	---
	2	10	12	10	14	8	---	---
	3	8	10	8	14	8	---	---
	4	8	8	8	14	8	---	---
Bond paper OHP	Normal	13	25	14	17	13	---	---
	1	12	20	12	14	8	---	---
	2	10	12	10	14	8	---	---
	3	8	10	8	14	8	---	---
	4	8	8	8	14	8	---	---
Postcard	Normal	---	---	---	---	---	18	---
	1	---	---	---	---	---	14	---
	2	---	---	---	---	---	10	---

Fixing mode	Step	B4 LGL	B5 EXE	A4R LTRR	A5R B5R EXE-R	Free size	Postcard	Envelope
Postcard	3	---	---	---	---	---	10	---
	4	---	---	---	---	---	10	---
S-Postcard	Normal	---	---	---	---	---	14	---
	1	---	---	---	---	---	10	---
	2	---	---	---	---	---	8	---
	3	---	---	---	---	---	8	---
	4	---	---	---	---	---	8	---
Envelope	Normal	---	---	---	---	---	---	12
	1	---	---	---	---	---	---	10
	2	---	---	---	---	---	---	8
	3	---	---	---	---	---	---	8
	4	---	---	---	---	---	---	8

T-2-31

Completion conditions:

When the fixing temperature reaches 175 deg C and lower for 400 msec continuously, the productivity returns to normal.



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Related Service Mode

Setting for down sequence start temperature when feeding small size paper

PRINT > SW > 64

<Setting value>

0: +20 deg C

1: +10 deg C

2: 0 deg C [Default: 2]

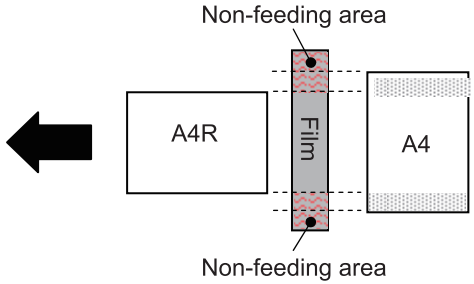
3: -10 deg C

4: -20 deg C

● Down sequence when switching paper size

Purpose:

This down sequence prevents temperature rise of non-feeding area: there can be possible fixing offset or wrinkle of the succeeding paper due to increased temperature of non-feeding area of the preceding paper when continuously making prints or feeding wider length of paper than the preceding paper.



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Starting conditions:

If the temperature difference between sub thermistor (front) and main thermistor or between sub thermistor (rear) and main thermistor exceeds 20 deg C (*1) when switching to the paper which has longer width than the preceding paper

Operation:

Pickup of the succeeding paper and power distribution to the heater are stopped as well to decrease the fixing temperature.

Completion conditions:

When the temperature difference between sub thermistor (front) and main thermistor or between sub thermistor (rear) and main thermistor reaches 20 deg C and less (*1)

*1. It is different according to setting value of the user mode (Special mode S or Rotation/collation adjustment).

■ User mode related to fixing grade

The fixing grade is affected by some special modes in user mode which change the control temperature or productivity. The related modes are as follows.

User mode	Summary	Setting value	Temperature control/ productivity
Special Mode N (To prevent a curl and jam in high humidity)	The fixing mode is changed when either of the plain/ recycled/ color/ 3-hole paper is selected in the control panel. The productivity is reduced and fixing grade is improved.	Off (Default)	Normal temperature control (Plain paper mode)
		Auto (Fixing grade is improved)	Fixing mode (plain paper mode and N1 mode (*1)) is changed automatically according to the environment (temperature/ humidity).
		Manual (Medium) (Fixing grade is improved)	N1 mode temperature control
		Manual (High) (Fixing grade is improved)	N3 mode (*3) temperature control
Special Mode P (To prevent a curl of thin paper/ recycle paper)	The fixing mode is changed when either of the plain/ recycled/ color/ 3-hole paper is selected in the control panel. The productivity is reduced and fixing grade is improved.	Off (Default)	Normal temperature control (Plain paper mode)
		Medium (Fixing grade is improved)	Thin paper mode temperature control
		High (Fixing grade is improved)	S-thin paper mode temperature control
Special Mode G (To increase the fixing grade for heavy paper)	The productivity is reduced and fixing grade is improved.	Off (Default)	Normal control
		On (Fixing grade is improved)	The productivity is reduced by 4 sheets or 5 sheets.
Special Mode G (To increase the productivity during down sequence)	The down sequence time is reduced when switching the paper size. The fixing grade is reduced and productivity is improved. (*3)	Off (Default)	Temperature difference between the main and sub thermistors to start the paper feeding: 20 deg C
		On (Productivity is improved)	Temperature difference between the main and sub thermistors to start the paper feeding: 30 deg C

User mode	Summary	Setting value	Temperature control/ productivity
Special Mode F (To reduce the wait time during rotation/ collation adjustment mode)	The down sequence time is reduced in the collation adjustment mode. The fixing grade is reduced and productivity is improved.	Image Priority (Default)	Temperature difference between the main and sub thermistors to start the paper feeding: 20 deg C
		Speed Priority 1 (Productivity is improved)	Temperature difference between the main and sub thermistors to start the paper feeding: 40 deg C
		Speed Priority 2 (Productivity is improved more)	Temperature difference between the main and sub thermistors to start the paper feeding: 60 deg C

*1. N1 mode: "Normal temperature control" -24 deg C (when the cassette feeding, and the fixing temperature is 100 deg C or more at the start of warm-up control.)
*2. N3 mode: "Normal temperature control" -48 deg C (when the cassette feeding, and the fixing temperature is 100 deg C or more at the start of warm-up control.)
*3. The setting of rotation/collation mode is given priority to over this setting.

Fixing pressure roller cleaning sequence

Purpose:

To prevent the dirt of the pressure roller causing the dirt of the paper back side.

Starting conditions:

When the detected temperature of sub thermistor (front) or (rear) is higher 18 deg C or more than the one of the main thermistor.

Operation:

After completion of the last rotation, the temperature control is executed so that the fixing heater turns on and the toner on the pressure roller is melted to transfer it to the fixing film. After transferring the toner to the fixing film, the fixing motor is rotated slightly to shift the nip area, so that re-transferring the toner to the pressure roller is prevented.

Completion conditions:

This sequence is finished when either following condition is satisfied.

- After 5 seconds (maximum 10 sec) from shifting to the pressure roller cleaning sequence.
- When the next job is started during the pressure roller cleaning sequence.

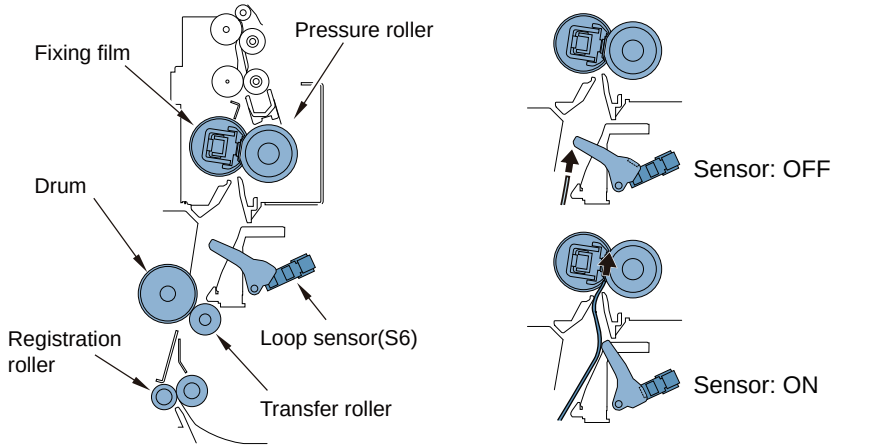
Fixing film edge cooling control

When making prints with the paper that the width is shorter than A4, to prevent temperature rise of non-feeding area, the fan attached near the fixing assembly sends air and cools to the front and rear side of the fixing film.
For details of the fixing film edge cooling control, see Technology > Controller System > Controls > Fan.

■ Paper loop amount control before fixing

Purpose:

To get a proper image by avoiding a shock when the trailing edge of paper comes out of the registration roles, an appropriate paper loop is formed between transfer roller and fixing roller.



F-2-77

Starting conditions:

This control is performed at every paper feeding.

Operation:

The fixing motor drive speed is controlled as follows by detecting the paper loop between transfer roller and fixing roller with the loop sensor.

1) The fixing motor drive speed is reduced by 3.1% when the reading edge of paper is fed 35mm from the transfer roller. The reduced speed is kept until the loop sensor is turned on by the formed paper loop.

2) After detecting the ON condition of the loop sensor for 50 msec continuously, the fixing motor drive speed is increased by 0.8% compared with the process speed. The increased speed is kept until the loop sensor is turned off by the deleted paper loop.

3) After detecting the OFF condition of the loop sensor for 50 msec continuously, the fixing motor drive speed is reduced by 3.1% compared with the process speed. The reduced speed is kept until the loop sensor is turned on by the formed paper loop.

4) Repeat steps 2) and 3). The fixing motor drive speed is increased by 0.8% compared with the process speed when the trailing edge of paper reaches 65 mm before coming out of the registration roller.

5) When continuously making prints, return to step 1). When making a single print, shift to the last rotation.

■ Protection features

Code		Description	Error Clear
E000	Fixing temperature abnormal rise		
	0001	The temperature detected by the main thermistor does not rise to the specified value during startup control.	Yes
E001	Fixing unit temperature rise detection		
	0000	The reading of the main thermistor is 250 deg C or more continuously for 200 msec.	Yes
	0001	The hardware circuit detects overheating of the main or sub thermistor for 200 msec.	Yes
	0002	The reading of the sub thermistor is 295 deg C or more continuously for 200 msec.	Yes
E002	Fixing unit temperature insufficient rise		
	0000	1.The reading of the main thermistor is less than 115 deg C continuously for 400 msec 1.3 sec after it has indicated 100 deg C. 2.The reading of the main thermistor is less than 150 deg C continuously for 400 msec 1.3 sec after it has indicated 140 deg C.	Yes
E003	Low fixing temperature detection after standby		
	0000	The reading of the main thermistor is less than 140 deg C continuously for 400 msec or more.	Yes
E004	Thermistor disconnection detection error		
	0000	When disconnection is detected with connector (J214) for 30 sec continuously.	No
E014	Unstable rotation of the Fixing Motor (M2)		
	0001	Detection is executed every 100 msec after the start of motor rotation; however, the drive detection signal is absent for 2 sec.	
	0002	During motor rotation, detection is executed every 100 msec; however, the drive signal is absent 5 times in sequence.	No
E261	Error in Zero Cross		
	0000	Zero Cross failed to be detected for 500ms or more while the relay was ON. * The same condition is detected after the error retry is performed.	No

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Related Service Mode
- Error code clear

CLEAR > ENGIN > ERRCLR

Pickup Feed System

Overview

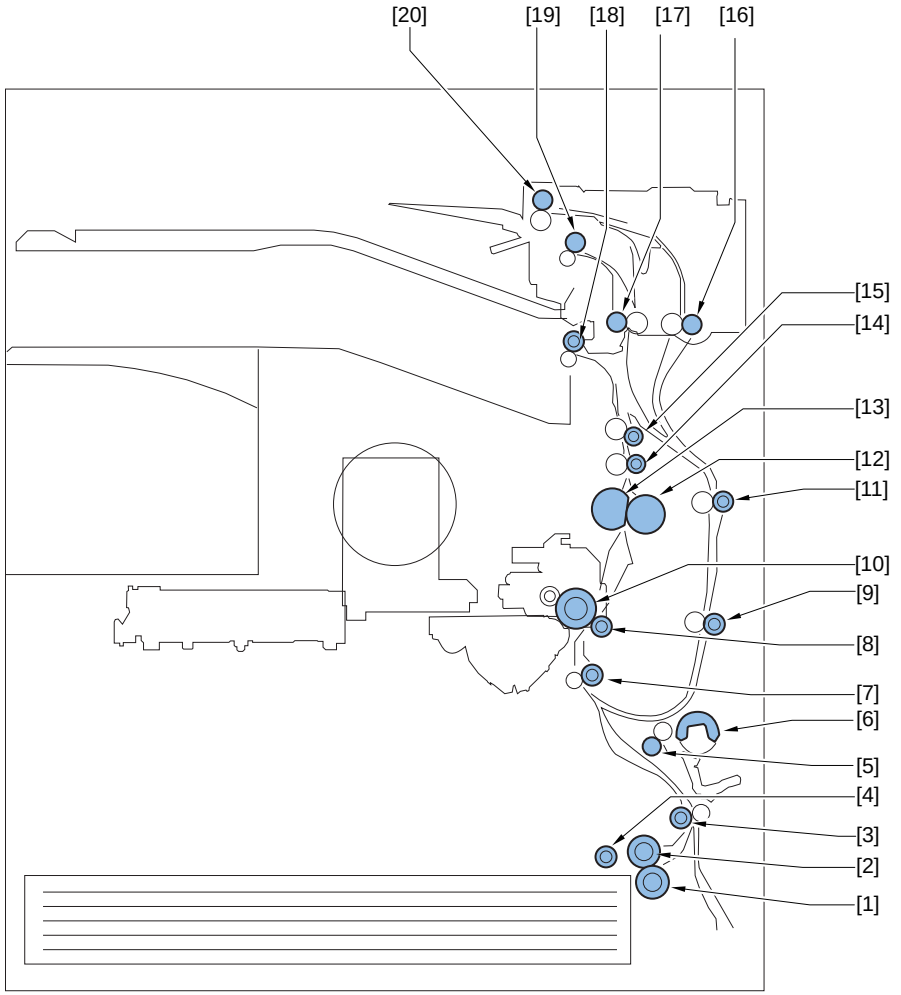
Specification

Item		Description
Paper storage method		Front loading method
Pickup method	Cassette	Retard separation method
	Manual feed pickup tray	Pad separation method
Paper stack capacity	Cassette	550 sheets (80 g/m2), 650 sheets (64 g/m2)
	Manual feed pickup tray	100 sheets (80 g/m2), 100 sheets (64 g/m2)
Paper feed reference		Center reference
Paper size	Cassette 1/3/4	A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LG, 11" x 17", STMTR
	Cassette 2	A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LG, 11"" x 17"", STMTR, Envelopes* (No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL) * The optional Envelope Feeder Attachment-D1 is required.
	Manual feed pickup tray	A4, A4R, A3, A5R, B4, B5, B5R, LTR, LTTR, LG, 11" x 17", STMTR, Free size (99 mm x 297 mm to 148 mm x 432 mm), Envelopes (No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL)
Paper grammage	Cassette	64 g/m2 to 90 g/m2
	Manual feed pickup tray	64 g/m2 to 128 g/m2
Paper size switch	Cassette	By the user
	Manual feed pickup tray	By the user
Duplexing method		Through path

T-2-34

Parts Configuration

Arrangement of Rollers



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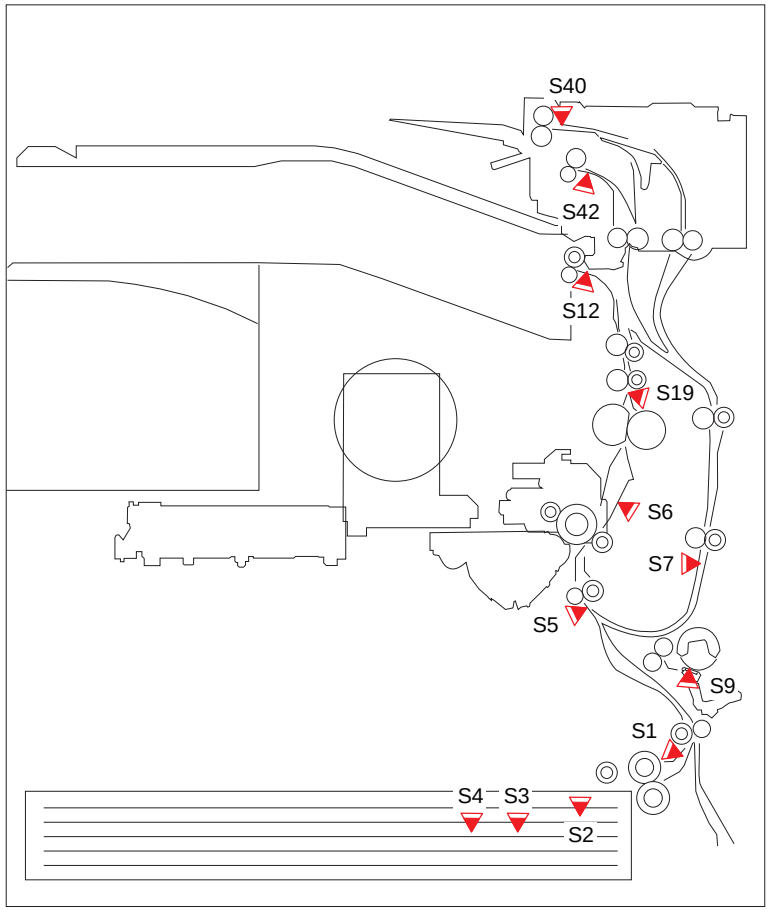
[1]	Separation roller (cassette 1)
[2]	Feed roller (cassette 1)
[3]	Vertical path slave roller 1
[4]	Pickup roller (cassette 1)
[5]	Manual feed pull-up roller
[6]	Manual feed pickup roller
[7]	Registration roller
[8]	Transfer roller
[9]	Duplexing/feeding roller 2
[10]	Drum
[11]	Duplexing/feeding roller 1
[12]	Fixing pressure roller
[13]	Fixing film
[14]	Fixing outlet roll 1
[15]	Fixing outlet roll 2
[16]	Duplexing inlet roller
[17]	Vertical path slave roller 2
[18]	Tray 1 delivery roller
[19]	Tray 2 delivery roller
[20]	Reversing roller

Arrangement of Sensors



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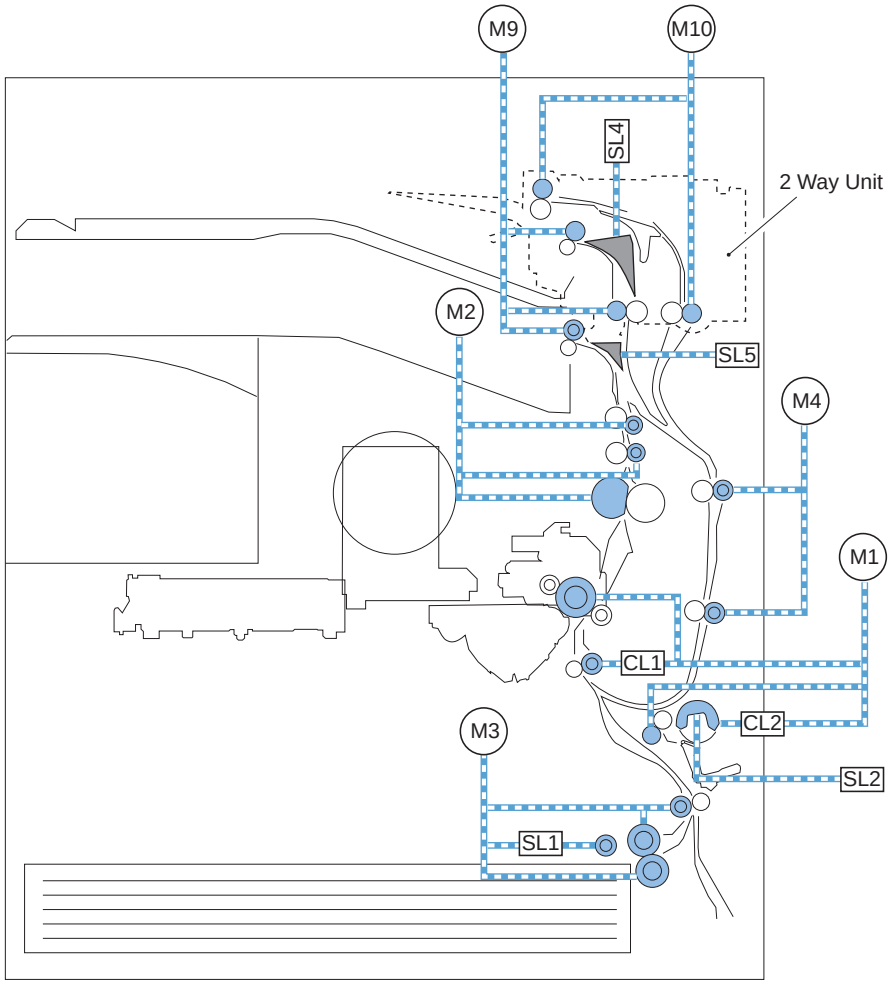
S1	Cassette 1 pickup sensor	S7	Duplex feed sensor
S2	Cassette 1 paper sensor	S9	Manual feeder paper sensor
S3	Cassette 1 paper level sensor A	S12	No.1 delivery sensor
S4	Cassette 1 paper level sensor B	S19	Fixing outlet sensor
S5	Pre-registration sensor	S40	Reversal sensor
S6	Loop sensor	S42	No. 2 delivery sensor

Route of Drive



F-2-80

M1	Main motor	SL1	Pickup solenoid
M2	Fixing motor	SL2	Manual feed pickup solenoid
M3	Cassette 1 pickup motor	SL4	reversal solenoid
M4	Duplex feed motor	SL5	No.2 delivery solenoid
M9	No.1 delivery motor	CL1	Registration clutch
M10	Reversal motor	CL2	Manual feed pickup clutch

Diagram of Paper Paths (w/ 2 Way Unit/ inaner 2 way tray)

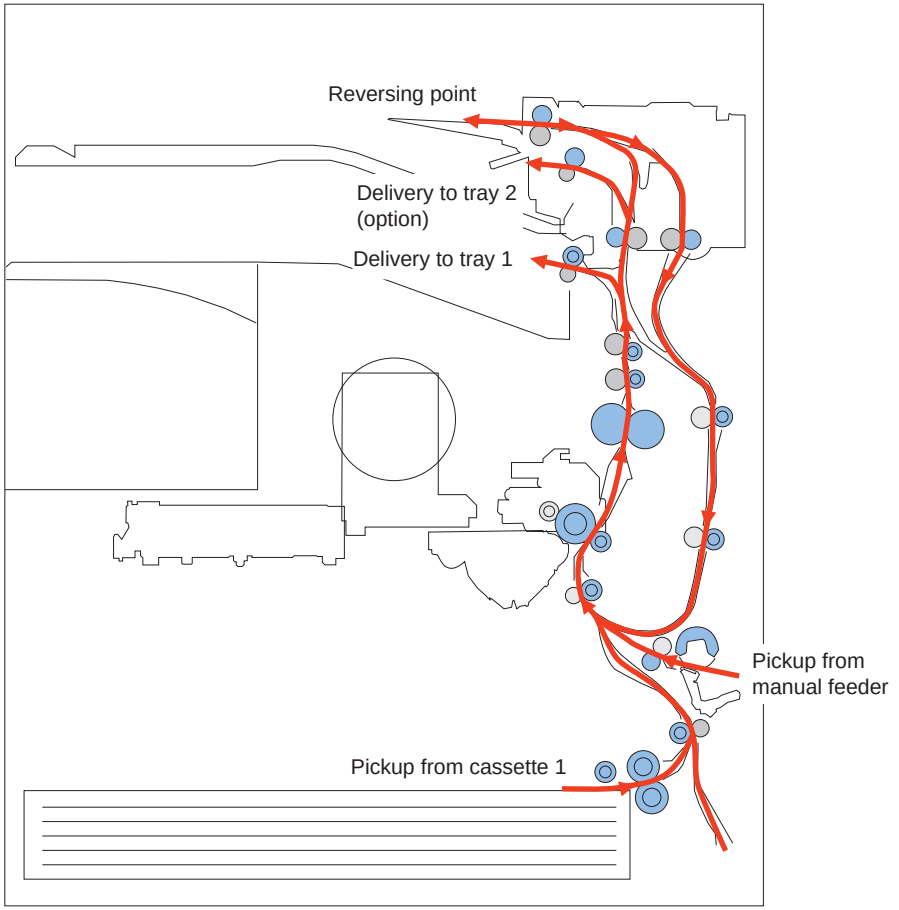


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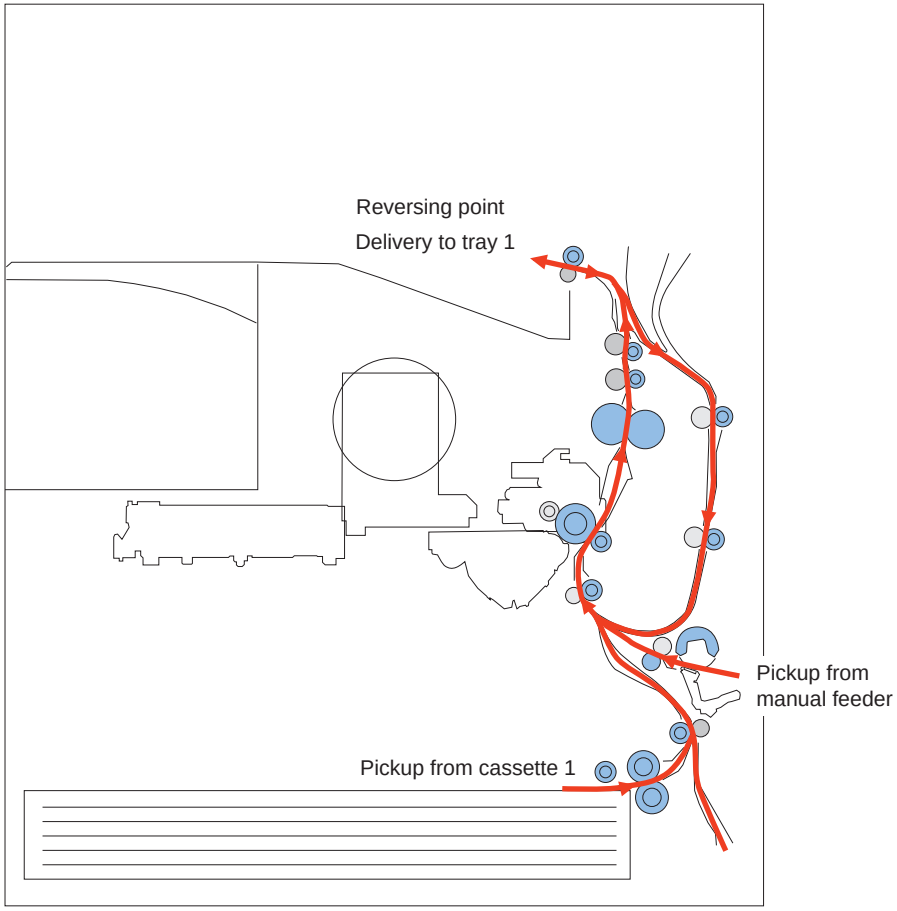
Diagram of Paper Paths (w/o 2 Way Unit)



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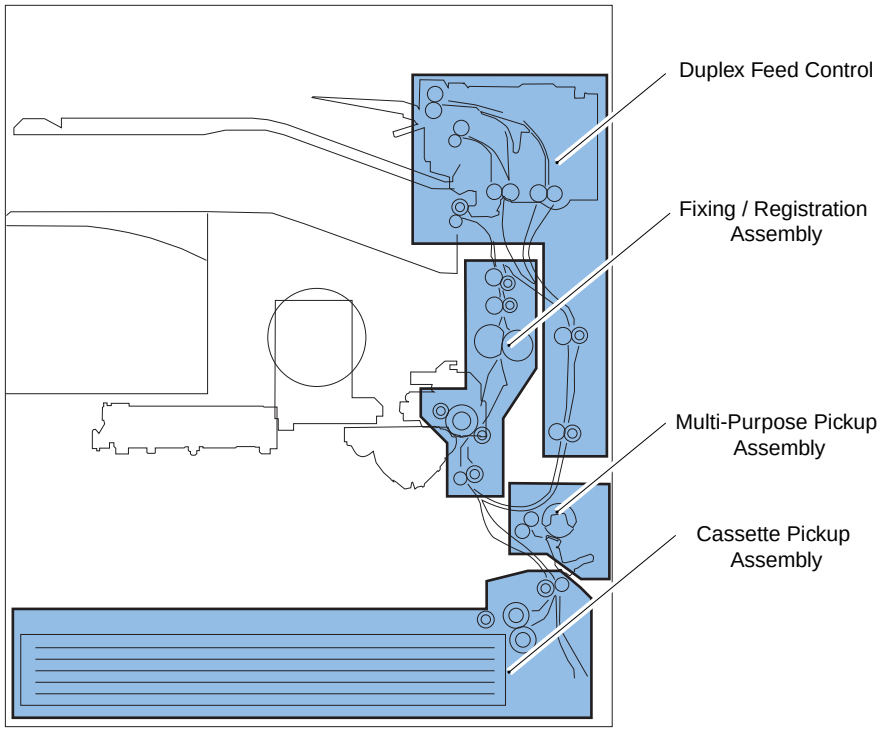
Controls

Overview



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Area	Detection, Control
Cassette Pickup Assembly	Outline
	Paper Level / Presence Detection
	Paper Size / Cassette Presence Detection
Multi-Purpose Pickup Assembly	Outline
	Paper Presence Detection
	Paper Size Detection
Fixing / Registration Assembly	Registration Control
Duplex / Delivery Assembly	Duplex Feed Control
JAM Detection	JAM Detection

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Cassette Pickup Assembly

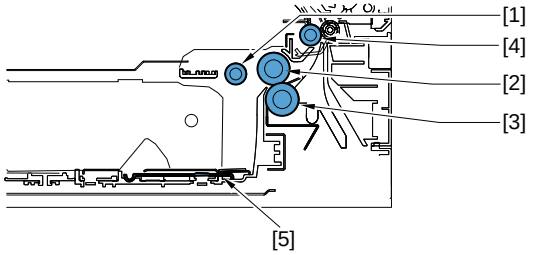
Overview

The paper inside the cassette is held up by the lifter plate.

When pickup takes place, the pickup solenoid (SL1) is turned on, and the pickup roller is moved down. When the pickup roller comes into contact with the surface of paper, the sheet is picked up by rotation of the roller.

Only a single sheet of paper picked up is moved to the feed path by the feed roller and the separation roller, and moved as far as the registration roller by the pickup vertical path roller.

The pickup vertical path roller, pickup roller, feed roller, and separation roller are driven by the cassette pickup motor (M1).



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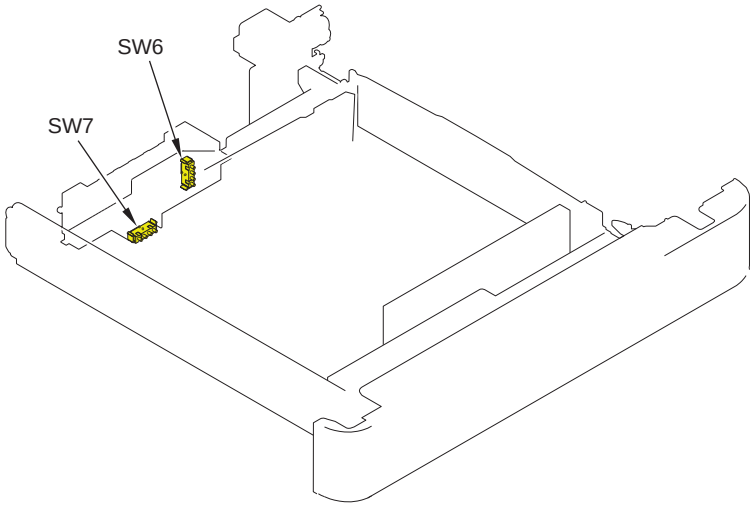
[1] Pickup roller
[2] Feed roller
[3] Separation roller
[4] Pickup vertical path roller
[5] Lifter plate

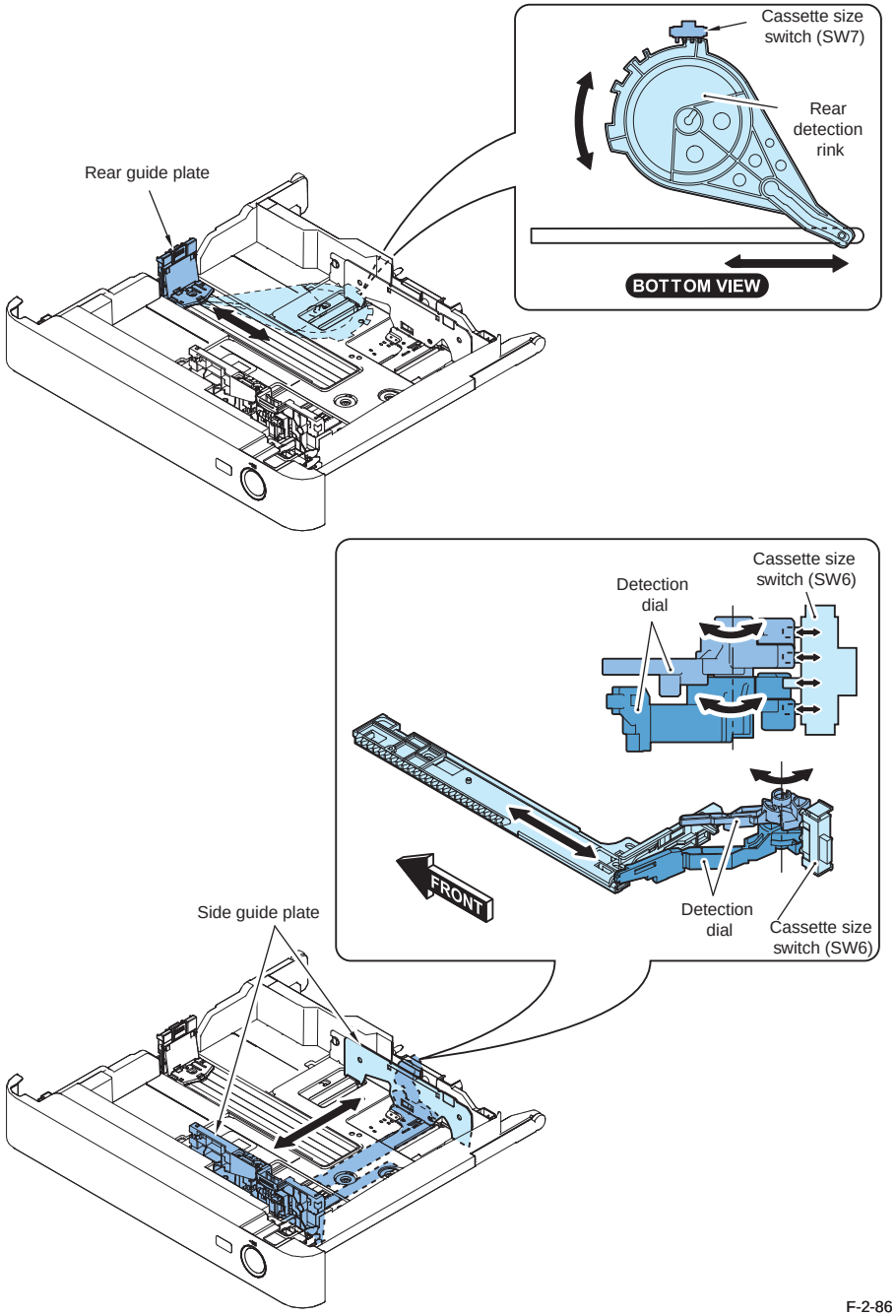
Paper Size Detection

Paper size of the cassette can be automatically detected by adjusting the position of the guide plate.

Concavo-convex area of the cassette dial is switched when the guide plate is shifted and two Size Switches on a printer are switched. Length and width are detected according to the ON / OFF combination of switches. As long as standard paper, both AB type and inch type can be used. However, size should be found manually on the check screen for the combination of A5-Rand STMT-R or the combination of B5-R and EXEC.



F-2-85



F-2-86

			Width detection				Length detection			
	Width	Length	1	2	3	4	1	2	3	4
B5	257.0	182.0	0	ON	ON	0	0	0	0	0
EXEC	267.0	184.0	0	ON	ON	0	0	0	0	0
16K	270.0	195.0	0	ON	ON	0	ON	0	0	0
A5-R	148.5	210.0	ON	0	ON	0	ON	ON	0	0
A4	297.0	210.0	0	ON	0	0	ON	ON	0	0
STMT-R	139.7	215.9	ON	0	ON	0	ON	ON	0	0
LTR	279.4	215.9	0	ON	ON	0	ON	ON	0	0
B5-R	182.0	257.0	ON	0	ON	0	0	ON	ON	ON
LTR-R	215.9	279.4	0	0	ON	0	ON	0	0	ON
A4-R	210.0	297.0	0	0	ON	0	0	ON	ON	0
LGL	215.9	355.6	0	0	ON	0	ON	ON	0	ON
B4	257.0	364.0	0	ON	ON	0	ON	ON	ON	0
8K	270.0	390.0	0	ON	ON	0	ON	ON	ON	ON
A3	297.0	420.0	0	ON	0	0	0	0	ON	ON
LDR	279.4	431.8	0	ON	ON	0	0	0	ON	ON

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Also, the cassette presence is detected when the size switch is pushed. (If no switch is pushed, it is determined as no cassette.)

Setting method when the size detection patterns are overlapped

ASize should be found manually on the check screen for the combination of A5-Rand STMT-R or the combination of B5-R and EXEC.

Specify the ecognition method for the special paper with user setting.

The setting size is indicated below.

Related Service Mode

PRINT> CST> CASX> CSTX-UY> Number

X shows Cassette Number. Y shows size category. (X, Y is one of the number 1/2/3/4.)

U-size.	Size
U1	26: OFI, 27: E-OFI, 37: M-OFI, 36: A-OFI, 24: FLSP, 25: A-FLSP, 30: A-LTRR, 42: FA4, 34: G-LGL 0: default
U2	32: G-LTR-R, 34: G-LGL, 23: K-LGL-R, 0: default
U3	22: K-LGL, 31: G-LTR, 29: A-LTR, 0: default
U4	28: B-OFI, 0: default

T-2-37

Paper level sensor

Paper level in a cassette is detected with the sensor indicated below.

Cassette 1 paper level sensor A	S3
Cassette 1 paper level sensor B	S4
Cassette 1 paper sensor	S2

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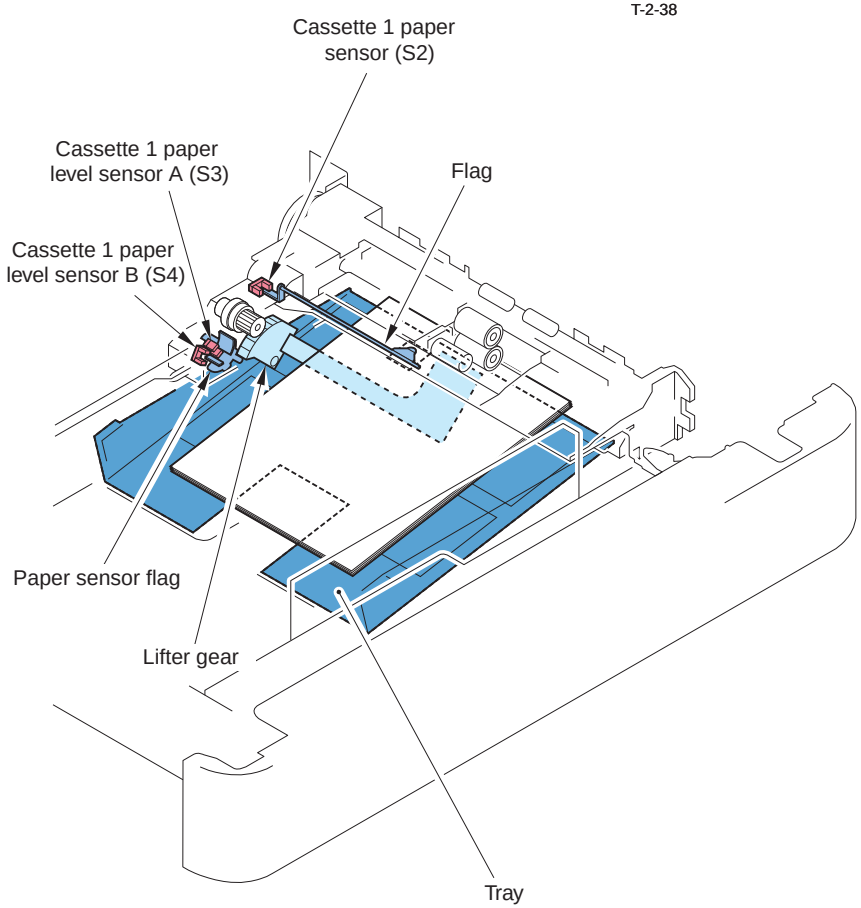

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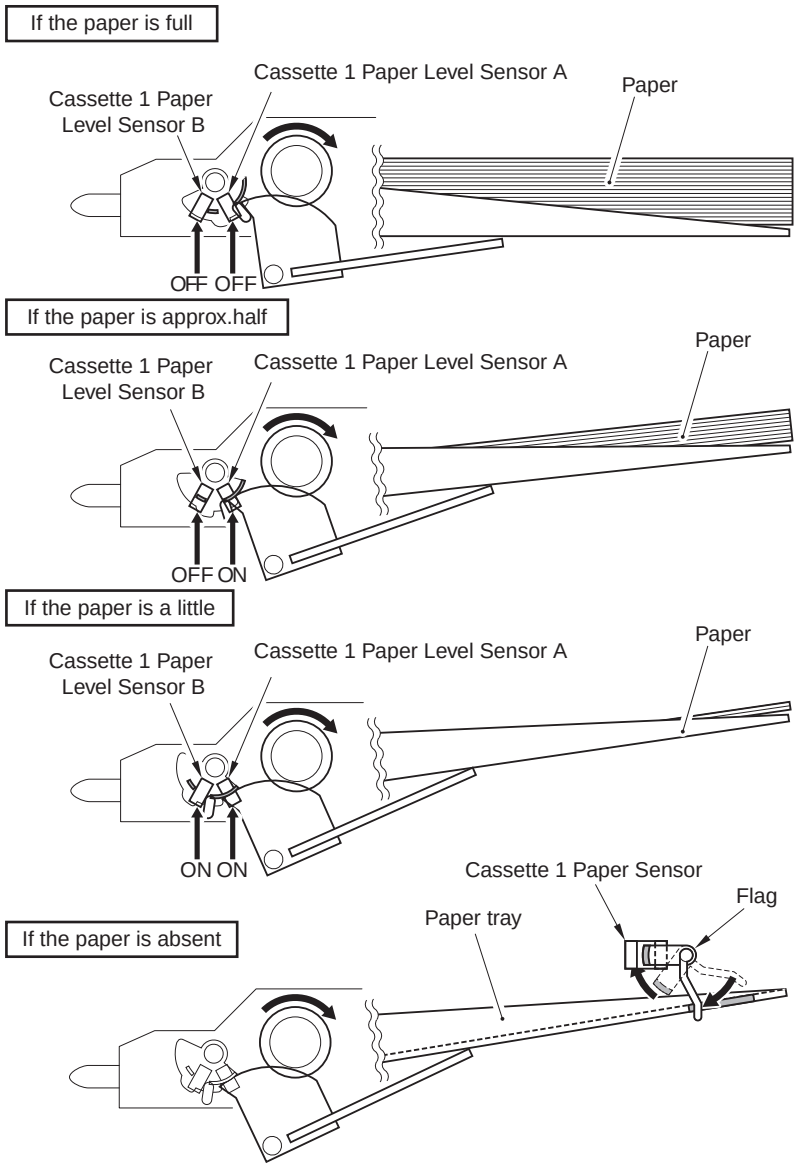

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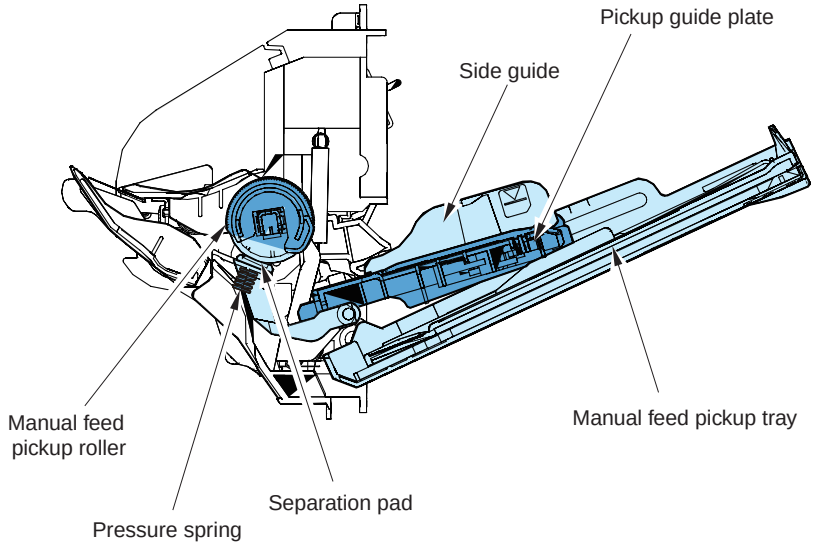
Cassette 1 paper level sensor A	Cassette 1 paper level sensor B	Cassette 1 paper sensor	Paper level	Display
OFF	OFF	OFF	100% to 50%	
ON	OFF	OFF	50% to 50 sheets	
ON	ON	OFF	50 sheet or less	
---	---	ON	no paper	

T-2-39

Multi-Purpose Pickup Assembly

Overview

The paper in the tray of the manual feed pickup unit is forced against the manual feed pickup roller by the work of the pickup guide plate, and only a single sheet of paper is separated and moved into the machine by the work of the manual feed pickup roller and the separation pad.



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Paper Presence Detection

The paper presence is detected by the Multi-Purpose Tray Paper Presence Sensor.
When the paper absence is detected, if there is the same size & same type paper exists in other cassette, auto cassette change is executed.

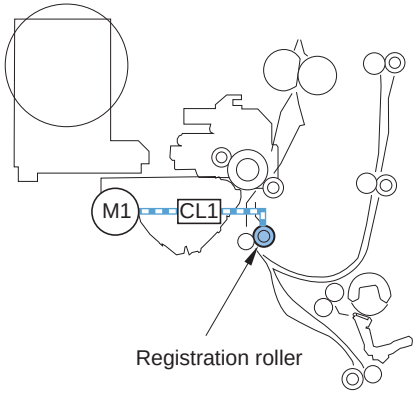
Paper Size Detection

This machine does not have the paper size detection detection function. The user must set the size of the paper in the multi manual feed tray using the operation panel, or the user must register a fixed size in the user mode.Image masking area is regulated based on the result of paper width detection so that the image to be reproduced does not beyond the paper width.

Fixing / Registration Assembly

Registration Control

The registration roller is driven by the main motor (M1).
In between the registration roller and the main motor is the registration clutch (CL1), servicing to turn on and off the registration roller so that the paper will be matched in relation to the image on the drum at correct registration.



F-2-90

Duplex / Delivery Assembly

Duplex Feed Control

On this machine, the paper is revered outside the machine with using the reverse mouth.
Active reverse mouth is determined depending on whether or not the 2 way unit is installed.
Installing the□2 way unit makes the entire paper path longer resulting in higher productivity as the number of sheet circulation is increased.
Following is the number of sheet circulation by size.

Without 2way unit

	No.1 delivery tray
Paper length: longer than 230mm	1
Paper length: less than 230mm	3

T-2-40

With 2way unit

	No.1 delivery tray	No.2 delivery tray
All size	3	3

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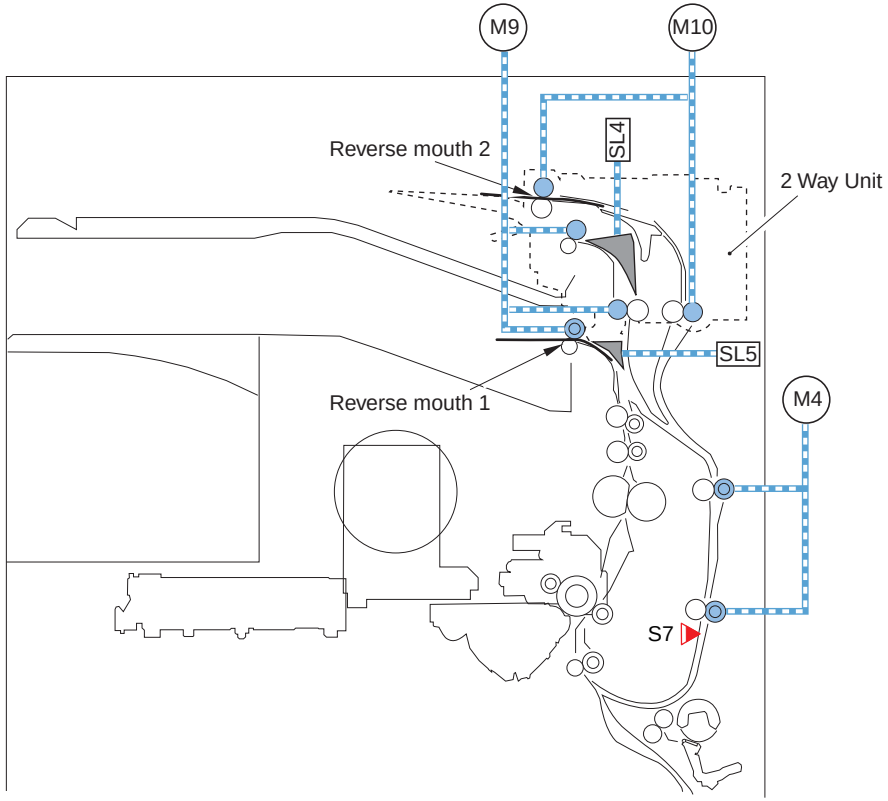

F-2-91

Reverse mouth 1: with 2 way unit
Reverse mouth 2: without 2 way unit

Detecting Jams

Jam Code	Type	Sensor Name	Sensor ID
0101	Delay jam	Cassette 1 pickup sensor	S1
0105	Delay jam	Pre-registration sensor	S5
0107	Delay jam	Fixing outlet sensor	S19
0108	Delay jam	No. 1 delivery sensor	S12
0109	Delay jam	No. 2 delivery sensor	S42
010A	Delay jam	Reversal sensor	S40
010D	Delay jam	Duplex feed sensor	S7
0201	Stationary jam	Cassette 1 pickup sensor	S1
0205	Stationary jam	Pre-registration sensor	S5
0207	Stationary jam	Fixing outlet sensor	S19
0208	Stationary jam	No. 1 delivery sensor	S12
0209	Stationary jam	No. 2 delivery sensor	S42
020A	Stationary jam	Reversal sensor	S40
020D	Stationary jam	Duplex feed sensor	S7
0A01	Power-on jam	Cassette 1 pickup sensor	S1
0A05	Power-on jam	Pre-registration sensor	S5
0A07	Power-on jam	Fixing outlet sensor	S19
0A08	Power-on jam	No. 1 delivery sensor	S12
0A09	Power-on jam	No. 2 delivery sensor	S42
0A0A	Power-on jam	Reversal sensor	S40
0A0D	Power-on jam	Duplex feed sensor	S7
0D91	Wrong size specified	Pre-registration sensor	S5

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Work of Service

Periodical ServicePeriodical Service

None

Consumables

No	Item	Parts No.	Q'ty	Life	Remarks
1	Manual feed pickup roller	FL3-1352	1	150,000 sheets	
2	Manual feed separation pad	FL3-3469	1	150,000 sheets	
5	Cassette pickup roller	FB6-3405	*1 or 2	120,000 sheets	*: Quantity indicates number of cassette.
6	Cassette transfer roller	FC6-7083	*1 or 2	120,000 sheets	Replace with cassette separation pad. *: Quantity indicates number of cassette.
7	Cassette separation roller	FC6-6661	*1 or 2	120,000 sheets	*: Quantity indicates number of cassette.
8	Cassette idler gear (For China)	FU3-0280	*1 or 2	120,000 sheets	*: Quantity indicates number of cassette.

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Periodically Servicing

None

Embedded RDS

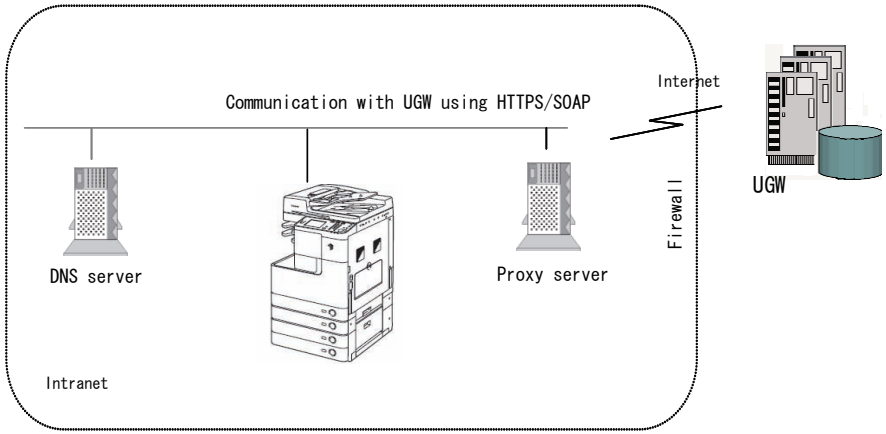
Product Overview

Overview

EMBEDDED RDS(hereafter, referred to as E-RDS) is a network module embedded with customer's device, and enables e-Maintenance/ imageWARE Remote (Remote Diagnosis System), which can collects and transmits status changes, counter values, error log and consumable information such as toner low/ out of the device to UGW via Internet.

The following device information / status can be monitored.

- Service Mode Counter (Billing counts)
- Parts Counter
- Mode Counter
- Firmware Info.
- Device Condition log
- Service Call Error log
- Jam log
- Status changes (Toner low/ out, etc.)



Conceptual diagram of e-Maintenance/ imageWARE Remote by E-RDS F-2-92

Features and benefits

Since high confidentiality is required for the information shown above, it performs communication between a device and a server using HTTPS/SOAP protocol.
E-RDS embedded with a network module in advance can realize a front-end processing of e-Maintenance/ imageWARE Remote system without attaching any extra hardware equipment.

E-RDS Setup

To monitor a Copier/ MFP with e-Maintenance/ imageWARE Remote, the following settings are required.

Advance preparations

(1) Advance confirmation
Confirm with the UGW administrator that the device to be monitored with e-Maintenance/ imageWARE Remote is registered in the UGW.

(2) Advance preparations
Interview the user's system administrator in advance to find out the following information about the network.

Information item 1
IP address settings
- Automatic setting (DHCP, RARP, BOOTP)
- Manual setting IP address, subnet mask and gateway address to be set

Information item 2
Is there a DNS server in use?
If there is a DNS server in use, find out the following.
- Primary DNS server address
- Secondary DNS server address

Information item 3
Is there a proxy server?
If there is a proxy server in use, find out the following.
- Proxy server address
- Port No. for proxy server

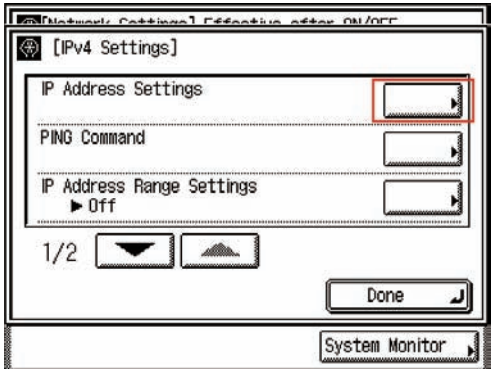
Information item 4
Is proxy server authentication required?
If proxy server authentication is required, find out the following.
- User name and password required for proxy authentication

Network settings

Based on the results of the information obtained in (2) Advance preparations, make the iR device network related settings in accordance with the following procedures.

IP Address Settings

a. Move on to Settings/ Registration > System Settings > Network Settings > TCP/IP Settings > IPv4 Settings > IP Address Settings.



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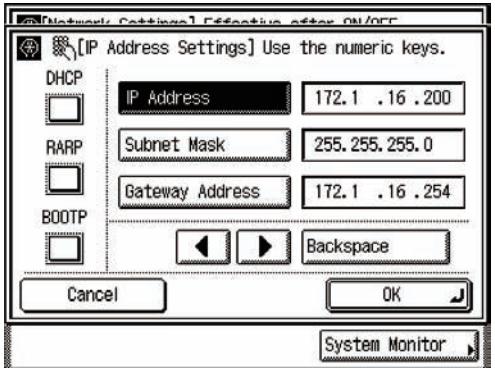
b. Set the IP address, based on the information obtained under (2) Advance preparations, Information item 1, described above.
- For automatic acquisition, select from [DHCP], [RARP], [BOOTP].
- For manual setting, set the following by numeric keys.
  - IP Address Example) 172. 001. 016. 200
  - Subnet Mask Example) 255. 255. 255. 0
  - Gateway Address Example) 172. 001. 016. 254



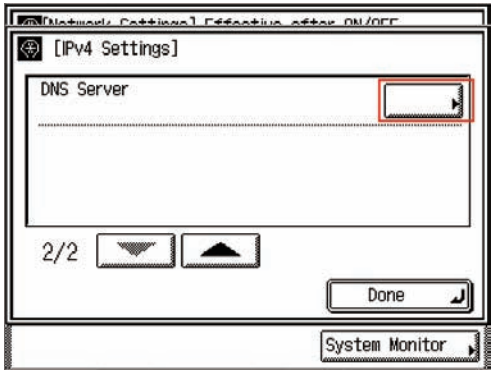
F-2-94

c. Press [OK].

d. Press [Done].

DNS Settings

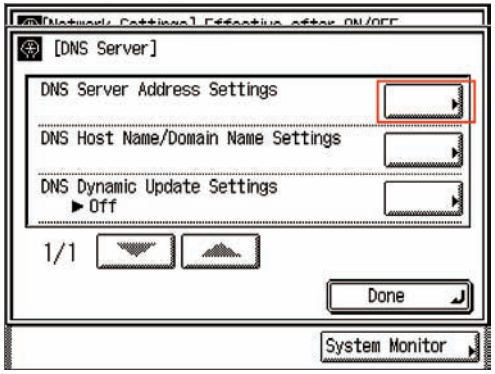
e. Move on to Settings/ Registration > System Settings > Network Settings > TCP/IP Settings > IPv4 Settings > DNS Server.



F-2-95

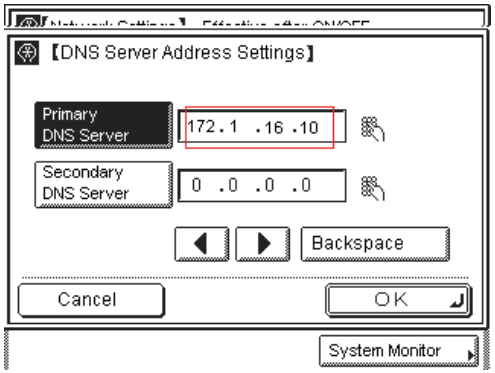
f. Set the DNS settings, based on the information obtained under (2) Advance preparations, Information item 2, described above.

- Select DNS Server Address Settings, if IP addresses are specified directly.



F-2-96

1) Select Primary DNS Server, and then set the DNS server address.
Example) 172. 001.016. 010



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2) If secondary DNS server is set, select and set Secondary DNS Server address.
3) 4) press [OK].

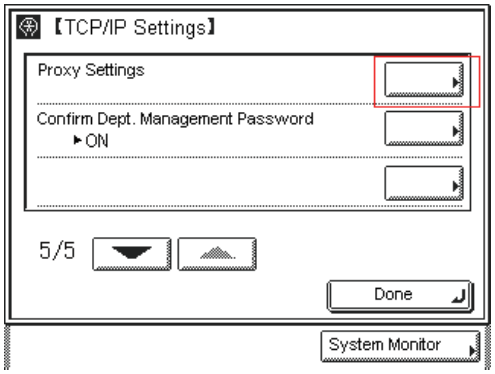
- If DNS host name is used, select DNS Host Name/Domain Name Settings, and then specify the host name.

- If a DHCP server is established and DNS Dynamic Update Settings is not applied, reserve the fix IP address to said device.

g. Press [Done].

Proxy Settings

h. If proxy server is set, move on to Setting/ Registration > System Settings > Network Settings > TCP/IP Settings > Proxy Settings.



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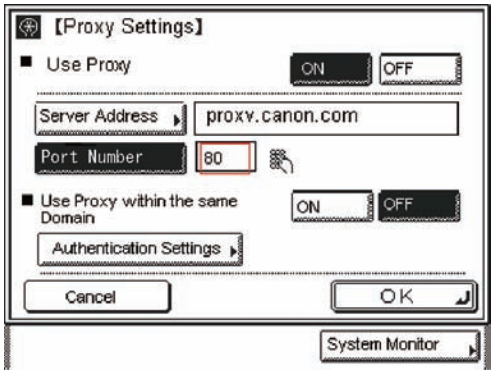
i. Set the Proxy Settings, based on the information obtained under (2) Advance preparations, Information item 3, described above.

1) Select [ON] in Use Proxy.
2) Select Server Address, and then set the Proxy server address.
   Example) proxy.canon.com
3) Enter Port Number.
   Example) 80 (1- 65535)



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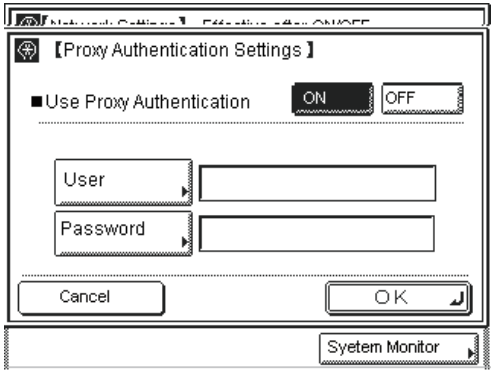
4) If proxy authentication is required, press [Authentication Settings].
5) Set the Proxy Authentication Settings, based on the information obtained under (2) Advance preparations, Information item 4, described above.

- Select [ON] in Use Proxy Authentication.
- Enter User name and Password, and then press [OK].



F-2-100

6) Press [OK].

j. Press [Done].

k. Press Reset button to quit the Setting/ Registration.

l. Turn the device power OFF/ ON.

Steps to E-RDS Settings

Locations of the user interface which performs E-RDS Settings from the servicemode is as follows.

- #E-RDS > E-RDS SWITCH
- #E-RDS > RGW-ADDRESS
- #E-RDS > RGW-PORT
- #E-RDS > COM-TEST
- #E-RDS > COM-LOG
- #CLEAR > ERDS-DAT
- #CLEAR > CA-KEY

Item	String format	Description
#E-RDS > E-RDS SWITCH	1 byte	0: Disable/ 1:Enable e-Maintenance/ imageWARE Remote system to send device information, counter data, error statuses to the UGW. Default value is 0 (not in use)
#E-RDS > RGW-ADDRESS	129 bytes (SJIS not allowed)	URL of UGW (default) : https://a01.ugwdevice.net/ugw/agentif010
#E-RDS > RGW-PORT	2 bytes	The UGW Port Number by default : 443 Validation: 1~ 65,535
#E-RDS > COM-TEST		Perform Communication test with UGW and set "OK"/ "NG" as the result
#E-RDS > COM-LOG		Detailed communication log displays the last 5 error information, consisting of data, error code, and error reasons up to now Max 5 latest loggings retained Max 128 characters for Error information.
#CLEAR > ERDS-DAT		Reset E-RDS settings
#CLEAR > CA-KEY		After executing #CLEAR > CA-KEY, if the power is turned OFF and then ON, CA certificate file is automatically installed.

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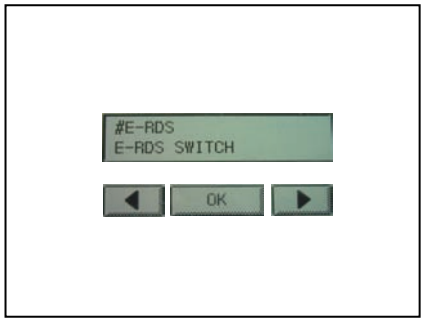
The example of the service mode indication screen



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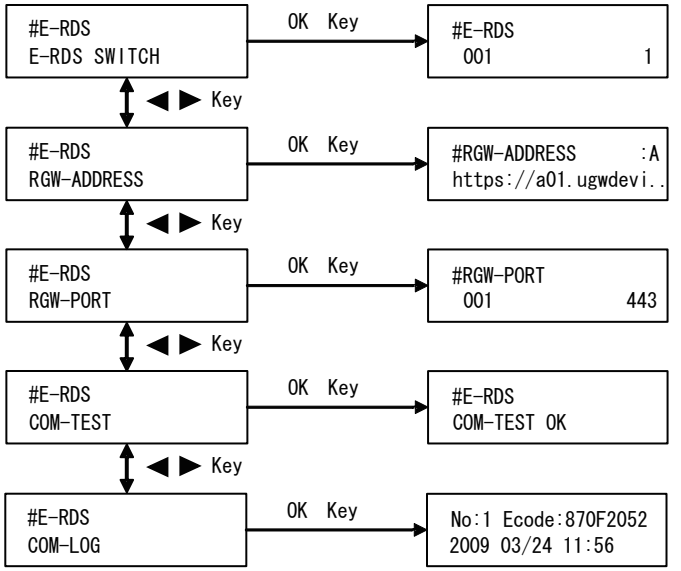

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Hereafter, the procedure of enabling E-RDS application is shown.

a. Enter servicemode and select #CLEAR > ERDS-DAT, and then touch [OK].
After executing the procedure a. (#CLEAR > ERDS-DAT), install or delete the CA certificate file as necessary, and then turn OFF and then ON the power.

- Installation of CA certificate file: Use SST to install.
- Deletion of CA certificate file: Execute #CLEAR > CA-KEY. (CA certificate file is automatically installed.)

b. Select #E-RDS SWITCH、and set value " 1" then touch [OK]. The communication with UGW is enabled by the above setting.

- 0 : OFF(initial value): e-Maintenance/ imageWARE Remote is disabled.
- 1 : ON: e-Maintenance/ imageWARE Remote is enabled

⚠

The following settings i.e. RGW-PORT and RGW-ADR in servicemode must not be change unless there are specific instructions to do so. Changing these values will cause error in communication with UGW.

c. Select COM-TEST and then touch [OK]. This initiates the communication test between the device and the UGW. If the communication is successful, OK is displayed. If NG (failed) appears, refer to the troubleshooting guide and repeat until OK! is displayed.

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

Communication log

(1) COM-LOG

- #E-RDS COM-LOG

  Move on to COM-TEST by using Left/ Right allow key.

  The maximum 5 records logged
  Only for the head portion of the error details written on COM-LOG is displayed.

(2) Details of communication log

You can use communication log to verify that a detailed error code SOAP method name, etc. are displayed at the time of communication test failure.

- By pressing ? key or OK key, progressive information (generating date/ time of error) is displayed.
- Error details will be displayed when OK key is again pressed in the state line where generating time is displayed.

Error information: within maximum 128 character strings (NULL is not included).
Refer to the error list for the message strings displayed on the COM-LOG.

Initializing E-RDS settings

It is possible to return E-RDS Settings to factory-shipments value.

1) Select #CLEAR ERDS-DAT by using Left/ Right allow key.
2) When [OK] is touched, a confirmation message "OK?" is displayed.
3) If agree upon initialization, following E-RDS settings, internal data, and Alarm filtering information will be purged.
   - #E-RDS > E-RDS SWITCH
   - #E-RDS > RGW-ADDRESS
   - #E-RDS > RGW-PORT
   - #E-RDS > COM-LOG

⚠

In case of replacing the CA certificate file, even #CLEAR is executed, the status is not returned to the factory default.

When installing the certificate file other than the factory default CA certificate file, it is required to delete the certificate file after E-RDS initialization and install the factory default CA certificate file.

FAQ

Q1: Registration information of an E-RDS is once deleted from the UGW server, and is re-registered after that. If a communication test is not carried out, then device information on the UGW becomes invalid.

A1: When registration of the E-RDS is deleted from the UGW, the status will be changed to that the communication test has not completed because related information has lost from a database. So, device information will also become invalid if that condition will be left for seven days without carrying out the communication test.

Q2: A communication test with the UGW results NG!

A2: On the conditions which have not changed a server's address or port number, the following cases can be considered in the case where a communication test serves as NG.

1. Name resolution was failed due to an incorrect host name or DNS server has been halted.
2. Network cable is blocked off.
3. Proxy server settings is not correct.

Q3: Let me know the interval of data transmitting from E-RDS to the UGW, and what data size is sent to the UGW?

A3: The schedule of data transmitting, the start time are determined by settings in the UGW side. The timing is once per 16 hours by default, and counter data volume could be maximum 250 bytes.

Q4: Does error-retry carry out at the time of a communication error with the UGW?

A4: The retry of SOAP communication is performed as follows. As for postAlert data, three times of data which failed transmitting to the UGW by some external causes can be stored in RAMDISK, and will be resent at the predetermined intervals. Moreover, the data which failed in transmission is resent at the predetermined intervals at the time of SOAP transmitting error generating at the time of a jam log and service call log transmission.

Q5: How many log-data can be stored?

A5: Up to 5 log records can be accumulated. The data size of error information is maximum 128 bytes.

Q6: Although Microsoft ISA as a proxy server is introduced, the authentication check is failed. Can E-RDS adopt with Microsoft ISA?

A6: "Integrated" authentication is used for Microsoft ISA though, E-RDS must comply with "Basic." Therefore if you can change to "Basic" authentication on the server, the authentication with E-RDS can be done.

Q7: Can I turn the device power off during the e-Maintenance/ imageWARE Remote system operation?

A7: While operating the e-Maintenance/ imageWARE Remote system, the power of the device must be ON. If power OFF is needed, do not leave the device power OFF for long time. It will become "Device is busy, try later" errors if the power supply of network equipment such as HUB is made prolonged OFF.

Q8: Describe about the behavior of E-RDS while enabling the Real Deep Sleep functionality.

A8: While being in Real Deep Sleep, and if data to be sent is in E-RDS, the system wakes up asleep, then starts to send the data to the UGW. The system also waits for completion of data transmission and let the device to shift to asleep status again. However, transition time to the Real Deep Sleep depends on the device, and the transition to sleep won't be done if the next data transmission will be done within 10 minutes.

Q9: Is E-RDS compatible with Section counter (Department counter)?

A9: No, E-RDS does not support Section counter.

Q10: Is E-RDS operation possible to a device which used IPv6?

A10: It depends on UGW side, however IPv6 has not been supported by UGW3.0.

Troubleshooting

Troubleshooting

When the communication test with UGW is NG, trouble shooting is performed according to the following steps.

No.1 A communication test (COM-TEST) results NG

Causes: Initial settings or network conditions is incomplete.

Remedy1:

1) Check network connections

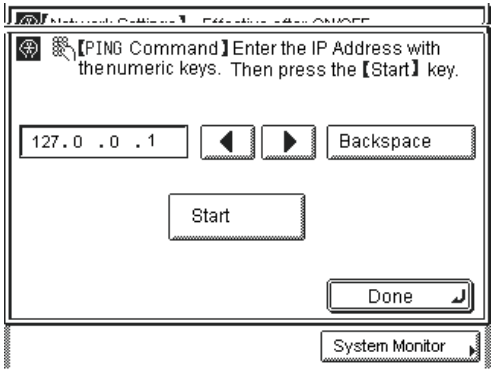
Is the status indicator LED for the HUB port to which the main unit is connected ON?

YES: Proceed to Step 2).

NO: Check that the network cable is properly connected.

2) Confirm loop back address

a) Settings/ Registration > System Settings > Network Settings > TCP/ IP Settings > IPv4 Settings > PING Command. Input 127.0.0.1, and touch the Start button.



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Is the response from the host displayed?

YES: Proceed to Step 3).

NO: There is a possibility that the main unit's network settings are wrong. Check the details of the IPv4 settings once more.

3) Confirmation from another PC connected to same network.

a) Request the user to ping the main unit from a PC connected to same network.

Does the main unit respond?

YES: Proceed to Step 4).

NO: Confirm the details of the main unit's IP address and subnet mask settings.

4) Confirm DNS connection

a) Settings/ Registration > System Settings > Network Settings > TCP/ IP Settings > IPv4 Settings > DNS Server > DNS Server Address Settings, and note down both the primary and secondary DNS server addresses.

b) Press Reset key.

c) Settings/ Registration > System Settings > Network Settings > TCP/ IP Settings > IPv4 Settings > PING command. Input the primary DNS server noted down in step a) as the IP address, and then touch Start.

Is the response from the host displayed?

YES: Proceed to Remedy2.

NO: Input the secondary DNS server noted down in step a) as the IP address, and then touch Start.

Is the response from the host displayed?

YES: Proceed to Remedy2.

NO: There is a possibility that the DNS server address is wrong. Reconfirm the address with the user's system administrator.

Remedy2: Troubleshooting using communication log

a) Enter Servicemode > #E-RDS > COM-LOG, and the following communication log will be displayed. Maximum 5 records are logged.

No:1 Ecode:840F2003 2009 01/09 17:27

b) Select a log line and touch OK, then move on to log details.

*Network is not rea dy , try later : get

No.2 A communication test results NG! even if network setting is set properly.

Cause: No proper firmware has been installed, or E-RDS settings have not been completed.

Remedy: The following points should be checked.

1) Check the firmware compatibility of device.
2) Check network conditions such as proxy server settings and so on.
3) Check E-RDS setting.
   a) Check the communication log from COM-LOG.
   b) If RGW-ADR or RGW-PORT setting has changed, restore default value by Servicemode > #CLEAR > ERDS-DAT.
   c) If CA certificate file has changed, restore the original certificate file installed at the factory shipment to the device by using a service support tool.

No.3 There was a log, indicating "Network is not ready, try later (No.22)" in error details of COM-LOG list.

Causes: A certain problem occurred in networking.

Remedy: Check and take actions mentioned below.

1) Check networking conditions and connections.
2) Turn on the power supply of a device and perform a communication test (Servicemode > #E-RDS > COM-TEST about 60 seconds later.

No.4 "Unknown error" is displayed though a communication test has done successfully.

Causes: A certain problem was in the server side, or possibly a network load has been added.

Remedy: The following points should be checked.

1) Change data transmission schedules, and then see how things going.
2) Try again after a period of time. If the same error persists, check the UGW status with a network and UGW administrator.

Error code and strings

The error information appeared to a communication test log is as follows.
(Here, "server" means UGW)

By error list, error No.1 and No.2 display only an error character strings.
Error No 3 henceforth, these are displayed in the following form.
[*][Error character strings] : [Method name] [Server side detailed error]
: Error character strings head "" is added to the error generated by the communication test.

No.	Code	Error character strings	Causes	Remedy
1	0500 0003	SUSPEND: Communication test is not performed.	The communication test had not been performed, though E-RDS is enabled.	Select and perform Servicemode > #E-RDS > COM-TEST.
2	0xxx 00f2	Event Registration is Failed	Processing (event processing) within the device has failed.	Turn the device OFF/ ON. If the error persists, replace the device system software. (Upgrade)
3	8xxx 2001	URL Scheme error(not https)	The header of the URL of the registered UGW is not in https format.	Check that the value of Service mode > #E-RDS > RGW-ADR is https://a01.ugwdevice.net/ugw/agentif010.
4	8xxx 200A	Server connection error	Displayed in the event of a TCP/IP communication fault. Also displayed when an attempt is made at communication with the device IP address not set.	Check the network connection, as per the initial procedures described in the troubleshooting.
5	8xxx 2002	URL server specified is illegal	A URL different to that specified by the UGW has been set.	Check that the value of Service mode > #E-RDS > RGW-ADR can be https://a01.ugwdevice.net/ugw/agentif010.
6	8xxx 2014	Proxy connection error	Could not connect to proxy server due to improper address.	Check proxy server address and re-enter as needed.
7	8xxx 201E	Proxy authentication error	Proxy authentication is failed.	Check the user name and password required in order to login to the proxy, and re-enter as needed.

No.	Code	Error character strings	Causes	Remedy
8	8xxx 2015	Proxy address resolution error	Could not connect to proxy server due to name resolution error.	Check that the proxy server name is correct. If the proxy server name is correct, check the DNS connection, as per the troubleshooting initial procedures.
9	8xxx 2028	Server certificate error	No route certificate installed in device. - Certificate other than that initially registered in the user's operating environment is being used, but has not been registered with the device	Install the latest device system software. (Upgrade)
10	8xxx 2029	Server certificate verify error	The server certificate verification error occurred. (URL check error)	Check that Service mode > #E-RDS > RGW-ADDRESS can be https://a01.ugwdevice.net/ugw/agentif010.is correct.
11	8xxx 2046	Server certificate expired	The device time and date is outside of the certificated period.-T he route certificate registered with the device has expired. Certificate other than that initially registered in the user's operating environment is being used, but has not been registered with the device.	Check that the device time and date are correctly set. If the device time and date are correct, upgrade to the latest system software.
12	8xxx 2000	Unknown error	Some other kind of communication error has occurred.	Try again after a period of time. If persists, check the UGW status with the UGW administrator.
13	8xxx 2063	SOAP Fault	SOAP communication error has occurred.	Check that the value of Service mode > #E-RDS > RGW-PORT can be 443.

No.	Code	Error character strings	Causes	Remedy
14	8xxx 2004	Server response error (NULL)	Displayed when communication with UGW has been successful, but an error of some sort has prevented UGW from responding. When (Null) is displayed at the end of the message, this indicates that there has been an error in the HTTPS communication method.	Try again after a period of time. If the same error occurs again, check the UGW status with the UGW administrator.
15	8xxx 2004	Server response error (Hexadecimal]) [Error details in UGW] *1	Displayed when communication with UGW has been successful, but an error of some sort has prevented UGW from responding.(Hexadecimal) displayed at the end of the message is an error code returned by UGW. In the case of this kind of error only, [Server detailed error] is displayed at the end of the error information.	Try again after a period of time and also check detailed error code (hexadecimal) from UGW displayed after the message.
16	8xxx 0101 - 0A01	Device internal error	An internal error, such as memory unavailable, etc., has occurred during a device internal error phase.	Switch the device power OFF/ ON or replace the device system software. (Upgrade)
17	8xxx 0201- 0204, 0206	Server schedule is invalid	During the communication test, there has been some kind of error in the schedule values passed from UGW.	When the error occurs, report the details to the support section, then, after the UGW side has responded, try the communication test again.
18	8xxx 2047	Server response time out	Due to network congestion, etc., the response from UGW does not come within the specified time. (HTTPS level time out)	If this error occurs when the communication test is being run, wait some time and run the test again.

No.	Code	Error character strings	Causes	Remedy
19	8xxx 2048	Service not found	There is a mistake in the UGW URL, and UGW cannot be accessed. (Path is wrong)	Check that the value of Service mode > Function > Install > RGW-ADDRESS can be https://a01.ugwdevice.net/ugw/agentif010
20	8xxx 0003	E-RDS switch is set OFF	A communication test has been attempted with the E-RDS switch being OFF	Set Service mode > #E-RDS > E-RDS SWITCH to 1, and then run Service mode > Function > Install > COM-TEST.
21	8xxx 0003	Server schedule is not exist	Blank schedule data have been received from UGW.	Check the device settings status with the UGW administrator.
22	8xxx 2003	Network is not ready, try later	Communication attempted without confirming network connection, just after booting up a device in which the network preparations are not ready. (Network connection not established within 60 seconds of device boot up.)	Check the network connection, as per the troubleshooting initial procedures. Run Service mode > #E-RDS > COM-TEST about 60 seconds after turn on the device.
23	8xxx 2052	URL error	The data which is not URL is inputted into URL field.	Check Servicemode > #E-RDS RGW-ADDRESS can be https://a01.ugwdevice.net/ugw/agentif010. If not, enter the correct URL strings in URL description field..
24	8xxx 200B	Server address resolution error	Server address name resolution has failed.	Check Servicemode > #E-RDS > RGW-ADDRESS can be https://a01.ugwdevice.net/ugw/agentif010.
25	0xxx 0003	Communication test is not performed	Communication test has not completed	Perform and complete a communication test.
26	8xxx 0221	Server specified list is too big	Alert filtering error: The number of elements of the list specified by the server is over restriction value.	The number of elements of alert filtering is specified correctly.
27	8xxx 0222	Server specified list is wrong	Alert filtering error: Unjust value is included in the element of the list specified by the server.	The element of alert filtering is specified with the right value.
28	xxxx xxxx	SUSPEND: Initialize Failure!	Internal error occurred at the initiating E-RDS.	Turn the device power OFF/ ON.
29	8300 0306	SRAM version unmatched!	Improper value is written in at the head of SRAM domain of E-RDS.	Turn the device power OFF/ ON.
30	8xxx 0304	Device is busy, try later	The semaphore consumption error at the time of a communication test.	Wait a while then rerun the test.
31	8xxx 0207 - 0208	Internal Schedule is broken	The schedule data in the inside of E-RDS is not right.	Perform a communication test.
32	8xxx 0004	Operation is not supported	Method which E-RDS is not supporting attempted.	Contact help desk

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

T-2-45

Com-Log Report

The report output of the communication error logging information on five affairs can be carried out.

#REPORT > #REPORT OUTPUT > ERDS COM LOG LIST

Output sample

```
01/17 2009 10:14
                              ****************************
                              *** E-RDS-COM-LOG ***
                              ****************************

No.01  DATE 05 18 2009 TIME 03:21 CODE 05000003
   Information    SUSPEND: Communication test is not performed.

No.02  DATE 05 18 2009 TIME 03:21 CODE 00000000
   Information    SUNSEND: mode changed.

No.03  DATE 05 18 2009 TIME 03:18 CODE 05000003
   Information    SUSPEND: Communication test is not performed.

No.04  DATE 05 18 2009 TIME 03:18 CODE 00000000
   Information    SUNSEND: mode changed.

No.05  DATE 05 18 2009 TIME 01:56 CODE 05000003
   Information    SUSPEND: Communication test is not performed.
```

Service cautions

After performing the following service activities it is necessary to perform Service mode #CLEAR > ERDS-DAT and #E-RDS.
Failure to do so will result that the counter transmitting value to the UGW may become unusual.

- System upgrade
- HDD format and system installation
- COPIER > Function > Clear > MN-CONT

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.

Service mode	Default
#E-RDS > RGW-PORT	443
#E-RDS > RGW-ADDRESS	https://a01.ugwdevice.net/ugw/agentif010

T-2-46

3 Periodical Service

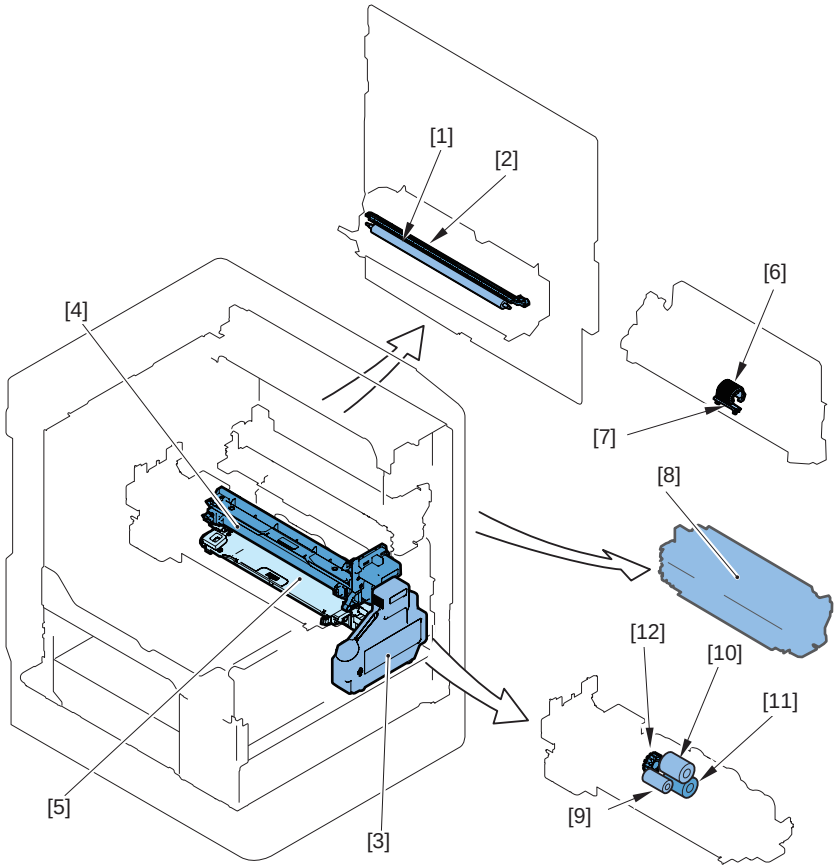
Consumable Parts and Cleaning Parts

Consumable Parts and Cleaning Parts

: Replaced (consumables) : Cleaned

No.	System	Items	Parts No. iR2545/2535	Q'ty	Life	Interval					Counter		Remarks	Reference
						80,000 sheets	120,000 sheets	150,000 sheets	240,000 sheets	500,000 sheets				
1	Image formation system	Waste toner container	FM3-9276	1	80,000 sheets						DRBL-1	WST-TNR	Defined by 6% document	p. 4-35
2		Transfer guide	-	1	120,000 sheets						-	-	Wipe with dry cloth.	-
3		Transfer roller	FC9-0693	1	240,000 sheets						DRBL-1	TR-ROLL		p. 4-35
4		Separation static charge eliminator	FM3-9296	1	240,000 sheets						DRBL-1	SP-SC-EL		p. 4-35
5		Developing assembly	FM3-9263	1	500,000 sheets						DRBL-1	DVG-CYL		p. 4-37
6	Fixing system	Fixing inlet guide	-	1	120,000 sheets						-	-	Wipe with dry cloth. If dirt cannot come off, wipe it with alcohol.	-
7		Fixing unit (For iR2545/2535)	FM4-3363 (120V) FM3-9302 (230V)	1	240,000 sheets						DRBL-1	FX-UNIT		p. 4-39
8	Pickup feed system	Cassette pickup roller	FB6-3405 FC7-9381 (For CHN)	*1 or 2	120,000 sheets						DRBL-1	C1-PU-RL, C2-PU-RL, C3-PU-RL, C4-PU-RL	*: Quantity indicates number of cassette.	p. 4-39
9		Cassette feed roller	FC6-7083 FC7-9502 (For CHN)	*1 or 2	120,000 sheets						DRBL-1	-	Replace with cassette separation pad. *: Quantity indicates number of cassette.	p. 4-39
10		Cassette separation roller	FC6-6661	*1 or 2	120,000 sheets						DRBL-1	C1-SP-RL, C2-SP-RL, C3-SP-RL, C4-SP-RL	*: Quantity indicates number of cassette.	p. 4-40
11		Cassette idler gear (Only for China)	FU3-0280	*1 or 2	120,000 sheets						DRBL-1	-	*: Quantity indicates number of cassette.	p. 4-40
12		Manual feed pickup roller	FL3-1352	1	150,000 sheets						DRBL-1	M-PU-RL		p. 4-37
13		Manual feed separation pad	FL3-3469	1	150,000 sheets						DRBL-1	M-SP-PD		p. 4-38

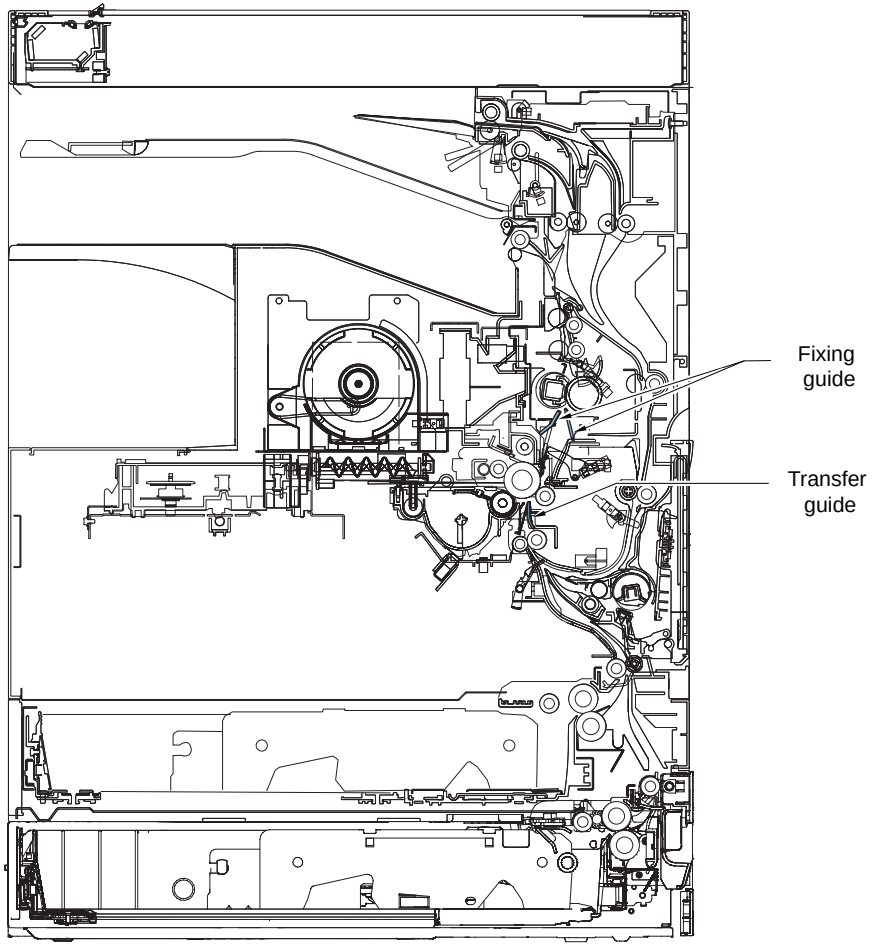
T-3-1



F-3-1

[1] Transfer roller
[2] Separation static eliminator
[3] Waste toner container
[4] Drum unit
[5] Developing assembly
[6] Manual feed pickup roller
[7] Manual feed separation pad
[8] Fixing unit
[9] Cassette pickup roller
[10] Cassette feed roller
[11] Cassette separation roller
[12] Idler gear (for China)

Cleaning Parts



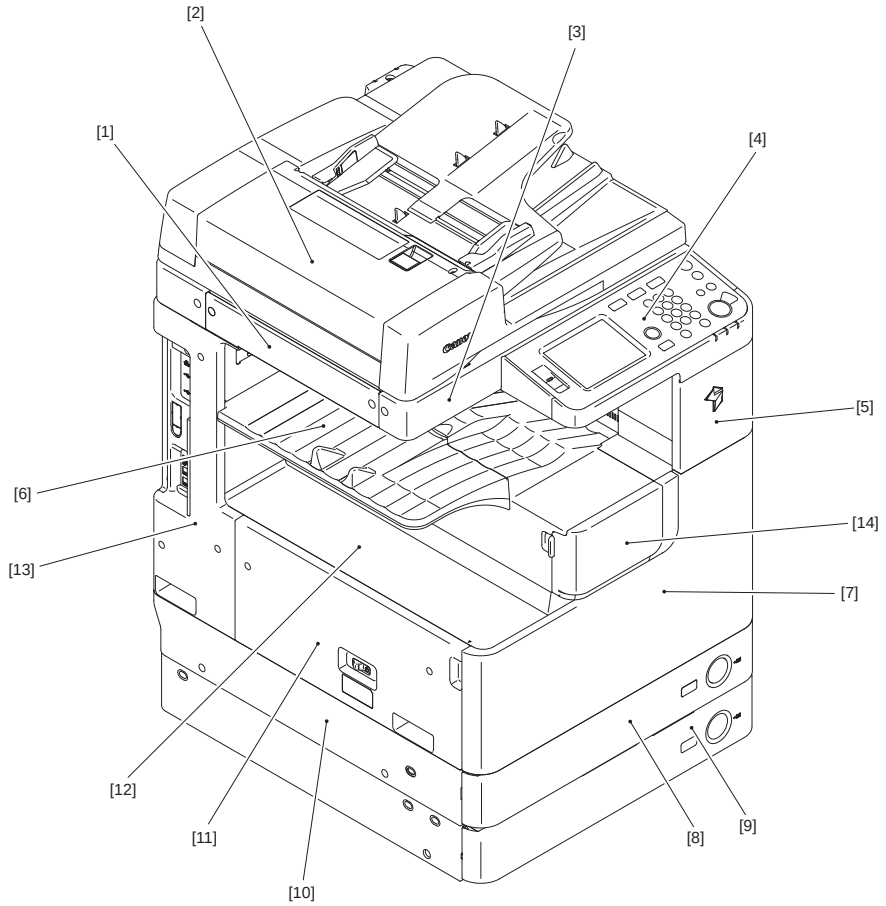
F-3-2

Parts Replacement and Cleaning

- List of Parts
- External Covers
- Main Units / Parts
- Consumable Parts Requiring Periodic Replacement
- PCBs
- Solenoids
- Sensors
- Motors
- Fans
- Switches
- Clutches
- Other

List of Parts

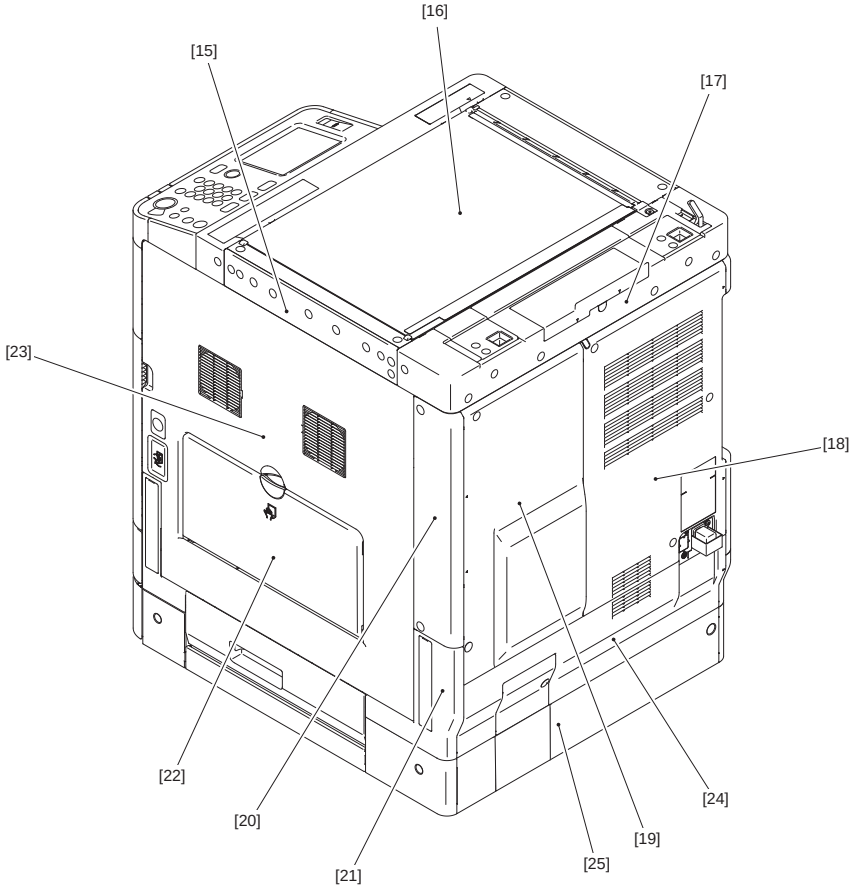
List of Covers



F-4-1

Symbol	Part name	Part number	Reference
[1]	Reader Left Cover	FC8-6197	p. 4-14
[2]	DADF (Optional or Standard)	-	-
[3]	Reader Front Cover	FC9-0491	p. 4-14
[4]	Control Panel	FM3-9356 (TW) FM3-9354 (UL,AU) FM3-9355 (CN) FM3-9357 (KR) FM3-9358 (EUR)	-
[5]	Support Cover	-	p. 4-14
[6]	Delivery Tray	FC9-0513	p. 4-15
[7]	Front Cover	FM3-9256	p. 4-15
[8]	Cassette 1	-	-
[9]	Cassette 2 (Only for the Cassette 2 standard model)	-	-
[10]	Lower Left Cover	FC9-0506	p. 4-16
[11]	Left Cover	FM3-9338	p. 4-16
[12]	Inside Base Cover	FC9-0520	p. 4-17
[13]	Rear Left Cover	FC9-0523	p. 4-18
[14]	Toner Supply Cover	FC9-0571, FC9-0568	p. 4-19

T-4-1

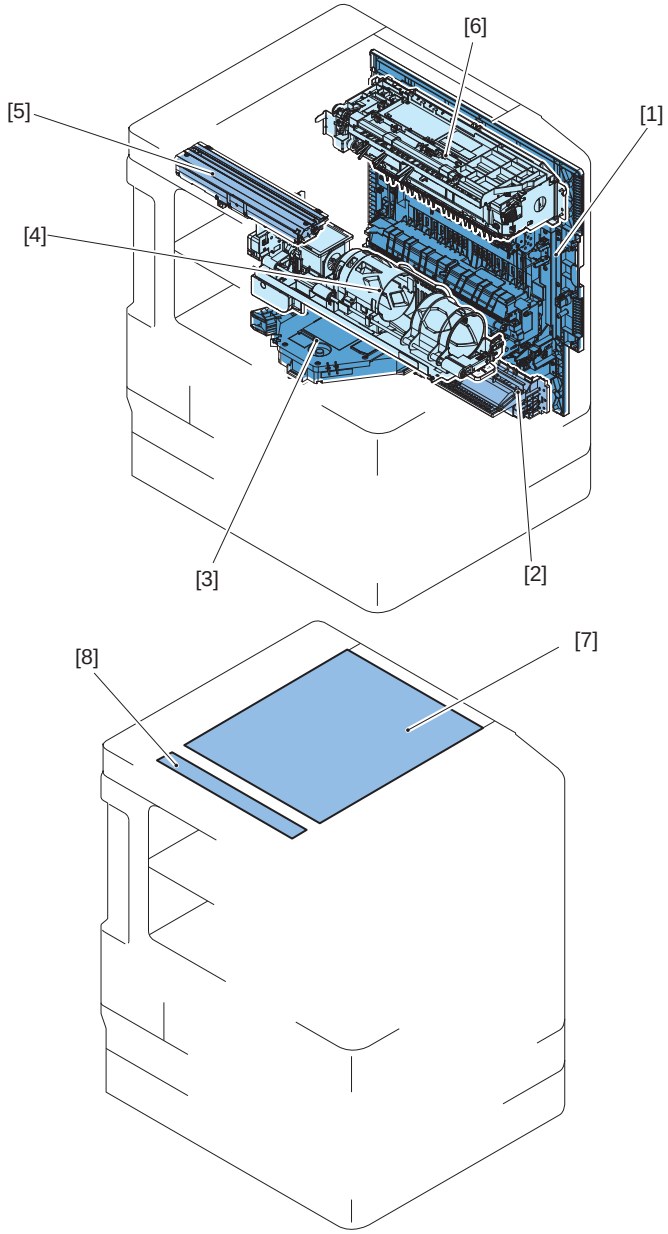


F-4-2

Symbol	Part name	Part number	Reference
[15]	Reader Right Cover	FC8-6198	p. 4-20
[16]	Platen Glass	A SIZE: FL2-9839 A/INCH SIZE: FL2-9840 AB/INCH SIZE: FL2-9841	p. 4-20
[17]	Reader Rear Cover	FC9-0492	p. 4-20
[18]	Rear Cover (Right)	FC9-0525	p. 4-21
[19]	Rear Cover (Left)	FC9-0524	p. 4-22
[20]	Right Cover (Upper Rear)	FC9-0572	p. 4-22
[21]	Right Cover (Lower Rear)	FC9-0527	p. 4-22
[22]	Manual Feed Pickup Tray	FM3-9285	-
[23]	Right Cover	FM3-9284 (With No.2 Deleivery Unit) FM3-9380 (Without No.2 Deleivery Unit)	p. 4-23
[24]	Lower Rear Cover	FC9-0507	p. 4-22
[25]	Cassette 2 Rear Cover	FC9-4682	p. 4-23

T-4-2

List of Main Units / Parts

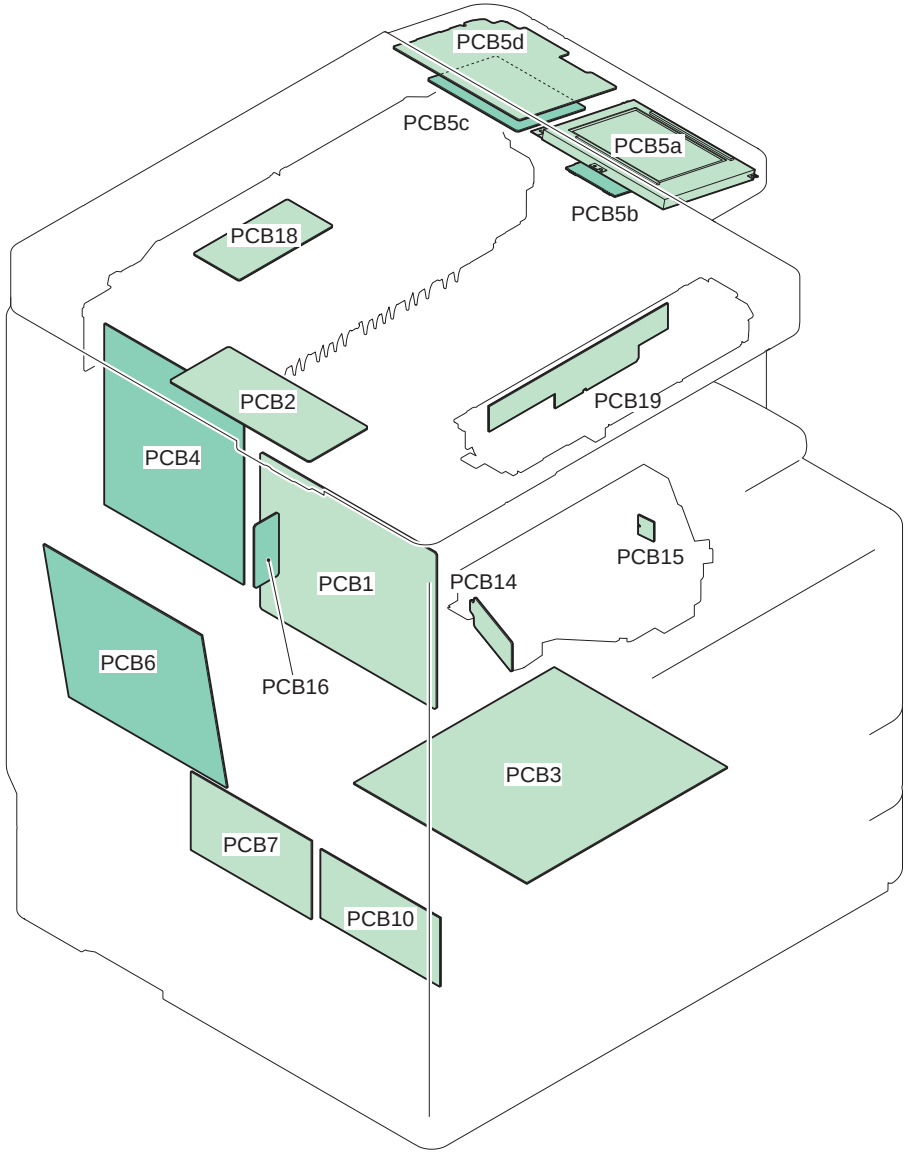


F-4-3

Symbol	Part name	Part number	Reference
[1]	CCD Unit	FM3-9435	p. 4-29
[2]	Pickup Unit	FM3-9277	p. 4-25
[3]	Laser Scanner Unit	FM3-9407	p. 4-26
[4]	No.2 Deleivery Unit	FM3-9314	-
[5]	Toner Supply Unit	FM3-9428	p. 4-27
[6]	Right Cover Unit	FM3-9284 (With No.2 Deleivery Unit) FM3-9380 (Without No.2 Deleivery Unit)	p. 4-23
[7]	Platen Glass	A SIZE: FL2-9839 A/INCH SIZE: FL2-9840 AB/INCH SIZE: FL2-9841	p. 4-32
[8]	ADF scan glass	FL2-9843	p. 4-33

T-4-3

List of PCBs

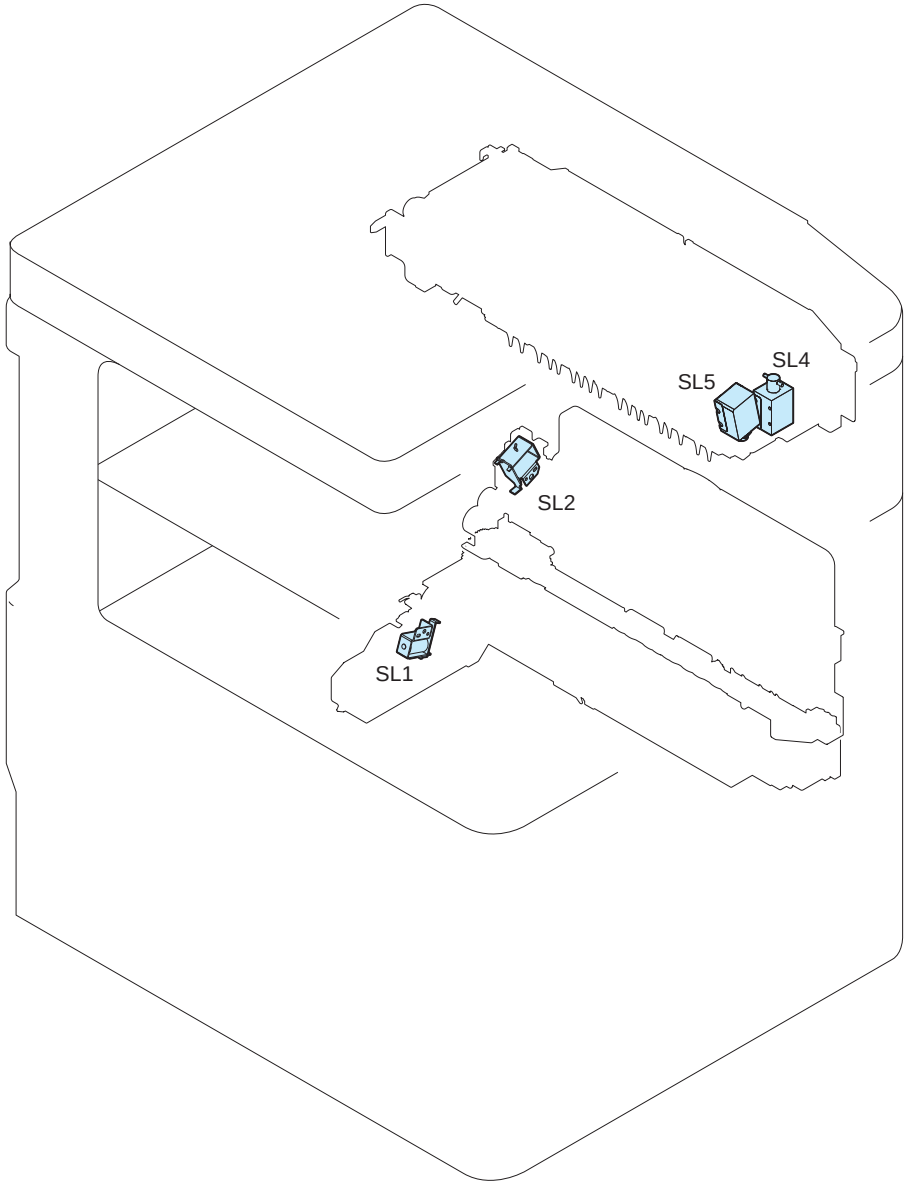


F-4-4

Symbol	Part name	Part number	Reference
PCB1	Main Controller PCB	iR2535: FM4-6218 iR2545: FM4-6219"	p. 4-41
PCB2	Reader Relay PCB	FM4-2859	-
PCB3	Power Supply PCB	120V: FM4-4195 230V: FM3-9258	-
PCB4	DC Controller PCB	FM4-2863	p. 4-41
PCB5a	LCD Unit	FL3-3204	-
PCB5b	1/4 Inverter PCB	FM2-2753	-
PCB5c	Control Panel CPU PCB	FM4-2854	-
PCB5d	Key Top PCB Assembly	FM4-2855	-
PCB6	HVT PCB	FM4-2871	-
PCB7	Option Power Supply PCB	120V: FK2-9187 230V: FK2-9188	-
PCB10	Heater PCB	120V: FM4-2857 230V: FM4-2858	-
PCB11	NCU PCB	FM4-3343	-
PCB12	Modular PCB	FM4-3346	-
PCB13	Pseudo-CI PCB	FM2-7753	-
PCB14	Laser Driver PCB	FM4-2547	-
PCB15	BD PCB	FM2-4022	-
PCB16	RAM PCB	256MB: FM4-3349 512MB: FM4-3350	p. 4-42
PCB18	No.2 Delivery Reversal PCB	FM4-2886	-
PCB20	CCD PCB	FM3-9435	-

T-4-4

List of Solenoids

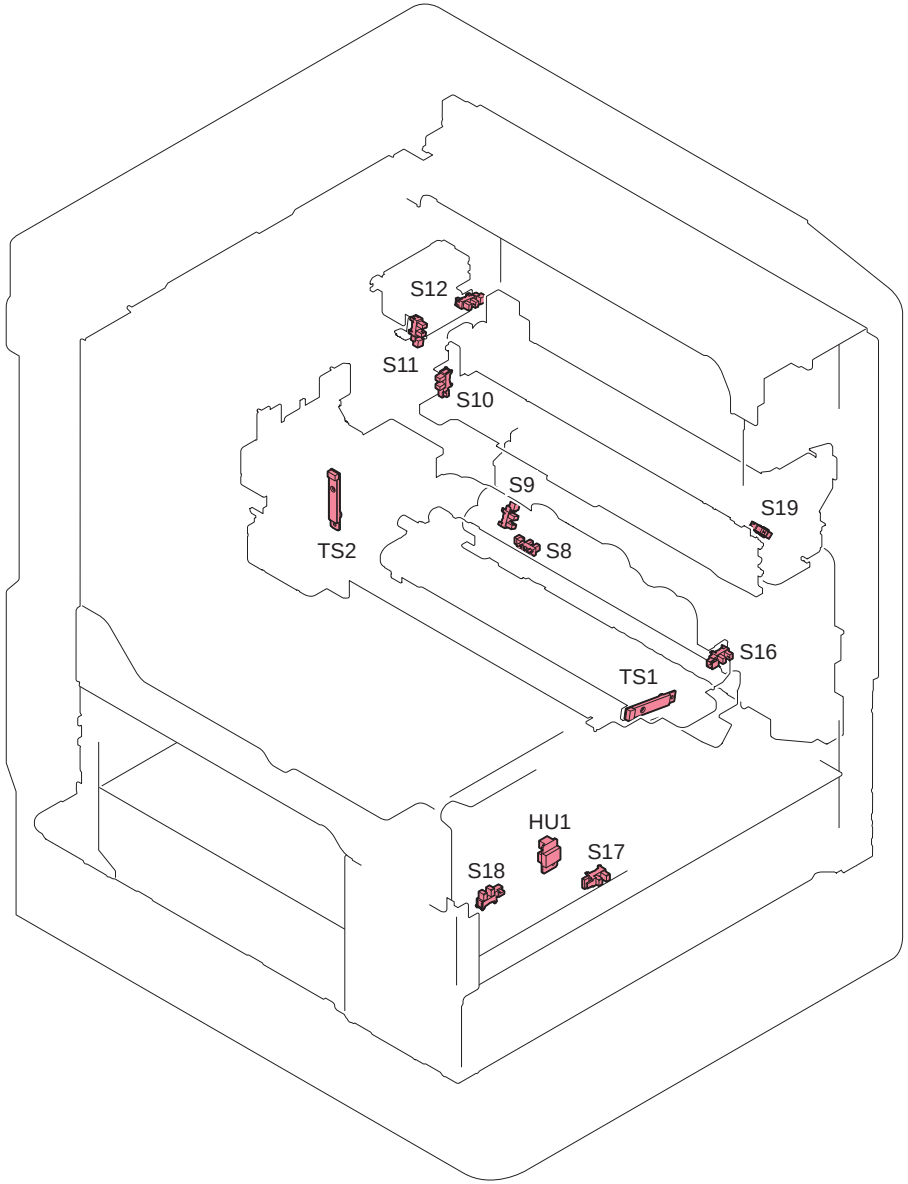


F-4-5

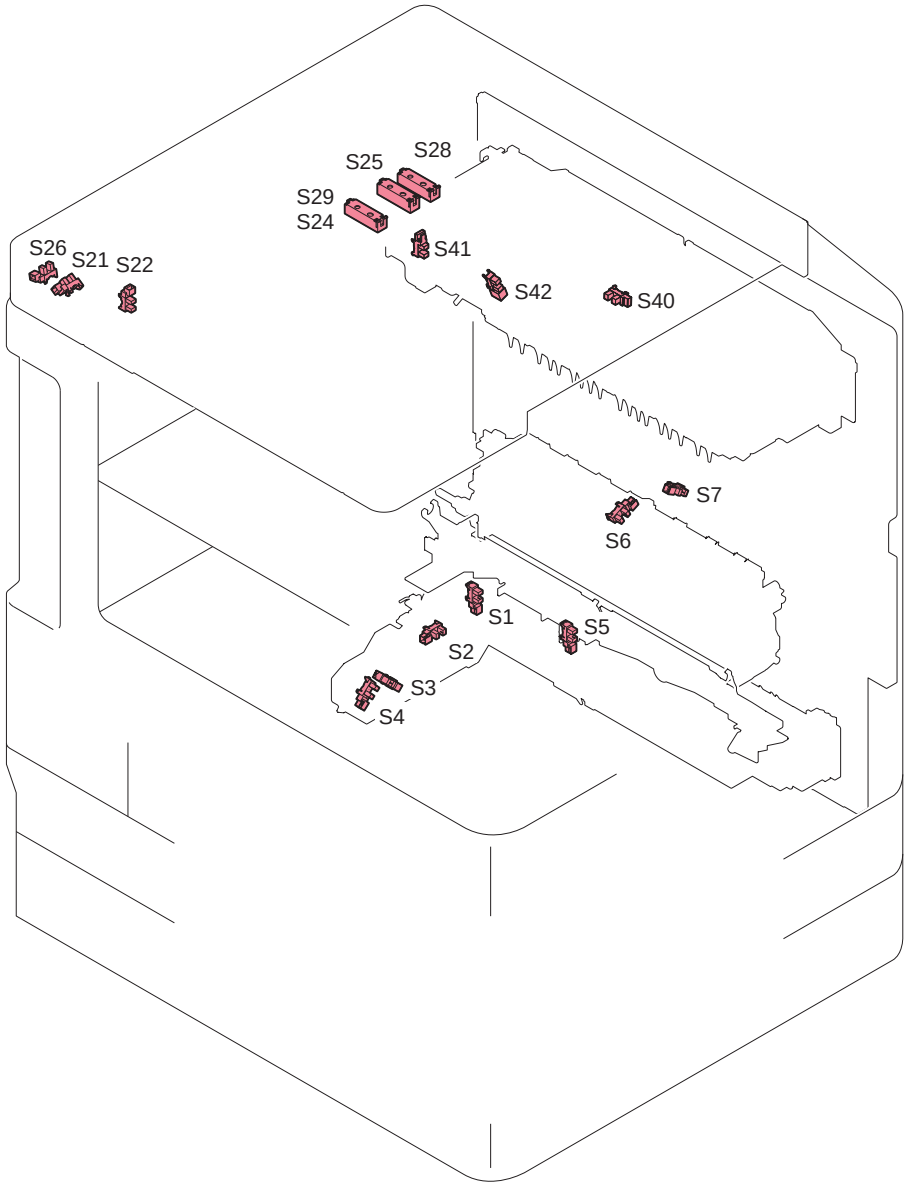
Symbol	Part name	Part number	Reference
SL1	Pickup Solenoid	FK2-0408	-
SL2	Manual Feed Pickup Solenoid	FK2-1410	-

T-4-5

List of Sensors



F-4-6

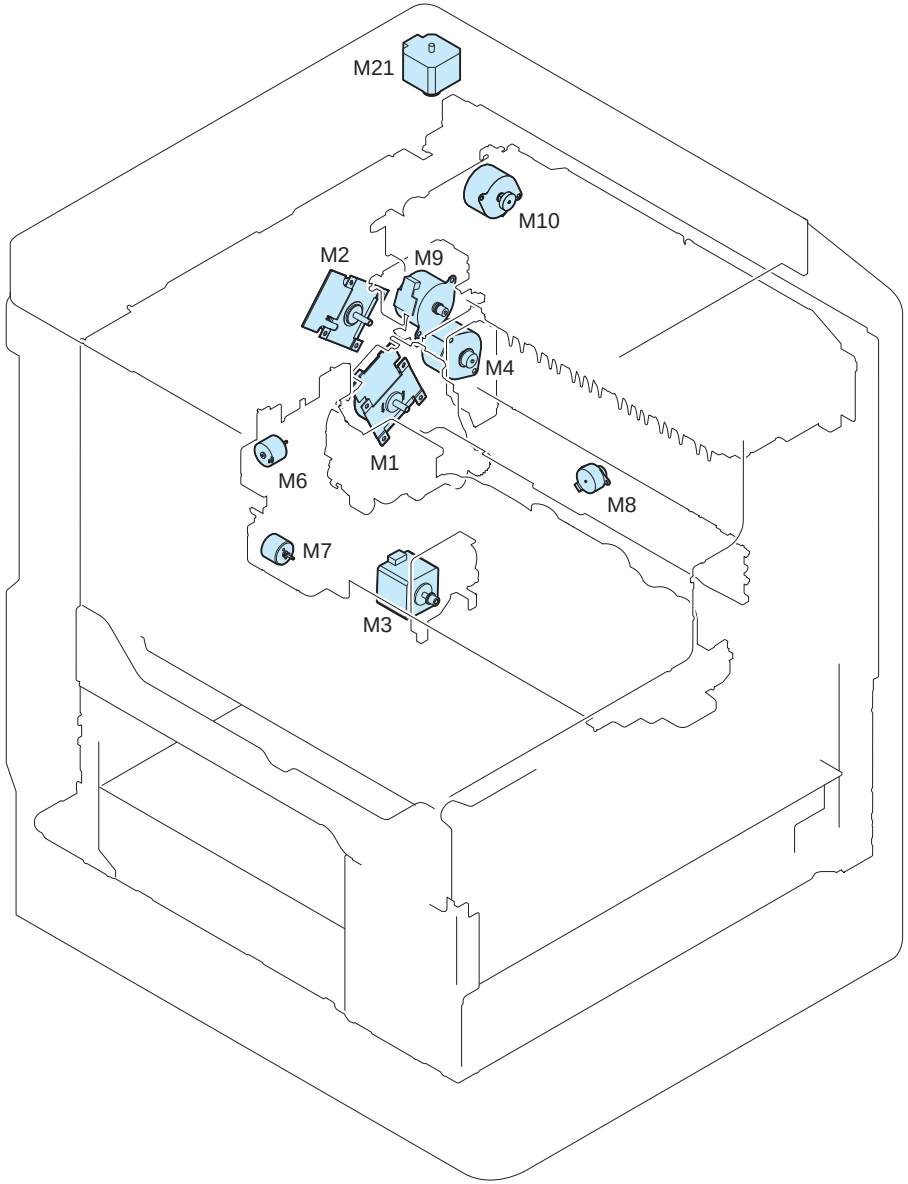


F-4-7

Symbol	Part name	Part number	Reference
S1	Cassette 1 Pickup Sensor	WG8-5836	-
S2	Cassette 1 Paper Sensor	WG8-5836	-
S3	Cassette 1 Paper Level Sensor A	WG8-5836	-
S4	Cassette 1 Paper Level Sensor B	WG8-5836	-
S5	Pre-Registration Sensor	WG8-5836	-
S6	Loop Sensor	WG8-5836	-
S7	Duplex Feed Sensor	WG8-5836	-
S8	Manual Feeder Paper Size Sensor	WG8-5836	-
S9	Manual Feeder Paper Sensor	WG8-5836	-
S10	Shutter Hp Sensor	WG8-5836	-
S11	No.1 Delivery Full Sensor	WG8-5836	-
S12	No.1 Delivery Sensor	WG8-5836	-
S16	Toner Cover Open/Closed Sensor	WG8-5836	-
S17	Waste Toner Full Sensor	WG8-5836	-
S18	Front Cover Open/Closed Sensor	WG8-5836	-
S19	Fixing Outlet Sensor	WG8-5836	-
S21	Copyboard Cover Open/Closed Sensor 0	WG8-5776	-
S22	Ccd Hp Sensor	WG8-5776	-
S24	Original Size Sensor 0 (AB/INCH)	FH7-7569	-
S25	Original Size Sensor 1 (AB/INCH)	FH7-7569	-
S26	Copyboard Cover Open/Closed Sensor 1	WG8-5776	-
S28	Original Size Sensor 1 (A/INCH)	FH7-7569	-
S29	Original Size Sensor 0 (A/AB)	FH7-7569	-
S40	Reversal Sensor	WG8-5836	-
S41	No. 2 Delivery Full Sensor	WG8-5836	-
S42	No. 2 Delivery Sensor	WG8-5836	-
HU1	Enviorment Sensor	WP2-5264	-
TS1	Developing Unit Toner Sensor	WP2-5282	-
TS2	Sub Hopper Toner Sensor	WP2-5282	-

T-4-6

List of Motors

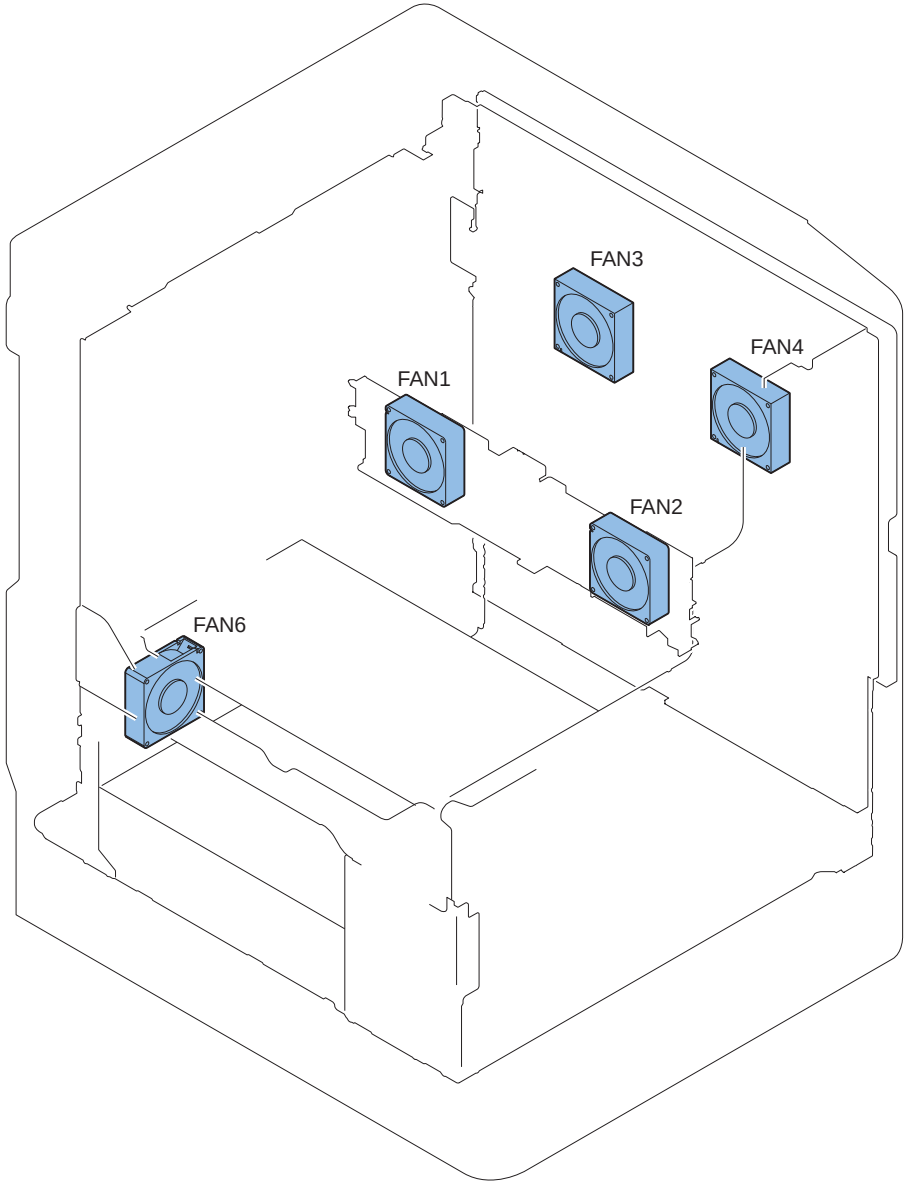


F-4-8

Symbol	Part name	Part number	Reference
M1	Main Motor	FK2-9141	-
M2	Fixing Motor	FK2-9145	-
M3	Cassette 1 Pickup Motor	FK2-7327	-
M4	Duplex Feed Motor	FK2-9149	-
M6	Bottle Motor	FK2-9147	-
M7	Hopper Motor	FK2-9147	-
M8	Shutter Hp Sensor	FK2-9148	-
M9	No.1 Delivery Motor	FK2-9151	-
M21	Scanner Motor	FK2-6919	-

T-4-7

List of Fans

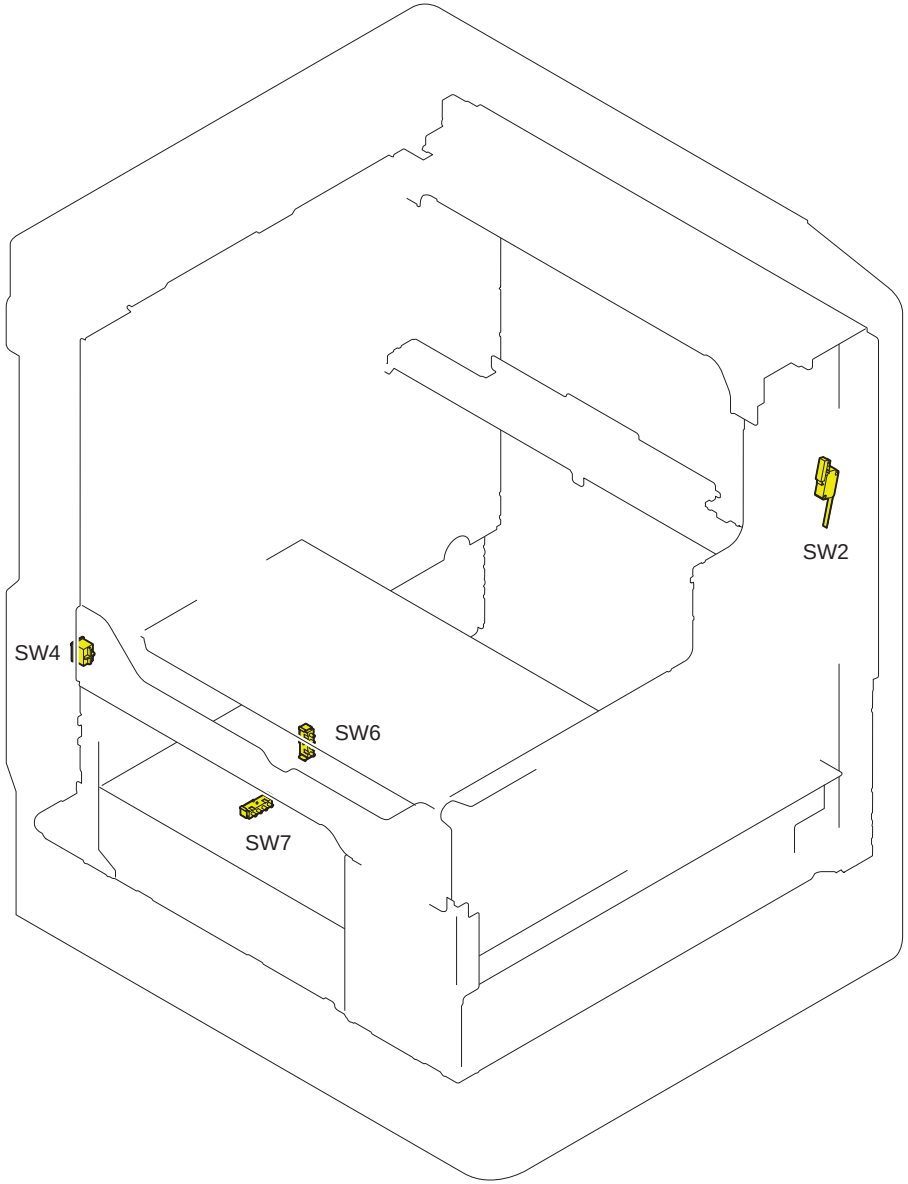


F-4-9

Symbol	Part name	Part number	Reference
FAN1	Paper Edge Cooling Fan (Rear)	FK2-0360	-
FAN2	Paper Edge Cooling Fan (Front)	FK2-0360	-
FAN3	Exhaust Fan (Rear)	FK2-0360	-
FAN4	Exhaust Fan (Front)	FK2-0360	-
FAN6	Power Supply Cooling Fan	FK2-0360	-

T-4-8

List of Switches

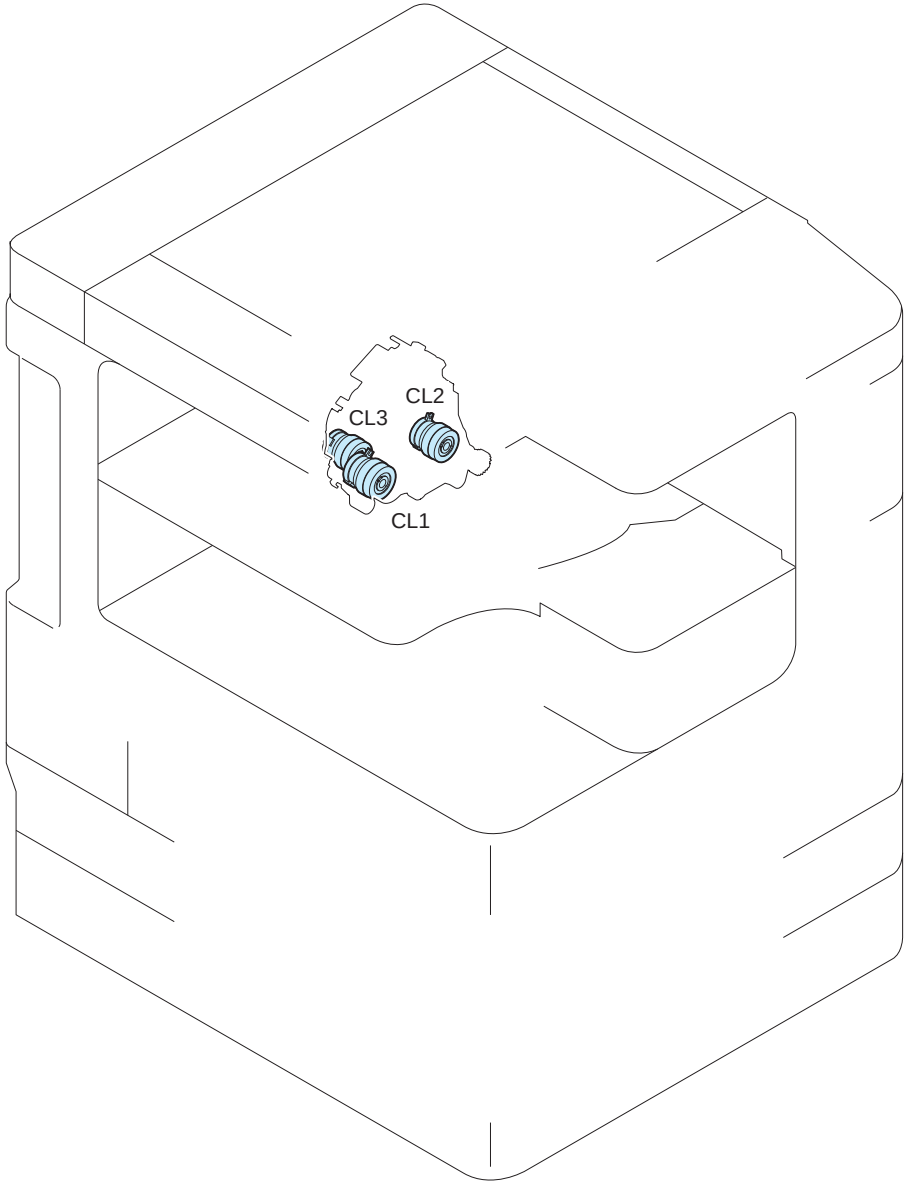


F-4-10

Symbol	Part name	Part number	Reference
SW2	Front Door Switch	WC4-5242	-
SW4	Enviorment Switch	FM4-2876	-
SW6	Cassette Size Detection Switch 1	WC2-5680	-
SW7	Cassette Size Detection Switch 2	WC2-5680	-

T-4-9

List of Clutches

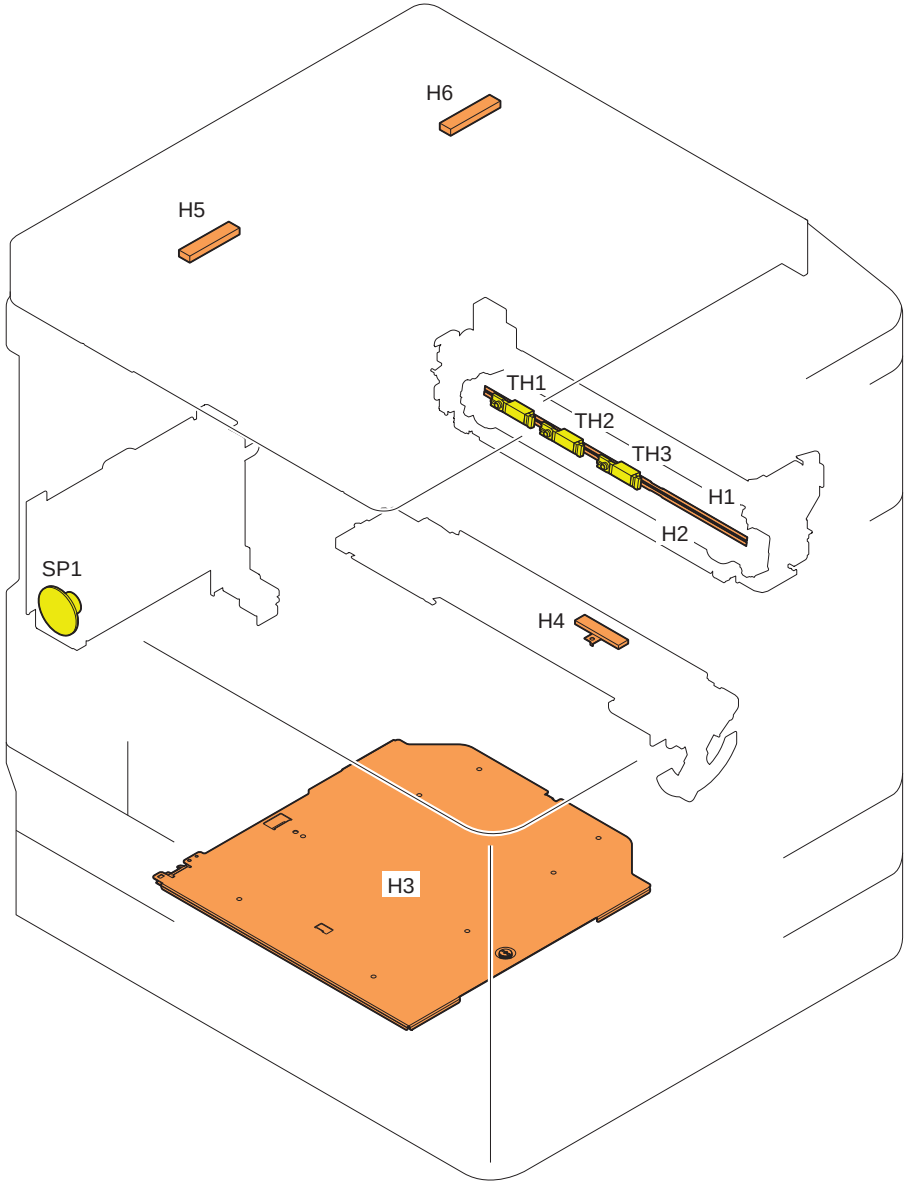


F-4-11

Symbol	Part name	Part number	Reference
CL1	Registration Clutch	FK2-9154	-
CL2	Manual Feed Pickup Clutch	FK2-9154	-
CL3	Developing Cylinder Clutch	FK2-9154	-

T-4-10

Other



F-4-12

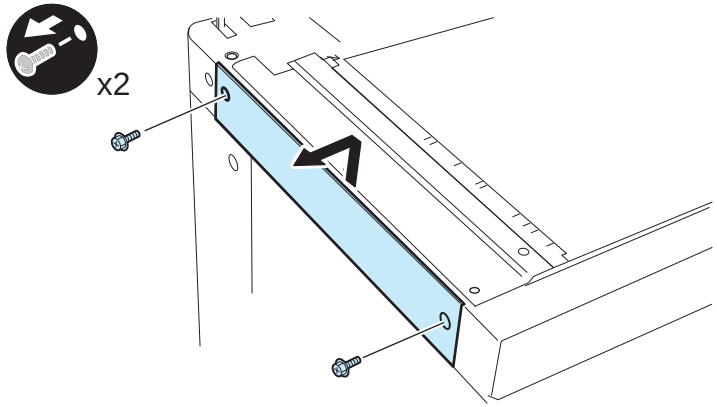
Symbol	Part name	Part number	Reference
TH1	Fixing Sub Thermistor (Rear)	120V: FM4-3363 230V: FM3-9302	-
TH2	Fixing Sub Thermistor (Front)		-
TH3	Fixing Main Thermistor		-
H1	Fixing Heater 1		-
H2	Fixing Heater 2		-
SP1	Speaker (Option)	FK2-9442	-
H3	Cassette Heater (Option)	FM3-8915	-
H4	Drum Heater (Option)	FK2-9157	-
H5	Reader Heater (Option)	120V: FK2-9468 230V: FK2-0228	-

T-4-11

External Covers

Removing the Reader Left Cover

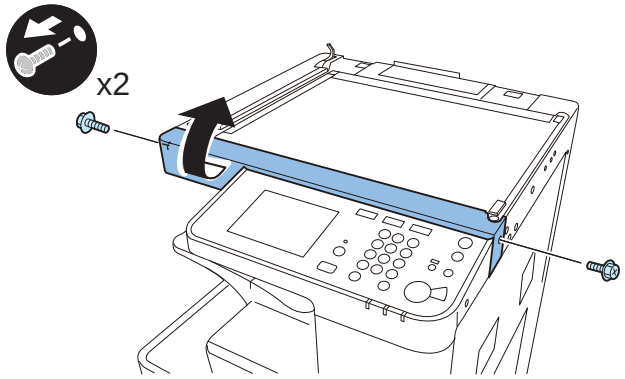
1) Remove the reader left cover.
- 2 screws (RS tightening; M3)



F-4-13

Removing the Reader Front Cover

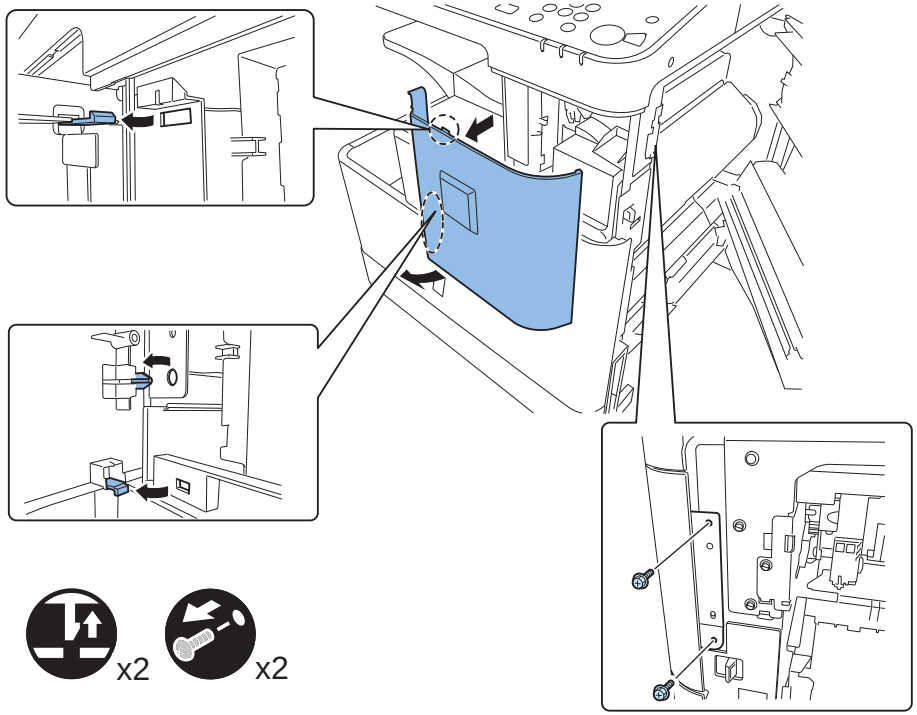
1) Open the platen cover (ADF/platen board cover).
2) Remove the reader front cover.
- 2 screws (RS tightening; M3)



F-4-14

Removing the Support Cover

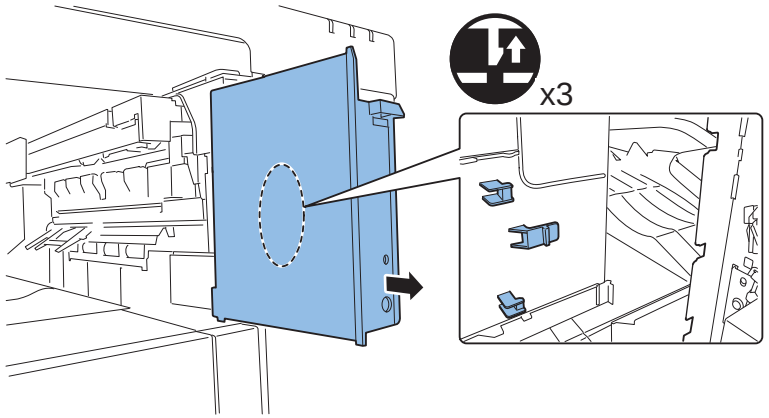
1) Open the right cover.
2) Remove the support cover.
- 2 screws (RS tightening; M3)
- 3 claws



F-4-15

Removing the Delivery Tray

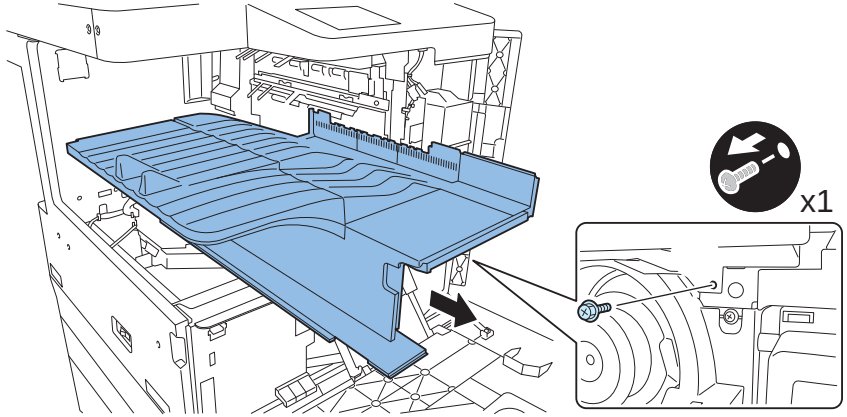
1) Remove the support cover.("Removing the Support Cover"(page 4-14).)
2) Remove the toner supply cover.("Removing the Toner Supply Cover"(page 4-19).)
3) Remove the inside base cover.("Removing the Inside Base Cover"(page 4-17).)
4) Remove the support cover (left).



F-4-16

5) Remove the delivery tray.

- 1 screw (RS tightening; M3)

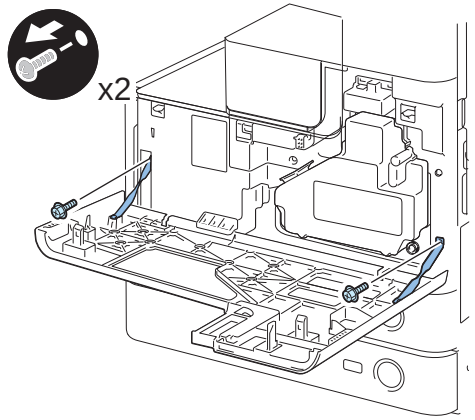


F-4-17

Removing the Front Cover

1)Open the front cover.
2)Remove the front cover belt.

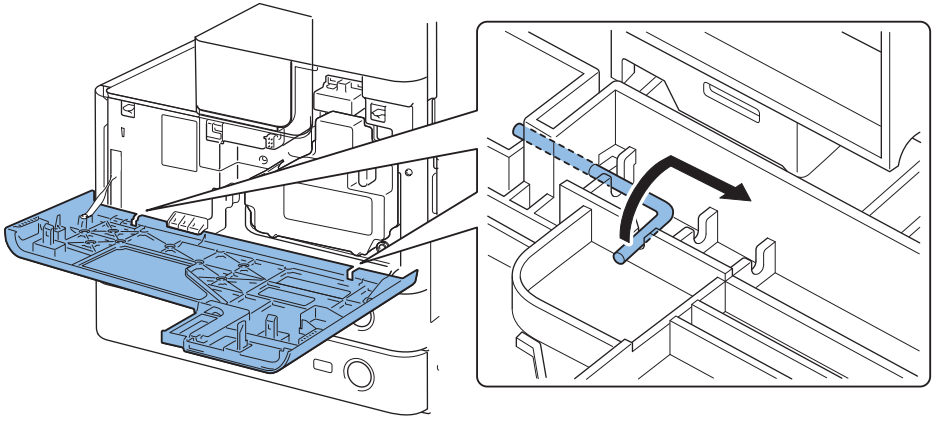
- 2 screws (RS tightening; M3)



F-4-18

3) Remove the front cover.

- 2 hinge pins



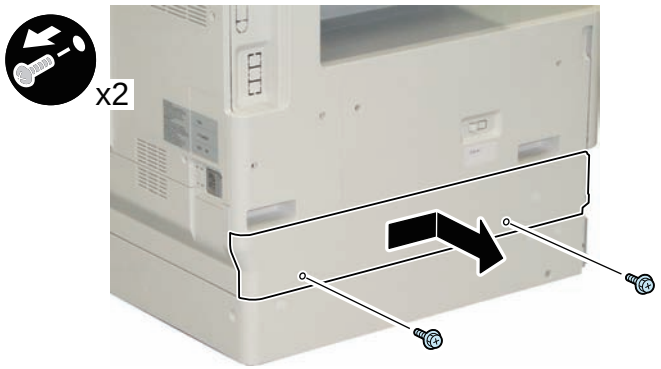
F-4-19

Removing the Lower Left Cover

1) Remove the cassette.
2) Remove the lower left cover.

<For 550-sheet cassette model>

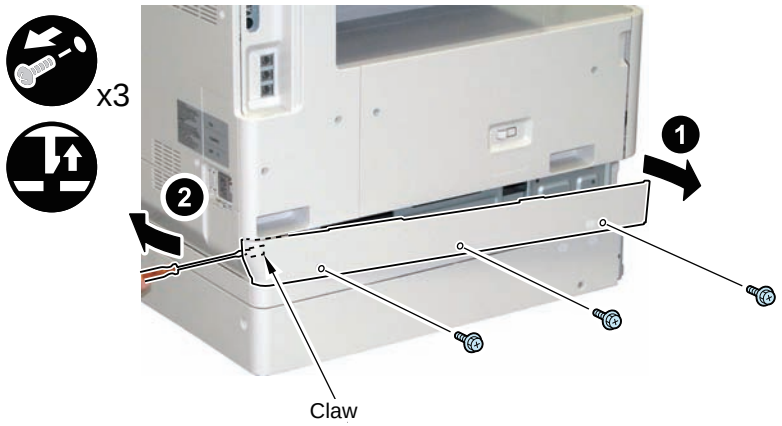
- 2 screws



F-4-20

<For 250-sheet cassette model>

- 3 screws
- 1 claw

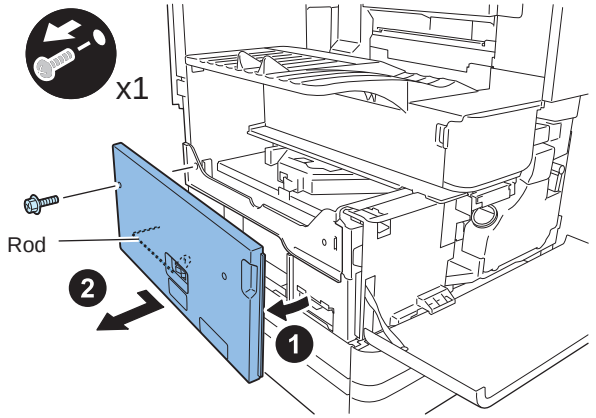


F-4-21

Removing the Left Cover

1) Draw out the cassette.
2) Remove the lower left cover. ("Removing the Lower Left Cover"(page 4-16).)
3) Remove the inside base cover. ("Removing the Inside Base Cover"(page 4-17).)
4) Remove the left cover.

- 1 screw

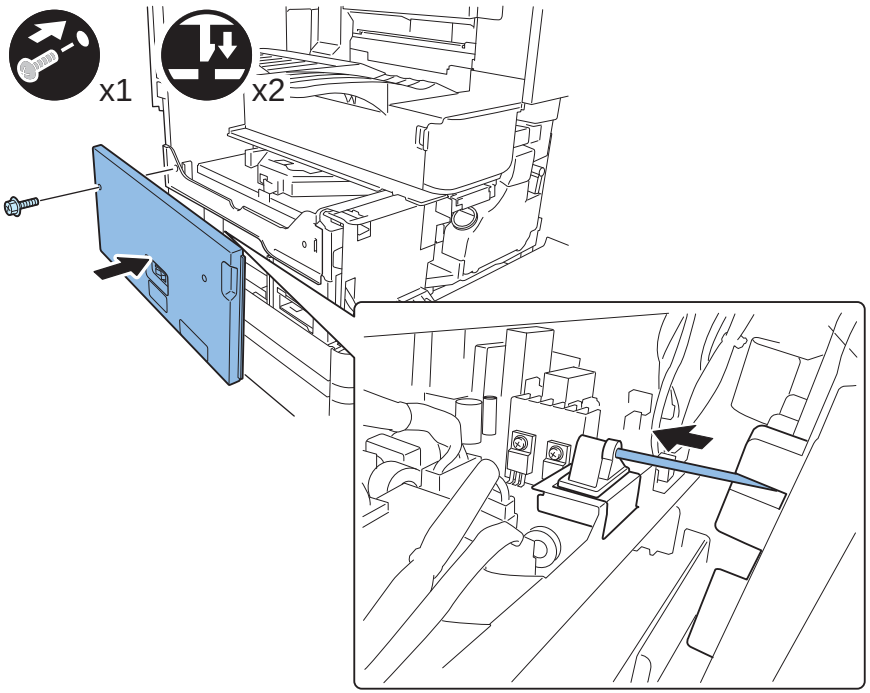


F-4-22

CAUTION:

The left cover has a rod interlocked with the switch on the power supply PCB. Remove the left cover without applying load on it.

MEMO:
When reassembling the left cover, insert the rod of the left cover switch into the main power switch securely.

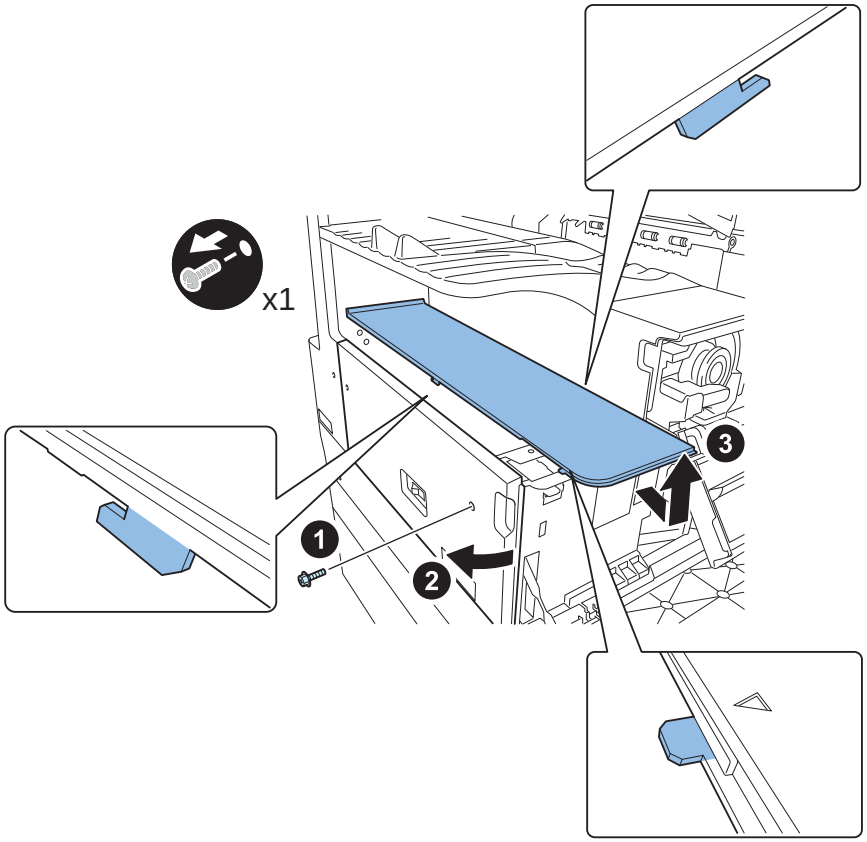


F-4-23

Removing the Inside Base Cover

1) Bend the left cover and remove the inside base cover.

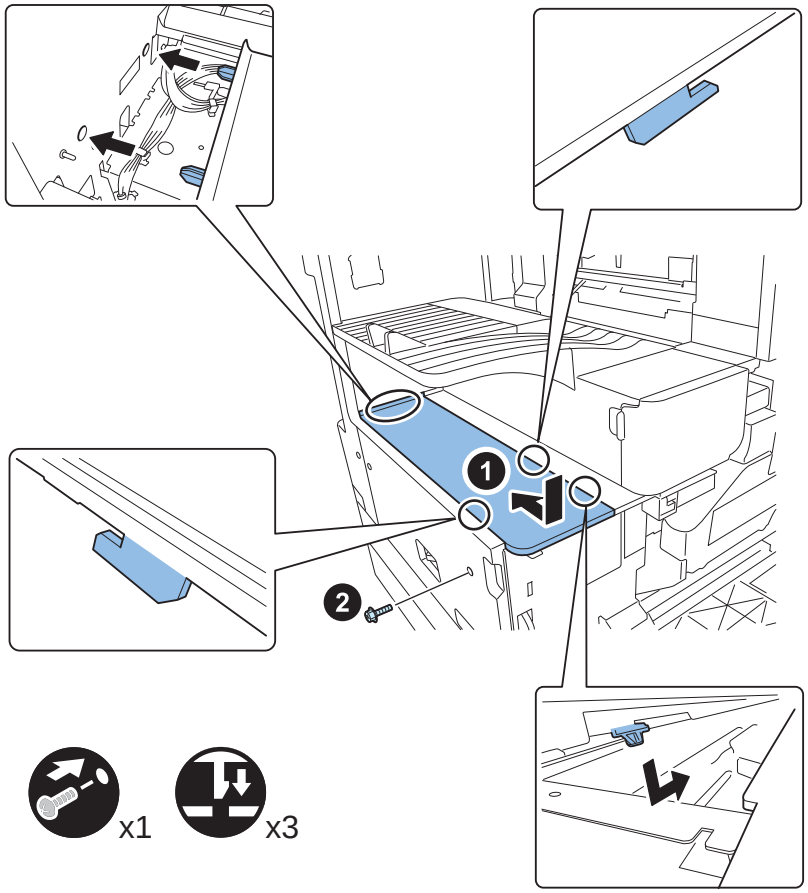
- 1 screw



F-4-24

Installing the Inside Base Cover

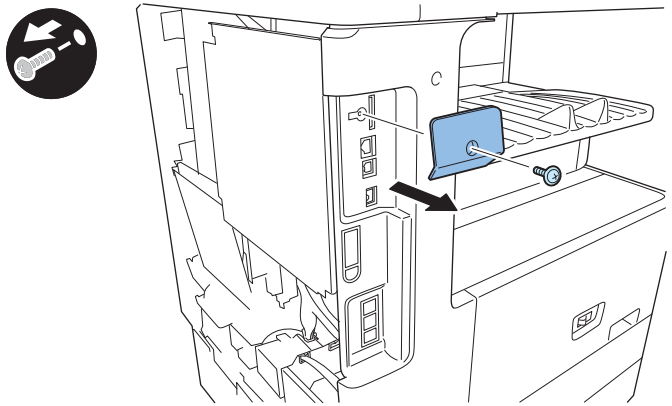
1) Install the inside base cover.
2) Secure it with one screw.



F-4-25

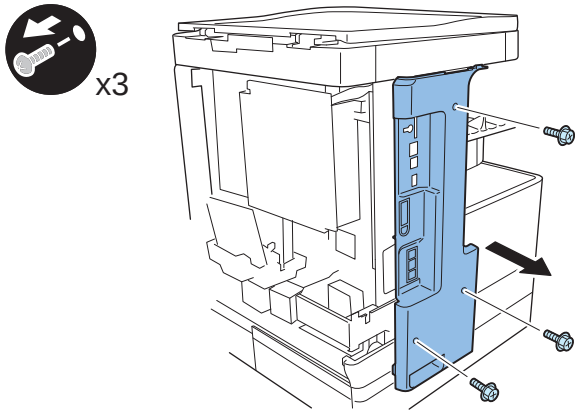
Removing the Left Rear Cover

1) Remove the face cover.
- 1 screw (TP binding; M3)



F-4-26

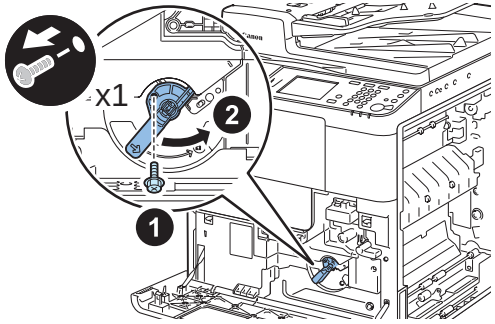
2) Remove the left rear cover.
- 3 screws (RS tightening; M3)



F-4-27

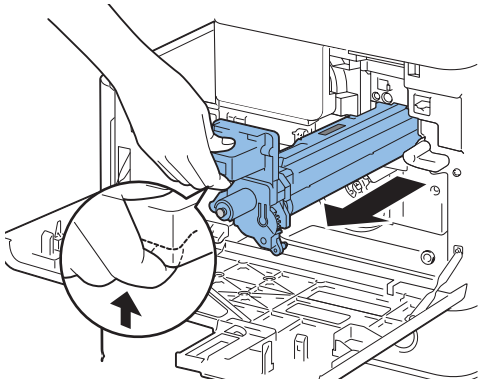
Removing the Toner Supply Cover

1) Open the front cover.
2) Remove the support cover. ("Removing the Support Cover"(page 4-14).)
3) Remove the inside base cover. ("Removing the Inside Base Cover"(page 4-17).)
4) Remove the screw securing the developing assembly pressure lever.
5) Turn the lever in the direction of the arrow to release the drum unit lock.



F-4-28

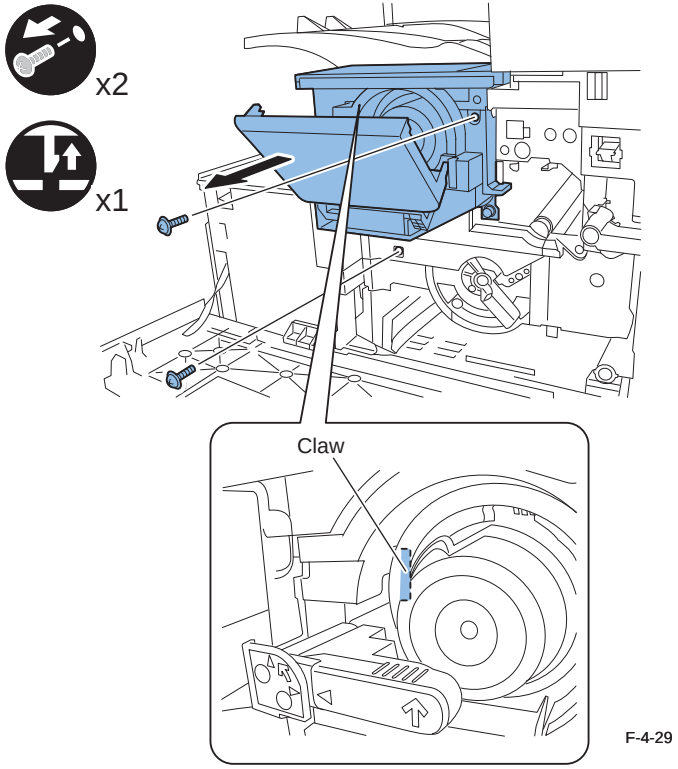
6) Remove the drum cartridge.



F-4-29

7) Open the toner supply cover.
8) Remove the toner supply cover.

- 2 screws (RS tightening; M3)
- 1 claw

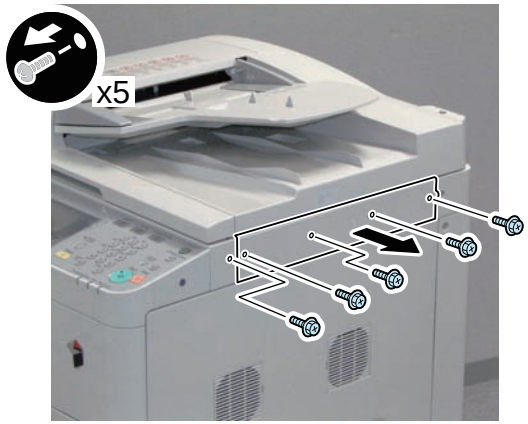


F-4-29

Removing the Reader Right Cover

<For iR 2530/2525/2520>

1) Remove the reader right cover by removing four screws, and then remove one screw from the reader front cover.

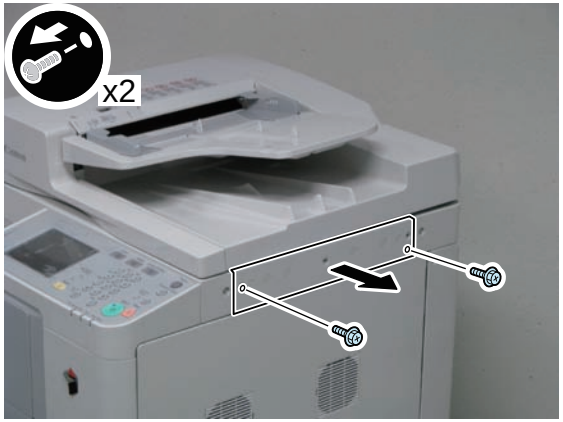


F-4-30

<For iR 2545/2535>

1) Remove the reader right cover.

- 2 screws



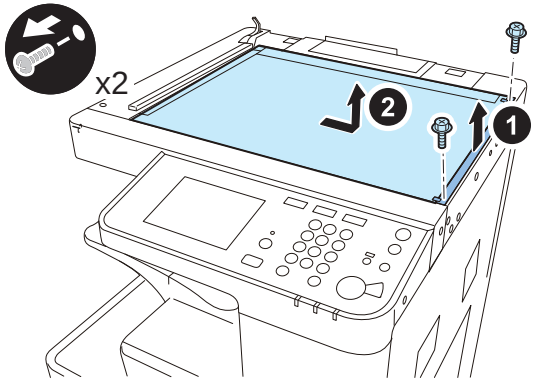
F-4-31

Removing the Platen Glass

1) Open the ADF or platen cover.
2) Remove the glass retainer (right).

- 2 screws

3) Remove the platen glass.

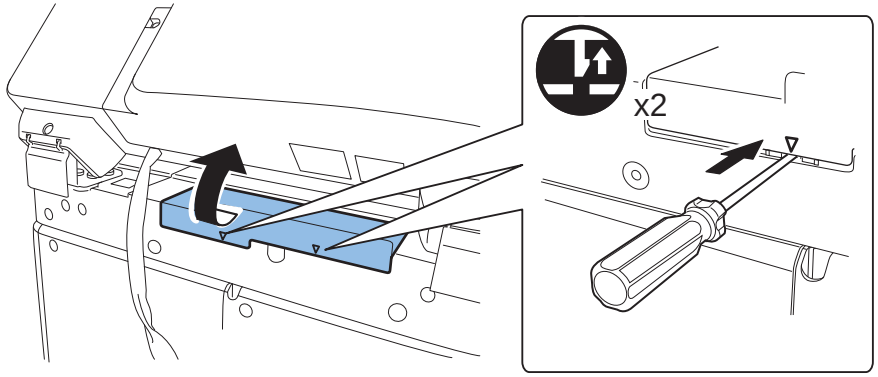


F-4-32

Removing the Reader Rear Cover

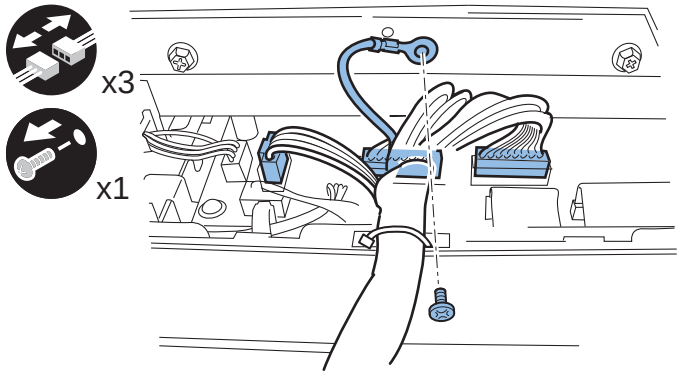
1) Open the platen cover (ADF/platen board cover).
2) Remove the reader rear (small) cover.

- 2 claws



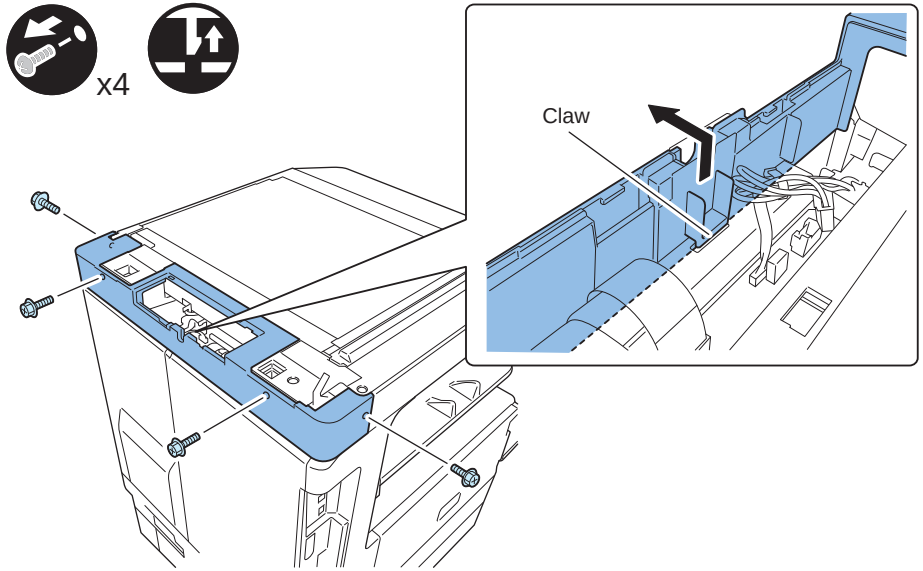
F-4-33

3) Remove the ADF power cable.
- 3 connectors
- 1 screw (RS tightening; M3)



F-4-34

4) Remove the reader rear cover.
- 4 screws (RS tightening; M3)
- 1 claw

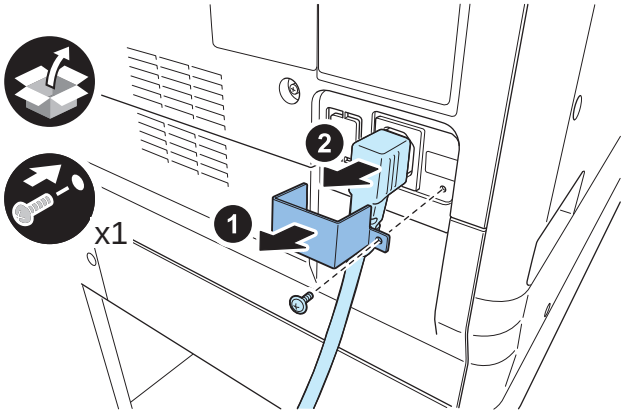


F-4-35

Removing the Rear Cover (Right)

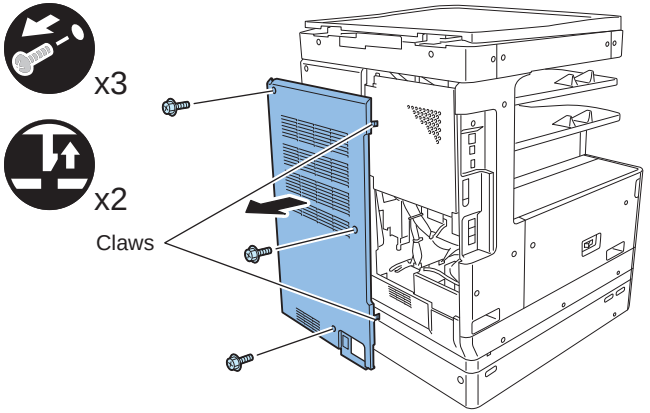
1) Remove the power supply retaining cover.
- 1 screw

2) Remove the power cord.



F-4-36

3) Remove the rear cover (right).
- 3 screws
- 2 claws

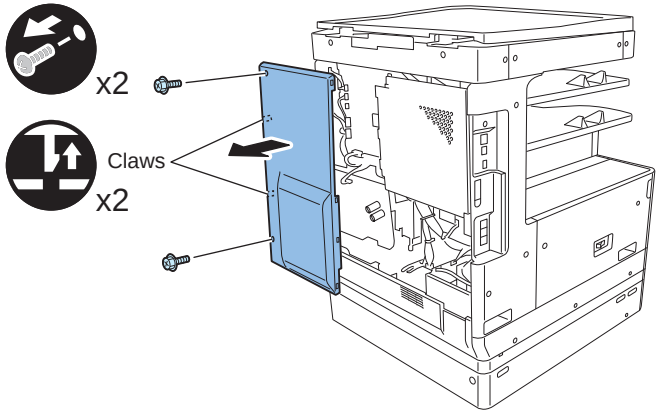


F-4-37

Removing the Rear Cover (Left)

1) Remove the rear cover (right). ("Removing the Rear Cover (Right)"(page 4-21).)
2) Remove the rear cover (left). ("Removing the Rear Cover (Left)"(page 4-22).)

- 2 screws
- 2 claws

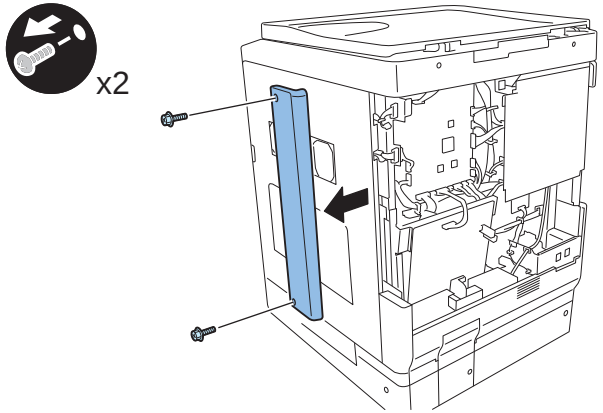


F-4-38

Removing the Rear Right Cover (Upper)

1) Remove the rear right cover (upper).

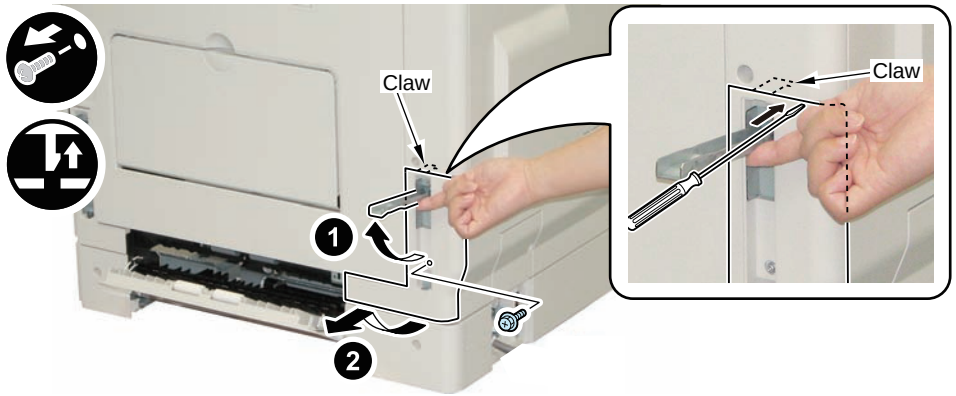
- 2 screws (RS tightening; M3)



F-4-39

Removing the Rear Right Cover (Lower)

1) Raise the handle at the rear right, and then remove one screw.
2) Release one claw with a flat-blade screwdriver, and then remove the rear right cover (lower) of the main unit.

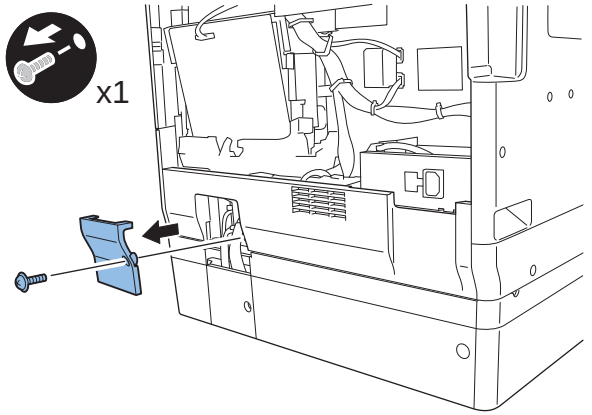


F-4-40

Removing the Lower Rear Cover

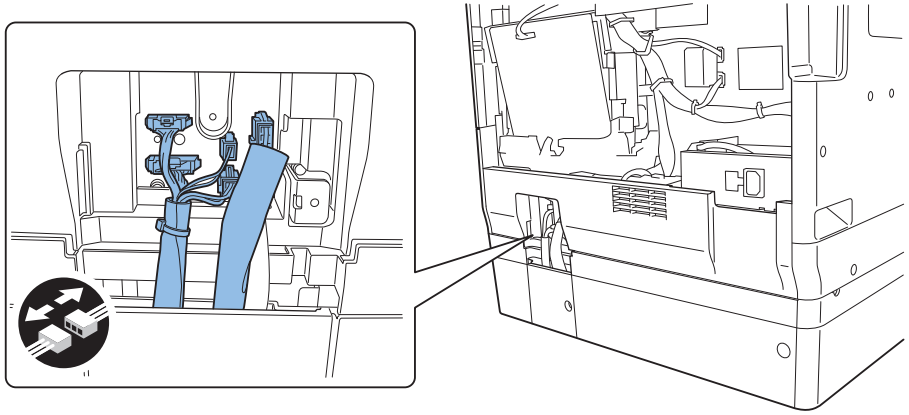
1) Remove the connector cover.

- 1 screw (W-sems binding; M3)



F-4-41

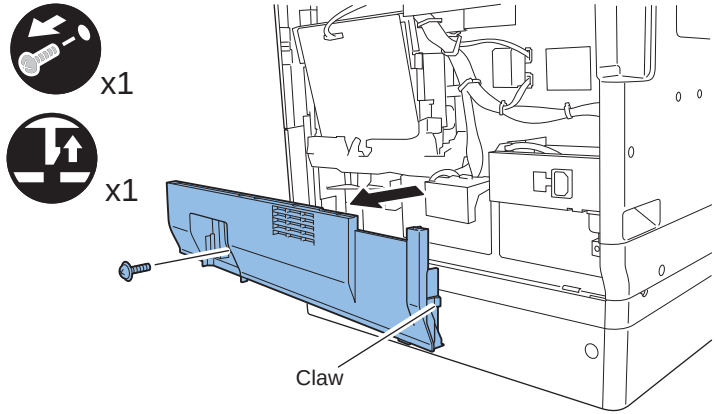
2) Disconnect all connectors (only for the machine with an optional cassette).



F-4-42

3) Remove the lower rear cover.

- 1 screw (RS tightening; M3)
- 1 claw



F-4-43

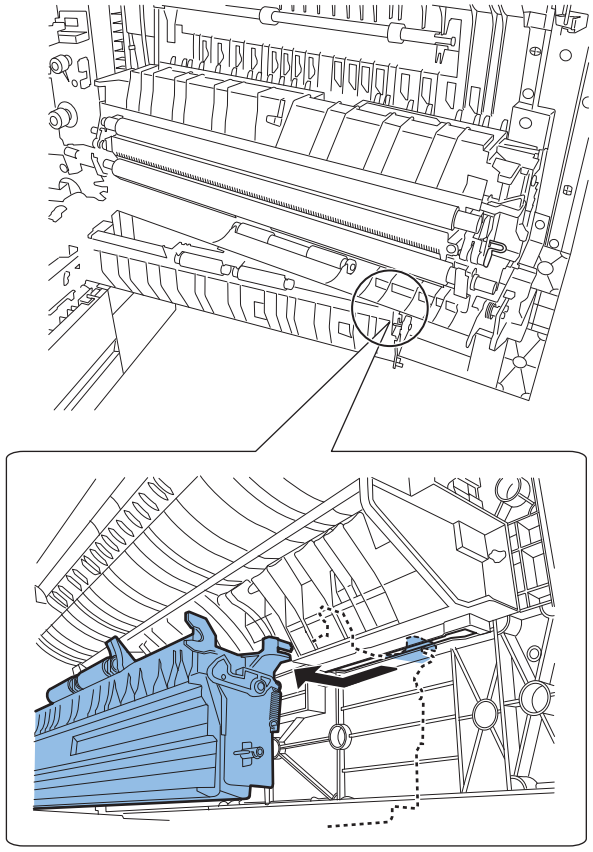
Removing the Cassette 2 Rear Cover

Perform the same procedure as the lower rear cover. (“Removing the Lower Rear Cover” (page 4-22).)

Main Units/Parts

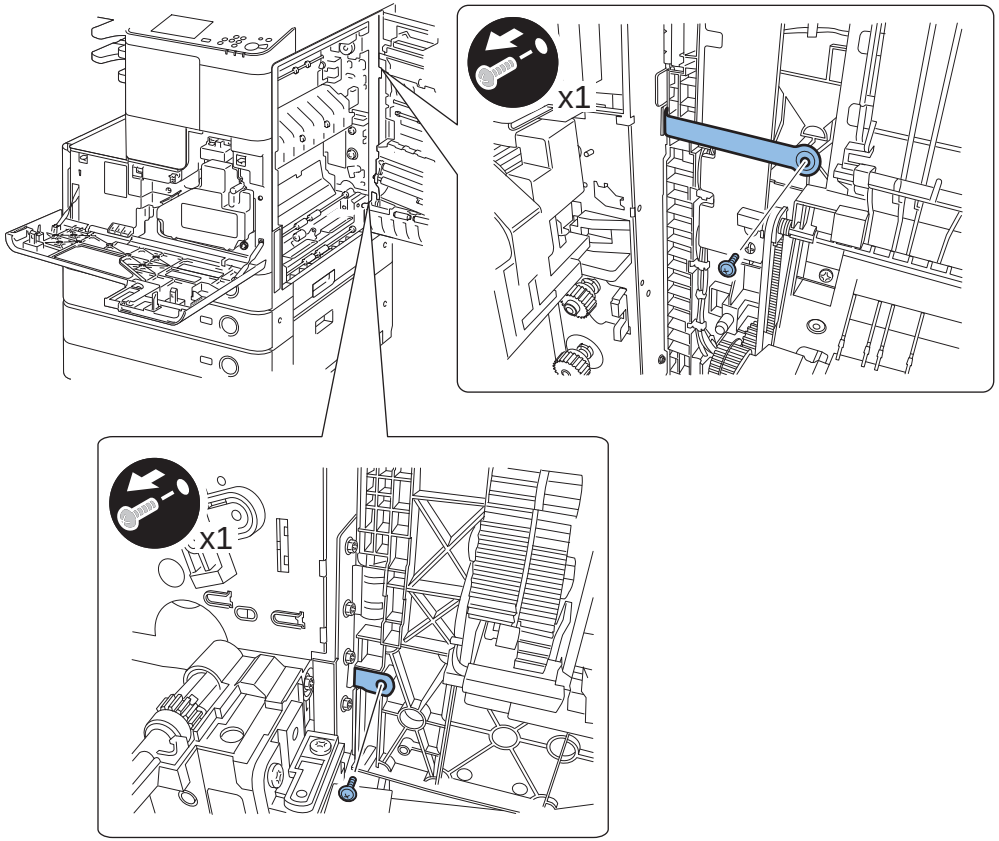
Removing the Right Cover Unit

1) Remove the reader right cover. (“Removing the Reader Right Cover”(page 4-19)..)
2) Remove the reader rear cover. (“Removing the Reader Rear Cover”(page 4-20)..)
3) Remove the rear right cover (upper). (“Removing the Rear Right Cover (Upper)”(page 4-21).)
4) Open the right cover.
5) Remove the link between the right cover and pickup unit.



F-4-44

6) Remove the belt.
- 2 screws



F-4-45

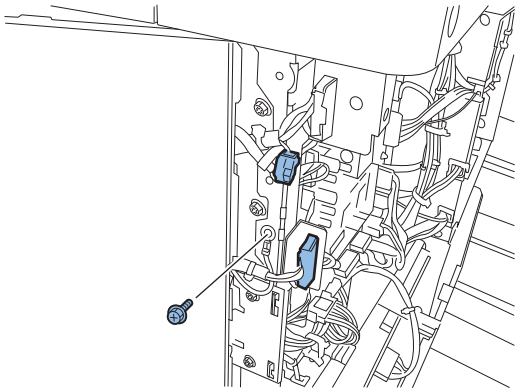
7) Remove the connection cable.

2 connectors (The machine without the No.2 delivery unit does not have the upper connector.)

CAUTION:

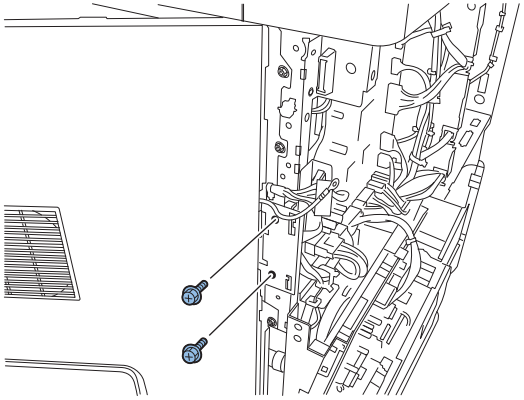
Be sure to disconnect the upper connector after releasing the harness from the clamp to prevent breaking of wire

8) Remove one screw.



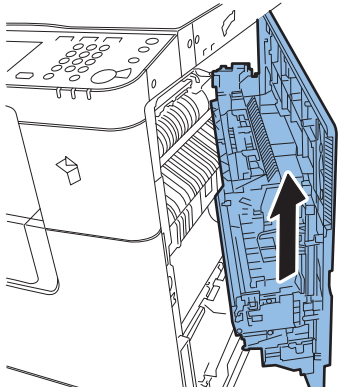
F-4-46

9) Remove two screws.



F-4-47

10) Remove the right cover.

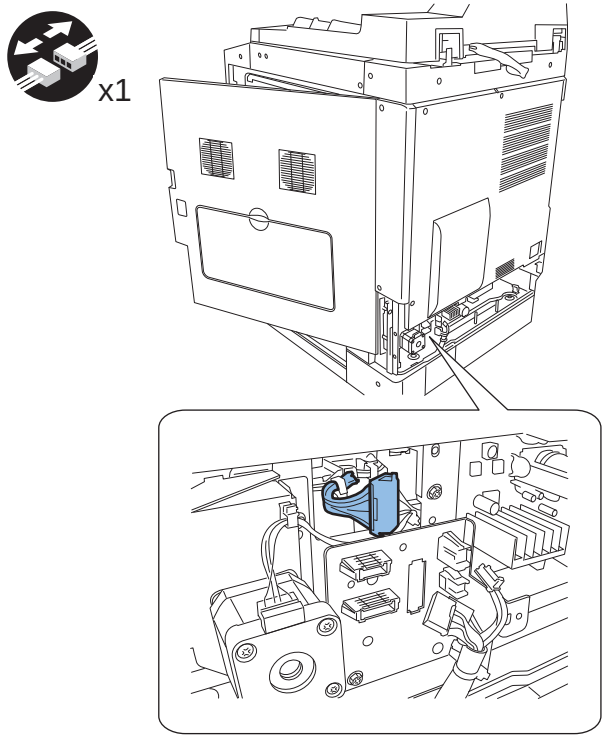


F-4-48

Removing the Pickup Unit

1) Draw out the cassette.
2) Open the right cover.
3) Remove the connector cover.
4) Remove the lower rear cover. ("Removing the Lower Rear Cover"(page 4-22).)
5) Remove the rear right cover (lower). ("Removing the Rear Right Cover (Lower)"(page 4-22).)
6) Remove the connection cable.

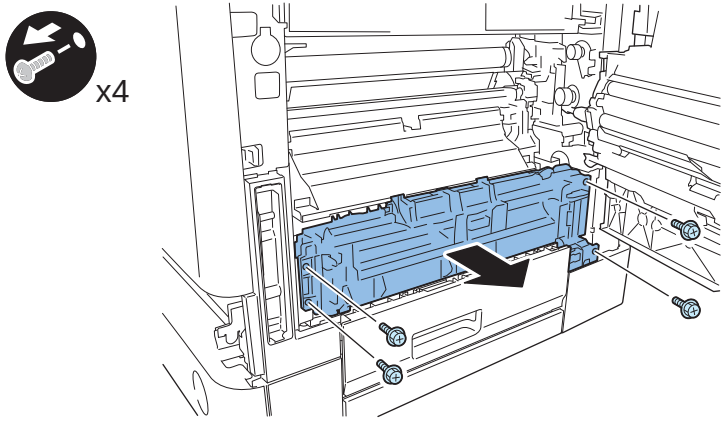
1 connector



F-4-49

7) Remove the link between the right cover and pickup unit.
8) Remove the pickup unit.

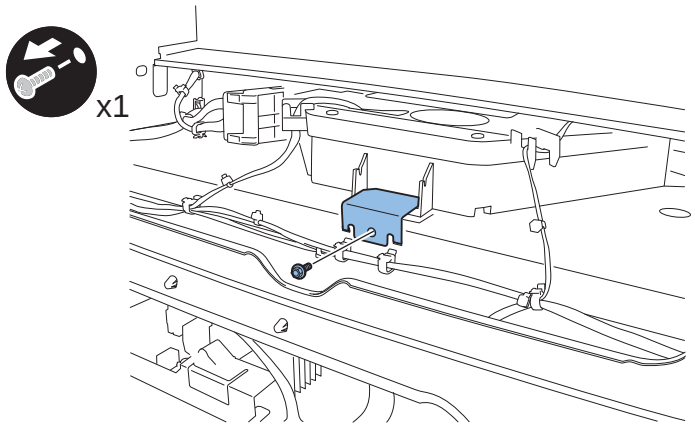
- 4 screws (RS tightening; M3)



F-4-50

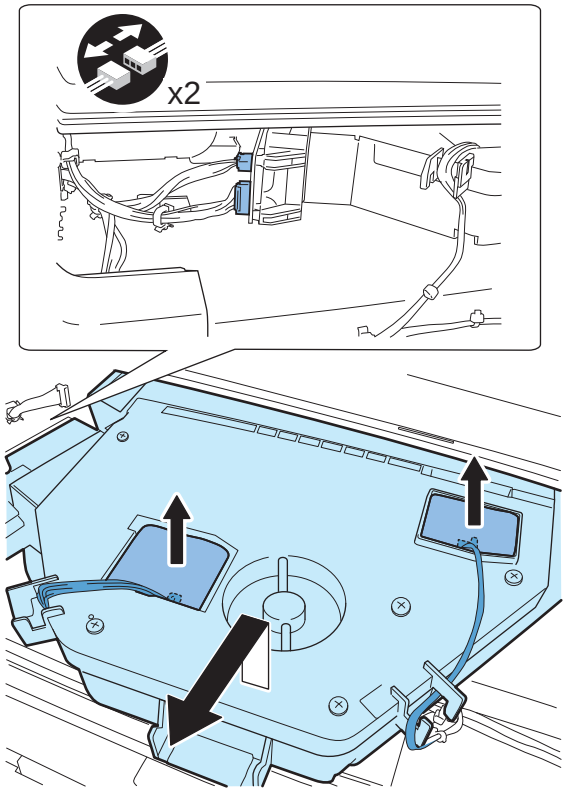
Removing the Laser Scanner Unit

1) Remove the inside base cover.("Removing the Inside Base Cover"(page 4-17).)
2) Remove the left cover.("Removing the Left Cover"(page 4-16).)
3) Remove the scanner retaining plate.
1 screw



F-4-51

4) Remove the laser scanner unit.
- 2 pieces of sponge
- 4 connectors



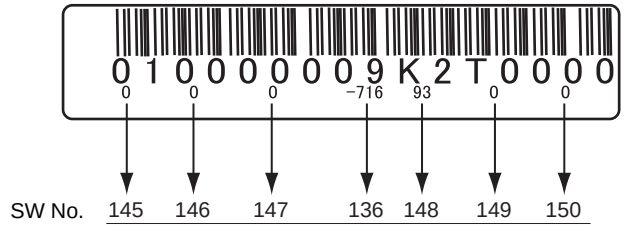
F-4-52

CAUTION:

When pulling out the laser scanner, take care not to touch the PCB installed on the laser scanner unit. (The PCB is equipped with a laser intensity adjusting volume resistor and so touching the PCB can change the adjustment setting.)

Action to Take after Replacing the Laser Scanner Unit

When replacing the laser unit, enter the values recorded on the label affixed to the laser unit to be replaced for the following in the service mode:



F-4-53

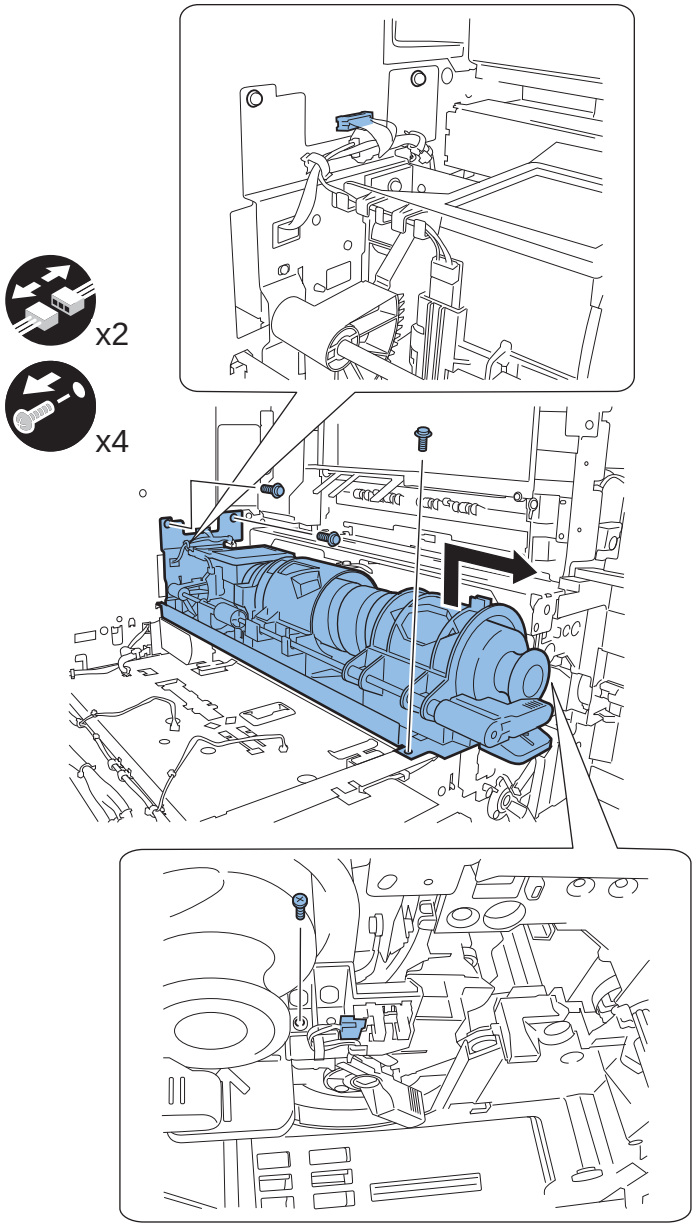
PRINT > Bitswitch > 136 Laser horizontal scanning direction write position adjustment(A)
PRINT > Bitswitch > 145 Laser horizontal scanning direction magnification ratio adjustment(A-B)
PRINT > Bitswitch > 146 Laser horizontal scanning direction magnification ratio adjustment(A-C)
PRINT > Bitswitch > 147 Laser horizontal scanning direction magnification ratio adjustment(A-D)
PRINT > Bitswitch > 148 Laser horizontal scanning direction write position adjustment(A-B)
PRINT > Bitswitch > 149 Laser horizontal scanning direction write position adjustment(A-C)
PRINT > Bitswitch > 150 Laser horizontal scanning direction write position adjustment(A-D)

Removing the Toner Supply Unit

1) Remove the inside base cover.("Removing the Inside Base Cover"(page 4-17).)
2) Remove the left cover.("Removing the Left Cover"(page 4-16).
3) Remove the waste toner container.("Removing the Waste Toner Container"(page 4-35).)
4) Remove the drum unit.("Removing the Drum Unit"(page 4-36).)
5) Remove the toner bottle.
6) Remove the toner supply cover.("Removing the Toner Supply Cover"(page 4-19).)
7) Remove the delivery tray.("Removing the Delivery Tray"(page 4-15).)
8) Remove the laser scanner unit.("Removing the Laser Scanner Unit"(page 4-26).)
9) Remove the toner supply unit.

- Remove the power cable.
- 2 connectors

CAUTION:
When removing the toner supply unit, do not incline it to shed toner.



F-4-54

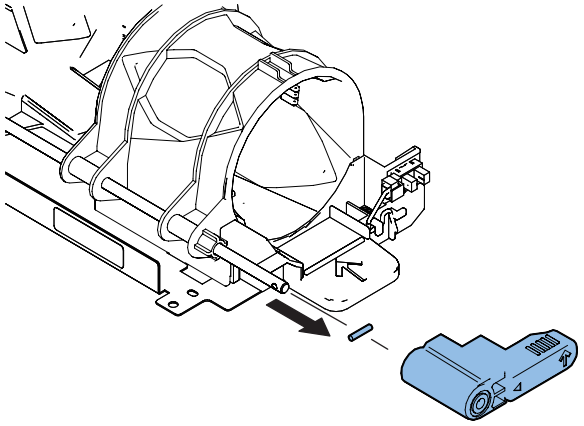
Action to Take after Replacement

MEMO:
The service parts for toner supply unit do not come with a bottle ring. Remove the bottle ring from the old toner supply unit and attach it to the new one.

The procedure is as follows:

1) Remove the toner bottle set lever.

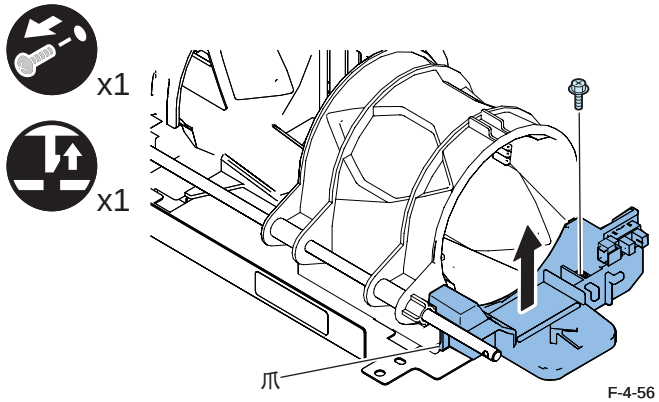
- 1 parallel pin



F-4-55

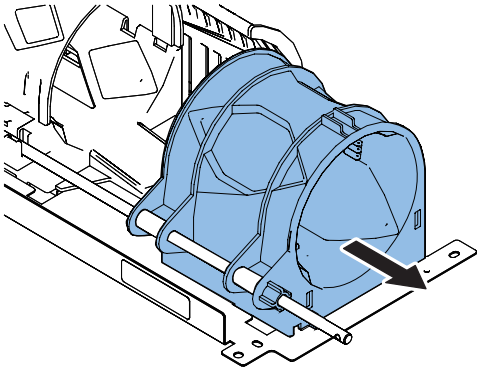
2) Remove the bottle base.

- 1 screw
- 1 claw



F-4-56

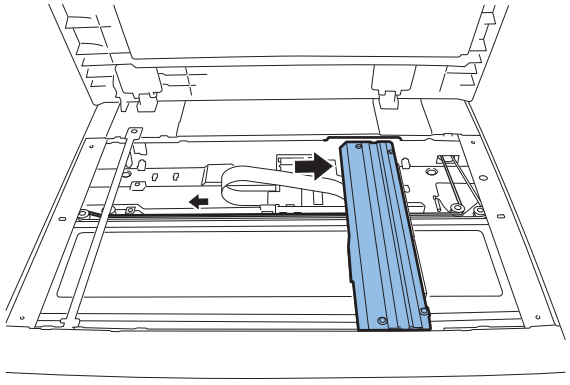
3)Remove the bottle ring.



F-4-57

Removing the CCD Unit

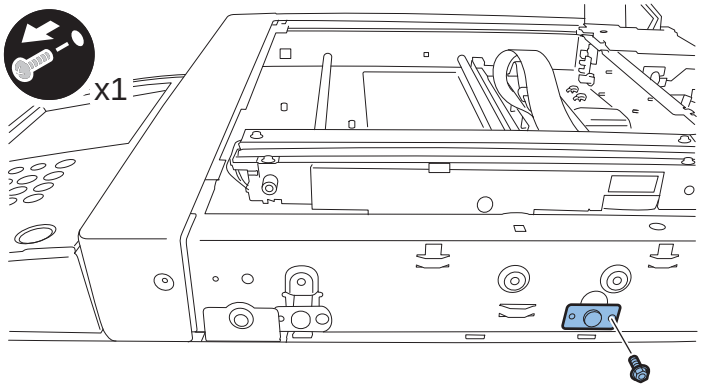
1) When replacing with a new CCD unit, enter the following service mode to output a service data list.
   REPORT> REPORT OUTPUT> SERVICE DATA LIST
2) Open the platen cover (ADF/platen board cover).
3) Remove the reader right cover.(“Removing the Reader Right Cover”(page 4-19)..)
4) Remove the right glass retainer.
5) Remove the platen glass.(“Removing the Platen Glass”(page 4-20)..)
6Move the belt in the direction of the arrow and move the CCD unit to the position of the groove in the frame.



F-4-58

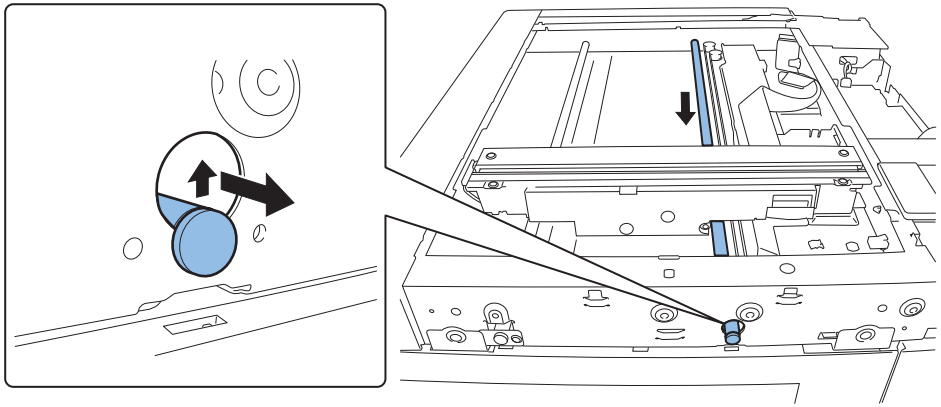
7) Remove the shaft retaining blade.

- 1 screw



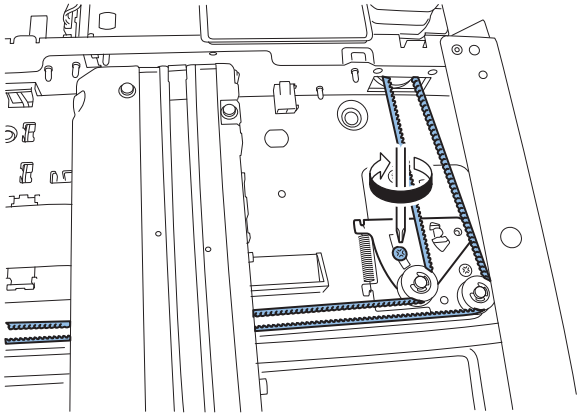
F-4-59

8) Remove the shaft.



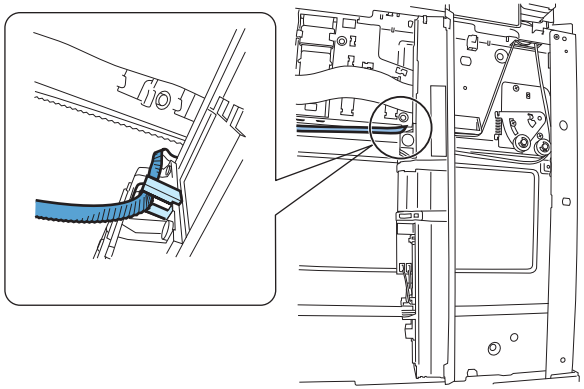
F-4-60

9) Loosen the screw, and then loosen the belt.



F-4-61

10) Remove the belt from the hook at the back of the CCD unit.



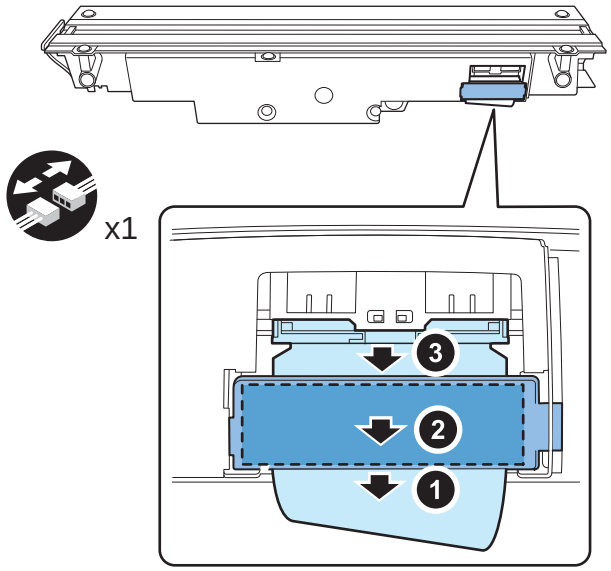
F-4-62

CAUTION:

Do not touch the LED on the CCD unit.

11) Remove the CCD unit.

- Cable retainer
- CCD flexible cable
- Core



F-4-63

Action to Take after Replacing the CCD Unit

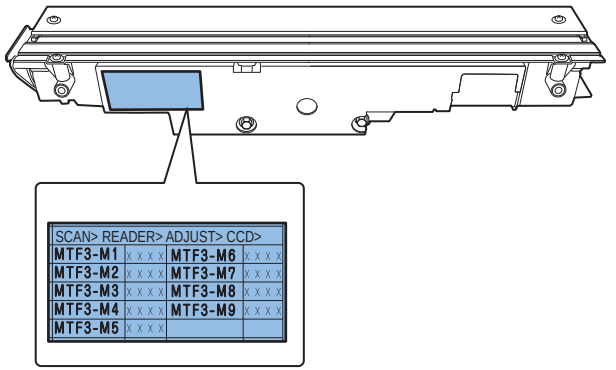
Perform the following procedure after replacing the CCD unit:

1) Install the new CCD unit.
2) Turn on the power to cause the error “E248”.
3) Enter the service mode and perform the following:
   SCAN > READER > FUNCTION > CLEAR > R-CON (RCON RAM clearing)
4) Turn OFF and then ON the main power switch.
5) Enter the following items according to the service data list output in advance.

SCAN> READER> ADJUST> ADJ-XY>	ADJ-X
	ADJ-Y
	ADJ-S
	ADJ-Y-DF
	ADJ-X-MG
SCAN> READER> ADJUST> PASCAL> OFST-P-K	
SCAN> READER> ADJUST> CCD>	50_RG
	50_GB
	100_RG
	100_GB
	50DF_RG
	50DF_GB
	100DF_RG
	100DF_GB
	W-PLT-X
	W-PLT-Y
	W-PLT-Z
SCAN> FEEDER> ADJUST>	DOCST
	LA-SPEED
SCAN> READER> OPTION> BODY>	SENS-CNF
	MODELSZ2
	KSIZE-SW

T-4-12

6) Perform the following in the service mode:
   SCAN > READER > FUNCTION > CCD > DF-WLVL1/2/3/4 (DF white level adjustment)
   6-1) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL1. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
   6-2) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL2. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)
   6-3) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL3. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
   6-4) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL4. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)
7) Enter the service mode, and then select the following:
   SCAN > READER > FUNCTION > INSTALL > STRD-POS CCD (stream reading position adjustment).
8) Enter the values recorded on the label affixed to the CCD unit in the following service mode. (Two items below)
   SCAN > READER > ADJUST > CCD > MTF3-M1/M2/M3/M4/M5/M6/M7/M8/M9
   Next, finalize the setting in the following mode:
   SCAN > READER > ADJUST > CCD > CCD-CHNG



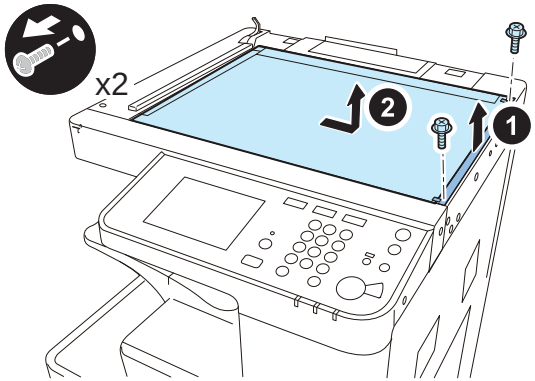
F-4-64

9) Transcribe the above correction values on the service label at the inside of the rear cover (right).

Removing the Platen Glass

1) Open the platen cover (platen board cover/ADF).
2) Remove the glass retainer.("Removing the Platen Glass"(page 4-20)..)

- 2 screws



F-4-65

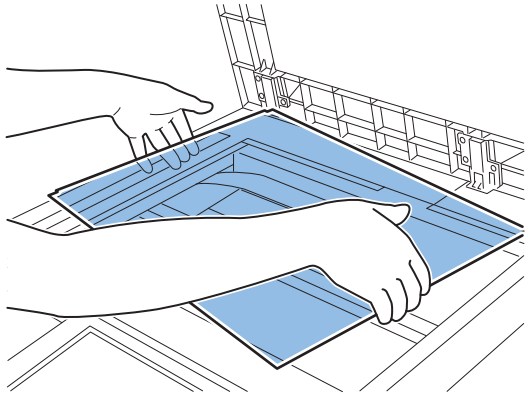
CAUTION:

When removing the platen glass, take care not to touch the following parts with your fingers:

- Glass surface
- Standard white plate

Soils on these parts may cause white/black lines on images.

If they are soiled, clean them with a lint-free paper moistened with alcohol.



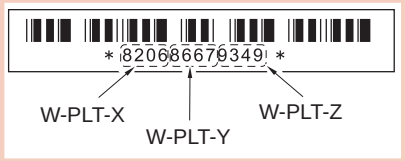
F-4-66

Action to Take after Replacing the Platen Glass

Take the action stated below in the service mode.

CAUTION:

Be sure to make the white plate data adjustment before ADF white level adjustment.



F-4-67

1.Enter the value indicated on the platen glass in the following service mode:
SCAN > READER > ADJUST > CCD > W-PLT-X/Y/Z (Input of standard white plate data)
2.Enter the service mode, and then select the following:
SCAN > READER > FUNCTION > CCD > DF-WLVL1/2/3/4 (DF white level adjustment)

1) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL1.
Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
2) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL2.
Read the white level in the DF mode (stream reading). (Check the transparency of the

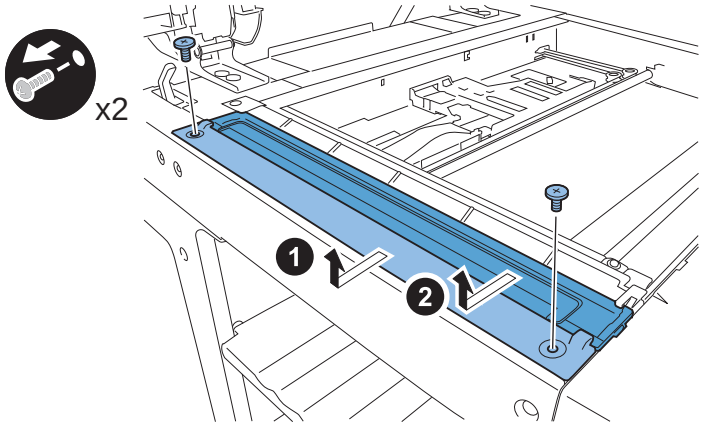
glass for stream reading.)(Read both sides of the chart.)

3) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL3.
Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)

4) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL4.
Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)

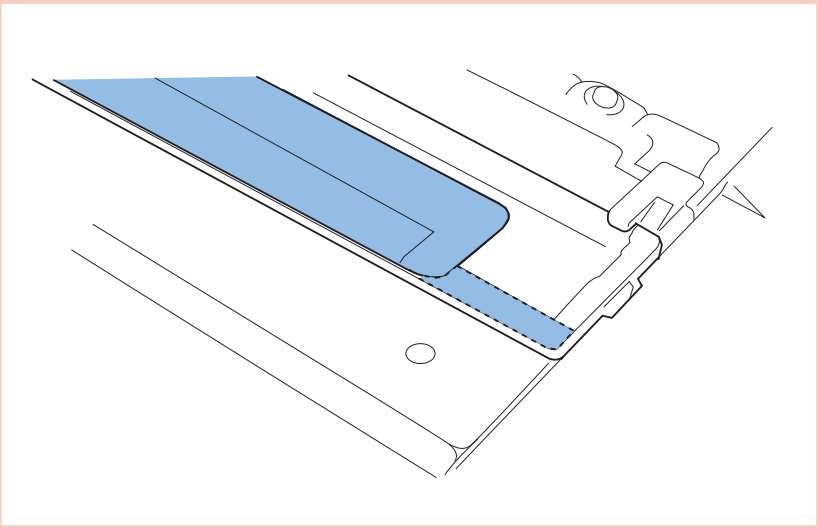
Removing the ADF Scan Glass

1) Open the platen cover (platen board cover/ADF).
2) Remove the glass retainer.
- 2 screws
3) Remove the ADF scan glass.



F-4-68

CAUTION:
- When removing the ADF scan glass, take care not to touch the glass surface with your fingers.
- Soils on the glass surface may cause white/black lines on images.
- If the glass surface is soiled, clean them with a lint-free paper moistened with alcohol.
- Be sure to install the ADF scan glass with its seat facing front left.



F-4-69

Action to Take after Replacing the ADF Scan Glass

1.Enter the service mode, and then select the following:
SCAN > READER > FUNCTION > CCD > DF-WLVL1/2/3/4 (DF white level adjustment)

1) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL1.
Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)

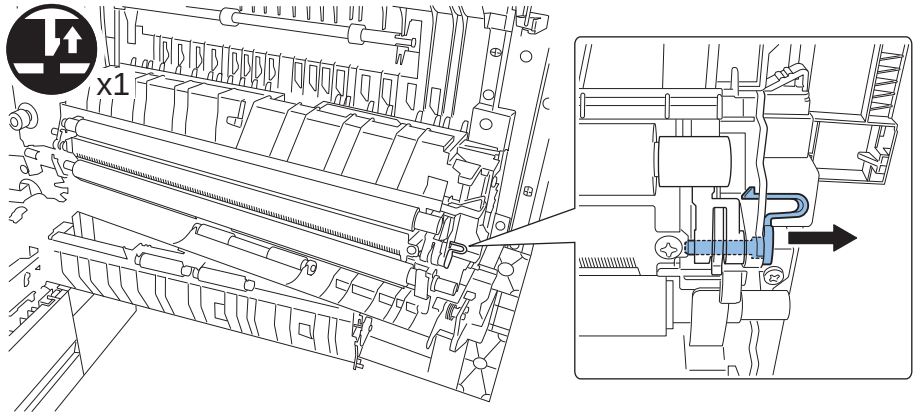
2) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL2.
Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)

3) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL3.
Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
4) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL4.
Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)

Consumable Parts Requiring Periodic Replacement

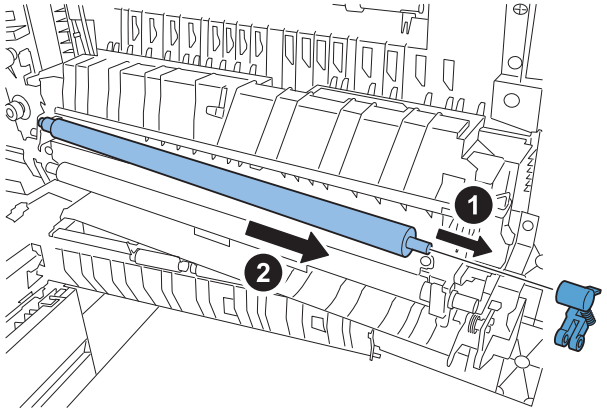
Removing the Transfer Roller

1) Open the right cover.
2) Remove the transfer roller.
   - 1 stopper (front)
   - 1 claw



F-4-70

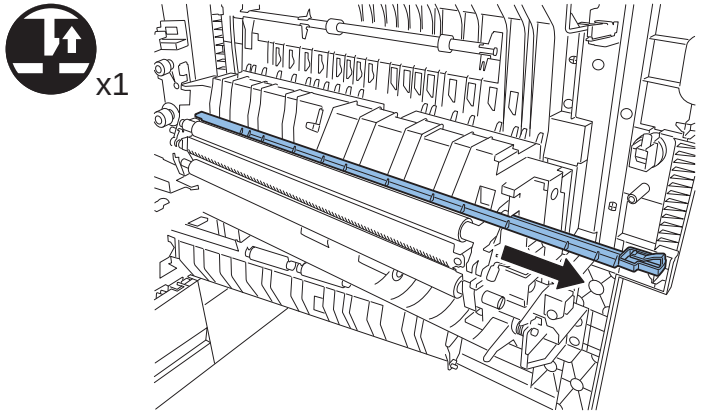
3) Remove the transfer roller.
   - 1 bearing (front)



F-4-71

Removing the Separation Static Charge Eliminator

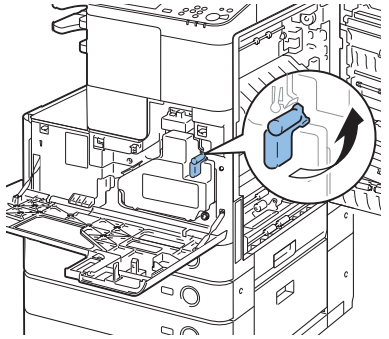
1) Open the right cover.
2) Remove the separation static charge eliminator.
   - 1 claw



F-4-72

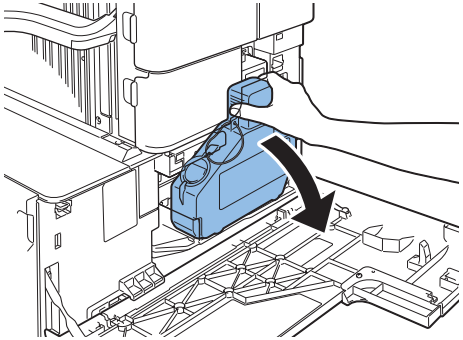
Removing the Waste Toner Container

1) Open the front cover.
2) Turn the lock lever as shown to release the lock of the waste toner container.



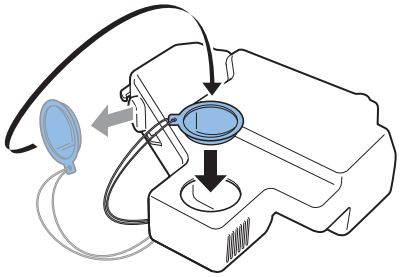
F-4-73

3) Remove the waste toner container.



F-4-74

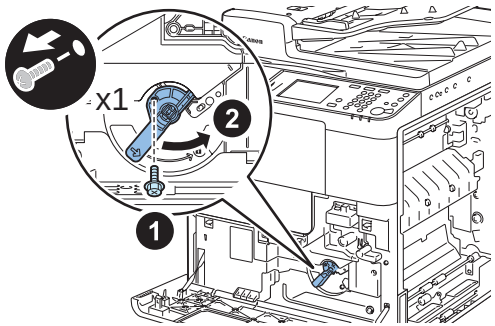
4) Remove the lid attached at the front of the waste toner container, and then cover the opening of the container with it so that the waste toner does not spill out.



F-4-75

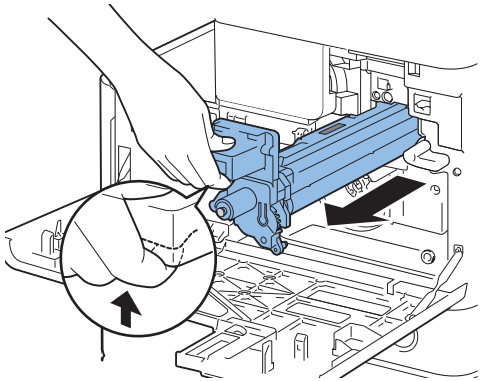
Removing the Drum Unit

1) Open the right cover.
2) Open the front cover.
3) Remove the waste toner container. ("Removing the Waste Toner Container"(page 4-35).)
4) Remove the screw securing the developing assembly pressure lever. (Models for some destinations do not have this screw.)
5) Turn the lever in the direction of the arrow to release the lock of the drum unit.



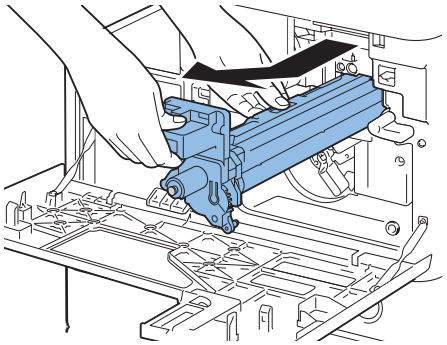
F-4-76

6) While raising the lever under the handle of the drum unit, slowly pull out the drum unit to the position shown below.



F-4-77

7) Pull out the drum unit slightly upward.



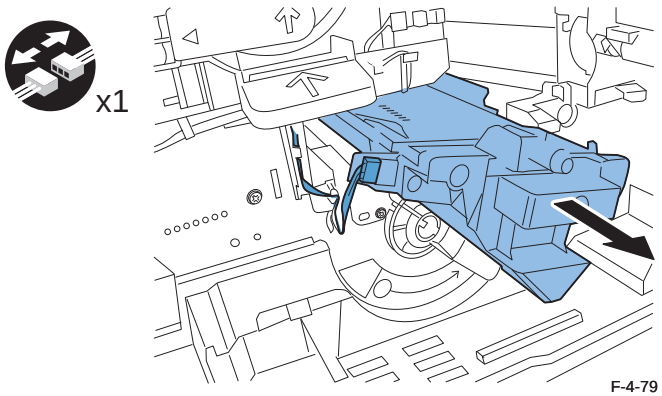
F-4-78

CAUTION:

Do not touch the drum surface during the work.

Removing the Developing Assembly

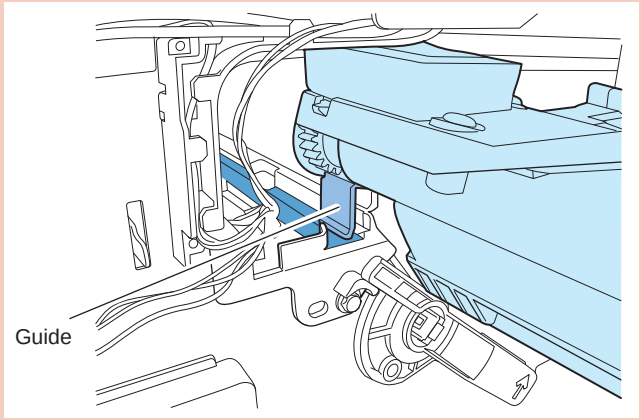
1) Open the right cover.
2) Open the front cover.
3) Remove the waste toner container. ("Removing the Waste Toner Container"(page 4-35).)
5) Remove the drum unit. ("Removing the Drum Unit"(page 4-36).)
6) Remove the toner supply cover.
7) Remove the developing assembly
   - 1 connector



F-4-79

CAUTION:

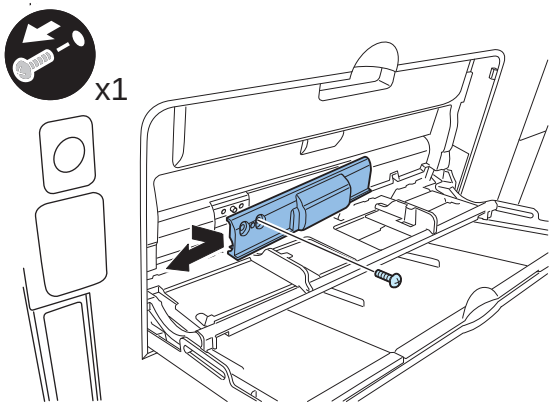
When installing the toner supply unit, insert a guide of the developing unit to the ditch of the host machine.



F-4-80

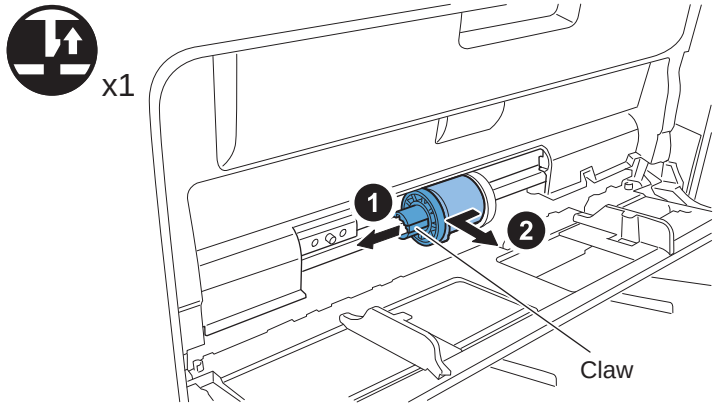
Removing the Manual Feed Pickup Roller

1) Remove the manual feed pickup roller cover.
   - 1 screw



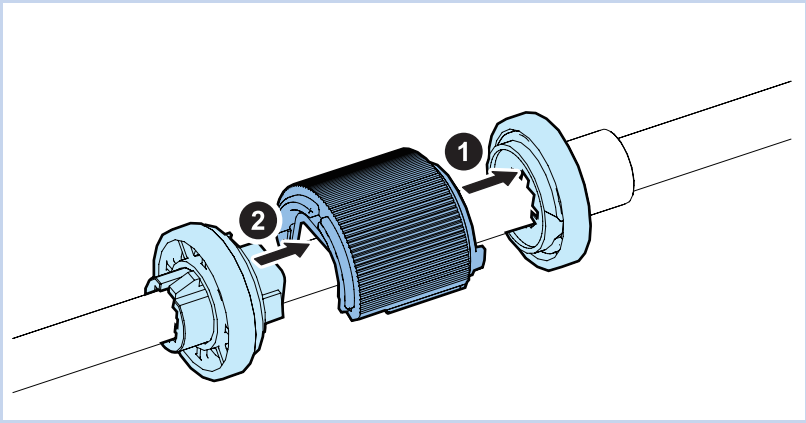
F-4-81

2) Release the claws, and then slide the bearing (front).
3) Remove the manual feed pickup roller.



F-4-82

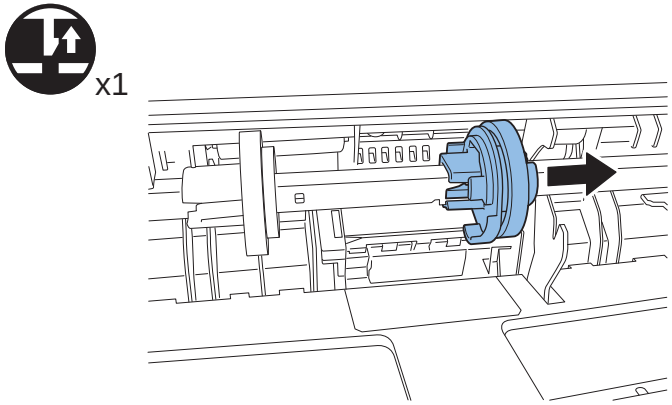
MEMO:
Reassemble the manual feed pickup roller as shown.



F-4-83

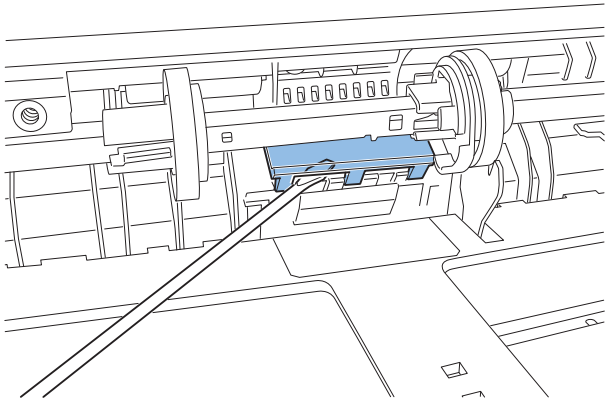
Removing the Manual Feed Separation Pad

1) Remove the manual feed pickup roller. ("Removing the Manual Feed Pickup Roller"(page 4-37).)
2) Slide the bearing (rear) backward.



F-4-84

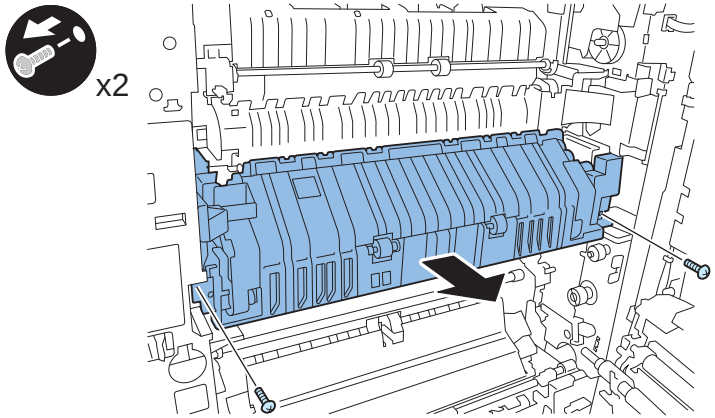
3) Remove the separation pad with a flat-blade screwdriver.



F-4-85

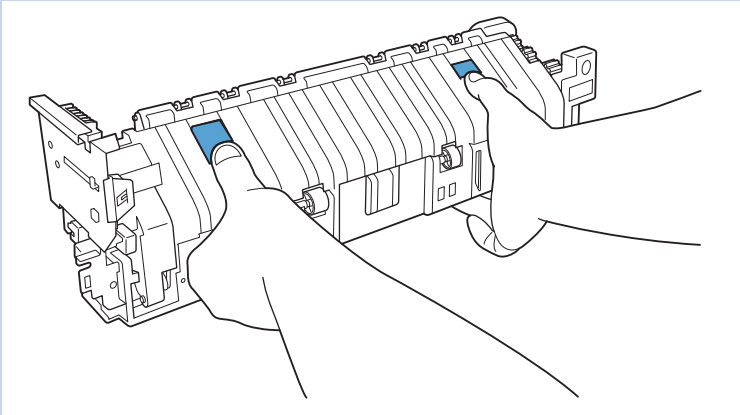
Removing the Fixing Unit

1) Open the right cover
2) Remove the fixing unit.
   - 2 screws



F-4-86

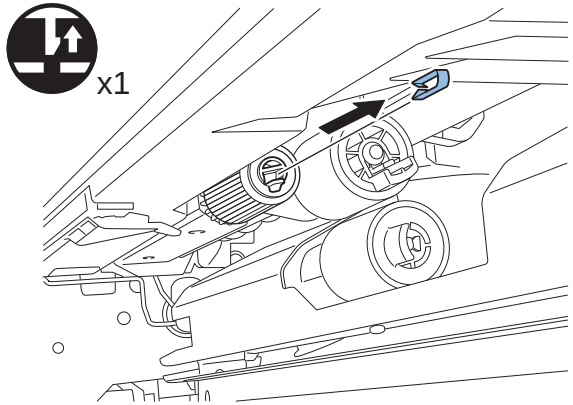
MEMO:
Hold the fixing unit at the position shown below.



F-4-87

Removing the Cassette Pickup Roller

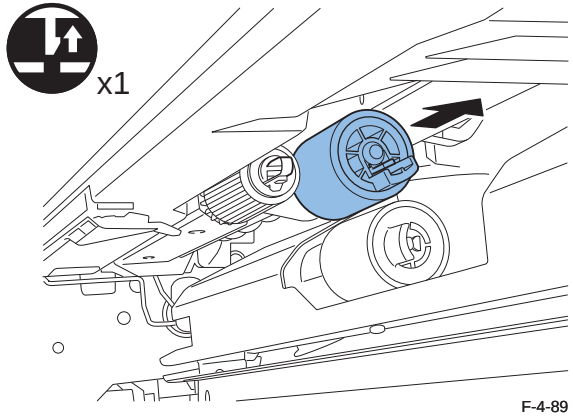
1) Draw out the cassette from the main unit.
2) Open the right cover.
3) Remove the leaf spring with your fingers.
4) Remove the cassette pickup roller.
   - 1 claw



F-4-88

Removing the Cassette Feed Roller

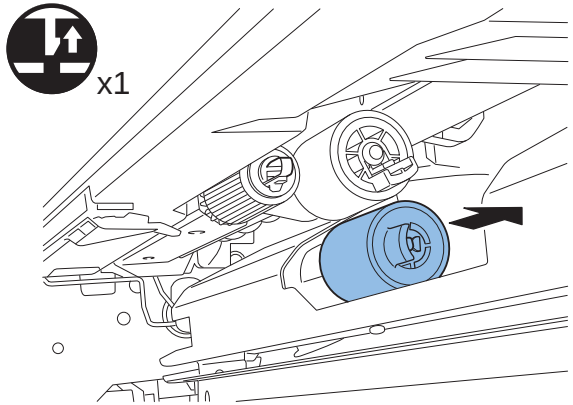
1) Draw out the cassette from the main unit.
2) Open the right cover.
3) Remove the cassette transfer roller.
   - 1 claw



F-4-89

Removing the Cassette Separation Roller

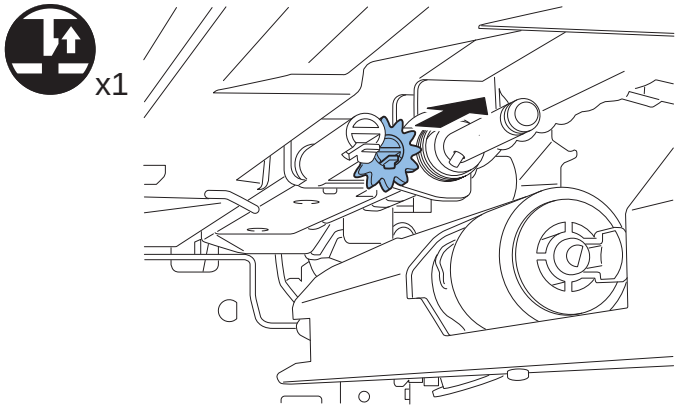
1) Draw out the cassette from the main unit.
2) Open the right cover.
3) Remove the cassette separation roller.
   - 1 claw



F-4-90

Removing the Idler Gear (For China Only)

1) Draw out the cassette from the main unit.
2) Open the right cover.
3) Remove the cassette pickup roller.(“Removing the Cassette Pickup Roller”(page 4-39).)
4) Remove the cassette feed roller. (“Removing the Cassette Feed Roller”(page 4-39).)
5) Remove the idler gear.
   - 1 claw



F-4-91

PCB

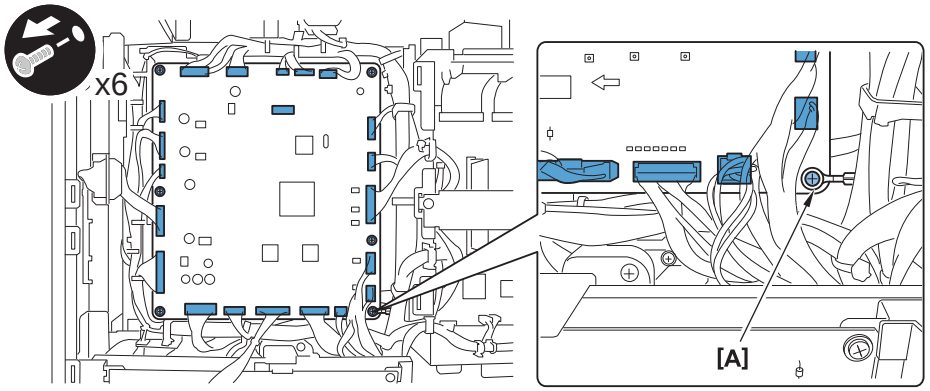
Removing the DC Controller PCB

Before Replacement/RAM Clearing

Print the service data list in the service mode.
REPORT > REPORT OUTPUT > SERVICE DATA LIST

Replacement Procedure

1) Remove the rear cover (right). ("Removing the Rear Cover (Right)"(page 4-21)..)
2) Remove the rear cover (left). ("Removing the Rear Cover (Left)"(page 4-21)..)
3) Disconnect all connectors on the DC controller PCB.
4) Remove the DC controller PCB.
   - 6 screws (Screw A is tightened together with the earth cable.)



F-4-92

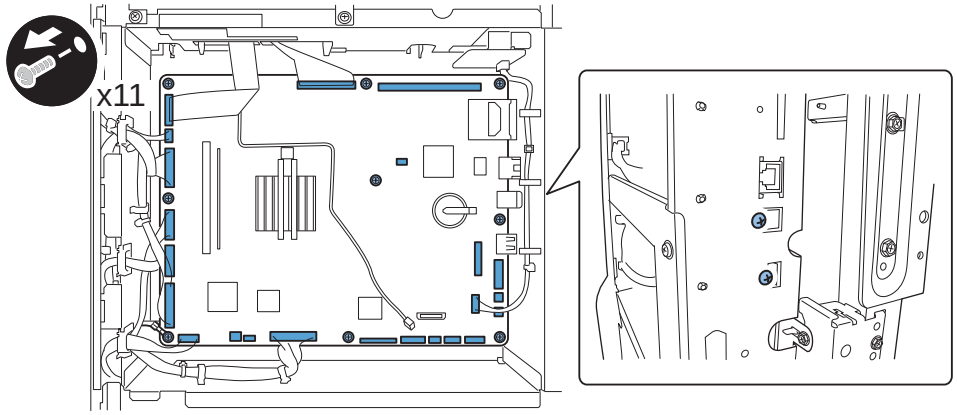
Action to Take after Replacement/RAM Clearing

1) Clear the DC controller settings and counters.
   Enter the service mode, and Then select the following:
   CLEAR > ENGINE > ENGINE BKRAMCLK (Clearing of the RAM on the DC controller PCB)
2) Turn OFF and then ON the main power switch. (Turning OFF/ON the main power switch clears the RAM.)
3) If uploading of backup data fails before replacement due to the damage to the DC controller PCB, enter the values of service mode items recorded on the service label.
   Since the values recorded on the service label may be outdated, check the service mode item list (#SERVICE DATA LIST) printed out in advance, and then enter the latest values.
4) Turn OFF and then ON the main power switch. (Turning OFF/ON the main power switch allows the values entered for the service mode items to take effect.)

Removing the Main Controller PCB

Replacement Procedure

1) Remove the left cover (right). ("Removing the Rear Cover (Right)"(page 4-21)..)
2) Remove the left rear cover. ("Removing the Left Rear Cover"(page 4-18).)
3) Remove the RAM PCB. ("Removing the RAM PCB"(page 4-42)..)
4) Remove the modem PCB (for the model with a FAX function).
5) Disconnect all connectors and flexible cables on the main controller PCB.
6) Remove the main controller PCB.
   - 11 screws



F-4-93

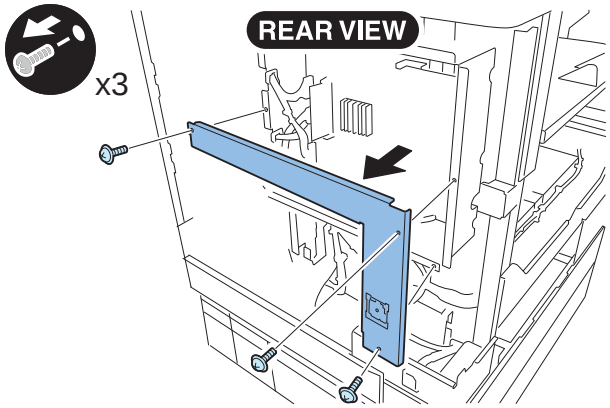
Action to Take after Replacement

After replacing the image processor PCB with a new one, take the following action:
- Download the latest firmware with the UST.
- Enter all values recorded on the service label affixed to the rear cover.

Removing the RAM PCB

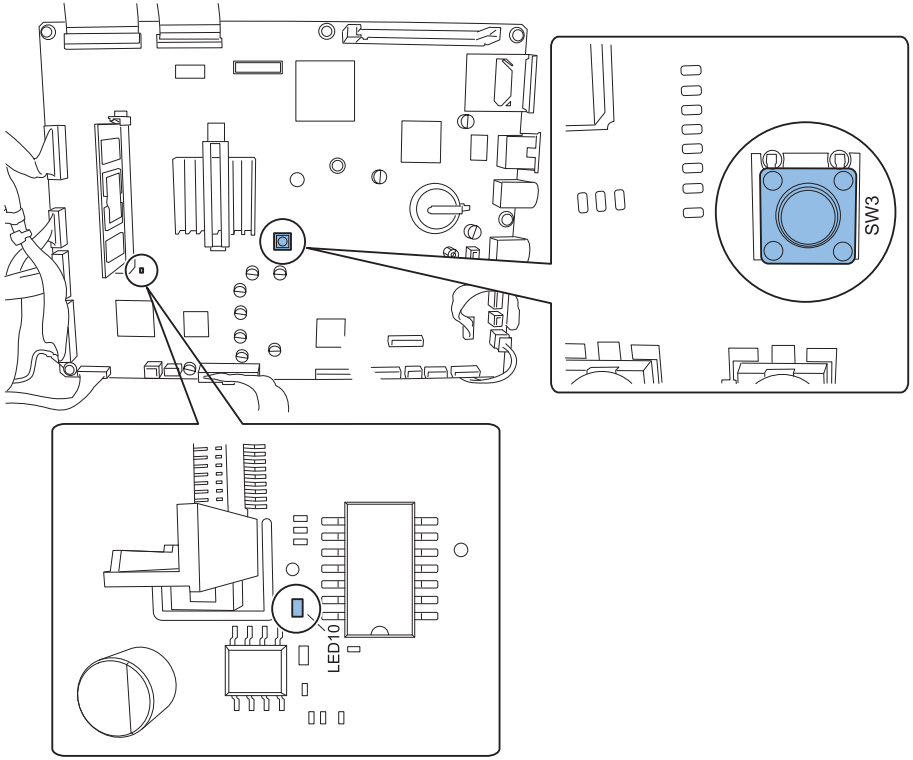
Replacement Procedure

1) Remove the rear cover (right). ("Removing the Rear Cover (Right)"(page 4-21)..)
2) Remove the controller plate. (Remove 3 screws.)



F-4-94

3) For the model with a FAX and SEND function, press the SW3 on the main controller to check that LED10 goes out. (Secondary power cutoff)



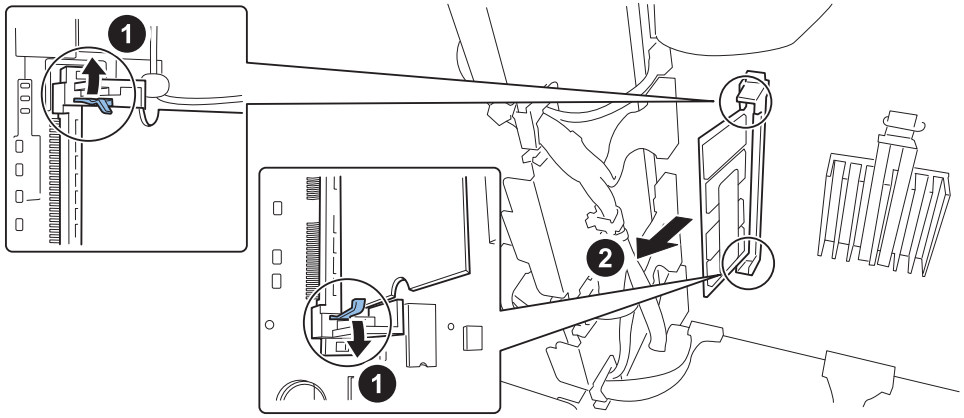
F-4-95

CAUTION:

The ADRAM is powered from the secondary battery unit to back up the image memory even after the main power switch is turned OFF and the power plug is removed from the outlet.

If the SW3 on the main controller PCB is pressed with the image backed up, the entire data stored in the memory is cleared. Be sure to output the data stored in the memory before pressing the SW3.

4) Remove the RAM PCB. (Release the hook.)



F-4-96

5 Adjustment

- Outline
- Adjustment when replacing parts
- Image position adjustment

Outline

Adjustment when replacing parts

This section describes adjustment required in field service works when replacing parts.

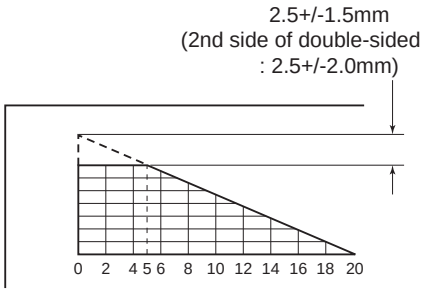
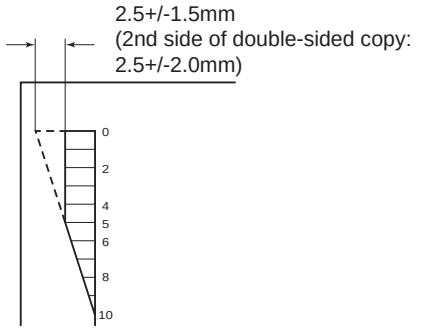
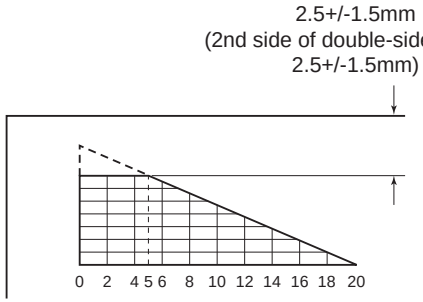
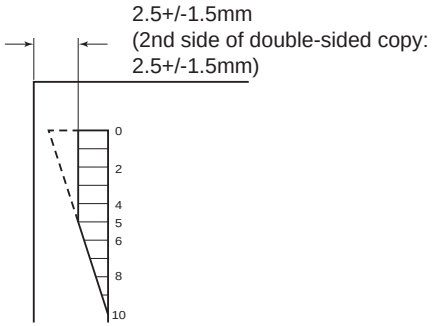
The parts are classified by function into the following 3 blocks.

Category	Replacing parts	Reference
Scanning System	CCD unit	"Action to Take after Replacing the CCD Unit"(page 5-3).
	Copyboard glass	"Action to Take after Replacing the Platen Glass"(page 5-4).
	ADF reading glass	"Action to Take after Replacing the ADF Scan Glass"(page 5-4).
Controller System	Main controller PCB	"Action to Take after Replacing theMain Controller PCB" (page 5-5).
	DC controller PCB	"Action to Take when Replacing the DC Controller PCB" (page 5-5).
	RAM PCB	"Action to Take after Replacing the RAM"(page 5-5).
Laser Exposure System	Laser scanner unit	"Action to Take after Replacing the Laser Scanner Unit"(page 5-5).

T-5-1

Image position adjustment

This section describes procedures when adjusting basic image position (image margins, nonimage area, etc).

Category	Item	Reference
Margin Along the Leading Edge	Single-sided copy: 2.5 ± 1.5 (mm) Double-sided copy: 2.5 ± 2.0 (mm) 	"Margin Along the Leading Edge" (page 5-6).
Left Image Margin	Single-sided copy: 2.5 ± 1.5 (mm) Double-sided copy: 2.5 ± 2.0 (mm) 	"Left Image Margin" (page 5-6).
Leading Edge Non-Image Width	Single-sided copy: 2.5 ± 1.5 (mm) Double-sided copy: 2.5 ± 1.5 (mm) 	"Leading Edge Non-Image Width" (page 5-6).
Left Non-Image Width	Single-sided copy: 2.5 ± 1.5 (mm) Double-sided copy: 2.5 ± 1.5 (mm) 	"Left Non-Image Width"(page 5-7).

T-5-2

Adjustment when replacing parts

Scanning System

Action to Take after Replacing the CCD Unit

Perform the following procedure after replacing the CCD unit:

1) Install the new CCD unit.

2) Turn on the power to cause the error “E248”.

3) Enter the service mode and perform the following:

SCAN > READER > FUNCTION > CLEAR > R-CON (RCON RAM clearing)

4) Turn OFF and then ON the main power switch.

5) Enter the following items according to the service data list output in advance.

SCAN> READER> ADJUST> ADJ-XY>	ADJ-X
	ADJ-Y
	ADJ-S
	ADJ-Y-DF
	ADJ-X-MG
SCAN> READER> ADJUST> PASCAL> OFST-P-K	
SCAN> READER> ADJUST> CCD>	50_RG
	50_GB
	100_RG
	100_GB
	50DF_RG
	50DF_GB
	100DF_RG
	100DF_GB
	W-PLT-X
	W-PLT-Y
	W-PLT-Z
SCAN> FEEDER> ADJUST>	DOCST
	LA-SPEED
SCAN> READER> OPTION> BODY>	SENS-CNF
	MODELSZ2
	KSIZE-SW

T-5-3

6) Perform the following in the service mode:

SCAN> READER> FUNCTION> CCD> DF-WLVL1/2/3/4 (DF white level adjustment)

6-1) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL1. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)

6-2) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL2. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)

6-3) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL3. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)

6-4) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL4. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)

7) Enter the service mode, and then select the following:

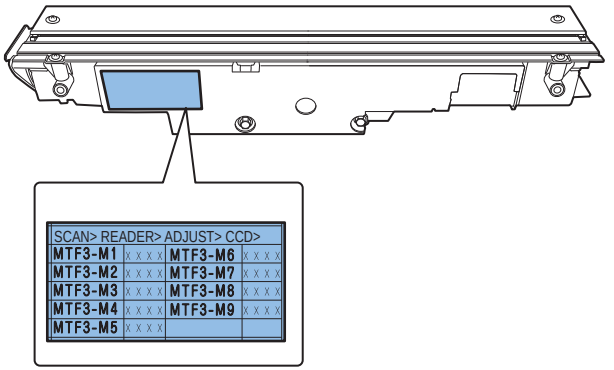
SCAN > READER > FUNCTION > INSTALL > STRD-POS CCD (stream reading position adjustment).

8) Enter the values recorded on the label affixed to the CCD unit in the following service mode. (Two items below)

SCAN > READER > ADJUST > CCD > MTF3-M1/M2/M3/M4/M5/M6/M7/M8/M9

Next, finalize the setting in the following mode:

SCAN > READER > ADJUST > CCD > CCD-CHNG



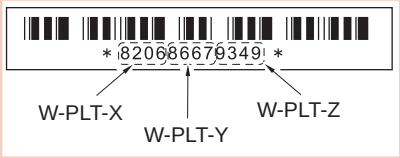
F-5-1

9) Transcribe the above correction values on the service label at the inside of the rear cover (right).

Action to Take after Replacing the Platen Glass

CAUTION:

Be sure to make the white plate data adjustment before ADF white level adjustment.



F-5-2

1.Enter the value indicated on the platen glass in the following service mode:
SCAN > READER > ADJUST > CCD > W-PLT-X/Y/Z (Input of standard white plate data)
2.Enter the service mode, and then select the following:
SCAN > READER > FUNCTION > CCD > DF-WLVL1/2/3/4 (DF white level adjustment)

1) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL1. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
2) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL2. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)
3) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL3. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
4) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL4. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)

Action to Take after Replacing the ADF Scan Glass

1.Enter the service mode, and then select the following:
SCAN > READER > FUNCTION > CCD > DF-WLVL1/2/3/4 (DF white level adjustment)

1) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL1. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
2) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL2. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)
3) Place a sheet of paper that the user usually uses on the platen glass, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DFWLVL3. Read the white level in the BOOK mode. (Check the transparency of the glass for BOOK mode.)
4) Place a sheet of paper that the user usually uses on the DF, enter the service mode, and then select SCAN > READER > FUNCTION > CCD > DF-WLVL4. Read the white level in the DF mode (stream reading). (Check the transparency of the glass for stream reading.)(Read both sides of the chart.)

Controller System

Action to Take after Replacing theMain Controller PCB

After replacing the main controller PCB with a new one, take the following action:

- Download the latest firmware with the UST.
- Enter all values recorded on the service label affixed to the rear cover.

Action to Take when Replacing the DC Controller PCB

Before Replacement/RAM Clearing

Print the service data list in the service mode.
REPORT > REPORT OUTPUT > SERVICE DATA LIST

Action to Take after Replacement/RAM Clearing

1) Clear the DC controller settings and counters.
   Enter the service mode, and Then select the following:
   CLEAR > ENGINE > ENGINE BKRAMCLK (Clearing of the RAM on the DC controller PCB)
2) Turn OFF and then ON the main power switch. (Turning OFF/ON the main power switch clears the RAM.)
3) If uploading of backup data fails before replacement due to the damage to the DC controller PCB, enter the values of service mode items recorded on the service label. Since the values recorded on the service label may be outdated, check the service mode item list (#SERVICE DATA LIST) printed out in advance, and then enter the latest values.
4) Turn OFF and then ON the main power switch. (Turning OFF/ON the main power switch allows the values entered for the service mode items to take effect.)

Action to Take after Replacing the RAM

CAUTION:

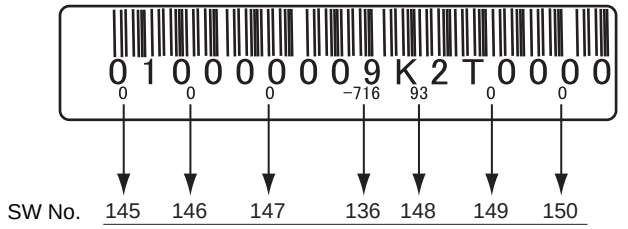
The ADRAM is powered from the secondary battery unit to back up the image memory even after the main power switch is turned OFF and the power plug is removed from the outlet.

If the SW3 on the main controller PCB is pressed with the image backed up, the entire data stored in the memory is cleared. Be sure to output the data stored in the memory

Laser Exposure System

Action to Take after Replacing the Laser Scanner Unit

When replacing the laser unit, enter the values recorded on the label affixed to the laser unit to be replaced for the following in the service mode:



F-5-3

- PRINT > Bitswitch > 136 Laser horizontal scanning direction write position adjustment(A)
- PRINT > Bitswitch > 145 Laser horizontal scanning direction magnification ratio adjustment(A-B)
- PRINT > Bitswitch > 146 Laser horizontal scanning direction magnification ratio adjustment(A-C)
- PRINT > Bitswitch > 147 Laser horizontal scanning direction magnification ratio adjustment(A-D)
- PRINT > Bitswitch > 148 Laser horizontal scanning direction write position adjustment(A-B)
- PRINT > Bitswitch > 149 Laser horizontal scanning direction write position adjustment(A-C)
- PRINT > Bitswitch > 150 Laser horizontal scanning direction write position adjustment(A-D)

Image position adjustment

Copy 10 sheets from each pickup position to check that the image margin and non-image area is within the standard.

- Each cassette
- Pickup tray

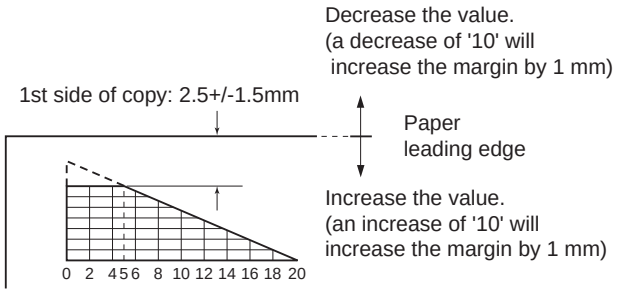
If it is not within the standard, go through the following procedures to adjust it.

CAUTION:

If changing the value of service mode item in this adjustment, enter the changed value in the service label.

Margin Along the Leading Edge

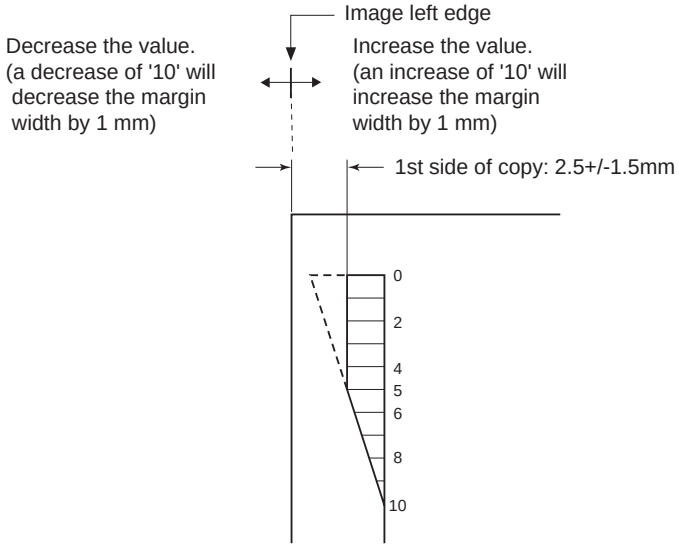
Service mode> PRINT> PRINT NUMERIC> 053



F-5-4

Left Image Margin

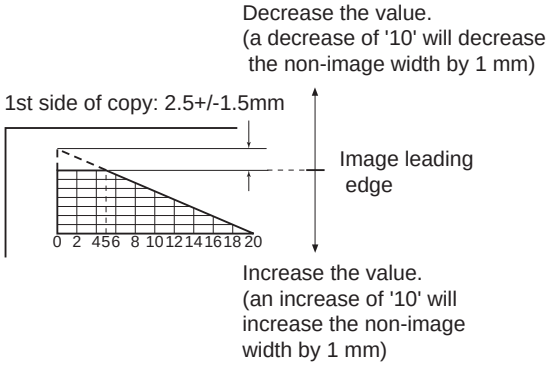
Service mode> PRINT> PRINT NUMERIC> 056



F-5-5

Leading Edge Non-Image Width

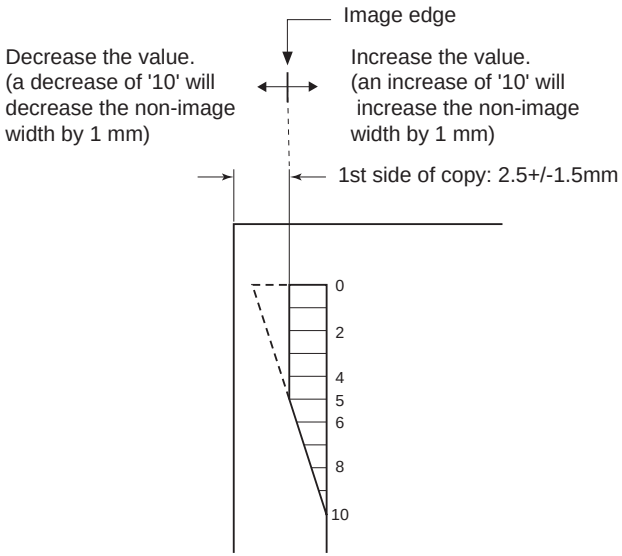
Service mode> SCAN> READER> ADJUST> ADJ-XY> ADJ-X



F-5-6

Left Non-Image Width

Service mode> SCAN> READER> ADJUST> ADJ-XY> ADJ-Y



F-5-7

Troubleshooting

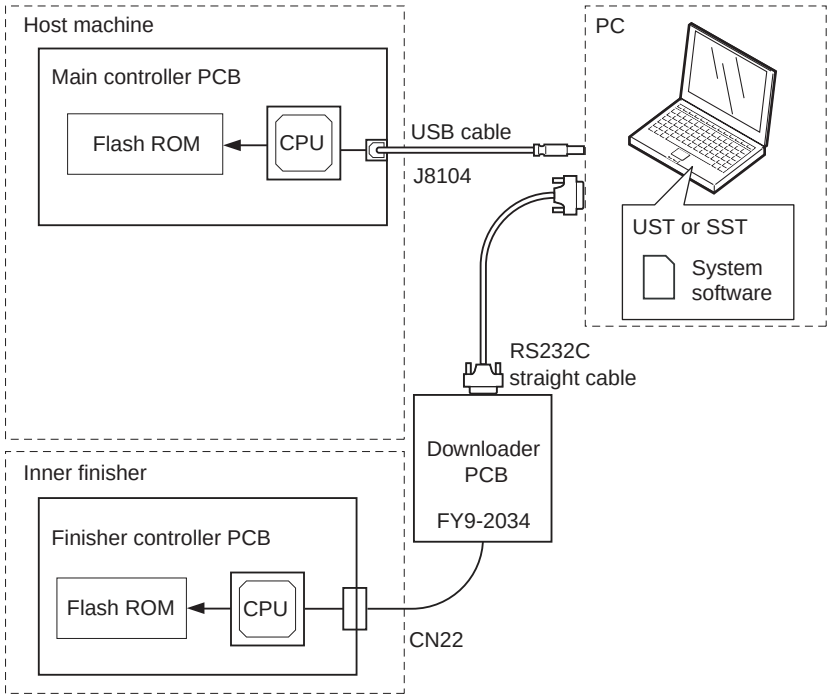
- Upgrading Targets and Procedure

Upgrading Targets and Procedure

Outline

There are two methods to upgrade the system software.

1. Upgrading system software for host machine: Use the PC (UST).
2. Upgrading system software for inner finisher: Use the PC (SST) and downloader PCB



F-6-1

Host machine

Target PCB	Category	Target system software	File type	Remarks
Main controller PCB	iR2545/iR2535	Boot	USTUPDATE_iR2545_35_BOOT_vXXXX	There are two types of main controllers. Note: When upgrading two types of firmware, Boot and Bootable lang, at the same time, upgrade Boot first.
		Program	USTUPDATE_iR2545_35_bootable_lang_WLaaXXXX	
	iR2530/2525/2520	Boot	USTUPDATE_iR2530_25_20_BOOT_vXXXX	
		Program	USTUPDATE_iR2530_25_20_bootable_lang_WLaaXXXX	
DC controller PCB	iR2545/iR2535	DCON	USTUPDATE_iR2545_35_DCON_vXXXX	There are three types of DC controllers.
	iR2530/2525 1st cassette, 550-sheet type		USTUPDATE_iR2530_25_DCON_vXXXX	
	iR2530/2525/2520 1st cassette, 250-sheet type		USTUPDATE_iR2530_25_20_DCON_vXXXX	

T-6-1

Inner finisher

Target PCB	Target system software	Description on SST	Remarks
Finisher controller PCB	FIN_CON	IFN_B1	For the detailed procedure, refer to the service manual for the finisher.

T-6-2

Procedure

MEMO:
The procedure for upgrading Boot is described below as a typical example. Use the same procedure for other firmware.

1) Turn ON the power switch of the PC and start up the UST.
2) When the power switch is turned ON, a Found New Hardware Wizard appears. Click [Cancel].

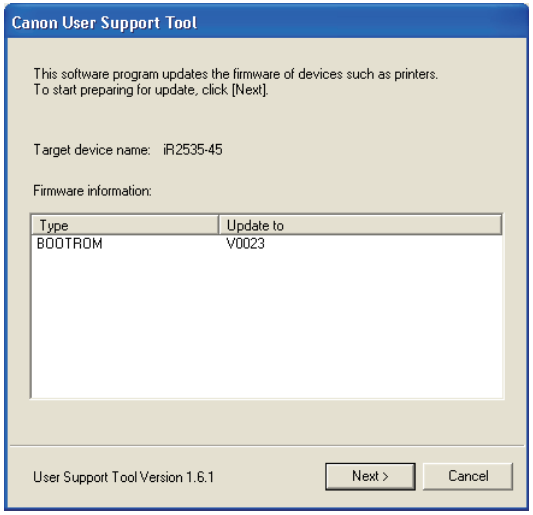
F-6-2

3) Enter the service mode. (✳ key > 2 Key > 8 Key > ✳ key)
4) Select [DOWNLOAD] by pressing the arrow key, then press the [OK] key.

MEMO:
You can also enter the download mode from the following user mode:
✳ > System Settings > Firmware Upgrade > Yes

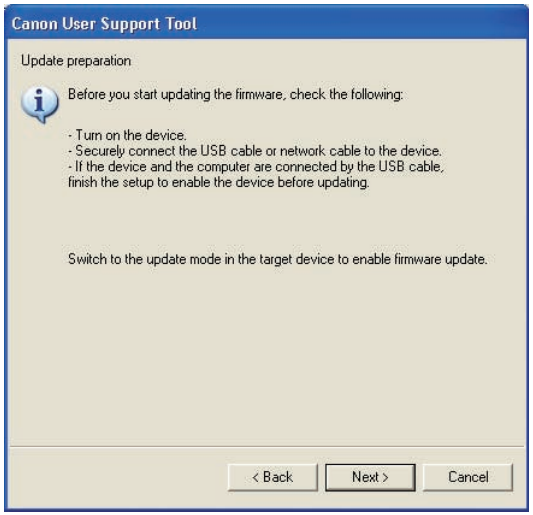
5) When “USB DOWNLOAD AVAILABLE” is displayed, start up the UST.

6) Click [Next] following the instruction shown on the screen.



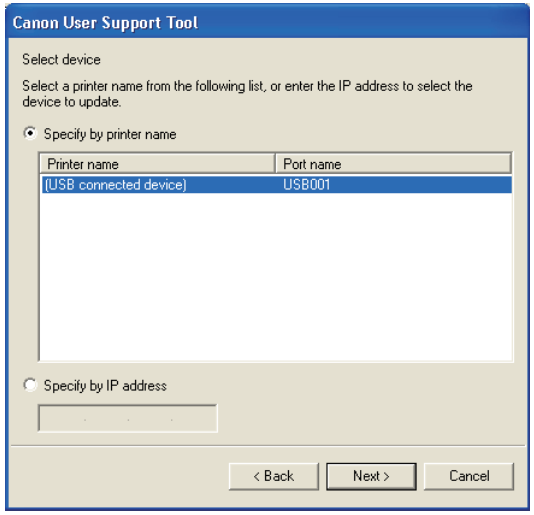
F-6-3

7) Click [Next] following the instruction shown on the screen.



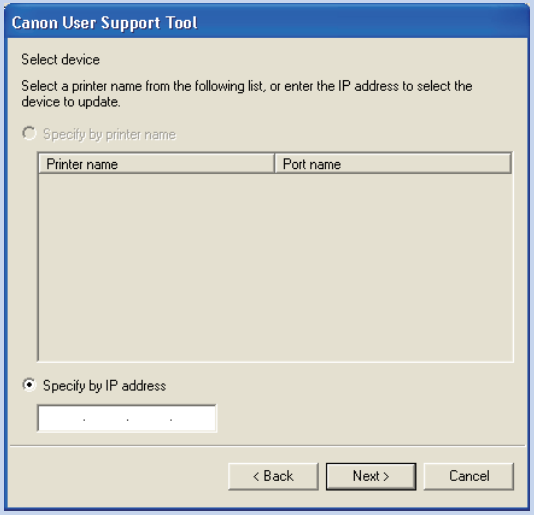
F-6-4

8) Click [Next] following the instruction shown on the screen.



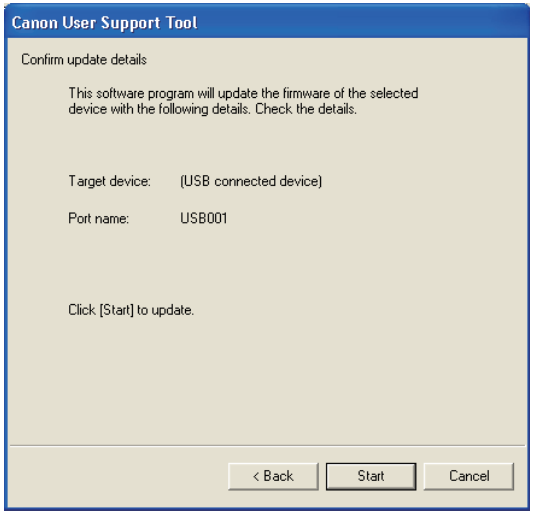
F-6-5

MEMO:
If firmware for a wrong model is selected, “Specify by printer name” is not displayed.



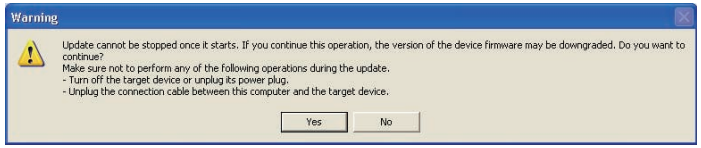
F-6-6

9) Click [Start] following the instruction shown on the screen.



F-6-7

10) Click [Yes] following the instruction shown on the screen.



F-6-8

11) The following screen appears. “UPDATING FIRMWARE” is displayed on the control panel of this machine.

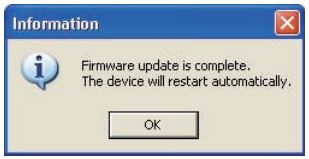
F-6-9

CAUTION:

Do Not Turn off the Power during Download/Write Operation in progress

Do not turn OFF the power while the system software is being downloaded or written. The machine may fail to start when the power is turned ON.

12) When upgrade is complete, the following screen appears. Turn OFF then ON the main power switch to complete the procedure.



F-6-10

Error Code

- Overview
- Error Code
- Jam Code
- Alarm Code

Overview

Outline

This chapter describes various codes which are displayed when a failure occurs on the product. These are classified into 3 codes as follows.

Code type	Explanation	Reference
Error code	This code is displayed when an error occurs on the machine.	Refer to page 7-3
Jam code	This code is displayed when a jam occurs inside the machine.	Refer to page 7-12
Alarm code	This code is displayed when a function of the machine is malfunctioned.	Refer to page 7-16

T-7-1

Error Code

Error Code Details

Ecode	Detail Code	Item	Description
E000	0001	Title	Fixing temperature abnormal rise
		Description	The temperature detected by the main thermistor does not rise to the specified value during startup control.
		Remedy	1.Go through the following to clear the error: CLEAR > ENGIN > ERRCLR; and then turn OFF and then ON the power. 2.Check connection of the Connectors (Thermistor Connector and AC Connector). 3.Replace the Fixing Main Thermistor (Film Unit). 4.Replace the Fixing Assembly. 5.Replace the DC Controller PCB (PCB4).
E001	0000	Title	Fixing unit temperature rise detection
		Description	The reading of the main thermistor is 250 deg C or more continuously for 200 msec.
		Remedy	1.Go through the following to clear the error: CLEAR > ENGIN > ERRCLR; and then turn OFF and then ON the power. 2.Check connection of the Connectors (Thermistor Connector and AC Connector). 3.Replace the Fixing Main Thermistor (Film Unit). 4.Replace the Fixing Assembly. 5.Replace the DC Controller PCB (PCB4).
E001	0001	Title	Fixing unit temperature rise detection
		Description	The hardware circuit detects overheating of the main or sub thermistor for 200 msec.
		Remedy	1.Go through the following to clear the error: CLEAR > ENGIN > ERRCLR; and then turn OFF and then ON the power. 2.Replace the DC Controller PCB (PCB4).
E001	0002	Title	Fixing unit temperature rise detection
		Description	The reading of the sub thermistor is 295 deg C or more continuously for 200 msec.
		Remedy	1.Go through the following to clear the error: CLEAR > ENGIN > ERRCLR; and then turn OFF and then ON the power. 2.Check connection of the Connectors (Thermistor Connector and AC Connector). 3.Replace the Fixing Main Thermistor (Film Unit). 4.Replace the Fixing Assembly. 5.Replace the DC Controller PCB (PCB4).
E002	0000	Title	Fixing unit temperature insufficient rise
		Description	1.The reading of the main thermistor is less than 115 deg C continuously for 400 msec 1.3 sec after it has indicated 100 deg C. 2.The reading of the main thermistor is less than 150 deg C continuously for 400 msec 1.3 sec after it has indicated 140 deg C.
		Remedy	1.Go through the following to clear the error: CLEAR > ENGIN > ERRCLR; and then turn OFF and then ON the power. 2.Check connection of the Connectors (Thermistor Connector and AC Connector). 3.Replace the Fixing Main Thermistor (Film Unit). 4.Replace the Fixing Assembly. 5.Replace the DC Controller PCB (PCB4).
E003	0000	Title	Low fixing temperature detection after standby
		Description	The reading of the main thermistor is less than 140 deg C continuously for 400 msec or more.
		Remedy	1.Go through the following to clear the error: CLEAR > ENGIN > ERRCLR; and then turn OFF and then ON the power. 2.Check connection of the Connectors (Thermistor Connector and AC Connector). 3.Replace the Fixing Main Thermistor (Film Unit). 4.Replace the Fixing Assembly. 5.Replace the DC Controller PCB (PCB4).
E004	0000	Title	Thermistor disconnection detection error
		Description	When disconnection is detected with connector (J214) for 30 sec continuously.
		Remedy	1.Check connection of the Connector (J214). 2.Replace the Film Unit. 3.Replace the Fixing Assembly. 4.Replace the DC Controller PCB (PCB4).
E010	0001	Title	Unstable rotation of the Main Motor (M1)
		Description	Detection is executed every 100 msec after the start of motor rotation; however, the drive detection signal is absent for 2 sec.
		Remedy	1.Replace the Main Motor (M1). 2.Replace the DC Controller PCB (PCB4).
E010	0002	Title	Unstable rotation of the Main Motor (M1)
		Description	During motor rotation, detection is executed every 100 msec; however, the drive signal is absent 5 times in sequence.
		Remedy	1.Replace the Main Motor (M1). 2.Replace the DC Controller PCB (PCB4).

Ecode	Detail Code	Item	Description
E014	0001	Title	Unstable rotation of the Fixing Motor (M2)
		Description	Detection is executed every 100 msec after the start of motor rotation; however, the drive detection signal is absent for 2 sec.
		Remedy	1.Replace the Fixing Motor (M2). 2.Replace the DC Controller PCB (PCB4).
E014	0002	Title	Unstable rotation of the Fixing Motor (M2)
		Description	During motor rotation, detection is executed every 100 msec; however, the drive signal is absent 5 times in sequence.
		Remedy	1.Replace the Fixing Motor (M2). 2.Replace the DC Controller PCB (PCB4).
E019	0000	Title	Error in Waste Toner Sensor (S17)
		Description	Warning when the sensor goes on for 2000 consecutive sheets, and error when the sensor goes on for 100 consecutive sheets. * Error occurs after the delivery if a paper in passage exists.
		Remedy	1.Replace the Waste Toner Sensor (S17). 2.Replace the DC Controller PCB (PCB4).
E020	0000	Title	The path between the sub hopper and the developing assembly is clogged with toner.
		Description	The Developing Assembly Toner Sensor (TS1) detects the absence of toner,while the Sub Hopper Toner Sensor (TS2) detects the presence of toner. With the Developing Cylinder Clutch (CL3) turned on, the hopper feedscrew motor (M7) is rotated for 1 sec intermittently 194 times; still, theDeveloping Assembly Toner Sensor (TS1) does not detect the presence of toner. * Error occurs after the delivery if a paper in passage exists.
		Remedy	1.Check the rotation of hopper motor gear. (If rotating, false detection by the sensor is doubted. Feed the toner to the developing unit in service mode: CLEAR>ENGIN>TNRINST.) 2.Replace the Developing Assembly Toner Sensor (TS1). 3.Replace the Sub Hopper Toner Sensor (TS2). 4.Replace the DC Controller PCB (PCB4).
E024	0000	Title	The connector (J207) of Developing Assembly Toner Sensor (TS1) is disconnected.
		Description	The Developing Assembly Toner Sensor (TS1) connection detection signal is absent for 100 msec 10 times in sequence. * Error occurs after the delivery if a paper in passage exists.
		Remedy	1.Check connection of the Connector (J207). 2.Replace the Developing Assembly Toner Sensor (TS1). 3.Replace the DC Controller PCB (PCB4).

Ecode	Detail Code	Item	Description
E024	0001	Title	The Developing Assembly Toner Sensor (TS1) is disconnected.
		Description	<At LOW SPEED> - The developing assembly toner sensor (TS1) ON counter is checked every 2.5 seconds, and the counter increments 1 count every 25 times when the sensor goes on, and 300 counts are reached. <At HIGH SPEED> - The developing assembly toner sensor (TS1) ON counter is checked every 1.5 seconds, and the counter increments 1 count every 15 times when the sensor goes on, and 300 counts are reached.
		Remedy	1.Check connection of the Connector (J207). 2.Correct the cable. 3.Replace the Developing Assembly Toner Sensor (TS1).
E025	0000	Title	The connector (J207) of Sub Hopper Toner Sensor (TS2) is disconnected.
		Description	The Sub Hopper Toner Sensor (TS2) connection detection signal is absent for 100 msec 10 times in sequence. * Error occurs after the delivery if a paper in passage exists.
		Remedy	1.Check connection of the Connector (J207). 2.Replace the Sub Hopper Toner Sensor (TS2). 3.Replace the DC Controller PCB (PCB4).
E025	0001	Title	Failure of the Bottle Motor (M6)
		Description	The bottle motor (M6) is unlocked when it goes on for 12 consecutive times at 0.1 sec. intervals. * Error occurs after the delivery if a paper in passage exists.
		Remedy	1.Replace the Bottle Motor (M6). 2.Replace the DC Controller PCB (PCB4).
E110	0001	Title	Failure of the Scanner Motor (M21)
		Description	The Scanner Motor (M21) speed lock signal does not indicate a locked state a specific period of time after the Scanner Motor (M21) has been started. * The same condition is detected after the error retry is performed.
		Remedy	1.Check the cable. 2.Replace the Laser Scanner Unit. 3.Replace the DC Controller PCB (PCB4).

Ecode	Detail Code	Item	Description
E110	0002	Title	Failure of the Scanner Motor (M21)
		Description	The speed lock signal indicates a deviation 10 times in sequence at intervals of 100 msec after the signal has indicated a locked state. * The same condition is detected after the error retry is performed.
		Remedy	1.Check the cable. 2.Replace the Laser Scanner Unit. 3.Replace the DC Controller PCB (PCB4).
E110	0003	Title	Failure of the Scanner Motor (M21)
		Description	The scanner motor (M21) speed lock signal does not indicate a locked state for 6.5 sec. after a switchover is made from low to normal speed or for 8 sec. after a switchover is made from normal to low speed. * The same condition is detected after the error retry is performed.
		Remedy	1.Check the cable. 2.Replace the Laser Scanner Unit. 3.Replace the DC Controller PCB (PCB4).
E196	0000	Title	Error in EEPROM access
		Description	20 retries failed after error occurred during communication with EEPROM. * Error occurs after the delivery if a paper in passage exists.
		Remedy	1.Replace the DC Controller PCB (PCB4).
E197	0000	Title	Error in communication of Laser Driver PCB (PCB14)
		Description	Communication error 1 with image PCB
		Remedy	1.Check the cable. 2.Replace the Laser Scanner Unit. 3.Replace the DC Controller PCB (PCB4).
E197	0001	Title	Error in communication of Laser Driver PCB (PCB14)
		Description	Communication error 2 with image PCB
		Remedy	1.Check the cable. 2.Replace the Laser Scanner Unit. 3.Replace the DC Controller PCB (PCB4).
E202	0000	Title	There is an error in the detection of the CCD home position.
		Description	1.The attempt to detect the home position fails when the CCD is moved forward. 2.The attempt to detect the home position fails when the CCD is moved back.
		Remedy	1.Disconnect and then connect the flexible cable(Relay PCB (PCB2)-Main Controller PCB (PCB1) 64pin). 2.Replace the flexible cable. 3.Replace the CCD HP sensor (S22). 4.Replace the Scanner Motor (M21). 5.Replace the Relay PCB (PCB2). 6.Replace the Main Controller PCB (PCB1).

Ecode	Detail Code	Item	Description
E225	0000	Title	The light intensity of the CCD is faulty.
		Description	The light intensity of the CCD during shading is under the specified level.
		Remedy	"1.Disconnect and then connect the flexible cable. 2.Replace the flexible cable. 3.Replace the CCD Unit. 4.Replace the Relay PCB (PCB2). 5.Replace the Main Controller PCB (PCB1)."
E227	0000	Title	The reader unit power supply (24V) is faulty.
		Description	1.At time of power-on, the 24V port is off. 2.At the start of a job, the 24V port is off. 3.At the end of a job, the 24V port is off. 4.When a load is being driven, the 24V port is off.
		Remedy	1.Disconnect and then connect the power supply harness connector. 2.Replace the Power Supply PCB (PCB3).
E240	0000	Title	Error in controller communication
		Description	The serial communication error such as parity error or overrun error is constantly detected.
		Remedy	1.Check the Connectors. 2.Replace the DC Controller PCB (PCB4).
E240	0001	Title	Error in controller communication
		Description	The serial communication error such as parity error or overrun error is detected while printing.
		Remedy	1.Check the Connectors. 2.Replace the DC Controller PCB (PCB4).
E248	0000	Title	EEPROM error
		Description	1.An error has occurred at power-on. 2.An error has occurred during write operation. 3.An error has occurred during read operation following write operation.
		Remedy	1.Disconnect and then connect the flexible cable(Relay PCB (PCB2)-Main Controller PCB (PCB1) 50pin). 2.Disconnect and then connect the flexible cable(CCD unit-Relay PCB (PCB2)). 3.Disconnect and then connect the power supply harness connector. 4.Replace the flexible cable. 5.Replace the CCD Unit. 6.Replace the Relay PCB (PCB2). 7.Replace the Power Supply PCB (PCB3). 8.Replace the Main Controller PCB (PCB1).

Ecode	Detail Code	Item	Description
E261	0000	Title	Error in Zero Cross
		Description	Zero Cross failed to be detected for 500ms or more while the relay was ON. * The same condition is detected after the error retry is performed.
		Remedy	1.Check the Connectors. 2.Replace the DC Controller PCB (PCB4).
E280	0000	Title	Reading unit communication error
		Description	Reading error after writing.
		Remedy	1.Disconnect and then connect the flexible cable(Relay PCB (PCB2)-Main Controller PCB (PCB1) 50pin). 2.Disconnect and then connect the flexible cable(Relay PCB (PCB2)-Main Controller PCB (PCB1) 64pin). 3.Disconnect and then connect the flexible cable(CCD unit-Relay PCB (PCB2)). 4.Replace the flexible cable. 5.Replace the Relay PCB (PCB2). 6.Replace the Main Controller PCB (PCB1).
E413	0000	Title	Release Motor (M2) error
		Description	The sensing level of the release motor HP sensor (SR11) does not change within a specified period when the release motor (M2) is driven.
		Remedy	1.Replace the Release Motor HP Sensor (SR11). 2.Replace the Release Motor (M2). 3.Replace the ADF Driver PCB.
E500	0000	Title	Communication error
		Description	The communication with the host machine is interrupted.
		Remedy	1.Check the cable. 2.Replace the Finisher Controller PCB (PCB1). 3.Replace the DC Controller PCB.
E505	0001	Title	EEPROM error
		Description	The checksum for the EEPROM data has an error.
		Remedy	1.Replace the Finisher Controller PCB (PCB1).
E520	0001	Title	Shift Motor (M4) error
		Description	The shift roller does not leave the shift roller home position when the Shift Motor (M4) has been driven for 1.2 seconds.
		Remedy	1.Replace the Shift Roller HP Sensor (S2). 2.Replace the Shift Motor (M4). 3.Replace the Finisher Controller PCB (PCB1).
E520	0002	Title	Shift Motor (M4) error
		Description	The shift roller does not return to the shift roller home position when the Shift Motor (M4) has been driven for 1.2 seconds.
		Remedy	1.Replace the Shift Roller HP Sensor (S2). 2.Replace the Shift Motor (M4). 3.Replace the Finisher Controller PCB (PCB1).

Ecode	Detail Code	Item	Description
E531	8001	Title	Stapler Motor (M10) error
		Description	The stapler does not leave the staple home position when the Staple Motor (M10) has been driven for 0.5 sec.
		Remedy	1.Check the wiring between the Finisher Controller PCB and Stapler. 2.Replace the Stapler. 3.Replace the Finisher Controller PCB (PCB1).
E531	8002	Title	Stapler Motor (M10) error
		Description	The stapler does not return to the staple home position when the Stapler Motor (M10) has been driven for 0.5 sec.
		Remedy	1.Check the wiring between the Finisher Controller PCB and Stapler. 2.Replace the Stapler. 3.Replace the Finisher Controller PCB (PCB1).
E532	0001	Title	STP Move Motor (M1) error
		Description	The stapler does not leave the stapler move home position when the STP Move Motor (M1) has been driven for 0.25 sec.
		Remedy	1.Replace the Stapler Move HP Sensor (S10). 2.Check the wiring between the Finisher Controller PCB and the STP Move Motor. 3.Check the stapler shift base. 4.Replace the STP Move Motor (M1). 5.Replace the Finisher Controller PCB (PCB1).
E532	0002	Title	STP Move Motor (M1) error
		Description	The stapler does not return to the stapler move home position when the STP Move Motor (M1) has been driven for 2.8 sec.
		Remedy	1.Replace the Stapler Move HP Sensor (S10). 2.Check the wiring between the Finisher Controller PCB and the STP Move Motor. 3.Check the stapler shift base. 4.Replace the STP Move Motor (M1). 5.Replace the Finisher Controller PCB (PCB1).
E540	0001	Title	Tray Lift Motor (M11) time out error
		Description	The stack tray does not move within a specified time period.
		Remedy	1.Replace the Tray Lift Motor (M11). 2.Replace the Finisher Controller PCB (PCB1).
E540	0005	Title	Tray Lift Motor (M11) closing detect switch error
		Description	The FG input cannot be detected when the Tray Lift Motor (M11) has been driven for 0.1 second.
		Remedy	1.Replace the Stack Tray Clock Sensor (S13). 2.Replace the Tray Lift Motor (M11). 3.Replace the Finisher Controller PCB (PCB1).
E542	0001	Title	Additional Tray Lift Motor (M12) time out error
		Description	The stack tray does not move within a specified time period.
		Remedy	1.Replace the Additional Tray Lift Motor (M12). 2.Replace the Finisher Controller PCB (PCB1).

Ecode	Detail Code	Item	Description
E542	0005	Title	Additional Tray Lift Motor (M12) closing detect switch error
		Description	The FG input cannot be detected when the Additional Tray Lift Motor (M12) has been driven for 0.1 second.
		Remedy	1.Replace the Additional Tray Clock Sensor (S23). 2.Replace the Additional Tray Lift Motor (M12). 3.Replace the Finisher Controller PCB (PCB1).
E567	0001	Title	Shift Roller Release Motor (M5) error
		Description	The shift roller does not leave the shift roller release home position when the Shift Roller Release Motor (M5) has been driven for 0.1 sec.
		Remedy	1.Replace the Shift Roller Release Sensor (S3). 2.Replace the Shift Roller Release Motor (M5). 3.Replace the Finisher Controller PCB (PCB1).
E567	0002	Title	Shift Roller Release Motor (M5) error
		Description	The shift roller does not return to the shift roller release home position when the Shift Roller Release Motor (M5) has been driven for 0.06 sec.
		Remedy	1.Replace the Shift Roller Release Sensor (S3). 2.Replace the Shift Roller Release Motor (M5). 3.Replace the Finisher Controller PCB (PCB1).
E571	0001	Title	Gripper Open/Close Motor (M7) error
		Description	The gripper unit does not leave the gripper unit home position when the Gripper Open/Close Motor (M7) has been driven for 0.25 seconds.
		Remedy	1.Replace the Grip Arm Sensor (S13). 2.Replace the Gripper Open/Close Motor (M7). 3.Replace the Finisher Controller PCB (PCB1).
E571	0002	Title	Gripper Open/Close Motor (M7) error
		Description	The gripper unit does not return to the gripper unit home position when the Gripper Open/Close Motor (M7) has been driven for 0.15 seconds.
		Remedy	1.Replace the Grip Arm Sensor (S13). 2.Replace the Gripper Open/Close Motor (M7). 3.Replace the Finisher Controller PCB (PCB1).
E575	0001	Title	Gripper Unit Move Motor (M2) error
		Description	The gripper unit does not leave the gripper unit home position when the Gripper Unit Move Motor (M2) has been driven for 3.8 seconds.
		Remedy	1.Replace the Gripper Unit HP Sensor (S7). 2.Replace the Gripper Unit Move Motor (M2). 3.Replace the Finisher Controller PCB (PCB1).

Ecode	Detail Code	Item	Description
E575	0002	Title	Gripper Unit Move Motor (M2) error
		Description	The gripper unit does not return to the gripper unit home position when the Gripper Unit Move Motor (M2) has been driven for 0.1 seconds.
		Remedy	1.Replace the Gripper Unit HP Sensor (S7). 2.Replace the Gripper Unit Move Motor (M2). 3.Replace the Finisher Controller PCB (PCB1).
E602	0001	Title	The built-in SD card is not detected
		Description	-
		Remedy	-
E602	1105	Title	Access to the built-in SD card failed
		Description	-
		Remedy	-
E711	0001	Title	Error in UFDI communication
		Description	The communication system error (such as reception timeout or checksum error) occurred.
		Remedy	1.Check and Replace the cable. 2.Replace the DC Controller PCB (PCB4). 3.Replace the Finisher Controller PCB.
E713	0000	Title	Erroneous communication with finisher
		Description	The communication does not restart by the error retry after the communication failure with the finisher.
		Remedy	1.Check the cable. 2.Replace the DC Controller PCB (PCB4). 3.Replace the Finisher Controller PCB.
E716	0000	Title	Erroneous communication with optional cassette or 2-way unit
		Description	After the presence of a cassette pedestal or a 2-way unit has been detected, the communication fails to be normal for 5 sec.
		Remedy	1.Check the cable. 2.Replace the DC Controller PCB (PCB4). 3.Replace the Cassette Pedestal Driver PCB. 4.Replace the 2-way unit driver PCB.
E716	0010	Title	Failure of the communication with the 2-way unit
		Description	When the communication with the 2-way unit is faulty after detecting the connection with the finisher.
		Remedy	1.Install the 2-way unit. 2.Check the cable. 3.Replace the DC Controller PCB (PCB4). 4.Replace the 2-way unit driver PCB.
E719	0000	Title	Erroneous communication with New Card Reader (serial communication)
		Description	-
		Remedy	-

Ecode	Detail Code	Item	Description
E719	0002	Title	Erroneous communication with Coin Vendor (serial communication)
		Description	-
		Remedy	-
E736	0000	Title	Erroneous communication between CCU and controller.
		Description	-
		Remedy	-
E744	0001	Title	Mismatched version between the language file and the Bootable
		Description	-
		Remedy	-
E744	0002	Title	Oversized language file in HDD
		Description	-
		Remedy	-
E744	0003	Title	Mismatched version between the language file and the Bootable
		Description	-
		Remedy	-
E744	0004	Title	Language file reading error
		Description	-
		Remedy	-
E804	0000	Title	Failure of the Power Supply Cooloing Fan (FAN6)
		Description	When lock signal is detected for 5 sec while the Power Supply Cooloing Fan (FAN6) is stopped. * The same condition is detected after the error retry is performed.
		Remedy	1.Disconnect and then connect the connector (J205) on the DC Controller PCB (PCB4). 2.Replace the Power Supply Cooloing Fan (FAN6). 3.Replace the DC Controller PCB (PCB4).
E804	0001	Title	Unstable rotation of the Power Supply Cooloing Fan (FAN6)
		Description	When lock signal failed to be detected for 5 sec while the Power Supply Cooloing Fan (FAN6) is driven. * The same condition is detected after the error retry is performed.
		Remedy	1.Disconnect and then connect the connector (J205) on the DC Controller PCB (PCB4). 2.Replace the Power Supply Cooloing Fan (FAN6). 3.Replace the DC Controller PCB (PCB4).

Ecode	Detail Code	Item	Description
E805	0000	Title	Failure of the Exhaust Fan (Rear) (FAN3)
		Description	"When lock signal is detected for 5 sec while the Exhaust Fan (Rear) (FAN3) is stopped. * The same condition is detected after the error retry is performed."
		Remedy	1.Disconnect and then connect the connector (J206) on the DC Controller PCB (PCB4). 2.Replace the Exhaust Fan (Rear) (FAN3). 3.Replace the DC Controller PCB (PCB4).
E805	0001	Title	Unstable rotation of the Exhaust Fan (Rear) (FAN3) or Finisher Fan 1 (M8) or Finisher Fan 2 (M9)
		Description	1.When lock signal failed to be detected for 5 sec while the Exhaust Fan (Rear) (FAN3) is driven. 2.When lock signal failed to be detected for 5 sec while the Finisher Fan 1 (M8) is driven. 3.When lock signal failed to be detected for 5 sec while the Finisher Fan 2 (M9) is driven. * The same condition is detected after the error retry is performed.
		Remedy	1.Disconnect and then connect the connector (J206) on the DC Controller PCB (PCB4). 2.Replace the Exhaust Fan (Rear) (FAN3). 3.Replace the Finisher Fan 1 (M8). 4.Replace the Finisher Fan 2 (M9). 5.Replace the DC Controller PCB (PCB4).
E805	0002	Title	Failure of the Exhaust Fan (Front) (FAN4)
		Description	When lock signal is detected for 5 sec while the Exhaust Fan (Front) (FAN4) is stopped. * The same condition is detected after the error retry is performed.
		Remedy	1.Disconnect and then connect the connector (J206) on the DC Controller PCB (PCB4). 2.Replace the Exhaust Fan (Front) (FAN4). 3.Replace the DC Controller PCB (PCB4).
E805	0003	Title	Unstable rotation of the Exhaust Fan (Front) (FAN4)
		Description	When lock signal failed to be detected for 5 sec while the Exhaust Fan (Front) (FAN4) is driven. * The same condition is detected after the error retry is performed.
		Remedy	1.Disconnect and then connect the connector (J206) on the DC Controller PCB (PCB4). 2.Replace the Exhaust Fan (Front) (FAN4). 3.Replace the DC Controller PCB (PCB4).

T-7-2

FAX Error Code

Outline

Error Code Outline

An error code is used to indicate a fault in a machine, and is indicated in the machine's LCD or reports, showing the nature (symptoms) of the fault. Using the errorcode, the user or the service man can readily find out how to correct the fault by simply referring to the User's Manual or service manual. An error code may be either of the following two types:

- User Error Codes
  A fault indicated as a user error code is one that can easily be corrected by the user, as by operating the machine. It takes the form of "# + number."
- Service Error Codes
  If a fault calls for a service man for correction, it is indicated as a service man error code in the form of "## + number" or "SYSTEM ERROR E + number."

MEMO:
- A service error code expressed in the form of "## + number" will not appear on the LCD, Error Tx Report, or Activity Report while the machine remainsin factory default state. To check a service error code, shift bit 0 of service soft switch #1 SSSW SW01 to '1'.
- For the causes and countermeasures of error codes, refer to the separate G3/G4 Facsimile Error Code List.

User Error Code

User Error Code

No.	Tx/Rx	Description
#0001	[Tx]	An original has jammed.
#0003	[Tx/Rx]	Time-out for copying or sending/receiving a single page has occurred.
#0005	[Tx/Rx]	Time-out for initial identification (T0/T1) has occurred.
#0009	[Rx]	Recording paper has jammed or is absent.
#0012	[Tx]	Recording paper is absent at the other party.
#0018	[Tx/Rx]	Auto call initiation has failed.
#0037	[Rx]	Image memory overflow at time of reception has occurred.
#0059	[Tx]	The number you dial and connected number (CSI) does not match.
#0995/0099	[Tx/Rx]	A memory communication reservation has been cancelled.

T-7-3

Service Error Code

Service Error Code

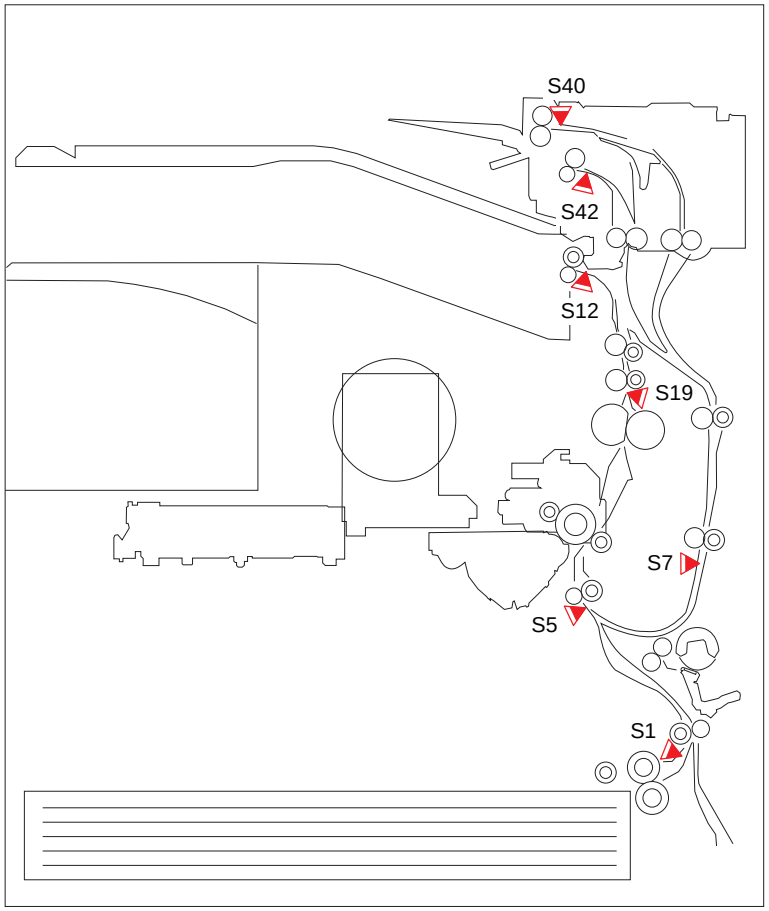
No.	Tx/Rx	Description
##0100	[Tx]	At time of transmission, the procedural signal has been transmitted more than specified.
##0101	[Tx/Rx]	The modem speed does not match that of the other party.
##0102	[Tx]	At time of transmission, fall-back cannot be used.
##0103	[Rx]	At time of reception, EOL cannot be detected for 5 sec (15 sec if CBT).
##0104	[Tx]	At time of transmission, RTN or PIN is received.
##0106	[Rx]	At time of reception, the procedural signal is received for 6 sec while in wait for the signal.
##0107	[Rx]	At time of reception, the transmitting party cannot use fall-back.
##0109	[Tx]	At time of transmission, a signal other than DIS, DTC, FTT, CFR, or CRP is received, and the procedural signal has been sent more than specified.
##0111	[Tx/Rx]	Memory error has occurred.
##0114	[Rx]	At time of reception, RTN is transmitted.
##0200	[Rx]	At time of reception, no image carrier is detected for 5 sec.
##0201	[Tx/Rx]	DCN is received outside the normal parity procedure.
##0224	[Tx]	Communication protocol signal error.
##0228	[Rx]	Abnormal management information of image data.
##0232	[Tx]	Encoding error has occurred.
##0237	[Rx]	Decoding error has occurred.
##0261	[Tx/Rx]	System error has occurred.
##0280	[Tx]	At time of transmission, the procedural signal has been transmitted more than specified.
##0281	[Tx]	At time of transmission, the procedural signal has been transmitted more than specified.
##0282	[Tx]	At time of transmission, the procedural signal has been transmitted more than specified.
##0283	[Tx]	At time of transmission, the procedural signal has been transmitted more than specified.
##0284	[Tx]	At time of transmission, DCN is received after transmission of TCF.
##0285	[Tx]	At time of transmission, DCN is received after transmission of EOP.
##0286	[Tx]	At time of transmission, DCN is received after transmission of EOM.
##0287	[Tx]	At time of transmission, DCN is received after transmission of MPS.
##0288	[Tx]	After transmission of EOP, a signal other than PIN, PIP, MCF, RTP, or RTN has been received.
##0289	[Tx]	After transmission of EOM, a signal other than PIN, PIP, MCF, RTP, or RTN has been received.
##0290	[Tx]	After transmission of MPS, a signal other than PIN, PIP, MCF, RTP, or RTN has been received.
##0670	[Tx]	At time of V.8 lAte start, the V.8 ability of DIS front the receiving party is expected to be detected, and the CI signal is expected to be transmitted in response; however, the procedure fails to advance, and the line is released because of T1 time-out.

No.	Tx/Rx	Description
##0671	[Rx]	At time of V.8 arrival, procedure fails to move to phase 2 after detection of CM signal from caller, causing T1 time-out and releasing line.
##0672	[Tx]	At time of V.34 transmission, a shift in procedure from phase 2 to phase 3 and the reafter stops, causing the machine to release the line and suffer T1 timeout.
##0673	[Rx]	At time of V.34 reception, a shift in procedure from phase 2 to phase 3 and thereafter stops, causing the machine to release the line and suffer T1 timeout.
##0674	[Tx]	At time of V.34 transmission, a shift in procedure from phase 3 and phase 4 to the control channel and thereafter stops, causing the machine to release the line and suffer T1 timeout.
##0675	[Rx]	At time of V.34 reception, a shift in procedure from phase 3 and phase 4 to the control channel and thereafter stops, causing the machine to release the line and suffer T1 timeout.
##0750	[Tx]	At time of ECM transmission, no meaningful signal is received after transmission of PPS-NULL, causing the procedural signal to be transmitted more than specified.
##0752	[Tx]	At time of ECM transmission, DCN is received after transmission of PPS-NULL.
##0753	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-NULL, or T5 time-out (60 sec) has occurred.
##0754	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-NULL..
##0755	[Tx]	At time of ECM transmission, no meaningful signal is received after transmission of PPS-MPS, causing the procedural signal to be transmitted more than specified.
##0757	[Tx]	At time of ECM transmission, DCN is received after retransmission of PPS-MPS.
##0758	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-MPS, or T5 time-out (60 sec) has occurred.
##0759	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-MPS.
##0762	[Tx]	At time of ECM transmission, DCN is received after transmission of PPS-EOM.
##0763	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-MPS, or T5 time-out (60 sec) has occurred.
##0764	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-EOM.
##0765	[Tx]	At time of ECM transmission, no meaningful signal is received after transmission of PPS-EOP, causing the procedural signal to be transmitted more than specified.
##0767	[Tx]	At time of ECM transmission, DCN is received after transmission of PPS-EOP.
##0768	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-EOP, or T5 time-out (60 sec) has occurred.
##0769	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of PPS-EOP, or T5 time-out (60 sec) has occurred.
##0770	[Tx]	At time of ECM transmission, no meaningful signal is received after transmission of EOR-NULL, causing the procedural signal to be transmitted more than specified.
##0772	[Tx]	At time of ECM transmission, DCN is received after transmission of EOR-NULL..
##0773	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of EOR-NULL, or T5 time-out (60 sec) has occurred.
##0774	[Tx]	At time of ECM transmission, ERR is received after transmission of EOR-NULL..
##0775	[Tx]	At time of ECM transmission, no meaningful signal is received after transmission of EOR-MPS, causing the procedural signal to be transmitted more than specified.
##0778	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission EOR-MPS, or T5 time-out (60 sec) has occurred.
##0779	[Tx]	At time of ECM transmission, ERR is received after transmission of EOR-MPS.
##0780	[Tx]	At time of ECM transmission, no meaningful signal is received after transmission of EOR-EOM, causing the procedural signal to be transmitted more than specified.
##0782	[Tx]	At time of ECM transmission, DCN is received after transmission of EOR-EOM.
##0783	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of EOR-EOM, or T5 time-out (60 sec) has occurred.
##0784	[Tx]	At time of ECM transmission, no meaningful signal is received after transmission of EOR-EOP, causing the procedural signal to be transmitted more than specified.
##0787	[Tx]	At time of ECM transmission, DCN is received after transmission of EOR-EOP.
##0788	[Tx]	At time of ECM transmission, the procedural signal has been transmitted more than specified after transmission of EOR-EOP, or T5 time-out (60 sec) has occurred.
##0789	[Tx]	At time of ECM transmission, ERR is received after transmission of EOR-EOP.
##0790	[Rx]	At time of ECM reception, ERR is transmitted after transmission of EOR-Q.
##0791	[Tx]	While ECM mode procedure is under way, a signal other than a meaningful signal is received.
##0792	[Rx]	At time of ECM reception, PPS-NULL cannot be detected over partial page processing.
##0793	[Rx]	At time of ECM reception, no effective frame is received while high-speed signal reception is under way, thus causing time-out.
##0794	[Tx]	At time of ECM reception, PPR with all 0s is received.
##0795	[Tx/Rx]	A fault has occurred in code processing for communication.

T-7-4

Jam Code

Main Unit



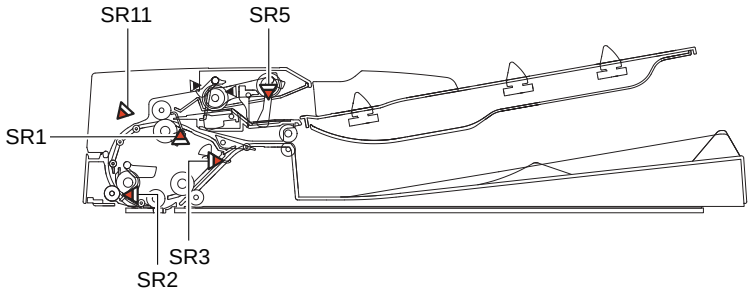
F-7-1

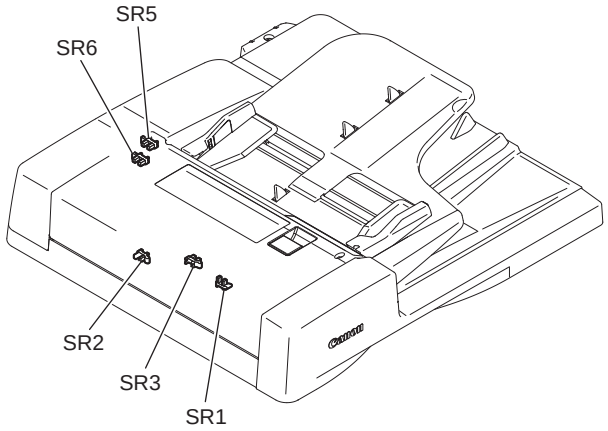
ACC ID	Jam Code	Type	Sensor Name	Sensor ID
3	0101	Delay jam	Cassette 1 pickup sensor	S1
3	0102	Delay jam	Cassette 2 pickup sensor	SR2
3	0103	Delay jam	Cassette 3 pickup sensor	SR4
3	0104	Delay jam	Cassette 4 pickup sensor	SR8
3	0105	Delay jam	Pre-registration sensor	S5
3	0107	Delay jam	Fixing outlet sensor	S19
3	0108	Delay jam	No. 1 delivery sensor	S12
3	0109	Delay jam	No. 2 delivery sensor	S42
3	010A	Delay jam	Reversal sensor	S40
3	010D	Delay jam	Duplex feed sensor	S7
3	0201	Stationary jam	Cassette 1 pickup sensor	S1
3	0202	Stationary jam	Cassette 2 pickup sensor	SR2
3	0203	Stationary jam	Cassette 3 pickup sensor	SR4
3	0204	Stationary jam	Cassette 4 pickup sensor	SR8
3	0205	Stationary jam	Pre-registration sensor	S5
3	0207	Stationary jam	Fixing outlet sensor	S19
3	0208	Stationary jam	No. 1 delivery sensor	S12
3	0209	Stationary jam	No. 2 delivery sensor	S42
3	020A	Stationary jam	Reversal sensor	S40
3	020D	Stationary jam	Duplex feed sensor	S7
3	0A01	Power-on jam	Cassette 1 pickup sensor	S1
3	0A02	Power-on jam	Cassette 2 pickup sensor	SR2
3	0A03	Power-on jam	Cassette 3 pickup sensor	SR4
3	0A04	Power-on jam	Cassette 4 pickup sensor	SR8
3	0A05	Power-on jam	Pre-registration sensor	S5
3	0A07	Power-on jam	Fixing outlet sensor	S19
3	0A08	Power-on jam	No. 1 delivery sensor	S12
3	0A09	Power-on jam	No. 2 delivery sensor	S42
3	0A0A	Power-on jam	Reversal sensor	S40
3	0A0D	Power-on jam	Duplex feed sensor	S7
3	0B00	Door open jam	-	-
3	0CF1	Other jams	-	-
3	0D91	Wrong size specified	Pre-registration sensor	S5
3	FF00	Unknown jam	-	-
3	FF01	Unknown jam	-	-
3	FF02	Unknown jam	-	-
3	FF03	Unknown jam	-	-
3	FF04	Unknown jam	-	-
3	FF05	Unknown jam	-	-
3	FF07	Unknown jam	-	-
3	FF08	Unknown jam	-	-
3	FF09	Unknown jam	-	-
3	FF0A	Unknown jam	-	-

ACC ID	Jam Code	Type	Sensor Name	Sensor ID
3	FF0D	Unknown jam	-	-
3	FF91	Unknown jam	-	-
3	FFF1	Unknown jam	-	-

T-7-5

DADF-AA1



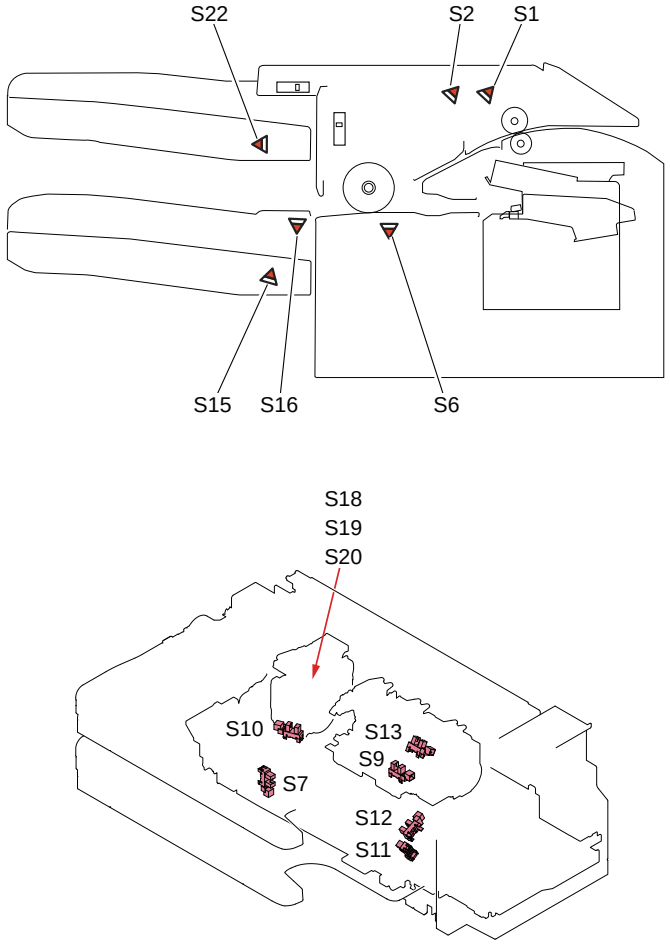


F-7-2

ACC ID	Jam Code	Type	Sensor Name	Sensor ID
4	0003	Delay jam	Registration sensor	SR1
4	0004	Stationary jam	Registration sensor	SR1
4	0005	Delay jam	Read sensor	SR2
4	0006	Stationary jam	Read sensor	SR2
4	0007	Delay jam	Delivery reversal sensor	SR3
4	0008	Stationary jam	Delivery reversal sensor	SR3
4	0044	Stationary jam (first document)	Registration sensor	SR1
4	0045	Delay jam (first document)	Read sensor	SR2
4	0046	Stationary jam (first document)	Read sensor	SR2
4	0047	Delay jam (first document)	Delivery reversal sensor	SR3
4	0048	Stationary jam (first document)	Delivery reversal sensor	SR3
4	0071	Timing error	-	-
4	0073	Release NG	Release motor HP sensor	SR11
4	0090	ADF open jam	Copyboard cover open/closed Sensor 0	S21
4	0091	User ADF open jam	Copyboard cover open/closed Sensor 0	S21
4	0092	ADF cover open jam	Cover open/closed sensor	SR6
4	0093	User cover open jam	Cover open/closed sensor	SR6
4	0094	Initial stationary jam	Registration sensor or Read sensor or Delivery reversal sensor	SR1,SR2,SR3
4	0095	Pickup NG	Document set sensor	SR5

T-7-6

Inner Finisher-B1



F-7-3

ACC ID	Jam Code	Type	Sensor Name	Sensor ID
5	1001	Delay jam	Entrance sensor	S1
5	1101	Stationary jam	Entrance sensor	S1
5	1102	Stationary jam	Processing tray sensor	S6
5	1300	Power-on jam	Entrance sensor, Processing tray sensor	S1, S6
5	1400	Door open jam	Front cover switch	SW1
5	1500	STP jam	Stapler HP sensor, Stapler edging sensor	S18, S19
5	1C20	Error jam	Shift roller HP sensor	S2
5	1C32	Error jam	Stapler move HP sensor	S10
5	1C40	Error jam	Stack tray clock sensor	S14
5	1C42	Error jam	Additional tray clock sensor	S23
5	1C67	Error jam	Shift roller release sensor	S3
5	1C6F	Error jam	Entrance roller release /stopper HP sensor	S5
5	1C71	Error jam	Grip arm sensor	S13
5	1C75	Error jam	Gripper unit HP sensor	S7
5	1F00	Other jams	Entrance sensor	S1

T-7-7

Alarm Code

Alarm Code Details

Alarm Code	Title	A. Movement /B. Cause /C. Measures
37 - 0001	Repair Request (Corrupt Image)	
37 - 0002	Repair Request (Paper Jam)	
37 - 0003	Repair Request (Corrupt Image/Paper Jam)	-
37 - 0004	Repair Request (Other Problems)	-
37 - 0005	Repair Request (Corrupt Image/Other Problems)	-
37 - 0006	Repair Request (Paper Jam/Other Problems)	-
37 - 0007	Repair Request (Corrupt Image/Paper Jam/Other Problems)	-
37 - 1000	Repair Request Cancel	-
37 - 2000	Repair Completed	-

T-7-8

8 Service Mode

- Outline
- Details of Service Mode

Outline

Outline of Service Mode

The items that follow may be checked/set using the machine's service mode, which is designed the way the service mode used in fax machines is designed in terms of contents and operation.

#SSSW

Use it to register/set basic fax functions (e.g., error control, echo remedy, communication error correction). Use it to make settings related counter functions.

#MENU

Use it to register/set items related to functions needed at time of installation (e.g., NL equalizer, transmission level).

#NUMERIC

These setting items are for inputting numeric parameters such as the various conditions for the RTN signal transmission.

#SPECIAL

These setting items are for telephone network control functions. Do not use.

#NCU

These setting items are for telephone network control functions such as the selection signal transmission conditions and the detection conditions, for the control signals sent from the exchange.

#FAX

Do not use.

#SCAN

These setting items are for image adjustment in scanning.

#PRINT

These setting items are for image adjustment in printer assembly and for special mode for the field-related measures.

#NETWORK

Use it to confirm the contents of the installed CA certificates.

#CODEC

This is a setting items related to CODEC.

#SYSTEM

This is a setting items related to SYSTEM.

#ACC

Register the accessories.

#COUNTER

Use it to check estimates for maintenance/parts replacement.

#LMS

Use it to set the inactivity of the transmitted license and the license inactivity without transmitting.

#E-RDS

This is a setting items related to e-RDS (Embedded RDS).

#REPORT

Use it to generate reports on various service data.

#DOWNLOAD

Use it to download firmware to the ROM of a PCB in question.

#CLEAR

Use it to reset various data to initial settings.

#DISPLAY

The error and detailed code which have happened now are displayed.
Display the engine speed of the main controller PCB.

#ROM

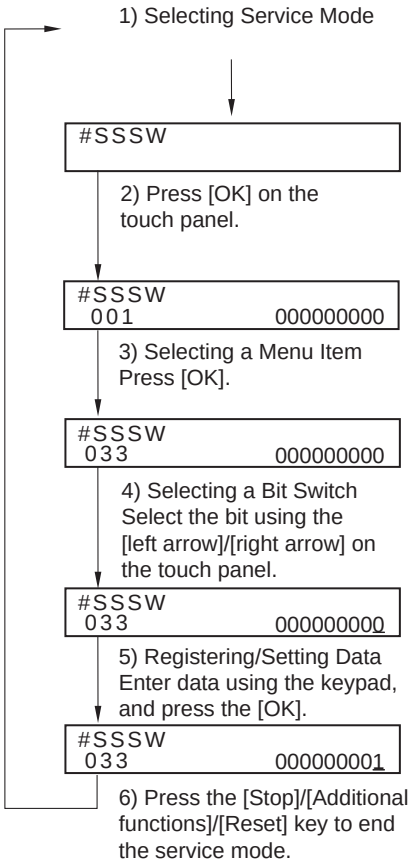
Displays ROM information, such as version numbers and checksums.

#TEST MODE

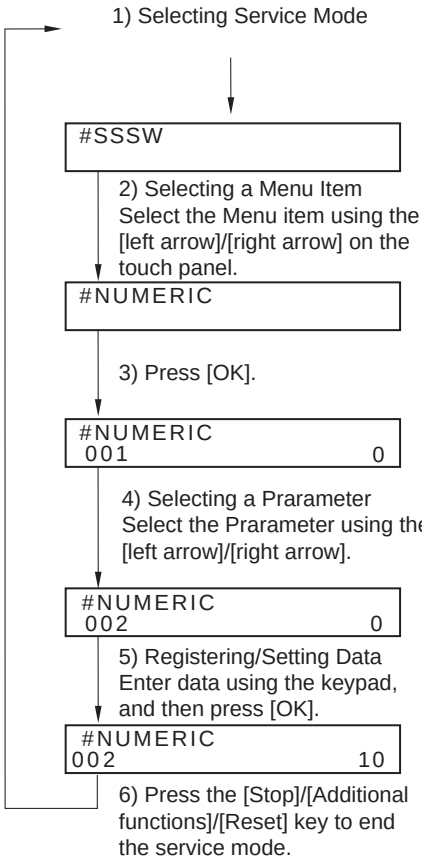
Makes various status checks, such as contact sensor, sensor and print status.

Using the Mode

<Operation at the time of Bit SW>



<Operation at the time of Parameter>



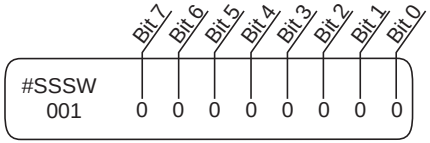
F-8-1

Setting of Bit Switch

Outline

Bit Switch Composition

The items registered and set by each of these switches comprise 8-bit switches. The figure below shows which numbers are assigned to which bits. Each bit has a value of either 0 or 1.



F-8-2

CAUTION:

Do not change service data identified as "not used"; they are set as initial settings.

Details of Service Mode

#SSSW

SSSW Composition

NOTE:
This document describes the default settings for the system for USA.
The default settings used in the service mode vary depending on the shipping destination and model.

No.	Initial setting	Function
SW01	00000000	error/copy control
SW02	00010000	network connection setting
SW03	00000000	echo remedy setting
SW04	00000000	communication fault remedy setting
SW05	00000000	standard function (DIS signal) setting
SW06	10010000	read condition setting
SW7-SW11		not used
SW12	00000010	page timer setting
SW13	00000000	meter/inch resolution setting
SW14	00000001	inch/meter resolution setting
SW15	00000000	dial-in FAX/TEL switch-over function
SW16	00000011	settings for a No Paper display
SW17		not used
SW18	00000000	remedies for communication faults (2)
SW19-21		not used
SW22	00000000	fault remedy setting
SW23-24		not used
SW25	00000000	report indication resolution setting
SW26-27		not used
SW28	00000000	V.8/V.34 protocol settings
SW29		not used
SW30	00000000	Assigning a New Dial Tone Detection Method
SW31		not used
SW32	00000000	not used
SW33	00000000	counter function settings
SW34	00000011	waste toner full display setting
SW35	00001000	e-RDS function settings
SW36 - SW50		not used

T-8-1

Details

SSSW-SW01

List of Functions

Bit	Function	1	0
0	service error code	output	not output
1	not used	-	-
2	not used	-	-
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-2

Detailed Discussions of Bit 0

Selects whether or not service error codes are output. When output is selected, service error codes is report.

SSSW-SW02

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	not used	-	-
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	F network silent termination service	Compatible	Not compatible

T-8-3

Detailed Discussions of Bit 7

Select whether or not the machine is compatible with the F network (facsimile communication network) silent termination service. When "Compatible" is selected, the machine automatically receives a fax upon detection of the FC signal (1300 Hz tonal signal) without generating a ringtone.

SSSW-SW03

List of Functions

Bit	Function	1	0
0	TCF criteria	Loose	Normal
1	Echo protect tone for high-speed transmission	Transmitted	Not transmitted
2	not used	-	-
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	Tonal signal before CED signal transmission	Transmitted	Not transmitted

T-8-4

Detailed Discussions of Bit 0

Select whether to make the TCF criteria loose when the system with a V.34 modem receives an image using the V.17 protocol.

When "Loose" is selected, fallback hardly occurs when an image is received using the V.17 protocol.

However, since the transmission speed is fast, erroneous lines can be generated after start of image reception or the communication time can become long due to retransmission of erroneous frames.

Detailed Discussions of Bit 1

Selects whether or not the echo protect tone is transmitted for high-speed transmission (9600 or 7200 bps).

If errors due to line conditions occur frequently during fax transmission, select “Transmitted”.

When “Transmitted” is selected, a non-modulated carrier is transmitted as a synchronization signal before the image transmission.

MEMO:
Codes for errors that can occur during transmission because of line conditions:
##100, ##104, ##281, ##282, ##283, ##750, ##755, ##760,##765

Detailed Discussions of Bit 7

Use it to enable/disable transmission of a 1080-Hz tonal signal before transmission of the CED signal.

Select 'transmit' if errors occur frequently because of an echo when reception is from overseas.

MEMO:
Any of the following error code may be indicated because of an echo at time of reception
##0005, ##0101, ##0106, ##0107, ##0114, ##0200, ##0201, ##0790

SSSW-SW04

List of Functions

Bit	Function	1	0
0	not used	-	-
1	Check CI frequency	Yes	No
2	the number of final flag sequences of protocol signals	2	1
3	Reception mode after CFR signal transmission	high speed	high speed/low speed
4	the length of the period of ignoring low speed signals after CFR output	1500ms	700ms
5	Frequency of CI signal is checked when PBX is set.	Yes	No
6	CNG signal for manual transmission	Not transmitted	Transmitted
7	CED signal for manual reception	Not transmitted	Transmitted

T-8-5

Detailed Discussions of Bit 1

In automatic recieving, CI frequency check can be selected. If ‘Yes’ is selected, the upper and lower limits of the CI frequency are checked, and automatic recieving can only go ahead if both values meet German regulations.

Detailed Discussions of Bit 2

Use it to select the number of last flag sequences for a protocol signal (transmission speed at 300 bps). Select '2' if the other party fails to receive the protocol signal properly.

MEMO:
Any of the following error codes may be indicated at time of transmission
##0100, ##0280, ##0281, ##0750, ##0753, ##0754, ##0755, ##0758, ##0759, ##0760, ##0763 ##0764, ##0765, ##0768, ##0769,##0770, ##0773, ##0775, ##0778, ##0780, ##0783, ##0785, ##0788

Detailed Discussions of Bit 3

Use it to select an appropriate reception mode after transmission of the CFR signal.

If errors occur frequently at time of reception because of the condition of the line, select 'high speed' for reception mode and, at the same time, selects 'do not receive' for 'ECM reception.'

MEMO:
Any of the following error codes may be indicated at time of reception because of line condition
##0107, ##0114, ##0201
Be sure to change bit 4 before changing this bit; if errors still occur, change this bit.
When 'high speed' is selected, only high-speed signals (images) will be received after transmission of the CFR signal.

Detailed Discussions of Bit 4
Use it to select the time length during which low-speed signals are ignored after transmission of the CFR signal.
If the condition of the line is not good and, therefore, the reception of image signals is difficult, select '1500 ms.'

Detailed Discussions of Bit 5
In the countries that need approval of CI signal frequency check, no checking on frequency set at PBX when changing the frequency to PSTN setting and PBX
setting for frequency checks.

Detailed Discussions of Bit 6
Selects whether or not to transmit CNG signal during manual transmission.
In manual transmitting to a fax with the FAX/TEL switching mode, if there are frequent errors due to failure to switch to fax mode, select "Transmitted" for the CNG signal.

Detailed Discussions of Bit 7
Selects whether or not to transmit CED signals during manual reception. If the other fax does not transmit even when you start manual reception, select "Transmitted" for the CED signal.

SSSW-SW05

List of Functions

Bit	Function	1	0
0	not used	-	-
1	Conversion from mm to inch (text mode)	execute	do not execute
2	Conversion from mm to inch (text/photo mode)	execute	do not execute
3	transmit bit 33 and thereafter for DIS signal	prohibit	do not prohibit
4	Recording paper length availability declared in DIS signal	A4 /B4 size	Arbitrary size
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-6

Detailed Discussions of Bit 1
Use it to enable/disable millimeter/inch conversion in sub scanning direction for images read in text mode.
Scanning direction in conversion follows the Bit 2 setting of SW14.

Detailed Discussions of Bit 2
Use it to enable/disable millimeter/inch conversion in sub scanning direction for images read in text/photo mode while bit 1 is set to '1'.
Scanning direction in conversion follows the Bit 2 setting of SW14.

Detailed Discussions of Bit 3
Use it specify whether or not to transmit bit 33 and thereafter for the DIS signal.
If ‘prohibit’ is selected, Super Fine reception from a non-Canon machine can no longer be used.

CAUTION:
If ‘prohibit’ is selected, Super Fine reception from a non-Canon machine can no longer be used.

Detailed Discussions of Bit 4
Selects whether or not the recording paper length declared in the DIS signal is A4 size.
When receiving documents made up of long pages, to have the document divided into two pages at the transmitting fax, select “A4 size”.

MEMO:
When “A4 size” is selected, this fax uses the DIS signal to tell the transmitting fax that it is equipped with A4 size recording paper.
The transmitting fax that receives this DIS signal divides long pages into A4 size pages before transmitting it to the receiving fax.
Some fax models do not so divide long documents.

SSSW-SW06

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	not used	-	-
3	FAX stamp display setting	Displayed	Not displayed
4	original read width	LTR	A4
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-7

Detailed Discussions of Bit 3

Select whether to display the stamp menu in the user menu after installation of the optional stamp unit.

Detailed Discussions of Bit 4

Use it to select a read width for originals.

If ‘LTR’ is selected, the machine will read LTR originals at LTR width (214mm).

SSSW-SW012

List of Functions

Bit	Function	1	0
0	1-page time-out length for transmission	1	0
1	not used	-	-
2	1-page time-out length for transmission (HT transmission)	1	0
3	not used	-	-
4	1-page time-out length for reception	1	0
5	not used	-	-
6	not used	-	-
7	page timer setting by transmission/reception	set	do not set

T-8-8

The machine will stop the ongoing communication if the transmission/reception of a single original page takes 32 min or more. To use the timer for a purpose other than this function, refer to the tables that follow, and select an appropriate time length.

When 'do not enable' is selected using bit 7, the time-out length for a single page for all modes will depend on the setting of bit 0 and bit 1.

Time-Out Length for Transmission/reception

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
8min.	0	*	*	*	*	*	0	0
16min.	0	*	*	*	*	*	0	1
32min.	0	*	*	*	*	*	1	0
64min.	0	*	*	*	*	*	1	1

T-8-9

Time-Out Length for Transmission (text mode)

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
8min.	1	*	*	*	*	*	0	0
16min.	1	*	*	*	*	*	0	1
32min.	1	*	*	*	*	*	1	0
64min.	1	*	*	*	*	*	1	1

T-8-10

Time-Out Length for Transmission (image mode other than text mode)

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
8min.	1	*	*	*	0	0	*	*
16min.	1	*	*	*	0	1	*	*
32min.	1	*	*	*	1	0	*	*
64min.	1	*	*	*	1	1	*	*

T-8-11

Time-Out Length for Reception

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
8min.	1	*	0	0	*	*	*	*
16min.	1	*	0	1	*	*	*	*
32min.	1	*	1	0	*	*	*	*
64min.	1	*	1	1	*	*	*	*

T-8-12

SSSW-SW013

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	Convert "inch" into "mm" when transmitting the received image data	convert	do not convert

Bit	Function	1	0
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-13

Detailed Discussions of Bit 2
It converts "inch" into "mm" when transmitting the received image data.
Scanning direction in conversion follows the Bit 2 setting of SW14.

SSSW-SW014

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	direction of scanning for inch/mm conversion	both main and sub scanning directions	sub scanning direction only
3	not used	-	-
4	inch-configuration resolution declaration	declare	do not declare
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-14

Detailed Discussions of Bit 2
Use it to specify whether to convert or not convert an inch-configuration resolution into a millimeter-configuration resolution for image read in G3 transmission:
either in sub scanning direction only or in both main and sub scanning directions. The setting is valid only when bit 1 of SW05 of #SSSW is set to '1'.

Detailed Discussions of Bit 4
Use it to specify whether to declare or not declare an inch-configuration resolution to the other machine for G3 communication: if 'declare' is selected, the machine will indicate that it reads and records at an inch-configuration resolution using the DIS, DCS, or DTC signal.

SSSW-SW15

List of Functions

Bit	Function	1	0
0	not used	-	-
1	timing for storing polarity in memory	telephone line	after CI detection
2	Reception of call through caller ID display line (main unit line)	Yes	No
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	Detection of continuous signal at fax/tel switchover	Yes	No
7	not used	-	-

T-8-15

Detailed Discussions of Bit 1
When a dial-in fax/tel switch-cover takes place, the polarity of the telephone line is stored in memory for detection of reversal of the polarity of the telephone line. The timing may be set so that it is either after detection of CI or after release of the telephone line.
Some switchboards are known to wrongly store the polarity, which can further cause the machine to enter standby state when the telephone line is released, thus disabling communication with the other party. If such is the case, be sure to select ‘after release of telephone line’.

CAUTION:
If the switch is set to ‘after release of telephone line’, the reversal of the polarity cannot be detected from when CI is detected to when the telephoneline is released.

Detailed Discussions of Bit 2
When a machine which is not compatible with the caller ID display/modem dial-in service is connected to the subscriber line which is compatible with that service, the "main unit line" is made ready for receiving the incoming call.

Detailed Discussions of Bit 6
Select whether to detect a continuous ROT signal at FAX/TEL switchover.

SSSW-SW16

List of Functions

Bit	Function	1	0
0	No Paper display conditions	Same size fax paper	Either one All fax paper
1	Check side cassette paper at No Paper display	Do not check	Check
2	not used	-	-

Bit	Function	1	0
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-16

Detailed Discussions of Bit 0
Selects a No Paper display for when; either the fax paper cassette or multitray is empty, or for when the same size paper is all used up.

Detailed Discussions of Bit 1
Selects whether to check the side cassette when checking if the same size paper is all used up.

SSSW-SW18

List of Functions

Bit	Function	1	0
0	detection of carrier between DCS and TCF	detect	do not detect
1	wait time for carrier between DCS and TCF	600msec	300msec
2	not used	-	-
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-17

Detailed Discussions of Bit 0
For reception, the absence of the carrier between DCS and TCF may be detected. If the machine returns FTT while the other party (PC-FAX in particular) is sending TCF to cause a reception error, be sure to set the bit to ‘1’. If the error still occurs, set bit 1 of #1 SSSW SW18 to ‘1’. This function is valid only when the machine uses an R288F modem.

Detailed Discussions of Bit 1
For reception, the length of time during which the absence of the carrier is detected between DCS and TCF may be set. This bit is valid when ‘1’ is set to bit 0 of #1 SSSW SW18.

SSSW-SW22

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	not used	-	-
3	Prohibit manual polling	Yes	No
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-18

Detailed Discussions of Bit 3
Selects whether to prohibit by manual polling (off hook key + start key).

SSSW-SW25

List of Functions

Bit	Function	1	0
0	Transmission telephone numbers displayed on reports from CSI	Other fax number	Called number
1	not used	-	-
2	If void CSI has been received, handle as non-received CSI.	Yes	No
3	Menu display of message language	Display	Do not display
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-19

Detailed Discussions of Bit 0
Selects the transmission telephone number displayed on reports after the completion of transmission.
When “Called number” is selected, the telephone number the fax called is displayed on reports.
When “Other fax number” is selected, the telephone number sent from the other fax (the CSI signal data) is displayed on reports.

Detailed Discussions of Bit 2
At "1" on this Bit, ignore the void CSI if received and if the dial has been made at this point,

the dialed number will be indicated on the LCD/ Report screen.
At "0" on this Bit, even though the dialed number is acknowledged, LCD/Report screen will indicate nothing.

Detailed Discussions of Bit 3
When “Display” is selected, adds a Message Language menu to the user data “System Setting”. This allows selecting different languages which to show displays and reports.

SSSW-SW28

List of Functions

Bit	Function	1	0
0	Caller V.8 protocol	No	Yes
1	Called party V.8 protocol	No	Yes
2	Caller V.8 protocol late start	No	Yes
3	Called party V.8 protocol late start	No	Yes
4	V.34 reception fallback	Prohibited	Not prohibited
5	V.34 transmission fallback	Prohibited	Not prohibited
6	not used	-	-
7	not used	-	-

T-8-20

Detailed Discussions of Bit 0
Select whether to use the V.8 protocol when calling. If NO is selected, the V.8 protocol is inhibited at calling and the V.21 protocol is used

Detailed Discussions of Bit 1
Select whether to use the V.8 protocol when called. If NO is selected, the V8 protocol is inhibited when called and the V.21 protocol is used.

Detailed Discussions of Bit 2
If ANSam signal is not received during transmission, select whether to use the V.8 protocol when the other fax machine declares the V.8 protocol in DIS signal. If NO is selected, the CI signal is not transmitted and the V.8 protocol is not used even if the DIS that specifies the V.8 protocol is received.
The V.8 late start is not executed during manual transmission regardless of this setting.

Detailed Discussions of Bit 3
Select whether to declare the V.8 protocol in DIS signal for reception. If NO is selected, the V.8 protocol cannot be used because it is not declared in DIS signal.
The V.8 late start is not executed during manual reception regardless of this setting.

Detailed Discussions of Bit 4
Select whether the receiver falls back during V.34 reception. If 'Prohibit' is selected, the receiver does not fall back.

Detailed Discussions of Bit 5
Select whether the transmitter falls beck during V.34 transmission. If 'Prohibit' is selected, teh transmitter does not fall back.

SSSW-SW30

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	not used	-	-
3	not used	-	-
4	not used	-	-
5	New dial tone detection method	Detect with the new method.	Detect with the existing method.
6	not used	-	-
7	not used	-	-

T-8-21

Detailed Discussions of Bit 5
When "Detect with the new method" is selected, tone is detected for 3.5 seconds before call origination in order to discriminate between dial tone and voice. If dial tone is detected and the time since line seizure is 3.5 seconds or longer, call origination takes place immediately. If the time since line seizure is less than 3.5 seconds,
call origination takes place after waiting for 1 second. (If the time since line seizure reaches 3.5 seconds during the 1-second waiting period, call origination takes place immediately. By default, "Detect with a new method" is assigned for this SW.

SSSW-SW32

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	not used	-	-
3	not used	-	-
4	not used	-	-

Bit	Function	1	0
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-22

SSSW-SW33

List of Functions

Bit	Function	1	0
0	count B4 (Print) as large size	Yes	No
1	not used	-	-
2	count B4 (Scan) as large size	Yes	No
3	the counter display type change in Japan and USA	Yes	No
4	not used	-	-
5	Toner cartridge replacement counter display	Yes	No
6	not used	-	-
7	not used	-	-

T-8-23

Detailed Discussions of Bit 0

Use it to specify whether B4 paper (Print) should be counted as large-size paper.

If 'yes' is selected, B4 paper will be counted as large-size paper.

If 'no' is selected, on the other hand, B4 paper will be counted as small-size paper.

Detailed Discussions of Bit 2

Use it to specify whether B4 paper (Scan) should be counted as large-size paper.

If 'yes' is selected, B4 paper will be counted as large-size paper.

If 'no' is selected, on the other hand, B4 paper will be counted as small-size paper.

Detailed Discussions of Bit 3/4

Select whether to switch the counter display type in effect in Japan and USA to the conventional or new type. Select "Yes" to display counters in the new type.

Select "No" to display counters in the conventional type.

	Bit4	Bit3
Conventional type(type1)	0	0
New type(type2)	0	1
New type(type3)	1	0
New type(type4)	1	1

T-8-24

Detailed Discussions of Bit 5

Select whether to display the toner cartridge replacement counter.

When "1" is selected, the counter is displayed.

When "0" is selected, the counter is not displayed.

SSSW-SW34

List of Functions

Bit	Function	1	0
0	Display the waste toner full warning	Yes	No
1	Switch the waste toner full warning	Drum replacement required message displayed on an operator call	E019 displayed on an service call
2	User drum replacement menu display	Yes	No
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-25

Detailed Discussions of Bit 0

You can select whether a waste toner full warning is to be displayed.

When "1" is selected, a waste toner full warning is displayed.

When "0" is selected, a waste toner full warning is not displayed.

Detailed Discussions of Bit 1

Select whether to display the waste toner full warning as a drum replacement required message or as E019 displayed on an operator call. Select 1 to display a rum replacement required message on an operator call. Select 0 to display E019 on an service call.

Detailed Discussions of Bit 2

Select whether to display the user drum replacement menu.

When "1" is selected, the menu is displayed.

When "0" is selected, the menu is not displayed.

SSSW-SW35

List of Functions

Bit	Function	1	0
0	e-RDS function ON/OFF	Yes	No
1	Call button function ON/OFF	Yes	No
2	ScanToMeia function enable/disable	enable	disable
3	MediaPrint function enable/disable	enable	disable
4	IC card authentication management function ON/OFF	Yes	No
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-26

Detailed Discussions of Bit 0
Select whether to set the e-RDS function.
When "1" is selected, the function is set.
When "0" is selected, the function is not set.

Detailed Discussions of Bit 1
Select whether to set the call button function.
When "1" is selected, the function is set.
When "0" is selected, the function is not set.

Detailed Discussions of Bit 2
Select whether to enable or disable the ScanToMeia function.
When "1" is selected, the function is enabled.
When "0" is selected, the function is disabled.

Detailed Discussions of Bit 3
Select whether to enable the MediaPrint function.
When "1" is selected, the function is enabled.
When "0" is selected, the function is disabled.

Detailed Discussions of Bit 4
Select whether to set the IC card authentication function.
When "1" is selected, the function is set.
When "0" is selected, the function is not set.

#MENU

Menu Switch Composition

No.	Function	Range of settings
005	NL equalizer	1: ON, 0: OFF
006	Telephone line monitor	0: DIAL, 1: SERVICEMAN [1], 2: SERVICEMAN [2], 3: OFF
007	Transmission level (ATT)	From 0 to 15 (ex: 15= -15 dBm)
008	V.34 modulation speed upper limit	0: 3429, 1: 3200, 2: 3000, 3: 2800, 4: 2743, 5: 2400
009	V34 data speed upper limit	0: 33.6kbs, 1: 31.2kbs, 2: 28.8kbs, 3: 26.4kbs, 4: 24.0kbs 5: 21.6kbs, 6: 19.2kbs, 7: 16.8kbs, 8: 14.4kbs, 9: 12.0kbs 10: 9.6kbs, 11: 7.2kbs, 12: 4.8kbs, 13: 2.4kbs
010	Frequency of pseudoring signal	0: 50Hz, 1: 25Hz, 2: 17Hz

T-8-27

Deatails

<005: NL equalizer>

Use it to enable-disable the NL equalizer.
If errors occur often during communication because of the condition of the line, enable (ON) the NL equalizer.

MEMO:
Any of the following error codes may be indicated at time of transmission because of the line condition:
##100, ##101, ##102, ##104, ##201, ##281, ##282, ##283, ##750, ##755, ##765, ##774, ##779, ##784, ##789
Any of the following error codes may be indicated at time of transmission because of the line condition:
##103, ##107, ##114, ##201, ##790, ##793

<006: Telephone line monitor>

Use it to s the telephone line monitor function:
DIAL: generate the monitor sound of the telephone line using the speaker from the start of transmission to DIS.
SERVICEMAN [1]: generate the monitor sound of the telephone line using the speaker from the start of communication to the end of it.
SERVICEMAN [2]: generate the monitor sound of the telephone line2 (Option).
OFF: do not generate the monitor sound of the telephone line using the speaker.

<007: ATT transmission level>

Use it to set the transmission level (ATT).

Raise the transmission level if errors occur frequently at time of communication because of the condition of the line. (It means close to 8)

MEMO:
Any of the following error codes may be indicated at time of transmission because of the line condition:
##100, ##101, ##102, ##104, ##201, ##280, ##281, ##282, ##283, ##284, ##750, ##752, ##754, ##755, ##757, ##759, ##760, ##762, ##764, ##765, ##767, ##769, ##770, ##772, ##774, ##775, ##777, ##779, ##780, ##782, ##784, ##785, ##787, ##789
Any of the following error codes may be indicated at time of reception because of the line condition:
##103, ##106, ##107, ##201, ##793
##103, ##106, ##107, ##201, ##793

<008: V.34 modulation speed upper limit>

Use it to set an upper limit to the modulation speed (baud rate) for the V.34 primary channel.

<009: V.34 data speed upper limit>

Use it to set an upper limit to the data transmission speed for the V.34 primary channel between 2.4K and 33.6K bps in increments of 2400 bps. (0: 2.4K to 13:33.6K bps).

<010: Frequency of the pseudo CI signal>

You may select a frequency for the pseudo CI signal.

Some types of external telephones do not ring when the fax/tel switch-over function is ON. To sound the ring, change the pseudo CI signal.

#NUMERIC

Numerical Parameter Composition

No.	Item	Range of settings
002	RTN transmission condition(1)	1% to 99%
003	RTN transmission condition (2)	2 to 99 item
004	RTN transmission condition (3)	1 to 99 lines
005	NCC pause time length (pre-ID code)	1 to 60 sec
006	NCC pause time length (post-ID code)	1 to 60 sec
010	line condition identification time length	0 to 9999 (10 msec)
011	T.30T1 timer (for reception)	0 to 9999 (10 msec)
013	T.30 EOL timer	500 to 3000 (10 msec)
015	hooking detection time length	0 to 999
016	time length to first response at time of fax/tel switchover	0 to 9
017	pseudo RBT signal pattern ON time length	0 to 999
018	pseudo RBT signal pattern OFF time length (short)	0 to 999
019	pseudo RBT signal pattern OFF time length (long)	0 to 999
020	pseudo CI signal pattern ON time length	0 to 999
021	pseudo CI signal pattern OFF time length (short)	0 to 999
022	pseudo CI signal pattern OFF time length (long)	0 to 999
023	CNG detection level at time of fax/tel switchover	0 to 7
024	pseudo RBT transmission level at time of fax/tel switchover	10 to 20 0 to 20 (120/230V)
025	Answering machine connection function signal detection time	0 to 999
027	preamble detection time length for V21 low-speed flag	20 (x 10ms)
051	Hooking detection threshold	
053	Setting of DTMF call origination count at remote reception of fax	
054	Setting of busy tone output time when handset is used	
055	acquisition period of environmental log data	0 to 480 (60min)
056	display the type of soft counter 1	101 (Fixed)
057	Display the type of soft counter 2	0 to 999
058	Display the type of soft counter 3	0 to 999
059	Display the type of soft counter 4	0 to 999
060	Display the type of soft counter 5	0 to 999
061	Display the type of soft counter 6	0 to 999
074	e-RDS RGW port number	
075	Interval of transmission for e-RDS 3rd party	

T-8-28

Details

<002:RTN transmission condition (1)><003: RTN transmission condition (2)><004: RTN transmission condition (3)>

Use it to set RTN signal transmission conditions. Raise these parameters for more lenient conditions if errors occur frequently at time of reception because of transmission of the RTN signal.

MEMO:
Any of the following error codes may be indicated at time of reception because of RTN signal transmission
##0104, ##0107, ##0114, ##0201
RTN signal transmission condition (1) affects the ratio of error lines to the total number of lines per single page of received images.
RTN signal transmission condition (2) affects the standard value (*2) of burst errors (*1).
RTN signal condition (3) affects the number of errors not reaching the standard value of burst errors.
*1: transmission error occurring cover several lines.
*2: for instance, if '15' is set, a single burst error will represent an error occurring continuously cover 15 lines.
If any of these lines is detected while an image signal is being received, the RTN signal will be transmitted after receiving the protocol signal of the transmitting party. Higher parameters restrict the transmission of the RTN signal.

<005:NCC pause length (pre-ID code)>

Use it to set the length of the pause automatically entered between access code and ID code when the NCC (New Common Carrier) line is used for dialing.

<006:NCC pause length (post-ID code)>

Use it to set the length of the pause automatically entered between ID code and telephone number of the other party when the NCC (New Common Carrier) line is used for dialing.

<010: line connection identification length>

Use it to set the time for identifying the line connection. Raise this parameter if errors occur frequently at time of communication because of the condition of the line.

MEMO:
Any of the following error codes may be indicated because of the condition of the line
##0005, ##0018
The line condition identification time is between when the dial signal is transmitted and when the line condition is cut for the transmitting party, while it is between when the DIS signal is transmitted and when the line is cut for the receiving party.

<011: T.30 T1 timer (for reception)>

Set the T1 timer for the receiver (wait time after DIS transmission starts until a significant signal is received).

<013:T.30 EOL timer>

Set it so that the 1-line transmission time is longer for reception to prevent reception errors caused by a long data length per line (e.g., computer FAX).

<016: time length to first response at time of fax/tel switchover>

Allows setting of the time from seizing the line till pseudo RBT is sent, when the Fax/ Tel switching function is operating.

<017: pseudo RBT signal pattern ON time length/018: pseudo RBT signal pattern OFF time length (short)/019: pseudo RBT signal pattern OFF time length (long)>

Use it to set the pattern of the pseudo RBT signal transmitted at time of a fax/tel switchover.

<020: pseudo CI signal pattern ON time length/021: pseudo CI signal pattern OFF time length (short)/022: pseudo CI signal pattern OFF time length (long)>

Use it to set the pseudo CI signal pattern transmitted at time of a fax/tel switchover.

<023:CNG detention level for fax/tel switchover>

Use it to set the CNG detention level for a fax/tel switchover.

<024:pseudo RBT transmission level at time of fax/tel switchover>

Use it to set the pseudo transmission level for a fax/tel switchover.

<025: Answering machine connection function signal detection time>

Sets the signal detection time for the answering machine connection function operation. When the answering machine connection function is operating, if the function does not operate normally because the fax does not detect CNG signal sent from the line, raise this parameter to increase the signal detection time.

<027:V.21 low-speed flag preamble identification length>

Use it to detect the time of detection after which command analysis is started after detecting V.21 low-speed command preambles continuously for a specific period of time.

<056 - 061: Count type select >

Use it to confirm the count type indicated on the Counter Check screen, which appears in response to a press on the Counter key.
When '0' is selected, count type will not be indicated.

056:Use it to indicate the type of software counter 1 of the control panel. The type of soft counter 1 cannot be changed.
057:Use it to change the type of soft counter 2* of the control panel to suit the needs of the user.
058:Use it to change the type of soft counter 3* of the control panel to suit the needs of the user.
059:Use it to change the type of soft counter 4* of the control panel to suit the needs of the user.
060:Use it to change the type of soft counter 5* of the control panel to suit the needs of the user.
061:Use it to change the type of soft counter 6* of the control panel to suit the needs of the user.
*:The default type settings of soft counter is different from models.

<Soft Counter Specifications>
The soft counters are classified a follows in terms of input numbers:
100s: total
200s: copy
300s: print
400s: copy + print
500s: scan
700s: received file print
800s: report pint
900s: transmitted scan

Guide to the Table
- 1:Count sheets of all sizes by one.
- 2:Count sheets of the large size by two.
- C:full color
- Bk:black mono
- L:large size (larger than A4/LTR)
- S:small size (A4/LTR or smaller)

MEMO:
To make a change so that B4 papers (for print) will be counted as large-size, use service mode: make the following selections, and change bit 0 to '1': #SSSW>SW33.

To make a change so that B4 papers (for scan) will be counted as large-size, use service mode: make the following selections, and change bit 2 to '1': #SSSW>SW33.

Serial No. on counter check screen	Counter type	Print system															
		Bk 1-sided L				Bk 1-sided S				Bk 2-sided L				Bk 2-sided S			
		Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print
101	Total1	1	1	1	1	1	1	1	1								
102	Total2	2	2	2	2	1	1	1	1								
103	Total (L)	1	1	1	1												
104	Total (S)					1	1	1	1								
108	Total (Bk1)	1	1	1	1	1	1	1	1								
109	Total (Bk2)	2	2	2	2	1	1	1	1								
112	Total (Bk/L)	1	1	1	1												
113	Total (Bk/S)					1	1	1	1								
114	Total1 (2-sided)									1	1	1	1	1	1	1	1
115	Total2 (2-sided)									2	2	2	2	1	1	1	1
116	L (2-sided)									1	1	1	1				
117	S (2-sided)													1	1	1	1
126	TotalA1		1	1	1		1	1	1								
127	TotalA2		2	2	2		1	1	1								
128	TotalA (L)		1	1	1												
129	TotalA (S)						1	1	1								
132	TotalA (Bk1)		1	1	1		1	1	1								
133	TotalA (Bk2)		2	2	2		1	1	1								

Serial No. on counter check screen	Counter type	Print system															
		Bk 1-sided L				Bk 1-sided S				Bk 2-sided L				Bk 2-sided S			
		Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print
136	TotalA (Bk/L)		1	1	1												
137	TotalA (Bk/S)						1	1	1								
138	TotalA1 (2-sided)										1	1	1		1	1	1
139	TotalA2 (2-sided)										2	2	2		1	1	1
140	L A (2-sided)										1	1	1				
141	S A (2-sided)														1	1	1
150	TotalB1		1	1	1		1	1	1								
151	TotalB2		2	2	2		1	1	1								
152	TotalB (L)		1	1	1												
153	TotalB (S)						1	1	1								
156	TotalB (Bk1)		1	1	1		1	1	1								
157	TotalB (Bk2)		2	2	2		1	1	1								
160	TotalB (Bk/L)		1	1	1												
161	TotalB (Bk/S)						1	1	1								
162	TotalB1 (2-sided)										1	1	1		1	1	1
163	TotalB2 (2-sided)										2	2	2		1	1	1
164	LB (2-sided)										1	1	1				
165	SB (2-sided)														1	1	1
201	Copy(Total1)	1				1											
202	Copy(Total2)	2				1											
203	Copy(L)	1															
204	Copy(S)					1											
205	CopyA (Total1)	1				1											
206	CopyA (Total2)	2				1											
207	CopyA (L)	1															
208	CopyA (S)					1											
209	Local copy(Total1)	1				1											
210	Local copy(Total2)	2				1											
211	Local copy(L)	1															
212	Local copy(S)					1											
221	Copy(Bk1)	1				1											
222	Copy(Bk2)	2				1											
227	Copy(Bk/L)	1															
228	Copy(Bk/S)					1											
237	Copy(Bk/L/2-sided)									1							
238	Copy(Bk/S/2-sided)													1			
249	CopyA (Bk1)	1				1											

Serial No. on counter check screen	Counter type	Print system															
		Bk 1-sided L				Bk 1-sided S				Bk 2-sided L				Bk 2-sided S			
		Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print
250	CopyA (Bk2)	2				1											
255	CopyA (Bk/L)	1															
256	CopyA (Bk/S)					1											
265	CopyA (Bk/L/2-sided)									1							
266	CopyA (Bk/S/2-sided)													1			
277	Local copy(Bk1)	1				1											
278	Local copy(Bk2)	2				1											
283	Local copy(Bk/L)	1															
284	Local copy(Bk/S)					1											
293	Local copy(Bk/L/2-sided)									1							
294	Local copy(Bk/S/2-sided)													1			
301	Print (Total1)		1		1		1		1								
302	Print (Total2)		2		2		1		1								
303	Print (L)		1		1												
304	Print (S)						1		1								
305	PrintA (Total1)		1		1		1		1								
306	PrintA (Total2)		2		2		1		1								
307	PrintA (L)		1		1												
308	PrintA (S)						1		1								
313	Print (Bk1)		1		1		1		1								
314	Print (Bk2)		2		2		1		1								
319	Print (Bk/L)		1		1												
320	Print (Bk/S)						1		1								
329	Print (Bk/L										1		1				
330	Print (Bk/S/2-sided)														1		1
331	PDLprint (Total1)		1				1										
332	PDL print (Total2)		2				1										
333	PDL print (L)		1														
334	PDL print (S)						1										
339	PDL print (Bk1)		1				1										
340	PDL print (Bk2)		2				1										
345	PDL print (Bk/L)		1														
346	PDL print (Bk/S)						1										
355	PDL print (Bk/L/2-sided)										1						
356	PDL print (Bk/S)														1		

Serial No. on counter check screen	Counter type	Print system															
		Bk 1-sided L				Bk 1-sided S				Bk 2-sided L				Bk 2-sided S			
		Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print	Local copy	PDL print	FAX print	Report print
403	Copy+Print (Bk/L)	1	1		1												
404	Copy+Print (Bk/S)					1	1		1								
405	Copy+Print (Bk2)	2	2		2	1	1		1								
406	Copy+Print (Bk1)	1	1		1	1	1		1								
411	Copy+Print (L)	1	1		1												
412	Copy+Print (S)					1	1		1								
413	Copy+Print (2)	2	2		2	1	1		1								
414	Copy+Print (1)	1	1		1	1	1		1								
421	Copy+Print (Bk/L)									1	1		1				
422	Copy+Print (Bk/S)													1	1		1
701	Recieved print (Total1)																
702	Recieved print (Total2)																
703	Recieved print (L)																
704	Recieved print (S)																
709	Recieved print (Bk1)																
710	Recieved print (Bk2)																
715	Recieved print (Bk/L)																
716	Recieved print (Bk/S)																
725	Recieved print (Bk/L/2-sided)											1					
726	Recieved print (Bk/S/2-sided)															1	
801	Report print (Total1)																
802	Report print (Total2)																
803	Report print (L)																
804	Report print (S)																
809	Report print (Bk1)																
810	Report print (Bk2)																
815	Report print (Bk/L)																
816	Report print (Bk/S)																
825	Report print (Bk/L)												1				
826	Report print (Bk/S)																1

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Serial No. on counter check screen	Counter type	Scan system													
		Bk 1-sided L				Bk 1-sided S				Bk 2-sided L				Bk 2-sided S	
		Total scan	E-mail scan	FileShare DBscan	E-mail FileShare DB scan	FileShare DB BoxF scan	E-mail FileShare DB Box	Total scan	Total scan	E-mail scan	FileShare DB scan	E-mail FileShare DB scan	FileShare DB scan	E-mail FileShare DB BOX scan	Total scan
501	Scan (Total1)	1							1						
505	Bk scan (Total1)	1						1							
506	Bk scan (Total2)	2						1							
507	Bk scan (L)	1													
508	Bk scan (S)							1							
509	C scanTotal (1)								1						1
510	C scanTotal (2)								2						1
511	C scan (L)								1						
512	C scan (S)														1
915	Transmission scan total2 (C)													1	
916	Transmission scan total2 (Bk)						1								
917	Transmission scan total3 (C)											1			
918	Transmission scanTotal3 (Bk)				1										
921	Transmission scanTotal5 (C)										1				
922	Transmission scanTotal5 (Bk)			1											
929	Transmission scanTotal6 (C)												1		
930	Transmission scanTotal6 (Bk)					1									
945	Transmission scan/ E-mail (C)									1					

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#SCAN

Setting of Scanner Functions (SCANNER)

Item1	No.	Initial setting	Range of settings	Function
#SCAN SW				Not used
#SCAN NUMERIC	001: - 032:			
	033:	50		Vertical scan magnification correction (scanning on BOOK)
	034:	50		Horizontal scan magnification correction (scanning on BOOK)
	035: - 046:			Not used
	047:	50		Vertical scan magnification correction (scanning on ADF)
	048:	50		Horizontal scan magnification correction (scanning on ADF)
	049: - 192:			Not used
	193:	0	0: LEGAL 1: FOOLSCAP 2: M_OFICIO 3: A_FOOLSCAP 4: FOLIO 5: G_LEGAL 6: A_OFICIO 7: B_OFICIO 8: OFICIO 9: E_OFICIO	ADF special paper, standardized size: LGL misidentification-ready
	194:	0	0: LTR 1: G_LTR 2: A_LTR	ADF special paper, standardized size: LTR misidentification-ready
	195:	0	0: LTR_R 1: FOOLSCAP 2: OFFICIO 3: E_OFFICIO 4: G_LTR_R 5: A_LTR_R	ADF special paper, standardized size: LTR_R misidentification-ready
	196: - 290:			Not used

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Item1	Item2	Item3	Item4	Initial setting	Appropriate guideline	Description
READER	DISPLAY	CCD	TARGET-B			Target value of shading for blue
			TARGET-G			Target value of shading for green
			TARGET-R			Target value of shading for red
			OFST			Not used
			OFST-B			Adjustment value of offset level on CCD (blue)
			OFST-G			Adjustment value of offset level on CCD (green)
			OFST-R			Adjustment value of offset level on CCD (red)
			OFST-O			Adjustment value of offset level in odd bit on CCD
			OFST-E			Adjustment value of offset level in even bit on CCD
			GAIN			Not used
			GAIN-B			Adjustment value of gain level on CCD (blue)
			GAIN-G			Adjustment value of gain level on CCD (green)
			GAIN-R			Adjustment value of gain level on CCD (red)
			GAIN-O			Adjustment value of gain level in odd bit on CCD
			GAIN-E			Adjustment value of gain level in even bit on CCD
	IO	R-CON				Firmware version of reader controller PCB
		FEEDER				ROM version of DADF controller PCB
	ADJUST	ADJ-XY	ADJ-X	20	1 to 211, 1=0.1mm	Adjustment of scanning system image lead edge position (image's scan-start position in vertical scanning direction)
			ADJ-Y	79	1 to 254, 1=0.1mm	Adjustment value of image scan-start position <Y-direction>
			ADJ-S	121	25 to 500, 1=0.1mm	Adjustment of CCD/CIS scan-start cell position (image scan-start position in horizontal scanning direction)
			ADJ-Y-DF	79	1 to 254, 1=0.1mm	Adjustment of horizontal scanning position at feeder mode

Item1	Item2	Item3	Item4	Initial setting	Appropriate guideline	Description
READER	ADJUST	CCD	STRD-POS	100	1 to 200	Adjustment of CCD/CIS scan position at stream-reading mode with DF
			ADJ-X-MG	0	-10 to +10, 1=0.1%	Fine adjustment of magnification ration in vertical scanning when scanning with reader copyboard
			W-PLT-X	8271	1 to 9999	White label data entry with standard white plate
			W-PLT-Y	8735	1 to 9999	White label data (Y) entry with standard white plate
			W-PLT-Z	9418	1 to 9999	White label data (Z) entry with standard white plate
			SH-TRGT	1136	1 to 2047	Shading target value of the standard white plate (backup)
			50_RG	0	-256 to 256	Color displacement (G-R) offset value display at BOOK mode/50% scanning
			50_GB	0	-256 to 256	Color displacement (G-B) offset value display at BOOK mode/50% scanning
			100_RG	0	-256 to 256	Color displacement (G-R) offset value display at BOOK mode/100% scanning
			100_GB	0	-256 to 256	Color displacement (G-B) offset value display at BOOK mode/100% scanning
			50DF_RG	0	-256 to 256	Color displacement (G-R) offset value display at ADF mode/50% scanning
			50DF_GB	0	-256 to 256	Color displacement (G-B) offset value display at ADF mode/50% scanning
			100DF_RG	0	-256 to 256	Color displacement (G-R) offset value display at ADF mode/100% scanning
			100DF_GB	0	-256 to 256	Color displacement (G-B) offset value display at ADF mode/100% scanning
			DFTAR-R	1159	1 to 2047	Shading target value (RED) entry when using DF (normal document scanning position)

Item1	Item2	Item3	Item4	Initial setting	Appropriate guideline	Description
READER	ADJUST	CCD	DFTAR-G	1189	1 to 2047	Shading target value (GREEN) entry when using DF (normal document scanning position)
			DFTAR-B	1209	1 to 2047	Shading target value (BLUE) entry when using DF (normal document scanning position)
			CCD-CHNG		0 to 1	CCD replacement flag
			DFTAR-K	1189	1 to 2047	Black shading target value when using DF
			MTF3-M1	55	20 to 80	MTF setting value for R in horizontal scanning direction (front)
			MTF3-M2	55	20 to 80	MTF setting value for R in horizontal scanning direction (center)
			MTF3-M3	55	20 to 80	MTF setting value for R in horizontal scanning direction (rear)
			MTF3-M4	55	20 to 80	MTF setting value for G in horizontal scanning direction (front)
			MTF3-M5	55	20 to 80	MTF setting value for G in horizontal scanning direction (center)
			MTF3-M6	55	20 to 80	MTF setting value for G in horizontal scanning direction (rear)
			MTF3-M7	55	20 to 80	MTF setting value for B in horizontal scanning direction (front)
			MTF3-M8	55	20 to 80	MTF setting value for B in horizontal scanning direction (center)
			MTF3-M9	55	20 to 80	MTF setting value for B in horizontal scanning direction (rear)
			MTF3-M10	55	20 to 80	MTF setting value for K in horizontal scanning direction (front)
			MTF3-M11	55	20 to 80	MTF setting value for K in horizontal scanning direction (center)
			MTF3-M12	55	20 to 80	MTF setting value for K in horizontal scanning direction (rear)

Item1	Item2	Item3	Item4	Initial setting	Appropriate guideline	Description
READER	ADJUST	CCD	MTF3-S1	55	20 to 80	MTF setting value for R in vertical scanning direction (front)
			MTF3-S2	55	20 to 80	MTF setting value for R in vertical scanning direction (center)
			MTF3-S3	55	20 to 80	MTF setting value for R in vertical scanning direction (rear)
			MTF3-S4	55	20 to 80	MTF setting value for G in vertical scanning direction (front)
			MTF3-S5	55	20 to 80	MTF setting value for G in vertical scanning direction (center)
			MTF3-S6	55	20 to 80	MTF setting value for G in vertical scanning direction (rear)
			MTF3-S7	55	20 to 80	MTF setting value for B in vertical scanning direction (front)
			MTF3-S8	55	20 to 80	MTF setting value for B in vertical scanning direction (center)
			MTF3-S9	55	20 to 80	MTF setting value for B in vertical scanning direction (rear)
			MTF3-S10	55	20 to 80	MTF setting value for K in vertical scanning direction (front)
			MTF3-S11	55	20 to 80	MTF setting value for K in vertical scanning direction (center)
			MTF3-S12	55	20 to 80	MTF setting value for K in vertical scanning direction (rear)
			MTF4-M1	55	20 to 80	MTF specified value for R in horizontal scanning direction (front)
			MTF4-M2	55	20 to 80	MTF specified value for R in horizontal scanning direction (center)
			MTF4-M3	55	20 to 80	MTF specified value for R in horizontal scanning direction (rear)
			MTF4-M4	55	20 to 80	MTF specified value for G in horizontal scanning direction (front)

Item1	Item2	Item3	Item4	Initial setting	Appropriate guideline	Description
READER	ADJUST	CCD	MTF4-M5	55	20 to 80	MTF specified value for G in horizontal scanning direction (center)
			MTF4-M6	55	20 to 80	MTF specified value for G in horizontal scanning direction (rear)
			MTF4-M7	55	20 to 80	MTF specified value for B in horizontal scanning direction (front)
			MTF4-M8	55	20 to 80	MTF specified value for B in horizontal scanning direction (center)
			MTF4-M9	55	20 to 80	MTF specified value for B in horizontal scanning direction (rear)
			MTF4-M10	55	20 to 80	MTF specified value for K in horizontal scanning direction (front)
			MTF4-M11	55	20 to 80	MTF specified value for K in horizontal scanning direction (center)
			MTF4-M12	55	20 to 80	MTF specified value for K in horizontal scanning direction (rear)
			MTF4-S1	55	20 to 80	MTF specified value for R in vertical scanning direction (front)
			MTF4-S2	55	20 to 80	MTF specified value for R in vertical scanning direction (center)
			MTF4-S3	55	20 to 80	MTF specified value for R in vertical scanning direction (rear)
			MTF4-S4	55	20 to 80	MTF specified value for G in vertical scanning direction (front)
			MTF4-S5	55	20 to 80	MTF specified value for G in vertical scanning direction (center)
			MTF4-S6	55	20 to 80	MTF specified value for G in vertical scanning direction (rear)
			MTF4-S7	55	20 to 80	MTF specified value for B in vertical scanning direction (front)
			MTF4-S8	55	20 to 80	MTF specified value for B in vertical scanning direction (center)

Item1	Item2	Item3	Item4	Initial setting	Appropriate guideline	Description
READER	FUNCTION	CCD	MTF4-S9	55	20 to 80	MTF specified value for B in vertical scanning direction (rear)
			MTF4-S10	55	20 to 80	MTF specified value for K in vertical scanning direction (front)
			MTF4-S11	55	20 to 80	MTF specified value for K in vertical scanning direction (center)
			MTF4-S12	55	20 to 80	MTF specified value for K in vertical scanning direction (rear)
		PSCAL	OFST-P-K	0	-128 to 128	Density adjustment at test print scanning
		INSTALL	STRD-POS			Auto adjustment of CCD/ CIS reading position in stream reading
		CCD	CCD-ADJ			Gain adjustment of analog processor block.
			DF-WLVL1			ADF white level adjustment (platen board cover scan/ stream reading scan)
			DF-WLVL2			ADF white level adjustment (platen board cover scan/ stream reading scan)
			MTF-CLC			not used
			DF-WLVL3			ADF white level adjustment (platen board cover scan)
			DF-WLVL4			ADF white level adjustment (DF scan)
		CLEAR	R-CON			Clearing of the backup area for the reader in the main controller.
		MISC-R	SCANLAMP			Executing activation of the scanning lamp
	OPTION	BODY	SENS-CNF			Setting of the document detection sensor placement
			MODELSZ2		0 - 1	Setting of global support for document size detection while the copyboard cover use
			SZDT-SW		0 - 1	Switching mode from CCD size detection to photo size detection during platen document size detection.
			DFDST-L1	0	0 - 16383	Dirt detection level adjustment (between documents) during ADF use
FEEDER	ADJUST		DFDST-L2	0	0 to 16383	Dirt detection level adjustment (upon job completion) during ADF use
			KSIZE-SW	0	0 to 1	Switch supporting Chinese paper (K sizes)
		USER	SIZE-DET	1	0 to 1	Document size detection function ON/OFF setting
		DOCST			-50 to 50	Adjusting the original stop position for ADF pickup (original tray pickup)
		LA-SPEED			-30 to 30	Adjusting the original feeding speed in stream reading
		DOC-LNGH			-100 to 100	Correcting the paper length in extra length/ indeterminate mode with ADF
	FUNCTION	FEED-CHK				Checking the passage of paper for ADF
		CL-CHK				Checking the DF clutch
		CL-ON				Starting the clutch operation
		FAN-CHK				Checking the ADF cooling fan
		FAN-ON				Starting the fan operation
		SL-CHK				Checking the ADF solenoid
		SL-ON				Starting the solenoid operation
		MTR-ON				Starting the motor operation
		ROLL-CLN				ADF roller cleaning mode
		FEED-ON				Checking the passage of paper with ADF

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■ Numeric Parameter Functional configuration

● <033: Vertical scan magnification correction>

Correct the magnification of vertical scanning of a book. The larger the adjustment value, the more the image stretches in the vertical scanning direction.

● <034: Horizontal scan magnification correction>

Correct the magnification of horizontal scanning of a book. The larger the adjustment value, the more the image stretches in the horizontal scanning direction.

● <047: Vertical scan magnification correction (when scanning on a

document fed from ADF)>

Correct the magnification of vertical scanning of a document fed from the ADF. The larger the adjustment value, the more the image stretches in the vertical scanning direction.

<048: Horizontal scan magnification correction (when scanning on a document fed from ADF)>

Correct the magnification of horizontal scanning of a document fed from the ADF. The smaller the adjustment value, the more the image stretches in the horizontal scanning direction.

<193: ADF special standard-sized paper: LGL misidentification-ready>

"Set to use special standard-sized paper that is not otherwise identifiable to the ADF (because it is misidentified as "LEGAL").
0 : LEGAL
1 : FOOLSCAP
2 : M_OFICIO
3 : A_FOOLSCAP
4 : FOLIO
5 : G_LEGAL
6 : A_OFICIO
7 : B_OFICIO
8 : OFICIO
9 : E_OFICIO

<194: ADF special standard-sized paper: LTR misidentification-ready>

Set to use special standard-sized paper that is not otherwise identifiable to the ADF (because it is misidentified as "LTR").
0: LTR
1: G_LTR
2: A_LTR

<195: ADF special standard-sized paper: LTR_R misidentification-ready>

Set to use special standard-sized paper that is not otherwise identifiable to the ADF (because it is misidentified as "LTRR").
0: LTR_R
1: FOOLSCAP
2: OFFICIO
3: E_OFFICIO
4: G_LTR_R
5: A_LTR_R
0: LTR_R
1: FOOLSCAP
2: OFFICIO
3: E_OFFICIO
4: G_LTR_R
5: A_LTR_R

READER

(#SCAN> READER> DISPLAY> CCD> TARGET-B)

Target value of shading for blue

If the scanned image has some failure, check the target value of shading for blue.
If the machine continues to display 0 (minimum) or FFFF (maximum), there may be some problem on CCD unit.
Appropriate guideline :1 to 2047

(#SCAN> READER> DISPLAY> CCD> TARGET-G)

Target value of shading for green

If the scanned image has some failure, check the target value of shading for green.
If the machine continues to display 0 (minimum) or FFFF (maximum), there may be some problem on CCD unit.
Appropriate guideline :1 to 2047

(#SCAN> READER> DISPLAY> CCD> TARGET-R)

Target value of shading for red

If the scanned image has some failure, check the target value of shading for red.
If the machine continues to display 0 (minimum) or FFFF (maximum), there may be some problem on CCD unit.
Appropriate guideline :1 to 2047

(#SCAN> READER> DISPLAY> CCD> OFST-B)

Adjustment value of offset level on CCD (blue)

(#SCAN> READER> DISPLAY> CCD> OFST-G)

Adjustment value of offset level on CCD (green)

(#SCAN> READER> DISPLAY> CCD> OFST-R)

Adjustment value of offset level on CCD (red)

(#SCAN> READER> DISPLAY> CCD> OFST-O)

Adjustment value of offset level in odd bit on CCD

(#SCAN> READER> DISPLAY> CCD> OFST-E)

Adjustment value of offset level in even bit on CCD

To judge if this adjustment value is correct when an image fault attributed to CCD occurs.

Appropriate guideline: 0 to 255

(#SCAN> READER> DISPLAY> CCD> GAIN-B)

Adjustment value of gain level on CCD (blue)

(#SCAN> READER> DISPLAY> CCD> GAIN-G)

Adjustment value of gain level on CCD (green)

(#SCAN> READER> DISPLAY> CCD> GAIN-R)

Adjustment value of gain level on CCD (red)

(#SCAN> READER> DISPLAY> CCD> GAIN-O)

Adjustment value of gain level in odd bit on CCD

(#SCAN> READER> DISPLAY> CCD> GAIN-E)

Adjustment value of gain level in even bit on CCD

To judge if this adjustment value is correct when an image fault attributed to CCD occurs.

Appropriate guideline: 0 to 255

(#SCAN> READER> I/O> R-CON> P001)

The P001 port indication of the reader relay PCB

Display the I/O state of the sensor of the reader unit.

Bit	Name	Display contents	Remarks
Bit0	Copyboard cover open/closed sensor 1 (S26)	1: Open	ADF open angle: 15 degrees
Bit1	CCD HP sensor (S22)	1: HP	
Bit2	Not used.	1: Open	
Bit3	Copyboard cover open/closed sensor 0 (S21)	1: Document present	ADF open angle: 25 degrees or 5 degrees
Bit4	Sub scanning original size sensor 0 (S24/29)	1: Document present	
Bit5	Sub scanning original size sensor 1 (S25/28)	1: Document present	
Bit6	Sub scanning original size sensor 2 (S23)	1: Document present	Sensor for market-related measures
Bit7	Sub scanning original size sensor 3 (S27)	1: Document present	Sensor for market-related measures
Bit8 - 15	Not used.		

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(#SCAN> READER> I/O> FEEDER> P001)

The P001 port indication of the ADF driver PCB

Display the I/O state of the sensor of the ADF unit.

Bit	Name	Display contents	Remarks
Bit0	Document tray width sensor 2 (PS2)	1: Document present	
Bit1	Document tray width sensor 1 (PS1)	1: Document present	
Bit2	Not used.		
Bit3	ADF fan (FM1) motor lock detection	1: Locked	
Bit4	Delivery reversal sensor (SR3)	1: Document present	
Bit5	Read sensor (SR2)	1: Document present	
Bit6	Timing sensor (SR4)		
Bit7	Registration sensor (SR1)	1: Document present	
Bit8	Document length sensor 2 (SR8)	1: Document present	
Bit9	Document length sensor 1 (SR7)	1: Document present	
Bit10	Release motor HP sensor (SR11)	0: relaease	
Bit11	Cover open/closed sensor (SR6)	0: Open	
Bit12	Last document detection sensor (SR7)	1: Document present	
Bit13	Document set sensor (SR5)	0: Document present	

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(#SCAN> READER> ADJUST> ADJ-XY> ADJ-X)

Adjustment of scanning system image lead edge position (image's scan-start position in

vertical scanning direction)

0.1mm shift of image scan-start position toward the trail edge direction by 1-increment in the setting.

Note:
Be sure to enter the value on service label when replacing the CCD unit.
If changing the setting value of this item, be sure to Note the changed value on the service label.

(#SCAN> READER> ADJUST> ADJ-XY> ADJ-Y)

Adjustment value of image scan-start position <Y-direction>

0.1mm shift of image scan-start position toward the trail edge direction by 1-increment in the setting.

Note:
Be sure to enter the value on service label when replacing the CCD unit.
If changing the setting value of this item, be sure to Note the changed value on the service label.

(#SCAN> READER> ADJUST> ADJ-XY> ADJ-S)

Adjustment of CCD/CIS scan-start cell position (image scan-start position in horizontal scanning direction)

Adjust the position to measure data for shading correction with standard white plate. This item must not be normally used.

Note:
Be sure to enter the value on service label when replacing the CCD unit.
If changing the setting value of this item, be sure to Note the changed value on the service label.

(#SCAN> READER> ADJUST> ADJ-XY> ADJ-Y-DF)

Adjustment of horizontal scanning position at feeder mode.

0.1mm shift of image scan-start position toward the front direction by 1-increment in the setting value.

Note:
Be sure to enter the value on service label when replacing the CCD unit.
If changing the setting value of this item, be sure to Note the changed value on the service label.

(#SCAN> READER> ADJUST> ADJ-XY> STRD-POS)

Adjustment of CCD/CIS scan position at stream-reading mode with DF

This item must not be normally used.

Note:
Be sure to enter the value on service label when replacing the CCD unit.
If changing the setting value of this item, be sure to Note the changed value on the service label.

(#SCAN> READER> ADJUST> ADJ-XY> ADJ-X-MG)

Fine adjustment of magnification ration in vertical scanning when scanning with reader copyboard

Execute fine adjustment of vertical scanning magnification ratio when scanning with reader copyboard.

0.1mm shift of image scan-start position toward the front direction by 1-increment in the setting value.

Note:
Be sure to enter the value on service label when replacing the CCD unit.
If changing the setting value of this item, be sure to Note the changed value on the service label.

(#SCAN> READER> ADJUST> CCD> W-PLT-X)

White label data entry with standard white plate

(#SCAN> READER> ADJUST> CCD> W-PLT-Y)

White label data (Y) entry with standard white plate

(#SCAN> READER> ADJUST> CCD> W-PLT-Z)

White label data (Z) entry with standard white plate

This item must not be normally used.

Note:
Be sure to enter the value on service label when replacing the CCD unit.
Be sure to enter the numeric value on copyboard glass when replacing the copyboard glass.
If changing the setting value of this item, be sure to write down the changed value on the service label.

(#SCAN> READER> ADJUST> CCD> SH-TRGT)

Shading target value of the standard white plate (backup)

This item must not be normally used.

(#SCAN> READER> ADJUST> CCD> 50_RG)

Color displacement (G-R) offset value display at BOOK mode/50% scanning

(#SCAN> READER> ADJUST> CCD> 50_GB)

Color displacement (G-B) offset value display at BOOK mode/50% scanning

(#SCAN> READER> ADJUST> CCD> 100_RG)

Color displacement (G-R) offset value display at BOOK mode/100% scanning

(#SCAN> READER> ADJUST> CCD> 100_GB)

Color displacement (G-B) offset value display at BOOK mode/100% scanning

This item must not be normally used.

Note:
Be sure to enter the value on service label when executing RAM clear of the reader controller PCB/replacing the reader controller PCB.
If changing the setting value of this item, be sure to write down the changed value on the service label.

(#SCAN> READER> ADJUST> CCD> 50DF_RG)

Color displacement (G-R) offset value display at ADF mode/50% scanning

(#SCAN> READER> ADJUST> CCD> 50DF_GB)

Color displacement (G-B) offset value display at ADF mode/50% scanning

(#SCAN> READER> ADJUST> CCD> 100DF_RG)

Color displacement (G-R) offset value display at ADF mode/100% scanning

(#SCAN> READER> ADJUST> CCD> 100DF_GB)

Color displacement (G-B) offset value display at ADF mode/100% scanning

This item must not be normally used.

Note:
Be sure to enter the value on service label when executing RAM clear of the reader controller PCB/replacing the reader controller PCB.
If changing the setting value of this item, be sure to write down the changed value on the service label.

(#SCAN> READER> ADJUST> CCD> DFTAR-R)

Shading target value (RED) entry when using DF (normal document scanning position)

(#SCAN> READER> ADJUST> CCD> DFTAR-G)

Shading target value (GREEN) entry when using DF (normal document scanning position)

(#SCAN> READER> ADJUST> CCD> DFTAR-B)

Shading target value (BLUE) entry when using DF (normal document scanning position)

This item must not be normally used.

(#SCAN> READER> ADJUST> CCD> CCD-CHNG)

CCD replacement flag

Set this mode when CCD replacement is completed.

(#SCAN> READER> ADJUST> CCD> DFTAR-K)

Black shading target value when using DF

This item must not be normally used.

In case of image fault (due to chart soil, etc) after executing: SCAN > READER > FUNCTION > CCD > DFWLVL1/ DF-WLVL2; enter the factory measurement value using this mode.

(#SCAN> READER> ADJUST> CCD> MTF3-M1)

MTF setting value for R in horizontal scanning direction (front)

(#SCAN> READER> ADJUST> CCD> MTF3-M2)

MTF setting value for R in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-M3)
MTF setting value for R in horizontal scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF3-M4)
MTF setting value for G in horizontal scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF3-M5)
MTF setting value for G in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-M6)
MTF setting value for G in horizontal scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF3-M7)
MTF setting value for B in horizontal scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF3-M8)
MTF setting value for B in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-M9)
MTF setting value for B in horizontal scanning direction (rear)
This item must not be normally used.

Note:
Be sure to enter the value on service label when executing RAM clear of the CCD unit / replacing the CCD unit.
If changing the setting value of this item, be sure to write down the changed value on the service label.

● (#SCAN> READER> ADJUST> CCD> MTF3-M10)
MTF setting value for K in horizontal scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF3-M11)
MTF setting value for K in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-M12)
MTF setting value for K in horizontal scanning direction (rear)
This item must not be normally used.

● (#SCAN> READER> ADJUST> CCD> MTF3-S1)
MTF setting value for R in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF3-S2)
MTF setting value for R in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-S3)
MTF setting value for R in vertical scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF3-S4)
MTF setting value for G in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF3-S5)
MTF setting value for G in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-S6)
MTF setting value for G in vertical scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF3-S7)
MTF setting value for B in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF3-S8)
MTF setting value for B in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-S9)
MTF setting value for B in vertical scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF3-S10)
MTF setting value for K in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF3-S11)
MTF setting value for K in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF3-S12)

MTF setting value for K in vertical scanning direction (rear)
This item must not be normally used.

● (#SCAN> READER> ADJUST> CCD> MTF4-M1)
MTF specified value for R in horizontal scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-M2)
MTF specified value for R in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-M3)
MTF specified value for R in horizontal scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF4-M4)
MTF specified value for G in horizontal scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-M5)
MTF specified value for G in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-M6)
MTF specified value for G in horizontal scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF4-M7)
MTF specified value for B in horizontal scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-M8)
MTF specified value for B in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-M9)
MTF specified value for B in horizontal scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF4-M10)
MTF specified value for K in horizontal scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-M11)
MTF specified value for K in horizontal scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-M12)

MTF specified value for K in horizontal scanning direction (rear)
This item must not be normally used.

● (#SCAN> READER> ADJUST> CCD> MTF4-S1)
MTF specified value for R in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-S2)
MTF specified value for R in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-S3)
MTF specified value for R in vertical scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF4-S4)
MTF specified value for G in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-S5)
MTF specified value for G in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-S6)
MTF specified value for G in vertical scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF4-S7)
MTF specified value for B in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-S8)
MTF specified value for B in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-S9)
MTF specified value for B in vertical scanning direction (rear)

● (#SCAN> READER> ADJUST> CCD> MTF4-S10)
MTF specified value for K in vertical scanning direction (front)

● (#SCAN> READER> ADJUST> CCD> MTF4-S11)
MTF specified value for K in vertical scanning direction (center)

● (#SCAN> READER> ADJUST> CCD> MTF4-S12)

MTF specified value for K in vertical scanning direction (rear)

This item must not be normally used.

(#SCAN> READER> ADJUST> PASCAL> OFST-P-K)

Density adjustment at test print scanning

Execute offset adjustment for test print scanning signal in PASCAL control at auto gradation correction. (full correction)

(#SCAN> READER> FUNCTION> INSTALL> STRD-POS)

Auto adjustment of CCD/CIS reading position in stream reading

When installing the DF, or removing the ADF and reinstalling it.

(#SCAN> READER> FUNCTION> CCD> CCD-ADJ)

Gain adjustment of analog processor block.

When installing the DF, or removing the ADF and reinstalling it.

Reflect the LED lamp beam on the standard white plate to correct CCD shading.

Execute this after replacing the CCD unit.

(#SCAN> READER> FUNCTION> CCD> DF-WLVL1)

ADF white level adjustment (platen board cover scan/stream reading scan)

(#SCAN> READER> FUNCTION> CCD> DF-WLVL2)

ADF white level adjustment (platen board cover scan/stream reading scan)

1) Place a paper that users normally use on the copyboard glass and execute the following item;

SCAN > READER > FUNCTION > CCD > DFWLVL1/ DF-WLVL2

: Read the white level in BOOK mode. (Check the transparency of the glass for BOOK mode.)

2) Set a paper that users normally use and execute the following item;

SCAN > READER > FUNCTION > CCD > DFWLVL1/ DF-WLVL2

: Read the white level in DF mode (stream reading). (Check the transparency of the glass for stream reading.)

(Read the both sides of chart.)

Reading the face: Calculate DFTAR-R

Note:
Be sure to execute these two items (DF-WLVL1/DF-WLVL2) simultaneously.

(#SCAN> READER> FUNCTION> CCD> MTF-CLC)

Calculating the MTF filter count to be set in ASICS based on the MTF value

Set the following item; SCAN>READER>ADJUST>CCD>CCD-CHN (new item) when replacing the CCD.

(#SCAN> READER> FUNCTION> CCD> DF-WLVL3)

ADF white level adjustment (platen board cover scan)

MEMO:
Scan a blank sheet on the platen and adjust the white level.

(#SCAN> READER> FUNCTION> CCD> DF-WLVL4)

ADF white level adjustment. (DF scan)

MEMO:
Scan a blank sheet in stream reading mode and adjust the white. level.

(#SCAN> READER> FUNCTION> CLEAR> R-CON)

Clearing of the backup area for the reader in the main controller.

Clear the backup area for the reader in the main controller.

(#SCAN> READER> FUNCTION> MISC-R> SCANLAMP)

The test checks to see if the scanning lamp is on or not.

Execute the when replacing the scanning lamp.

(#SCAN> READER> OPTION> BODY> SENS-CNF)

Setting of the document detection sensor placement.

The setting of document detection size is selected in accordance with the document sensor placement.

0: AB type

1: Inch type

(#SCAN> READER> OPTION> BODY> MODELSZ2)

Setting of global support for document size detection while the copyboard cover use.

This item is used when supporting individual users (mixed stacking of AB/Inch type documents). Turn ON/OFF the global support for document size detection while the

copyboard cover is being used.
This item must not be normally used. When both AB and Inch type documents are stacked together, a separate document size sensor (photosensor) is required for the document size to be detected properly.
When the item is set to '1', the document size is not detected while the platen is opened or closed. (The document lighting lamp does not light.)
0: Normal (detection operation by detected size for each destination)
1: Detection of stacking of both AB and Inch type documents

● (#SCAN> READER> OPTION> BODY> SZDT-SW)

Switching mode from CCD size detection to photo size detection during platen document size detection.

When the scanning lamp is dazzling, switch the size detection mode of the CCD unit to the photo sensor detection mode. A photo sensor must be installed separately.

● (#SCAN> READER> OPTION> BODY> DFDST-L1)

Dirt detection level adjustment (between documents) during ADF use.

● (#SCAN> READER> OPTION> BODY> DFDST-L2)

Dirt detection level adjustment (upon job completion) during ADF use.

Increase the value when dirt fails to be detected, resulting in black streaks. However, if the value is increased too much, even small-sized dirt of the kind which does not appear on the image will also be detected, and the cleaning instruction screen may appear frequently.
Reduce the value if users complain because the cleaning instruction screen which appears when dirt is detected is displayed frequently. Conversely, if the value is reduced too much, black streaks may appear on the images.
When '0' is set, the correction control function used when dirt is detected is canceled.

● (#SCAN> READER> OPTION> BODY> KSIZE-SW)

Switch supporting Chinese paper (K sizes)

This item is used when K size paper is used. Detect and display Chinese paper (8K, 16K).
0: K size paper is not supported.
1: K size paper is supported.

● (#SCAN> READER> OPTION> USER> SIZE-DET)

Document size detection function ON/OFF setting

This item is used when the user asks for the item to be provided (as a means to remedy the glare from the document lighting lamp). Set the document size detection function to ON and OFF.

● (#SCAN> READER> OPTION> USER> SIZE-DET)

Document size detection function ON/OFF setting

When requested by the user (the scanning lamp is dazzling). Turn ON/OFF the document size detection function.

● (#SCAN> FEEDER> ADJUST> DOCST)

Adjusting the original stop position for ADF pickup (original tray pickup)

Delivering the original enables the setting. Be sure to press the OK key to deliver the original.
When changing the setting, input the setting on the main station service label.
The larger the value, the smaller the leading edge margin.

● (#SCAN> FEEDER> ADJUST> LA-SPEED)

Adjusting the original feeding speed in stream reading

Use this mode to adjust the original feeding speed in stream reading mode.
The larger the setting, the faster the speed (the image reduced).

● (#SCAN> FEEDER> ADJUST> DOC-LNGH)

Correcting the paper length in extra length/indeterminate mode with ADF

Use this mode when installing the ADF. (to correct errors in detecting the paper length in extra length/indeterminate mode with ADF)

● (#SCAN> FEEDER> FUNCTION> MTR-CHK)

Operation check for the ADF motor, etc.

Specify a motor to perform an operation check. Select #SCAN> FEEDER> FUNCTION> MTR-ON to execute this.
0:Pickup/ Feed motor (M1)
1:Release motor (M2)

● (#SCAN> FEEDER> FUNCTION> FEED-CHK)

Checking passage of paper by the ADF

Specify a paper feed mode to check the DF for paper passage. Select #SCAN> FEEDER> FUNCTION> FEED-ON to execute this.
0:1-sided
1:2-sided

(#SCAN> FEEDER> FUNCTION>CL-CHK)

Checking the DF clutch

DSpecify a clutch to perform a clutch check. Select #SCAN>FEEDER > FUNCTION > CL-ON to execute this.

(#SCAN> FEEDER> FUNCTION> CL-ON)

Starting the clutch operation

Selecting 1 starts clutch operation.

(#SCAN> FEEDER> FUNCTION> FAN-CHK)

Checking the ADF cooling fan

Specify a fan to perform a fan check. Select #SCAN> FEEDER> FUNCTION> FAN-ON to execute this.

(#SCAN> FEEDER> FUNCTION> FAN-ON)

Starting the fan operation

Selecting 1 starts fan operation.

(#SCAN> FEEDER> FUNCTION> SL-CHK)

Checking the ADF solenoid

Specify a solenoid to perform a solenoid check. Select #SCAN>FEEDER > FUNCTION > SL-ON to execute this.

0: Pressure solenoid (SL1)

1: Stamp solenoid (SL2)

(#SCAN> FEEDER> FUNCTION> MTR-ON)

Starting the motor operation

Selecting 1 starts motor operation.

(#SCAN> FEEDER> FUNCTION> ROLL-ON)

ADF roller cleaning mode

Rotate the roller with the motor and attach a lint-free paper moistened with alcohol to the roller to clean it.

(#SCAN> FEEDER> FUNCTION> FEED-ON)

Checking the passage of paper with ADF

Selecting 1 starts checking passage of paper by the ADF.

#PRINT

Numerin Parameter Settings (Numeric Prama.)

Item	No.	Default	Setting range	Function
#PRINT NUMERIC	SW01- SW13			Not used
	SW14:	00000100		Special mode setting
	SW15: - SW17			Not used
	SW18:	00000100		Special mode setting
	SW19: - 50			Not used
#PRINT NUMERIC	01: - 30			Not used
	34:	100	-128 to 127, one unit = 0.1 mm	Left-end registration adjustment (manual feed tray)
	35:	100	-128 to 127, one unit = 0.1 mm	Left-end registration adjustment (cassette 1)
	36:	100	-128 to 127, one unit = 0.1 mm	Left-end registration adjustment (cassette 2)
	37:	100	-128 to 127, one unit = 0.1 mm	Left-end registration adjustment (cassette 3)
	38:	100	-128 to 127, one unit = 0.1 mm	Left-end registration adjustment (cassette 4)
	39: - 52:			Not used
	53:	25	0 to 9999, one unit = 0.1 mm	Adjustment of margin at leading edge of copy
	54:	25	0 to 9999, one unit = 0.1 mm	Adjustment of margin at trailing edge of copy
	55:	25	0 to 9999, one unit = 0.1 mm	Adjustment of margin at right edge of copy
	56:	25	0 to 9999, one unit = 0.1 mm	Adjustment of margin at left edge of copy
	57:			Not used
	58:	145	-128 to 127, one unit = 0.1 mm	Adjustment of the registration loop volume (Manual tray)
	59:	163	-128 to 127, one unit = 0.1 mm	Adjustment of the registration loop volume (Cassette)
	60:			Not used
	61:	145	-128 to 127, one unit = 0.1 mm	Adjustment of the registration loop volume (Duplex unit)
	62:	7	0 to 14	Temperature adjustment UP/DOWN mode (For normal paper)
	63:	7	0 to 14	Temperature adjustment UP/DOWN mode. (For thick paper)
	64:	2	0 to 4	Mode for preventing the end temperature rise
	65:	0	0 to 2	Mode for reducing sand image
	66:	0	0 to 3	Temperature/ Humidity sensor fixed mode
	67:- 135:			Not used
	136:	1000	-512 to 512	Adjustment of the point to start writing in main scanning direction (A)
	137:- 139:			Not used

Item	No.	Default	Setting range	Function
#PRINT NUMERIC	140:	100	-128 to 127, one unit = 0.1 mm	Left-end registration adjustment (double-sided small)
	141:	100	-128 to 127, one unit = 0.1 mm	Left-end registration adjustment (double-sided large)
	142:	100	-128 to 127, one unit = 0.1 mm	Adjustment of margin at leading edge at normal speed (230mm/sec)
	143:	100	-128 to 127, one unit = 0.1 mm	Adjustment of margin at leading edge at half speed (137mm/sec)
	144:	100	-128 to 127, one unit = 0.1 mm	Laser trail edge OFF adjustment
	145:	1000	-512 to 511	Adjustment of the magnification to write image in main scanning direction (A-B)
	146:	1000	-512 to 511	Not used
	147:	1000	-512 to 511	Not used
	148:	1000	-512 to 511	Adjustment of the point to start writing in main scanning direction (A-B)
	149:	1000	-512 to 511	Not used
	150:	1000	-512 to 511	Not used
	151:	100	-128 to 127	Developing bias offset for DC
	152:	100	-128 to 127	Primary charge offset for DC
	153:	100	-128 to 127	Primary charge offset for AC
	154:	100	-128 to 127, one unit = 0.1 mm	Adjustment of the registration loop volume (Thick paper)
	155:	100	-128 to 127, one unit = 0.1 mm	Adjustment of the registration loop volume (Special paper)
	156:	100	-128 to 127, one unit = 0.1 mm	Adjustment of the registration loop volume (Envelop cassette pickup)
	157:	7	0 to 14	Pickup timing adjustment
	158:-164:			Not used
	165:	0	0 to 3	Fixing auto cleaning frequency setting
	166:	7	0 to 14	Temperature adjustment UP/DOWN mode (Plain paper, manual feed tray)
	167: 172:			Not used
	173:	7	0 to 14	Temperature adjustment UP/DOWN mode (2nd page of double-sided printing)
	174:	0	0 to 1	Reduction in FCOT
	175:-177:			Not used
	178:	1	0 to 1	Not used
	179:	7	0 to 14	Temperature adjustment UP/DOWN mode (Envelop/Postcard)
	180:	7	0 to 14	Temperature adjustment UP/DOWN mode (Special mode N)

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Item1	Item2	Item3	Default	Setting range	Function
#PRINT CST	CAS1	CAS1-U1	0	26: OFI, 27: E-OFI, 37: M-OFI, 36: A-OFI, 24: FLSP, 25: A-FLSP, 30: A-LTRR, 42: FA4, 34: G-LGL 0: default	Cassette 1paper size group special, standard-size paper entry
		CAS1-U2	0	32: G-LTR-R, 34: G-LGL, 23: K-LGL-R, 0: default	
		CAS1-U3	0	22: K-LGL, 31: G-LTR, 29: A-LTR, 0: default	
		CAS1-U4	0	28: B-OFI, 0: default	
	CAS2	CAS2-U1	0	26: OFI, 27: E-OFI, 37: M-OFI, 36: A-OFI, 24: FLSP, 25: A-FLSP, 30: A-LTRR, 42: FA4, 34: G-LGL 0: default	Cassette 2 paper size group special, standard-size paper entry
		CAS2-U2	0	32: G-LTR-R, 34: G-LGL, 23: K-LGL-R, 0: default	
		CAS2-U3	0	22: K-LGL, 31: G-LTR, 29: A-LTR, 0: default	
		CAS2-U4	0	28: B-OFI, 0: default	
	CAS3	CAS3-U1	0	26: OFI, 27: E-OFI, 37: M-OFI, 36: A-OFI, 24: FLSP, 25: A-FLSP, 30: A-LTRR, 42: FA4, 34: G-LGL 0: default	Cassette 3paper size group special, standard-size paper entry
		CAS3-U2	0	32: G-LTR-R, 34: G-LGL, 23: K-LGL-R, 0: default	
		CAS3-U3	0	22: K-LGL, 31: G-LTR, 29: A-LTR, 0: default	
		CAS3-U4	0	28: B-OFI, 0: default	
	CAS4	CAS4-U1	0	26: OFI, 27: E-OFI, 37: M-OFI, 36: A-OFI, 24: FLSP, 25: A-FLSP, 30: A-LTRR, 42: FA4, 34: G-LGL 0: default	Cassette 4 paper size group special, standard-size paper entry
		CAS4-U2	0	32: G-LTR-R, 34: G-LGL, 23: K-LGL-R, 0: default	
		CAS4-U3	0	22: K-LGL, 31: G-LTR, 29: A-LTR, 0: default	
		CAS4-U4	0	28: B-OFI, 0: default	

T-8-36

■ Service Soft Switch Settings (PRINTER)

● SSSW-SW14

List of Functions

Bit	Function	1	0
0	Transfer bias pressure reduction mode	Enable	Disable
1	not used	–	–
2	Black belt addition mode	Enable	Disable
3	Post-rotation reduction mode	Enable	Disable
4	Flicker reduction mode	Enable	Disable

Bit	Function	1	0
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-37

Detailed Discussions of Bit 0
Select whether to enable or disable transfer bias pressure reduction mode.
Select "Enable" to avoid image defects (black spots) produced by transfer bias leaks occurring in a low-pressure region, such as one at a high altitude. This setting regulates the transfer bias to keep it from exceeding a predetermined level during printing.

Detailed Discussions of Bit 2
Select whether to enable or disable black belt addition mode. If the user uses paper that causes fixed toner on paper to be fused and adhered to drum, selecting "Yes" will clean the drum by forming a black band on the drum surface during the reverse rotation which is performed after printing on 50 sheets.

Caution:
Implementation of this mode could result in a drum life falling short of its life expectancy.

Detailed Discussions of Bit 3
Select whether to enable or disable post-rotation reduction mode. Selecting "Enable" will reduce the noise caused by the polygon motor by stopping the motor immediately after post-rotation.

Discussions of Bit 4
Select whether to enable or disable flicker reduction mode. Select "Enable" and enter a count to modify fusing temperature control to cancel fluorescent flicking during printing.

Caution:
Implementation of this mode would degrade the throughput.

SSSW-SW18

List of Functions

Bit	Function	1	0
0	not used	-	-
1	not used	-	-
2	Thin postcard mode	Enable	Disable
3	not used	-	-
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	not used	-	-

T-8-38

Detailed Discussions of Bit 2
When the postcard size is selected, "Thin postcard" can be selected in addition to "Postcard", "Return postcard", and "4 on 1card". Selecting "Enable" allows you to specify "Thin postcard".

List of Functions

<034: Left-end registration adjustment (manual feed tray)>

Adjust the left-end registration margin of paper picked from a manual feed tray. The larger the adjustment value, the wider the left-end margin of the image becomes.

<035: Left-end registration adjustment (cassette 1)>

Adjust the left-end registration margin of paper picked from cassette 1. The larger the adjustment value, the wider the left-end margin of the image becomes.

<036: Left-end registration adjustment (cassette 2)>

Adjust the left-end registration margin of paper picked from cassette 2. The larger the adjustment value, the wider the left-end margin of the image becomes.

<037: Left-end registration adjustment (cassette 3)>

Adjust the left-end registration margin of paper picked from cassette 3. The larger the adjustment value, the wider the left-end margin of the image becomes.

<038: Left-end registration adjustment (cassette 4)>

Adjust the left-end registration margin of paper picked from cassette 4. The larger the adjustment value, the wider the left-end margin of the image becomes.

<053: Margin adjustment at the leading edge of the copy>

Adjust the margin at the leading edge of the copy. Increasing the value makes the margin at the leading edge larger.

<054: Margin adjustment at the trailing edge of the copy>

Adjust the margin at the trailing edge of the copy. Increasing the value makes the margin at the trailing edge larger.

<055: Margin adjustment at the right edge of the copy>

Adjust the margin at the right edge of the copy. Increasing the value makes the margin at the right edge larger.

<056: Margin adjustment at the left edge of the copy>

Adjust the margin at the left edge of the copy. Increasing the value makes the margin at the left edge larger.

<058: Adjustment of the registration loop volume (Manual feed tray)>

If there is a registration loop noise and abrasion while feeding the paper from the manual feed tray, registration loop noise and abrasion could be reduced by adjusting the volume of the registration loop. By making the value larger, loop volume will become bigger.

<059: Adjustment of the registration loop volume. (Cassette)>

If there is a registration loop noise and abrasion while feeding the paper from the cassette, registration loop noise and abrasion could be reduced by adjusting the volume of the registration loop. By making the value larger, loop volume will become bigger.

<061: Adjustment of the registration loop volume. (Duplex unit)>

If there is a registration loop noise and abrasion while feeding the paper from the duplex unit, registration loop noise and abrasion could be reduced by adjusting the volume of the registration loop. By making the value larger, loop volume will become bigger.

<062:Temperature adjustment UP/DOWN mode. (For plain paper)>

The temperature adjustment offset relative to the target fixing temperature of plain paper can be changed in steps of 3˚C. Use this parameter when the fixing performance is low or when it is necessary to prevent the paper from slipping or being curled.
Plain paper: Plain paper mode, thin paper mode, S thin paper mode, OHP mode
0 - 2: +15˚C
3 - 11: +12 to -15˚C (in steps of 3˚C)
12- 14: -15˚C

<063: Temperature adjustment UP/DOWN mode. (For rough paper)>

The temperature adjustment offset relative to the target fixing temperature of thick paper can be changed in steps of 3˚C. Use this parameter when the fixing performance is low or when it is necessary to prevent the paper from slipping or being curled.
Thick paper: Thick paper mode, thick paper H mode, bond mode
0 - 2: +15˚C
3 - 11: +12 to -15˚C (in steps of 3˚C)
12 - 14: -15˚C

<064: Mode for preventing the temperature rise of the end>

User this parameter to reduce the frequency of entering the throughput down mode, suppress edge temperature rise, or prevent soiling due to the high temperature offset.
Add/subtract the threshold of the difference in detection temperature between the sub thermistor 1 (2) that starts the full speed operation of the end cooling fan and the sub thermistor 1 (2) that starts the down sequence to/from default threshold temperature.
0 - 4: +20 to -20˚C (in steps of 10˚C)

<065: Mode for reducing sand image>

Set when sand image *1 has occurred on the print image.
Restraining the scatter of the toner by increasing the electric current of the AC electrification; the sand image could be reduced.
Sand image *1: Multiple black dots and white dots appear on half tone. Or multiple black dots appear on white background.
0: Normal.
1 to 3: Reducing mode. (Same operation to set 1 to 3)
2: Make the print density lower. Set the initial rotation time for fixing to 3 seconds. Does not do it if the initial rotation elongation time has been set to 3 seconds or longer in another service mode.

<066: Temperature/ Humidity sensor fixed mode>

Changing to high-pressure environment by using the temperature/ humidity sensor. But when there is an image trouble at the point of changing the environment,
fix the temperature and the humidity and do not allow the change of the high-pressure output.
0: Normal
1: Fixed environment of LL. (Temperature of 18 deg C and humidity of 20%)
2. Fixed environment of NN. (Temperature of 18-28 deg C and humidity of 20-75%)

3. Fixed environment of HH. (Temperature of 28 deg C and humidity of 80%)
2: Make the print density lower. Set the forward rotation time for fixing to 3 seconds. Does not do it if the forward rotation elongation time has been set to 3 seconds or longer in another service mode.

<136: Adjustment of the point to start writing in laser's main scanning direction (A)>

When replacing the laser unit, enter the unit-specific delay value shown on the label affixed to the unit.

<140: Left-end registration adjustment (double-sided small) >

Adjust the left-end registration margin needed when the duplex feeding unit picks up paper (small paper). Incrementing the value by 1 increases the left-end margin of the image by 0.1 mm.

<141: Left-end registration adjustment (double-sided large)>

Adjust the left-end registration margin needed when the duplex feeding unit picks up paper (large paper). Incrementing the value by 1 increases the left-end margin of the image by 0.1 mm.

<142: Adjustment of margin at leading edge at normal speed (230mm/sec)>

Adjust the margin at the leading edge (registration roller clutch ON timing) at normal speed. Adjust the leading-edge registration margin needed at pickup. Increasing the value makes the margin at the leading edge of the copy larger.

<143: Adjustment of margin at leading edge at half speed (137mm/sec)>

Adjust the margin at the leading edge (registration roller clutch ON timing) at half speed. Adjust the leading-edge registration margin needed at pickup (large paper). Increasing the value makes the margin at the leading edge of the copy larger.
*This mode is effective only when paper is fed from the manual feed tray of iR2545/2535.

<144: Laser trail edge OFF adjustment>

Laser trail edge OFF adjustment (input only).

<145: Adjustment of the magnification to write image in laser's main scanning direction (A-B)>

Magnification between lasers A and B
Amount of adjustment of the magnification of laser B of the laser scanner unit. Adjust the magnification of laser B with reference to that of laser A. If the input value is inappropriate, the image quality is degraded.

<146: Adjustment of the magnification to write image in laser's main scanning direction (A-C)>

Magnification between lasers A and C
Amount of adjustment of the magnification of laser D of the laser scanner unit. Adjust the magnification of laser C with reference to that of laser A. If the input value is inappropriate, the image quality is degraded.

<147: Magnification between lasers A and D>

Magnification between lasers A and D
Amount of adjustment of the magnification of laser C of the laser scanner unit. Adjust the magnification of laser D with reference to that of laser A. If the input value is inappropriate, the image quality is degraded.

<148: Adjustment of the point to start writing in main scanning direction (A-B)>

When replacing the laser, enter the delay value (laser main scanning adjustment).

<149: Adjustment of the point to start writing in main scanning direction (A-C)>

When replacing the laser, enter the delay value (laser main scanning adjustment).

<150: Adjustment of the point to start writing in main scanning direction (A-D)>

When replacing the laser, enter the delay value (laser main scanning adjustment).

<151: Developing bias offset for DC>

Enter the developing bias offset for DC.
When a fault in image occurs (foggy image or light density), enter the developing bias offset for DC. Increasing the value makes the image darker.

<152: Primary charge offset for DC>
Enter the value to adjust the primary offset 1 for DC.

<153: Primary charge offset for AC>
Enter the value to adjust the primary offset 1 for AC.

<154: Adjustment of the registration loop volume (Thick paper)>
Incrementing the value by 1 feeds the paper 0.1 mm further and increases the registration loop volume.

<155: Adjustment of the registration loop volume (Special paper)>
Incrementing the value by 1 feeds the paper 0.1 mm further and increases the registration loop volume.

<156: Adjustment of the registration loop volume (Envelop cassette pickup)>
Incrementing the value by 1 feeds the paper 0.1 mm further and increases the registration loop volume.

<157: Pickup timing adjustment>
This setting is applied to the pickup permission temperature at job start irrespective of the fixing mode. The pickup permission temperature is raised or lowered from the default temperature according to the setting value.
Use this parameter to reduce the FCOT or warm-up time.
0 - 2˚C+15˚C
3 - 11: 12 to -15˚C (in steps of 3˚C)
12 - 14: -15˚C

<165: Fixing auto cleaning frequency setting>
Use this parameter to increase the fixing auto cleaning frequency. Incrementing the value increases the fixing auto cleaning frequency.
Add the threshold of the difference in detection temperature between the main thermistor (that triggers fixing auto cleaning) and the sub thermistor 1 (2) to the default threshold.
0 - 3: 0 - +15˚C (in steps of 5˚C)
*Set "Fixing auto cleaning setting" (#PRINT> BitSwitch 178) to 1 (= ON).

<166: Temperature adjustment UP/DOWN mode (Plain paper, manual feed tray)>
The temperature adjustment offset relative to the target fixing temperature of plain paper fed from the manual feed paper can be changed in steps of 3˚C. Use this parameter when the fixing performance is low or when it is necessary to prevent the paper from slipping or being curled.
Plain paper: Plain paper mode, thin paper mode, S thin paper mode, OHP mode
0 - 2: +15˚C
3 - 11: 12 to -15˚C (in steps of 3˚C)
12 - 14: -15˚C

<173: Temperature adjustment UP/DOWN mode (2nd page of double-sided printing)>
The temperature adjustment offset relative to the target fixing temperature of the second page of double-sided printing can be changed in steps of 3˚C. Use this parameter when the fixing performance is low or when it is necessary to prevent the paper from slipping or being curled.
Plain paper: Plain paper mode, thin paper mode, S thin paper mode, OHP mode
0 - 2: +15˚C
3 - 11: 12 to -15˚C (in steps of 3˚C)
12 - 14: -15˚C

<174: Reduction in FCOT>
Set the pickup permission temperature (temperature adjustment for the fist page of printing) to -40˚C before fixing.
Use this parameter to reduce the FCOT.
0:OFF
1:ON

<178: Fixing auto cleaning setting >
Set this parameter to determine whether to perform fixing auto cleaning.

<179: Temperature adjustment UP/DOWN mode (Envelop/Postcard)>
The temperature adjustment offset relative to the target fixing temperature of the envelope/postcard can be changed in steps of 3˚C. Use this parameter when the fixing performance is low or when it is necessary to prevent the paper from slipping or being curled.
Envelop/postcard: Postcard mode, S postcard mode, Envelop mode
0 - 2: +15˚C

3 - 11: 12 to -15˚C (in steps of 3˚C)
12 - 14: -15˚C

● <180: Temperature adjustment UP/DOWN mode (Special mode N)>

The temperature adjustment offset relative to the target temperature of fixing in special mode N can be changed in steps of 3˚C. Use this parameter when the fixing performance is low or when it is necessary to prevent the paper from slipping or being curled.
0 - 2: +15˚C
3 - 11: 12 to -15˚C (in steps of 3˚C)
12 - 14: -15˚C

■ List of Functions(PRINT CST)

● <#CST> CAS1> CAS1-U1>,<#CST> CAS2> CAS1-U1>,<#CST> CAS3> CAS1-U1>,<#CST> CAS4> CAS1-U1>

Setting of paper name used for paper size group 'U1'

When setting the following special size paper for U1, U2, U3, and U4 which are specified for the paper name to be used in paper size group, it becomes possible to treat the paper size in U1, U2, U3, and U4 as special size paper in universal size cassettes.
Settings 26: OFI, 27: E-OFI, 37: M-OFI, 36: A-OFI, 24: FLSP, 25: A-FLSP, 30: A-LTRR, 42: FA4, 34: G-LGL 0: default

● <#CST> CAS1> CAS1-U2>,<#CST> CAS2> CAS1-U2>,<#CST> CAS3> CAS1-U2>,<#CST> CAS4> CAS1-U2>

Setting of paper name used for paper size group 'U2'

When setting the following special size paper for U1, U2, U3, and U4 which are specified for the paper name to be used in paper size group, it becomes possible to treat the paper size in U1, U2, U3, and U4 as special size paper in universal size cassettes.
Settings 32: G-LTR-R, 34: G-LGL, 23: K-LGL-R, 0: default

● <#CST> CAS1> CAS1-U3>,<#CST> CAS2> CAS1-U3>,<#CST> CAS3> CAS1-U3>,<#CST> CAS4> CAS1-U3>

Setting of paper name used for paper size group 'U3'

When setting the following special size paper for U1, U2, U3, and U4 which are specified for the paper name to be used in paper size group, it becomes possible to treat the paper size in U1, U2, U3, and U4 as special size paper in universal size cassettes.
Settings 22: K-LGL, 31: G-LTR, 29: A-LTR, 0: default

● <#CST> CAS1> CAS1-U4>,<#CST> CAS2> CAS1-U4>,<#CST> CAS3> CAS1-U4>,<#CST> CAS4> CAS1-U4>

Setting of paper name used for paper size group 'U4'

When setting the following special size paper for U1, U2, U3, and U4 which are specified for the paper name to be used in paper size group, it becomes possible to treat the paper size in U1, U2, U3, and U4 as special size paper in universal size cassettes.
Settings 228: B-OFI, 0: defaul

#NETWORK

Confirmation of contents of CA certificate

Selecting the service mode "#NETWORK>#CERTIFICATE>#CA-CERTIFICATE" enables confirmation of the contents of the installed CA certificate.

#CODEC

Configuration

Item	No.	Default	Setting range	Description
#BitSwitch	SW01- SW09			Not used
#Numeric	01: - 05:			Not used
	06:	2	0-3	Control of attribute flag addition function at reception and printing of color JPEG or E-mail image
	07:	4	1-7	Adjustment of black color recognition level at black text processing
	08: - 50:			Not used

T-8-39

Details

06: Control of attribute flag addition function at reception and printing of color JPEG or E-mail image

Set the type of the attribute flag to be added at reception of a color JPEG or E-mail image.

0: For PDL_text mode

1: For PDL_photo mode

2: For scan_text mode

3: For scan_photo mode

07: Adjustment of black color recognition level at black text processing

Adjust the black color recognition level at black text processing. To improve chanses that the text color is judged as black, increase the setting value.

#SYSTEM

Configuration

Item	No.	Default	Description
#SYSTEM SW	SW01- SW04		Not used
	SW05	11001000	Inhibition of export of password in address book
	SW06- SW09		Not used
	SW10	00000000	PS data protocol menu display/nondisplay Extra length setting
	SW11 - SW50		Not used

T-8-40

Item	No.	Default	Setting range	Description
#SYSTEM NUMERIC	01: - 38:			Not used
	39:	4	0-5	Change of default of LDAP advanced search condition
	40:	1	0 or 1	eLA card touch sound
	41:	0	0-60	PS mode 1 (8bit)
	42:	0	0-60	PS mode 2 (8bit)
	43: - 56:			Not used
	57:	0	0-4	Setting of paper size group
	58: - 100:			Not used

T-8-41

Details of Bit Switch

SW05

List of Functions

Bit	Function	1	0
0		-	-
1		-	-
2		-	-
3		-	-
4		-	-
5		-	-
6		-	-
7	Inhibition of export of password in address book	Inhibited	Not inhibited

T-8-42

- Detailed Discussions of Bit 7
  Select whether to inhibit export of the password in the address book.

SW10

List of Functions

Bit	Function	1	0
0	PS data protocol menu display/nondisplay	Display	Nondisplay
1	Extra length setting	ON	OFF
2		-	-
3		-	-
4		-	-
5		-	-
6		-	-
7		-	-

T-8-43

- Detailed Discussions of Bit 0
  Select whether to inhibit export of the password in the address book.

- Detailed Discussions of Bit 1
  Select whether to set the extra length (expand the user-defined size range).

Details of System Numeric

39: Change of default of LDAP advanced search condition

Change of the default of the LDAP advanced search condition can be set.

40: eLA card touch sound

The eLA card touch sound can be set.

41: PS mode 1(8bit)

The PS mode 1 (8bit) can be set.

42: ePS mode 1(8bit)

The PS mde 2 (8bit) can be set.

57: Setting of paper size group

A paper size group can be set.
1: AB (PAPER_SIZE_GROUP_AB)
2: A (PAPER_SIZE_GROUP_A)
3: INCH (PAPER_SIZE_GROUP_INCH)
4: AB/INCH (PAPER_SIZE_GROUP_AB_INCH)
Initialization takes place when the following service mode is executed:
(CLEAR>ALL, TYPE, SERVICE DATA, TEL & USER DATA)

#ACC

Configuration

The table below gives summary description of the accessories available.

Item1	Item2	Explanation
#ACC	CARD	Card reader installation setting Enter a card number to use. (0 to 9999. One hundred cards are registered with the department ID beginning from the input card number in sequence.) *1:1,000 cards if option ROM is mounted. When a card number is entered, the following kinds of management information are initialized: - Card name (department ID), beginning from the input card number. - Password associated with the card
	CC-SPSW	Control card I/F support setting Set whether to support the control card I/F (CC-V) or not. 0: Do not support. 1: Support.
	COIN	Coin vendor change Set the control card set display appearing on the operator station for vendor use. 0: Control card use 1: Coin vendor use
	CONTROL	Set the PDL printer output control where the control card I/F (CC-V) is supported. 0: Enable printing without a card mounted. 1: Enable printing with a card mounted in position.

T-8-44

#COUNTER

Counters

This copier is furnished with a maintenance/supplies counter set (DRBL-1), which can be used to gain rough measures of when to replace supplies. The counter set increments by one on counting each sheet of small-sized paper (up to A4/LTR) and by two on counting each sheet of large-sized paper (larger than A4/LTR).

Maintenance counter list

Item	Counter	Explanation
TOTAL (Total counter)	SERVICE1	Service total counter 1
	SERVICE2	Service total counter 2
	TTL	Total counter
	COPY	Total copy counter
	PDL-PRT	PDL print counter
	FAX-PRT	Fax print counter
	MEDIA-PRT	Media print counter
	RPT-PRT	Report print counter
	2-SIDE	Double-sided copy/print counter
	SCAN	Scan counter
PICK-UP (Paper pickup counter)	C1	Cassette 1 jam counter
	C2	Cassette 2 jam counter
	C3	Cassette 3 jam counter
	C4	Cassette 4 jam counter
	MF	Manual feed tray pickup total counter
	2-SIDE	Double-sided paper pickup total counter
FEEDER (Feeder related counters)	FEED	Feeder pickup total counter
	DFOP-CNT	ADF open/close hinge counter
SORTER (Finisher related counters)	SORT	Finisher sort path counter
	SADDLE	Finisher saddle operation counter
	SDL-STPL	Finisher saddle staple operation counter
JAM (Jam counters)	TTL	Unit total jam count
	FEEDER	Feeder total jam count
	SORTER	Finisher total jam count
	2-SIDE	Duplex unit jam counter
	MF	Manual feed tray jam counter
	C1	Cassette 1 jam counter
	C2	Cassette 2 jam counter
	C3	Cassette 3 jam counter
	C4	Cassette 4 jam counter
MISC (Other required counter)	WST-TNR	Waste toner counter

T-8-45

Parts counter list

Item	Counter	Explanation	Service life
DRBL-1 (Unit supplies)	TR-ROLL	Transfer roller high-voltage ON count	150,000
	SP_SC_EL	Separation static charge eliminator high-voltage ON count	150,000
	DV-UNT-C	Developing assembly rotation count	500,000
	M-PU-RL	Manual feed tray pickup roller paper pass count	150,000
	M-SP-PD	Manual tray separation pad paper pass count	150,000
	FX-UNIT	Fixing assembly paper pass count	iR2545/2535: 240,000 iR2530/2525/2520: 150,000"
	PT-DRM	Photosensitive drum rotation count	
	WST-TNR	Waste toner count	80,000
	C1-PU-RL	Cassette1 pickup roller paper pass count	250-sheet 1st cassette type: 150,000 250-sheet 1st cassette type: 120,000
	C2-PU-RL	Cassette2 pickup roller paper pass count	150,000
	C1-SP-RL	Cassette1 separation roller paper pass count	120,000
	C1-SP-PD	Cassette1 separation pad paper pass count	120,000 (250-sheet 1st cassette type only)
	C2-SP-RL	Cassette2 separation roller paper pass count	120,000
	OZ-FIL1	not used	-
DRBL-2 (Unit supplies)	DF-PU-RL	ADF pickup roller paper pass count	80,000
	DF-SP-PD	ADF separation pad paper pass count	80,000
	C3-PU-RL	Cassette3 pickup roller paper pass count	120,000
	C4-PU-RL	Cassette4 pickup roller paper pass count	120,000
	C3-SP-RL	Cassette3 separation roller paper pass count	120,000
	C4-SP-RL	Cassette4 separation roller paper pass count	120,000
	FIN-STPR	Stapler assembly drive count	500,000

T-8-46

Clearing Counters

- Maintenance/parts counter all clear
  Execute service mode > CLEAR > COUNTER to clear all maintenance/parts counters.

- Counter clear on parts replacement
  Press the numeric keypad key 0 after displaying the counter for a part just replaced, and the counter will be cleared individually.

#LMS

Configuration

Group	Item	Default	Setting range	Description
INACTIVE	ST-SEND	0	0 - 1	To display installation state of SEND function when transfer is displayed.
	TR-SEND			The 24 digits of license transfer numbers are displayed.
	ST-BRDIM	0	0 - 1	To display installation state of BarDIMM when transfer is disabled.
	TR-BRDIM			The 24 digits of license transfer numbers are displayed.
	ST-ERDS	0	0 - 1	To display installation state of third party expansion function of E-RDS when transfer is disabled.
	TR-ERDS			The 24 digits of license transfer numbers are displayed.
	ST-PCL	0	0 - 1	To display installation state of PCL function when transfer is disabled.
	TR-PCL			The 24 digits of license transfer numbers are displayed.
	ST-EAM	0	0 - 1	To display installation state of EAM function when transfer is disabled.
	TR-EAM			The 24 digits of license transfer numbers are displayed.
	ST-ELA	0	0 - 1	To display installation state of ELA function when transfer is disabled.
	TR-ELA			The 24 digits of license transfer numbers are displayed.
	ST-SPDF	0	0 - 1	To display installation state of transmission function for SEND searchable PDF when transfer is disabled.
	TR-SPDF			The 24 digits of license transfer numbers are displayed.
	ST-PS	0	0 - 1	To display installation state of PS function when transfer is disabled
	TR-PS			The 24 digits of license transfer numbers are displayed.
ERASE	SEND	0	0 - 1	To display installation state of SEND function when non-transfer is displayed.
	BRDIM	0	0 - 1	To display installation state of BarDIMM when non-transfer is disabled.
	ERDS	0	0 - 1	To display installation state of third party expansion function of E-RDS when non-transfer is disabled.
	PCL	0	0 - 1	To display installation state of PCL function when non-transfer is disabled.
	EAM	0	0 - 1	To display installation state of EAM function when non-transfer is disabled.
	ELA	0	0 - 1	To display installation state of ELA function when non-transfer is disabled.
	SPDF	0	0 - 1	To display installation state of transmission function for SEND searchable PDF when non-transfer is disabled.
	PS	0	0 - 1	To display installation state of PS function when non-transfer is disabled

T-8-47

Outline

1. Validate an optional function which has been installed but has not been validated based on the license key issued by a license issue server (hereinafter called "LMS").

2. Invalidate the function for which a license has been already set up.

Details

1. Validate a license by entering the license issued by LMS via the local UI.

2. The license key issued by LMS cannot be entered via the remote UI.

3. Invalidate a license (Set the function to OFF) via the service mode.

4. Validate a license via the service mode.

5. A license with restriction (with an expiration date, restriction in the number of licenses) is not supported. (Restriction information is not read.)

6. Some optional functions installed are in dependent relationship with each other. For example, when using [Function A], [Function B] should be available. In this case, [Function

B] is called a slave option of [Function A]. Installation of the slave option fails when it is found that the master option is not validated as a result of verification of the dependent relationship.

7. Decoding and verifying a license key
Decode an entered license key and examine the validity of the license information obtained. When an error occurs during verification, the error information is sent back to the local UI, which displays an error message based on the information.Verification errors are assumed to occur in the following cases.
- When a license is installed in a non-licensed device
- When an optional function included in the license does not exist in the target device
- When an optional function included in the license is a slave option and a master option is not validated
- When an incorrect license key is entered
- When a license key is illegally altered

Method of confirming license option

Confirmation could be made whether the license option is active or not in the SACTIBAT FUNCTION item by outputting the SPEC REPORT from the service mode.

Output method:

(1) Enter the service mode.
Push [Additional Functions] Key > push 2, 8 Key > push [Additional Functions] Key.
(2) Push cursors, and display [#REPORT].
Then press [OK].
(3) Push cursors, and display [#REPORT OUT PUT].
Then press [OK].
(4) Push cursors, and display [#SPEC LIST].
Then press [OK]. The 'SPEC REPORT' will be printed out.
(5) Check the items displayed under ACTIBAT FUNCTION in SPEC REPORT.
ACTIBAT FUNCTION >
- BW-SEND
- CL-SEND
Items for which ON/ON is displayed are validated.

A license option confirmation example

To check the validation of license option, see the SPEC REPORT. The details according to the list shown below.

Item Name	License Name	Status/Optional Setting
Color Universal SEND KIT	BW-SEND	ON/ON
	CL-SEND	ON/ON

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Inactivity of the transmitted license

Inactivity of the transmitted license

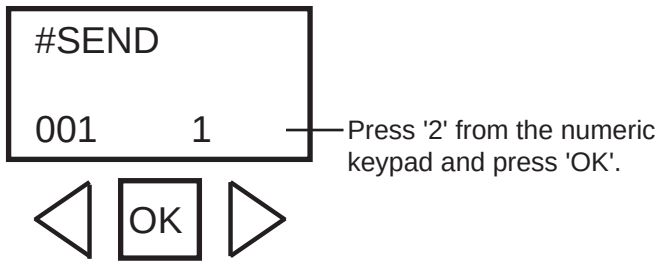
Situation of using this service mode

This service mode is used to invalidate a license under the assumption that, when a device is exceptionally replaced with another one due to a trouble (caused by the device), the license is transferred to another device. This operation is called "invalidating transfer of a license". Since it is possible to select the same device as a destination of the transfer, this service mode can be also used to invalidate a function on a temporary basis. Careful attention, however, is required because, if you invalidate a function by mistake, you need to contact a sales company for recovery.

Take utmost precaution when inactivating the license

When invalidating transfer of a license, it is necessary to invalidate the license by entering the service mode and issue a function invalidation certificate key, which certifies that the license has been invalidated. This operation can be executed for each optional function. At the point when a function invalidation certificate key is issued, the function is invalidated and becomes unavailable. When you report this function invalidation certificate key, the serial number of the transfer origination device, the serial number of the transfer destination device, and the reason why you need to perform the transfer to a sales company, a new license key is issued for installation for the transfer destination device. Be sure to write down the new license key when you receive it and, when it is registered in the transfer destination device successfully, inform the user of the new license key and explain him/her to keep it at hand.

Operation Procedure
(1) Enter the service mode and display the following service mode. (Press one key at once to enter the service mode in the order of "Main, 2, 8, Main".)
When you have entered the service mode, use the left and right arrow keys to display items,and press the OK key to fix the setting.
(2) Display [#LMS].
(3) Press the OK key and display [#LMS INACTIVE].
(4) Display [ST-SEND].
(5) Press the OK key.



F-8-3

(6) Press 2 using the numeric key and press the OK key.

⚠

The 24 digits of license transfer numbers are displayed, so you take the memo.

Because it cannot maintain the number displaying with the thing of this place limit.

If you do not take the memo, the indication contents are not held when you do OFF of the main power, it is impossible for license transfer.

Even if you push the reset key and clear the indication, the indication is never display again.

License transfer example:

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(7) Turn OFF/ON the power of the main unit.

For Reference:

When a license option is displayed in Procedure (4), 001 1 is displayed. The last "1" shows that the license is validated by license authentication.

After the license is transferred, the last number is changed to "2".

When the option is standard, the last number shows "3" which means disable for license transfer.

Details about the last number:

1: The function is validated.

2: The function is invalidated, or the license is transferred.

3: The function is invalidated, or the license does not exist.

(8) When you contact the contact section of the sales company and report a function invalidation certificate key required for license transfer, the serial number of the transfer origination device, and the serial number of the transfer destination device, a new license key that can be registered to the transfer destination device is issued.

(9) Register the new license key to the transfer destination device and make sure that the function is validated.

Erasing a License

Erasing a License

When you invalidate a license option on a temporary basis or when you do not use it for a long period of time, you can invalidate the function by erasing the license.

The license can be validated by registering the license number again.

Procedure to erase a license

You can erase a license by entering the service mode.

Operation Procedure:

(1) Enter the service mode and display the following service mode.
When you have entered the service mode, use the right and left arrow keys to display items,and press the OK key to fix the setting.

(2) Display [#LMS].

(3) Press the OK key and display [#LMS ERASE].

(4) Display [SEND].

(5) Press the OK key.

(6) Turn OFF/ON the power of the main unit.

For Reference:

There is no function to display the license registration numbers in the main unit. Therefore, when there is a possibility to restore the license after erasing it, make sure that a user has written down the license registration number.

When a license option is displayed in Procedure (4), 001 1 is displayed. The last "1" shows that the license is validated by license authentication.
After the license is erased, the last number is changed to "2".

When the option is standard, the last number shows "3" which means disable for license transfer.
Details about the last number:
1: The function is validated.
2: The function is invalidated, or a license is transferred.
3: The function is invalidated, or the license does not exist.

#E-RDS

Configuration

Settings related to e-RDS are described below.

Item	Default	Setting range	Description
E-RDS SWITCH	0	0 or 1	e-RDS OFF/ON setting (0:OFF / 1:ON)When used (ON), the counter information and error information are sent to UGW.Default: 0 (OFF)
RGW-ADDRESS	URL of UGW	Character string length:129byte (including NULL, one-byte codes only)	URL of UGWDefault: URL of actual UGWCharacter string length: 129 bytes (including NULL, one-byte codes only)
RGW-PORT	443	1-65535	Port No. of UGW Default: 443Setting range: 1 to 65535
CNT-DATE			Setting of the date of sending the counter information to the server (Valid after input of license). Set the start date of the schedule to send the counter information to the server using a third party expansion function of E-RDS. Refer to the user mode date setting. (12 digits: YYYYMMDDHHMM) YYYY: Year MM: Month DD: Day HH: Hour MM: Minute
CNT-INTV	24	1-168 (on a weekly basis)	Setting of the interval of sending the counter information to the server (Valid after input of license). Set the interval of sending the counter information to the server using a third party expansion function of E-RDS.
COM-TEST			Execution of communication test An attempt is made to connect to UGW, judges whether connection is successful, and displays "COM-TEST OK" or "COMTEST NG" as the judgment result.
COM-LOG			Details of communication test result. The log of errors in communication with UGW is displayed. The error information includes the error occurrence time, error code, and details of the error.Maximum log count: 5Error information length: Max. 128 characters (excluding NULL)
SCALLCMP			Repair completion process (call button function) Used when the service personnel has completed the requested repair.

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#REPORT

Configuration

The table below lists the kinds of reports that are supported.

Item	Explanation
SERVICE DATA LIST	"Service mode service soft switch output (SSSW, MENU, NUMERIC Param., SPECIAL, NCU, SCAN, PRINT, SYSTEM, ROM, start date)"
SYSTEM DATA LIST	"Service mode service soft switch output (SSSW, MENU, NUMERIC Param., SPECIAL, NCU, SCAN, PRINT, SYSTEM, ROM, start date) System dump list output"
SYSTEM DUMP LIST	Transmission count, reception count, record chart count, error count and other outputs
COUNTER LIST	Counter output
ERROR LOG LIST	Jam and error history output
SPEC LIST	Type setting, print speed, memory size, ROM indication, adjustment data and other outputs
SERVICE LABEL	Output of an entry format for the service label affixed to the rear cover as shipped
ERDS COM LOG LIST	Output of communication error log information related to e-RDS

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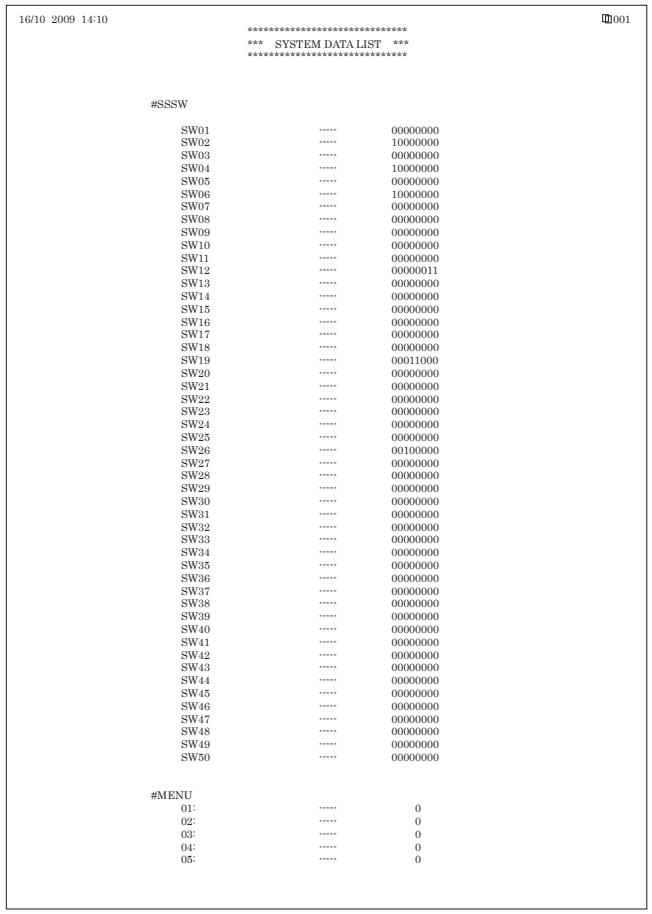
Details

System Data List

Use it to check the settings associated with the service soft switch and service parameters.



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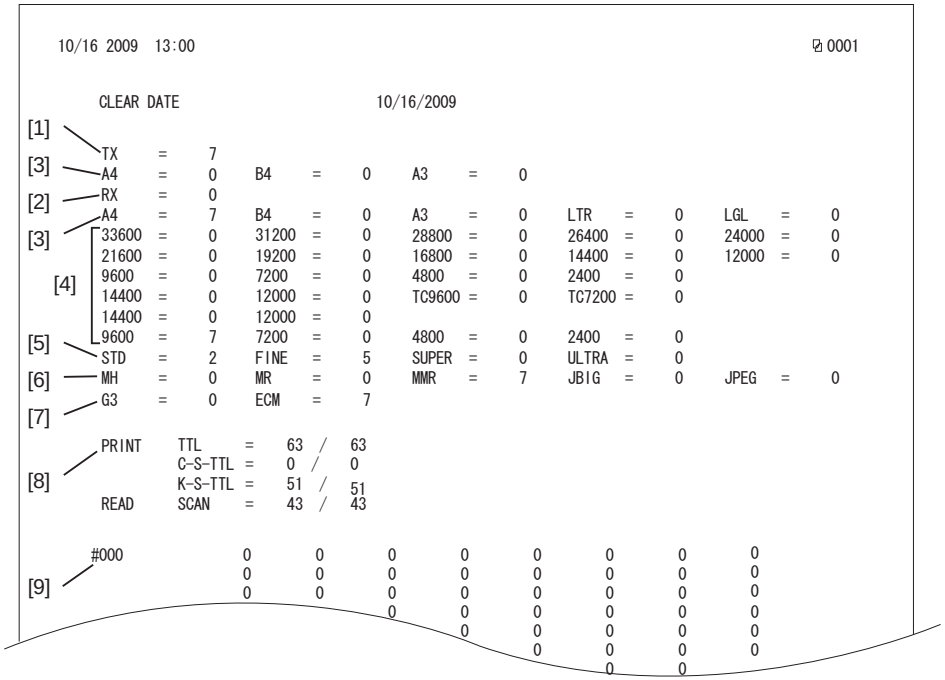
System Dump List

Use it to check the history of communications, both successful and error.



F-8-6

*1: TX, number of total pages transmission.
*2: Total number of pages transmitted/received according to original size.
*3: RX, number of total pages reception.
*4: Total number of pages transmitted and received for each modem speed.
*5: Total number of pages transmitted/received in connection with different modem speeds (Standard, Fine, Super Fine, Ultra Fine).
*6: Total number of pages transmitted and received for each coding method.
*7: Total number of pages transmitted and received in each mode.
*8: Total number of pages printed/scanned.
*9: Total number of occurrences for error code.

- Indication sample

##280	1	7	3	0	0
	##280number of errors	##280number of errors	##280number of errors		

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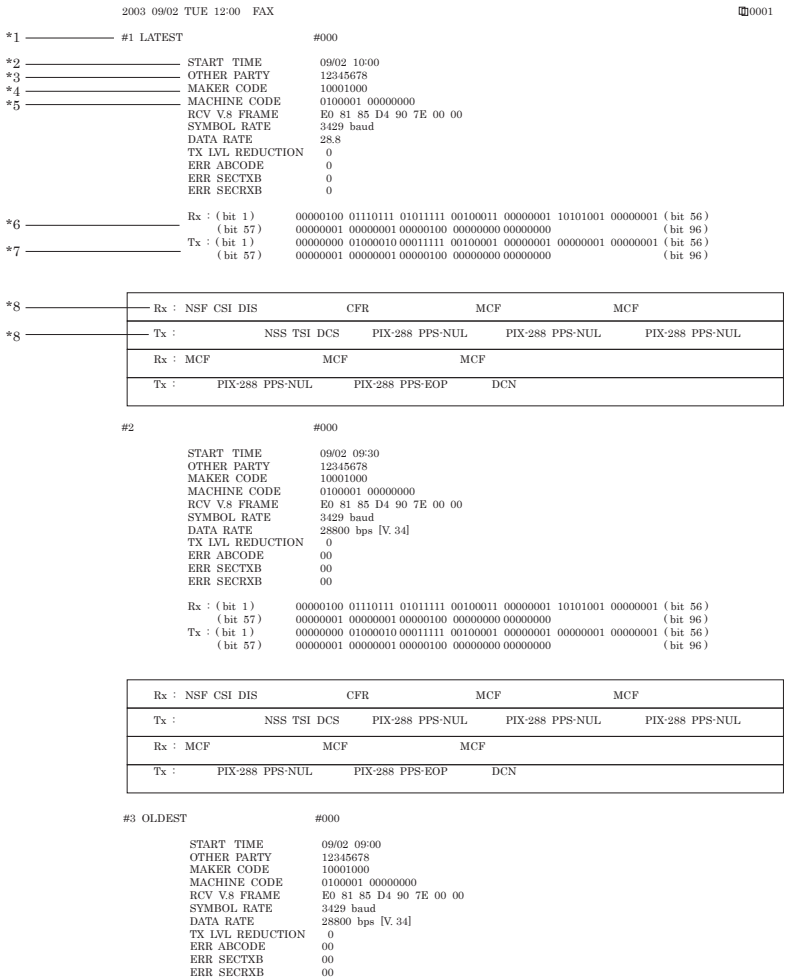
It provides error information on the 3 most recent communications.



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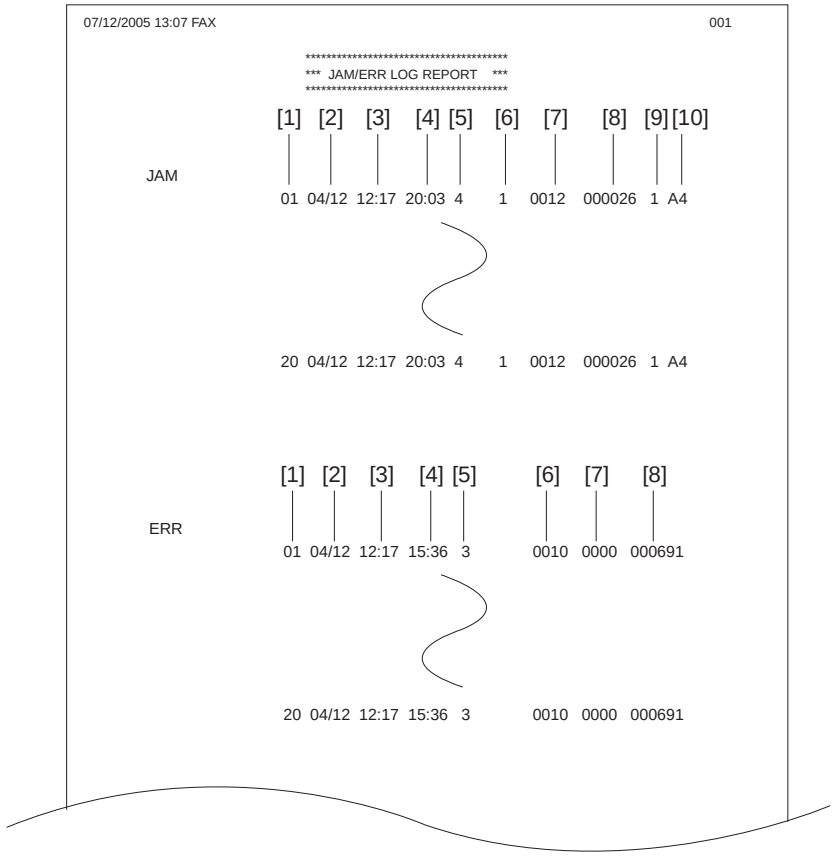
*1: service error code.
*2: START TIME, date and time (in 24-hr notation).
*3: OTHER PARTY, telephone number sent by the other party.
*4: MAKER CODE, manufacturer code.
*5: MACHINE CODE, model code.
*6: bit 1 through bit 96 of DIS, DCS, or DTC that has been received.
*7: bit 1 through bit 96 of DIS, DCS, or DTC that has been transmitted.
*8: RX, procedural signal received; TX, procedural signal transmitted.

Counter List

Explanation: Maintenance/supplies counter output.
(For more detailed information about the maintenance/supplies counter output, refer to "#COUNTER"(page 8-39).)

Error Log List



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Jam history description (JAM)

	Item	Explanation
[1]	Number	The larger the number of a jam, the more recently it has occurred.
[2]	Jam date	Date of jam occurrence
[3]	Jam time	
[4]	Jam recovery time	
[5]	Location	3: Host machine, 4: ADF, 5: Finisher
[6]	Occurrence category	0: Host machine, 1: ADF, 2: Finisher
[7]	Jam code	For a definition of the code, see the "Jam Code"(page 7-12).
[8]	Total counter display	
[9]	Pickup stage position	0: Manual feed tray, 1: Cassette 1, 2: Cassette 2, 3: Cassette 3, 4: Cassette 4
[10]	Paper size	

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Error history description (ERR)

	Item	Explanation
[1]	Number	The larger the number of an error, the more recently it has occurred.
[2]	Error date	Date of error occurrence
[3]	Error time	
[4]	Error recovery time	
[5]	Location	3: Main unit, 5: Finisher
[6]	Error code	Error code (4-digit code; for a definition of the code, see the "Error Code"(page 7-3).)
[7]	Detail code	Detail code of the error code (4-digit code; for a definition of the code, see the)
[8]	Total counter display	

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Alarm history description(ALARM)

	Item	Explanation
[1]	Number	The larger the number of a alarm, the more recently it has occurred.
[2]	Alarm date	Date of alarm occurrence
[3]	Alarm time	
[4]	Alarm recovery time	
[5]	Location	
[6]	Alarm code	Alarm code (4-digit code; for a definition of the code, see the "Alarm Code"(page 7-16).)
[7]	Detail code	Detail code of the alarm code (8-digit code; for a definition of the code, see the "Error Code" Chapter.)

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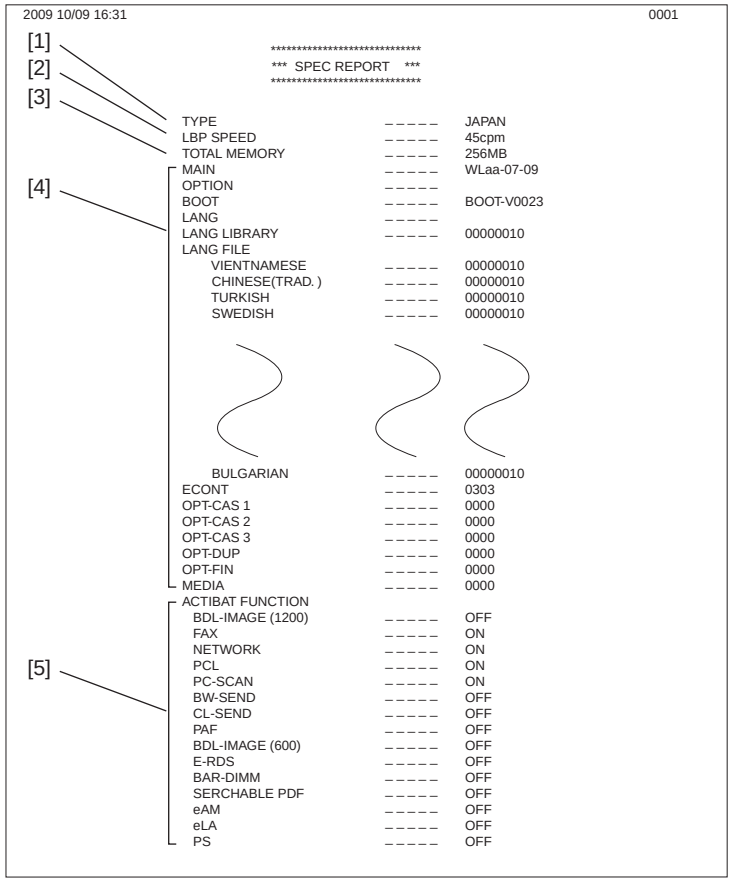
Spec List



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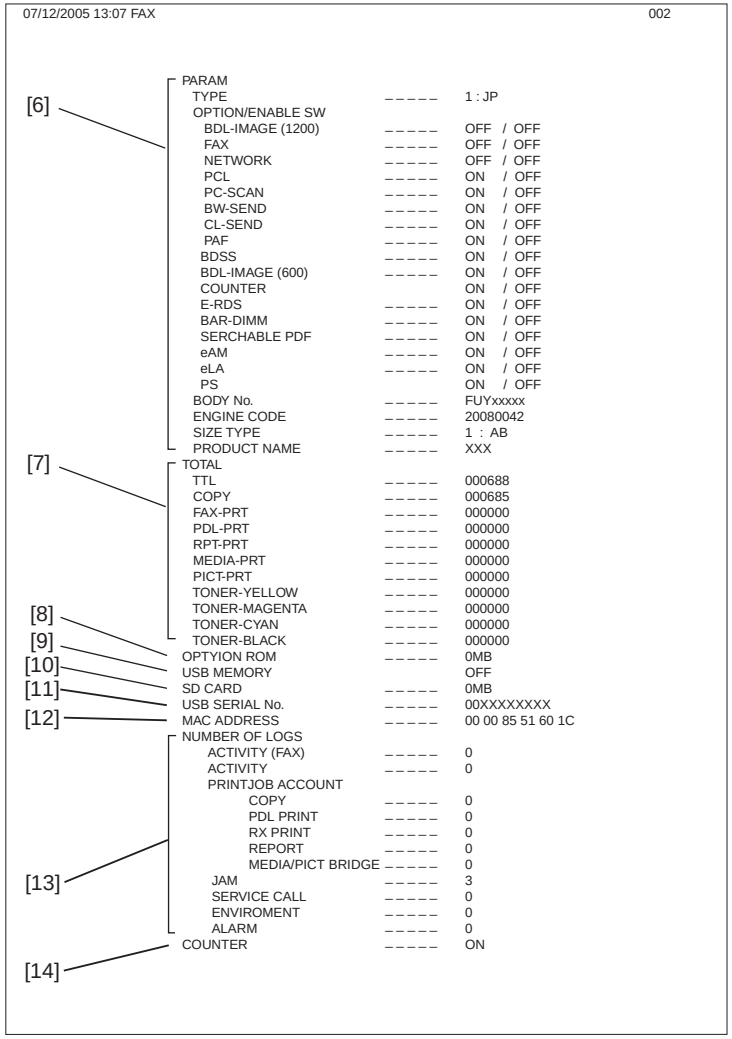

F-8-10

[1] Type setting
[2] Print speed
[3] Memory size
[4] ROM version (MAIN/BOOT/LANG*1(language liblary/language file version)ECONT/option cassette/duplex unit/finisher)
[5] Activation function ON/OFF
[6] Not used
[7] Total counter (TOTAL/COPY/FAX/PDL/REPORT record counts)
[8] Option ROM availability
[9] USB memory availability
[10] SD card volume
[11] USB serial number
[12] MAC address
[13] output the number of histories (communication history, copy/print/report/JOB history of the reception print, jam history, E code history, humidity log)
[14] Counter ON/OFF

#DOWNLOAD

Download

The following parts of this unit can be upgraded by executing download mode using the service support tool (UST)
(for more information, see the “Upgrading Targets and Procedure”(page 6-2).):

Main unit
ROM mounted on the main controller PCB (BOOT+PROGRAM)
ROM mounted on the DC controller PCB (DCON)

Accessory
ROM mounted on the finisher controller PCB(FIN_CON)

#CLEAR

Configuration

Group	Item	Description
TEL & USER DATA		Clears all user-registered and -set areas of telephone registration data and user data. (Telephone registration refers to the registration of codes on one-touch dialing, abbreviated dialing, and group dialing.)
SERVICE DATA		Clears theservice data. User data is not cleared.
COUNTER		Clears the maintenance counter, parts counter and mode-specific counters. Initializes the counter (numerator) in the system dump list.
SOFT-CNT		Not used
TYPE		Initializes user data and service data to suit specified destination settings.
HST	ACTIVITY	Initializes the activity report
	ACCOUNT	Clears print histories.
	JAM	Clears the jam history.
	ERR	Clear the error (error code) history.
	ALARM	Clears the alarm history.
	ENVIROMENT	Initializes the enviroment log data.
CARD		Clears department management information held in the controller before the card reader is demounted.
ERR	E719	Clears card reader errors.
PWD		Clears the system administrator's password.
FILE SYSTEM		Not used
FORMAT	USB MEMORY	Format the USB memory. (This mode is used when the USB memory error is damaged and E744 occurs.)
	LICENSE DRIVE	Clears the drive for license file.
FMT-SD	512	Format the 512MB SD card.
	1024	Format the 1204MB SD card.
	2048	Format the 2048MB SD card.
CA-KEY		Initializes an installed CA certification. (Displayed only after activation of the e-RDS function.)
ERDS-DAT		The settings related to e-RDS are cleared to the factory settings. (Displayed only after activation of the e-RDS function.)
DEPT_USER_CLEAR		Turns off the department-based ID management and user management functions.
SYSTEM_INFO_CLEAR		Clears the system management identification number.
ENGIN	ERRCLR	Clears the engine errors.
	BKRAMCLR	Clears the engine backup RAM.
	TNRINST	Supplies toner from the toner cartridge to the developing assembly.
EAM-DAT		Initializes the EAM Flash/SRAM data.
ELA-DAT		Initializes the ELA Flash/SRAM data.
ALL		Clears user and service data (except for some scan parameters and print parameters), and the counter setting/registration data in the system dump list, except for the print count.

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#DISPLAY

Configuration

An error code is displayed when a service error has occurred. The E code is displayed in the upper step, and the detail code is displayed the bottom step.

Group	Item	Description
DISPLAY	ERR	The E code and detail code of the current system error are displayed. (Multiple codes can be displayed with the left and right buttons.) <Display example> SYSTEM ERROR xxx: Eyyy-zzzz Example) 001:E602-1105 xxx: History number yyy: E Code zzzz: Detail code
	JAM	The current JAM code is displayed. (Multiple JAM codes can be displayed with the left and right buttons.) <Display example> JAM ERROR xxx:y-z-vvvv-wwww xxx: History number y: Description of position (3: Main unit (including the pickup assembly), 4: ADF, 5: Finisher) z: Cassette level (01: Manual feed tray, 1: Cassette 1, 2: Cassette 2, 3; Cassette 3,4: Cassette 4, 7: Double-sided) vvvv: JAM code wwww: paper size
	SPDTYPE	Display of engine speed type on controller PCB <Display example> SPDTYPE (Line 1) 45cpm (Line 2)

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#ROM

■ Configuration

The table below lists the items of ROM display mode that are supported.

Group	Item	Description
ROM	MAIN (Bootable)	Displays the version number of the PROGRAM ROM mounted on the main controller PCB.
	MAIN2 (Boot)	Displays the version of the ROM (BOOT) mounted on the main controller PCB.
	OPROM	Not used
	ECONT	Displays the version number of the ROM mounted on the DC controller PCB.
	OPTION CAS1	Not used
	OPTION CAS2	Not used
	OPTION CAS3	Not used
	DUPLEX	Not used
	FINISHER	Displays the version number of the Inner finisher
	READER	Not used

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#TEST MODE

■ Outline

Test mode must be executed by keeping track the flow of menu items appearing on the LCD.
Menu items in test mode are organized into seven blocks as described below.
Numerals enclosed in parentheses denote a numeric keypad key to be pressed each.

1. D-RAM test <(1) D-RAM TEST>
Checks to see if data can be correctly written to and read from D-RAM.
2. PG output <(3) PG>
Used to generate service test patterns.
3. MODEM test <(4) MODEM TEST>
Performs relay actuation, modem DTMF and tonal signal transmission/reception tests.
4. FUNCTION test <(6) FUNCTION TEST>
Used to verify the operations of microswitches, sensors, speakers and ADF functions.

■ Configuration

Numerals enclosed in parentheses denote a numeric keypad key to be pressed each.

Group	subgroup	Item 1	Item2	Item3	Explanation
TEST MODE [1] - [9]					
(1) DRAM [1] - [2]					D-RAM data check
	(1) D-RAM TEST				Write/read check
	(2) D-RAM TEST				Read check
(3) PG					
	SELECT NO.01				Grid
	SELECT NO.02				HT
	SELECT NO.03				All-black output
	SELECT NO.04				All-white output
	SELECT NO.05				Composite solid white + Solid black
	SELECT NO.06				4dot-6space (vertical)
	SELECT NO.07				dot-6space (horizontal)
	SELECT NO.08				Ghost
	SELECT NO.09				16 gray levels (monochromatic)
(4) MODEM TEST [1] - [9]					
	(1) RELAY TEST [1] - [2]				
		(1) RELAY TEST 1			NCU relay (and switch) ON/OFF test
		(2) RELAY TEST 2			230 V common NCU test
	(2) FREQ TEST [0] - [6]				Frequency test
		(0) FREQ TEST 462Hz			
		(1) FREQ TEST 1100Hz			
		(2) FREQ TEST 1300Hz			
		(3) FREQ TEST 1500Hz			
		(4) FREQ TSST 1650Hz			
		(5) FREQ TEST 1850Hz			
		(6) FREQ TEST 2100Hz			
	(4) G3 SIGNAL TX TEST [0] - [8]				G3 signal transmission test
		(0) G3 SIGNAL TX TEST 300bps			
		(1) G3 SIGNAL TX TEST 2400bps			
		(2) G3 SIGNAL TX TEST 4800bps			
		(3) G3 SIGNAL TX TEST 7200bps			
		(4) G3 SIGNAL TX TEST 9600bps			
		(5) G3 SIGNAL TX TEST TC7200bps			
		(6) G3 SIGNAL TX TEST TC9600bps			
		(7) G3 SIGNAL TX TEST 12000bps			
		(8) G3 SIGNAL TX TEST 14400bps			
	(5) DTMF TEST [0] - [9], * , #				DTMF transmission test
		(0) G3 SIGNAL TX TEST 300bps			
		(1) G3 SIGNAL TX TEST 2400bps			
		(2) G3 SIGNAL TX TEST 4800bps			

Group	subgroup	Item 1	Item2	Item3	Explanation
		(3) G3 SIGNAL TX TEST 7200bps			
		(4) G3 SIGNAL TX TEST 9600bps			
		(5) G3 SIGNAL TX TEST TC7200bps			
		(6) G3 SIGNAL TX TEST TC9600bps			
		(7) G3 SIGNAL TX TEST 12000bps			
		(8) G3 SIGNAL TX TEST 14400bps			
		(9) G3 SIGNAL TX TEST TC9600bps			
		(*) G3 SIGNAL TX TEST 12000bps			
		(#) G3 SIGNAL TX TEST 14400bps			
	(6) MODEM TEST				Tonal sign reception test
	(8) G3 V.34 Tx TEST				V34 G3 signal transmission test
(6) FUNCTION TEST [1] - [9]					
	(1) FUNCTION TEST G3 4800bps				G3 4800 bps signal transmission test
	(2) SENS/SW CHECK				Sensor checks
		FLAG			Sensor check with flag
		CST			Cassette check
		READER			Reader sensor check
		A/D			Analog/digital computation output sensor
		COPY			Copy confirmation sensor
		ADF			ADF sensor check
	(3) NCR sts				cardreader test
	(9) LINE TEST [1] - [3]				Line signal reception test

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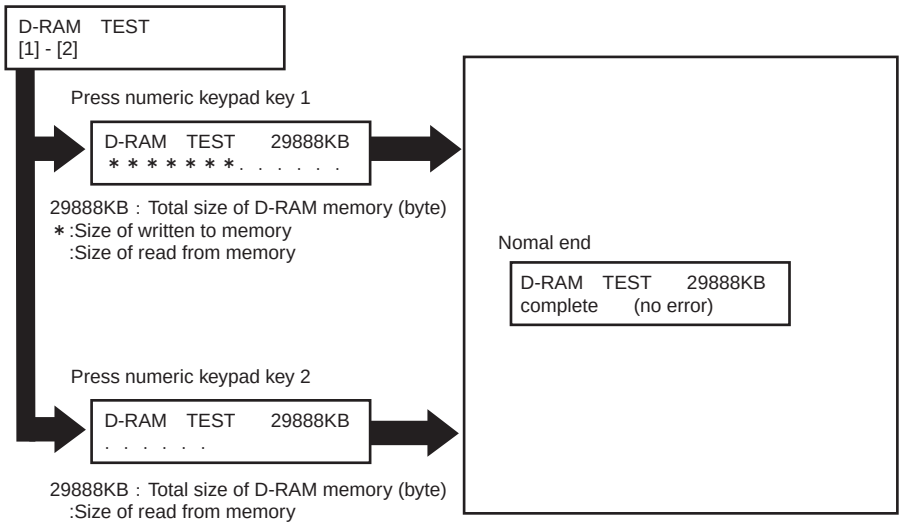
Details

D-RAM Test <(1) D-RAM>

Press the numeric keypad key 1 on the test mode menu to select the D-RAM test.
Press numeric keypad keys 1 and 2 during the D-RAM test to carry out the individual tests described below.

- Numeric keypad key 1
  Checks to see if data can be correctly written to and read from all areas of D-RAM (SDRAM). If an error occurs making this check, the test is aborted, with an error appearing on the touch panel (LCD).

- Numeric keypad key 2
  Checks to see if data can be correctly read from all areas of D-RAM (SDRAM). If an error occurs making this check, the test is aborted, with an error appearing on the touch panel (LCD).



F-8-11

PG Output <(3) PG>

Press the numeric keypad key 3 on the test mode menu to select the PG output.
Press numeric keypads during the print test to generate test patterns as described below.
Nine kinds of service test patterns are available. Other test patterns are reserved for factory/development purposes.

No.	Test pattern
SELECT NO.01	Grid
SELECT NO.02	HT
SELECT NO.03	All-black output
SELECT NO.04	All-white output
SELECT NO.05	Composite solid white + Solid black
SELECT NO.06	4dot-6space (vertical)
SELECT NO.07	dot-6space (horizontal)
SELECT NO.08	Ghost
SELECT NO.09	16 gray levels (monochromatic)

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Procedure

1) Enter the PG number with numeric keys, then press the START key.
2) Select single-sided (SGL: 0) or double-sided (DBL: 1), then press the START key.
3) Enter the number of prints to be output (PG COUNT), then press the START key.
4) Specify the paper drawer (main unit), then press the START key.
   Main unit cassette (ST_C: 0), 2nd cassette (OP_C: 1), Manual feed tray (MLT: 2)
5) Specify the paper eject slot, then press the START key.
   Tray 1 (1_OUT: 0), Tray2 (2_OUT: 1)
6) Select a paper type, then press the OK key.
   Plain paper (PLN: 0), Thick paper (TCK: 1),Thin paper (OHP: 2)
7) A test pattern is output.

● MODEM Test <(4) MODEM TEST>

These tests test modem and NCU transmission and reception. The modem tests check whether signals are sent correctly from the modem by comparing the sound of the signals from the speaker with the sounds from a normal modem.
End this test by pressing the Stop key.

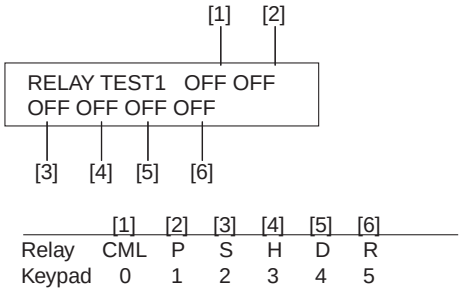
Keypad	Type	Description
1	Relay Test	Use it to turn on/off a selected relay to execute a switch-over test.
2	Frequency test	The modem sends tonal signals from the modular jack and the speaker.
4	G3 signal transmission test	The modem sends G3 signals from the modular jack and the speaker.
5	DTMF signal reception test	Use it to generate the DTMF signal coming from the modem using the telephone line terminal and the speaker.
6	Tonal signal reception test	Use it to monitor a specific frequency and the DTMF signal received from the telephone line terminal by causing them to be indicated on the LCD (i.e., the presence/absence as detected). The reception signal is generated by the speaker.
8	V.34 G3 signal transmission test	The modem sends V.34 G3 signals from the modular jack and the speaker.

T-8-60

Relay Test

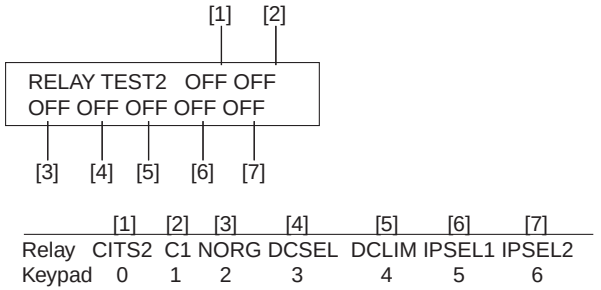
Press '1'or '2' on the keypad on the Modem test menu to select relay test mode. Use the keypad to operate the various relays of the NCU. '2' on the keypad is used for 230V machine.

- Numeric keypad key 1
  The input key and relay are shown below:



F-8-12

- Numeric keypad key 2
  The input key and relay are shown below:



F-8-13

CAUTION:

The touch panel (LCD) is turned on or off in relation to the transmission of the relay operation signal as is operated on the keypad; for this reason, you cannot use the touch panel (LCD) to check a fault on a single relay.

Frequency Test

A press on '2' on the keypad from the MODEM test menu selects the frequency test.
In this test, signals of the following frequencies from the modem are transmitted using the telephone line terminal and the speaker. To select a different frequency,

Keypad	Frequency
1	462Hz
2	1100Hz
3	1300Hz
4	1500Hz
5	1650Hz
6	1850Hz
7	2100Hz

T-8-61

MEMO:
The frequency and the output level of individual frequencies are in keeping with the output level set in service mode.

G3 Signal Transmission Test

A press on '4' on the keypad from the MODEM test menu selects the G3 signal transmission test. In this test, the following G3 signals from the modem are transmitted using the telephone line terminal and the speaker. To select a different transmission speed, use the keypad.

Keypad	Transmission speed
0	300bps
1	2400bps
2	4800bps
3	7200bps
4	9600bps
5	TC7200bps
6	TC9600bps
7	12000bps
8	14400bps

T-8-62

MEMO:
The output level of individual signals is in keeping with the setting made in service mode.

A press on '5' on the MODEM test menu selects the DTMF signal transmission test. In the test, the following DTMF signals from the modem are transmitted using the telephone line terminal and the speaker. The number pressed on the keypad selects a specific DTMF signal.

MEMO:
The output level of individual signals is in keeping with the setting made in service mode.

Tonal/DTMF Signal Reception Test

A press on '6' on the keypad from the MODEM test menu selects the tonal signal/DTMF signal reception 0 test. In this signal, the tonal signal/DTMF signal received from the telephone line terminal can be checked to find out if it was detected by the modem.

Tonal signal reception test

```
MODEM TEST
OFF OFF OFF
```

OFF OFF OFF
- changes from '0' to '1' in response to detection of a signal of 462±25Hz.
- changes from '0' to '1' in response to detection of a signal of 1100±30Hz.
- changes from '0' to '1' in response to detection of a signal of 2100±25Hz.

DTMF signal reception test

```
MODEM TEST
OFF OFF OFF   5
```

The received DTMF signals are indicated starting from the right using the 2nd character of the display.

F-8-14

V.34 G3 Signal Transmission Test

A press on '8' on the keypad from the MODEM test menu selectes the V.34 G3 signal transmission test. The V.34 G3 signals below are sent from the modem using the modular jack and the speaker by pressing the start key. The Baud rate can be changed with the keypad, and the Speed can be changed with the left/right arrow key.

Keypad	Baud rate
0	3429baud
1	3200baud
2	3000baud
3	2800baud
4	2743baud
5	2400baud

T-8-63

Left/right arrow key	Transmission speed
< >	2400bps
	4800bps
	7200bps
	9600bps
	12000bps
	14400bps
	16800bps
	19200bps
	21600bps
	24000bps
	26400bps
	28800bps
	31200bps
	33600bps

T-8-64

FUNCTION Test <(6) FUNCTION TEST>

Press the numeric keypad key 6 on the test mode menu to select the function test.

Press numeric keypad keys 1 to 4 and 9 during the function test to enter the menus listed below.

Keypad	Type	Description
1	G3 signal transmission test	Transmits 4800-bps G3 signals to a telephone line and speaker
2	Sensor test	Sensor actuation test
3	Accessory	
4	ADF test	ADF operation test
5	Not used	
6	Not used	
7	Not used	
8	Not used	
9	Line signal reception test	NCU board signal sensor and frequency counter operation test

T-8-65

G3 signal transmission test (6-1: G3 480 bps Tx)

Press numeric keypad key 1 on the FUNCTION TEST menu to select the G3 signal transmission test.

This test transmits 4800-bps G3 signals from the telephone line connection terminal and speaker.

Sensor test (6-2: SENSOR)

This mode is used to verify the status of the unit sensors from the touch panel (LCD) indications.

Press numeric keypad key 3 on the FUNCTION TEST menu to select the sensor test.

To select a minor item, press the START key.

The touch panel (LCD) indications change as the associated sensors turn on and off.

Group	Item		Description	Detail
(2) SENS/SW CHECK				
	FLAG	Sensor check with flag (manual check)	CT: Waste Toner Full Sensor(S17)	0/Full, 1/Available
			TC: Toner Cover Open/Closed Sensor (S16)	1/Cover open, 0/Cover closed
			MW: Manual Feeder Paper Size Sensor (S8)	0/Document presence, 1/Document absenc
			DO: Front Cover Open/Closed Sensor (S18)	1/Cover open, 0/Cover closed
			F1: No.1 Delivery Full Sensor (S11)	0/Document presence, 1/Document absenc
			F2: No. 2 Delivery Full Sensor (S41)	0/Document presence, 1/Document absenc
	CST	Cassette check	S: Cassette 1 Pickup Sensor (S1)	0/Document presence, 1/Document absenc
			SU: Cassette 1 Paper Sensor (S2)	0/Document presence, 1/Document absenc
			PE: Cassette 1 Paper Level Sensor A (S3)	0/Document presence, 1/Document absenc
			ZA: Cassette 1 Paper Level Sensor B(S4)	0/Document presence, 1/Document absenc
			S1: Cassette Size Detection Switch 1 (Width) (SW6)	0/Document presence, 1/Document absenc
			S2: Cassette Size Detection Switch 2 (Length) (SW7)	0/Document presence, 1/Document absenc

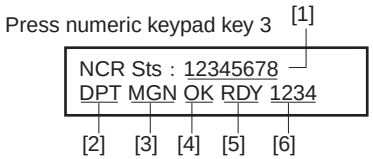
Group	Item		Description	Detail
	READER	Reader sensor check	C0: Copyboard Cover Open/Closed Sensor 0 (S21)	0/Document presence, 1/Document absenc
			C1: Copyboard Cover Open/Closed Sensor 11 (S26)	0/Document presence, 1/Document absenc
			HP: iR2545/2535: CCD Hp Sensor (S22) iR2530/2525/2520: CIS Hp Sensor (S31)	1/HP, 0/besides HP
			SIZE: Document size: Paper size indicated in a mix of document size sensors	
			Document size sensor 0/1/2/3	0/Document presence, 1/Document absenc
	A/D	Analog/digital computation output sensor	HOP: Developing unit toner sensor (TS1) output value	
			DEV: Sub hopper toner sensor (TS2) output value	
			TEP: Temperature output value	
			HUM: Humidity output value	
			MTH: Fixing main thermistor (TH3) output value	
			STH1: Fixing sub Thermistor (rear) (TH1) output value	
			STH2: Fixing sub thermistor (front) (TH2) output value	

Group	Item		Description	Detail
	COPY	Copy confirmation sensor	MP: Manual Feeder Paper Sensor (S9)	0/Document presence, 1/Document absenc
			RE: Pre-Registration Sensor (S5)	0/Document presence, 1/Document absenc
			RP: Loop Sensor (S6)	0/Document presence, 1/Document absenc
			FX: Fixing Outlet Sensor (S19)	0/Document presence, 1/Document absenc
			D1/2:No.1 Delivery Sensor(S12)/No. 2 Delivery Sensor(S42)	0/Document presence, 1/Document absenc
			TU: Reversal Sensor (S40)	0/Document presence, 1/Document absenc
			DL: Duplex Feed Sensor (S7)	0/Document presence, 1/Document absenc
	ADF	ADF sensor check	W1: Document width sensor 1	0/Document presence, 1/Document absenc
			W2: Document width sensor 2	0/Document presence, 1/Document absenc
			L1: Document length sensor 1	0/Document presence, 1/Document absenc
			L2: Document length sensor 2	0/Document presence, 1/Document absenc
			LT: Last document detection sensor	0/Document presence, 1/Document absenc
			EX: Delivery reversal sensor	0/Document presence, 1/Document absenc
			DR: Read sensor	0/Document presence, 1/Document absenc
			RG: Registration paper sensor	0/Document presence, 1/Document absenc
			CV: Cover open/close sensor	1/Cover open, 0/Cover closed
			DS: Document set snsor	0/Document presence, 1/Document absenc
			RK: Release motor HP sensor	1/HP, 0/besides HP
			TM: Timing sensor	0/Document presence, 1/Document absenc

T-8-66

Card reader test <6-3: NCR sts>

Press numeric keypad key 3 on the FACULTY menu to select the card reader test. In this test, verify the successful operations of the card reader.



[1] Card reader and card availability indication
Card available: Eight-digit card ID
No card: Card None
No card reader available: NCR None

[2] Card type and card reader status indication
DPT: Department card
PRC: Unit pricing card
MAX: Upper limit setting card
ERS: Erased card
SRV: Service card
(No indication): No card

[3] Card type
MGN: Magnetic card
OPT: Optical card

[4] Can status
OK: Normal scan
ERR: Scan error
NG: Nonstandard error
(No indication): No card

[5] Equipment status
IN: Initialization in progress
RDY: Ready

[6] Card reader version indication
Four-digit number

F-8-15

Line signal reception test <6-9: LINE DETECT>

Press numeric keypad key 9 on the FACULTY menu to select the line signal reception test. In this test, verify the successful operations of the NCU signal sensor and the frequency counter. Menu 1 detects the CI state, while menu 3 detects the CNG signal.

- Test menu 1
  Press numeric keypad key 1 on the LINE DETECT menu to select test menu 1. When CI is detected on the telephone line connection terminal, the touch panel (LCD) display changes from OFF to ON, indicating the received frequency. The touch panel (LCD) also displays the on-hook or off-hook state of an external telephone set as detected. The touch panel (LCD) displays, from left to right, CI, CI frequency, hook port and FC with indications of 1: ON and 0:OFF.

- Test menu 2
  Press numeric keypad key 2 on the LINE DETECT menu to select test menu 2. When the CNG signal is detected on the telephone line connection terminal, the touch panel (LCD) display changes from OFF to ON, indicating the received frequency. The touch panel (LCD) displays the status of CML, CNG and FED detection, from left to right, with ON/OFF indications. Numeric keypad key 2 turns on the CML relay to detect CNG.

- Test menu 3
  Press numeric keypad key 3 on the LINE DETECT menu to select test menu 3. When the CNG signal is detected on the telephone line connection terminal, the touch panel (LCD) display changes from OFF to ON, indicating the received frequency. The touch panel (LCD) displays the status of CML, CNG and FED detection, from left to right, with ON/OFF indications. Numeric keypad key 3 turns off the CML relay to detect CNG.

Installation

- How to check this Installation Procedure
- Making Pre-Checks
- Points to Make Before Installation
- Option Installation Sequence
- Checking the Contents
- Unpacking and Installation Procedure
- Document Tray-J1
- Card Reader
- Serial Interface Kit-J2
- Control Interface Cable-A1
- System Upgrade RAM-C1
- System Upgrade SD CARD-A1
- Cst Heater Kit-J1
- Reader Heater Unit-H1
- Cassette Heater Unit 37
- Drum Heater-C1
- Relocating the Machine

How to check this Installation Procedure

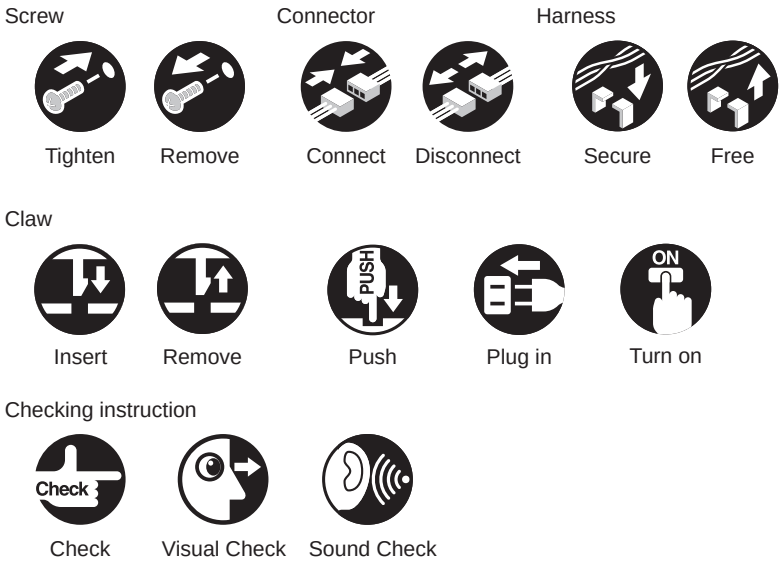
When Using the parts included in the package

A symbol is described on the illustration in the case of using the parts included in the package of this product.

F-9-1

Symbols in the Illustration

The frequently-performed operations are described with symbols in this procedure.



F-9-2

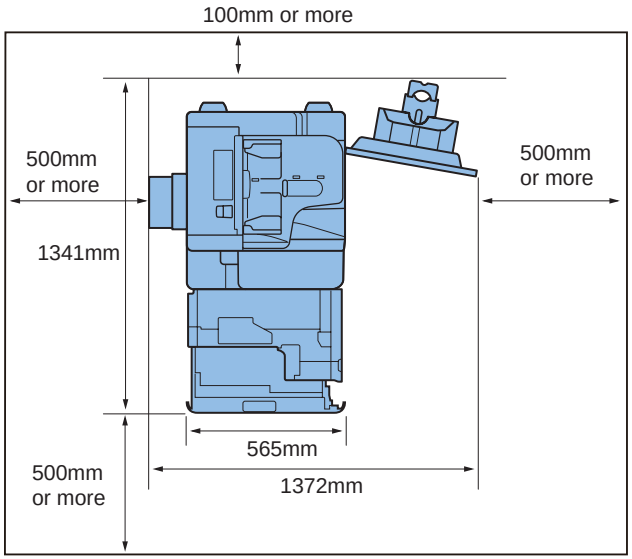
Making Pre-Checks

Selecting the Site of Installation

The followings are the condition for installation environment.
It is better to see the planned location of installation before carrying the host machine in the user site.

1) The host machine can singly connect to the outlet of rated +/-10V, 15A or more.
2) The installation site must be in the following environment. Especially, avoid installing the machine near the faucet, water boiler, humidifier, or refrigerator.
   - Operating environment:Temperature: 10.0 to 30.0oC Humidity: 20 to 80%
3) Avoid installing the machine near fire, in an area subject to dust or ammonia gas. When installing the machine in a place exposed to direct rays of the sun, it is recommended that curtains be hung over the windows.
4) The amount of ozone generated during use of the machine is below the harmful level. However, if the machine is used for a long time in a poor-ventilated room, ozone may smell. To keep the work environment comfortable, the room must be well-ventilated properly.
5) None of the machine feet should float. The machine must be held level constantly.
6) The machine must be installed at least 10 cm away from the surrounding walls and there must be an adequate space for operating the machine.

The width of the machine without an inner finisher is 1,079 mm.



F-9-3

7) Install the machine in a well-ventilated place. Do not install the machine close to the ventilation duct of the room.

Points to Make Before Installation

Be sure to go through the following before starting the work.

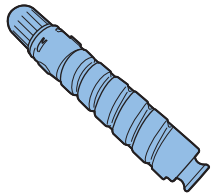
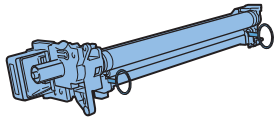
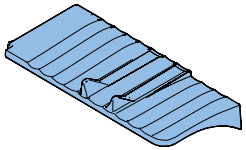
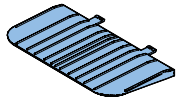
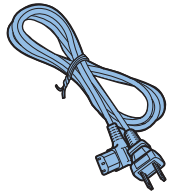
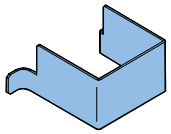
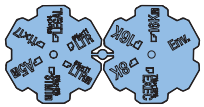
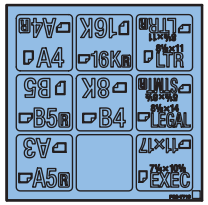
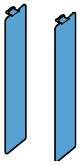
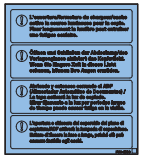
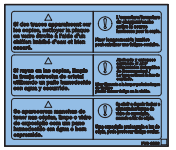
1) Imaging faults can result due to dew condensation that occurs when the machine is moved from a cold place to a warm place. Leave the unpacked machine as it is for at least two hours before installing it.
   (Dew condensation: When a metallic object is brought from a low-temperature place to a high-temperature place, water vapor around it is cooled abruptly and consequently water drops stick to the surface of the metallic object.)
2) The maximum weight of the machine is approx. 78.8 kg (double-cassette model supplied with a DADF). Accordingly, two or more persons are required to lift the machine. Be sure to keep the machine in a horizontal position when lifting it.
3) This product was designed considering the potential connection to the Norwegian IT power distribution system.

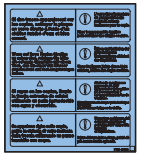
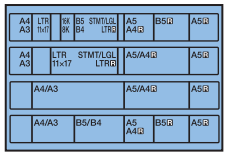
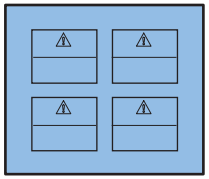
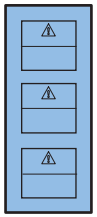
Option Installation Sequence

When installing the options for this machine, keep the following in mind:

1) When installing the Card Reader-E1, Document Tray-J1, and USB Application 3-Port Interface Kit-A1 together, be sure to install the USB Application 3-Port Interface Kit-A1 first.
2) When installing the Inner Finisher-B1 and 2 Way Unit-B1 together, be sure to install the 2 Way Unit-B1 first.
3) When installing the Inner Finisher-B1 and Drum Heater-C1 together, be sure to install the Drum Heater-C1 first.
4) iR2530/2525/2520 with 250-sheet cassette 1
   When installing the Inner Finisher-B1 and the Cassette Heater Unit-37 for cassette 1 together, be sure to install the Cassette Heater Unit-37 first.

Checking the Contents

☐[1] Toner bottle x 1 (excluding the models for EU,US, LA, HK, and SP) 	☐[2] Drum unit x 1 	☐[3] Subtray x 1 	☐[4] Reverse tray x 1 (only for the model with a 2 way unit) 	☐[5] Power cord x 1 (excluding the model for Korea) 
☐[6] Power cord clamp x 1 	☐[7] TP screw (M3 x 6) x 1 (Besides AU model) 	☐[8] Cassette size label x 1 (for the model with one 550-sheet cassette) or x 2 (for the model with two 550-sheet cassettes) 	☐[9] Cassette size plate (for 250-sheet cassette) x 1 (only for the model with 250-sheet cassette 1) 	☐[10]Cassette size label (for 250-sheet cassette)x 1 (only for the model with 250-sheet cassette 1) 
☐[11] Handle cover x 2 	☐[12]Copy inhibition label • For the model for US x 3 • For the model for EU x 4 • For the model for AU, LA, HK, and SP x 1 	☐[13]Lamp caution label x 1 (for iR2545/2535 for LA, HK,and SP) 	☐[14]Lamp caution label x 1 (for iR2545/2535 for EU) 	☐[15]Glass cleaning/lamp caution label x 1 (for iR2545/2545i/2535/2535i for US) 

☐[16] Glass cleaning/lamp caution label x 1 (for AU and EU supplied with an ADF <A type>) 	☐[17] Glass cleaning/lamp caution label x 1 (for AU and EU supplied with an ADF <AB/INCH type>) 	☐[18] Document size label x 1 (only for iR2530/2525/2520 supplied with an ADF) 	☐[19] Finger pinch caution label 1 x 1 (only for the model for EU with an ADF) 	☐[20] Finger pinch caution label 1:x 1 (only for the model for US with an ADF) 

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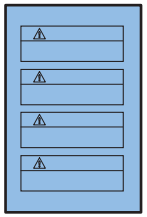
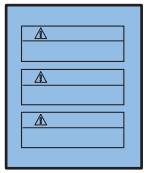
☐[21] Finger pinch caution label 2 x 1 (only for the model for EU with an ADF) 	☐[22]Finger pinch caution label 2 x 1 (only for the model for US with an ADF) 	☐[23] TP screw (M3 x 6) x 1 (only for AU model) 

T-9-2

Check to make sure that none of the following documentations and CDs is missing:

- Handy Operation Guide
- User's Guide
- Driver/Utility CD-ROM unit
- User's Manual CD-ROM
- Drum Warranty Card (only for the model for US)
- Registration Card (only for the model for US)
- Drum Replacement Procedure (only for the model for EU)

Unpacking and Installation Procedure

Unpacking the Machine and Removing the Packaging Materials

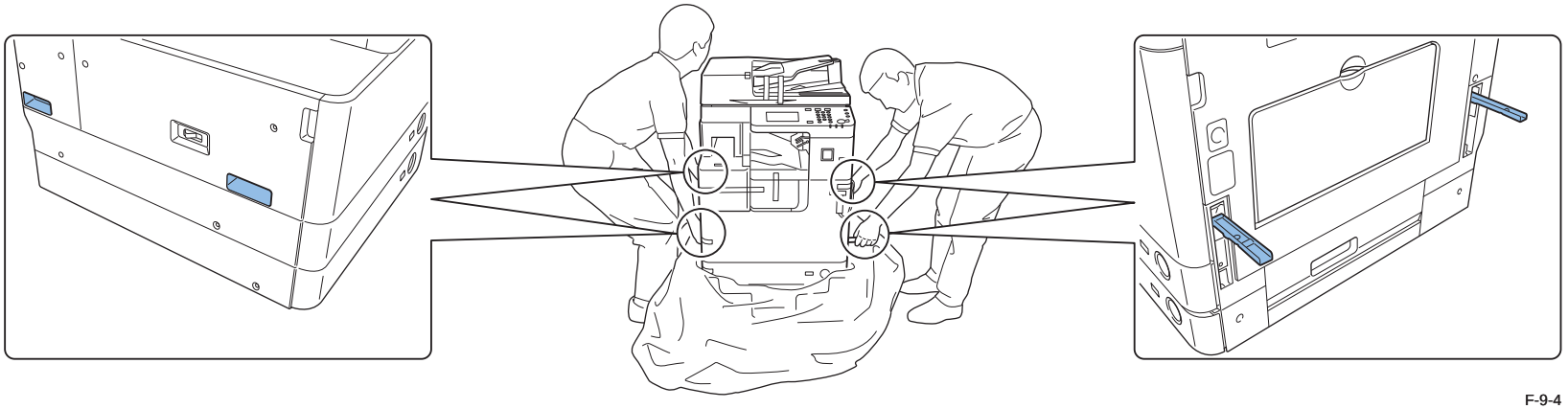
☐

MEMO:
When installing a cassette pedestal, be sure to place the machine on the cassette pedestal.
(For the procedure for installing the cassette pedestal, refer to the Cassette Pedestal Installation Procedure.)

☐

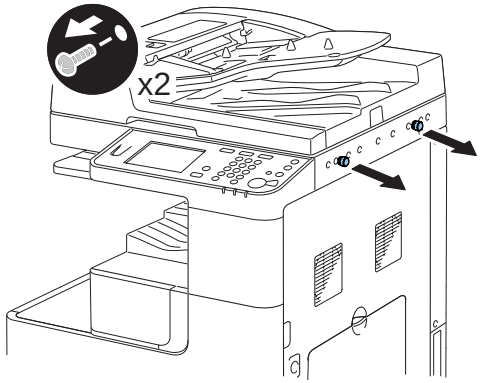
1) Unpack the machine and remove the vinyl cover.
2) While holding four handles on the left and right sides of the machine, lift the machine to take it down from the palette.

⚠CAUTION:
The maximum weight of the machine is approx. 78.8 kg (double-cassette model with a DADF). Two or more persons are required to lift the machine.



F-9-4

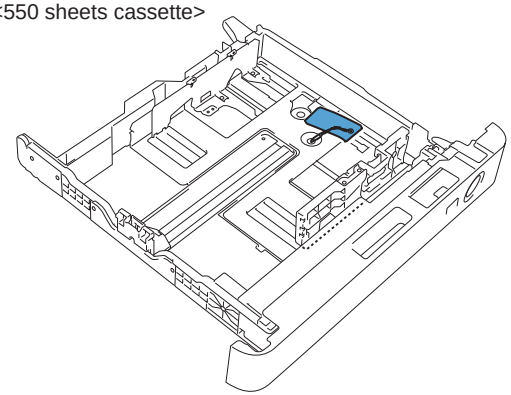
☐
3) Remove all pieces of fixing tapes and materials.
4) For the iR2545/2535 Series, remove two optical system fixing screws on the right side of the reader. (Keep the removed screws because they may be used later for machine relocation.)



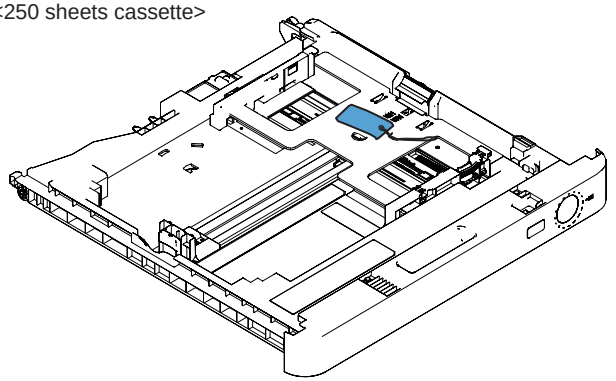
F-9-5

☐
5) Press the cassette release button to draw out the cassette forward.
6) Remove the wire that secures the intermediate plate of the cassette.

<550 sheets cassette>



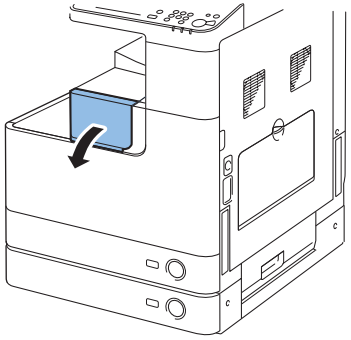
<250 sheets cassette>



F-9-6

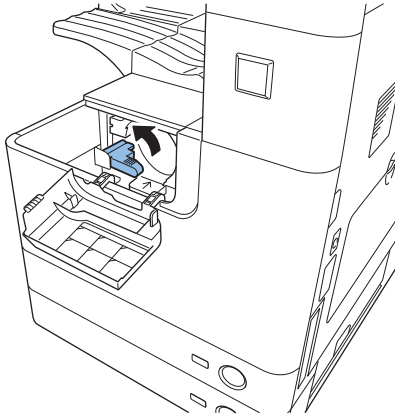
Installing the Toner Bottle

☐ 1) Open the toner supply cover.



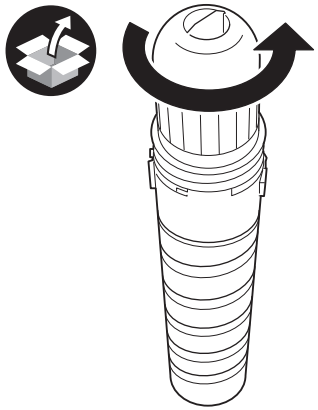
F-9-7

☐ 2) Raise the lock lever.



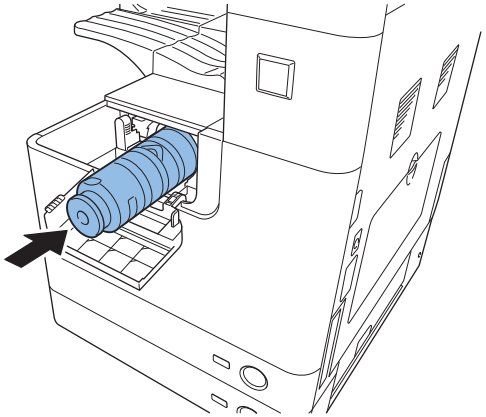
F-9-8

☐ 3) Unpack the new toner bottle, and then remove the cap.



F-9-9

☐ 4) Insert the toner bottle into the machine.



F-9-10

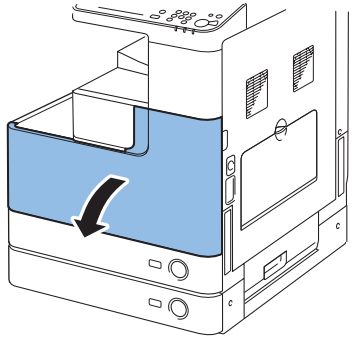
☐ 5) Lower the lock lever to secure the toner bottle.

MEMO:
Turn the lock lever until it becomes level. If the lock lever is stopped in the middle, toner cannot be supplied normally.

☐ 6) Close the toner supply cover.

Installing the Drum Unit

☐ 1) Open the front cover

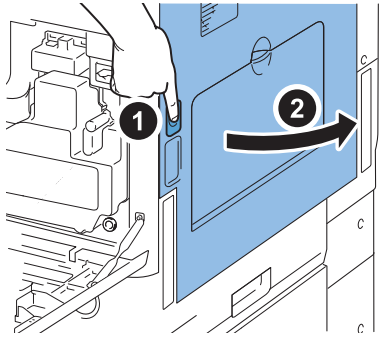


F-9-11

☐ 2) Press the button on the right cover to open the right door.

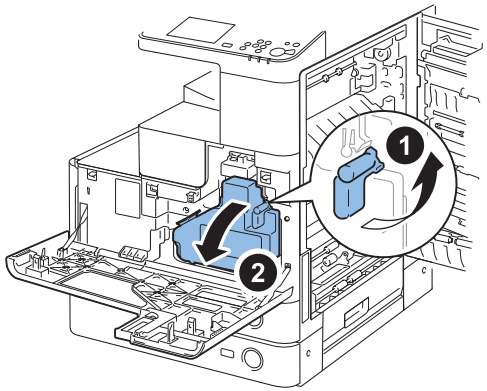
CAUTION:

To prevent the drum unit from being damaged, keep the right cover open at least 5 cm during the installation procedure.



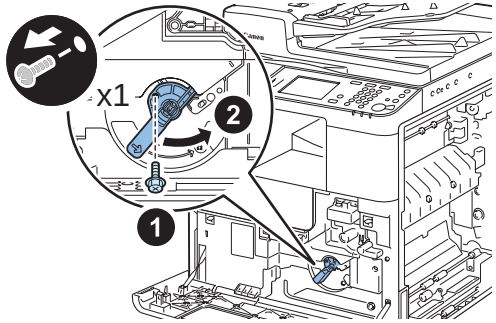
F-9-12

☐ 3) Turn the lock lever as shown below to release the collected toner container.
4) Take out the collected toner container.



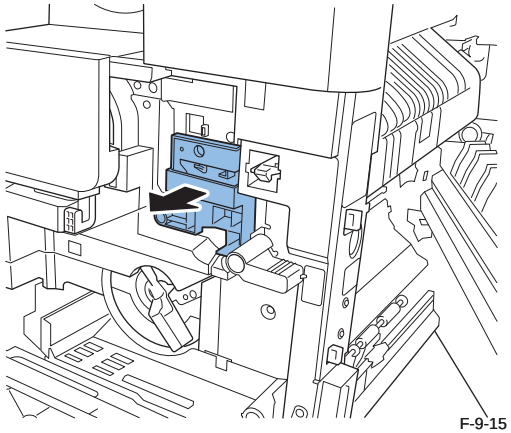
F-9-13

☐ 5) Remove one screw from the developer pressure lever. The screw does not exist in some machine versions by destination.
6) Turn the lever as shown below to release the drum unit.



F-9-14

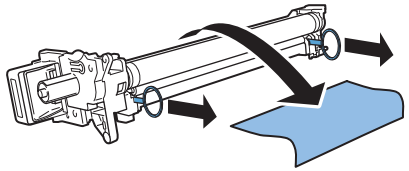
☐ 7) Remove the drum cover. (Keep the drum cover because it may be used later for machine relocation.)



F-9-15

☐ 8) Unpack the new drum unit, remove packaging materials, and then pull two orange rings to remove the protective cover.

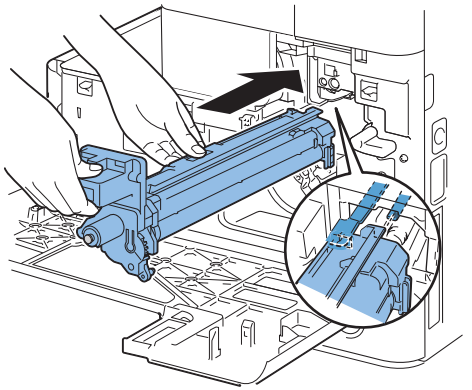
CAUTION:
- Do not touch the drum surface while at work.
- Do not expose the drum surface to light for a long period of time.



F-9-16

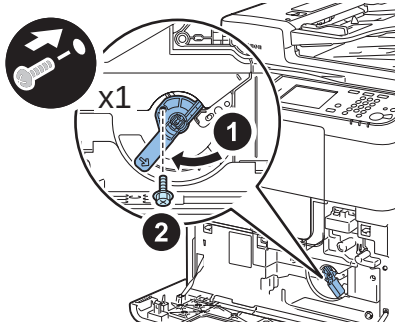
☐ 9) While holding the drum unit at the handle and the position shown below, insert it into the body slowly until it stops.

CAUTION:
When inserting the drum unit, check that the drum unit fits precisely with the rail of the host machine.



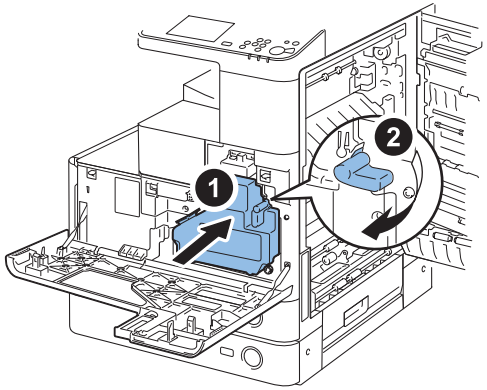
F-9-17

☐ 10) Turn the lever as shown below to lock the drum unit.
11) Secure the developer pressure lever with the screw.



F-9-18

☐ 12) Place the collected toner container in the machine.
13) Lower the lock lever to lock the collected toner container.



F-9-19

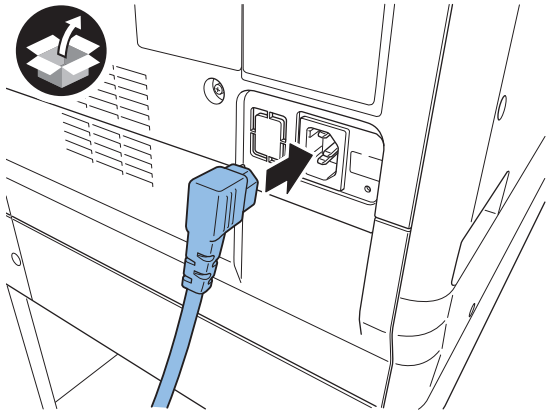
☐ 14) Close the front cover.
15) Close the right cover.

Connecting the cord

☐

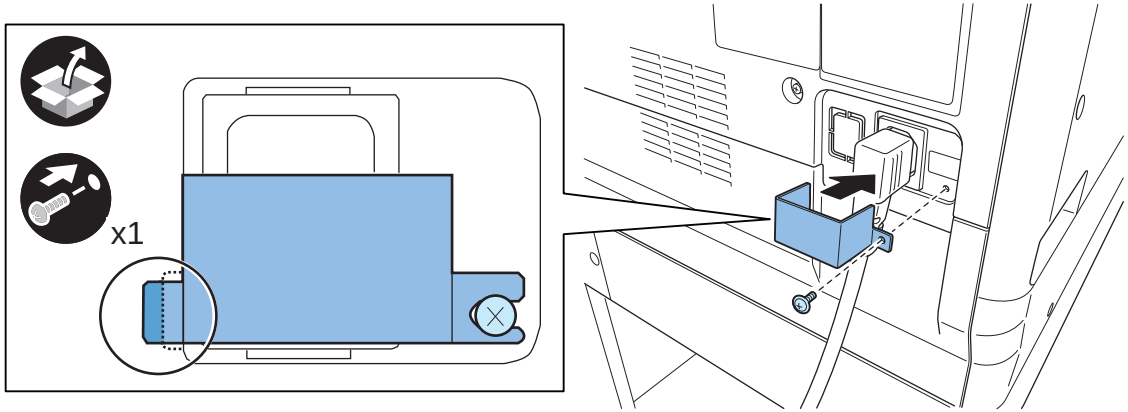
MEMO:
Install an optionally available document glass cover or the DADF on the machine. If the model is the one without the DADF, install a document cover glass.
For how to install the DADF, refer to the DADF Installation Procedure.

☐
1) Insert the connector of the supplied Power cord into the AC inlet.



F-9-20

☐
2) Install the supplied power cord clamp with the supplied screw *.
*: Besides AU model, use the TP screw (M3 x 6). For AU model, use the stepped screw.
Insert the left leg of the power cord clamp into the machine frame.



F-9-21

☐
3) Plug the supplied Power cord in the wall outlet.
4) Peel off the protective seal from the operation panel.
5) Turn on the main power switch.

CAUTION:
The specified power must be supplied. (Rated voltage ±10% at the rated current)

Stirring Toner

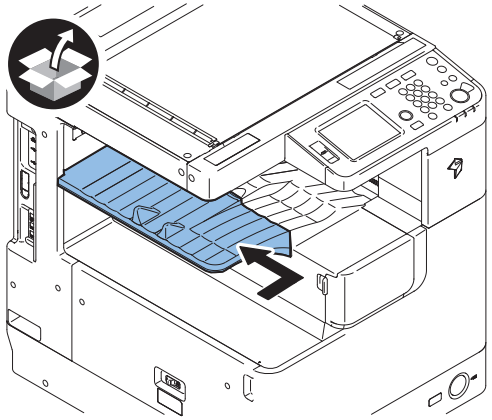
☐
1) A country/region setting screen appears. Make choices according to the environment where the machine is used.
2) Press the following keys in sequence below to call up the service mode screen:
> 2 key > 8 key>

3) Select SERVICE MODE> CLEAR> ENGINE> TNRINST> OK.

MEMO:
About five minutes are required for toner agitation. The machine stops automatically when it finishes toner agitation process.
Install trays, cassettes, and other parts until toner agitation is completed.

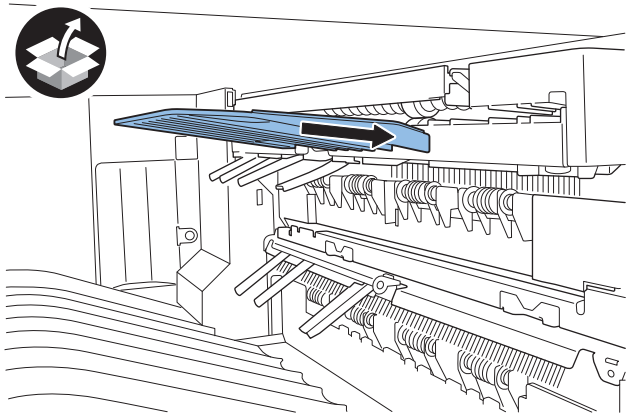
Installing Trays

☐
1) Install the supplied subtray.



F-9-22

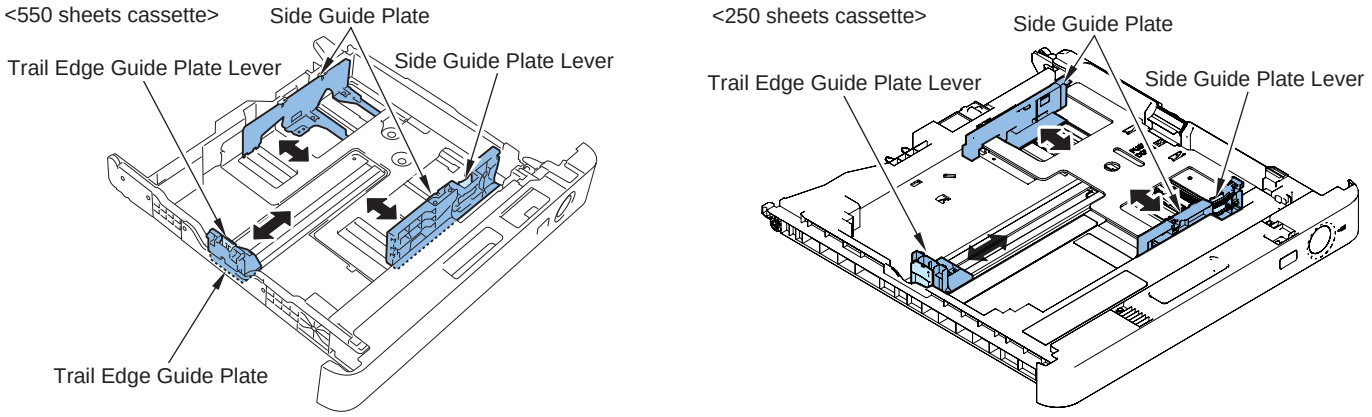
☐
2) Install the supplied reverse tray.



F-9-23

Setting the Cassettes

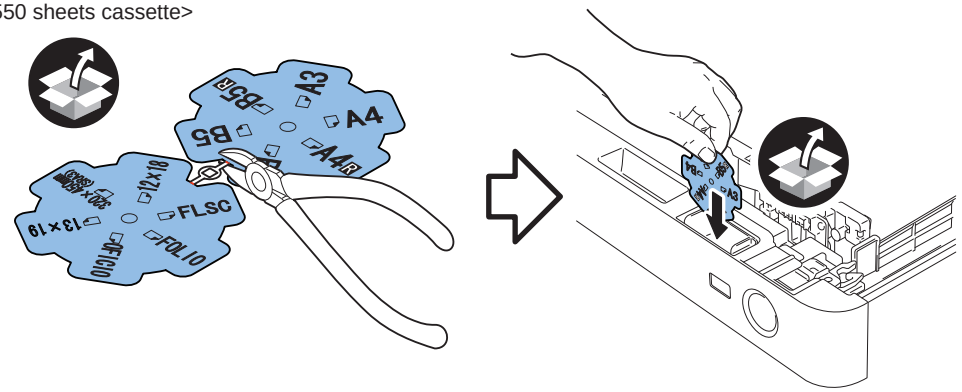
☐
1) Press the cassette release button to draw out the cassette forward.
2) Confirm the type of paper used by the customer.
3) While nipping the trailing edge guide lever, slide the trailing edge guide to the position corresponding to the prescribed paper size.
4) While nipping the side guide lever, slide the side guide to the position corresponding to the prescribed paper size.



F-9-24

☐
5-a) 500-sheet cassette: Set the supplied paper size label as shown below so that the size of the paper loaded in the cassette is shown below.

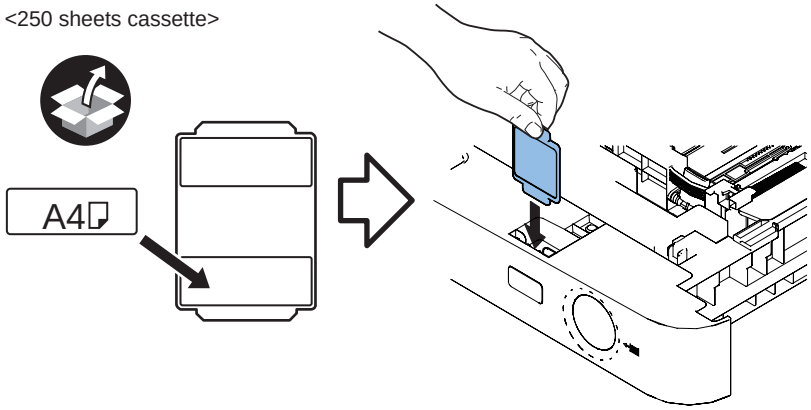
<550 sheets cassette>



F-9-25

☐
5-b) 250-sheet cassette: Affix the cassette size label corresponding to the size of the paper to be loaded in the cassette to the cassette size plate. Insert the cassette size plate into the cassette as shown.

<250 sheets cassette>



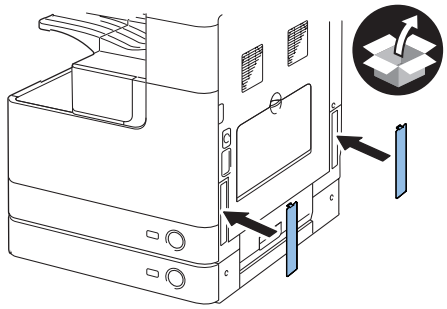
F-9-26

☐
6) Load paper in the cassette, and then push in the cassette.
7) For the double-cassette (standard) model, load paper in the other 550-sheet cassette and push in the cassette in the same manner as for the first cassette.
8) When a cassette pedestal is used, set up the cassettes with reference to the Cassette Pedestal Installation Procedure.

Installing Other Parts

a.Attaching Handle Covers

☐
1) Attach the two supplied handle covers.



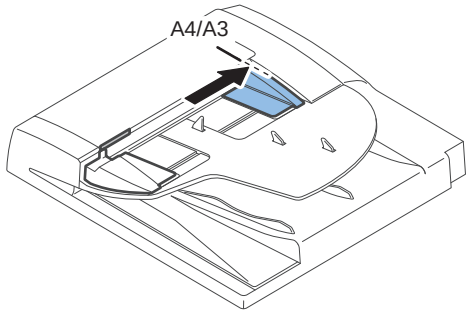
F-9-27

b.Affixing the ADF Label (only for the standard model with an ADF)

☐ 1) If the following labels are supplied, go through the steps described below.

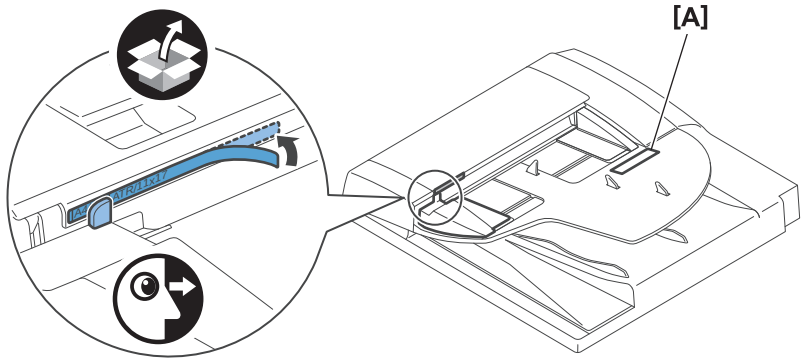
- Document size label
- Finger pinch caution label 1
- Finger pinch caution label 2

☐ 2) Align the side guide (rear) with the A4/A3 mark.



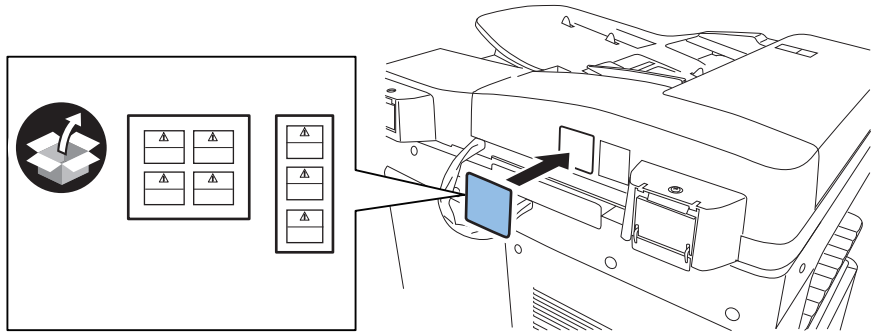
F-9-28

☐ 3) Affix the document size label [A] of the suitable paper size series to the feeder cover in such a manner that the marks on the side guide (front) are aligned with the corresponding marks on the document size label when viewed by the user.



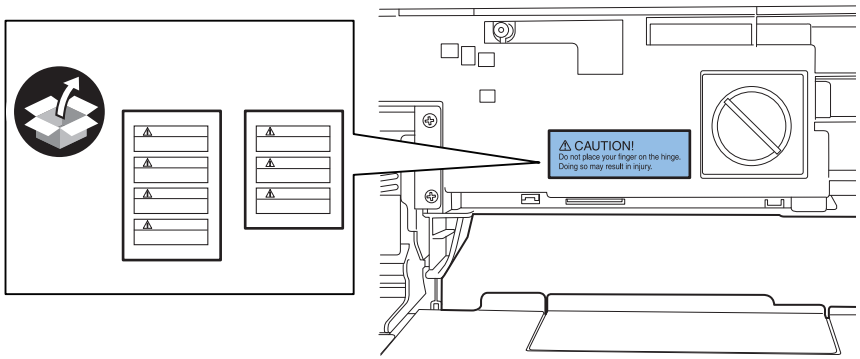
F-9-29

☐ 4) Affix the supplied finger pinch caution label 1 written in an appropriate language.



F-9-30

☐ 5) Open the DADF.
6) Affix the supplied finger pinch caution label 2 written in an appropriate language.

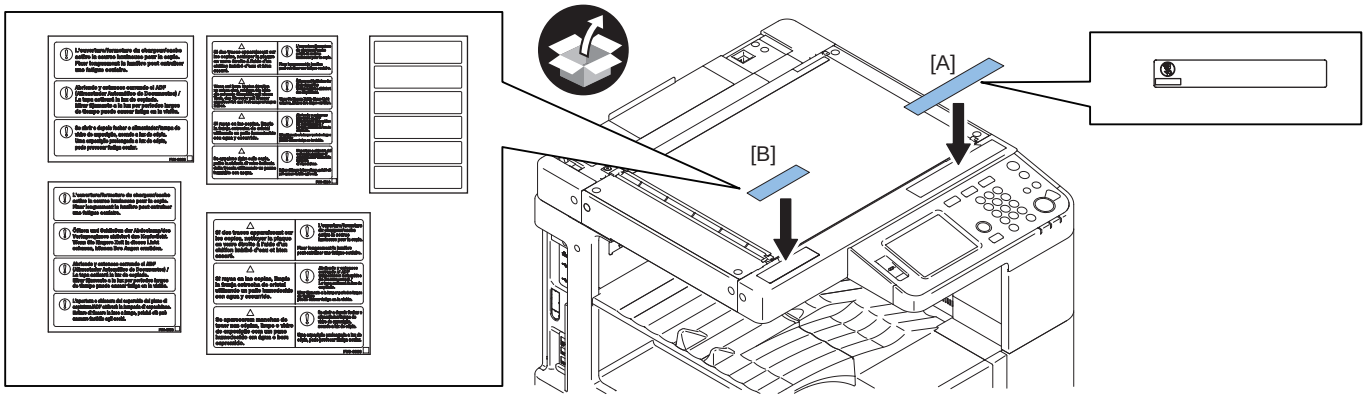


F-9-31

c.Affixing Labels to the Reader

☐ 1) If the following labels are supplied, go through the steps described below.
- Copy inhibition label
- Glass cleaning/ lamp caution label
- Lamp caution label

☐ 2) Open the pressure plate/DADF.
3) Affix the copy inhibition label [A] (written in an appropriate language) to the existing label.
4) Affix the glass cleaning/lamp caution label or lamp caution label [B] written in an appropriate language to the existing label. (The label written in English is factory-affixed.)



F-9-32

Checking the Print Image

1) Place a document on the document glass, copy it by feeding paper from the cassette or manual-feed tray, and then check the resultant print image.
   - Check that no abnormal noise is heard.
   - Check the image quality at respective magnifications.
   - Check that the document is copied normally on the specified number of sheets.

Checking the Connection to the Network

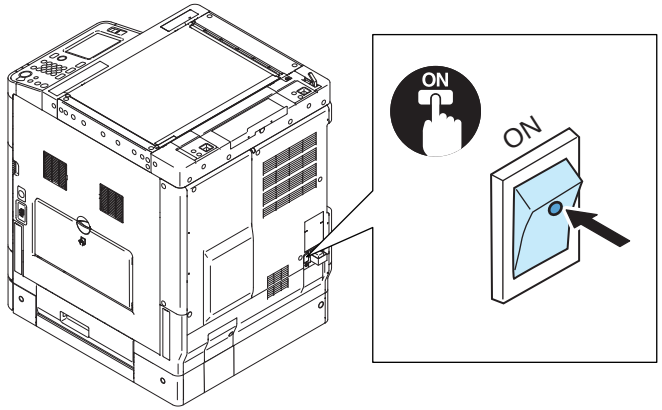
1) Press the following keys in sequence to call up the service mode screen:
   > 2 key > 8 key >
2) Select SERVICE MODE > #REPORT > REPORT OUTPUT > SPEC LIST > OK.
3) When “SPEC LIST” is displayed, check that “NETWORK” in “ACTIBAT FUNCTION” is set to “ON”.
4) Ask the system administrator of the customer to configure the network connection.

Setting the Date and Time

1) Press to call up the user mode screen.
2) Select “TIMER SETTING”, and press the OK key.
3) Select “DATE & TIME SETTING”, and then press the OK key. The previously set date and time are displayed.
4) Enter the current date and time using numeric keys.
5) Press the OK key to allow the entered date and time to take effect.

Setting the Cassette Heater (if equipped with the cassette heater)

1) On the customers request, turn the cassette heater ON according to the climate condition.



F-9-33

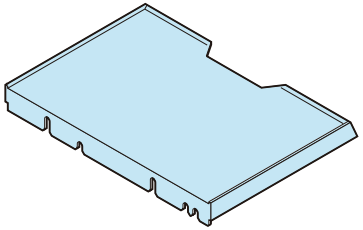
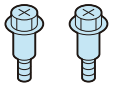
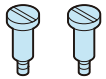
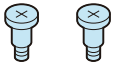
Document Tray-J1 Installation Procedure

Points to Note before Installation

CAUTION

When installing this equipment and “USB Application 3-Port Interface Kit-A1 simultaneously, install the “USB Application 3-Port Interface Kit-A1” first.

Checking the Contents

☐ [1] Document Tray x 1 	☐ * [2] Washer x 1 	☐ [3] Stepped Screw (RS tightening; M4x18) x 2 	☐ * [4] Stepped Screw (M4x17.6) x 2 	☐ [5] Stepped Screw (M4x10.8) x 2 

* Not used with this procedure

Installation Procedure

In case of iR 2545/2535 Series

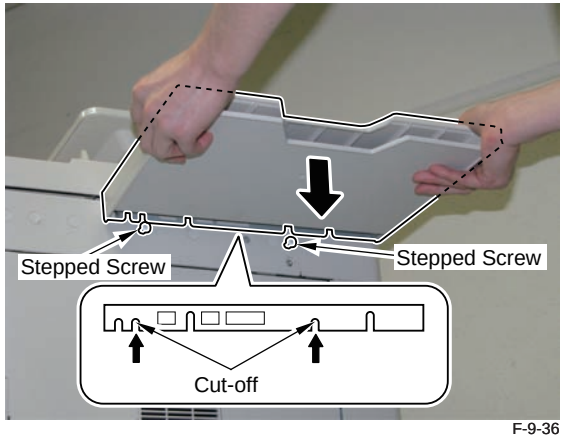
☐ 1) Remove the 2 Face Seals. (The removed Face Seals are no longer used.)

F-9-34

☐ 2) Tighten the 2 stepped screws (M4X10.8) to the Reader Right Cover.

F-9-35

☐ 3) Hook the cut-off of the Document Tray (Reinforcing Plate) to the



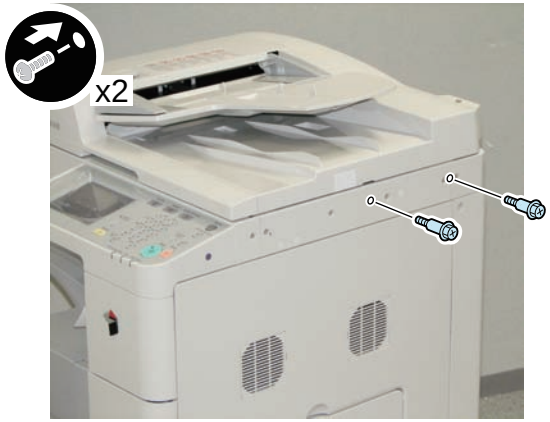
F-9-36

In case of iR 2530/2525/2520 Series

☐ 1) Remove the 2 Face Seals. (The removed Face Seals are no longer used.)

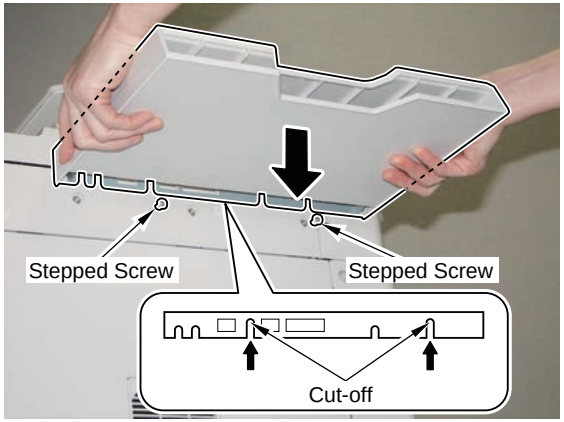
F-9-37

☐ 2) Tighten the 2 stepped screws (RS tightening; M4X18) to the Reader Right Cover.



F-9-38

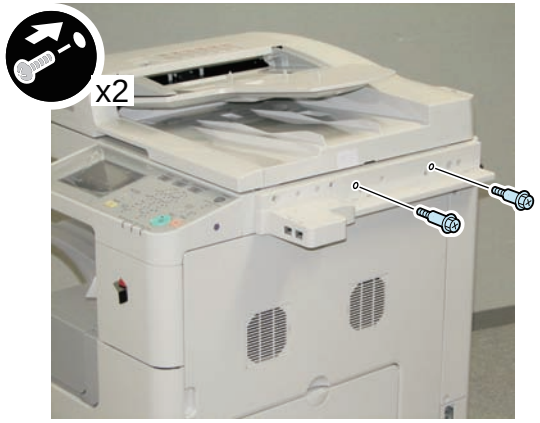
☐ 3) Hook the cut-off of the Document Tray (Reinforcing Plate) to the



F-9-39

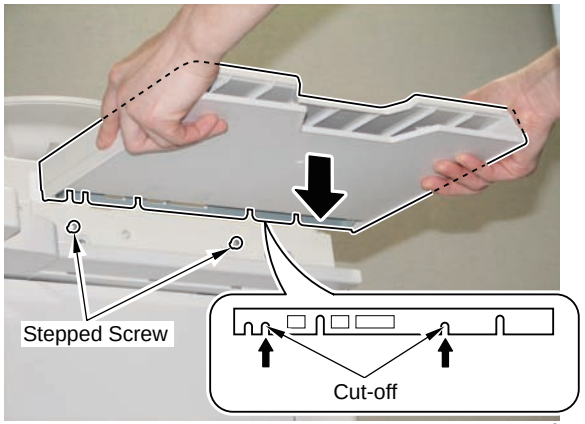
■ When installing with “USB Application 3-Port Interface Kit-A1” simultaneously

☐
1) Tighten the 2 stepped screws (RS tightening; M4X18) to the USB Application 3-Port Interface Kit.



F-9-40

☐
2) Hook the cut-off of the Document Tray (Reinforcing Plate) to the stepped screws tightened in the Installation>Document Tray-J1 Installation Procedure>Installation Procedure>When installing with “USB Application 3-Port Interface Kit-A1” simultaneously step 1).

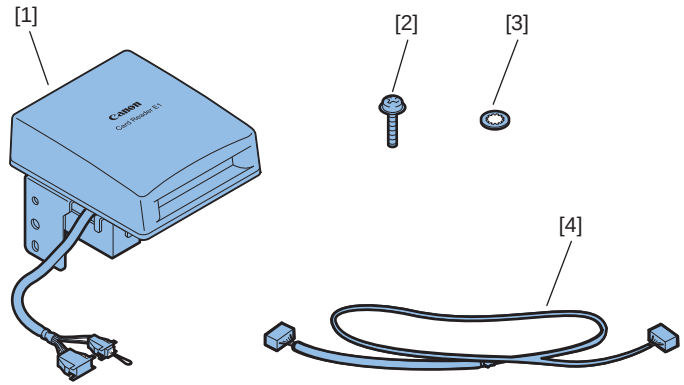


F-9-41

Card Reader Installation Procedure

Checking the Contents

< Card Reader-E1 >

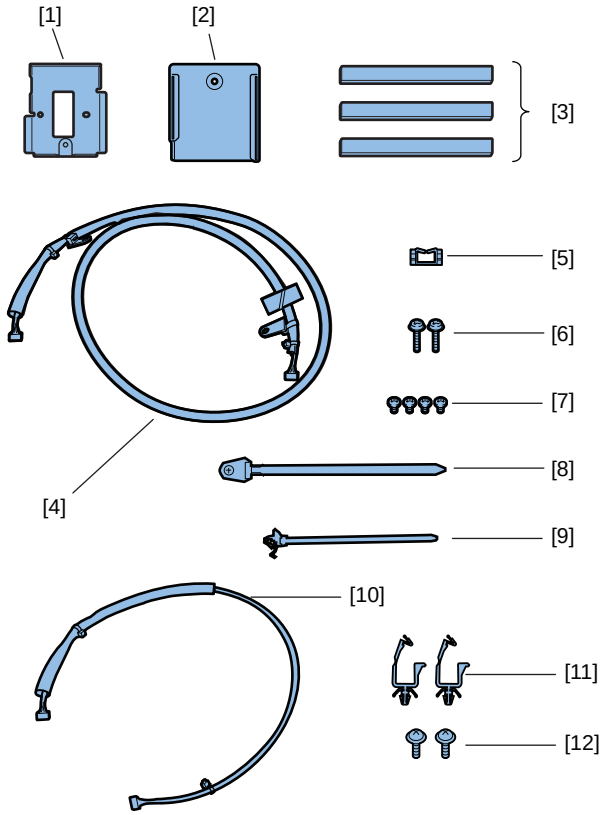


F-9-42

[1]	Card reader	1 pc.
[2]*1	TP screw (M3x12))	1 pc.
[3]*1	Toothed washer	1 pc.
[4]*1	Repeating harness A	1 pc.

*1: Not used in this host machine.

< Card reader attachment-D3 >



F-9-43

[1]	Card reader mount	1 pc.	[7]	Binding screw (M4X6)	4 pcs.
[2]	Card reader cover	1 pc.	[8] *1	Cord retainer	1 pc.
[3]	Harness cover (base + lid))	3 pcs.	[9] *1	Reuse band	1 pc.
[4]	Repeating harness B	1 pc.	[10]	Repeating harness C	1 pc.
[5]	Edge saddle	1 pc.	[11]	Clamp	2 pcs.
[6]*3	TP screw (M4X16)	2 pcs.	[12]*2	TP screw (M4X6)	2 pcs.

*1 Not used in this host machine.
*2 Use only for iR2545/2535
*3 Use for iR2530/2525/2520 or use for the installation of the Card Reader-E1 and the USB

Points to Note Before Installation

Turning Main Power OFF

⚠CAUTION

Perform the following in the order prior to the installation.

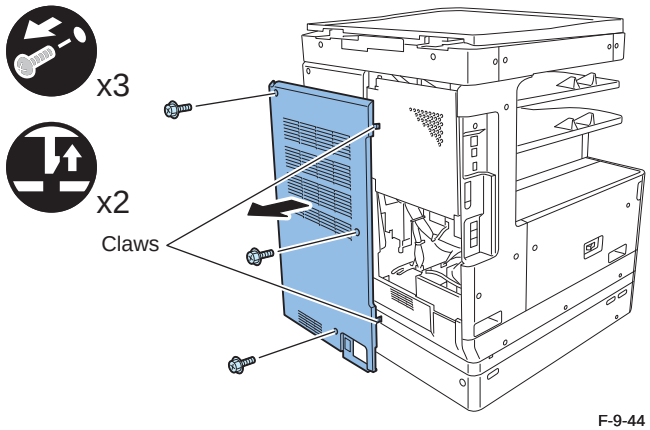
1) Turn the main power of the host machine OFF.

2) Confirm the control panel display and the main power lamp have turned OFF and unplug the power cord.

Installation Procedure

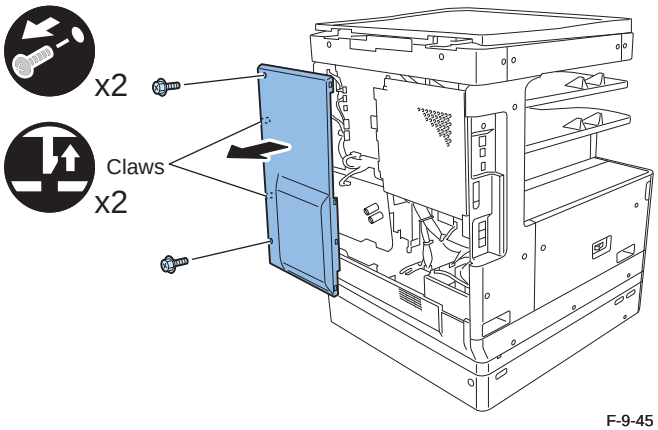
a.Installing the card reader in a simple substance

☐ 1)Detach the rear cover (right).
- Screws (3 pcs.)
- Claws (2 pcs.)



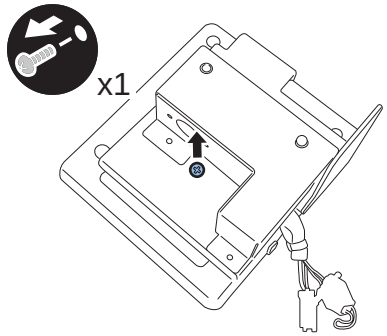
F-9-44

☐ 2) Detach the rear cover (left).
- Screws (2 pcs.)
- Claws (2 pcs.)



F-9-45

☐ 3) Remove the screw from the card reader.

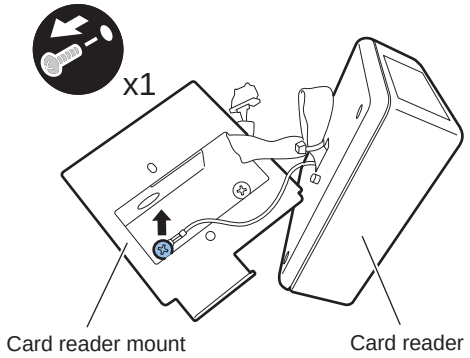


F-9-46

☐ 4) Remove the screw and the tooth washer securing the ground cable, and then separate the card reader from the card reader mount. The removed card reader mount is no longer necessary.

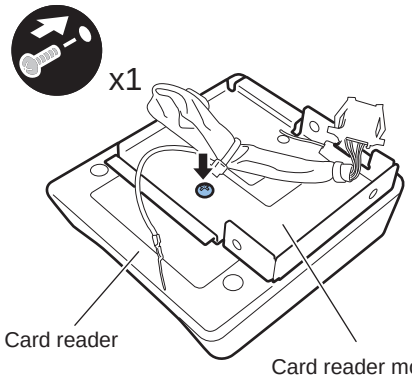
CAUTION:

When removing the harness through the opening in the card reader mount, take care not to cut or damage it.



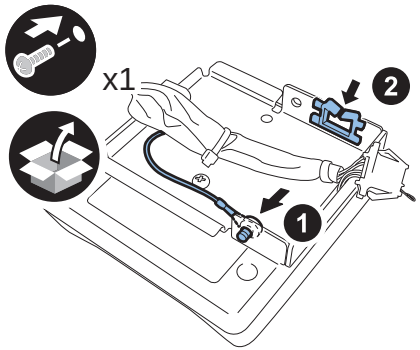
F-9-47

☐ 5) Insert the card reader harness and ground cable into the hole in the supplied card reader mount. Using the screw removed in step 4), secure the card reader to the card reader mount.



F-9-48

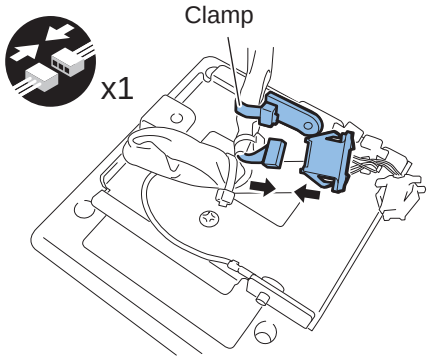
☐ 6) Connect the ground cable [2] to the reader mount using the bundled binding screw (M4x6).
7) Attach the supplied edge saddle to the card reader mount.



F-9-49

☐
8) Connect the connector of the bundled repeating harness B to the connector on the card reader.

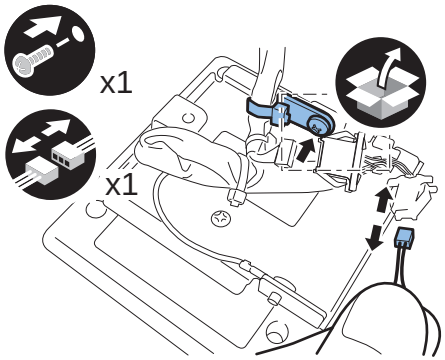
MEMO:
Connect the repeating harness B's connector which is closer to the clamp to the connector of the card reader.



F-9-50

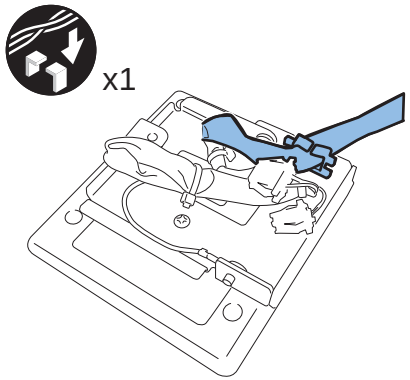
☐
9) Secure the repeating harness B clamp using the bundled binding screw (M4x6).
10) Disconnect the shorting connector. The removed shorting connector is no longer necessary.

CAUTION:
If the shorting connector is not disconnected, a malfunction or error can result.



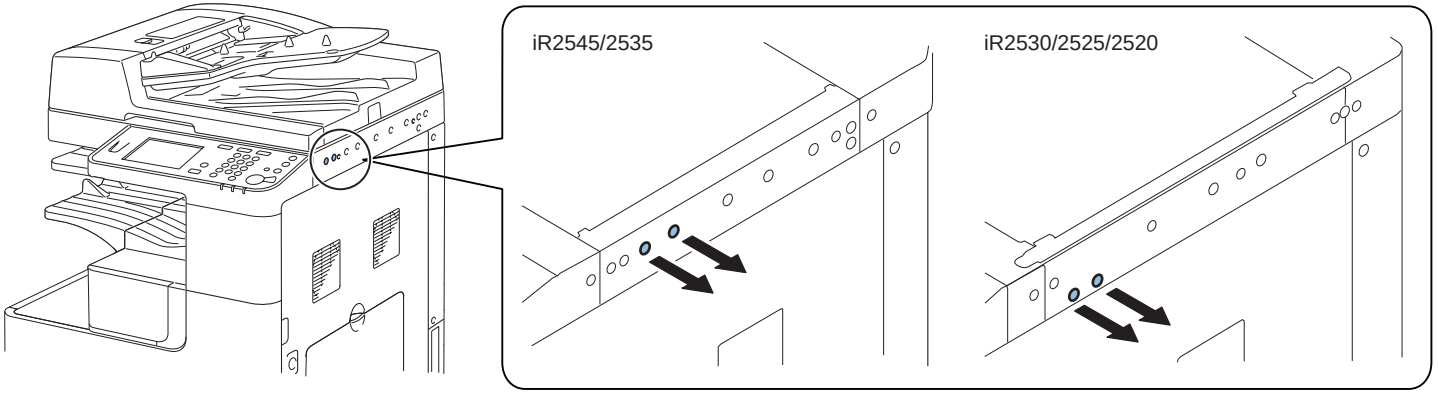
F-9-51

☐
11) Secure the repeating harness B with the edge saddle.



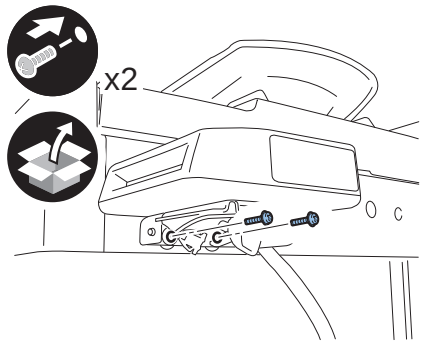
F-9-52

☐
12) Remove the two blind seals from the reader left cover.



F-9-53

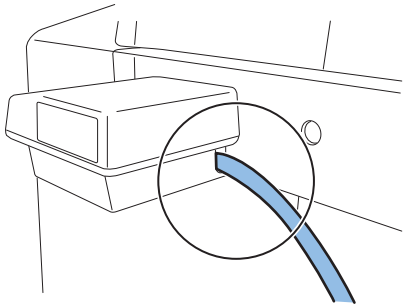
☐ 13) Attach the card reader to the reader.
- If iR2545/2535 series: bundled 2 TP screws (M4x6)
- If iR2535/2530/2525 series: bundled 2 TP screws (M4X16)



F-9-54

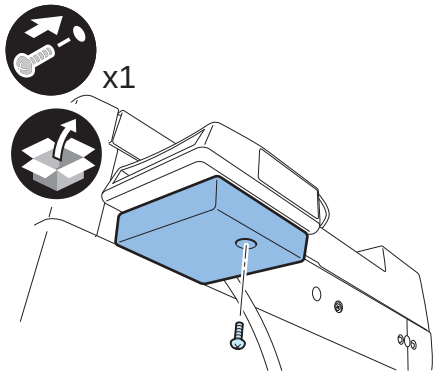
☐ 14) Slide the card reader cover to attach it to the card reader mount.

CAUTION:
Route the repeating wire B as shown below.



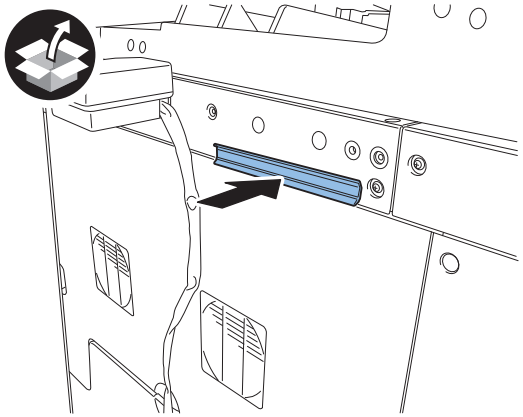
F-9-55

☐ 15) Secure the card reader cover using the bundled binding screw (M4x6).



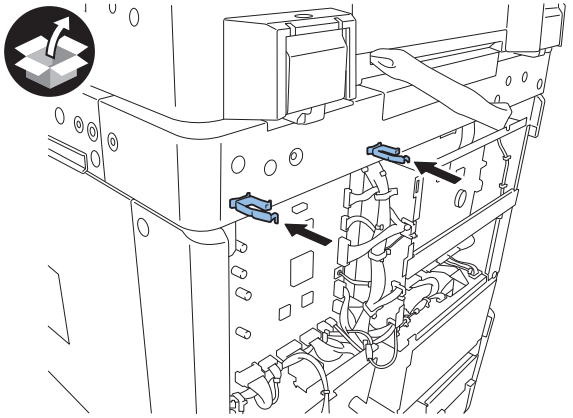
F-9-56

☐ 16) Affix the bundled harness cover (bases) at the right rear of the machine with it aligned with the bottom line of the reader as the figure below.



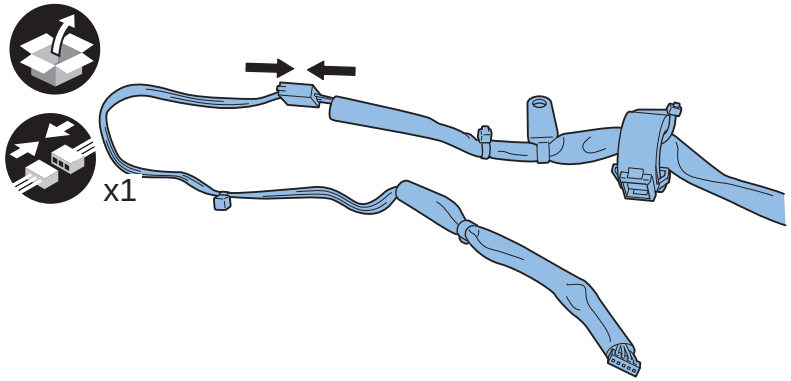
F-9-57

☐ 17) Attach the 2 bundled clamps at the position shown in the Figure.



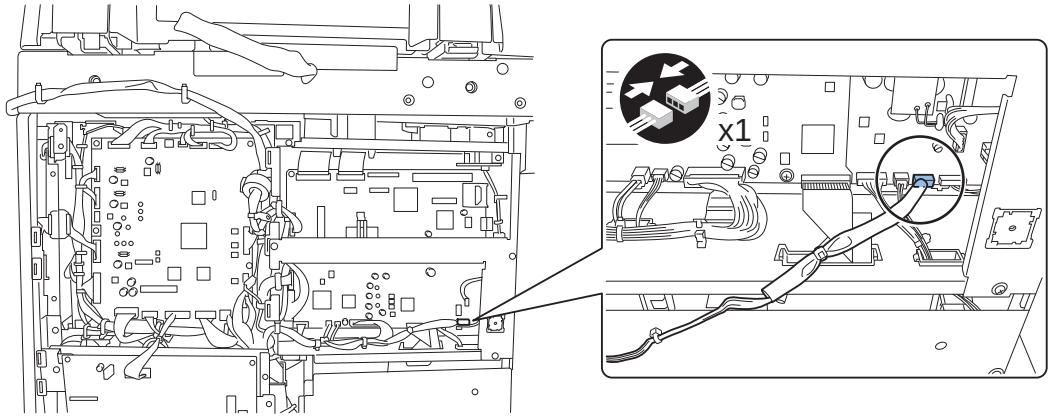
F-9-58

☐ 18) Connect the connector of the repeating harness B to the repeating harness C.
Connect the connector without the protective tube of repeating harness C.



F-9-59

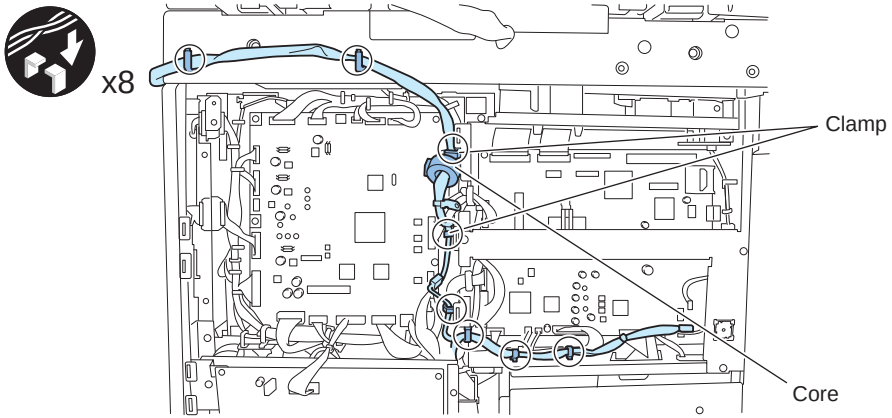
☐ 19) Connect the connector of the repeating harness C to the connector J8119 on the main controller PCB.



F-9-60

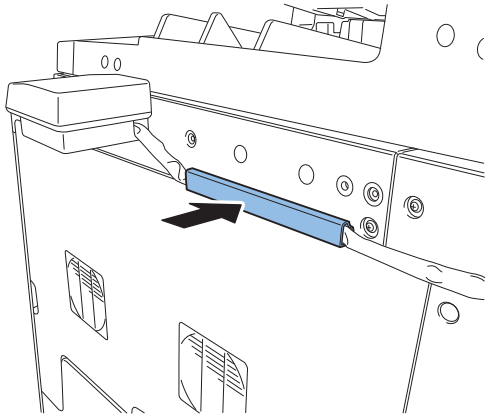
☐ 20) Secure the repeating harness C to the 8 clamps from the reader side, and route the repeating harness C shown in the Figure.

CAUTION:
Put the core between clamps shown in the Figure.



F-9-61

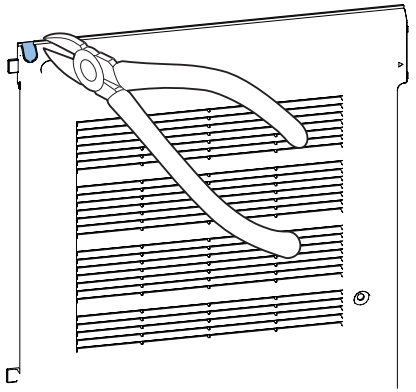
☐ 21) Using the harness cover (lids), secure the repeating harness B to the harness covers (bases).



F-9-62

☐ 22) Using a nipper, remove the precut portion [1] of the rear cover (left) as shown below.

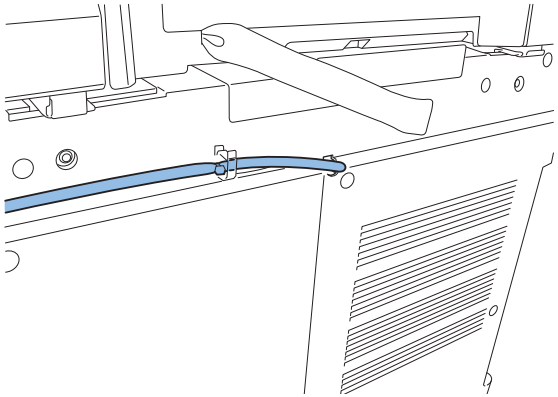
CAUTION:
Finish the surface of the cut part of the cover to remove burrs.



F-9-63

☐ 23) Attach the rear cover (left) using the 2 screws.
24) Attach the rear cover (right) using the 3 screws.

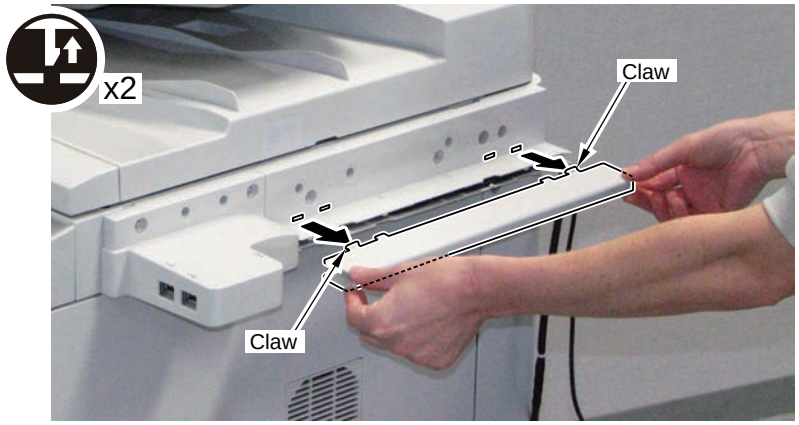
CAUTION:
Put the repeating harness in the cut portion of the rear cover (right).



F-9-64

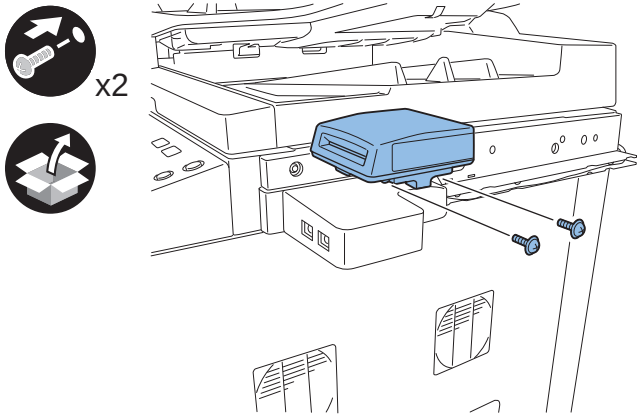
b.Installing the Card Reader and the USB Application 3-Port Interface Kit-A1 at the same time

☐
1) Install USB USB Application 3-Port Interface Kit-A1 earlier.
2) Remove the cable cover of USB Application 3-Port Interface Kit-A1.
- Claws (2 pcs.)



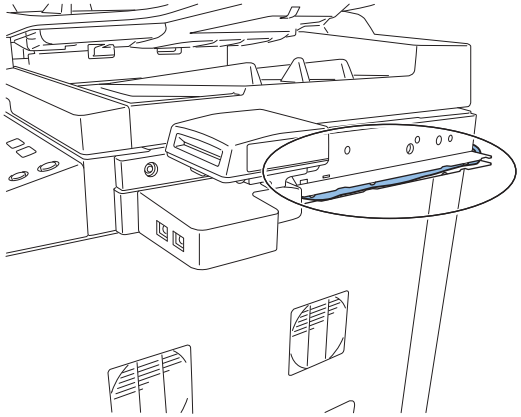
F-9-65

☐
3) Perform steps 1) to 12) of "a. Installing the card reader in a simple substance ".
4) Attach the card reader to the reader using the 2 bundled TP screws (M4x16).



F-9-66

☐
5) Perform steps 15) to 16) of " a. Installing the card reader in a simple substance ".
6) Route the cable to the USB cable guide.



F-9-67

☐
7) Perform steps 18) to 21) and steps 23) to 25) of " a. Installing the card reader in a simple substance ".
8) Attach the cable cover of USB Application 3-Port Interface Kit-A1.

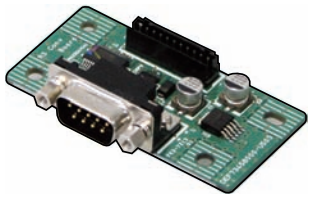
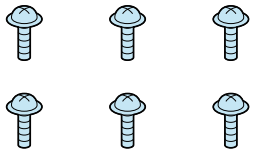
Registering the Card IDs

After installing the Card Reader, register the card numbers to be used in the service mode of the host machine.
If they are not registered, cards will not be recognized when inserted.

1) Plug the power cord into the outlet.
2) Turn on the main power switch.
3) When a message appears on the control panel display, press the following keys to enter the service mode:
   ✳ > 2 Key > 8 Key > ✳
4) Get in Service Mode (# ACC> CARD) and enter the card number to use (1 to 2000).
   - Enter the smallest card number of the cards used by the user.
   - From the entered number, up to 1000 cards can be used.
5) Turn main power switch off and on again.
6) Insert the card with registered valid number to check it's at standby state.

Serial Interface Kit-J2 Installation Procedure

Checking the Contents

☐ [1] RS Conversion PCB x 1	☐ [2] RS232C Support Plate x 1	☐ [3] CV-Serial Relay Cable x 1	☐ *[4] NCU-MJB Cable (CV accessory) x 1	☐ [5] TP Screws (M3X6) x 6
				

* NCU-MJB Cable (CV accessory) is not used with this equipment.

Points to Note before Installation

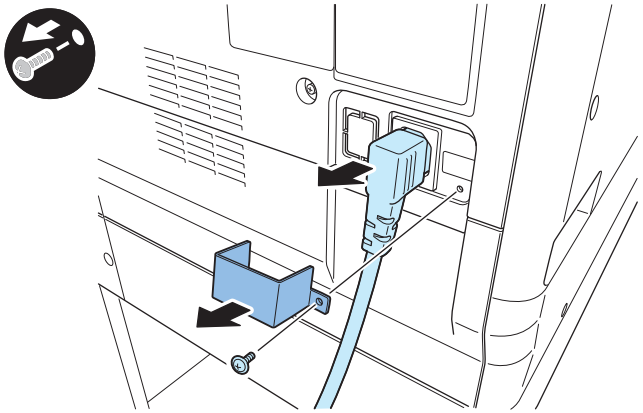
■ Turning OFF the Host Machine

Turn OFF the main power switch on the host machine, and then remove the power plug from the outlet.

Installation Procedure

☐
1) Remove the Power Supply Retainer and Power plug.

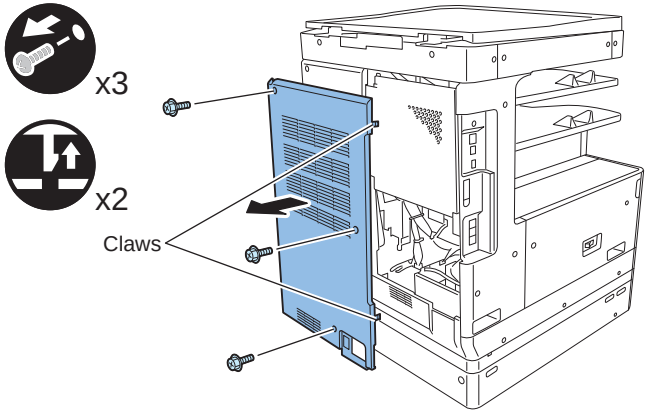
- 1 Screw



F-9-68

☐
2) Remove the Rear cover (right).

- 3 Screws
- 2 Claws



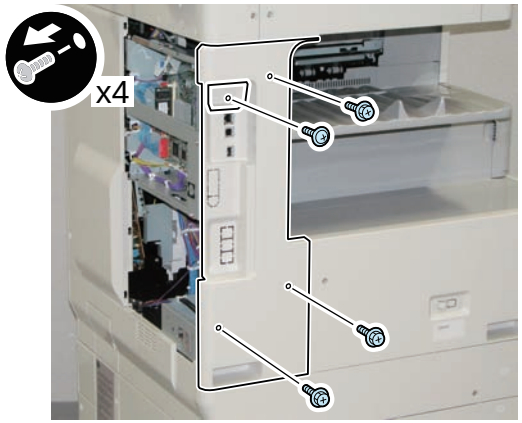
F-9-69

☐
3) Remove the SD Card Cover and the Left Rear Cover, and cut off the part of the Left Rear Cover indicated in the figure below with nippers.

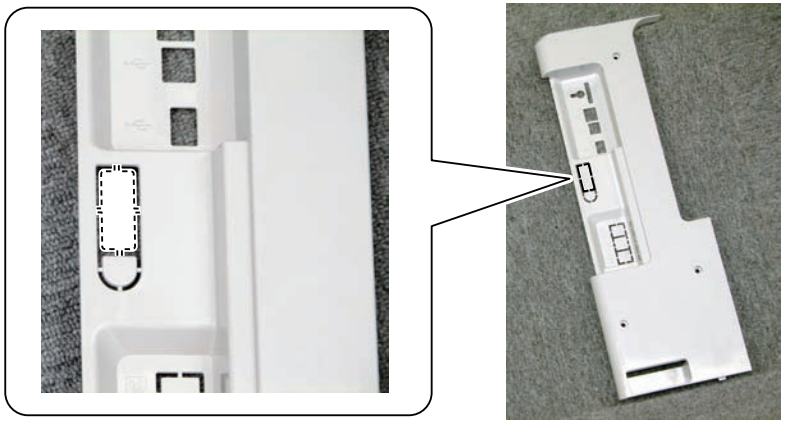
- 4 Screws

CAUTION:

When cutting off with nippers, be sure to cut it off fully.



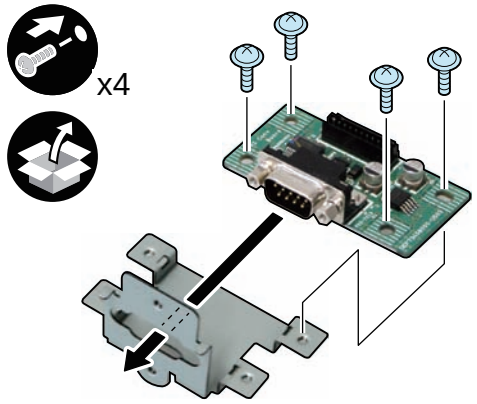
F-9-70



F-9-71

☐
4) Install the RS Conversion PCB on the RS232C Support Plate.

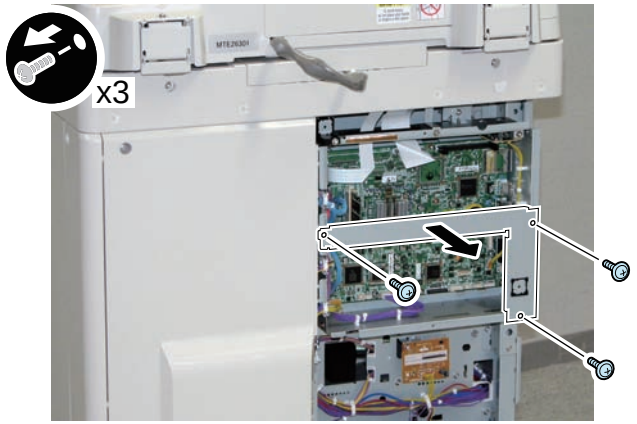
- 4 Screws (TP: M3x6)



F-9-72

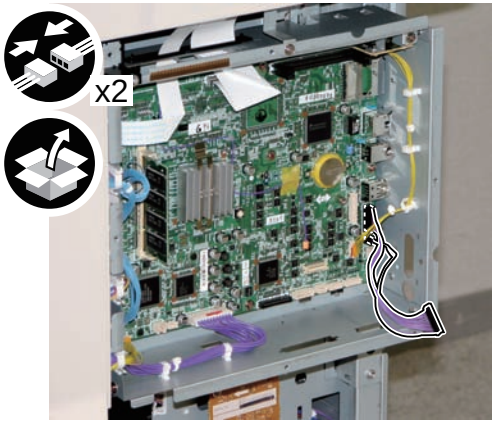
☐
5) Remove the Controller plate.

- 3 Screws



F-9-73

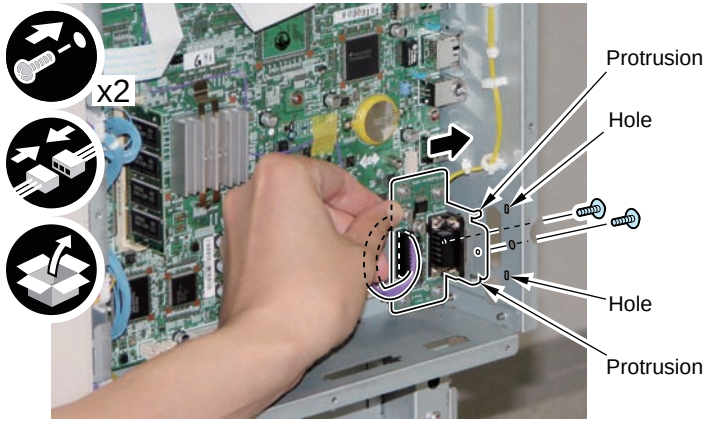
☐
6) Insert the CV-Serial Relay Cable included in the package to the 2 connectors on the PCB of the host machine.



F-9-74

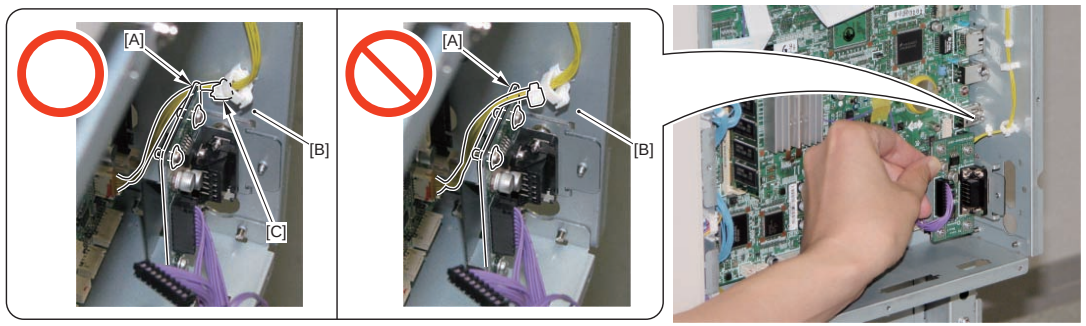
☐
7) Connect the RS Conversion PCB and the CV-Serial Relay Cable, and install the RS232C Support Plate by aligning the 2 Protrusions on the plate with the Holes on the host machin.

- 2 Screws (TP: M3x6)
- 2 Protrusions
- 2 Holes



F-9-75

☐
8) Be sure to put the harness [A] between the RS Conversion PCB and the plate [B] with the tie-wrap [C] of it on the front side.



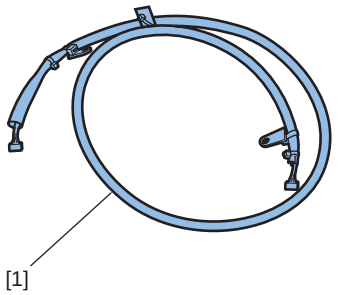
F-9-76

☐
9) Install the Controller plate.
10) Install the SD Card Cover.
11) Install the Rear Cover (Right).
12) Install the Power plug.
13) Install the Power Supply Retainer
14) Turn ON the main power switch.

Control Interface Cable-A1 Installation Procedure

Checking the Contents

☐
Control card cable x1



Points to Note Before Installation

■ Turning Main Power OFF

⚠CAUTION

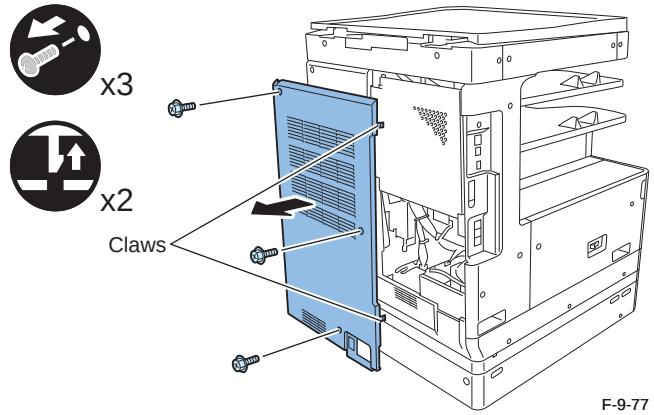
Perform the following in the order prior to the installation.

1) Turn the main power of the host machine OFF.

2) Confirm the control panel display and the main power lamp have turned OFF and unplug the power cord.

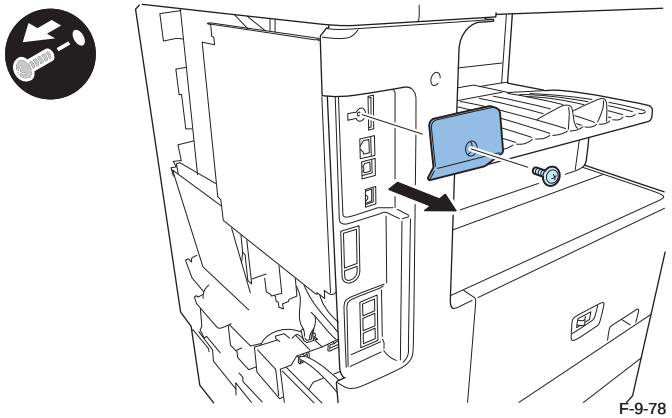
Installation Procedure

☐
1) Remove the rear cover (right).
- Screws (3 pcs.)
- Claws (2 pcs.)



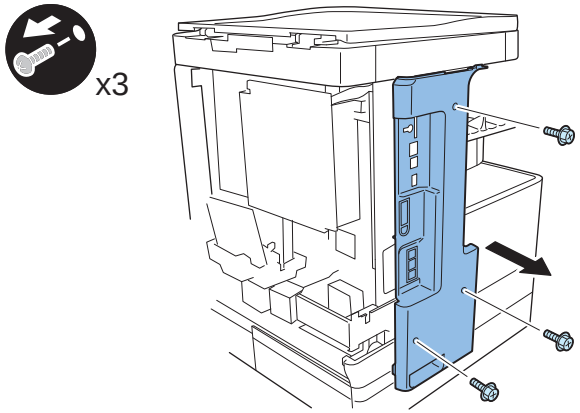
F-9-77

☐
2) Remove one screw and then the rear-left blanking cover.
- Screw (1 pc.)



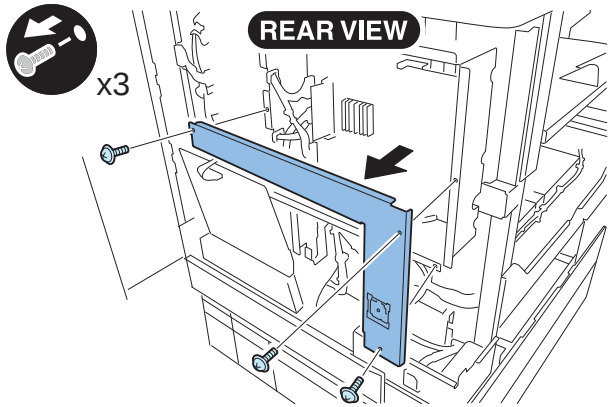
F-9-78

☐
3) Remove the rear-left cover.
- Screws (3 pcs.)



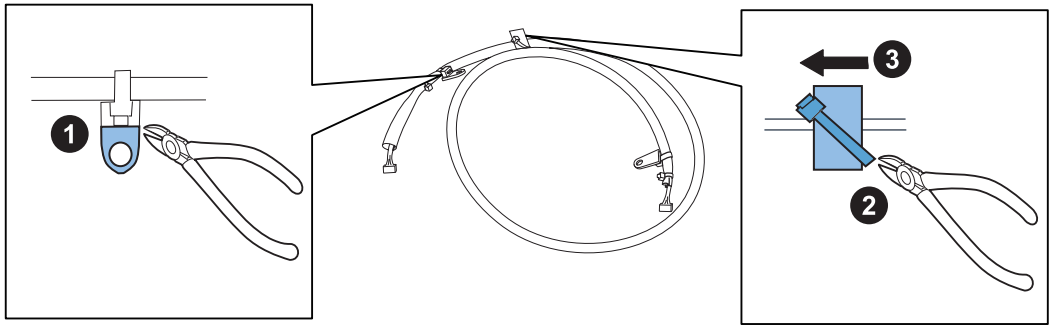
F-9-79

☐
4) Remove the controller cover.
- Screws (3 pcs.)



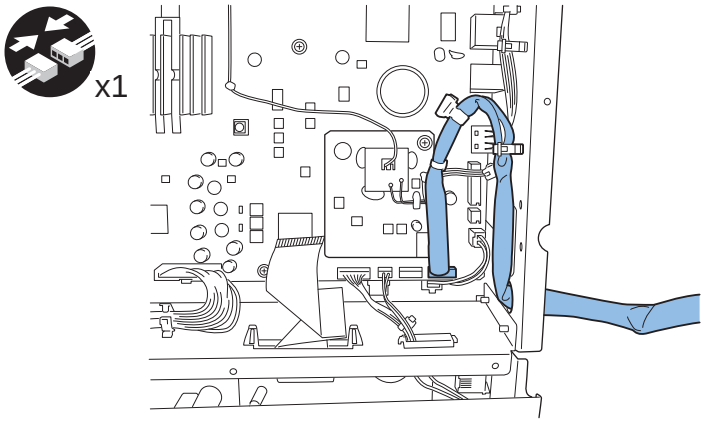
F-9-80

☐
5) To remove the core, cut the cable holder at the position shown below using nippers.
6) Cut the cable ties, and then remove the core of the control card cable.



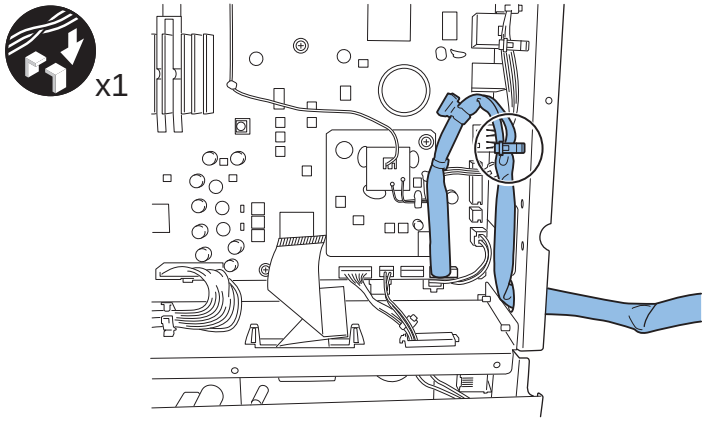
F-9-81

☐
7) Connect the connector of the control card cable to the connector on the image processor PCB as shown.



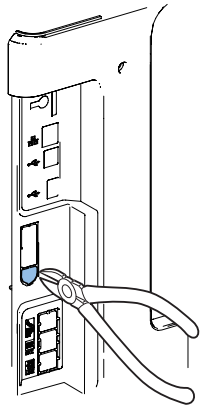
F-9-82

☐
8) Route the harness as shown.
- Clamp (1 pc.)



F-9-83

☐
9) Cut the blindfold cover from the rear-left cover using nippers.

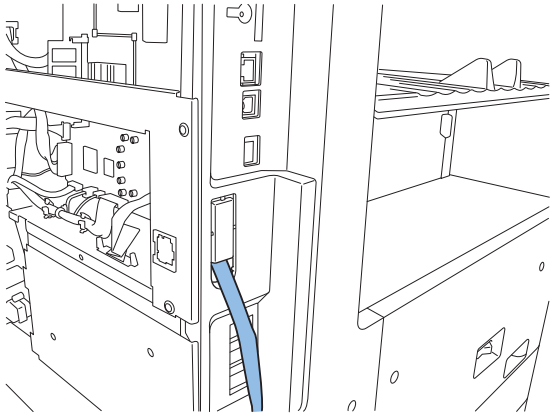


F-9-84

CAUTION:

Be sure to remove the remaining edges with care not to damage the harness.

☐
10) Install the controller cover.
11) Pass the control card cable in the opening made as mentioned above, and then install the rear-left cover.



F-9-85

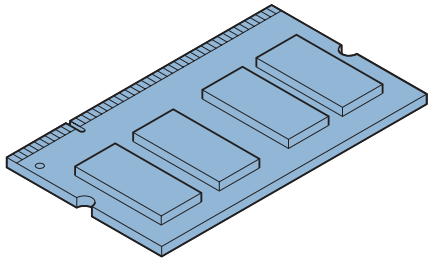
12) Install the removed cover.

☐ Rear-left blindfold cover
☐ Rear cover (right)

System Upgrade RAM-C1 Installation Procedure

Checking the Contents

☐
512MB RAM x1.



T-9-3

Points to Note Before Installation

■ Turning Main Power OFF

⚠CAUTION

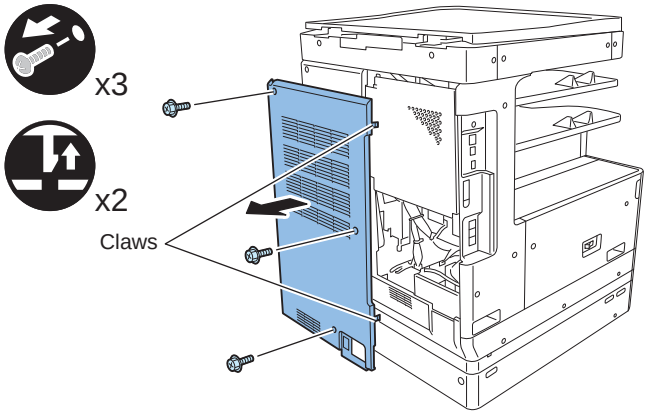
Perform the following in the order prior to the installation.

1) Turn the main power of the host machine OFF.

2) Confirm the control panel display and the main power lamp have turned OFF and unplug the power cord.

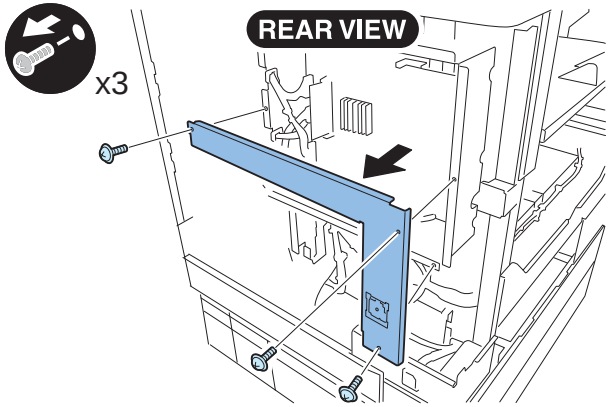
Installation Procedure

☐ 1) Remove the rear cover (right).
- Screws (3 pcs.)
- Claws (2 pcs.)



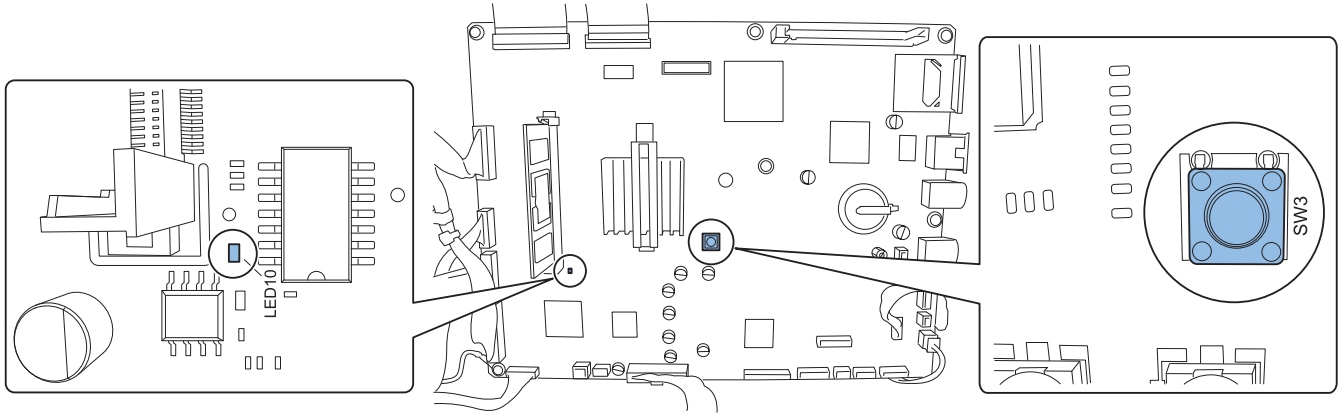
F-9-86

☐ 2) Remove the controller plate.
- Screws (3 pcs.)



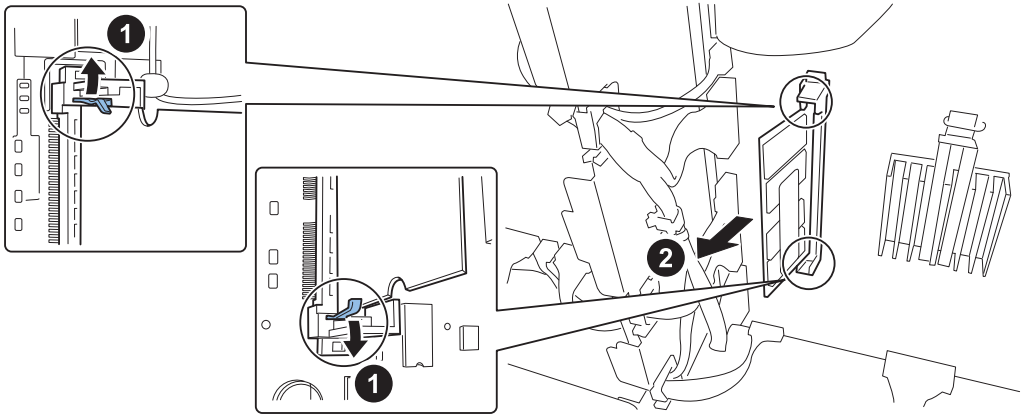
F-9-87

☐ 3) Press the SW3 on the controller PCB and confirm LED10 has gone OFF. (This action is to cut the secondary power OFF.)



F-9-88

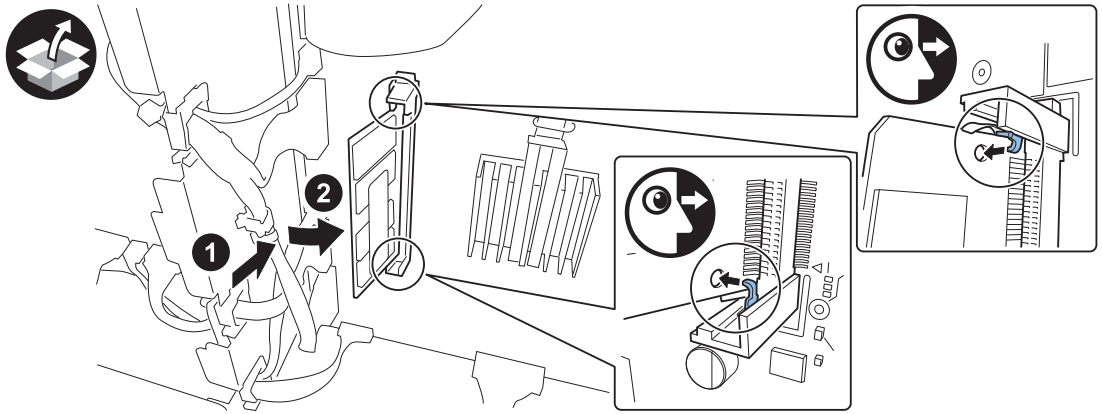
☐ 4) Release the 2 hooks to detach the 256MB RAM.



F-9-89

☐ 5) Insert the system upgrade memory in the slot where the 256MB RAM has been detached.

MEMO:
Be sure the upgrade memory has firmly been inserted and the hooks are in the hole of the memory as shown.



F-9-90

☐ 6) Fix the controller plate with 3 screws (TP, M3x6). 7) Fix the rear cover (right) with 3 screws (RS-tight, M3x8). 8) Connect the power plug of the host machine to the power outlet and turn its main power switch ON.	☐ 9) Checking the Connection 9-1) Have the service mode display by pressing the following keys in order: >2key>8key> In response, [#SSSW] appears. 9-2) Use left or right cursor [< / >] key and press [OK] when [REPORT] has appeared. 9-3) Use left or right cursor [< / >] key and press [OK] when [REPORT OUTPUT] has appeared. 9-4) Use left or right cursor [< / >] key and press [OK] when [SPEC LIST] has appeared. 9-5) SPEC REPORT is printed out. Confirm TOTAL MEMORY is [512MB] on the report.

System Upgrade SD CARD-A1Installation Procedure

Checking the Contents

☐ [1] System Upgrade SD Card x 1

Points to Note before Installation

CAUTION:

- Be sure that the eAM_License has been registered.
- Otherwise, the AM button may not be displayed on UI screen, and System does not become effective.

Turning OFF the Host Machine

Turn OFF the main power switch on the host machine, and then remove the power plug from the outlet.

Installation Procedure

☐ 1) Remove the SD Cover.

- 1 Screw

F-9-91

☐ 2) Insert the System Upgrade SD Card.

F-9-92

T-9-4

☐ 3) Return the SD Card Cover to its original position.

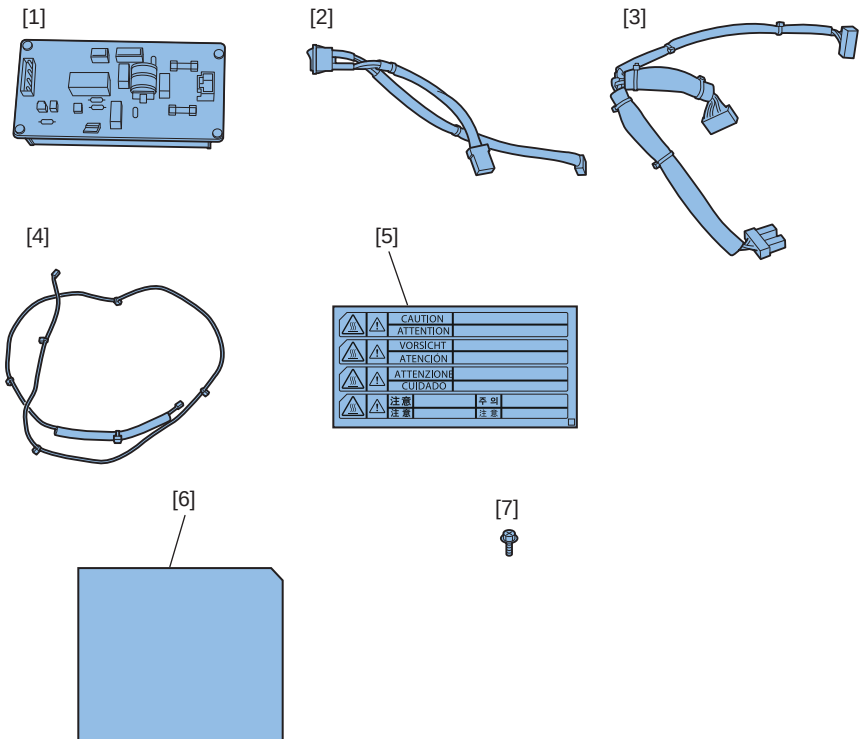
Checking after Installation

1) Turn ON the main power.
2) Check that the AM button is displayed.

MEMO:
If the AM button is displayed, it means that eAM has been recognized. If there is operation failure with the System Upgrade SD Card, E602 will be displayed.

Cst Heater Kit-J1 Installation Procedure

Checking the Contents



F-9-93

Unpack the shipping carton and confirm the following components are contained in the carton.

☐	[1]	Heater PCB	1pc.
☐	[2]	Heater SW harness	1pc.
☐	[3]	Heater AC harness	1pc.
☐	[4]	Heater DC harness	1pc.
☐	[5]*1	High temperature caution label	1pc.
☐	[6]*1	Cassette heater sheet	1pc.
☐	[7]	Screw (RS-tight, M3x8)	1pc.

*1:These items are used only when the cassette heater is to be installed in the iR2530/2525/2520 series model with its 1st cassette capacity is 250 sheets. Save them even if the cassette heater is not being installed.

Points to Note Before Installation

Turning Main Power OFF

⚠CAUTION

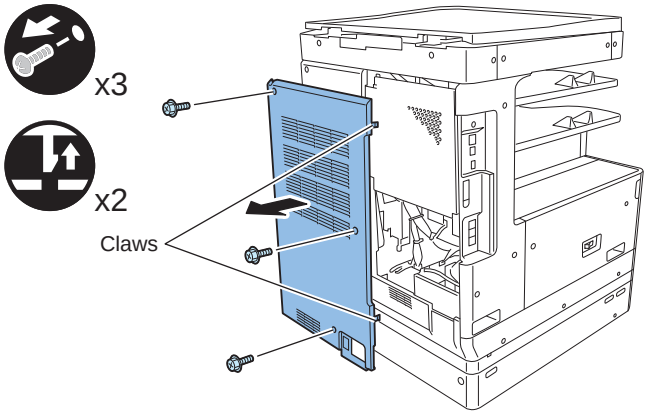
Perform the following in the order prior to the installation.

1) Turn the main power of the host machine OFF.

2) Confirm the control panel display and the main power lamp have turned OFF and unplug the power cord.

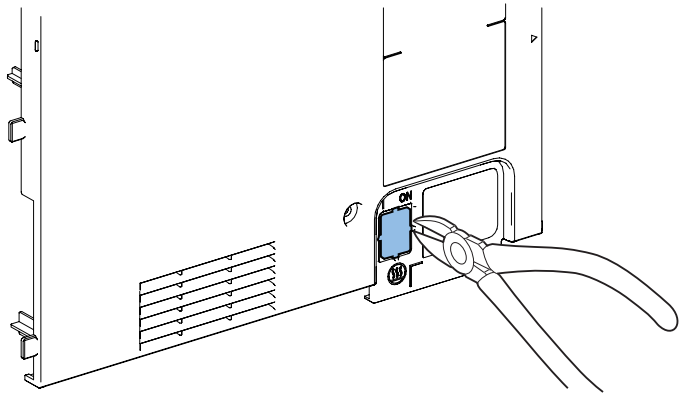
Installation Procedure

1) Remove the rear cover (right).
- Screws (3 pcs.)
- Claws (2 pcs.)



F-9-94

2) Cut off the blindfold cover of the rear cover (right) by a side cutter as shown.

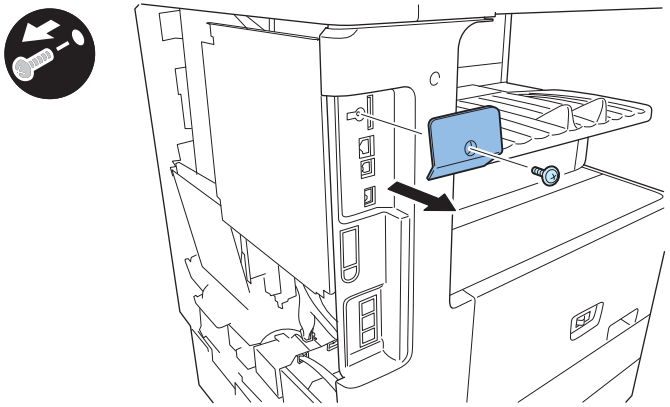


F-9-95

CAUTION:

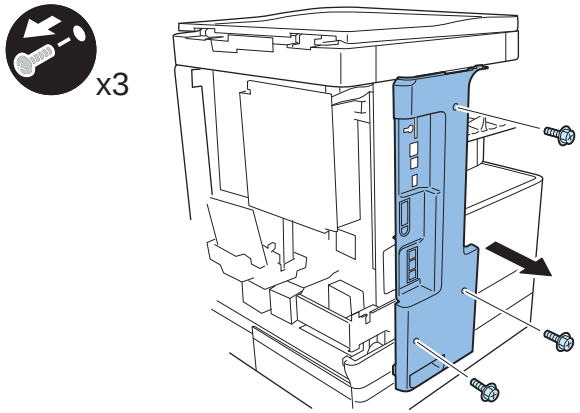
Finish the surface of the cut part of the rear cover (right) to remove burrs.

3) Remove the left rear blindfold cover.
- Screw (1 pc.)



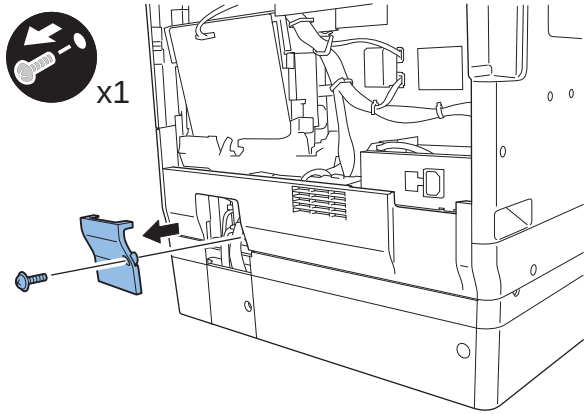
F-9-96

4) Remove the left rear cover.
- Screws (3 pcs.)



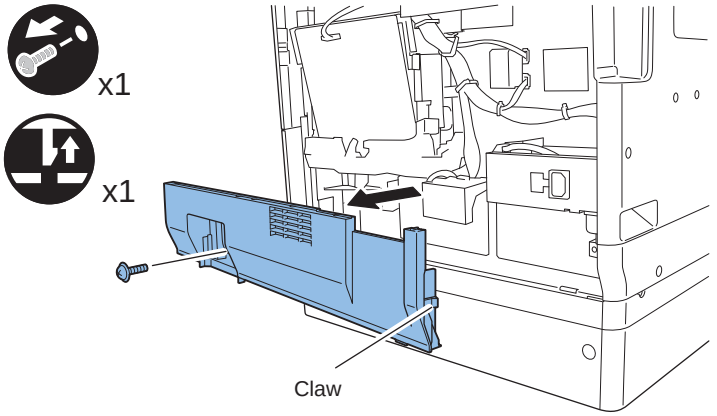
F-9-97

☐ 5) Remove the connector cover.
- Screw (1 pc.)



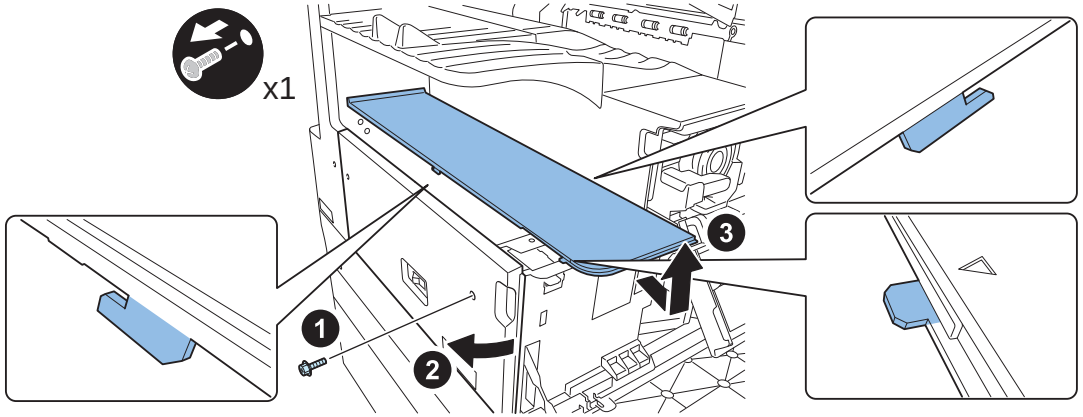
F-9-98

☐ 6) Remove the rear lower cover.
- Screw (1 pc.)
- Craw (1 pc)



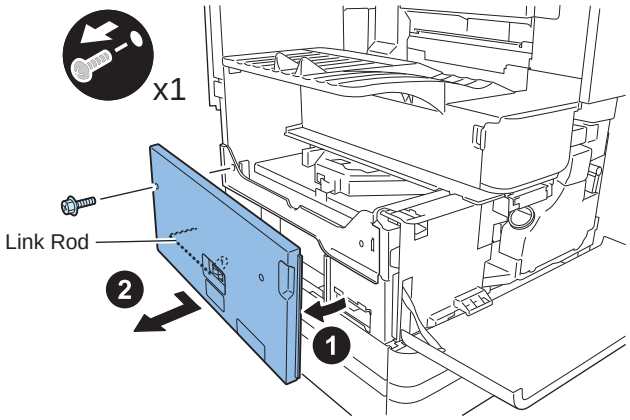
F-9-99

☐ 7) Remove the left cover and distort it to detach the inner bottom cover.
- Screw (1 pc.)



F-9-100

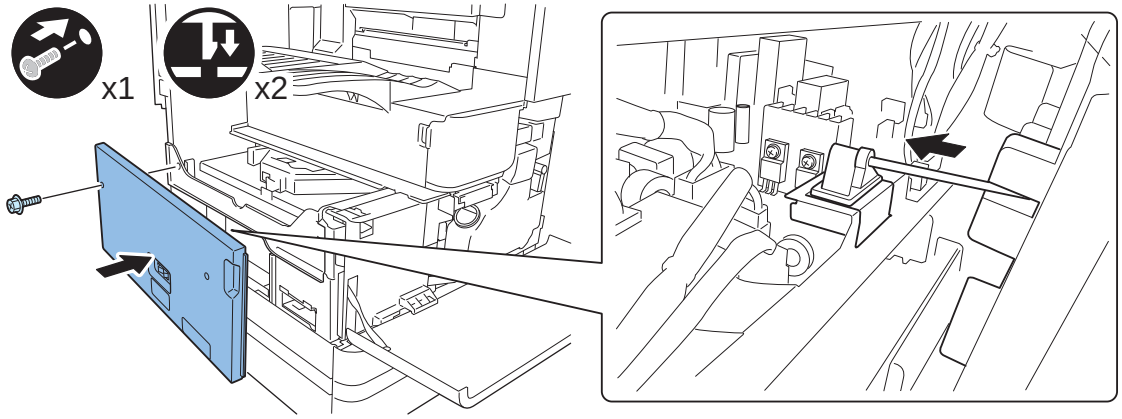
8) Remove the left cover.
- Screw (1 pc.)



F-9-101

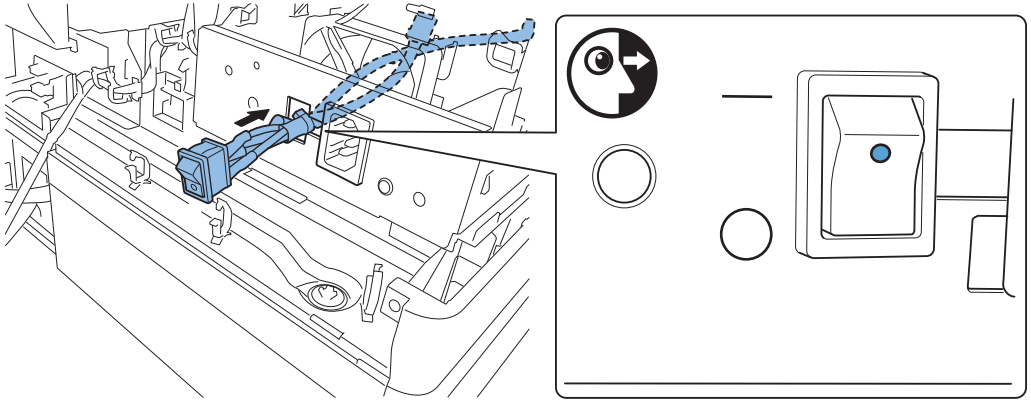
CAUTION:
There is the link rod behind the left cover, which is engaged to the switch on the power supply unit. So carefully remove the left cover not to give an excessive lord on the link rod.

MEMO:
When reinstalling the left cover, surely insert the link rod in the switch on the power supply unit so the switch does link to the main power switch of the host machine.



F-9-102

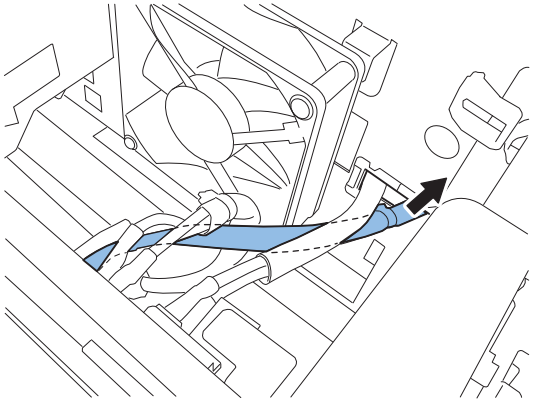
9) Install the heater SW harness firmly in the power cord bracket.



F-9-103

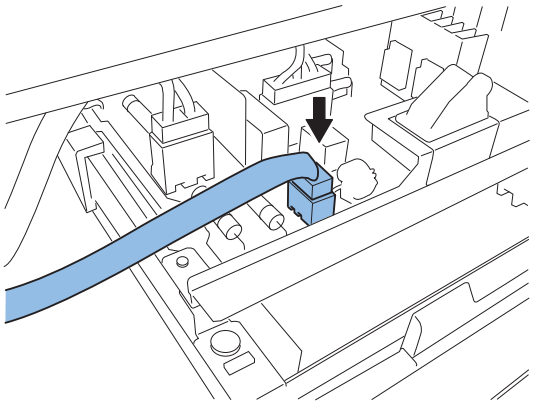
MEMO:
IInstall the heater SW harness in the correct direction referring to the figure in the power cord bracket.

☐ 10) Put the longer harness out of two through the hole of the rear frame.



F-9-104

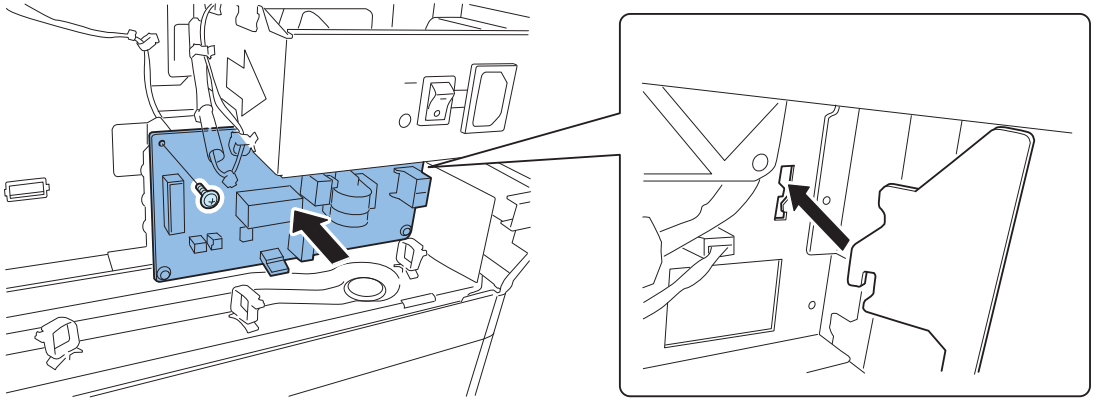
☐ 11) Joint the connector of the longer harness of the heater SW harness to J108 of the power supply unit.



F-9-105

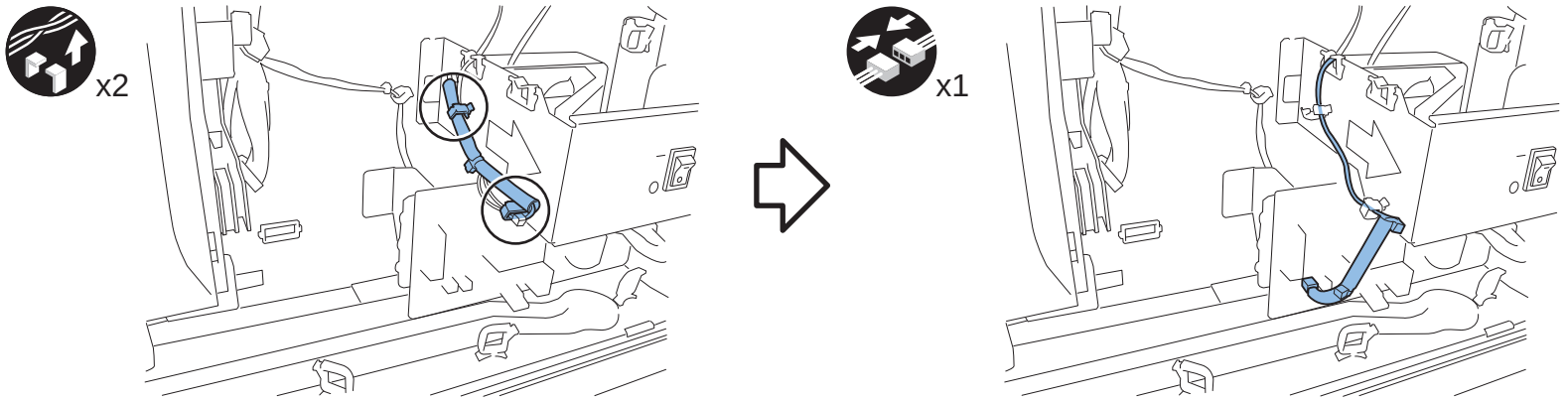
☐ 12) Install the heater PCB.

- Screw (1 pc.)



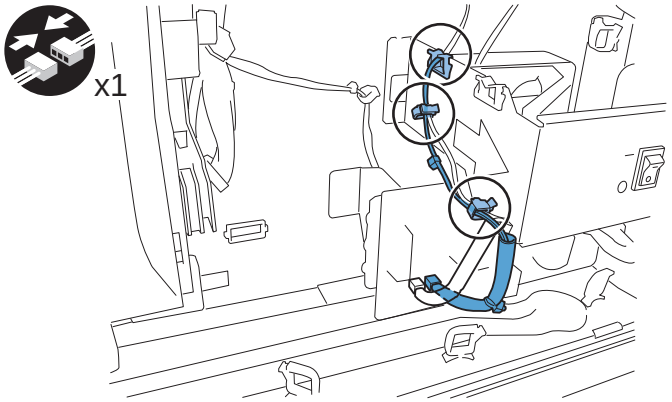
F-9-106

☐ 13) Unlock the wire saddles and stretch the folded harness as shown. Then joint the connector to the heater PCB.



F-9-107

☐ 14) Joint the connector of the heater DC harness, which is closer to the protective tube of the harness to J1102 of the heater PCB.
15) Clamp the 3 harnesses as shown in the figure.

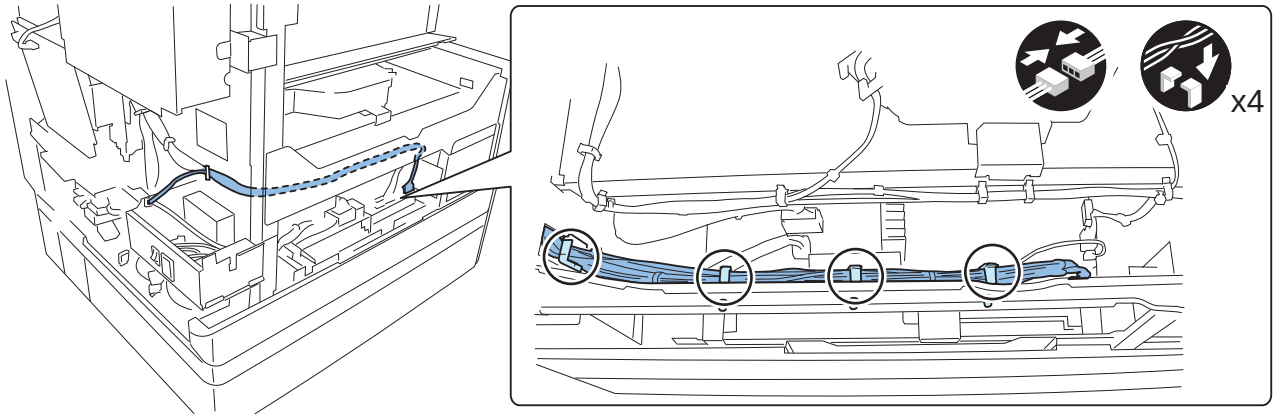


F-9-108

CAUTION:

Scatter the slack of the wire and comfirm which the do not touch the part of the primary circuit.

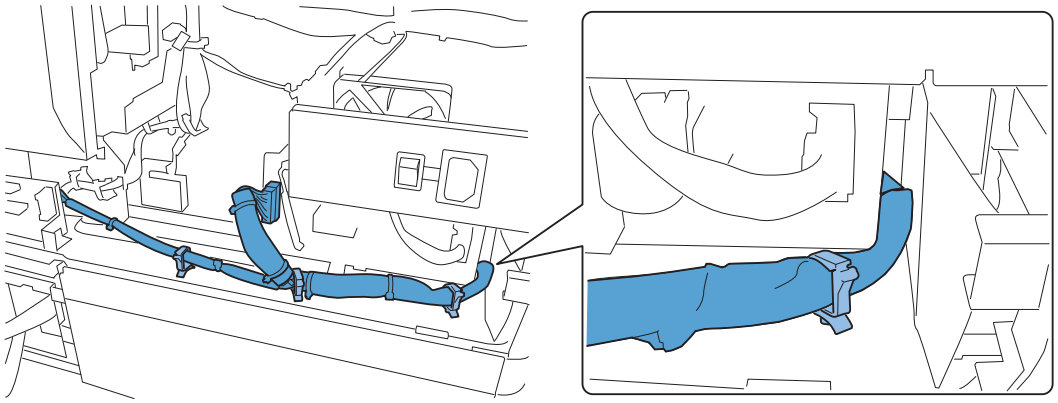
☐ 16) Clamp the harness in the 4 wire saddles.
17) Joint the connector of the heater DC harness to J113B on the power supply unit.



F-9-109

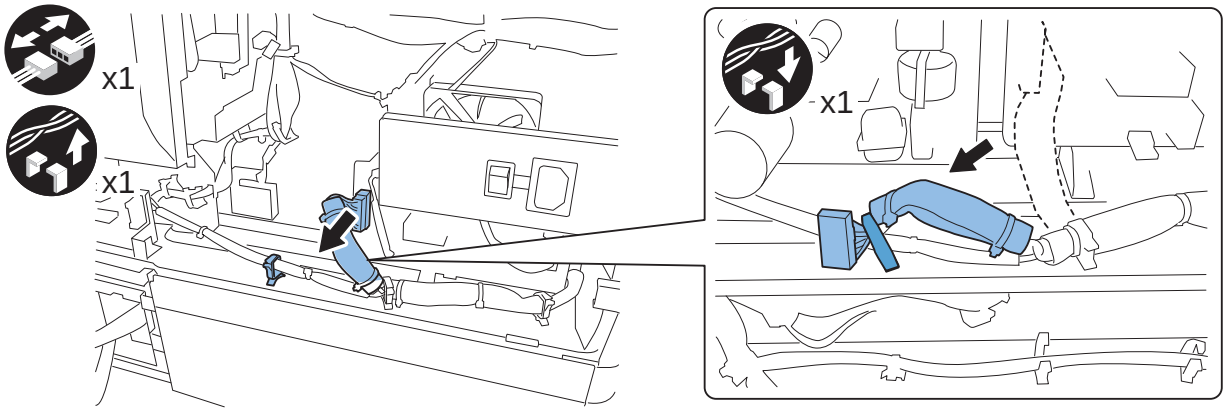
CAUTION:
Scatter the slack of the wire and comfirm which the do not touch the part of the primary circuit.

☐ 18) Install the heater AC harness as shown in the figure. Joint the connector of the longest branch of the heater AC harness to the cassette junction bracket.



F-9-110

☐ 19) In case the cassette heater is not installed, disconnect the connector of the heater AC harness from the heater PCB and clamp it as shown in the figure.

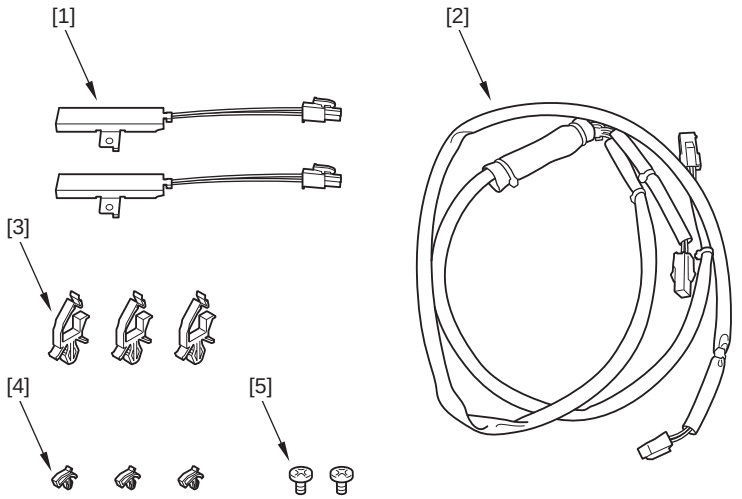


F-9-111

20) Restore the removed parts:
- ☐ Left cover (1 screw)
- ☐ Inner bottom cover (1 screw)
- ☐ Rear lower cover (1 screw)
- ☐ Connector cover (1 screw)
- ☐ Left rear cover (3 screws)
- ☐ Left rear blindfold cover (1 screw)
- ☐ Rear cover (right) (3 screws)

Reader Heater Unit-H1 Installation Procedure

Checking the Contents



F-9-112

<For 230V model>

Confirm the following components with correct quantities are contained in the carton.

☐	[1]	Reader heater	2pcs.	(FK2-0228)
☐	[2]	Heater harness	1pc.	(FM4-2929)
☐	[3]	Wire saddle (large)	3pcs.	(WT2-5719)
☐	[4]	Wire saddle (small)	3pcs.	(WT2-0507, only for use in iR-2545/2535)
☐	[5]	Screw	2pcs.	(XB2-8400-609)

<For 120V model>

Get the following service parts ready for installation.

☐	[1]	Reader heater	2pcs.	(FK2-9468)
☐	[2]	Heater harness	1pc.	(FM4-2929)
☐	[3]	Wire saddle (large)	3pcs.	(WT2-5719)
☐	[4]	Wire saddle (small)	3pcs.	(WT2-0507, only for use in iR-2545/2535)
☐	[5]	Screw	2pcs.	(XB2-8400-609)

Points to Note Before Installation

Turning Main Power OFF

⚠CAUTION

Perform the following in the order prior to the installation.

1) Turn the main power of the host machine OFF.
2) Confirm the control panel display and the main power lamp have turned OFF and unplug the power cord.

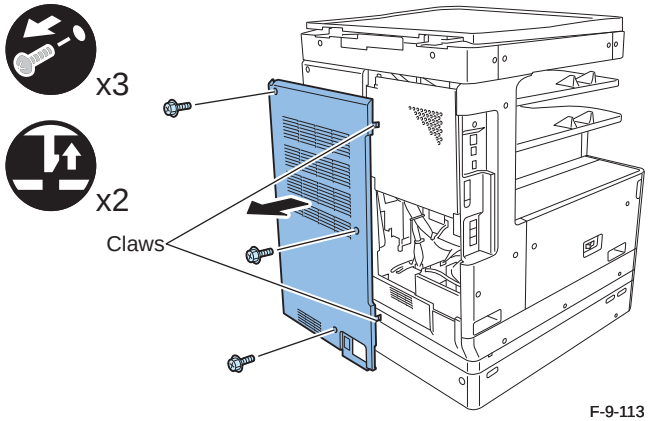
Confirmation of Heater Driver PCB

Confirm that the heater driver PCB has already been installed in the host machine.

Installation Procedure

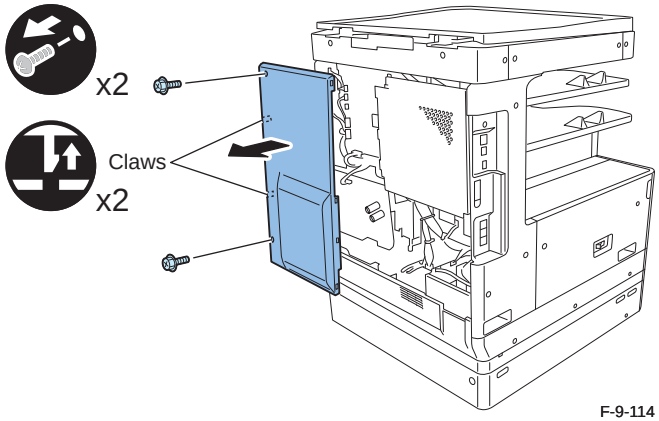
Installation of Reader Harness

☐ 1)Detach the rear cover (right).
- Screws (3 pcs.)
- Claws (2 pcs.)



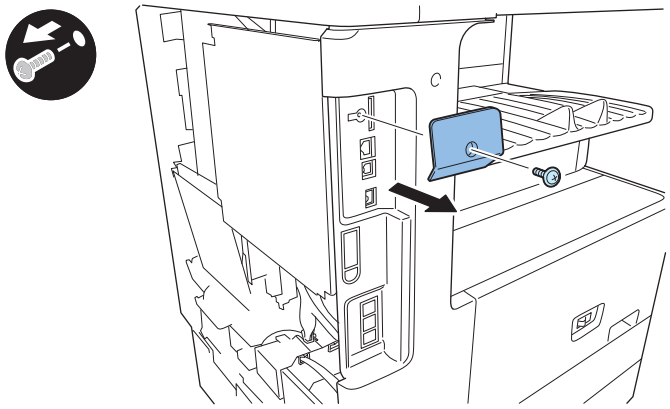
F-9-113

☐ 2) Detach the rear cover (left).
- Screws (2 pcs.)
- Claws (2 pcs.)



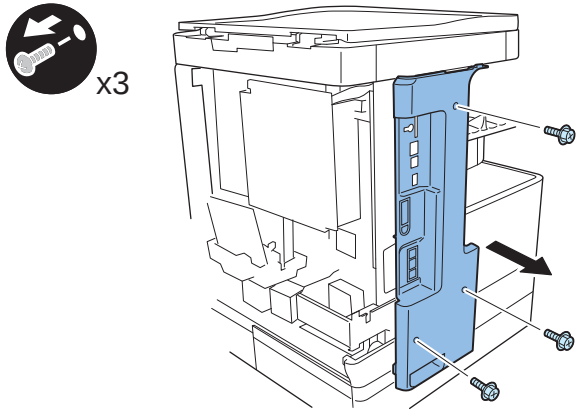
F-9-114

☐ 3) Detach the left rear blindfold cover.
- Screw (1 pc.)



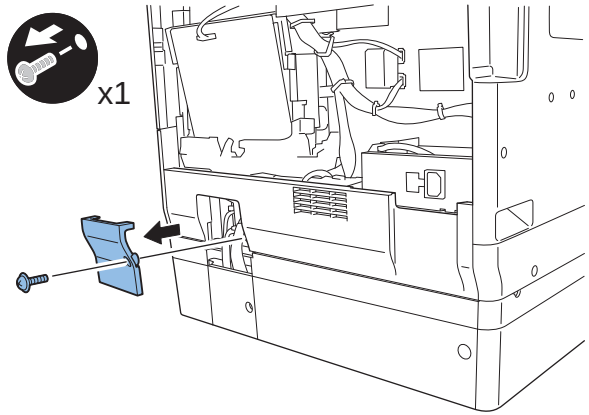
F-9-115

☐ 4) Detach the left rear cover.
- Screws (3 pcs.)



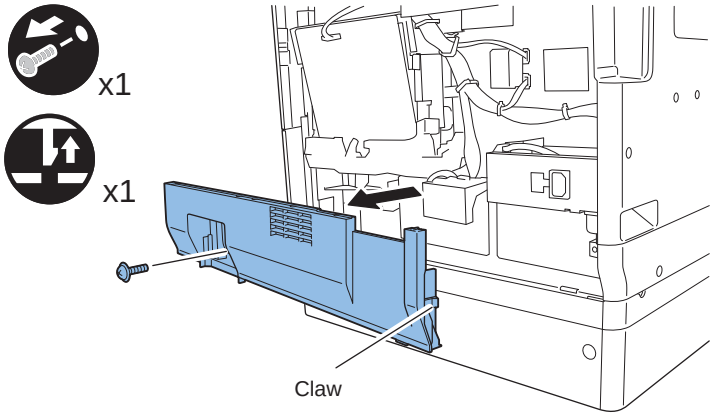
F-9-116

☐ 5) Detach the connector cover.
- Screw (1 pc.)



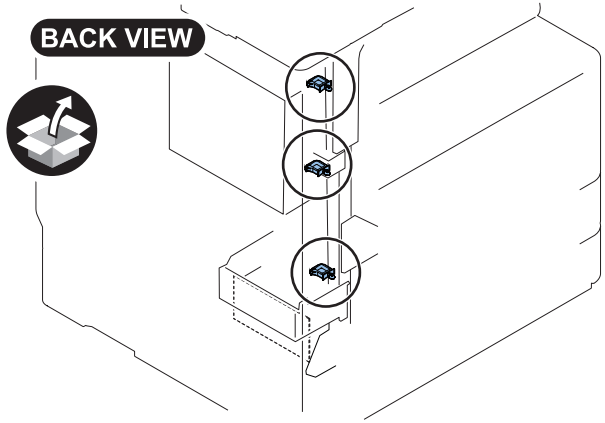
F-9-117

☐ 6) Detach the rear lower cover.
- Screws (1 pc.)
- Claws (1 pc.)



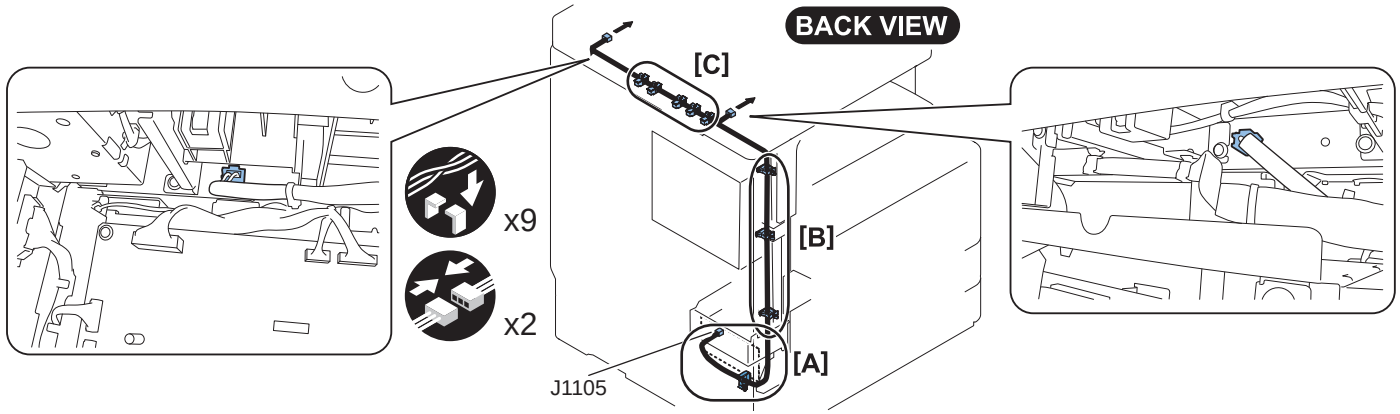
F-9-118

☐ 7) Install the 3 supplied wire saddle (large) in the frame at rear left side.



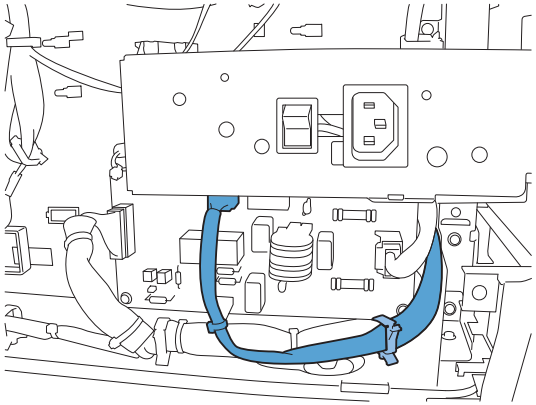
F-9-119

☐
8)Joint 1 connector of the heater harness to J1105 of the heater driver PCB.
9)Put 2 connectors through each hole as shown in the figure and set the heater harness in the wire saddles.



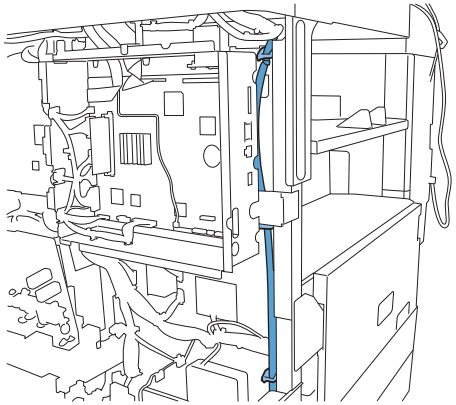
F-9-120

[A]



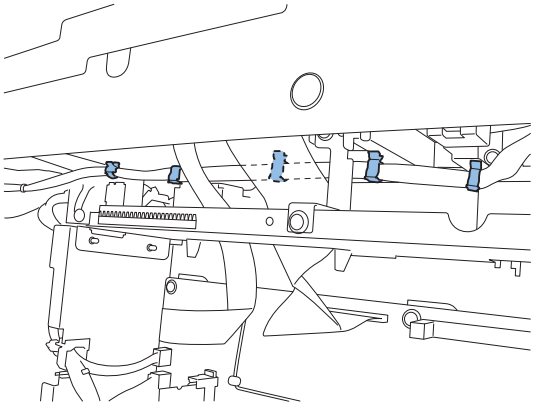
F-9-121

[B]



F-9-122

[C]

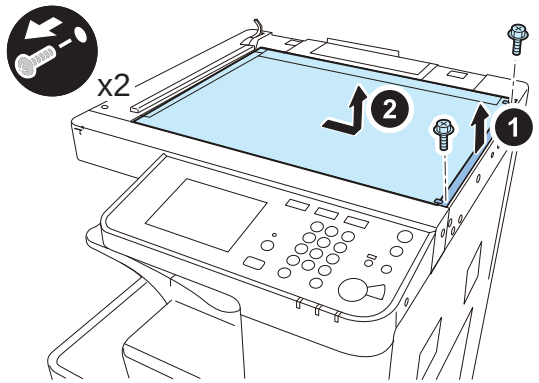


F-9-123

CAUTION:
Pay attention not to give damages on the flexible cable.

Removal of Parts from Reader

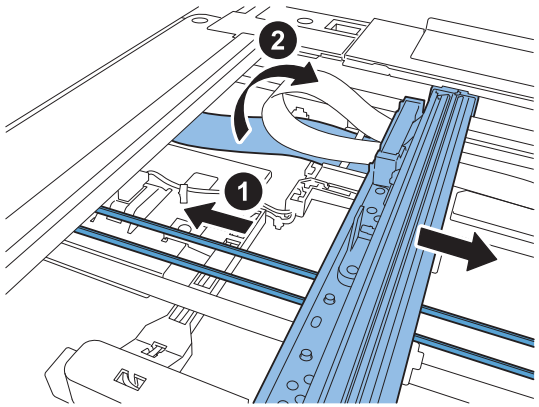
☐
1)Open the ADF (or platen Cover).
2)Remove 2 screws to detach the glass retainer (right).
3)Remove the platen glass.



F-9-124

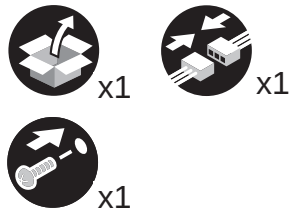
Installation of Reader Heater (for iR2530/2525/2520 series)

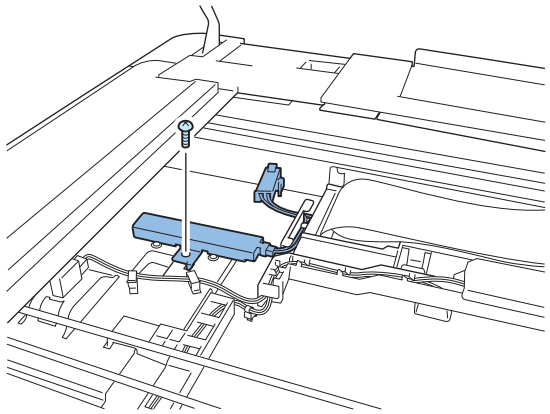
☐
1)Move the drive belt in the arrow direction to shift the CIS to the center.
2)Turn up the sheet.



F-9-125

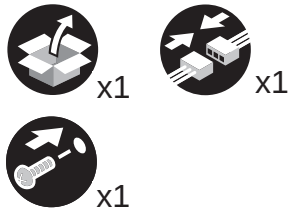
☐
3)Joint the 1 connector and install the heater (left) with 1 screw.

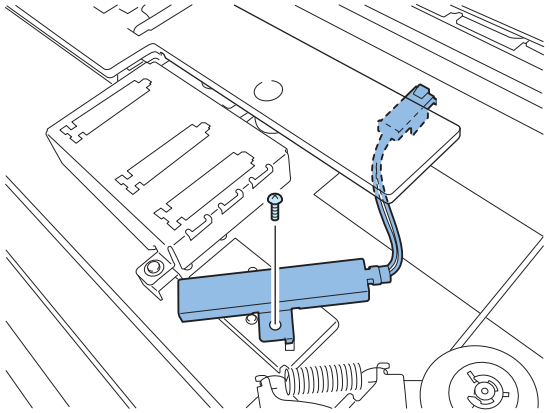




F-9-126

☐ 4)Joint 1 connector and install the heater (right) with 1 screw.





F-9-127

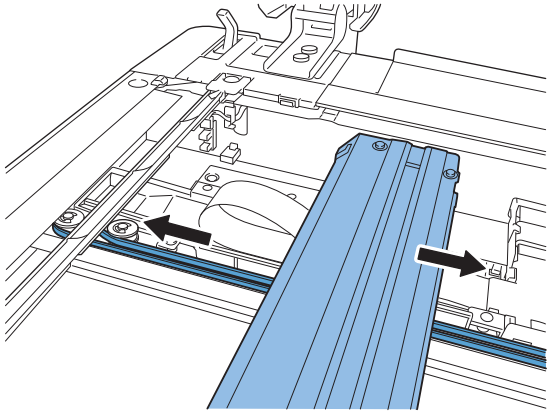
☐ 5)Restore the following parts:

☐	Platen glass	
☐	Glass retainer (right)	2 screws
☐	Rear lower cover	1 screw
☐	Connector cover	1 screw
☐	Left rear cover	3 screws
☐	Left rear blindfold cover	1 screw
☐	Rear cover (left)	3 screws
☐	Rear cover (right)	2 screws

☐ 6)Turn the switch of the heater power ON.

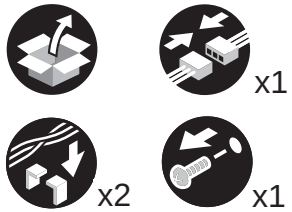
■ Installation of Reader Heater (for iR2545/2535 series)

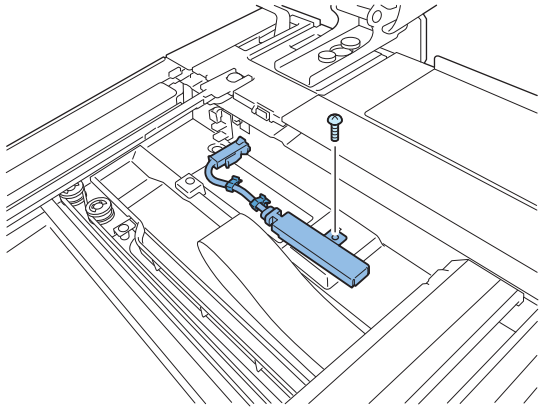
☐ 1)Move the drive belt in the arrow direction to shift the D unit to the center.



F-9-128

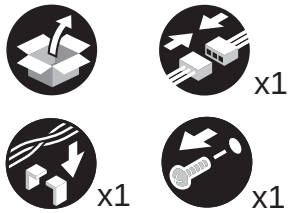
☐ 2)Install the 2 supplied wire saddles (small).
3)Joint 1 connector and install the heater (left) with 1 screw.

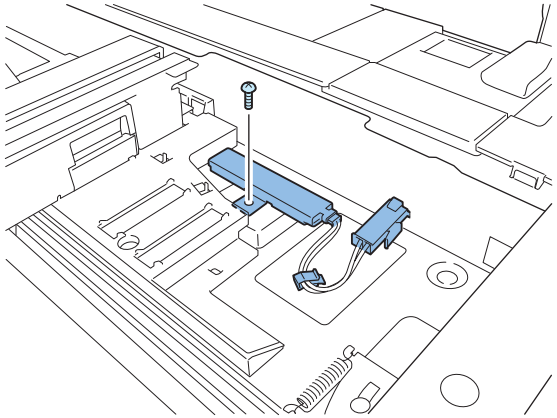




F-9-129

☐ 4)Install the 1 supplied wire saddle (small), joint 1 connector and install the heater (right) with 1 screw.





F-9-130

☐ 5)Restore the following parts:

☐	Platen glass	
☐	Glass retainer (right)	2 screws
☐	Rear lower cover	1 screw
☐	Connector cover	1 screw
☐	Left rear cover	3 screws
☐	Left rear blindfold cover	1 screw
☐	Rear cover (left)	3 screws
☐	Rear cover (right)	2 screws

☐ 6)Turn the switch of the heater power ON.

Cassette Heater Unit 37

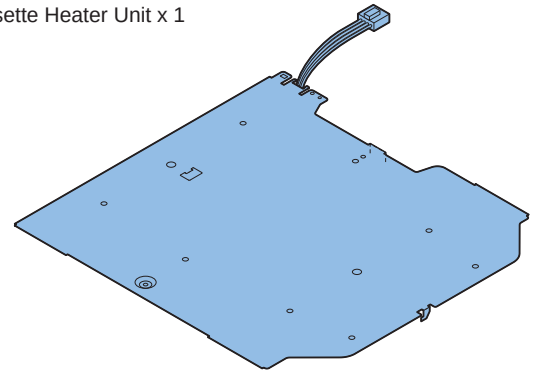
Points to Note before Installation

CAUTION:

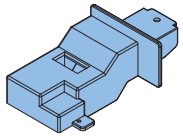
- Check that the Heater PCB-J1 is installed. If not, install the Heater PCB-J1 before installing the Cassette Heater Unit.
- The Cassette Heater Sheet and Warning High Temperature Label used for the 250-sheet Cassette Model is packed with the Heater PCB -J1.

Checking the Contents

☐ [1] Cassette Heater Unit x 1



☐ *[2] Heater Connector Cover x 1



☐ *[3] Wire Saddle x 1

☐ [4] Screw
(W Sems Round End; M3X6) x 1

☐ * [5] Screw (P Tight; M3x8) x 1

* The 2-Cassette Hearter Unit Model does not use.

F-9-131

Turning OFF the Host Machine

Turn OFF the main power switch on the host machine, and then remove the power plug from the outlet.

Installation Procedure

In case of 550 Sheets Cassette Model

☐ 1) Remove the cassette.

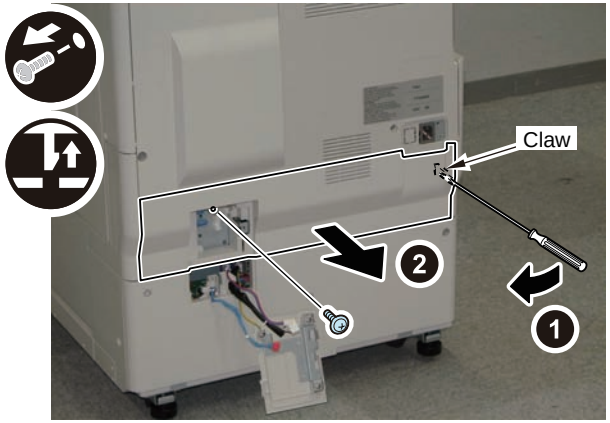
☐ 2) Remove the Connector cover.

- 1 Screw
- 4 Connectors

F-9-132

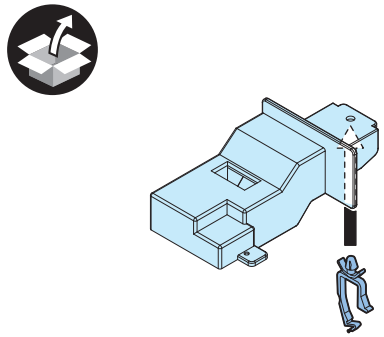
☐ 3) Remove the Lower rear cover.

- 1 Screw
- 1 Claw



F-9-133

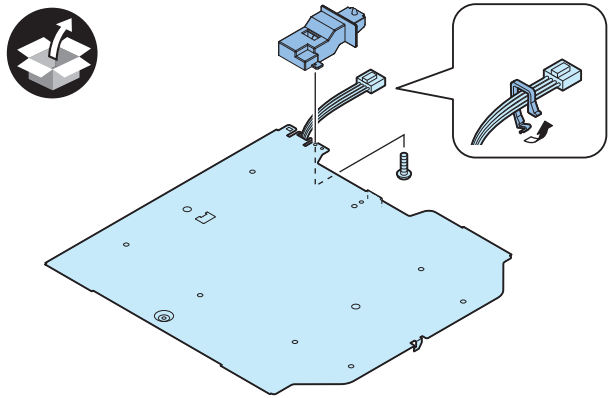
☐ 4) Install the wire saddle to Heater Connector Cover.



F-9-134

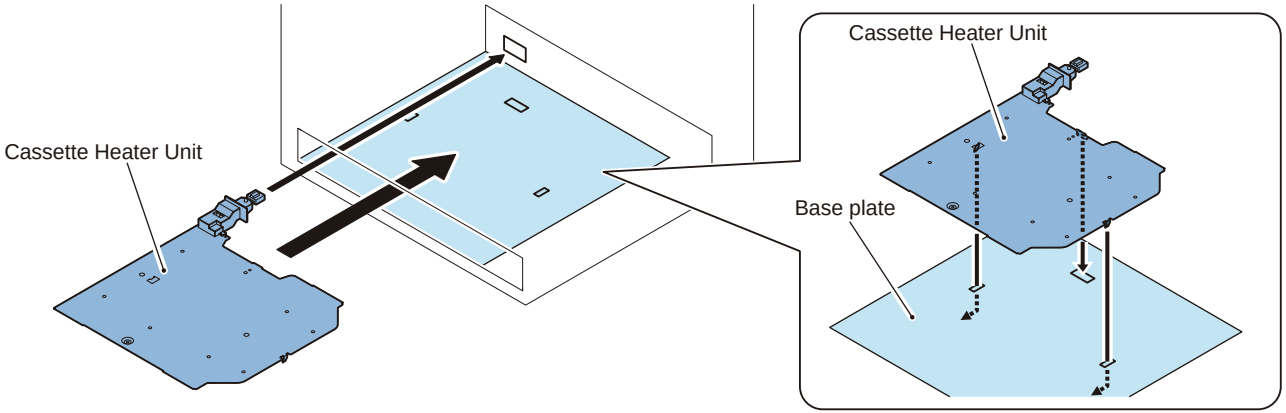
☐ 5) Put the connector of the heater through the Wire Saddle and install the Heater Connector Cover.

- 1 Screw (P tight; M3x8)
- 1 Wire saddle



F-9-135

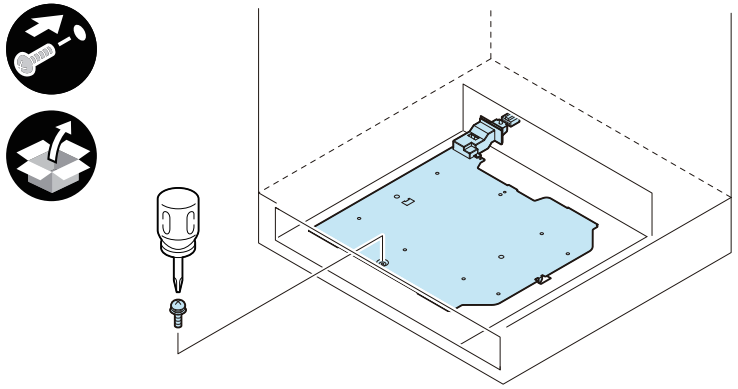
☐ 6) IInstall the Cassette Heater Unit by fitting the3 hooks to the holes .At that time, put the connector through the square hole.



F-9-136

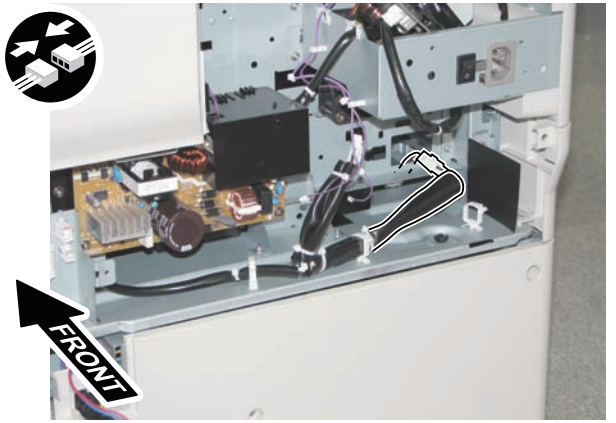
☐
7) Connect the Cassette Heater Unit with the stubby driver.

- 1 Screw (W sems round end; M3x6)



F-9-137

☐
8) Connect the cassette heater conecter to the heater relay cable connector.



F-9-138

☐
9) Install the Lower rear cover
10) Cconnect the 4 Connectors.
11) Install the Connector Cover.
12) Install the removed Cassettes.
13) Check that the Environment Heater switch is ON.
14) Plug the power plug of the host machine to the outlet.
15) Turn ON the main power switch.

In case of 250 Sheets Cassette Model

☐ 1) Remove the cassette.

☐ 2) Remove the Connector Cover.

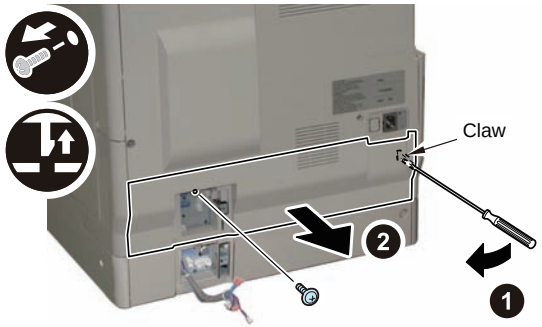
- 2 Screws
- 4 Connectors

F-9-139

F-9-140

☐ 3) Remove the Lower rear cover.

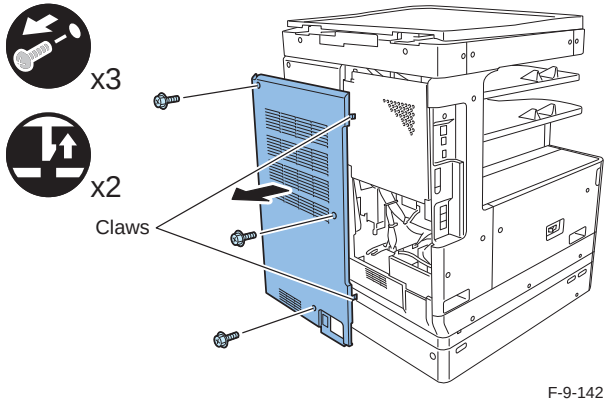
- 1 Screw
- 1 Claw



F-9-141

☐ 4) Remove the Rear cover (right).

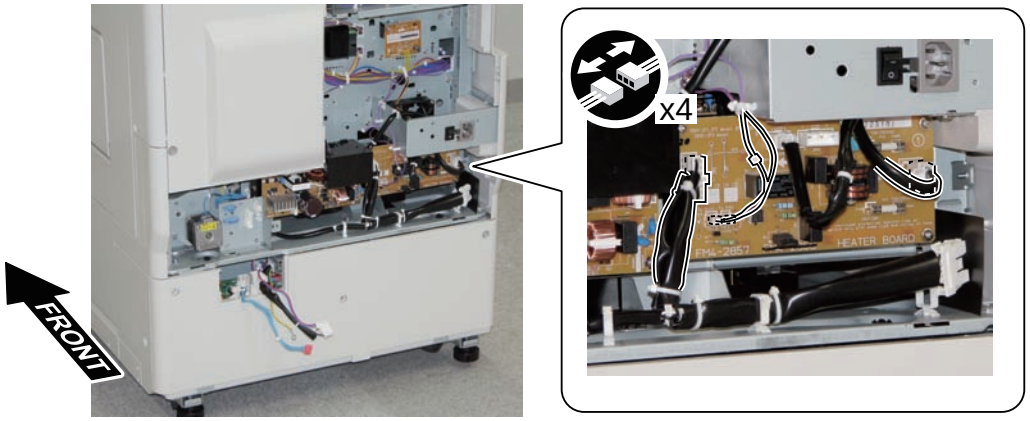
- 3 Screws
- 2 Claws



F-9-142

☐
5) Remove the Heater PCB .

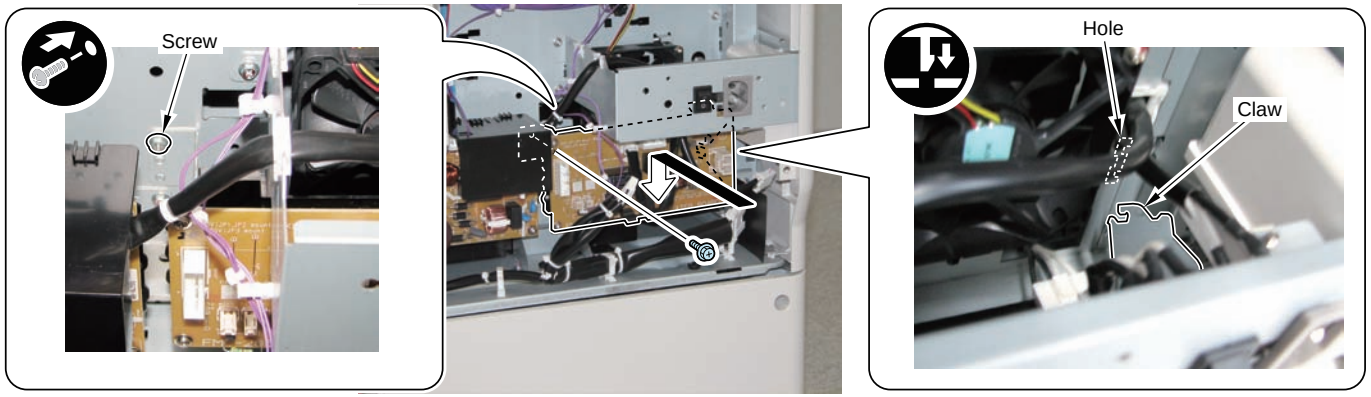
- 4 Connectors
  - J1101 connector (SW side).
  - J1102 connector (PSV side).
  - J1103 connector (E controller side).
  - J1106 connector
    (Cassette heater side).



F-9-143

☐

- 1 Screw
- 1 Claw

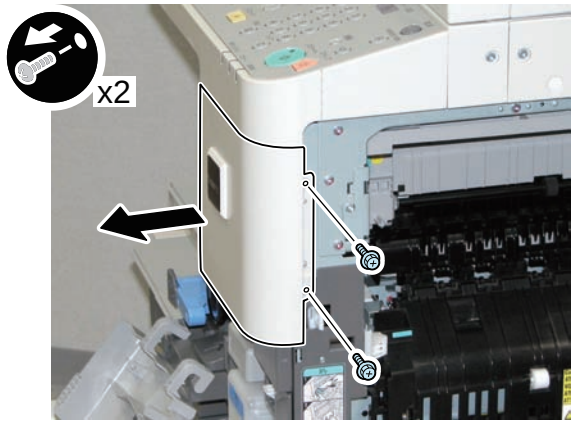


F-9-144

☐
6) Open the Front cover.
7) Open the Toner supply cover.
8) Open the Right cover.

☐ 9) Remove the support cover.

- 2 Screws



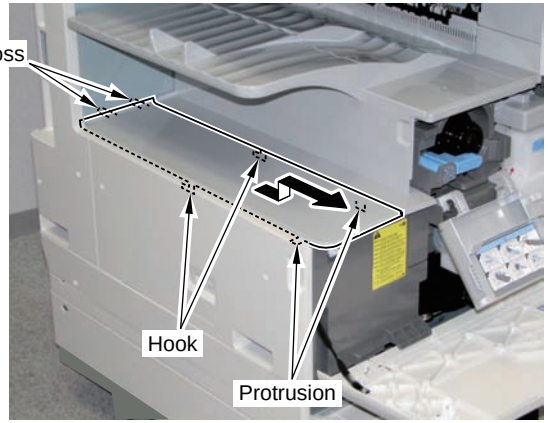
F-9-145

☐ 10) Remove the screw on the lower left cover.

F-9-146

☐ 11) Remove the Inside base cover.

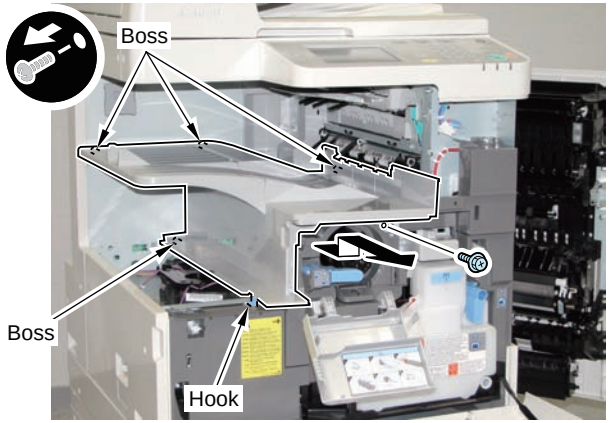
- 2 Bosses
- 2 Hooks
- 2 protrusions



F-9-147

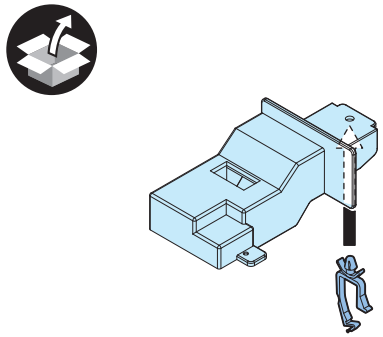
☐ 12) Remove the delivery tray.

- 4 Bosses
- 1 Hook
- 1 Screw



F-9-148

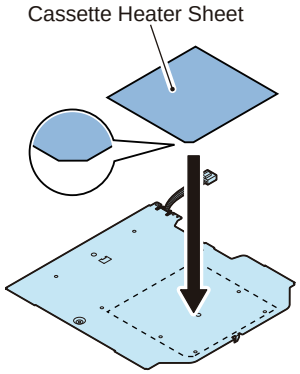
☐ 13) Install the Wire Saddle to Heater Connector Cover.



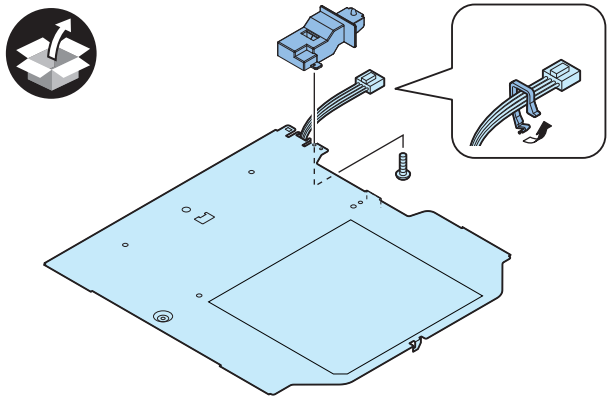
F-9-149

☐ 14) Affix the Cassette Heater Sheet on the cassette heater, and put the connector of the heater and install the heater connector cover through the Wire Saddle.

- 1 Screw (P tight; M3x8)

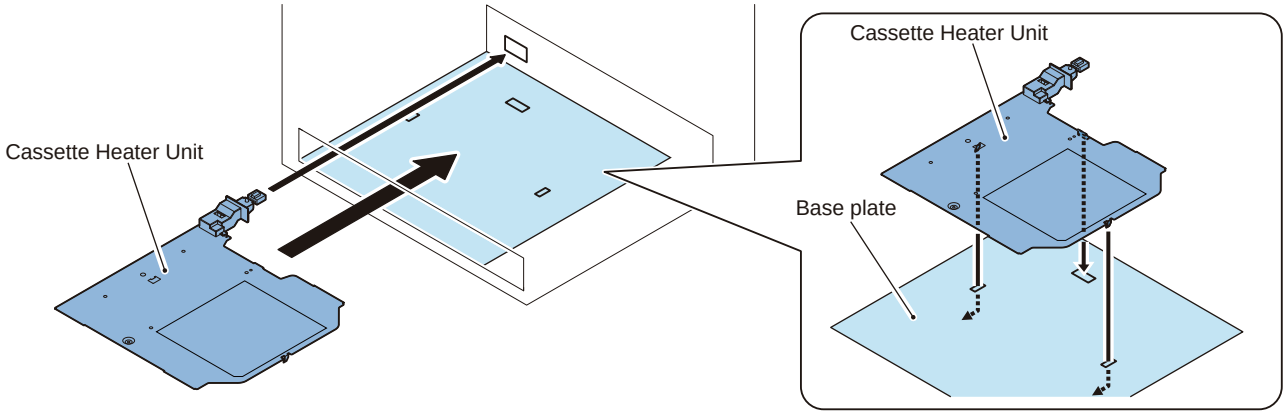


F-9-150



F-9-151

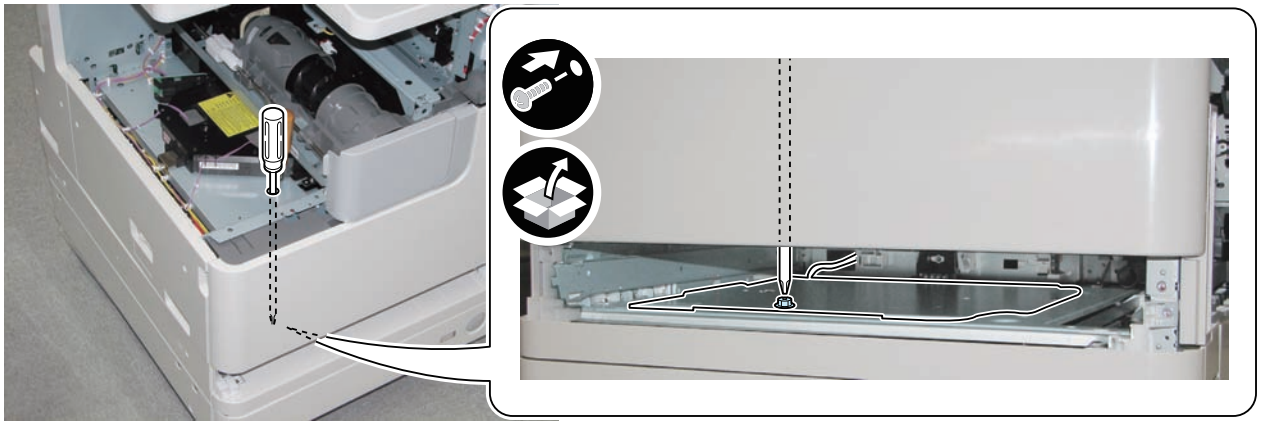
☐ 15) IInstall the Cassette Heater Unit by fitting the3 hooks to the holes .At that time, put the connector through the square hole.



F-9-152

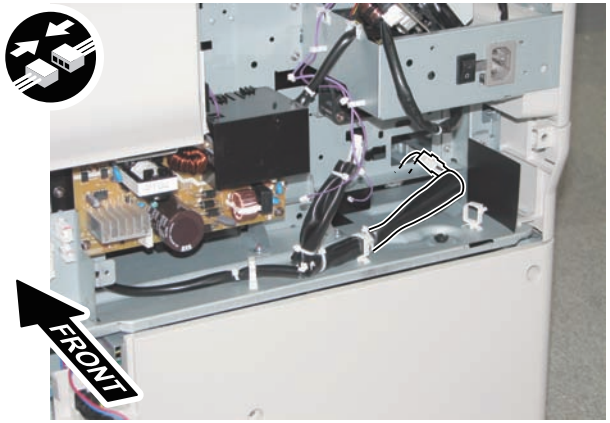
☐ 16) After setting the cassette heater into the host machine, secure the heater in place with a long screwdriver by putting it through a hole on the plate.

- 1 Screw (W sems round end; M3x6)



F-9-153

☐ 17) Connect the connector at the heater side to the Heater Relay Harness.

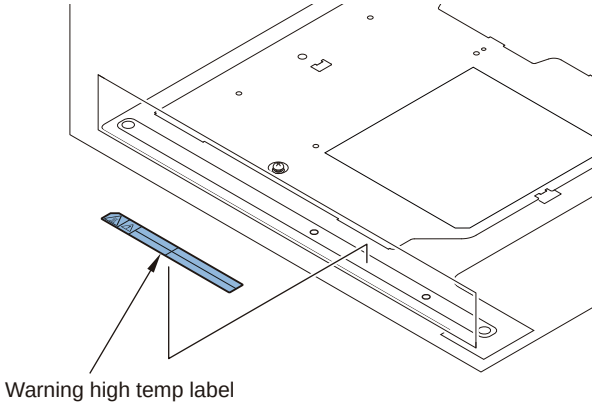


F-9-154

☐ 18) Affix the Warning High Temperature Label to the specified area. (area between screw holes on the Base Plate)

CAUTION:

Label Warning high temp label use a label corresponding to the language.



F-9-155

☐
19) Install the Heater PCB.
20) Connect 4 connectors to the Heater PCB.
21) Install the removed covers.
- Lower rear cover
- Connector cover
- Delivery tray
- Inside base cover
- Screw on Left cover
- Right cover(upper)

22) Close the Right cover.
23) Close the Toner supply cover.
24) Close the Front cover.
25) Install the removed Cassettes.
26) Check that the Environment Heater switch is ON
27) Plug the power plug of the host machine to the outlet.
28) Turn ON the main power switch.

In case of 1-Cassette Unit

☐
1) Remove the cassette.

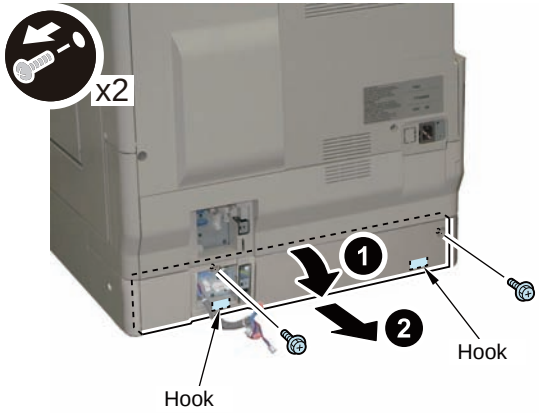
☐
2) Remove the Connector Cover.
- 2 Screw
- 4 Connectors

F-9-156

F-9-157

☐
3) Remove the Lower rear cover.

- 1 Screw
- 2 Hooks

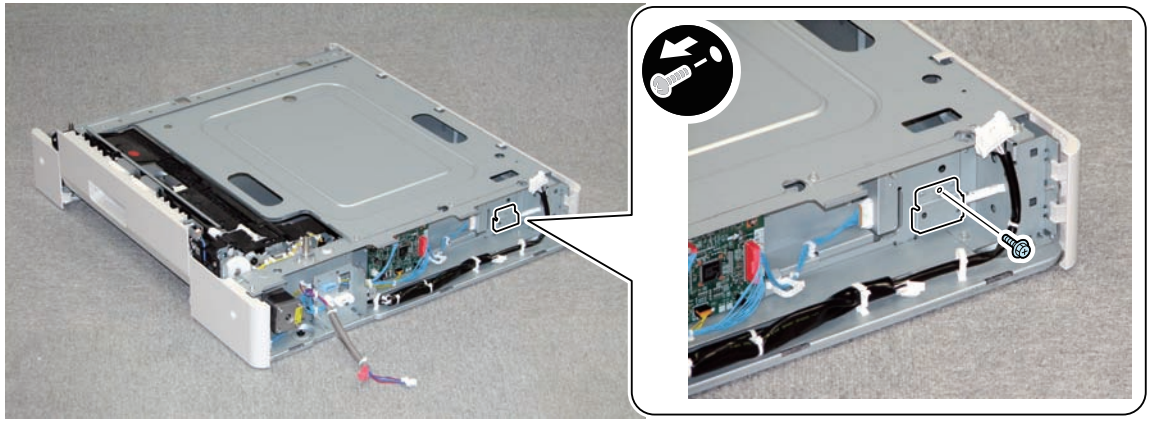


F-9-158

☐
4) If equipped with the heater connector plate at rear side of the Cassette Module, remove it. (The removed heater connector plate will not be used.)

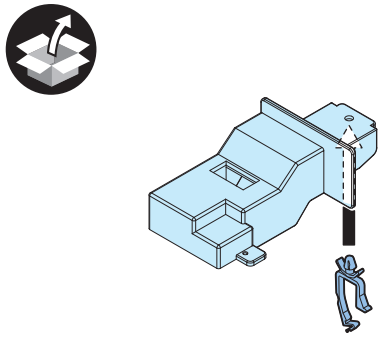
- 1 Screw

MEMO:
When performing this procedure, it is not necessary to remove the Host Machine. However, the figure shows the picture with out the Host Machine to show easily.



F-9-159

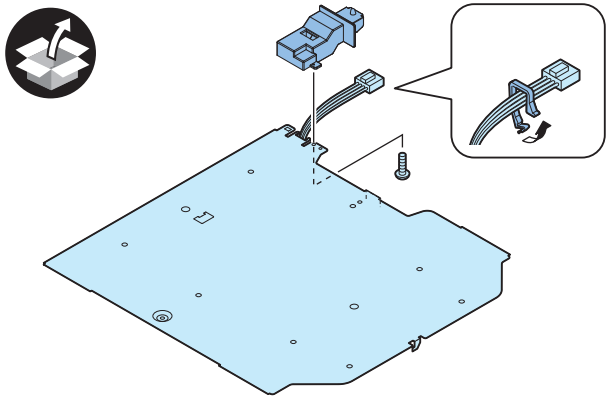
☐ 5) Install the Wire Saddle to Heater Connector Cover.



F-9-160

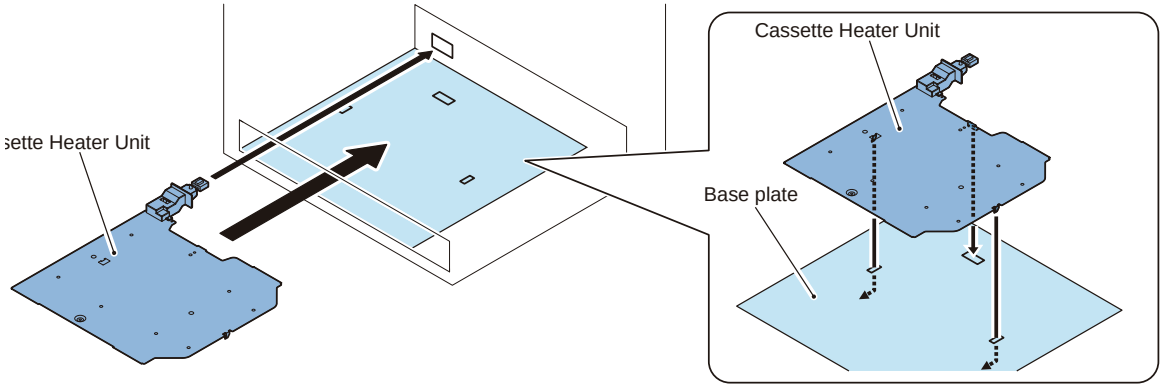
☐ 6) Put the connector of the heater through the Wire Saddle and install the Heater Connector Cover.

- 1 Screw (P tight; M3x8)
- 1 Wire saddle



F-9-161

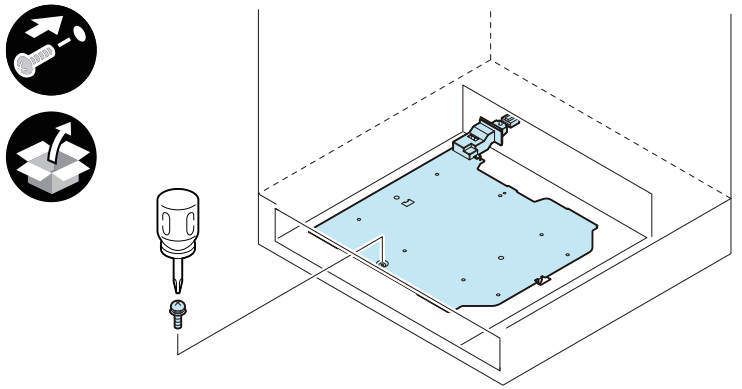
☐ 7) IInstall the Cassette Heater Unit by fitting the3 hooks to the holes .At that time, put the connector through the square hole.



F-9-162

☐ 8) Connect the cassette heater unit with the stubby driver.

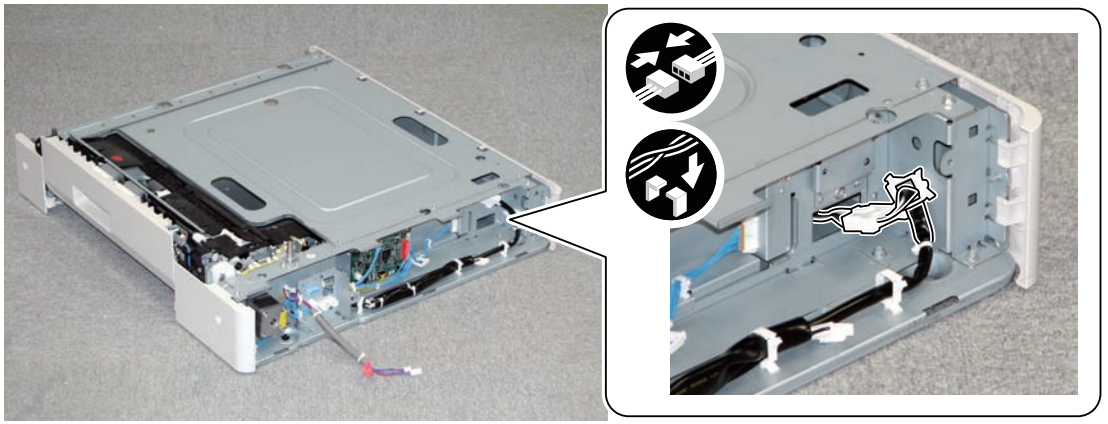
- 1 Screw (W sems round end; M3x6)



F-9-163

☐
9) AT the rear side of the Cassette Module, pull out the connector at the heater side and the connect the connecter.

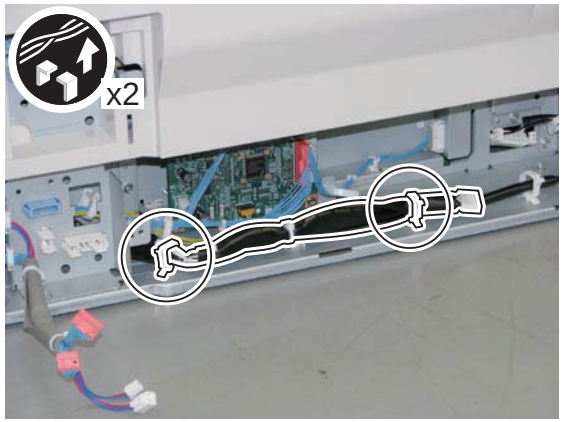
MEMO:
When performing this procedure, it is not necessary to remove the Host Machine. However, the figure shows the picture with out the Host Machine to show easily.



F-9-164

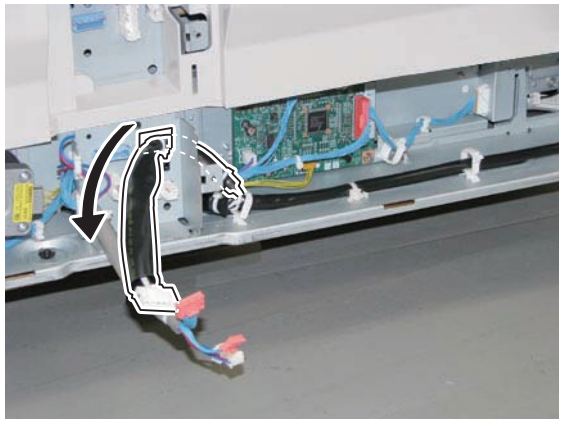
☐
10) Disconnect the cable of the heater.

- 2 Wire saddles



F-9-165

☐
11) Put the cable of the heater through a hole of the plate.



F-9-166

☐
12) Install the Lower rear cover.

☐ 13) Connect the connector of the heater to the 1-Cassette Pickup Unit.

F-9-167

☐ 14) Connect the 4 Connectors.
15) Install the Connector Cover.
16) Install the removed Cassettes.
17) Check that the Environment Heater switch is ON.
18) Plug the power plug of the host machine to the outlet.
19) Turn ON the main power switch.

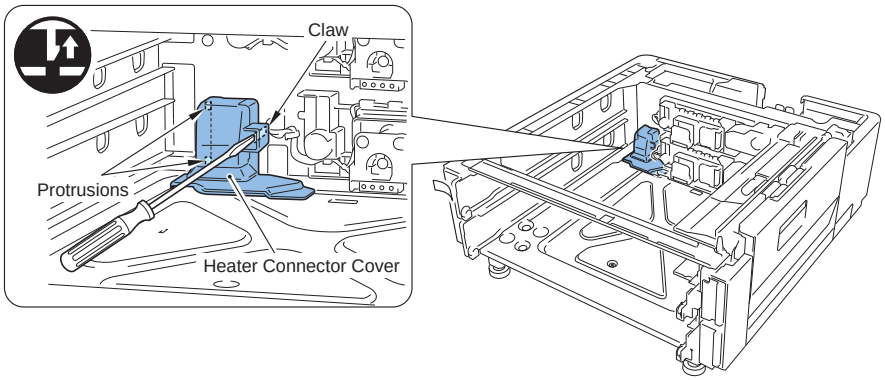
■ In case of 2-Cassette Unit

☐ 1) Remove the cassette.

☐ 2) Remove the Heater Connector Cover using a flat-blade screwdriver.

- 1 Claw
- 2 Protrusions

MEMO:
When performing this procedure, it is not necessary to remove the Host Machine. However, the figure shows the picture with out the Host Machine to show easily.



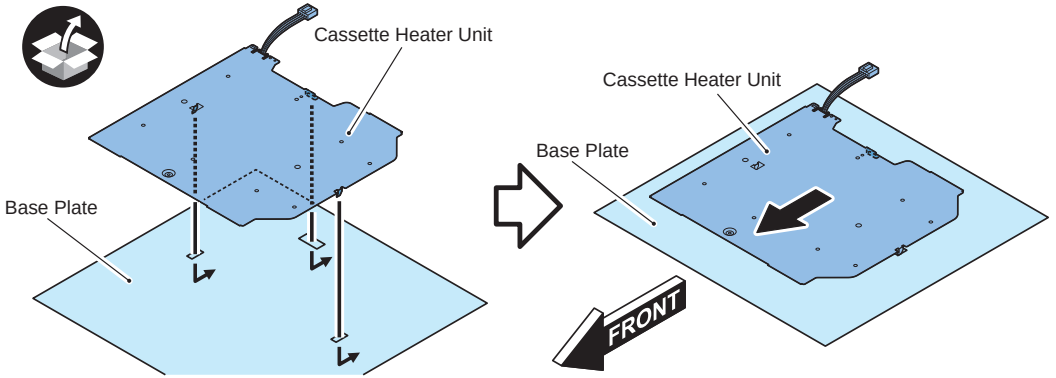
F-9-168

☐
3) Fit the claws (3 places) on the Cassette Heater Unit into the holes on the Base Plate, and then move it toward the front.

- 3 Claws

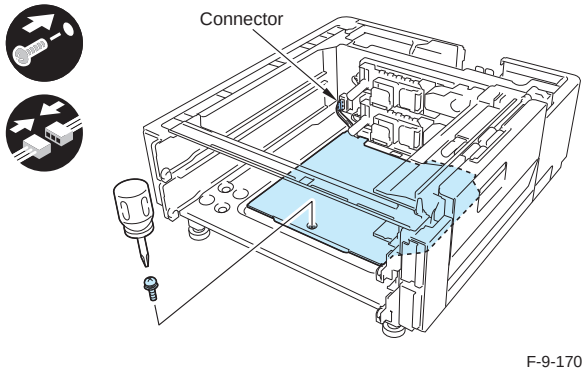
CAIUTION:

Be sure that the claws are fit into the holes of the Base Plate properly.



F-9-169

☐
4) Tighten the removed screw (W sems round end;M3X6) with the stubby driver to connect the connector.



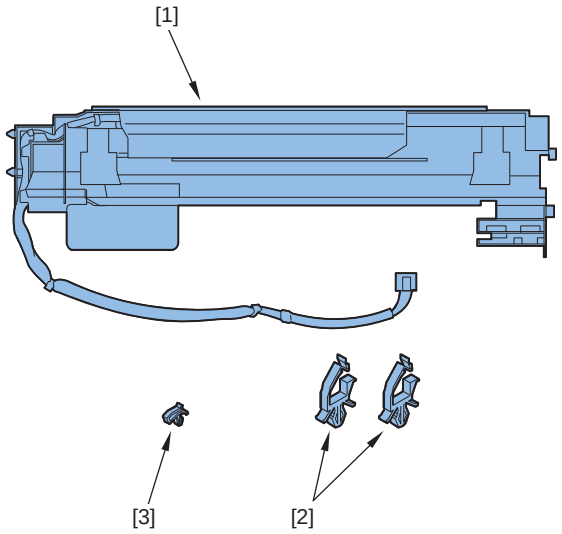
F-9-170

☐
5) Install the heater Connector Cover.
6) Install the removed Cassettes.
7) Check that the Environment Heater switch is ON.
8) Plug the power plug of the host machine to the outlet.
9) Turn ON the main power switch.

Drum Heater-C1 Installation Procedure

Checking the Contents

Confirm the following components with correct quantities are contained in the carton.



F-9-171

- ☐ [1] Drum heater Unit x 1
- ☐ [2] Wire saddle x 2
- ☐ [3] Edge saddle x 1

Points to Note Before Installation

Turning Main Power OFF

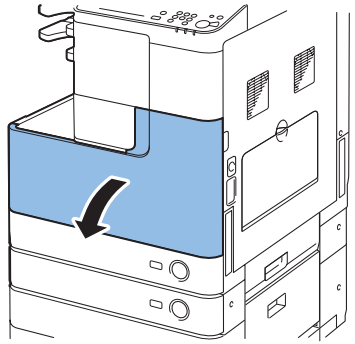
⚠CAUTION:

Perform the following in the order prior to the installation.

1) Turn the main power of the host machine OFF.
2) Confirm the control panel display and the main power lamp have turned OFF and unplug the power cord.

Installation Procedure

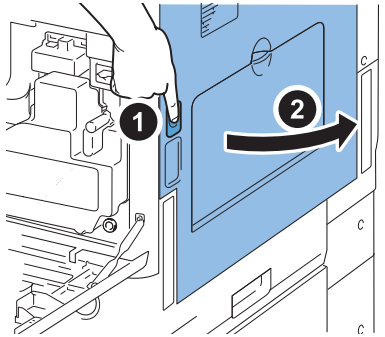
☐
1) Turn the main power OFF and unplug the power cord from the outlet.
2) Open the front cover.



F-9-172

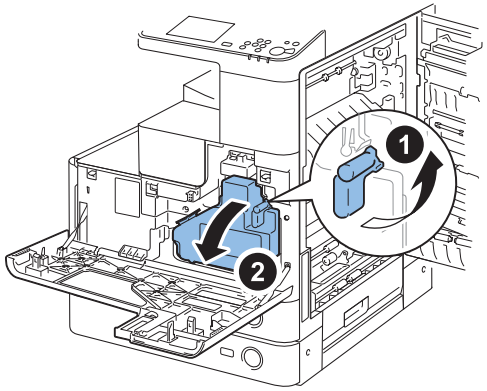
☐
3) Push the button to open the right cover.

CAUTION:
To avoid any damage on the drum unit, keep the right cover open by 5 cm or more during installation.



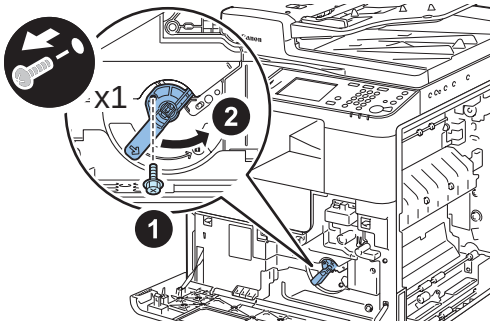
F-9-173

☐
4) Turn the lock lever as shown in the figureand remove the waste toner container.



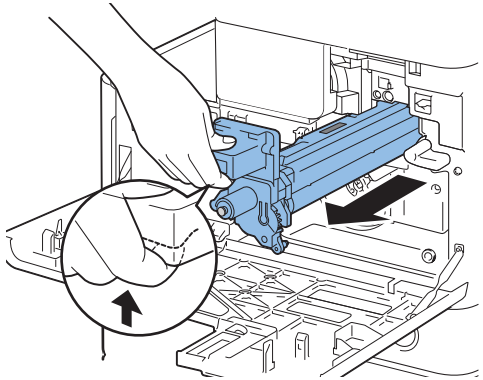
F-9-174

☐
5) Remove 1 screw from the developing pressure lever.
The screw does not exist in some machine versions by destination.
6) Turn the developing pressure lever as shown in the figure and release the developing unit.



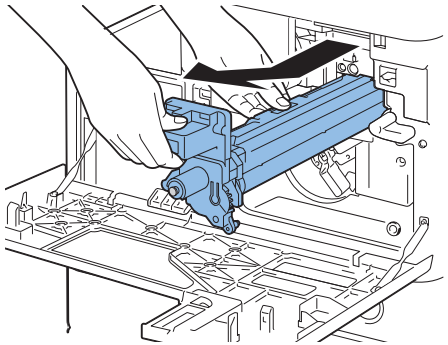
F-9-175

☐
7) Slowly draw out the drum unit by half as shown while gripping the lever beneath the drum unit handle.



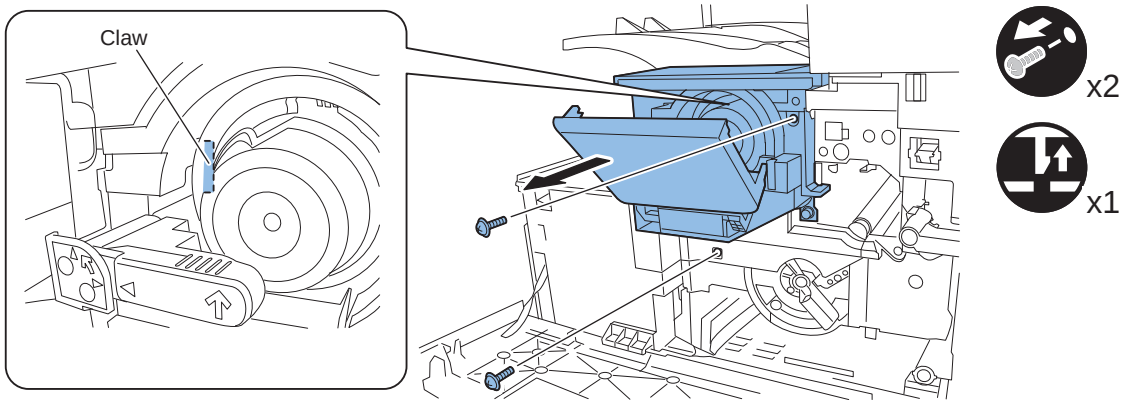
F-9-176

☐ 8) Hold the drum unit as shown in the figure. Pull up the unit a little and draw it out completely.



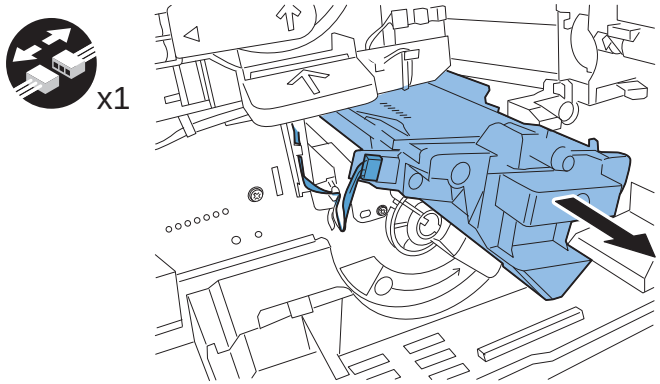
F-9-177

☐ 9) Remove the 2 screws and release the claw to detach the toner replenish cover.



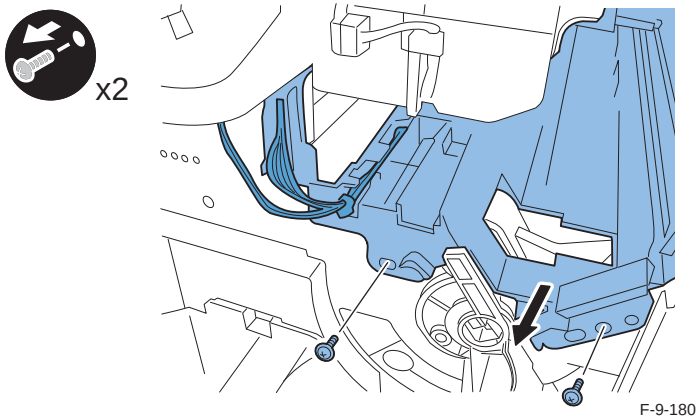
F-9-178

☐ 10) Detach 1 connector and draw the developing unit out.



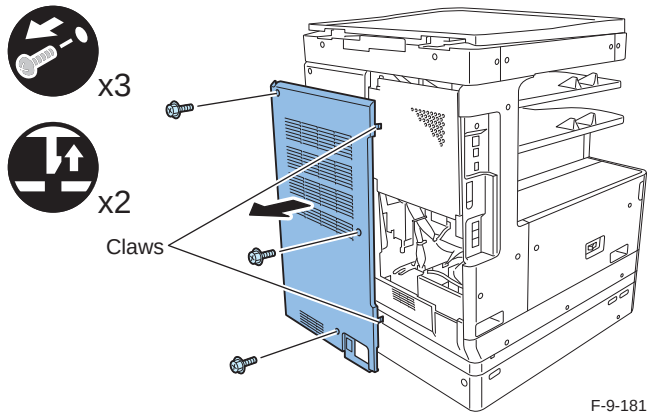
F-9-179

☐ 11) Dismount the harness from the developing stay and remove 2 screws to detach the developing stay. (Removed developing stay is no longer used.)



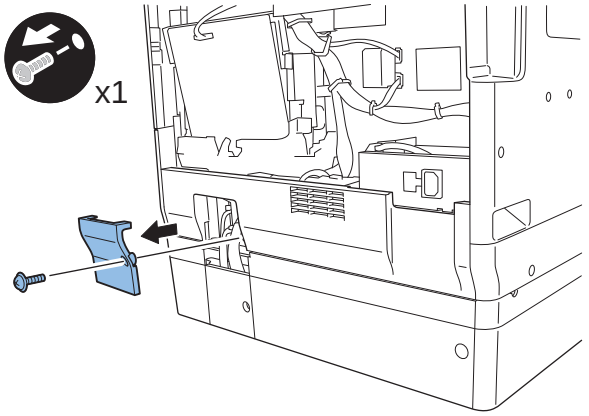
F-9-180

☐ 12) Remove the rear cover (right).
- Screws (3 pcs.)
- Claws (2 pcs.)



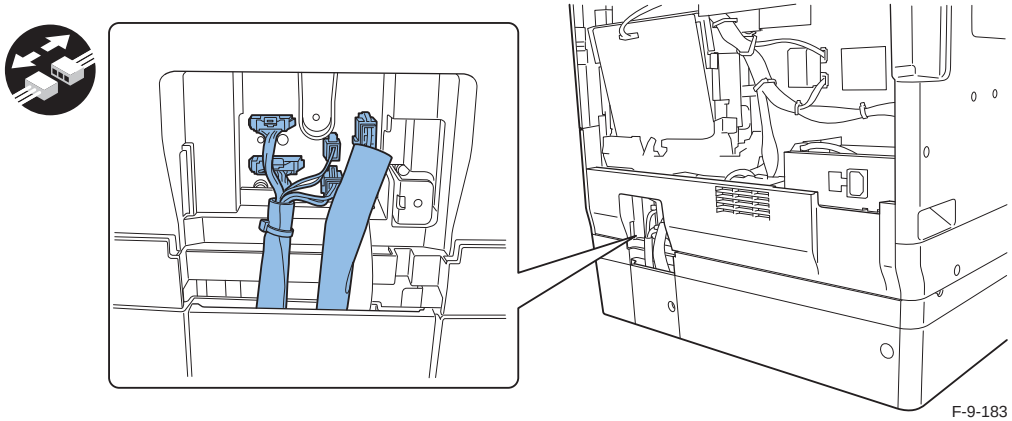
F-9-181

☐ 13) Remove the connector cover.
- Screw (1 pc.)

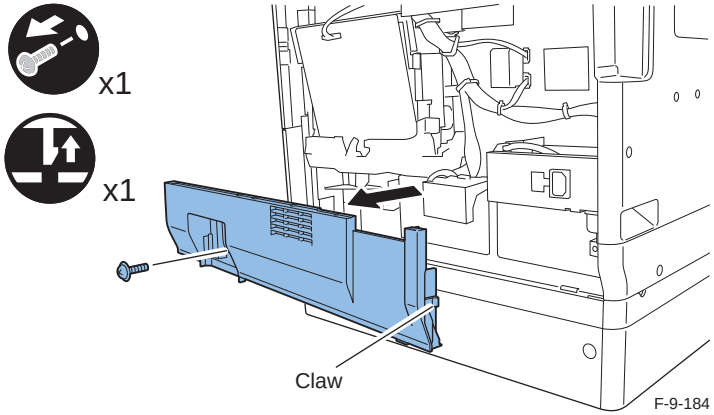


F-9-182

☐ 14) Detach all the connectors at the place shown in the figure. (This is performed only when the optional cassette unit is installed.)


F-9-183

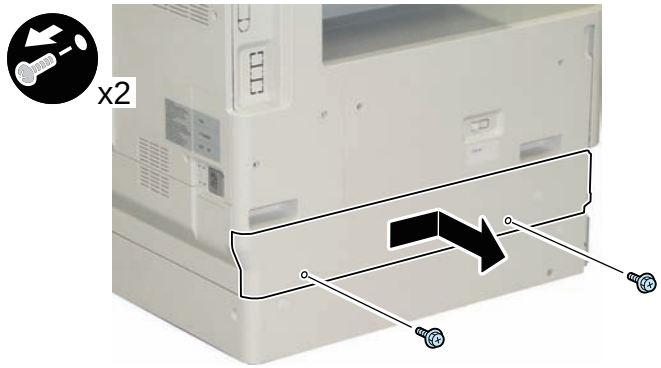
☐ 15) Remove 1 screw (RS tight: M3) and release 1 claw to detach the rear cover (lower).
- Screw (1 pc.)
- Claw (1 pc.)



F-9-184

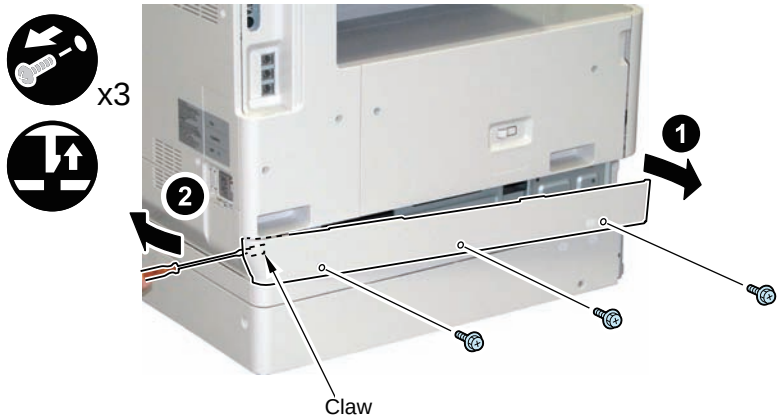
☐
16) Draw out the paper cassette(s).
17) Remove the left cover (lower).

*For the model with the 1st cassette capacity is 550sheets:
- Screws (2 pcs.)



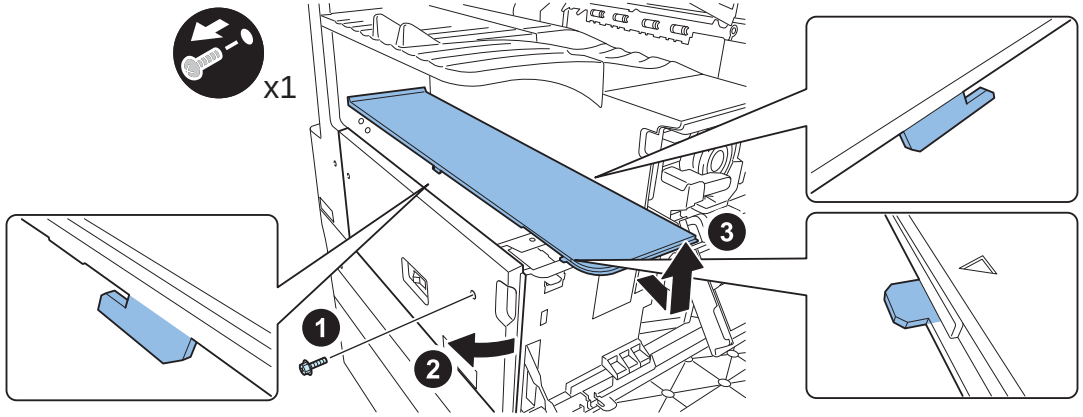
F-9-185

*For the model with the 1st cassette capacity is 250sheets:
- Screws (3 pcs.)
- Claw (1 pc.)



F-9-186

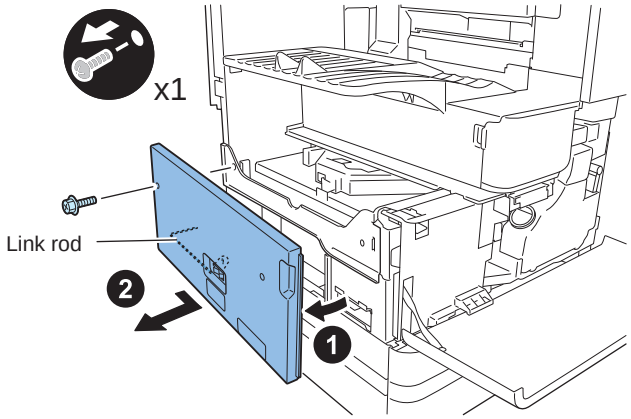
☐
18) Remove 1 screw from the left cover and distort it to detach the inner bottom cover.
- Screw (1 pc.)



F-9-187

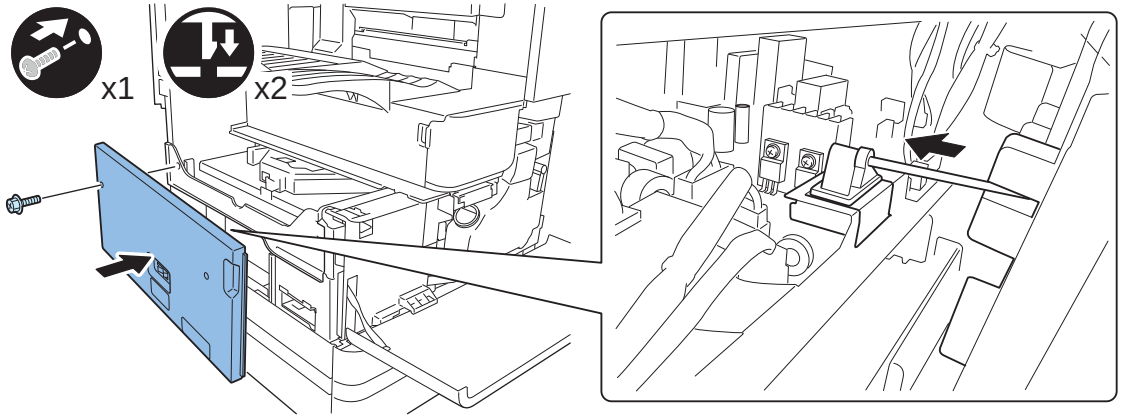
☐
19) Remove the left cover to detach it.
- Screw (1 pc.)

CAUTION:
There is the link rod behind the left cover, which is engaged to the switch on the power supply unit. So carefully remove the left cover not to give an excessive lord on the link rod.



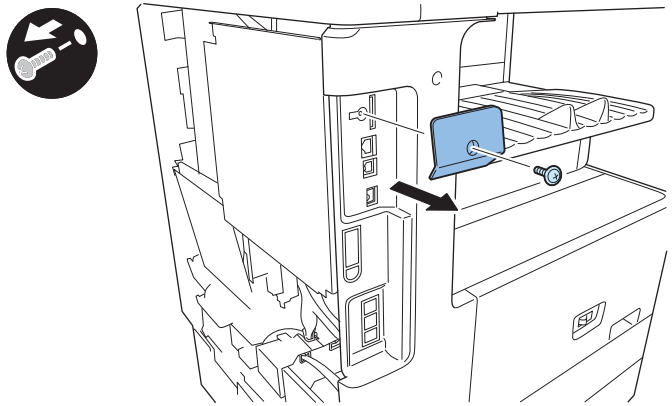
F-9-188

MEMO:
When reinstalling the left cover, surely insert the link rod in the switch on the power supply unit so the switch does link to the main power switch of the host machine.



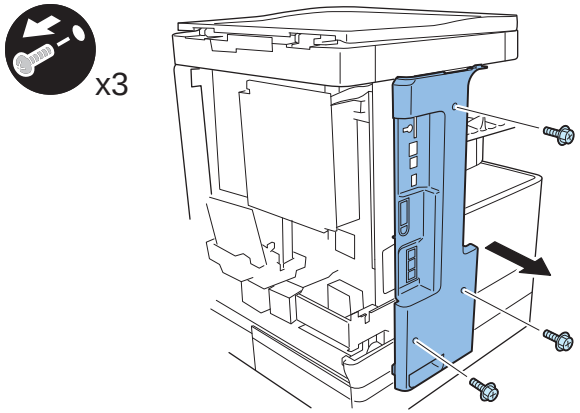
F-9-189

☐ 20) Remove 1 screw to detach the blindfold cover.
- Screw (1 pc.)



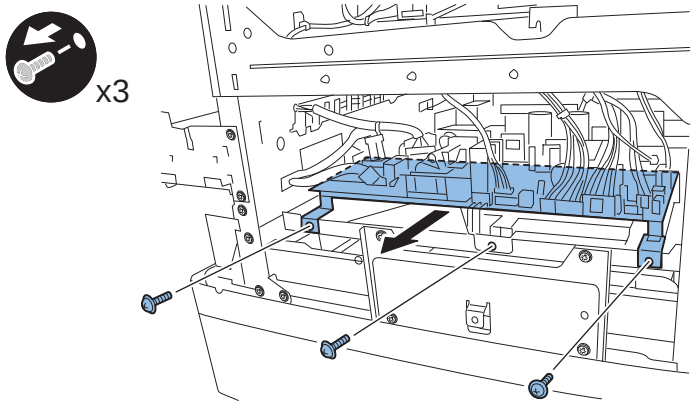
F-9-190

☐ 21) Remove the left rear cover.
- Screws (3 pcs.)



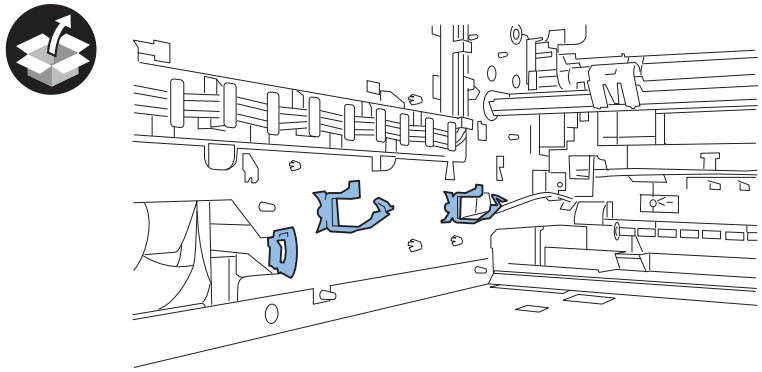
F-9-191

☐ 22) Detach all the connectors on the power supply unit and remove 3 screws to dismount the power supply unit.



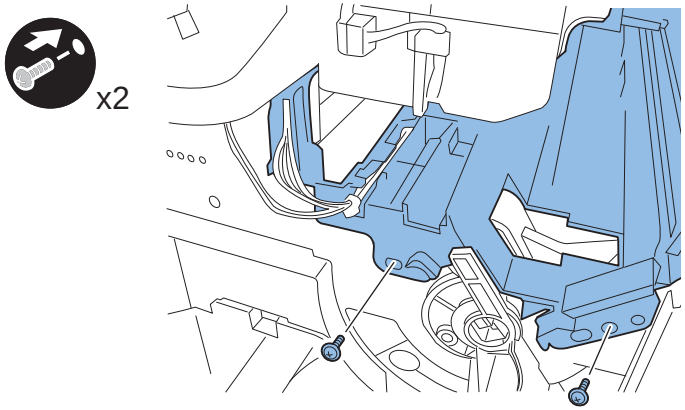
F-9-192

☐ 23) Mount 2 supplied wire saddles and 1 supplied edge saddle on the rear frame.



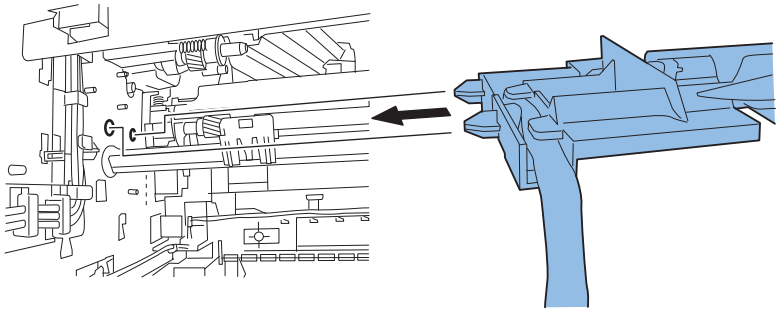
F-9-193

☐
24) Install the supplied drum heater unit in the host machine with 2 screws.



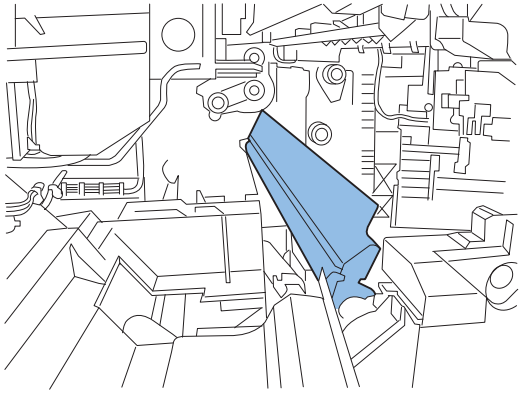
F-9-194

MEMO:
Insert the positioning pins of the drum heater unit to the holes of rear frame.



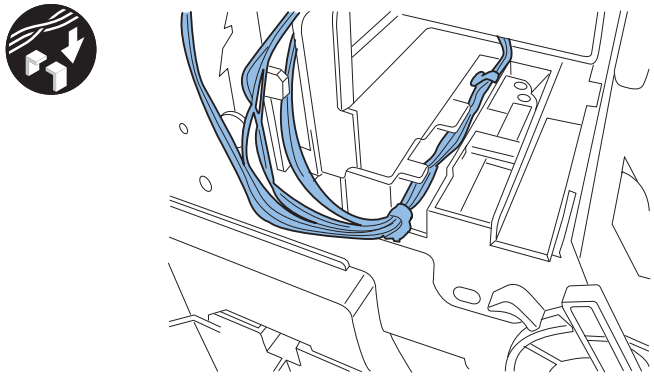
F-9-195

CAUTION:
Do not damage the pre-transfer guide when installing the drum heater unit.



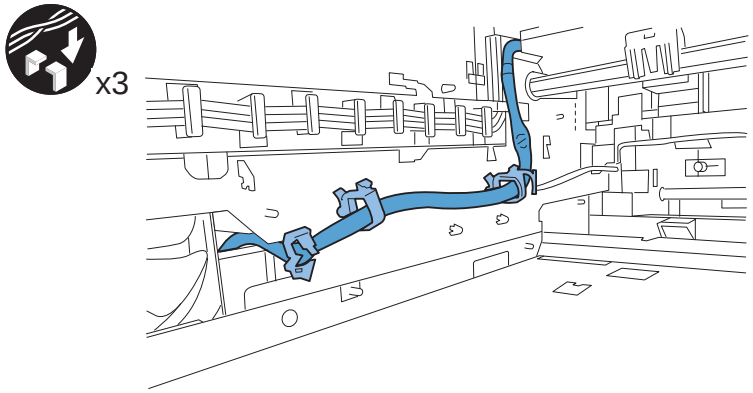
F-9-196

☐ 25) Fit the harness on the harness guide of the drum heater unit as shown.



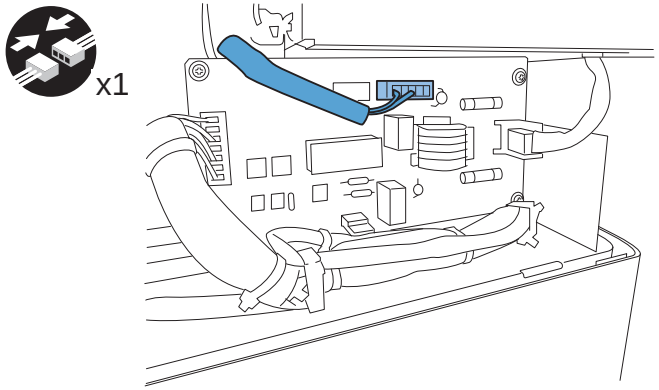
F-9-197

☐ 26) Fix the drum heater harness in the 2 wire saddles and 1 edge saddle.



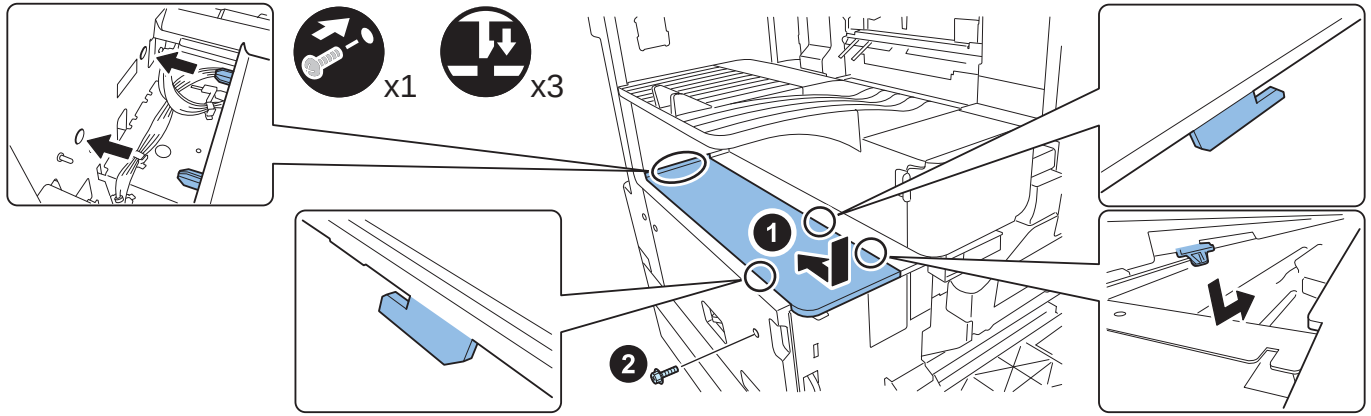
F-9-198

☐ 27) Joint the connector of the drum heater harness to J1104 on the heater PCB.



F-9-199

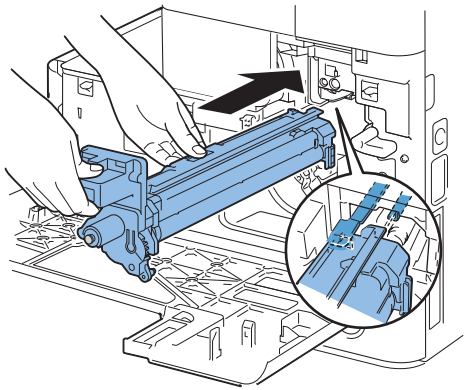
☐
28) Restore the power supply unit with 3 screws and joint all the connectors for it.
29) Restore the toner replenish cover, the rear cover (right), the connector cover, the rear lower cover, the left lower cover, the left cover, the blindfold cover and the left rear cover.
30) Restore the inner bottom cover and fix 1 screw to the left cover.



F-9-200

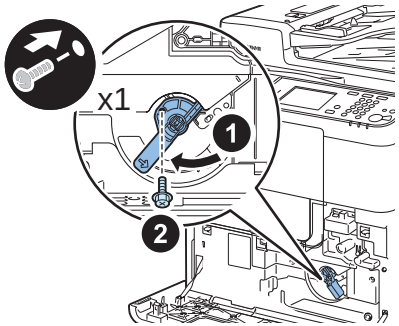
☐
31) Restore the developing unit and joint the developing unit connector.
32) Hold the drum unit handle and the part shown in the figure. Slowly draw it in till it stops.

CAUTION:
Confirm engagement of the drum unit and the drum unit rail of the host machine.



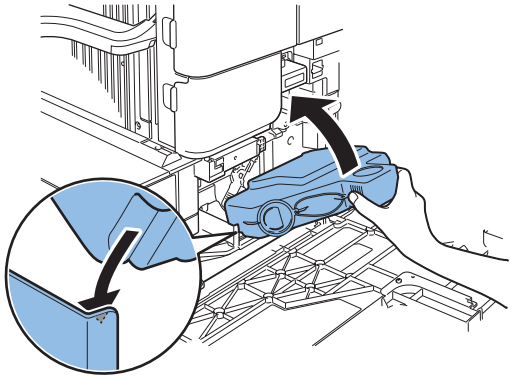
F-9-201

☐
33) Turn the developing pressure lever to set the developing unit and fix 1 screw.
The screw is not necessary if it is not removed at the step 5).



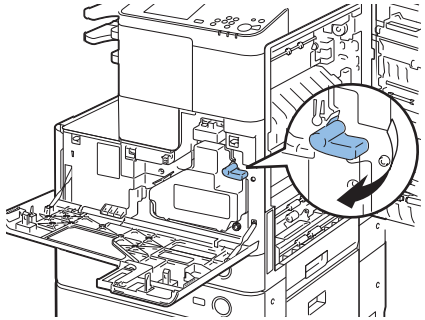
F-9-202

☐ 34) Restore the waste toner container.



F-9-203

☐ 35) Lock the waste toner container.
36) Close all the external covers.



F-9-204

Relocating the Machine

Required Articles

Have the following articles on hand:

Fixing tape

Drum cover removed during installation

Optical system fixing screws (2 pcs.) removed during installation (iR2545/2535 Series only)

Preparation for Relocating the Machine

When moving the machine using stairs (including steps) or transporting the machine to a different place using a truck, go through the steps described below.

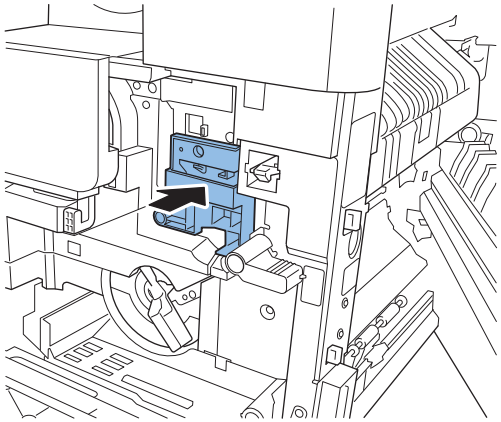
CAUTION:

When lifting the machine with a double-cassette pedestal, be sure to remove the double-cassette pedestal in advance.

If the machine is lifted with the double-cassette pedestal installed, they may separate from each other and consequently the machine can damage.

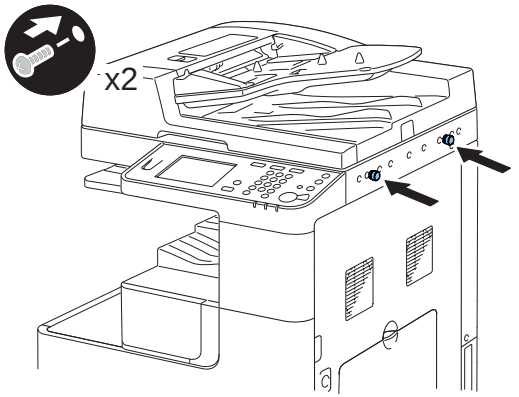
Work Procedure

1) Remove the drum unit, and then attach the drum cover removed during installation.



F-9-205

2) For the iR2545/2535 Series, secure the optical system using the two screws removed during installation.



F-9-206

3) Secure the front cover, toner supply cover, delivery section, and cassette with tape.

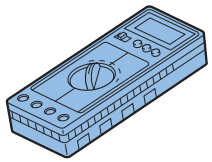
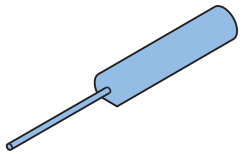
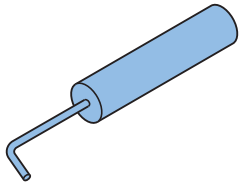
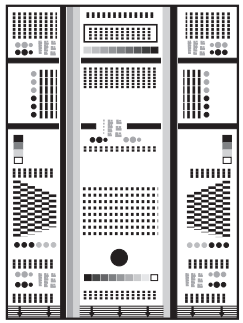
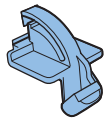
4) Place an A3-size sheet on the document glass, and then secure the document glass cover (ADF) with tape.

Appendix

- Service Tools
- General Circuit Diagram

Service Tools

Special Tools

Tool name	Tool No.	Rank (*)	Shape	Uses
Digital multimeter	FY9-2002	A		For making electrical checks.
Tester extension pin	FY9-3038	A		As an addition when making an electrical check.
Tester extension pin (L-shipped)	FY9-3039	A		As an addition when making an electrical check.
NA-3 Test Chart	FY9-9196	A		For checking and adjusting images.
Mirror cleaning tool	FL2-9842	--		Used for cleaning the mirror in the CCD unit. This part is installed in the reader unit. (Not a service tool)

T-9-5

*

A: each service engineer is expected to carry one.

B: each group of 5 service engineers is expected to carry one.

C: each workshop is expected to carry one.

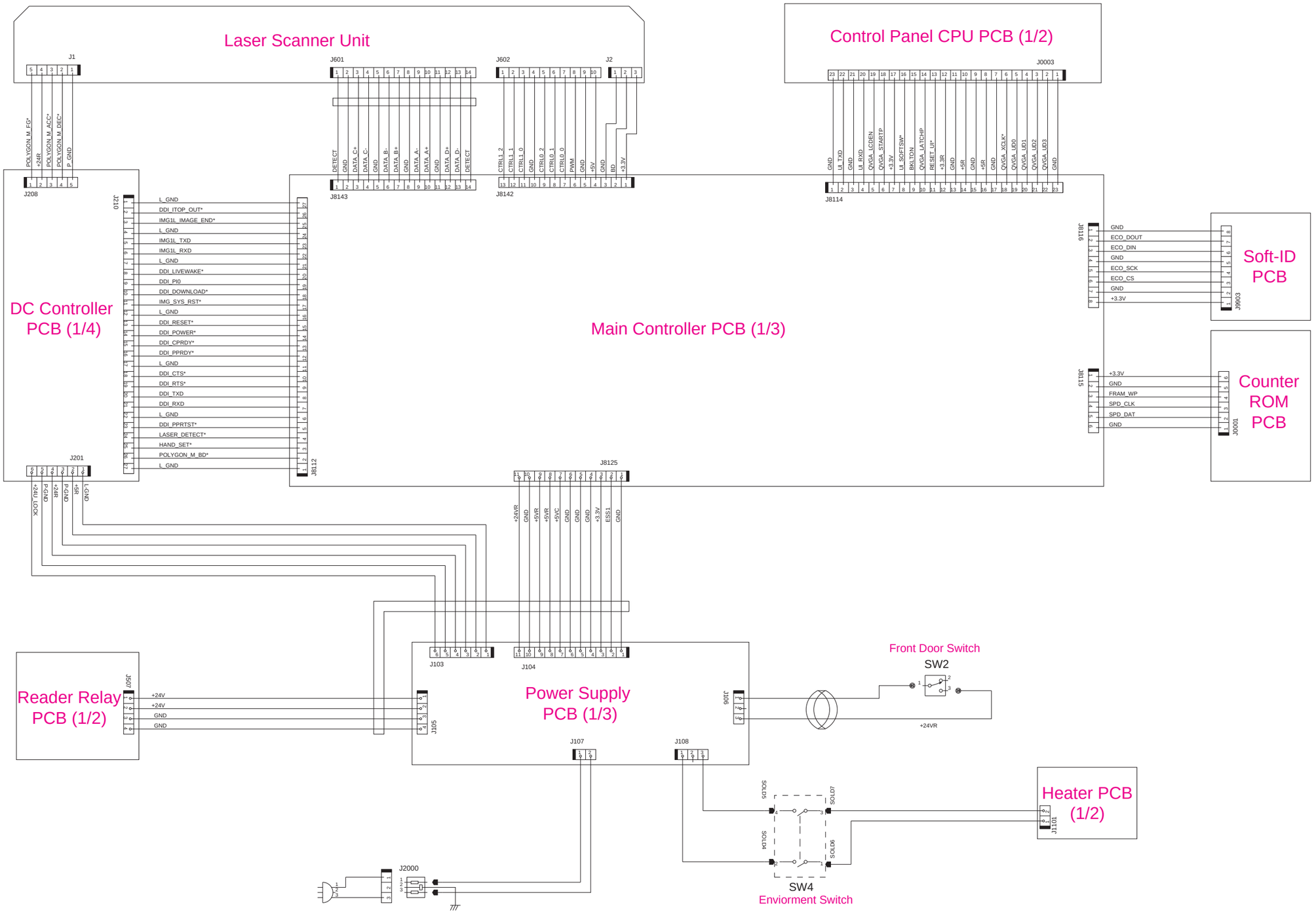
Oils and Solvents

Name	Uses	Composition	Remarks
Alcohol	cleaning; e.g., glass, plastic, rubber; external covers	fluoride-family hydrocarbon alcohol surface activating agent water	Do not bring near fire. Procure locally. IPA (isopropyl alcohol) may be substituted.
Lubricant	scanner rail stream reading glass	silicone oil	KF96SS (300CS) FY9-6011 (50 cc)

T-9-6

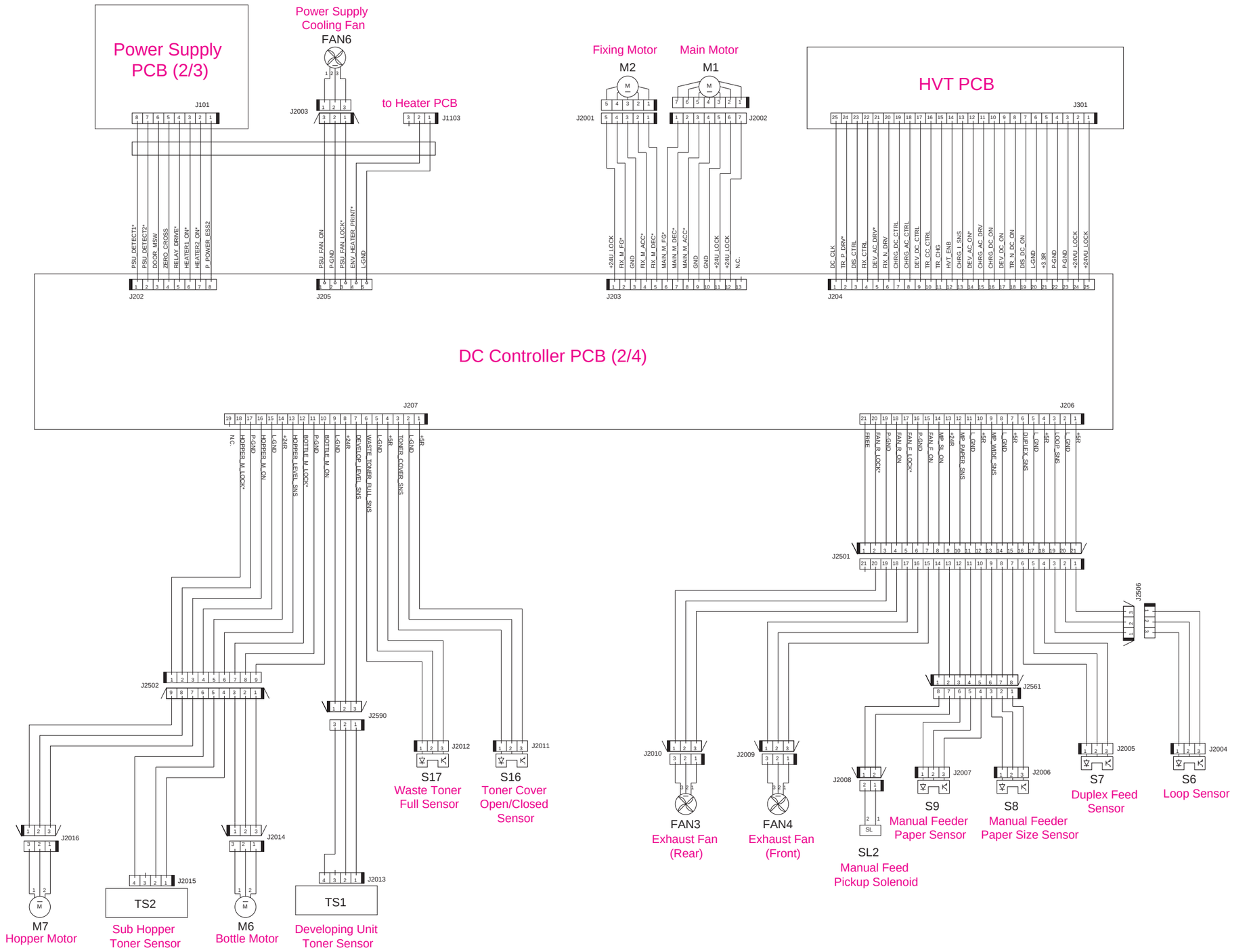
General Circuit Diagram

General Circuit Diagram (1/7)



F-9-207

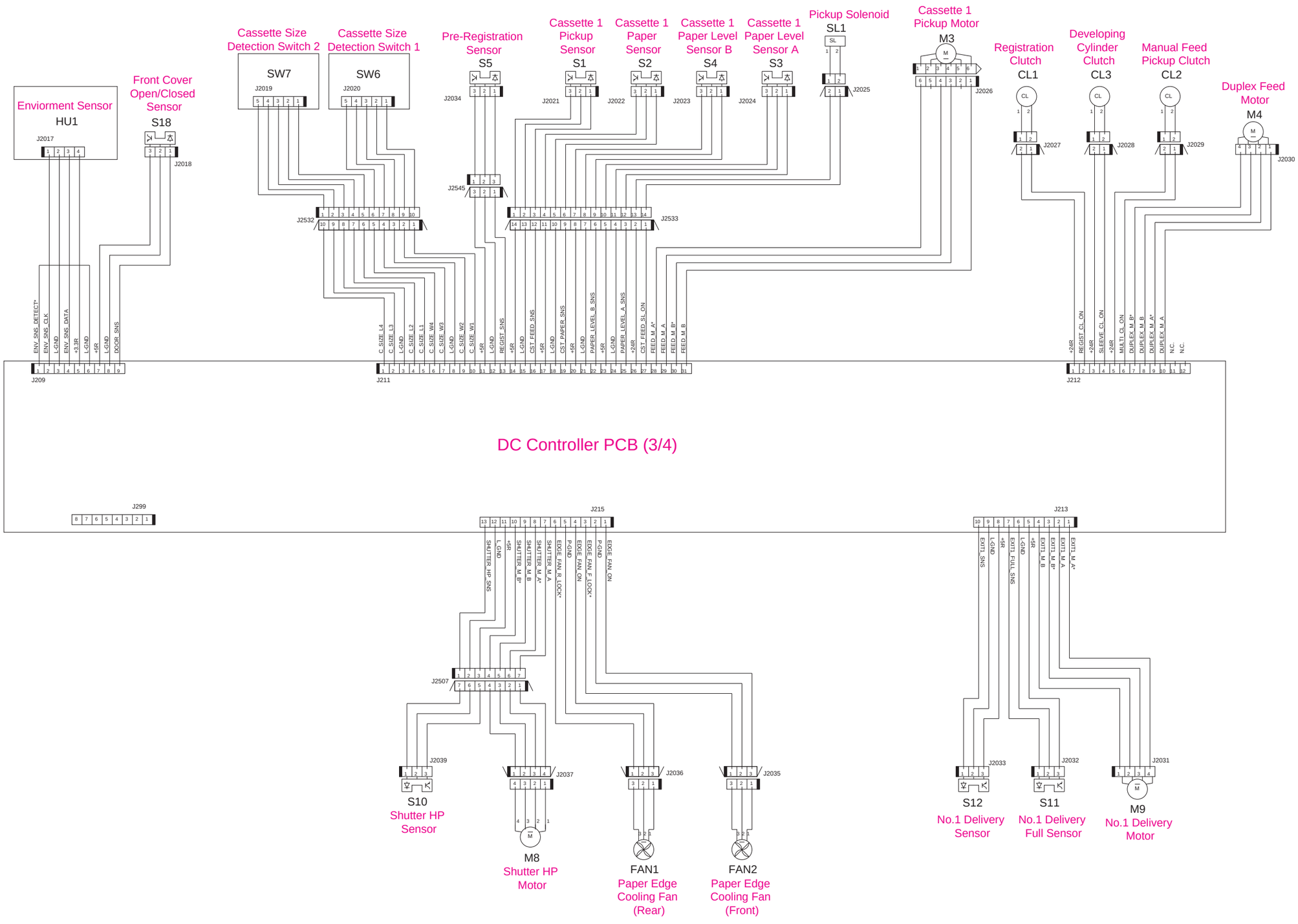
General Circuit Diagram (2/7)



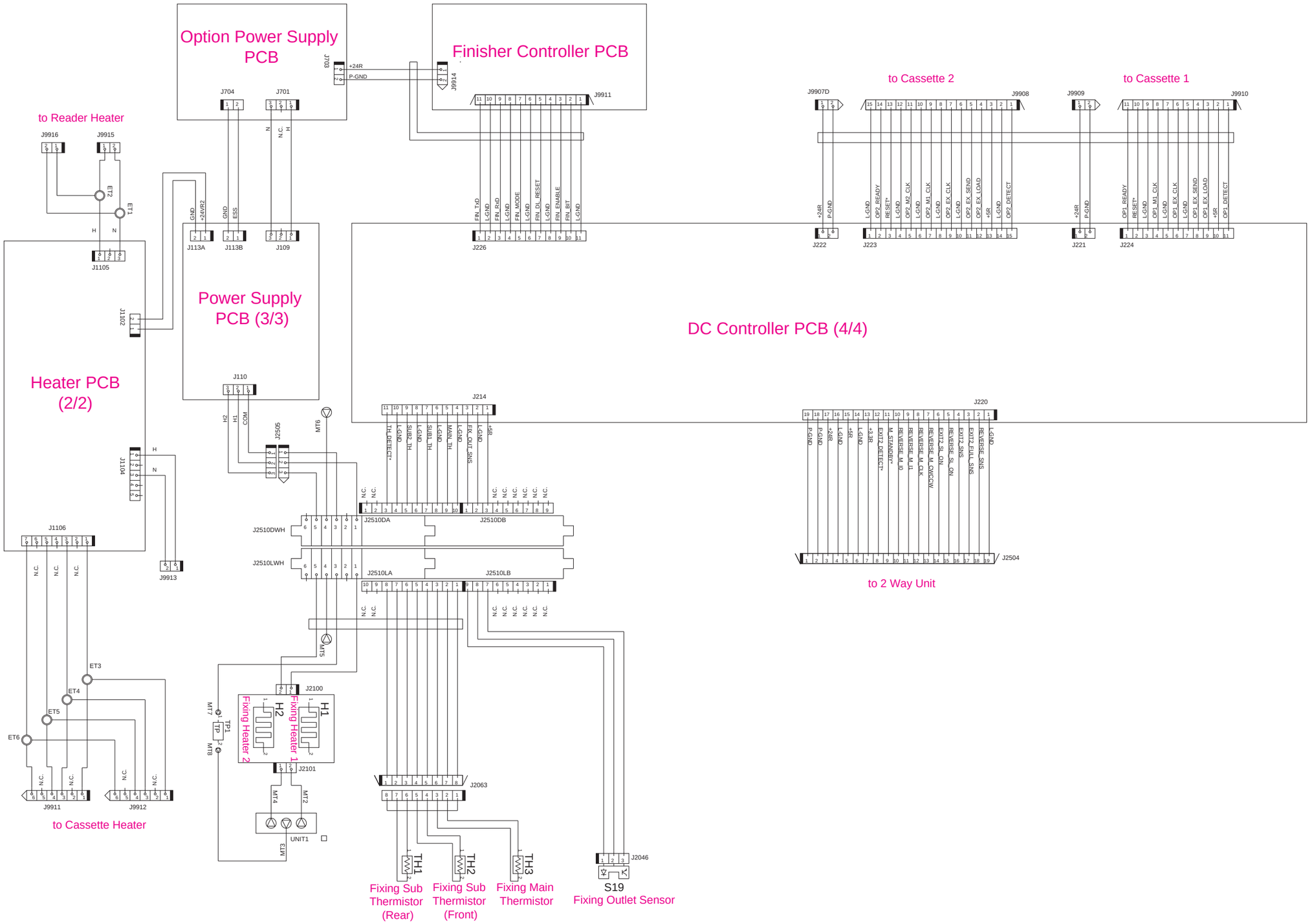
F-9-208

Appendix > General Circuit Diagram > General Circuit Diagram (2/7)

General Circuit Diagram (3/7)

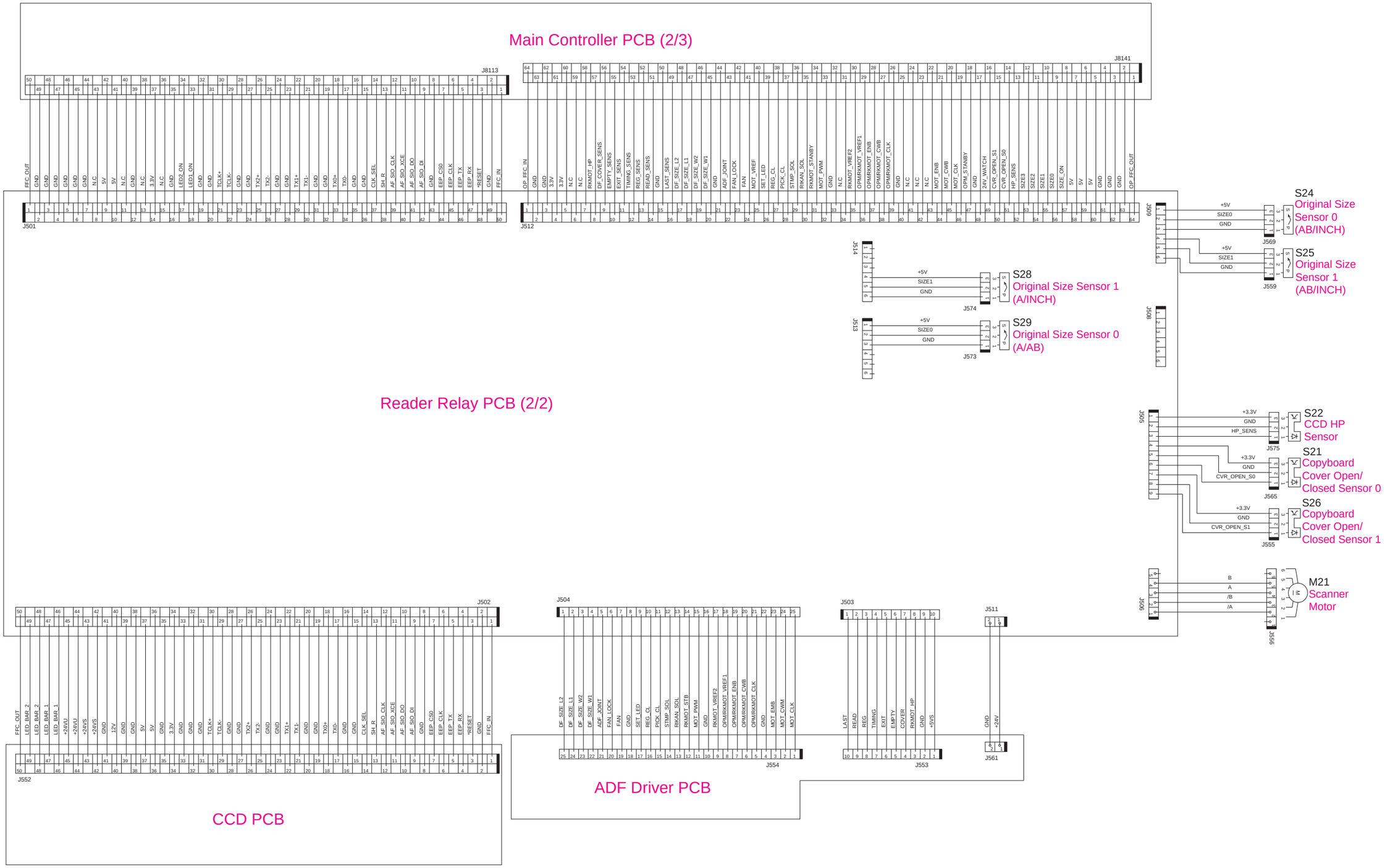


General Circuit Diagram (4/7)



F-9-210

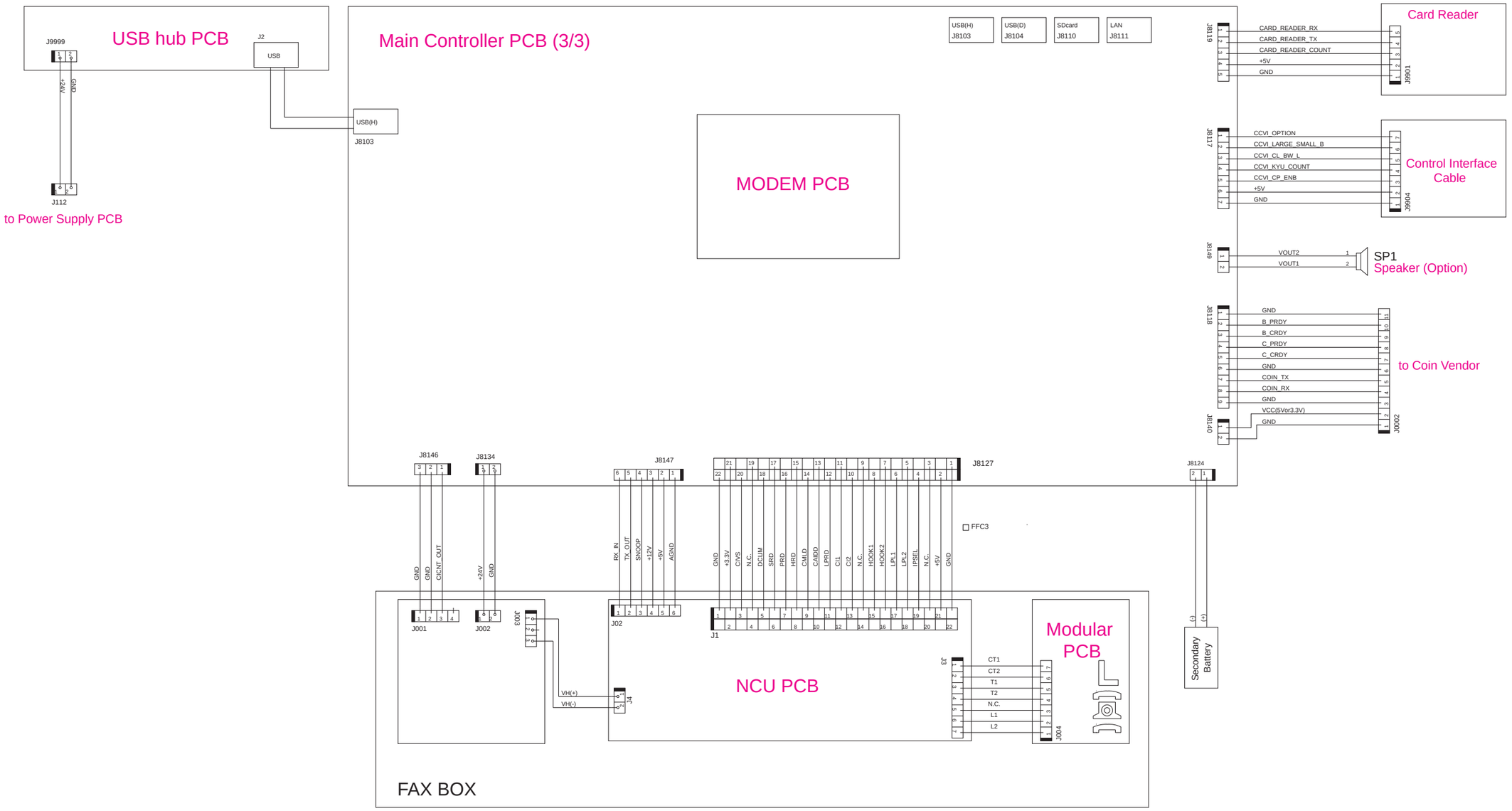
General Circuit Diagram (5/7)



F-9-211

Appendix > General Circuit Diagram > General Circuit Diagram (5/7)

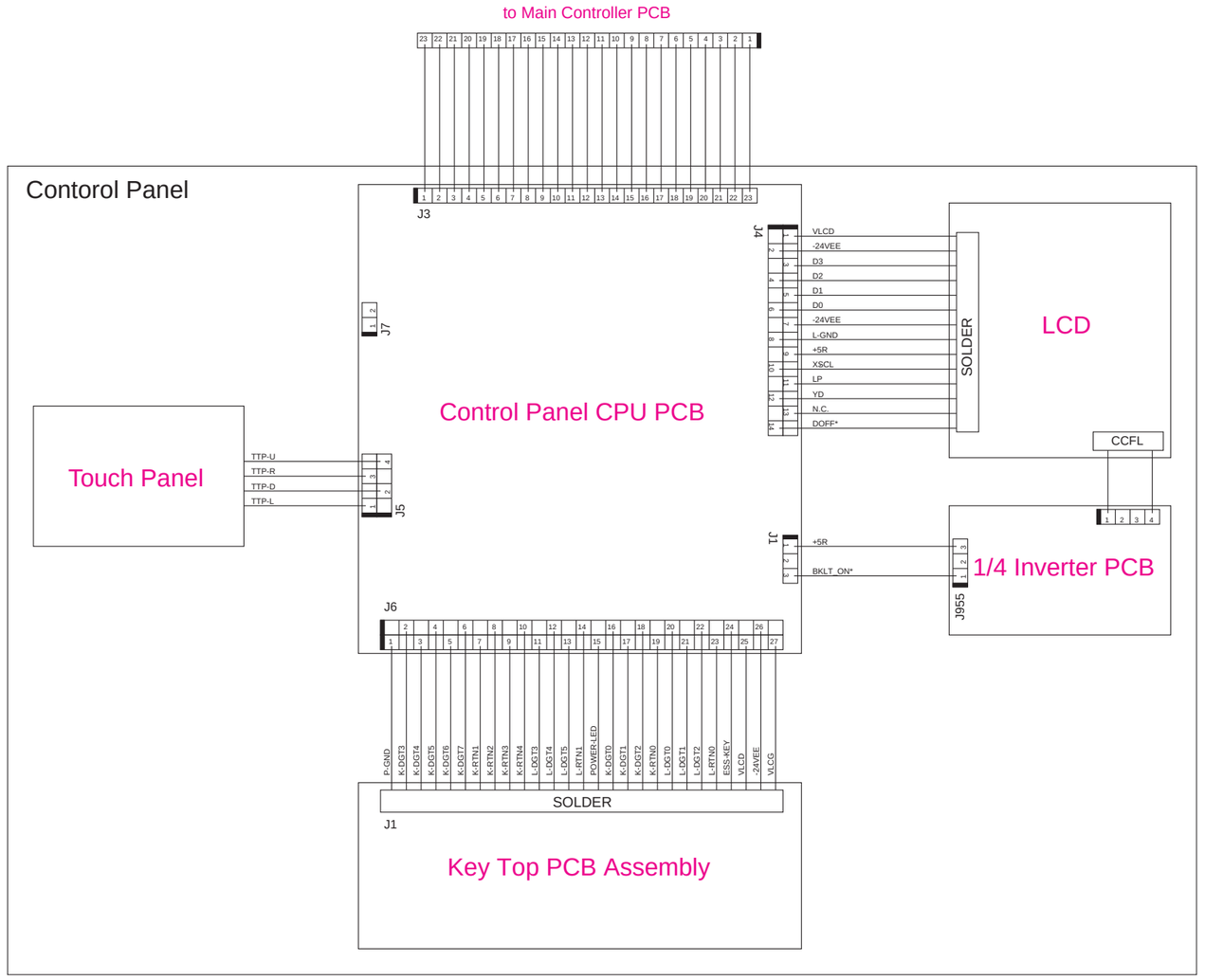
General Circuit Diagram (6/7)



F-9-212

Appendix > General Circuit Diagram > General Circuit Diagram (6/7)

General Circuit Diagram (7/7)



F-9-213

Appendix > General Circuit Diagram > General Circuit Diagram (7/7)