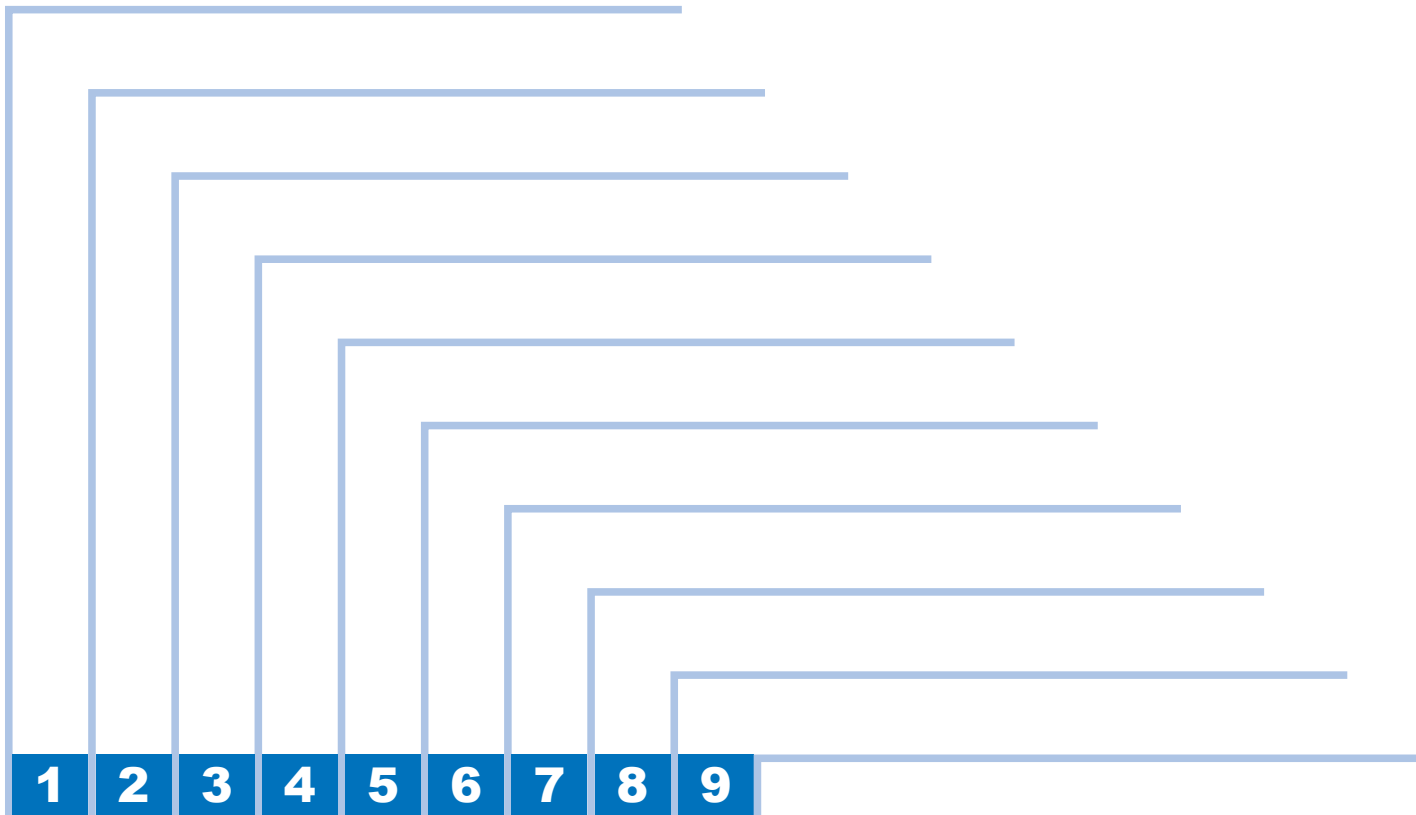


imageRUNNER 1750/1740/1730 Series Service Manual



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.

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Caution

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



Explanation of Symbols

The following symbols are used throughout this Service Manual.

Symbols	Explanation	Symbols	Explanation
	Check.		Remove the claw.
	Check visually.		Insert the claw.
	Check the noise.		Use the bundled part.
	Disconnect the connector.		Push the part.
	Connect the connector.		Plug the power cable.
	Remove the cable/wire from the cable guide or wire saddle.		Turn on the power.
	Set the cable/wire to the cable guide or wire saddle.		
	Remove the screw.		
	Tighten the screw.		

The following rules apply throughout this Service Manual:

- 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.

- 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

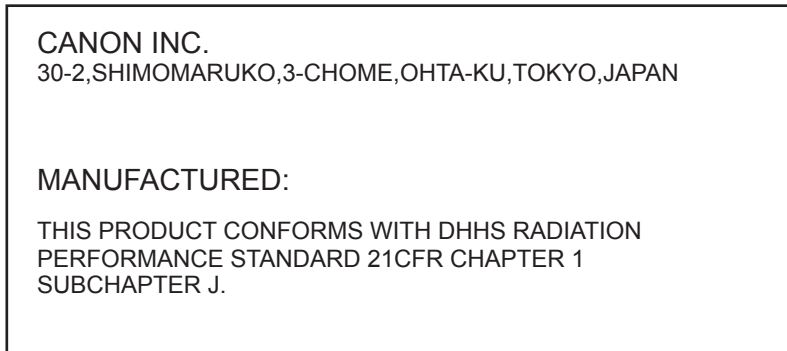
- CDRH Act
- Laser Safety
- Handling of Laser System
- Turn power switch ON
- Power Supply
- Safety of Toner
- Notes When Handling the Lithium and Ni-MH Batteries
- Notes Before it Works Serving
- Points to Note at Cleaning
- Notes On Assembly/ Disassembly



imageRUNNER
1750/1740/1730 Series

CDRH Act

The Center for Devices and Radiological Health of the US Food and Drug 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 United States. The label shown here indicates compliance with the CDRH regulations, and its attachment is required on all laser products that are sold in the United States.



F-0-1



A different description may be used for a different product.

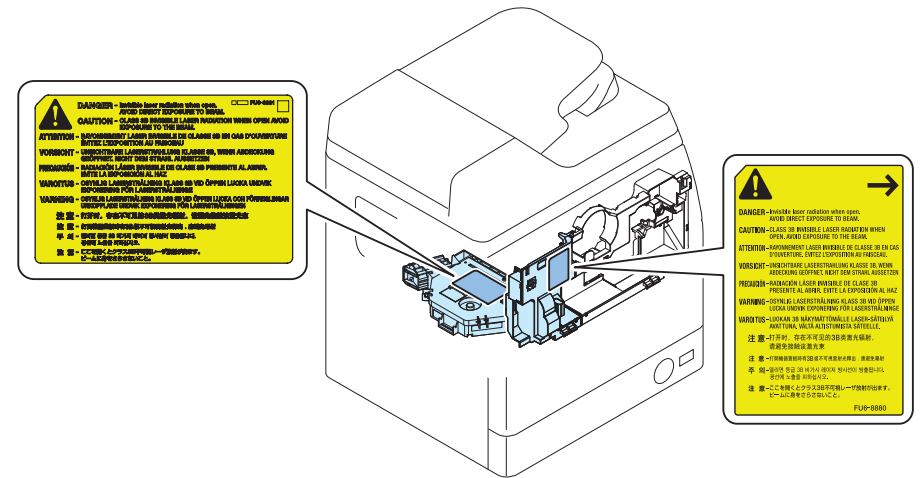
Laser Safety

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.

This product is certificated as a Class 1 laser product under IEC60825-1:2007.

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.

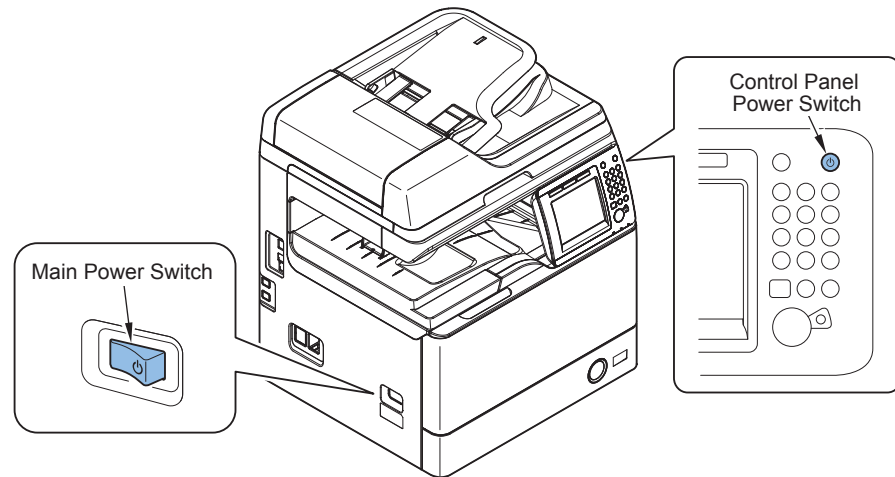


F-0-2

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).

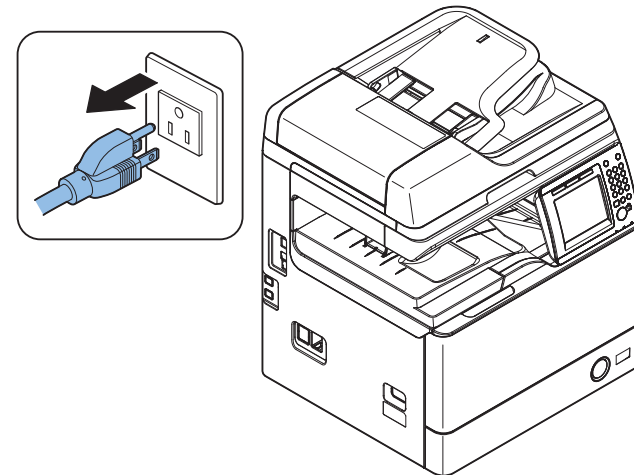


F-0-3

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.
- Toner 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 it Works Serving



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

Points to Note at Cleaning



When performing cleaning using organic solvent such as alcohol, be sure to check that the component of solvent is vaporized completely before assembling.

Notes On Assembly/Disassembly

Follow the items below to assemble/disassemble the device.

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

CAUTION
DOUBLE POLE/NEUTRAL FUSING

F-0-5

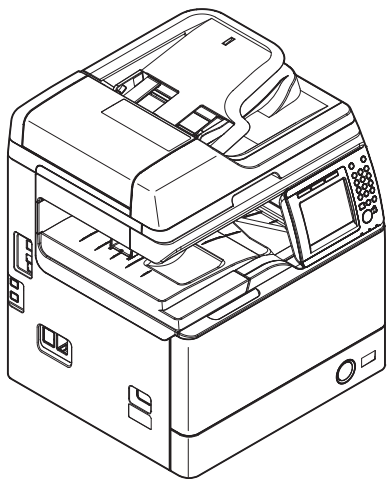


Product Overview

- Product Lineup
- Features
- Specifications
- Parts Name

Product Lineup

Host machine



F-1-1

Host machine configuration

Configuration
Reader+DADF+Printer

T-1-1

Model type

	imageRUNNER 1750	imageRUNNER 1740	imageRUNNER 1730
Print Speed	50ppm	40ppm	30ppm

T-1-2

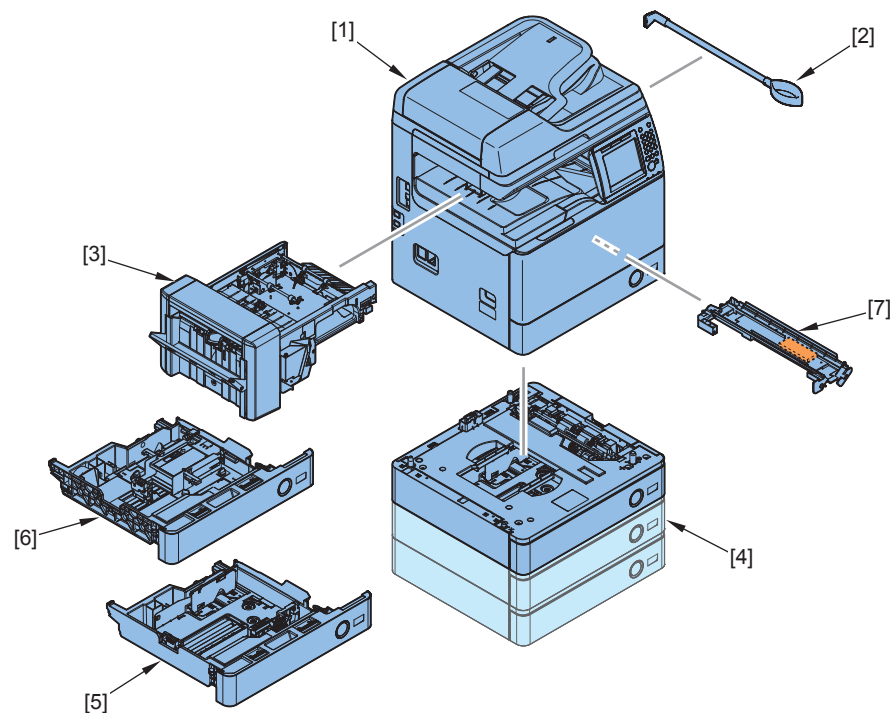
imageRUNNER 1750 / 1740 / 1730

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

F-1-2

Option

Pickup/Delivery / Image Reading System Options

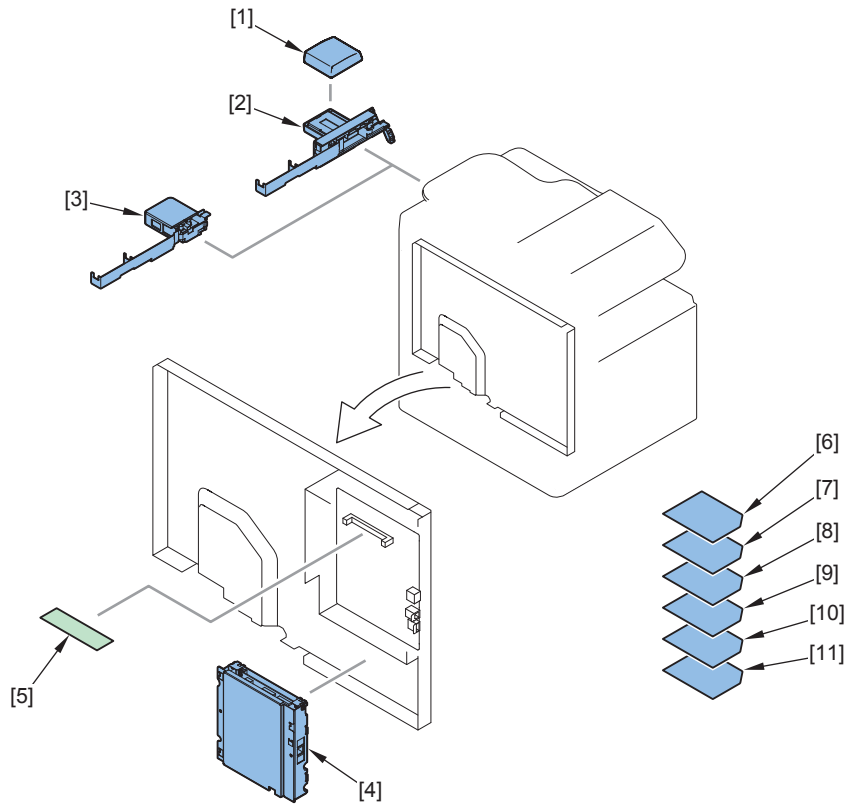


F-1-3

No.	Product name	Remarks and condition
1	imageRUNNER 1750/1740/1730	
2	ADF Access Handle-A1	
3	Staple Finisher-H1	
4	Cassette Module-Y1	Up to 3 units can be installed
5	FL Cassette-AP1	
6	Envelope Cassette-D1	
7	Drum Heater-D1	

T-1-3

Function expansion system options



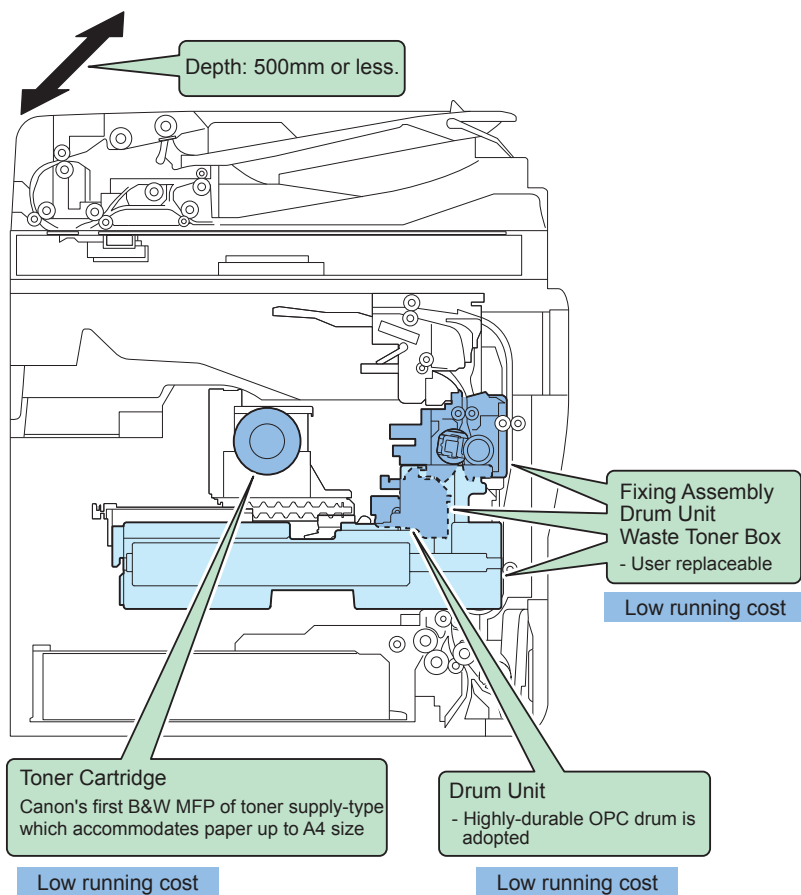
F-1-4

No.	Product name	Remarks and condition
1	Copy Card Reader-F1	Copy Card Reader Attachment-C1 is required.
2	Copy Card Reader Attachment-C1	
3	USB Application 3-Port Interface Kit-B1	
4	Super G3 Fax Board-AJ1	
5	System Upgrade RAM-C1	512MB
6	PCL Printer Kit-AL1	512MB is required for RAM. When using 256MB RAM, System Upgrade RAM-C1 is required.
7	PS Printer Kit-AL1	512MB is required for RAM. When using 256MB RAM, System Upgrade RAM-C1 is required.
8	Barcode Printing Kit-B1	PCL Printer Kit-AF1 is required.
9	Color Send Kit-Z1	512MB is required for RAM. When using 256MB RAM, System Upgrade RAM-C1 is required.
10	Color Send Searchable PDF Kit-E1	512MB is required for RAM. When using 256MB RAM, System Upgrade RAM-C1 is required.
11	eM Controller-C1, 230V	

T-1-4

Features

Product Features

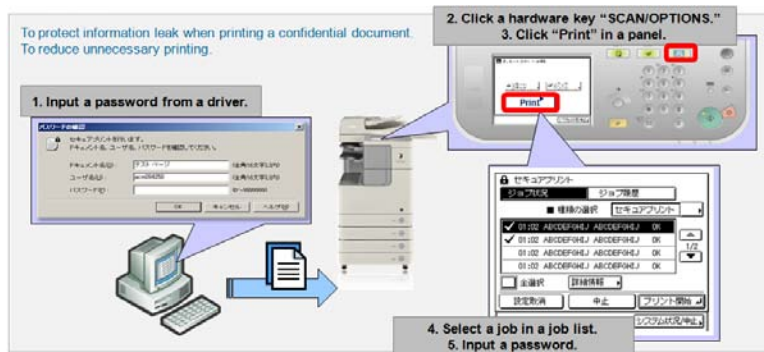


- Canon's first B&W MFP of toner supply-type which accommodates paper up to A4 size
 - Low running cost
- Improved maintainability
 - Fixing Assembly and Drum Unit can be replaced by the user.
 - Replacement time for consumable parts and options by the service technician has been significantly reduced.
- Performance
 - FCOT: 5 sec. or less
 - Recovery from sleep mode: 10 sec. or less
 - 1W sleep mode
- Installability
 - Depth: 500mm or less.

F-1-5

Secured Print Jobs

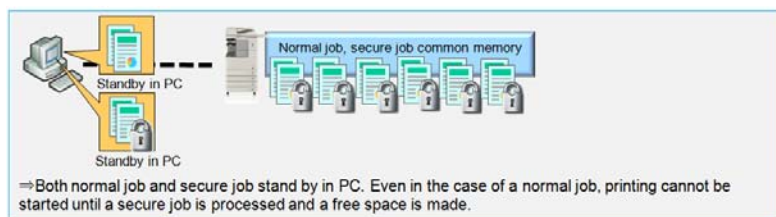
Secured Print is the function that a password is provided to the PDL(UFR II and PCL, PS) print job and it is sent to the device. Then, it is rasterized on the device side, saved in the image server and output by entering the password from the device's panel.



F-1-6

Process at full-memory

- Even in the case of a normal job, print cannot be started until a secure job is processed and a free space is created. A print job can be submitted in both normal/ secure jobs. But, a job enters a stand-by status in the PC's Windows spool area. Then, after a memory area is ensured on a main body side, the job is held in the main body.
- Print, copy and fax use a same memory area. So until the memory area has a free space, only a copy function of; 1 to N, N to 1, 1-sided/1-sided is available and only a FAX send/reception function of Direct send is available.



F-1-7

Restrictions

- Encryption secure print is not supported.
- A device doesn't enter Sleep when a secure print job is submitted.
- Not collaborated with device authentication. Job selection and password input are necessary even after device authentication.

Caution:

- Job is erased by power OFF/ON.
- A secure print job can be submitted to a device up to 100 jobs.

Service Mode Disable of USB memory function

Invalidating a USB memory function (Print From USB Memory & Scan To USB Memory) is possible in Service Mode.

The details refer to "Details of Service Mode".

Setting "Auto-clear Time" to "short"

Default: 2min. Selectable in 0 (not clearing automatically), 10sec, 20sec, 30sec, 40sec, 50sec, 1min., 2min., 3min. ...9min.

Less than 1 minute settings are the new function.

The details refer to User Guide.

Arabic support (In Europe only)

Arabic display support in Local UI message (Copy, FAX, Printer, system status, status, user mode)

*Remote UI, report print and FEP/character input are not supported.

Communication test function of E-RDS

Communication test function of E-RDS is implemented to a counter screen.

The details refer to the chapter of E-RDS.

Specifications

Specifications

Item	Specifications
Copyboard	Original stream reading, original fixed reading
Machine installation method	Desktop
Light source	LED (RGB)
Photosensitive medium	OPC
Image reading system	CIS
Copying method	Indirect electrostatic method
Exposure method	Laser exposure
Charging method	Roller charging
Developing method	Dry, 1-component toner projection development
Transfer method	Roller transfer
Separation method	Curvature separation
Pickup method	Cassette: Retard separation Multi-purpose Tray: Pad separation
Fixing method	On-demand fixing
Delivery method	Face-down (inner delivery)
Magnification ratio	25 to 400%
Drum cleaning method	Cleaning Blade
Toner type	Magnetic negative toner
Toner supplying method	Toner Container method
Toner level detection function	Yes
Leading edge image margin	2.5 +/- 1.5mm
Left edge image margin	2.5 +/- 1.5mm
Leading edge non-image width	2.5 +/- 1.5mm
Left edge non-image width	2.5 +/- 1.5mm
non-image width	When the Feeder is used: 2.5 +/- 2.0mm
Warm-up time	30 sec or less when the power is turned ON
Image gradations	256 gradations
Resolution at reading	600 x 600dpi
Resolution at writing	1200 x 1200dpi
First print time	5.0 sec or less
Paper type (Cassette)	Plain paper (64 to 90g/m ²), Recycled paper (64 to 90g/m ²), Heavy paper (91 to 105g/m ²), 3-hole paper, 4-hole paper, *Envelope (No. 10 (COM10), ISO-B5, Monarch, ISO-C5, DL) *Only when the option Cassette Unit-Y1 is installed and the option Envelope Cassette-D1 is installed in the 2nd cassette.
Paper type (Multi-purpose Tray)	Plain paper (64 to 90g/m ²), Recycled paper (64 to 90g/m ²), Heavy paper (91 to 128g/m ²), 3-hole paper, 4-hole paper, Bond paper (90g/m ²), Transparency, Label paper, Envelope (No. 10 (COM10), ISO-B5, Monarch, ISO-C5, DL)

Item	Specifications
Paper size (Cassette)	A4R, A5R, B5R, LTR-R, LGL, EXEC-R, STMTR-R, 16K-R
Paper size (Multi-purpose Tray)	A4R, A5R, B5R, LTR-R, LGL, EXEC-R, STMTR-R, 16K-R, Custom size (99 x 140mm to 216 x 356mm), Envelope (No. 10 (COM10), ISO-B5, Monarch, ISO-C5, DL)
Pickup capacity	Cassette: 550 sheets (80g/m ²) Multi-purpose Tray: 100 sheets (80g/m ²)
Duplexing method	Through-pass duplex
Operation noise	imageRUNNER 1750/1750i/1750iF: During copy: 75.0dB or smaller *1/During standby: 53.00dB or smaller *2 imageRUNNER 1740/1740i/1740iF: During copy: 73.0dB or smaller *1/During standby: 53.00dB or smaller *2 imageRUNNER 1730/1730i/1730iF: During copy: 69.50dB or smaller/During standby: 43.00dB or smaller *2 *1 Excluding the Chinese models Chinese models: 71.00dB or smaller (During copy) *2 Excluding the Chinese models Chinese models: 45.00dB or smaller (During standby)
Ozone volume	1.5mg/h or smaller
Rated power supply	120 - 127 V AC, 50/60 Hz, 10.0 A 220 - 240 V AC, 50/60 Hz, 5.0 A
Maximum power consumption	120 to 127 V model approx. 1283.4 W 220 to 240 V model approx. 1234.0 W
Dimensions (WxDxH)	560mm x 500mm x 633mm 560mm x 500mm x 983mm with the 3 cassette
Weight	Approx. 43.3kg

T-1-5

Weight and Size

Product name	Width (mm)	Depth (mm)	Height (mm)	Weight Approx. (kg)
imageRUNNER 1750/1750i/1740/1740i/1730/1730i	560	500	633	44.3
imageRUNNER 1750iF/1740iF/1730iF (with FAX)	560	500	633	45.1
Staple Finisher-H1	798	395	263	10.5
Cassette Module-Y1	540	500	158	7.7
Copy Card Reader-F1	96	88	40	0.2

T-1-6

Productivity (Print speed)

Size	Mode	Paper type	Paper basis weight (g/m ²)	imageRUNNER					
				1750		1740		1730	
				Cassette	Multi-purpose Tray	Cassette	Multi-purpose Tray	Cassette	Multi-purpose Tray
A4-R	1-sided	Plain paper	64-90	50	40	40	40	30	30
		Heavy paper	91-105	45	40	40	40	30	30
			106-128	-	21	-	21	-	21
	2-sided	Plain paper	64-90	49	39	39	39	29	29
		Heavy paper	91-105	44	39	39	39	29	29
			106-128	-	-	-	-	-	-
LTR-R	1-sided	Plain paper	64-90	52	40	42	40	32	30
		Heavy paper	91-105	45	40	42	40	32	30
			106-128	-	21	-	21	-	21
	2-sided	Plain paper	64-90	48	37	39	37	30	28
		Heavy paper	91-105	42	37	39	37	30	28
			106-128	-	-	-	-	-	-
A5-R / STMT-R	1-sided	Plain paper	64-90	25	25	25	25	25	25
		Heavy paper	91-105	25	25	25	25	25	25
			106-128	-	17	-	17	-	17
	2-sided	Plain paper	64-90	22	22	22	22	22	22
		Heavy paper	91-105	22	22	22	22	22	22
			106-128	-	-	-	-	-	-

T-1-7

Paper type

See the table below for custom paper size..

Type	Feeding direction (mm)	Width direction (mm)
Custom size	140 to 356	99 to 216

T-1-8

Pickup

Available paper types

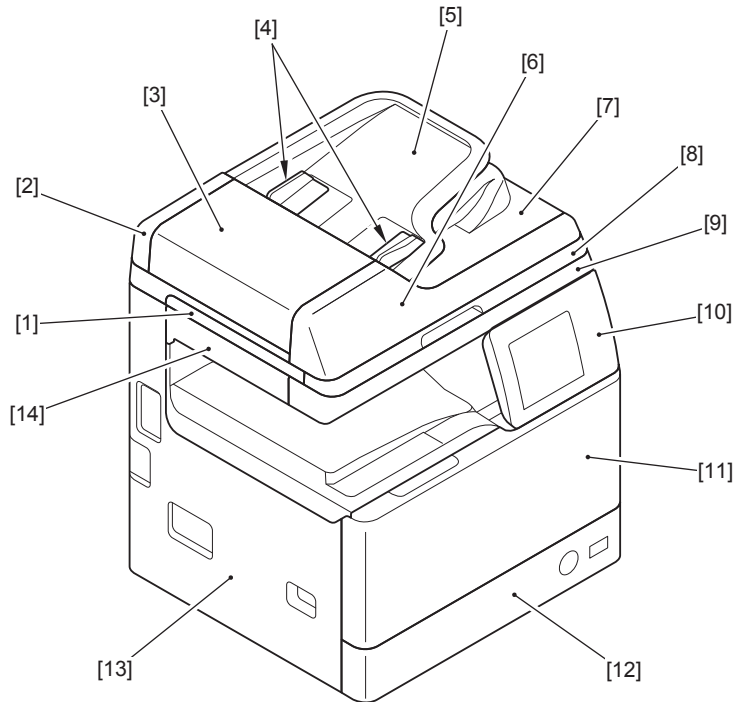
Paper type (g/m ²)	Size	Multi-purpose Tray	Cassette 1	Cassette 2		Cassette 3	Cassette 4
				With Envelope Feeder	Without Envelope Feeder		
- Plain paper (64 to 90) - Color paper (64 to 90) - Recycled paper (64 to 90) - Heavy paper (91 to 105)	A4R, A5R, B5R, LGL, LTR-R, STMT-R, EXEC-R, 16K-R	Yes	Yes	No	Yes	Yes	Yes
- Heavy paper (106 to 128) - Bond paper (75 to 90)	A4R, A5R, B5R, LGL, LTR-R, STMT-R, EXEC-R, 16K-R	Yes	No	No	No	No	No
- Label paper	A4R, LTR-R	Yes	No	No	No	No	No
- Transparency	A4R, LTR-R	Yes	No	No	No	No	No
- Envelope	No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL	Yes	No	Yes	No	No	No
- Custom size paper	99 mm x 140 mm to 216 mm x 356 mm	Yes	No	No	No	No	No

T-1-9

Parts Name

External View

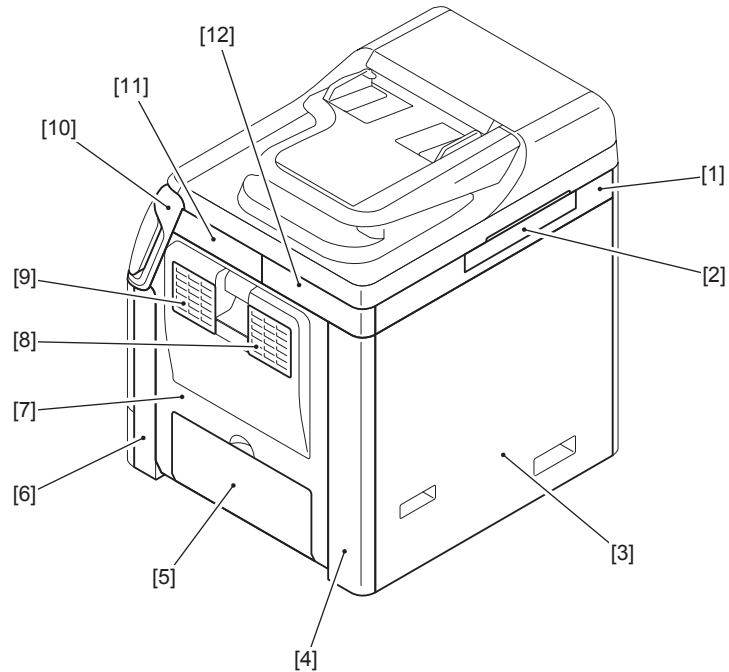
Front view, Left side



F-1-8

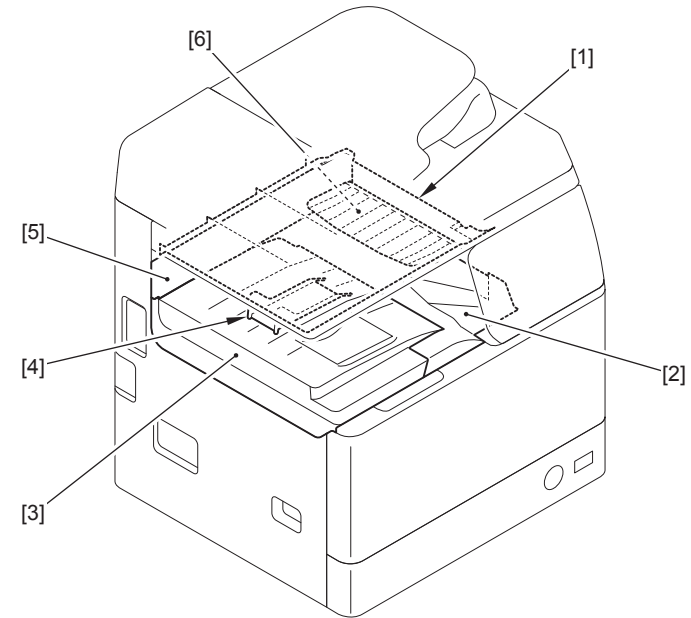
- | | |
|----------------------------|---------------------------|
| [1] ADF Left Cover | [8] ADF Front Lower Cover |
| [2] ADF Rear Cover | [9] Reader Front Cover |
| [3] ADF Upper Cover | [10] Control Panel Unit |
| [4] Side Guides | [11] Front Cover |
| [5] Original Feed Tray | [12] Cassette |
| [6] ADF Front Upper Cover | [13] Left Cover |
| [7] Original Delivery Tray | [14] Reader Left Cover |

Rear view, Right side



- | | | |
|------------------------------------|-------------------------------|-------|
| [1] Reader Rear Cover | [7] Right Door Unit | F-1-9 |
| [2] Reader Controller Cover | [8] Right Rear Fan Cover | |
| [3] Rear Cover | [9] Right Front Fan Cover | |
| [4] Right Rear Cover | [10] Support Column Cover | |
| [5] Multi-purpose Tray Pickup Unit | [11] Reader Right Front Cover | |
| [6] Right Front Cover | [12] Reader Right Rear Cover | |

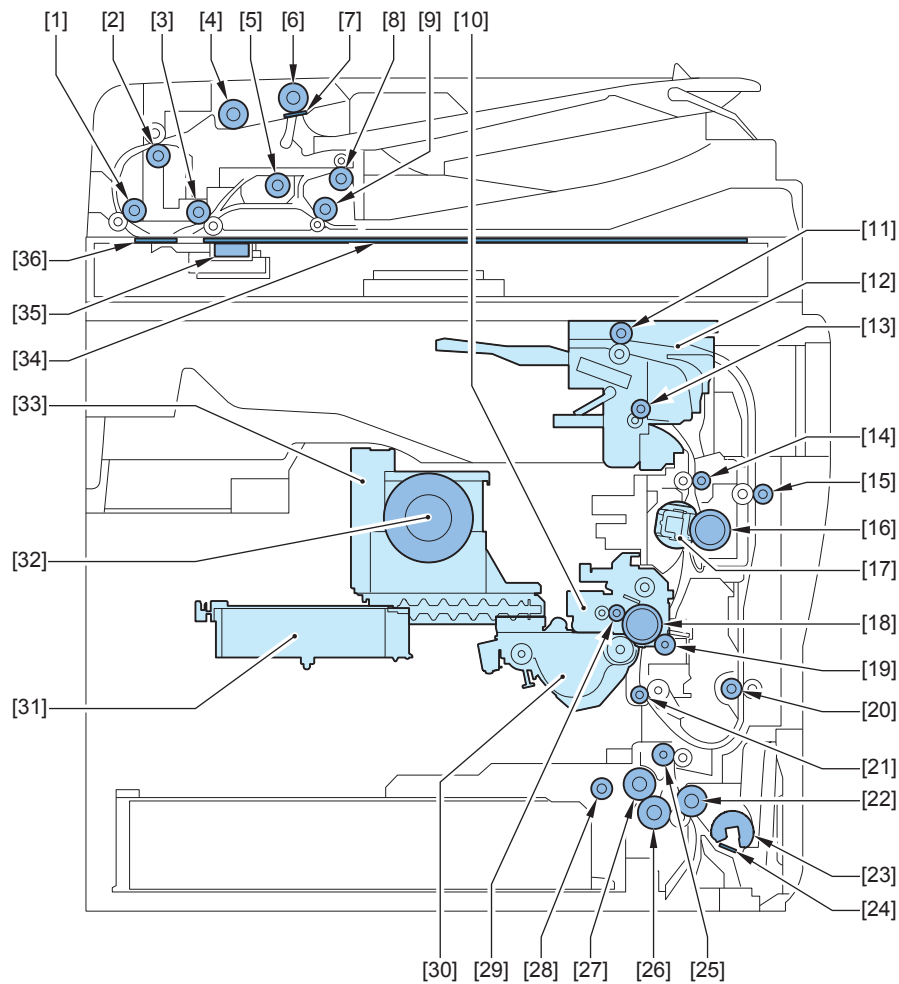
Delivery Assembly



- | |
|--------------------------|
| [1] Reader Bottom Cover |
| [2] Delivery Inner Cover |
| [3] Delivery Outer Cover |
| [4] Delivery Stopper |
| [5] Inner Rear Cover |
| [6] Reverse Tray |

F-1-10

Cross Sectional View



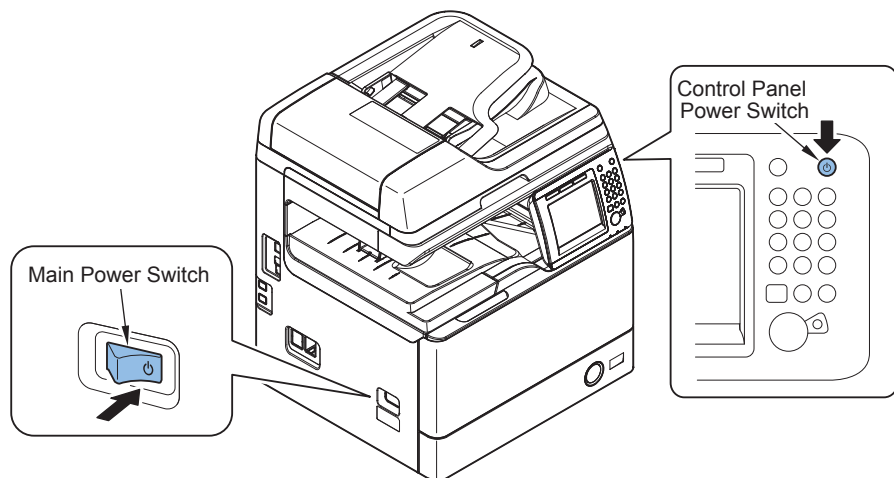
F-1-11

- | | |
|---------------------------------|--|
| [1] Lead Roller 1 | [19] Transfer Roller |
| [2] Registration Roller | [20] Duplex Feed Roller 2 |
| [3] Lead Roller 2 | [21] Registration Roller |
| [4] ADF Feed Roller | [22] Multi-purpose Tray Pullout Roller |
| [5] ADF Delivery Reverse Roller | [23] Multi-purpose Tray Pickup Roller |
| [6] ADF Pickup Roller | [24] Multi-purpose Tray Separation Pad |
| [7] ADF Separation Pad | [25] Vertical Path Roller |
| [8] ADF Delivery Roller | [26] Separation Roller (Cassette) |
| [9] ADF Reverse Roller | [27] Feed Roller (Cassette) |
| [10] Drum Unit | [28] Pickup Roller (Cassette) |
| [11] Reverse Roller | [29] Primary Charging Roller |
| [12] Expansion Delivery Kit | [30] Developing Assembly |
| [13] Delivery Roller | [31] Laser Scanner Unit |
| [14] Fixing Outlet Roller | [32] Toner Container |
| [15] Duplex Feed Roller 1 | [33] Hopper |
| [16] Pressure Roller | [34] Copyboard Glass |
| [17] Fixing Film Unit | [35] CIS Unit |
| [18] Photosensitive Drum | [36] ADF Reading Glass |

Operation

Power Switch

Types of Power Switches



F-1-12

This machine has the Main Power Switch and the 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

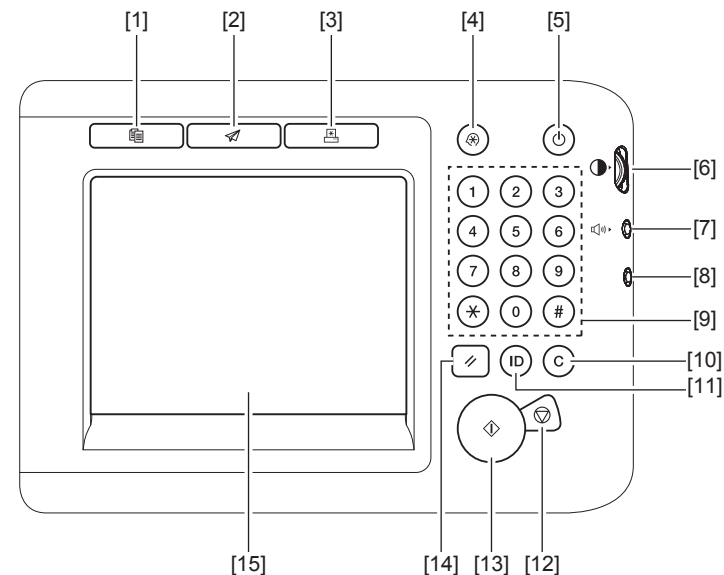
This switch is used to enter the energy saver mode or recover to the normal mode.

Points to Note on Turning ON/OFF the Power Switch

- Be sure to turn OFF the main power switch when turning OFF the power. (The conventional shut-down sequence process is not needed.)
- After turning OFF the power (after turning OFF the Main Power Switch), do not turn ON the main power switch again unless the screen disappears.
- Do not turn OFF the power during downloading

Description of Control Panel

Control Panel



F-1-13

- | | |
|---------------------------------------|------------------------------|
| [1] Copy Key | [9] Numeric Key |
| [2] Send Key | [10] Clear Key |
| [3] Remote Scanner/Expansion Key | [11] ID (Authentication) Key |
| [4] Initial Settings/Registration Key | [12] Stop Key |
| [5] Control Panel Power Switch | [13] Start Key |
| [6] Screen Contrast Dial | [14] Reset Key |
| [7] Volume Adjustment Key | [15] Touch Panel Display |
| [8] Counter Check Key | |

● Main Menu

Functions	Key	Location
Copy	Copy Key	Control Panel
Send*1 or FAX*2	Send Key	
Scan or Direct Print	Scan/Option Key	
System Monitor	[System Monitor]	Touch Panel Display

T-1-10

*1 To enable SEND function, Simple Send Expansion Kit-Y1 is required .

*2 To enable FAX function, Super G3 Fax Board-AG1 is required..

● Settings/Registration Menu

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

2

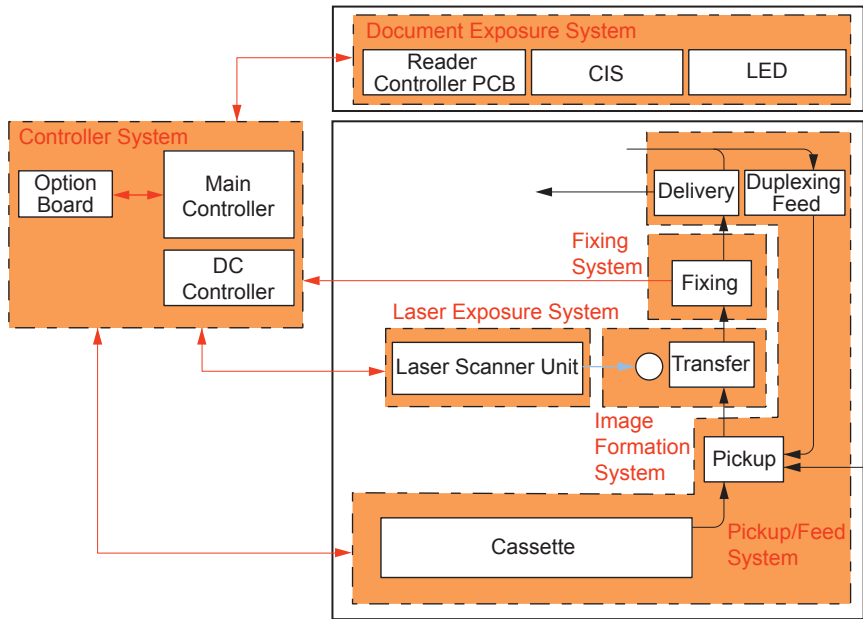
Technical Explanation

- Basic Configuration
- Original Exposure and Feed System
- Main Controller
- Laser Exposure System
- Image Formation System
- Fixing System
- Pickup Feed System
- External Auxiliary System
- Embedded RDS

Basic Configuration

Functional Configuration

This machine consists of 6 major blocks: Original Exposure System, Controller System, Laser Exposure System, Image Formation System, Fixing System, and Pickup/Delivery System.



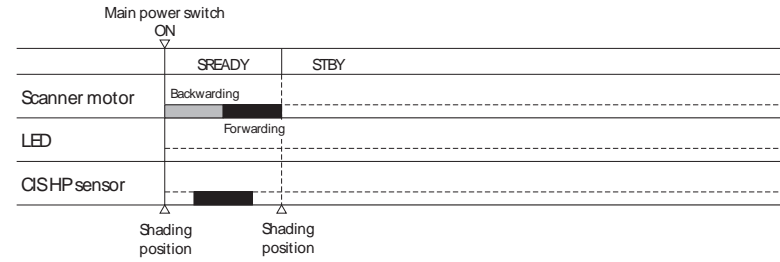
← Flow of Paper
 ← Flow of Signal
 ← Laser beam

F-2-1

Basic sequence

Sequence at Power-On

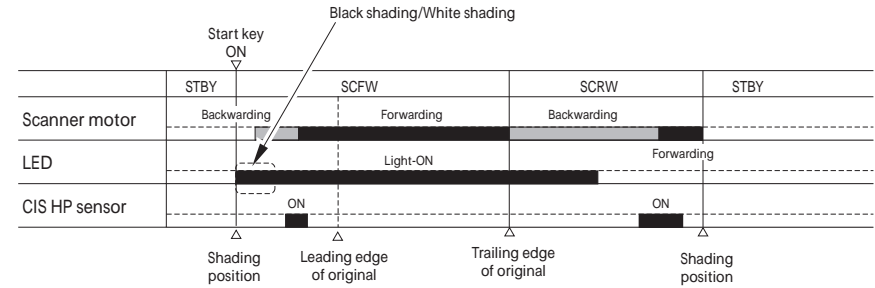
- Reader



F-2-2

Print sequence

- Reader (in book mode, 1-sheet original)



F-2-3

Original Exposure and Feed System

Construction

Specifications/controls/functions

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

Item		Specification/function
Original exposure		LED
Original scan	In book mode	Original scan is performed by moving the contact image sensor (CIS).
	In ADF mode	Original stream reading is performed with the contact image sensor (CIS) fixed.
Read resolution		B/W: 600 dpi (main scanning) x 600 dpi (sub scanning) (Color SEND: 300 dpi (main scanning) x 600 dpi (sub scanning))
Gradation		256 gradation
Carriage position detection		CIS HP sensor (PS24)
Magnification		25% to 400%
	Main scanning direction	Image is processed on main controller PCB.
	Sub scanning direction	Image is processed on main controller PCB.
Lens		Rod lens array
Original reading sensor		Number of lens: 1 Number of pixels: Total 5148 (incl. 5104 effective pixels) Maximum original scan width: 216mm
CIS drive control		Drive control by Reader motor (M10)
Original size detection	In book mode	Main scanning direction: by reflection sensor (AB/Inch) Sub scanning direction: by reflection sensor (AB/Inch)
	In ADF mode	Main scanning direction: by photo interrupter on ADF Sub scanning direction: by photo interrupter on ADF
ADF original pickup method		Auto pickup/delivery method
ADF setting direction of original		Original tray pickup: face-up stacking
ADF setting position of original		Original tray pickup: center reference
ADF separation method of original		Upper separation by separation pad
ADF scanning method of original		Stream reading
ADF weight of original	1-sided	AB: 42 to 128 g/m2 Inch: 50 to 128 g/m2
	2-sided	50 to 128 g/m2
	Color original	64 to 128 g/m2
	B/W or Color mixed original	50 to 128 g/m2 (Color: 64 to 128 g/m2)
	Original longer than 432mm	60 to 90 g/m2 (1-sided, 1-sheet feeding)

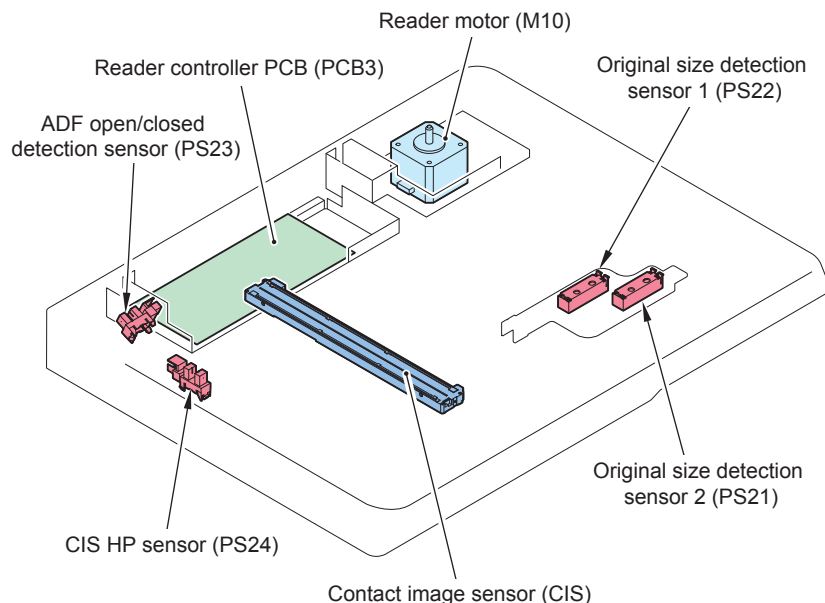
Item		Specification/function
ADF original size		A4R, B5R, A5, A5R, LGL, LTRR, STMTR, STMT, 16K-R (For STMT, horizontal scanning only) Original width direction: 139.7 to 219 mm Original feed direction: 128 to 356 mm (In banner paper printing mode: maximum 630 mm)
ADF original tray capacity		100 sheets (80 g/m2 paper, original height: 10mm or less)
ADF original processing mode		1-sided original processing 2-sided original processing
ADF original size detection function		Yes (standard size)
ADF mixed original mode function	Mix of same configuration mode	Yes (weight of original same as continuous feed mode) Assured combination for mix with same configuration A5/A4R, STMT/LTRR/LGL
	Mix of different configuration mode	No
Book original		Yes (The thickness of the book original must not exceed 30 mm.)
ADF done stamp function		No

T-2-1

Major Components

Reader Unit

Following shows major components of reader unit.



F-2-4

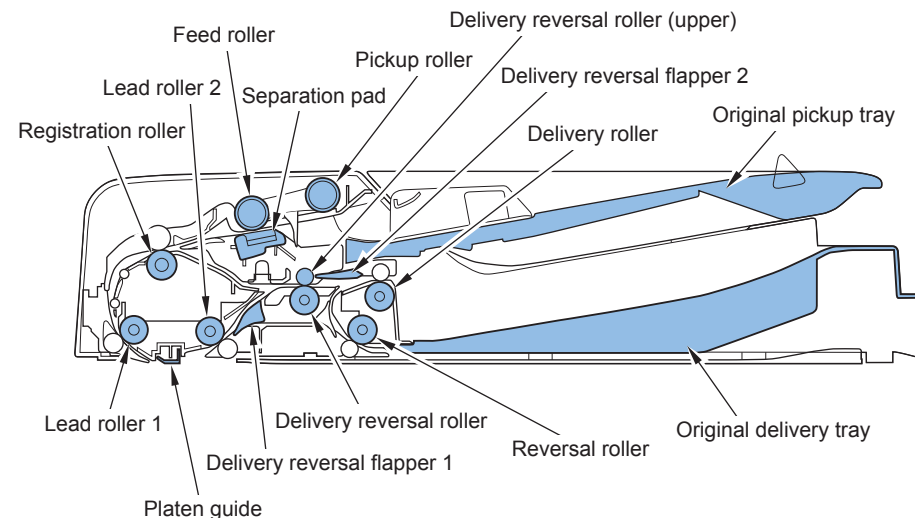
Item	Notation	Specification/function
Reader motor	M10	Stepping motor: controls the carriage drive.
CIS HP sensor	PS24	Photo interrupter: detects the home position of CIS unit.
ADF open/closed detection sensor	PS23	Photo interrupter: detects the opening or closing of ADF. (detects the opening or closing of the ADF at approximate 18 degrees.)
Original size detection sensor 1	PS22	Detects the original size. (AB/Inch)
Original size detection sensor 2	PS21	Detects the original size. (AB/Inch)
Contact image sensor	-	Reads the original. (LED + Light guide + CIS unit)
Reader controller PCB	PCB3	Controls the reader unit and ADF unit.

T-2-2

ADF unit

Following shows major components of ADF unit.

1) Cross Section

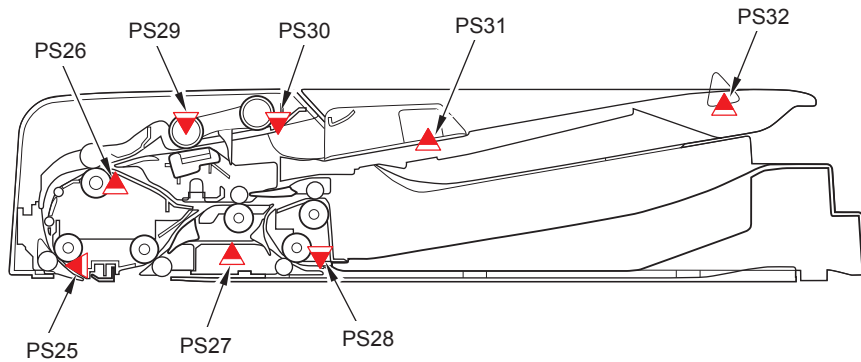


F-2-5

Item	Specification/function
Pickup roller	Picks up the original.
Feed roller	Separates and feeds the original.
Separation pad	Separates the original.
Registration roller	Feeds the original and forms a skew feed correction loop.
Lead roller 1	Feeds the original before reading.
Lead roller 2	Feeds the original after reading.
Delivery reversal roller	Delivers the original and performs upstream reversal feed of the original.
Delivery reversal roller (upper)	Separated from the mating delivery reversal roller by the roller release solenoid during reverse feed of the original.
Delivery roller	Delivers the original.
Reversal roller	Performs downstream reversal feed of the original.
Platen guide	Original read section.
Delivery reversal flapper 1	Switches between the upstream reversal path and the downstream reversal path.
Delivery reversal flapper 2	Switches between the upstream reversal path and the delivery path.
Original pickup tray	Allows you to load an original.
Original delivery tray	Stacks the delivered originals.

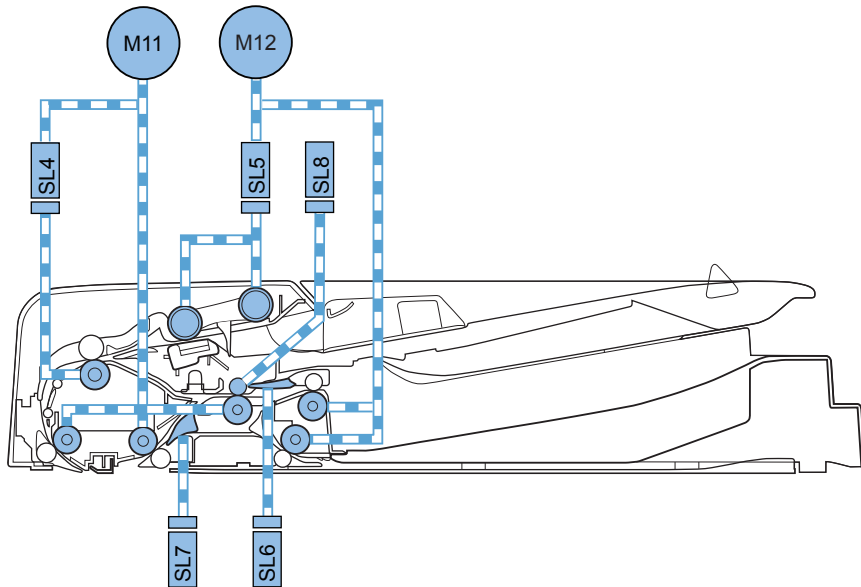
T-2-3

2) Sensor Layout



F-2-6

3) Drive Configuration



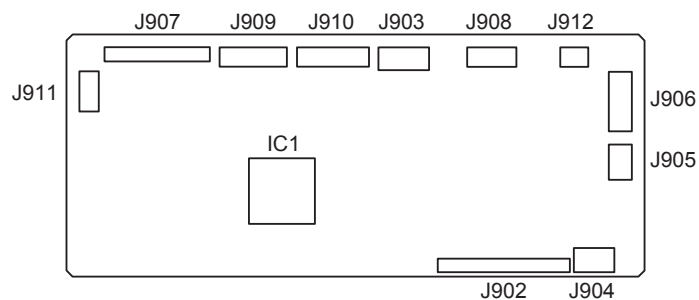
F-2-7

Item	Notation	Specification/function
Feed motor	M11	Stepping motor: Feeds the original.
Delivery reversal motor	M12	Stepping motor: Feeds, reverses, and delivers the original.
Registration solenoid	SL4	Transmits the driving force of the feed motor to the registration roller.
Pickup solenoid	SL5	Transmits the driving force of the delivery reversal motor to the pickup roller and feed roller.
Flapper solenoid 2	SL6	Drives the delivery reversal flapper 2.
Flapper solenoid 1	SL7	Drives the delivery reversal flapper 1.
Roller release solenoid	SL8	Separates the delivery reversal roller from the mating delivery reversal roller during upstream reversal feed of the original.
Lead sensor	PS25	Photo interrupter: Detects the original read timing.
Registration sensor	PS26	Photo interrupter: Detects the original leading edge looping timing.
Stay sensor	PS27	Photo interrupter: Detects the original reversal timing during downstream reversal feed.
Reversal sensor	PS28	Photo interrupter: Detects the original feed during downstream reversal feed.
Timing sensor	PS29	Photo interrupter: Detects feed of the original.
Original set sensor	PS30	Photo interrupter: Detects presence/absence of the original on the original pickup tray.
Original width detection sensor	PS31	Photo interrupter: Detects the width of the original on the original pickup tray.
Original length detection sensor	PS32	Photo interrupter: Detects the length of the original on the original pickup tray.

T-2-4

Reader Controller PCB

The function configuration of reader controller PCB is described below.



F-2-8

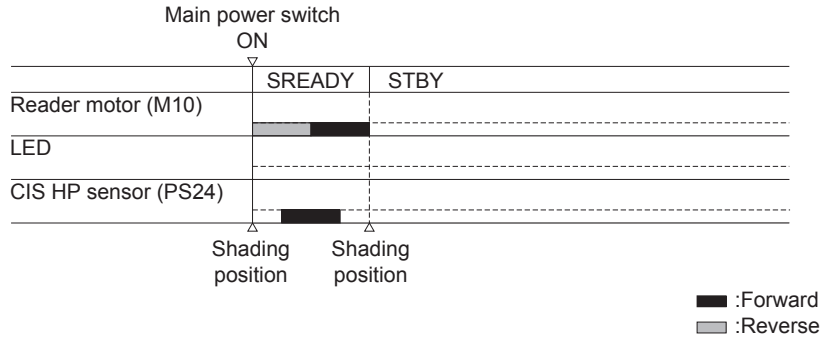
Notation	Description
IC1	Image processing, control of contact image sensor, control of motors and solenoids drive, control of sensors detection
J902	Connector for contact image sensor
J903	Connector for power supply from host machine (power supply unit)
J904	Connector for original size detection sensor 1 and 2
J905	Connector for reader motor
J906	Connector for feed motor and delivery reversal motor of ADF
J907	Connector for communication with main controller PCB of host machine
J908	Connector for registration solenoid and pickup solenoid and flapper solenoid 1 and 2
J909	Connector for timing sensor and original set sensor and original width detection sensor and original length detection sensor
J910	Connector for lead sensor and registration sensor and stay sensor and reversal sensor
J911	Connector for CIS HP sensor and ADF open/closed detection sensor
J912	Connector for roller release solenoid

T-2-5

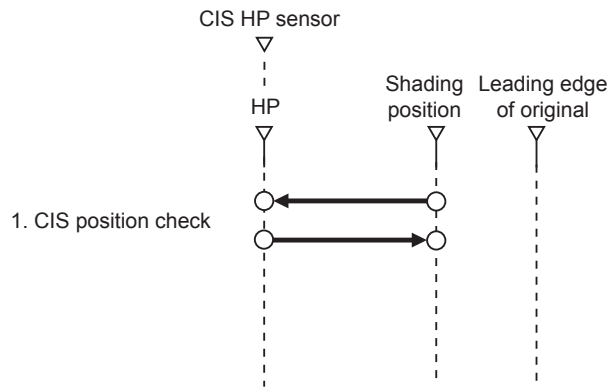
Basic Operation

Basic Sequence

Basic Sequence at Power-On

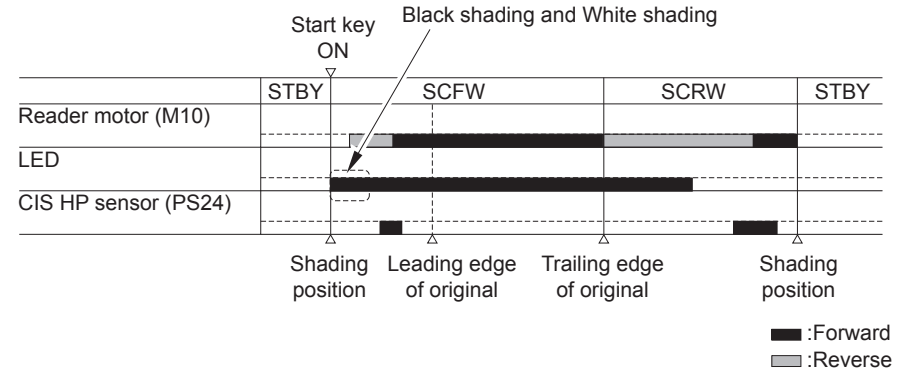


F-2-9

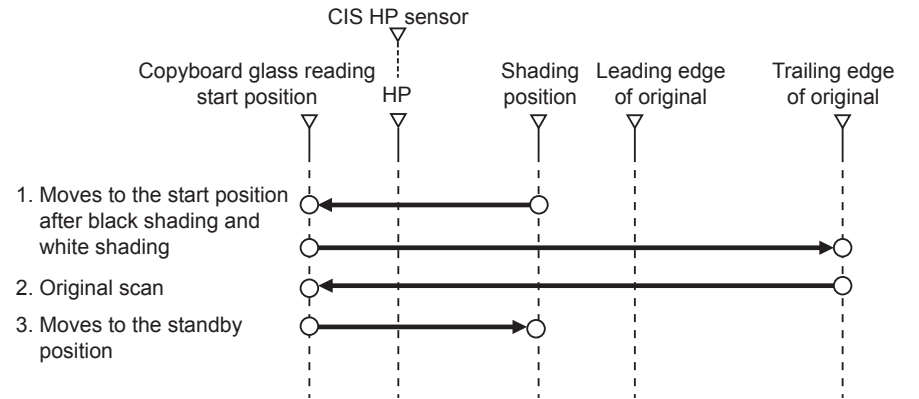


F-2-10

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

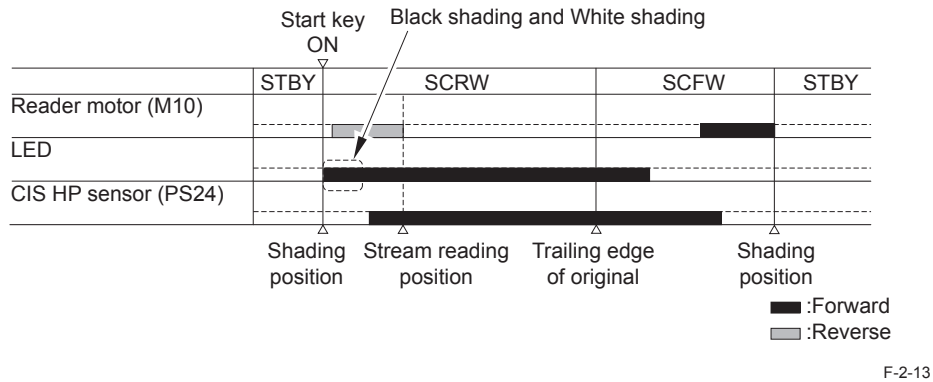


F-2-11



F-2-12

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



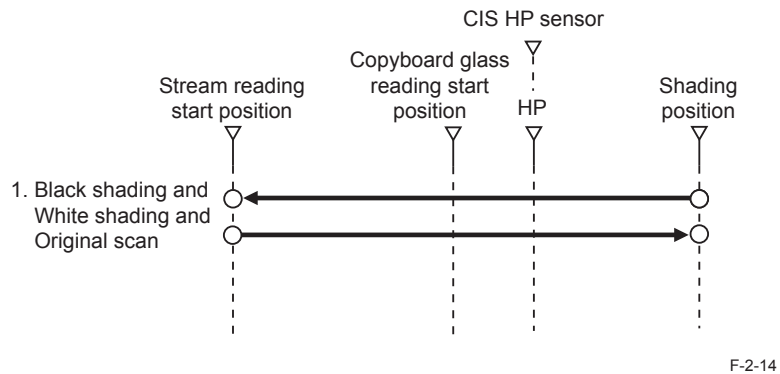
■ ADF Operation Mode

ADF has four operation modes.

Operation mode names and outline of operations and associated print modes are given in the following table:

Operation mode name	Outline of operation	Associated print mode
Forward pickup/delivery	Picks up, reads, and then delivers an original.	Single-sided original → Single-sided print
		Single-sided original → Double-sided print
Forward pickup/reversal delivery	Picks up, reads, and then reverses and delivers an original	Double-sided original → Double-sided print
		Double-sided original → Single-sided print

T-2-6



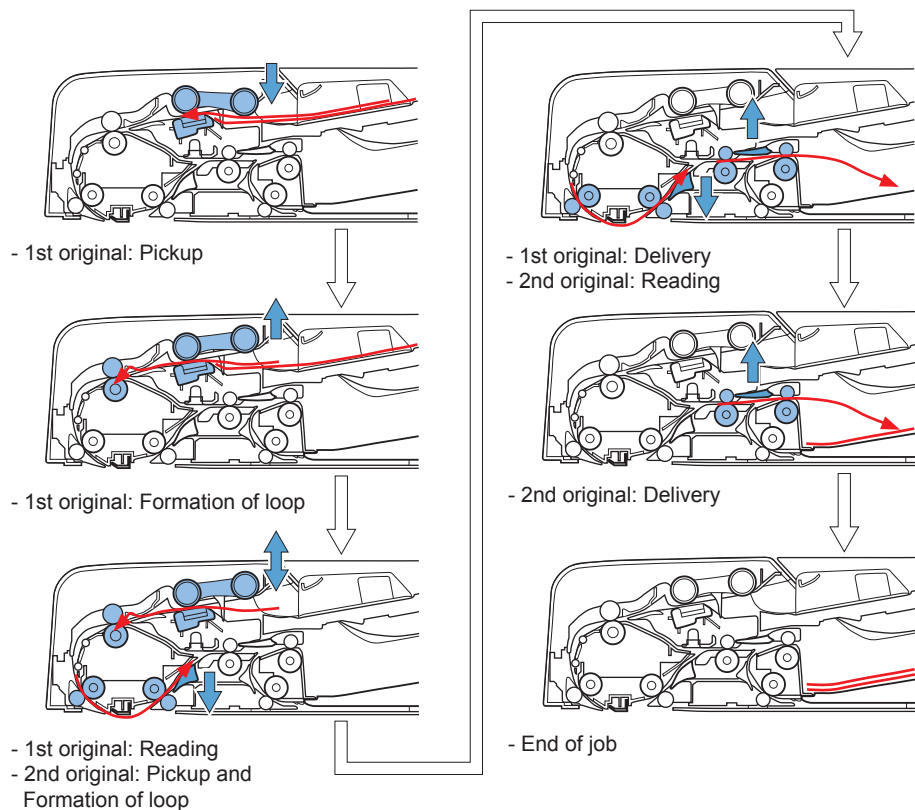
● Forward Pickup/Delivery (Single-sided original → Single-sided print) Operation

The original flows as shown below.

Note:

This operation is performed for all single-sided originals irrespective of whether original width are the same or different.

- Operation of single-sided original reading (2 originals)



F-2-15

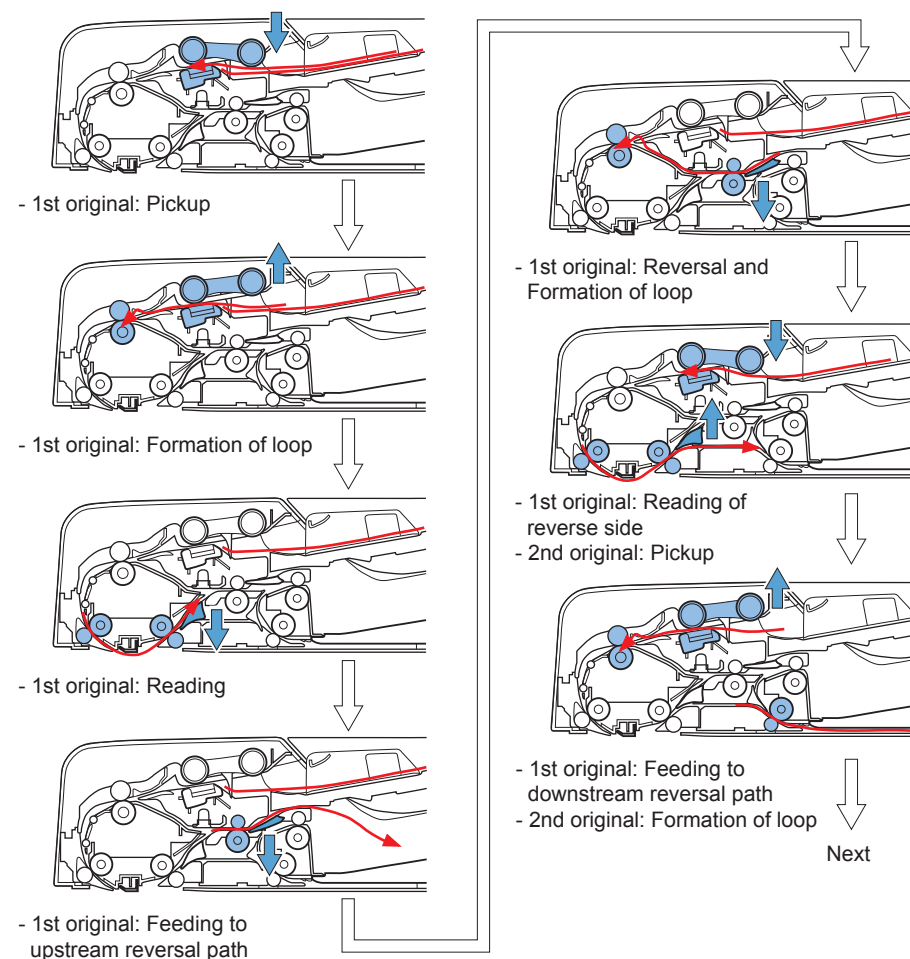
● Forward Pickup/Reversal Delivery (Double-sided original → Double-sided print) Operation

The original flows as shown below.

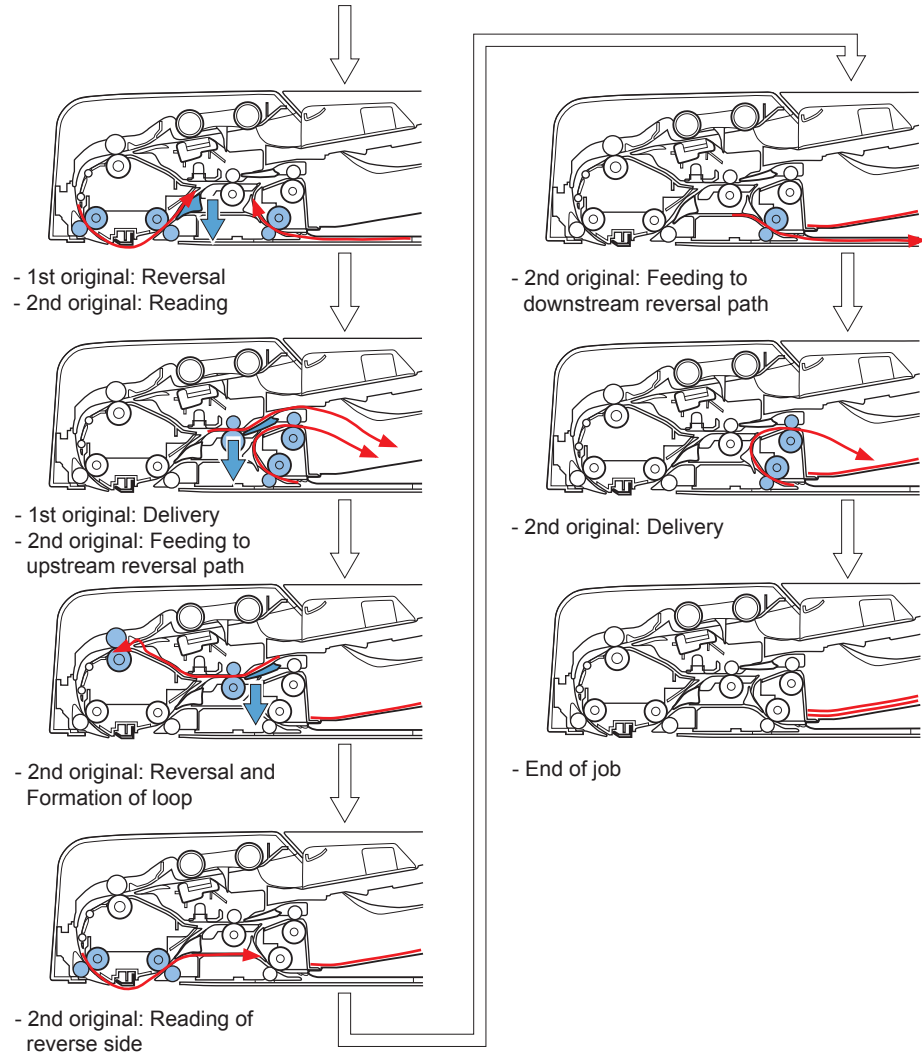
Note:

This operation is performed for all single-sided originals irrespective of whether original width are the same or different.

- Operation of double-sided original reading (2 originals)



F-2-16



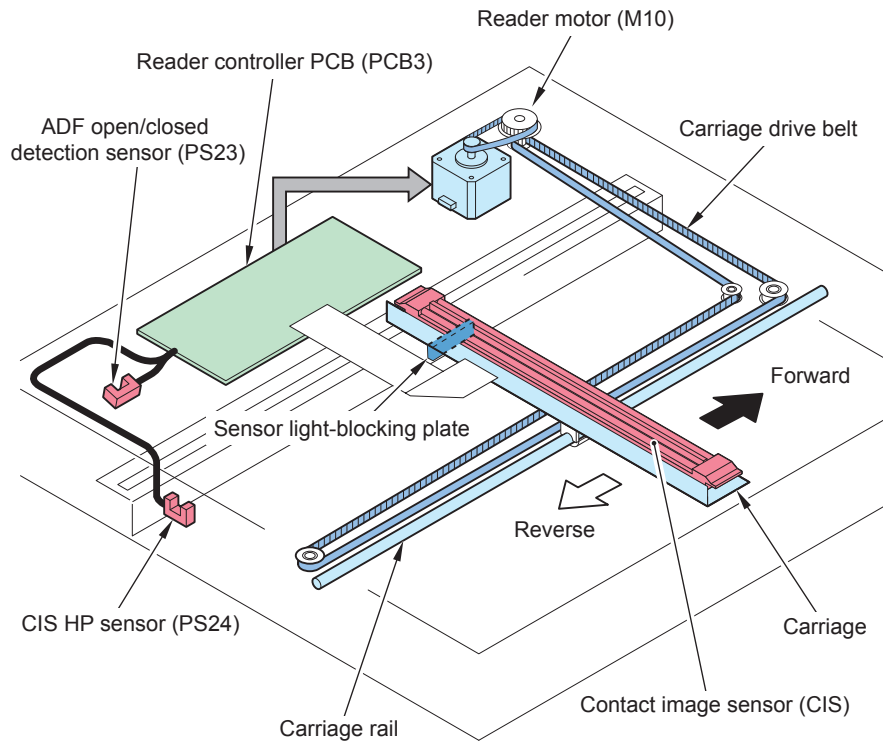
F-2-17

Controls

Controlling the Scanner Drive System

Overview

Parts configuration of scanner drive is described below.

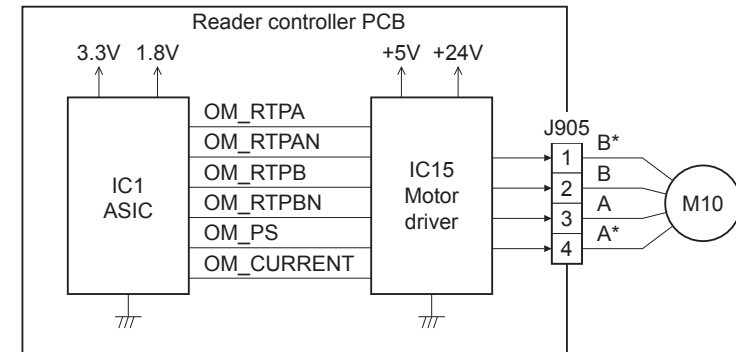


F-2-18

- Reader motor (M10) drive signal
Controls the rotation and its direction and speed of motor.
- CIS HP sensor (PS24)
Detects that the contact image sensor (CIS) is at the home position.
- ADF open/closed detection sensor (PS23)
Detects the open or close status of the ADF.

Reader Motor Control

Reader motor driver (IC15) turns on/off the reader motor (M10) and controls its direction and speed of rotation according to the signals from ASIC (IC1).



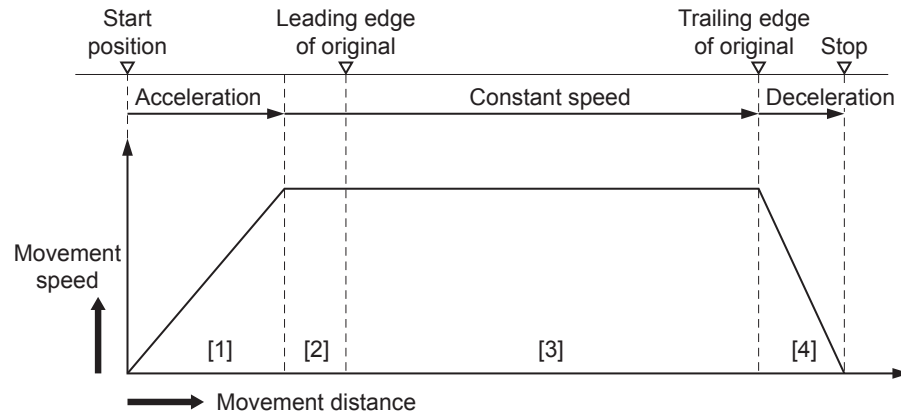
F-2-19

Note:

The scan speed is 160 mm/sec.

1) Forward Movement during Image Scan

During image scanning, the reader controller PCB controls the reader motor (M10) to control the contact image sensor (CIS) operation.



- [1] Acceleration area: The motor accelerates to the speed specified for each mode.
 [2] Runup area: A margin to stabilize the speed.
 [3] Image read area: The image is read at a constant speed.
 [4] Deceleration area: Upon detection of the trailing edge, the motor decelerates rapidly and stops.

F-2-20

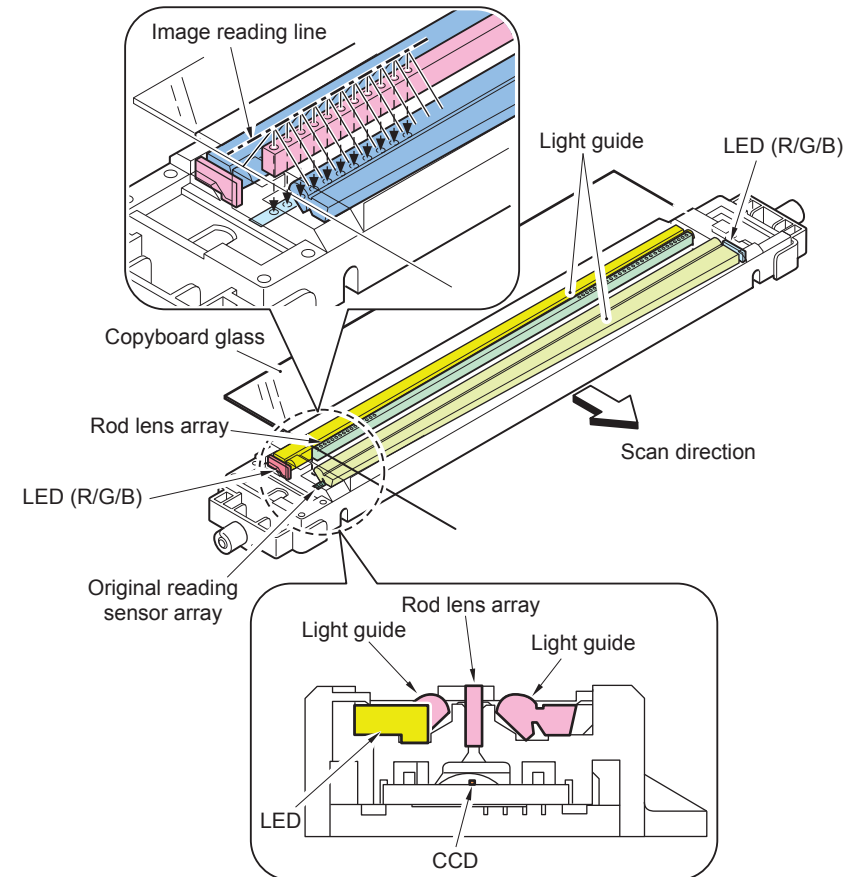
2) Backward Movement after Image Scan

After image scan, the carriage moves back to the contact image sensor (CIS) shading position at the constant speed (160 mm/sec).

■ Contact Image Sensor (CIS)

● Outline

The original is exposed to light and read using the contact image sensor (CIS) to read the image on a line-by-line basis.



F-2-21

Component	Function
LED	Illuminates the original.
Light guide	Illuminates the entire image line with the LED light.
Rod lens array	Collects the light reflected by the original.
Original reading sensor array	Receives the light that passed through the rod lens array.

T-2-7

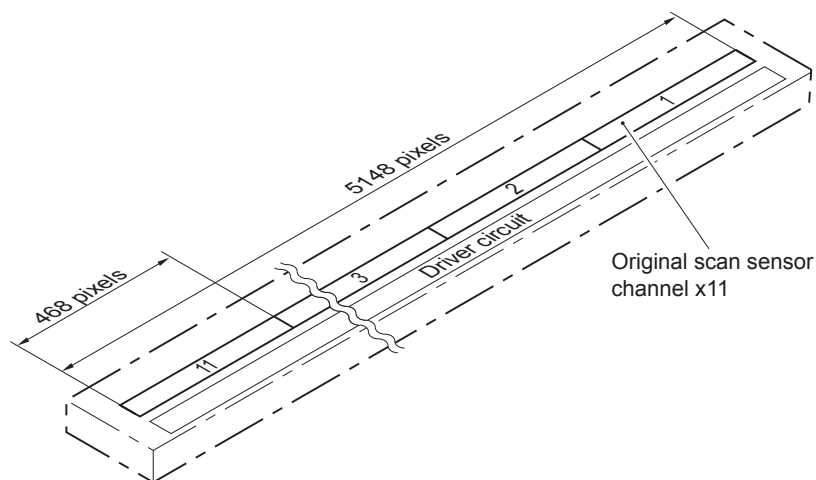
● Analog Control Performed by the CIS

The flow of analog image processing performed by the contact image sensor (CIS) is as follows:

- a. The light reflected by the original is collected by the rod lens array.
- b. The light is received by the original scan sensor array.
- c. The original scan sensor array converts the received light to an electric signal and outputs it.

The original scan sensor array consists of eleven channels (units).

Each channel is provided with an output correction table to output an image signal after performing gain correction for the input brightness signal.



F-2-22

■ Enlargement / Reduction

● Magnification Change in Main Scanning Direction

In book mode or ADF mode

In the main scanning direction, image is read at 100%; thereafter, the data is subjected to processing by the main controller PCB to suit the selected reproduction ratio.

● Magnification Change in Sub Scanning Direction

The magnification in sub scanning direction is changed as follows:

- 1) In book mode
Image is read at original scan speed kept at 160 mm/sec; thereafter, the data is subjected to processing by the main controller PCB to suit the selected reproduction ratio.
- 2) In ADF mode
Image is read at original scan feeding speed kept at 320 mm/sec; thereafter, the data is subjected to processing by the main controller PCB to suit the selected reproduction ratio.

Original Size Detection by Original Size Detection Sensors

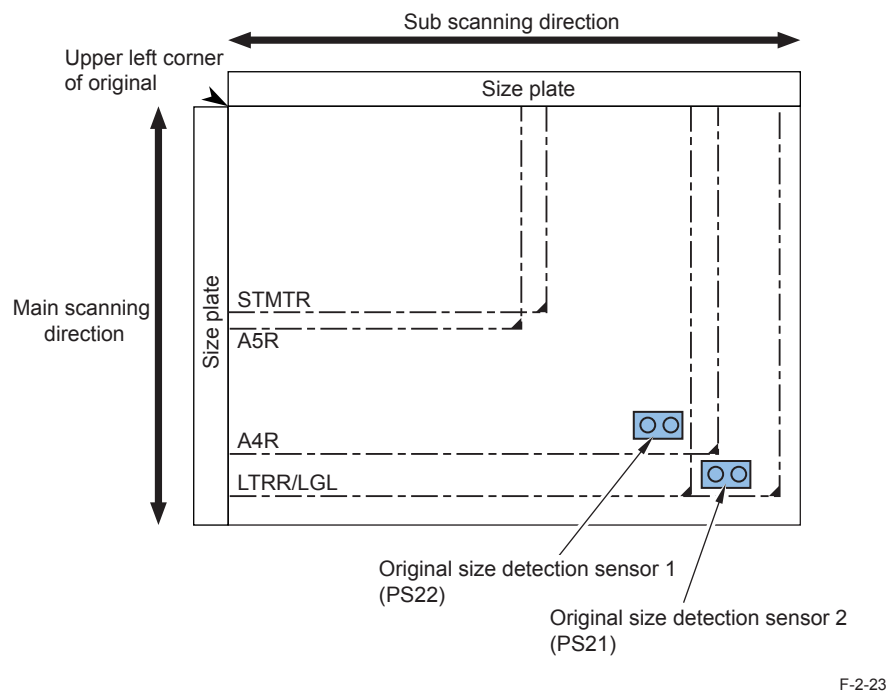
Overview

Presence or absence of an original on the copyboard glass is detected as follows according to the combination of the output levels of reflective photo sensors:

- Absence of original: The level of the reflected light from the reflective photo sensor, which is detected when the ADF is open, changes when the ADF is closed.
- Presence of original: The level of the reflected light from the reflective photo sensor, which is detected when the ADF is open, does not change when the ADF is closed.

Sensor mounting locations are shown below.

- Main and sub scanning direction: Reflective photo sensor (2 locations)

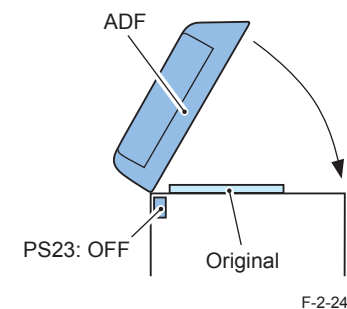


F-2-23

Outline of Original Size Detection

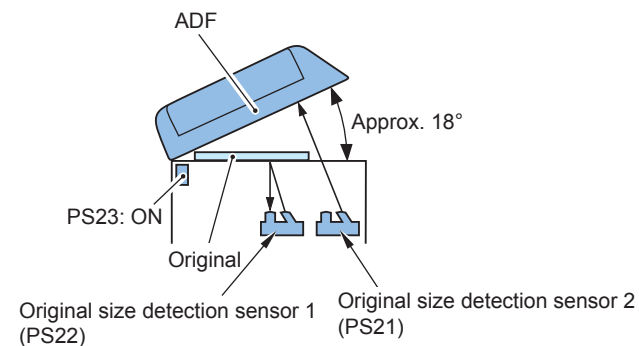
When the ADF is closed at 18 degrees, the ADF open/closed detection sensor (PS23) turns on. The output levels of the original size detection sensor 1 (PS22) and original size detection sensor 2 (PS21) are read for 2 seconds after the ADF open/closed detection sensor (PS23) turns on or until the Start key is pressed. If the output levels change, the machine judges that no original is present. If they do not change, the machine judges that an original is present.

- 1) ADF opens (ADF open/closed detection sensor (PS23): OFF)
Original size detection sensor 1 (PS22)/Original size detection sensor 2 (PS21): OFF



F-2-24

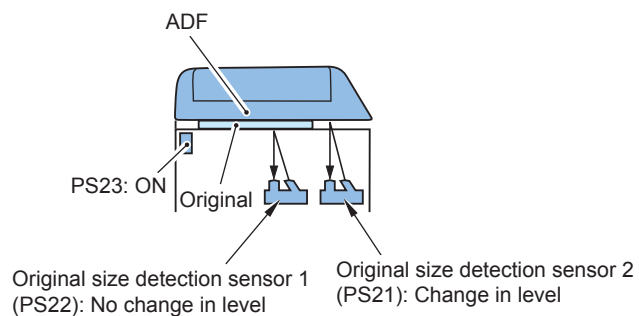
- 2) ADF is closed to an angle of approximate 18 degrees. (ADF open/closed detection sensor (PS23): ON)
Original size detection sensor 1 (PS22)/Original size detection sensor 2 (PS21): ON or OFF



F-2-25

3) ADF is closed. (ADF open/closed detection sensor (PS23): ON)

Original size detection sensor 1 (PS22)/Original size detection sensor 2 (PS21): ON



F-2-26

- Note that a wrong original size may be identified because the sensor output level does not change in the following cases:
- When the black original
- When the original is a book (its thickness does not allow the ADF to close fully, making it difficult to detect the sensor level change.)
- When the ADF is not closed fully (the sensor level change is not detected after lapse of the above time-out time (2 seconds).)

Original sizes are detected as follows according to the combination of sensor output levels:

Original size	Original size detection sensor 1 (PS22)	Original size detection sensor 2 (PS21)
•AB size		
A5R or undefined size	○	○
A4R	●	○
•Inch size		
Original size	Original size detection sensor 1 (PS22)	Original size detection sensor 2 (PS21)
STMTR or undefined size	○	○
LTRR	●	○
LGL	●	●

○ :No changed
● :Changed

F-2-27

Related Service Mode:

- Select the following service mode to determine whether to detect the original size:

SCAN > READER > OPTION > USER > SIZE-DET

<Setting value>

0: The original size is not detected.

1: The original size is detected.

- Select the following service mode to switch between AB and inch sizes:

SCAN > READER > OPTION > BODY > SENS-CNF

<Setting value>

0: AB size

1: Inch size

- When both the original size detection sensor 1 (PS22) and the original size detection sensor 2 (PS21) detect no original (sensor output levels do not change), select the following service mode to change the original size to be detected:

SCAN > READER > OPTION > BODY > UNK-A5R

<Setting value>

0: Undefined size

1: A5R or STMTR

■ Dust Detection Control

● Overview

In ADF mode, the machine changes the original read position or corrects the read image depending on the presence/absence of dust on the ADF reading glass or platen guide, thus preventing dust from showing up in the image.

The control of dust detection is as follows:

- 1) Dust detection preventive process
- 2) Dust detection correction control

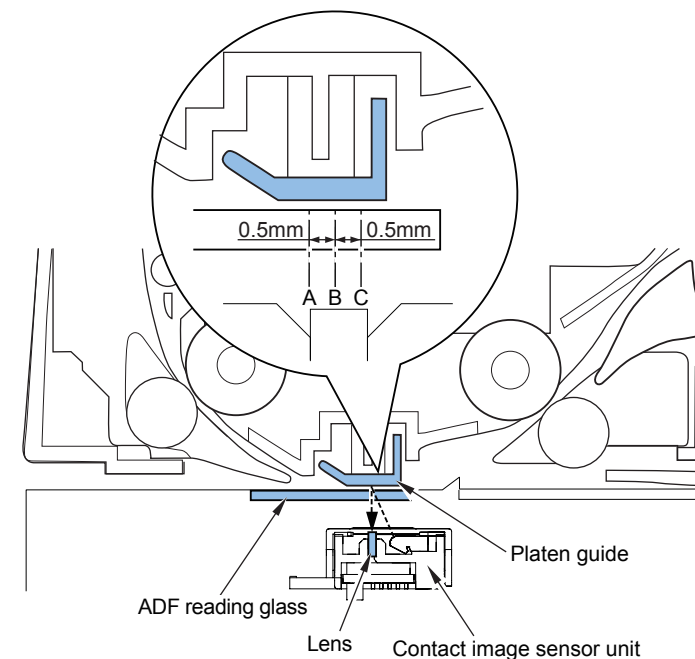
Dust Detection Preventive Process

The contact image sensor (CIS) detects the reflected light from the ADF reading glass and platen guide surface (at the read position) to judge presence or absence of dust.

This process is performed when the power is turned on or each time a job is completed.

The dust detection process is performed at three positions (A, B, and C) as follows regardless of whether there is dust:

- 1) The dust detection process is performed at position A.
- 2) The dust detection position moves to position B to perform the dust detection process there.
- 3) The dust detection position moves to position C to perform the dust detection process there.
- 4-a) The dust-free position is determined as the original read position in the order of priority (A > B > C).
- 4-b) If dust is detected at all of positions A, B, and C, position A is determined as the original read position.



F-2-28

Position	Description
A	Reference position for read
B	About 0.5 mm to the right of the reference position A
C	About 1.0 mm to the right of the reference position A

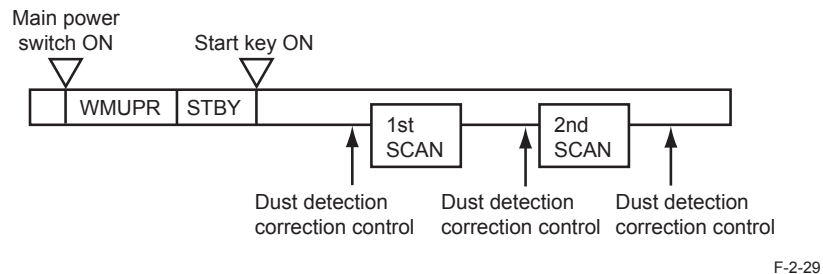
T-2-8

Note:

When dust has been detected at all of positions A, B, and C, setting an original on the ADF will show a message that prompts the user to clean the glass surface.

Dust Detection Correction Control

Whenever the original from the ADF is read, presence or absence of dust is detected at the original read position determined in the dust detection preventive process. If presence of dust is detected, the image correction process is performed to prevent dust from appearing in the output image.



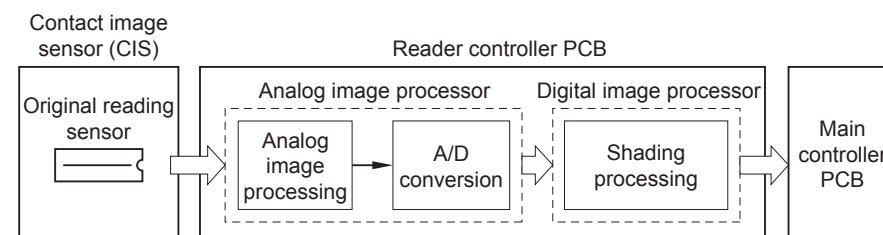
F-2-29

Image Processing

Overview

Major specifications and functions of the image processing system are as follows:

- Original reading sensor array Number of lines: 1
Number of pixels: Total 5148 (incl. 5104 effective pixels)
- Shading correction Shading correction: Performed for each job.
Shading adjustment: Performed in the Service mode.



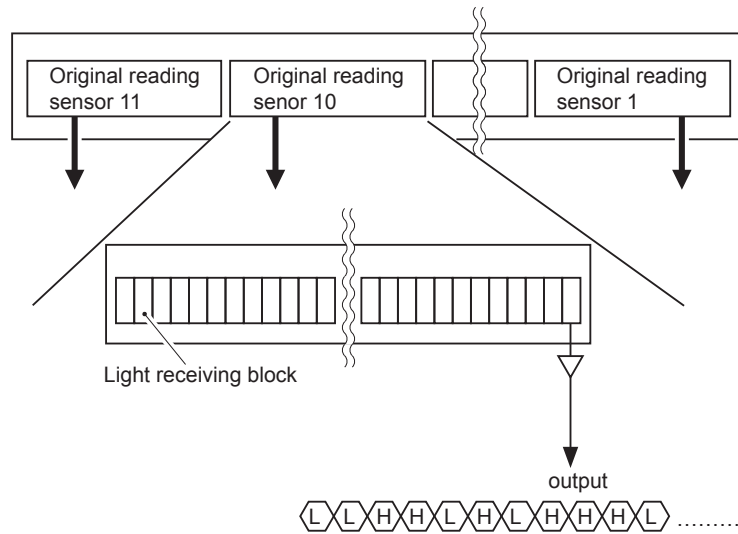
F-2-30

About image processing, the function of the reader controller PCB is as follows:

- Original reading sensor drive
- Original reading sensor output gain correction and offset correction
- Original reading sensor output A/D conversion
- Shading correction
- LED intensity adjustment

● Original Reading Sensor Drive

The original reading sensor is a 1-line linear image sensor consisting of 5147 photocells. After completion of photoelectric conversion in the lightreceiving block, the signals are output to the reader controller PCB in parallel for each channel (total eleven channels) of the original reading sensor array.



F-2-31

● Original Reading Sensor Output Gain Correction and Offset Correction

The analog video signals output from the original reading sensor are corrected so that they will have a specific gain level (gain correction), and the output voltages generated in the absence of incident light are also corrected so that they will have a specific offset level (offset correction).

● Original Reading Sensor Output A/D Conversion

After completion of the gain correction and offset correction, the analog video signals are converted to digital signals corresponding to individual pixel voltage levels by the A/D converter.

● Outline of Shading Correction

The original reading sensor outputs are necessary even for the following reasons even when the density of the original is uniform:

- (1) Variation in sensitivity among original reading sensor pixels
- (2) Variation in light intensity of rod lens array

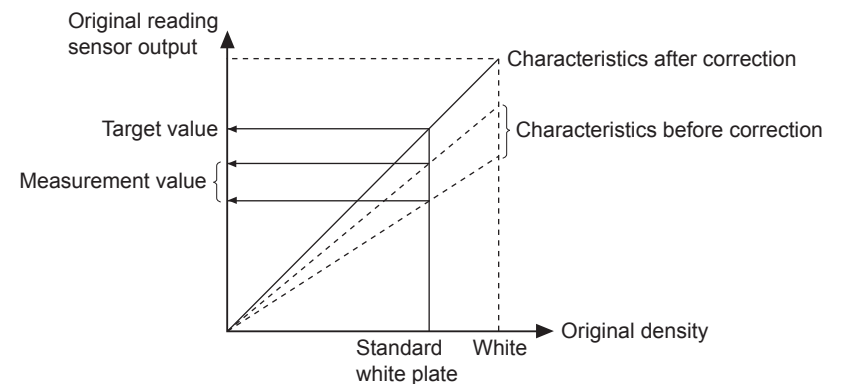
The machine performs shading correction to even out the original reading sensor output. There are two types of shading correction: shading adjustment performed in the service mode and shading correction performed for each job.

● Shading Adjustment

The machine measures the density of the standard white plate, and stores the measured density data. It then processes the stored data to use it as the target value for shading correction.

● Shading Correction

The machine performs shading correction for each scan. It measures the density of the standard white plate, and compares the measured value with the target value stored in the shading correction circuit to use the difference between the two as the shading correction value. The machine uses this shading correction value to correct the variation among the original reading sensor pixels when scanning the originals, thus evening out the image density level.



F-2-32

LED Intensity Adjustment

The machine adjusts the length of time during which the LED turns on for each scan so that the image scan level of the original reading sensor will be specific level.

Related Service Mode:

- CIS gain and offset correction

SCAN > READER > FUNCTION > CCD > CCD-ADJ

- DF white level adjustment

SCAN > READER > FUNCTION > CCD > DF-WLVL1 (Original glass scan)

SCAN > READER > FUNCTION > CCD > DF-WLVL2 (Stream reading scan)

SCAN > READER > FUNCTION > CCD > DF-WLVL3 (Original glass scan)

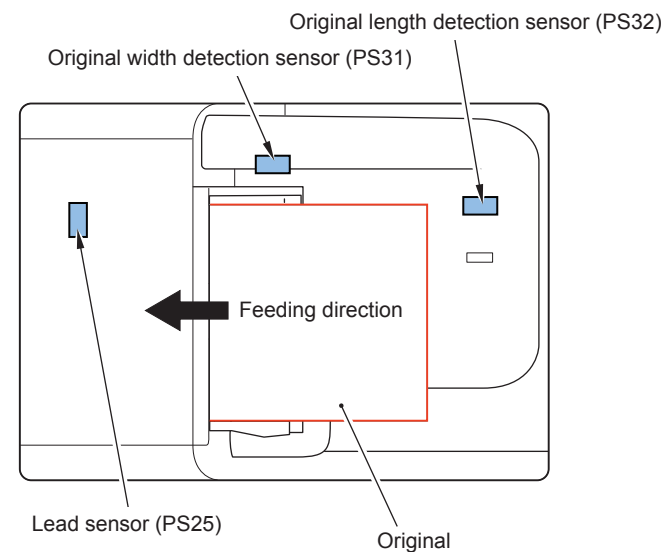
SCAN > READER > FUNCTION > CCD > DF-WLVL4 (Stream reading scan)

Control of ADF

Original Size Detection by ADF

The size of the original set on the ADF is detected by the following two methods:

- 1) Initial detection of document size
- 2) Final detection of document size



F-2-33

Initial Detection of Original Size

The length (feed-directional size) of the original set in the original pickup tray is detected by the original length detection sensor (PS32), and its width (cross-directional size) is detected by the original width detection sensor (PS31).

The original size is judged as follows according to the combination of the states of these two sensors:

- AB size

Original size	Original width detection sensor (PS31)	Original length detection sensor (PS32)
A4R	ON	OFF
A5R or undefined size	OFF	OFF

T-2-9

- Inch size

Original size	Original width detection sensor (PS31)	Original length detection sensor (PS32)
LGL	ON	ON
LTRR	ON	OFF
STMTR or undefined size	OFF	OFF
LGL	OFF	ON

T-2-10

When both the original width detection sensor (PS31) and the original length detection sensor (PS32) detect no original, select the following service mode to change the original size to be detected:

- SCAN > FEEDER > OPTION > UNK-A5R
<Setting value>
0: Undefined size
1: A5R or STMTR

Final Detection of Original Size

The original length is judged by the distance the original runs from the moment the lead sensor (PS25) turns on (the leading edge of the original is detected) to the moment it turns off (the trailing edge of the original is detected).

The original size is finally determined according to the width detected by the original width detection sensor (PS31) and the length detected by the lead sensor (PS25).

Related Service Mode:

- Select the following service mode to switch between AB and inch sizes of the original fed by the ADF:

SCAN > SW > 005 > Bit 1 and Bit 2

<Setting value>

Size setting	Bit 1	Bit 2
AB size	1	0
Inch size	0	1

T-2-11

Pickup and Feed Operations

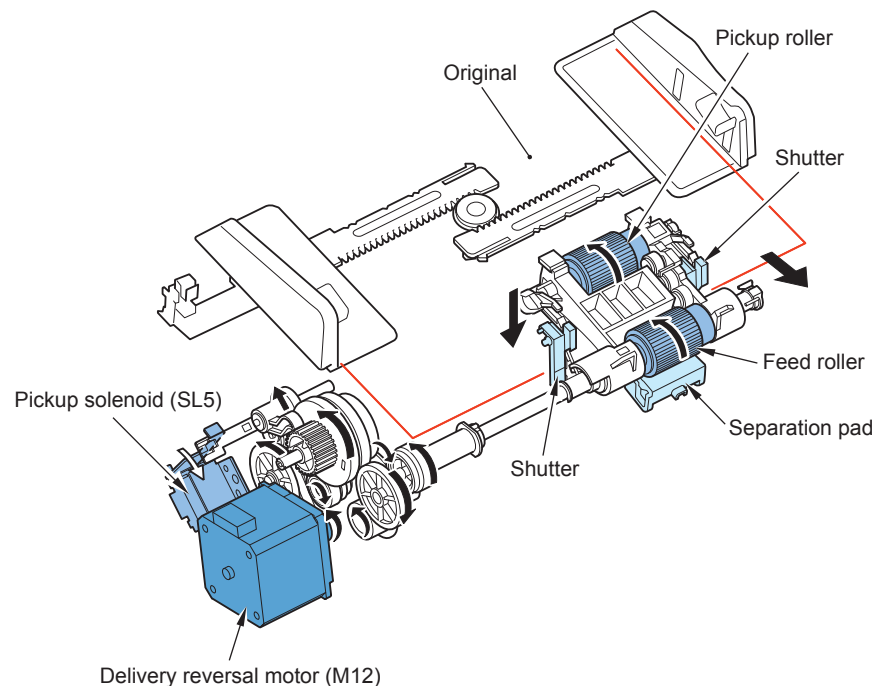
The pickup unit consists of two rollers, a pickup roller and a feed roller.

When the Start key is turned on (the original pickup signal is input), the delivery reversal motor (M12) turns in the normal direction, the pickup solenoid (SL5) turns off to lower the pickup unit, and then the pickup roller and feed roller turn to pick up and feed the original.

A shutter and a separation pad are provided to prevent double feed of originals during pickup operation. The separation pad is used to separate the original.

When the original arriving at the registration roller loops, the pickup solenoid (SL5) turns on to raise the pickup unit.

Then, the registration solenoid (SL4) turns on and the feed motor (M11) turns to rotate the registration roller, feeding the original.



F-2-34

Reversal Operation

Reversal operation is performed in the duplex printing mode or various sized originals printing mode.

There are two types of reversal operations: upstream reversal feed operation and downstream reversal feed operation.

Either type of reversal feed operation is selected according to the following conditions:

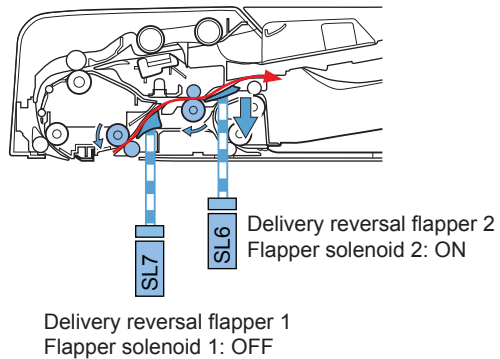
- 1) Upstream reversal feed operation
 - When the front side is read in the duplex printing mode
 - When the front side is read in the various sized originals printing mode
- 2) Downstream reversal feed operation
 - When the back side is read in the duplex printing mode
 - When the back side is read in the various sized originals printing mode

Upstream Reversal Feed Operation

After the front of the original is read, the flapper solenoid 1 (SL7) turns off and the flapper solenoid 2 (SL6) turns on to feed the original to the upstream reversal path with the delivery reversal flapper 1 and delivery reversal flapper 2.

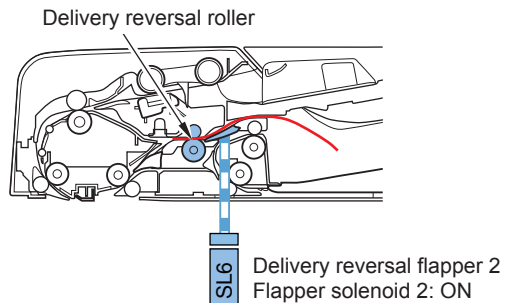
When the original is fed by the registration roller, the roller release solenoid (SL8) turns on to raise the delivery reversal roller, thus preventing the delivery reversal roller from applying pressure to the paper.

- 1) The flapper solenoid 1 turns off and the flapper solenoid 2 turns on to feed the original to the upstream reversal path.



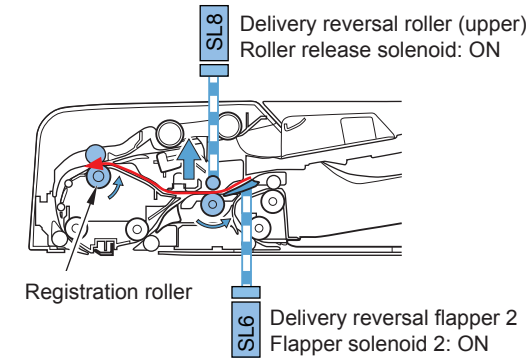
F-2-35

- 2) After being fed by the specified distance in the upstream reversal path, the original stops.



F-2-36

- 3) The delivery reversal roller turns in the reverse direction to feed the original for back side read. After the original arrives at the registration roller, the roller release solenoid (SL8) turns on to raise the delivery reversal roller.

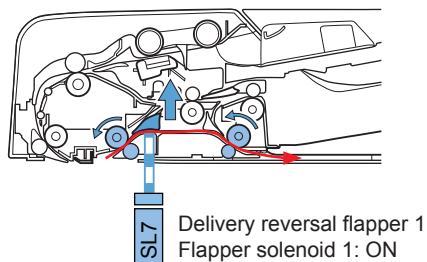


F-2-37

Downstream Reversal Feed Operation

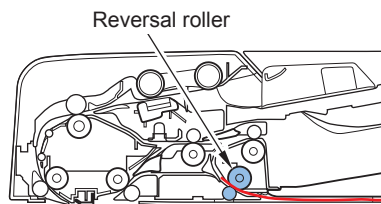
After the back side of the original is read, the flapper solenoid 1 (SL7) turns on to feed the original to the downstream reversal path using the delivery reversal flapper 1. Then, the original is delivered with the reversal roller and delivery roller.

- 1) The flapper solenoid 1 turns on to feed the original to the downstream reversal path.



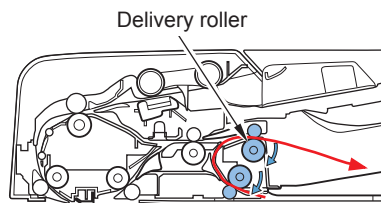
F-2-38

- 2) After being fed by the specified distance in the downstream reversal path, the original stops.



F-2-39

- 3) The reversal roller turns in the reverse direction to deliver the original.

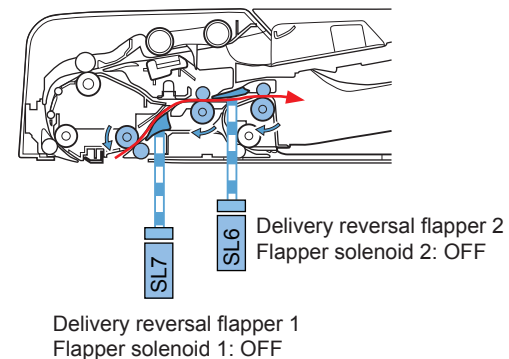


F-2-40

Delivery Operation

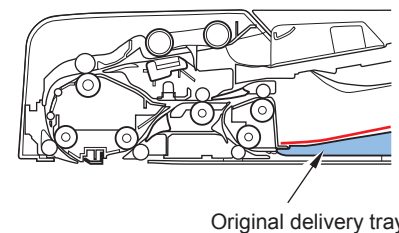
After being read, the original is delivered to the original delivery tray using the delivery reversal roller and delivery roller.

- 1) The flapper solenoid 1 turns off and the flapper solenoid 2 turns off to feed the original.



F-2-41

- 2) The original is delivered to the original delivery tray.



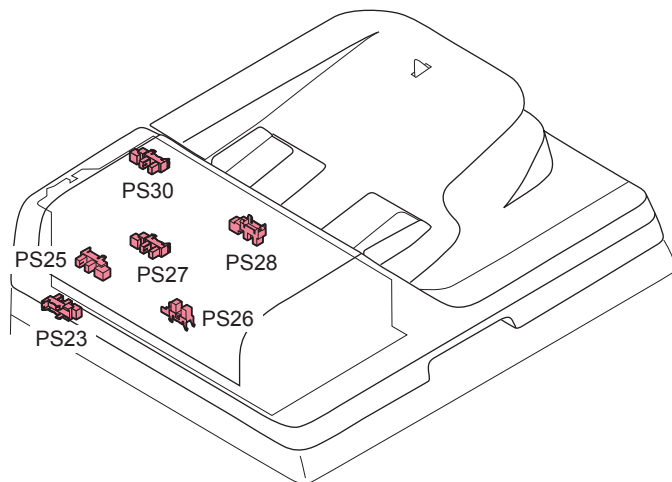
F-2-42

Jam Detection

Whether jam is occurred or not, determined by whether there is paper or not in the sensor area by the timing check that memorized in advance by the reader controller PCB.

When the reader controller PCB detected jam, it will stop feeding operation and display the message in the operation panel about the jam occurrence.

As the machine stores the jam codes, it can be checked by outputting a jam error log report in the service mode.



F-2-43

The jam is detected by the following sensors.

- ADF open/closed detection sensor (PS23)
- Lead sensor (PS25)
- Registration sensor (PS26)
- Stay sensor (PS27)
- Reversal sensor (PS28)
- Original set sensor (PS30)

Jam type	Sensor	Jam description
Registration sensor delay jam	PS26	When the registration sensor cannot detect an original within the specified time.
Registration sensor stationary jam	PS26	When the trailing edge of the original cannot be detected after lapse of the specified time after the original was detected by the registration sensor.
Lead sensor delay jam	PS25	When the lead sensor cannot detect the original within the specified time.
Lead sensor stationary jam	PS25	When the trailing edge of the original cannot be detected after lapse of the specified time after the original was detected by the lead sensor.
Stay sensor delay jam	PS27	When the stay sensor cannot detect the original within the specified time.
Stay sensor stationary jam	PS27	When the trailing edge of the original cannot be detected after lapse of the specified time after the original was detected by the stay sensor.
Reversal sensor delay jam	PS28	When the reversal sensor cannot detect the original within the specified time.
Reversal sensor stationary jam	PS28	When the trailing edge of the original cannot be detected after lapse of the specified time after the original was detected by the reversal sensor.
ADF open jam	PS23	When the ADF is opened during its operation.
Initial stationary jam	PS25/ PS26/ PS27/ PS28	When an original is detected in the feed path during pickup of the first original.
Pickup NG jam	PS30	When original pickup operation starts with no original set on the original pickup tray.
Timing error jam	-	When the original feed sequence is not completed during the specified time.

T-2-12

Work of Service

Periodically Replaced Parts

None

Consumable Parts

No.	Parts name	Parts number	Q'ty	Estimated life
1	ADF Pickup Roller Unit	FM4-7732	1	80,000 sheets
2	ADF Separation Pad	FL3-5538	1	80,000 sheets

T-2-13

Periodical Servicing

None

Perform as needed.

When replacing the parts

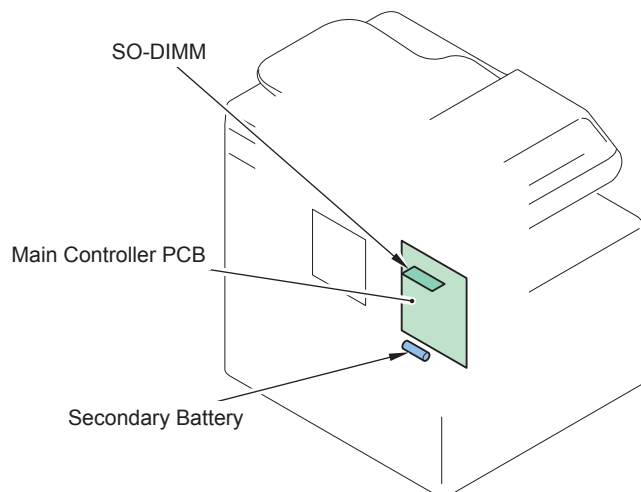
Part name	Operation	Reference
Contact image sensor (CIS)	<ul style="list-style-type: none"> CIS gain and offset correction DF white level adjustment 	Refer to page 5-3
Copyboard glass	<ul style="list-style-type: none"> Input the value of label on the copyboard glass DF white level adjustment 	Refer to page 5-3
ADF reading glass	<ul style="list-style-type: none"> DF white level adjustment 	Refer to page 5-4

T-2-14

Main Controller

Overview

Configuration/Function

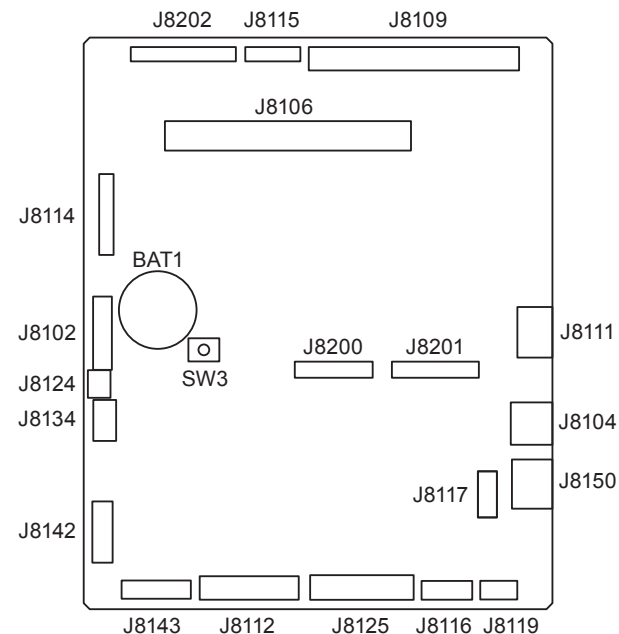


F-2-44

Item	Function
Main Controller PCB	System Control/Memory Control/Printer Output Image Processing Control, Reader Image Input Processing, Card Reader Connection I/F, Image Processing for FAX, USB Expansion HUB Connection I/F
Image memory (SO-DIMM)	Temporarily saving image data Capacity 256MB (Max. 512MB) For FAX or SEND-equipped model; standard: 512MB
Flash ROM	Storing System Software Boot ROM: 16MB Program ROM: 128MB
SRAM	Keeping 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	Models with FAX or SEND function only Secondary Battery for image backup at power failure (to backup for 1 hour by 2-hour charging)

T-2-15

Main controller PCB



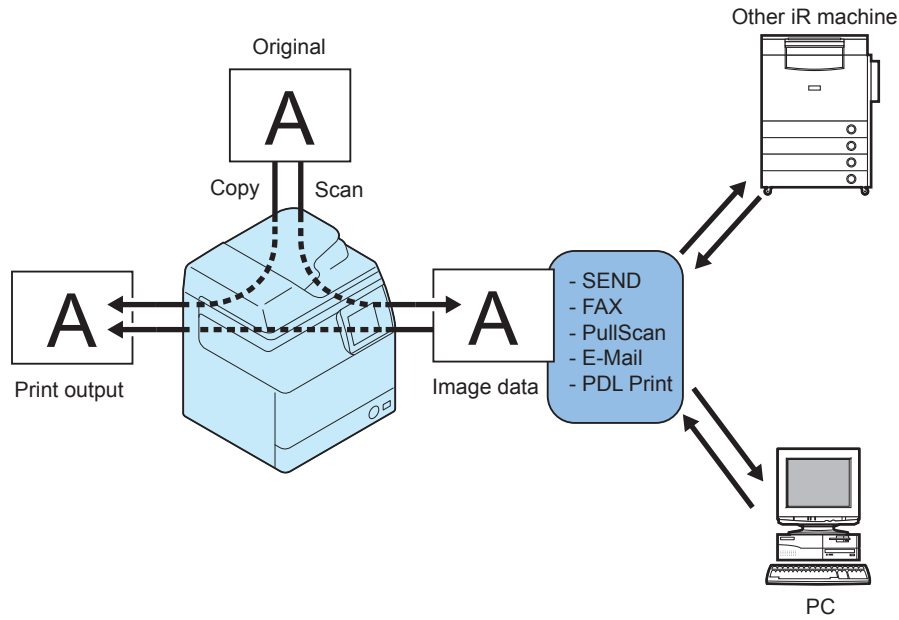
F-2-45

Jack	Function	Jack	Function
J8104	USB port	J8134	Connector to connect to FAX
J8106	Slot to connect to SO-DIMM	J8142	Connector to connect to Laser Scanner
J8109	For debug	J8143	Connector to connect to Laser Scanner
J8111	Connector to connect to LAN	J8150	USB port
J8112	Connector to connect to DC Controller PCB	J8200	Connector to connect to FAX
J8114	Connector to connect to Control Panel	J8201	Connector to connect to FAX
J8117	Connector to connect to Control Card	J8202	Connector to connect to Reader
J8119	Connector to connect to Card Reader	BAT1	Lithium Battery for RTC Life: approx. 10 years Replacement of a single battery is not available in the service field.
J8124	Connector to connect to Control Panel	SW3	Switch to shut power supply when replacing SO-DIMM
J8125	Connector to connect to Control Card		

T-2-16

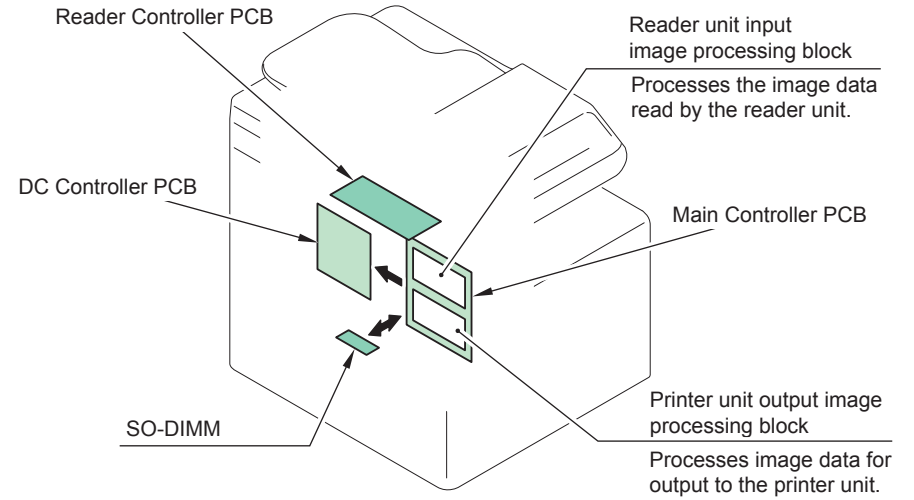
Controls

Image Data Flow



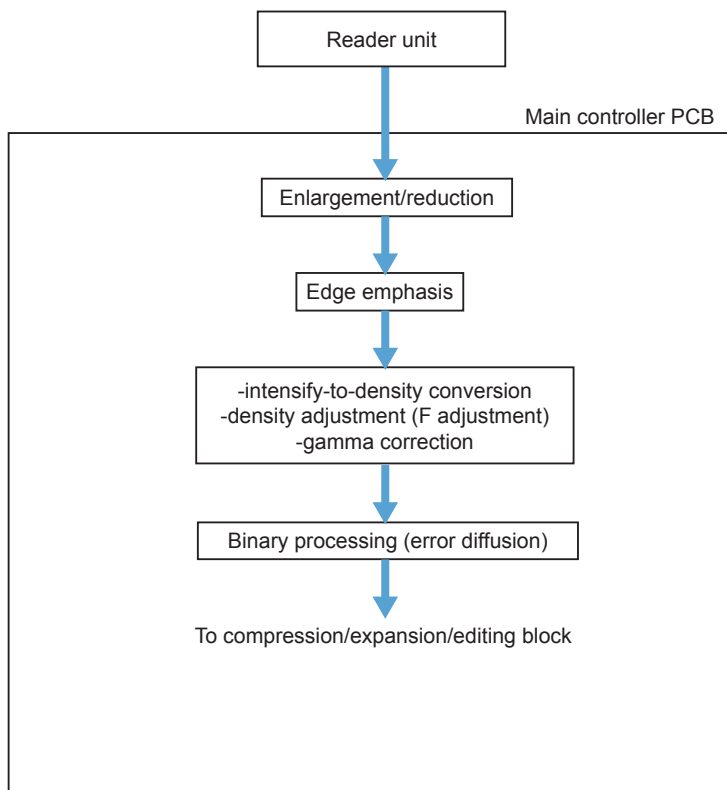
F-2-46

Image Processing Module Configuration



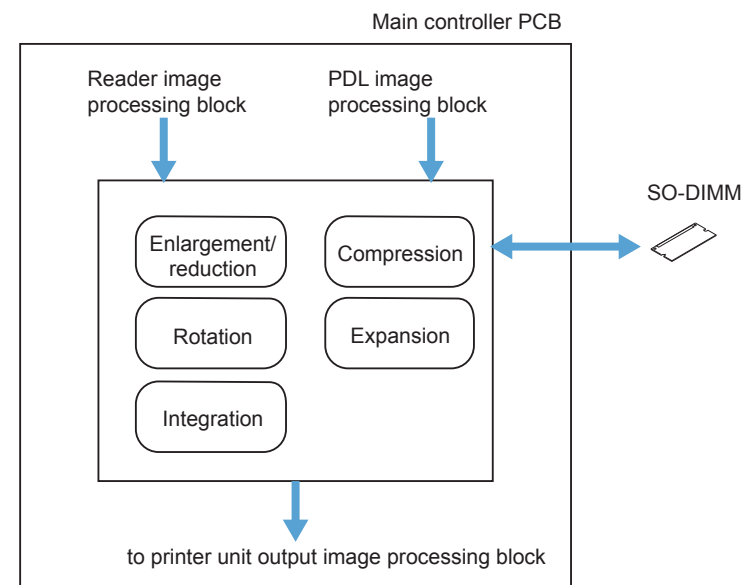
F-2-47

Reader Unit Input Image Processing



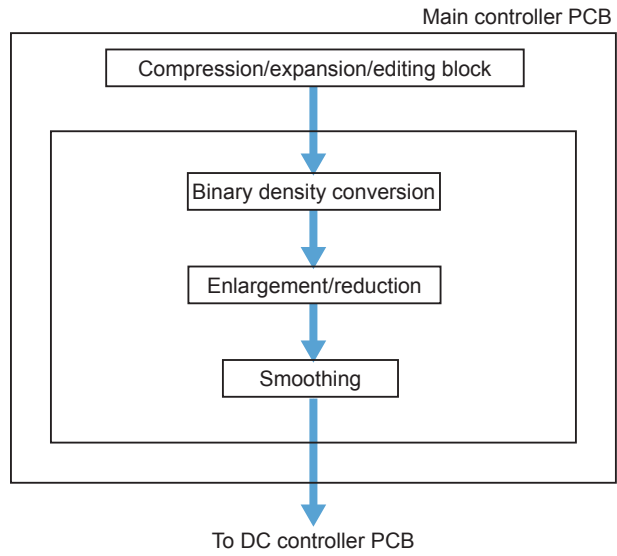
F-2-48

Compression/Expansion/Edit Processing Block



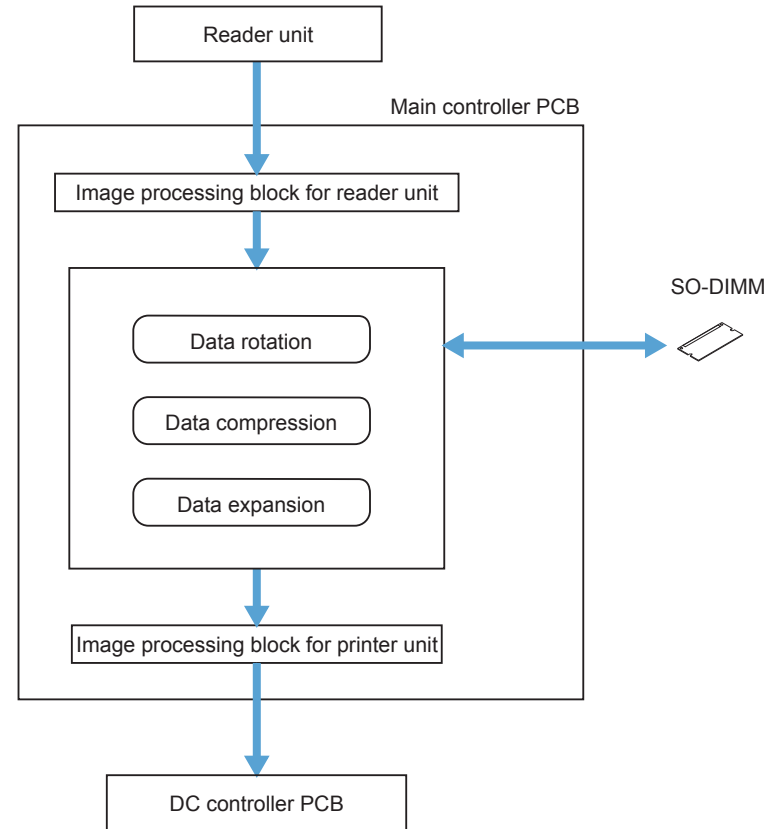
F-2-49

■ Printer Output Image Processing



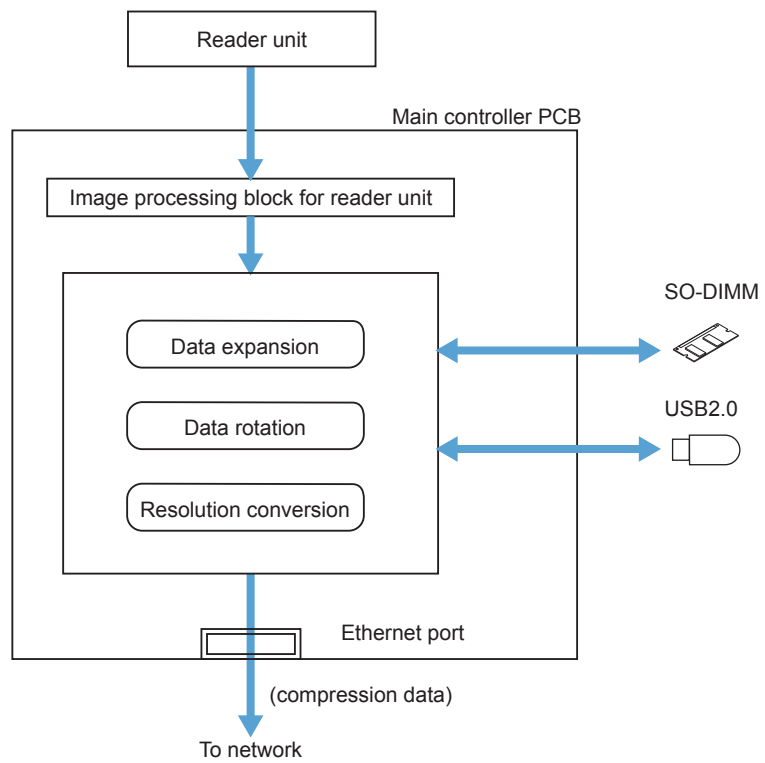
F-2-50

■ Image Data Flow of Copy Function



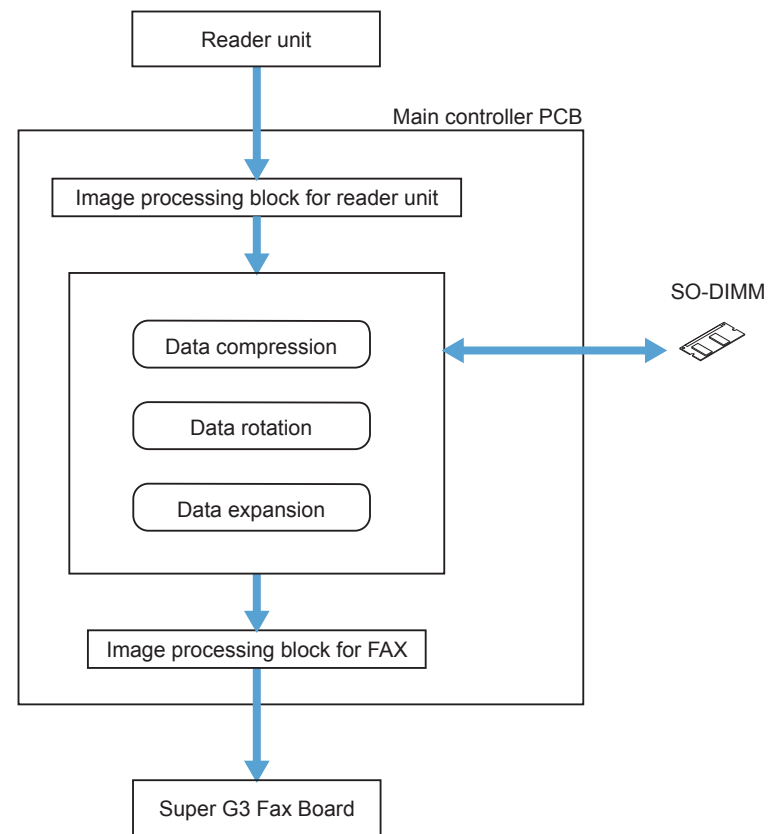
F-2-51

■ Image Data Flow of SEND Function



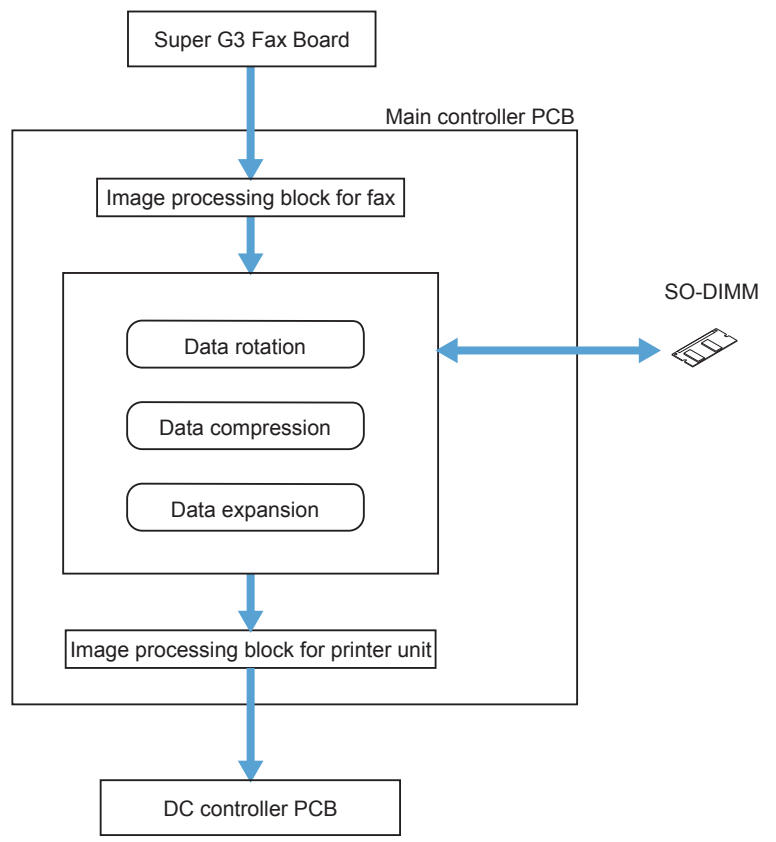
F-2-52

■ Image Data Flow of FAX Transmission Function



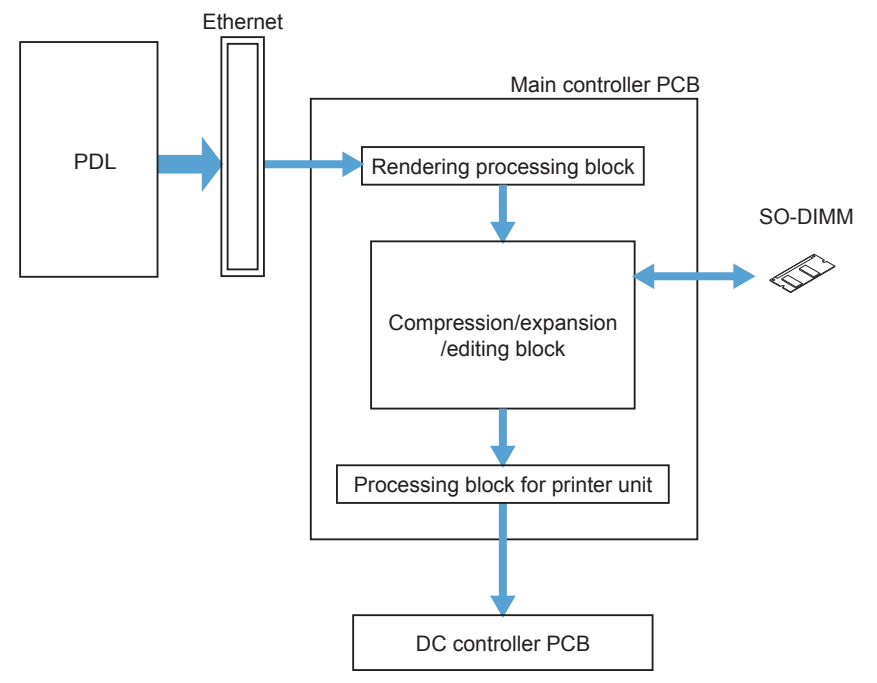
F-2-53

Image Data Flow of FAX Reception Function



F-2-54

Image Data Flow of PDL Function



F-2-55

Service Tasks

Periodically Replaced Parts

None.

Consumable Parts

None.

Periodical Servicing

None.

Laser Exposure System

Construction

Specifications/Controls/Functions

Laser light

The number of laser light	4
Output	10mW
Wave length	775nm to 799nm (Infrared laser)

T-2-17

Scanner motor

Motor type	DC brushless motor
The number of rotation	Approx 36732 rpm / 31715 rpm (2-speed control)
Type of bearing	Oil

T-2-18

Polygon mirror

The number of facet	6 (Φ40)
---------------------	---------

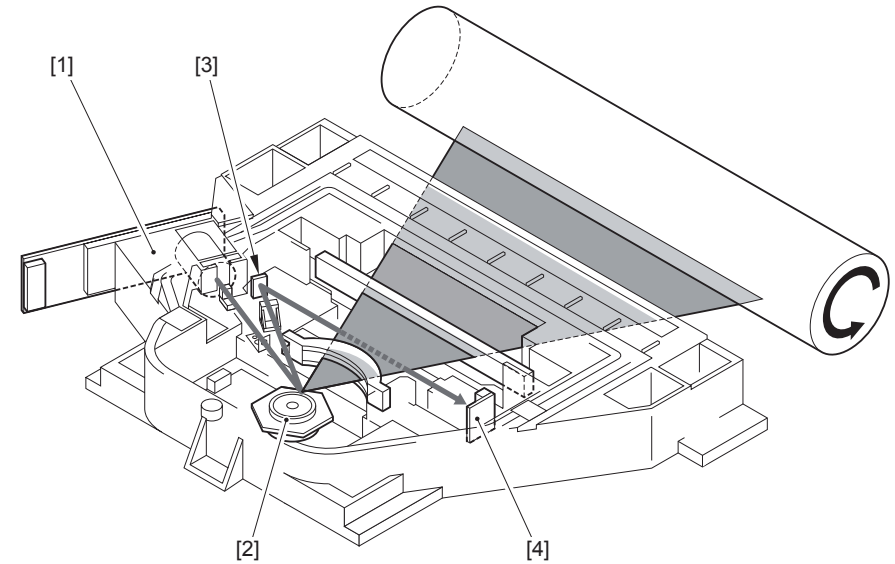
T-2-19

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-2-20

Main Configuration Parts



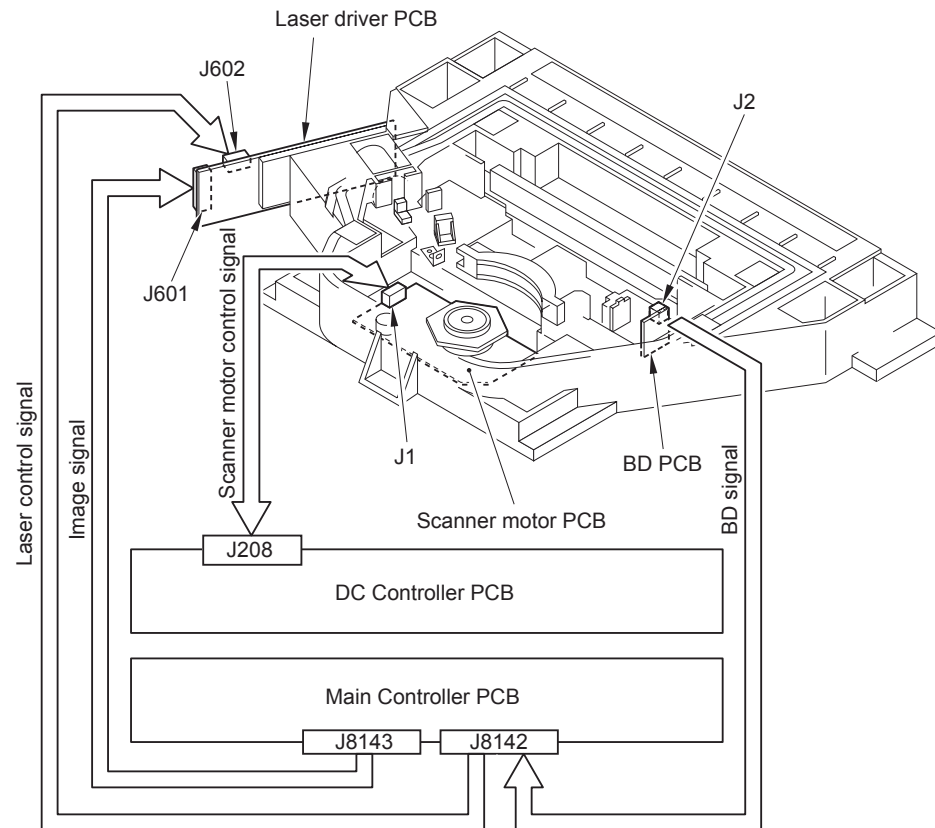
F-2-56

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-2-21

Control System Configuration

Controls for the laser exposure system are mainly performed by the Main Controller PCB and Image PCB.



F-2-57

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-2-22

Basic Sequence

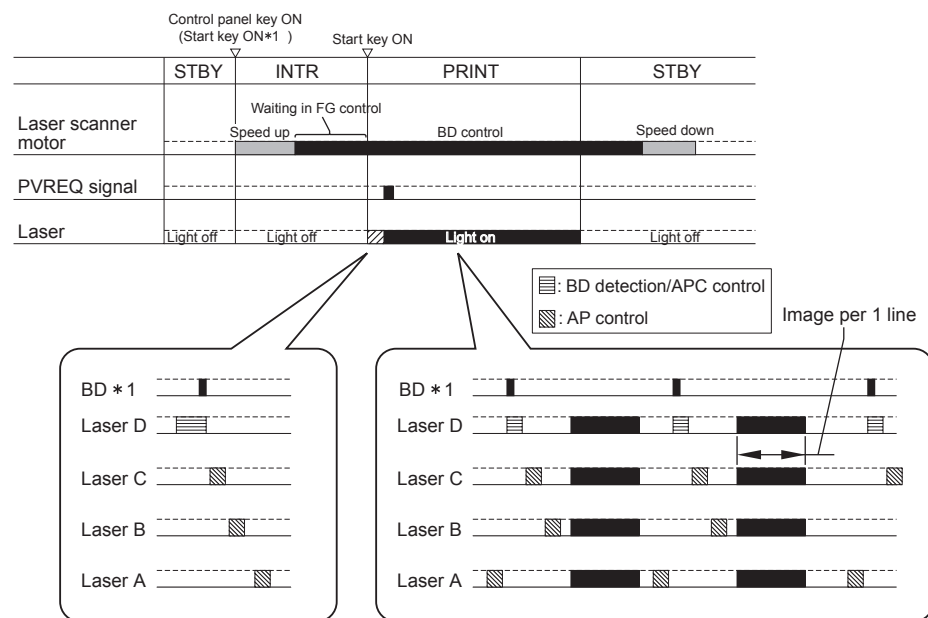
Basic Sequence

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 keeping all 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 D laser. After BD PCB detects D laser, the machine performs the APC (laser intensity) control of each laser. Once the 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 is emitted 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-2-58

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: CNT0-0/0-1/0-2, C/D laser: CNT1-0/1-1/1-2) from the image PCB.

<A laser/B laser>

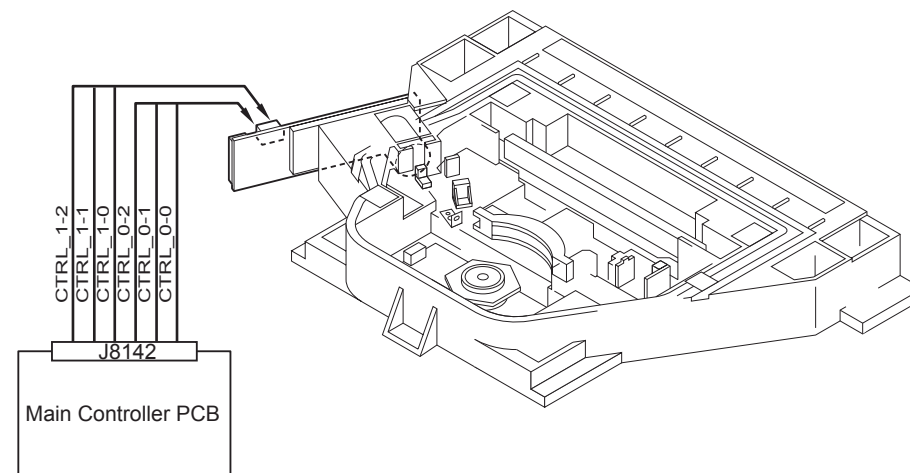
Laser control signal			Laser status	
CNT0-0	CNT0-1	CNT0-2	A Laser	B Laser
1	1	1	Image data output	Image data output
0	1	1	Forcible output	OFF
1	0	1	OFF	Forcible output
0	0	1	Forcible output	Forcible output
1	1	0	Forcible output OFF	Forcible output OFF
0	1	0	ON (For APC control)	OFF
1	0	0	OFF	ON (For APC control)
0	0	0	Discharge: APC reset (Fixed when laser is not used)	Discharge: APC reset (Fixed when laser is not used)

T-2-23

<C laser/D laser>

Laser control signal			Laser status	
CNT1-0	CNT1-1	CNT1-2	C Laser	D Laser
1	1	1	Image data output	Image data output
0	1	1	Forcible output	OFF
1	0	1	OFF	Forcible output
0	0	1	Forcible output	Forcible output
1	1	0	Forcible output OFF	Forcible output OFF
0	1	0	ON (For APC control)	OFF
1	0	0	OFF	ON (For APC control)
0	0	0	Discharge: APC reset (Fixed when laser is not used)	Discharge: APC reset (Fixed when laser is not used)

T-2-24



F-2-59

● Main Scanning Synchronous Control

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

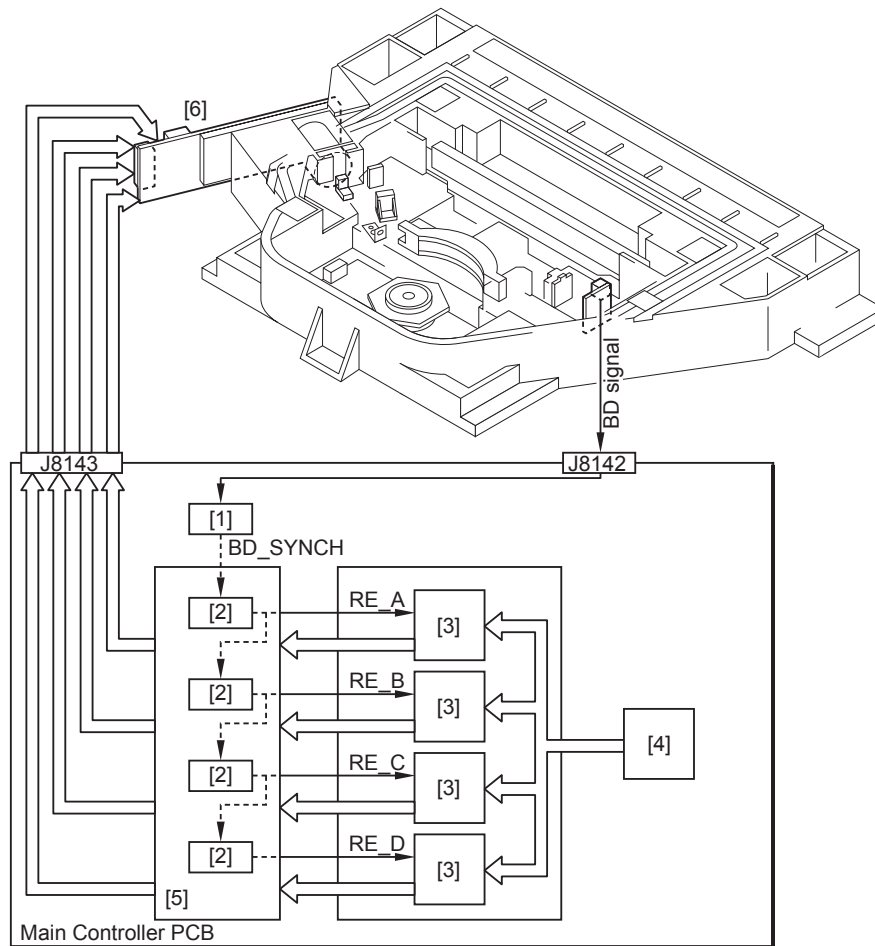
Based on BD signal that is formed from A laser light detected by BD PCB, BD synchronous signal for each laser is formed inside image PCB.

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.

- | | |
|---------------------------------|-----------------------------|
| [1] Synchronous PCB | [4] VDO |
| [2] Delay PCB | [5] VDO signal process unit |
| [3] Line memory | [6] Laser driver PCB |
| BD_SYNCH: BD synchronous signal | |
| RE_A/B/C/D: Readable signal | |

NOTE:

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.



F-2-60

■ 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.

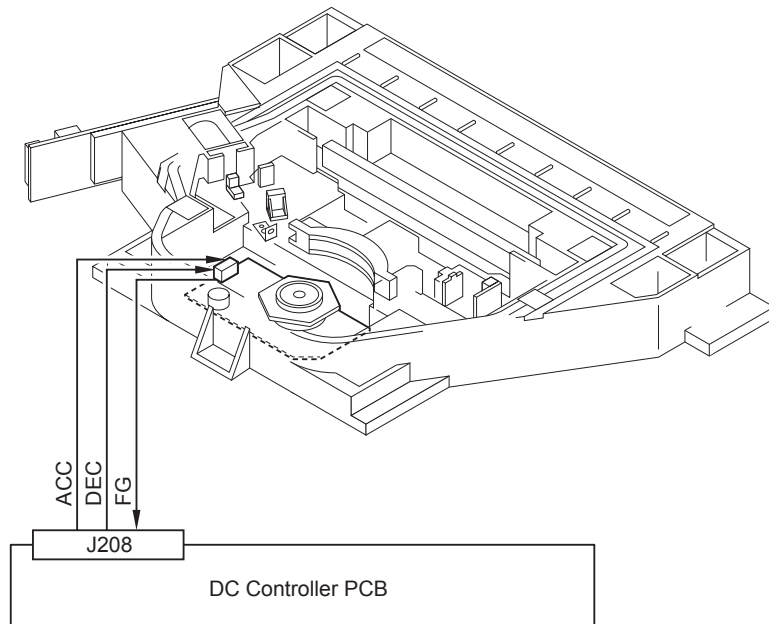
■ Controlling the Laser Scanner Motor

● 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 control the rotation speed by referring to the laser scanner motor rotation speed signal (FG signal).

During image formation, it controls the laser scanner motor rotation speed based on BD signal.

Laser scanner motor rotation speed is controlled by speed-up signal (ACC signal) and speed-down signal (DEC signal).

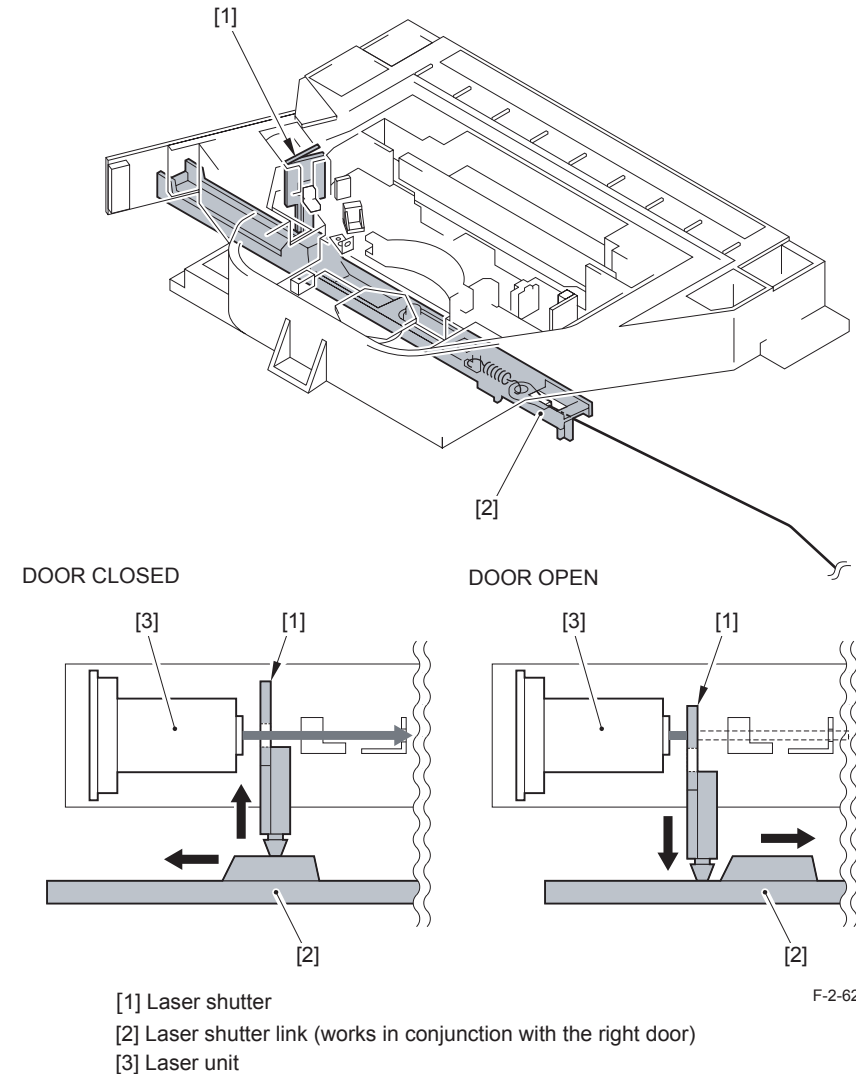


F-2-61

■ 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, when the front door or right door open is detected, laser scanner motor and the laser emission will be turned OFF.



F-2-62

Image Formation System

Basic Configuration

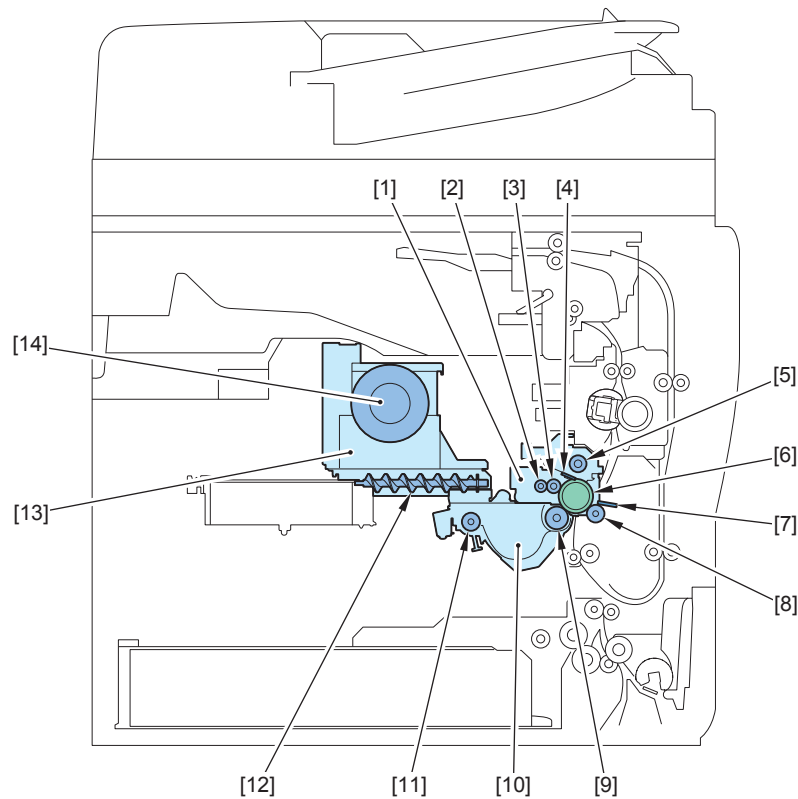
List of Image Formation Specifications

Item		Specifications/Function/Method
Photosensitive Drum	Type	Organic Photo Conductor High Durable Drum (E Drum)
	Cleaning mechanism	Cleaning Blade
	Processing speed	311mm/sec (at pickup from Cassette) 134mm/sec (at pickup from Multi-purpose Tray)
Primary Charging	Charging method	Roller charging AC bias constant voltage control: approx. 550 to 2600Vp-p DC bias constant voltage control: approx. -400 to -800V DC bias switch control (variable by Environment Sensor Detection)
	Roller diameter	Diameter: 12
	Cleaning mechanism	Brush Roller (Diameter: 10)
Developing	Developing method	Dry, 1-component toner projection development AC bias constant voltage control: approx. 800Vp-p DC bias control: approx. -250 to -650V DC bias switch control (Variable by density setting and Environment Sensor Detection)
	Developing Cylinder OD	Diameter: 20
	Toner	Magnetic negative toner
	Toner level detection mechanism	Toner detection by Toner Level Detection Sensor (in Sub Hopper and Developing Assembly)
Transfer	Transfer method	Roller charging DC constant current control: approx. 25 to 30 micro A Cleaning bias control: -1650V (DC constant voltage control) DC current level control (variable by Environment Sensor Detection, paper type, paper width and pickup location)
	Roller diameter	Diameter: 16
	Cleaning mechanism	Cleaning bias application
Separation	Separation method	Electrostatic separation (Static Eliminator) + curvature separation DC constant voltage control: -2600V (strong bias), -2200 (weak bias)
Waste Toner		To collect into Waste Toner Box Waste Toner Box capacity: approx. 750g

T-2-25

Major Components in image formation system

The following shows major component parts in image formation system:



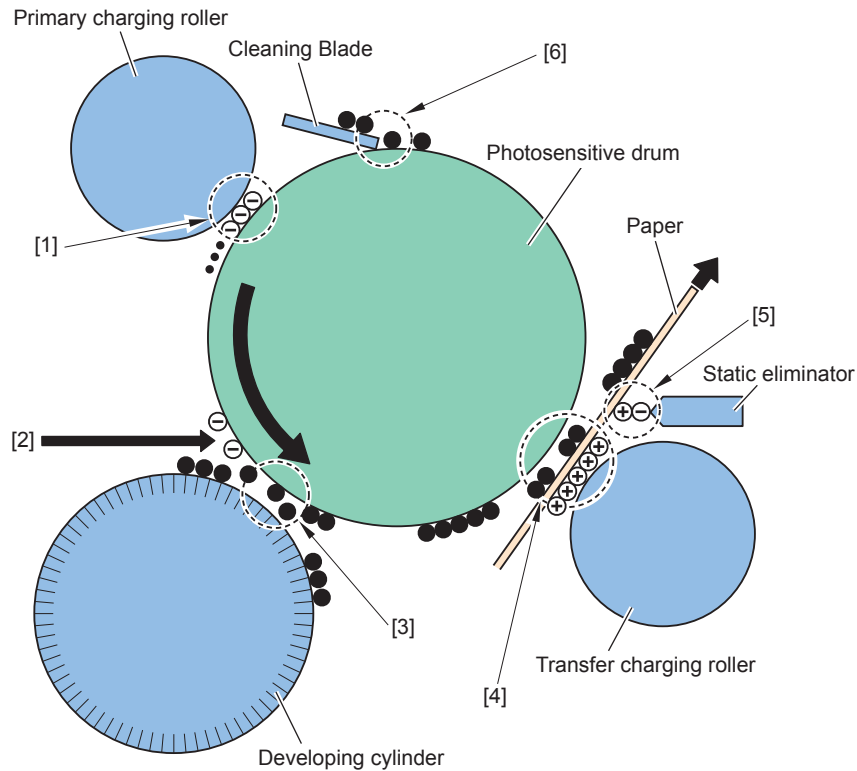
F-2-63

	Name	Function
[1]	Drum Unit	A unit consists of the Photosensitive Drum, Primary Charging Roller, etc.
[2]	Brush Roller	To rotate by engaging with the Primary Charging Roller to clean the Primary Charging Roller.
[3]	Primary Charging Roller	To rotate by engaging with the Photosensitive Drum to make the surface of Photosensitive Drum negatively-charged.
[4]	Cleaning Blade	To remove residual toner on the surface of Photosensitive Drum.
[5]	Waste Toner Feed Screw	To feed toner that was collected by the Cleaning Blade into the Waste Toner Box.
[6]	Photosensitive Drum	To create image on the surface of Photosensitive Drum.
[7]	Static Eliminator	To make the back side of paper negatively-charged to separate the paper from the Photosensitive Drum.
[8]	Transfer Roller	To make the back side of paper positively-charged to transfer toner on the paper.
[9]	Developing Cylinder	To transfer toner in the Developing Assembly on the Photosensitive Drum.
[10]	Developing Assembly	A unit consists of the Developing Cylinder, Developing Blade, etc.
[11]	Toner Feed Screw (Inside Developing Assembly)	To fill toner that was supplied from the Sub Hopper into the Developing Assembly
[12]	Toner Feed Screw (Inside Hopper)	To feed toner that was supplied from the Toner Bottle into the Developing Assembly.
[13]	Hopper Assembly	To accumulate toner supplied from the Toner Bottle.
[14]	Toner Container	A toner-filled container for toner supply

T-2-26

Image Formation Process

The image formation system of this machine consists of the Photosensitive Drum, Primary Charging Roller, Developing Cylinder, Transfer Charging Roller, Static Eliminator and Cleaning Blade, and the image formation process around the Drum Unit mainly consists of the 6 blocks.



F-2-64

	Image formation block	Description
[1]	Primary charging block	To evenly make the surface of the Photosensitive Drum negatively-charged.
[2]	Laser exposure block	To neutralize electric charge by scanning laser beam on the drum surface to create latent image.
[3]	Developing block	To create visible image by attaching toner that has been negatively charged from the Developing Cylinder to the latent static latent image on the surface of the Photosensitive Drum.
[4]	Transfer block	To apply positively-charged potential from the back side of paper to transfer toner on the drum to the paper.
[5]	Separation block	To separate paper from the Photosensitive Drum by elastic force of paper and make the paper easy to be separated by applying negatively-charged potential from the back side of paper.
[6]	Drum cleaning block	To remove residual toner on the surface of the drum by the Cleaning Blade to be collected into the Waste Toner Box.

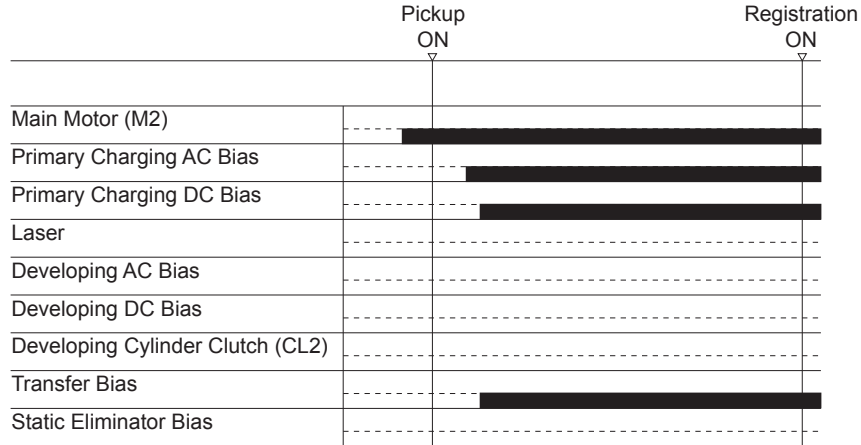
T-2-27

Basic Sequence

The following shows the basic sequence of this machine:

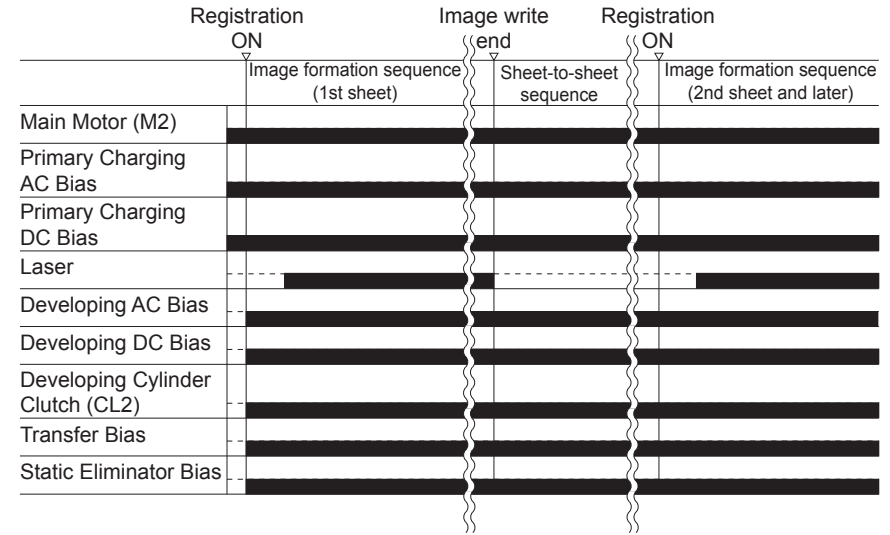
Initial rotation sequence

- At pickup from Cassette and pickup from Multi-purpose Tray



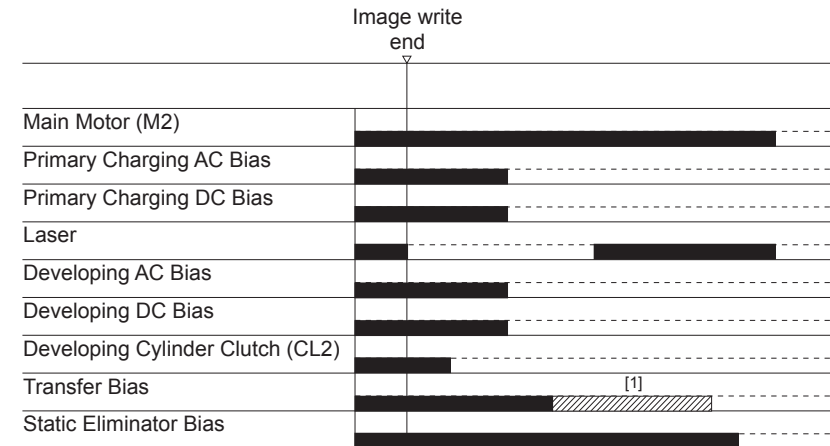
F-2-65

Sequence at printing



F-2-66

Last rotation sequence



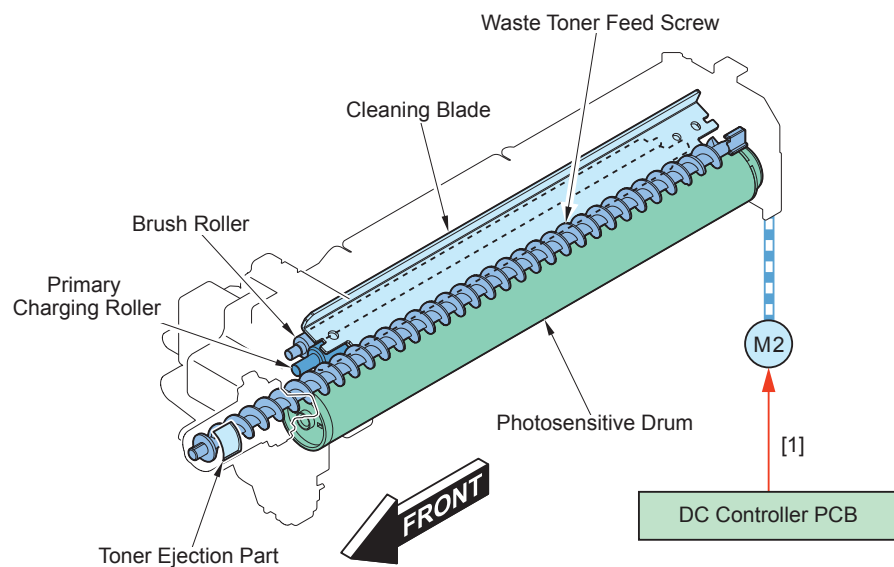
Cleaning bias (-2700V) is applied at [1] as shown above.

F-2-67

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 (M2). The Cleaning Blade is in contact with the surface of the Photosensitive Drum to remove residual toner on the surface of the Photosensitive Drum that was not transferred to the paper. Residual toner collected by the Cleaning Blade is sent from the Toner Ejection Mouth to Waste Toner Box by the Waste Toner Feed Screw. The Brush Roller is also in contact with the Primary Charging Roller, and the Brush Roller cleans the Primary Charging Roller.



F-2-68

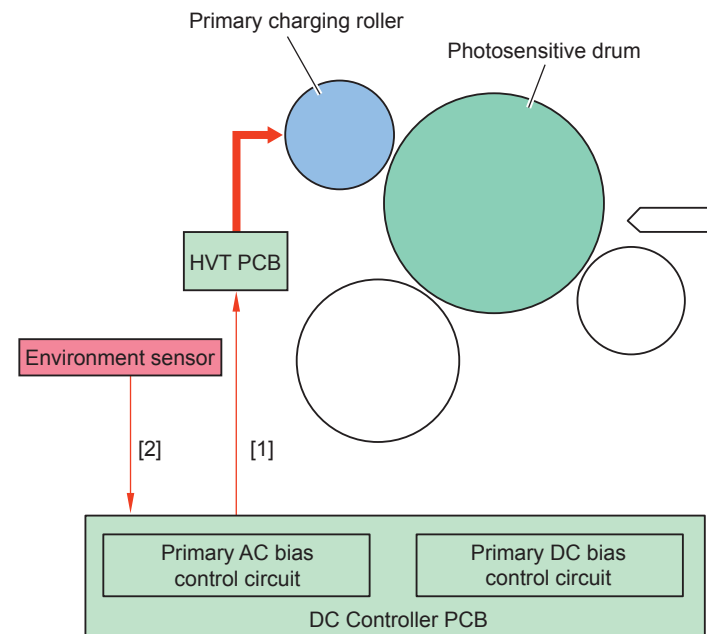
- M2 Main Motor
[1] Main Motor drive signal

Drum Unit Detection

Charging AC bias is applied at Power-on, recovery from sleep state, or opening/closing the door to detect the Drum Unit by the return value.

Primary Charging Bias Control

This machine performs direct charging by the Charging Roller. AC bias is applied to the Primary Charging Roller to make steady DC bias and charging.



F-2-69

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

DC/AC bias constant voltage control

The DC bias control circuit and AC bias control circuit in the DC Controller PCB control DC bias and AC bias, which are applied to the Primary Charging Roller, to make constant voltage.

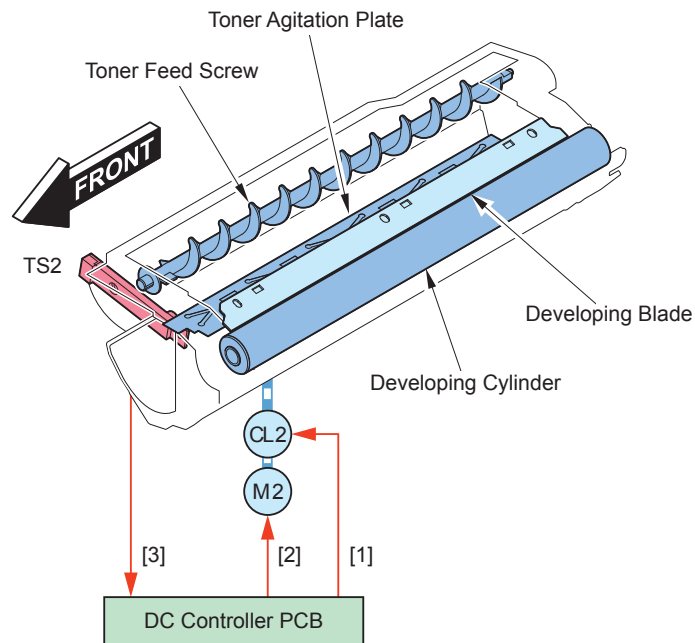
DC bias switch control

DC bias changes output value of DC bias according to the environment detected by the Environment Sensor (THU1).

Developing Assembly

The Developing Assembly mainly consists of the Developing Cylinder, Developing Blade, Toner Stirring Plate, and Toner Feed Screw, and is driven by the Main Motor (M2) and Sleeve Clutch (CL2).

The Toner Feed Screw and Toner Stirring Plate feed the toner, which was sent from the Toner Container, to fill in the Developing Assembly. Toner in the Developing Assembly is detected by the Developing Assembly Toner Sensor (TS2), which is a magnetic sensor.

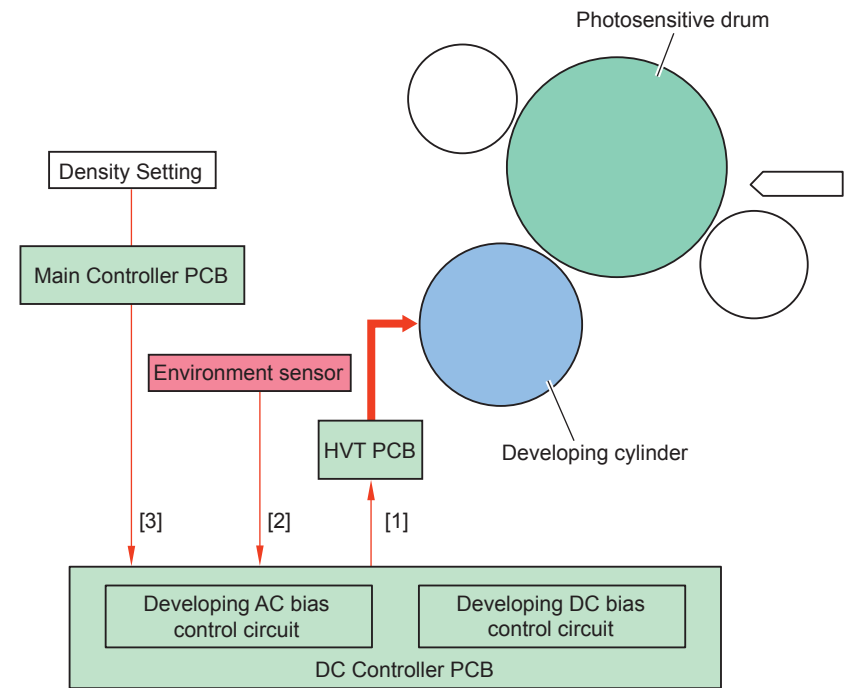


F-2-70

- TS2 Developing Assembly Toner Sensor
- CL2 Sleeve Clutch
- M2 Main Motor
- [1] Sleeve Clutch drive signal
- [2] Main Motor drive signal
- [3] Developing Assembly Toner Sensor detection signal

Developing Bias Control

DC bias and AC bias are applied to the Developing Cylinder.



F-2-71

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

DC/AC bias constant voltage control

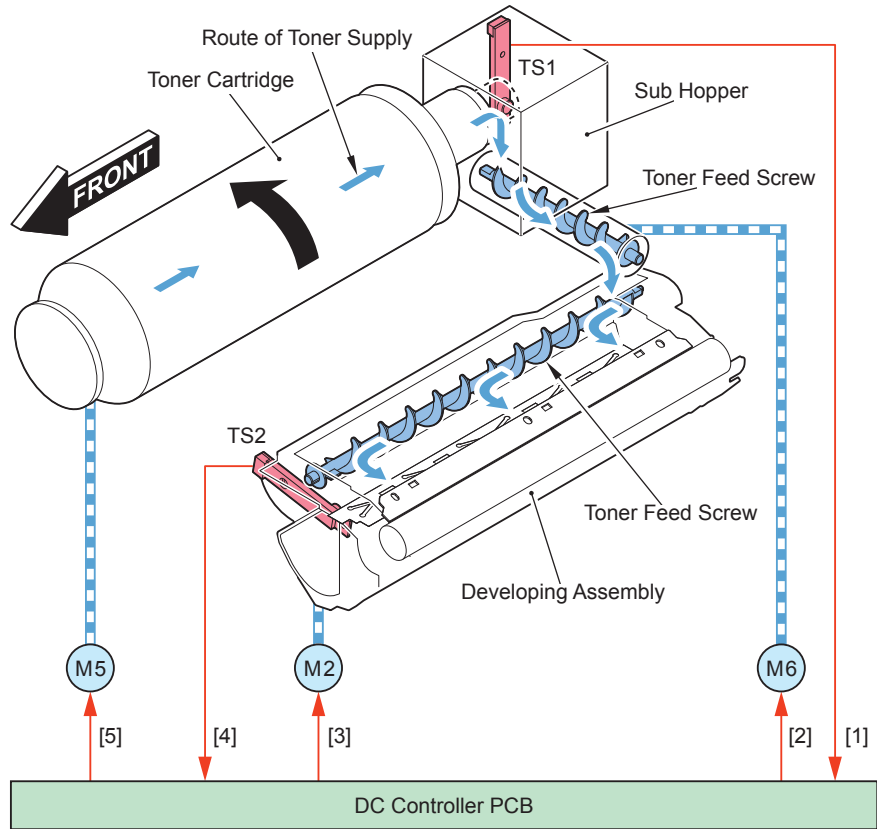
The DC bias control circuit and AC bias control circuit in the DC Controller PCB control DC bias and AC bias, which are applied to the Developing Cylinder, to make constant voltage.

DC bias switch control

DC bias changes output value of DC bias according to the environment and density settings detected by the Environment Sensor (THU1).

■ Toner Supply Area

● Toner Supply Control



F-2-72

- TS1 Hopper Toner Sensor
- M2 Main Motor
- M6 Hopper Motor
- M5 Bottle Motor
- [1] Hopper Toner Sensor detection signal
- [2] Bottle Motor drive signal
- [3] Main Motor drive signal
- [4] Hopper Motor drive signal

Title	Description	Supply timing	Operation of the host machine
Supply to the Sub Hopper	To supply developer in the Toner Container into the Sub Hopper	When output result of Hopper Toner Sensor (TS1) changes from H to L.	To drive the Bottle Motor (M5) intermittently (to rotate for 3 sec and stop for 2 sec).
Supply to the Developing Assembly	To supply developer from the Sub Hopper to the Developing Assembly.	The Developing Clutch is turned On and the Main Motor (M2) is driven.*1 When output result of Developing Assembly Toner Sensor (TS2) changes from H to L while the above conditions are satisfied.	To drive the Hopper Motor (M6) intermittently (to rotate for 1 sec and stop for 1 sec)

*1 The screw of Developing Assembly is driven by the Main Motor; therefore, supplying toner while the Main Drive Motor is not driven causes toner leakage.

● Toner level detection

Detection description	Detection timing	Detecting to (location)	Message (machine operation)
Toner-out alert (when the number of printable sheets reaches 1000 (sheets) based on 6% of image ratio with A4 paper)	When output result of the sensor changes from H to L while there has been no change in value of the sensor despite a supply operation for approx. 150 sec.	Hopper Toner Sensor	Supply toner.
Toner-out (Level of toner in the Developing Assembly is approx. 0%.)	When the Developing Assembly Toner Sensor (TS2) detects toner-out and the machine has printed 1000 sheets with 6% image ratio with A4 paper.	Developing count by Developing Assembly Toner Sensor (TS2)	Supply toner.

T-2-29

● Detection for replacing Toner Container

This machine does not have a sensor to detect replacement of a Toner Container. Therefore, execute the toner supply sequence as follows to determine replacement of a Toner Container.

- Toner supply sequence

1. Make the Main Motor (M2), Developing Clutch, Hopper Motor (M6) and Bottle Motor (M5) driven to supply toner.
2. When the Hopper Level Sensor detects presence of toner, the machine resumes normal operation. When the Hopper Level Sensor failed to detect presence of toner for more than 60 sec, it is determined that there has been no replacement of a Toner Container.

- Replacement when the power is turned ON

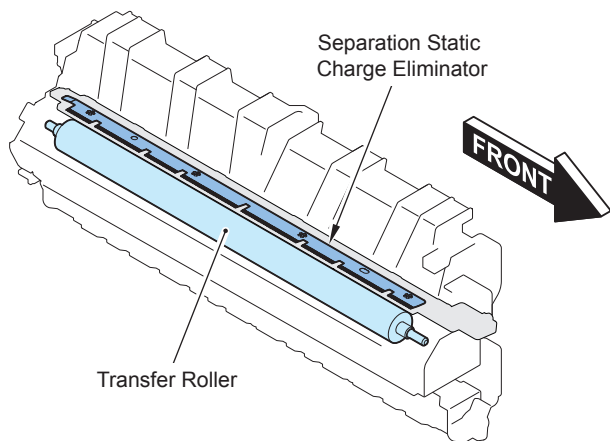
When the Front Cover is opened/closed, the machine determines that a Toner Container has been replaced and executes toner supply sequence.

- Replacement when the power is turned OFF or the machine is at sleep 2 state

The machine executes the toner supply sequence at power-on if there was a toner-out alert or toner-out message when the power was turned OFF the last time.

Transfer Unit

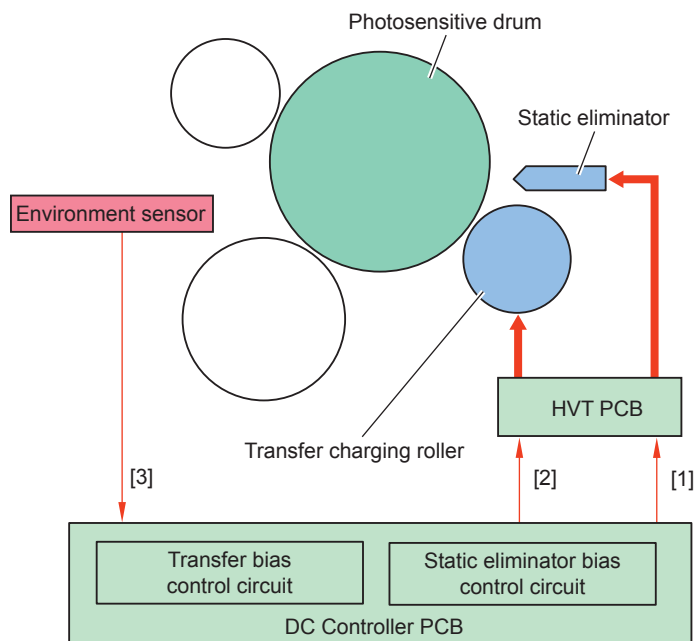
The Transfer Unit mainly consists of the Transfer Roller and Static Eliminator, and the Transfer Roller rotates by engaging with the Drum Unit



F-2-73

Transfer bias/separation static eliminator bias control

DC bias is applied to the Transfer Roller and Static Eliminator.



F-2-74

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

Transfer bias constant current control

Transfer bias, which is applied to the Transfer Roller, is controlled by the Transfer Bias Control Circuit in the DC Controller PCB to make constant current.

Transfer bias level control

Transfer bias changes output value of transfer bias according to the environment detected by the Environment Sensor (THU1), paper type, paper width, pickup position, etc.

Cleaning bias control

This is a control to apply negatively-charged voltage at last rotation to bring the toner attached on the Transfer Roller back to the Photosensitive Drum.

Separation static eliminator bias control

Two types of negatively-charged voltages, weak and strong biases, are applied to the Static Eliminator according to the print mode and sequence so that the paper is easy to be separated from the Photosensitive Drum by reducing electrostatic absorption force.

■ Chang in bias by user mode (Special Mode)

Special mode settings in user mode include a mode to change the density or improve the separation performance by changing the bias. The following describes the mode which executes bias control.

User mode	Overview	Setting value	Control details
Special Mode M (Density adjustment)	To change the density by changing the value of transfer bias.	Standard (Default)	Normal control
		Low	The density is lightened by weakening the bias.
		High	The density is darkened by strengthening the bias.
Special Mode O (Separation priority mode)	To control the separation bias in the case of frequent jams on the 2nd side when using backside of printed paper, etc.	Off (Default)	Normal control
		On	Separation bias at paper feed is strengthened. Also, the leading edge margin is set to 4.5mm.
Special Mode E (Background density adjustment mode)	To darken the density of background such as watermark.	Off (Default)	Normal control
		On	The background density is darkened by strengthening the transfer bias.

T-2-30

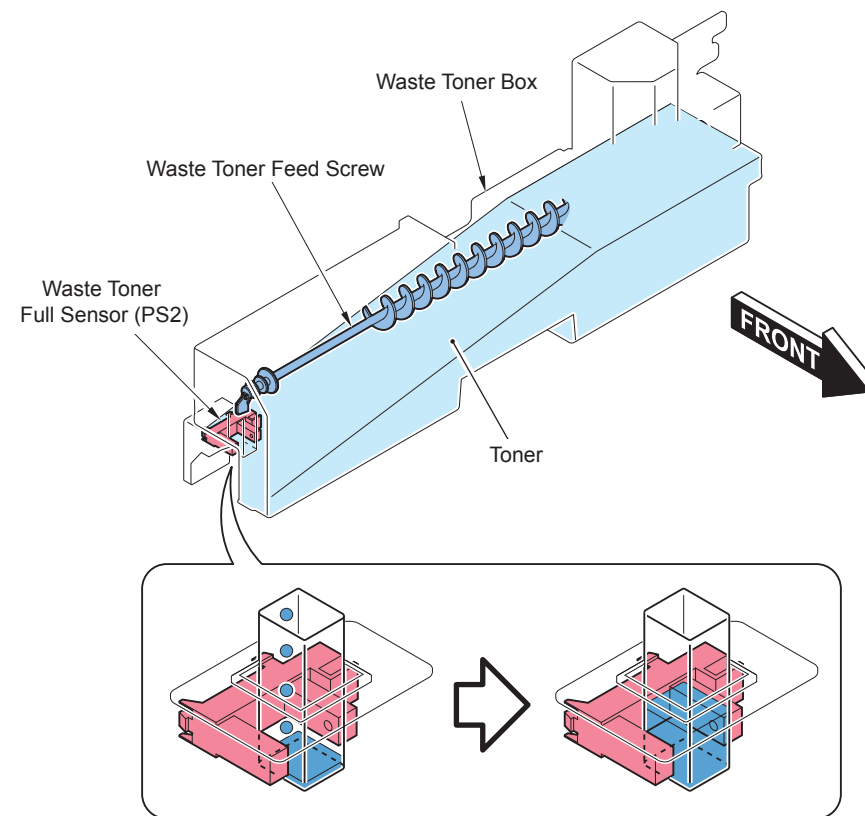
■ Waste Toner Box

● Overview

The toner, which was not transferred to the paper but attached on the Photosensitive Drum, is removed by the Cleaning Blade that is in contact with the Photosensitive Drum, and then fed into the Waste Toner Box by the Waste Toner Feed Screw.

There is a screw for feeding toner in the Waste Toner Box. This screw is driven by the Waste Toner Motor and engaged with movement of the Hopper Motor.

Note that there is no mechanism to detect presence of a Waste Toner Box with this machine. The Front Cover cannot be closed unless the Waste Toner Box is mechanically installed; therefore, the machine is not driven without having the Waste Toner Box installed



F-2-75

PS2 Waste toner full level sensor

● Full Detection

Detection description	Detection timing	Detecting to (location)	Message (machine operation)
Alert for full level of waste toner (approx. 2000 sheets left to reach the full level of waste toner)	When output result of the sensor changes from H to L and the total counter value exceeds 50,000 sheets.	Waste Toner Full Sensor Total counter	Prepare the Waste Toner Case. (Continuous printing is enabled.)
Full level of waste toner (0% left to reach full)	After approx. 2000 sheets have been printed by starting the Developing Assembly	Total counter	Replace the Waste Toner Case. (Host machine is stopped.)

T-2-31

When replacing a Waste Toner Box and the Waste Toner Full Sensor detects absence of waste toner after the Waste Toner Full Sensor detected presence of a Waste Toner Box, the counter of the Waste Toner Box is cleared. When replacing a Waste Toner Box before the alert, be sure to clear the following in service mode: COUNTER > DRBL-1 > WST-TNR

Special full level detection

When attaching a Waste Toner Container that has been used by the other machine, or the counter information is lost for some reason, it is necessary to notify full level before an alert is given. (The counter shows less than 50,000 although the sensor detects full level of waste toner) In such a case, it is determined as full level without an alert and the machine cannot continue printing.

Explain the user that there will be no alert when any of the above is executed.

● Service Tasks

■ Periodically Replaced Parts

None

■ Consumable Parts

No.	Parts name	Parts number	Q'ty	Estimated life
1	Waste Toner Container	FM4-8035	1	100,000 sheets
2	Transfer Roller	FM4-6522	1	180,000 sheets
3	Static Eliminator	FL3-4857	1	90,000 sheets

T-2-32

■ Periodical Servicing

None

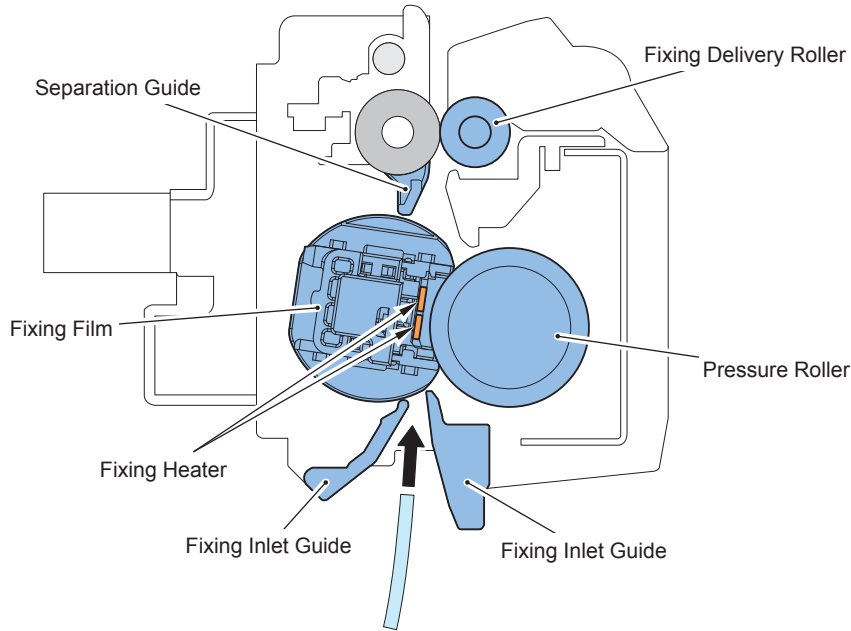
Perform as needed.

Fixing System

Overview

Features

This machine uses the on-demand fixing method.



F-2-76

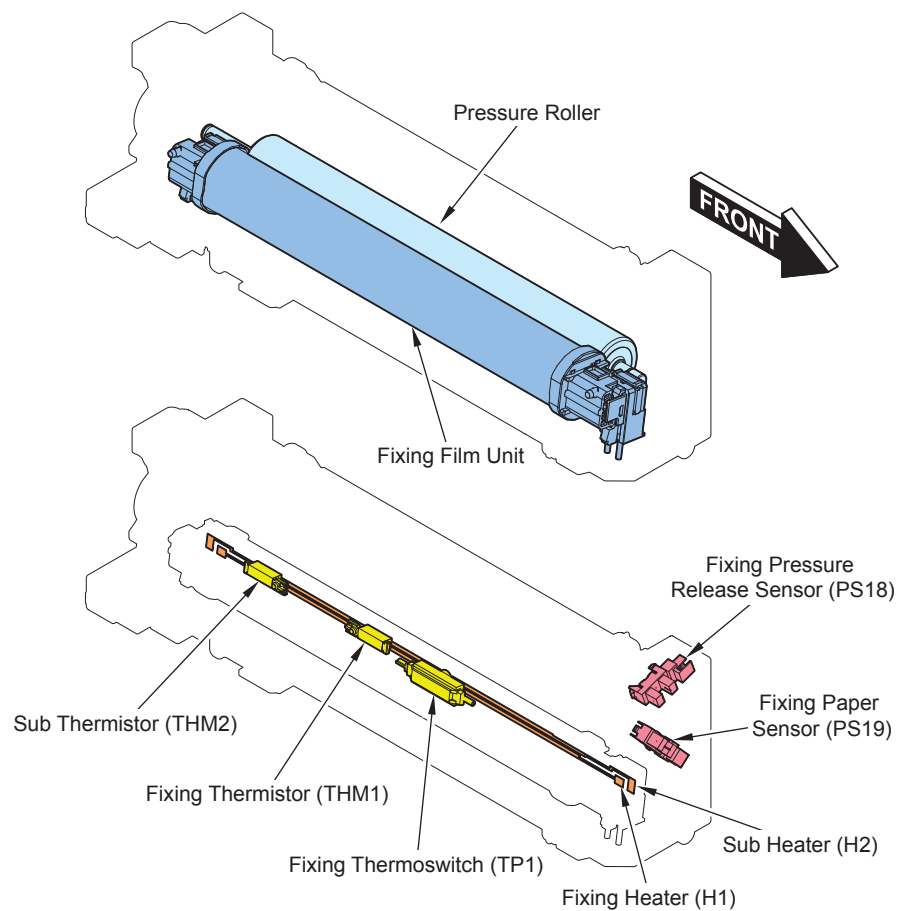
Specifications

Item	Function/method
Fixing method	On-demand fixing
Fixing speed	139mm/sec (1/1-speed high: 0.8% acceleration)
	137mm/sec (1/1-speed)
	133mm/sec (1/1-speed slow: 3.1% deceleration)
Fixing Heater	Ceramic Heater
Control temperature	208 deg C (plain paper) *1
Temperature Control	Main Thermistor, Sub Thermistor
Cleaning mechanism	Cleaning Roller
Edge temperature rising control	Down sequence
Fixing Arch Control	Loop Sensor
Protection function	Main Thermistor, Sub Thermistor, Thermoswitch (Rated operational temperature: 250 deg C)

T-2-33

*1. The figure varies depending on fixing mode and fixing temperature at the start of Startup control.

Major Components



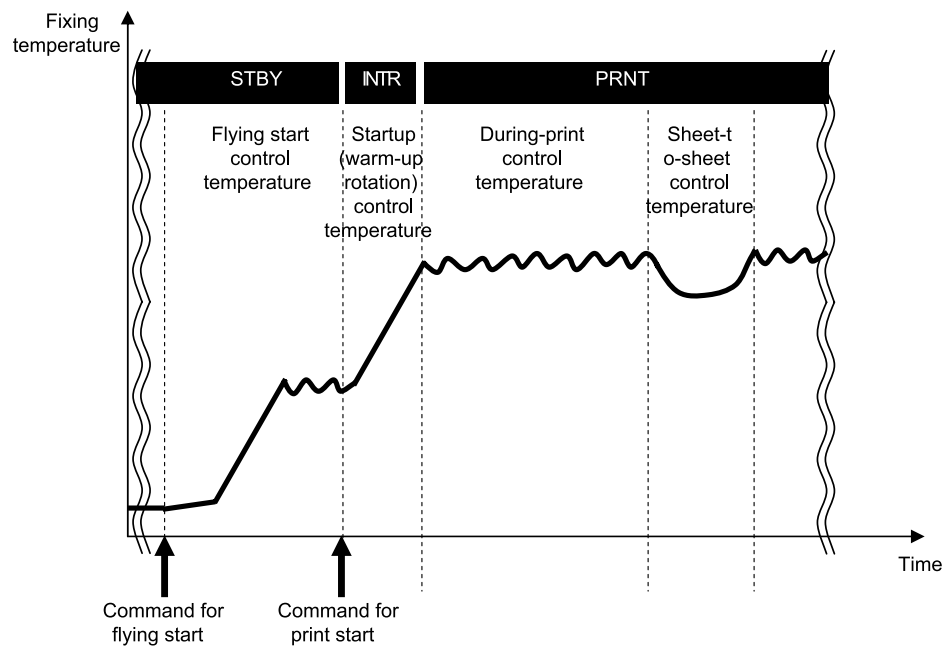
F-2-77

Part name		Function / method
---	Film Unit	A toner image on paper is fixed by applying heat/pressure.
---	Pressure Roller	
H1/H2	Fixing Heater	Ceramic Heater
TH1	Main Thermistor	Engaged with the heater Temperature control and abnormal temperature rising detection
TH2	Sub Thermistor	Engaged with the heater Temperature control, abnormal temperature rising detection, edge temperature-rising/cooling control
TP1	Thermoswitch	A kind not engaged with the heater. AC power supply is blocked at detection of a failure.
PS18	Fixing Pressure Release Sensor	Detection of pressure application/release to the Film Unit
PS19	Fixing Paper Sensor	Jam Detection

T-2-34

Controls

Fixing Temperature Control (temperature control)



F-2-78

Standby Temperature Control

This is a control to pre-heat the Fixing Assembly to reduce time to start printing.

- Flying Start!

Print Temperature Control

This is a control to increase fixing temperature to the target level and keep it during printing.

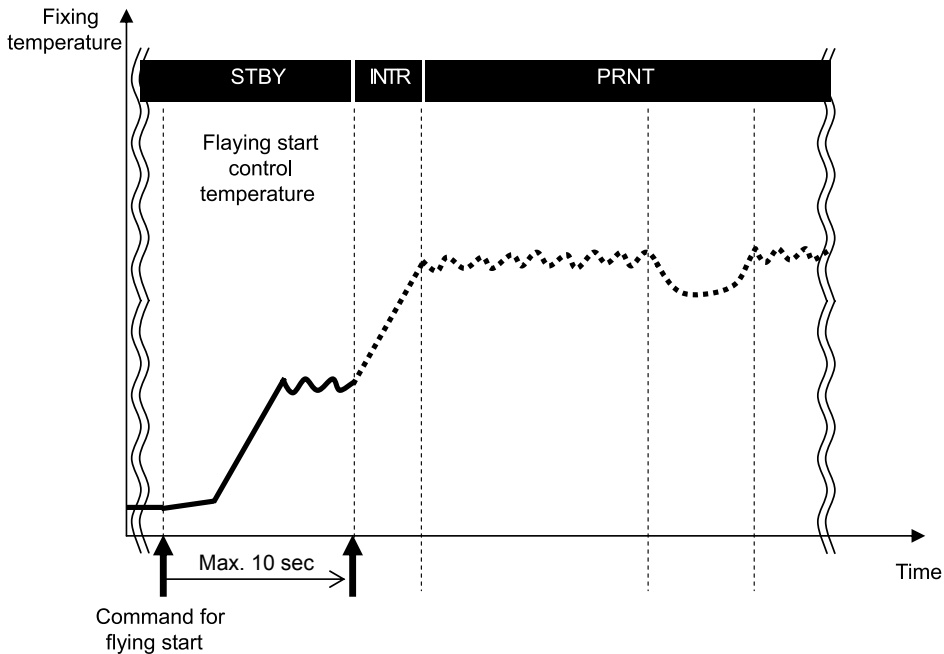
- Startup (initial rotation) temperature control
- Print temperature control
- Paper interval temperature control

Down Sequence Control

This is a control to prevent fixing failure due to temperature increase at the edge or temperature decrease. Productivity (throughput) decreases.

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

Standby Temperature Control



F-2-79

Flying Start

Purpose:

To reduce time to print the first sheet (FCOT).

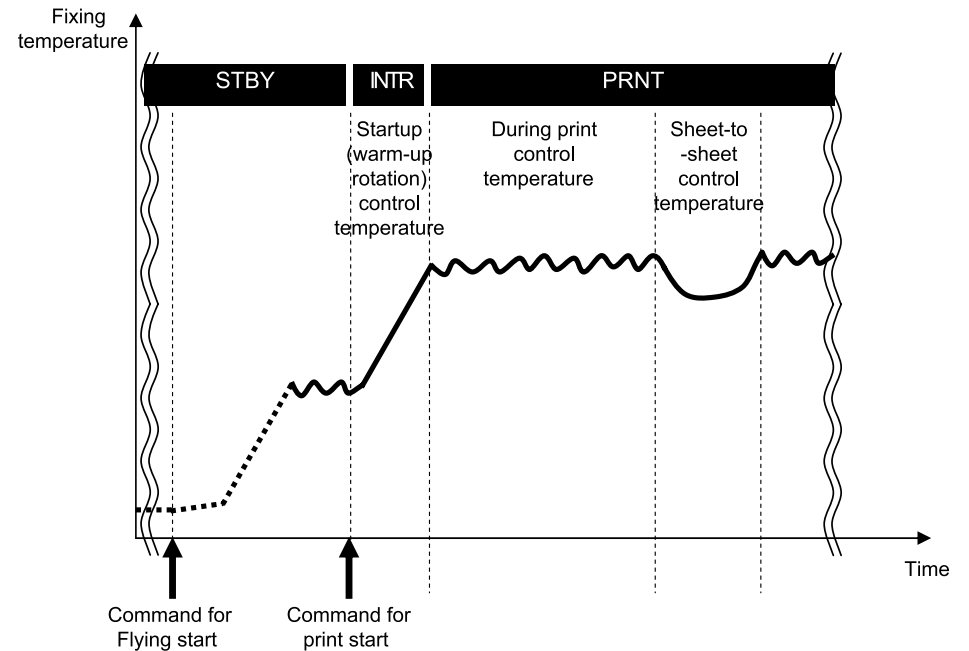
Starting conditions:

- When opening the Copyboard Cover or ADF while the detected temperature of the Main Thermistor is lower than 100 deg C.
- When setting the original on the ADF while the detected temperature of the Main Thermistor is lower than 100 deg C.
- When the Main Power Switch is turned ON or the machine is recovered from sleep mode to standby mode while the detected temperature of the Main Thermistor is lower than 180 deg C

Control description:

The temperature control target is set at 177 deg C and the Fixing Motor is controlled at half-speed to start operation. The control continues for 10 sec at most until the machine receives a command to start printing.

Print temperature control



F-2-80

Startup (initial rotation) temperature control

A fixing temperature is increased to a printable temperature after receiving a command to start printing.

Print temperature control

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

A. Setting the target temperature

A target temperature is determined according to the paper type/size, time which elapsed from when fixing temperature control (including standby control) finished the last time, and fixing temperature when startup control started.

B. Temperature control during printing

When the paper passes through the Fixing Assembly, temperature is controlled to keep the target temperature (see the next page) according to the detected temperature of the Main Thermistor.

C. Paper interval temperature control

At paper interval where no paper is fed to the Fixing Assembly, the control temperature is set lower than the print control temperature (-5 deg C *1) to prevent temperature rising of the Fixing Assembly and save energy.

*1. -5 deg C for plain paper. The temperature is set at -15 deg C or -20 deg C according to the paper type.

Target temperature during printing

The control temperature is determined according to the fixing mode and fixing temperature at the start of Startup control. Eight fixing modes are available according to the selected pickup cassette and paper type.

The following shows an example of control temperature when the fixing temperature at the start of Startup control is 65 deg C or higher and lower than 70 deg C: (Temperature at standby with 20 deg C room temperature)

Fixing mode	Setting	Control temperature (deg C)			
		1-sided print/1st side of 2-sided print		2nd side of 2-sided print	
		Normal Speed	Low Speed	Normal Speed	Low Speed
Plain paper (64 to 90g/m ²)	Paper type	215	155	210	150
Heavy paper 1 (91 to 105g/m ²)		215	155	210	150
Heavy paper 2 (106 to 128g/m ²)		---	175	---	170
Bond paper		---	175	---	170
Transparency		---	150	---	---
Envelope		---	180	---	175
Special Mode N (Medium) *1		195	150	185	145
Special Mode N (High) *2		180	145	170	140

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*1 Special Mode N (Medium): -20 deg C of normal control temperature (at pickup from cassette, when fixing temperature at the start of Startup control is 100 deg C or higher)

*2 Special Mode N (High): -35 deg C of normal control temperature (at pickup from cassette, when fixing temperature at the start of Startup control is 100 deg C or higher)

Related Service Mode

Fixing control temperature offset (to increase/reduce control temperature)
 PRINT > SW
 > 62 (control temperature at the time of normal pickup)
 > 63 (control temperature in heavy paper/heavy paper H/Bond Paper mode)
 > 166 (control temperature at the time of low speed pickup)
 > 173 (control temperature on the 2nd side of 2-sided print)

<Setting value>

0 to 2: +15 degrees C
 3 to 11: +12 to -15 degrees C (increment by 3 degrees C) [Default: 7]
 12 to 14: -15 degrees C

Down Sequence Control

Down sequence when feeding small-size paper

Purpose:

To prevent fixing offset and deterioration of the Fixing Film by controlling temperature increase at a non paper feed area at continuous printing of small-size paper (paper that has smaller than A4R of width-direction length)

Starting conditions:

Down sequence is performed in a stepwise manner. This is a control to reduce throughput on a step-by-step basis as the detected temperature of the Sub Thermistor reaches the specified temperature or higher as shown in the table below for consecutive 400msec during printing.

Stages	Normal	The 1st stage	The 2nd stage	The 3rd stage
A temperature to go for the next stage	235 degrees C	245 degrees C	255 degrees C	260 degrees C

T-2-36

Operation:

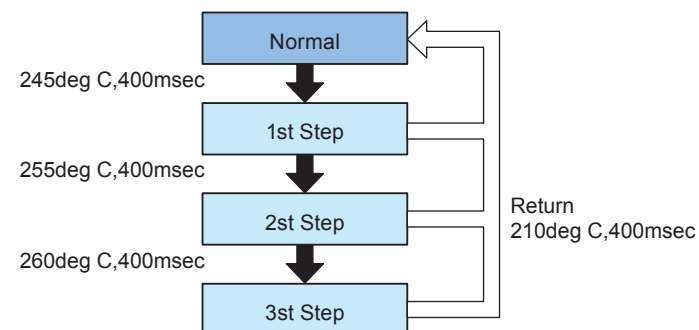
Increasing paper interval (to make longer temperature control at a temperature lower than that of normal print) to reduce fixing temperature in 4 stages at most.

Fixing mode	Stages	LGL	A4R LTRR	A5R/B5R EXE-R/STMTR	Custom size	Envelope
Plain paper (64 to 90g/m ²)	Normal	43/40/30	50/40/30	25	23	---
	1	25	25	20	20	---
	2	20	20	18	18	---
Heavy paper 1 (91to 105g/m ²)	3	15	15	15	15	---
Special Mode N (Medium)	Normal	14	21	17	17	---
	1	10	17	14	10	---
	2	8	14	10	8	---
	3	6	6	6	6	---
Bond paper	Normal	13	22	17	17	---
	1	10	15	14	10	---
	2	8	14	10	8	---
	3	6	6	6	6	---
Transparency	Normal	---	17	---	---	---
	1	---	14	---	---	---
	2	---	10	---	---	---
	3	---	6	---	---	---
Envelope	Normal	---	---	---	---	12
	1	---	---	---	---	10
	2	---	---	---	---	8
	3	---	---	---	---	6

T-2-37

Termination condition:

When the machine detects 175 degrees C or lower for consecutive 400msec after reaching the 3rd stage, the machine is recovered to move to the 1st stage.



F-2-81

Related Service Mode
Temperature settings to start down sequence
PRINT > SW > 64

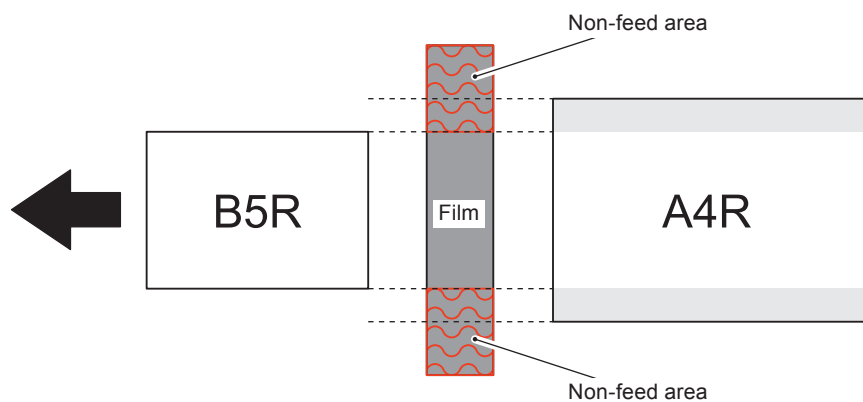
<Setting value>

- 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:

When feeding a sheet with a wider width than a preceding sheet during continuous printing, temperature at the non paper-feed area of the preceding sheet increases, and it can cause fixing offset and wrinkles when feeding the succeeding sheet. This down sequence controls temperature increase at the non paper feed area.



F-2-82

Starting conditions:

When the paper is switched to a wider paper than the preceding sheet during printing, the detected temperature of the Sub Thermistor is higher than 210 deg C (*1).

Operation:

This is a control to stop pickup of the succeeding sheet and power distribution to the Fixing Heater to reduce fixing temperature.

Termination condition:

When detected temperature of the Sub Thermistor is 170 deg C or lower (*1).

*1. The temperature differs according to the user mode settings (Special Mode S).

Change in fixing performance by user mode (Special Mode)

Changing the control temperature or throughput affects fixing performance in some modes of special mode settings in user mode. The following describes the mode which affects fixing performance.

User mode	Overview	Setting value	Control temperature/throughput
Special Mode N (to avoid curl/jam at a high humidity environment)	This is a mode to set temperature control when any of plain paper, recycled paper, color paper or 3-hole paper is selected on the Control Panel. To reduce productivity to increase fixing performance.	Off	Normal temperature control (temperature control for plain paper mode)
		Auto (to increase fixing performance) (Default)	This is a mode to switch between the normal temperature control and N1 mode (*1) according to the environment (temperature/humidity).
		Manual (Medium) (to increase fixing performance)	Special Mode N (Medium) mode temperature control
		Manual (High) (to increase fixing performance)	Special Mode N (High) mode (*2) temperature control
Special Mode P (to avoid curl of thin paper/recycled paper)	This is a mode to set temperature control when any of plain paper, recycled paper, color paper or 3-hole paper is selected on the Control Panel. To reduce productivity to increase fixing performance.	Off (Default)	Normal temperature control (temperature control for plain paper mode)
		Medium (to increase fixing performance)	Thin paper mode temperature control
		High (to increase fixing performance)	S-thin paper mode temperature control
Special Mode G (to increase fixing performance of heavy paper)	To reduce productivity to increase fixing performance.	Off (Default)	Normal control
		On (to increase fixing performance)	To reduce throughput by 4 or 5 sheets
Special Mode S (to ease deceleration of print speed at temperature rising at the edge)	To reduce wait time for pickup permission temperature when the paper size is changed to prioritize productivity over fixing performance.	Off (default)	This is a control to set the pickup permission temperature at 210 deg C and pickup recovery temperature at 170 deg C.
		On (Priority on productivity)	This is a control to set the pickup permission temperature at 190 deg C and pickup recovery temperature at 230 deg C.

T-2-38

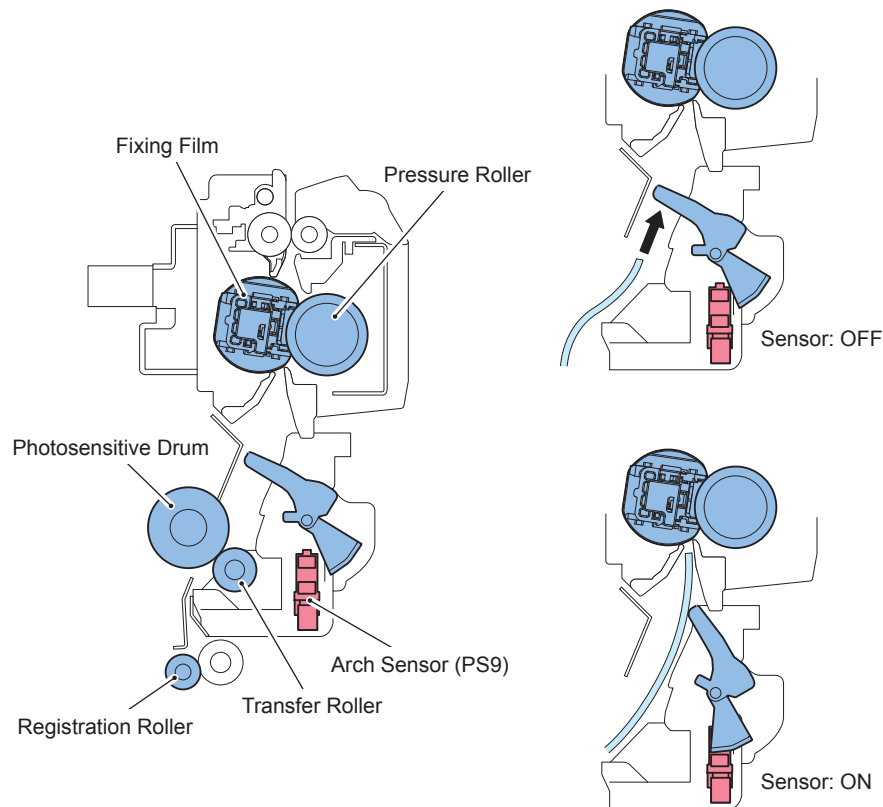
*1 Special Mode N (Medium): -20 deg C of normal control temperature (at pickup from cassette, when fixing temperature at the start of Startup control is 100 deg C or higher)

*2 Special Mode N (High): -35 deg C of normal control temperature (at pickup from cassette, when fixing temperature at the start of Startup control is 100 deg C or higher)

Pre-fixing arch level control

Purpose:

Constantly creating an optimal arch between the transfer and fixing areas prevents a shock, which occurs when the paper's trailing edge passes through the Registration Roller, and obtains an optimal image.



F-2-83

Starting conditions:

This control is performed every time the paper is fed.

Operation:

The Arch Sensor detects a paper arch between the transfer nip and fixing nip to change the drive speed of the Fixing Motor.

- 1) When the paper's leading edge goes over 35mm from the Transfer Roller, drive speed of the Fixing Motor is reduced by 3.1% against the process speed. The reduced speed is maintained until the paper creates an arch and the Arch Sensor is turned ON.
- 2) After the Arch Sensor has been detected ON for consecutive 50msec or longer, drive speed of the Fixing Motor is increased by 0.8% against the process speed. The increased speed is maintained until the paper arch disappears and the Arch Sensor is turned OFF.
- 3) After the Arch Sensor has been detected OFF for consecutive 50msec or longer, drive speed of the Fixing Motor is reduced by 3.1% against the process speed. The reduced speed is maintained until the paper creates an arch and the Arch Sensor is turned ON.
- 4) Repeat steps 2) and 3). When the paper's trailing edge reaches at 10mm before the Transfer Roller, drive speed of the Fixing Motor is increased by 0.8% against the process speed.
- 5) Go back to step 1) in the case of continuous printing. The machine goes to the last rotation operation in the case of 1 sheet print.

Protection function

Code	Description	Clearing of error
E000	Error in fixing temperature rising	
0001	When the detected temperature of the Main Thermistor fails to reach the specified temperature at temperature rising control.	Required
E001	Error in overheating of Fixing Assembly	
0000	When the Main Thermistor detects 250 deg C or higher for consecutive 200msec or longer.	Required
0001	When the hardware circuit detects overheating of the Main Thermistor or Sub Thermistor for 30msec or longer.	Required
0002	When the Sub Thermistor detects 295 deg C or higher for consecutive 200msec or longer.	Required
E002	Error in temperature rising of Fixing Assembly	
0000	1. When the Main Thermistor detected a temperature lower than 115 deg C for consecutive 400msec or longer after 6 seconds that the Main Thermistor detected 100 deg C 2. When the Main Thermistor detected a temperature lower than 150 deg C for consecutive 400msec or longer after 6.0 seconds that the Main Thermistor detected 140 deg C	Required
E003	Detection of low temperature	
0000	When the Main Thermistor detects lower than 140 deg C for consecutive 400msec or longer.	Required
E004	Thermistor disconnection detection error	
0000	When removal of the connector (J214) is detected for consecutive 30msec.	Not required
E014	Error in rotation of Fixing Motor (M1)	
0001	Detection is performed every 100msec since the start of drive and there has been no lock detection signal in 2sec.	Not required
0002	Detection is performed every 100msec during the drive (after the lock detection) and the lock signal has not detected for 5 times consecutively (in 500msec).	Not required
0003	When the Fixing Pressure Release Sensor never detected pressure release during the 3 seconds while the fixing pressure was released	Not required
0004	When the Fixing Pressure Release Sensor never detected pressure during the 3 seconds while the fixing pressure was applied	Not required
E261	Error in zero cross signal	
0000	When the relay is ON, the zero cross signal failed to be detected for 500msec or longer. *When the same status is detected again despite an error retry.	Not required

T-2-39

Related Service Mode
Error code clear
CLEAR > ENGIN > ERRCLR

Service Tasks

Periodically Replaced Parts

None.

Consumable Parts

No.	Parts name	Parts number	Q'ty	Estimated life
1	Fixing Assembly (120V)	FM4-6495	1	160,000 sheets
	Fixing Assembly (230V)	FM4-8050	1	160,000 sheets

T-2-40

Periodical Servicing

None.

Perform as needed.

Pickup Feed System

Overview

Specifications

Item	Description	
Paper storage method	Front-loading method	
Pickup method	Cassette	Retard separation
	Multi-purpose Tray	Pad separation
Stacking capacity	Cassette	550 sheets (80g/m ²), 650 sheets (64g/m ²)
	Multi-purpose Tray	100 sheets (80g/m ²), 110 sheets (64g/m ²)
Paper feed reference	Center reference	
Paper size	Cassette	A4-R, A5-R, B5-R, LGL, LTR-R, STMT-R, EXEC-R, 16K-R special standard-size *1
	Multi-purpose Tray	Width: 99mm to 216mm Length: 140mm to 356mm (Up to 630mm long length paper can be supported. *2) A4-R, A5-R, B5-R, LGL, LTR-R, STMT-R, EXEC-R, 16K-R, Envelopes (No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL)
Paper weight	Cassette	64 to 105g/m ²
	Multi-purpose Tray	64 to 128g/m ²
Paper size switching	Cassette	Auto switching
	Multi-purpose Tray	Manual switching
Supported size for 2-sided print	Cassette	210mm to 356mm (105g/m ²)
2-sided print method	Multi-purpose Tray	210mm to 356mm (105g/m ²) *3
2-sided print method	Through path	

T-2-41

*1: "Setting method when the size detection patterns are overlapped"(page 2-64).

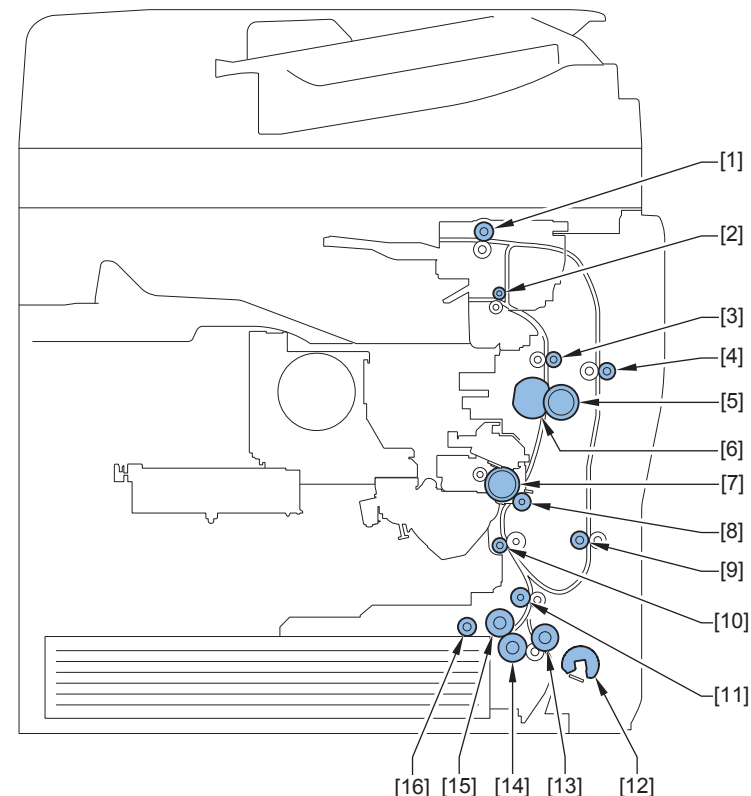
*2: Long length paper is supported.

To make a copy with long length paper, settings are required in service mode and applicable mode.(Up to 620mm image supported.)

*3: Custom paper size is not supported.

Parts Configuration

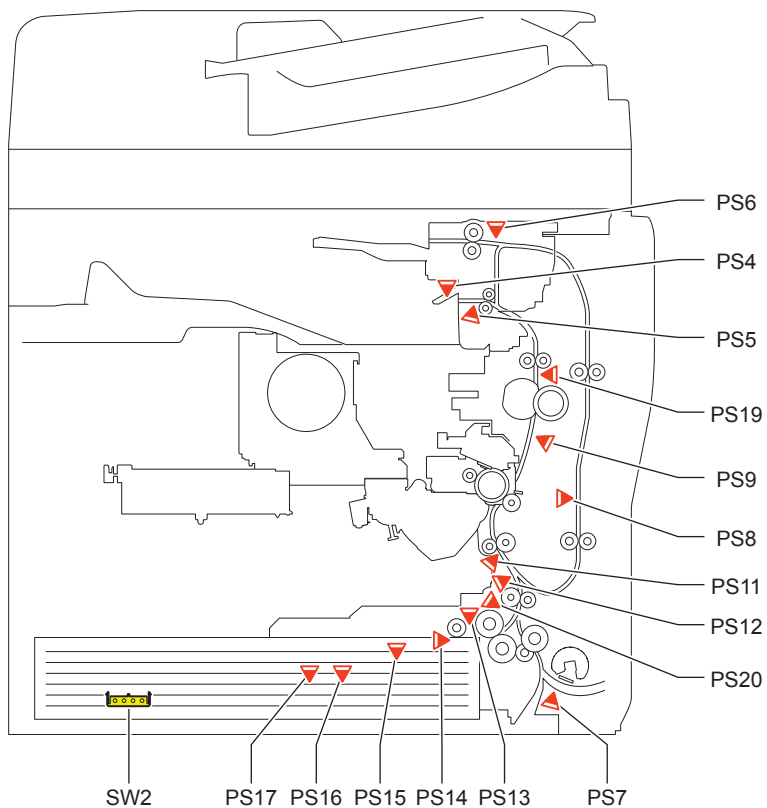
Rollers Layout drawing



F-2-84

- | | |
|--------------------------|--|
| [1] Reverse Roller | [9] Duplex feed roller 2 |
| [2] Delivery Roller | [10] Registration Roller |
| [3] Fixing outlet roller | [11] Vertical Path Roller |
| [4] Duplex feed roller 1 | [12] Multi-purpose Tray Pickup Roller |
| [5] Pressure Roller | [13] Multi-purpose Tray Pullout Roller |
| [6] Fixing Roller | [14] Separation Roller |
| [7] Drum | [15] Feed Roller |
| [8] Transfer Roller | [16] Pickup Roller |

Sensors Layout Drawing



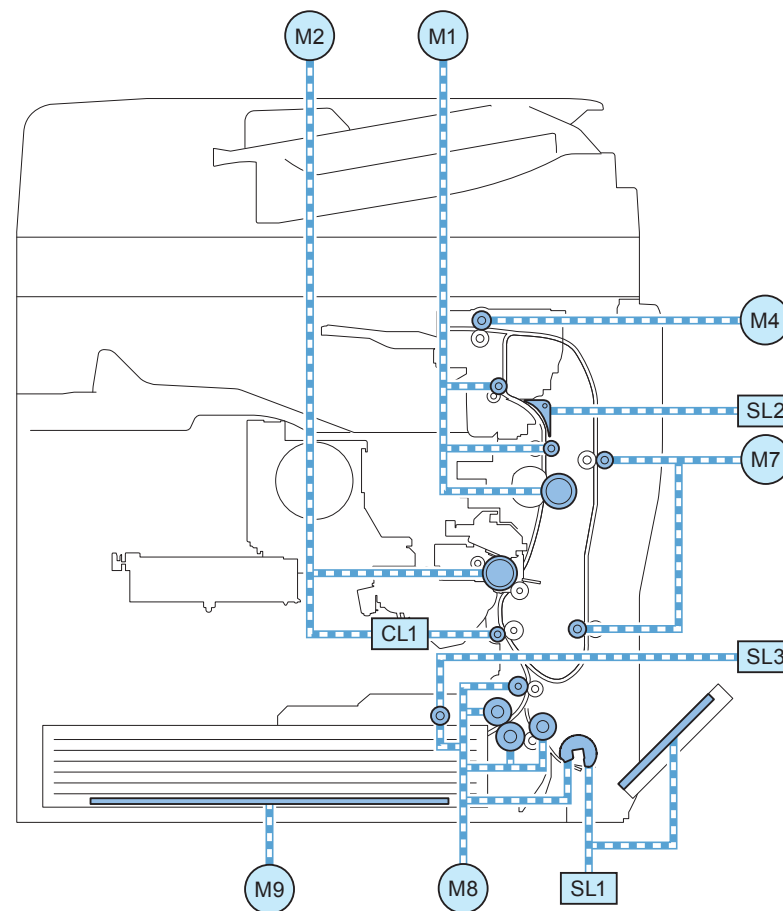
F-2-85

PS4	Delivery Paper Full Sensor	PS13	Cassette Pickup Sensor
PS5	Delivery Sensor	PS14	Cassette Lifting Plate Detection Sensor
PS6	Reverse Paper Sensor	PS15	Cassette Paper Sensor
PS7	Multi-purpose Tray Paper Sensor	PS16	Cassette Paper Level Sensor A
PS8	Duplex Feed Sensor	PS17	Cassette Paper Level Sensor B
PS9	Loop Sensor	PS19	Fixing Paper Sensor
PS11	Registration Sensor	PS20	Transparency Sensor
PS12	Pre-Registration Sensor	SW2	Cassette Size Detection Switch

NOTE:

Transparency detection of this machine is performed by the Transparency Sensor (PS20) which is a flag-type sensor. Uneven speed at the time of transparency feed is detected to judge whether it is transparency.

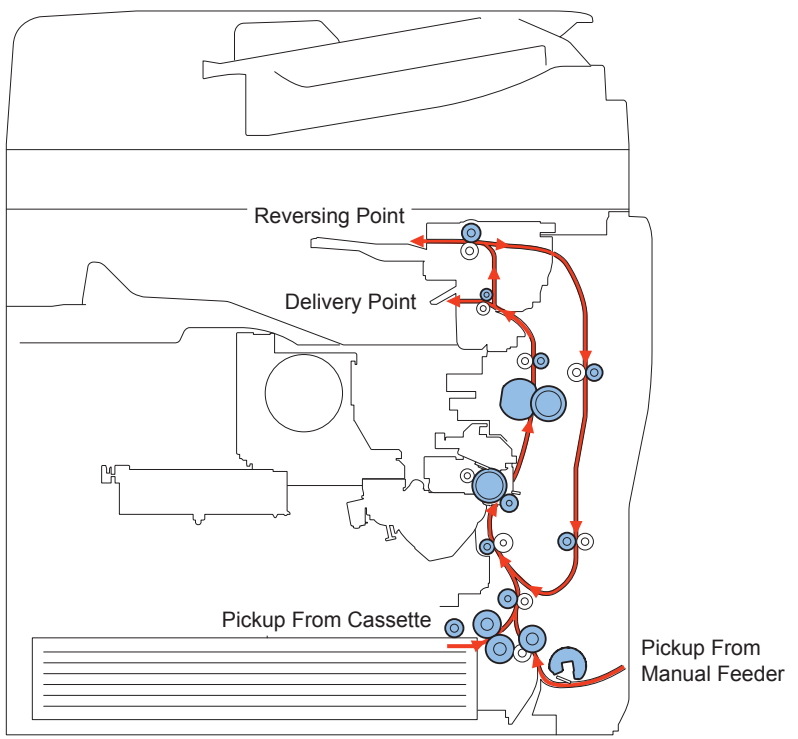
Route of Drive



F-2-86

M1	Fixing Motor	CL1	Registration Clutch
M2	Main Motor	SL1	Multi-purpose Tray Pickup Solenoid
M4	Reverse Feed Motor	SL2	Reverse Feed Solenoid
M7	Duplex Feed Motor	SL3	Cassette Pickup Solenoid
M8	Pickup Motor		
M9	Lifter Motor		

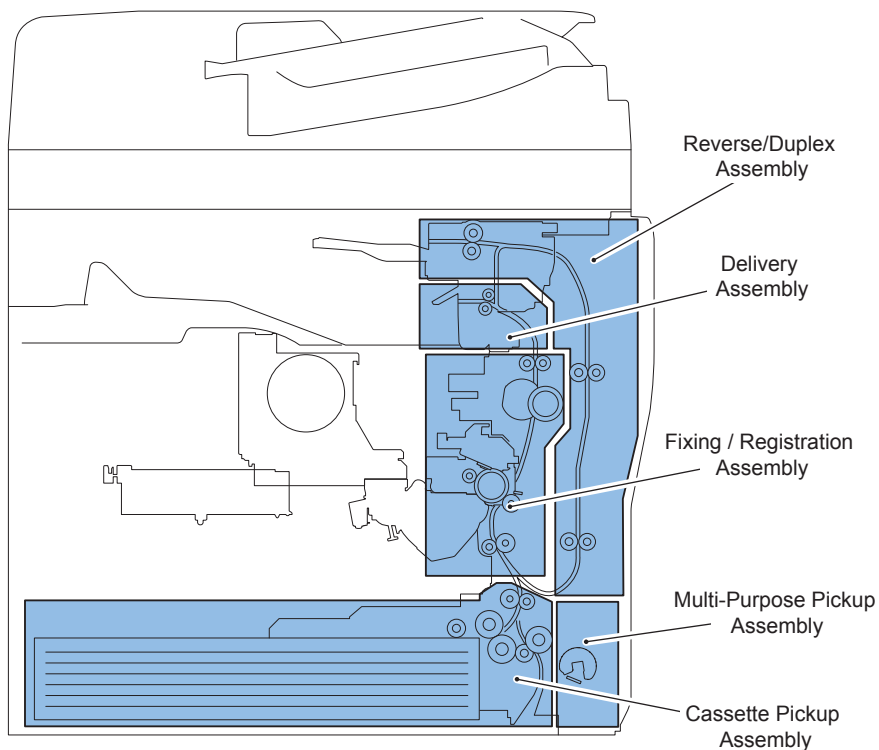
Paper Path



F-2-87

Controls

Overview



F-2-88

Area	Detection/Control	
Cassette Pickup Assembly	Paper Level Detection Control	Pickup Retry Control
	Paper Detection Control	Paper Size Detection Control
	Lifter Control	-
Multi-purpose Tray Pickup Assembly	Paper Detection	Pickup Retry Control
	Paper Size Detection	-
Fixing/Registration Assembly	Registration Control	Size Mismatch Detection Control
Delivery Assembly	Delivery Acceleration Control	Delivery Full Detection
Reverse/Duplex Assembly	Reverse Flapper Operation	Duplex Re-pickup Control
	Duplex Reverse Control	Duplex Circulation
Jam Detection	List of Jam Codes	Forcible Paper Feed Control

T-2-42

Cassette Pickup Assembly

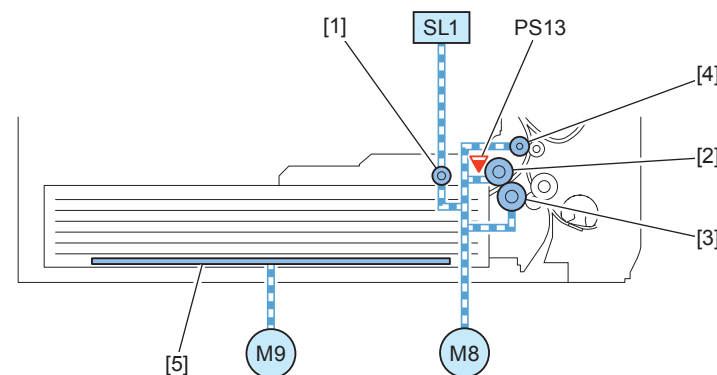
Overview

Paper inside a cassette is lifted up by the Lifting Plate.

When pickup takes place, the Cassette Pickup Solenoid (SL1) is turned ON so that the Pickup Roller is moved down. When the Pickup Roller comes in contact with the surface of paper, the paper is picked up by rotation of the roller.

Only a single 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 Vertical Path Roller. If the Cassette Pickup Sensor (PS13) is ON when starting pickup (in the case that the succeeding paper is also picked up when a paper is picked up and fed), the feed speed is decreased.

The Vertical Path Roller, Pickup Roller, Feed Roller, and Separation Roller are driven by the Cassette Pickup Motor (M8).



F-2-89

- [1] Pickup Roller
- [2] Feed Roller
- [3] Separation Roller
- [4] Vertical Path Roller
- [5] Lifting Plate

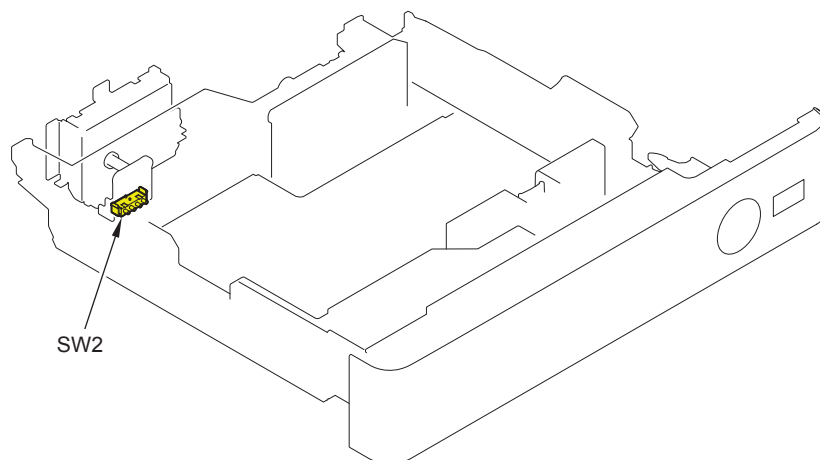
Pickup Retry Control

If the Pre-Registration Sensor (PS12) is not turned ON within a specified period of time after the start of pickup operation, operation of the Pickup Motor (M8) and the Cassette Pickup Solenoid (SL3) is suspended once, and the pickup operation is executed again. If the Pre-Registration Sensor (PS12) is not turned ON after re-pickup operation, a delay jam is notified.

Paper Size Detection Control

Paper size in a cassette is automatically detected by the "Cassette Size Switch". Paper size in a cassette is automatically detected by adjusting the Guide Plate position.

By shifting the Guide Plate, concavo-convex area of the Cassette Size Dial is switched and the Cassette Size Switch at the printer side is switched. The switch consists of 4 microswitches, and length and width are detected in accordance with the combination of ON/OFF. As long as standard size paper, it can be used for both AB configuration and inch configuration. However, distinction between A5-R and STMT-R and between EXEC-R and 16K-R should be specified manually on the check screen.

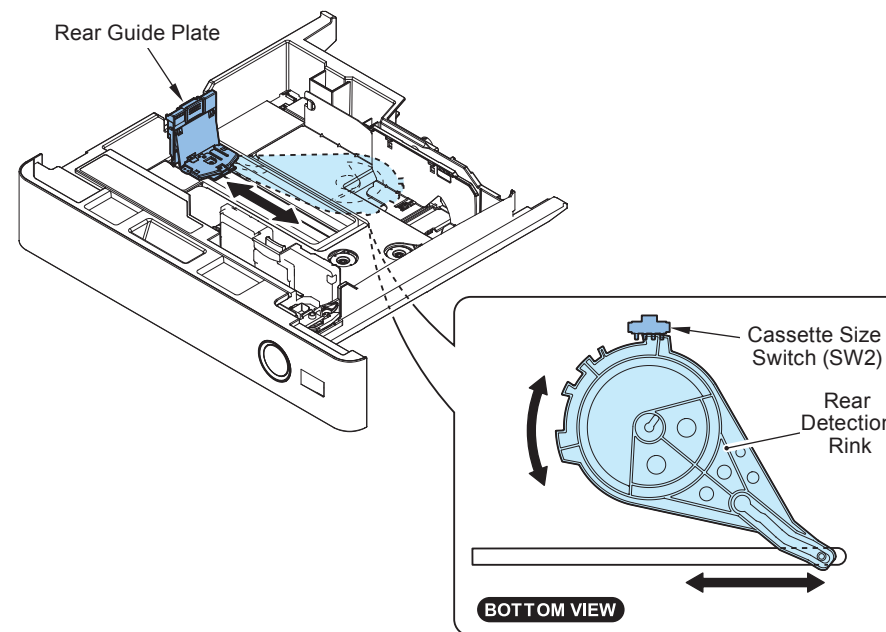


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Size	Length	Length Detection			
		1	2	3	4
A5-R	210.0	-	-	ON	ON
STMT-R	215.9	-	-	ON	ON
B5-R	257.0	ON	-	-	-
EXEC-R	267.0	ON	ON	-	-
16K-R	270.0	ON	ON	-	-
LTR-R	279.4	-	ON	ON	-
A4-R	297.0	ON	-	ON	ON
LGL	355.6	-	-	ON	-
(No cassette)	-	-	-	-	-

T-2-43

In addition, presence of the cassette is detected when the size switch is pushed. (If no switch is pushed, it is judged as no cassette.)



F-2-91

Setting method when the size detection patterns are overlapped

Method to distinguish between A5-R and STMT-R and between EXEC-R and 16K-R is specified by the user settings.

Method to distinguish the special paper is specified by the user settings.

Setting sizes are as follows.

Related service mode

PRINT> CST> CASX> CASX-UY> Setting number (Cassette paper size group special, standard-size paper entry)

X indicates the cassette number, and Y indicates size category. (X, Y is one of the number 1/2/3/4.)

U sizes	Settings
U1	26: OFI, 37: M-OFI, 24: FLSP, 25: A-FLSP, 42: FA4, 34: G-LGL 0: Default
U2	32: G-LTR-R, 23: K-LGL-R, 0: Default
U3	Not used
U4	28: B-OFI, 0: Default

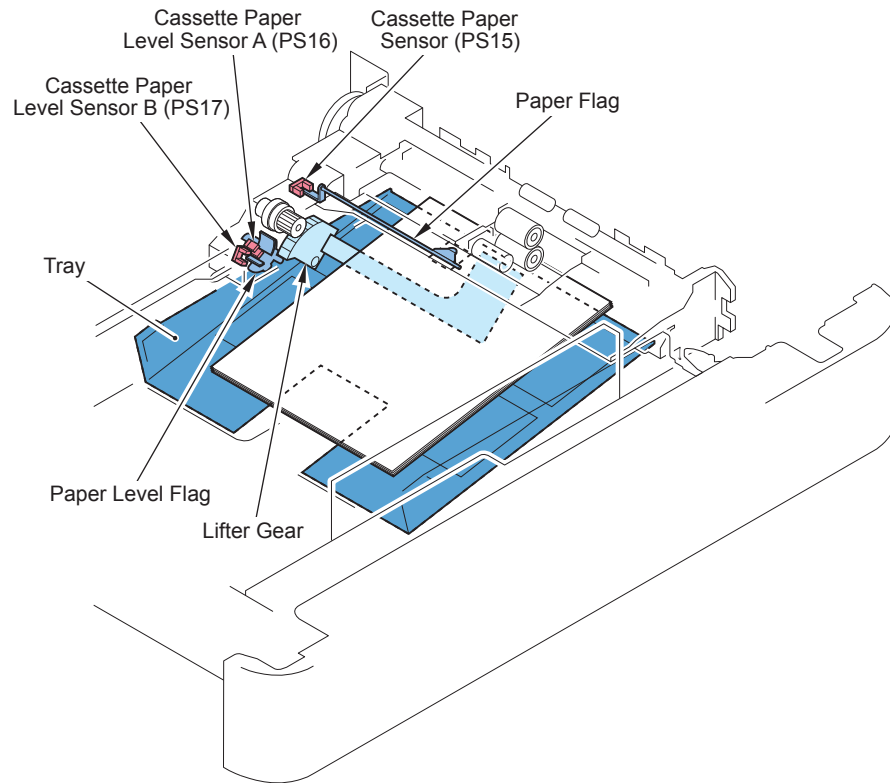
T-2-44

Paper Level Detection Control

Paper level inside the cassette is detected by the sensors shown in the following table.

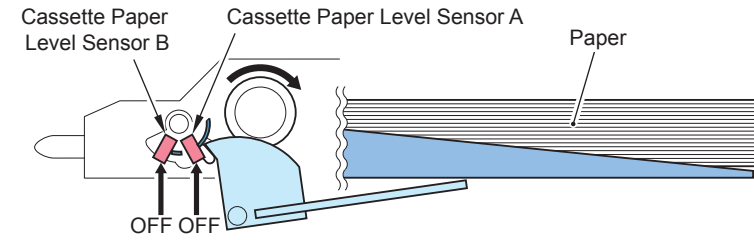
Cassette Paper Level Sensor A (PS16)	Cassette Paper Level Sensor B (PS17)	Cassette Paper Sensor (PS15)	Paper level	Display on the Control Panel
OFF	OFF	OFF	100% to 50%	
ON	OFF	OFF	Approx. 50% to approx. 50 sheets	
ON	ON	OFF	Approx. 50 sheets or less	
-	-	ON	No papers	

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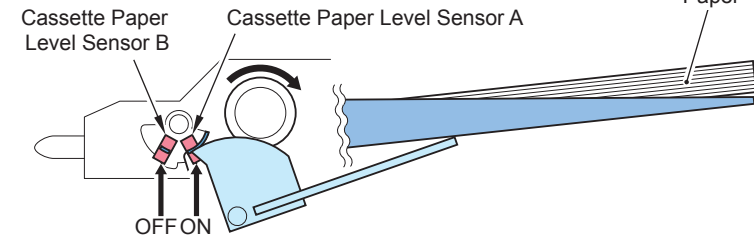


F-2-92

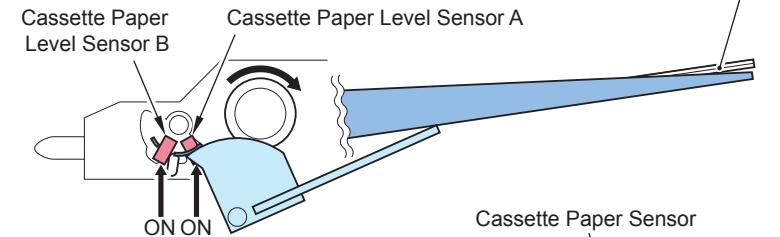
If the paper is full



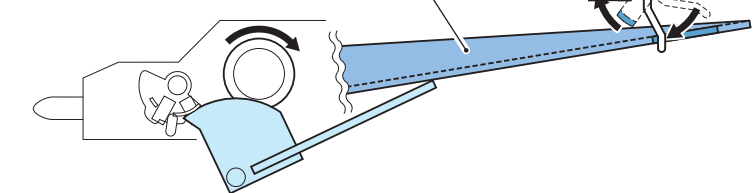
If the paper is approx. half



If the paper is a little



If the paper is absent

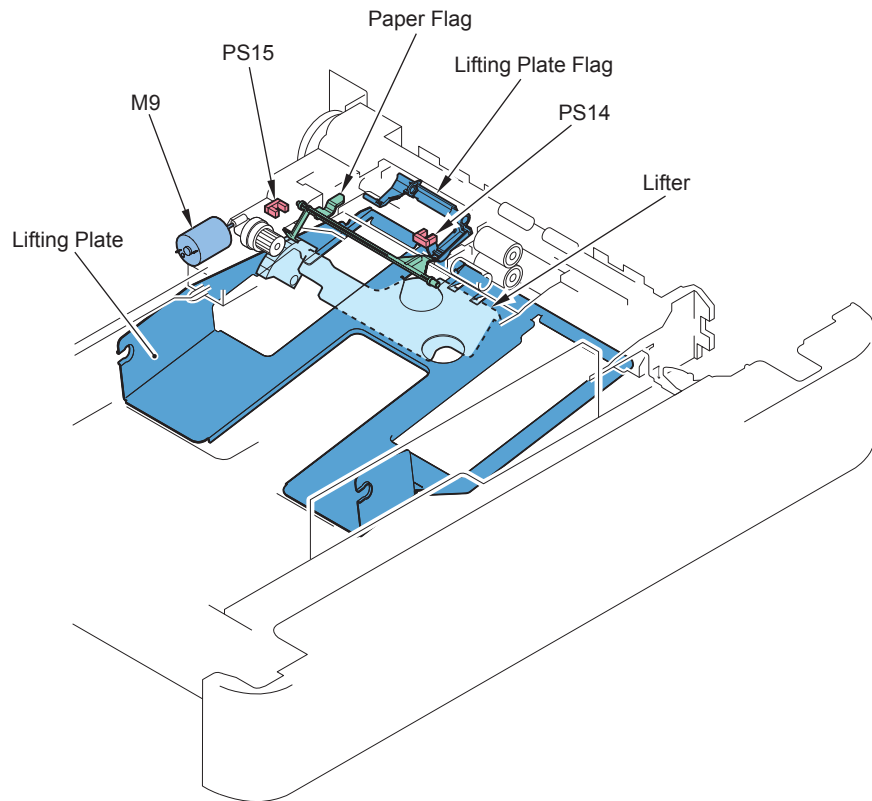


F-2-93

Paper Detection Control

After the Cassette Lifting Plate Detection Sensor (PS14) is turned ON, the Cassette Paper Sensor (PS15) detects presence/absence of paper. When the Cassette Paper Sensor (PS15) is ON, absence of paper is notified.

In addition, if the Cassette Lifting Plate Detection Sensor (PS14) is not turned ON even raising the Lifter for 3 seconds, absence of paper is notified.



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Lifter Control

When Cassette is set

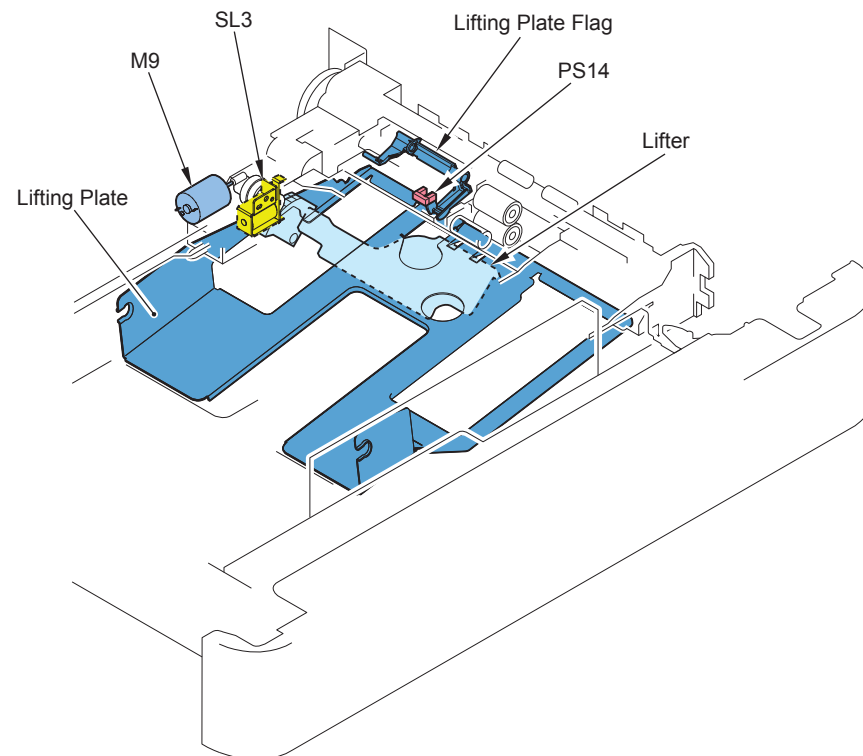
The Lifting Plate is raised until the Cassette Lifting Plate Detection Sensor (PS14) is turned ON.

During pickup

The behavior is determined in accordance with the detection when the Cassette Pickup Solenoid (SL3) is turned ON and the detection by the Cassette Lifting Plate Detection Sensor (PS14) executed 100msec. later.

		100msec. later after Cassette Pickup Solenoid (SL3) is turned ON	
		ON	OFF
When the Cassette Pickup Solenoid (SL3) is turned ON	ON	-	If the same detection continues for 5 consecutive sheets, the Lifting Plate is raised until the Cassette Lifting Plate Detection Sensor (PS14) is turned ON.
	OFF	-	Raising the Lifting Plate immediately until the Cassette Lifting Plate Detection Sensor (PS14) is turned ON.

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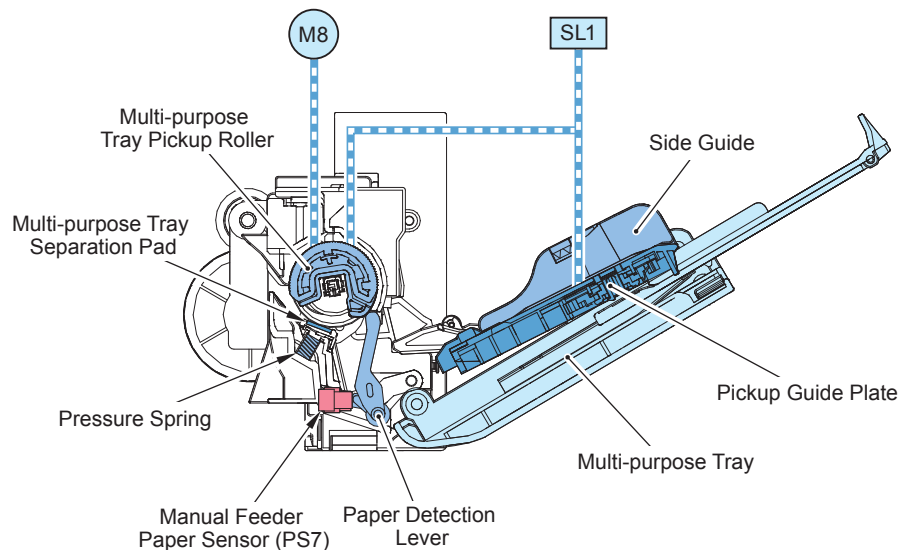


F-2-95

Multi-purpose Tray Pickup Assembly

Overview

Paper on the Multi-purpose Tray Pickup Tray of the Multi-purpose Tray Pickup Unit is pushed against the Multi-purpose Tray Pickup Roller by the Lifting Plate, and only a single sheet of paper is separated and fed by the work of the Multi-purpose Tray Pickup Roller and the Separation Pad.



F-2-96

Pickup Retry Control

If the Pre-Registration Sensor (PS12) is not turned ON within the specified period of time after the start of pickup operation, detection by the Multi-purpose Tray Paper Sensor (PS7) is referred.

- When Multi-purpose Tray Paper Sensor (PS7) is ON:
Execute the pickup operation again. If the Pre-Registration Sensor (PS12) is not turned ON after the start of re-pickup operation, a delay jam is notified.
- When Multi-purpose Tray Paper Sensor (PS7) is OFF:
Terminate the pickup operation.

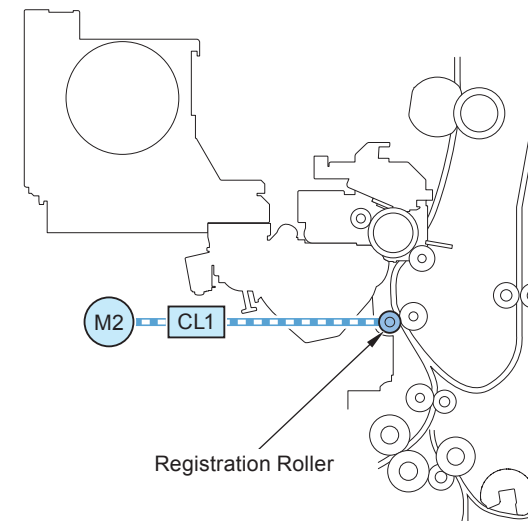
Paper Detection

Presence/absence of paper is detected by the Multi-purpose Tray Paper Sensor (PS7). When absence of paper is detected but the same size and same type of papers exist in another paper source, auto cassette change is executed.

Fixing/Registration Assembly

Registration Control

The Registration Roller is driven by the Main Motor (M2). There is the Registration Clutch (CL1) between the Registration Roller and the Main Motor, and it controls ON/OFF of the Registration Roller to align the paper with the image on the drum at the specified registration. In addition, the speed is decreased right before a paper hits the Registration Roller so that hitting sound is alleviated (speed is not decreased when picking up from the Cassette 1 of imageRUNNER 1730/1740).



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● Size Mismatch Detection Control

Whether the size is mismatched is determined by paper length.

The time a paper passes through the Registration Sensor (PS11) is converted into distance. Compared with the paper size (specified by the user in case of the Multi-purpose Tray Pickup Tray) detected by the Cassette Size Detection Switch (SW1), if the measured distance is shorter than the specified distance (16mm), it is judged that the size is mismatched.

Priority of the size mismatch detection control is lower than other controls. In addition, due to the behavioral error of paper, the measured distance has a margin of error of approx. +6mm.

Paper size mismatch cannot be detected with the following combinations because the difference in paper size is small.

- A4-R, LTR-R
- A5-R, STATEMENT-R
- B5-R, EXEC-R, 16K-R

In case of envelope, paper size mismatch is not detected (because detection by the Registration Sensor (PS11) is not stable when feeding the envelope).

■ Delivery Assembly

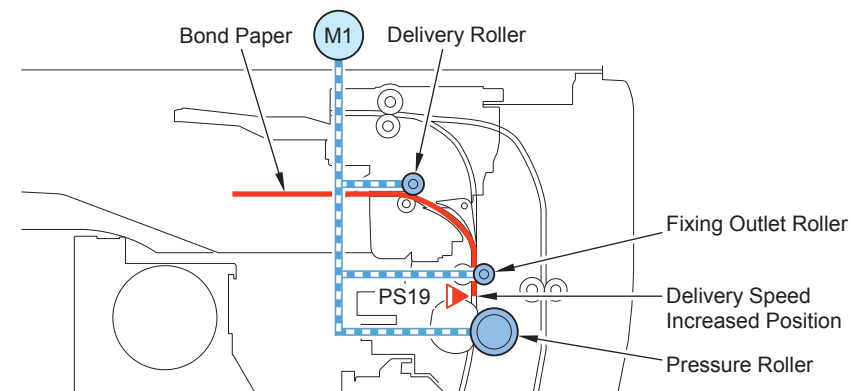
● Delivery Acceleration Control

Since elasticity of bond paper is low, delivery speed is increased when feeding the bond paper to improve the stackability.

Condition for acceleration: When the Finisher is not installed, and the bond paper is set

Timing for acceleration: When the trailing edge of paper passes through the Fixing Paper Sensor (PS19)

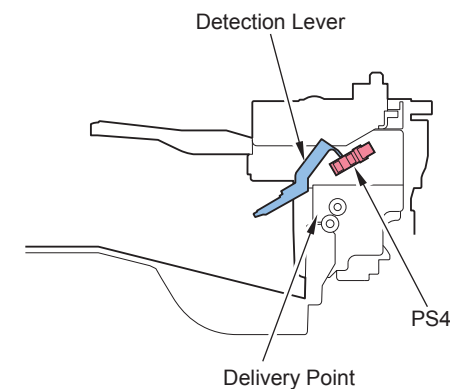
Timing to return the speed: When the Registration Clutch (CL1) is turned ON for the succeeding paper



F-2-98

● Delivery Full Detection

If the Delivery Paper Full Sensor (PS4) is ON for a specified period of time, it is notified to the Main Controller PCB. After the notification, printing stops by the Controller's decision.



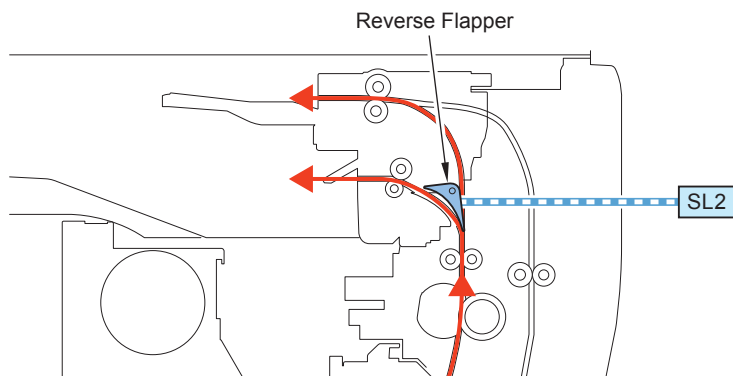
F-2-99

Reverse/Duplex Assembly

Reverse Flapper Operation

The Reverse Flapper behaves in accordance with the Reverse Feed Solenoid (SL2).

- When Reverse Feed Solenoid (SL2) is OFF: Feed to the Delivery Outlet
- When Reverse Feed Solenoid (SL2) is ON: Feed to the Reverse Mouth

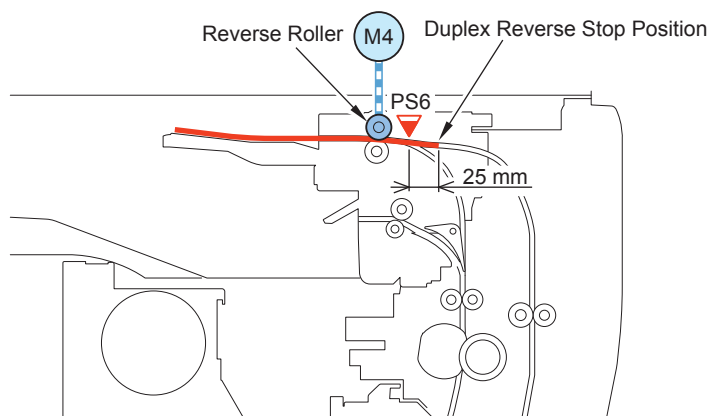


F-2-100

Duplex Reverse Control

Paper is reversed outside the machine using the Reverse Mouth.

The paper is fed to the duplex reverse stop position (it stops at 25mm from the trailing edge of paper) by using the Reverse Sensor (PS6) as a reference. Then, reverse operation starts.

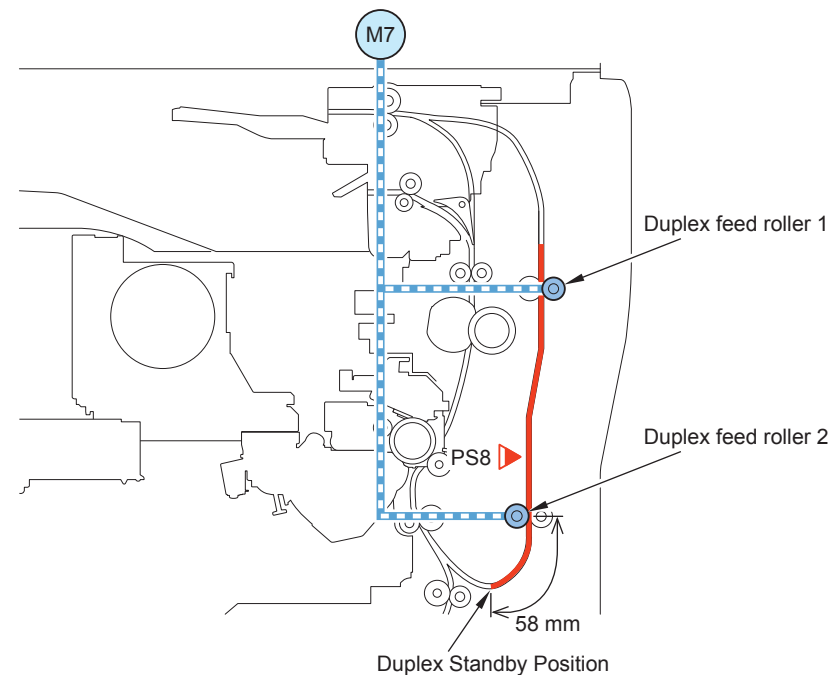


F-2-101

Duplex Re-pickup Control

If it is possible to secure necessary paper interval by estimating the paper interval with the preceding paper when the Duplex Feed Sensor (PS8) is ON, the paper is re-picked up to the pre-registration.

If the necessary paper interval cannot be secured, the paper stays at the duplex standby position (58mm downstream from the Duplex Lower Roller). After recalculated standby time has passed, re-pickup is executed.



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Duplex Circulation

The following shows the number of circulating sheets at the 2-sided print.

Length in paper feed direction	Number of circulating sheets
320mm or less	3
321mm or more	2

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Jam Detection

List of Jam Codes

A jam code consists of 4 alphanumeric characters.

The upper 2 digits indicate the jam type, and the lower 2 digits indicate the sensor that detected a jam.

ACC ID	Jam Code	Type	Sensor Name	Sensor ID
3	0101	Delay	Pre-Registration Sensor	PS12
3	0201	Stationary	Pre-Registration Sensor	PS12
3	0A01	Power-on	Pre-Registration Sensor	PS12
3	0102	Delay	Cassette 2 Retry Sensor (Option)	PS103
3	0202	Stationary	Cassette 2 Retry Sensor (Option)	PS103
3	0A02	Power-on	Cassette 2 Retry Sensor (Option)	PS103
3	0103	Delay	Cassette 3 Retry Sensor (Option)	PS203
3	0203	Stationary	Cassette 3 Retry Sensor (Option)	PS203
3	0A03	Power-on	Cassette 3 Retry Sensor (Option)	PS203
3	0104	Delay	Cassette 4 Retry Sensor (Option)	PS303
3	0204	Stationary	Cassette 4 Retry Sensor (Option)	PS303
3	0A04	Power-on	Cassette 4 Retry Sensor (Option)	PS303
3	0105	Delay	Registration Sensor	PS11
3	0205	Stationary	Registration Sensor	PS11
3	0A05	Power-on	Registration Sensor	PS11
3	0107	Delay	Fixing Paper Sensor	PS19
3	0207	Stationary	Fixing Paper Sensor	PS19
3	0A07	Power-on	Fixing Paper Sensor	PS19
3	0108	Delay	Delivery Sensor	PS5
3	0208	Stationary	Delivery Sensor	PS5
3	0A08	Power-on	Delivery Sensor	PS5
3	010A	Delay	Reverse Sensor	PS6
3	020A	Stationary	Reverse Sensor	PS6
3	0A0A	Power-on	Reverse Sensor	PS6
3	010B	Delay	Transparency Sensor	PS20
3	020B	Stationary	Transparency Sensor	PS20
3	0A0B	Power-on	Transparency Sensor	PS20
3	010D	Delay	Duplex Feed Sensor	PS8
3	020D	Stationary	Duplex Feed Sensor	PS8
3	0A0D	Power-on	Duplex Feed Sensor	PS8
3	0B00	Door open	-	-
3	0CA0	Sequence jam ²	-	-
3	0CF1	Error ¹	-	-
3	0D91	Size Error	-	-
3	9901	Sequence jam ²	-	-
3	9902	Sequence jam ²	-	-

ACC ID	Jam Code	Type	Sensor Name	Sensor ID
3	9903	Sequence jam ²	-	-
3	9904	Sequence jam ²	-	-
3	9905	Sequence jam ²	-	-
3	9906	Sequence jam ²	-	-
3	9907	Sequence jam ²	-	-

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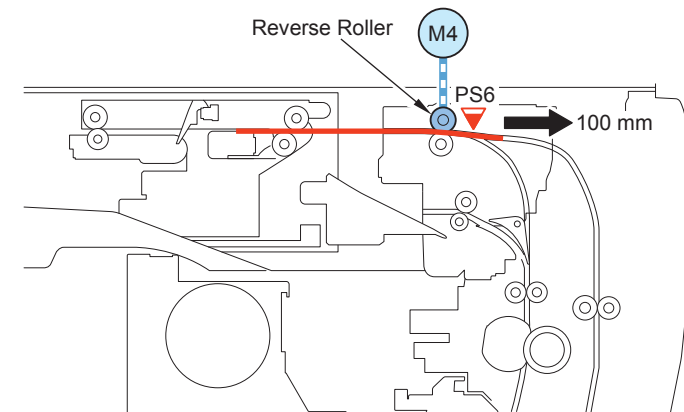
*1: The state is recovered by opening and closing the Door, or turning OFF and then ON the power supply.

If the same jam is detected regardless of the operation above, the error code is displayed.

*2: The state is recovered by opening and closing the Door, or turning OFF and then ON the power supply.

Forcible Paper Feed Control

If the Finisher is installed when a jam occurs at the Reverse Assembly, jammed papers are forcibly fed because they cannot be seen. If the Reverse Paper Sensor (PS6) is ON, the Reverse Motor (M4) is driven for 100mm when opening/closing the door.



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Work of Service

Periodical Service

None

Consumables

No.	Item	Parts No.	Q'ty	Life	Remarks
1	Multi-purpose Tray Pickup Roller	FL2-3897	1	150,000 sheets	
2	Multi-purpose Tray Separation Pad	FL3-4890	1	150,000 sheets	
3	Cassette Pickup Roller	FB6-3405	1	500,000 sheets	Same as estimated product life.
4	Cassette Feed Roller	FC6-7083	1	80,000 sheets	Replace with Cassette Separation Roller.
5	Cassette Separation Roller	FC6-6661	1	80,000 sheets	Replace with Cassette Feed Roller.

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Periodically Servicing

None

External Auxiliary System

Controls

Software counter

Count-up timing differs depending on the following conditions:

- Print mode (1-sided/2nd side of 2-sided print, 1st side of 2-sided print)
- Differs depending on the delivery position (Staple Finisher)

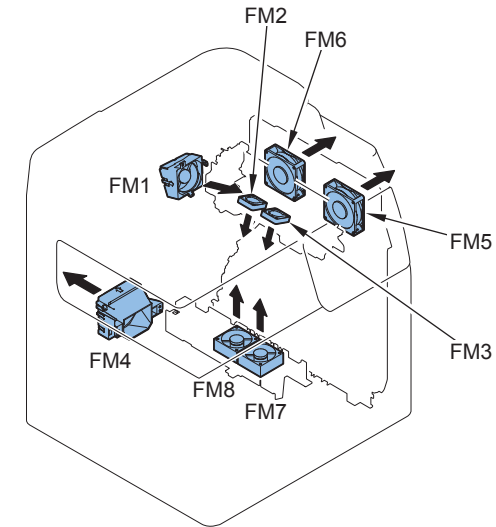
Delivery position		Print mode	
		1-sided print/2nd side of 2-sided print	1st side of 2-sided print
		Count-up timing	
Host machine	Delivery Tray	Delivery Sensor (PS5)	Duplex Feed Sensor (PS8)
Staple Finisher		Delivery Sensor (S2)	

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Fan

Overview

Location of Fans



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No.	Name	Function	Error codes
FAN1	Delivery Cooling Fan (Rear)	To cool the Delivery Assembly	E822-0004,E822-0005
FAN2	Delivery Cooling Fan (Center)	To cool the Delivery Assembly	E822-0002,E822-0003
FAN3	Delivery Cooling Fan (Front)	To cool the Delivery Assembly	E822-0000,E822-0001
FAN4	Power Supply Cooling Fan	To cool power supply	E804-0000,E804-0001
FAN5	Heat Exhaust Fan (Front)	To exhaust heat in the machine	E805-0002,E805-0003
FAN6	Heat Exhaust Fan (Rear)	To exhaust heat in the machine	E805-0000,E805-0001
FAN7	Developing Cooling Fan (Front)	To cool the Developing Assembly and laser	E820-0000,E820-0001
FAN8	Developing Cooling Fan (Rear)	To cool the Developing Assembly and laser	E820-0002,E820-0003

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	WUP	STBY	INI	PTINT	LSTR	STBY	JAM /ERROR	
Delivery Cooling Fan (Rear) (FM1)				█	█	█		*1
Delivery Cooling Fan (Center) (FM2)				█	█	█		
Delivery Cooling Fan (Front) (FM3)				█	█	█		
Power Supply Cooling Fan (FM4)	█			█	█	█	█	*2
Heat Exhaust Fan (Front) (FM5)				█	█	█		*3
Heat Exhaust Fan (Rear) (FM6)				█	█	█		
Delivery Cooling Fan (Front) (FM7)				█	█	█		*4
Developing Cooling Fan (Rear) (FM8)				█	█	█		

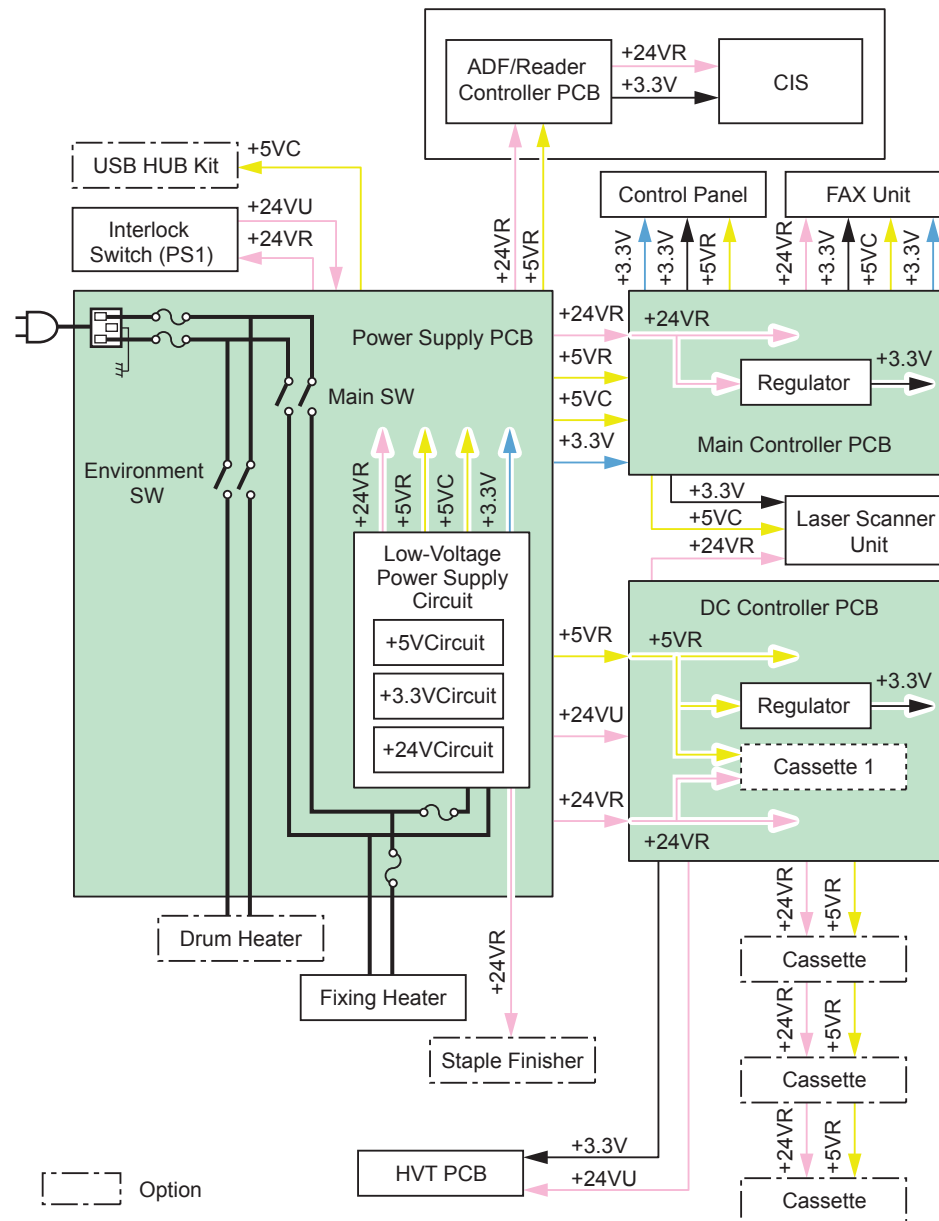
█ : Full-speed █ : 1/2-speed

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- *1: Fan speed is switched between half speed and full speed depending on the fixing temperature.
Fan is driven at 1/2-speed only at 1-sided print with imageRUNNER 1730.
In other cases than the above, it is driven at Full-speed.
- *2: At the time of jam/error, the driving state right before jam/error is continued.
- *3: Upper (gray) band: sequence at 1-sided, lower (black) band: sequence at 2-sided print
- *4: Fan is not driven at 1-sided print.
It is driven at full speed from the 2nd side at 2-sided print.

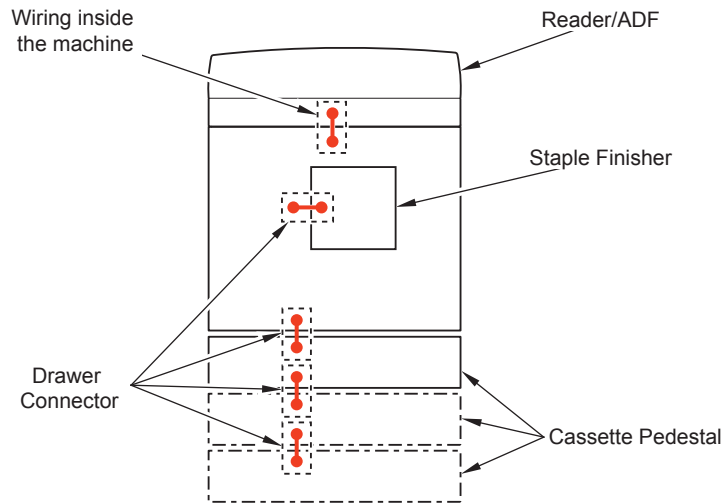
Power supply

Internal power supply



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● Power supply connection with the options

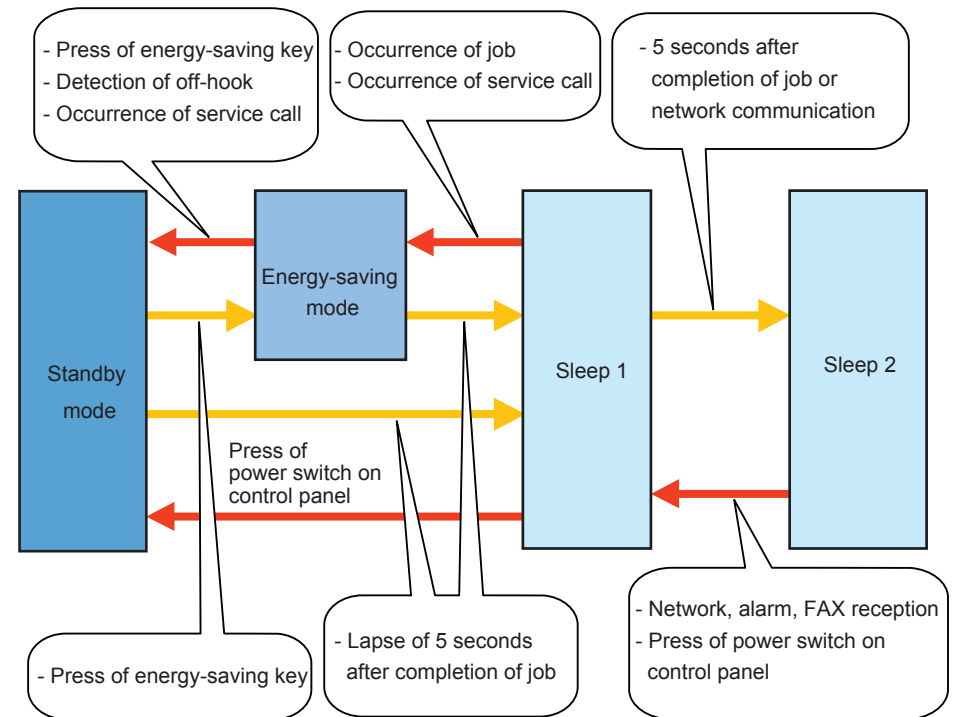


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NOTE:
With this machine, Reader and ADF are installed as standard.

The drawer connectors connect the Staple Finisher and cassette Pedestals.
An external cable is used to connect to ADF.

● Energy Saving Function



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[Standby mode]

The mode that can start operation immediately and all the power is supplied in this mode.

[Energy saver mode]

The mode to turn OFF just the back light of the Control Panel LCD. The mode is changed by pressing the Energy Saver key with the auto sleep timer in user mode.

[Sleep 1]

No power is supplied to the engine although the power is supplied to the Controller.

[Sleep 2]

No power is supplied to the Controller.

The mode is changed from Sleep 2 to Sleep 1 under the following conditions:

- Print job
- Holding down the Control Panel Power Switch
- Fax reception
- Off-hook detection

● Conditions to operate the heater

		Drum Heater
When the Environment Switch is turned ON	At standby	ON
	At printing	OFF
	When the Main Power Switch is turned OFF	ON
	At sleep state	ON

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● Service Tasks

■ Periodically Replaced Parts

None.

■ Consumable Parts

None.

■ Periodical Servicing

None.

Embedded RDS

Product Overview

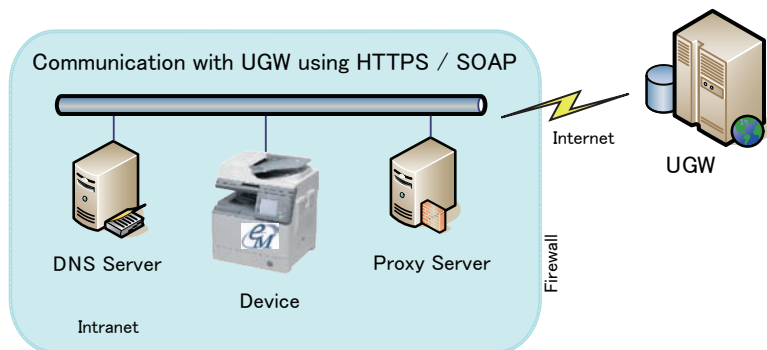
Overview

Embedded RDS (hereafter, referred to as E-RDS, which stands for EMBEDDED-RDS) is a network module embedded with a customer's device and enables e-Maintenance/ imageWARE Remote (Remote Diagnosis System), which can collect and transmit status changes, counter values, error logs, and consumable information such as the toner low/ out of the device to a remote maintenance server called UGW (Universal Gateway Server) via Internet.

The following device information/ status can be monitored.

- Service mode counter (Billing counts)
- Global click counter
- Parts counter
- Mode counter
- Firmware info
- Environment log
- Service call error log
- Jam log
- Alarm log
- Status changes (Toner low/ out, etc.)

Since high confidentiality is required for the information shown above, it performs communication between a device and the UGW using HTTPS/ SOAP protocol.



The e-Maintenance / imageWARE Remote system using E-RDS

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Features and benefits

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

Service cautions

1) After performing the following service actions, it is necessary to perform initializing E-RDS settings (#CLEAR > ERDS-DAT) and communication test (#E-RDS > COM-TEST).

Failure to do so will result that the counter transmitting value to the UGW may become unusual.

- RAM clear of MNCON PCB SRAM Board

Also, after replacing the main controller board, all settings must be reprogrammed.

2) The following settings in service mode must not be change unless there are specific instructions to do so. Changing these values will cause error in communication with UGW.

Item	Service mode	Default
Set port number of UGW	#E-RDS > RGW-PORT	443
URL setting of UGW	#E-RDS > RGW-ADDRESS	https://a01.ugwdevice.net/ugw/agentif010

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3) Conducting a communication test from service mode allows the service technician to see the communication log and judge the status of communication with the UGW.

If the communication result is "NG", it appears in the latest communication log.

As for models supporting communication tests on the counter screen in user mode, the user can conduct a communication test and seen the communication test result.

If the communication result is "NG", an error code (a hexadecimal number, 8 digits) appears on the communication test screen of LUI.

* When a communication test is conducted from service mode or the counter screen in user mode while a communication test is being conducted from the other, the behavior is not guaranteed.

E-RDS Setup

Confirmation and preparation in advance

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

(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

(3) Network settings

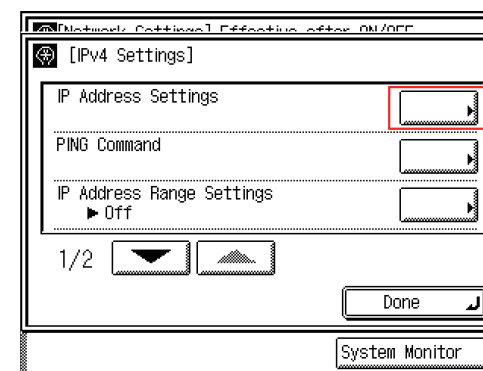
Based on the results of the information obtained in (2) Advance preparations, make the device network related settings in accordance with the following procedures.

1) Displaying the Additional Functions screen

1. Touch the [Additional Functions (User Mode)] button.
2. When a system management department ID and system management password are set up, enter the System Manager ID and System Password to perform a log-in.

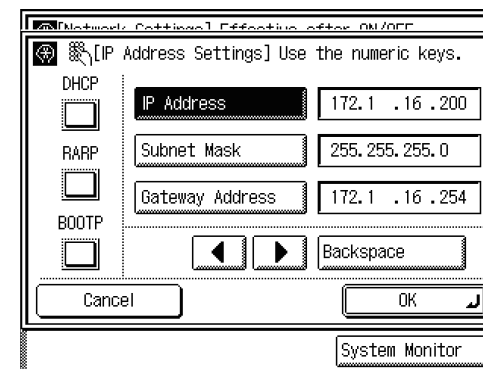
2) Setting IP address-related items

1. Touch the [System Settings] > [Network Settings] > [TCP/IP Settings] > [IPv4 Settings] > [IP Address Settings] buttons.



F-2-110

2. Set the IP address based on the result obtained in "(2) Advance preparations - Information item 1".
 - For automatic acquisition, select from [DHCP], [RARP], [BOOTP].
 - For manual setting, set the IP address, subnet mask and gateway address.



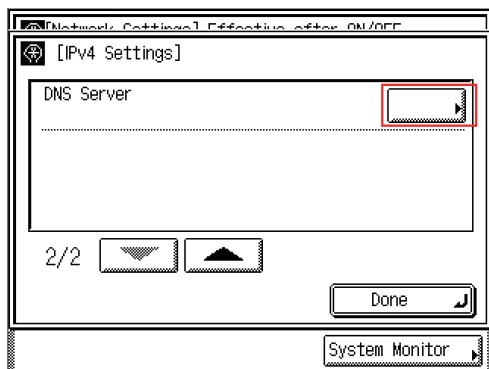
F-2-111

3. Press [OK].

4. Press [Done].

3) DNS Settings

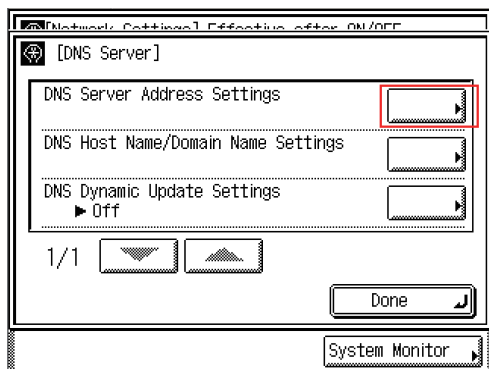
1. Touch the [System Settings] > [Network Settings] > [TCP/IP Settings] > [IPv4 Settings] > [DNS Server] buttons.



F-2-112

2. Set the DNS settings based on the result obtained in “(2) Advance preparations - Information item 2”

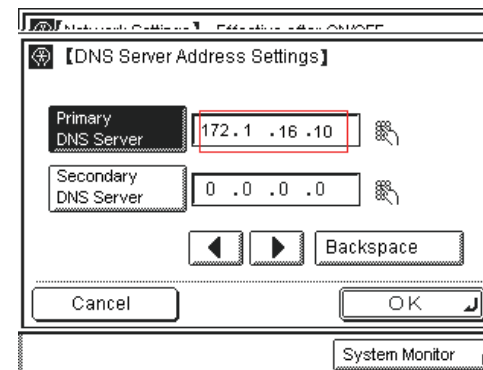
- 1) Select DNS Server Address Settings.



F-2-113

- 2) Select [Primary DNS Server] and enter the IP address of the primary DNS server.

Example) 172. 001.016. 010



F-2-114

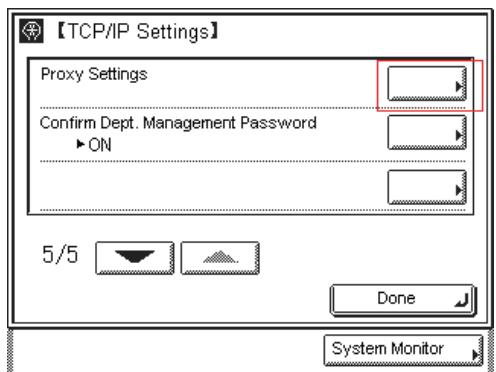
- 3) If the secondary DNS server is installed, select [Secondary DNS Server] and enter the IP address of the secondary DNS server.

- 4) Touch the [OK] button.

3. Touch the [Done] button.

5) Proxy Settings

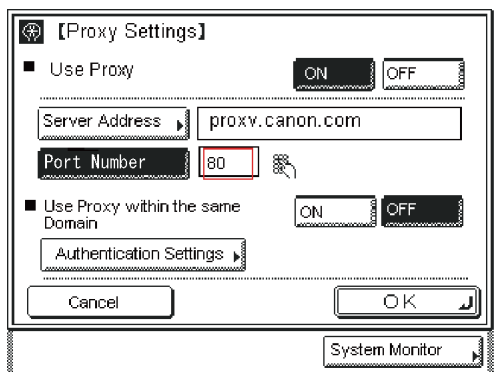
1. If proxy server is set, touch the [System Settings] > [Network Settings] > [TCP/IP Settings] > [Proxy Settings] buttons.



F-2-115

2. Set the proxy server based on the result obtained in "(2) Advance preparations - Information item 3".

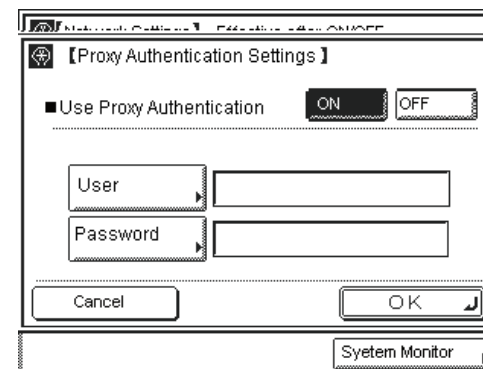
- a) Use Proxy to [On].
- b) Enter the server address.
- c) Enter port Number (Validation: 1 to 65,535).



F-2-116

- d) If proxy server authentication is required, Touch [Set Authentication].

- e) Set the following items based on the result obtained in "(2) Advance preparations - Information item 4".
 - Set Use Proxy Authentication to [On].
 - Enter User name and Password, and touch the [OK] button.



F-2-117

- f) Touch the [OK] button.

3. Touch the [Close] button.
4. Touch the Reset button to quit the Additional Functions.
5. Reboot the device.

CAUTION:

When changes are made to the above-mentioned network settings, be sure to reboot the device.

E-RDS setting items

Item	Description
#E-RDS > E-RDS SWITCH	Disable/Enable of Embedded-RDS function 0: Disable/ 1:Enable e-Maintenance/ imageWARE Remote system to send device information, counter data, error statuses to the UGW. Default : 0 (not in use)
#E-RDS > RGW-ADDRESS	URL of UGW Default : https://a01.ugwdevice.net/ugw/agentif010
#E-RDS > RGW-PORT	Set port number of UGW Validation : 1 to 65,535 Default : 443
#E-RDS > COM-TEST	Execution of a communication test with UGW / Display of the result Perform Communication test with UGW and set "OK" or "NG" as the result.
#E-RDS > COM-LOG	Display of detailed information about a communication error with UGW Error information of a connection failure with UGW is displayed. Error occurrence date and time, error code, and detailed error information are displayed. Max 5 latest loggings retained Max 128 characters for Error information.
#CLEAR > ERDS-DAT	Initialization of E-RDS SRAM data SRAM data of E-RDS is initialized and returned to the factory setting value at shipment.
#CLEAR > CA-KEY	Initialization of CA certificate When the power is turned OFF/ ON after execution, the CA certificate in the factory setting is automatically installed.
#REPORT > REPORT OUTPUT > ERDS COM LOG LIST	COM-LOG Report The report output of the communication error logging information on five affairs can be carried out.

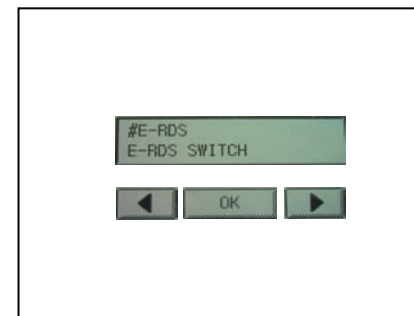
T-2-54

Steps to E-RDS settings

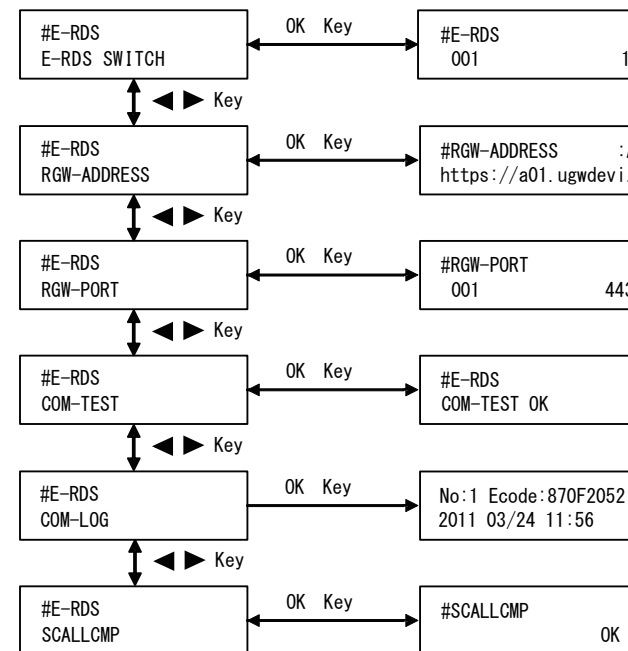
1. Start [Service Mode].

- 1) Press [Additional Functions (User Mode)] button on the control panel.
- 2) Press [2] buttons on the control panel.
- 3) Press [8] buttons on the control panel.
- 4) Press [Additional Functions (User Mode)] button on the control panel.

The example of the service mode indication screen



F-2-118



F-2-119

2. Select #CLEAR > ERDS-DAT and touch the [OK] button.

NOTE:

This operation initializes the E-RDS settings to factory setting values. For the setting values to be initialized, see the section of "Initializing E-RDS settings".

3. Perform installation or deletion of the CA certificate if necessary, and reboot the device.
- Installation of the CA certificate: Perform installation from Remote UI.
 - Deletion of the CA certificate: When the following operation is performed, the CA certificate in the factory setting is automatically installed.

CAUTION:

After following procedure, the registered key and CA certificate are deleted, and only the CA certificate installed at the time of shipment is registered.

It is therefore necessary to check with the user in advance.

- (1) Start [Service Mode].
- (2) Select #CLEAR > CA-KEY and touch the [OK] button.
- (3) Reboot the device.

CAUTION:

If a key and a CA certificate have been registered in order to use a function other than E-RDS, it is necessary to register again from Remote UI.

4. Start [Service Mode]. (See 1. for the procedure.)

5. Select #E-RDS > E-RDS SWITCH, and set value "1" then touch [OK].

NOTE:

This operation enables the communication function with UGW.

CAUTION:

The following settings i.e. #E-RDS > RGW-ADDRESS and #E-RDS > RGW-PORT in Service mode must not be change unless there are specific instructions to do so.

Changing these values will cause error in communication with UGW.

6. Select #E-RDS > COM-TEST and then touch [OK].

NOTE:

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" and repeat until "OK" is displayed.

NOTE:

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

■ Initializing E-RDS settings

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

● Initialization procedure

1. Start [Service Mode].

For the procedures, see "Steps to E-RDS settings - step 1."

2. Select #CLEAR > ERDS-DAT and touch the [OK] button.

● Setting values and data to be initialized

The following E-RDS settings, internal data, and Alarm filtering information are initialized.

- #E-RDS > E-RDS SWITCH
- #E-RDS > RGW-ADDRESS
- #E-RDS > RGW-PORT
- #E-RDS > COM-LOG

CAUTION:

In case of replacing the CA certificate file, even if initialization of E-RDS 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.

For detailed procedures, see "Steps to E-RDS settings - step 3."

■ COM-LOG Report

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

● Report output procedure

1. Start [Service Mode].

For the procedures, see "Steps to E-RDS settings - step 1."

2. Select #REPORT > REPORT OUTPUT > ERDS COM LOG LIST, and touch the [OK] button.

Output sample

```
19/05 2011 10:14
*****
*** E-RDS-COM-LOG ***
*****

No.01 DATE 19 05 2011 TIME 03:21 CODE 05000003
Information SUSPEND: Communication test is not performed.

No.02 DATE 19 05 2011 TIME 03:21 CODE 00000000
Information SUSPEND: mode changed.

No.03 DATE 19 05 2011 TIME 03:18 CODE 05000003
Information SUSPEND: Communication test is not performed.

No.04 DATE 19 05 2011 TIME 03:18 CODE 00000000
Information SUSPEND: mode changed.

No.05 DATE 19 05 2011 TIME 01:56 CODE 05000003
Information SUSPEND: Communication test is not performed.
```

FAQ

No.1

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

A: The following cases can be considered in the becoming "NG!" case.

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.

No.2

Q: I want to know the interval of data transmitting from E-RDS to the UGW, and what data size is sent to the UGW?

A: 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.

No.3

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

A: Retry of SOAP communication is performed as follows.

- In the case of an error in SOAP communication (i.e. a trouble at UGW side) at transmission of the alarm code list and the service mode counter (postAlert) due to change of device status, the data failed in transmission equivalent to 3 retries is to be stored in the RAMDISK. In the case of another transmission error (the 4th error), the oldest data of the stored data is deleted and the newly-generated retry data is stored in the RAMDISK.
- In the case of SOAP transmission errors as described below, the unsent (and remaining) data is sent again depending on the storage status of CPCA data:
 - At transmission of a jam log and service mode counter (postJamLog) when the jam log was obtained from the device.
 - At transmission of a service call log and service mode counter (postServiceCallLog) when the service log was obtained from the device.
 - At transmission of an alarm log and service mode counter (postAlarmLog) when the alarm log was obtained from the device.

NOTE:

The retry data will be sent at interval of 5*n minutes. (n: retries, 5, 10, 15 minutes...up to 30 minutes)

No.4

Q: How many log-data can be stored?

A: Up to 5 log data can be saved. The data size of error information is maximum 128 characters.

No.5

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

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

No.6

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

A: 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.

No.7

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

A: 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 1 minute.

No.8

Q: Is E-RDS compatible with Department counter?

A: No, E-RDS does not support Department counter.

Troubleshooting

No.1

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

Cause: Initial settings or network conditions is incomplete.

Remedy 1: Check and take actions mentioned below.

1) Check network connections

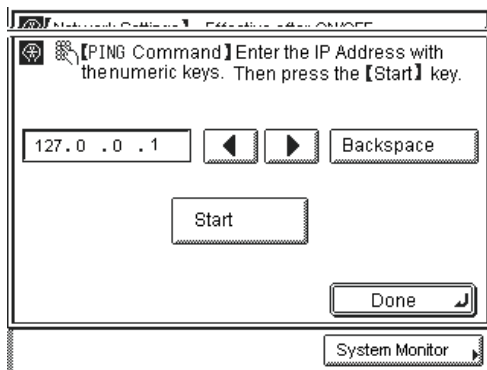
Is the status indicator LED for the HUB port to which the main unit is connected ON?

YES: Proceed to Step 2).

NO: Check that the network cable is properly connected.

2) Confirm loop back address

Select [Additional Functions (User Mode)] > [System Settings] > [Network Settings] > [TCP/IP Settings] > [IPv4 Settings] > [PING Command], enter "127.0.0.1", and touch the [Start] button.



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Does the screen display "Response from the host."?

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.

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) Select [Additional Functions (User Mode)] > [System Settings] > [Network Settings] > [TCP/IP Settings] > [IPv4 Settings] > [DNS Settings] > [DNS Server Address Settings], write down the primary and secondary addresses of the DNS server.

(b) Press Reset key.

(c) Select [Additional Functions (User Mode)] > [System Settings] > [Network Settings] > [TCP/IP Settings] > [IPv4 Settings] > [PING Command], enter the primary DNS server noted down in step a) as the IP address, and touch the [Start] button.

Does the screen display "Response from the host."?

YES: Proceed to Remedy 2.

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

Does the screen display "Response from the host."?

YES: Proceed to Remedy 2.

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

Remedy 2: Troubleshooting using communication log (COM-LOG)

1) Start [Service Mode].

- 1) Press [Additional Functions (User Mode)] button on the control panel.
- 2) Press [2] buttons on the control panel.
- 3) Press [8] buttons on the control panel.
- 4) Press [Additional Functions (User Mode)] button on the control panel.

2) Select #E-RDS > COM-LOG, and the following communication log will be displayed.

Displayed log is only five latest log.

No:1 Ecode:840F2003 2011 01/09 17:27

3) Select log and touch [OK] button. The communication log detailed screen is displayed.

*Network is not ready, try later : get
--

4) When a message is displayed, take an appropriate action referring to "Error code and strings".

No.2

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

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

Remedy: The following points should be checked.

- 1) Check network conditions such as proxy server settings and so on.
- 2) Check the E-RDS setting values.
 - Check the communication log from COM-LOG.
 - Check whether RGW-ADDRESS or RGW-PORT settings has changed. If RGW-ADDRESS or RGW-PORT settings has changed, restore initial values. For initial values, see "E-RDS setting items".

No.3

Symptom: 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 performed, then device information on the UGW becomes invalid.

Causes: 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 performing the communication test.

Remedy: Perform a communication test before becoming the invalidity state.

No.4

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

Cause: A certain problem occurred in networking.

Remedy: Check and take actions mentioned below.

- 1) Check networking conditions and connections.
- 2) Turn on the power supply of a device and perform a communication test about 60 seconds later.

No.5

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

Cause: It could be a problem at the server side or the network load is temporarily faulty.

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

Error code and strings

The following error information is output in the communication error log details display screen. (Here, "a server" means UGW.)

- The error information are displayed in the following form.

[*] [Error strings] [Method name] [Error details provided by UGW]

NOTE:

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

No.	Code	Error strings	Cause	Remedy
1	0000 0000	SUSPEND: mode changed.	Unmatched Operation Mode	Clear E-RDS
2	0500 0003	SUSPEND: Communication test is not performed.	Rebooting the device while the communication test had not been performed although E-RDS is enabled.	Perform a communication test (COM-TEST).
3	0xxx 0003	Server schedule is not exist	Blank schedule data have been received from UGW.	Check the device settings status with the UGW administrator.
4	0xxx 0003	Communication test is not performed	Communication test has not completed.	Perform and complete a communication test (COM-TEST).
5	84xx 0003	E-RDS switch is settled OFF	A communication test has been attempted with the E-RDS switch being OFF.	Set E-RDS switch (E-RDS SWITCH) to 1, and then perform a communication test (COM-TEST).
6	8600 0002 8600 0003 8600 0101 8600 0201 8600 0305 8600 0306 8600 0401 8600 0403 8600 0414 8600 0415	Event Registration is Failed	Processing (event processing) within the device has failed.	Turn the device OFF/ ON. If the error persists, replace the device system software. (Upgrade)
7	8700 0306	SRAM version unmatch!	Improper value is written in at the head of the Main Controller PCB 2 SRAM domain of E-RDS.	Turn the device OFF/ ON.
8	8xxx 0004	Operation is not supported	Method which E-RDS is not supporting attempted.	Contact help desk

No.	Code	Error strings	Cause	Remedy
9	8xxx 0101	Server response error (NULL)	Communication with UGW has been successful, but an error of some sort has prevented UGW from responding. When (Null) is displayed at the end of the message, this indicates that there has been an error in the HTTPS communication method.	Try again after a period of time. If the error persists, check the UGW status with the UGW administrator.
10	8xxx 0201 8xxx 0202 8xxx 0203 8xxx 0204 8xxx 0206	Server schedule is invalid	During the communication test, there has been some kind of error in the schedule values passed from UGW.	When the error occurs, report the details to the support section. And then, after the UGW side has responded, try the communication test again.
11	8xxx 0207 8xxx 0208	Internal Schedule is broken	The schedule data in the inside of E-RDS is not right.	Perform a communication test (COM-TEST).
12	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.	Specify the number of elements of alert filtering correctly. (Alarm filtering is not supported)
13	8xxx 0222	Server specified list is wrong	Alert filtering error: Unjust value is included in the element of the list specified by the server.	Specify the element of alert filtering with the right value. (Alarm filtering is not supported)
14	8xxx 0304	Device is busy, try later	The semaphore consumption error at the time of a communication test.	Try again a communication test after a period of time.
15	8xxx 2000	Unknown error	Some other kind of communication error has occurred.	Try again after a period of time. If the error persists, check the UGW status with the UGW administrator.
16	8xxx 2001	URL Scheme error(not https)	The header of the URL of the registered UGW is not in https format.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
17	8xxx 2002	URL server specified is illegal	A URL different to that specified by the UGW has been set.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
18	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.	Check the network connection, as per the initial procedures described in the troubleshooting. Perform a communication test (COM-TEST) about 60 seconds later, after turn on the device.

No.	Code	Error strings	Cause	Remedy
19	8xxx 2004	Server response error ([Hexadecimal]) [Error detailed in the UGW] *1)	Communication with UGW has been successful, but an error of some sort has prevented UGW from responding.	Try again after a period of time. Check detailed error code (Hexadecimal) and [Error details in UGW] from UGW displayed after the message.
20	8xxx 200A	Server connection error	<ul style="list-style-type: none"> TCP/IP communication fault The IP address of device is not set. 	Check the network connection, as per the initial procedures described in the troubleshooting.
21	8xxx 200B	Server address resolution error	Server address name resolution has failed.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
22	8xxx 2014	Proxy connection error	Could not connect to proxy server due to improper address.	Check proxy server address and re-enter as needed.
23	8xxx 2015	Proxy address resolution error	Could not connect to proxy server due to name resolution error of proxy address.	Check that the proxy server name is correct. If the proxy server name is correct, check the DNS connection, as per the initial procedures described in the troubleshooting.
24	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.
25	8xxx 2028	Server certificate error	<ul style="list-style-type: none"> 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)
26	8xxx 2029	Server certificate verify error	The server certificate verification error occurred.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.

No.	Code	Error strings	Cause	Remedy
27	8xxx 2046	Server certificate expired	<ul style="list-style-type: none"> The route certificate registered with the device has expired. Certificate other than that initially registered in the user's operating environment is being used, but has not been registered with the device. The device time and date is outside of the certificated period. 	Check that the device time and date are correctly set. If the device time and date are correct, upgrade to the latest system software.
28	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, try again after a period of time.
29	8xxx 2048	Service not found	There is a mistake in the UGW URL, and UGW cannot be accessed. (Path is wrong)	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
30	8xxx 2052	URL error	The data which is not URL is inputted into URL field.	Check that the value of URL of UGW (RGW-ADDRESS) is https://a01.ugwdevice.net/ugw/agentif010.
31	8xxx 2058	Unknown error	SOAP Client fails to obtain SOAP Response. Possibility of a problem in the server or of a temporary problem in the network load.	Try again after a period of time. If the error persists, check the UGW status with the UGW administrator.
32	8xxx 2063	SOAP Fault	SOAP communication error has occurred.	Check that the value of port number of UGW (RGW-PORT) is 443.
33	xxxx xxxx	Device internal error	An internal error, such as memory unavailable, etc., has occurred during a device internal error phase.	Turn the device OFF/ ON. Or replace the device system software. (Upgrade)
34	xxxx xxxx	SUSPEND: Initialize Failure!	Internal error occurred at the initiating E-RDS.	Turn the device OFF/ ON.

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

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

3

Periodical Service

- List of periodically replacement parts, consumable parts and locations for cleaning

List of periodically replacement parts, consumable parts and locations for cleaning

periodically replacement parts

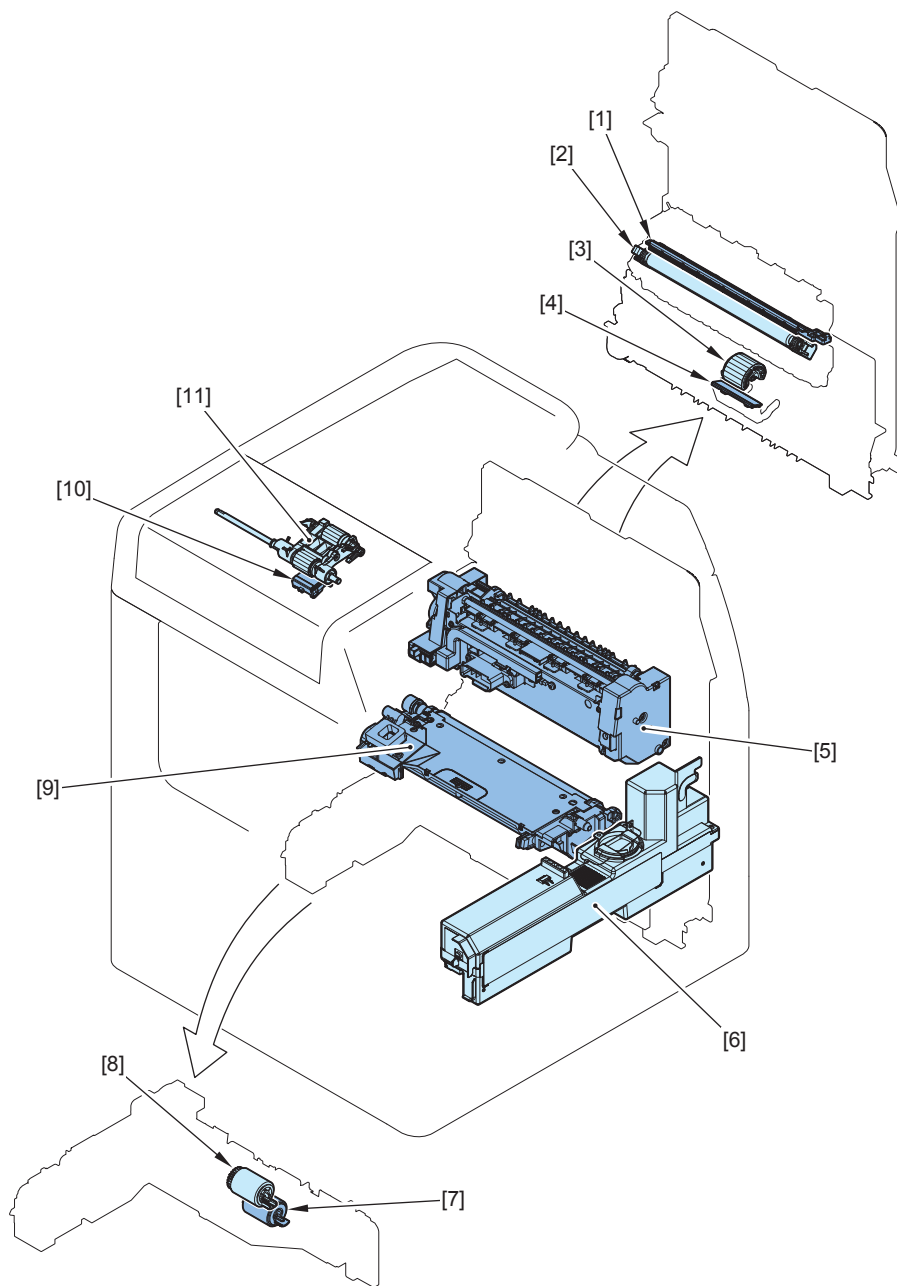
There are no periodically replacement parts in this machine.

Consumable parts

●: Replaced (consumables)

No.	Type	Item	Parts number	Q'ty	Estimated life	Work interval						Parts counter		Remarks
						Every 80,000 sheets	Every 90,000 sheets	Every 100,000 sheets	Every 150,000 sheets	Every 160,000 sheets	Every 180,000 sheets			
1	Image Formation System	Waste Toner Container	FM4-8035	1	100,000 sheets			●				DRBL-1	WST-TNR	Specified with 6% original.
2		Transfer Roller	FM4-6522	1	180,000 sheets						●	DRBL-1	TR-ROLL	
3		Static Eliminator	FL3-4857	1	90,000 sheets		●					DRBL-1	SP-SC-EL	
4	Fixing System	Fixing Unit	120V FM4-6495 230V FM4-8050	1	160,000 sheets					●		DRBL-1	FX-UNIT	
5	Pickup system	Cassette Feed Roller	FC6-7083	1	80,000 sheets	●						DRBL-1	C1-FD-RL	
6		Cassette Separation Roller	FC6-6661	1	80,000 sheets	●						DRBL-1	C1-SP-RL	
7		Multi-purpose Tray Pickup Roller	FL2-3897	1	150,000 sheets				●			DRBL-1	M-PU-RL	
8		Multi-purpose Tray Separation Pad	FL3-4890	1	150,000 sheets				●			DRBL-1	M-SP-PD	
9	Original Exposure and Feed System	ADF Pickup Roller Unit	FM4-7732	1	80,000 sheets	●								
10		ADF Separation Pad	FL3-5538	1	80,000 sheets	●								

T-3-1



- [1] Static Eliminator
- [2] Transfer Roller
- [3] Multi-purpose Tray Pickup Roller
- [4] Multi-purpose Tray Separation Pad
- [5] Fixing Assembly
- [6] Waste Toner Container
- [7] Cassette Separation Roller
- [8] Cassette Feed Roller
- [9] Developing Assembly
- [10] ADF Separation Pad
- [11] ADF Pickup Roller Unit

4

Disassembly/Assembly

- Preface
- List of Parts
- List of Connectors
- External Cover/Internal System
- Original Exposure/Feed System
- Controller System
- Laser Exposure System
- Image Formation System
- Fixing System
- Pickup Feed System

Preface

Outline

This chapter describes disassembly and reassembly procedures of the printer.

The service technician is to identify the cause of printer failures according to the "Chapter 6 TROUBLESHOOTING"

on Page 3-1-1 and to follow the disassembly procedures of each part to replace the defective parts or the consumable parts.

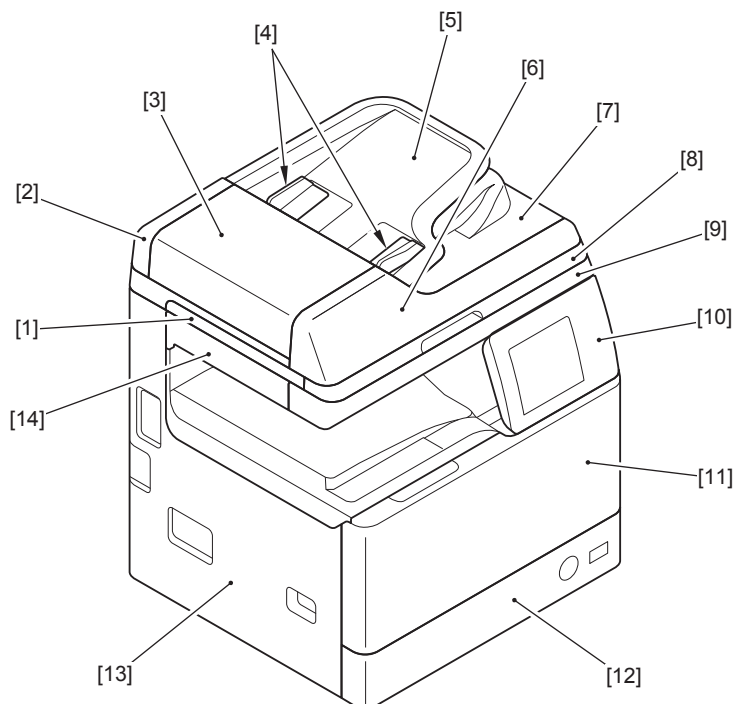
Note the following precautions when working on the printer.

1. CAUTION: Before disassembling or reassembling the printer, be sure to disconnect its power cord from the electrical outlet
2. During disassembly, reassembly or transportation of the printer, remove the cartridge if required.
When the cartridge is out of the printer, put it in a protective bag even in a short period of time to prevent the adverse effect of light.
3. Reassembling procedures are followed by the reverse of disassembly unless otherwise specified.
4. Note the length, diameters, and locations of screws as you remove them. When reassembling the printer, be sure to use them in their original locations.
5. Do not run the printer with any parts removed as a general rule.
6. Ground yourself by touching the metal part of the printer before handling the PCB to reduce the possibility of damage caused by static electricity.
7. When you replace the part that the rating plate or the product code label is attached, be sure to remove the rating plate or the product code label and put it to the new part.

List of Parts

External View

Front Side

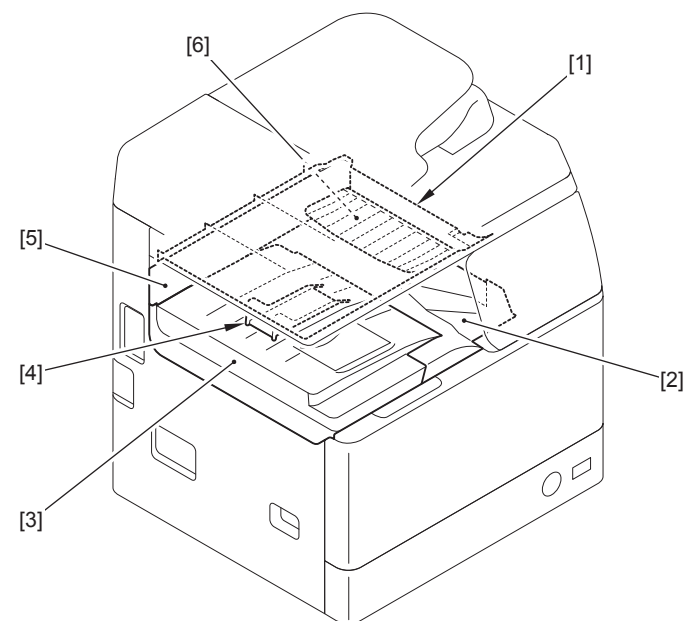


F-4-1

No.	Name	Reference
[1]	ADF Left Cover	-
[2]	ADF Rear Cover	-
[3]	ADF Upper Cover	(Refer to page 4-48)
[4]	Side Guide Plate	-
[5]	Original Feed Tray	(Refer to page 4-52)
[6]	ADF Front Upper Cover	-
[7]	Original Delivery Tray	-
[8]	ADF Front Lower Cover	-
[9]	Reader Front Cover	(Refer to page 4-33)
[10]	Control Panel Unit	(Refer to page 4-36)
[11]	Front Cover	(Refer to page 4-24)
[12]	Cassette	-

No.	Name	Reference
[13]	Left Cover	(Refer to page 4-27)
[14]	Reader Left Cover	-

T-4-1

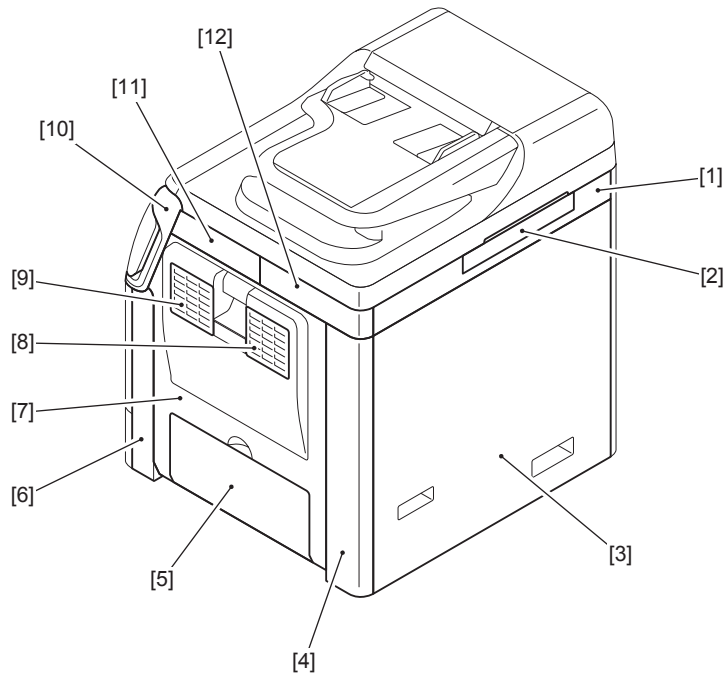


F-4-2

No.	Name	Reference
[1]	Reader Bottom Cover	(Refer to page 4-36)
[2]	Delivery Inner Cover	(Refer to page 4-29)
[3]	Delivery Outer Cover	(Refer to page 4-29)
[4]	Delivery Stopper	-
[5]	Inner Rear Cover	(Refer to page 4-28)
[6]	Reverse Tray	-

T-4-2

■ Rear Side

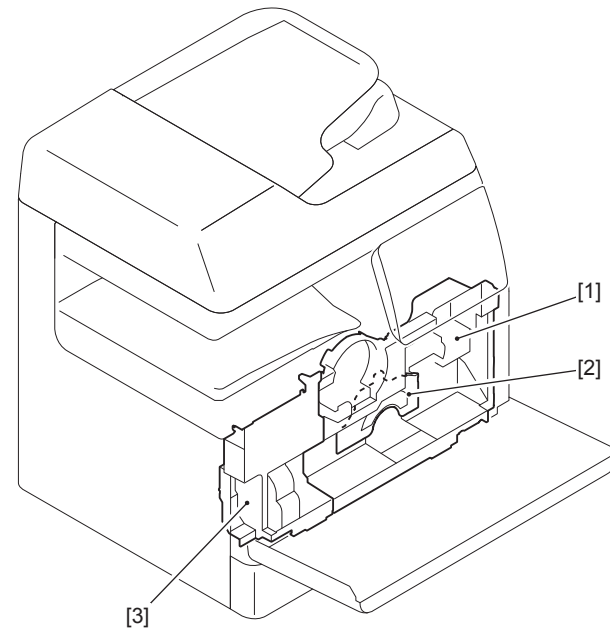


F-4-3

No.	Name	Reference
[1]	Reader Rear Cover	(Refer to page 4-34)
[2]	Reader Controller Cover	-
[3]	Rear Cover	(Refer to page 4-24)
[4]	Right Rear Cover	(Refer to page 4-26)
[5]	Multi-purpose Tray Pickup Unit	-
[6]	Right Front Cover	(Refer to page 4-25)
[7]	Right Door Unit	(Refer to page 4-26)
[8]	Right Rear Fan Cover	-
[9]	Right Front Fan Cover	-
[10]	Support Column Cover	(Refer to page 4-32)
[11]	Reader Right Front Cover	-
[12]	Reader Right Rear Cover	-

T-4-3

■ Internal View

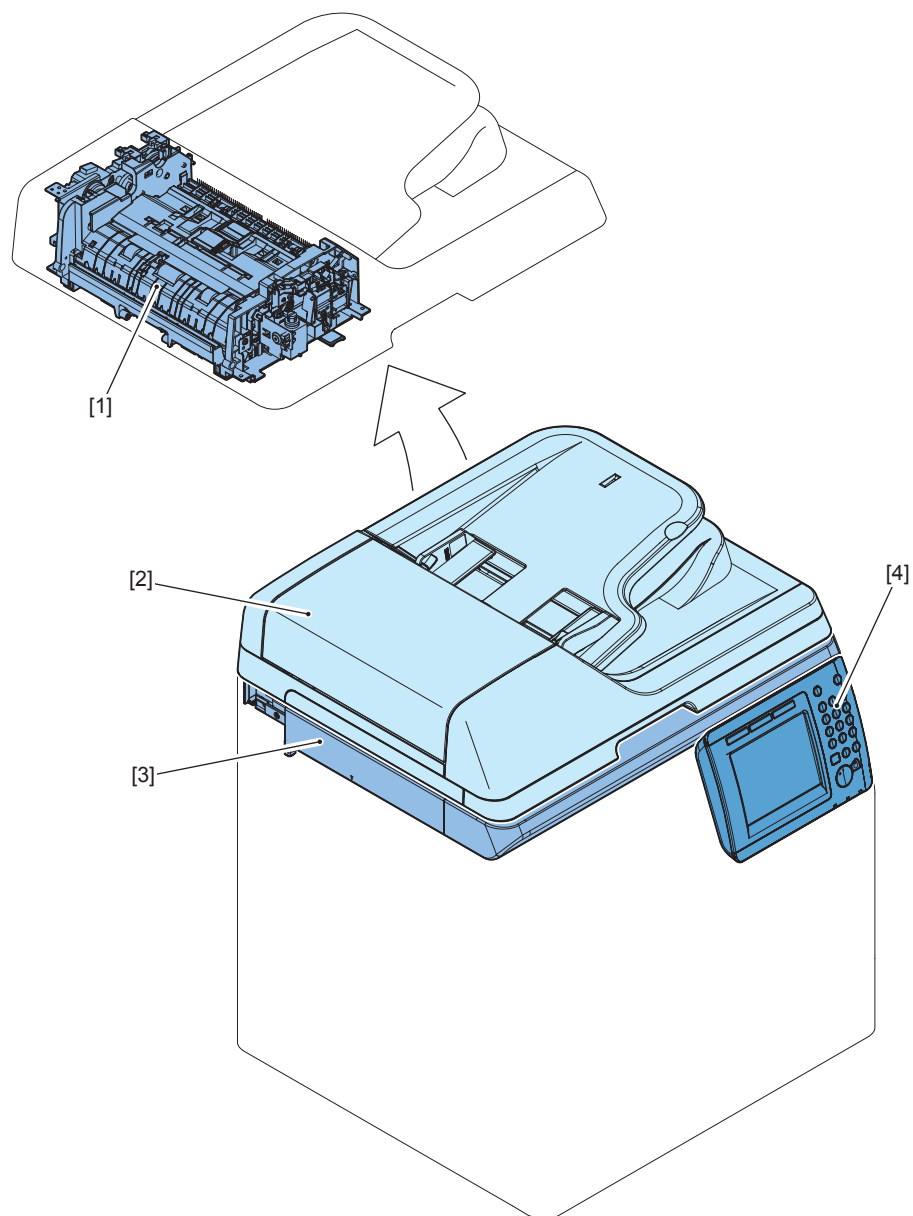


F-4-4

No.	Name	Reference
[1]	Right Inner Cover	(Refer to page 4-29)
[2]	Developing Assembly Replacement Inner Cover	-
[3]	Left Inner Cover	(Refer to page 4-32)

T-4-4

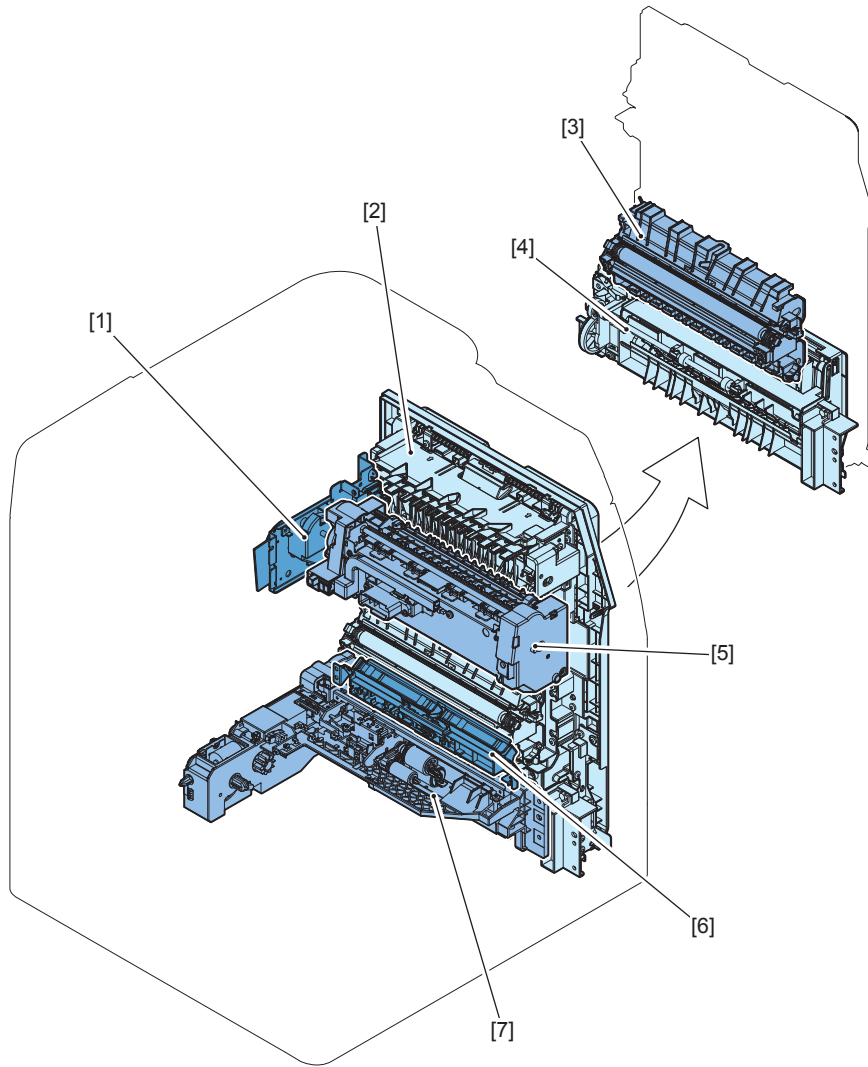
List of Main Unit



F-4-5

No.	Name	Reference	Adjustment during parts replacement
[1]	ADF Pickup Unit	(Refer to page 4-53)	
[2]	ADF Unit	(Refer to page 4-43)	
[3]	Reader Unit	(Refer to page 4-44)	
[4]	Operation Panel Unit	(Refer to page 4-36)	

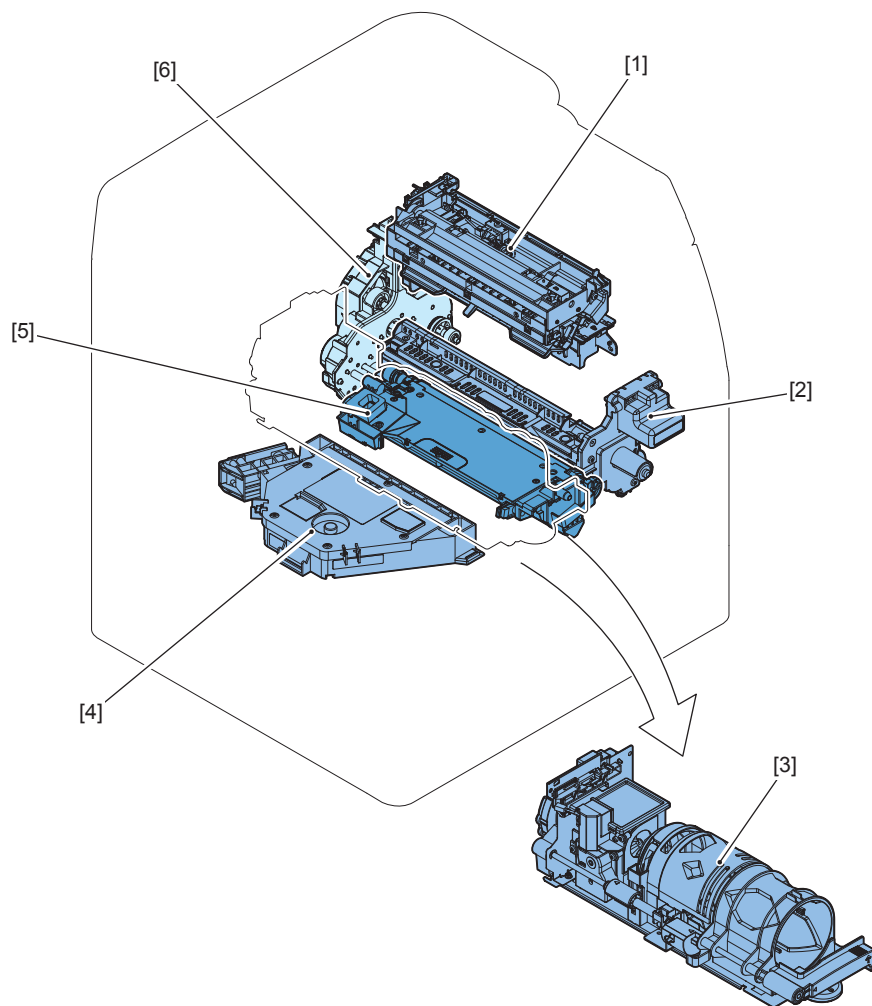
T-4-5



F-4-6

No.	Name	Reference	Adjustment during parts replacement
[1]	Fixing Drive Unit	(Refer to page 4-81)	
[2]	Right Door Unit	(Refer to page 4-26)	
[3]	Transfer Unit	-	
[4]	Multi-purpose Tray Unit	-	
[5]	Fixing Assembly	(Refer to page 4-79)	
[6]	Pre-registration Guide Unit	-	
[7]	Cassette Pickup Unit	(Refer to page 4-87)	

T-4-6



F-4-7

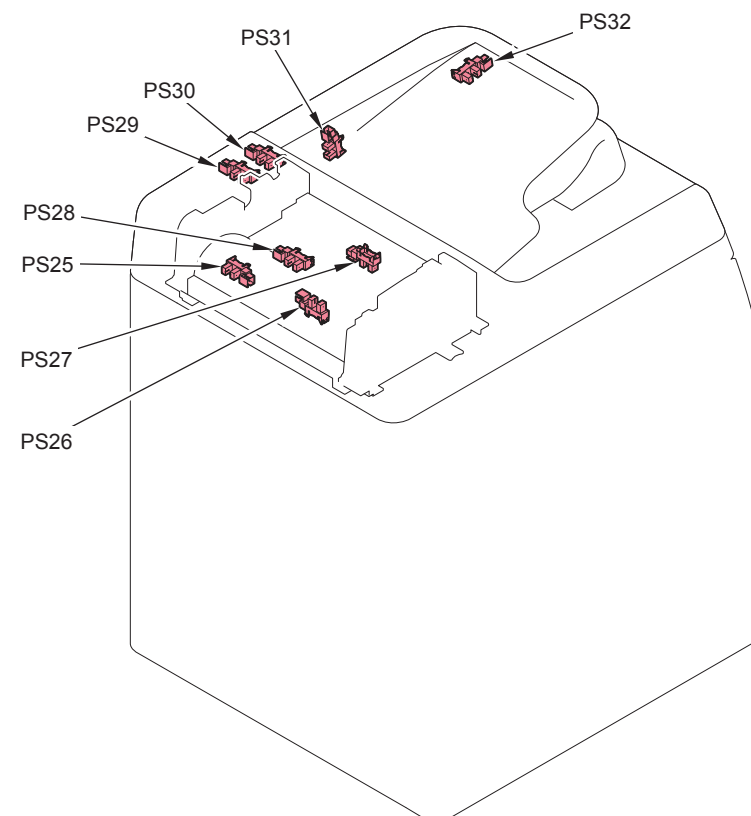
No.	Name	Reference	Adjustment during parts replacement
[1]	Delivery/Reverse Unit	(Refer to page 4-81)	
[2]	Drum Unit	(Refer to page 4-68)	
[3]	Hopper Unit	(Refer to page 4-75)	
[4]	Laser Scanner Unit	(Refer to page 4-63)	
[5]	Developing Assembly	(Refer to page 4-69)	
[6]	Main Drive Unit	(Refer to page 4-73)	

T-4-7

Electrical Components

■ ADF Unit

● Sensor

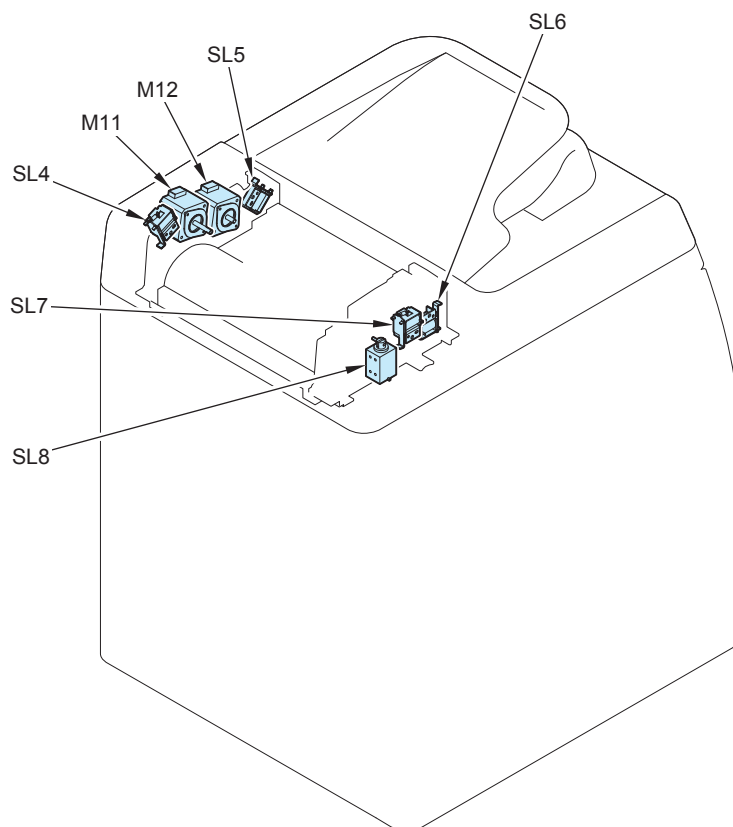


F-4-8

No.	Name	Main Unit	Reference	Adjustment during parts replacement
PS26	Registration Sensor	ADF Pickup Unit	-	
PS27	Stay Sensor	ADF Pickup Unit	-	
PS25	Lead Sensor	ADF Pickup Unit	-	
PS28	Reversal Sensor	ADF Pickup Unit	-	
PS29	Timing Sensor	ADF Pickup Unit	-	
PS30	Original Set Sensor	ADF Pickup Unit	-	
PS31	Original Width Detection Sensor	ADF Pickup Tray	-	
PS32	Original Length Detection Sensor	ADF Pickup Tray	-	

T-4-8

● Solenoid/Motor

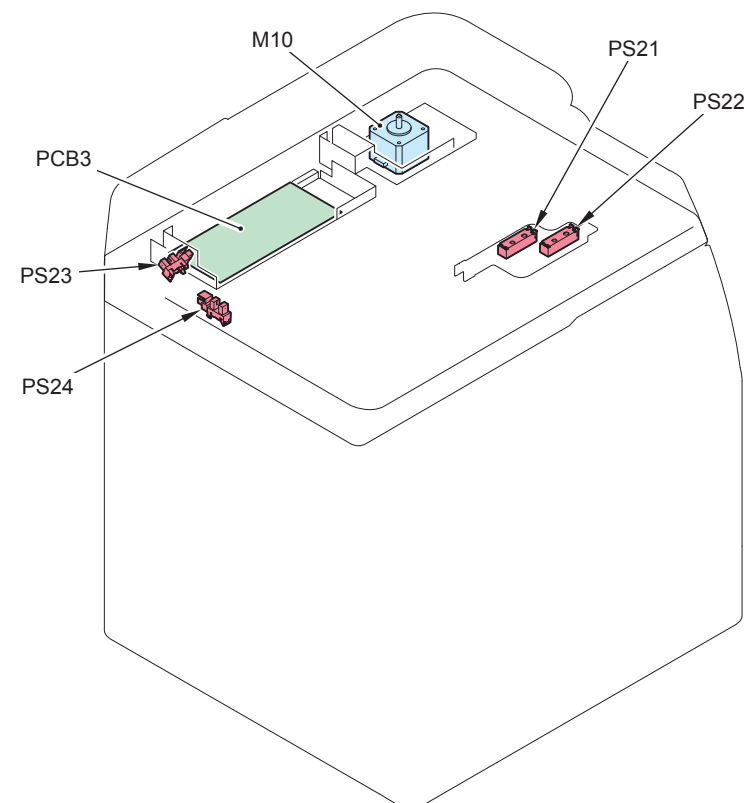


F-4-9

No.	Name	Main Unit	Reference	Adjustment during parts replacement
SL8	Roller Release Solenoid	ADF Pickup Unit	-	
SL7	Flapper Solenoid 1	ADF Pickup Unit	-	
SL4	Registration Solenoid	ADF Pickup Unit	-	
M11	Feed Motor	ADF Pickup Unit	-	
M12	Delivery Reversal Motor	ADF Pickup Unit	-	
SL5	Pickup Solenoid	ADF Pickup Unit	-	
SL6	Flapper Solenoid 2	ADF Pickup Unit	-	

T-4-9

■ Reader Unit



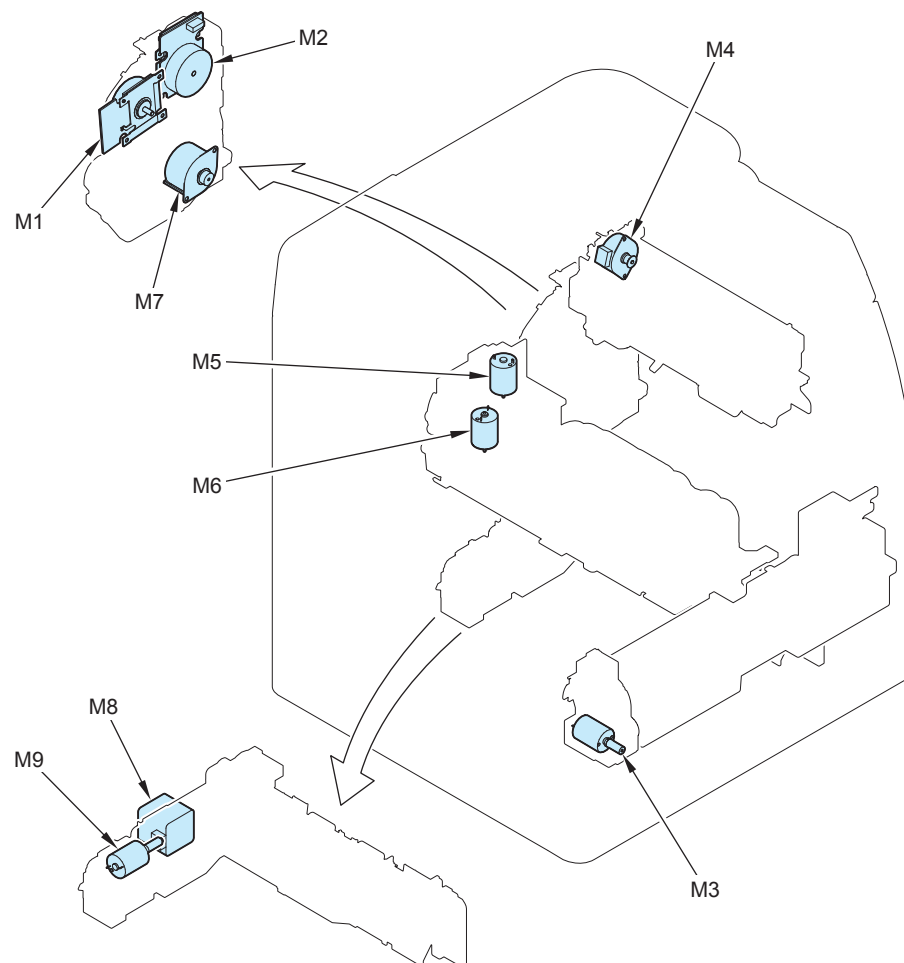
F-4-10

No.	Name	Main Unit	Reference	Adjustment during parts replacement
PS24	CIS HP Sensor	Reader Unit	-	
PS23	ADF Open/Closed Detection Sensor	Reader Unit	-	
PCB3	Reader Controller PCB	Reader Unit	(Refer to page 4-46)	
M10	Reader Motor	Reader Unit	-	
PS21	Original Size Detection Sensor 1	Reader Unit	-	
PS22	Original Size Detection Sensor 2	Reader Unit	-	

T-4-10

Printer Unit

Motor

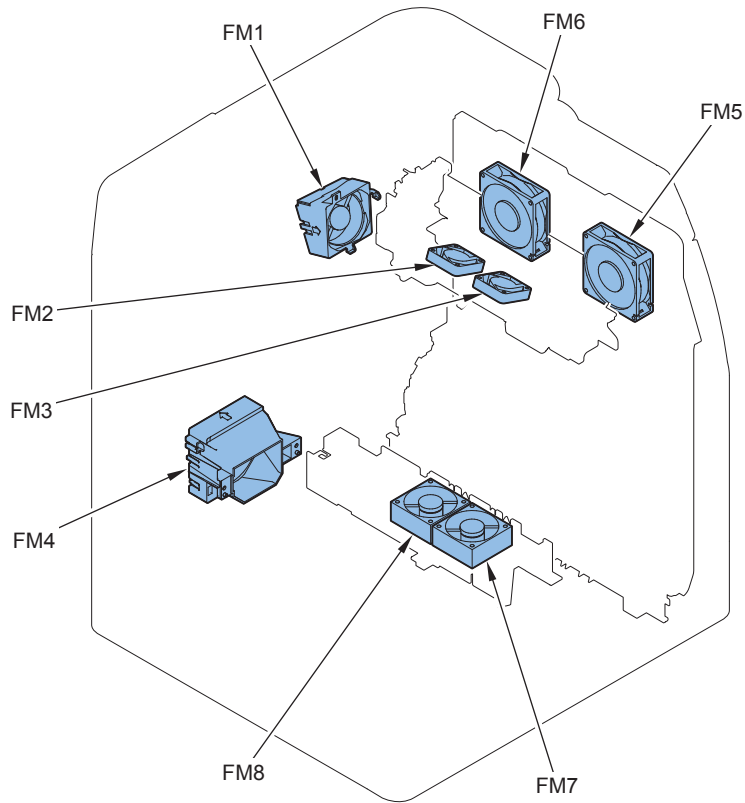


F-4-11

No.	Name	Main Unit	Reference	Adjustment during parts replacement
M4	Reverse Feed Motor	Delivery/Reverse Unit	-	
M3	Waste Toner Motor	Main Unit	-	
M9	Lifter Motor	Casste Pickup Unit	-	
M8	Pickup Motor	Main Unit	-	
M6	Hopper Motor	Hopper Unit	-	
M5	Bottle Motor	Hopper Unit	-	
M7	Duplex Feed Motor	Main Drive Unit	-	
M1	Fixing Motor	Fixing Drive Unit	-	
M2	Main Motor	Main Drive Unit	-	

T-4-11

FAN

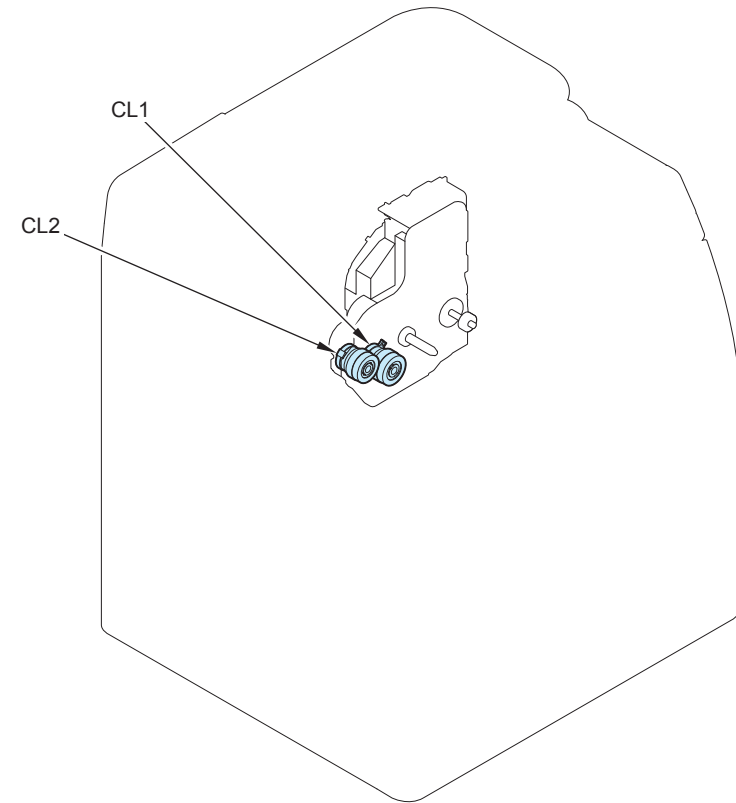


F-4-12

No.	Name	Main Unit	Reference	Adjustment during parts replacement
FM6	Heat Exhaust Fan (Rear)	Right Door Unit	-	
FM5	Heat Exhaust Fan (Front)	Right Door Unit	-	
FM7	Delivery Cooling Fan (Front)	Main Unit	-	
FM8	Developing Cooling Fan (Rear)	Main Unit	-	
FM4	Power Supply Cooling Fan	Main Unit	-	
FM3	Delivery Cooling Fan (Front)	Delivery/Reverse Unit	-	
FM1	Delivery Cooling Fan (Rear)	Delivery/Reverse Unit	-	
FM2	Delivery Cooling Fan (Center)	Main Unit	-	

T-4-12

Clutch

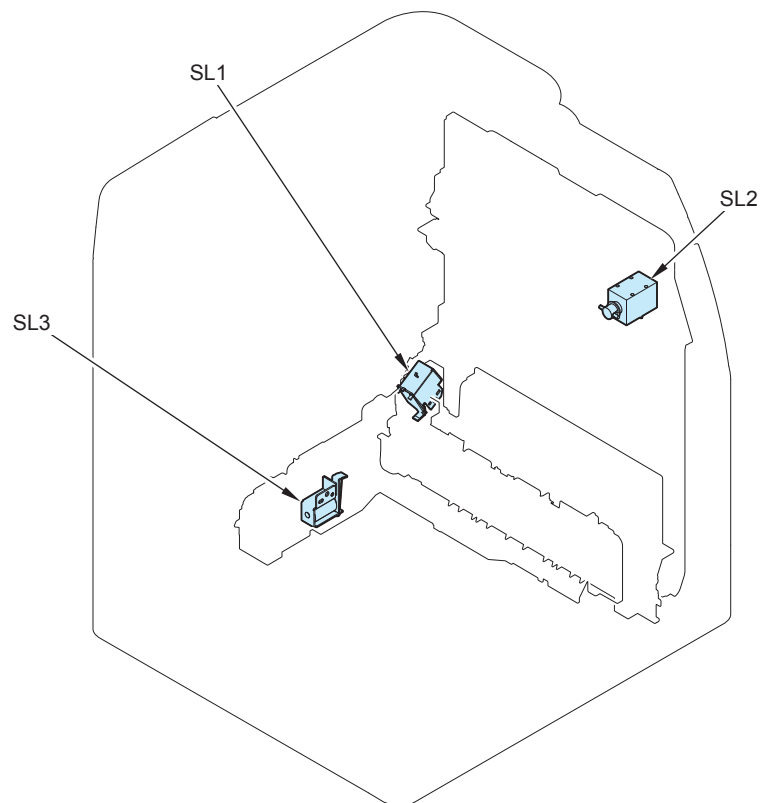


F-4-13

No.	Name	Main Unit	Reference	Adjustment during parts replacement
CL2	Developing Cylinder Clutch	Main Drive Unit	-	
CL1	Registration Clutch	Main Drive Unit	-	

T-4-13

● Solenoid

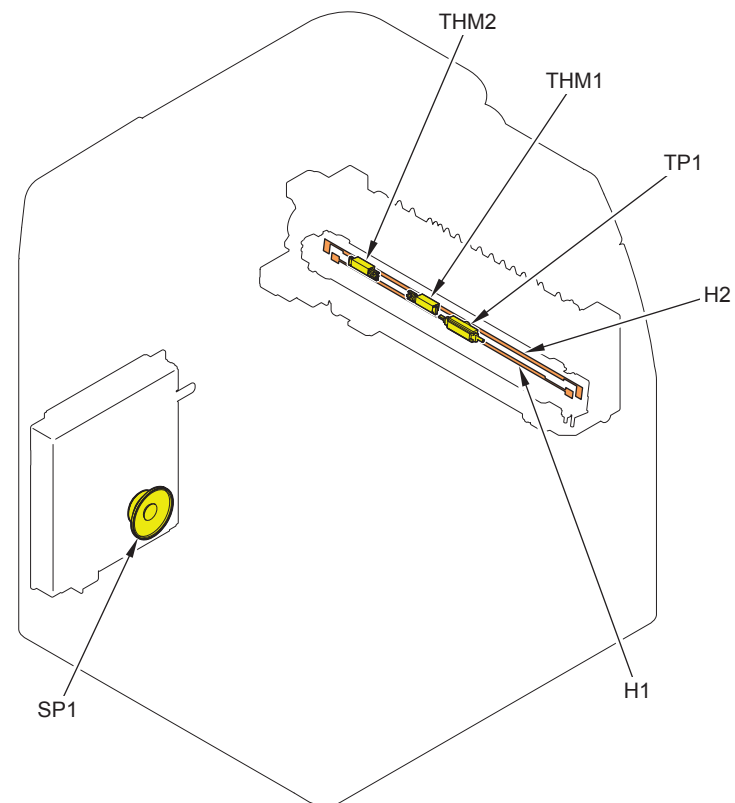


F-4-14

No.	Name	Main Unit	Reference	Adjustment during parts replacement
SL3	Cassette Pickup Solenoid	Cassette Pickup Unit	-	
SL1	Multi-purpose Tray Pickup Solenoid	Multi-purpose Tray Unit	-	
SL2	Reverse Feed Solenoid	Right Door Unit	-	

T-4-14

● Heater/Speaker

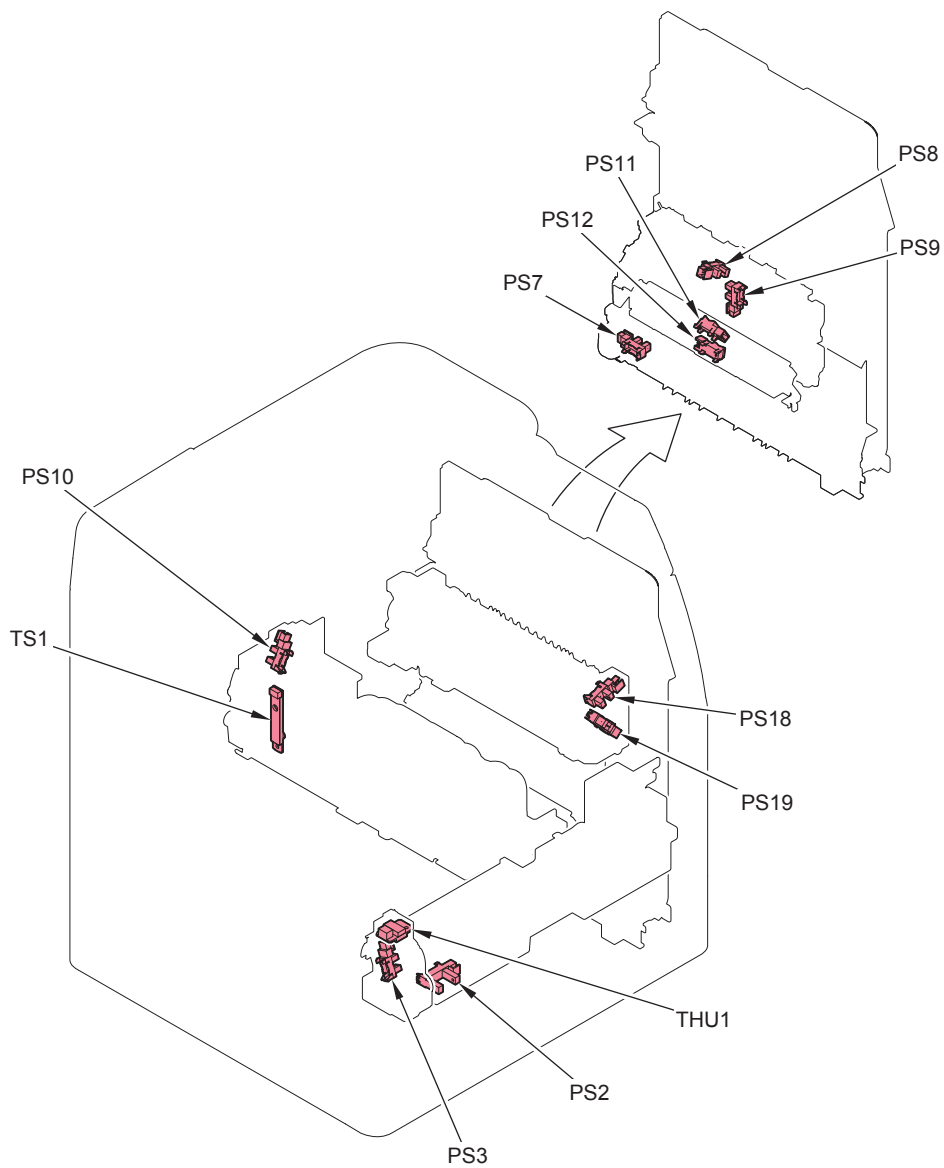


F-4-15

No.	Name	Main Unit	Reference	Adjustment during parts replacement
THM1	Fixing Thermistor	Fixing Assembly	-	
THM2	Sub Thermistor	Fixing Assembly	-	
TP1	Fixing Thermoswitch	Fixing Assembly	-	
H2	Sub Heater	Fixing Assembly	-	
H1	Fixing Heater	Fixing Assembly	-	
SP1	Speaker	Main Unit	-	

T-4-15

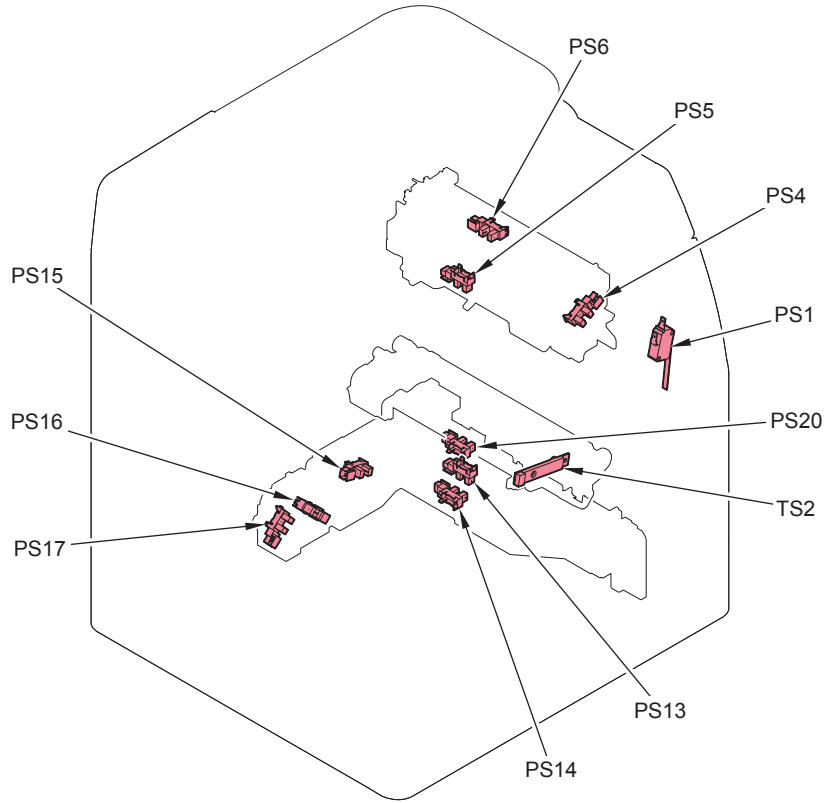
● Sensor



F-4-16

No.	Name	Main Unit	Reference	Adjustment during parts replacement
PS7	Manual Feeder Paper Sensor	Multi-purpose Tray Unit	-	
PS12	Pre-registration Sensor	Main Unit	-	
PS11	Registration Sensor	Main Unit	-	
PS8	Duplex Feed Sensor	Right Door Unit	-	
PS9	Arch Sensor	Transfer Unit	-	
PS18	Fixing Pressure Release Sensor	Fixing Assembly	-	
PS19	Fixing Paper Sensor	Fixing Assembly	-	
THU1	Environment Sensor	Main Unit	-	
PS2	Waste Toner Full Sensor	Main Unit	-	
PS3	Waste Toner Motor Rotation Sensor	Main Unit	-	
TS1	Hopper Toner Sensor	Hopper Unit	-	
PS10	Bottle Rotation Sensor	Hopper Unit	-	

T-4-16

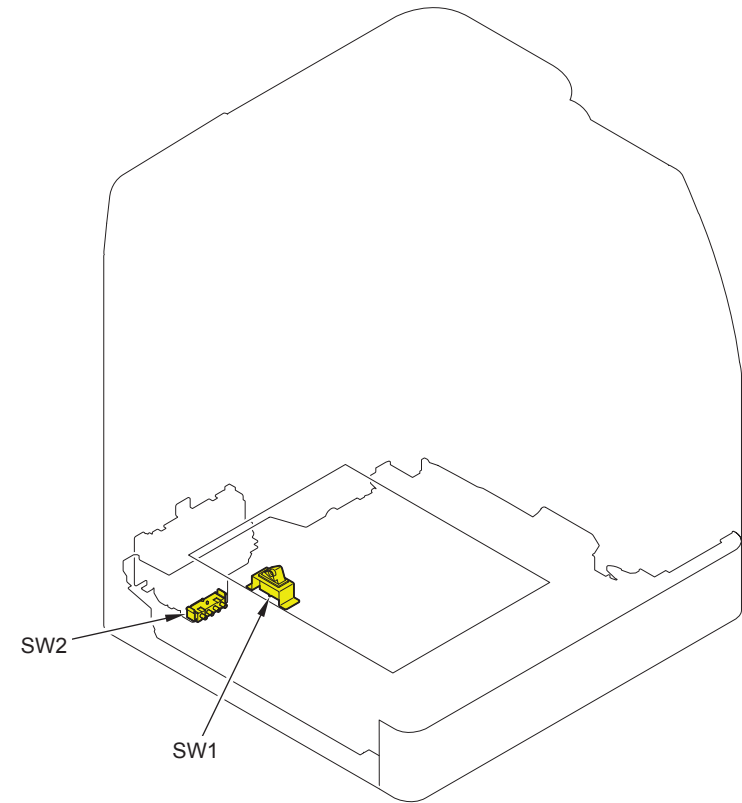


F-4-17

No.	Name	Main Unit	Reference	Adjustment during parts replacement
PS6	Reverse Sensor	Delivery/Reverse Unit	-	
PS5	Delivery Sensor	Delivery/Reverse Unit	-	
PS4	Delivery Paper Full Sensor	Delivery/Reverse Unit	-	
PS1	Front Cover Sensor	Main Unit	-	
PS20	Transparency Sensor	Cassette Pickup Unit	-	
TS2	Developing Assembly Toner Sensor	Developing Assembly	-	
PS13	Cassette Pickup Sensor	Cassette Pickup Unit	-	
PS14	Cassette Lifting Plate Sensor	Cassette Pickup Unit	-	
PS17	Cassette Paper Level Sensor B	Cassette Pickup Unit	-	
PS16	Cassette Paper Level Sensor A	Cassette Pickup Unit	-	
PS15	Cassette Paper Sensor	Cassette Pickup Unit	-	

T-4-17

● Switch

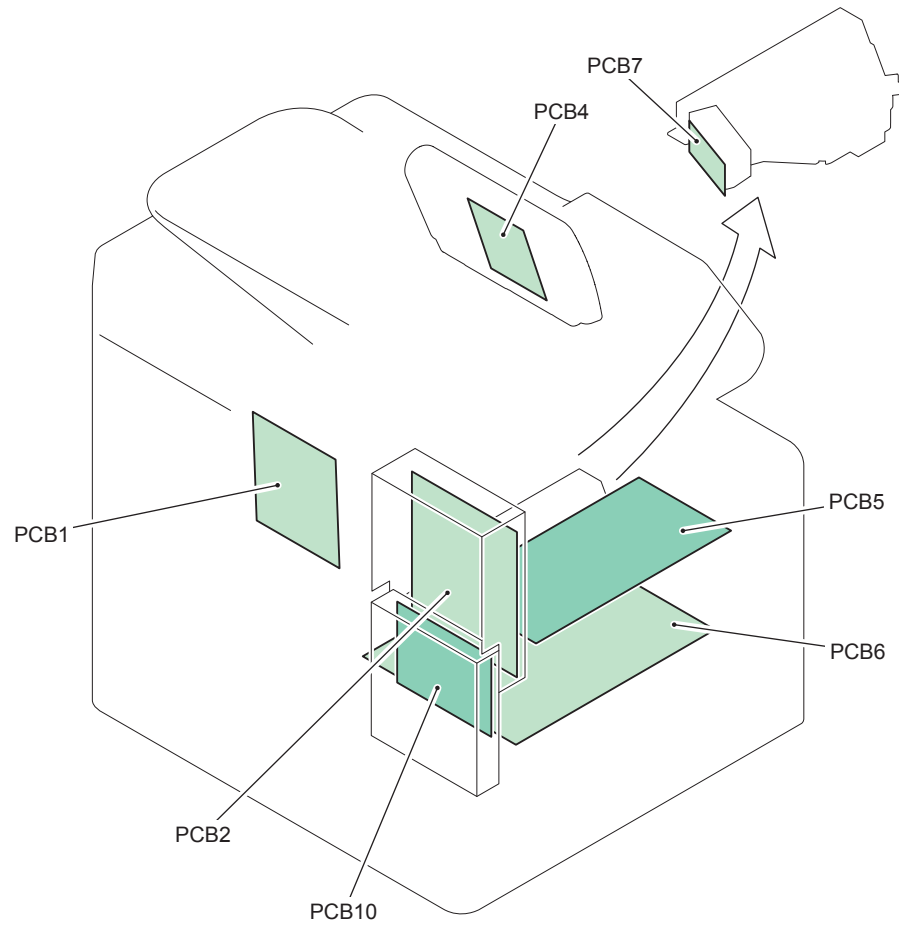


F-4-18

No.	Name	Main Unit	Reference	Adjustment during parts replacement
SW1	Power Switch	Main Unit	-	
SW2	Cassette Size Detection Switch	Main Unit	-	

T-4-18

● PCB

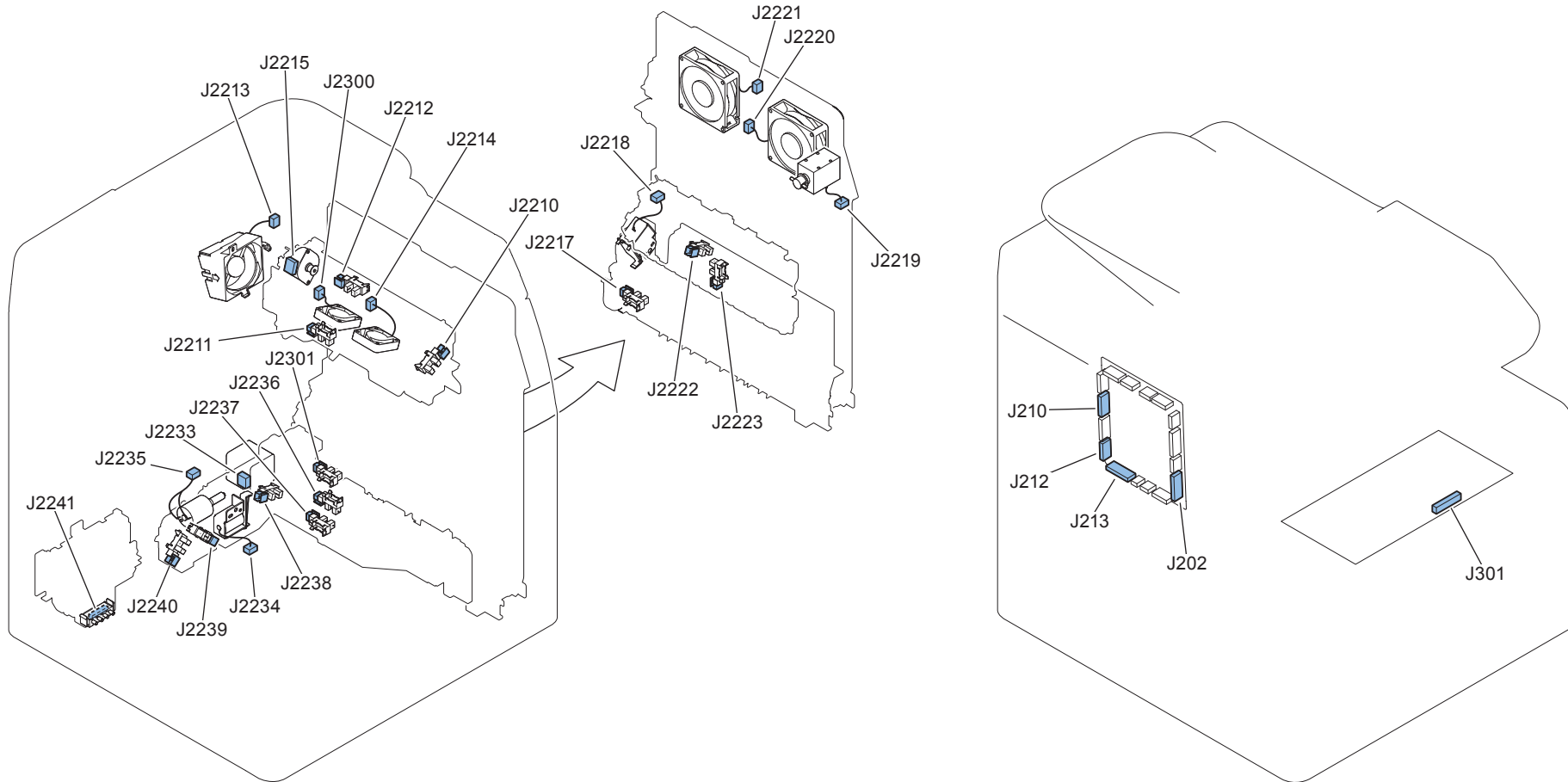


F-4-19

No.	Name	Main Unit	Reference	Adjustment during parts replacement
PCB4	Control Panel CPU PCB	Operation Panel Unit	(Refer to page 4-36)	
PCB7	Leser Driver PCB	Laser Scanner Unit	-	
PCB5	HVT PCB	Main Unit	(Refer to page 4-60)	
PCB6	Power Supply PCB	Main Unit	(Refer to page 4-62)	
PCB10	FAX PCB	Main Unit	-	
PCB2	Main Controller PCB	Main Unit	(Refer to page 4-58)	
PCB1	DC Controller PCB	Main Unit	(Refer to page 4-57)	

T-4-19

List of Connectors

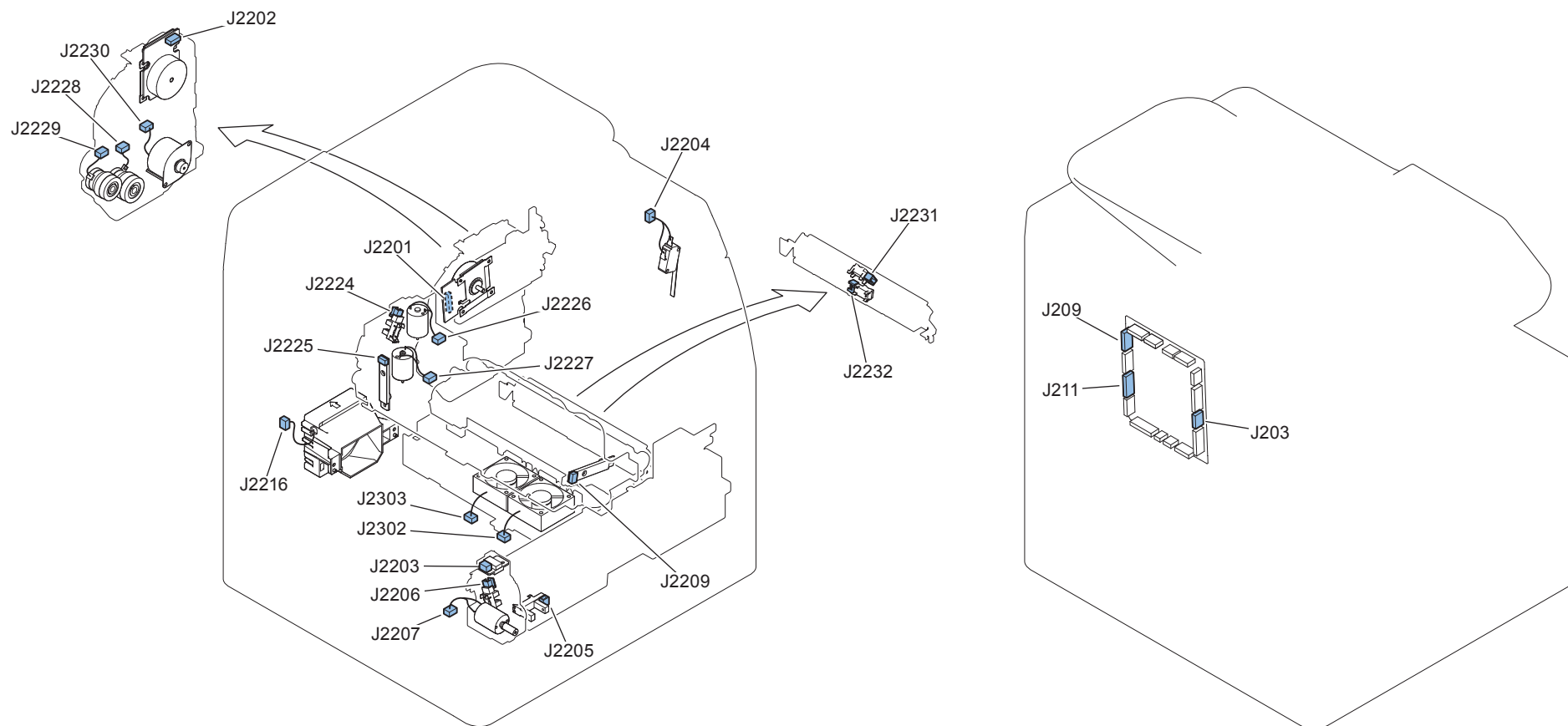


F-4-20

J No.	Symbol	Name	Relay Connector	Relay Connector	J No.	Symbol	Name	REMARKS
J202	PCB1	DC Controller PCB			J301	PCB5	HVT PCB	
J210	PCB1	DC Controller PCB			J2213	FM2	Delivery Cooling Fan (Center)	
J210	PCB1	DC Controller PCB	J21	J40	J2300	FM1	Delivery Cooling Fan (Rear)	
J210	PCB1	DC Controller PCB	J21	J40	J2214	FM3	Delivery Cooling Fan (Front)	
J210	PCB1	DC Controller PCB	J21		J2210	PS4	Delivery Paper Full Sensor	
J210	PCB1	DC Controller PCB	J21		J2211	PS5	Delivery Sensor	
J210	PCB1	DC Controller PCB	J21		J2212	PS6	Reverse Sensor	
J210	PCB1	DC Controller PCB	J21		J2215	M4	Reverse Feed Motor	
J212	PCB1	DC Controller PCB	J14		J2218	SL1	Multi-purpose Tray Pickup Solenoid	

J No.	Symbol	Name	Relay Connector	Relay Connector	J No.	Symbol	Name	REMARKS
J212	PCB1	DC Controller PCB	J8		J2219	SL2	Reverse Feed Solenoid	
J212	PCB1	DC Controller PCB	J8		J2220	FM5	Heat Exhaust Fan (Front)	
J212	PCB1	DC Controller PCB	J8		J2221	FM6	Heat Exhaust Fan (Rear)	
J212	PCB1	DC Controller PCB	J8		J2222	PS8	Duplex Feed Sensor	
J212	PCB1	DC Controller PCB	J8	J5	J2223	PS9	Arch Sensor	
J212	PCB1	DC Controller PCB	J8		J2217	PS7	Multi-purpose Tray Paper Sensor	
J213	PCB1	DC Controller PCB	J20		J2233	M8	Pickup Motor	
J213	PCB1	DC Controller PCB	J13		J2241	SW2	Cassette Size Detection Switch	
J213	PCB1	DC Controller PCB	J9		J2234	SL3	Cassette Pickup Solenoid	
J213	PCB1	DC Controller PCB	J9		J2235	M9	Lifter Motor	
J213	PCB1	DC Controller PCB	J9		J2236	PS13	Cassette Pickup Sensor	
J213	PCB1	DC Controller PCB	J9		J2237	PS14	Cassette Lifting Plate Sensor	
J213	PCB1	DC Controller PCB	J9		J2238	PS15	Cassette Paper Sensor	
J213	PCB1	DC Controller PCB	J9		J2239	PS16	Cassette Paper Level Sensor A	
J213	PCB1	DC Controller PCB	J9		J2240	PS17	Cassette Paper Level Sensor B	
J213	PCB1	DC Controller PCB	J9		J2301	PS20	Transparency Sensor	

T-4-20

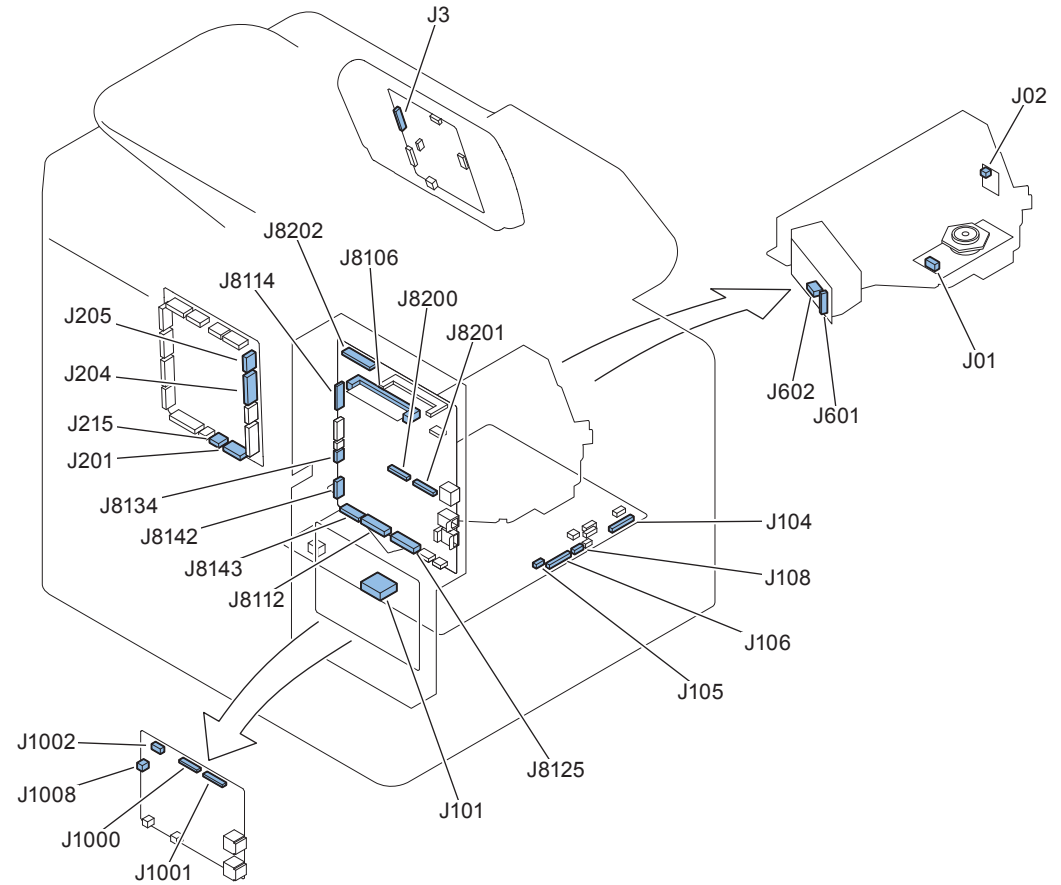
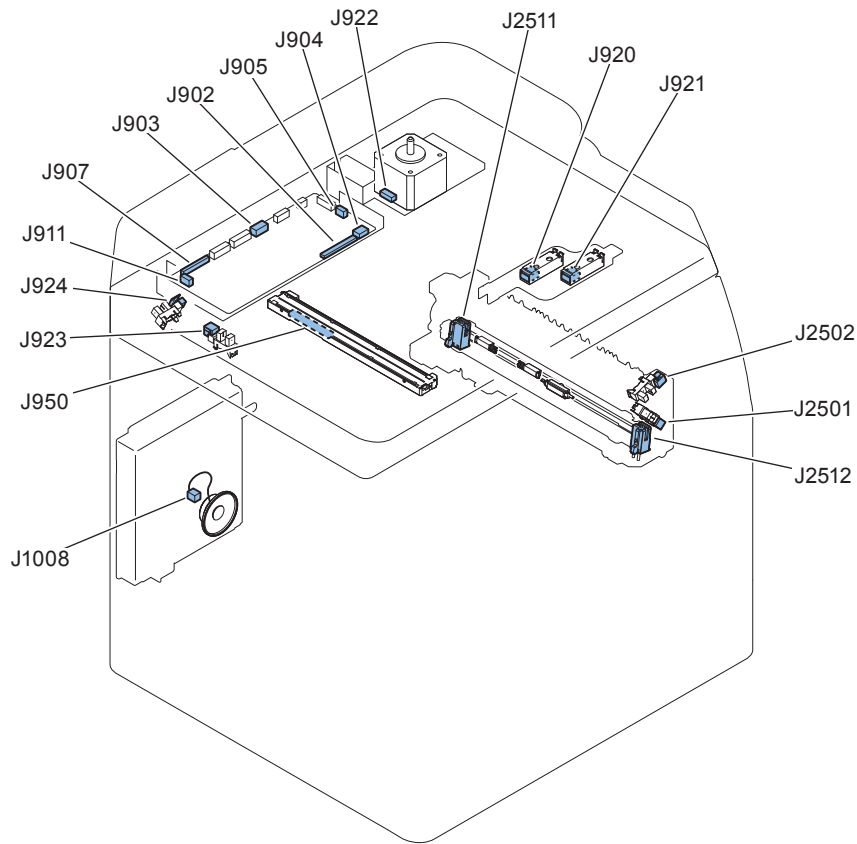


F-4-21

J No.	Symbol	Name	Relay Connector	Relay Connector	J No.	Symbol	Name	REMARKS
J203	PCB1	DC Controller PCB	J1		J2201	M1	Fixing Motor	
J203	PCB1	DC Controller PCB	J2		J2202	M2	Main Motor	
J209	PCB1	DC Controller PCB	J22		J2203	THU1	Environment Sensor	
J209	PCB1	DC Controller PCB	J22		J2206	PS3	Waste Toner Motor Rotation Sensor	
J209	PCB1	DC Controller PCB	J22		J2207	M3	Waste Toner Motor	
J209	PCB1	DC Controller PCB	J15	J3	J2209	TS2	Developing Assembly Toner Sensor	
J209	PCB1	DC Controller PCB	J15		J2204	PS1	Front Cover Sensor	
J209	PCB1	DC Controller PCB	J15		J2205	PS2	Waste Toner Full Sensor	
J209	PCB1	DC Controller PCB	J15	J60	J2302	FM7	Developing Cooling Fan (Front)	
J209	PCB1	DC Controller PCB	J15	J60	J2303	FM8	Developing Cooling Fan (Rear)	
J209	PCB1	DC Controller PCB			J2216	FM4	Power Supply Cooling Fan	
J211	PCB1	DC Controller PCB	J6		J2224	PS10	Bottle Rotation Sensor	
J211	PCB1	DC Controller PCB	J6		J2225	TS1	Hopper Toner Sensor	
J211	PCB1	DC Controller PCB	J6		J2226	M5	Bottle Motor	

J No.	Symbol	Name	Relay Connector	Relay Connector	J No.	Symbol	Name	REMARKS
J211	PCB1	DC Controller PCB	J6		J2227	M6	Hopper Motor	
J211	PCB1	DC Controller PCB			J2228	CL1	Registration Clutch	
J211	PCB1	DC Controller PCB			J2229	CL2	Developing Cylinder Clutch	
J211	PCB1	DC Controller PCB			J2230	M7	Duplex Feed Motor	
J211	PCB1	DC Controller PCB	J7		J2231	PS11	Registration Sensor	
J211	PCB1	DC Controller PCB	J7		J2232	PS12	Pre-registration Sensor	

T-4-21

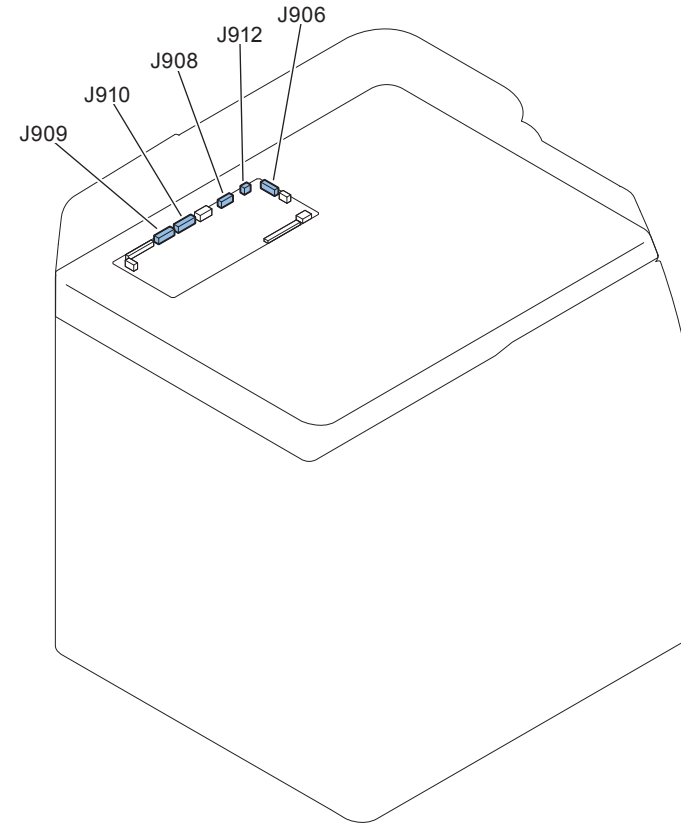
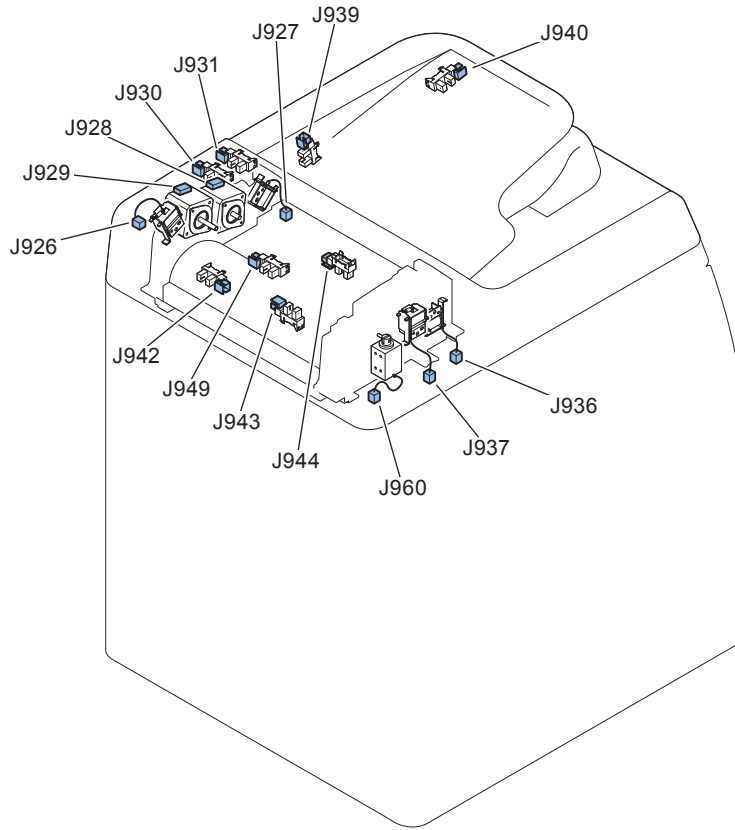


F-4-22

J No.	Symbol	Name	Relay Connector	Relay Connector	J No.	Symbol	Name	REMARKS
J201	PCB1	DC Controller PCB			J104	PCB6	Power Supply PCB	
J204	PCB1	DC Controller PCB			J8112	PCB2	Main Controller PCB	
J205	PCB1	DC Controller PCB			J105	PCB6	Power Supply PCB	
J215	PCB1	DC Controller PCB			J01	-	Laser Scanner Motor	
J8106	PCB2	Main Controller PCB			-	-	SO-DIMM	
J8114	PCB2	Main Controller PCB			J3	PCB4	Control Panel CPU PCB	
J8125	PCB2	Main Controller PCB			J106	PCB6	Power Supply PCB	
J8134	PCB2	Main Controller PCB			J1002	PCB10	FAX PCB	
J8142	PCB2	Main Controller PCB			J602	PCB7	Leser Driver PCB	
J8142	PCB2	Main Controller PCB			J02	-	BD PCB	
J8143	PCB2	Main Controller PCB			J601	PCB7	Leser Driver PCB	
J8200	PCB2	Main Controller PCB			J1000	PCB10	FAX PCB	
J8201	PCB2	Main Controller PCB			J1001	PCB10	FAX PCB	

J No.	Symbol	Name	Relay Connector	Relay Connector	J No.	Symbol	Name	REMARKS
J8202	PCB2	Main Controller PCB			J907	PCB3	Reader Controller PCB	
J902	PCB3	Reader Controller PCB			J950	-	CIS Unit	
J903	PCB3	Reader Controller PCB			J108	PCB6	Power Supply PCB	
J904	PCB3	Reader Controller PCB			J920	PS21	Original Size Sensor 1	
J904	PCB3	Reader Controller PCB			J921	PS22	Original Size Sensor 2	
J905	PCB3	Reader Controller PCB			J922	M10	Reader Motor	
J911	PCB3	Reader Controller PCB			J923	PS24	CIS HP Sensor	
J911	PCB3	Reader Controller PCB			J924	PS23	ADF Open/Closed Detection Sensor	
J101	PCB6	Power Supply PCB	J2510		J2502	PS18	Fixing Pressure Release Sensor	
J101	PCB6	Power Supply PCB	J2510		J2501	PS19	Fixing Paper Sensor	
J101	PCB6	Power Supply PCB	J2510		J2511	H1,H2	Fixing Heater,Sub Heater	
-	-	-			J2512	H1,H2	Fixing Heater,Sub Heater	
J101	PCB6	Power Supply PCB	J2510		-	THM1	Fixing Thermistor	
J101	PCB6	Power Supply PCB	J2510		-	THM2	Sub Thermistor	
J101	PCB6	Power Supply PCB	J2510		-	TP1	Fixing Thermoswitch	
J1008	PCB10	FAX PCB			J1008	SP1	Speaker	

T-4-22



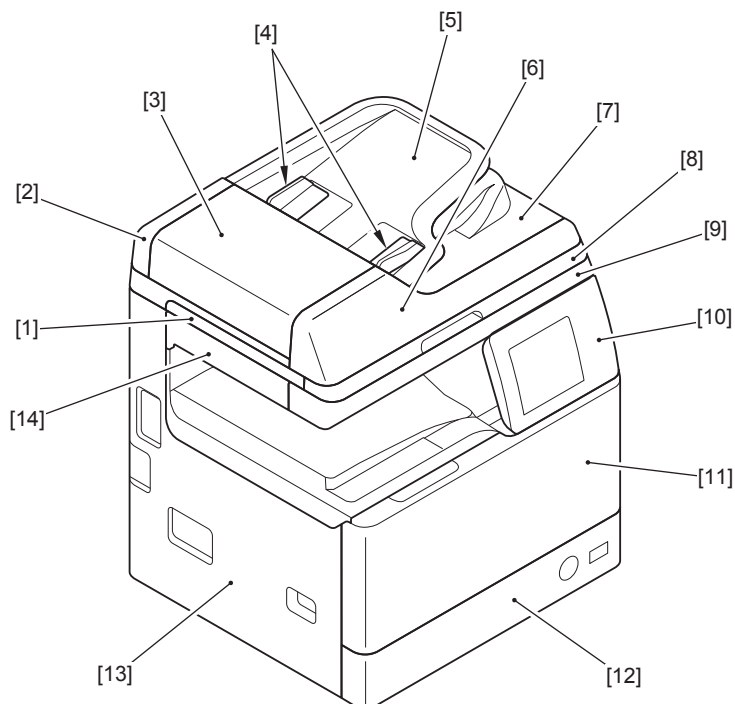
F-4-23

J No.	Symbol	Name	Relay Connector	Relay Connector	J No.	Symbol	Name	REMARKS
J906	PCB3	Reader Controller PCB			J928	M12	Delivery Reversal Motor	
J906	PCB3	Reader Controller PCB			J929	M11	Feed Motor	
J908	PCB3	Reader Controller PCB	J925		J936	SL6	Flapper Solenoid 2	
J908	PCB3	Reader Controller PCB	J925		J937	SL7	Flapper Solenoid 1	
J908	PCB3	Reader Controller PCB			J926	SL4	Registration Solenoid	
J908	PCB3	Reader Controller PCB			J927	SL5	Pickup Solenoid	
J909	PCB3	Reader Controller PCB			J930	PS29	Timing Sensor	
J909	PCB3	Reader Controller PCB			J931	PS30	Original Set Sensor	
J909	PCB3	Reader Controller PCB	J932		J939	PS31	Original Width Detection Sensor	
J909	PCB3	Reader Controller PCB	J932		J940	PS32	Original Length Detection Sensor	
J910	PCB3	Reader Controller PCB	J947		J949	PS28	Reversal Sensor	
J910	PCB3	Reader Controller PCB	J956		J944	PS27	Stay Sensor	
J910	PCB3	Reader Controller PCB	J933		J943	PS26	Registration Sensor	
J910	PCB3	Reader Controller PCB	J933		J942	PS25	Lead Sensor	
J912	PCB3	Reader Controller PCB	J958		J960	SL8	Roller Release Solenoid	

External Cover/Internal System

Location

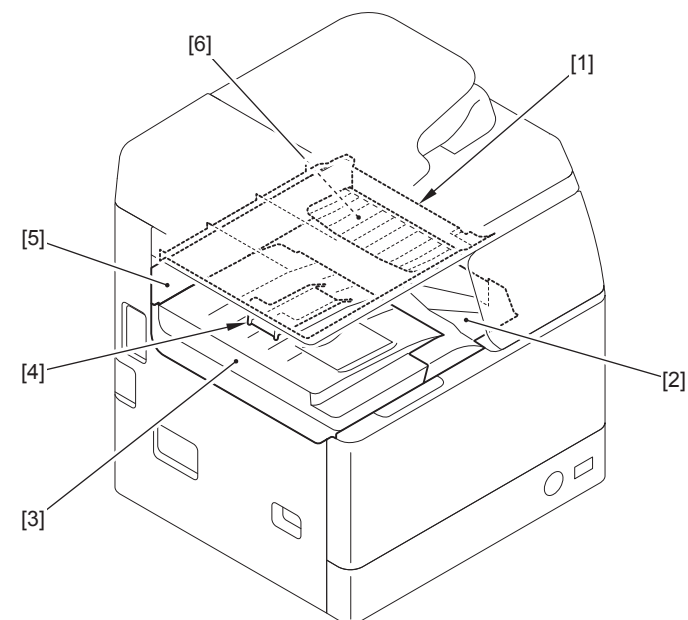
Front Side



F-4-24

No.	Name	Reference
[13]	Left Cover	(Refer to page 4-27)
[14]	Reader Left Cover	-

T-4-24



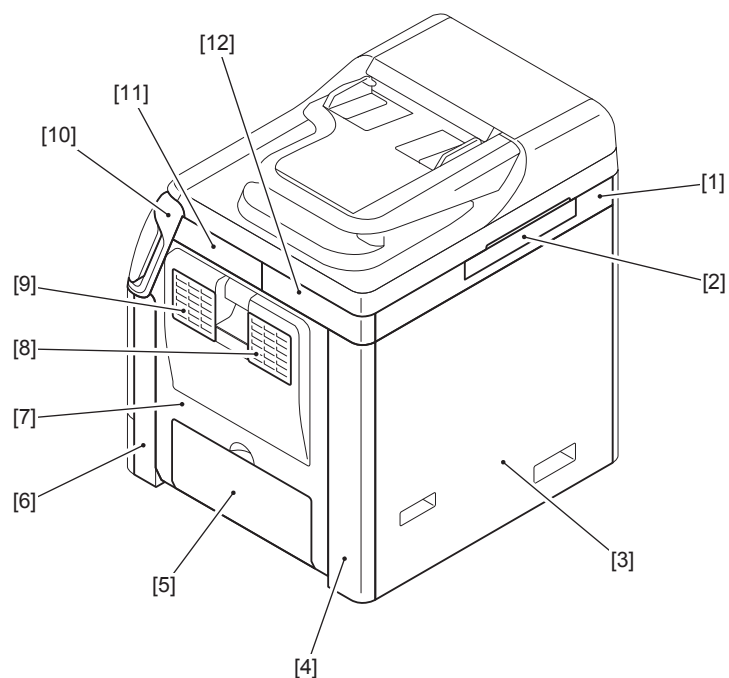
F-4-25

No.	Name	Reference
[1]	Reader Bottom Cover	(Refer to page 4-36)
[2]	Delivery Inner Cover	(Refer to page 4-29)
[3]	Delivery Outer Cover	(Refer to page 4-29)
[4]	Delivery Stopper	-
[5]	Inner Rear Cover	(Refer to page 4-28)
[6]	Reverse Tray	-

T-4-25

No.	Name	Reference
[1]	ADF Left Cover	-
[2]	ADF Rear Cover	-
[3]	ADF Upper Cover	(Refer to page 4-48)
[4]	Side Guide Plate	-
[5]	Original Feed Tray	(Refer to page 4-52)
[6]	ADF Front Upper Cover	-
[7]	Original Delivery Tray	-
[8]	ADF Front Lower Cover	-
[9]	Reader Front Cover	(Refer to page 4-33)
[10]	Control Panel Unit	(Refer to page 4-36)
[11]	Front Cover	(Refer to page 4-24)
[12]	Cassette	-

Rear Side

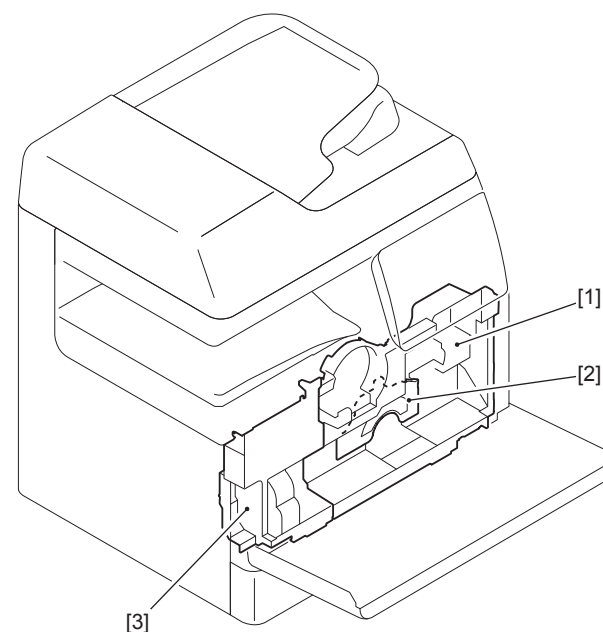


F-4-26

No.	Name	Reference
[1]	Reader Rear Cover	(Refer to page 4-34)
[2]	Reader Controller Cover	-
[3]	Rear Cover	(Refer to page 4-24)
[4]	Right Rear Cover	(Refer to page 4-26)
[5]	Multi-purpose Tray Pickup Unit	-
[6]	Right Front Cover	(Refer to page 4-25)
[7]	Right Door Unit	(Refer to page 4-26)
[8]	Right Rear Fan Cover	-
[9]	Right Front Fan Cover	-
[10]	Support Column Cover	(Refer to page 4-32)
[11]	Reader Right Front Cover	-
[12]	Reader Right Rear Cover	-

T-4-26

Internal View



F-4-27

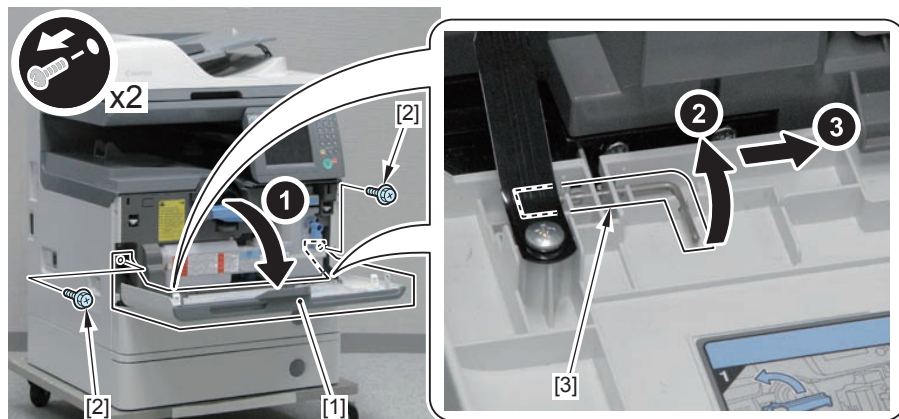
No.	Name	Reference
[1]	Right Inner Cover	(Refer to page 4-29)
[2]	Developing Assembly Replacement Inner Cover	-
[3]	Left Inner Cover	(Refer to page 4-32)

T-4-27

Removing the Front Cover

Procedure

- 1) Open the Front Cover [1].
- 2) Remove the Front Cover [1].
 - 2 Screws [2]
 - 2 Pins [3]

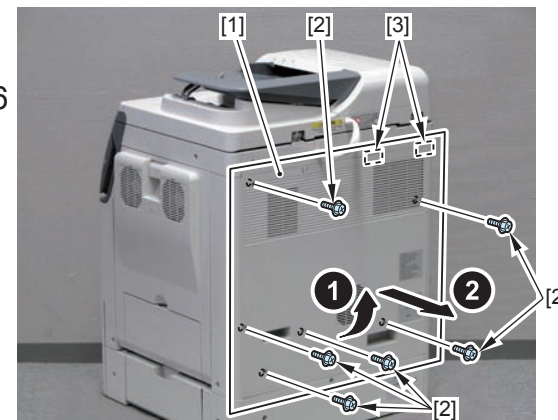


F-4-28

Removing the Rear Cover

Procedure

- 1) Remove the Rear Cover [1].
 - 6 Screws [2]
 - 2 Hooks [3]

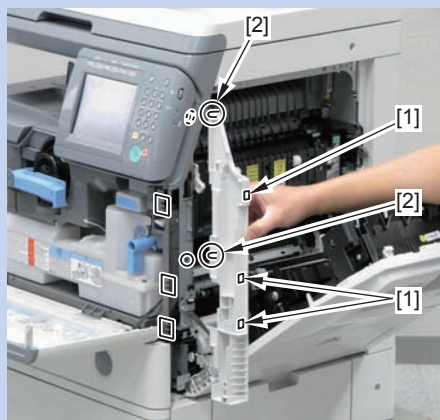


F-4-29

Removing the Right Front Cover

Procedure

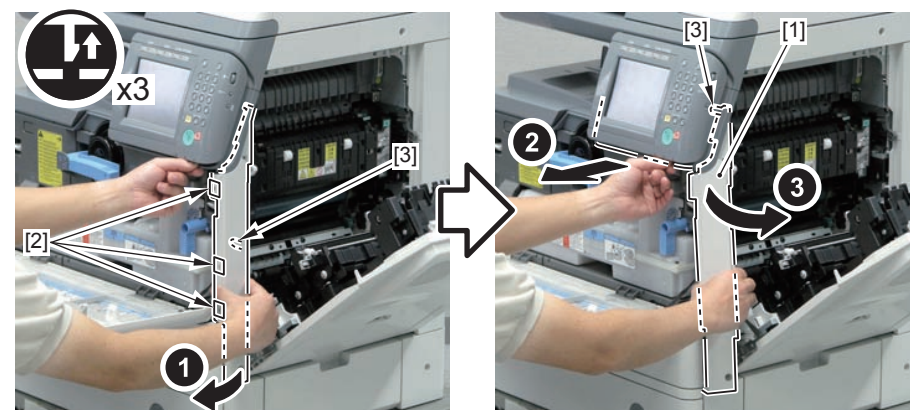
NOTE:
The following shows the 3 claws [1] and 2 bosses [2] of the Right Front Cover.



F-4-30

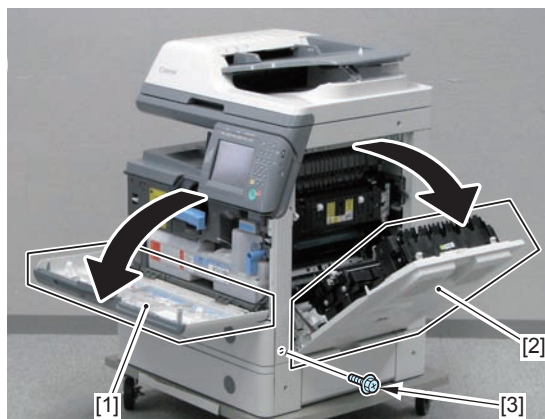
2) Remove the Right Front Cover [1].

- 3 Claws [2]
- 2 Bosses [3]



F-4-32

1) Open the Front Cover [1] and Right Door Unit [2], and remove the screw [3].



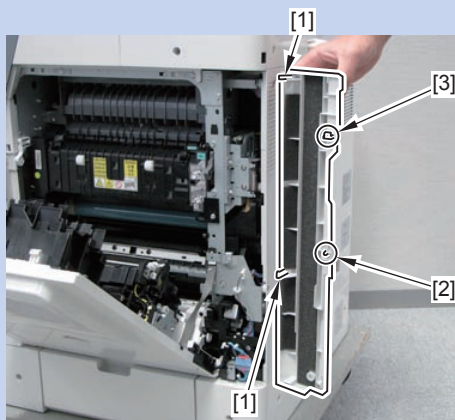
F-4-31

Removing the Right Rear Cover

Procedure

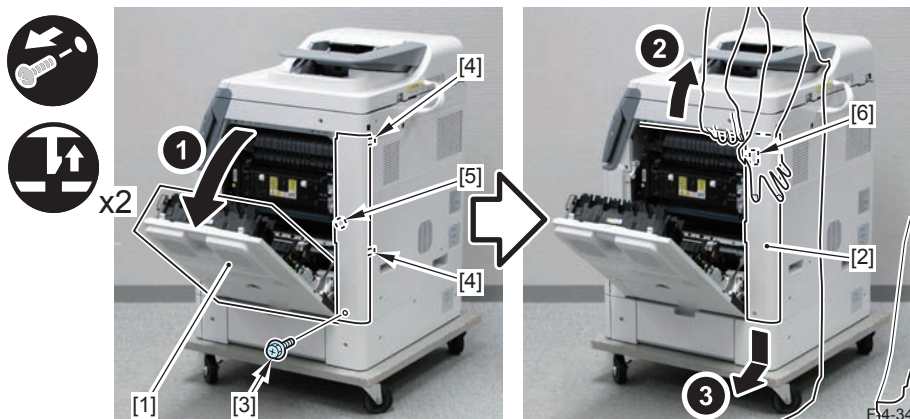
NOTE:

The following shows the 2 claws [1], 1 boss [2] and 1 hook [3].



F-4-33

- 1) Open the Right Door Unit [1].
 - 2) Remove the Right Rear Cover [2].
- 1 Screw [3]
 - 2 Claws [4]
 - 1 Boss [5]
 - 1 Hook [6]



F-4-34

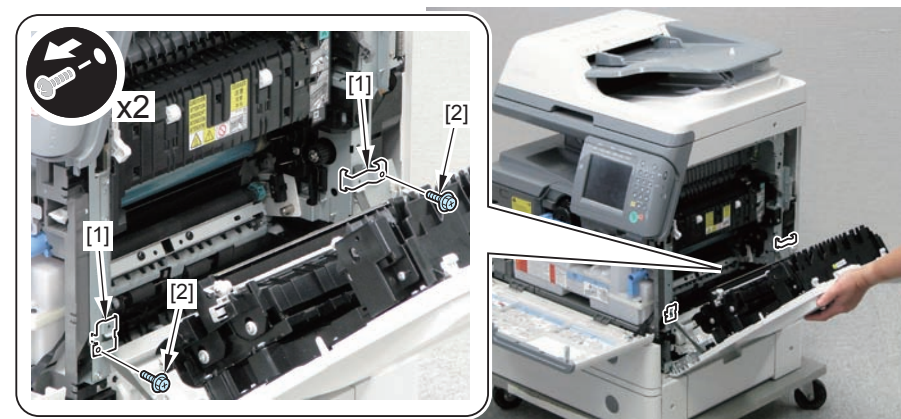
Removing the Right Door Unit

Preparation

- 1) Remove the Right Front Cover. (Refer to page 4-25)
- 2) Remove the Right Rear Cover. (Refer to page 4-26)

Procedure

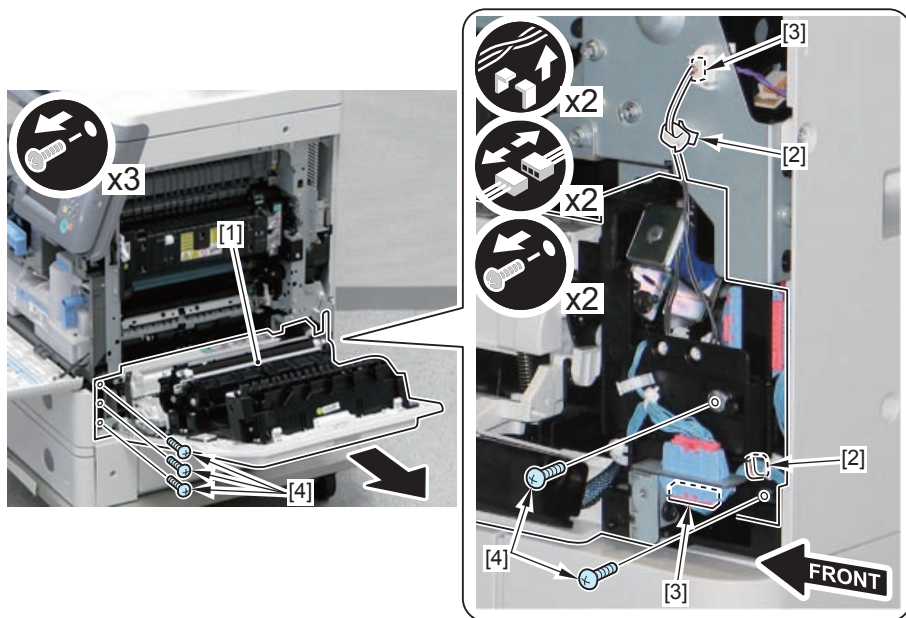
- 1) Pull out the cassette.
 - 2) While holding the Right Door Unit, remove the 2 Door Fixtures [1] on the Rear and Front.
- 2 Screws [2]



F-4-35

3) Remove the Right Door Unit [1].

- 2 Wire Saddle [2]
- 2 Connectors [3]
- 5 Screws [4]



F-4-36

Removing the Left Cover

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)

Procedure

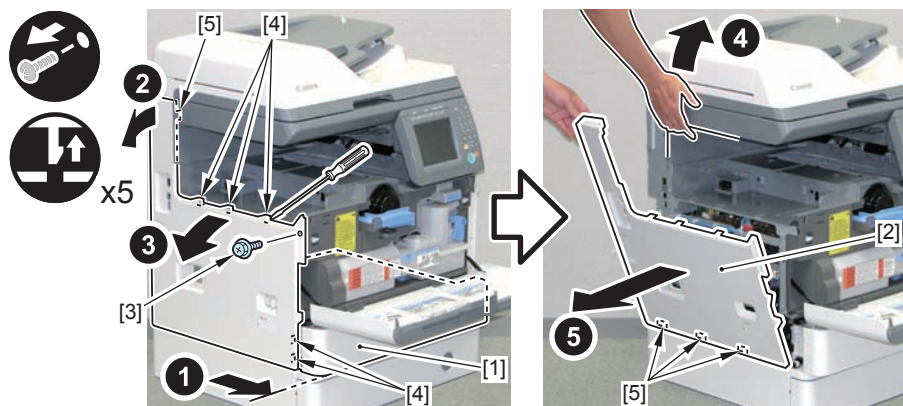
- 1) Open the cassette [1], and remove the Left Cover [2] while lifting the host machine.
 - 1 Screw [3]
 - 5 Claws [4]
 - 4 Hooks [5]

CAUTION:

When lifting the host machine, hold the rear side of the bottom of the Reader Unit.



F-4-37



F-4-38

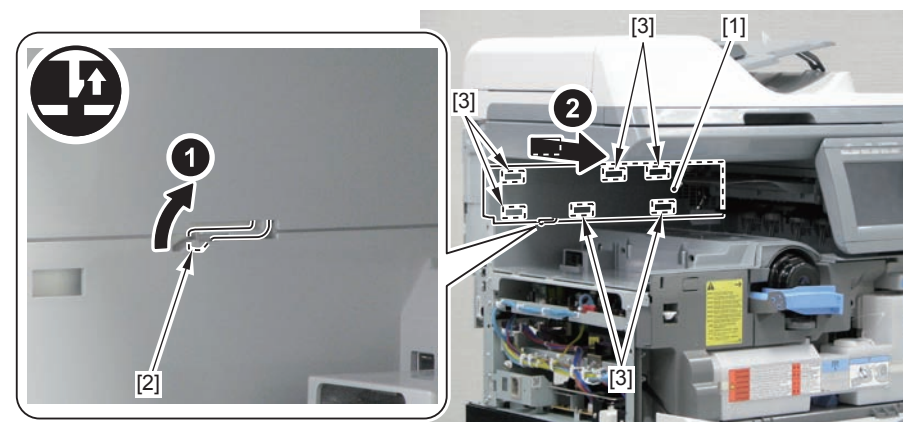
Removing the Inner Rear Cover

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)

Procedure

- 1) Remove the Inner Rear Cover [1].
 - 1 Claw [2]
 - 6 Hooks [3]



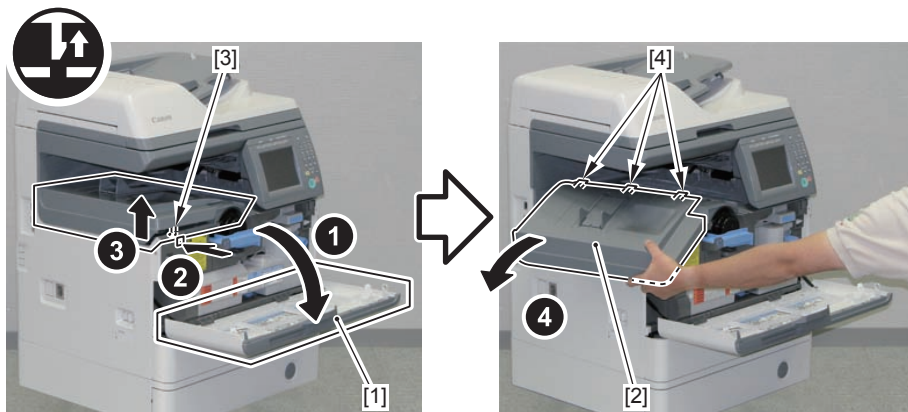
F-4-39

Removing the Delivery Outer Cover

Procedure

1) Open the Front Cover [1], and remove the Delivery Outer Cover [2].

- 1 Claw [3]
- 3 Hooks [4]



F-4-40

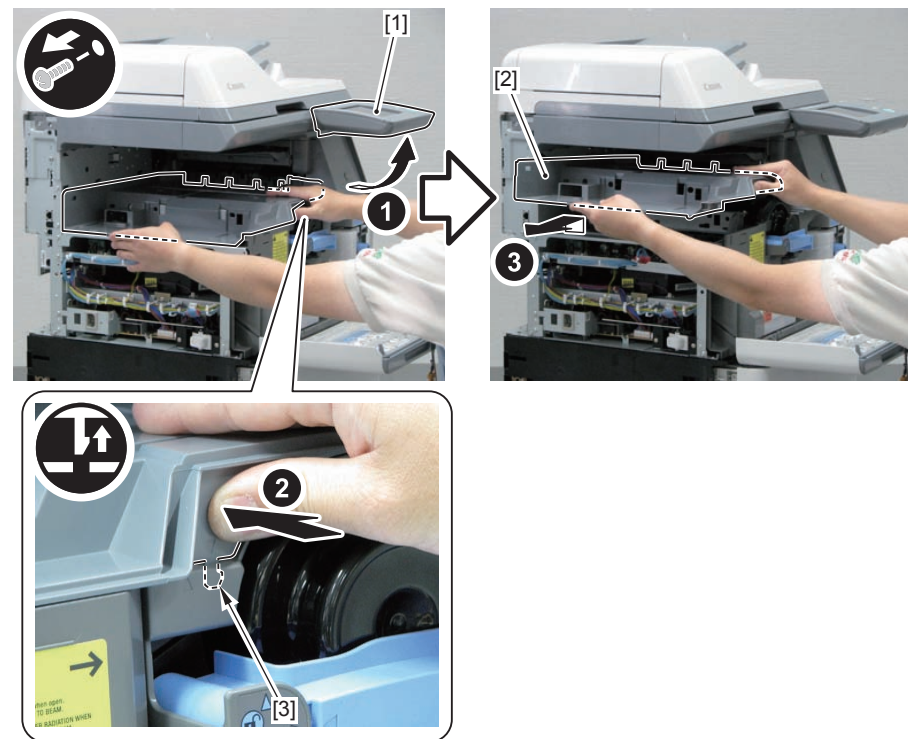
Removing the Delivery Inner Cover

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) Remove the Inner Rear Cover. (Refer to page 4-28)

Procedure

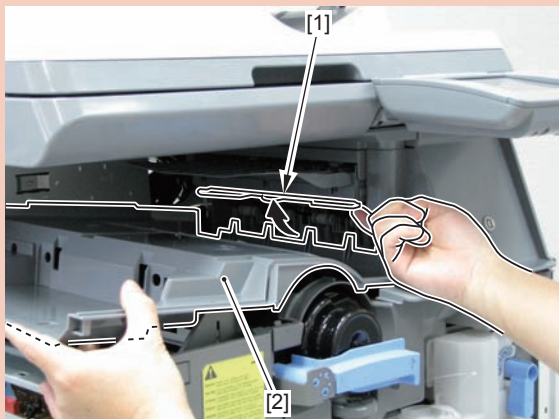
- 1) Remove the Control Panel Unit [1].
 - 2) Remove the Delivery Inner Cover [2].
- 1 Claw [3]



F-4-41

CAUTION:

Be sure to install the Delivery Inner Cover [2] while lifting the flapper [1] when assembling.



F-4-42

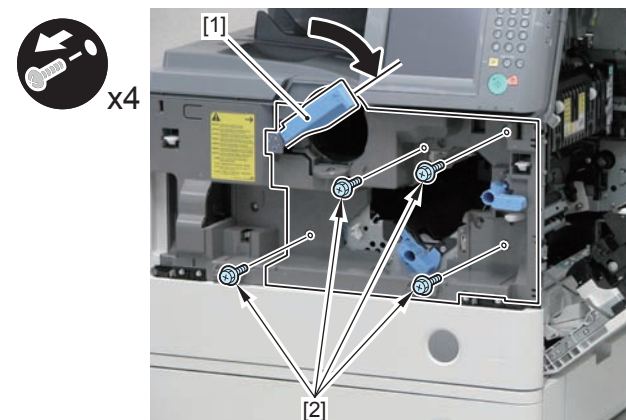
Removing the Right Inner Cover

Preparation

- 1) Remove the Toner Cartridge. (Refer to page 4-68)
- 2) Remove the Waste Toner Container. (Refer to page 4-67)
- 3) Remove the Drum Unit. (Refer to page 4-68)
- 4) Remove the Developing Assembly. (Refer to page 4-69)
- 5) Remove the Front Cover. (Refer to page 4-24)
- 6) Remove the Right Front Cover. (Refer to page 4-25)

Procedure

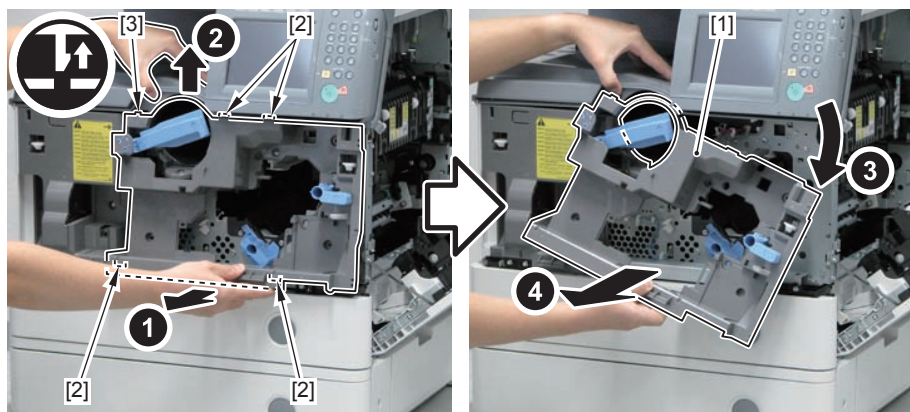
- 1) Return the Toner Cartridge Lock Lever [1] to the original position, and remove the 4 screws [2].



F-4-43

2) Remove the Right Inner Cover [1].

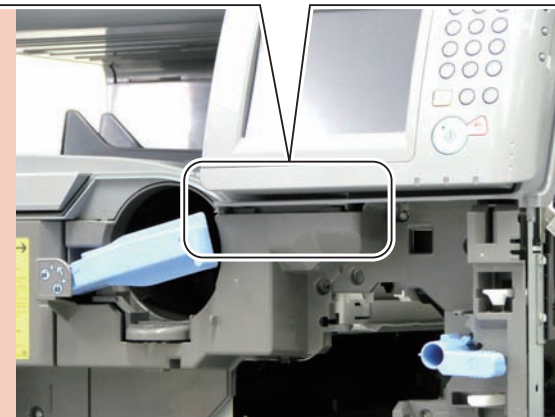
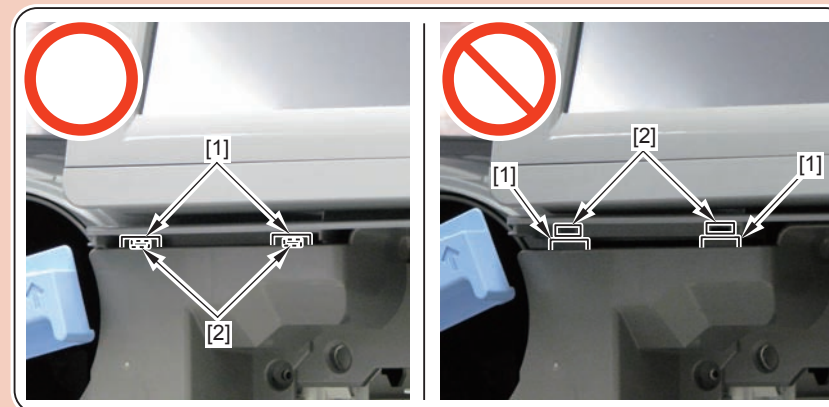
- 4 Hooks [2]
- 1 Claw [3]



F-4-44

CAUTION:

Be sure to fit the 2 hooks [1] at the upper side of the Right Inner Cover into the 2 holes [2] of the Support Column Cover when assembling.



F-4-45

Removing the Left Inner Cover

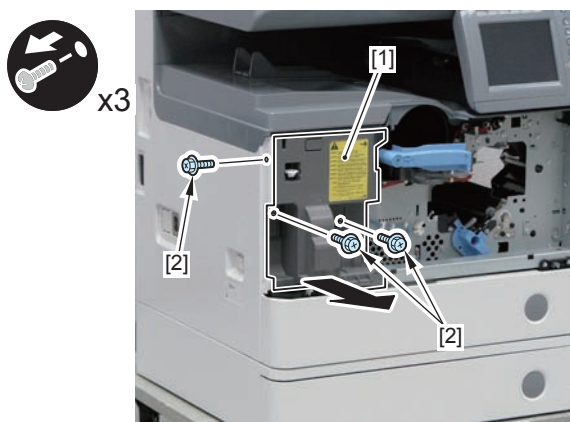
Preparation

- 1) Remove the Toner Cartridge. (Refer to page 4-68)
- 2) Remove the Waste Toner Container. (Refer to page 4-67)
- 3) Remove the Drum Unit. (Refer to page 4-68)
- 4) Remove the Developing Assembly. (Refer to page 4-69)
- 5) Remove the Front Cover. (Refer to page 4-24)
- 6) Remove the Right Front Cover. (Refer to page 4-25)
- 7) Remove the Right Inner Cover. (Refer to page 4-30)

Procedure

- 1) Remove the Left Inner Cover [1].

- 3 Screws [2]



F-4-46

Removing the Support Column Cover

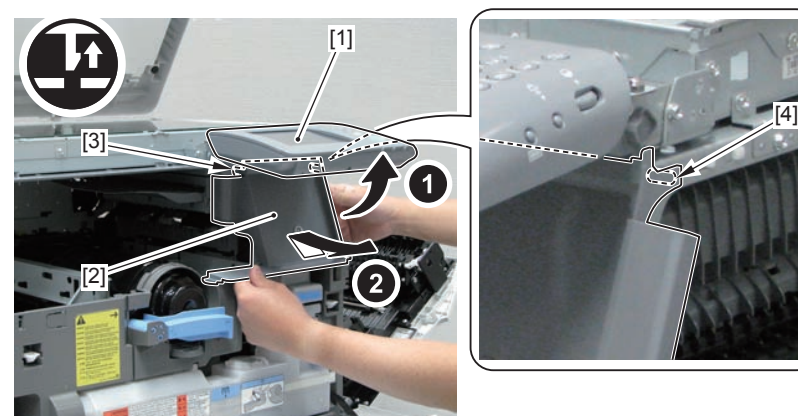
Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) Remove the Inner Rear Cover. (Refer to page 4-28)
- 5) Remove the Delivery Inner Cover. (Refer to page 4-29)
- 6) Remove the Reader Front Cover. (Refer to page 4-33)
- 7) Remove the Right Front Cover. (Refer to page 4-25)

Procedure

- 1) Lift the Control Panel Unit [1], and remove the Support Column Cover [2].

- 1 Claw [3]
- 1 Boss [4]



F-4-47

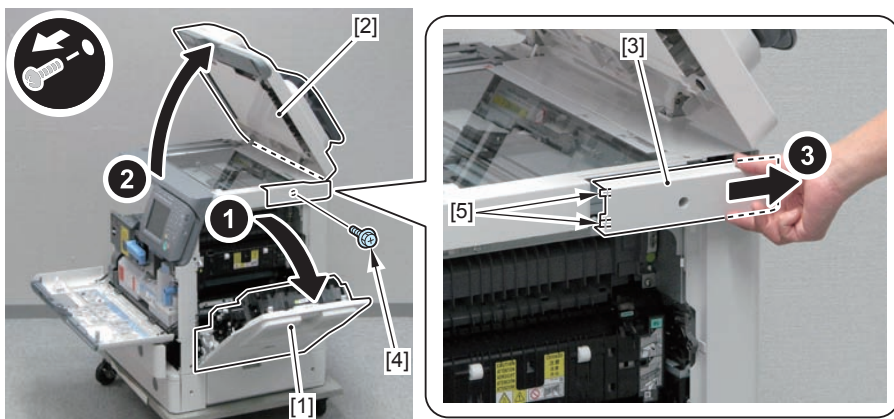
Removing the Reader Front Cover

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) Remove the Inner Rear Cover. (Refer to page 4-28)

Procedure

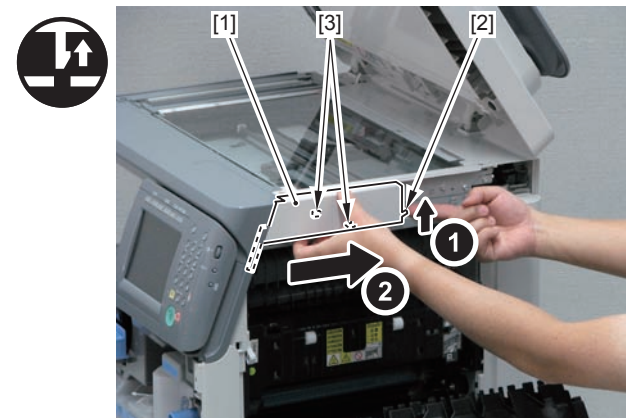
- 1) Open the Right Door Unit [1], and remove the ADF Unit [2].
- 2) Remove the Reader Right Rear Cover [3].
 - 1 Screw [4]
 - 2 Hooks [5]



F-4-48

- 3) Remove the Reader Right Front Cover [1].

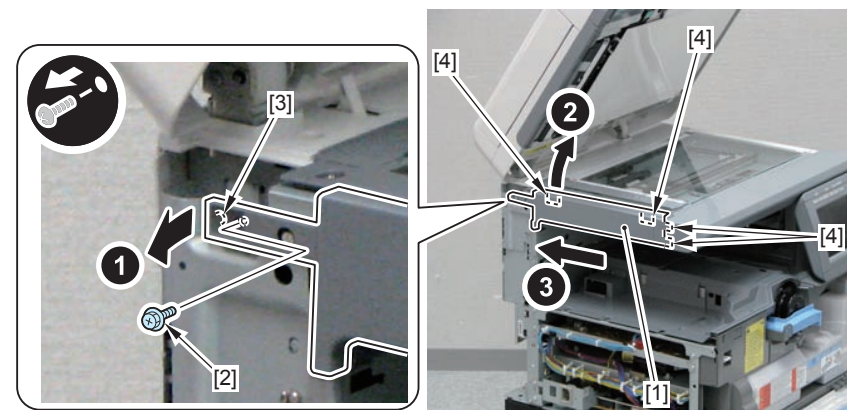
- 1 Claw [2]
- 2 Hooks [3]



F-4-49

- 4) Remove the Reader Left Cover [1].

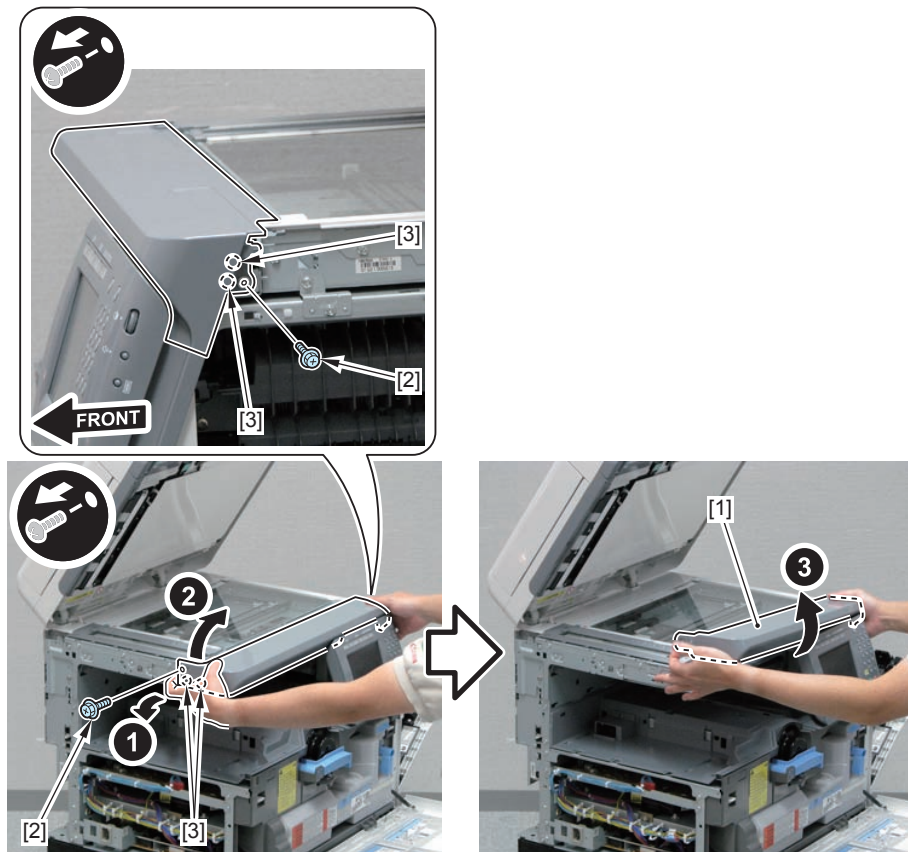
- 1 Screw [2]
- 1 Boss [3]
- 4 Hooks [4]



F-4-50

5) Remove the Reader Front Cover [1].

- 2 Screws [2]
- 4 Bosses [3]



F-4-51

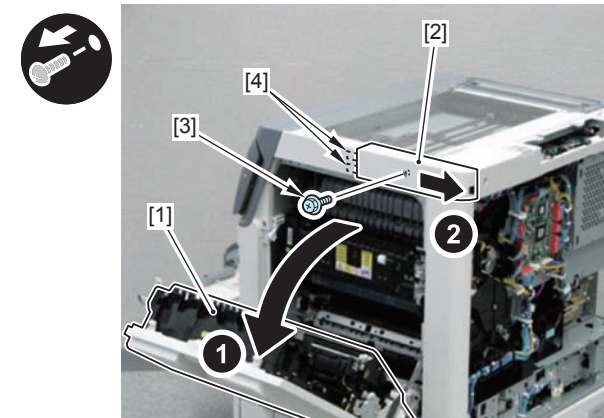
Removing the Reader Rear Cover

Preparation

- 1) Remove the ADF Unit. (Refer to page 4-43)
- 2) Remove the Rear Cover. (Refer to page 4-24)
- 3) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 4) Remove the Left Cover. (Refer to page 4-27)

Procedure

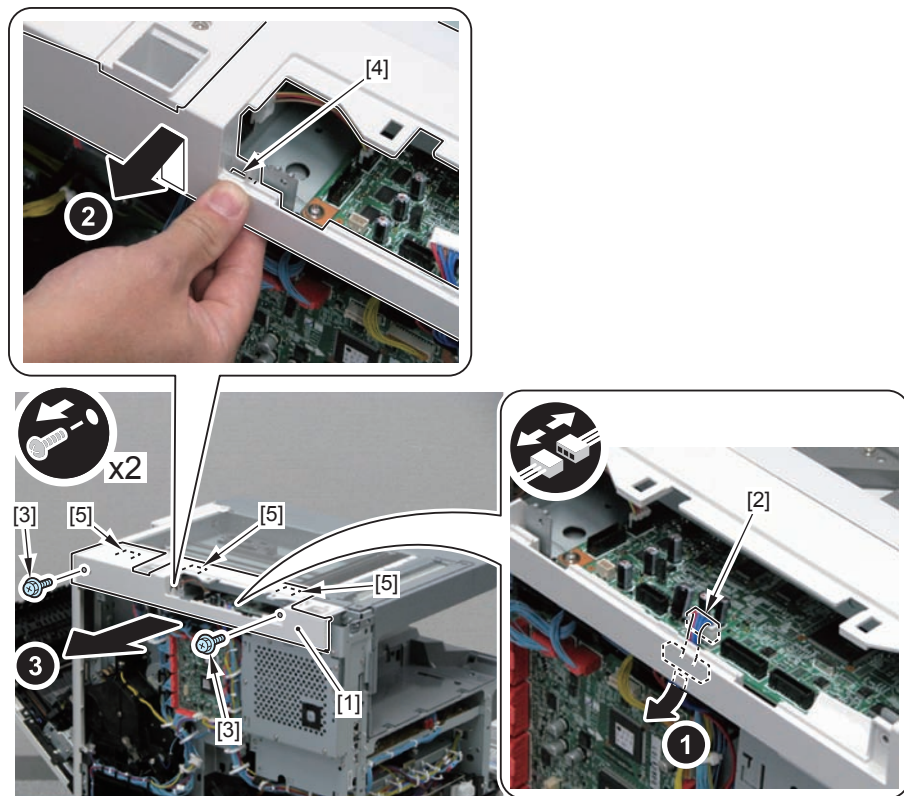
- 1) Open the Right Door Unit [1], and remove the Reader Right Rear Cover [2].
 - 1 Screw [3]
 - 2 Hooks [4]



F-4-52

2) Remove the Reader Rear Cover [1].

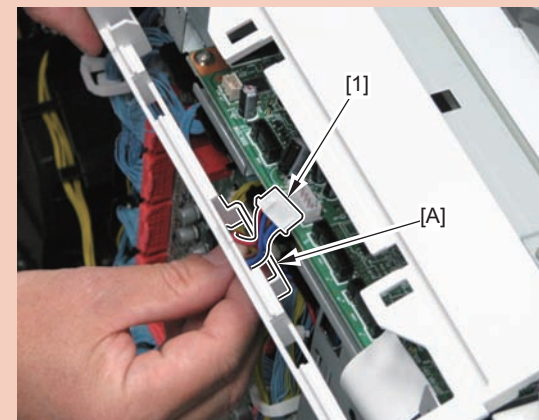
- 1 Connector [2]
- 2 Screws [3]
- 1 Protrusion [4]
- 3 Hooks [5]



F-4-53

CAUTION:

Put the harness [1] through the part in the Rear Guide where the harness is to be passed [A] when assembling.



F-4-54

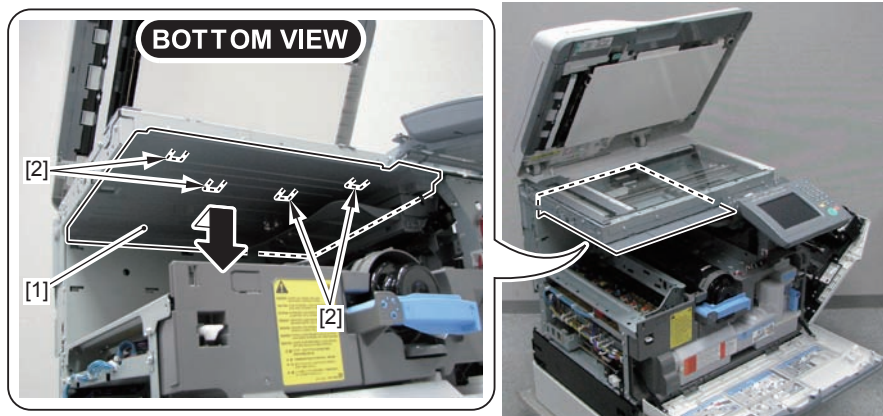
Removing the Reader Bottom Cover

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) Remove the Inner Rear Cover. (Refer to page 4-24)
- 5) Remove the Delivery Inner Cover. (Refer to page 4-29)
- 6) Remove the Reader Front Cover. (Refer to page 4-33)
- 7) Remove the Right Front Cover. (Refer to page 4-25)
- 8) Remove the Support Column Cover. (Refer to page 4-32)

Procedure

- 1) Remove the Reader Bottom Cover [1].
 - 4 Hooks [2]



F-4-55

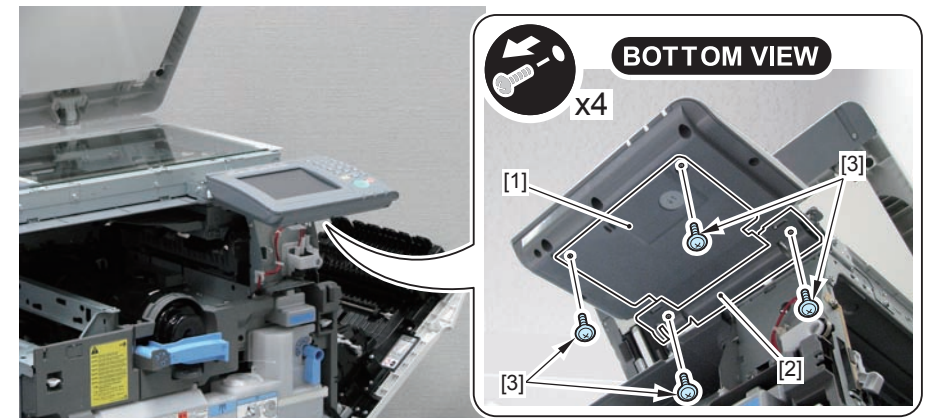
Removing the Control Panel Unit

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) Remove the Inner Rear Cover. (Refer to page 4-28)
- 5) Remove the Delivery Inner Cover. (Refer to page 4-29)
- 6) Remove the Reader Front Cover. (Refer to page 4-33)
- 7) Remove the Right Front Cover. (Refer to page 4-25)
- 8) Remove the Support Column Cover. (Refer to page 4-32)

Procedure

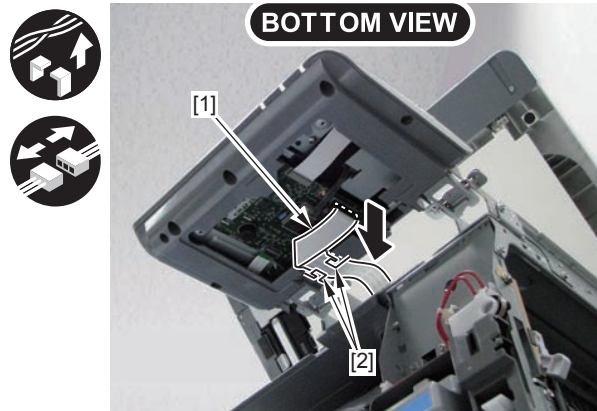
- 1) Remove the Control Panel Lower Cover [1] and the Control Panel Lower Rear Cover [2].
 - 4 Screws [3]



F-4-56

2) Disconnect the Flat Cable [1].

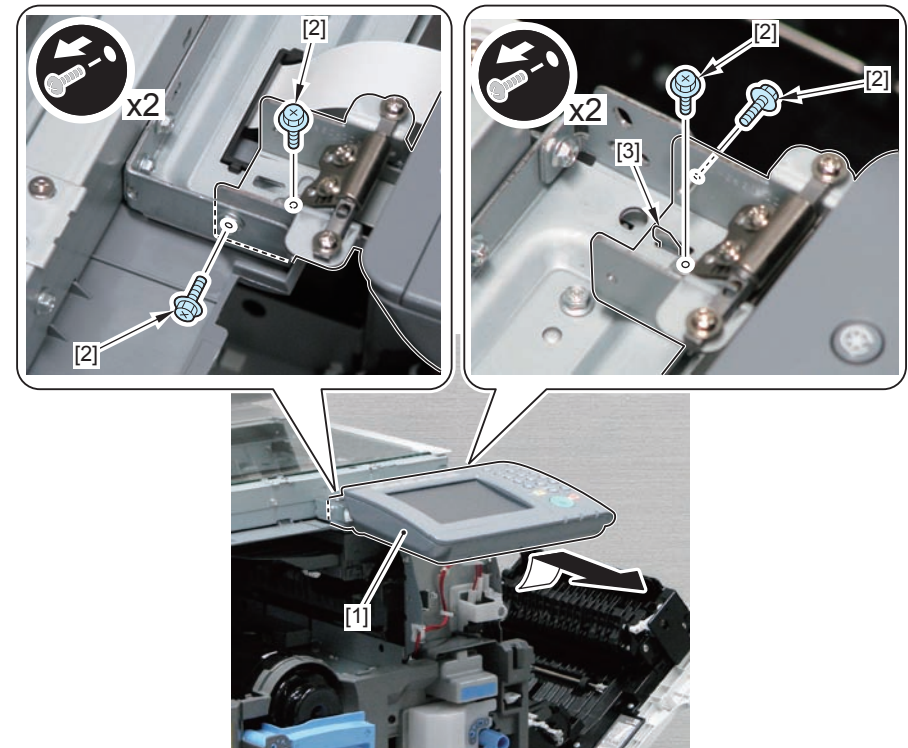
- 1 Guide [2]



F-4-57

3) Remove the Control Panel Unit [1].

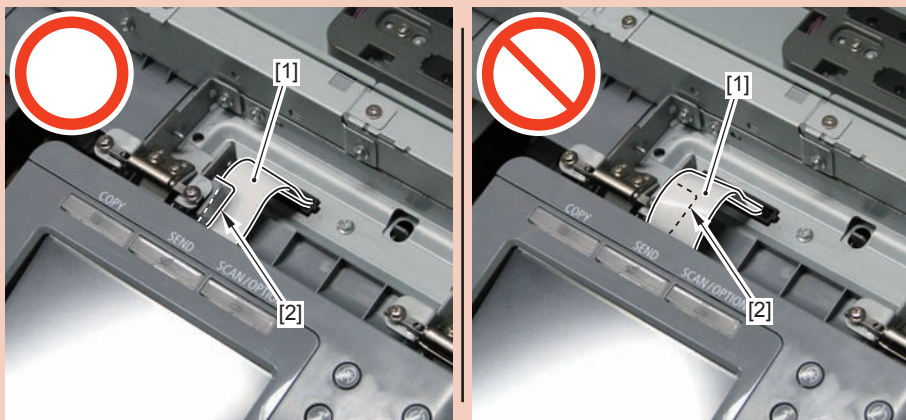
- 4 Screws [2]
- 1 Hook [3]



F-4-58

CAUTION:

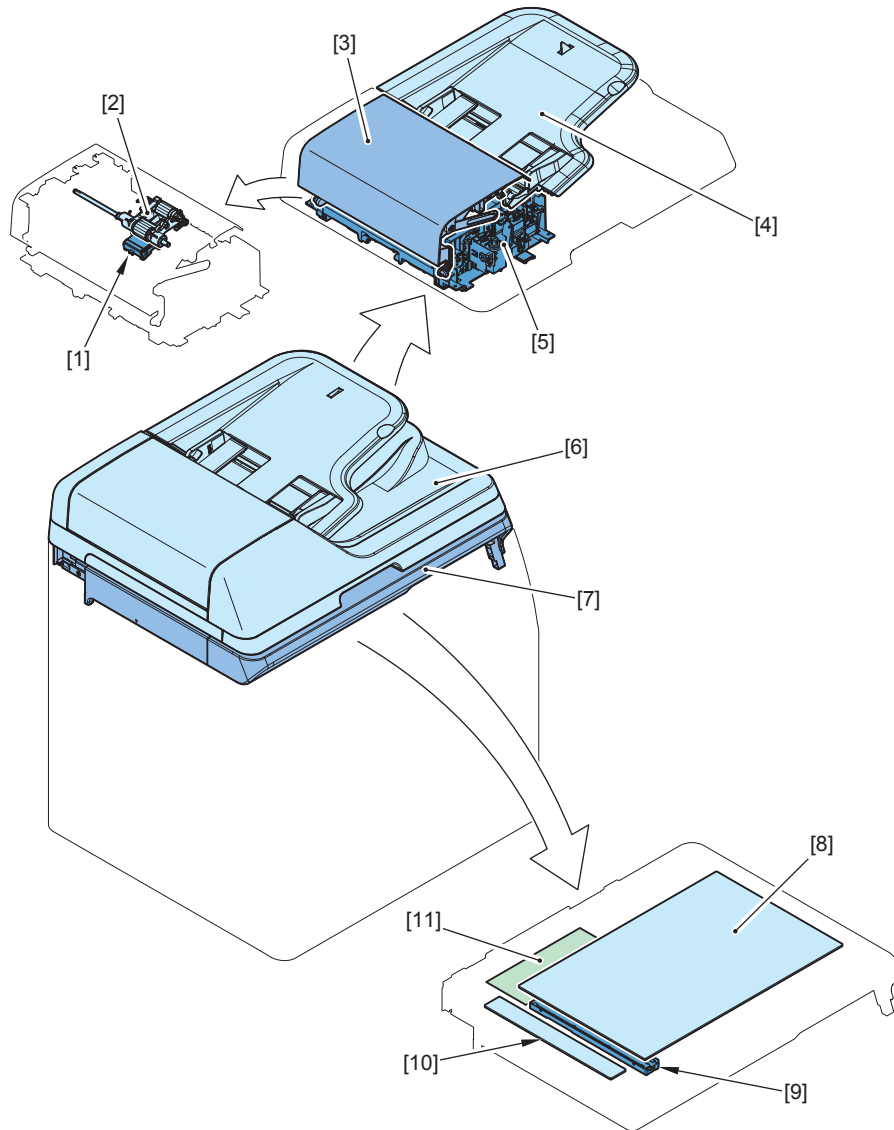
Be sure to pass the Flat Cable [1] through the guide [2] of the Control Panel Lower Rear Cover.



F-4-59

Original Exposure/Feed System

Location



F-4-60

No.	Name	Main Unit	Reference	Adjustment during parts replacement
[1]	ADF Separation Pad	ADF Pickup Unit	(Refer to page 4-50)	
[2]	ADF Pickup Roller Unit	ADF Upper Cover Unit	(Refer to page 4-51)	
[3]	ADF Upper Cover Unit	ADF Unit	(Refer to page 4-48)	
[4]	ADF Pickup Tray	ADF Unit	(Refer to page 4-52)	
[5]	ADF Pickup Unit	ADF Unit	(Refer to page 4-53)	
[6]	ADF Unit	Main Unit	(Refer to page 4-43)	
[7]	Reader Unit	Main Unit	(Refer to page 4-44)	
[8]	Copyboard Glass	Reader Unit	(Refer to page 4-40)	
[9]	CIS Unit	Reader Unit	(Refer to page 4-47)	
[10]	ADF Reading Glass	Reader Unit	(Refer to page 4-42)	
[11]	Reader Controller PCB	Reader Unit	(Refer to page 4-46)	

T-4-28

Removing the Copyboard Glass

Procedure

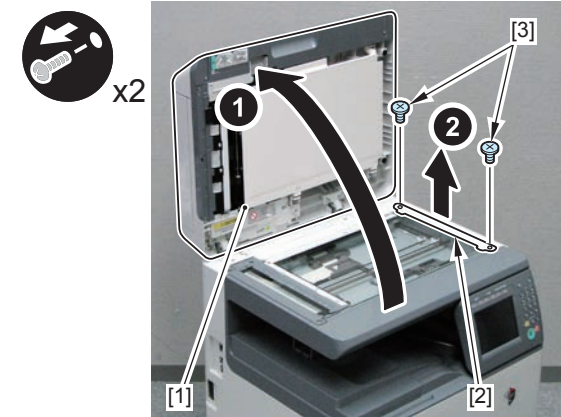
CAUTION:

- Place the removed Copyboard Glass on a cloth, etc. to avoid damaging the bottom sheet.
- When removing the Copyboard Glass, take care not to touch the glass surface.
- If the surface becomes dirty, clean it with lint free paper.



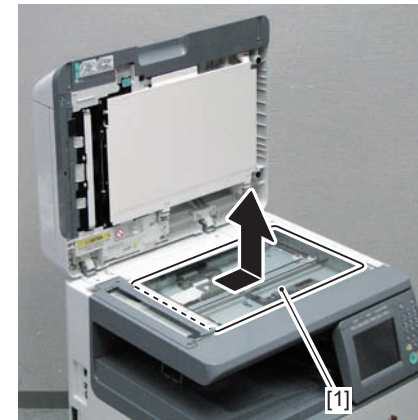
F-4-61

- 1) Open the ADF Unit [1].
- 2) Remove the Glass Retainer Plate [2].
 - 2 Screws [3]



F-4-62

- 3) Remove the Copyboard Glass [1].



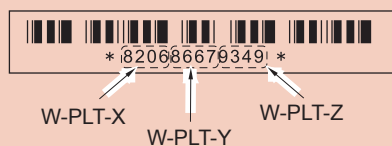
F-4-63

When Replacing the Copyboard Glass

Execute the following in the service mode.

CAUTION:

Be sure to execute the White Plate data adjustment before the DF while level adjustment.



F-4-64

NOTE:

Be sure that size of a paper to be used in the foregoing steps is the one that the ADF can be read.

1. Enter the value (see the figure above) indicated on the Copyboard Glass in the following service mode.
SCAN > READER > ADJUST > CCD > W-PLT-X/Y/Z (entering the standard White Plate data)
2. Follow the following steps to execute the service mode.
SCAN > READER > FUNCTION > CCD > DF-WLVL1/2/3/4 (adjusting the DF white level)
 - 1) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL1.
The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).
 - 2) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL2.
The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).
 - 3) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL3.
The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).
 - 4) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL4.
The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

Removing the ADF Reading Glass

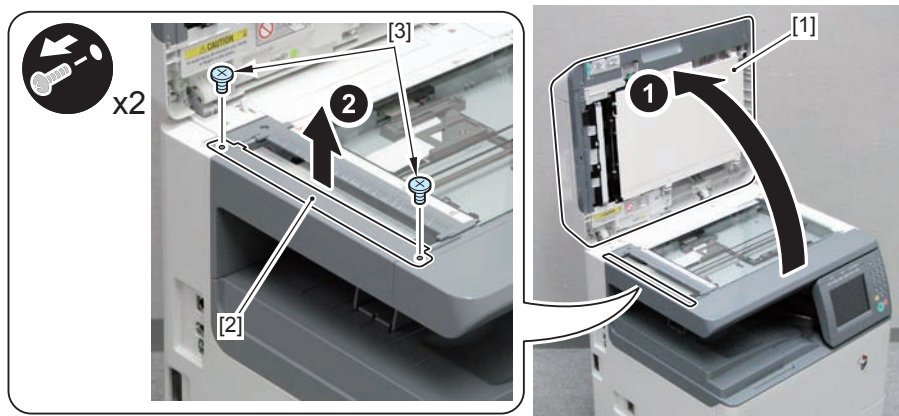
CAUTION:

- Place the removed ADF Reading Glass on a cloth, etc. to avoid damaging the bottom sheet.
- When removing the ADF Reading Glass, take care not to touch the glass surface.
- If the surface becomes dirty, clean it with lint free paper.

1) Open the ADF Unit [1].

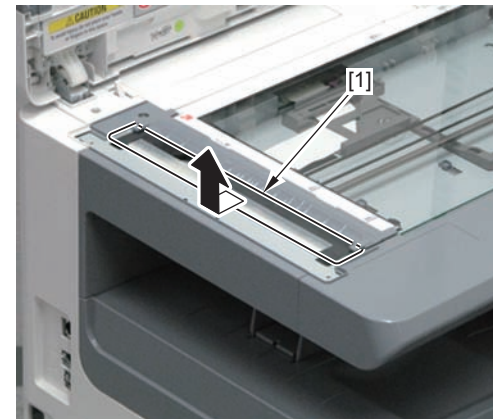
2) Remove the Glass Retainer Plate [2].

- 2 Screws [3]



F-4-65

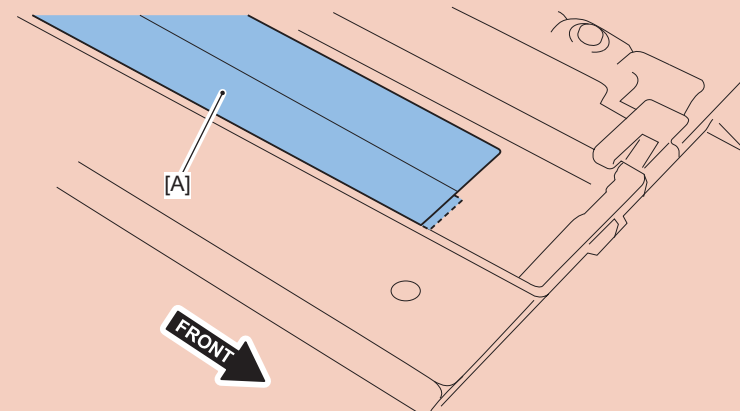
3) Remove the ADF Reading Glass [1].



F-4-66

CAUTION:

- When removing the ADF Reading Glass, take care not to touch the glass surface.
- Attached soiling may cause white line/black line in the images.
- If soiling is attached, clean it with lint free paper moistened with alcohol.
- When installing the ADF Reading Glass, be sure that the sheet material [A] of the ADF Reading Glass is on the left front side.



F-4-67

When Replacing the ADF Reading Glass

- Follow the following steps to execute the service mode.
SCAN > READER > FUNCTION > CCD > DF-WLVL 1/2/3/4 (adjusting the DF white level)
1) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL1.
The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).
2) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL2.
The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).
3) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL3.
The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).
4) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL4.
The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

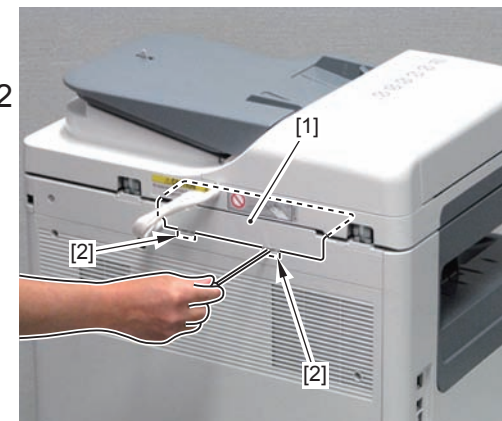
NOTE:

Be sure that size of a paper to be used in the foregoing steps is the one that the ADF can be read.

Removing the ADF Unit

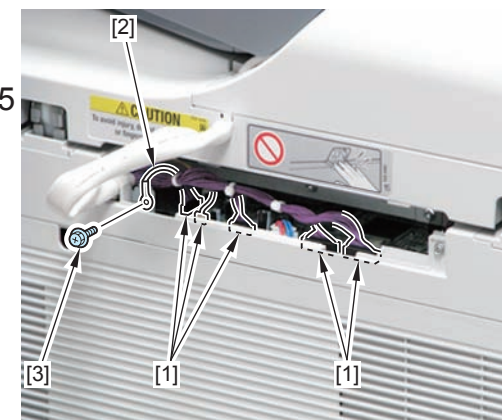
Procedure

- Remove the Reader Controller Cover [1].
 - 2 Claws [2]



F-4-68

- Remove the 5 connectors [1] and the Grounding Wire [2] of the ADF Harness.
 - 1 Screw [3]



F-4-69

3) Open the ADF Unit [1] and remove it.



F-4-70

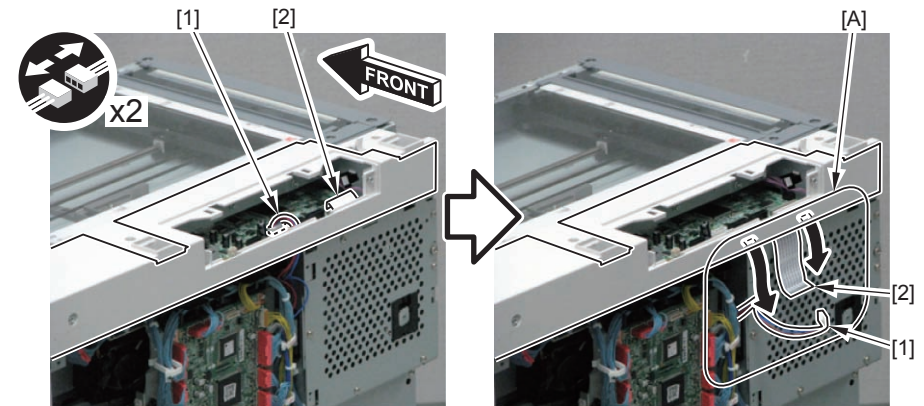
Removing the Reader Unit

Preparation

- 1) Remove the ADF Unit. (Refer to page 4-43)
- 2) Remove the Rear Cover. (Refer to page 4-24)
- 3) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 4) Remove the Left Cover. (Refer to page 4-27)
- 5) Remove the Inner Rear Cover. (Refer to page 4-24)
- 6) Remove the Delivery Inner Cover. (Refer to page 4-29)
- 7) Remove the Reader Front Cover. (Refer to page 4-33)
- 8) Remove the Right Front Cover. (Refer to page 4-25)
- 9) Remove the Support Column Cover. (Refer to page 4-32)
- 10) Remove the Reader Bottom Cover. (Refer to page 4-36)
- 11) Remove the Control Panel Unit. (Refer to page 4-36)

Procedure

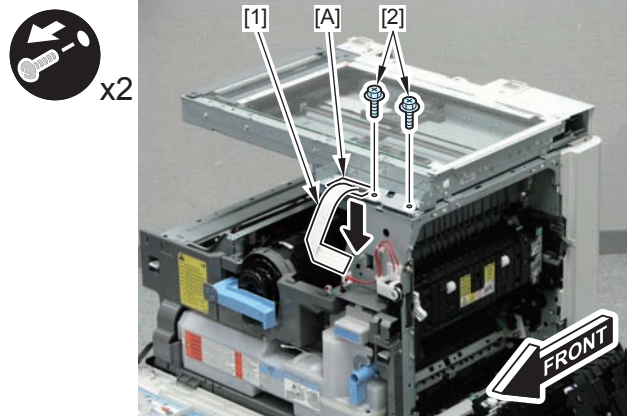
- 1) Disconnect the connector [1] and the Flat Cable [2], and pull them out to the [A] part at the lower side of the Reader Rear Cover.



F-4-71

2) Pass the Flat Cable [1] through the hole [A] of the plate and downward.

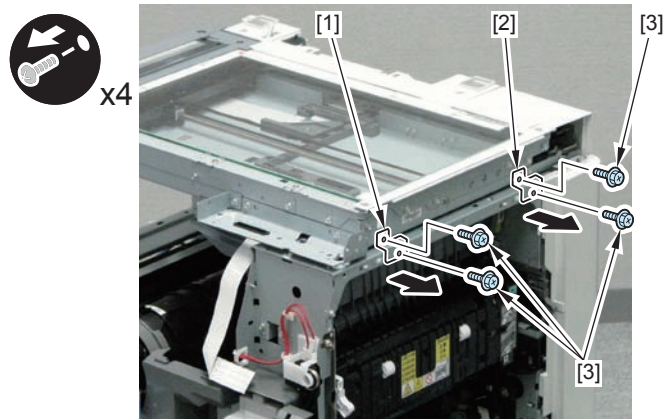
3) Remove the 2 Screws [2].



F-4-72

4) Remove the Reader Right Front Fixation Plate [1] and the Reader Right Rear Fixation Plate [2].

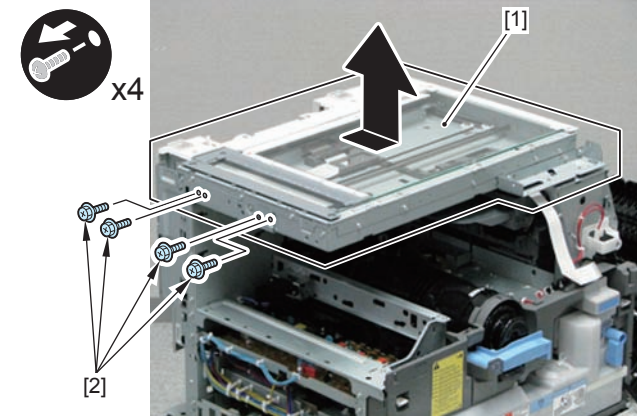
• 4 Screws [3]



F-4-73

5) Remove the Reader Unit [1].

• 4 Screws [2]



F-4-74

Removing the Reader Controller PCB

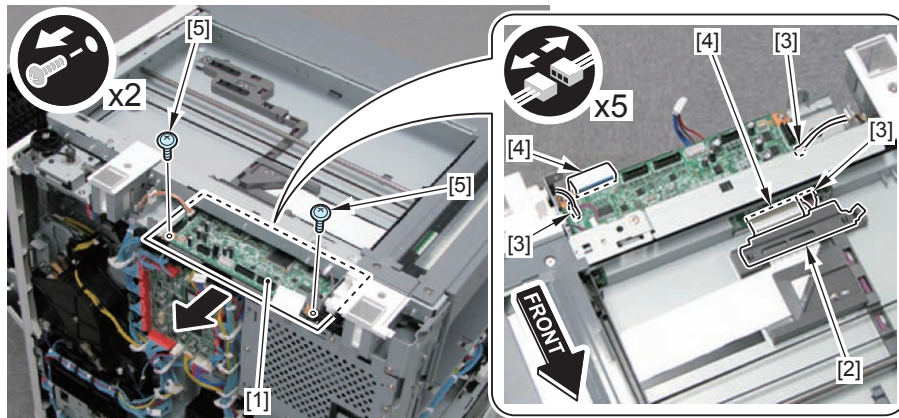
Preparation

- 1) Remove the ADF Unit. (Refer to page 4-43)
- 2) Remove the Rear Cover. (Refer to page 4-24)
- 3) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 4) Remove the Left Cover. (Refer to page 4-27)
- 5) Remove the Reader Rear Cover. (Refer to page 4-34)
- 6) Remove the Copyboard Glass. (Refer to page 4-40)

Procedure

- 1) Remove the Reader Controller PCB [1].

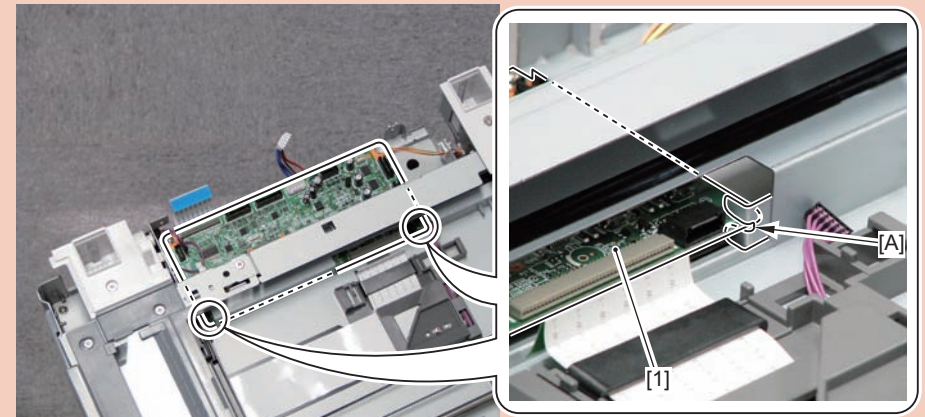
- 1 Harness Retainer [2]
- 3 Connectors [3]
- 2 Flat Cables [4]
- 2 Screws [5]



F-4-75

CAUTION:

Fit the Reader Controller PCB [1] into the 2 grooves [A] of the plate when assembling.



F-4-76

Removing the CIS Unit

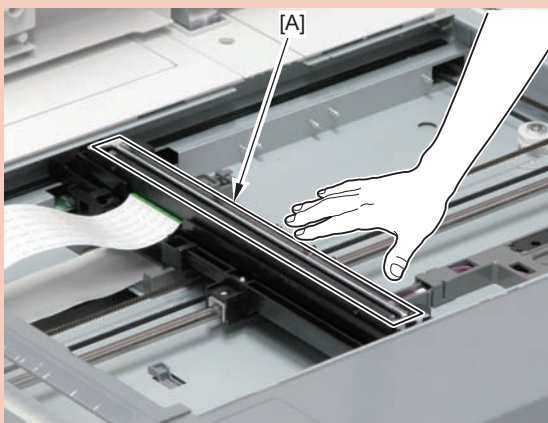
Preparation

1) Remove the Copyboard Glass. (Refer to page 4-40)

Procedure

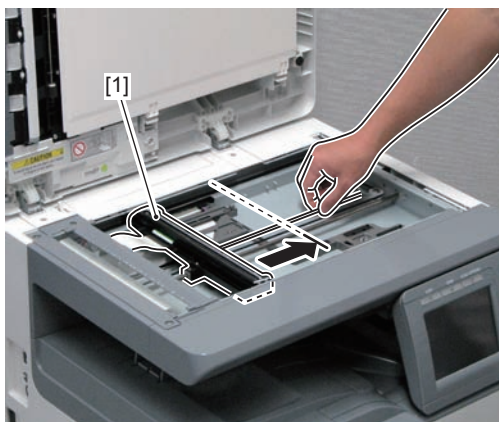
CAUTION:

- Be sure not to touch the document reading part [A] of the CIS Unit when disassembling/assembling.



F-4-77

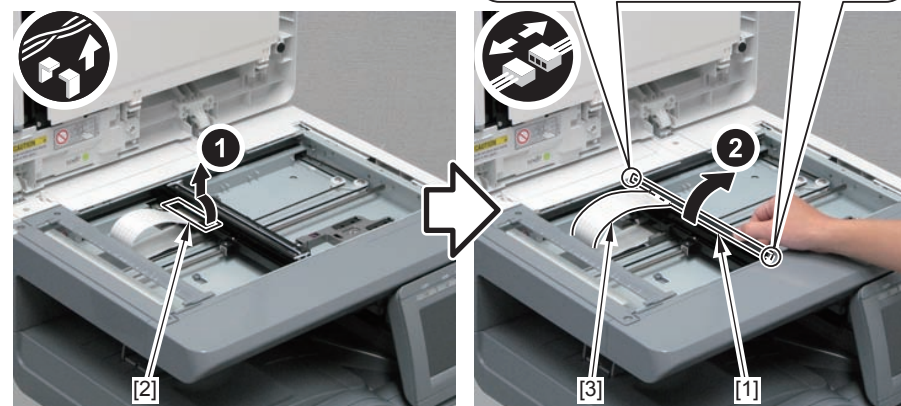
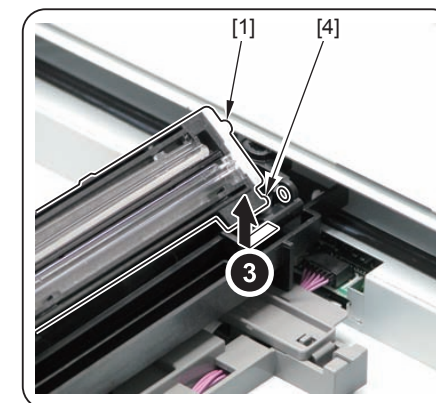
1) Move the CIS Unit [1] to the center.



F-4-78

2) Remove the CIS Unit [1].

- 1 Harness Retainer [2]
- 1 Flat Cable [3]
- 2 Shafts [4]



F-4-79

■ When Replacing the CIS Unit

Perform the following operation after replacing the CIS Unit.

● CIS gain and offset correction

1) Enter service mode.

SCAN > READER > FUNCTION > CCD > CCD-ADJ

2) Press "OK".

After this operation, output correction of the Contact Image Sensor is automatically performed to set the parameter.

3) After auto adjustment is completed, OK is displayed.

(It will take approx. 15 seconds for this adjustment. During that time, display on the Control Panel will not be changed.)

● DF white level adjustment (book mode scan/stream reading scan)

1) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DFWLVL1.

The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).

2) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL2.

The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

3) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL3.

The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).

4) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL4.

The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

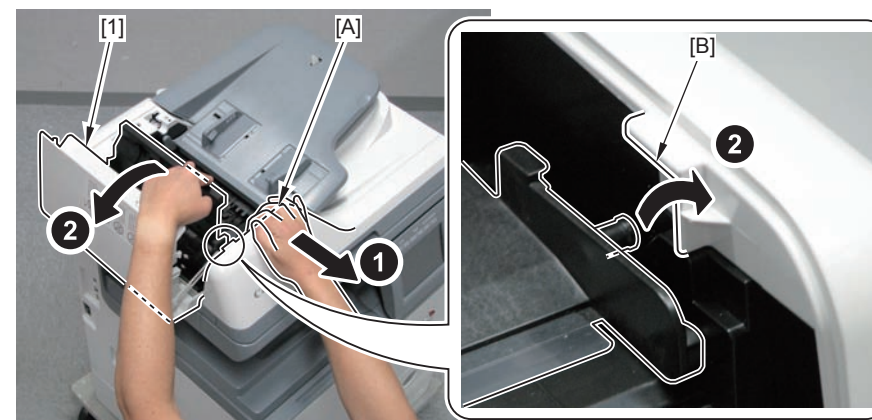
● Removing the ADF Upper Cover Unit

■ Procedure

CAUTION:

Be sure not to touch the surface of the Roller and the Pad when disassembling/assembling.

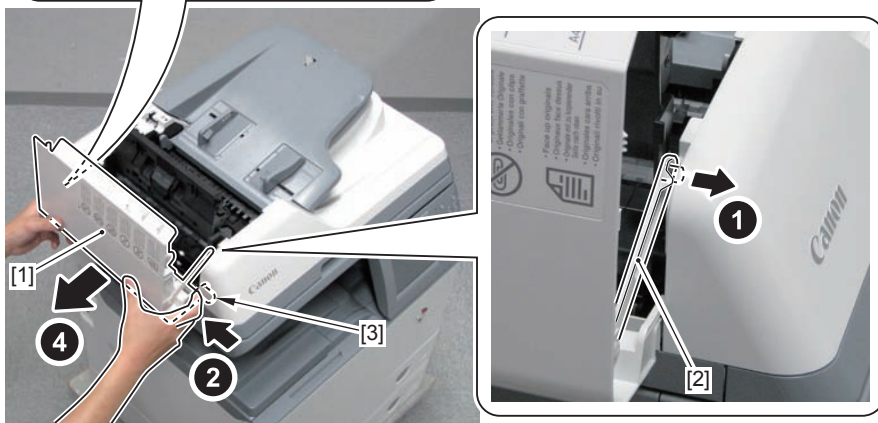
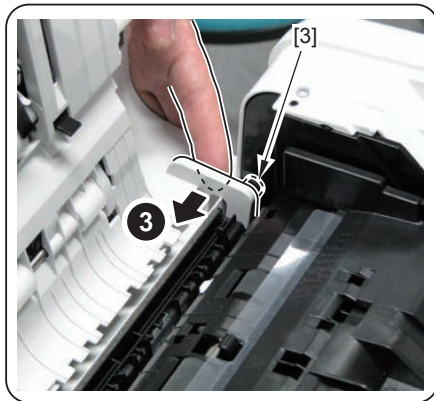
1) While pulling the [A] part of the ADF Front Cover, release the [B] part which works as an open/close stopper and open the ADF Upper Cover Unit [1].



F-4-80

2) Remove the ADF Upper Cover Unit [1].

- 1 Link [2]
- 2 Shafts [3]



F-4-81

3) Return the Pickup Upper Guide [1] to the original position.



F-4-82

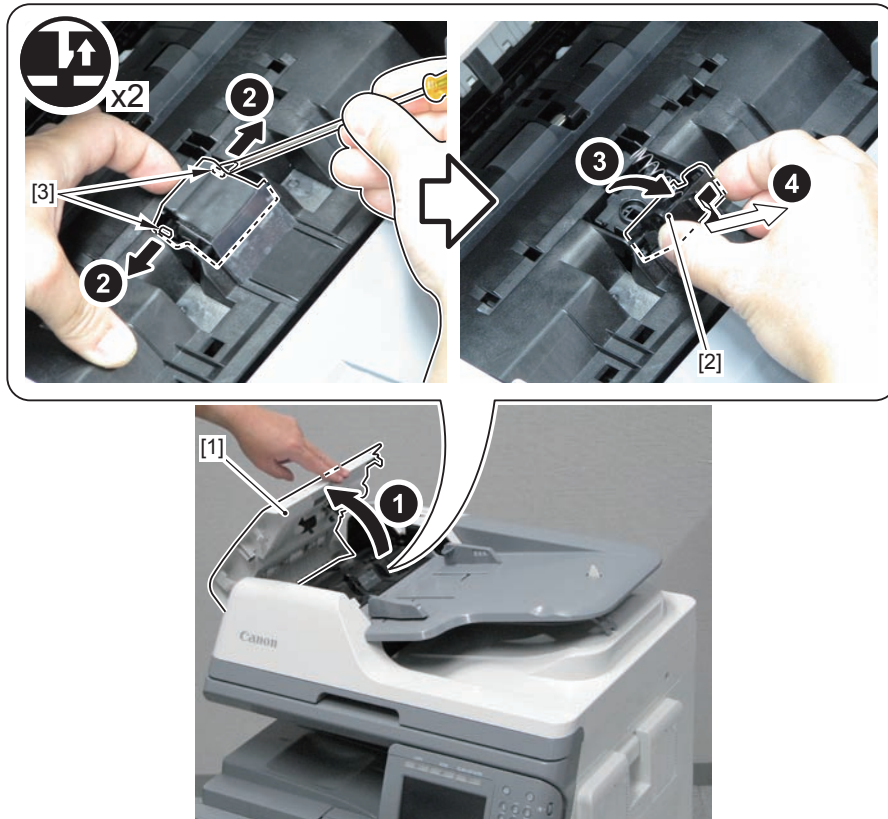
Removing the ADF Separation Pad

Procedure

CAUTION:

Be sure not to touch the surface of the pad when disassembling/assembling.

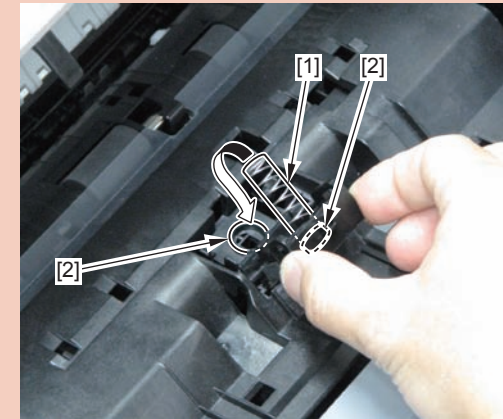
- 1) Open the ADF Upper Cover Unit [1], and remove the ADF Separation Pad [2].
 - 2 Claws [3]



F-4-83

CAUTION:

Be sure to fit the spring [1] of the ADF Separation Pad into the 2 bosses [2] when assembling.



F-4-84

Removing the ADF Pickup Roller Unit

Preparation

1) Remove the ADF Upper Cover Unit. (Refer to page 4-48)

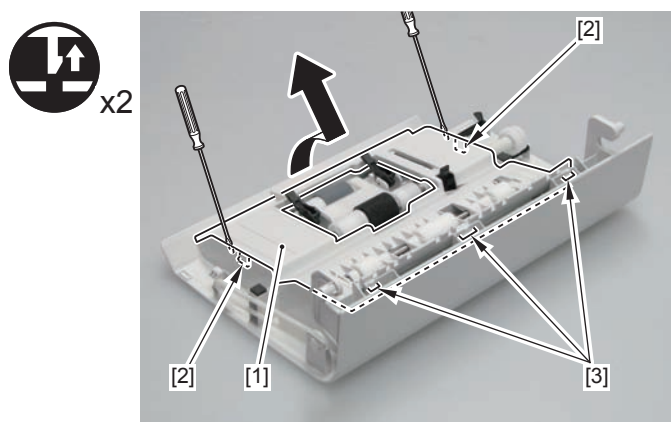
Procedure

CAUTION:

Be sure not to touch the surface of the roller when disassembling/assembling.

1) Remove the Pickup Upper Cover Lower Guide [1].

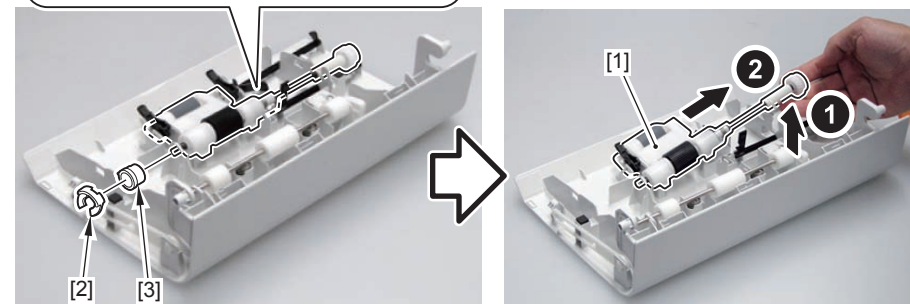
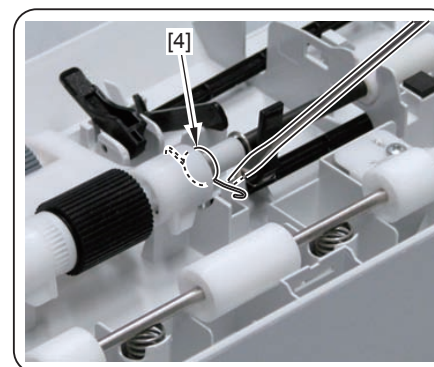
- 2 Claws [2]
- 3 Hooks [3]



F-4-85

2) Remove the Pickup Roller Unit [1].

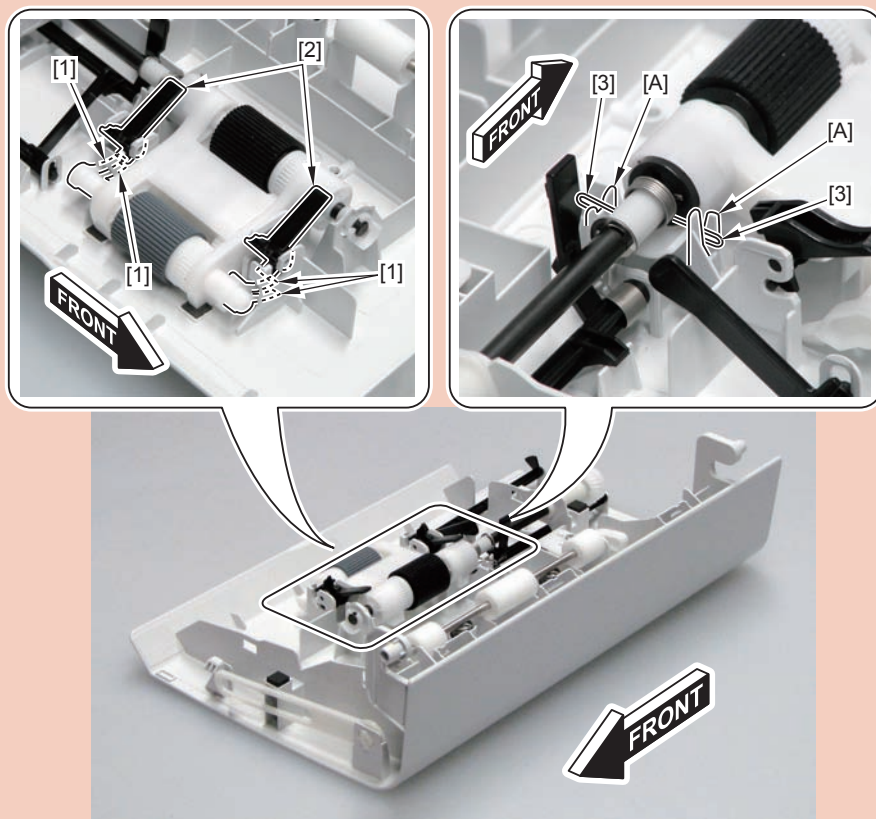
- 1 Clip [2]
- 1 Bushing [3]
- 1 Spring [4]



F-4-86

CAUTION:

- Be sure to install the 4 flags [1] of the ADF Pickup Roller Unit under the 2 flags [2] of the Upper Cover Unit when assembling.
- Hook the 2 edges [3] of the spring on the 2 grooves [A] when assembling.

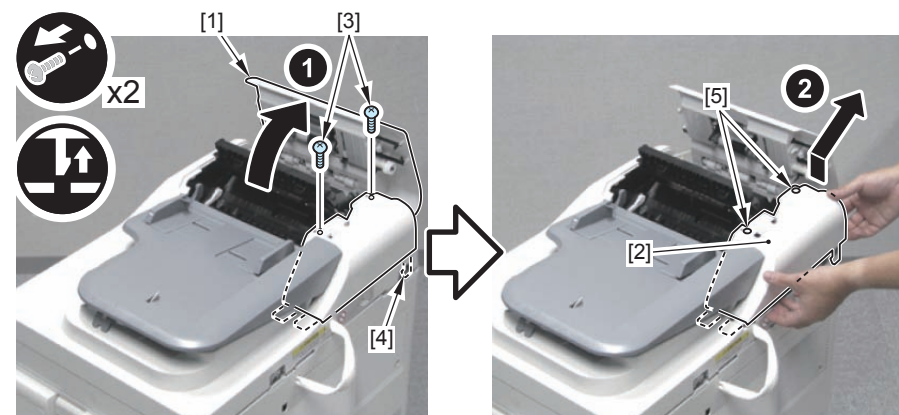


F-4-87

Removing the ADF Pickup Tray

Procedure

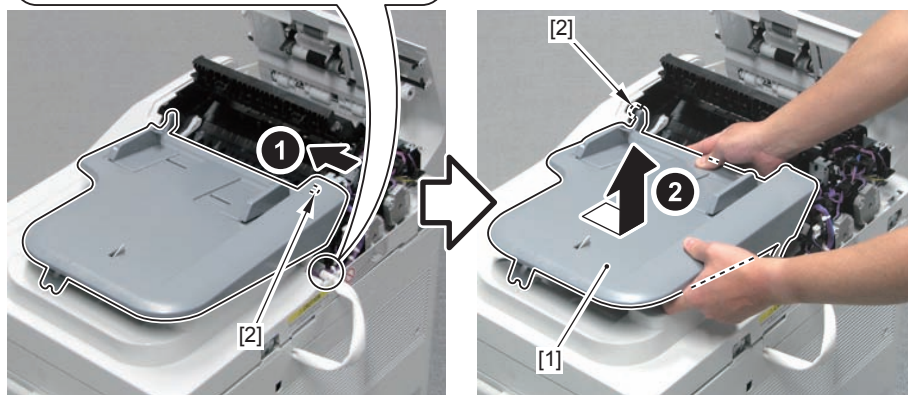
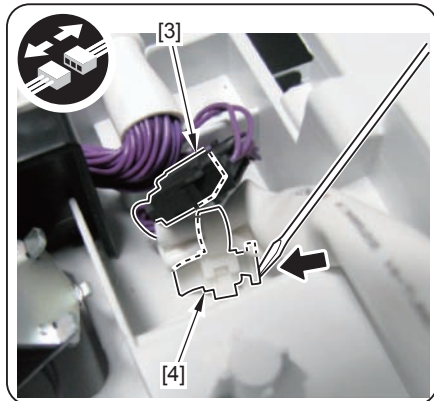
- 1) Open the ADF Upper Cover Unit [1], and remove the ADF Rear Cover [2].
 - 2 Screws [3]
 - 1 Claw [4]
 - 2 Boss [5]



F-4-88

2) Remove the ADF Pickup Tray Unit [1].

- 2 Shafts [2]
- 1 Connector [3]
- 1 Wire Saddle [4]



F-4-89

Removing the ADF Pickup Unit

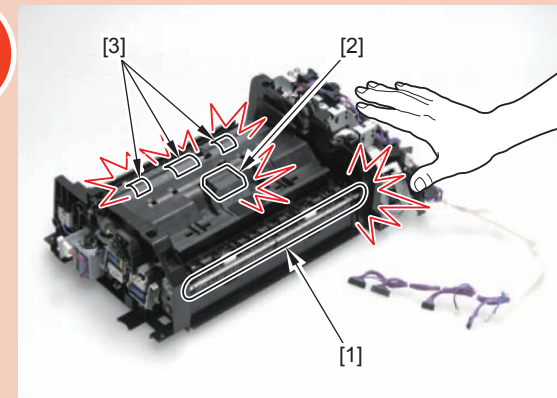
Preparation

- 1) Remove the ADF Upper Cover Unit. (Refer to page 4-48)
- 2) Remove the ADF Pickup Tray. (Refer to page 4-52)

Procedure

CAUTION:

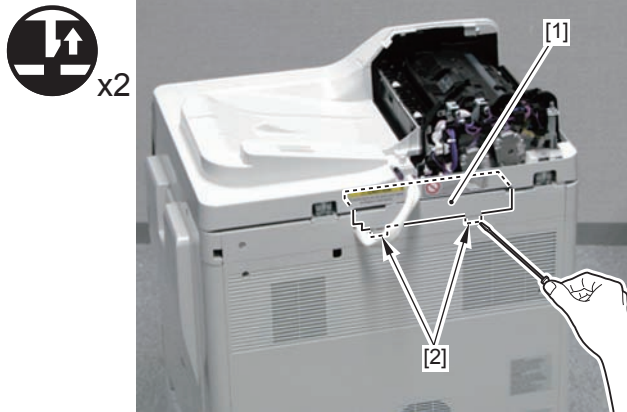
Be sure not to touch the surface of the Static Eliminator [1], the Separation Pad [2] and the Feed Roller [3] when disassembling/assembling.



F-4-90

1) Remove the Reader Controller Cover [1].

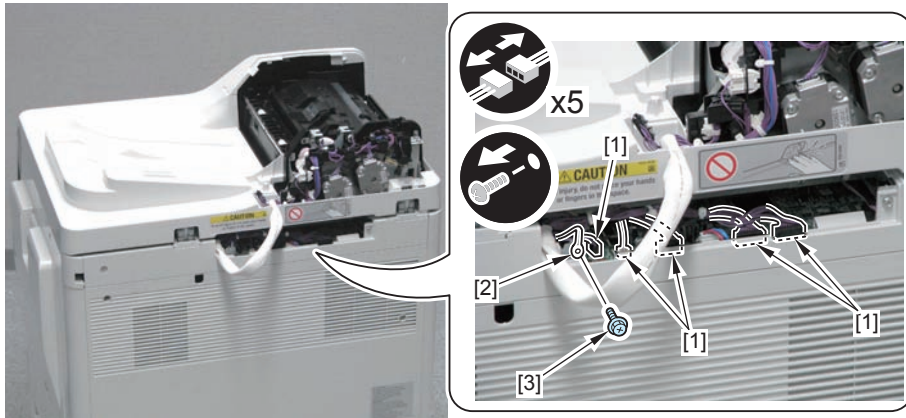
- 2 Claws [2]



F-4-91

2) Remove the 5 connectors [1] and the Grounding Wire [2] of the ADF Harness.

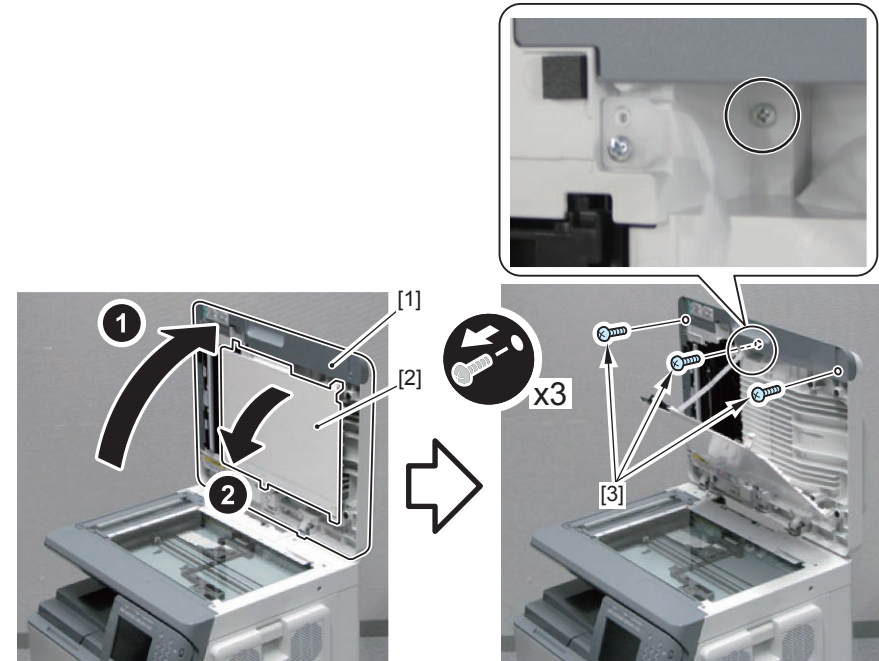
- 1 Screw [3]



F-4-92

3) Open the ADF Unit [1].

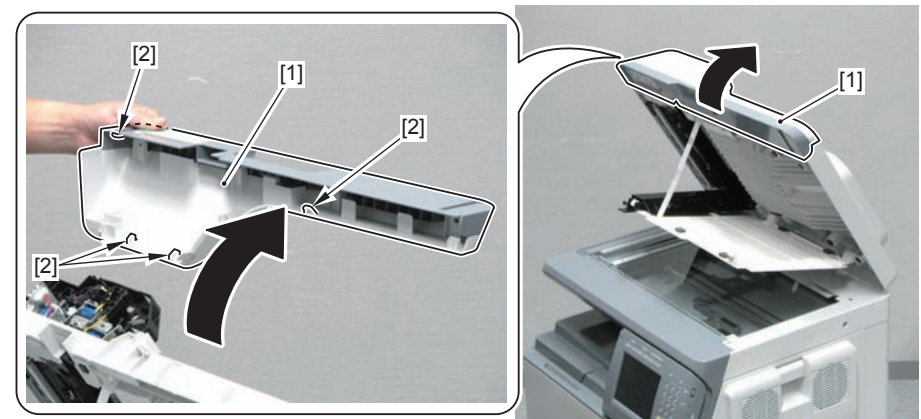
- 4) Open the White Plate [2], and remove the 3 screws [3].



F-4-93

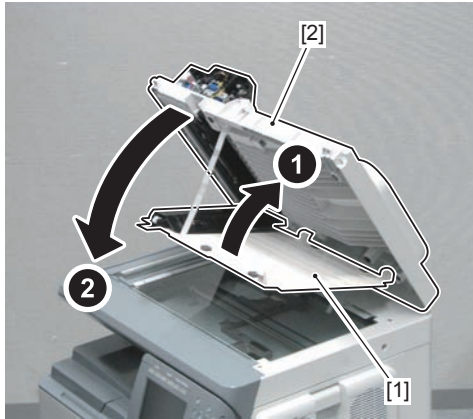
5) Remove the ADF Front Cover [1].

- 4 Hooks [2]



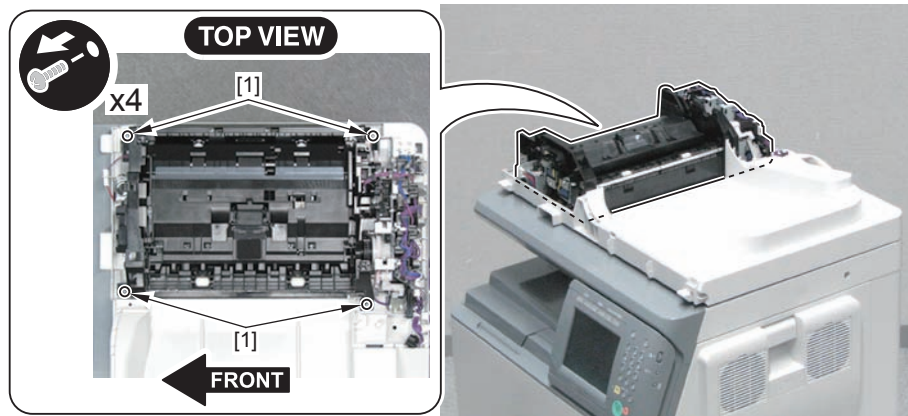
F-4-94

6) Close the White Plate [1] and the ADF [2].



F-4-95

7) Remove the 4 screws [1].



F-4-96

8) Remove the ADF Pickup Unit [1].

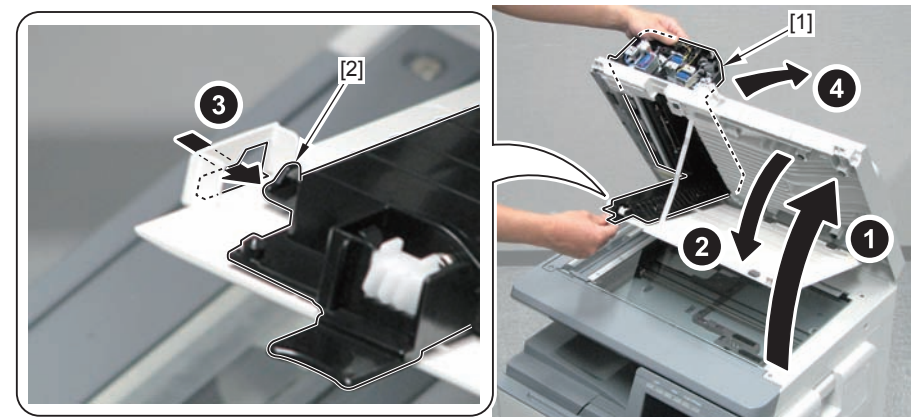
- 1 Hook [2]

CAUTION:

When removing the ADF Pickup Unit, be careful that the ADF Unit becomes open due to its own weight becoming smaller.



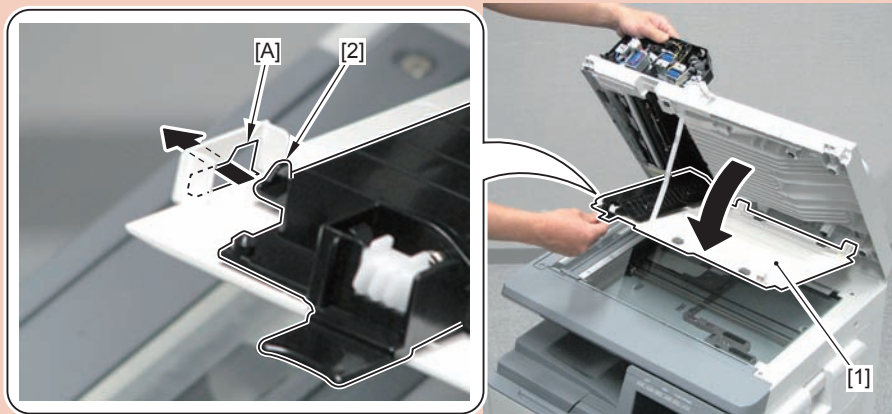
F-4-97



F-4-98

CAUTION:

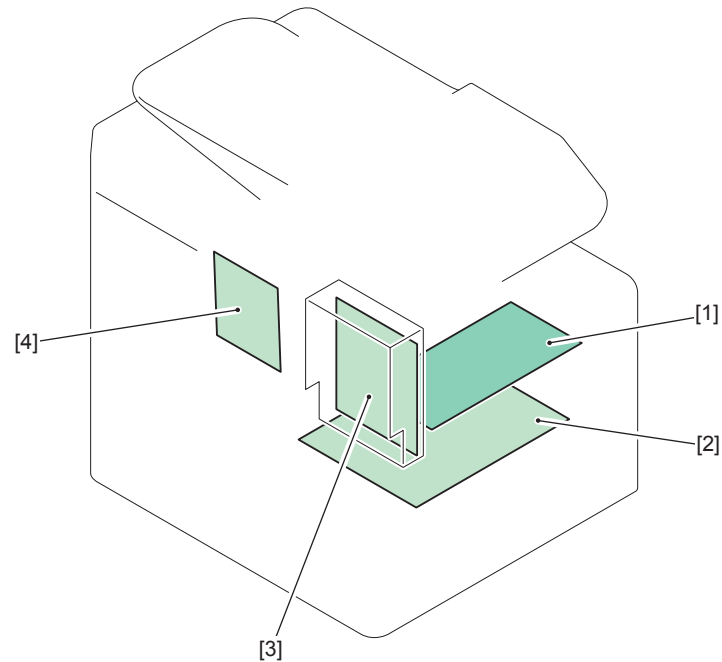
When installing the ADF Pickup Unit, be sure to open the ADF Lower Guide [1] and hook the hook [2] at the lower side on the hole [A] of the White Plate.



F-4-99

Controller System

Location



F-4-100

No.	Name	Main Unit	Reference	Adjustment during parts replacement
[1]	HVT PCB	Main Unit	(Refer to page 4-60)	
[2]	Power Supply PCB	Main Unit	(Refer to page 4-62)	
[3]	Main Controller PCB	Main Unit	(Refer to page 4-58)	
[4]	DC Controller PCB	Main Unit	(Refer to page 4-57)	

T-4-29

Removing the DC Controller PCB

Preparation before Replacement

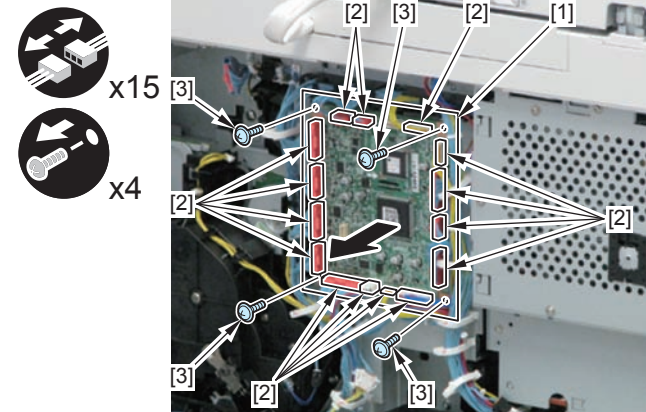
- 1) Request the user to backup the user data using remote UI.
- 2) If possible, output the data of the unprocessed jobs.
After replacing the DC Controller PCB, the data of the unprocessed jobs will be deleted.
- 3) Print out the list of the service mode setting value in the service mode.
REPORT> REPORT OUTPUT> SERVICE DATA LIST

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)

Procedure

- 1) Remove the DC Controller PCB [1].
 - 15 Connectors [2]
 - 4 Screws [3]



F-4-101

■ After Replacement/RAM Clearing

- 1) When replacing the DC Controller PCB with a new one, be sure to perform the following procedure.
 - Download the latest firmware using UST.
(Refer to Software to Be Upgraded and Upgrading Method)
- 2) Clear the DC Controller setting value/counter.
Service mode > CLEAR > ENGINE > ENGINE BKRAMCLK
(Clearing RAM of the DC Controller PCB)
- 3) Turn OFF and then ON the power.
(By turning OFF and then ON the power, RAM clear is executed.)
- 4) When backup data cannot be uploaded before replacement due to reasons such as damage of the DC Controller PCB, enter the value of each #PRINT item described on the service label.
Since the values recorded on the service label may not be the latest at this time, check the service mode item list (#SERVICE DATA LIST) printed out in advance, and enter the values on the list.
- 5) Turn OFF and then ON the main power.
(By turning OFF and then ON the power, the value entered in each service mode item becomes enabled.)
- 6) Upon completion of the replacement work, request the user to restore the user data.

● Removing the Main Controller PCB

■ Preparation before Replacement

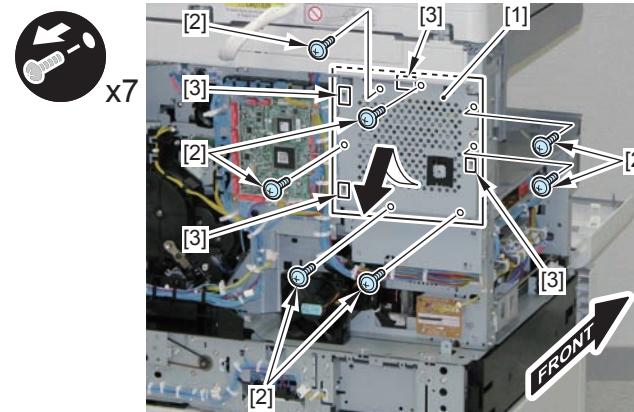
- 1) Request the user to backup the user data using remote UI.
- 2) If possible, output the data of the unprocessed jobs.
After replacing the Main Controller PCB, the data of the unprocessed jobs will be deleted.
- 3) Print out the list of the service mode setting value in the service mode.
REPORT> REPORT OUTPUT> SERVICE DATA LIST

■ Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) The Fax unit removes, and the installation is and removes the Fax unit in case of needing.

■ Procedure

- 1) Remove the Upper Controller Cover [1].
 - 7 Screws [2]
 - 4 Hooks [3]

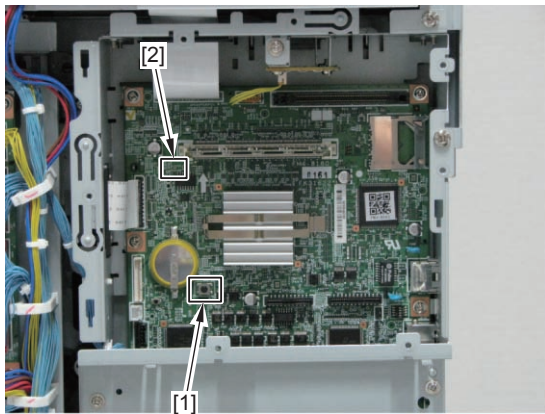


F-4-102

2) In the case of a machine in which FAX and SEND functions are installed, press the SW3 [1] of the Main Controller PCB, and check that LED10 [2] is turned off. (Shutting down the secondary power supply)

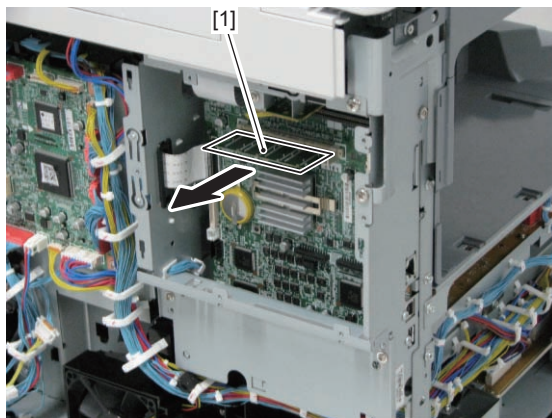
CAUTION:

Even after turning OFF the main power switch and disconnecting the power plug from the outlet, power is still supplied between SO-DIMM and Secondary Battery Unit for backup of the image memory. When the SW3 of the Main Controller PCB is pressed while image is backed up, all the contents in the memory are cleared, therefore be sure to output all data in the memory before pressing it.



F-4-103

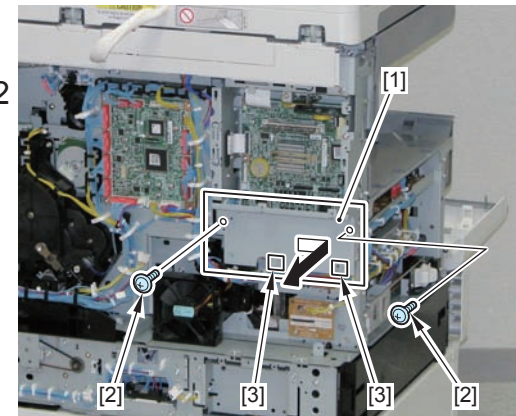
3) Remove the SO-DIMM PCB [1].



F-4-104

4) Remove the Lower Controller Cover [1].

- 2 Screws [2]
- 2 Hooks [3]



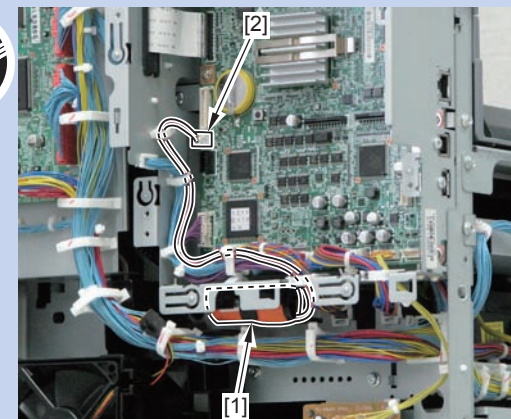
F-4-105

5) Remove the Main Controller PCB [1].

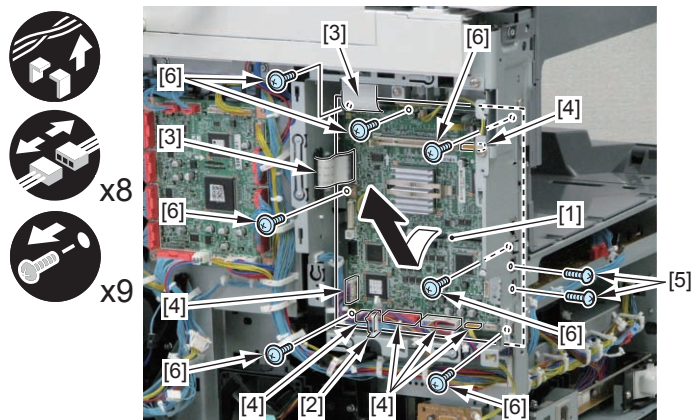
- 1 Wire Saddle [2]
- 2 Flat Cable [3]
- 6 Connectors [4]
- 2 Screws (Binding) [5]
- 7 Screws (TP) [6]

NOTE:

When the backup Battery Unit [1] is installed, disconnect the connector [2].



F-4-106



F-4-107

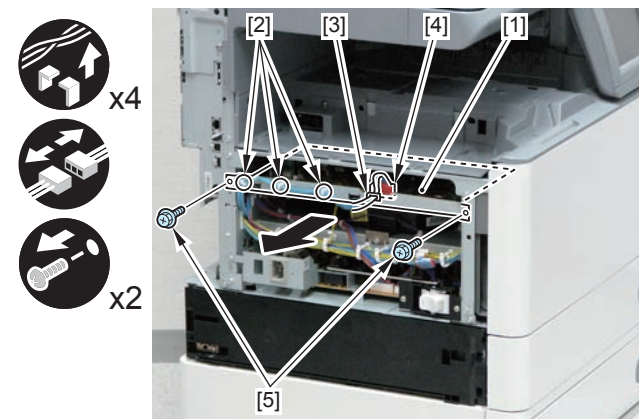
Removing the HVT PCB

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)

Procedure

- 1) Remove the HVT PCB [1].
 - 3 Wire Saddles [2]
 - 1 Edge Saddle [3]
 - 1 Connector [4]
 - 2 Screws [5]



F-4-108

After Replacement

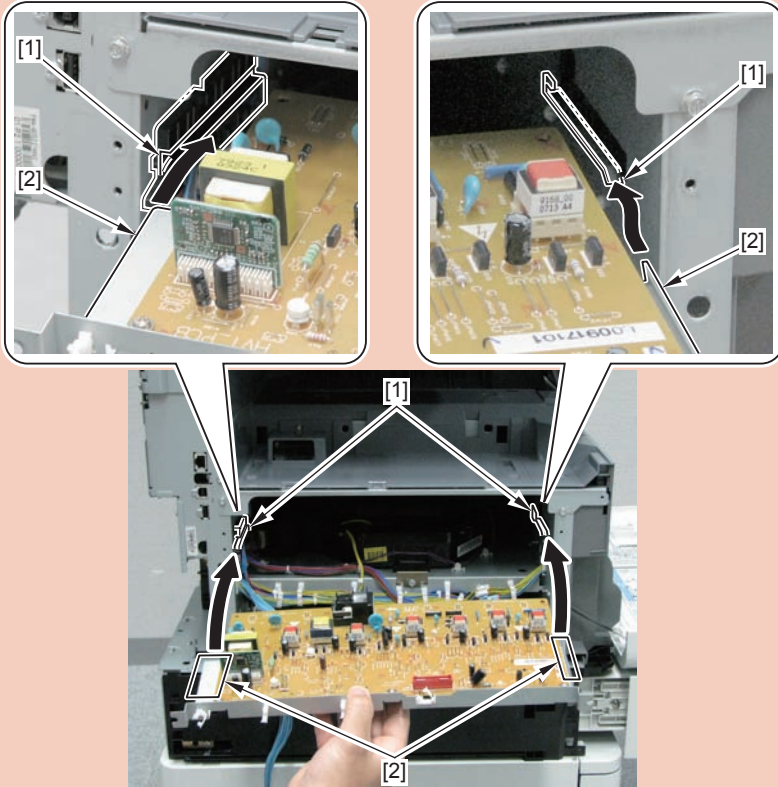
- 1) When replacing the Main Controller PCB with a new one, be sure to perform the following procedure.
 - Download the latest firmware using UST. (Refer to Software to Be Upgraded and Upgrading Method)
- 2) When backup data cannot be uploaded before replacement due to reasons such as damage of the Main Controller PCB, enter the value of each service mode item described on the service label.

Since the values recorded on the service label may not be the latest at this time, check the service mode item list (#SERVICE DATA LIST) printed out in advance, and enter the values on the list.
- 3) Turn OFF and then ON the power.

(By turning OFF and then ON the power, the value entered in each service mode item becomes enabled.)
- 4) Upon completion of the replacement work, request the user to restore the user data.

CAUTION:

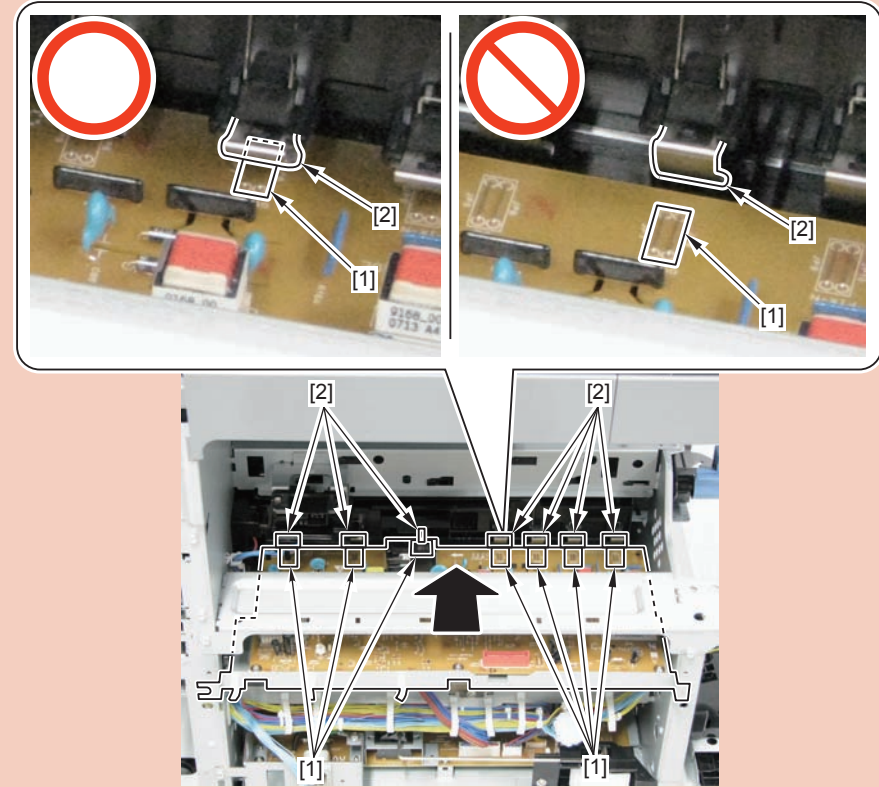
Be sure to fit the 2 edges [2] of the plate of the HVT PCB into the 2 rails [1] on the host machine side when assembling.



F-4-109

CAUTION:

Be sure that the 7 contact points [1] of the HVT PCB are in contact with the 7 Contact Springs [2] of the High Voltage Main Guide when assembling.



F-4-110

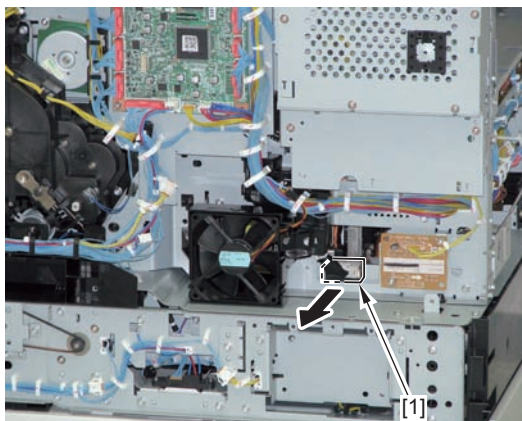
Removing the Power Supply PCB

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) The Fax unit removes, and the installation is and removes the Fax unit in case of needing.

Procedure

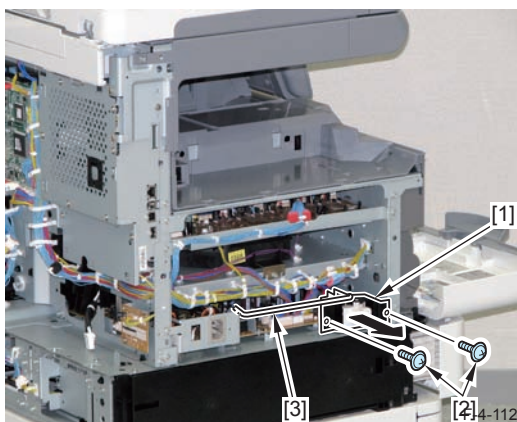
- 1) Remove the Fixing Connector [1].



F-4-111

- 2) Remove the Power Switch Button Unit [1].

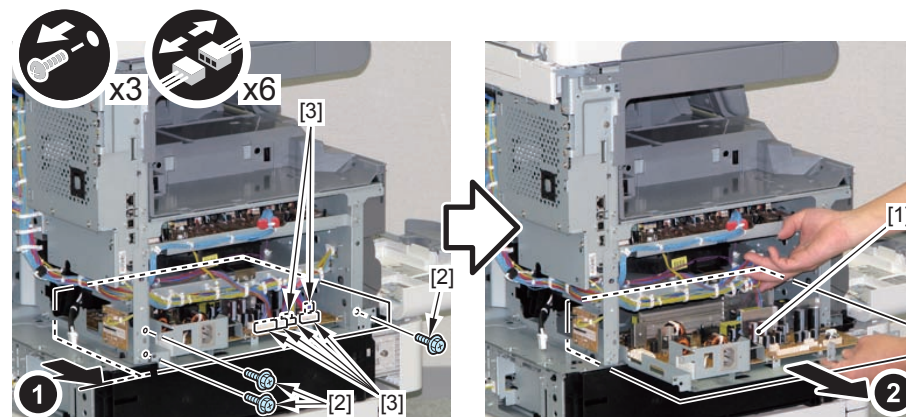
- 2 Screws [2]
- 1 Switch Alarm [3]



F-4-112

- 3) Remove the Power Supply PCB [1].

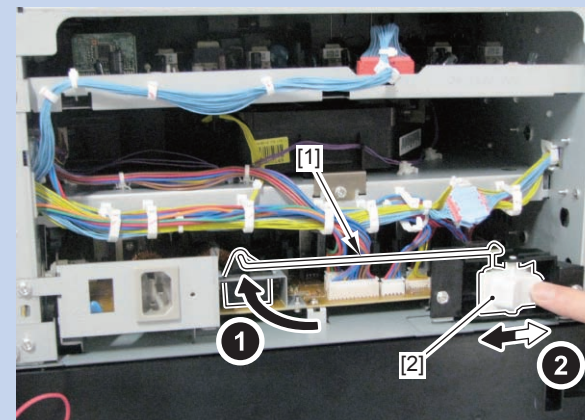
- 3 Screws [2]
- 6 Connectors [3]



F-4-113

NOTE:

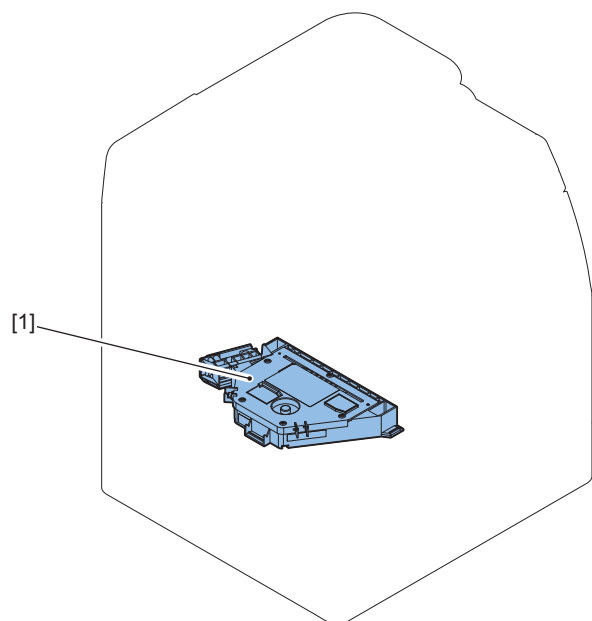
- After installing the Power Switch Arm [1], be sure to check that the switch on the PCB works by operating the Power Switch [2].
- Be sure to set the Power Switch at OFF position.



F-4-114

Laser Exposure System

Location



F-4-115

No.	Name	Main Unit	Reference	Adjustment during parts replacement
[1]	Laser Scanner Unit	Main Unit	(Refer to page 4-63)	

T-4-30

Removing the Laser Scanner Unit

Preparation

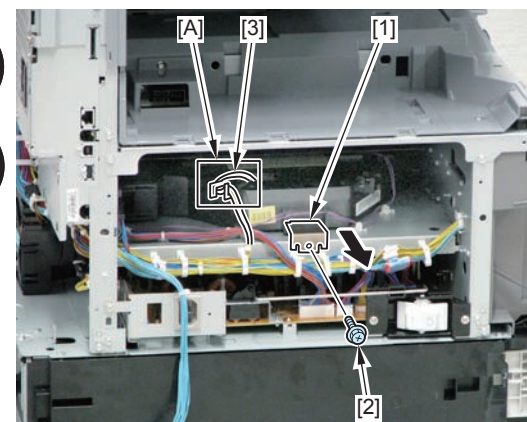
- 1) Remove the Rear Cover.(Refer to page 4-24)
- 2) Remove the Delivery Outer Cover.(Refer to page 4-29)
- 3) Remove the Left Cover.(Refer to page 4-27)
- 4) Remove the HVT PCB.(Refer to page 4-60)

Procedure

CAUTION:

Be sure not to disassemble the Laser Scanner Unit because it requires adjustment.

- 1) Remove the Laser Scanner Fixation Plate [1].
 - 1 Screw [2]
- 2) Free the harness [3] from the guide [A].

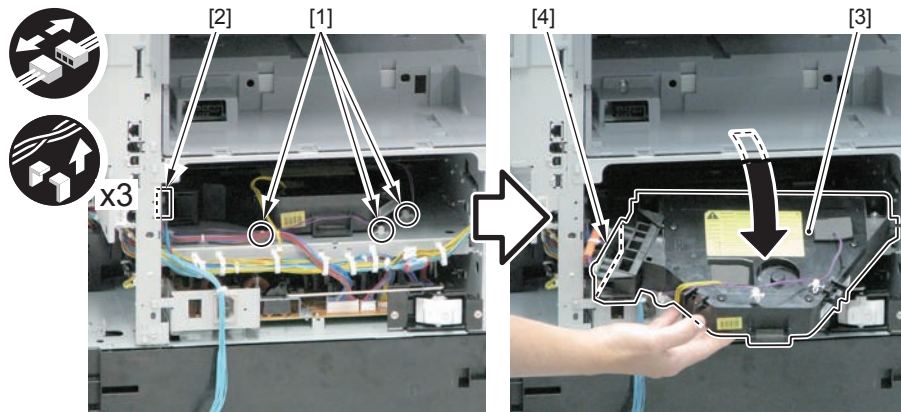


F-4-116

3) Remove the 3 Reuse Bands [1] and the connector [2], and pull out the Laser Scanner Unit [3] to the front.

CAUTION:

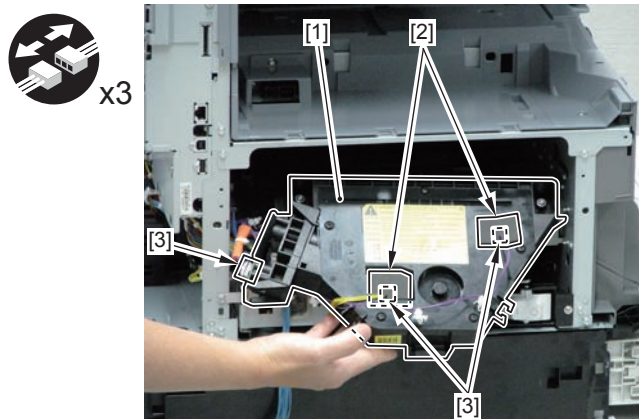
When disassembling/assembling, be careful not to touch the PCB [4] installed in the Laser Scanner Unit. (Touching the PCB may change the adjustment value as the PCB is equipped with laser intensity adjustment volume resistor.)



F-4-117

4) Remove the Laser Scanner Unit [1].

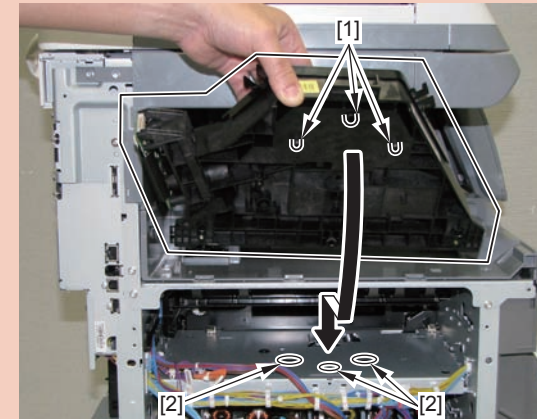
- 2 Sponges [2]
- 3 Connectors [3]



F-4-118

CAUTION:

Be sure to fit the 3 bosses [1] of the Laser Scanner Unit into the 3 holes [2] of the plate of the host machine when assembling.

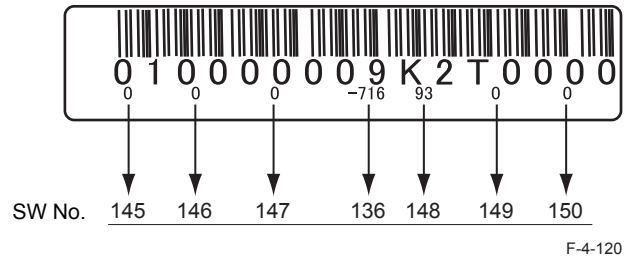


F-4-119

■ After Replacing the Laser Scanner Unit

When replacing the Laser Unit, enter the value obtained by adding 1,000 to the number shown on the label affixed to the side of the newly replaced Laser Unit in the corresponding service mode as shown below.

(Examples: If the number on the service label is 3, enter 1,003. If the number on the service label is -1, enter 999.)



F-4-120

PRINT > PRINT NUMERIC >

136 Laser horizontal scanning direction write position adjustment (A)

PRINT > PRINT NUMERIC >

145 Laser horizontal scanning direction magnification ratio adjustment (A-B)

PRINT > PRINT NUMERIC >

146 Laser horizontal scanning direction magnification ratio adjustment (A-C)

PRINT > PRINT NUMERIC >

147 Laser horizontal scanning direction magnification ratio adjustment (A-D)

PRINT > PRINT NUMERIC >

148 Laser horizontal scanning direction write position adjustment (A-B)

PRINT > PRINT NUMERIC >

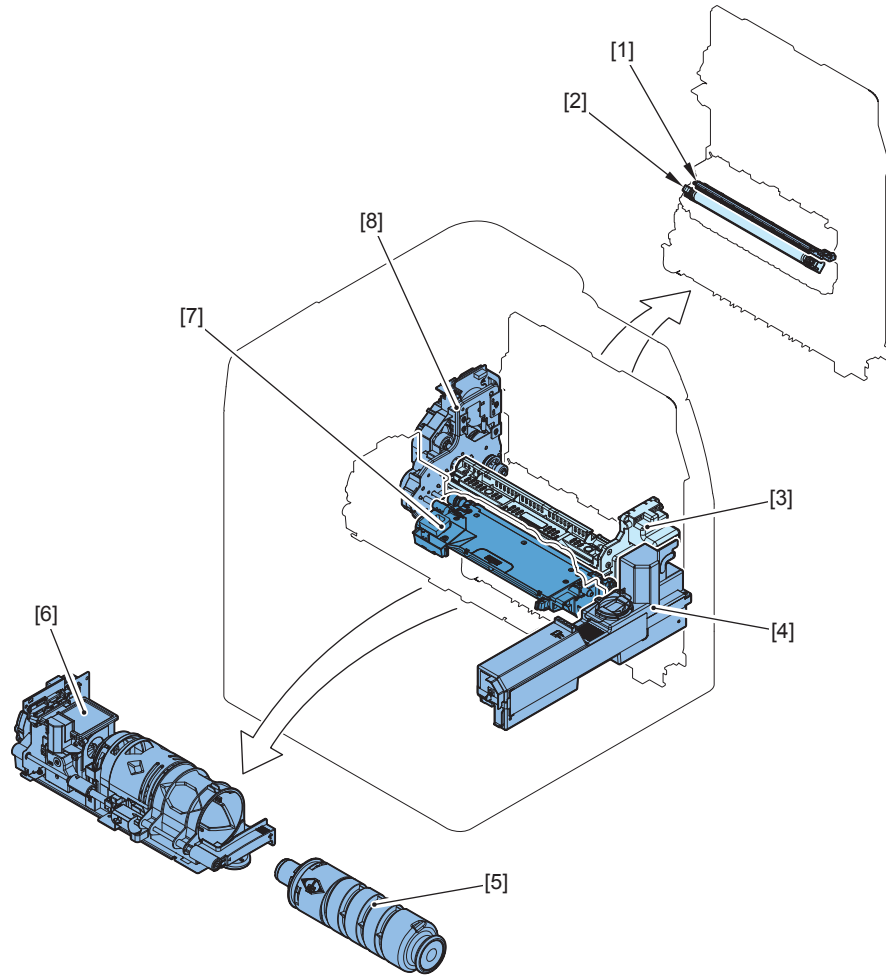
149 Laser horizontal scanning direction write position adjustment (A-C)

PRINT > PRINT NUMERIC >

150 Laser horizontal scanning direction write position adjustment (A-D)

Image Formation System

Location



F-4-121

No.	Name	Main Unit	Reference	Adjustment during parts replacement
[1]	Separation Static Charge Eliminator	Transfer Unit	(Refer to page 4-72)	
[2]	Transfer Roller	Transfer Unit	(Refer to page 4-71)	
[3]	Drum Unit	Main Unit	(Refer to page 4-68)	
[4]	Waste Toner Box	Main Unit	(Refer to page 4-67)	
[5]	Toner Cartridge	Main Unit	(Refer to page 4-68)	
[6]	Hopper Unit	Main Unit	(Refer to page 4-75)	
[7]	Developing Assembly	Main Unit	(Refer to page 4-69)	
[8]	Main Drive Unit	Main Unit	(Refer to page 4-73)	

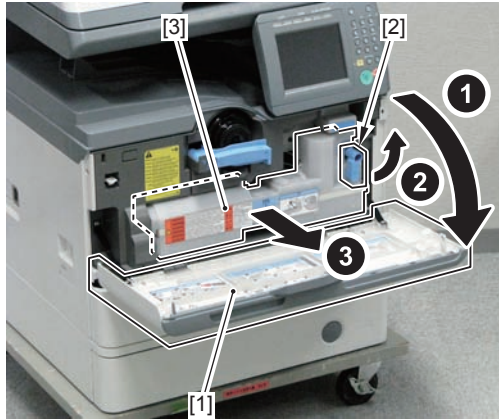
T-4-31

Removing the Waste Toner Container

Procedure

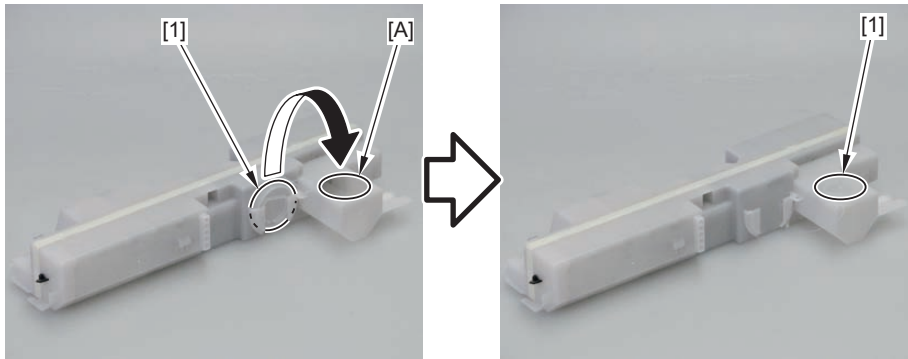
Disassembling Procedure

1) Open the Front Cover [1], turn the Lock Lever [2], and then remove the Waste Toner Container [3].



F-4-122

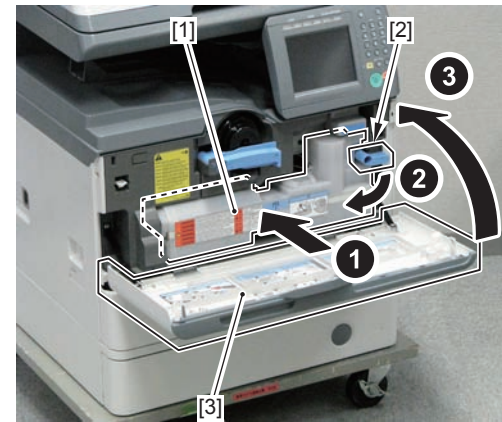
2) Remove the lid [1] attached on the surface of the Waste Toner Container, and cover the opening [A] of the container to prevent spills.



F-4-123

Assembling Procedure

1) Install the Waste Toner Container [1], turn the Lock Lever [2], and then close the Front Cover [3].

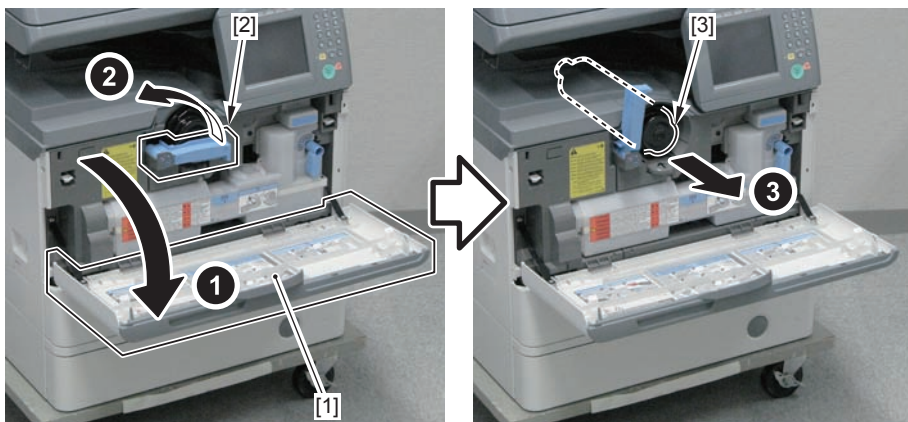


F-4-124

Removing the Toner Cartridge

Procedure

- 1) Open the Front Cover [1], release the Toner Cartridge Lock Lever [2], and then remove the Toner Cartridge [3].



F-4-125

Removing the Drum Unit

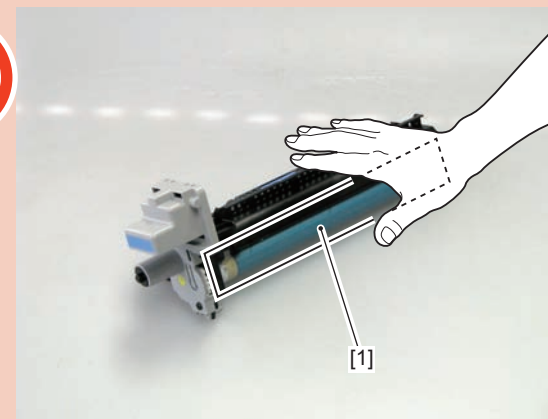
Preparation

- 1) Remove the Waste Toner Container. (Refer to page 4-67)

Procedure

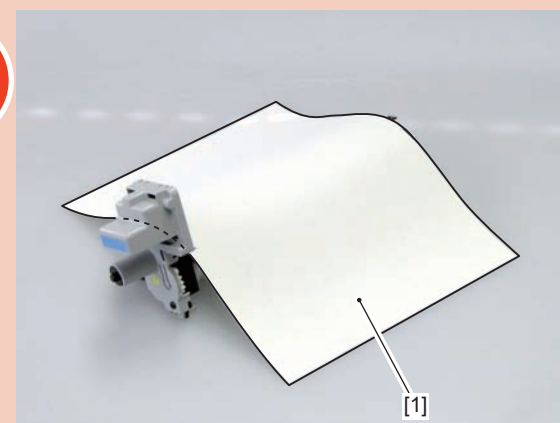
CAUTION:

- Be sure not to touch the drum [1] of the Drum Cartridge when disassembling/ assembling.



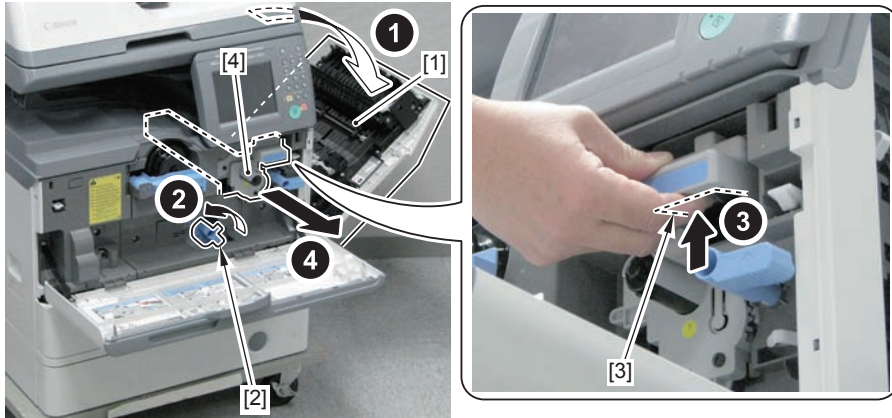
F-4-126

- Be sure to block light to the removed Drum Cartridge using paper [1].



F-4-127

- 1) Open the Right Door Unit [1], release the Developing Pressure Lock Lever [2].
- 2) Release the Drum Cartridge Lock Lever [3], and then remove the Drum Cartridge [4].



F-4-128

Removing the Developing Assembly

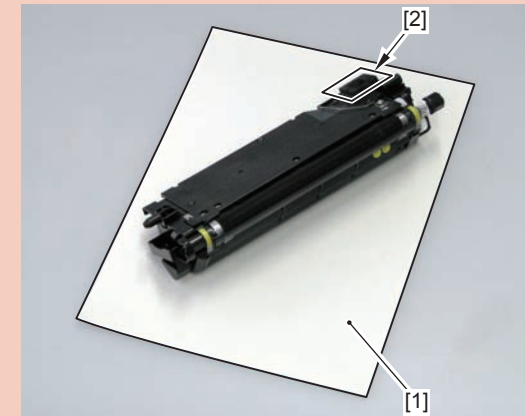
Preparation

- 1) Remove the Waste Toner Container. (Refer to page 4-67)
- 2) Remove the Drum Unit. (Refer to page 4-68)

Procedure

CAUTION:

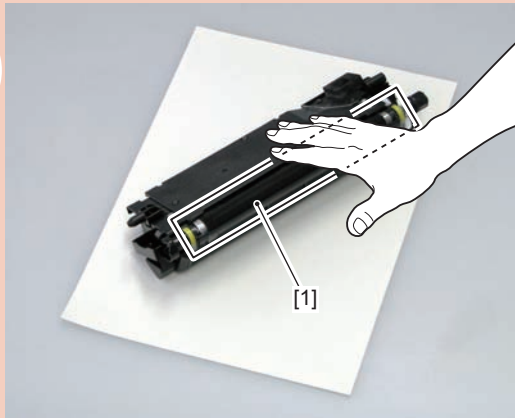
- Place paper [1], and then place the Developing Assembly.
- Be sure not to tilt the Developing Assembly to prevent toner from spilling from the Toner Duct [2] when disassembling/assembling



F-4-129

CAUTION:

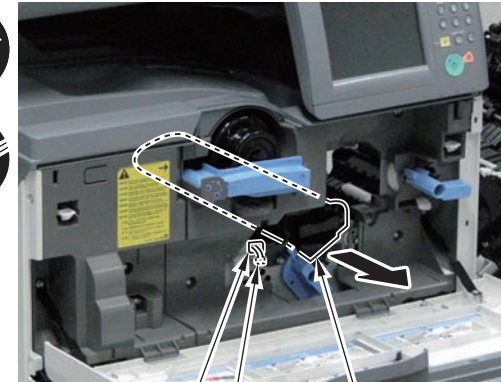
- Be sure not to touch the Developing Cylinder [1] when disassembling/assembling.



F-4-130

2) Remove the Developing Assembly [1].

- 1 Edge Saddle [2]
- 1 Connector [3]



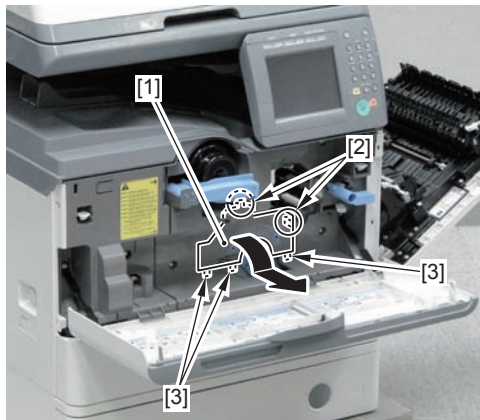
F-4-132

1) Remove the Developing Assembly Replacement Inner Cover [1].

- 2 Claws [2]
- 3 Hooks [3]



x2



F-4-131

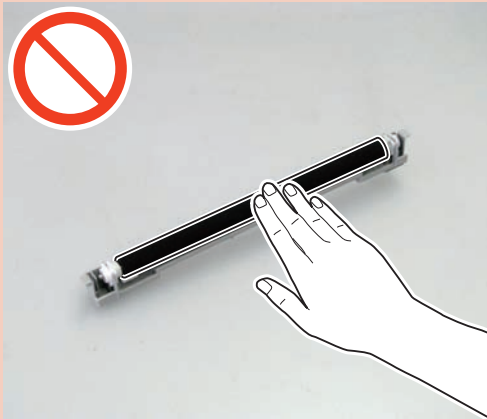
Removing the Transfer Roller

Procedure

Disassembling Procedure

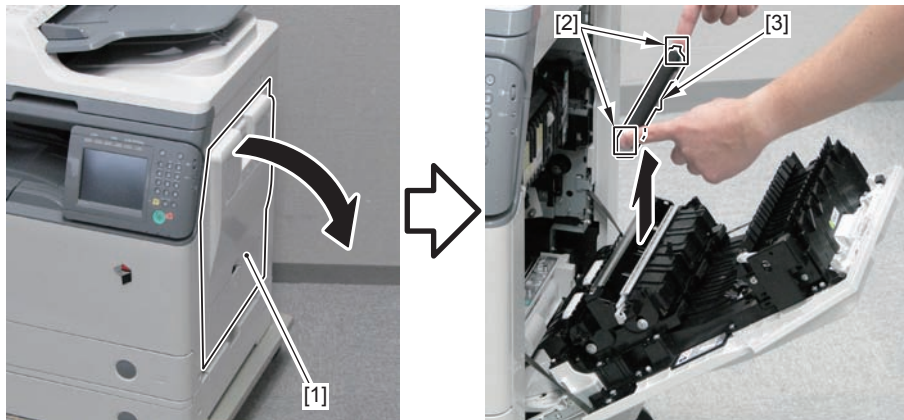
CAUTION:

Be sure not to touch the surface of the Transfer Roller when disassembling/assembling.



F-4-133

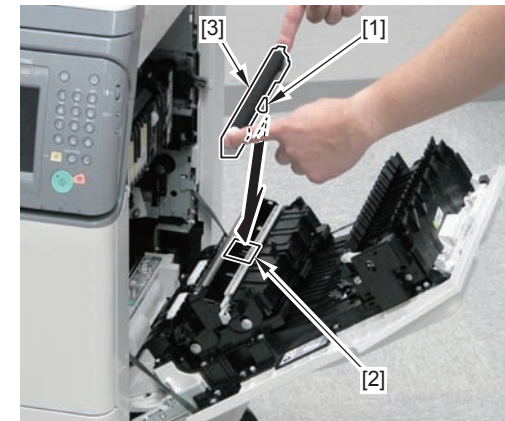
1) Open the Right Door Unit [1], hold the grips [2] at the front and rear, and then remove the Transfer Roller [3].



F-4-134

Assembling Procedure

1) Install the Transfer Roller [3] by fitting the protrusion [1] of the Transfer Roller Holder into the hole [2] of the Transfer Unit.



F-4-135

2) Close the Right Door Unit.

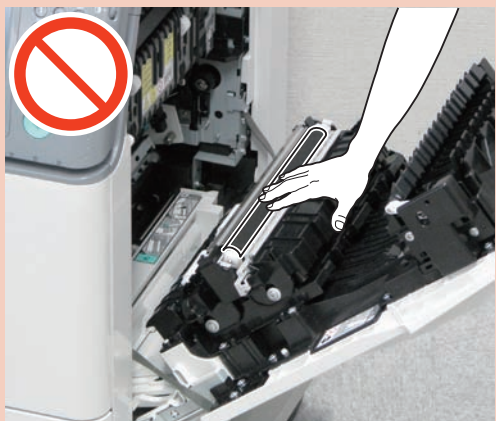
Removing the Separation Static Eliminator

Procedure

Disassembling Procedure

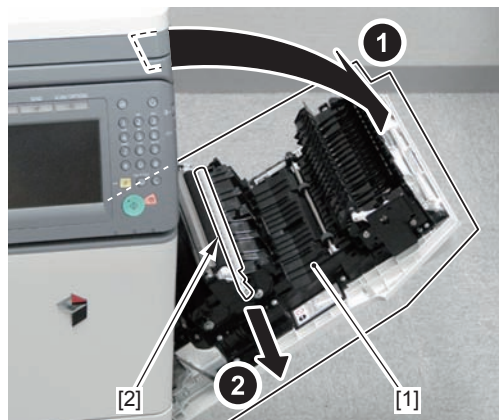
CAUTION:

Be sure not to touch the surface of the Transfer Roller when disassembling/assembling.



F-4-136

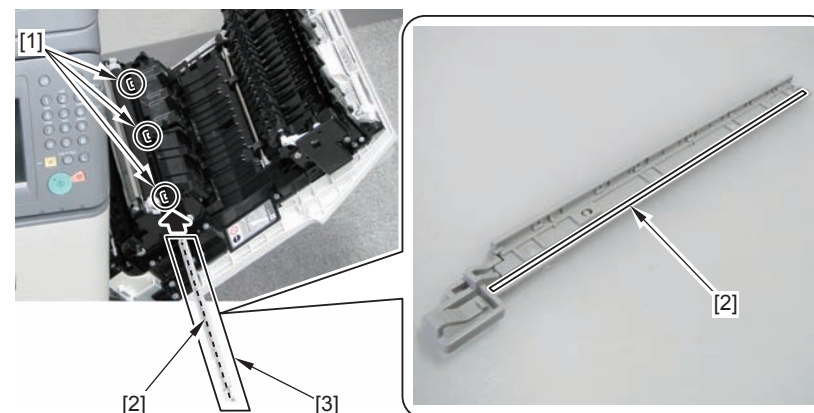
1) Open the Right Door Unit [1], and remove the Separation Static Eliminator [2].



F-4-137

Assembling Procedure

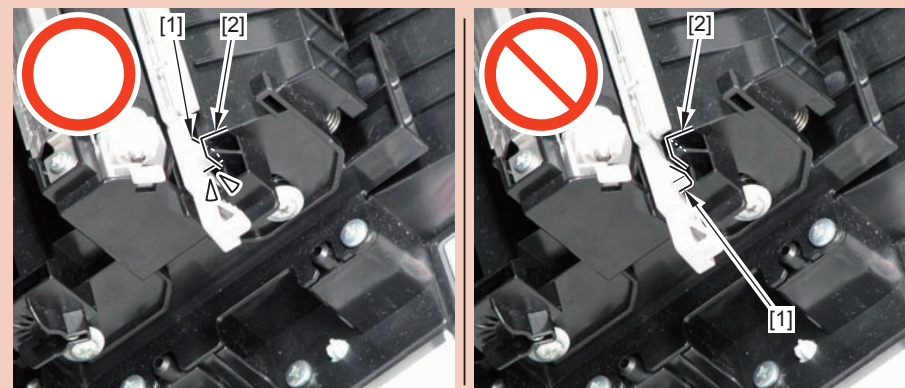
1) Install the Separation Static Eliminator [3] by fitting the 3 protrusions [1] of the Transfer Unit into the grooves [2] of the Separation Static Eliminator.



F-4-138

CAUTION:

Be sure to hook the claw [1] of the grip on the protrusion [2] of the Transfer Unit when assembling.



F-4-139

2) Close the Right Door Unit.

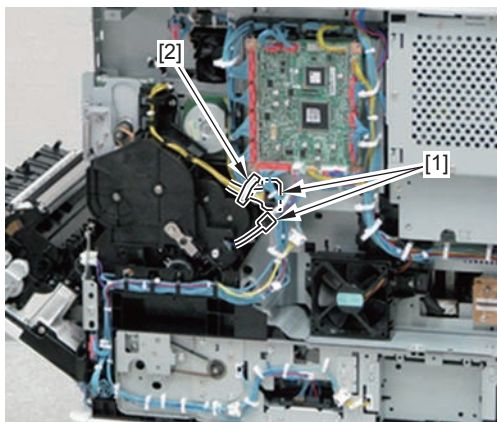
Removing the Main Drive Unit

Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Right Rear Cover. (Refer to page 4-26)
- 3) Remove the Waste Toner Container. (Refer to page 4-67)
- 4) Remove the Drum Unit. (Refer to page 4-68)

Procedure

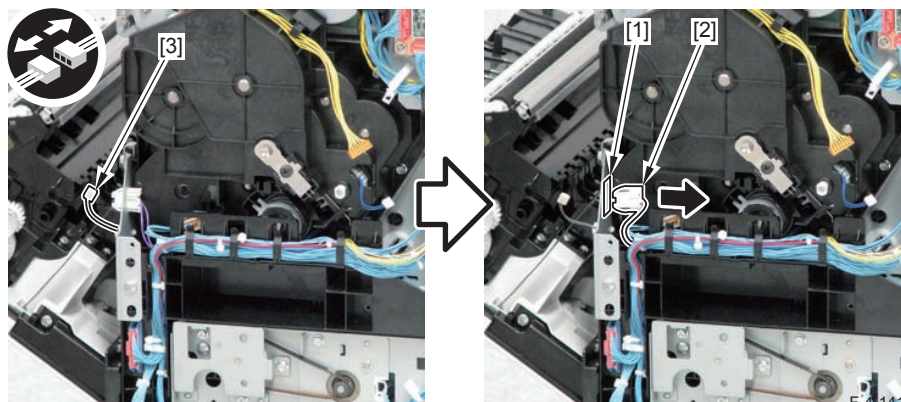
- 1) Disconnect the 2 Connectors [1] and remove the Wire Saddle [2].



F-4-140

- 2) Disconnect the Relay Connector [2] from the hole [1] of the plate.

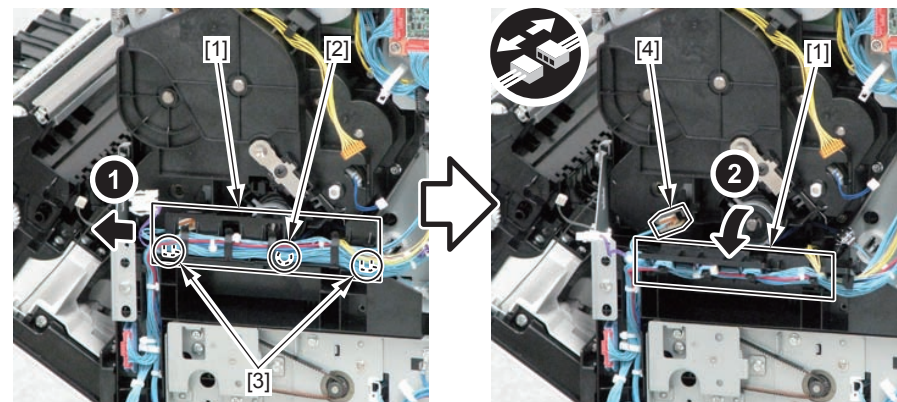
- 1 Connector [3]



F-4-141

- 3) Move the Harness Guide [1].

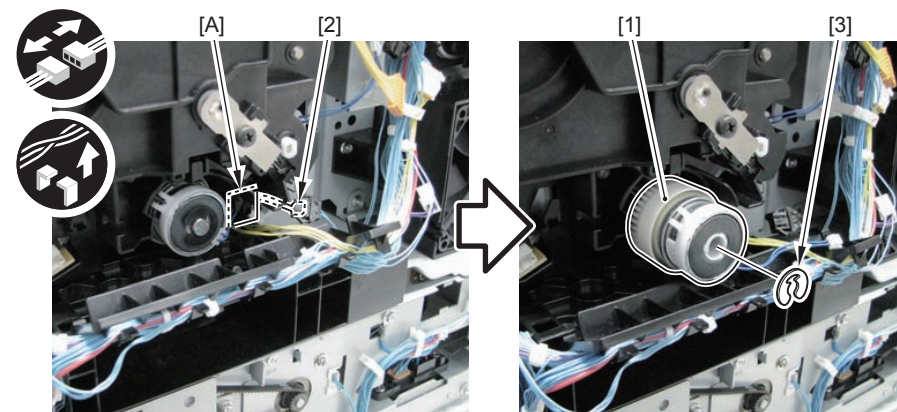
- 1 Boss [2]
- 2 Hooks [3]
- 1 Connector [4]



F-4-142

- 4) Remove the Registration Clutch [1].

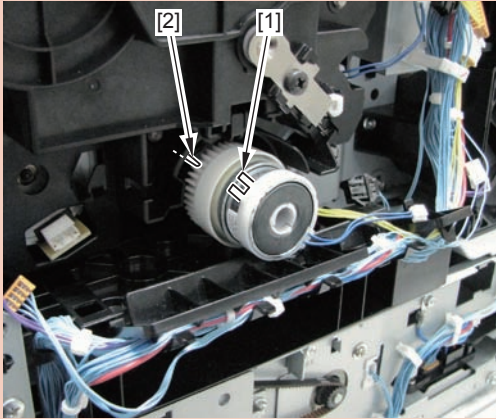
- 1 Connector [2]
- Guide [A]
- 1 E-ring [3]



F-4-143

CAUTION:

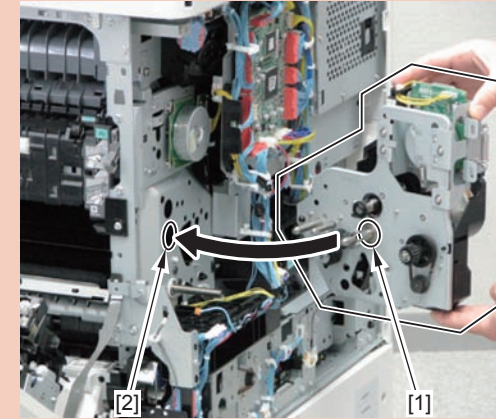
When assembling the Registration Clutch, be sure to align the cut-off [1] of the clutch with the protrusion [2] of the Drive Unit



F-4-144

CAUTION:

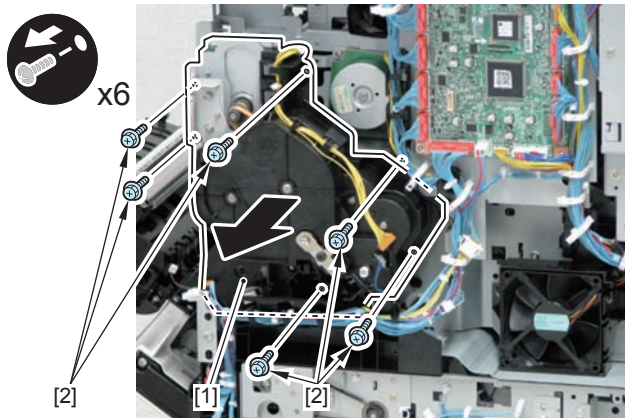
Be sure to fit the bearing [1] of the Drive Unit into the hole [2] of the plate on the host machine side when assembling.



F-4-146

5) Remove the Drive Unit [1].

- 6 Screws [2]



F-4-145

Removing the Hopper Unit

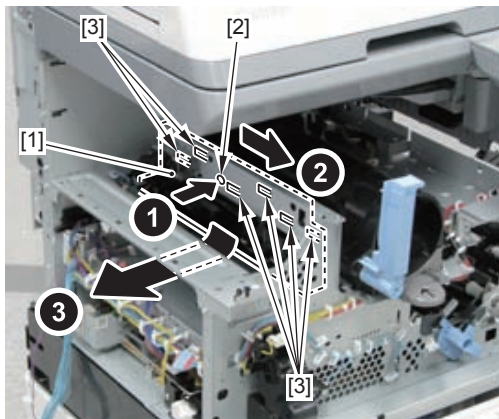
Preparation

- 1) Remove the Rear Cover. (Refer to page 4-24)
- 2) Remove the Delivery Outer Cover. (Refer to page 4-29)
- 3) Remove the Left Cover. (Refer to page 4-27)
- 4) Remove the Toner Cartridge. (Refer to page 4-68)
- 5) Remove the Waste Toner Container. (Refer to page 4-67)
- 6) Remove the Drum Unit. (Refer to page 4-68)
- 7) Remove the Developing Assembly. (Refer to page 4-69)
- 8) Remove the Front Cover. (Refer to page 4-24)
- 9) Remove the Fixing Assembly. (Refer to page 4-79)
- 10) Remove the Right Front Cover. (Refer to page 4-25)
- 11) Remove the Right Inner Cover. (Refer to page 4-30)
- 12) Remove the Left Inner Cover. (Refer to page 4-29)
- 13) Remove the Inner Rear Cover. (Refer to page 4-24)
- 14) Remove the Delivery Inner Cover. (Refer to page 4-29)
- 15) Remove the HVT PCB. (Refer to page 4-60)
- 16) Remove the Laser Scanner Unit. (Refer to page 4-63)

Procedure

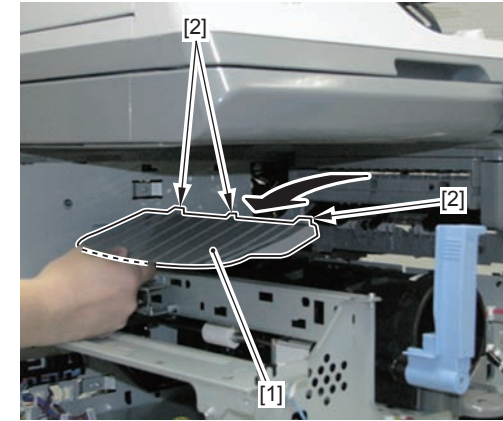
Disassembling Procedure

- 1) Remove the High Voltage Main Guide [1].
 - 1 Boss [2]
 - 6 Hooks [3]



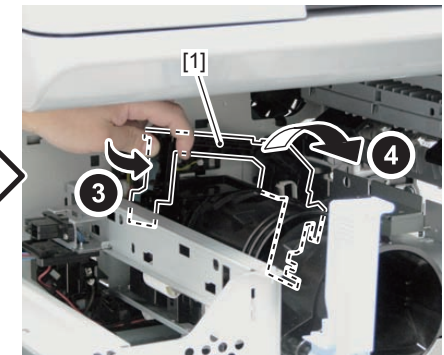
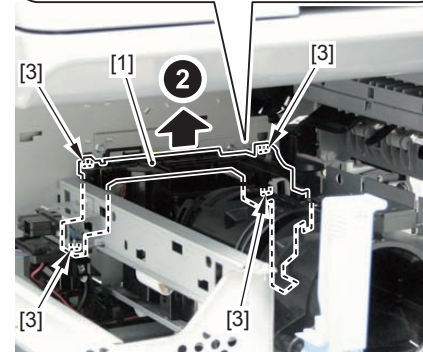
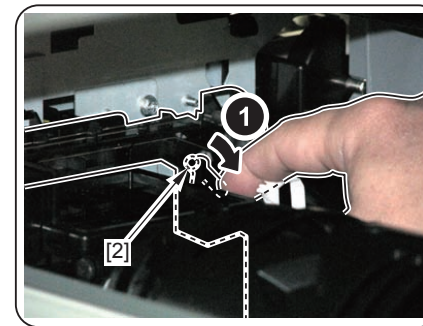
F-4-147

- 2) Remove the Reverse Tray [1].
 - 3 Hooks [2]



F-4-148

- 3) Remove the High Voltage Upper Guide [1].
 - 1 Boss [2]
 - 4 Hooks [3]



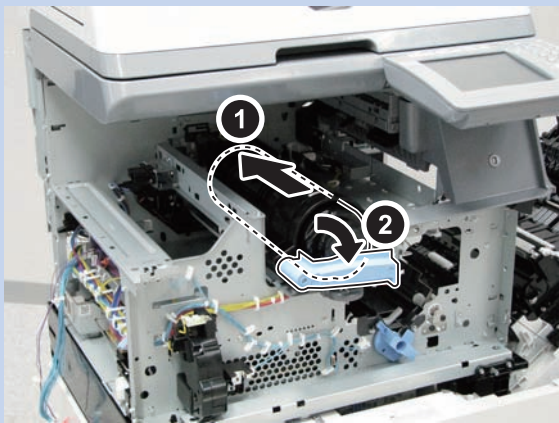
F-4-149

4) Remove the Hopper Unit [1].

- 1 Connector [2]
- 1 Edge Saddle [3]
- 4 Screws [4]

NOTE:

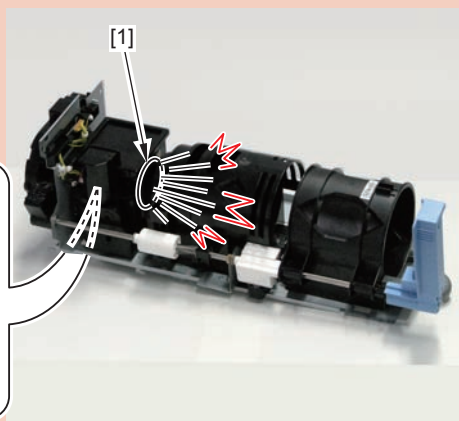
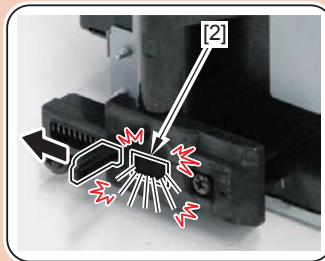
Since installation of the Toner Container decreases the possibility of toner scattering, it is recommended to install the Toner Container when there is no problem with it.



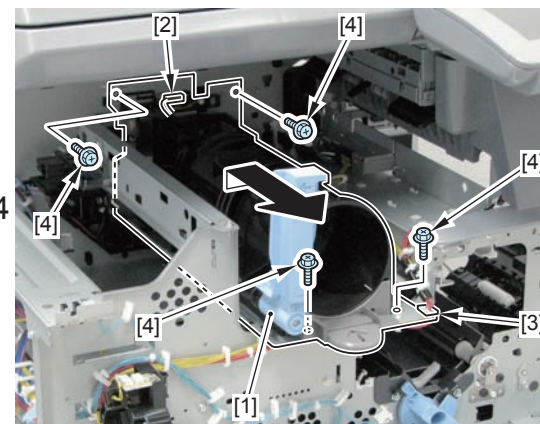
F-4-150

CAUTION:

When removing the Hopper Unit, be sure not to spill toner from the Toner Supply Mouth [1] and the Toner Open/Close Shutter [2].



F-4-151



F-4-152

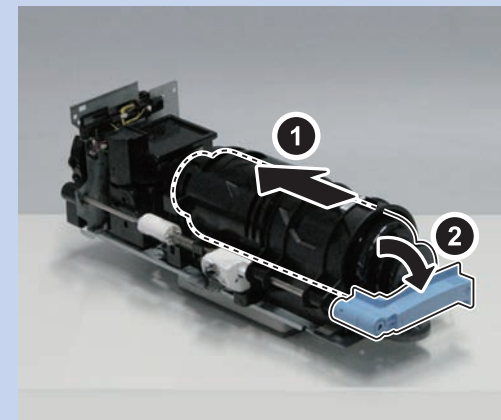
● Assembling Procedure

1) Install the Hopper Unit [1].

- 1 Connector [2]
- 1 Edge Saddle [3]
- 4 Screws [4]

NOTE:

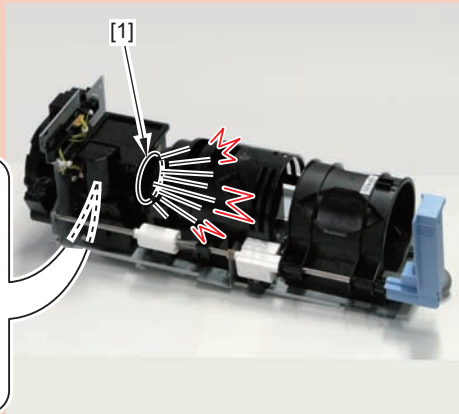
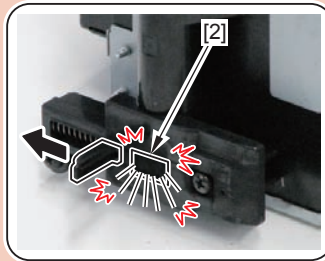
Since installation of the Toner Container decreases the possibility of toner scattering, it is recommended to install the Toner Container when there is no problem with it.



F-4-153

CAUTION:

When installing the Hopper Unit, be sure not to spill toner from the Toner Supply Mouth [1] and the Toner Open/Close Shutter [2].



F-4-154

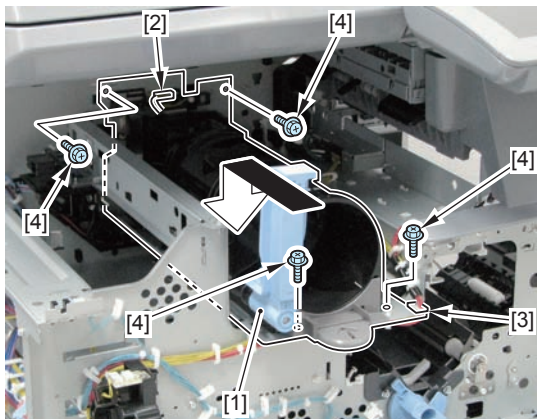
CAUTION:

When installing the Hopper Unit with toner inside, be sure to install it after removing the Support Column Cover. There is a high possibility of toner scattering during the work if it is not removed.

Removing the Support Column Cover (Refer to page 4-32)



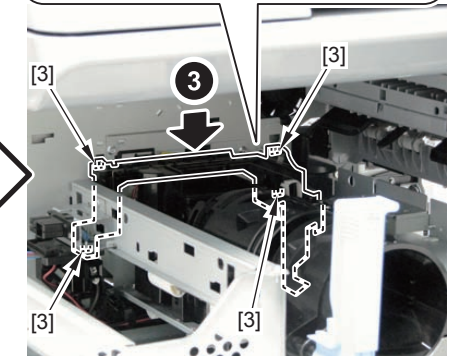
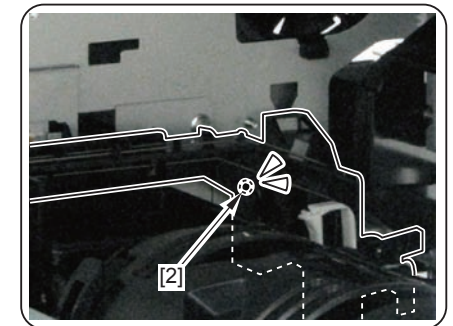
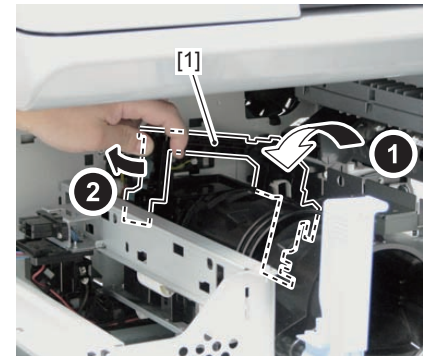
x4



F-4-155

2) Install the High Voltage Upper Guide [1].

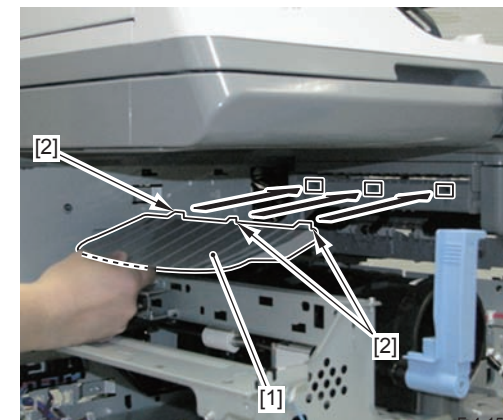
- 1 Boss [2]
- 4 Hooks [3]



F-4-156

3) Install the Reverse Tray [1].

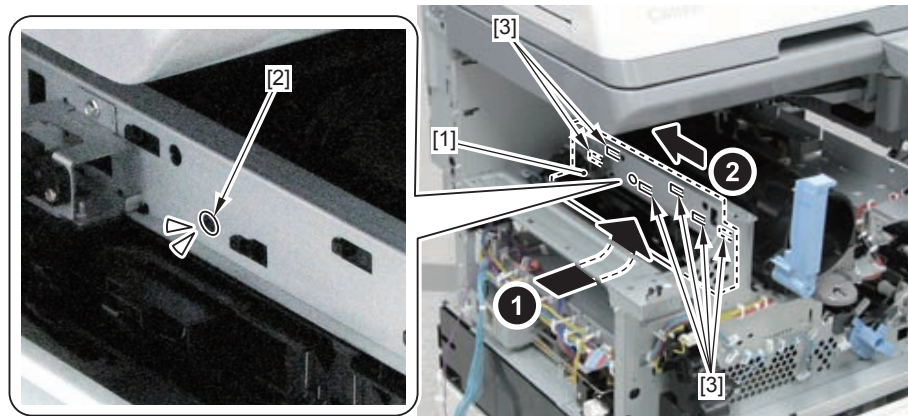
- 3 Hooks [2]



F-4-157

4) Install the High Voltage Main Guide [1].

- 1 Boss [2]
- 6 Hooks [3]



F-4-158

5) Install the Laser Scanner Unit.

6) Install the HVT PCB.

7) Install the Delivery Inner Cover.

8) Install the Inner Rear Cover.

9) Install the Left Inner Cover.

10) Install the Right Inner Cover.

11) Install the Right Front Cover.

12) Install the Fixing Assembly.

13) Install the Front Cover.

14) Install the Developing Assembly.

15) Install the Drum Unit.

16) Install the Waste Toner Container.

17) Install the Toner Cartridge.

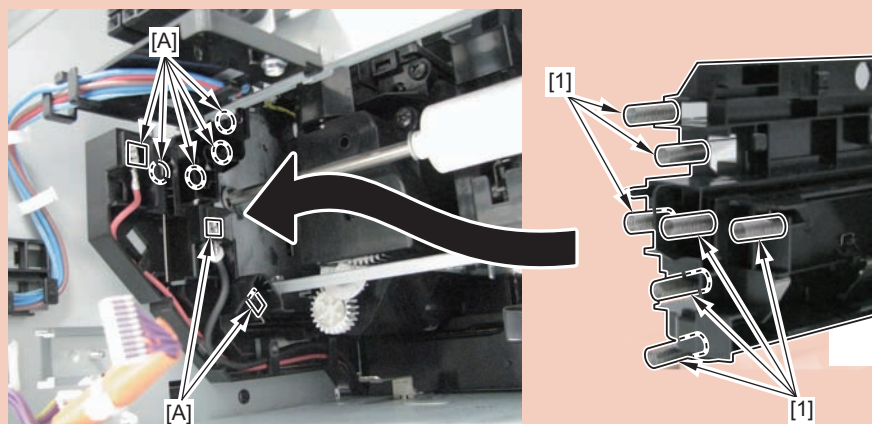
18) Install the Left Cover.

19) Install the Delivery Outer Cover.

20) Install the Rear Cover.

CAUTION:

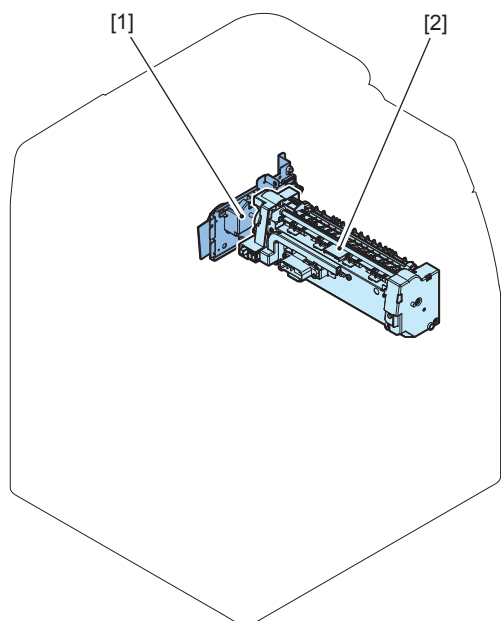
When assembling the High Voltage Main Guide, be sure that the 7 Contact Springs [1] are in contact with the [A] part of the High Voltage Lower Guide.



F-4-159

Fixing System

Location



F-4-160

No.	Name	Main Unit	Reference	Adjustment during parts replacement
[1]	Fixing Drive Unit	Main Unit	(Refer to page 4-81)	
[2]	Fixing Assembly	Main Unit	(Refer to page 4-79)	

T-4-32

Removing the Fixing Assembly

CAUTION:

- Be sure to start removing the Fixing Assembly after it is cooled down enough. The Fixing Assembly right after printing may cause burn injury.
- Be sure not to disassemble the Fixing Assembly because it requires adjustment.

Procedure

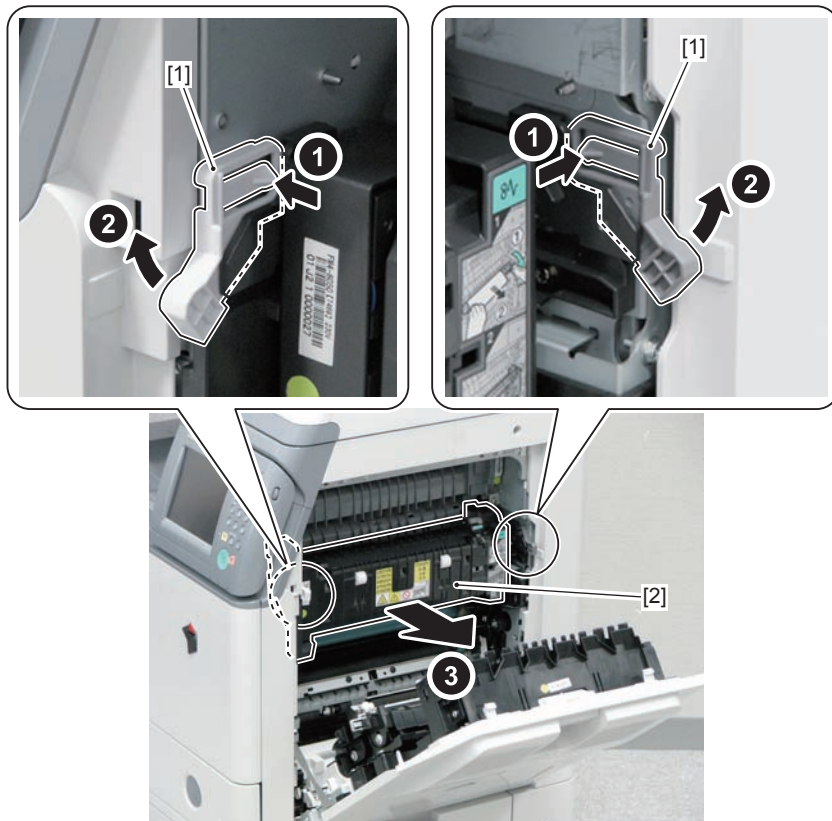
Disassembling Procedure

- 1) Open the Right Door Unit [1].



F-4-161

2) Release the 2 Fixing Lock Levers [1], and remove the Fixing Assembly [2].



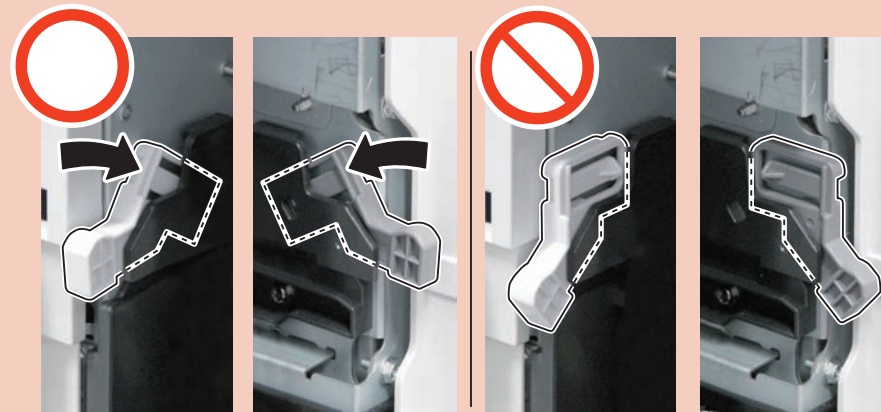
F-4-162

Assembling Procedure

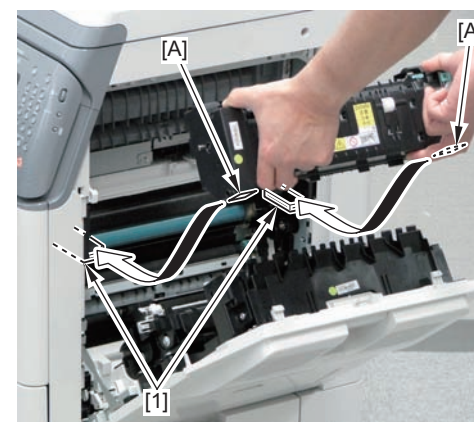
1) Install the Fixing Assembly by putting the 2 edges [A] of the bottom of the Fixing Assembly into the 2 Fixing Rails [1].

CAUTION:

Be sure that the lock of the 2 Fixing Lock Levers is released when installing.

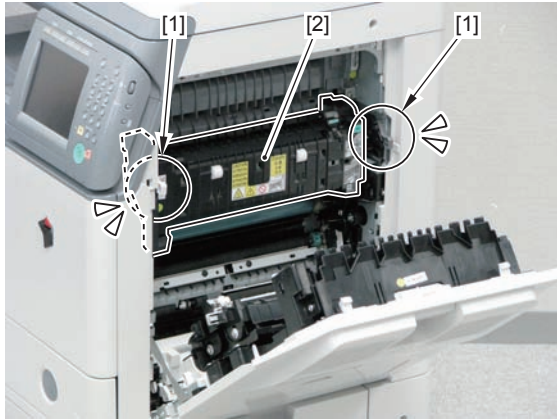


F-4-163



F-4-164

2) Lock the 2 Fixing Lock Levers [1], and secure the Fixing Assembly [2].



F-4-165

3) Close the Right Door Unit.

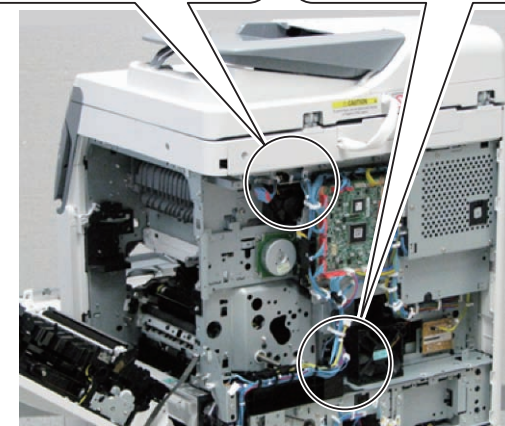
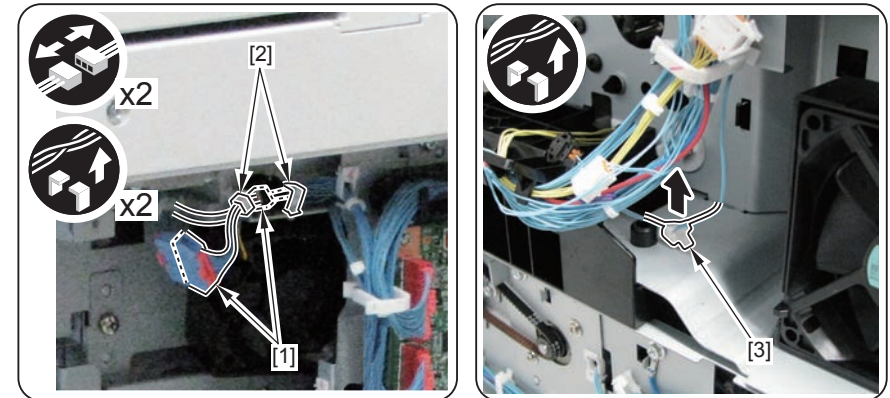
Removing the Fixing Drive Unit

Preparation

- 1) Remove the Rear Cover.(Refer to page 4-24)
- 2) Remove the Right Rear Cover.(Refer to page 4-26)
- 3) Remove the Waste Toner Container.(Refer to page 4-67)
- 4) Remove the Drum Unit.(Refer to page 4-68)
- 5) Remove the Main Drive Unit.(Refer to page 4-73)
- 6) Remove the Fixing Assembly.(Refer to page 4-79)

Procedure

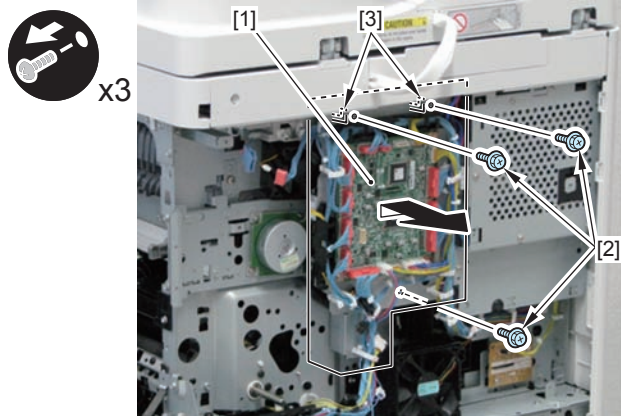
- 1) Disconnect the 2 Connectors [1] and remove the 2 Wire Saddles [2] and the Reuse Band [3].



F-4-166

2) Remove the DC Controller Unit [1].

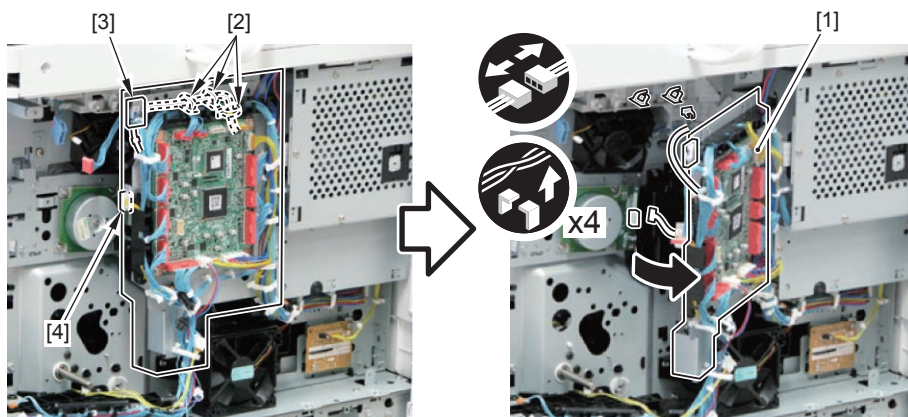
- 3 Screws [2]
- 2 Hooks [3]



F-4-167

3) Open the DC Controller Unit [1].

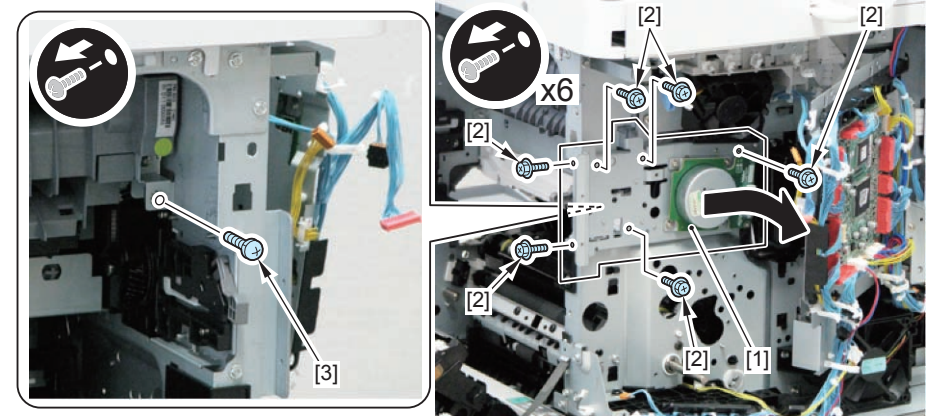
- 3 Wire Saddles [2]
- 1 Edge Saddle [3]
- 1 Connector [4]



F-4-168

4) Remove the Fixing Drive Unit [1].

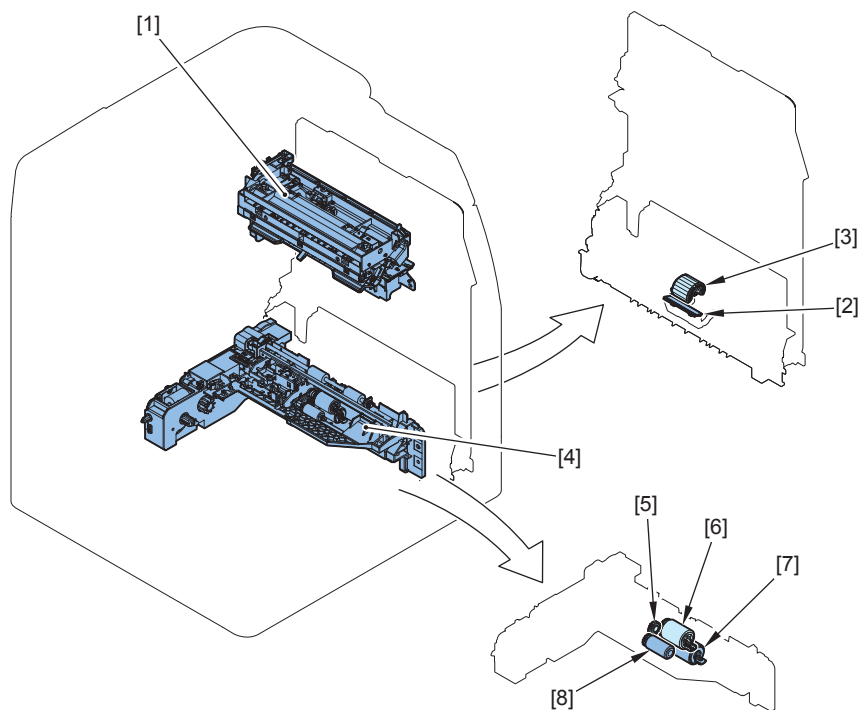
- 6 Screws (RS Tightening) [2]
- 1 Screw (with washer) [3]



F-4-169

Pickup Feed System

Location



F-4-170

No.	Casste Pickup Unit	Main Unit	Reference	Adjustment during parts replacement
[1]	Delivery/Reverse Unit	Main Unit	(Refer to page 4-92)	
[2]	Multi-purpose Tray Separation Pad	Transfer Unit	(Refer to page 4-91)	
[3]	Multi-purpose Tray Pickup Roller	Transfer Unit	(Refer to page 4-88)	
[4]	Casste Pickup Unit	Main Unit	(Refer to page 4-87)	
[5]	Cassette Pickup Idler Gear	Casste Pickup Unit	(Refer to page 4-87)	
[6]	Cassette Feed Roller	Casste Pickup Unit	(Refer to page 4-83)	
[7]	Cassette Separation Roller	Casste Pickup Unit	(Refer to page 4-85)	
[8]	Cassette Pickup Roller	Casste Pickup Unit	(Refer to page 4-86)	

T-4-33

Removing the Cassette Feed Roller

Procedure

CAUTION:

Be sure not to touch the surface of the roller when disassembling/assembling.



F-4-171

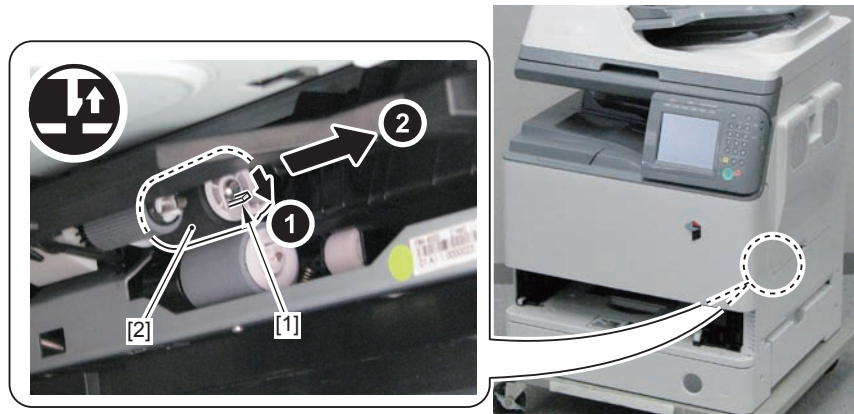
Disassembling Procedure

1) Remove the cassette [1].



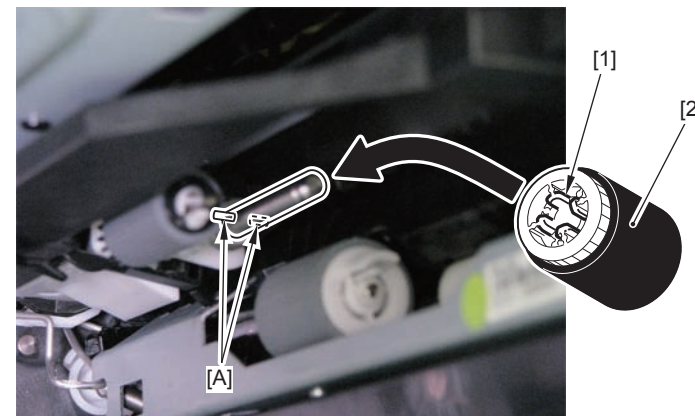
F-4-172

2) Release the claw [1] of the Cassette Feed Roller, and remove the Cassette Feed Roller [2].



F-4-173

1) Install the Cassette Feed Roller [2] by aligning the protrusion [A] of the Feed Roller Shaft with the groove [1] of the Cassette Feed Roller.

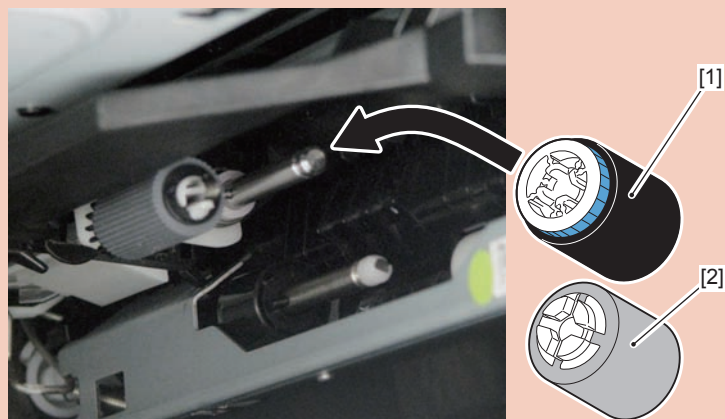


F-4-175

Assembling Procedure

CAUTION:

Be sure to install the Cassette Feed Roller [1] to the shaft at the upper side and the Cassette Separation Roller [2] to the shaft at the lower side when assembling.



F-4-174

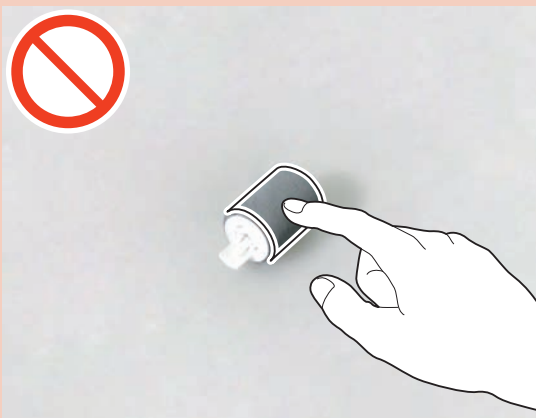
2) Return the cassette to the original position.

Removing the Cassette Separation Roller

Procedure

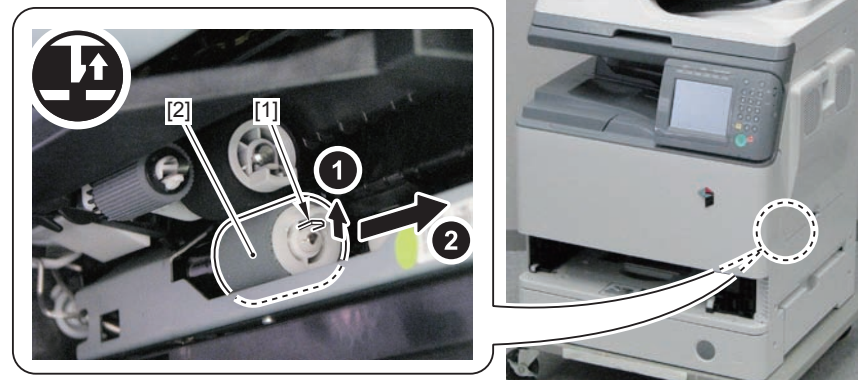
CAUTION:

Be sure not to touch the surface of the roller when disassembling/assembling.



F-4-176

- 2) Release the claw [1] of the Cassette Separation Roller, and remove the Cassette Separation Roller [2].

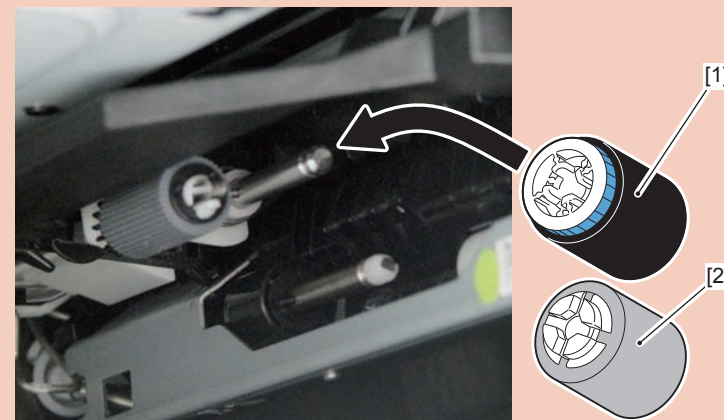


F-4-178

Assembling Procedure

CAUTION:

Be sure to install the Cassette Feed Roller [1] to the shaft at the upper side and the Cassette Separation Roller [2] to the shaft at the lower side when assembling.



F-4-179

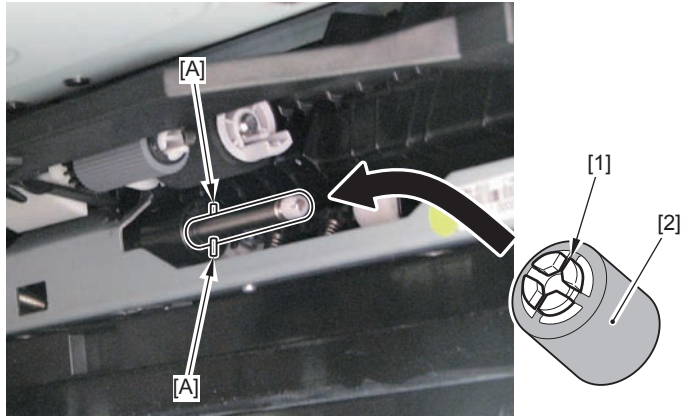
Disassembling Procedure

- 1) Remove the cassette [1].



F-4-177

- 1) Install the Cassette Separation Roller [2] by aligning the protrusion [A] of the Separation Roller Shaft with the groove [1] of the Cassette Separation Roller.



F-4-180

- 2) Return the cassette to the original position.

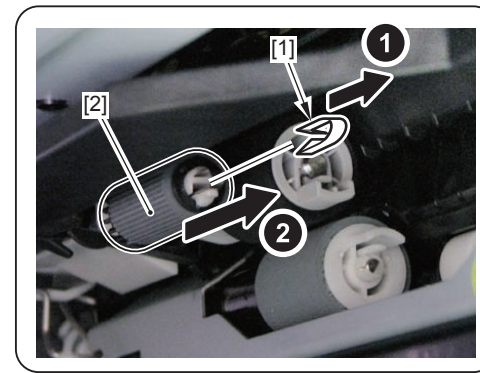
Removing the Cassette Pickup Roller

Procedure

CAUTION:

Be sure not to touch the surface of the roller when disassembling/assembling.

- 1) Remove the cassette.
- 2) Remove the Fixation Pin [1], and remove the Cassette Feed Roller [2].



F-4-181

Removing the Cassette Pickup Idler Gear

Preparation

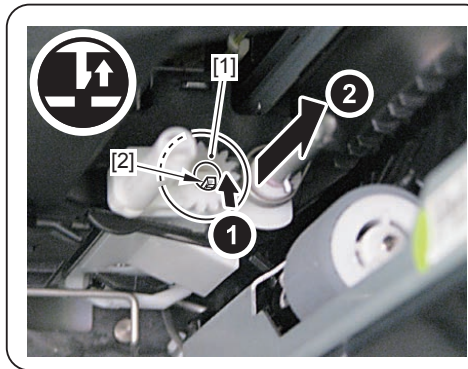
- 1) Remove the Cassette Feed Roller. (Refer to page 4-83)
- 2) Remove the Cassette Pickup Roller. (Refer to page 4-86)

Procedure

CAUTION:

Be sure not to touch the surface of the roller when disassembling/assembling.

- 1) Remove the Cassette Pickup Idler Gear [1].
 - 1 Claw [2]



F-4-182

Removing the Cassette Pickup Unit

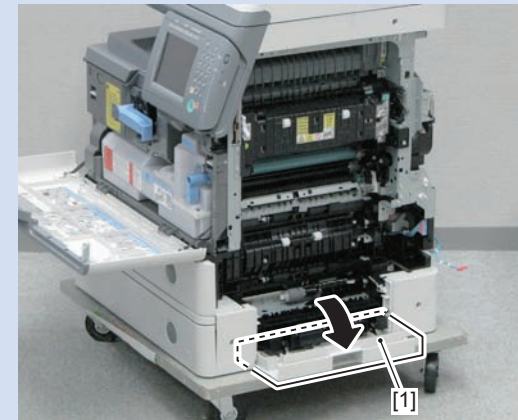
Preparation

- 1) Remove the Right Front Cover. (Refer to page 4-25)
- 2) Remove the Right Rear Cover. (Refer to page 4-26)
- 3) Remove the Right Door Unit. (Refer to page 4-26)

Procedure

NOTE:

When an option cassette is installed, open the Option Cassette Right Door [1].



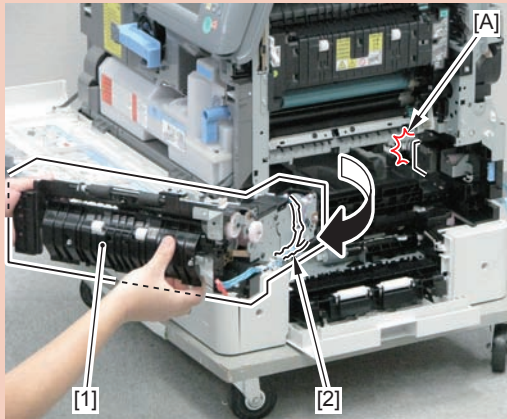
F-4-183

1) Pull out the cassette [1], and remove the Cassette Pickup Unit [2].

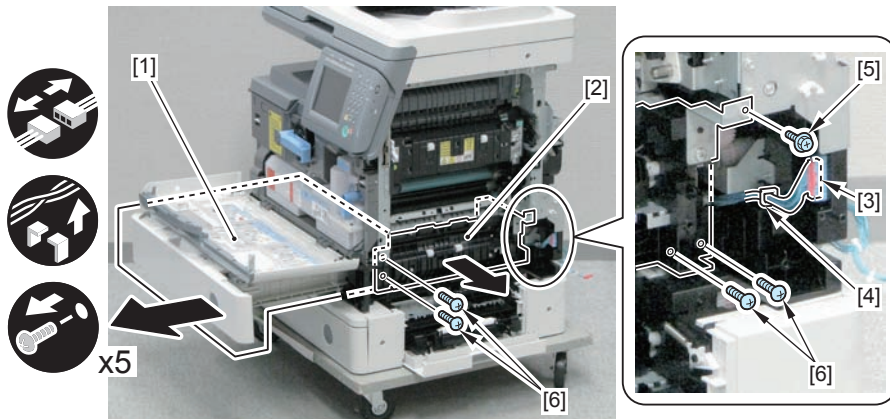
- 1 Connector [3]
- 1 Wire Saddle [4]
- 1 Screw (RS Tightening) [5]
- 4 Screws (Tapping) [6]

CAUTION:

When pulling out the Pickup Unit [1] at disassembly/assembly, be sure not to cause open circuit by making the harness [2] get caught in the [A] part.



F-4-184



F-4-185

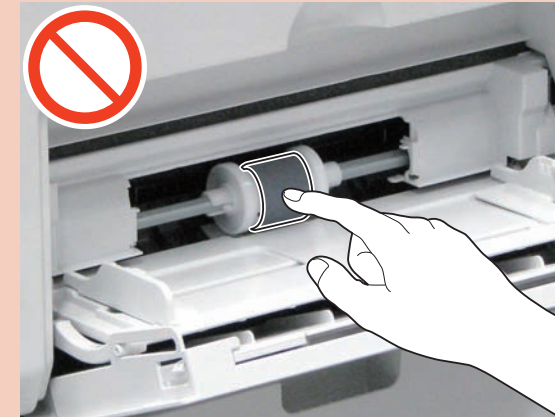
Removing the Multi-purpose Tray Pickup Roller

Procedure

Disassembling Procedure

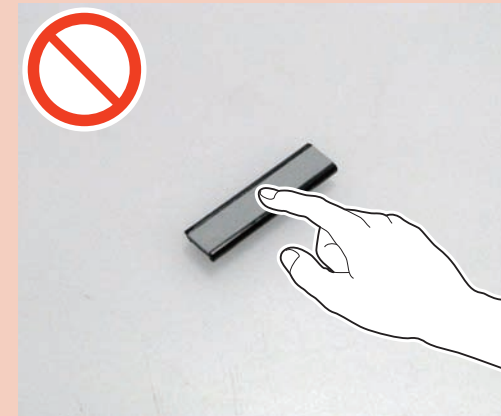
CAUTION:

- Be sure not to touch the surface of the roller when disassembling/assembling.



F-4-186

- Be sure not to touch the surface of the pad when disassembling/assembling.



F-4-187

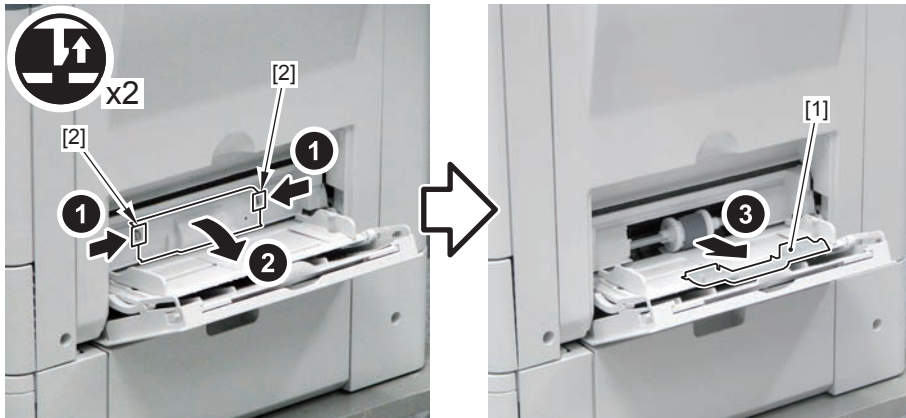
1) Open the Multi-purpose Tray Pickup Tray [1].



F-4-188

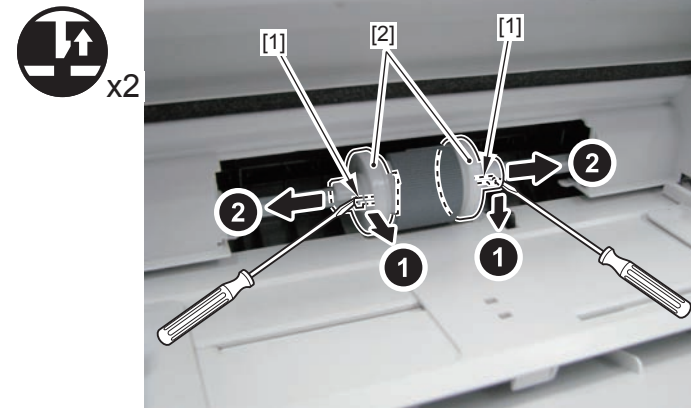
2) Remove the Pickup Roller Cover [1].

- 2 Claws [2]



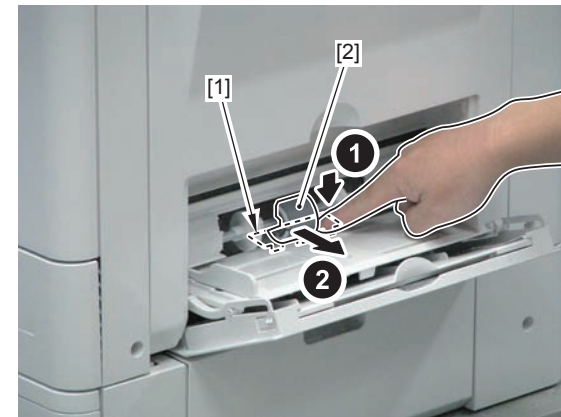
F-4-189

3) Release the 2 claws [1] of the Pickup Roller Holder on the right and left, and move the 2 Pickup Roller Holder [2].



F-4-190

4) Lower the Multi-purpose Tray Separation Pad [1], and remove the Multi-purpose Tray Pickup Roller [2].

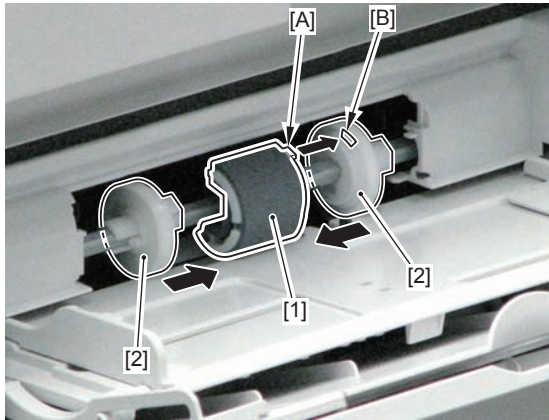


F-4-191

Assembling Procedure

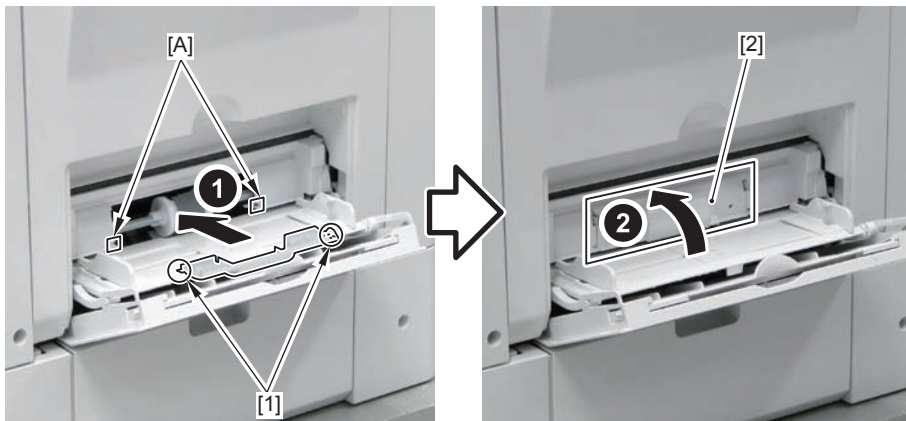
1) Install the Pickup Roller [1] by aligning the protrusion [A] of the new Pickup Roller with the groove [B] of the Pickup Roller Holder.

- 2 Pickup Roller Holders [2]



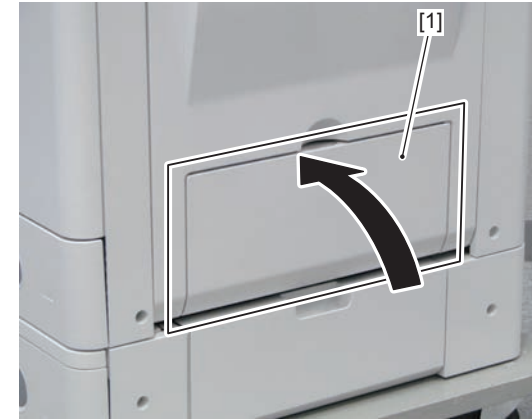
F-4-192

2) Install the Pickup Roller Cover [2] by aligning the 2 grooves [A] of the Pickup Tray Cover with the 2 shafts [1] of the Pickup Roller Cover.



F-4-193

3) Close the Multi-purpose Tray Pickup Tray [1].



F-4-194

Removing the Multi-purpose Tray Separation Pad

Preparation

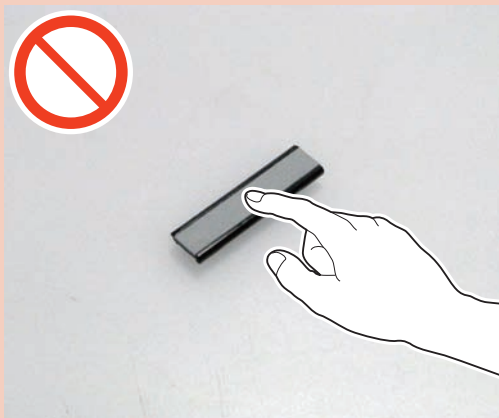
1) Remove the Multi-purpose Tray Pickup Roller. (Refer to page 4-88)

Procedure

Disassembling Procedure

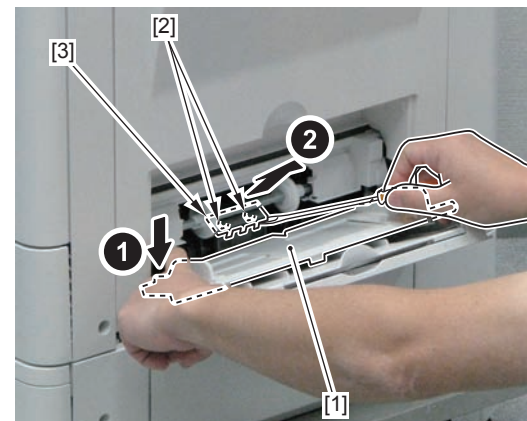
CAUTION:

Be sure not to touch the surface of the pad when disassembling/assembling.



F-4-195

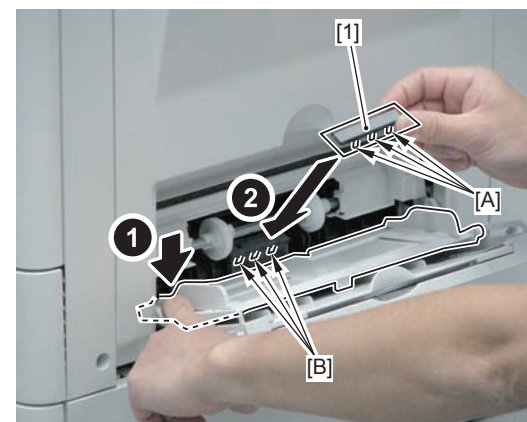
1) Lower the Multi-purpose Tray Pickup Tray [1], release the 2 bosses [2] of the Multi-purpose Tray Separation Pad, and then remove the Multi-purpose Tray Separation Pad [3].



F-4-196

Assembling Procedure

1) Install the Multi-purpose Tray Separation Pad [1] by aligning the 3 protrusions [A] of the new Multi-purpose Tray Separation Pad with the 3 grooves [B] of the Separation Pad Holder.



F-4-197

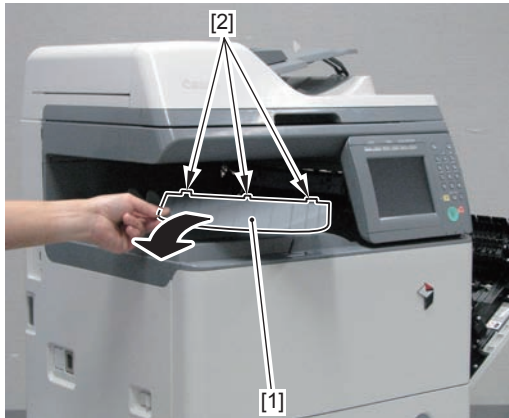
Removing the Delivery/Reverse Unit

Preparation

- 1) Remove the Fixing Assembly. (Refer to page 4-79)
- 2) Remove the Rear Cover. (Refer to page 4-24)

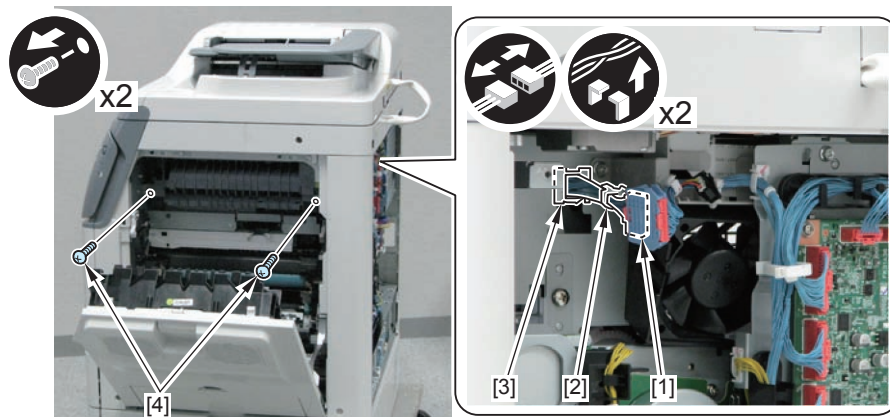
Procedure

- 1) Remove the Reverse Tray [1].
 - 3 Hooks [2]



F-4-198

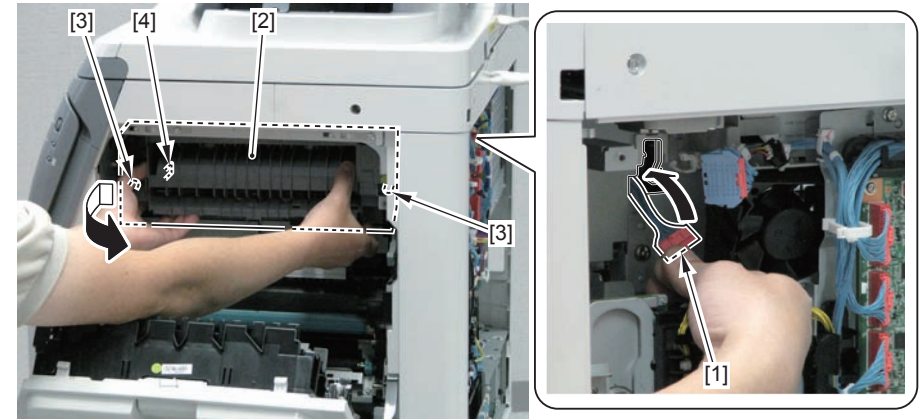
- 2) Disconnect the connector [1], and remove the Wire Saddle [2], the Edge Saddle [3] and the 2 screws [4].



F-4-199

- 3) While putting the connector [1] into the inside of the host machine, remove the Delivery/Reverse Unit [2].

- 2 Bosses [3]
- 1 Hook [4]



F-4-200

5

Adjustment

- Overview
- Adjustment when Replacing the Parts
- Image Position Adjustment

Overview

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
Original Exposure System	Replacement parts	Refer to page 5-3
	Contact Image Sensor (CIS)	
	Copyboard Glass	
	Reading Glass	Refer to page 5-4
Controller System	Main Controller PCB	Refer to page 5-4
	DC Controller PCB	Refer to page 5-5
	RAM PCB	Refer to page 5-5
Laser Exposure System	Laser Scanner Unit	Refer to page 5-5

T-5-1

Image Position Adjustment

This section describes remedies when adjusting the basic image position.

Item	Specification value	Reference
Left Edge Margin Adjustment	1-sided: 2.5 +/- 1.5 (mm) 2-sided: 2.5 +/- 2.0 (mm)	Refer to page 5-6
	<p>2.5 +/- 1.5mm (2nd side of double-sided copy: 2.5 +/- 2.0mm)</p>	
	E-5-1	

Item	Specification value	Reference
Leading Edge Non-image Width Adjustment	1-sided: 2.5 +/- 1.5 (mm) 2-sided: 2.5 +/- 1.5 (mm)	Refer to page 5-6
	<p>2.5 +/- 1.5mm (2nd side of double-sided copy : 2.5 +/- 1.5mm)</p>	
	E-5-2	
Left Edge Non-image Width Adjustment	1-sided: 2.5 +/- 1.5 (mm) 2-sided: 2.5 +/- 1.5 (mm)	Refer to page 5-7
	<p>2.5 +/- 1.5mm (2nd side of double-sided copy: 2.5 +/- 1.5mm)</p>	
	E-5-3	

T-5-2

Adjustment when Replacing the Parts

Original Exposure and Feed System

When Replacing the CIS Unit

Perform the following operation after replacing the CIS Unit.

CIS gain and offset correction

1) Enter service mode.

SCAN > READER > FUNCTION > CCD > CCD-ADJ

2) Press "OK".

After this operation, output correction of the Contact Image Sensor is automatically performed to set the parameter.

3) After auto adjustment is completed, OK is displayed.

(It will take approx. 15 seconds for this adjustment. During that time, display on the Operation Panel will not be changed.)

DF white level adjustment (book mode scan/stream reading scan)

1) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DFWLVL1.

The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).

2) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL2.

The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

3) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL3.

The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).

4) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL4.

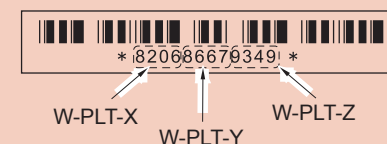
The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

When Replacing the Copyboard Glass

Execute the following in the service mode.

CAUTION:

Be sure to execute the White Plate data adjustment before the DF white level adjustment.



F-5-4

1. Enter the value (see the figure above) indicated on the Copyboard Glass in the following service mode.

SCAN > READER > ADJUST > CCD > W-PLT-X/Y/Z (entering the standard White Plate data)

2. Follow the following steps to execute the service mode.

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

1) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL1.

The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).

2) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL2.

The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

3) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL3.

The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).

4) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL4.

The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

NOTE:

Be sure that size of a paper to be used in the foregoing steps is the one that the ADF can be read.

■ When Replacing the ADF Reading Glass

1. Follow the following steps to execute the service mode.
SCAN > READER > FUNCTION > CCD > DF-WLVL1/2/3/4 (adjusting the DF white level)
- 1) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL1.
The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).
- 2) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL2.
The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).
- 3) Place a sheet of paper which is normally used by the user on the Copyboard Glass, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL3.
The white level during BOOK mode is read (checking the transmission of the glass for BOOK mode).
- 4) Place a sheet of paper which is normally used by the user on the ADF, and execute the following: service mode > SCAN > READER > FUNCTION > CCD > DF-WLVL4.
The white level during DF mode (stream reading) is read (checking the transmission of the glass for stream reading) (reading both sides of the chart).

NOTE:

Be sure that size of a paper to be used in the foregoing steps is the one that the ADF can be read.

● Main Controller System

■ Before Replacing the Main Controller PCB

- 1) Request the user to backup the user data using remote UI.
- 2) If possible, output the data of the unprocessed jobs.
After replacing the DC Controller PCB, the data of the unprocessed jobs will be deleted.
- 3) Print out the list of the service mode setting value in the service mode.
REPORT> REPORT OUTPUT> SERVICE DATA LIST

■ After Replacing the Main Controller PCB

- 1) When replacing the Main Controller PCB with a new one, be sure to perform the following procedure.
 - Download the latest firmware using UST.
(Refer to Software to Be Upgraded and Upgrading Method)
- 2) When backup data cannot be uploaded before replacement due to reasons such as damage of the Main Controller PCB, enter the value of each service mode item described on the service label.
Since the values recorded on the service label may not be the latest at this time, check the service mode item list (#SERVICE DATA LIST) printed out in advance, and enter the values on the list.
- 3) Turn OFF and then ON the power.
(By turning OFF and then ON the power, the value entered in each service mode item becomes enabled.)
- 4) Upon completion of the replacement work, request the user to restore the user data.

Before Replacing the DC Controller PCB

- 1) Request the user to backup the user data using remote UI.
- 2) If possible, output the data of the unprocessed jobs.
After replacing the DC Controller PCB, the data of the unprocessed jobs will be deleted.
- 3) Print out the list of the service mode setting value in the service mode.
REPORT> REPORT OUTPUT> SERVICE DATA LIST

After Replacing the DC Controller PCB

- 1) When replacing the DC Controller PCB with a new one, be sure to perform the following procedure.
 - Download the latest firmware using UST.
(Refer to Software to Be Upgraded and Upgrading Method)
- 2) Clear the DC Controller setting value/counter.
Service mode > CLEAR > ENGINE > ENGINE BKRAMCLK
(Clearing RAM of the DC Controller PCB)
- 3) Turn OFF and then ON the power.
(By turning OFF and then ON the power, RAM clear is executed.)
- 4) When backup data cannot be uploaded before replacement due to reasons such as damage of the DC Controller PCB, enter the value of each #PRINT item described on the service label.
Since the values recorded on the service label may not be the latest at this time, check the service mode item list (#SERVICE DATA LIST) printed out in advance, and enter the values on the list.
- 5) Turn OFF and then ON the main power.
(By turning OFF and then ON the power, the value entered in each service mode item becomes enabled.)
- 6) Upon completion of the replacement work, request the user to restore the user data.

When Replacing the RAM PCB

CAUTION:

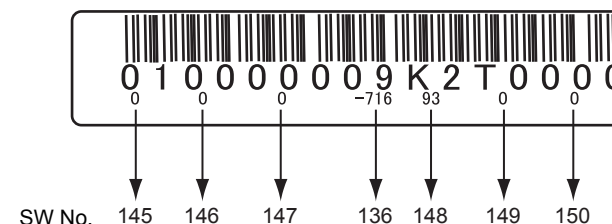
Even after turning OFF the main power switch and disconnecting the power plug from the outlet, power is still supplied between SO-DIMM and Secondary Battery Unit for backup of the image memory. When the SW3 of the Main Controller PCB is pressed while image is backed up, all the contents in the memory are cleared, therefore be sure to output all data in the memory before pressing it.

Laser Exposure System

After Replacing the Laser Scanner Unit

When replacing the Laser Unit, enter the value obtained by adding 1,000 to the number shown on the label affixed to the side of the newly replaced Laser Unit in the corresponding service mode as shown below.

(Examples: If the number on the service label is 3, enter 1,003. If the number on the service label is -1, enter 999.)



F-5-5

- ```
PRINT > PRINT NUMERIC >
136 Laser horizontal scanning direction write position adjustment (A)
PRINT > PRINT NUMERIC >
145 Laser horizontal scanning direction magnification ratio adjustment (A-B)
PRINT > PRINT NUMERIC >
146 Laser horizontal scanning direction magnification ratio adjustment (A-C)
PRINT > PRINT NUMERIC >
147 Laser horizontal scanning direction magnification ratio adjustment (A-D)
PRINT > PRINT NUMERIC >
148 Laser horizontal scanning direction write position adjustment (A-B)
PRINT > PRINT NUMERIC >
149 Laser horizontal scanning direction write position adjustment (A-C)
PRINT > PRINT NUMERIC >
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
- Multi-purpose Tray

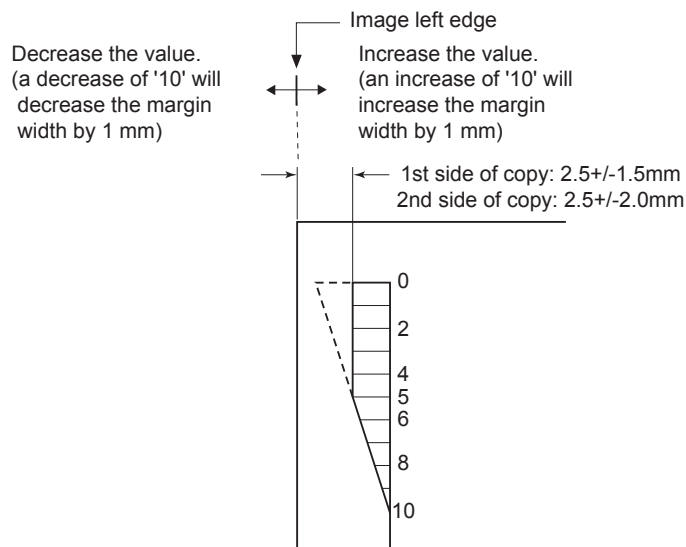
If it is not within the standard, go through the following procedures to adjust it.

### CAUTION:

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

## Left Edge Margin Adjustment

Service mode> PRINT> PRINT NUMERIC> 056



F-5-6

### NOTE:

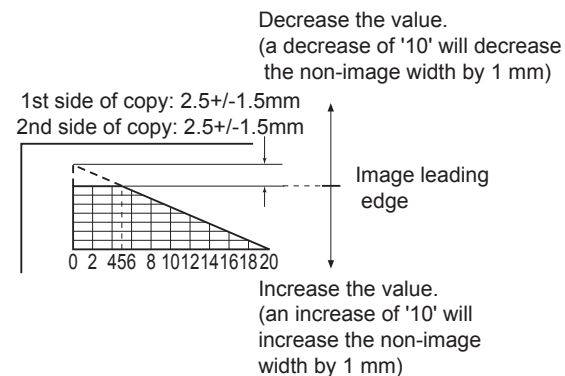
Be sure to perform the following procedure for right edge margin adjustment.  
Service mode > PRINT > PRINT NUMERIC > 055  
(Reference target value) 1st side: 0.5mm or larger, 2nd side: 0.5mm or larger

## Leading Edge Non-image Width Adjustment

Service mode> PRINT> PRINT NUMERIC> 143 (1st side at half speed)

Service mode> PRINT> PRINT NUMERIC> 142 (1st side at normal speed)

Service mode> PRINT> PRINT NUMERIC> 140 (2nd side, common for both speeds)



F-5-7

## Left Edge Non-image Width Adjustment

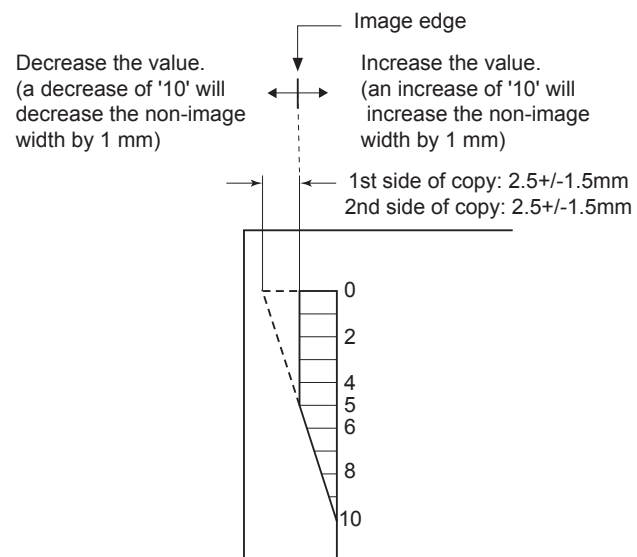
Service mode > PRINT> PRINT NUMERIC> 034 (Multi-purpose Tray)

Service mode > PRINT> PRINT NUMERIC> 035 (Cassette 1)

Service mode > PRINT> PRINT NUMERIC> 036 (Cassette 2 (option))

Service mode > PRINT> PRINT NUMERIC> 037 (Cassette 3 (option))

Service mode > PRINT> PRINT NUMERIC> 038 (Cassette 4 (option))

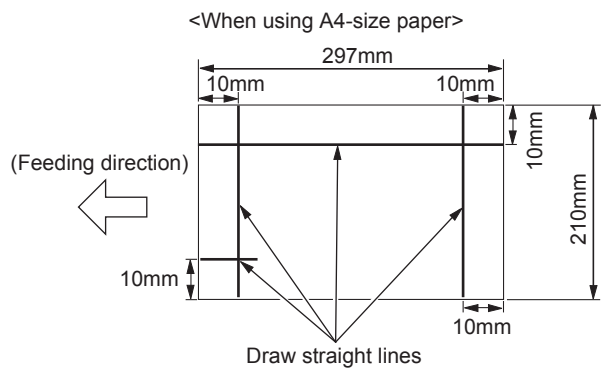


F-5-8

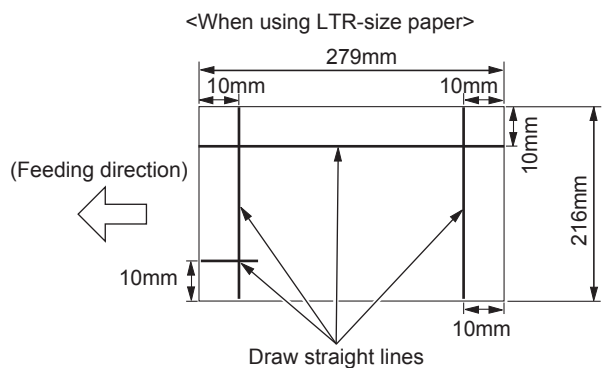
## Image Position Adjustment for ADF

### Creation of Adjusting Test Sheet

Creation method: Draw straight lines on the A4-size or LTR-size paper.



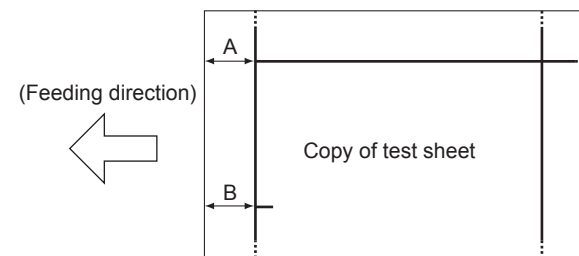
F-5-9



F-5-10

### Squareness Adjustment

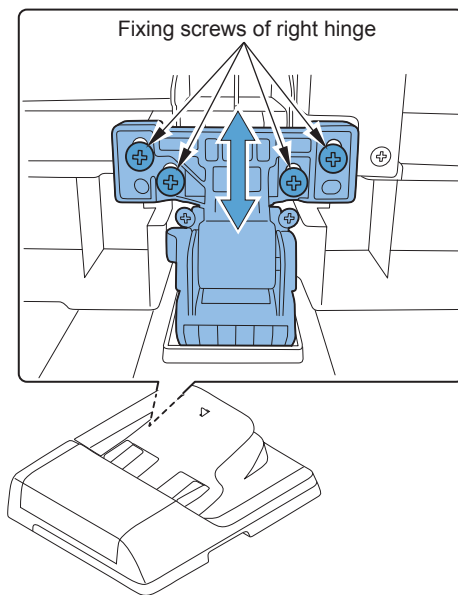
- 1) Create a test sheet, place it on the ADF, and make a copy of it.
- 2) Check the image squareness at the leading edges of the test sheet and copied paper. Measure dimensions A and B and obtain the difference between them. Adjust the squareness so that the amount of skew is within specification.



F-5-11

- A - B standard:  $0 \pm 1.5\text{mm}$

- 3) Loosen the four screws securing the right hinge, and then move the hinge to adjust the squareness.



F-5-12

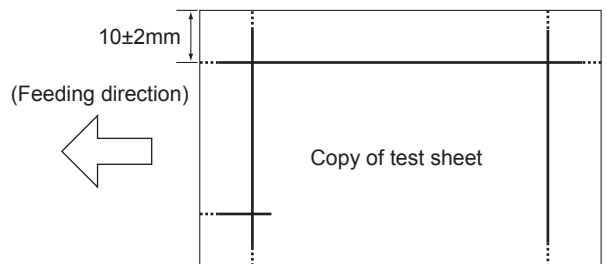
- 4) After completion of the adjustment, tighten the screws you loosened in step 3).

## ■ Adjustment of Image Magnification Factor for Sub Scanning Section

- 1) Create a test sheet, place it on the ADF, and make a copy of it.
- 2) Compare the feed-directional length of the image on the test sheet with that of the image on the copied paper. If the difference between them is not within specification, make an adjustment in the service mode.
  - Standard value
    - A4-size paper:  $277\pm 1\text{mm}$
    - LTR-size paper:  $259\pm 1\text{mm}$
- 3) Service mode: SCAN > FEEDER > ADJUST > LA-SPEED
  - When the length of the image on the copied paper is shorter: Increase the setting value. (Reduce the original stream read speed.)
  - When the length of the image on the copied paper is longer: Reduce the setting value. (Increase the original stream read speed.)

## Horizontal Registration Adjustment

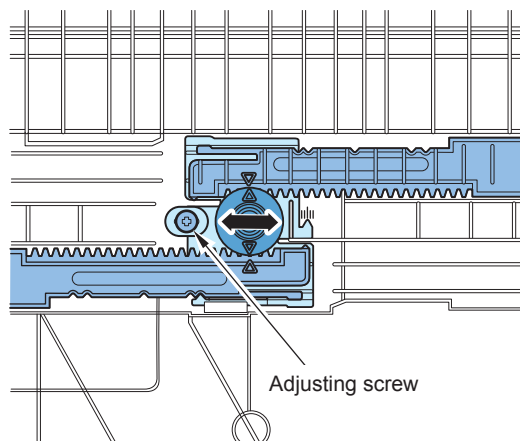
- 1) Create a test sheet, place it on the ADF, and make a copy of it.
- 2) Compare the horizontal registration of the test sheet with that of the copied paper.  
Make an adjustment to conform to the following standard value:



F-5-13

- Standard value: Within 10mm±2mm

- 3) Open the ADF.
- 4) Loosen the adjusting screw, and then move the slide guide forward or backward with reference to the scale marks.

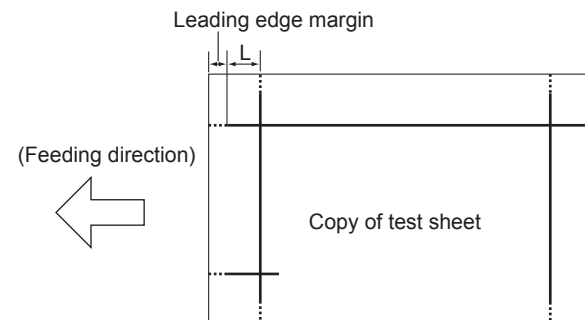


F-5-14

- 5) After completion of the adjustment, tighten the adjusting screw you loosened in step 4.)

## Leading Edge Registration Adjustment

- 1) Create a test sheet, place it on the ADF, and make a copy of it.
- 2) Compare the leading-edge registration of the test sheet with that of the copied paper. If required, adjust the leading edge registration to the following value:



F-5-15

- Standard value: 10mm±2mm

- 3) Service mode: SCAN > FEEDER > ADJUST > DOCST
  - When the image is shifted to the left: Reduce the setting value.
  - When the image is shifted to the right: Increase the setting value.

### Note:

After completion of the adjustment, check the squareness. If it is not within specification, make adjustments again starting with the squareness adjustment.



# 6

## Troubleshooting

- Initial Check
- Test Print
- Troubleshooting items
- Software to Be Upgraded and Upgrading Method

# Initial Check

## List of Initial Check Items

| Item                                    | No. | Check Items                                                                                                                                                             | Check |
|-----------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Site environment                        | 1   | The value of power voltage is +/- 10% of the specified voltage.                                                                                                         |       |
|                                         | 2   | The machine is not in a high-temperature/high-humidity place (near the water tap, water boiler, or humidifier), a cold place, a place near fire, or a dusty place.      |       |
|                                         | 3   | The machine is not in a place that generates ammonia gas                                                                                                                |       |
|                                         | 4   | The machine is not in a place of direct sunlight.                                                                                                                       |       |
|                                         | 5   | The machine is installed in a well-ventilated place where the machine stands horizontally.                                                                              |       |
|                                         | 6   | The power plug of the machine is connected to the output                                                                                                                |       |
| Checking the paper                      | 1   | The Canon-recommended paper is used.                                                                                                                                    |       |
|                                         | 2   | The paper is not moistened. Set paper by taking it out from a new package to output.                                                                                    |       |
| Checking the paper setting              | 1   | Paper that is within the specified volume is correctly set in the Cassette and Multi-purpose Tray.                                                                      |       |
|                                         | 2   | When using transparency film, the transparency is set in the correct direction in the Multi-purpose Tray.                                                               |       |
| Checking the consumable parts           | 1   | Check the list of consumable parts for periodical replacement and locations for cleaning, and replace parts that reach the estimated life.                              |       |
| Checking the periodical servicing items | 2   | Check the list of consumable parts for periodical replacement and locations for cleaning, and execute maintenance work for the parts that reach the maintenance timing. |       |

T-6-1

### Checking the Units/Check Items of Function System

Do not move a machine that has been stone-cold in a warehouse into a warm room on all on a sudden. (This generates condensation inside the machine, and causes various types of troubles)

| Item            | No. | Check Items                                                                                                 | Check |
|-----------------|-----|-------------------------------------------------------------------------------------------------------------|-------|
| Reader          | 1   | Check for scar, soiling or foreign particle in the Scanner System (CIS or CCD/White Plate/Copyboard Glass). |       |
|                 | 2   | Check that the CIS or CCD Unit moves smoothly. Check for soiling on the rail.                               |       |
|                 | 3   | Check for flicker with CIS or CCD.                                                                          |       |
|                 | 4   | Check for condensation in the Scanner System.                                                               |       |
| Image Formation | 1   | The Drum Unit/Toner Bottle is securely installed.                                                           |       |
|                 | 2   | Check for scar or soiling on the Photosensitive Drum.                                                       |       |
|                 | 3   | Check for wear, scar, soiling or deformation on the Transfer Roller.                                        |       |
| Fixing          | 1   | Check for wear, scar, soiling or deformation on the Fixing Film/Pressure Roller.                            |       |
|                 | 2   | Check if the Fixing Thermistor is open circuit.                                                             |       |
|                 | 3   | Check for electrical continuity of the Thermoswitch                                                         |       |

| Item          | No. | Check Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Check |
|---------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Pickup Feed   | 1   | Check for foreign particle such as paper lint.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
|               | 2   | Check if paper dust is accumulated on the Pickup/Feed/Separation Roller. Check for wear, scar, soiling or deformation.                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |
|               | 3   | Check for wear, scar, soiling or deformation on the Registration Roller/Paper Path Roller.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |
|               | 4   | Check for wear, scar, soiling or deformation on the Feed Guide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |
|               | 5   | Check for an error such as folding at the leading edge/curl/ripple/moist of the paper.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |
|               | 6   | Check if the symptom improves by using the Canon-recommended paper/transparency film.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |
| Drive         | 1   | Check for load in the drive system.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |
|               | 2   | Check for wear or crack of the gear.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| Cassette      | 1   | Check that the Cassette is correctly set. Check that the paper size is correctly specified. Check that the same symptom does not occur when replacing with a normal cassette.                                                                                                                                                                                                                                                                                                                                                                                       |       |
|               | 2   | Check that the Cassette Lifting Plate moves smoothly. Check for deformation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |
|               | 3   | Check that the Side Guide Plate/Trailing Edge Guide Plate in the Cassette is correctly set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |
|               | 4   | Check that the switch of the Cassette Heater is turned ON. (When the Cassette Heater is installed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |
| General items | 1   | Check for operation of the Sensor/Clutch/Motor/Solenoid. Check for poor contact of the connector. (Check the power supply and signal transmission path with general circuit diagram)                                                                                                                                                                                                                                                                                                                                                                                |       |
|               | 2   | Check for a caught wire in wiring/loosened screw.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |
|               | 3   | Check that the External Covers are all attached.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |
|               | 4   | Check that the Main Power Switch/Control Panel Power Switch is turned ON.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |
|               | 5   | Check that the power cables/signal cables are correctly routed to the options.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
|               | 6   | Check for blowout of a fuse on the PCBs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |
|               | 7   | Check that the user uses the machine correctly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| Others        | 1   | Do not move a machine that has been stone-cold in a warehouse into a warm room on all on a sudden. (This generates condensation inside the machine, and causes various types of troubles) <ul style="list-style-type: none"> <li>E100 error by condensation of the BD Sensor</li> <li>Light image density in vertical scanning direction by condensation of the Dustproof Glas</li> <li>Light image density by condensation of the Reader Contact Sensor and Copyboard Glass.</li> <li>Failure in paper feeding by condensation of the Pickup/Feed Guide</li> </ul> |       |
|               | 2   | In the case of the symptom described above, be sure to dry wipe the units of the pickup/feed system<br>Condensation tends to occur when unpacking a Toner Bottle/Drum Unit that has been kept in a cold place and brought into a warm room. To prevent condensation, be sure to make the part sufficiency accustomed to the room temperature (leave it for 1 to 2 hours) before unpacking.                                                                                                                                                                          |       |

T-6-2

## Test Print

### Overview

The following test print types are available with this machine, and you can check for failure of an image with 'Yes' described in the check items in the table below. When no failure is found in the test print in normal output mode, it can be caused in PDL input or Reader.

### Steps to Select a Test Print Type

| NO.          | TYPE Pattern            |         |                  |            |            |              |                             |                      |                   |
|--------------|-------------------------|---------|------------------|------------|------------|--------------|-----------------------------|----------------------|-------------------|
|              |                         | Fogging | Transfer failure | Black line | White line | Uneven pitch | Uneven density (rear/front) | Right angle accuracy | Side registration |
| SELECT NO.01 | Grid                    |         |                  |            |            |              |                             | Yes                  | Yes               |
| SELECT NO.02 | Halftone                |         | Yes              | Yes        | Yes        | Yes          | Yes                         |                      |                   |
| SELECT NO.03 | Solid black             |         | Yes              |            | Yes        | Yes          | Yes                         |                      |                   |
| SELECT NO.04 | Solid white             | Yes     |                  |            |            |              |                             |                      |                   |
| SELECT NO.05 | For R&D                 |         |                  |            |            |              |                             |                      |                   |
| SELECT NO.06 | 4dot-6space (vertical)  |         |                  | Yes        | Yes        | Yes          | Yes                         |                      |                   |
| SELECT NO.07 | dot-6space (horizontal) |         |                  | Yes        | Yes        | Yes          | Yes                         |                      |                   |
| SELECT NO.08 | For R&D                 |         |                  |            |            |              |                             |                      |                   |
| SELECT NO.09 | For R&D                 |         |                  |            |            |              |                             |                      |                   |

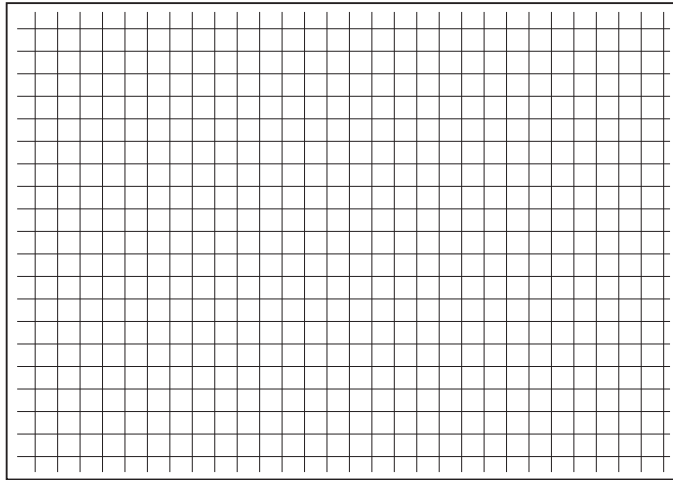
T-6-3

#### Operation Procedure

- 1) Service Mode > TEST MODE > numeric keypad 3 (PG)
- 2) Enter the PG number with the numeric keypad and press the Start key.
- 3) Select 1-sided (SGL: 0) or 2-sided (DBL: 1) and press the Start key.
- 4) Enter the number of sheets to output (PG COUNT) and press the Start key.
- 5) Select a pickup cassette (host machine) and press the Start key.  
The cassette of the host machine (ST\_C: 0), the 2nd cassette (OP\_C: 1), Multi-purpose Tray (MLT: 2)
- 6) Select a delivery destination and press the Start key.  
Tray 1 (1\_OUT: 0), Tray 2 (2\_OUT: 1)
- 7) Select a paper type and press the OK key.  
Plain paper (PLN: 0), heavy paper (TCK: 1), thin paper (OHP: 2)
- 8) The machine outputs the test pattern.

## How to View the Test Print

### ■ Grid (TYPE=01)



F-6-1

| Check item                                      | Check method                                                                                                                                       | Assumed cause                                                                                    |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Right angle accuracy/<br>Straight line accuracy | Check whether lines in the horizontal/vertical scanning directions are paralleled to the paper and these lines are at right angles to one another. | Feed system failure or Laser Scanner Unit failure is considered.                                 |
| Side registration                               | Check the left margin.                                                                                                                             | Floor at the installation site is extremely distorted, or the feed system failure is considered. |

T-6-4

### ■ Halftone (TYPE=02)



F-6-2

| Check item                  | Check method                                                                               | Assumed cause                                                                                                                        |
|-----------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Transfer failure            | Check the evenness of halftone density. Check whether uneven image or foggy image appears. | Transfer system failure or transfer roller failure is considered.                                                                    |
| Black line                  | Check whether black lines appear on the image.                                             | Laser light path failure, grid failure, developing system failure, cleaning (drum) failure or transfer roller failure is considered. |
| White line                  | Check whether white lines appear on the image.                                             | Developing system failure is considered.                                                                                             |
| Uneven pitch                | Check whether lines appear on the image in the horizontal scanning direction.              | Drum failure, developing system failure, laser exposure system failure or drive-related failure is considered.                       |
| Uneven density (rear/front) | Check the density difference between the front and rear sides.                             | Drum failure or developing system failure is considered.                                                                             |

T-6-5

## ■ Solid black (TYPE=03)



F-6-3

| Check item                  | Check method                                                                               | Assumed cause                                                                                                  |
|-----------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Transfer failure            | Check the evenness of halftone density. Check whether uneven image or foggy image appears. | Transfer system failure is considered.                                                                         |
| White line                  | Check whether white lines appear on the image.                                             | Developing system failure is considered.                                                                       |
| Uneven pitch                | Check whether lines appear on the image in the horizontal scanning direction.              | Drum failure, developing system failure, laser exposure system failure or drive-related failure is considered. |
| Uneven density (rear/front) | Check the density difference between the front and rear sides.                             | Drum failure or developing system failure is considered.                                                       |

T-6-6

## ■ Solid white (TYPE=04)

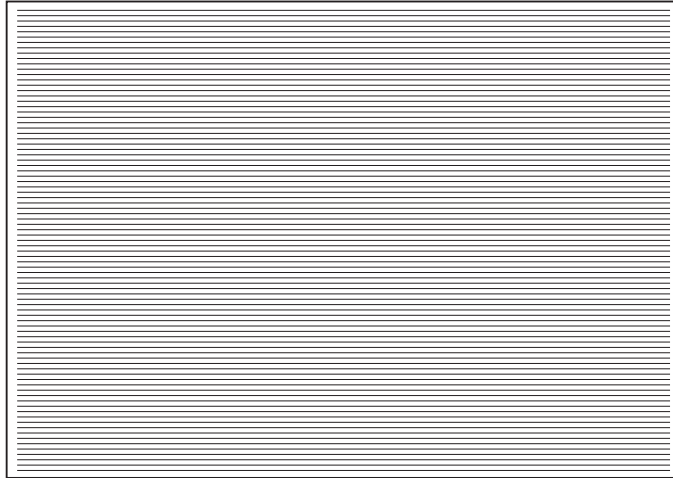


F-6-4

| Check item | Check method                                         | Assumed cause                                                                           |
|------------|------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Fogging    | Check whether foggy image appears in the blank area. | Drum failure, laser exposure system failure or developing system failure is considered. |

T-6-7

## ■ 4dot-6space / dot-6space (TYPE=06 / 07)



F-6-5

| Check item                  | Check method                                                                  | Assumed cause                                                                                                          |
|-----------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Black line                  | Check whether black lines appear on the image.                                | Laser light path failure, developing system failure, cleaning (drum) failure or transfer roller failure is considered. |
| White line                  | Check whether white lines appear on the image.                                | Developing system failure is considered.                                                                               |
| Uneven pitch                | Check whether lines appear on the image in the horizontal scanning direction. | Drum failure, developing system failure, laser exposure system failure or drive-related failure is considered.         |
| Uneven density (rear/front) | Check the density difference between the front and rear sides.                | Drum failure or developing system failure is considered.                                                               |

T-6-8



## Troubleshooting items

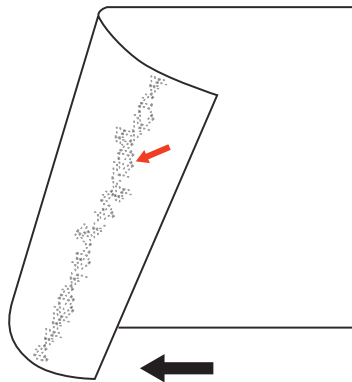
### List of Troubleshooting Items

| Category          |                        | Item                                                                           | Reference |
|-------------------|------------------------|--------------------------------------------------------------------------------|-----------|
| Image Failure     | Soiling                | Toner soiling at the back side of paper                                        | 6-1       |
|                   |                        | Soiling at the leading/trailing edge of paper                                  | 6-1       |
|                   | Toner bleed/white spot | Poor transfer of the image, hollow character                                   | 6-1       |
|                   |                        | Image smear/toner bleed/condensation                                           | 6-1       |
| Operation failure | Paper jam              | Large curl of paper                                                            | 6-2       |
|                   |                        | Jam of thin paper (63g/cm <sup>2</sup> or lighter)                             | 6-2       |
|                   |                        | Jam of paper with solid image when the leading edge margin is small (1 to 4mm) | 6-2       |
|                   | Failure in setting     | The toner bottle set lever cannot be operated or is hard to operate.           | 6-2       |
|                   | Abnormal noise         | Abnormal noise at pickup from Multi-purpose Tray                               | 6-3       |

T-6-9

### Image Failure

#### ■ Toner soiling at the back side of paper



F-6-6

[Location]

Fixing Assembly (circumference of Pressure Roller: iR2545/2535: 94mm, iR2530/2525/2520: 78.5mm)

Transfer Roller (roller circumference: 50mm)

[Cause]

Fixing Assembly: Toner on the paper comes off and adheres to the Pressure Roller, and then the toner adheres to the back side of the paper.

Transfer Roller: Toner remains on the Drum that has stopped at the time of paper jam, and then the residual toner on the Drum adheres to the Transfer Roller during a recovery operation.

[Condition]

Fixing Assembly: Under conditions that causes poor fixing performance, such as low temperature environment, or when feeding a large number of sheets of halftone image. Or the Fixing Unit comes to the end of its life for replacement.

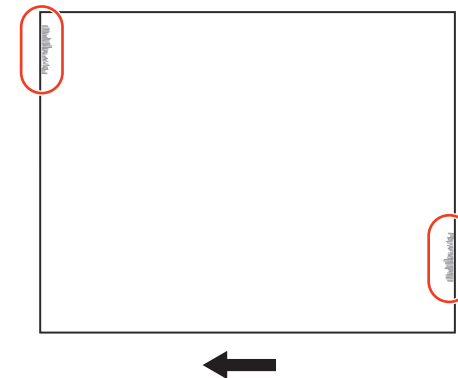
Transfer Roller: When a paper jam occurs. Or the Transfer Roller comes to the end of its life for replacement

[Field Remedy]

Fixing Assembly: user mode > Cleaning/Adjustment > Fixing Assembly Cleaning

Transfer Roller: user mode > Cleaning/Adjustment > Transfer Cleaning

#### ■ Soiling at the leading/trailing edge of paper



F-6-7

[Location]

Pre-transfer Guide,

Fixing Inlet Guide

## [Cause]

- Pre-transfer Guide: The leading edge or trailing edge of paper touches the toner adhered to the Pre-transfer Upper Guide.
- Fixing Inlet Guide: The leading edge or trailing edge of paper touches the toner adhered to the Fixing Inlet Upper Guide.

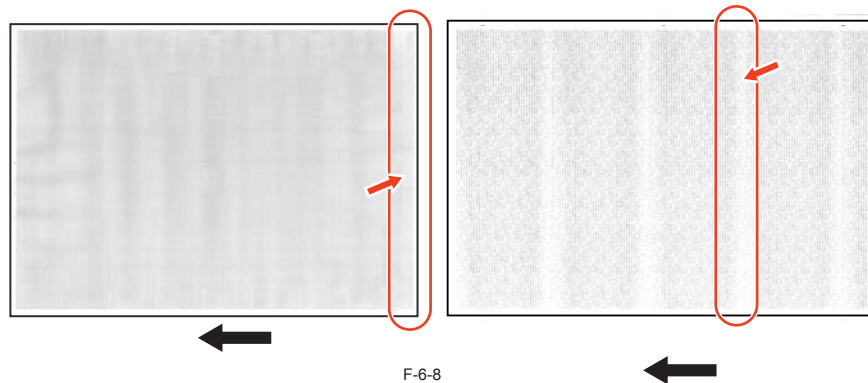
## [Condition]

When a high print chart, such as halftone or black, is continuously fed.

## [Field Remedy]

Clean the toner-adhered Guide with lint-free paper.

### ■ Poor transfer of the image, hollow character



## [Location]

Transfer Roller (roller circumference: 50mm)

## [Cause]

- Because of insufficient transfer output due to highly-resistive paper caused by reduced moisture content in paper by having the paper left untouched in a low humidity environment
- Because of insufficient transfer output due to highly-resistive paper caused by increased moisture content in paper by having the paper left untouched in a high humidity environment

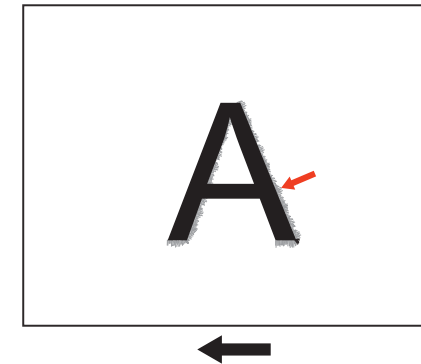
## [Condition]

- Paper left untouched in a low humidity environment
- Paper left untouched in a high humidity environment

## [Field Remedy]

- User mode > Cleaning/Adjustment > Special Mode M; select "Strong" or "Weak"

### ■ Image smear/toner bleed/condensation



F-6-10

## [Location]

Photosensitive Drum (circumference:94mm)

## [Cause]

Discharge products generated from the Charging Roller adhere to the Drum, attract water molecules and cause low resistance, which loses the ability to create the desired latent image, resulting in bleed text image.

## [Condition]

The first operation in the day under a high temperature and high humidity environment

## [Field Remedy]

- User mode > Cleaning/Adjustment > Special Mode F; select "MODE1", "MODE2" or "MODE3"
- Install an option Drum Heater

## ■ Large curl of paper

[Location]

Fixing Assembly

[Cause]

Excess heat from fixing changes moisture content between the front and back of paper, which causes large curl.

[Condition]

Paper left untouched in a high humidity environment

[Field Remedy]

- User mode > Cleaning/Adjustment > Special Mode N > Manual; select "Medium" or "Strong"
- \*Select "Medium" under normal conditions. Selecting "Strong" causes drop in productivity.
- Standard Cassette Heater: Turn ON the heater power supply
- Attach an option Cassette Heater.

## ■ Paper jam in solid image when the leading edge margin is small (1 to 4mm)

[Location]

Fixing Assembly

[Cause]

When handling a solid image with small leading edge margin (1 to 4mm), it causes poor paper separation from the Fixing Film and paper jam can occur by separation failure.

[Condition]

Paper left untouched in a high humidity environment, solid image with small leading edge margin

[Field Remedy]

- User mode > Cleaning/Adjustment > Special Mode O; select ON
- Or,
- User mode > Cleaning/Adjustment > Special Mode N > Manual; select "Strong"
- \*Selecting Special Mode O or N > Strong makes a wider leading edge margin and avoids paper jam by separation failure.
- \* Selecting Special Mode N > Strong also improves paper curl; however, it reduces productivity

## ■ Jam with thin paper (63g/cm<sup>2</sup> or lighter)

[Location]

Photosensitive Drum, Fixing Assembly

[Cause]

Separation performance drops due to weak rigidity of paper, which causes paper jam at the Cleaner Assembly or Fixing Assembly by separation failure.

[Condition]

When using thin paper lighter than 64g/cm<sup>2</sup>

[Field Remedy]

- User mode > Cleaning/Adjustment > Special Mode P; select "Medium" or "Strong"
- \*When using 52g/cm<sup>2</sup> paper, "Strong" must be selected.

## ■ The toner bottle set lever cannot be operated or is hard to operate.

[Location]

Toner bottle set lever

[Cause]

- When sealing force of the Toner Bottle Cap is large although it is within the specified range, the lever operation force to open/close the cap can be large.
- The toner bottle has not been fully pushed into the rear to hear a sound.

[Condition]

- When opening a new toner bottle cap that has large sealing force although it is within the specified range
- When repeatedly setting a bottle that contains toner in an undesirable manner

[Field Remedy]

- Once the toner bottle set lever rotates by approximately 45 degrees, pulling the toner bottle while rotating the set-on lever can easily set the toner bottle.
- Operate the lever after the toner bottle is securely pushed into the rear.

## Abnormal noise at pickup from the Multi-purpose Tray

[Location]

Gear of the Right Cover Unit

[Cause]

Depending on the position to secure the lower belt for securing the Right Door, the belt cannot be fitted into the escape hole but Z-folded when closing the Right Cover Unit, which pushes the Right Door out and the gear at the Right Door side is not fully engaged with the gear at the machine side, resulting in abnormal noise.

[Condition]

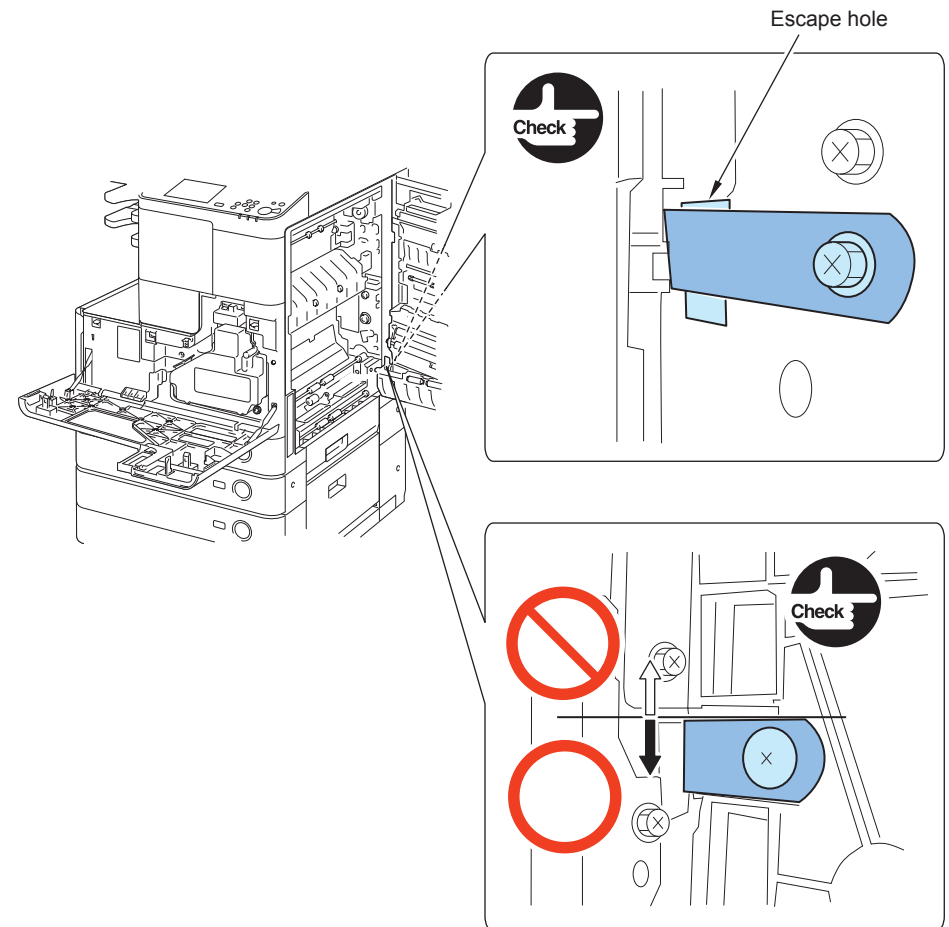
When reattaching a belt of the Right Cover Unit

[Field Remedy]

Be sure to secure the lower belt to the Right Cover Unit as follows.

Front side: Check that the belt is fitted into the escape hole when closing the Right Cover Unit.

Rear side: Hold the belt to avoid displacement by securing the screw so that the belt is secured almost parallel or facing slightly downward.



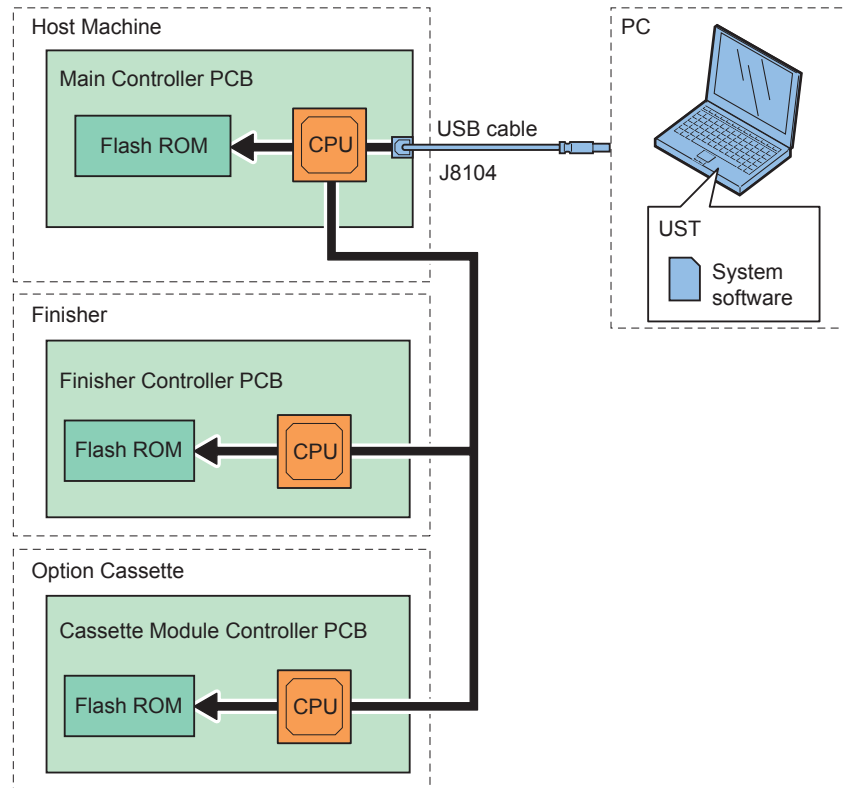
F-6-11

## Software to Be Upgraded and Upgrading Method

### Overview

The following 3 methods are available to upgrade system software:

1. Upgrading the host machine: Use a PC (UST)
2. Upgrading the Staple Finisher: Use a PC (UST).
3. Upgrading the Optional Cassette: Use a PC (UST).



F-6-12

### Host machine

| Target PCB          | Category         | Target system software | File type                                             | Remarks                                                                                                                                                 |
|---------------------|------------------|------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Controller PCB | iR1750/1740/1730 | Boot                   | USTUPDATE_<br>iR1750_40_30_BOOT_<br>vXXXX             | There are 2 types of Main Controller PCB. CAUTION: When upgrading the firmware of Boot and Bootable lang simultaneously, be sure to first upgrade Boot. |
|                     |                  | Program                | USTUPDATE_<br>iR1750_40_30_bootable_<br>lang_WLaaXXXX |                                                                                                                                                         |
| DC Controller PCB   | iR1750/1740/1730 | DCON                   | USTUPDATE_<br>iR1750_40_30_DCON_<br>vXXXX             |                                                                                                                                                         |

T-6-10

### Finisher

| Target PCB              | Target system software | UST display name | Remarks |
|-------------------------|------------------------|------------------|---------|
| Finisher Controller PCB | FIN_CON                | FIN_H1           |         |

T-6-11

### Option Cassette

| Target PCB                     | Target system software | UST display name | Remarks |
|--------------------------------|------------------------|------------------|---------|
| Cassette Module Controller PCB | CST_CON                | CST_Y1           |         |

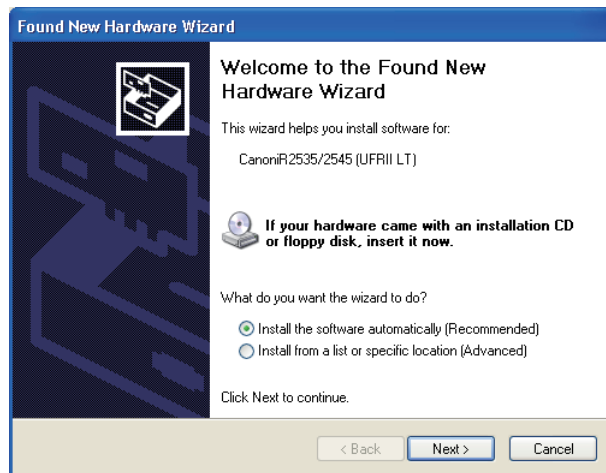
T-6-12

## Procedure


### NOTE:

The following describes the procedure to upgrade Boot as an example: For upgrading the other firmware, follow the same procedure as Boot.

- 1) There is [Processing/Data] lamp in the operation panel lower right part of the host machine. You confirm that [Processing/Data] does not flash. When it is flashing, you must output it because there are FAX jobs. After the output, you pull a network cable out of the host machine.
- 2) You connect the host machine to the PC with a USB cable.
- 3) Turn ON the Power Switch of the PC and start UST.
- 4) When turning On the Power Switch, a wizard is displayed to add a new hardware, and click "Cancel".



F-6-13

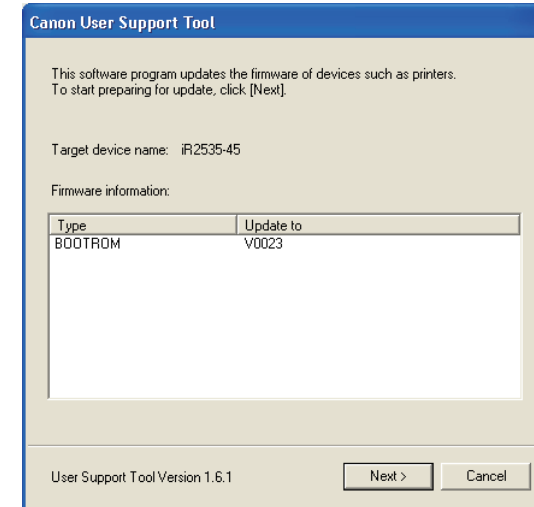
- 5) Enter Download mode from User mode.
- 6)  > System Settings > Update Firmware > Yes

### NOTE:

Usually, you enter Download mode from User mode. Download Mode is also available from the service mode:  
Press the arrow key and select "DOWNLOAD", and then press the OK key.

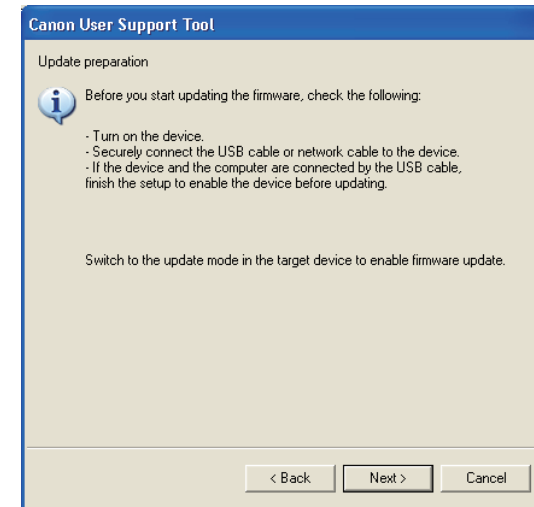
- 7) Start UST once "USB DOWNLOAD AVAILABLE" is displayed.

- 8) Following the instruction on the screen, select "Next".



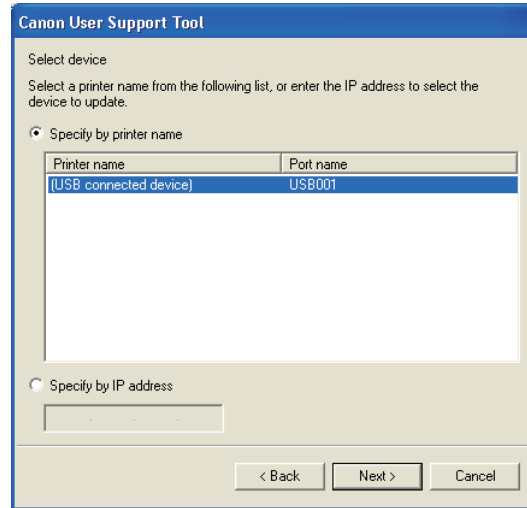
F-6-14

- 9) Following the instruction on the screen, select "Next".



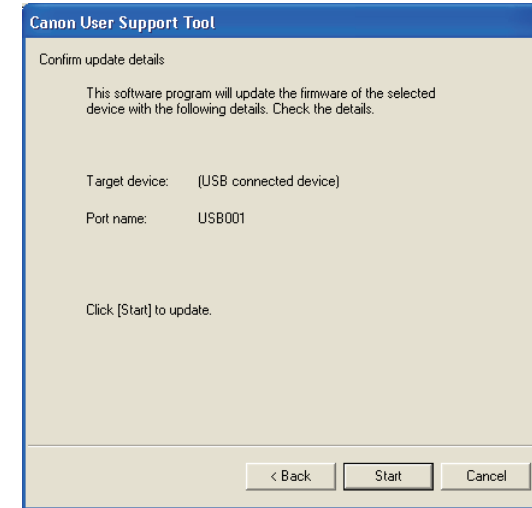
F-6-15

10) Following the instruction on the screen, select "Next".



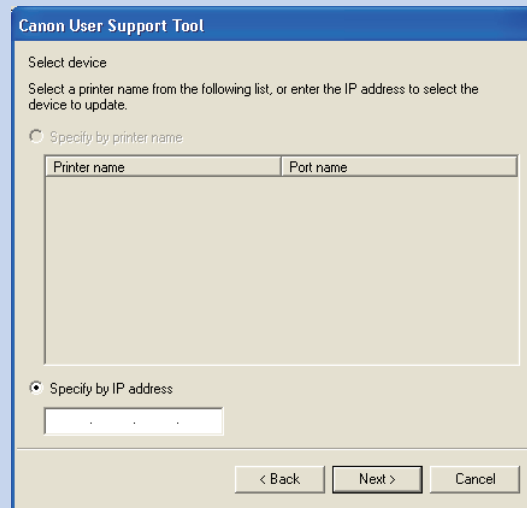
F-6-16

11) Following the instruction on the screen, select "Start".



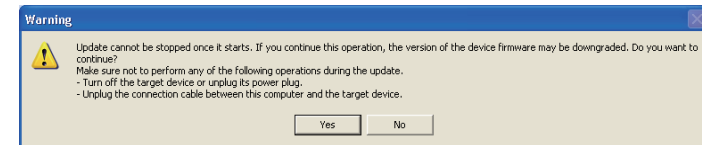
F-6-18

**NOTE:**  
Selecting firmware of a wrong model does not display "Select by printer name".



F-6-17

12) Following the instruction on the screen, select "Yes".



F-6-19

13) The following screen is displayed. "UPDATING FIRMWARE" is displayed on the Control Panel of this machine.



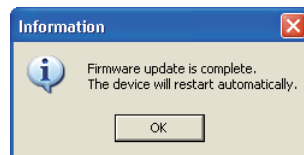
F-6-20



**CAUTION:**

- Do not turn OFF the power during the download/writing process
- Do not turn OFF the power supply during the download/writing process of system software. It can cause faulty startup after turning ON the power.

14) As the following screen is displayed when upgrading is completed, the power switch automatically turns OFF and then ON.



F-6-21

15) You connect a network cable with the host machine.



# 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.             | <a href="#">Refer to page 7-3</a>  |
| Jam code   | This code is displayed when a jam occurs inside the machine.            | <a href="#">Refer to page 7-12</a> |
| Alarm code | This code is displayed when a function of the machine is malfunctioned. | <a href="#">Refer to page 7-15</a> |

T-7-1

## Error Code

### Error Code Details

| Ecocode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                      |
|---------|-------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E000    | 0001        | Title       | Fixing temperature rising error                                                                                                                                                                                                                                                                                  |
|         |             | Description | The detected temperature of the Main Thermistor failed to reach the specified temperature at temperature rising control.                                                                                                                                                                                         |
|         |             | Remedy      | 1. Go through the following to clear the error: CLEAR > ENGIN > ERRCLR in Service Mode; then, turn OFF and then ON the power.<br>2. Check the connector connection. (J206 on the DC Controller PCB, J101 on the Power Supply PCB)<br>3. Replace the Fixing Assembly.<br>4. Replace the DC Controller PCB (PCB1). |
| E001    | 0000        | Title       | Detection of overheating of Fixing Assembly                                                                                                                                                                                                                                                                      |
|         |             | Description | The Main Thermistor detected 250 deg C or higher for 200 msec or longer on end.                                                                                                                                                                                                                                  |
|         |             | Remedy      | 1. Go through the following to clear the error: CLEAR > ENGIN > ERRCLR in Service Mode; then, turn OFF and then ON the power.<br>2. Check the connector connection. (J206 on the DC Controller PCB, J101 on the Power Supply PCB)<br>3. Replace the Fixing Assembly.<br>4. Replace the DC Controller PCB (PCB1). |
| E001    | 0001        | Title       | Detection of overheating of Fixing Assembly                                                                                                                                                                                                                                                                      |
|         |             | Description | The hardware circuit detected overheating of the Main Thermistor or Sub Thermistor for 30 msec or longer.                                                                                                                                                                                                        |
|         |             | Remedy      | 1. Go through the following to clear the error: CLEAR > ENGIN > ERRCLR in Service Mode; then, turn OFF and then ON the power.<br>2. Replace the DC Controller PCB (PCB1).                                                                                                                                        |
| E001    | 0002        | Title       | Detection of overheating of Fixing Assembly                                                                                                                                                                                                                                                                      |
|         |             | Description | The Sub Thermistor detected 295 deg C or higher for 200msec or longer on end.                                                                                                                                                                                                                                    |
|         |             | Remedy      | 1. Go through the following to clear the error: CLEAR > ENGIN > ERRCLR in Service Mode; then, turn OFF and then ON the power.<br>2. Check the connector connection. (J206 on the DC Controller PCB, J101 on the Power Supply PCB)<br>3. Replace the Fixing Assembly.<br>4. Replace the DC Controller PCB (PCB1). |

| Ecocode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                              |
|---------|-------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E002    | 0000        | Title       | Error in temperature rising of Fixing Assembly                                                                                                                                                                                                                                                                           |
|         |             | Description | 1. The Main Thermistor detected a temperature lower than 115 deg C for 400 msec or longer on end 6.0 seconds after the Main Thermistor detected 100 deg C.<br>2. The Main Thermistor detected a temperature lower than 150 deg C for 400 msec or longer on end 6.0 seconds after the Main Thermistor detected 140 deg C. |
|         |             | Remedy      | 1. Go through the following to clear the error: CLEAR > ENGIN > ERRCLR in Service Mode; then, turn OFF and then ON the power.<br>2. Check the connector connection. (J206 on the DC Controller PCB, J101 on the Power Supply PCB)<br>3. Replace the Fixing Assembly.<br>4. Replace the DC Controller PCB (PCB1).         |
| E003    | 0000        | Title       | Detection of fixing low temperature during printing                                                                                                                                                                                                                                                                      |
|         |             | Description | The Main Thermistor detected a temperature lower than 80 deg C for 200 msec or longer on end, or the Sub Thermistor detected a temperature lower than 60 deg C for 200 msec or longer on end.                                                                                                                            |
|         |             | Remedy      | 1. Go through the following to clear the error: CLEAR > ENGIN > ERRCLR in Service Mode; then, turn OFF and then ON the power.<br>2. Check the connector connection. (J206 on the DC Controller PCB, J101 on the Power Supply PCB)<br>3. Replace the Fixing Assembly.<br>4. Replace the DC Controller PCB (PCB1).         |
| E004    | 0000        | Title       | Thermistor disconnection detection error                                                                                                                                                                                                                                                                                 |
|         |             | Description | Connector disconnection was detected for 30 msec on end.                                                                                                                                                                                                                                                                 |
|         |             | Remedy      | 1. Check the connector connection. (J206 on the DC Controller PCB, J101 on the Power Supply PCB)<br>2. Replace the Fixing Assembly.<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                          |
| E010    | 0001        | Title       | Main Motor (M2) rotation error                                                                                                                                                                                                                                                                                           |
|         |             | Description | Detection was performed every 100 msec since the start of drive and there had been no lock detection signal in 2 seconds.                                                                                                                                                                                                |
|         |             | Remedy      | 1. Check the connector between the Main Motor and the DC Controller PCB (J203).<br>2. Replace the Main Motor (M2).<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                           |
| E010    | 0002        | Title       | Main Motor (M2) rotation error                                                                                                                                                                                                                                                                                           |
|         |             | Description | Detection was performed every 100msec during the drive (after the lock detection) and the lock signal was not detected 5 times in a row (in 500 msec).                                                                                                                                                                   |
|         |             | Remedy      | 1. Check the connector between the Main Motor and the DC Controller PCB (J203).<br>2. Replace the Main Motor (M2).<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                           |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                             |
|-------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E013  | 0001        | Title       | Error in rotation of Waste Toner Motor (M3)                                                                                                                                             |
|       |             | Description | Lock detection flag was monitored every 2msec, and the same level was detected 600 times in a row.                                                                                      |
|       |             | Remedy      | 1. Check the connector connection between the Waste Toner Motor and the DC Controller PCB (J209).<br>2. Replace the Waste Toner Motor (M3).<br>3. Replace the DC Controller PCB (PCB1). |
| E014  | 0001        | Title       | Fixing Motor (M1) rotation error                                                                                                                                                        |
|       |             | Description | Detection was performed every 100 msec since the start of drive and there had been no lock detection signal in 2 seconds.                                                               |
|       |             | Remedy      | 1. Check the connector connection between the Fixing Motor and the DC Controller PCB (J203).<br>2. Replace the Fixing Motor (M1).<br>3. Replace the DC Controller PCB (PCB1)            |
| E014  | 0002        | Title       | Fixing Motor (M1) rotation error                                                                                                                                                        |
|       |             | Description | Detection was performed every 100 msec during the drive (after the lock detection) and the lock signal was not detected 5 times in a row (in 500 msec).                                 |
|       |             | Remedy      | 1. Check the connector connection between the Fixing Motor and the DC Controller PCB (J203).<br>2. Replace the Fixing Motor (M1).<br>3. Replace the DC Controller PCB (PCB1).           |
| E014  | 0003        | Title       | Fixing Motor (M1) pressure release error                                                                                                                                                |
|       |             | Description | Pressure release had never been detected in 3.0 seconds.                                                                                                                                |
|       |             | Remedy      | 1. Check the connector connection between the Fixing Motor and the DC Controller PCB (J203).<br>2. Replace the Fixing Motor (M1).<br>3. Replace the DC Controller PCB (PCB1).           |
| E014  | 0004        | Title       | Fixing Motor (M1) pressurization error                                                                                                                                                  |
|       |             | Description | Pressurization had never been detected in 3.0 seconds.                                                                                                                                  |
|       |             | Remedy      | 1. Check the connector connection between the Fixing Motor and the DC Controller PCB (J203).<br>2. Replace the Fixing Motor (M1).<br>3. Replace the DC Controller PCB (PCB1).           |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                                                                                       |
|-------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E020  | 0000        | Title       | Detection of toner clog between the Hopper and the Developing Assembly                                                                                                                                                                                                                                                                                                            |
|       |             | Description | When the Developing Assembly Toner Sensor (TS2) detected "toner-absent" and the Hopper Toner Sensor (TS1) detected "toner-present", the Hopper Motor (M6) was rotated 194 times with intermissions of 1 second, but the Developing Assembly Toner Sensor (TS2) could not detect "toner-present".<br>* If paper is being fed, the error occurs after the paper has been delivered. |
|       |             | Remedy      | 1. Check rotation of the Hopper Motor Gear. (If it is rotating, the sensor may not be detecting correctly. In that case, execute Service Mode>CLEAR>ENGINE>TNRINST to supply toner to the Developing Assembly.)<br>2. Replace the Developing Assembly Toner Sensor (TS2).<br>3. Replace the Hopper Toner Sensor (TS1).<br>4. Replace the DC Controller PCB (PCB1).                |
| E024  | 0000        | Title       | Connector disconnection of the Developing Assembly Toner Sensor (TS2) or the DC Controller PCB (J209)                                                                                                                                                                                                                                                                             |
|       |             | Description | Developing Assembly Toner Sensor (TS2) connection detection signals were not detected 10 times in a row in 100 msec.<br>* If paper is being fed, the error occurs after the paper has been delivered.                                                                                                                                                                             |
|       |             | Remedy      | 1. Check the connection of the Connector (J209).<br>2. Replace the Developing Assembly Toner Sensor (TS2).<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                                                            |
| E024  | 0001        | Title       | Detection of disconnection of the Developing Assembly Toner Sensor (TS2)                                                                                                                                                                                                                                                                                                          |
|       |             | Description | At normal speed: Developing Assembly Toner Sensor (TS2) signals were detected 7500 times in a row at intervals of 100 msec.<br>At low speed: Developing Assembly Toner Sensor (TS2) signals were detected 4500 times in a row at intervals of 100 msec.                                                                                                                           |
|       |             | Remedy      | 1. Check the connection of the Connector (J209).<br>2. Correct the wiring.<br>3. Replace the Developing Assembly Toner Sensor (TS2).                                                                                                                                                                                                                                              |
| E025  | 0000        | Title       | Connector disconnection of the Hopper Toner Sensor (TS1) or the DC Controller PCB (J211)                                                                                                                                                                                                                                                                                          |
|       |             | Description | Hopper Toner Sensor (TS1) connection detection signals were not detected 10 times in a row in 100 msec.<br>* If paper is being fed, the error occurs after the paper has been delivered.                                                                                                                                                                                          |
|       |             | Remedy      | 1. Check the connection of the Connector (J211).<br>2. Replace the Hopper Toner Sensor (TS1).<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                                                                         |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                          |
|-------|-------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E025  | 0001        | Title       | Bottle Motor (M5) error                                                                                                                                                                                                                                                                              |
|       |             | Description | The lock detection flag of the Bottle Motor (M5) was monitored at intervals of 2 msec, and the same level was detected 800 times in a row.<br>* If paper is being fed, the error occurs after the paper has been delivered.                                                                          |
|       |             | Remedy      | 1. Replace the Bottle Motor (M5).<br>2. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                                                        |
| E110  | 0001        | Title       | Laser Scanner Motor error                                                                                                                                                                                                                                                                            |
|       |             | Description | After startup of the Laser Scanner Motor, the speed lock signal of the Laser Scanner Motor never showed lock status although a specified period of time had passed.<br>*When the same status was detected again after executing an error retry.                                                      |
|       |             | Remedy      | 1. Check the Laser Scanner Unit connector.<br>2. Replace the Laser Scanner Unit.<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                         |
| E110  | 0002        | Title       | Laser Scanner Motor error                                                                                                                                                                                                                                                                            |
|       |             | Description | After the speed lock of the Laser Scanner Motor had been settled, the speed lock signals showed unlocked status 10 times in a row at intervals of 100 msec.<br>*When the same status was detected again after executing an error retry.                                                              |
|       |             | Remedy      | 1. Check the Laser Scanner Unit connector.<br>2. Replace the Laser Scanner Unit.<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                         |
| E110  | 0003        | Title       | Laser Scanner Motor error                                                                                                                                                                                                                                                                            |
|       |             | Description | The speed lock signal of the Laser Scanner Motor never showed lock status although 6.5 seconds (when switching from low speed to normal speed) or 8 seconds (when switching from normal speed to low speed) have passed.<br>*When the same status was detected again after executing an error retry. |
|       |             | Remedy      | 1. Check the Laser Scanner Unit connector.<br>2. Replace the Laser Scanner Unit.<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                         |
| E196  | 0000        | Title       | EEPROM access error                                                                                                                                                                                                                                                                                  |
|       |             | Description | During communication with EEPROM, a communication error occurred, and the error was not cleared although a retry was executed three times.<br>* If paper is being fed, the error occurs after the paper has been delivered.                                                                          |
|       |             | Remedy      | 1. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                                                                                             |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                                        |
|-------|-------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E197  | 0000        | Title       | Laser Driver PCB communication error                                                                                                                                                                                                                                                                                               |
|       |             | Description | Error in communication with the Laser Driver PCB (communication data failure)                                                                                                                                                                                                                                                      |
|       |             | Remedy      | 1. Check the Laser Scanner Unit connector.<br>2. Replace the Laser Scanner Unit.<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                                       |
| E197  | 0001        | Title       | Laser Driver PCB communication error                                                                                                                                                                                                                                                                                               |
|       |             | Description | Error in communication with the Laser Driver PCB (serial communication failure)                                                                                                                                                                                                                                                    |
|       |             | Remedy      | 1. Check the Laser Scanner Unit connector.<br>2. Replace the Laser Scanner Unit.<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                                       |
| E202  | 0000        | Title       | CIS home position detection error                                                                                                                                                                                                                                                                                                  |
|       |             | Description | 1. Error when moving to the left side for HP check operation<br>2. Error when moving to the right side for HP check operation                                                                                                                                                                                                      |
|       |             | Remedy      | 1. Disconnect and then connect the Flexible Cable (Reader Controller PCB (PCB3) - Main Controller PCB (PCB2) 31pin).<br>2. Replace the Flexible Cable.<br>3. Replace the CIS HP Sensor (PS24).<br>4. Replace the Reader Motor (M10).<br>5. Replace the Reader Controller PCB (PCB3).<br>6. Replace the Main Controller PCB (PCB2). |
| E240  | 0000        | Title       | Controller communication error                                                                                                                                                                                                                                                                                                     |
|       |             | Description | A serial communication error was detected during normal operation.                                                                                                                                                                                                                                                                 |
|       |             | Remedy      | 1. Check the connector connection. (All connectors on the DC Controller PCB, J8112 on the Main Controller PCB)<br>2. Replace the DC Controller PCB (PCB1).                                                                                                                                                                         |
| E240  | 0001        | Title       | Controller communication error                                                                                                                                                                                                                                                                                                     |
|       |             | Description | A serial communication error was detected during printing.                                                                                                                                                                                                                                                                         |
|       |             | Remedy      | 1. Check the connector connection. (All connectors on the DC Controller PCB, J8112 on the Main Controller PCB)<br>2. Replace the DC Controller PCB (PCB1).                                                                                                                                                                         |
| E246  | 0001        | Title       | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Description | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | Contact the service company office                                                                                                                                                                                                                                                                                                 |
| E246  | 0002        | Title       | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Description | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | Contact the service company office                                                                                                                                                                                                                                                                                                 |
| E246  | 0003        | Title       | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Description | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | Contact the service company office                                                                                                                                                                                                                                                                                                 |
| E246  | 0005        | Title       | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Description | System error                                                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | Contact the service company office                                                                                                                                                                                                                                                                                                 |

| Ecode | Detail Code | Item        | Description                                                                                                                                                           |
|-------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E247  | 0001        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E261  | 0000        | Title       | Zero cross signal error                                                                                                                                               |
|       |             | Description | When the relay is ON, the zero cross signal failed to be detected for 500 msec or longer.<br>*When the same status was detected again after executing an error retry. |
|       |             | Remedy      | 1. Check the connector connection. (All connectors on the DC Controller PCB)<br>2. Replace the DC Controller PCB (PCB1).                                              |
| E350  | 0000        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E350  | 0001        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E350  | 0002        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E350  | 0003        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E350  | 3000        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E354  | 0001        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E354  | 0002        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E355  | 0000        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E355  | 0004        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |
| E355  | 0005        | Title       | System error                                                                                                                                                          |
|       |             | Description | System error                                                                                                                                                          |
|       |             | Remedy      | Contact the service company office                                                                                                                                    |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|-------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E530  | 8001        | Title       | Front Alignment Motor (M4) error                                                                                                                                                                                                                                                                                                                                                             |
|       |             | Description | At initialization of the Front Alignment Plate, the Front Alignment Plate failed to move from the Front Alignment Plate HP Sensor (S4) although the Front Alignment Motor (M4) was driven for 10 mm.                                                                                                                                                                                         |
|       |             | Remedy      | 1. Check the connector connection of the Front Alignment Plate HP Sensor (S4) or the Front Alignment Motor (M4).<br>2. Check for open circuit of the Harness of the Front Alignment Plate HP Sensor (S4) or the Front Alignment Motor (M4).<br>3. Replace the Front Alignment Plate HP Sensor (S4).<br>4. Replace the Front Alignment Motor (M4).<br>5. Replace the Finisher Controller PCB. |
| E530  | 8002        | Title       | Front Alignment Motor (M4) error                                                                                                                                                                                                                                                                                                                                                             |
|       |             | Description | At initialization of the Front Alignment Plate, the Front Alignment Plate failed to be detected by the Front Alignment Plate HP Sensor (S4) although the Front Alignment Motor (M4) was driven for 0.78 seconds.                                                                                                                                                                             |
|       |             | Remedy      | 1. Check the connector connection of the Front Alignment Plate HP Sensor (S4) or the Front Alignment Motor (M4).<br>2. Check for open circuit of the Harness of the Front Alignment Plate HP Sensor (S4) or the Front Alignment Motor (M4).<br>3. Replace the Front Alignment Plate HP Sensor (S4).<br>4. Replace the Front Alignment Motor (M4).<br>5. Replace the Finisher Controller PCB. |
| E531  | 8001        | Title       | Staple Motor (M9) error                                                                                                                                                                                                                                                                                                                                                                      |
|       |             | Description | The Stapler failed to move from the Staple HP Sensor (S11) within the staple execution time (0.45sec).                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | 1. Check the connector connection of the Staple Unit.<br>2. Check for open circuit of the Harness of the Staple Unit.<br>3. Replace the Staple Unit.<br>4. Replace the Finisher Controller PCB.                                                                                                                                                                                              |
| E531  | 8002        | Title       | Staple Motor (M9) error                                                                                                                                                                                                                                                                                                                                                                      |
|       |             | Description | After execution of staple operation, the motor was operated in the positive direction, but the Staple Unit could not be detected by the Staple HP Sensor (S11) within 0.46 seconds. Then, the motor was rotated in the negative direction, but the Staple Unit could not be detected by the Staple HP Sensor (S11) within 0.46sec.                                                           |
|       |             | Remedy      | 1. Check the connector connection of the Staple Unit.<br>2. Disconnect the Harness of the Staple Unit.<br>3. Replace the Staple Unit.<br>4. Replace the Finisher Controller PCB.                                                                                                                                                                                                             |



| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|-------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E537  | 8001        | Title       | Rear Alignment Motor (M5) error                                                                                                                                                                                                                                                                                                                                                              |
|       |             | Description | At initialization of the Rear Alignment Plate, the Rear Alignment Plate failed to move from the Rear Alignment Plate HP Sensor (S5) although the Rear Alignment Motor (M5) was driven for 10 mm.                                                                                                                                                                                             |
|       |             | Remedy      | 1. Check the connector connection of the Rear Alignment Plate HP Sensor (S5) or the Rear Alignment Motor (M5).<br>2. Check for open circuit of the Harness of the Rear Alignment Plate HP Sensor (S5) or the Rear Alignment Motor (M5).<br>3. Replace the Rear Alignment Plate HP Sensor (S5).<br>4. Replace the Rear Alignment Motor (M5).<br>5. Replace the Finisher Controller PCB.       |
| E537  | 8002        | Title       | Rear Alignment Motor (M5) error                                                                                                                                                                                                                                                                                                                                                              |
|       |             | Description | At initialization of the Rear Alignment Plate, the Rear Alignment Plate failed to be detected by the Rear Alignment Plate HP Sensor (S5) although the Rear Alignment Motor (M5) was driven for 0.78sec.                                                                                                                                                                                      |
|       |             | Remedy      | 1. Check the connector connection of the Rear Alignment Plate HP Sensor (S5) or the Rear Alignment Motor (M5).<br>2. Check for open circuit of the Harness of the Rear Alignment Plate HP Sensor (S5) or the Rear Alignment Motor (M5).<br>3. Replace the Rear Alignment Plate HP Sensor (S5).<br>4. Replace the Rear Alignment Motor (M5).<br>5. Replace the Finisher Controller PCB.       |
| E540  | 8001        | Title       | Stack Tray Shift Motor (M8) error                                                                                                                                                                                                                                                                                                                                                            |
|       |             | Description | The Stack Tray Shift Motor (M8) was driven for 4 seconds, but the Stack Tray shifting operation could not be completed.                                                                                                                                                                                                                                                                      |
|       |             | Remedy      | 1. Check the connector connection of the Stack Tray Paper Height Sensor (S9) or the Stack Tray Shift Motor (M8).<br>2. Check for open circuit of the Harness of the Stack Tray Paper Height Sensor (S9) or the Stack Tray Shift Motor (M8).<br>3. Replace the Stack Tray Paper Height Sensor (S9).<br>4. Replace the Stack Tray Shift Motor (M8).<br>5. Replace the Finisher Controller PCB. |
| E575  | 8002        | Title       | Gripper Motor (M7) error                                                                                                                                                                                                                                                                                                                                                                     |
|       |             | Description | The gripper unit does not leave the gripper unit home position when the Gripper Motor (M7) has been driven for 3.8 seconds.                                                                                                                                                                                                                                                                  |
|       |             | Remedy      | 1. Check the connector connection of the Gripper HP Sensor (S7) or the Gripper Motor (M7).<br>2. Check for open circuit of the Harness of the Gripper HP Sensor (S7) or the Gripper Motor (M7).<br>3. Replace the Gripper HP Sensor (S7).<br>4. Replace the Gripper Motor (M7).<br>5. Replace the Finisher Controller PCB.                                                                   |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                                                                                                              |
|-------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E575  | 8004        | Title       | Gripper Motor (M7) clock error                                                                                                                                                                                                                                                                                                                                                                           |
|       |             | Description | When the Gripper Motor (M7) was operated, the Gripper Encoder Sensor (S8) detected rotation of 400 clocks or more.                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | 1. Check the connector connection of the Gripper Encoder Sensor (S8) or the Gripper Motor (M7).<br>2. Check for open circuit of the Harness of the Gripper Encoder Sensor (S8) or the Gripper Motor (M7).<br>3. Replace the Gripper Encoder Sensor (S8).<br>4. Replace the Gripper Motor (M7).<br>5. Replace the Finisher Controller PCB.                                                                |
| E577  | 8001        | Title       | Paddle Motor (M3) error                                                                                                                                                                                                                                                                                                                                                                                  |
|       |             | Description | Although the Paddle Motor (M3) was driven for 175 steps, the Paddle failed to move from the Paddle HP Sensor (S3).                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | 1. Check the connector connection of the Paddle HP Sensor (S3) or the Paddle Motor (M3).<br>2. Check for open circuit of the Harness of the Paddle HP Sensor (S3) or the Paddle Motor (M3).<br>3. Replace the Paddle HP Sensor (S3).<br>4. Replace the Paddle Motor (M3).<br>5. Replace the Finisher Controller PCB.                                                                                     |
| E577  | 8002        | Title       | Paddle Motor (M3) error                                                                                                                                                                                                                                                                                                                                                                                  |
|       |             | Description | The Paddle Motor (M3) was driven for 2 seconds, but the Paddle could not be detected by the Paddle HP Sensor (S3).                                                                                                                                                                                                                                                                                       |
|       |             | Remedy      | 1. Check the connector connection of the Paddle HP Sensor (S3) or the Paddle Motor (M3).<br>2. Check for open circuit of the Harness of the Paddle HP Sensor (S3) or the Paddle Motor (M3).<br>3. Replace the Paddle HP Sensor (S3).<br>4. Replace the Paddle Motor (M3).<br>5. Replace the Finisher Controller PCB.                                                                                     |
| E583  | 8001        | Title       | Tray Auxiliary Guide Motor (M6) error                                                                                                                                                                                                                                                                                                                                                                    |
|       |             | Description | The Tray Auxiliary Guide Motor (M6) was driven for 30 mm, but the Tray Auxiliary Guide failed to move from the Tray Auxiliary Guide HP Sensor (S6).                                                                                                                                                                                                                                                      |
|       |             | Remedy      | 1. Check the connector connection of the Tray Auxiliary Guide HP Sensor (S6) or the Tray Auxiliary Guide Motor (M6).<br>2. Check for open circuit of the Harness of the Tray Auxiliary Guide HP Sensor (S6) or the Tray Auxiliary Guide Motor (M6).<br>3. Replace the Tray Auxiliary Guide HP Sensor (S6).<br>4. Replace the Tray Auxiliary Guide Motor (M6).<br>5. Replace the Finisher Controller PCB. |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                                                                                                                                                                                                              |
|-------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E583  | 8002        | Title       | Tray Auxiliary Guide Motor (M6) error                                                                                                                                                                                                                                                                                                                                                                    |
|       |             | Description | The Tray Auxiliary Guide Motor (M6) was driven for 1.8 seconds, but the Tray Auxiliary Guide could not be detected by the Tray Auxiliary Guide HP Sensor (S6).                                                                                                                                                                                                                                           |
|       |             | Remedy      | 1. Check the connector connection of the Tray Auxiliary Guide HP Sensor (S6) or the Tray Auxiliary Guide Motor (M6).<br>2. Check for open circuit of the Harness of the Tray Auxiliary Guide HP Sensor (S6) or the Tray Auxiliary Guide Motor (M6).<br>3. Replace the Tray Auxiliary Guide HP Sensor (S6).<br>4. Replace the Tray Auxiliary Guide Motor (M6).<br>5. Replace the Finisher Controller PCB. |
| E719  | 0000        | Title       | Error in communication with the Copy Card Reader-F1 (serial communication)                                                                                                                                                                                                                                                                                                                               |
|       |             | Description | Card Reader was not connected at department management setting.                                                                                                                                                                                                                                                                                                                                          |
|       |             | Remedy      | 1. Check the connection with the Card Reader.<br>2. Remove the Card Reader, and execute the following: service mode > #CLEAR > ERR > E719.                                                                                                                                                                                                                                                               |
| E736  | 0000        | Title       | Fax Board mismatch error                                                                                                                                                                                                                                                                                                                                                                                 |
|       |             | Description | Combination of the Fax Board type and the country was mismatched.                                                                                                                                                                                                                                                                                                                                        |
|       |             | Remedy      | This error occurred in the following cases.<br>- Fax Board for non-Chinese models was installed to a Chinese model.<br>- Fax Board for Chinese models was installed to a non-Chinese model.<br>- For Chinese models, replace the Fax Board with that for Chinese models.<br>- For non-Chinese models, replace the Fax Board with that for non-Chinese models.                                            |
| E804  | 0000        | Title       | Power Supply Cooling Fan (FM4) error                                                                                                                                                                                                                                                                                                                                                                     |
|       |             | Description | A lock signal was detected for 5 seconds while the Power Supply Cooling Fan (FM4) was being stopped.<br>*The same status was detected again after executing an error retry.                                                                                                                                                                                                                              |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J209) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Power Supply Cooling Fan (FM4).<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                               |
| E804  | 0001        | Title       | Error in rotation of the Power Supply Cooling Fan (FM4)                                                                                                                                                                                                                                                                                                                                                  |
|       |             | Description | A lock signal could not be detected for 5 seconds while the Power Supply Cooling Fan (FM4) was being driven.<br>*The same status was detected again after executing an error retry.                                                                                                                                                                                                                      |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J209) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Power Supply Cooling Fan (FM4).<br>3. Replace the DC Controller PCB (PCB1).                                                                                                                                                                                               |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                      |
|-------|-------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E805  | 0000        | Title       | Heat Exhaust Fan (Rear) (FM6) error                                                                                                                                                                              |
|       |             | Description | A lock signal was detected for 5 seconds while the Heat Exhaust Fan (Rear) (FM6) was being stopped.<br>*The same status was detected again after executing an error retry.                                       |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J212) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Heat Exhaust Fan (Rear) (FM6).<br>3. Replace the DC Controller PCB (PCB1).        |
| E805  | 0001        | Title       | Error in rotation of the Heat Exhaust Fan (Rear) (FM6)                                                                                                                                                           |
|       |             | Description | A lock signal could not be detected for 5 seconds while the Heat Exhaust Fan (Rear) (FM6) was being driven.<br>*The same status was detected again after executing an error retry.                               |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J212) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Heat Exhaust Fan (Rear) (FM6).<br>3. Replace the DC Controller PCB (PCB1).        |
| E805  | 0002        | Title       | Heat Exhaust Fan (Front) (FM5) error                                                                                                                                                                             |
|       |             | Description | A lock signal was detected for 5 seconds while the Heat Exhaust Fan (Front) (FM5) was being stopped.<br>*The same status was detected again after executing an error retry.                                      |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J212) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Heat Exhaust Fan (Front) (FM5).<br>3. Replace the DC Controller PCB (PCB1).       |
| E805  | 0003        | Title       | Error in rotation of the Heat Exhaust Fan (Front) (FM5)                                                                                                                                                          |
|       |             | Description | A lock signal was detected for 5 seconds while the Heat Exhaust Fan (Front) (FM5) was being driven.<br>*The same status was detected again after executing an error retry.                                       |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J212) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Heat Exhaust Fan (Front) (FM5).<br>3. Replace the DC Controller PCB (PCB1).       |
| E820  | 0000        | Title       | Developing Cooling Fan (Front) (FM7) error                                                                                                                                                                       |
|       |             | Description | A lock signal was detected for 5 seconds while the Developing Cooling Fan (Front) (FM7) was being driven.<br>*The same status was detected again after executing an error retry.                                 |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J209) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Developing Cooling Fan (Front) (FM7).<br>3. Replace the DC Controller PCB (PCB1). |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                      |
|-------|-------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E820  | 0001        | Title       | Error in rotation of the Developing Cooling Fan (Front) (FM7)                                                                                                                                                    |
|       |             | Description | A lock signal could not be detected for 5 seconds while the Developing Cooling Fan (Front) (FM7) was being driven.<br>*The same status was detected again after executing an error retry.                        |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J209) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Developing Cooling Fan (Front) (FM7).<br>3. Replace the DC Controller PCB (PCB1). |
| E820  | 0002        | Title       | Developing Cooling Fan (Rear) (FM8) error                                                                                                                                                                        |
|       |             | Description | A lock signal was detected for 5 seconds while the Developing Cooling Fan (Rear) (FM8) was being stopped.<br>*The same status was detected again after executing an error retry..                                |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J209) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Developing Cooling Fan (Rear) (FM8).<br>3. Replace the DC Controller PCB (PCB1).  |
| E820  | 0003        | Title       | Error in rotation of the Developing Cooling Fan (Rear) (FM8)                                                                                                                                                     |
|       |             | Description | A lock signal was detected for 5 seconds while the Developing Cooling Fan (Rear) (FM8) was being driven.<br>*The same status was detected again after executing an error retry.                                  |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J209) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Developing Cooling Fan (Rear) (FM8).<br>3. Replace the DC Controller PCB (PCB1).  |
| E822  | 0000        | Title       | Delivery Cooling Fan (Front) (FM3) error                                                                                                                                                                         |
|       |             | Description | A lock signal was detected for 5 seconds while the Delivery Cooling Fan (Front) (FM3) was being driven.<br>*The same status was detected again after executing an error retry.                                   |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J210) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Delivery Cooling Fan (Front) (FM3).<br>3. Replace the DC Controller PCB (PCB1).   |
| E822  | 0001        | Title       | Error in rotation of the Delivery Cooling Fan (Front) (FM3)                                                                                                                                                      |
|       |             | Description | A lock signal was detected for 5 seconds while the Delivery Cooling Fan (Front) (FM3) was being driven.<br>*The same status was detected again after executing an error retry.                                   |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J210) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Delivery Cooling Fan (Front) (FM3).<br>3. Replace the DC Controller PCB (PCB1).   |

| Ecode | Detail Code | Item        | Description                                                                                                                                                                                                     |
|-------|-------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E822  | 0002        | Title       | Delivery Cooling Fan (Center) (FM2) error                                                                                                                                                                       |
|       |             | Description | A lock signal was detected for 5 seconds while the Delivery Cooling Fan (Center) (FM2) was being driven.<br>*The same status was detected again after executing an error retry.                                 |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J210) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Delivery Cooling Fan (Center) (FM2).<br>3. Replace the DC Controller PCB (PCB1). |
| E822  | 0003        | Title       | Error in rotation of the Delivery Cooling Fan (Center) (FM2)                                                                                                                                                    |
|       |             | Description | A lock signal was detected for 5 seconds while the Delivery Cooling Fan (Center) (FM2) was being driven.<br>*The same status was detected again after executing an error retry.                                 |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J210) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Delivery Cooling Fan (Center) (FM2).<br>3. Replace the DC Controller PCB (PCB1). |
| E822  | 0004        | Title       | Delivery Cooling Fan (Rear) (FM1) error                                                                                                                                                                         |
|       |             | Description | A lock signal was detected for 5 seconds while the Delivery Cooling Fan (Rear) (FM1) was being driven.<br>*The same status was detected again after executing an error retry.                                   |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J210) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Delivery Cooling Fan (Rear) (FM1).<br>3. Replace the DC Controller PCB (PCB1).   |
| E822  | 0005        | Title       | Error in rotation of the Delivery Cooling Fan (Rear) (FM1)                                                                                                                                                      |
|       |             | Description | A lock signal was detected for 5 seconds while the Delivery Cooling Fan (Rear) (FM1) was being driven.<br>*The same status was detected again after executing an error retry.                                   |
|       |             | Remedy      | 1. Disconnect and then connect the connector (J210) on the DC Controller PCB (PCB1) to check the connection.<br>2. Replace the Delivery Cooling Fan (Rear) (FM1).<br>3. Replace the DC Controller PCB (PCB1).   |

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## Error codes related to Fax

### Overview

#### Overview of error codes

An error code shows the status of the symptom of a failure which occurred in a facsimile, and is displayed on the LCD or reports. Error codes allow users and service technicians to check the status of the failure. Refer to the User's Manual or Service Manual and fix the error.

There are two types of error codes.

- User error codes  
They show errors which can be easily fixed by users, and are displayed as "# + numeric value".
- Service error codes  
They show errors which cannot be fixed by users and need to be fixed by service technicians. They are displayed as "## + numeric value".

#### NOTE:

Service error codes displayed as "## + numeric value" are not displayed on the LCD, error communication reports, communication management reports, etc., by default. Service error codes can be displayed by changing bit 0 to "1" in SW01 of service software switch #1 SSSW. For causes and remedies for error codes, refer to G3/G4 Facsimile Error Handbook provided as a separate volume.

### User error codes

#### List of User Error Codes

| No.        | Tx/Rx   | Description                                                            |
|------------|---------|------------------------------------------------------------------------|
| #0001      | [Tx]    | Original jam                                                           |
| #0003      | [Tx/Rx] | The time of copying/sending/receiving one page has exceeded the limit. |
| #0005      | [Tx/Rx] | The initial identification time (T0/T1) has exceeded the limit.        |
| #0009      | [Rx]    | Recording paper jam/Absence of recording paper                         |
| #0012      | [Tx]    | Absence of recording paper in the other party's machine                |
| #0018      | [Tx/Rx] | Automatic dialing error                                                |
| #0037      | [Rx]    | The image memory has exceeded the limit at the time of reception.      |
| #0059      | [Tx]    | The dialed number does not coincide with the connected number (CSI).   |
| #0995/0099 | [Tx/Rx] | Cancellation of memory communication reservation                       |

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### Service error codes

#### List of Service Error Codes

| No.    | Tx/Rx   | Description                                                                                                                                                                   |
|--------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ##0100 | [Tx]    | The retry count of the procedure signal has exceeded the limit at the time of transmission.                                                                                   |
| ##0101 | [Tx/Rx] | The modem speed differs from that of the other party's machine.                                                                                                               |
| ##0102 | [Tx]    | Fallback was not available at the time of transmission.                                                                                                                       |
| ##0103 | [Rx]    | EOL could not be detected for 5 seconds at the time of reception. (15sec in the case of CBT)                                                                                  |
| ##0104 | [Tx]    | RTN or PIN was received at the time of transmission.                                                                                                                          |
| ##0106 | [Rx]    | While waiting for a procedure signal at the time of reception, the signal could not be received for 6 seconds.                                                                |
| ##0107 | [Rx]    | Fallback was not available on the sending machine side at the time of reception.                                                                                              |
| ##0109 | [Tx]    | After DCS was sent at the time of transmission, a signal other than DIS, DTC, FTT, CFR, and CRP was received, and the retry count of the procedure signal exceeded the limit. |
| ##0111 | [Tx/Rx] | Memory error                                                                                                                                                                  |
| ##0114 | [Rx]    | RTN was sent at the time of reception.                                                                                                                                        |
| ##0200 | [Rx]    | Carrier could not be detected for 5 seconds while receiving an image at the time of reception.                                                                                |
| ##0201 | [Tx/Rx] | DCN was received in a procedure other than a normal binary procedure.                                                                                                         |
| ##0224 | [Tx]    | An error occurred in the communication procedure signal.                                                                                                                      |
| ##0228 | [Rx]    | The management information of the image was abnormal.                                                                                                                         |
| ##0232 | [Tx]    | Encode error                                                                                                                                                                  |
| ##0237 | [Rx]    | Decode error                                                                                                                                                                  |
| ##0261 | [Tx/Rx] | A system error occurred.                                                                                                                                                      |
| ##0280 | [Tx]    | The retry count of the procedure signal has exceeded the limit at the time of transmission.                                                                                   |
| ##0281 | [Tx]    | The retry count of the procedure signal has exceeded the limit at the time of transmission.                                                                                   |
| ##0282 | [Tx]    | The retry count of the procedure signal has exceeded the limit at the time of transmission.                                                                                   |
| ##0283 | [Tx]    | The retry count of the procedure signal has exceeded the limit at the time of transmission.                                                                                   |
| ##0284 | [Tx]    | DCN was received after TCF was sent at the time of transmission.                                                                                                              |
| ##0285 | [Tx]    | DCN was received after EOP was sent at the time of transmission.                                                                                                              |
| ##0286 | [Tx]    | DCN was received after EOM was sent at the time of transmission.                                                                                                              |
| ##0287 | [Tx]    | DCN was received after MPS was sent at the time of transmission.                                                                                                              |
| ##0288 | [Tx]    | After EOP was sent, a signal other than PIN, PIP, MCF, RTP, and RTN was received.                                                                                             |
| ##0289 | [Tx]    | After EOM was sent, a signal other than PIN, PIP, MCF, RTP, and RTN was received.                                                                                             |
| ##0290 | [Tx]    | After MPS was sent, a signal other than PIN, PIP, MCF, RTP, and RTN was received.                                                                                             |

| No.    | Tx/Rx | Description                                                                                                                                                                                                        |
|--------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ##0670 | [Tx]  | At V.8 late start, the V.8 competency of DIS on the receiving machine side was detected, and a CI signal was sent. However, the procedure failed to be performed, and the circuit was released due to T1 time-out. |
| ##0671 | [Rx]  | After the CM signal of the calling party was detected at V.8 call reception, the procedure failed to move to Phase 2, and the circuit was released due to T1 time-out.                                             |
| ##0672 | [Tx]  | At V.34 transmission, the procedure failed to move from Phase 2 to Phase 3 and later, and the circuit was released due to T1 time-out.                                                                             |
| ##0673 | [Rx]  | At V.34 reception, the procedure failed to move from Phase 2 to Phase 3 and later, and the circuit was released due to T1 time-out.                                                                                |
| ##0674 | [Tx]  | At V.34 transmission, the procedure failed to move from Phase 3 and 4 to the control channel and later, and the circuit was released due to T1 time-out.                                                           |
| ##0675 | [Rx]  | At V.34 reception, the procedure failed to move from Phase 3 and 4 to the control channel and later, and the circuit was released due to T1 time-out.                                                              |
| ##0750 | [Tx]  | After PPS-NULS was sent at ECM transmission, no meaningful signal was received, and the retry count of the procedure signal exceeded the limit.                                                                    |
| ##0752 | [Tx]  | After PPS-NULS was sent at ECM transmission, DCN was received.                                                                                                                                                     |
| ##0753 | [Tx]  | After PPS-NULS was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.                                                                         |
| ##0754 | [Tx]  | After PPS-NULS was sent at ECM transmission, the retry count of the procedure signal exceeded the limit.                                                                                                           |
| ##0755 | [Tx]  | After PPS-MPS was sent at ECM transmission, no meaningful signal was received, and the retry count of a procedure signal exceeded the limit.                                                                       |
| ##0757 | [Tx]  | After PPS-MPS was sent at ECM transmission, DCN was received.                                                                                                                                                      |
| ##0758 | [Tx]  | After PPS-MPS was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.                                                                          |
| ##0759 | [Tx]  | After PPS-MPS was sent at ECM transmission, the retry count of the procedure signal exceeded the limit.                                                                                                            |
| ##0762 | [Tx]  | After PPS-EOM was sent at ECM transmission, DCN was received.                                                                                                                                                      |
| ##0763 | [Tx]  | After PPS-MPS was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.                                                                          |
| ##0764 | [Tx]  | After PPS-EOM was sent at ECM transmission, the retry count of the procedure signal exceeded the limit.                                                                                                            |
| ##0765 | [Tx]  | After PPS-EOP was sent at ECM transmission, no meaningful signal was received, and the retry count of the procedure signal exceeded the limit.                                                                     |
| ##0767 | [Tx]  | After PPS-EOP was sent at ECM transmission, DCN was received.                                                                                                                                                      |
| ##0768 | [Tx]  | After PPS-EOP was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.                                                                          |
| ##0769 | [Tx]  | After PPS-EOP was sent at ECM transmission, the retry count of the procedure signal exceeded the limit.                                                                                                            |
| ##0770 | [Tx]  | After EOR-NULS was sent at ECM transmission, no meaningful signal was received, and the retry count of the procedure signal exceeded the limit.                                                                    |
| ##0772 | [Tx]  | After EOR-NULS was sent at ECM transmission, DCN was received.                                                                                                                                                     |
| ##0773 | [Tx]  | After EOR-NULS was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.                                                                         |
| ##0774 | [Tx]  | After EOR-NULS was sent at ECM transmission, ERR was received.                                                                                                                                                     |

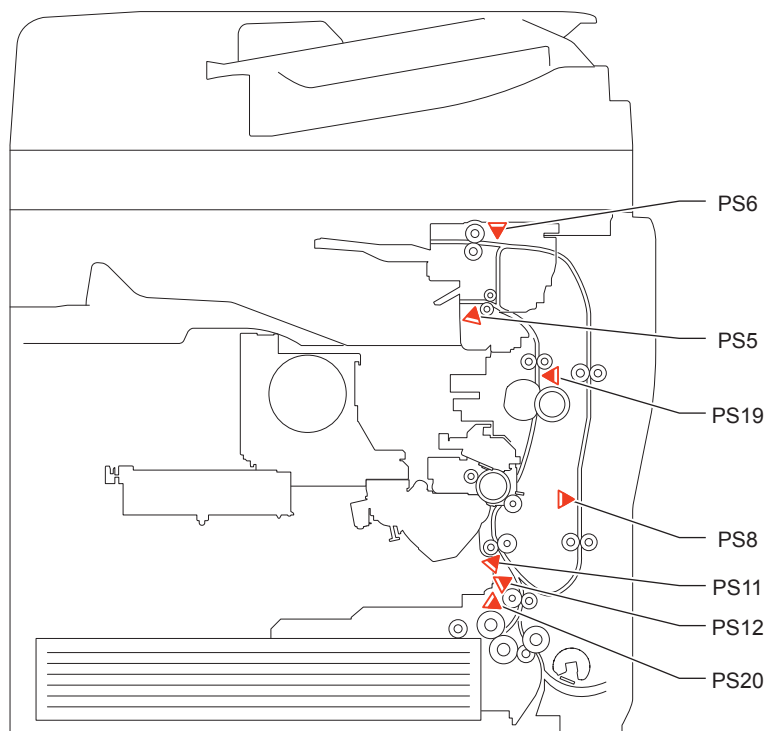
| No.    | Tx/Rx   | Description                                                                                                                                    |
|--------|---------|------------------------------------------------------------------------------------------------------------------------------------------------|
| ##0775 | [Tx]    | After EOR-MPS was sent at ECM transmission, no meaningful signal was received, and the retry count of the procedure signal exceeded the limit. |
| ##0778 | [Tx]    | After EOR-MPS was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.      |
| ##0779 | [Tx]    | After EOR-MPS was sent at ECM transmission, ERR was received.                                                                                  |
| ##0780 | [Tx]    | After EOR-EOM was sent at ECM transmission, no meaningful signal was received, and the retry count of the procedure signal exceeded the limit. |
| ##0782 | [Tx]    | After EOR-EOM was sent at ECM transmission, DCN was received.                                                                                  |
| ##0783 | [Tx]    | After EOR-EOM was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.      |
| ##0784 | [Tx]    | After EOR-EOP was sent at ECM transmission, no meaningful signal was received, and the retry count of the procedure signal exceeded the limit. |
| ##0787 | [Tx]    | After EOR-EOP was sent at ECM transmission, DCN was received.                                                                                  |
| ##0788 | [Tx]    | After EOR-EOP was sent at ECM transmission, the retry count of the procedure signal exceeded the limit, or T5 time-over (60sec) occurred.      |
| ##0789 | [Tx]    | After EOR-EOP was sent at ECM transmission, ERR was received.                                                                                  |
| ##0790 | [Rx]    | After EOR-Q was received at ECM reception, ERR was sent.                                                                                       |
| ##0791 | [Tx]    | A signal other than a meaningful signal was received during the ECM mode procedure.                                                            |
| ##0792 | [Rx]    | At ECM reception, PPS-NULS could not be detected between partial pages.                                                                        |
| ##0793 | [Rx]    | At ECM reception, a valid frame could not be received when a high-speed signal was received, and a timeout occurred.                           |
| ##0794 | [Tx]    | At ECM reception, PPR with all 0 was received.                                                                                                 |
| ##0795 | [Tx/Rx] | A failure occurred in the decode processing during communication.                                                                              |

T-7-4



## Jam Code

## Main Unit



F-7-1

| ACC ID | Jam Code | Type                       | Sensor Name                      | Sensor ID |
|--------|----------|----------------------------|----------------------------------|-----------|
| 3      | 0A04     | Power-on                   | Cassette 4 Retry Sensor (Option) | PS303     |
| 3      | 0105     | Delay                      | Registration Sensor              | PS11      |
| 3      | 0205     | Stationary                 | Registration Sensor              | PS11      |
| 3      | 0A05     | Power-on                   | Registration Sensor              | PS11      |
| 3      | 0107     | Delay                      | Fixing Paper Sensor              | PS19      |
| 3      | 0207     | Stationary                 | Fixing Paper Sensor              | PS19      |
| 3      | 0A07     | Power-on                   | Fixing Paper Sensor              | PS19      |
| 3      | 0108     | Delay                      | Delivery Sensor                  | PS5       |
| 3      | 0208     | Stationary                 | Delivery Sensor                  | PS5       |
| 3      | 0A08     | Power-on                   | Delivery Sensor                  | PS5       |
| 3      | 010A     | Delay                      | Reverse Sensor                   | PS6       |
| 3      | 020A     | Stationary                 | Reverse Sensor                   | PS6       |
| 3      | 0A0A     | Power-on                   | Reverse Sensor                   | PS6       |
| 3      | 010B     | Delay                      | Transparency Sensor              | PS20      |
| 3      | 020B     | Stationary                 | Transparency Sensor              | PS20      |
| 3      | 0A0B     | Power-on                   | Transparency Sensor              | PS20      |
| 3      | 010D     | Delay                      | Duplex Feed Sensor               | PS8       |
| 3      | 020D     | Stationary                 | Duplex Feed Sensor               | PS8       |
| 3      | 0A0D     | Power-on                   | Duplex Feed Sensor               | PS8       |
| 3      | 0B00     | Door open                  | -                                | -         |
| 3      | 0CA0     | Sequence jam <sup>*2</sup> | -                                | -         |
| 3      | 0CF1     | Error <sup>*1</sup>        | -                                | -         |
| 3      | 0D91     | Size Error                 | -                                | -         |
| 3      | 9901     | Sequence jam <sup>*2</sup> | -                                | -         |
| 3      | 9902     | Sequence jam <sup>*2</sup> | -                                | -         |
| 3      | 9903     | Sequence jam <sup>*2</sup> | -                                | -         |
| 3      | 9904     | Sequence jam <sup>*2</sup> | -                                | -         |
| 3      | 9905     | Sequence jam <sup>*2</sup> | -                                | -         |
| 3      | 9906     | Sequence jam <sup>*2</sup> | -                                | -         |
| 3      | 9907     | Sequence jam <sup>*2</sup> | -                                | -         |

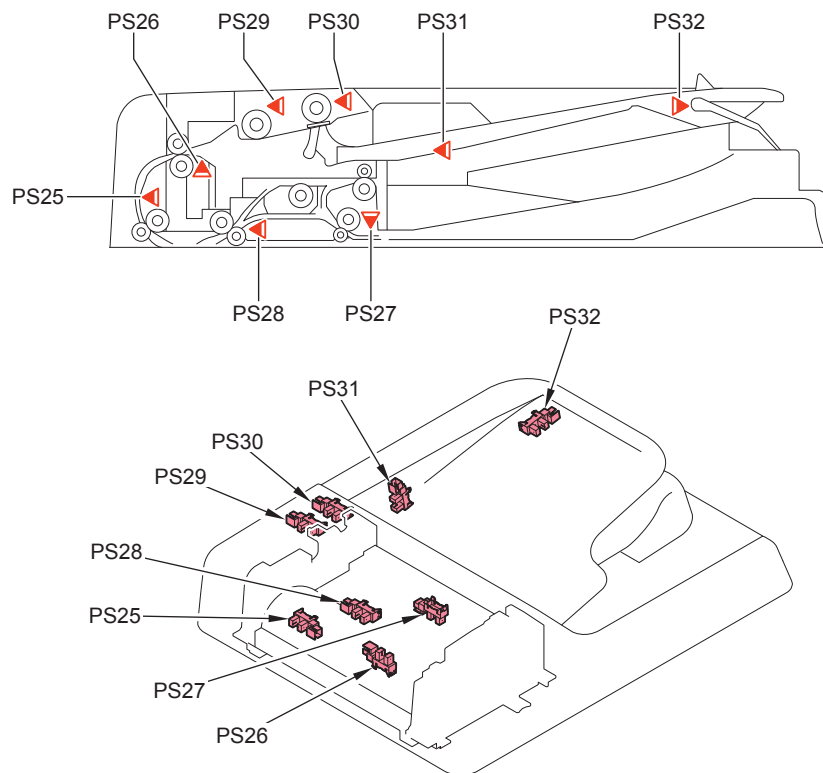
T-7-5

| ACC ID | Jam Code | Type       | Sensor Name                      | Sensor ID |
|--------|----------|------------|----------------------------------|-----------|
| 3      | 0101     | Delay      | Pre-Registration Sensor          | PS12      |
| 3      | 0201     | Stationary | Pre-Registration Sensor          | PS12      |
| 3      | 0A01     | Power-on   | Pre-Registration Sensor          | PS12      |
| 3      | 0102     | Delay      | Cassette 2 Retry Sensor (Option) | PS103     |
| 3      | 0202     | Stationary | Cassette 2 Retry Sensor (Option) | PS103     |
| 3      | 0A02     | Power-on   | Cassette 2 Retry Sensor (Option) | PS103     |
| 3      | 0103     | Delay      | Cassette 3 Retry Sensor (Option) | PS203     |
| 3      | 0203     | Stationary | Cassette 3 Retry Sensor (Option) | PS203     |
| 3      | 0A03     | Power-on   | Cassette 3 Retry Sensor (Option) | PS203     |
| 3      | 0104     | Delay      | Cassette 4 Retry Sensor (Option) | PS303     |
| 3      | 0204     | Stationary | Cassette 4 Retry Sensor (Option) | PS303     |

\*1: The state is recovered by opening and closing the Door, or turning OFF and then ON the power supply.

If the same jam is detected regardless of the operation above, the error code is displayed.

\*2: The state is recovered by opening and closing the Door, or turning OFF and then ON the power supply.



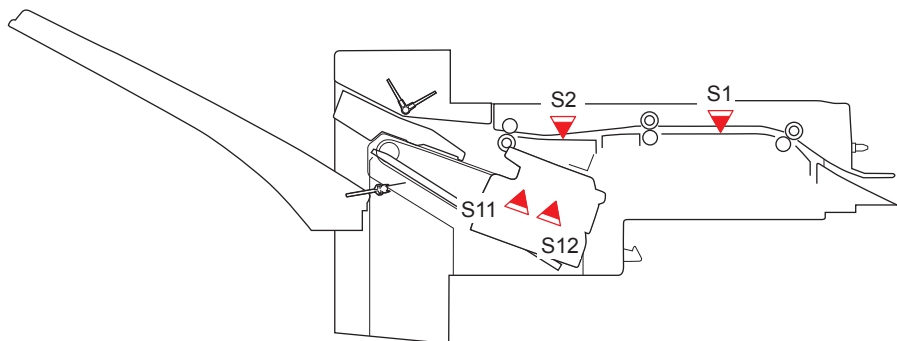
| ACC ID | Jam Code | Type                           | Sensor Name                                               | Sensor ID      |
|--------|----------|--------------------------------|-----------------------------------------------------------|----------------|
| 4      | 0003     | Delay                          | Registration sensor                                       | PS26           |
| 4      | 0004     | Stationary                     | Registration sensor                                       | PS26           |
| 4      | 0005     | Delay                          | Lead sensor                                               | PS25           |
| 4      | 0006     | Stationary                     | Lead sensor                                               | PS25           |
| 4      | 0009     | Delay                          | Stay sensor                                               | PS27           |
| 4      | 000A     | Stationary                     | Stay sensor                                               | PS27           |
| 4      | 000B     | Delay                          | Reversal sensor                                           | PS28           |
| 4      | 000C     | Stationary                     | Reversal sensor                                           | PS28           |
| 4      | 0044     | Stationary<br>(first document) | Registration sensor (first document)                      | PS26           |
| 4      | 0045     | Delay<br>(first document)      | Lead sensor (first document)                              | PS25           |
| 4      | 0046     | Stationary<br>(first document) | Lead sensor (first document)                              | PS25           |
| 4      | 0049     | Delay<br>(first document)      | Stay sensor (first document)                              | PS27           |
| 4      | 004A     | Stationary<br>(first document) | Stay sensor (first document)                              | PS27           |
| 4      | 004B     | Delay<br>(first document)      | Reversal sensor (first document)                          | PS28           |
| 4      | 004C     | Stationary<br>(first document) | Reversal sensor (first document)                          | PS28           |
| 4      | 0071     | Timing error                   | -                                                         | -              |
| 4      | 0090     | ADF open                       | DADF open/closed detection sensor                         | PS23           |
| 4      | 0091     | User ADF open                  | DADF open/closed detection sensor                         | PS23           |
| 4      | 0094     | Initial stationary             | Registration sensor or Lead sensor or<br>Rreversal sensor | PS25/PS26/PS28 |
| 4      | 0095     | Pickup error                   | Original set sensor                                       | PS30           |

T-7-6

F-7-2



## Staple Finisher-H1



F-7-3

| ACC ID | Jam Code | Type       | Sensor Name                              | Sensor ID |
|--------|----------|------------|------------------------------------------|-----------|
| 5      | 1001     | Delay      | Inlet sensor                             | S1        |
| 5      | 1004     | Delay      | Delivery sensor                          | S2        |
| 5      | 1104     | Stationary | Delivery sensor                          | S2        |
| 5      | 1F01     | Early      | Inlet sensor                             | S1        |
| 5      | 1500     | STP        | Stapler HP sensor, Stapler edging sensor | S11/S12   |
| 5      | 1401     | Door open  | Inlet sensor                             | S1        |
| 5      | 1404     | Door open  | Delivery sensor                          | S2        |
| 5      | 1301     | Power-on   | Inlet sensor                             | S1        |
| 5      | 1304     | Power-on   | Delivery sensor                          | S2        |
| 5      | 2F77     | Error*1    | -                                        | -         |
| 5      | 2F30     | Error*1    | -                                        | -         |
| 5      | 2F37     | Error*1    | -                                        | -         |
| 5      | 2F83     | Error*1    | -                                        | -         |
| 5      | 2F75     | Error*1    | -                                        | -         |
| 5      | 2F40     | Error*1    | -                                        | -         |
| 5      | 2F31     | Error*1    | -                                        | -         |

T-7-7

\*1 The state is recovered by opening and closing the Door, or turning OFF and then ON the power supply.

If the same jam is detected regardless of the operation above, the error code is displayed.

## Alarm Code

### Alarm Code Details

In this machine, there are no alarm codes for service technician.



# 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

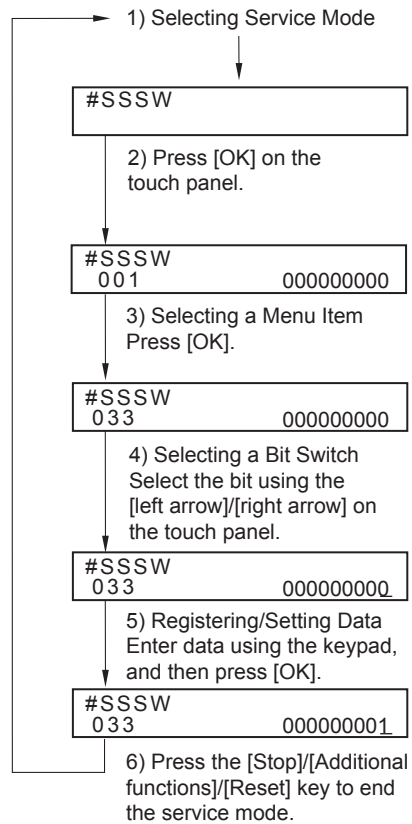
Displays ROM information, such as version numbers and checksums.

#### #TEST MODE

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

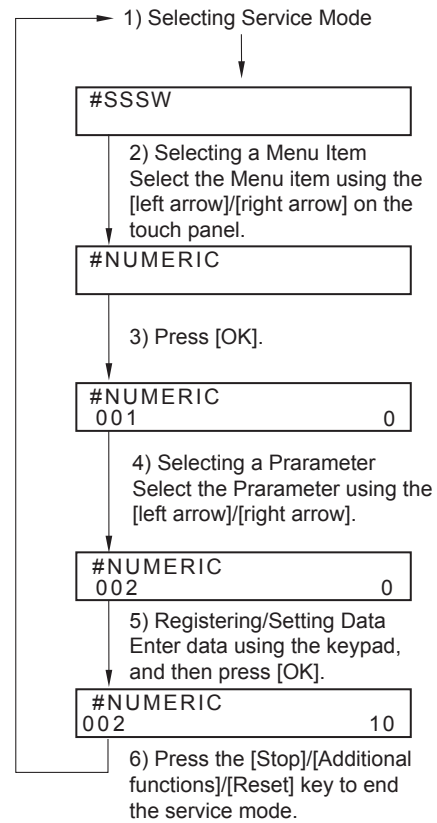
## Using the Mode

<Operation at the time of Bit SW>



F-8-1

<Operation at the time of Parameter>



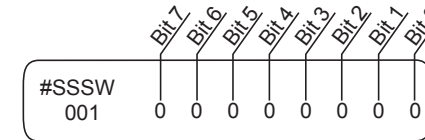
F-8-1

## 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-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        | 00000000        | Settings to disable auSend                                         |
| SW37        | 11111111        | Display settings for initialization menu after parts replacement 1 |
| SW38 - 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   | V34 CCRTN OFF                        | Disable    | Not disable    |
| 5   | not used                             | -          | -              |
| 6   | not used                             | -          | -              |
| 7   | F network silent termination service | Compatible | Not compatible |

T-8-3

##### Detailed Discussions of Bit 4

V.34 control channel retrain can be disabled. When "1" is set, control channel retrain is not started by the own machine.

##### 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.

#### NOTE:

Codes for errors that can occur during transmission because of line conditions:  
##0100, ##0104, ##0281, ##0282, ##0283, ##0750, ##0755, ##0760, ##0765

#### 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.

#### NOTE:

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 receiving, CI frequency check can be selected. If 'Yes' is selected, the upper and lower limits of the CI frequency are checked, and automatic receiving 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.

#### NOTE:

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.'

**NOTE:**

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 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".

**NOTE:**

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                  | -         | -             |

#### Detailed Discussions of Bit 3

T-8-7

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   | 1-page time-out length for transmission                   | *   | *          |
| 2   | 1-page time-out length for transmission (HT transmission) | *   | *          |
| 3   | 1-page time-out length for transmission                   | *   | *          |
| 4   | 1-page time-out length for reception                      | *   | *          |
| 5   | 1-page time-out length for reception                      | *   | *          |
| 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.

Selecting "Not set" for Bit 7 specifies the timeout period per page by the combination of the following 2 Bits at the time of communication in any mode.

### 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 |
| 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   | not used                                                          | -   | -  |
| 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 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-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   | To disable communication control for IP network. | Yes     | No            |
| 3   | not used                                         | -       | -             |
| 4   | not used                                         | -       | -             |
| 5   | not used                                         | -       | -             |
| 6   | not used                                         | -       | -             |
| 7   | not used                                         | -       | -             |

T-8-16

#### 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.

## Detailed Discussions of Bit 2

You can change the parameter relating to communication control for IP network (SSSW-SW02 bit4) to the existing control in a batch process. The parameter value is handled as a fixed value.

## ● SSSW-SW22

## List of Functions

| Bit | Function                     | 1   | 0  |
|-----|------------------------------|-----|----|
| 0   | To disable NSX transmission. | Yes | No |
| 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-8-17

## Detailed Discussions of Bit 0

Nonstandard protocol (own company mode) can be disabled.

## 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-8-18

## 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-8-19

## 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 back during V.34 transmission. If 'Prohibit' is selected, the 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-8-20

## 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    | -       | -       |
| 5   | NCU version | NCU2002 | NCU2004 |
| 6   | not used    | -       | -       |
| 7   | not used    | -       | -       |

T-8-21

## Detailed Discussions of Bit 5

NCU (Network Control Unit) version can be selected.

## ● 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   | not used                                    | -   | -  |
| 4   | not used                                    | -   | -  |
| 5   | Toner cartridge replacement counter display | Yes | No |
| 6   | not used                                    | -   | -  |
| 7   | not used                                    | -   | -  |

T-8-22

## 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 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-8-23

## 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   | not used                                                                                                               | -                                                                                            | -                                                                                                |
| 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   | Handling of a scan job at device logout<br>Default: 0                                                                  | Stop a scan job                                                                              | Not stop a scan job                                                                              |
| 6   | Handling of display of the stop confirmation screen when the stop key is pressed during a scan job, except remote scan | Not display the stop confirmation screen (same specification as that of the existing models) | Display the stop confirmation screen (the display specification following that of the iR series) |
| 7   | Switching to display/hide the start button of the counter print (known as billing counter report)<br>Default: 1        | Display the counter print button                                                             | Hide the counter print button                                                                    |

T-8-24

## 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 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.

## Detailed Discussions of Bit 5

You can select whether to stop the scan job at the time of device log logout.

Selecting "1" stops the scan job.

Selecting "0" does not stop the scan job.

## Detailed Discussions of Bit 6

This is the setting to display the stop confirmation screen when the stop key is pressed during a scan job, except remote scan.

Selecting "1" hides the stop confirmation screen.

Selecting "0" displays the stop confirmation screen.

## Detailed Discussions of Bit 7

You can set to display/hide the start button of the counter print (known as billing counter report).

Selecting "1" displays the counter print button.

Selecting "0" hides the counter print button.

## SSSW-SW36

## List of Functions

| Bit | Function                                       | 1                                                                   | 0                                                                                                |
|-----|------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 0   | Service switch to disable auSend<br>Default: 0 | Disable auSend. You can hide the setting item of auSend in RUI/LUI. | Enabling/disabling of auSend follows the RUI setting. auSend display in RUI/LUI is not affected. |
| 1   | Not used                                       | -                                                                   | -                                                                                                |
| 2   | Not used                                       | -                                                                   | -                                                                                                |
| 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 to disable the auSend function.

Selecting "1" disables auSend. You can hide the setting item of auSend in RUI/LUI.

Selecting "0" follows the RUI setting to enable/disable auSend. auSend display in RUI/LUI is not affected.

## SSSW-SW37

## List of Functions

| Bit | Function                                                                                                      | 1         | 0             |
|-----|---------------------------------------------------------------------------------------------------------------|-----------|---------------|
| 0   | To display the menu of "Initialization after replacement of the Transfer Roller".                             | Displayed | Not displayed |
| 1   | To display the menu of "Initialization after replacement of the Fixing Assembly".                             | Displayed | Not displayed |
| 2   | To display the menu of "Initialization after replacement of Cassette 1 Feed Roller/Separation Roller".        | Displayed | Not displayed |
| 3   | To display the menu of "Initialization after replacement of Cassette 2 Feed Roller/Separation Roller".        | Displayed | Not displayed |
| 4   | To display the menu of "Initialization after replacement of Cassette 3 Feed Roller/Separation Roller".        | Displayed | Not displayed |
| 5   | To display the menu of "Initialization after replacement of Cassette 4 Feed Roller/Separation Roller".        | Displayed | Not displayed |
| 6   | To display the menu of "Initialization after replacement of Multi-purpose Tray Pickup Roller/Separation Pad". | Displayed | Not displayed |
| 7   | To display the menu of "Initialization after replacement of the Transfer Static Eliminator".                  | Displayed | Not displayed |

T-8-26

## Detailed Discussions of Bit 0

You can set to display/hide the menu of "Initialization after replacement of the Transfer Roller".

## Detailed Discussions of Bit 1

You can set to display/hide the menu of "Initialization after replacement of the Fixing Assembly".

## Detailed Discussions of Bit 2

You can set to display/hide the menu of "Initialization after replacement of the Cassette 1 Feed Roller/Separation Roller".

## Detailed Discussions of Bit 3

You can set to display/hide the menu of "Initialization after replacement of the Cassette 2 Feed Roller/Separation Roller".

## Detailed Discussions of Bit 4

You can set to display/hide the menu of "Initialization after replacement of the Cassette 3 Feed Roller/Separation Roller".

## Detailed Discussions of Bit 5

You can set to display/hide the menu of "Initialization after replacement of the Cassette 4 Feed Roller/Separation Roller".

## Detailed Discussions of Bit 6

You can set to display/hide the menu of "Initialization after replacement of the Multi-purpose

Tray Pickup Roller/Separation Pad".

Detailed Discussions of Bit 7

You can set to display/hide the menu of "Initialization after replacement of the Transfer Static Eliminator".

## #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 | V.34 data speed upper limit       | 0: 33.6kbs, 1: 31.2kbs, 2: 28.8kbs, 3: 26.4kbs, 4: 24.0kbs<br>5: 21.6kbs, 6: 19.2kbs, 7: 16.8kbs, 8: 14.4kbs, 9: 12.0kbs<br>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

### Details

#### 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.

##### NOTE:

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 reception because of the line condition:

##103, ##107, ##114, ##201, ##790, ##793

#### 006: Telephone line monitor

Use it to set 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)

##### NOTE:

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

#### 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                                       |
| 008 | Time from Right After Dialing by Auto-dialing to Start of Communication | 1 to 65 sec                                       |
| 010 | line condition identification time length                               | 0 to 9999 (10 msec)                               |
| 011 | T.30T1 timer (for reception)                                            | 0 to 9999 (10 msec)                               |
| 012 | The maximum number of received lines                                    | 0 to 65535 (line)<br>* Unlimited in the case of 0 |
| 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<br>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       |                                                   |
| 055 | acquisition period of environmental log data                            | 0 to 480 (60min)<br>(0: no data acquisition)      |
| 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                                          |
| 062 | Communication termination timer at SMTP transmission protocol level     | 0 to 65535 sec                                    |
| 063 | Communication termination timer at SMTP reception protocol level        | 0 to 65535 sec                                    |
| 064 | Communication termination timer at POP reception protocol level         | 0 to 65535 sec                                    |
| 065 | Communication termination timer at FTP transmission protocol level      | 0 to 65535 sec                                    |

| No. | Item                                                                                                   | Range of settings               |
|-----|--------------------------------------------------------------------------------------------------------|---------------------------------|
| 066 | Communication termination timer from start to completion of the transmission of SMTP transmission data | 0 to 65535 sec                  |
| 067 | Communication termination timer from start to completion of the reception of SMTP reception data       | 0 to 65535 sec                  |
| 068 | Communication termination timer from start to completion of the reception of POP reception data        | 0 to 65535 sec                  |
| 069 | Communication termination timer from start to completion of the transmission of FTP transmission data  | 0 to 65535 sec                  |
| 074 | e-RDS RGW port number                                                                                  | 1 to 65535<br>default: 443      |
| 075 | Interval of transmission for e-RDS 3rd party                                                           | 1 to 168 (hours)<br>default: 24 |

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## ■ 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.

### NOTE:

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.

- 008: Time from Right After Dialing by Auto-dialing to Start of Communication

The time to shift to transmission after automatic dialing can be set. The timing to start communication after connecting to the other party is delayed by the specified period of time.

- 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.

### NOTE:

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).

- 012: The maximum number of received lines

The number of lines at reception can be limited.

- 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).

- 015: Hooking detection time length

You can set the hooking detection time.

- 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.

### ● 051: Hook detection threshold value

The time until it is judged as Off-hook can be set.

### ● 053: To set the number of DTMF calls at FAX remote reception

The number of digits to detect remote reception ID when answering by the answering phone can be set.

Default: 2

### ● 055: Acquisition period of environmental log data

You can change data acquisition cycle of environment log.

### ● 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 as follows in terms of input numbers:

- 100s: total
- 200s: copy
- 300s: print
- 400s: copy + print
- 500s: scan
- 700s: received file print
- 800s: report print
- 900s: transmitted scan

#### Guide to the Table

- 1:Count sheets of all sizes by one.
- 2:Count sheets of the large size by two.
- Bk:Black mono
- C:Full color (Scan only)
- S:Small size (A4/LTR or smaller)
- L: Large size (Larger than A4/LTR)

Since this machine is an A4/LTR model, a counter for large size (B4 and larger) does not operate although it exists. In addition, since it is also a B&W machine, only a color scan counter exists. Therefore, many similar count-up specifications exist. For example, Total1, Total2, Total(S), Total(Bk1), Total(Bk2) and Total(Bk/S) all mean the same with this machine. Any counter can be used.

| No. | Counter type      | Print system |           |           |              |            |           |           |              |
|-----|-------------------|--------------|-----------|-----------|--------------|------------|-----------|-----------|--------------|
|     |                   | Bk           |           |           |              |            |           |           |              |
|     |                   | 1-sided      |           |           |              | 2-sided    |           |           |              |
|     |                   | Local copy   | PDL print | FAX print | Report print | Local copy | PDL print | FAX print | Report print |
| 101 | Total1            | 1            | 1         | 1         | 1            |            |           |           |              |
| 102 | Total2            | 1            | 1         | 1         | 1            |            |           |           |              |
| 103 | Total (L) *       |              |           |           |              |            |           |           |              |
| 104 | Total (S)         | 1            | 1         | 1         | 1            |            |           |           |              |
| 108 | Total (Bk1)       | 1            | 1         | 1         | 1            |            |           |           |              |
| 109 | Total (Bk2)       | 1            | 1         | 1         | 1            |            |           |           |              |
| 112 | Total (Bk/L) *    |              |           |           |              |            |           |           |              |
| 113 | Total (Bk/S)      | 1            | 1         | 1         | 1            |            |           |           |              |
| 114 | Total1 (2-sided)  |              |           |           |              | 1          | 1         | 1         | 1            |
| 115 | Total2 (2-sided)  |              |           |           |              | 1          | 1         | 1         | 1            |
| 116 | L (2-sided) *     |              |           |           |              |            |           |           |              |
| 117 | S (2-sided)       |              |           |           |              | 1          | 1         | 1         | 1            |
| 126 | TotalA1           |              | 1         | 1         | 1            |            |           |           |              |
| 127 | TotalA2           |              | 1         | 1         | 1            |            |           |           |              |
| 128 | TotalA (L) *      |              |           |           |              |            |           |           |              |
| 129 | TotalA (S)        |              | 1         | 1         | 1            |            |           |           |              |
| 132 | TotalA (Bk1)      |              | 1         | 1         | 1            |            |           |           |              |
| 133 | TotalA (Bk2)      |              | 1         | 1         | 1            |            |           |           |              |
| 136 | TotalA (Bk/L) *   |              |           |           |              |            |           |           |              |
| 137 | TotalA (Bk/S)     |              | 1         | 1         | 1            |            |           |           |              |
| 138 | TotalA1 (2-sided) |              |           |           |              | 1          | 1         | 1         |              |
| 139 | TotalA2 (2-sided) |              |           |           |              | 1          | 1         | 1         |              |
| 140 | L A (2-sided) *   |              |           |           |              |            |           |           |              |
| 141 | S A (2-sided)     |              |           |           |              | 1          | 1         | 1         |              |
| 150 | TotalB1           |              | 1         | 1         | 1            |            |           |           |              |
| 151 | TotalB2           |              | 1         | 1         | 1            |            |           |           |              |
| 152 | TotalB (L) *      |              |           |           |              |            |           |           |              |
| 153 | TotalB (S)        |              | 1         | 1         | 1            |            |           |           |              |
| 156 | TotalB (Bk1)      |              | 1         | 1         | 1            |            |           |           |              |
| 157 | TotalB (Bk2)      |              | 1         | 1         | 1            |            |           |           |              |
| 160 | TotalB (Bk/L) *   |              |           |           |              |            |           |           |              |
| 161 | TotalB (Bk/S)     |              | 1         | 1         | 1            |            |           |           |              |
| 162 | TotalB1 (2-sided) |              |           |           |              | 1          | 1         | 1         |              |
| 163 | TotalB2 (2-sided) |              |           |           |              | 1          | 1         | 1         |              |
| 164 | LB (2-sided) *    |              |           |           |              |            |           |           |              |
| 165 | SB (2-sided)      |              |           |           |              | 1          | 1         | 1         |              |
| 201 | Copy(Total1)      | 1            |           |           |              |            |           |           |              |
| 202 | Copy(Total2)      | 1            |           |           |              |            |           |           |              |

| No. | Counter type               | Print system |           |           |              |            |           |           |              |
|-----|----------------------------|--------------|-----------|-----------|--------------|------------|-----------|-----------|--------------|
|     |                            | Bk           |           |           |              |            |           |           |              |
|     |                            | 1-sided      |           |           |              | 2-sided    |           |           |              |
|     |                            | Local copy   | PDL print | FAX print | Report print | Local copy | PDL print | FAX print | Report print |
| 203 | Copy(L) *                  |              |           |           |              |            |           |           |              |
| 204 | Copy(S)                    | 1            |           |           |              |            |           |           |              |
| 205 | CopyA (Total1)             | 1            |           |           |              |            |           |           |              |
| 206 | CopyA (Total2)             | 1            |           |           |              |            |           |           |              |
| 207 | CopyA (L) *                |              |           |           |              |            |           |           |              |
| 208 | CopyA (S)                  | 1            |           |           |              |            |           |           |              |
| 209 | Local copy(Total1)         | 1            |           |           |              |            |           |           |              |
| 210 | Local copy(Total2)         | 1            |           |           |              |            |           |           |              |
| 211 | Local copy(L) *            |              |           |           |              |            |           |           |              |
| 212 | Local copy(S)              | 1            |           |           |              |            |           |           |              |
| 221 | Copy(Bk1)                  | 1            |           |           |              |            |           |           |              |
| 222 | Copy(Bk2)                  | 1            |           |           |              |            |           |           |              |
| 227 | Copy(Bk/L) *               |              |           |           |              |            |           |           |              |
| 228 | Copy(Bk/S)                 | 1            |           |           |              |            |           |           |              |
| 237 | Copy(Bk/L/2-sided) *       |              |           |           |              |            |           |           |              |
| 238 | Copy(Bk/S/2-sided)         |              |           |           |              | 1          |           |           |              |
| 249 | CopyA (Bk1)                | 1            |           |           |              |            |           |           |              |
| 250 | CopyA (Bk2)                | 1            |           |           |              |            |           |           |              |
| 255 | CopyA (Bk/L) *             |              |           |           |              |            |           |           |              |
| 256 | CopyA (Bk/S)               | 1            |           |           |              |            |           |           |              |
| 265 | CopyA (Bk/L/2-sided) *     |              |           |           |              |            |           |           |              |
| 266 | CopyA (Bk/S/2-sided)       |              |           |           |              | 1          |           |           |              |
| 277 | Local copy(Bk1)            | 1            |           |           |              |            |           |           |              |
| 278 | Local copy(Bk2)            | 1            |           |           |              |            |           |           |              |
| 283 | Local copy(Bk/L) *         |              |           |           |              |            |           |           |              |
| 284 | Local copy(Bk/S)           | 1            |           |           |              |            |           |           |              |
| 293 | Local copy(Bk/L/2-sided) * |              |           |           |              |            |           |           |              |
| 294 | Local copy(Bk/S/2-sided)   |              |           |           |              | 1          |           |           |              |
| 301 | Print (Total1)             |              | 1         |           | 1            |            |           |           |              |
| 302 | Print (Total2)             |              | 1         |           | 1            |            |           |           |              |
| 303 | Print (L) *                |              |           |           |              |            |           |           |              |
| 304 | Print (S)                  |              | 1         |           | 1            |            |           |           |              |
| 305 | PrintA (Total1)            |              | 1         |           | 1            |            |           |           |              |
| 306 | PrintA (Total2)            |              | 1         |           | 1            |            |           |           |              |
| 307 | PrintA (L) *               |              |           |           |              |            |           |           |              |
| 308 | PrintA (S)                 |              | 1         |           | 1            |            |           |           |              |
| 313 | Print (Bk1)                |              | 1         |           | 1            |            |           |           |              |
| 314 | Print (Bk2)                |              | 1         |           | 1            |            |           |           |              |



| No. | Counter type                    | Print system |           |           |              |            |           |           |              |
|-----|---------------------------------|--------------|-----------|-----------|--------------|------------|-----------|-----------|--------------|
|     |                                 | Bk           |           |           |              |            |           |           |              |
|     |                                 | 1-sided      |           |           | 2-sided      |            |           |           |              |
|     |                                 | Local copy   | PDL print | FAX print | Report print | Local copy | PDL print | FAX print | Report print |
| 319 | Print (Bk/L) *                  |              |           |           |              |            |           |           |              |
| 320 | Print (Bk/S)                    |              | 1         |           | 1            |            |           |           |              |
| 329 | Print (Bk/L/2-sided) *          |              |           |           |              |            |           |           |              |
| 330 | Print (Bk/S/2-sided)            |              |           |           |              |            | 1         |           | 1            |
| 331 | PDLprint (Total1)               |              | 1         |           |              |            |           |           |              |
| 332 | PDL print (Total2)              |              | 1         |           |              |            |           |           |              |
| 333 | PDL print (L) *                 |              |           |           |              |            |           |           |              |
| 334 | PDL print (S)                   |              | 1         |           |              |            |           |           |              |
| 339 | PDL print (Bk1)                 |              | 1         |           |              |            |           |           |              |
| 340 | PDL print (Bk2)                 |              | 1         |           |              |            |           |           |              |
| 345 | PDL print (Bk/L) *              |              |           |           |              |            |           |           |              |
| 346 | PDL print (Bk/S)                |              | 1         |           |              |            |           |           |              |
| 355 | PDL print (Bk/L) *              |              |           |           |              |            |           |           |              |
| 356 | PDL print (Bk/S)                |              |           |           |              |            | 1         |           |              |
| 403 | Copy+Print (Bk/L) *             |              |           |           |              |            |           |           |              |
| 404 | Copy+Print (Bk/S)               |              | 1         | 1         |              | 1          |           |           |              |
| 405 | Copy+Print (Bk2)                |              | 1         | 1         |              | 1          |           |           |              |
| 406 | Copy+Print (Bk1)                |              | 1         | 1         |              | 1          |           |           |              |
| 411 | Copy+Print (L) *                |              |           |           |              |            |           |           |              |
| 412 | Copy+Print (S)                  |              | 1         | 1         |              | 1          |           |           |              |
| 413 | Copy+Print (2)                  |              | 1         | 1         |              | 1          |           |           |              |
| 414 | Copy+Print (1)                  |              | 1         | 1         |              | 1          |           |           |              |
| 421 | Copy+Print (Bk/L) *             |              |           |           |              |            |           |           |              |
| 422 | Copy+Print (Bk/S)               |              |           |           |              |            | 1         | 1         | 1            |
| 701 | Recieved print (Total1)         |              |           |           | 1            |            |           |           |              |
| 702 | Recieved print (Total2)         |              |           |           | 1            |            |           |           |              |
| 703 | Recieved print (L) *            |              |           |           |              |            |           |           |              |
| 704 | Recieved print (S)              |              |           |           | 1            |            |           |           |              |
| 709 | Recieved print (Bk1)            |              |           |           | 1            |            |           |           |              |
| 710 | Recieved print (Bk2)            |              |           |           | 1            |            |           |           |              |
| 715 | Recieved print (Bk/L) *         |              |           |           |              |            |           |           |              |
| 716 | Recieved print (Bk/S)           |              |           |           | 1            |            |           |           |              |
| 725 | Recieved print (Bk/L/2-sided) * |              |           |           |              |            |           |           |              |
| 726 | Recieved print (Bk/S/2-sided)   |              |           |           |              |            |           | 1         |              |
| 801 | Report print (Total1)           |              |           |           |              | 1          |           |           |              |
| 802 | Report print (Total2)           |              |           |           |              | 1          |           |           |              |
| 803 | Report print (L) *              |              |           |           |              |            |           |           |              |
| 804 | Report print (S)                |              |           |           |              | 1          |           |           |              |

| No. | Counter type                  | Print system |           |           |              |            |           |           |              |
|-----|-------------------------------|--------------|-----------|-----------|--------------|------------|-----------|-----------|--------------|
|     |                               | Bk           |           |           |              |            |           |           |              |
|     |                               | 1-sided      |           |           | 2-sided      |            |           |           |              |
|     |                               | Local copy   | PDL print | FAX print | Report print | Local copy | PDL print | FAX print | Report print |
| 809 | Report print (Bk1)            |              |           |           |              | 1          |           |           |              |
| 810 | Report print (Bk2)            |              |           |           |              | 1          |           |           |              |
| 815 | Report print (Bk/L) *         |              |           |           |              |            |           |           |              |
| 816 | Report print (Bk/S)           |              |           |           |              | 1          |           |           |              |
| 825 | Report print (Bk/L/2-sided) * |              |           |           |              |            |           |           |              |
| 826 | Report print (Bk/S/2-sided)   |              |           |           |              |            |           |           | 1            |

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\*: Since this machine does not support large size, a counter for large size does not operate although it exists.

| No. | Counter type                  | Scan system |             |                   |                          |                       |                              |            |           |             |                   |                          |                       |                              |
|-----|-------------------------------|-------------|-------------|-------------------|--------------------------|-----------------------|------------------------------|------------|-----------|-------------|-------------------|--------------------------|-----------------------|------------------------------|
|     |                               | Bk          |             |                   |                          |                       | C                            |            |           |             |                   |                          |                       |                              |
|     |                               | 1-sided     |             |                   |                          |                       |                              |            |           |             |                   |                          |                       |                              |
|     |                               | Pull scan   | E-mail scan | FileShare DB scan | E-mail FileShare DB scan | FileShare DB Box scan | E-mail FileShare DB Box scan | Total scan | Pull scan | E-mail scan | FileShare DB scan | E-mail FileShare DB scan | FileShare DB Box scan | E-mail FileShare DB Box scan |
| 501 | Scan (Total1)                 |             |             |                   |                          |                       | 1                            |            |           |             |                   |                          |                       | 1                            |
| 505 | Bk scan (Total1)              |             |             |                   |                          |                       | 1                            |            |           |             |                   |                          |                       |                              |
| 506 | Bk scan (Total2)              |             |             |                   |                          |                       | 1                            |            |           |             |                   |                          |                       |                              |
| 507 | Bk scan (L)                   |             |             |                   |                          |                       |                              |            |           |             |                   |                          |                       |                              |
| 508 | Bk scan (S)                   |             |             |                   |                          |                       | 1                            |            |           |             |                   |                          |                       |                              |
| 509 | C scanTotal (1)               |             |             |                   |                          |                       |                              |            |           |             |                   |                          |                       | 1                            |
| 510 | C scanTotal (2)               |             |             |                   |                          |                       |                              |            |           |             |                   |                          |                       | 1                            |
| 511 | C scan (L)                    |             |             |                   |                          |                       |                              |            |           |             |                   |                          |                       |                              |
| 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                     |                              |            |           |             |                   |                          |                       |                              |
| 939 | Remote scan (C)               |             |             |                   |                          |                       |                              | 1          |           |             |                   |                          |                       |                              |
| 940 | Remote scan (Bk)              | 1           |             |                   |                          |                       |                              |            |           |             |                   |                          |                       |                              |
| 945 | Transmission scan/E-mail (C)  |             |             |                   |                          |                       |                              |            | 1         |             |                   |                          |                       |                              |
| 946 | Transmission scan/E-mail (Bk) |             | 1           |                   |                          |                       |                              |            |           |             |                   |                          |                       |                              |

T-8-30

### ● 062: Communication termination timer at SMTP transmission protocol level

Communication termination timer at SMTP transmission protocol level can be set.

### ● 063: Communication termination timer at SMTP reception protocol level

Communication termination timer at SMTP reception protocol level can be set.

### ● 064: Communication termination timer at POP reception protocol level

Communication termination timer at POP reception protocol level can be set.

### ● 065: Communication termination timer at FTP transmission protocol level

Communication termination timer at FTP transmission protocol level can be set.

### ● 066: Communication termination timer from start to completion of the transmission of SMTP transmission data

Communication termination timer from start to completion of the transmission of SMTP transmission data can be set.

### ● 067: Communication termination timer from start to completion of the reception of SMTP reception data

Communication termination timer from start to completion of the reception of SMTP reception data can be set.

### ● 068: Communication termination timer from start to completion of the reception of POP reception data

Communication termination timer from start to completion of the reception of POP reception data can be set.

### ● 069: Communication termination timer from start to completion of the transmission of FTP transmission data

Communication termination timer from start to completion of the transmission of FTP transmission data can be set.

### ● 074: Port number of e-RDS RGW

Port number of e-RDS RGW can be set.

1 to 65535

Default: 443

### ● 075: Transmission intervals for e-RDS 3rd party

Transmission intervals for e-RDS 3rd party can be set.

1 to 168 (hours)

Default: 24



## #SCAN

## ■ Setting of Scanner Functions (SCANNER)

| Item1         | No.         | Initial setting                    | Appropriate guideline | Description                                                                             |
|---------------|-------------|------------------------------------|-----------------------|-----------------------------------------------------------------------------------------|
| #SCAN SW      | SW00 - 04   |                                    |                       | Not used                                                                                |
|               | SW05:       | Differs according to the location. |                       | Changes "AB configuration/Inch configuration" of the original size detection            |
|               | SW06        |                                    |                       | Not used                                                                                |
| #SCAN NUMERIC | 001: - 032: |                                    |                       | Not used                                                                                |
|               | 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: - 134: |                                    |                       | Not used                                                                                |
|               | 135:        | 30                                 |                       | Leading edge trimming length when performing fax operation using the Copyboard (0.1 mm) |
|               | 136: - 137: |                                    |                       | Not used                                                                                |
|               | 138:        | 15                                 |                       | Leading edge frame length when performing copy operation using the Copyboard (0.1 mm)   |
|               | 139: - 144: |                                    |                       | Not used                                                                                |
|               | 145:        | 30                                 |                       | Leading edge trimming length when performing fax operation using the ADF (0.1 mm)       |
|               | 146:        | 30                                 |                       | Trailing edge trimming length when performing fax operation using the ADF (0.1 mm)      |
|               | 147:        | 10                                 |                       | Left-right frame length when performing fax operation using the ADF (0.1 mm)            |
|               | 148:        | 25                                 |                       | Leading edge frame length when performing copy operation using the ADF (0.1 mm)         |
|               | 149: - 164: |                                    |                       | Not used                                                                                |
|               | 165:        | 4                                  |                       | Leading edge frame length when performing SEND SCAN using the Copyboard (0.1 mm)        |
|               | 166: - 167: |                                    |                       | Not used                                                                                |
|               | 168:        | 0                                  |                       | Leading edge frame length when performing SEND SCAN using the ADF (0.1 mm)              |
|               | 169: - 192: |                                    |                       | Not used                                                                                |

| Item1 | No.         | Initial setting | Appropriate guideline                                                                                                                   | Description                                                                                                                                                                                                             |
|-------|-------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | 193:        | 0               | 0: LEGAL<br>1: FOOLSCAP<br>2: M_OFICIO<br>3: A_FOOLSCAP<br>4: FOLIO<br>5: G_LEGAL<br>7: B_OFICIO<br>8: OFICIO<br>9: E_OFICIO<br>10: F4A | ADF special paper, standardized size: LGL misidentification-ready<br>To enable the change in this service mode, the following settings need to be changed:<br>#SCAN > #SCAN SW > SW05,<br>#SYSTEM > #SYSTEM SW > SW57   |
|       | 195:        | 0               | 0: LTR_R<br>1: FOOLSCAP<br>2: OFFICIO<br>4: G_LTR_R<br>6: K_LGL_R<br>7: EXE_R                                                           | ADF special paper, standardized size: LTR_R misidentification-ready<br>To enable the change in this service mode, the following settings need to be changed:<br>#SCAN > #SCAN SW > SW05,<br>#SYSTEM > #SYSTEM SW > SW57 |
|       | 196: - 290: |                 |                                                                                                                                         | Not used                                                                                                                                                                                                                |

T-8-31

| Item1  | Item2    | Item3  | Item4    | Initial setting                  | Appropriate guideline  | Description                                                        |                                                                                                                     |
|--------|----------|--------|----------|----------------------------------|------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| READER | DISPLAY  | CCD    | TARGET-B | 1 to 2047<br>(appropriate range) | 0 to FFFF              | Target value of shading for blue                                   |                                                                                                                     |
|        |          |        | TARGET-G | 1 to 2047<br>(appropriate range) | 0 to FFFF              | Target value of shading for green                                  |                                                                                                                     |
|        |          |        | TARGET-R | 1 to 2047<br>(appropriate range) | 0 to FFFF              | Target value of shading for red                                    |                                                                                                                     |
|        |          |        | OFST     |                                  |                        | Adjustment value of offset level on CIS                            |                                                                                                                     |
|        |          |        | OFST-B   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | OFST-G   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | OFST-R   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | OFST-O   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | OFST-E   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | GAIN     | 0 to 255                         | 0 to 255               | Adjustment value of gain level on CIS                              |                                                                                                                     |
|        |          |        | GAIN-B   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | GAIN-G   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | GAIN-R   |                                  |                        | not used                                                           |                                                                                                                     |
|        |          |        | GAIN-O   |                                  |                        | not used                                                           |                                                                                                                     |
|        | GAIN-E   |        |          | not used                         |                        |                                                                    |                                                                                                                     |
|        |          | IO     | R-CON    |                                  |                        |                                                                    | Display of I/O port of the Reader Controller PCB (Reader Assembly)                                                  |
|        |          |        | FEEDER   |                                  |                        |                                                                    | Display of I/O port of the Reader Controller PCB (DADF)                                                             |
|        |          | ADJUST | ADJ-XY   | ADJ-X                            | 20                     | 1 to 211,<br>1=0.1mm                                               | Adjustment of scanning system image lead edge position (image's scan-start position in vertical scanning direction) |
|        |          |        |          | ADJ-Y                            | 0                      | -25 to +25,<br>1=0.1mm                                             | Adjustment value of image scan-start position <Y-direction>                                                         |
|        |          |        |          | ADJ-S                            | 75                     | 25 to 500,<br>1=0.1mm                                              | Adjustment of CCD/CIS scan-start cell position (image scan-start position in horizontal scanning direction)         |
|        | ADJ-Y-DF |        |          | 0                                | -25 to +25,<br>1=0.1mm | Adjustment of horizontal scanning position at DF stream reading    |                                                                                                                     |
|        | STRD-POS |        |          | 100                              | 1 to 200               | Adjustment of CCD/CIS scan position at stream-reading mode with DF |                                                                                                                     |

| Item1  | Item2  | Item3  | Item4    | Initial setting | Appropriate guideline | Description                                                                                |
|--------|--------|--------|----------|-----------------|-----------------------|--------------------------------------------------------------------------------------------|
| READER | ADJUST | ADJ-XY | ADJ-X-MG | 0               | -10 to +10,<br>1=0.1% | Fine adjustment of magnification ratio in vertical scanning direction at copyboard reading |
|        |        |        | CCD      | W-PLT-X         | 8273                  | 1 to 9999                                                                                  |
|        |        |        | W-PLT-Y  | 8737            | 1 to 9999             | White label data (Y) entry with standard white plate                                       |
|        |        |        | W-PLT-Z  | 9427            | 1 to 9999             | White label data (Z) entry with standard white plate                                       |
|        |        |        | SH-TRGT  | 272             | 1 to 2047             | Shading target value of the standard white plate (backup)                                  |
|        |        |        | 50_RG    |                 |                       | not used                                                                                   |
|        |        |        | 50_GB    |                 |                       | not used                                                                                   |
|        |        |        | 100_RG   |                 |                       | not used                                                                                   |
|        |        |        | 100_GB   |                 |                       | not used                                                                                   |
|        |        |        | 50DF_RG  |                 |                       | not used                                                                                   |
|        |        |        | 50DF_GB  |                 |                       | not used                                                                                   |
|        |        |        | 100DF_RG |                 |                       | not used                                                                                   |
|        |        |        | 100DF_GB |                 |                       | not used                                                                                   |
|        |        |        | DFTAR-R  | 292             | 1 to 2047             | Shading target value (RED) entry when using DF (normal document scanning position)         |
|        |        |        | DFTAR-G  | 297             | 1 to 2047             | Shading target value (GREEN) entry when using DF (normal document scanning position)       |
|        |        |        | DFTAR-B  | 294             | 1 to 2047             | Shading target value (BLUE) entry when using DF (normal document scanning position)        |
|        |        |        | CCD-CHNG |                 |                       | not used                                                                                   |
|        |        |        | DFTAR-K  | 293             | 1 to 2047             | Black shading target value when using DF                                                   |
|        |        |        | MTF3-M1  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M2  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M3  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M4  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M5  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M6  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M7  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M8  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M9  |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M10 |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M11 |                 |                       | not used                                                                                   |
|        |        |        | MTF3-M12 |                 |                       | not used                                                                                   |
|        |        |        | MTF3-S1  |                 |                       | not used                                                                                   |

| Item1    | Item2  | Item3    | Item4    | Initial setting | Appropriate guideline | Description                               |
|----------|--------|----------|----------|-----------------|-----------------------|-------------------------------------------|
| READER   | ADJUST | CCD      | MTF3-S2  |                 |                       | not used                                  |
|          |        |          | MTF3-S3  |                 |                       | not used                                  |
|          |        |          | MTF3-S4  |                 |                       | not used                                  |
|          |        |          | MTF3-S5  |                 |                       | not used                                  |
|          |        |          | MTF3-S6  |                 |                       | not used                                  |
|          |        |          | MTF3-S7  |                 |                       | not used                                  |
|          |        |          | MTF3-S8  |                 |                       | not used                                  |
|          |        |          | MTF3-S9  |                 |                       | not used                                  |
|          |        |          | MTF3-S10 |                 |                       | not used                                  |
|          |        |          | MTF3-S11 |                 |                       | not used                                  |
|          |        |          | MTF3-S12 |                 |                       | not used                                  |
|          |        |          | MTF4-M1  |                 |                       | not used                                  |
|          |        |          | MTF4-M2  |                 |                       | not used                                  |
|          |        |          | MTF4-M3  |                 |                       | not used                                  |
|          |        |          | MTF4-M4  |                 |                       | not used                                  |
|          |        |          | MTF4-M5  |                 |                       | not used                                  |
|          |        |          | MTF4-M6  |                 |                       | not used                                  |
|          |        |          | MTF4-M7  |                 |                       | not used                                  |
|          |        |          | MTF4-M8  |                 |                       | not used                                  |
|          |        |          | MTF4-M9  |                 |                       | not used                                  |
|          |        |          | MTF4-M10 |                 |                       | not used                                  |
|          |        |          | MTF4-M11 |                 |                       | not used                                  |
|          |        |          | MTF4-M12 |                 |                       | not used                                  |
|          |        |          | MTF4-S1  |                 |                       | not used                                  |
|          |        |          | MTF4-S2  |                 |                       | not used                                  |
|          |        |          | MTF4-S3  |                 |                       | not used                                  |
|          |        |          | MTF4-S4  |                 |                       | not used                                  |
|          |        |          | MTF4-S5  |                 |                       | not used                                  |
|          |        |          | MTF4-S6  |                 |                       | not used                                  |
|          |        |          | MTF4-S7  |                 |                       | not used                                  |
|          |        |          | MTF4-S8  |                 |                       | not used                                  |
|          |        |          | MTF4-S9  |                 |                       | not used                                  |
|          |        | MTF4-S10 |          |                 | not used              |                                           |
| MTF4-S11 |        |          | not used |                 |                       |                                           |
| MTF4-S12 |        |          | not used |                 |                       |                                           |
|          |        | PSCAL    | OFST-P-K | 0               | -128 to 128           | Density adjustment at test print scanning |

| Item1  | Item2    | Item3    | Item4    | Initial setting | Appropriate guideline                                            | Description                                                                                                          |                                                                    |          |                                                                             |
|--------|----------|----------|----------|-----------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------|-----------------------------------------------------------------------------|
| READER | FUNCTION | INSTALL  | STRD-POS |                 |                                                                  | not used                                                                                                             |                                                                    |          |                                                                             |
|        |          |          | 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                                                         |                                                                                                                      |                                                                    |          | not used                                                                    |
|        |          |          |          |                 | SZDT-SW                                                          |                                                                                                                      |                                                                    |          | not used                                                                    |
|        |          |          |          |                 | DFDST-L1                                                         | 215                                                                                                                  | 0 - 255                                                            |          | Dirt detection level adjustment (between documents) during ADF use<br>0:OFF |
|        |          | DFDST-L2 |          |                 |                                                                  |                                                                                                                      |                                                                    | not used |                                                                             |
|        | KSIZE-SW |          |          |                 |                                                                  |                                                                                                                      | not used                                                           |          |                                                                             |
|        |          |          | UNK-A5R  | 0               | 0: Detected as custom paper size<br>1: Detected as A5-R (STMT-R) | The setting to detect a custom paper size that is smaller than A4-R (LTR-R) by the copyboard original size detection |                                                                    |          |                                                                             |
|        |          | USER     | SIZE-DET | 1               | 0: OFF<br>1: ON                                                  | ON/OFF setting of the original size detection                                                                        |                                                                    |          |                                                                             |

| Item1  | Item2    | Item3    | Item4 | Initial setting | Appropriate guideline                                            | Description                                                                                                    |
|--------|----------|----------|-------|-----------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| FEEDER | ADJUST   | 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                                                         |
|        |          | LA-SPD2  |       |                 | -30 - 30                                                         | Adjustment of original feed speed at Feeder stream reading (back side)                                         |
|        |          | DOC-LNGH |       |                 |                                                                  | not used                                                                                                       |
|        | FUNCTION | MTR-CHK  |       |                 | 0 - 1                                                            | Operation check of the motors: specify a motor                                                                 |
|        |          | FEED-CHK |       |                 | 0 - 3                                                            | Checking the passage of paper for ADF                                                                          |
|        |          | CL-CHK   |       |                 |                                                                  | not used                                                                                                       |
|        |          | CL-ON    |       |                 |                                                                  | not used                                                                                                       |
|        |          | FAN-CHK  |       |                 |                                                                  | not used                                                                                                       |
|        |          | FAN-ON   |       |                 |                                                                  | not used                                                                                                       |
|        |          | SL-CHK   |       |                 | 0 - 4                                                            | Checking the ADF solenoid                                                                                      |
|        |          | SL-ON    |       |                 |                                                                  | Starting the solenoid operation                                                                                |
|        |          | MTR-ON   |       |                 |                                                                  | Starting the motor operation                                                                                   |
|        |          | ROLL-CLN |       |                 |                                                                  | not used                                                                                                       |
|        |          | FEED-ON  |       |                 |                                                                  | Checking the passage of paper with ADF                                                                         |
|        | OPTION   | UNK-A5R  |       | 0               | 0: Detected as custom paper size<br>1: Detected as A5-R (STMT-R) | The setting to detect a custom paper size that is smaller than A4-R (LTR-R) by the ADF original size detection |

T-8-32

## ■ SCAN SW

### ● SW05

Paper size type setting for DF

| Bit | Function                                   | 1      | 0       |
|-----|--------------------------------------------|--------|---------|
| 0   | A configuration (same as AB configuration) | Enable | Disable |
| 1   | AB configuration                           | Enable | Disable |
| 2   | Inch configuration                         | Enable | Disable |
| 3   | not used                                   | -      | -       |
| 4   | not used                                   | -      | -       |
| 5   | not used                                   | -      | -       |
| 6   | not used                                   | -      | -       |
| 7   | not used                                   | -      | -       |

T-8-33

## ■ Numeric Parameter Settings (Numeric Prama.)

### ● 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.

### ● 135: Leading edge trimming length when performing fax operation using the Copyboard (0.1 mm)

As the value is incremented by "1", the leading edge non-image width is increased by 0.1mm.

### ● 138: Leading edge frame length when performing copy operation using the Copyboard (0.1 mm)

As the value is incremented by 1, the image position moves to the trailing edge side by 0.1mm.

### ● 145: Leading edge trimming length when performing fax operation using the ADF (0.1 mm)

As the value is incremented by "1", the leading edge non-image width is increased by 0.1mm.

### ● 146: Trailing edge trimming length when performing fax operation using the ADF (0.1 mm)

As the value is incremented by "1", the trailing edge non-image width is increased by 0.1mm.

### ● 147: Left-right frame length when performing fax operation using the ADF (0.1 mm)

As the value is incremented by 1, the image position moves to the right edge side by 0.1mm.

### ● 148: Leading edge frame length when performing copy operation using the ADF (0.1 mm)

As the value is incremented by 1, the image position moves to the trailing edge side by 0.1mm.

### ● 165: Leading edge frame length when performing SEND SCAN using the Copyboard (0.1 mm)

As the value is incremented by 1, the image position moves to the trailing edge side by 0.1mm.

### ● 168: Leading edge frame length when performing SEND SCAN using the ADF (0.1 mm)

As the value is incremented by 1, the image position moves to the trailing edge side by 0.1mm.

### ● 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 7 : B_OFICIO 8 : OFICIO 9 : E_OFICIO 10 : F4A
```

To enable the change in this service mode, the following settings need to be changed:

```
#SCAN > #SCAN SW > SW05,
#SYSTEM > #SYSTEM SW > SW57
```

When 1 to 5, 7 to 9 are set

```
#SCAN > #SCAN SW > SW05 2 (Inch configuration)
#SYSTEM > #SYSTEM SW > SW57 2 (Inch configuration)
```

When 10 is set

```
#SCAN > #SCAN SW > SW05 0 or 1 (A configuration, AB configuration)
#SYSTEM > #SYSTEM SW > SW57 1 or 0 (A configuration, AB configuration)
```



## ● 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  
4: G\_LTR\_R 6: K\_LGL\_R 7: EXE\_R

To enable the change in this service mode, the following settings need to be changed:

#SCAN > #SCAN SW > SW05,  
#SYSTEM > #SYSTEM SW > SW57

When 1, 2, 4, 7 are set

#SCAN > #SCAN SW > SW05 2 (Inch configuration)  
#SYSTEM > #SYSTEM SW > SW57 2 (Inch configuration)

When 6 is set

#SCAN > #SCAN SW > SW05 0 or 1 (A configuration, AB configuration)  
#SYSTEM > #SYSTEM SW > SW57 1 or 0 (A configuration, AB configuration)

## ■ 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 main controller PCB.

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 main controller PCB.

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 main controller PCB.

Appropriate guideline :1 to 2047

### ● #SCAN> READER> DISPLAY> CCD> OFST

Adjustment value of offset level on CIS

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

Appropriate guideline :0 to 255

### ● #SCAN> READER> DISPLAY> CCD> GAIN

Adjustment value of gain level on CIS

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

Appropriate guideline :0 to 255

### ● #SCAN> READER> I/O> R-CON> P001

Display of I/O port of the Reader Controller PCB (Reader Assembly)

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

| Bit     | Name                          | Display contents                   | Remarks |
|---------|-------------------------------|------------------------------------|---------|
| Bit0    | ADF Open/Close Sensor (PS23)  | 1: Open, 0: Close                  |         |
| Bit1    | CIS HP Sensor (PS24)          | 1: HP                              |         |
| Bit2    | Not used                      |                                    |         |
| Bit3    | Not used                      |                                    |         |
| Bit4    | Original Size Sensor 1 (PS22) | 1: Document present 0: No document |         |
| Bit5    | Original Size Sensor 2 (PS21) | 1: Document present 0: No document |         |
| Bit6    | Not used                      |                                    |         |
| Bit7    | Not used                      |                                    |         |
| Bit8-15 | Not used                      |                                    |         |

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### ● #SCAN> READER> I/O> FEEDER> P001

Display of I/O port of the Reader Controller PCB (DADF)

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

| Bit   | Name                                    | Display contents                                          | Remarks |
|-------|-----------------------------------------|-----------------------------------------------------------|---------|
| Bit0  | Document Width Detection Sensor (PS31)  | 1: A4-R (LTR-R) or larger,<br>0: Smaller than A4R (LTR-R) |         |
| Bit1  | Not used                                |                                                           |         |
| Bit2  | Document Length Detection Sensor (PS32) | 1: LGL or larger, 0: Smaller than LGL                     |         |
| Bit3  | Not used                                |                                                           |         |
| Bit4  | Not used                                |                                                           |         |
| Bit5  | Read Sensor (PS25)                      | 1: Document present 0: No document                        |         |
| Bit6  | Timing Sensor (PS29)                    | 1: Document present 0: No document                        |         |
| Bit7  | Registration Sensor (PS26)              | 1: Document present 0: No document                        |         |
| Bit8  | Delivery/Reverse Sensor (PS27)          |                                                           |         |
| Bit9  | Lower Reverse Sensor (PS28)             | 1: Document present 0: No document                        |         |
| Bit10 | Not used                                |                                                           |         |
| Bit11 | Not used                                |                                                           |         |
| Bit12 | Not used                                |                                                           |         |
| Bit13 | Document Set Sensor (PS30)              | 1: Document present 0: No document                        |         |
| Bit14 | ADF connection check                    | 1: Connected, 0: Not connected                            |         |
| Bit15 | Not used                                |                                                           |         |

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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:**

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:**

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 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:**

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 DF stream reading.

Adjust horizontal scanning position at DF stream reading. (Because the Original Tray at Feeder side does not have mechanism to adjust side registration.)

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

**NOTE:**

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-POS

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

This item must not be normally used.

**NOTE:**

If changing the setting value of this item, be sure to Note the changed value on the reader's service label.

### ● #SCAN> READER> ADJUST> ADJ-XY> ADJ-X-MG

Fine adjustment of magnification ratio in vertical scanning direction at copyboard reading

Perform fine adjustment of magnification ratio in vertical scanning direction at copyboard reading.

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

**NOTE:**

If changing the setting value of this item, be sure to Note the changed value on the reader's 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.

Execute this mode only when necessary. Do not execute it when unnecessary.

**NOTE:**

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 Note 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> 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> DFTAR-K

Black shading target value when using DF.

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> CCD> CCD-ADJ

Gain adjustment of analog processor block (on CCD PCB).

The gain of LED of CIS is corrected to set the CIS parameter automatically. (AGC adjustment)

Execute this after replacing the CIS 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> DF-WLVL3

ADF white level adjustment (platen board cover scan).

#### NOTE:

Scan a blank sheet on the platen and adjust the white level.

### ● #SCAN> READER> FUNCTION> CCD> DF-WLVL4

ADF white level adjustment (DF scan).

#### NOTE:

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 CIS unit.

### ● #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> DFDST-L1

Dirt detection level adjustment (between documents) 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> UNK-A5R

The setting to detect a custom paper size that is smaller than A4-R (LTR-R) by the copyboard original size detection

This is the setting whether to detect a custom paper size that is smaller than A4R (LTRR) as A5R (STMTR) by the copyboard original size detection.

0: Detected as custom paper size

1: Detected as A5R (STMTR)

### ● #SCAN> READER> OPTION> USER> SIZE-DET

ON/OFF setting of the original size detection

To set ON/OFF of the original size detection.

0: OFF

1: ON

### ● #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> LA-SPD2

Adjustment of original feed speed in backside stream reading mode

As the setting value is increased, the speed is increased (image is reduced).

### ● #SCAN> FEEDER> FUNCTION> MTR-CHK

Operation check for the ADF motor, etc.

Specify a paper feed mode to check passage of paper by the DF. Select #SCAN> FEEDER> FUNCTION> MTR-ON to execute this.

0: Feed Motor (M11)

1: Delivery Reversal Motor (M12)

### ● #SCAN> FEEDER> FUNCTION> FEED-CHK

Checking the passage of paper for ADF.

Specify a paper feed mode to check passage of paper by the DF. Select #SCAN> FEEDER> FUNCTION> FEED-ON to execute this.

0: 1-sided feed mode

1: 2-sided feed mode

2: not used

3: not used

### ● #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: Pickup Solenoid (SL5)

1: Registration Solenoid (SL4)

2: Flapper Solenoid 1 (SL7)

3: Flapper Solenoid 2 (SL6)

4: Roller Release Solenoid (SL8)

### ● #SCAN> FEEDER> FUNCTION> SL-ON

Start of solenoid operation

Selecting 1 starts solenoid operation.

### ● #SCAN> FEEDER> FUNCTION> MTR-ON

Starting the motor operation.

Selecting 1 start motor operation.

### ● #SCAN> FEEDER> FUNCTION> FEED-ON

Checking the passage of paper with ADF.

Selecting 1 starts checking passage of paper by the ADF.

### ● #SCAN> FEEDER> OPTION> UNK-A5R

The setting to detect a custom paper size that is smaller than A4-R (LTR-R) by the ADF original size detection

This is the setting whether to detect a custom paper size that is smaller than A4R (LTRR) as A5R (STMTR) by the ADF original size detection.

0: Detected as custom paper size

1: Detected as A5R (STMTR)



## #PRINT Numerin Parameter Settings (Numeric Prama).

| Item    | No.         | Default  | Setting range | Function                                           |
|---------|-------------|----------|---------------|----------------------------------------------------|
| #Bit SW | SW01- SW12  |          |               | Not used                                           |
|         | SW13        | 00000001 |               | Stopping of drive of the Delivery Cooling FAN      |
|         | SW14:       | 00000100 |               | Special mode setting                               |
|         | SW15        | 00000010 |               | Interruption of staple job when there is no staple |
|         | SW16: - 50: |          |               | Not used                                           |

| Item    | No.        | Default | Setting range                | Function                                                                        |
|---------|------------|---------|------------------------------|---------------------------------------------------------------------------------|
| #PRINT  | 01: - 52:  |         |                              | Not used                                                                        |
| NUMERIC | 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     | 0 to 227, one unit = 0.1 mm  | Adjustment of the registration loop volume (Manual tray)                        |
|         | 59:        | 163     | 0 to 227, one unit = 0.1 mm  | Adjustment of the registration loop volume (Cassette)                           |
|         | 60:        |         |                              | Not used                                                                        |
|         | 61:        | 145     | 0 to 227, 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:- 133:  |         |                              | Not used                                                                        |
|         | 134:       | 212     | 0 to 255                     | Laser light intensity adjustment (normal speed)                                 |
|         | 135:       | 183     | 0 to 255                     | Laser light intensity adjustment (low speed)                                    |
|         | 136:       | 1000    | 488 to 1511                  | Adjustment of the point to start writing in main scanning direction (A)         |
|         | 137:- 139: |         |                              | Not used                                                                        |
|         | 144:       |         |                              | Not used                                                                        |
|         | 145:       | 1000    | 488 to 1511                  | Adjustment of the magnification to write image in main scanning direction (A-B) |
|         | 146:       | 1000    | 488 to 1511                  | Adjustment of the magnification to write image in main scanning direction (A-C) |
|         | 147:       | 1000    | 488 to 1511                  | Adjustment of the magnification to write image in main scanning direction (A-D) |
|         | 148:       | 1000    | 488 to 1511                  | Adjustment of the point to start writing in main scanning direction (A-B)       |
|         | 149:       | 1000    | 488 to 1511                  | Adjustment of the point to start writing in main scanning direction (A-C)       |
|         | 150:       | 1000    | 488 to 1511                  | Adjustment of the point to start writing in main scanning direction (A-D)       |
|         | 151:       | 100     | 0 to 227                     | Developing bias offset for DC                                                   |
|         | 152:       | 100     | 0 to 227                     | Primary charge offset for DC                                                    |
|         | 153:       | 100     | 0 to 227                     | Primary charge offset for AC                                                    |
|         | 154:       | 100     | 0 to 227, one unit = 0.1 mm  | Adjustment of the registration loop volume (Thick paper)                        |
|         | 155:       | 100     | 0 to 227, one unit = 0.1 mm  | Adjustment of the registration loop volume (Special paper)                      |

| Item | No.        | Default | Setting range               | Function                                                                |
|------|------------|---------|-----------------------------|-------------------------------------------------------------------------|
|      | 156:       | 100     | 0 to 227, 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: -169: |         |                             | Not used                                                                |
|      | 170:       | 0       | 0 to                        | Charging frequency setting                                              |
|      | 171: -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                      | Setting of fixing auto cleaning                                         |
|      | 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<br>CST | CAS1  | CAS1-U1 | 0       | 26: OFI, 37: M-OFI, 24: FLSP, 25: A-FLSP, 42: FA4, 34: G-LGL 0: default | Cassette 1 paper size group special, standard-size paper entry |
|               |       | CAS1-U2 | 0       | 32: G-LTR-R, 23: K-LGL-R, 0: default                                    |                                                                |
|               |       | CAS1-U3 | 0       | Not used                                                                |                                                                |
|               |       | CAS1-U4 | 0       | 28: B-OFI, 0: default                                                   |                                                                |
|               | CAS2  | CAS2-U1 | 0       | 26: OFI, 37: M-OFI, 24: FLSP, 25: A-FLSP, 42: FA4, 34: G-LGL 0: default | Cassette 2 paper size group special, standard-size paper entry |
|               |       | CAS2-U2 | 0       | 32: G-LTR-R, 23: K-LGL-R, 0: default                                    |                                                                |
|               |       | CAS2-U3 | 0       | Not used                                                                |                                                                |
|               |       | CAS2-U4 | 0       | 28: B-OFI, 0: default                                                   |                                                                |
|               | CAS3  | CAS3-U1 | 0       | 26: OFI, 37: M-OFI, 24: FLSP, 25: A-FLSP, 42: FA4, 34: G-LGL 0: default | Cassette 3 paper size group special, standard-size paper entry |
|               |       | CAS3-U2 | 0       | 32: G-LTR-R, 23: K-LGL-R, 0: default                                    |                                                                |
|               |       | CAS3-U3 | 0       | Not used                                                                |                                                                |
|               |       | CAS3-U4 | 0       | 28: B-OFI, 0: default                                                   |                                                                |
|               | CAS4  | CAS4-U1 | 0       | 26: OFI, 37: M-OFI, 24: FLSP, 25: A-FLSP, 42: FA4, 34: G-LGL 0: default | Cassette 4 paper size group special, standard-size paper entry |
|               |       | CAS4-U2 | 0       | 32: G-LTR-R, 23: K-LGL-R, 0: default                                    |                                                                |
|               |       | CAS4-U3 | 0       | Not used                                                                |                                                                |
|               |       | CAS4-U4 | 0       | 28: B-OFI, 0: default                                                   |                                                                |

T-8-37

## Service Soft Switch Settings (PRINTER)

### SSSW-SW13

List of Functions

| Bit | Function                                      | 1       | 0           |
|-----|-----------------------------------------------|---------|-------------|
| 0   | not used                                      | -       | -           |
| 1   | Stopping of drive of the Delivery Cooling FAN | Stopped | Not stopped |
| 2   | not used                                      | -       | -           |
| 3   | not used                                      | -       | -           |
| 4   | not used                                      | -       | -           |
| 5   | not used                                      | -       | -           |
| 6   | not used                                      | -       | -           |
| 7   | not used                                      | -       | -           |

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Detailed Discussions of Bit 1

When "1" is set, the drive of the Delivery Cooling FAN is stopped.

This stops the airflow to the front of the product, which can reduce the spread of odor to the front.

Instead, the ability to cool down delivered paper decreases, which causes delivery adhesion more likely to occur.

Default: 0

### 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 |
| 5   | not used                              | -      | -       |
| 6   | not used                              | -      | -       |
| 7   | not used                              | -      | -       |

T-8-39

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.

Detailed 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-SW15

### List of Functions

| Bit | Function                                           | 1           | 0                  |
|-----|----------------------------------------------------|-------------|--------------------|
| 0   | not used                                           | -           | -                  |
| 1   | Interruption of staple job when there is no staple | Interrupted | Printing continued |
| 2   | not used                                           | -           | -                  |
| 3   | not used                                           | -           | -                  |
| 4   | not used                                           | -           | -                  |
| 5   | not used                                           | -           | -                  |
| 6   | not used                                           | -           | -                  |
| 7   | not used                                           | -           | -                  |

T-8-40

Detailed Discussions of Bit 1

The operation when there is no staple during staple job processing can be set.

## ■ List of Functions

### ● 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%)

### ● 134: Laser light intensity adjustment (normal speed)

Use this mode when reproductivity of thin lines is poor or a problem occurs to laser power (light intensity).

Initial value: 212 set as a central value

To increase (strengthen) the light intensity, set the value larger than the initial value.

To decrease (weaken) the light intensity, set the value smaller than the initial value.

Possible setting range

Initial value: 0 to 255 (actual effective range is 138 to 255) with 212 set as a central value

### ● 135: Laser light intensity adjustment (low speed)

Use this mode when reproductivity of thin lines is poor or a problem occurs to laser power (light intensity).

Initial value: 183 set as a central value

To increase (strengthen) the light intensity, set the value larger than the initial value.

To decrease (weaken) the light intensity, set the value smaller than the initial value.

Possible setting range

Initial value: 0 to 255 (actual effective range is 138 to 255) with low speed 183 set as a central value

### ● 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.

### ● 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 C 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: Adjustment of the magnification to write image in laser's main scanning direction (A-D)

Magnification between lasers A and D.

Amount of adjustment of the magnification of laser D 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:   | +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.

0: Not cleaned.

1: Cleaning control temperature: 225°C, Cleaning time: 60 sec, Cleaning interval: 500 sheets

2: Cleaning control temperature: 225°C, Cleaning time: 60 sec, Cleaning interval: 200 sheets

3: Cleaning control temperature: 225°C, Cleaning time: 60 sec, Cleaning interval: 100 sheets

### ● 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                          |

### ● 170: Charging frequency setting

For a user in an environment where image smear is less likely to occur, frequency can be switched to enable the operation for better image quality.

When "1" is set, it becomes image quality priority mode. However, image smear is likely to occur.

Default: 0

### ● 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 first page of printing) to -40°C before fixing.

Use this parameter to reduce the FCOT.

0:OFF  
 1:ON

### ● 178: Setting of fixing auto cleaning

You can set whether to execute the 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, 37: M-OFI, 24: FLSP, 25: A-FLSP, 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, 23: K-LGL-R, 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 28: B-OFI, 0: default

 #NETWORK

 Configuration

| Item        | SW No. | Bit      | Setting ranges | Default value                             | Description                               |                                                                                                                                                                                                                                                                 |
|-------------|--------|----------|----------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #NETWORK SW | 1      | -        | -              | -                                         | Not used                                  |                                                                                                                                                                                                                                                                 |
|             | 2      | SEND 1   |                |                                           |                                           |                                                                                                                                                                                                                                                                 |
|             |        | 0-2      | -              | -                                         | -                                         | Not used                                                                                                                                                                                                                                                        |
|             |        | 3        | 0 or 1         | 0<br>(Disabled)                           | 0<br>(Disabled)                           | Flag to enable mail header printing<br>When "1" is set, mail header is added to the print data at the time of e-mail reception.<br>0: Disabled, 1: Enabled                                                                                                      |
|             |        | 4-7      | -              | -                                         | -                                         | Not used                                                                                                                                                                                                                                                        |
|             | 3      | SEND 2   |                |                                           |                                           |                                                                                                                                                                                                                                                                 |
|             |        | 0-2      | -              | -                                         | -                                         | Not used                                                                                                                                                                                                                                                        |
|             |        | 3        | 0 or 1         | 1 (Not rotated)                           | 1 (Not rotated)                           | Rotation transmission "No" flag<br>0: Rotated, 1: Not rotated                                                                                                                                                                                                   |
|             |        | 4-6      | -              | -                                         | -                                         | Not used                                                                                                                                                                                                                                                        |
|             | 7      | SEND 3   |                |                                           |                                           |                                                                                                                                                                                                                                                                 |
|             |        | 0        | 0 or 1         | 1<br>(Enabled)                            | 1<br>(Enabled)                            | Flag to enable SMTP authentication algorithm (CRAM-MD5)<br>0: Disabled, 1: Enabled                                                                                                                                                                              |
|             |        | 1        | 0 or 1         | 1<br>(Enabled)                            | 1<br>(Enabled)                            | Flag to enable SMTP authentication algorithm (PLAIN)<br>0: Disabled, 1: Enabled                                                                                                                                                                                 |
|             |        | 2        | 0 or 1         | 1<br>(Enabled)                            | 1<br>(Enabled)                            | Flag to enable SMTP authentication algorithm (LOGIN)<br>0: Disabled, 1: Enabled                                                                                                                                                                                 |
|             | 3-7    | -        | -              | -                                         | Not used                                  |                                                                                                                                                                                                                                                                 |
|             | 5      | MIB/SNMP |                |                                           |                                           |                                                                                                                                                                                                                                                                 |
|             |        | 0        | 0 or 1         | 00 (Enabled)                              | 00 (Enabled)                              | Billing counter MIB function flag<br>bit0=0, bit1=0: Enabled to obtain all the billing counter values<br>bit0=0, bit1=1: Enabled to obtain only the billing counter values displayed on UI<br>bit0=1, bit1=0: Disabled to obtain all the billing counter values |
|             |        | 1        | 0 or 1         | to obtain all the billing counter values) | to obtain all the billing counter values) |                                                                                                                                                                                                                                                                 |
|             |        | 2        | 0 or 1         | 00 (RW)                                   | 00 (RW)                                   | SNMP (canon_admin) access rights<br>bit2=0, bit3=0: RW<br>bit2=0, bit3=1: RO<br>bit2=1, bit3=0: Disabled<br>bit2=1, bit3=1: OFF                                                                                                                                 |
|             |        | 3        | 0 or 1         |                                           |                                           |                                                                                                                                                                                                                                                                 |

| Item        | SW No. | Bit                                         | Setting ranges | Default value                      | Description                                                                                                                    |                                                                                                                                                    |
|-------------|--------|---------------------------------------------|----------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| #NETWORK SW | 5      | 4                                           | 0 or 1         | 00 (RW)                            | SNMP (canon_user) access rights<br>bit4=0, bit5=0: RW<br>bit4=0, bit5=1: RO<br>bit4=1, bit5=0: Disabled<br>bit4=1, bit5=1: OFF |                                                                                                                                                    |
|             |        | 5                                           | 0 or 1         |                                    |                                                                                                                                |                                                                                                                                                    |
|             |        | 6-7                                         | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             | 6-7    | -                                           | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             | 8      | SEND 4                                      |                |                                    |                                                                                                                                |                                                                                                                                                    |
|             |        | 0                                           | 0 or 1         | 1 (Rotation specifications of fax) | 1 (Rotation specifications of fax)                                                                                             | Rotation specifications of I-Fax transmission<br>0: Comply with rotation specifications of e-mail<br>1: Comply with rotation specifications of fax |
|             |        | 1-7                                         | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             | 9      | -                                           | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             | 10     | Network Configuration                       |                |                                    |                                                                                                                                |                                                                                                                                                    |
|             |        | 0-2                                         | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             |        | 3                                           | 0 or 1         | 0<br>(Enabled)                     | 0<br>(Enabled)                                                                                                                 | Acquisition of host name by DHCP (Option 12)<br>0: Enabled, 1: Disabled                                                                            |
|             |        | 4                                           | 0 or 1         | 0<br>(Enabled)                     | 0<br>(Enabled)                                                                                                                 | Registration of host name by DHCP (Option 81)<br>0: Enabled, 1: Disabled                                                                           |
|             |        | 5-7                                         | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             | 11     | Network Configuration (IPv6)                |                |                                    |                                                                                                                                |                                                                                                                                                    |
|             |        | 0                                           | 0 or 1         | 0 (IPv6)                           | 0 (IPv6)                                                                                                                       | DNS inquiry priority transport<br>0: IPv6, 1: IPv4                                                                                                 |
|             |        | 1-7                                         | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             | 12     | SEND 6 (Destination specified transmission) |                |                                    |                                                                                                                                |                                                                                                                                                    |
|             |        | 0                                           | 0 or 1         | 000 (TIFF)                         | 000 (TIFF)                                                                                                                     | B/W image format at the time of destination specified transmission                                                                                 |
|             |        | 1                                           | 0 or 1         |                                    |                                                                                                                                | 000 (all values are "0"): TIFF                                                                                                                     |
|             |        | 2                                           | 0 or 1         |                                    |                                                                                                                                | 001 (only the value of bit2 is "1"): PDF                                                                                                           |
|             |        | 3                                           | 0 or 1         | 000 (JPEG)                         | 000 (JPEG)                                                                                                                     | Color image format at the time of destination specified transmission                                                                               |
|             |        | 4                                           | 0 or 1         |                                    |                                                                                                                                | 000 (all values are "0"): JPEG                                                                                                                     |
|             |        | 5                                           | 0 or 1         |                                    |                                                                                                                                | 001 (only the value of bit5 is "1"): PDF                                                                                                           |
|             | 6-7    | -                                           | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
|             | 13     | SEND 7 (Re-transfer after transfer error)   |                |                                    |                                                                                                                                |                                                                                                                                                    |
|             |        | 0                                           | 0 or 1         | 000 (TIFF)                         | 000 (TIFF)                                                                                                                     | B/W image format when performing transfer again after transfer error                                                                               |
|             |        | 1                                           | 0 or 1         |                                    |                                                                                                                                | 000 (all values are "0"): TIFF                                                                                                                     |
| 2           |        | 0 or 1                                      |                |                                    | 001 (only the value of bit2 is "1"): PDF                                                                                       |                                                                                                                                                    |
| 3           |        | 0 or 1                                      | 000 (JPEG)     | 000 (JPEG)                         | Color image format when performing transfer again after transfer error                                                         |                                                                                                                                                    |
| 4           |        | 0 or 1                                      |                |                                    | 000 (all values are "0"): JPEG                                                                                                 |                                                                                                                                                    |
| 5           |        | 0 or 1                                      |                |                                    | 001 (only the value of bit5 is "1"): PDF                                                                                       |                                                                                                                                                    |
| 6-7         |        | -                                           | -              | -                                  | -                                                                                                                              | Not used                                                                                                                                           |
| 14-40       | -      | -                                           | -              | -                                  | Not used                                                                                                                       |                                                                                                                                                    |

| Item        | SW No. | Bit                  | Setting ranges | Default value | Description                                                                                                                 |
|-------------|--------|----------------------|----------------|---------------|-----------------------------------------------------------------------------------------------------------------------------|
| #NETWORK SW | 41     | Network debug switch |                |               |                                                                                                                             |
|             |        | 0                    | -              | -             | Not used                                                                                                                    |
|             |        | 1                    | 0 or 1         | 0<br>(Hour)   | NTP polling interval<br>When "1" is set, the unit of NTP polling time set on UI is handled as minute.<br>0: Hour, 1: Minute |
|             |        | 2-7                  | -              | -             | Not used                                                                                                                    |
|             |        | 42-50                | -              | -             | Not used                                                                                                                    |

T-8-41

| Item             | No.   | Setting range | Default value | Description                                                                                                                                                                                                        |
|------------------|-------|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #NETWORK NUMERIC | 1-7   | -             | -             | Not used                                                                                                                                                                                                           |
|                  | 8     | 0-255         | 0             | Number of auto line feeds for text<br>To set the number of bytes for auto line feed when sending data with no line feed via e-mail.<br>0: 60 bytes<br>1 to 19: 20 bytes<br>20 and above: "setting value - 2" bytes |
|                  | 9-10  | -             | -             | Not used                                                                                                                                                                                                           |
|                  | 11    | 0-65535       | 0             | To set the time from after POP before SMTP authentication to data transmission. (Unit: 100msec)<br>When the setting value is "0", 300msec is set.                                                                  |
|                  | 12    | 0-65535       | 600           | To set the termination timer when there is no reception data at the time of POP reception/SMTP reception. (Unit: sec)                                                                                              |
|                  | 13-29 | -             | -             | Not used                                                                                                                                                                                                           |
|                  | 30    | 0-65535       | 80            | To set wait time when buffer failed to be obtained with network print. (Unit: msec)                                                                                                                                |
|                  | 31    | 0-65535       | 1000          | To set the e-mail reception interval with POP when there are 2 or more e-mails in the mail server.(Unit: msec)                                                                                                     |
|                  | 32-33 | -             | -             | Not used                                                                                                                                                                                                           |
|                  | 34    | 0, 10-120     | 0             | To set the timeout value at IEEE802.1X authentication. (Unit: sec)<br>When the setting value is "0", 30msec is set.                                                                                                |
|                  | 35-50 | -             | -             | Not used                                                                                                                                                                                                           |

T-8-42

## #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-8-43

### 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 changes that the text color is judged as black, increase the setting value.

### Confirmation of contents of CA certificate

Selecting the service mode "#NETWORK>#CERTIFICATE>#CA-CERTIFICATE" enables confirmation of the contents of the installed CA certificate.

## #SYSTEM

### Configuration

| Item       | No.         | Default  | Description                                                      |
|------------|-------------|----------|------------------------------------------------------------------|
| #SYSTEM SW | SW01        |          | Not used                                                         |
|            | SW02        | 00000000 | Import/export via USB                                            |
|            | SW03        | 00000000 | Display of daylight saving time                                  |
|            | SW04        |          | Not used                                                         |
|            | SW05        | 11001000 | Inhibition of export of password in address book                 |
|            | SW06- SW08  |          | Not used                                                         |
|            | SW9         | 00000000 | Forced invalidity of uniFLOW                                     |
|            | SW10        | 00000000 | PS data protocol menu display/nondisplay<br>Extra length setting |
|            | SW11 - SW50 |          | Not used                                                         |

T-8-44

| Item            | No.        | Default | Setting range         | Description                                            |
|-----------------|------------|---------|-----------------------|--------------------------------------------------------|
| #SYSTEM NUMERIC | 01: - 19:  |         |                       | Not used                                               |
|                 | 20:        | 0       | 0: Display<br>1: Hide | Display setting of setting navigation (other settings) |
|                 | 21: - 38:  |         |                       | Not used                                               |
|                 | 39:        | 4       | 0-5                   | Change of default of LDAP advanced search condition    |
|                 | 40:        |         |                       | Not used                                               |
|                 | 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-8-45

### Details of Bit Switch

#### SW02

List of Functions

| Bit | Function                 | 1                                 | 0              |
|-----|--------------------------|-----------------------------------|----------------|
| 0   |                          | -                                 | -              |
| 1   |                          | -                                 | -              |
| 2   |                          | -                                 | -              |
| 3   |                          | -                                 | -              |
| 4   |                          | -                                 | -              |
| 5   |                          | -                                 | -              |
| 6   | To import/export via USB | Startup in USB import/export mode | Normal startup |
| 7   |                          | -                                 | -              |

T-8-46

Detailed Discussions of Bit 6

When "1" is set, startup is executed in USB import/export mode.

#### SW03

List of Functions

| Bit | Function                         | 1                    | 0      |
|-----|----------------------------------|----------------------|--------|
| 0   | To display daylight saving time. | Daylight saving time | Normal |
| 1   |                                  | -                    | -      |
| 2   |                                  | -                    | -      |
| 3   |                                  | -                    | -      |
| 4   |                                  | -                    | -      |
| 5   |                                  | -                    | -      |
| 6   |                                  | -                    | -      |
| 7   |                                  | -                    | -      |

T-8-47

Detailed Discussions of Bit 0

Display whether it is on daylight saving time.

Default: 0

The value is set to 1 when the following conditions are satisfied:

1. The daylight saving time function is set to ON during valid period of daylight saving time.
2. It falls within the valid period of daylight saving time when the daylight saving time function is ON.

&lt;Setting method of daylight saving time&gt;

The following shows a method to set daylight saving time.

Initial Setting/Registration &gt; Timer Settings &gt; Date/Time Settings &gt; Use daylight saving time: ON

#### 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-8-48

Detailed Discussions of Bit 7

Select whether to inhibit export of the password in the address book.



## ● SW09

### List of Functions

| Bit | Function                             | 1         | 0       |
|-----|--------------------------------------|-----------|---------|
| 0   | PS > Display/Hide data protocol menu | Displayed | Hide    |
| 1   | Long length setting                  | ON        | OFF     |
| 2   | User time setting flag               | Set       | Not set |
| 3   | Forced invalidity of uniFLOW         | ON        | OFF     |
| 4   |                                      | -         | -       |
| 5   |                                      | -         | -       |
| 6   |                                      | -         | -       |
| 7   |                                      | -         | -       |

T-8-49

#### Detailed Discussions of Bit 0

You can select whether to disable export of PWD in the address book.

Default: 0

#### Detailed Discussions of Bit 1

You can select whether to enable long length setting (to extend the range of user-defined size).

Default: 1

#### Detailed Discussions of Bit 2

Whether the user made time setting can be checked.

#### Detailed Discussions of Bit 3

Select whether to set the forced invalidity of uniFLOW.

Default: 0

If turning ON this switch, and turning OFF and then ON the device power while the uniFLOW function is in active state, the uniFLOW function is forcibly deactivated. In addition, when this switch is ON, Activate/Deactivate request from the server is ignored.

## ● SW10

### List of Functions

| Bit | Function                                                                         | 1      | 0       |
|-----|----------------------------------------------------------------------------------|--------|---------|
| 0   |                                                                                  | -      | -       |
| 1   | To set the display of installation NAVI "Setting screen for date and time".      | Hidden | Display |
| 2   | To set the display of installation NAVI "Registering user telephone number".     | Hidden | Display |
| 3   | To set the display of installation NAVI "Setting screen for user abbreviation".  | Hidden | Display |
| 4   | To set the display of installation NAVI "Selection screen on a line type basis". | Hidden | Display |
| 5   | To set the display of installation NAVI "Selection screen for reception mode".   | Hidden | Display |
| 6   | To set the display of installation NAVI "Setting screen for IP address".         | Hidden | Display |
| 7   |                                                                                  | -      | -       |

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#### Detailed Discussions of Bit 1

When "1" is set, "Setting screen for date and time" of the installation NAVI can be hidden.

#### Detailed Discussions of Bit 2

When "1" is set, "Registering user telephone number" of the installation NAVI can be hidden.

#### Detailed Discussions of Bit 3

When "1" is set, "Setting screen for user abbreviation" of the installation NAVI can be hidden.

#### Detailed Discussions of Bit 4

When "1" is set, "Selection screen on a line type basis" of the installation NAVI can be hidden.

#### Detailed Discussions of Bit 5

When "1" is set, "Selection screen for reception mode" of the installation NAVI can be hidden.

#### Detailed Discussions of Bit 6

When "1" is set, "Setting screen for IP address" of the installation NAVI can be hidden.

## ■ Details of System Numeric

### ● 20: Display setting of installation NAVI (Other settings)

When "1" is set, "Other settings" of the installation NAVI can be hidden.

Default: 0

### ● 39: Change of default of LDAP advanced search condition

Change of the default of the LDAP advanced search condition can be set.

0: Includes the next    1: Not include the next    2: Equivalent to the next    3: Not equivalent to the next    4: Starts with the next    5: Finishes with the next

### ● 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<br>Enter a card number to use.<br>(0 to 9999. One hundred cards are registered with the department ID beginning from the input card number in sequence.)<br>*1:1,000 cards if option ROM is mounted.<br>When a card number is entered, the following kinds of management information are initialized:<br>- Card name (department ID), beginning from the input card number.<br>- Password associated with the card |
|       | CC-SPSW | Control card I/F support setting<br>Set whether to support the control card I/F (CC-V) or not.<br>0: Do not support.<br>1: Support.                                                                                                                                                                                                                                                                                                                 |
|       | COIN    | Coin vendor change<br>Set the control card set display appearing on the operator station for vendor use.<br>0: Control card use<br>1: Coin vendor use                                                                                                                                                                                                                                                                                               |
|       | CONTROL | Set the PDL printer output control where the control card I/F (CC-V) is supported.<br>0: Enable printing without a card mounted.<br>1: Enable printing with a card mounted in position.                                                                                                                                                                                                                                                             |

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## #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.

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                      |

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## Parts counter list

| Item   | Counter  | Explanation                                                                       | Service life |
|--------|----------|-----------------------------------------------------------------------------------|--------------|
| DRBL-1 | TR-ROLL  | Transfer roller high-voltage ON count                                             | 180,000      |
|        | SP-SC_EL | Separation static charge eliminator high-voltage ON count                         | 90,000       |
|        | PT-DRM   | Photosensitive drum rotation count                                                | 90,000       |
|        | C1-SP-RL | Cassette 1 separation roller paper pass count                                     | 80,000       |
|        | C1-FD-RL | Cassette 1 feed roller paper pass count                                           | 80,000       |
|        | 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                                                  | 160,000      |
|        | WST-TNR  | Waste toner count                                                                 | 100,000      |
| DRBL-2 | OZ-FIL1  | The number of fed sheets accompanied with the drive of the Ozone Filter (FM1) Fan | 160,000      |
|        | C2-SP-RL | Cassette 2 separation roller paper pass count                                     | 80,000       |
|        | C2-FD-RL | Cassette 2 feed roller paper pass count                                           | 80,000       |
|        | C3-SP-RL | Cassette 3 separation roller paper pass count                                     | 80,000       |
|        | C3-FD-RL | Cassette 3 feed roller paper pass count                                           | 80,000       |
|        | C4-SP-RL | Cassette 4 separation roller paper pass count                                     | 80,000       |
|        | C4-FD-RL | Cassette 4 feed roller paper pass count                                           | 80,000       |

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## 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.



## Configuration

| Group    | Item     | Default | Setting range                                                              | Description                                                                                                   |
|----------|----------|---------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| INACTIVE | ST-SEND  |         |                                                                            | not used                                                                                                      |
|          | TR-SEND  |         |                                                                            | not used                                                                                                      |
|          | 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   |         |                                                                            | not used                                                                                                      |
|          | TR-EAM   |         |                                                                            | not used                                                                                                      |
|          | ST-ELA   |         |                                                                            | not used                                                                                                      |
|          | TR-ELA   |         |                                                                            | not used                                                                                                      |
|          | 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    |                                                                            |                                                                                                               |
| 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      |          |         |                                                                            | not used                                                                                                      |
| ELA      |          |         |                                                                            | not used                                                                                                      |
| 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 |                                                                                                               |

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## 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

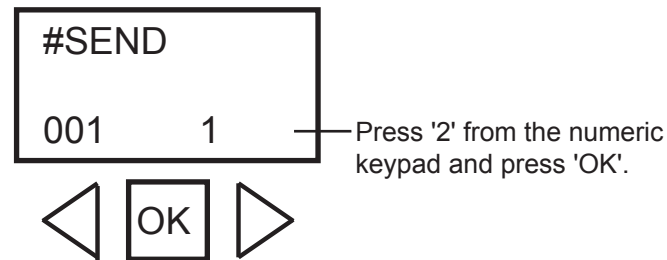
This service mode is used to invalidate a license under the assumption that, when a device is exceptionally replaced with another one due to a trouble (caused by the device), the license is transferred to another device. This operation is called "invalidating transfer of a license". Since it is possible 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 inactivation 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 inactivation certificate key is issued, the function is invalidated and becomes unavailable. When you report this function inactivation 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.



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- (6) Press 2 using the numeric key and press the OK key.

#### CAUTION:

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.
  - 0: The function is invalidated, or the license is transferred.
- (8) When you contact the contact section of the sales company and report a function inactivation 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<br>Setting range: 1 to 65535                                                                                                                                                                                                                                                                                                                          |
| CNT-DATE     |            |                                                                       | Setting of the date of sending the counter information to the server (Valid after input of license).<br>Set the start date of the schedule to send the counter information to the server using a third party expansion function of E-RDS.<br>Refer to the user mode date setting.<br>(12 digits: YYYYMMDDHHMM)<br>YYYY: Year MM: Month DD: Day<br>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).<br>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)                                                                                     |

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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     | Not used.                                                                                                                                          |
| 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.

```

16/10 2009 14:10 0001

*** SYSTEM DATA LIST ***

#SSSW
SW01 00000000
SW02 10000000
SW03 00000000
SW04 10000000
SW05 00000000
SW06 10000000
SW07 00000000
SW08 00000000
SW09 00000000
SW10 00000000
SW11 00000000
SW12 00000011
SW13 00000000
SW14 00000000
SW15 00000000
SW16 00000000
SW17 00000000
SW18 00000000
SW19 00011000
SW20 00000000
SW21 00000000
SW22 00000000
SW23 00000000
SW24 00000000
SW25 00000000
SW26 00100000
SW27 00000000
SW28 00000000
SW29 00000000
SW30 00000000
SW31 00000000
SW32 00000000
SW33 00000000
SW34 00000000
SW35 00000000
SW36 00000000
SW37 00000000
SW38 00000000
SW39 00000000
SW40 00000000
SW41 00000000
SW42 00000000
SW43 00000000
SW44 00000000
SW45 00000000
SW46 00000000
SW47 00000000
SW48 00000000
SW49 00000000
SW50 00000000

#MENU
01: 0
02: 0
03: 0
04: 0
05: 0

```

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### System Dump List

Use it to check the history of communications, both successful and error.

```

10/16 2009 13:00 0001
CLEAR DATE 10/16/2009

[1] TX = 7
[3] A4 = 0 B4 = 0 A3 = 0
[2] RX = 0
[3] A4 = 7 B4 = 0 A3 = 0 LTR = 0 LGL = 0
 33600 = 0 31200 = 0 28800 = 0 26400 = 0 24000 = 0
 21600 = 0 19200 = 0 16800 = 0 14400 = 0 12000 = 0
[4] 9600 = 0 7200 = 0 4800 = 0 2400 = 0
 14400 = 0 12000 = 0 TC9600 = 0 TC7200 = 0
 14400 = 0 12000 = 0
[5] 9600 = 7 7200 = 0 4800 = 0 2400 = 0
 STD = 2 FINE = 5 SUPER = 0 ULTRA = 0
[6] MH = 0 MR = 0 MMR = 7 JBIG = 0 JPEG = 0
[7] G3 = 0 ECM = 7

PRINT TTL = 63 / 63
 C-S-TTL = 0 / 0
[8] READ K-S-TTL = 51 / 51
 SCAN = 43 / 43

#000 0 0 0 0 0 0 0 0 0
[9] 0 0 0 0 0 0 0 0 0
 0 0 0 0 0 0 0 0 0

```

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\*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 |
|       | ##280 number of errors | ##281 number of errors | ##282 number of errors |   |   |

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It provides error information on the 3 most recent communications.

```

2003 09/02 TUE 12:00 FAX 00001
*1 ----- #1 LATEST #000
*2 ----- START TIME 09/02 10:00
*3 ----- OTHER PARTY 12345678
*4 ----- MAKER CODE 10001000
*5 ----- MACHINE CODE 0100001 00000000
 RCV V&S FRAME E0 81 85 D4 90 7E 00 00
 SYMBOL RATE 3429 baud
 DATA RATE 28.8
 TX LVL REDUCTION 0
 ERR ABCODE 0
 ERR SECTXB 0
 ERR SECRXB 0
*6 ----- Rx : (bit 1) 00000100 01110111 01011111 00100011 00000001 10101001 00000001 (bit 56)
 (bit 57) 00000001 00000001 00000100 00000000 00000000 (bit 96)
*7 ----- Tx : (bit 1) 00000000 01000010 00011111 00100001 00000001 00000001 00000001 (bit 56)
 (bit 57) 00000001 00000001 00000100 00000000 00000000 (bit 96)

```

|    |      |                 |                 |                 |                 |
|----|------|-----------------|-----------------|-----------------|-----------------|
| *8 | Rx : | NSF CSI DIS     | CFR             | MCF             | MCF             |
| *8 | Tx : | NSS TSI DCS     | PIX-288 PPS-NUL | PIX-288 PPS-NUL | PIX-288 PPS-NUL |
|    | Rx : | MCF             | MCF             | MCF             |                 |
|    | Tx : | PIX-288 PPS-NUL | PIX-288 PPS-EOP | DCN             |                 |

```

#2 ----- #000
 START TIME 09/02 09:30
 OTHER PARTY 12345678
 MAKER CODE 10001000
 MACHINE CODE 0100001 00000000
 RCV V&S FRAME E0 81 85 D4 90 7E 00 00
 SYMBOL RATE 3429 baud
 DATA RATE 28800 bps [V.34]
 TX LVL REDUCTION 0
 ERR ABCODE 00
 ERR SECTXB 00
 ERR SECRXB 00
 Rx : (bit 1) 00000100 01110111 01011111 00100011 00000001 10101001 00000001 (bit 56)
 (bit 57) 00000001 00000001 00000100 00000000 00000000 (bit 96)
 Tx : (bit 1) 00000000 01000010 00011111 00100001 00000001 00000001 00000001 (bit 56)
 (bit 57) 00000001 00000001 00000100 00000000 00000000 (bit 96)

```

|  |      |                 |                 |                 |                 |
|--|------|-----------------|-----------------|-----------------|-----------------|
|  | Rx : | NSF CSI DIS     | CFR             | MCF             | MCF             |
|  | Tx : | NSS TSI DCS     | PIX-288 PPS-NUL | PIX-288 PPS-NUL | PIX-288 PPS-NUL |
|  | Rx : | MCF             | MCF             | MCF             |                 |
|  | Tx : | PIX-288 PPS-NUL | PIX-288 PPS-EOP | DCN             |                 |

```

#3 OLDEST ----- #000
 START TIME 09/02 09:00
 OTHER PARTY 12345678
 MAKER CODE 10001000
 MACHINE CODE 0100001 00000000
 RCV V&S FRAME E0 81 85 D4 90 7E 00 00
 SYMBOL RATE 3429 baud
 DATA RATE 28800 bps [V.34]
 TX LVL REDUCTION 0
 ERR ABCODE 00
 ERR SECTXB 00
 ERR SECRXB 00

```

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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"\(page 8-42\).](#))

## Error Log List

07/12/2005 13:07 FAX 001

\*\*\* JAM/ERR LOG REPORT \*\*\*

JAM

| [1] | [2]   | [3]   | [4]   | [5] | [6] | [7]  | [8]    | [9] | [10] |
|-----|-------|-------|-------|-----|-----|------|--------|-----|------|
| 01  | 04/12 | 12:17 | 20:03 | 4   | 1   | 0012 | 000026 | 1   | A4   |
| 20  | 04/12 | 12:17 | 20:03 | 4   | 1   | 0012 | 000026 | 1   | A4   |

ERR

| [1] | [2]   | [3]   | [4]   | [5] | [6]  | [7]  | [8]    |
|-----|-------|-------|-------|-----|------|------|--------|
| 01  | 04/12 | 12:17 | 15:36 | 3   | 0010 | 0000 | 000691 |
| 20  | 04/12 | 12:17 | 15:36 | 3   | 0010 | 0000 | 000691 |

F-8-10

### 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 " <a href="#">Jam Code</a> "(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, 7: Duplex |
| [10] | Paper size            |                                                                                            |

T-8-59

### 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, " <a href="#">Error Code</a> "(page 7-3)..)       |
| [7] | Detail code           | Detail code of the error code (4-digit code; for a definition of the code, see the "Error Code" Chapter.) |
| [8] | Total counter display |                                                                                                           |

T-8-60

### 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 " <a href="#">Alarm Code</a> "(page 7-15)..) |
| [7] | Detail code         | Detail code of the alarm code (8-digit code; for a definition of the code, see the "Error Code" Chapter.)    |

T-8-61

## Spec List

2009 10/09 16:31 0001

```

*** SPEC REPORT ***

TYPE JAPAN
LBP SPEED 45cpm
TOTAL MEMORY 256MB
MAIN WLaa-07-09
OPTION
BOOT BOOT-V0023
LANG
LANG LIBRARY 00000010
LANG FILE
VIETNAMESE 00000010
CHINESE(TRAD.) 00000010
TURKISH 00000010
SWEDISH 00000010

BULGARIAN 00000010
ECONT 0303
OPT-CAS 1 0000
OPT-CAS 2 0000
OPT-CAS 3 0000
OPT-DUP 0000
OPT-FIN 0000
MEDIA
ACTIBAT FUNCTION
BDL-IMAGE (1200) OFF
FAX ON
NETWORK ON
PCL ON
PC-SCAN ON
BW-SEND OFF
CL-SEND OFF
PAF OFF
BDL-IMAGE (600) OFF
E-RDS OFF
BAR-DIMM OFF
SERCHABLE PDF OFF
eAM OFF
eLA OFF
PS OFF

```

F-8-11

- [1] Type setting
- [2] Print speed
- [3] Memory size
- [4] ROM version (MAIN/BOOT/LANG\*1(language library/  
language file version)ECONT/option cassette/duplex  
unit/finisher)
- [5] Activation function ON/OFF

07/12/2005 13:07 FAX 002

```

PARAM
TYPE 1:JP
OPTION/ENABLE SW
BDL-IMAGE (1200) OFF / OFF
FAX OFF / OFF
NETWORK OFF / OFF
PCL ON / OFF
PC-SCAN ON / OFF
BW-SEND ON / OFF
CL-SEND ON / OFF
PAF ON / OFF
BDSS ON / OFF
BDL-IMAGE (600) ON / OFF
COUNTER ON / OFF
E-RDS ON / OFF
BAR-DIMM ON / OFF
SERCHABLE PDF ON / OFF
eAM ON / OFF
eLA ON / OFF
PS ON / OFF
BODY No. FUYxxxxx
ENGINE CODE 20080042
SIZE TYPE 1 : AB
PRODUCT NAME XXX

TOTAL
TTL 000688
COPY 000685
FAX-PRT 000000
PDL-PRT 000000
RPT-PRT 000000
MEDIA-PRT 000000
PICT-PRT 000000
TONER-YELLOW 000000
TONER-MAGENTA 000000
TONER-CYAN 000000
TONER-BLACK 000000
OPTION ROM 0MB
USB MEMORY OFF
SD CARD 0MB
USB SERIAL No. 00XXXXXXXX
MAC ADDRESS 00 00 85 51 60 1C

NUMBER OF LOGS
ACTIVITY (FAX) 0
ACTIVITY 0
PRINTJOB ACCOUNT
COPY 0
PDL PRINT 0
RX PRINT 0
REPORT 0
MEDIA/PICT BRIDGE 0
JAM 3
SERVICE CALL 0
ENVIRONMENT 0
ALARM 0
COUNTER ON

```

F-8-12

- [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 "Software to Be Upgraded and Upgrading Method"(page 6-11).):

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.<br>(Telephone registration refers to the registration of codes on one-touch dialing, abbreviated dialing, and group dialing.) |
| SERVICE DATA    |            | Clears the service 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.                                                                                                                                        |
| HIST            | 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 environment 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                                                                                                                                                                                                              |

| Group             | Item          | Description                                                                                                                                                                                                                                                                          |
|-------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FORMAT            | USB MEMORY    | Format the USB memory.                                                                                                                                                                                                                                                               |
|                   | 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.                                                                                                                                                                                                                  |
| TONER-INSTALLED   | SET           | Cancel the operation to clear toner supply and toner stirring performed at installation.<br>Use this item when canceling the below CLEAR operation after executing it.                                                                                                               |
|                   | CLEAR         | Clears toner supply and toner stirring performed at installation. Toner supply and toner stirring are performed when the power is turned ON next time.<br>Do not use it in the normal operation since toner scattering inside the machine may occur when it is used 5 times or more. |
| 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.                                                                                                  |

T-8-62

## #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.)<br><Display example><br>SYSTEM ERROR<br>xxx: Eyyy-zzzz Example) 001:E602-1105<br>xxx: History number<br>yyy: E Code<br>zzzz: Detail code                                                                                                                                                                      |
|         | JAM     | The current JAM code is displayed. (Multiple JAM codes can be displayed with the left and right buttons.)<br><Display example><br>JAM ERROR<br>xxx:y-z-vvvv-wwww<br>xxx: History number<br>y: Description of position (3: Main unit (including the pickup assembly), 4: ADF, 5: Finisher)<br>z: Cassette level (0: Manual feed tray, 1: Cassette 1, 2: Cassette 2, 3: Cassette 3,4: Cassette 4, 7: Double-sided)<br>vvvv: JAM code<br>wwww: paper size |
|         | SPDTYPE | Display of engine speed type on controller PCB<br><Display example><br>SPDTYPE (Line 1)<br>45cpm (Line 2)                                                                                                                                                                                                                                                                                                                                              |

T-8-63

## #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 Staple finisher                                 |
|       | READER          | Not used                                                                           |

T-8-64

## #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]       |                                 |        |       |       |                                    |
|                          | (1) D-RAM TEST                  |        |       |       | D-RAM data check                   |
|                          | (2) D-RAM TEST                  |        |       |       | Write/read check                   |
| (3) PG                   |                                 |        |       |       |                                    |
|                          | SELECT NO.01                    |        |       |       | Grid                               |
|                          | SELECT NO.02                    |        |       |       | Half-tone                          |
|                          | SELECT NO.03                    |        |       |       | Solid black output                 |
|                          | SELECT NO.04                    |        |       |       | Solid white output                 |
|                          | SELECT NO.05                    |        |       |       | ---(For R&D)                       |
|                          | SELECT NO.06                    |        |       |       | 4dot-6space (vertical)             |
|                          | SELECT NO.07                    |        |       |       | dot-6space (horizontal)            |
|                          | SELECT NO.08                    |        |       |       | ---(For R&D)                       |
|                          | SELECT NO.09                    |        |       |       | ---(For R&D)                       |
| (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]         |        |       |       |                                    |
|                          | (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] |        |       |       |                                    |
|                          | (0) G3 SIGNAL TX TEST 300bps    |        |       |       | G3 signal transmission test        |
|                          | (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], *, #   |        |       |       |                                    |
|                          | (0) G3 SIGNAL TX TEST 300bps    |        |       |       | DTMF transmission test             |
|                          | (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                          |
|                             | (4) ADF TEST                 |                                 |       |       | ADF test                                 |
|                             | (7) PANEL TEST               |                                 |       |       | Panel test                               |
|                             | (9) LINE TEST [1] - [3]      |                                 |       |       | Line signal reception test               |

T-8-65

## 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.

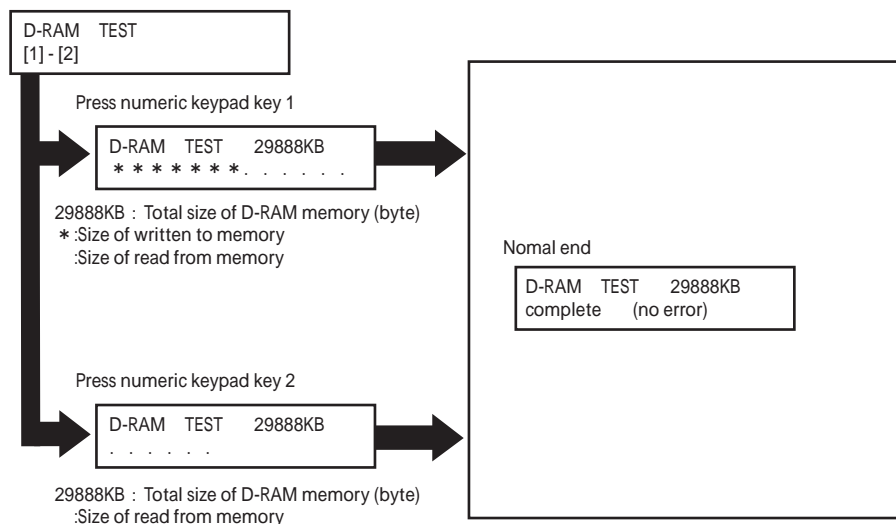
- Numeric keypad key 1

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-8-13

- PG Output <(3) PG>

Press the numeric keypad key 3 on the test mode menu to select the PG output. Press numeric keypad keys 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 | Halftone                |
| SELECT NO.03 | Solid black output      |
| SELECT NO.04 | Solid white output      |
| SELECT NO.05 | ---(For R&D)            |
| SELECT NO.06 | 4dot-6space (vertical)  |
| SELECT NO.07 | dot-6space (horizontal) |
| SELECT NO.08 | ---(For R&D)            |
| SELECT NO.09 | ---(For R&D)            |

T-8-66

### Procedure

- Enter the PG number with numeric keys, then press the START key.
- Select single-sided (SGL: 0) or double-sided (DBL: 1), then press the START key.
- Enter the number of prints to be output (PG COUNT), then press the START key.
- 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)
- Specify the paper eject slot, then press the START key.  
Tray 1 (1\_OUT: 0), Tray2 (2\_OUT: 1)
- Select a paper type, then press the OK key.  
Plain paper (PLN: 0), Thick paper (TCK: 1), Thin paper (OHP: 2)
- 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.                                                                                                                                                                      |

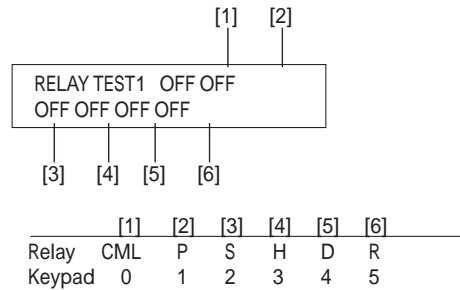
T-8-67

### 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

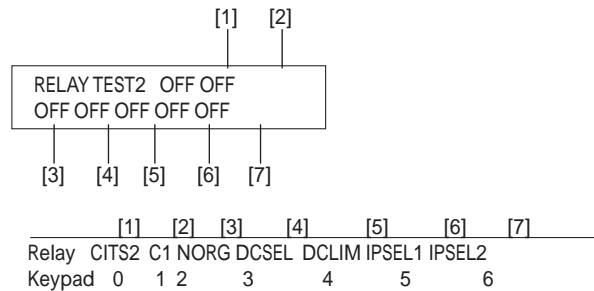
The input key and relay are shown below:



F-8-14

- Numeric keypad key 2

The input key and relay are shown below:



F-8-15

**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    |

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**NOTE:**

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-8-69

**NOTE:**

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.

**NOTE:**

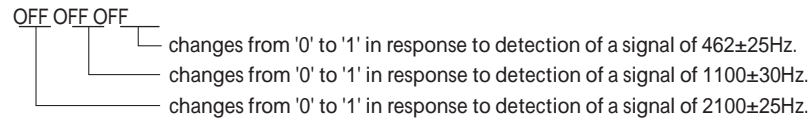
The output level of individual signals is in keeping with the setting made in service mode.

### 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
```



#### 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-8-16

### V.34 G3 Signal Transmission Test

A press on '8' on the keypad from the MODEM test menu selects 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-8-70

| Left/right arrow key | Transmission speed |
|----------------------|--------------------|
| <                    | 2400bps            |
| >                    | 4800bps            |
|                      | 7200bps            |
|                      | 9600bps            |
|                      | 12000bps           |
|                      | 14400bps           |
|                      | 16800bps           |
|                      | 19200bps           |
|                      | 21600bps           |
|                      | 24000bps           |
|                      | 26400bps           |
|                      | 28800bps           |
|                      | 31200bps           |
|                      | 33600bps           |

T-8-71

### ● 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      | Panel test                  | To test operation of the Touch Panel.                         |
| 8      | Not used                    |                                                               |
| 9      | Line signal reception test  | NCU board signal sensor and frequency counter operation test  |

T-8-72

#### 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.

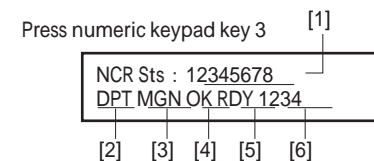
| Group                       | Item | Description                           | Detail                                                                                                    |                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                  |                                                                                   |
|-----------------------------|------|---------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| (2)<br>SENS/<br>SW<br>CHECK | FLAG | Sensor check with flag (manual check) | CT: Waste Toner Full Sensor (PS2)<br>DO: Front Cover Sensor (PS1)<br>F1: Delivery Paper Full Sensor (PS4) | 0: Available, 1: Full<br>0: closed, 1: Open<br>0: Available, 1: Full                                                                                                                                             |                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                  |                                                                                   |
|                             |      | CST                                   | Cassette check                                                                                            | SU: Cassette Pickup Sensor (PS13)<br>PE: Cassette Paper Sensor (PS15)<br>ZA: Cassette Paper Level Sensor A/B (PS16/PS17)<br>S1: Cassette Size Detection Switch (SW2)<br>NA: Cassette Lifting Plate Sensor (PS14) | 0: OFF, 1: ON<br>0: OFF, 1: ON<br>(2 digits) Right: A, Left: B<br>0: OFF, 1: ON<br>0: OFF, 1: ON (4 digits)<br>0: OFF, 1: ON                                                                                                                      |                                                                                                                                                                                                                                  |                                                                                   |
|                             |      |                                       | READER                                                                                                    | Reader sensor check                                                                                                                                                                                              | CO: ADF Open/Close Sensor (PS23)<br>HP: CIS HP Sensor (PS24)<br>SIZE: Document size: Paper size indicated in a mix of Original Size Sensor 1/2 (PS21/PS22)<br>1 (Left): Original Size Sensor 1 (PS21)<br>1 (Right): Original Size Sensor 2 (PS22) | 0/Document presence, 1/Document absent<br>0: besides HP, 1: HP<br>AB configuration: A4R, NONE (any size other than A4R)<br>Inch configuration: LTRR, LGL, NONE (any size other than LTRR, LGL)<br>0: OFF, 1: ON<br>0: OFF, 1: ON |                                                                                   |
|                             | A/D  |                                       |                                                                                                           | Analog/digital computation output sensor                                                                                                                                                                         | HOP: Hopper Toner Sensor (TS1) output value<br>DEV: Developing Assembly Toner Sensor (TS2) output value<br>TEP: Environment Sensor (THU1) Temperature output value<br>HUM: Environment Sensor (THU1) Humidity output value                        | 0: With toner, 1: Without toner<br>0: With toner, 1: Without toner<br>Temperature in the machine<br>Humidity in the machine                                                                                                      |                                                                                   |
|                             |      |                                       |                                                                                                           | COPY                                                                                                                                                                                                             | Copy confirmation sensor                                                                                                                                                                                                                          | MP: Manual Feeder Paper Sensor (PS7)<br>RE: Pre-registration Sensor (PS12)<br>RP: Loop Sensor (PS9)<br>FX: Delivery Sensor (PS5)<br>EX: Fixing Paper Sensor (PS19)                                                               | 0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON |

| Group                       | Item | Description      | Detail                                                                                                                                                                                                                                                                                       |                                                                                                                                      |
|-----------------------------|------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| (2)<br>SENS/<br>SW<br>CHECK | ADF  | ADF sensor check | W1: Document Width Detection Sensor (PS31)<br>L1: Document Length Detection Sensor (PS32)<br>DR: Read Sensor (PS25)<br>RG: Registration Sensor (PS26)<br>DS: Document Set Sensor (PS30)<br>TM: Timing Sensor (PS29)<br>RE: Delivery/Reverse Sensor (PS27)<br>ST: Lower Reverse Sensor (PS28) | 0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON<br>0: OFF, 1: ON |

T-8-73

## Card reader test &lt;6-3: NCR sts&gt;

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

[4] Can status  
OK: Normal scan  
ERR: Scan error  
NG: Nonstandard error  
(No indication): No card

[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

[5] Equipment status  
IN: Initialization in progress  
RDY: Ready

[3] Card type  
MGN: Magnetic card  
OPT: Optical card

[6] Card reader version indication  
Four-digit number

F-8-17

#### ADF test <6-4: ADF TEST>

Execute the ADF feed test. Select 1-sided/2-sided to execute the test.

#### Panel test <6-7: PANEL TEST>

Execute the test for LCD, LED, keys, and coordinate position.

#### 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.

# 9

## Installation

- How to check this Installation Procedure
- Installation
- Option Installation Sequence
- Drum Heater-D1
- Copy Card Reader-F1
- System Upgrade RAM-C1

## 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.

#### Screw



Tighten



Remove

#### Connector



Connect



Disconnect

#### Harness



Secure



Free

#### Claw



Insert



Remove



Push



Plug in



Turn on

#### Checking instruction



Check



Visual Check



Sound Check

F-9-2

## Installation

This machine is installed by the user.

For details of installation procedure, refer to the User's Manual.

## Option Installation Sequence

When installing options of this machine, be sure to note the following points.

- 1) When installing the Drum Heater-D1, be sure to install it first.
- 2) When installing the Copy Card Reader-F1 or USB Application 3-Port Interface Kit-B1 and Super G3 Fax Board-AJ1 at the same time, be sure to install the Copy Card Reader-F1 or USB Application 3-Port Interface Kit-B1 first.
- 3) Be sure to install the Super G3 Fax Board-AJ1 last.



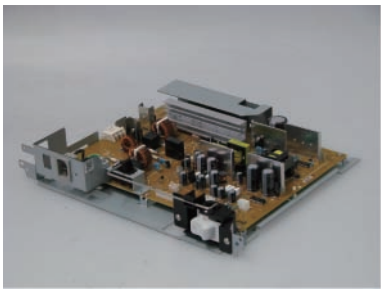

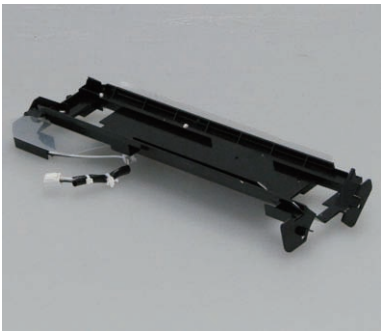
## Drum Heater-D1

### Points to Note at Installation

#### CAUTION:

- When installing the USB Application 3-Port Interface Kit-B1 and the Super G3 Fax Board-AJ1 at the same time, be sure to install this equipment first, and then install the USB Application 3-Port Interface Kit-B1 and the Super G3 Fax Board-AJ1 in that order.
- If a Fax Board is already installed, be sure to perform installation after removing it.

### Checking the Contents

|                                                                                                                                                      |                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> [1] Low Voltage Power Supply PCB X 1<br>   | <input type="checkbox"/> [2] Environment Heater Harness X 1<br> |
| <input type="checkbox"/> [3] Environment Drum Heater Unit X 1<br> |                                                                                                                                                   |

F-9-3

### Check Items when Turning OFF the Power

Check that the power of the host machine is OFF.

- 1) Turn OFF the Power Switch of the host machine.
- 2) Be sure that display in the Control Panel and the Power Supply Lamp are turned off, then disconnect the power plug.

### Installation Outline Drawing

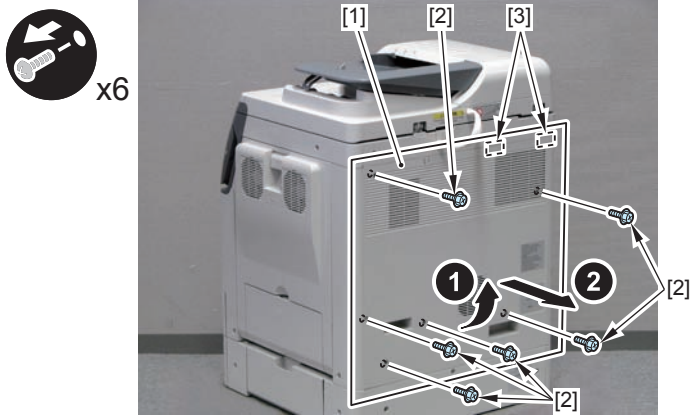


F-9-4

# Installation Procedure

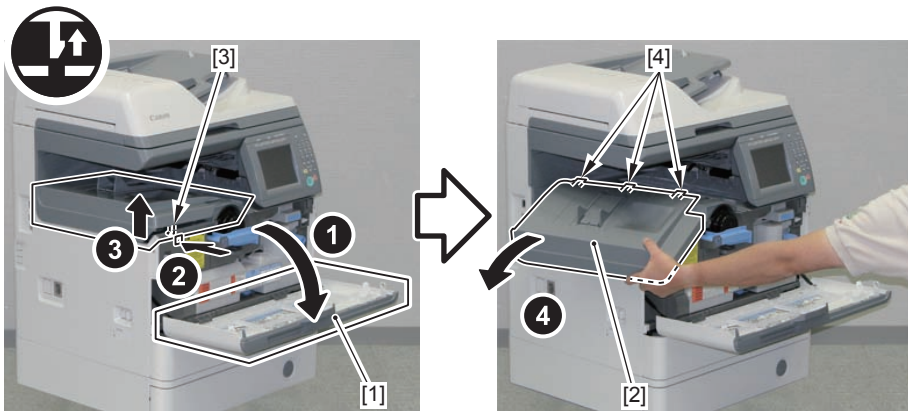
## Removing the Covers

- 1) Remove the Rear Cover [1].
  - 6 Screws [2]
  - 2 Hooks [3]



F-9-5

- 2) Open the Front Cover [1], and remove the Delivery Outer Cover [2].
  - 1 Claw [3]
  - 3 Hooks [4]

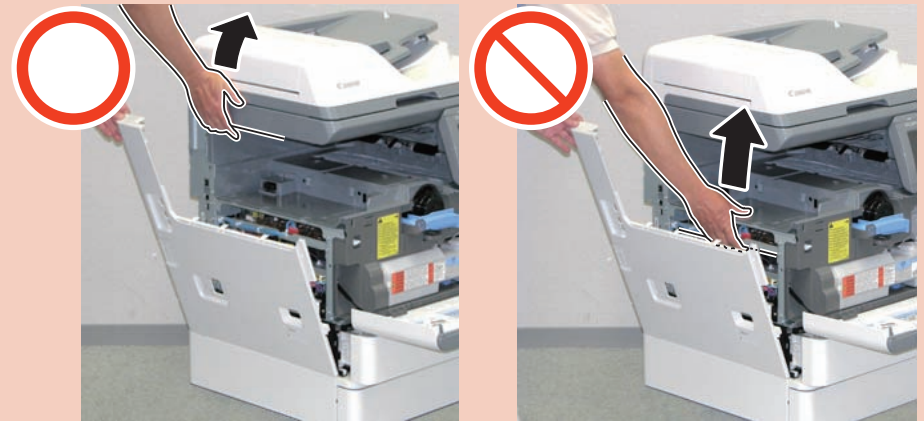


F-9-6

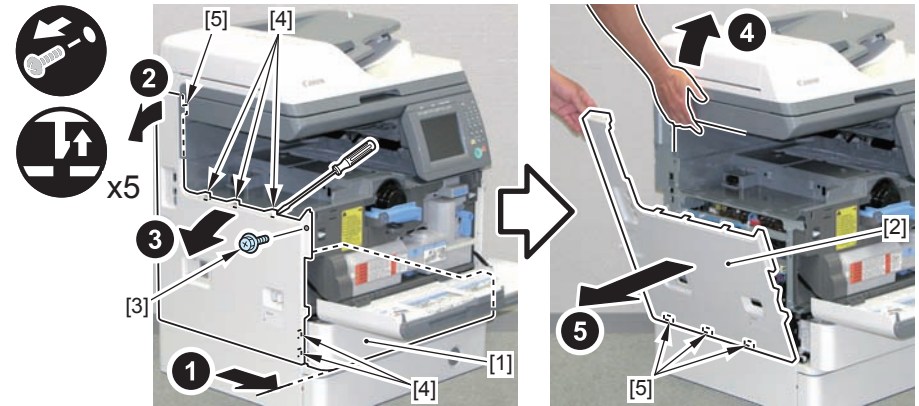
- 3) Open the cassette [1], and remove the Left Cover [2] while lifting the host machine.
  - 1 Screw [3]
  - 5 Claws [4]
  - 4 Hook [5]

**CAUTION:**

When lifting the host machine, be sure to hold the rear side of the bottom of the Reader Unit.



F-9-7



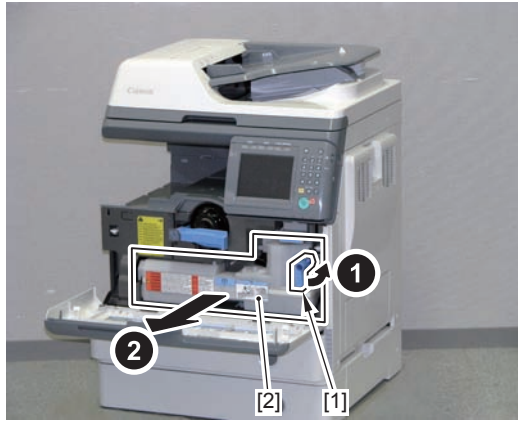
F-9-8

□

### Before Installing



1) Turn the Lock Lever [1], and remove the Waste Toner Container [2].



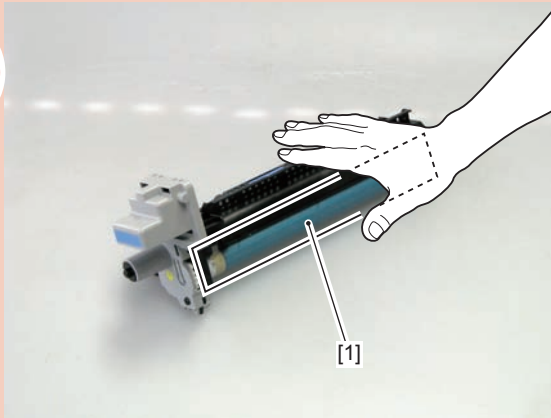
F-9-9



2) Open the Right Door Unit [1], release the Drum Cartridge Lock Lever [2], and then remove the Drum Cartridge [3].

#### CAUTION:

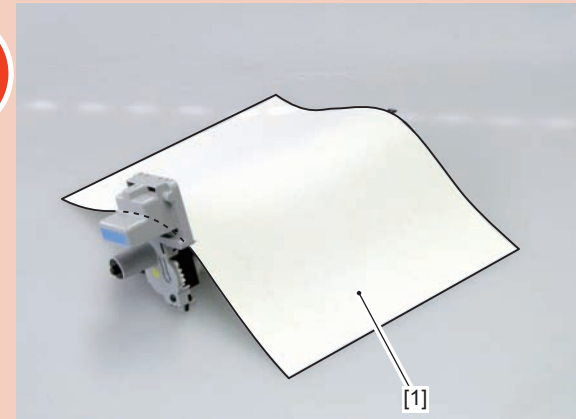
Be sure not to touch the drum [1] of the Drum Cartridge.



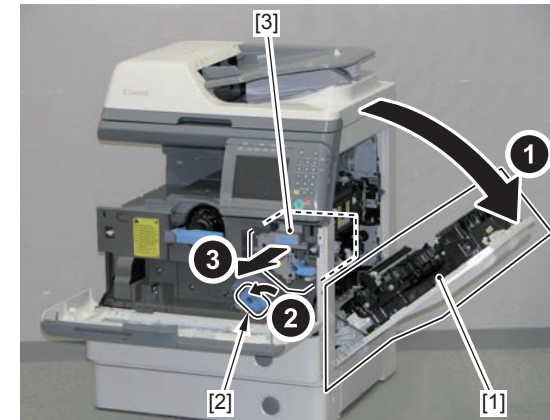
F-9-10

#### CAUTION:

Be sure to block light to the removed Drum Cartridge using paper [1].

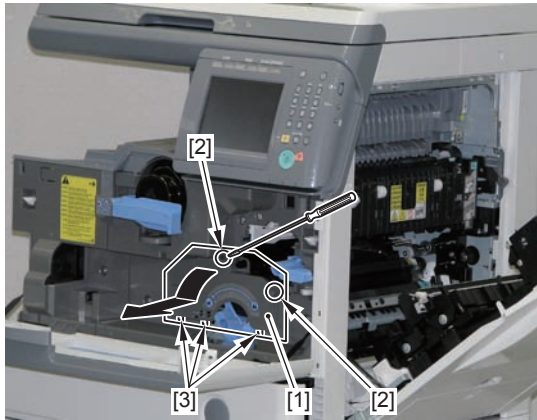


F-9-11



F-9-12

- 3) Remove the Developing Assembly Replacement Inner Cover [1].
  - 2 Claws [2]
  - 3 Hooks [3]

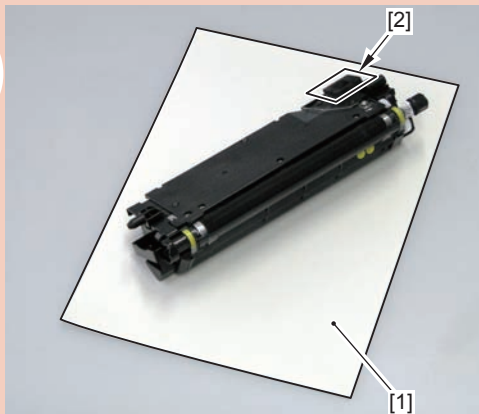


F-9-13

- 4) Remove the Developing Assembly [1].
  - 1 Connector [2]
  - 1 Edge Saddle [3]

CAUTION:

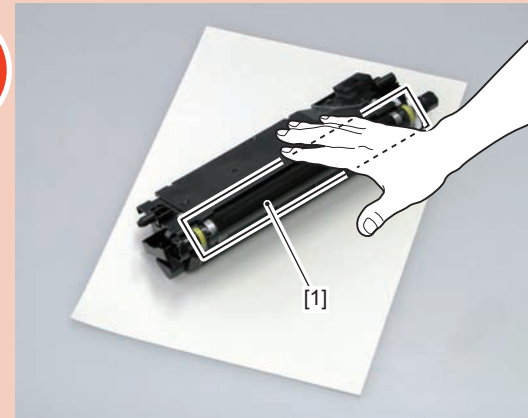
- Place paper [1] where the Developing Assembly is to be placed.
- When removing the Developing Assembly, be careful not to spill toner from the Toner Duct [2].



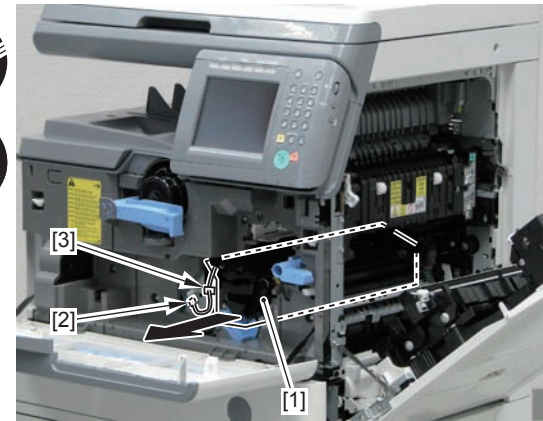
F-9-14

CAUTION:

Be sure not to touch the Developing Cylinder [1].



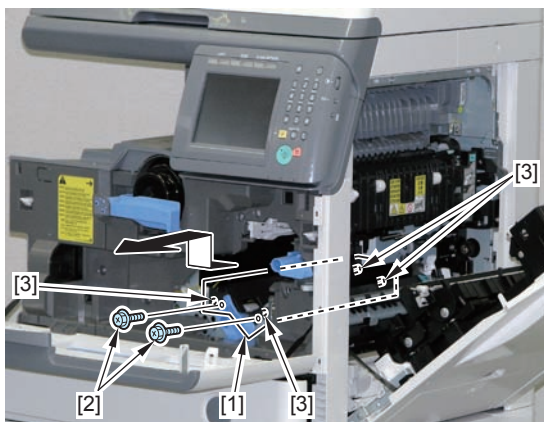
F-9-15



F-9-16



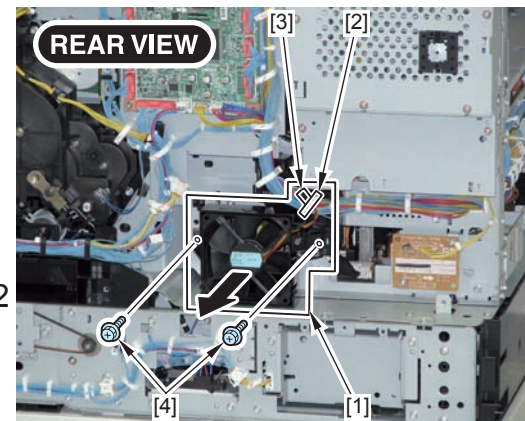
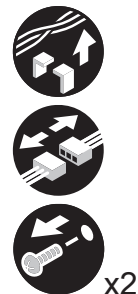
- 5) Return the Drum Cartridge Lock Lever to the lock release position, and remove the Developing Pressure Plate [1].  
(The removed Developing Pressure Plate will not be used.)
- 2 Screws [2] (The removed screws will be used in "Installing the Environment Drum Heater" step 6.)
  - 4 Protrusions [3]



F-9-17

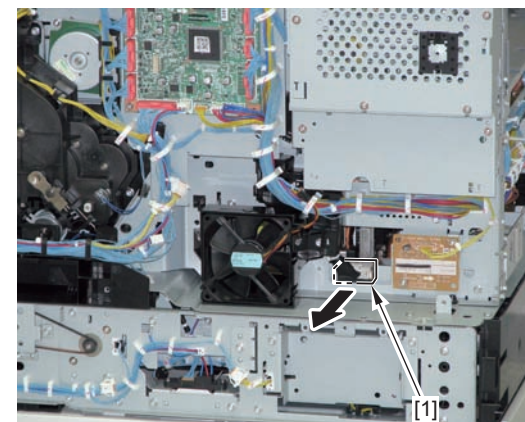
NOTE:  
If a Fax Box Unit is installed, remove it.

- 6) Remove the Power Supply Fan Unit [1].
- 1 Wire Saddle [2]
  - 1 Connector [3]
  - 2 Screws [4]



F-9-18

- 7) Remove the Fixing Connector [1].

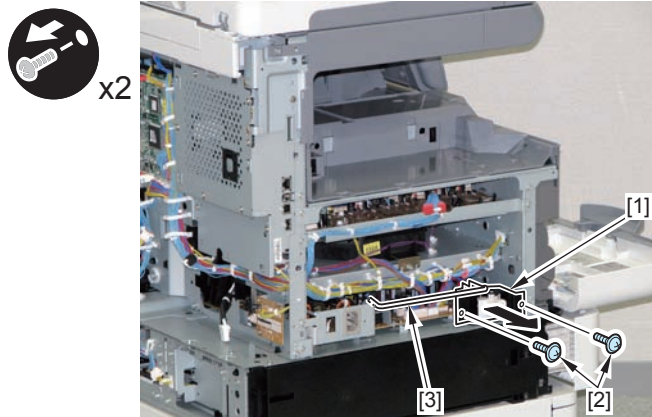


F-9-19

8) Remove the Power Switch Button Unit [1].

- 2 Screws [2]
- 1 Switch Arm [3]

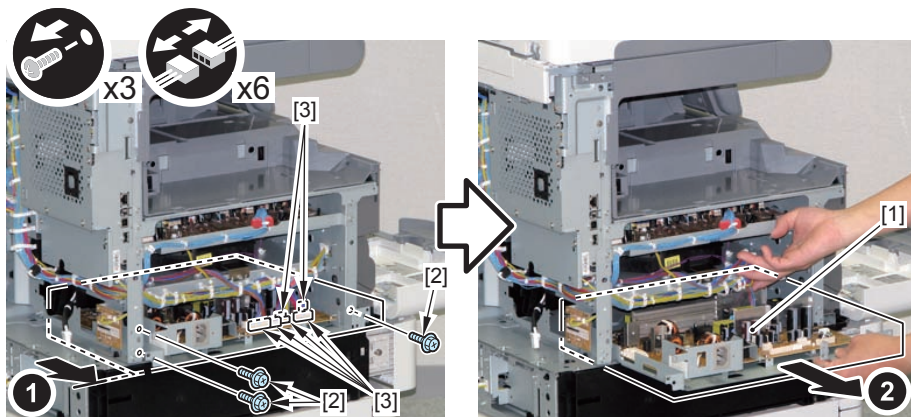
(The removed Power Switch Button Unit, 2 screws, and 1 Switch Arm will be used in "Installing the Environment Drum Heater" step 2.)



F-9-20

9) Pull out the Low Voltage Power Supply PCB [1].

- 3 Screws [2] (The removed screws will be used in "Installing the Environment Drum Heater" step 1.)
- 6 Connectors [3]

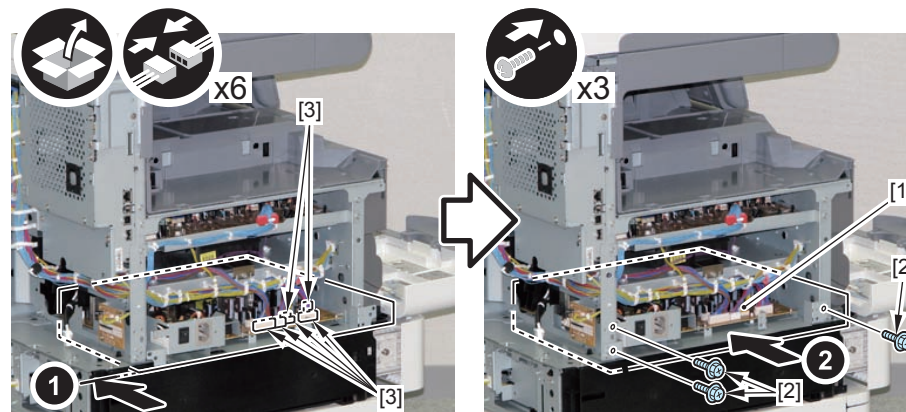


F-9-21

### ■ Installing the Environment Drum Heater

1) Install the Low Voltage Power Supply PCB [1] included in the package.

- 3 Screws [2] (Use the screws removed in "Before Installing" step 9.)
- 6 Connectors [3]

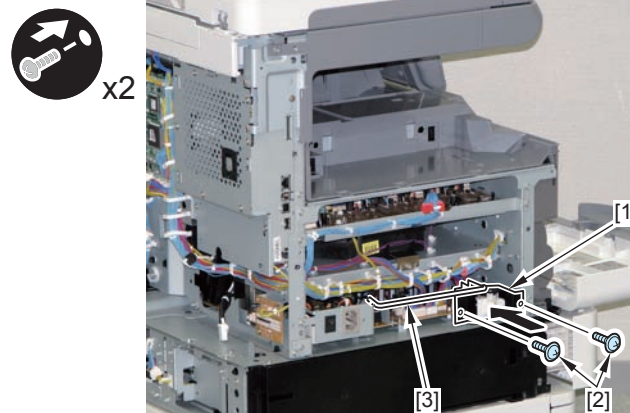


F-9-22

2) Install the Power Switch Button Unit [1].

- 2 Screws [2]
- 1 Switch Arm [3]

(Use the Power Switch Button Unit, 2 screws, and 1 Switch Arm removed in "Before Installing" step 8.)

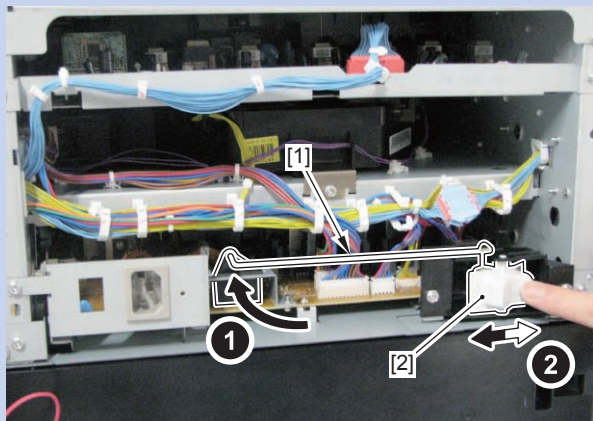


F-9-23



## NOTE:

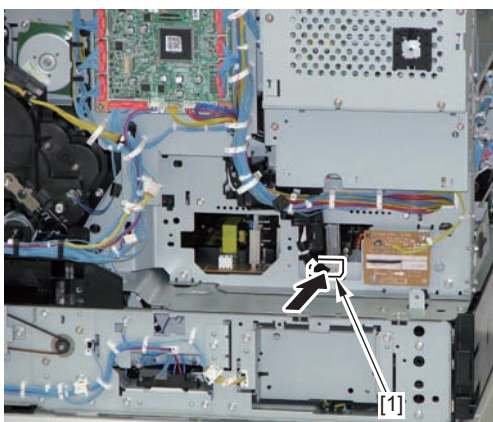
- After installing the Power Switch Arm [1], be sure to check that the switch on the PCB works by operating the Power Switch [2].
- Be sure to set the Power Switch at OFF position.



F-9-24



3) Connect the Fixing Connector [1].



F-9-25



4) Connect one of the connectors [1] of the Environment Heater Harness, and pass the other connector [2] through the opening [A] of the plate and into the inside of the Host Machine [B].

## CAUTION:

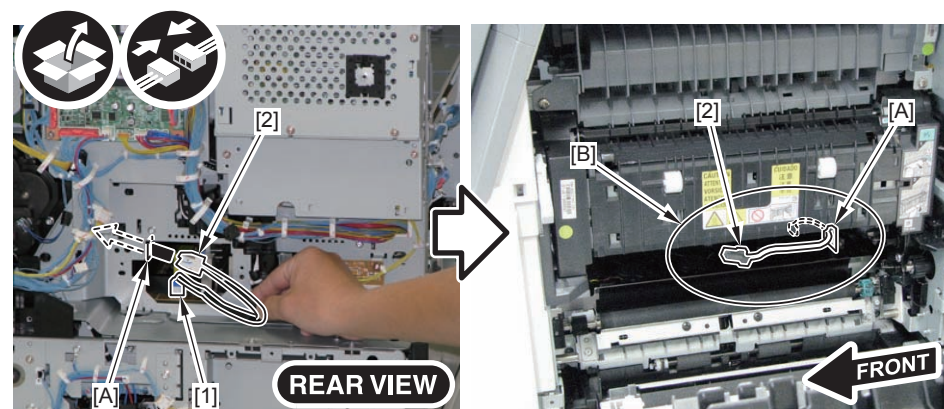
Be sure not to touch the surface of the Transfer Roller.



F-9-26

## NOTE:

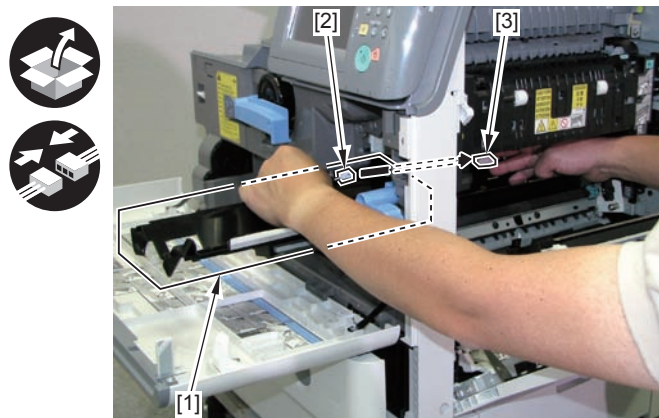
Remove the Fixing Assembly and Right Door Unit to improve the operability.



F-9-27

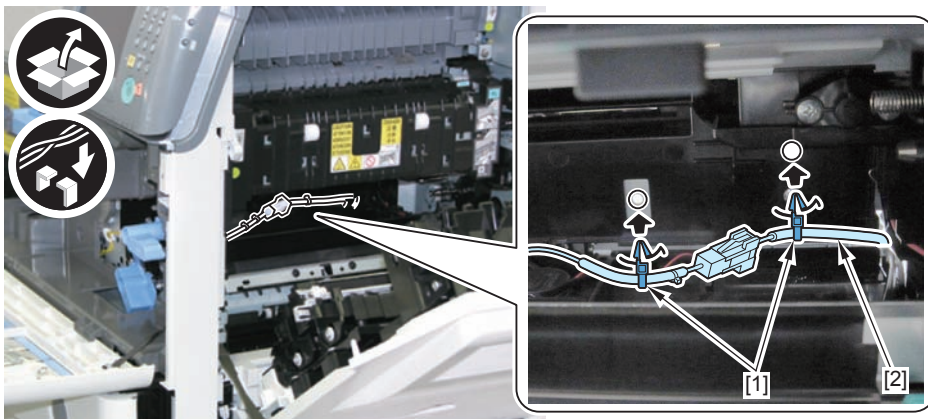


- 5) While paying attention not to touch the Transfer Roller, connect the connector [2] of the Environment Drum Heater Unit [1] to the connector of the Environment Heater Harness [3].



F-9-28

- 6) Install the 2 Reuse Bands [1], and secure the Environment Heater Harness [2].

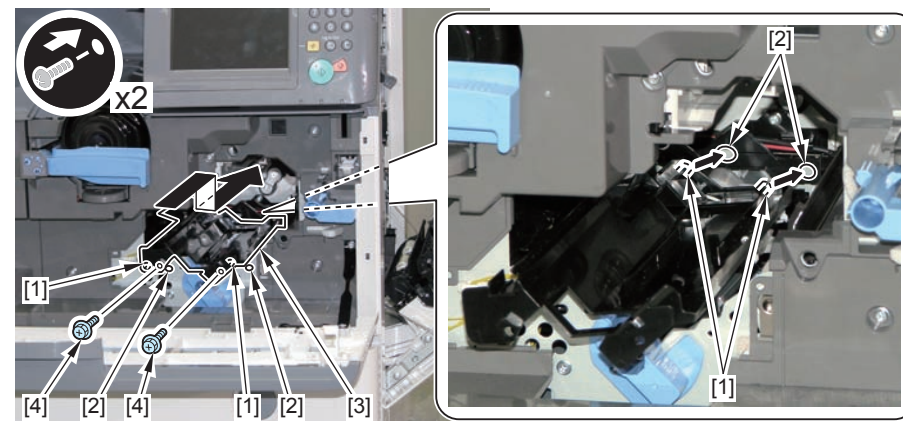


F-9-29

**CAUTION:**

Wipe the Plastic Film Sheet of the Drum Heater and the Supply Mouth of the Developing Assembly with lint-free paper so that there is no grease left.

- 7) Align the 4 positioning protrusions [1] on the Environment Drum Heater Unit with the 4 positioning holes [2] on the Host Machine, and install the Environment Drum Heater Unit [3].
- 2 Screws [4] (Use the screws removed in "Before Installing" step 5.)



F-9-30

- 8) Return the removed parts to their original positions.
- Developing Assembly
  - Developing Assembly Replacement Inner Cover
  - Drum Cartridge
  - Right Door Unit
  - Waste Toner Container
  - Left Cover
  - Delivery Outer Cover
  - Front Cover
  - Power Supply Fan Unit
  - Rear Cover

## Copy Card Reader-F1

### Check Item of the Contents

The parts with a diagonal line in the contents list will not be used during installation.

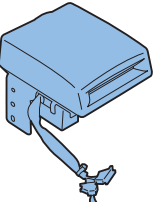


### Points to Note at Installation

#### CAUTION:

- When working for a long time with the Right Door open, be sure to block light to the Photosensitive Drum .
- To install this equipment, the Copy Card Reader Attachment-C1 is required.
- When installing the Super G3 Fax Board-AJ1 at the same time, be sure to install this equipment first. In addition, if the standard Fax Board is installed, be sure to remove it before installing this equipment.
- This equipment and the USB Application 3-Port Interface Kit-B1 cannot be used at the same time.





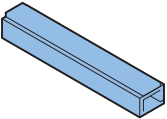

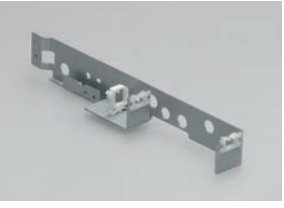

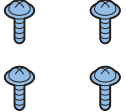


### Checking the Contents

#### Copy Card Reader-F1

|                                                                                                                                          |                                                                                                                                                 |                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> [1] Card Reader Unit X 1<br> | <input type="checkbox"/> [2] Screw (RS tight; M4x10) X 1<br> | <input type="checkbox"/> [3] Toothed washer X 1<br> |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

F-9-31

#### Copy Card Reader Attachment-C1

|                                                                                                                                                          |                                                                                                                                                    |                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> [1] Reader Right Front Cover X 1<br>         | <input type="checkbox"/> [2] Card Reader Fixation Plate X 1<br> | <input type="checkbox"/> [3] Card Reader Lower Cover X 1<br> |
| <input type="checkbox"/> [4] Card Reader Lower Mounting Plate X 1<br> | <input type="checkbox"/> [5] Cord Guide X 1<br>                 | <input type="checkbox"/> [6] Card Reader Harness X 1<br>     |
| <input type="checkbox"/> [7] Option Mounting Plate X 1<br>           | <input type="checkbox"/> [8] Screw (Binding; M4x6) X 1<br>      | <input type="checkbox"/> [9] Screw (TP; M3x4) X 4<br>        |
| <input type="checkbox"/> [10] Screw (TP; M4x8) X 2<br>              | <input type="checkbox"/> [11] Edge Saddle X 1<br>             |                                                                                                                                                 |

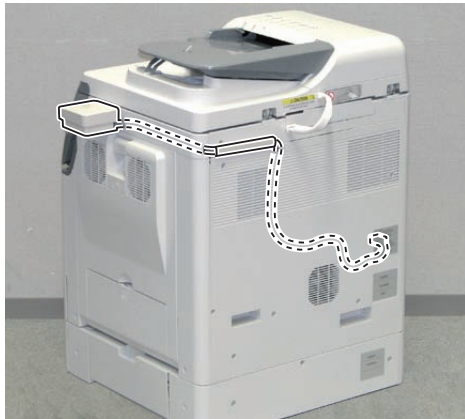
F-9-32

## Check Items when Turning OFF the Power

Check that the power of the host machine is OFF.

- 1) Turn OFF the Power Switch of the host machine.
- 2) Be sure that display in the Control Panel and the Power Supply Lamp are turned off, then disconnect the power plug.

## Installation Outline Drawing

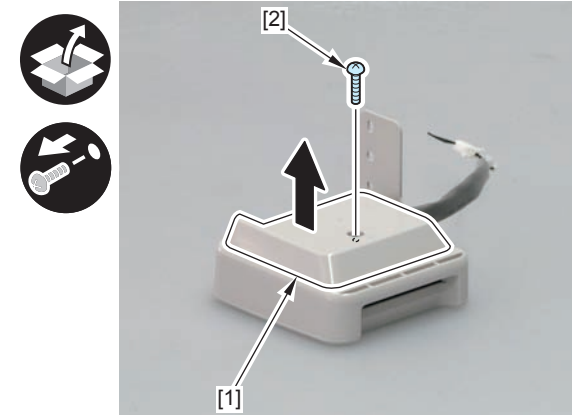


F-9-33

## Installation Procedure

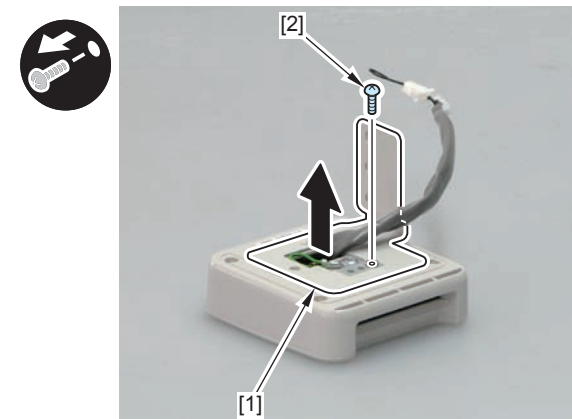
### Assembling the Card Reader

- 1) Remove the Card Reader Lower Cover [1] from the Card Reader Unit.  
(The removed Card Reader Lower Cover and screw will not be used.)
  - 1 Screw [2]



F-9-34

- 2) Remove the Card Reader Fixation Plate [1] from the Card Reader Unit.  
(The removed Card Reader Fixation Plate will not be used.)
  - 1 Screw [2] (The removed screw will be used in step 4.)



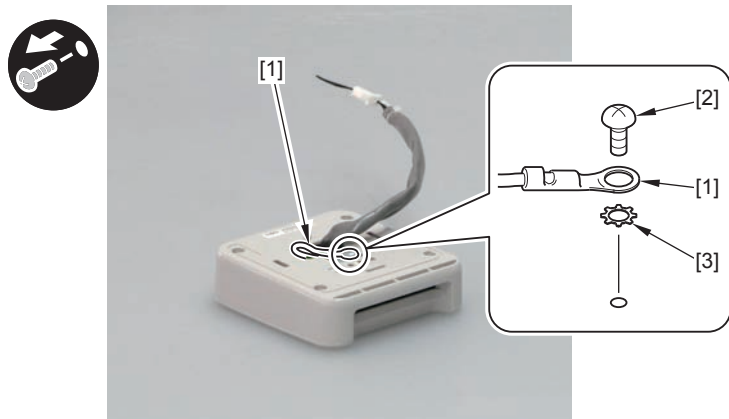
F-9-35



3) Free the Grounding Wire [1] from the Card Reader Unit.

(The removed screw and toothed washer will be used in step 5.)

- 1 Screw [2]
- 1 Toothed Washer [3]

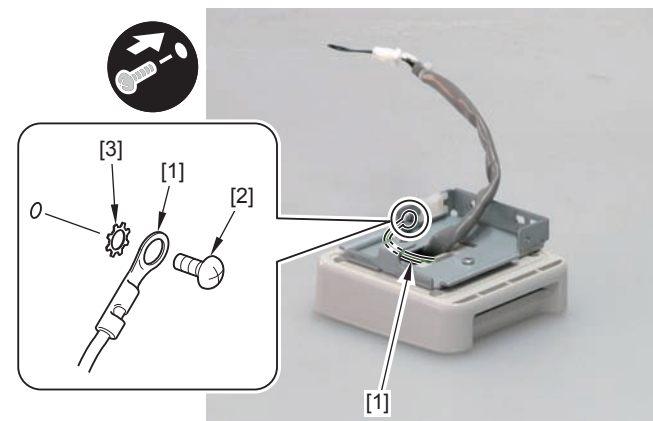


F-9-36



5) Install the Grounding Wire [1] on the Card Reader Unit.

- 1 Screw [2] (Use the screw removed in step 3.)
- 1 Toothed Washer [3] (Use the toothed washer removed in step 3.)

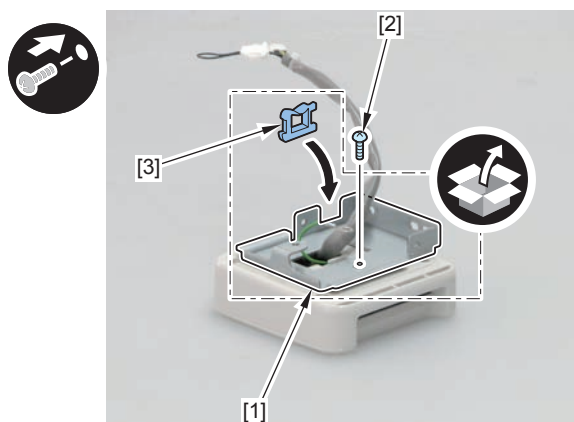


F-9-38



4) Install the Card Reader Lower Mounting Plate [1] on the Card Reader Unit.

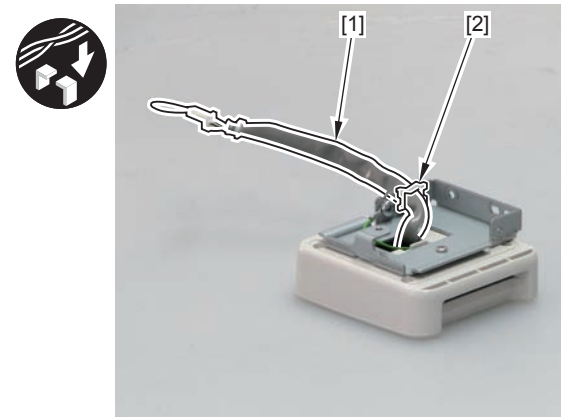
- 1 Screw [2] (Use the screw removed in step 2.)
- 1 Edge Saddle [3]



F-9-37



6) Pass the Card Reader Harness [1] through the Edge Saddle [2].

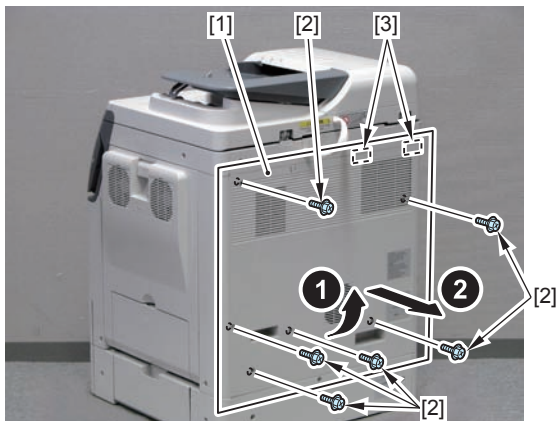


F-9-39



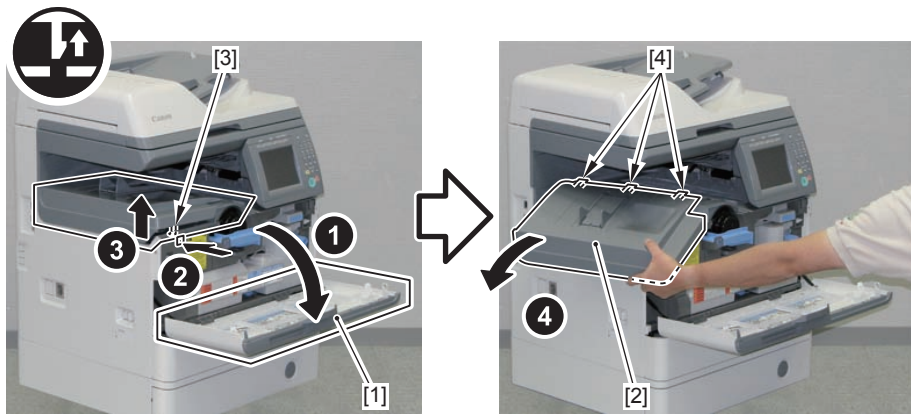
## Removing the Covers

- 
- 1) Remove the Rear Cover [1].
  - 6 Screws [2]
  - 2 Hooks [3]



F-9-40

- 
- 2) Open the Front Cover [1], and remove the Delivery Outer Cover [2].
  - 1 Claw [3]
  - 3 Hooks [4]



F-9-41

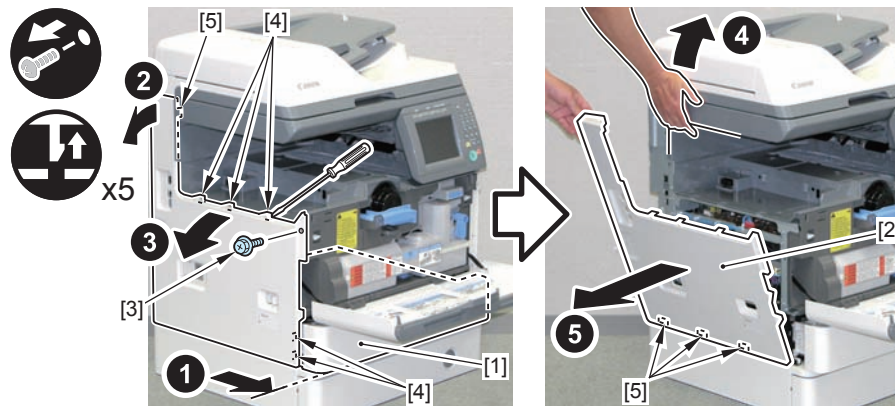
- 
- 3) Open the cassette [1], and remove the Left Cover [2] while lifting the host machine.
  - 1 Screw [3]
  - 5 Claws [4]
  - 4 Hooks [5]

**CAUTION:**

When lifting the host machine, be sure to hold the rear side of the bottom of the Reader Unit.

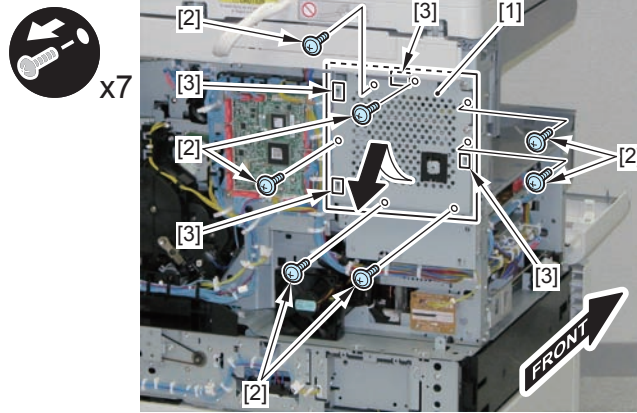


F-9-42



F-9-43

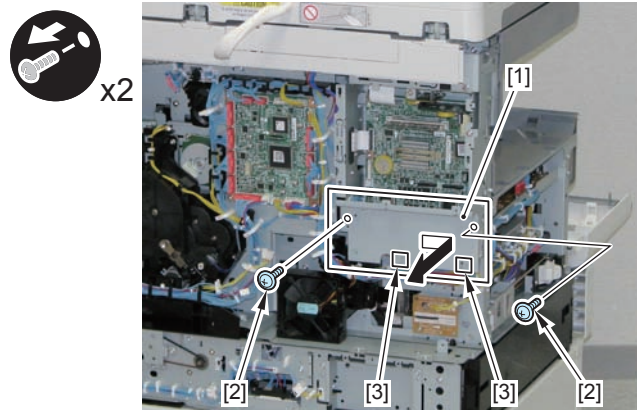
- 4) Remove the Upper Controller Cover [1].
- 7 Screws [2]
- 4 Hooks [3]



F-9-44

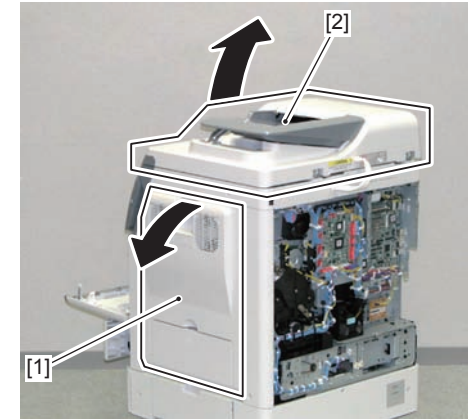
NOTE:  
If a Fax Box Unit is installed, remove it.

- 5) Remove the Lower Controller Cover [1].
- 2 Screws [2]
- 2 Hooks [3]



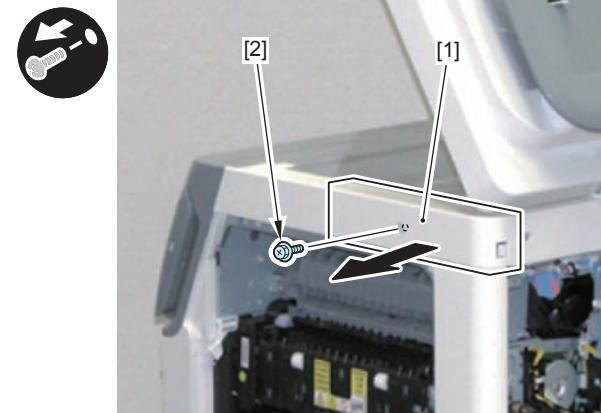
F-9-45

- 6) Open the Right Door Unit [1], and open the DADF Unit [2].



F-9-46

- 7) Remove the Reader Right Rear Cover [1].
- 1 Screw [2] (The removed screws will be used in "Installing the Card Reader Kit" step 12.)



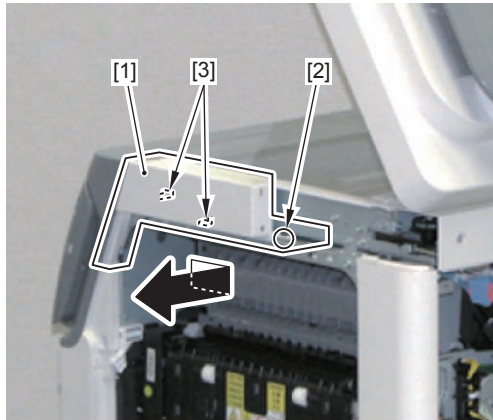
F-9-47



8) Remove the Reader Right Front Cover [1].

(The removed Reader Right Front Cover will not be used.)

- 1 Claw [2]
- 2 Hooks [3]



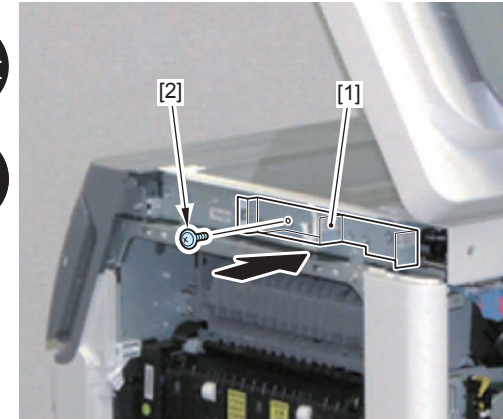
F-9-48

## ■ Installing the Card Reader Kit



1) Install the Option Mounting Plate [1].

- 1 Screw (TP; M3x4) [2]

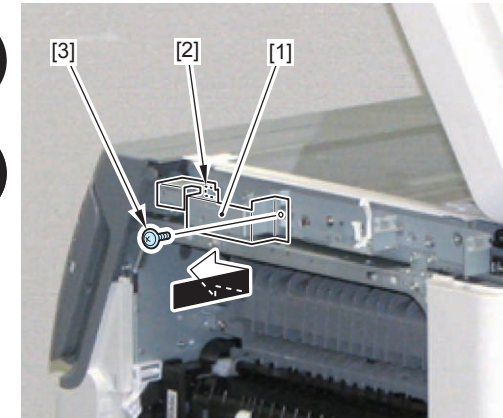


F-9-49



2) Install the Card Reader Fixation Plate [1].

- 1 Hook [2]
- 1 Screw (TP; M3x4) [3]

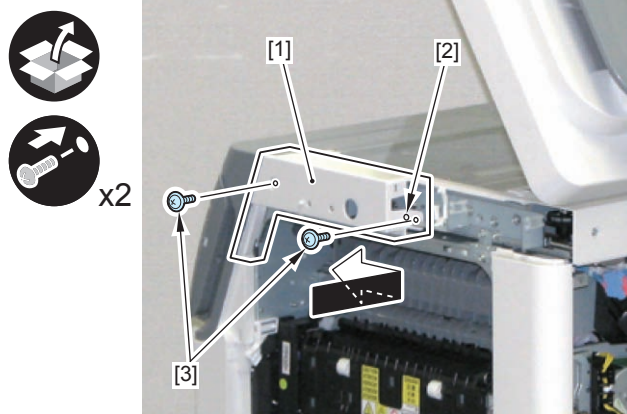


F-9-50



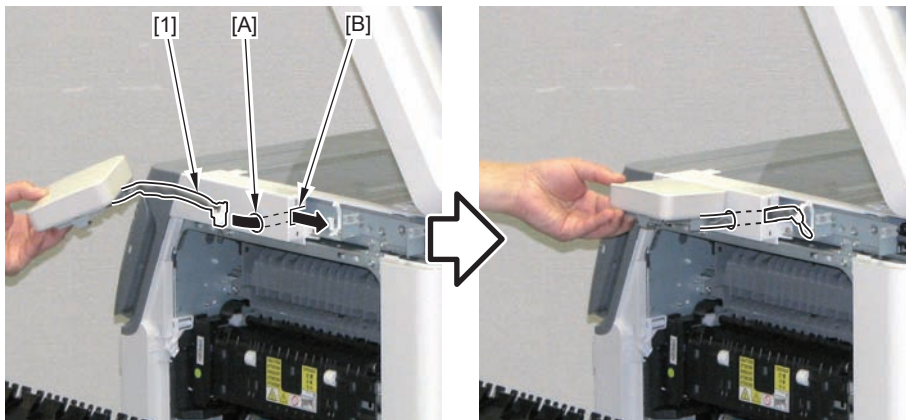
□  
3) Install the Reader Right Front Cover [1] included in the package.

- 1 Boss [2]
- 2 Screws (TP; M3x4) [3]



F-9-51

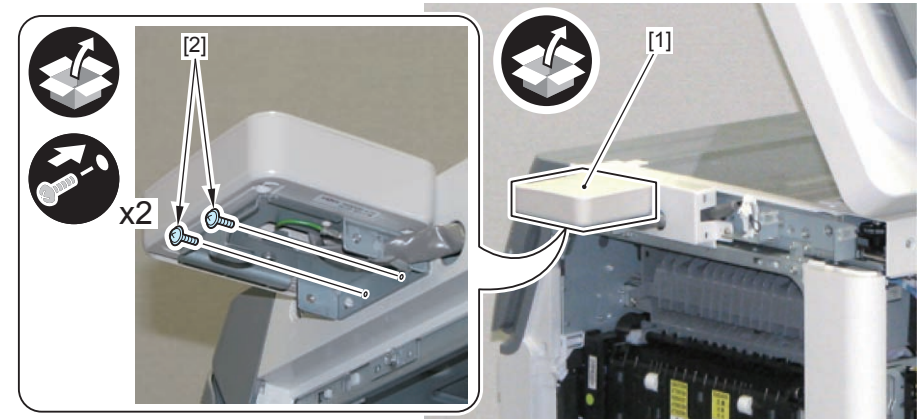
□  
4) Pass the Card Reader Harness [1] through the hole [A] in the Reader Right Front Cover, and pull it out from the [B] part of the cover.



F-9-52

□  
5) Install the Card Reader Unit [1].

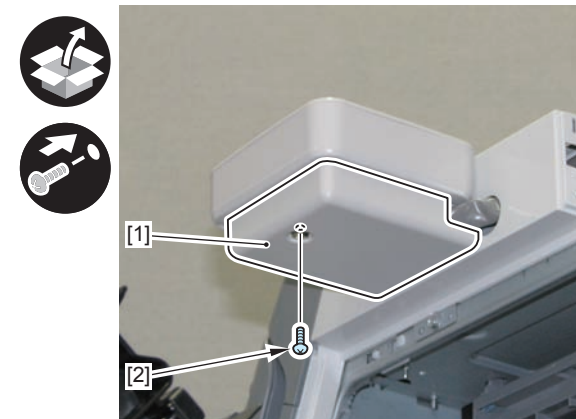
- 2 Screws (TP; M4x8) [2]



F-9-53

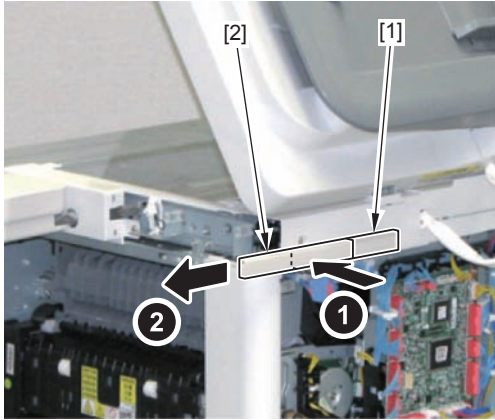
□  
6) Install the Card Reader Lower Cover [1].

- 1 Screw (Binding; M4x6) [2]



F-9-54

7) Install the Cord Guide [1], and remove the Cord Guide Cover [2].



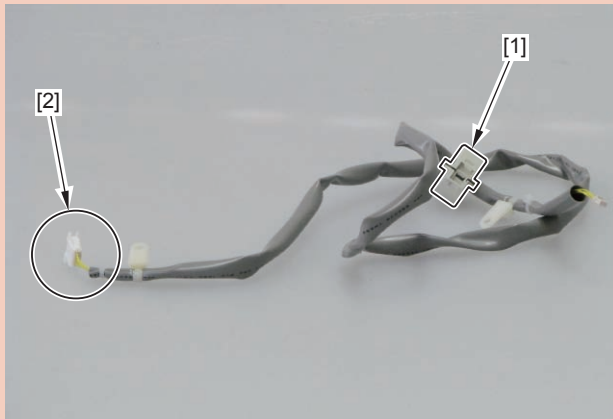
F-9-55

8) Install the Card Reader Harness [1].

- 1 Connector [2]
- 1 Wire Saddle [3]
- 2 Edge Saddles [4]

CAUTION:

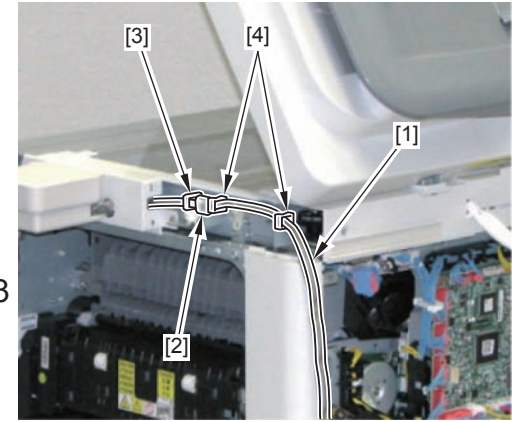
When installing the Card Reader Harness, be sure to connect the connector [2] without Ferrite Core [1] to the Card Reader Unit.



F-9-56

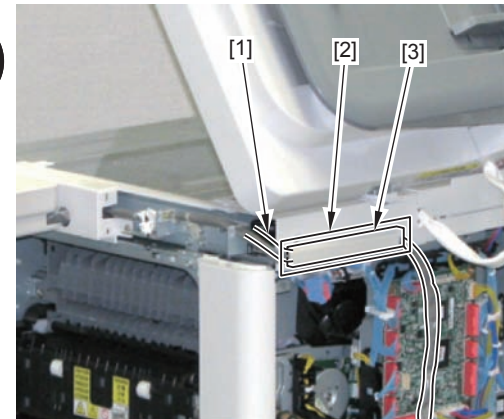


x3



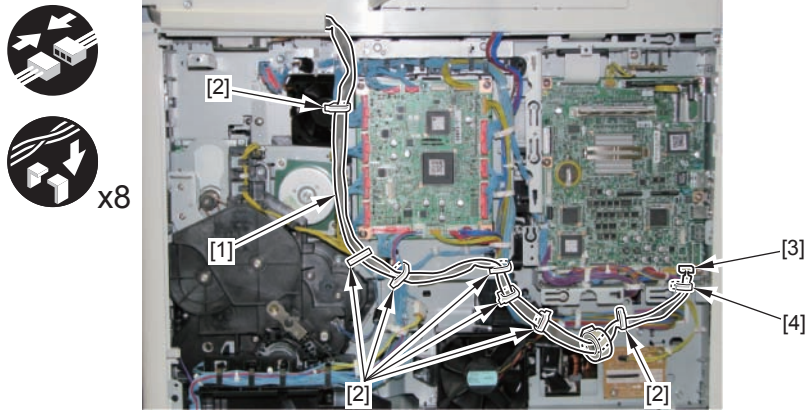
F-9-57

9) Pass the Card Reader Harness [1] through the Cord Guide [2], and install the Cord Guide Cover [3].



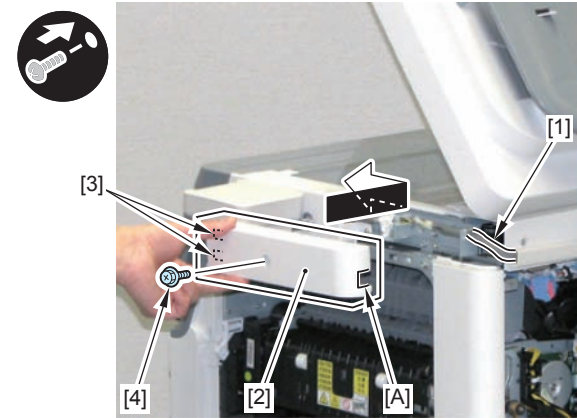
F-9-58

- 10) Install the Card Reader Harness [1] to the Main Controller.
  - 7 Wire Saddles [2]
  - 1 Connector [3]
  - 1 Edge Saddle [4]



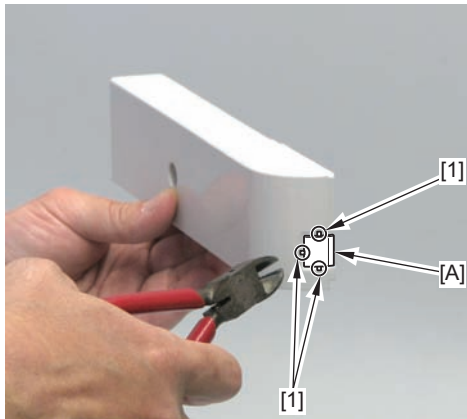
F-9-59

- 12) Pass the Card Reader Harness [1] through the [A] part of the Reader Right rear Cover, and return the Reader Right Rear Cover [2] to its original position.
  - 2 Protrusions [3]
  - 1 Screw [4] (Use the screws removed in "Removing the Covers" step 7.)



F-9-61

- 11) Cut off the [A] part of the Reader Right Rear Cover with nippers.
  - 3 Joints [1]

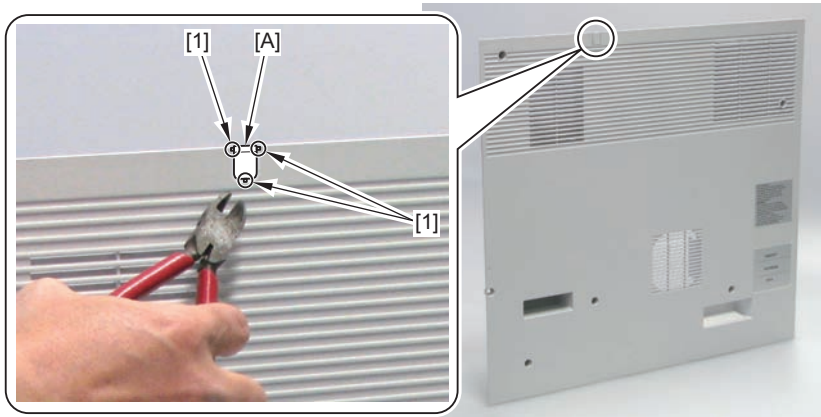


F-9-60

- 13) Close the DADF Unit and the Right Door Unit.

**CAUTION:**  
Be sure to check that there is no burr.

- 14) Cut off the [A] part of the Rear Cover with nippers.
- 3 Joints [1]

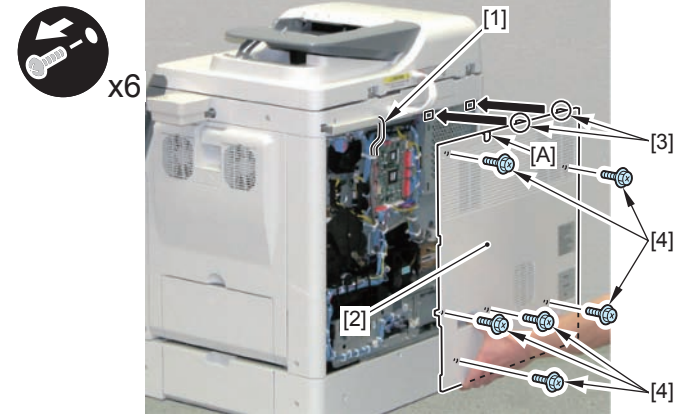


F-9-62

**CAUTION:**

Be sure to check that there is no burr.

- 16) Pass the Card Reader Harness [1] through the [A] part of the Rear Cover, and return the Rear Cover [2] to its original position.
- 2 Hooks [3]
  - 6 Screws [4]



F-9-63


- 15) Return the removed covers to their original positions.
- Lower Controller Cover
  - Upper Controller Cover
  - Left Cover
  - Cassette
  - Delivery Outer Cover
  - Front Cover

## 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) Enter service mode.
- 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) Press Additional Functions  to enter user mode.
- 7) Select System Settings > Department ID Management > ON, and perform various settings.  
(See User Manual CD-ROM > System Settings Guide > Chapter 1 Before You Start > Setting System Management Mode)
- 8) Insert the card with registered valid number to check it's at standby state.



## System Upgrade RAM-C1

### Checking the Contents



F-9-64

### Check Items when Turning OFF the Power

Check that the power of the host machine is OFF.

- 1) Turn OFF the Power Switch of the host machine.
- 2) Be sure that display in the Control Panel and the Power Supply Lamp are turned off, then disconnect the power plug.

### Installation Outline Drawing



F-9-65

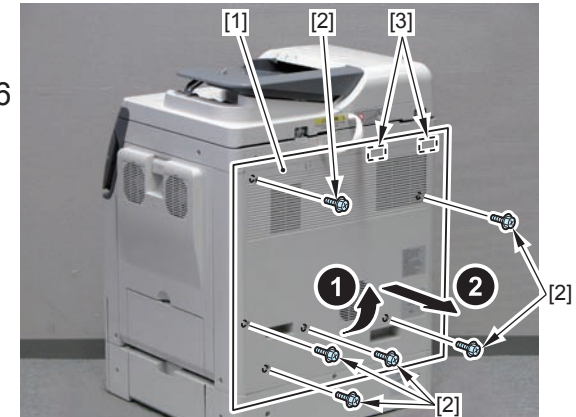
## Installation Procedure

### Removing the Covers

- 1) Remove the Rear Cover [1].
- 6 Screws [2]
  - 2 Hooks [3]

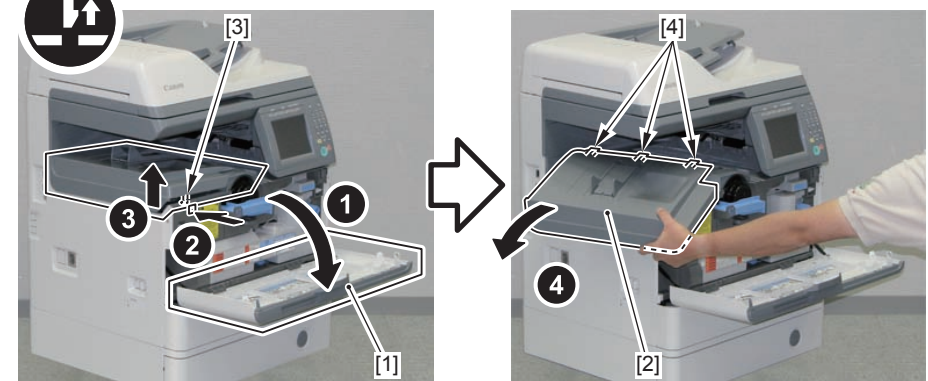


x6



F-9-66

- 2) Open the Front Cover [1], and remove the Delivery Outer Cover [2].
- 1 Claw [3]
  - 3 Hooks [4]



F-9-67

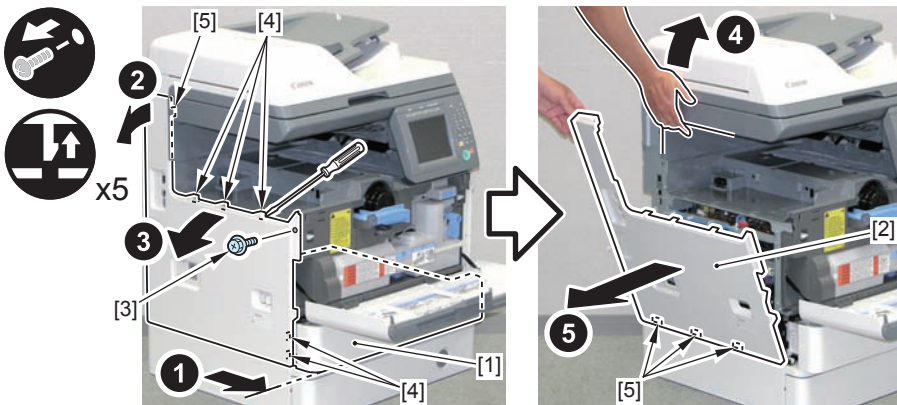
- 
- 3) Open the cassette [1], and remove the Left Cover [2] while lifting the host machine.
- 1 Screw [3]
  - 5 Claws [4]
  - 4 Hooks [5]

**CAUTION:**

When lifting the host machine, be sure to hold the rear side of the bottom of the Reader Unit.



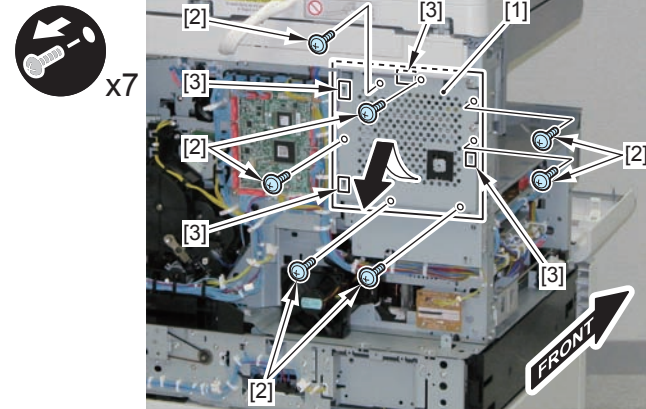
F-9-68



F-9-69

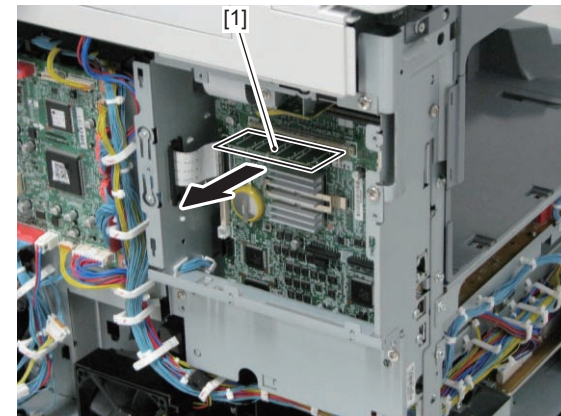
**Before Installing**

- 1) Remove the Upper Controller Cover [1].
- 7 Screws [2]
  - 4 Hooks [3]



F-9-70

- 2) Remove the SO-DIMM PCB [1].

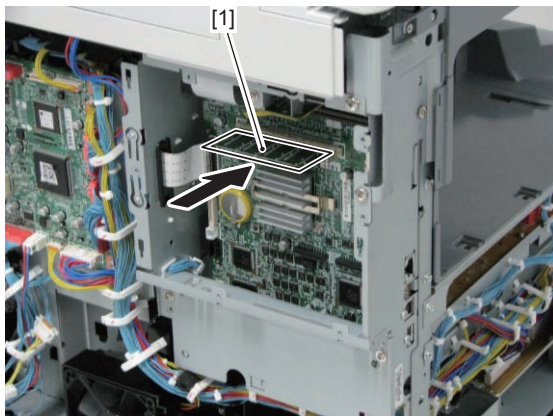


F-9-71



## ■ Installing the SO-DIMM

1) Install the SO-DIMM [1] to slot of the removed SO-DIMM.



F-9-72

2) Return the removed parts to their original positions.

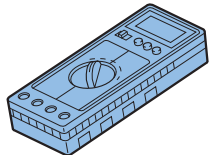
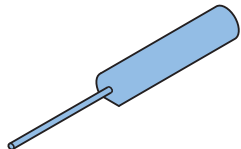
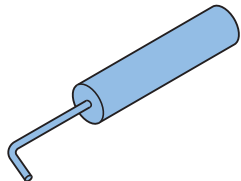
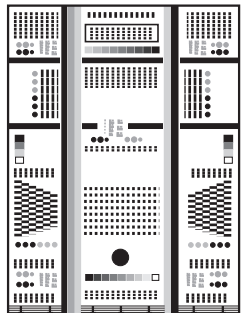
- Upper Controller Cover
- Left Cover
- Delivery Outer Cover
- Front Cover
- Rear Cover

# Appendix

- Service Tools
- General Timing Chart
- General Circuit Diagram
- List of User Mode

## 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.              |

T-10-1

- \*
- 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.

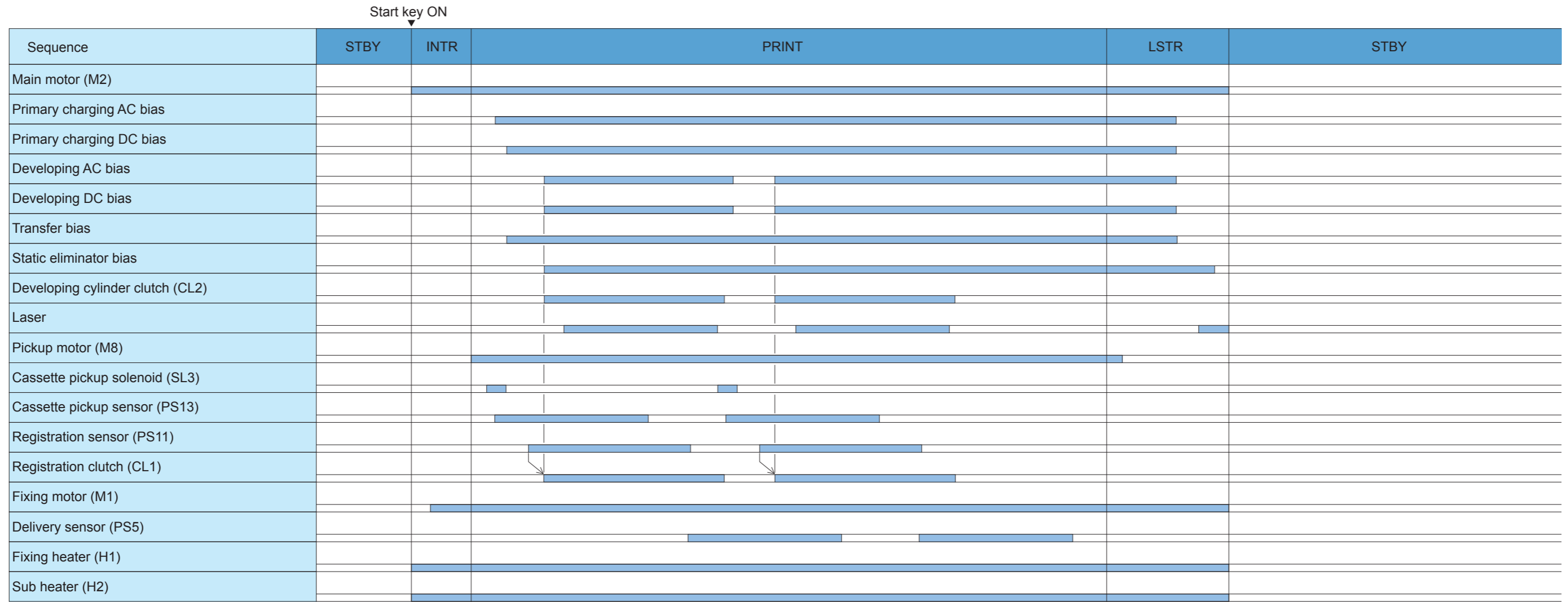
### Oils and Solvents

| Name    | Uses                                                             | Composition                                                                 | Remarks                                                                                    |
|---------|------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Alcohol | cleaning;<br>e.g.,<br>glass, plastic, rubber;<br>external covers | fluoride-family hydrocarbon<br>alcohol<br>surface activating agent<br>water | Do not bring near fire.<br>Procure locally.<br>IPA (isopropyl alcohol) may be substituted. |

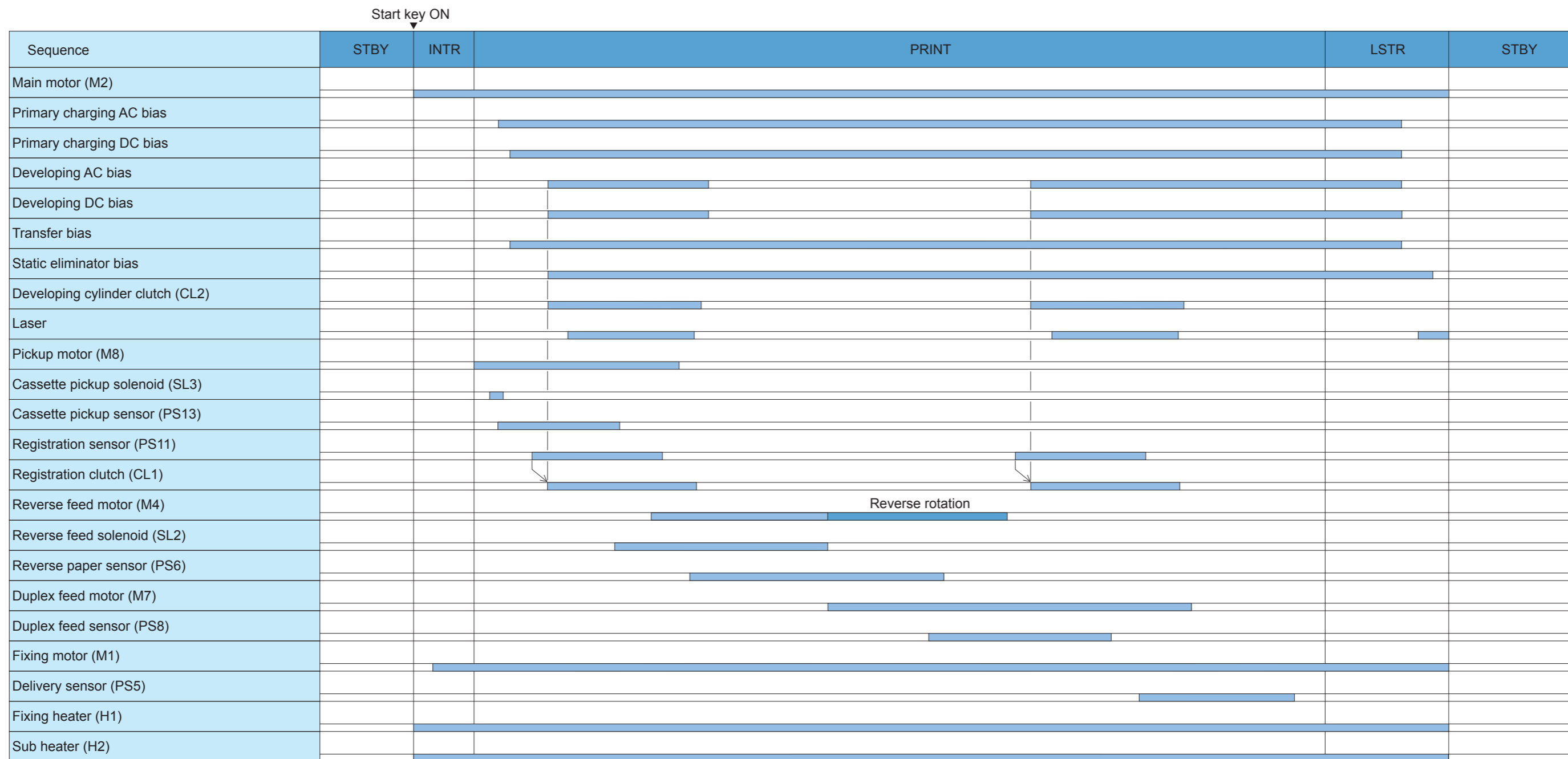
T-10-2

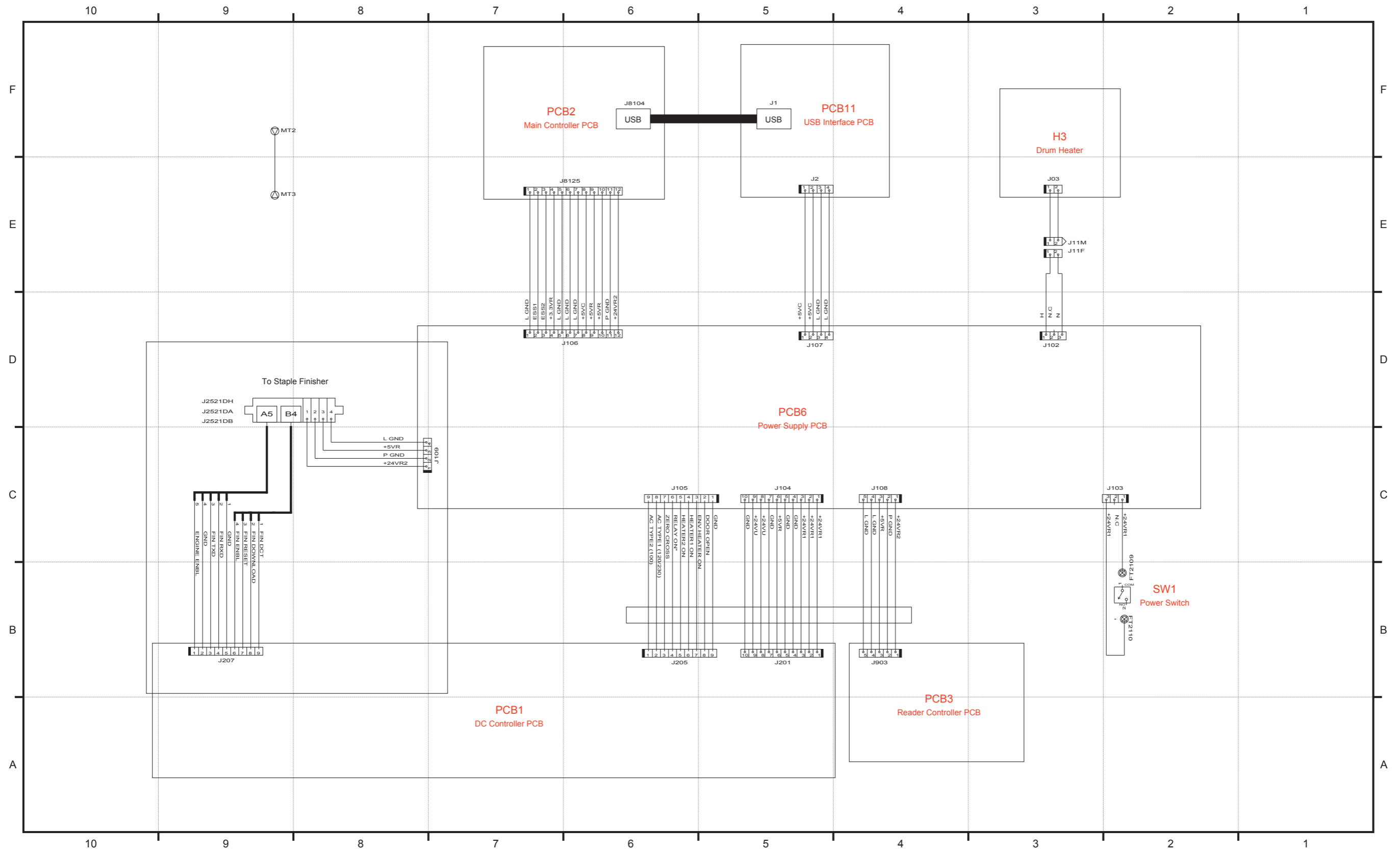
# General Timing Chart

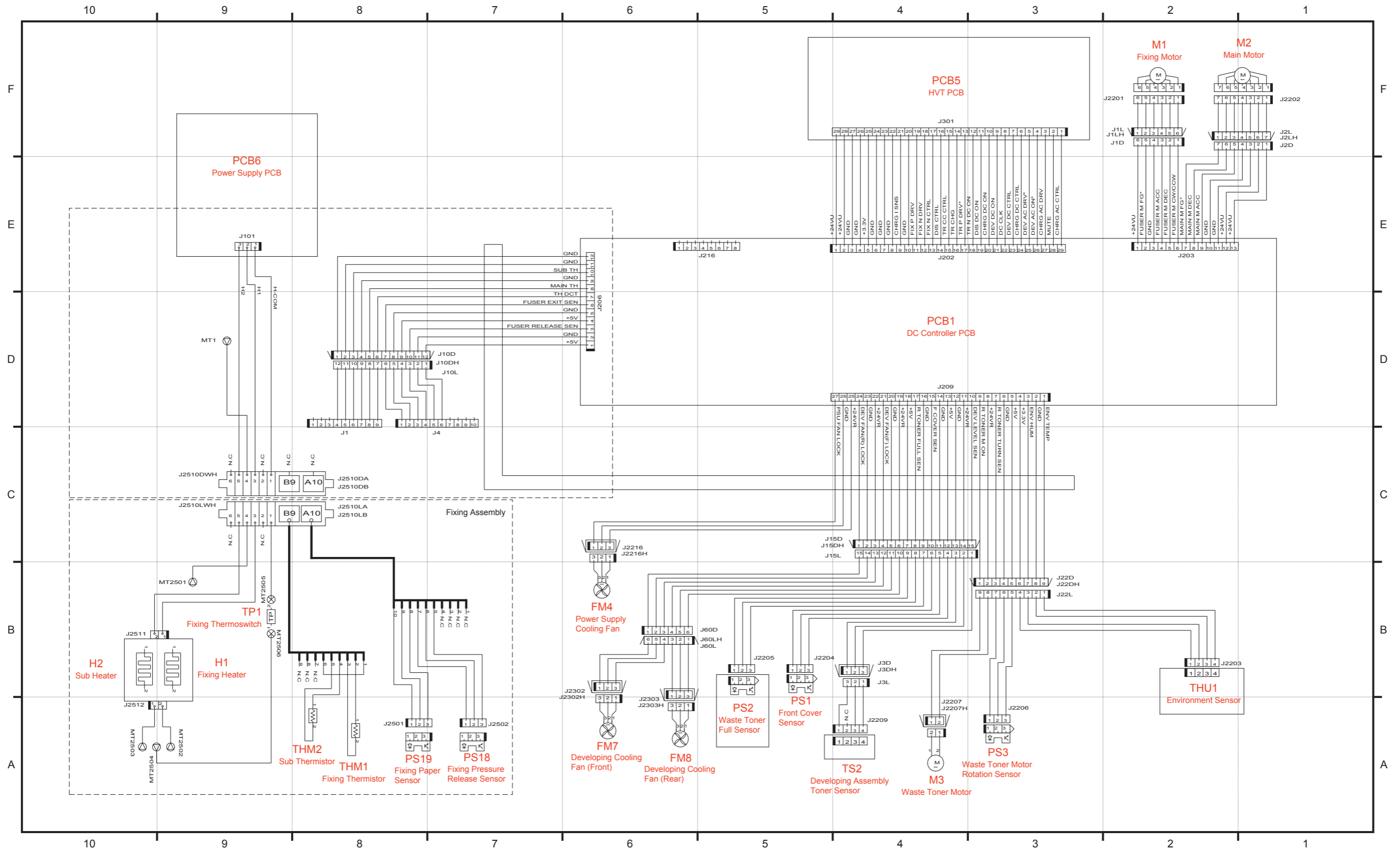
## Basic sequence at printing (A4 single-sided print (2 sheets), cassette)



Basic sequence at printing (A4 double-sided print (1 sheet), cassette)





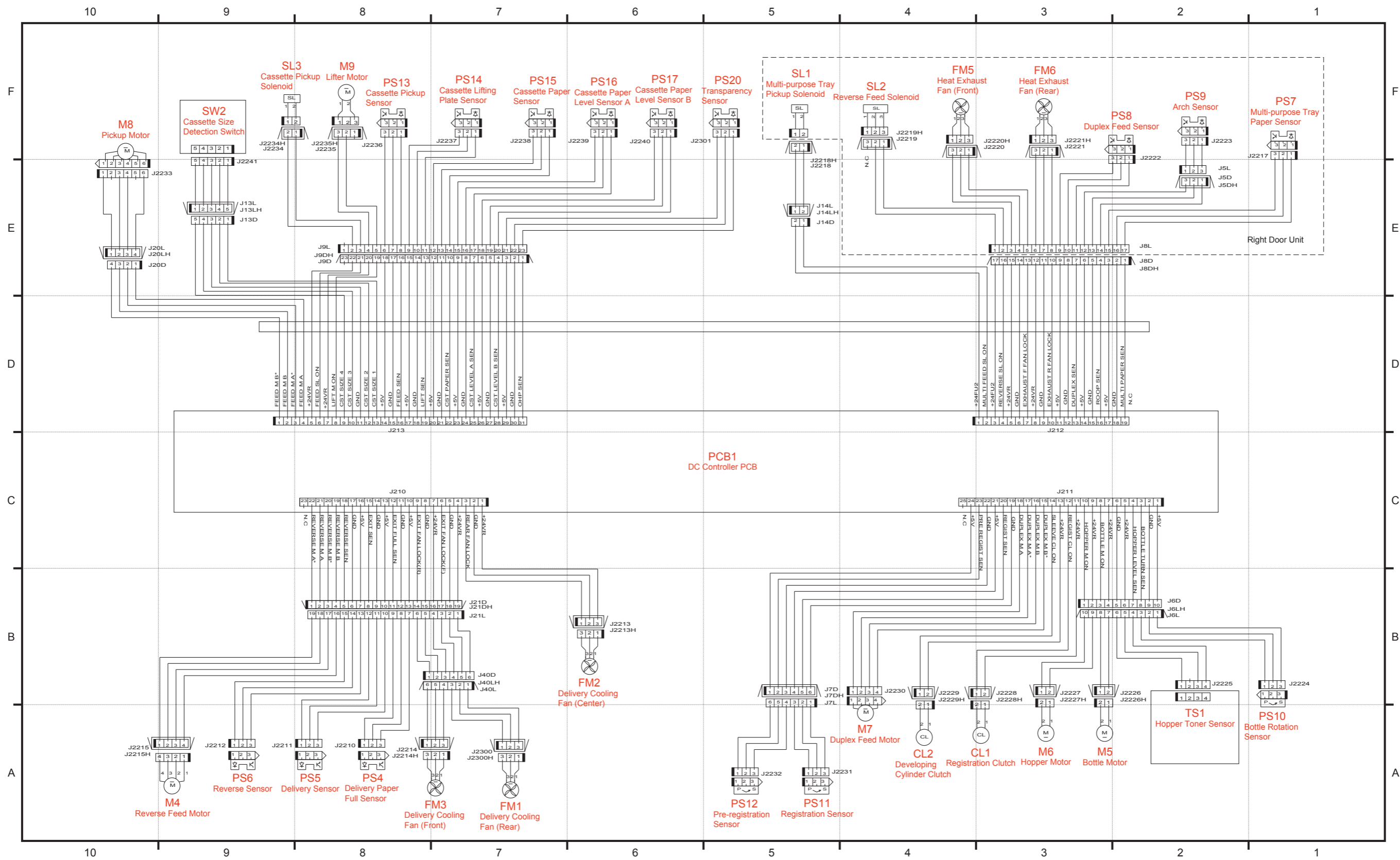


P.2



# General Circuit Diagram (3/10)

Appendix > General Circuit Diagram > General Circuit Diagram (3/10)

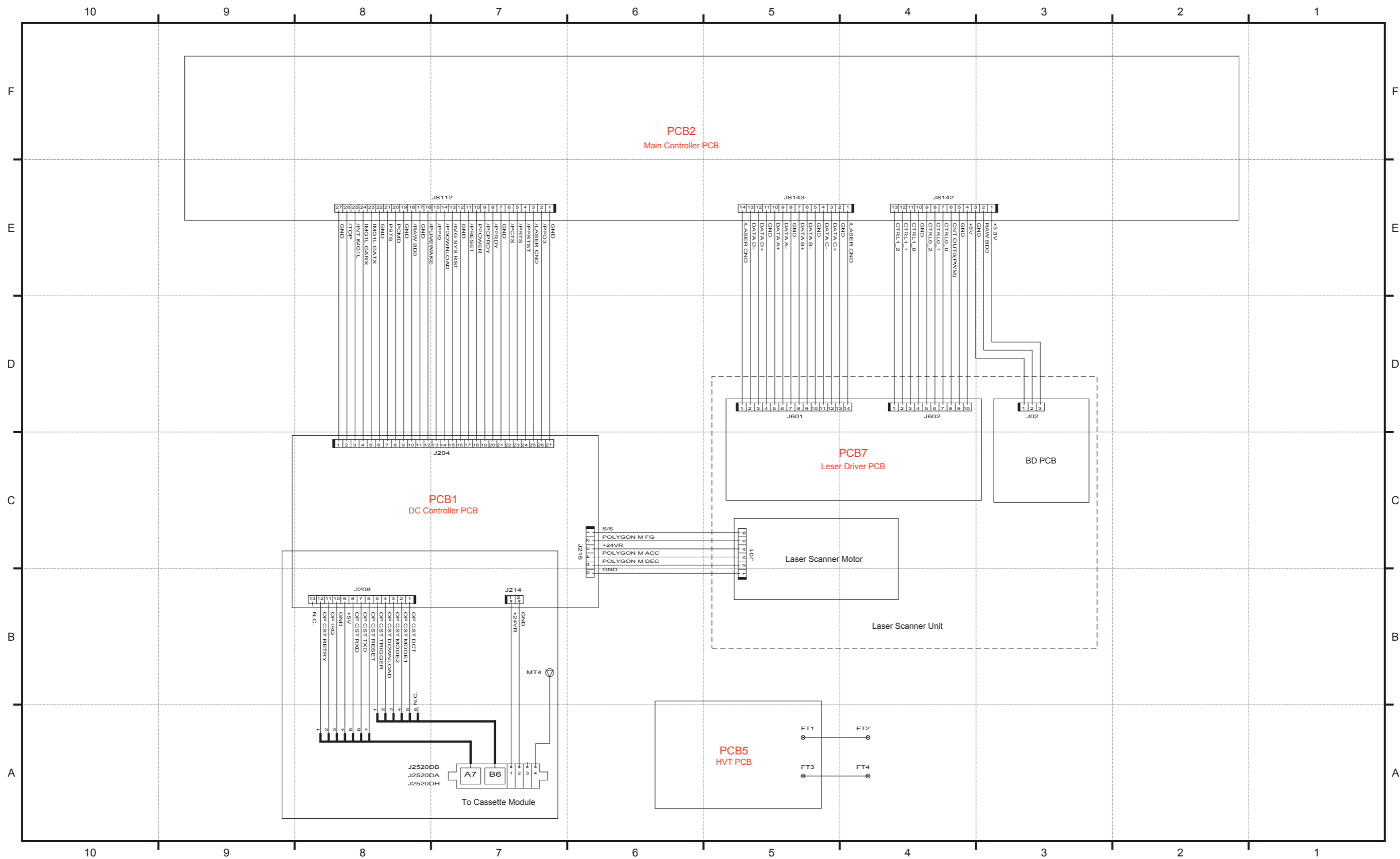


P.3

F-10-5

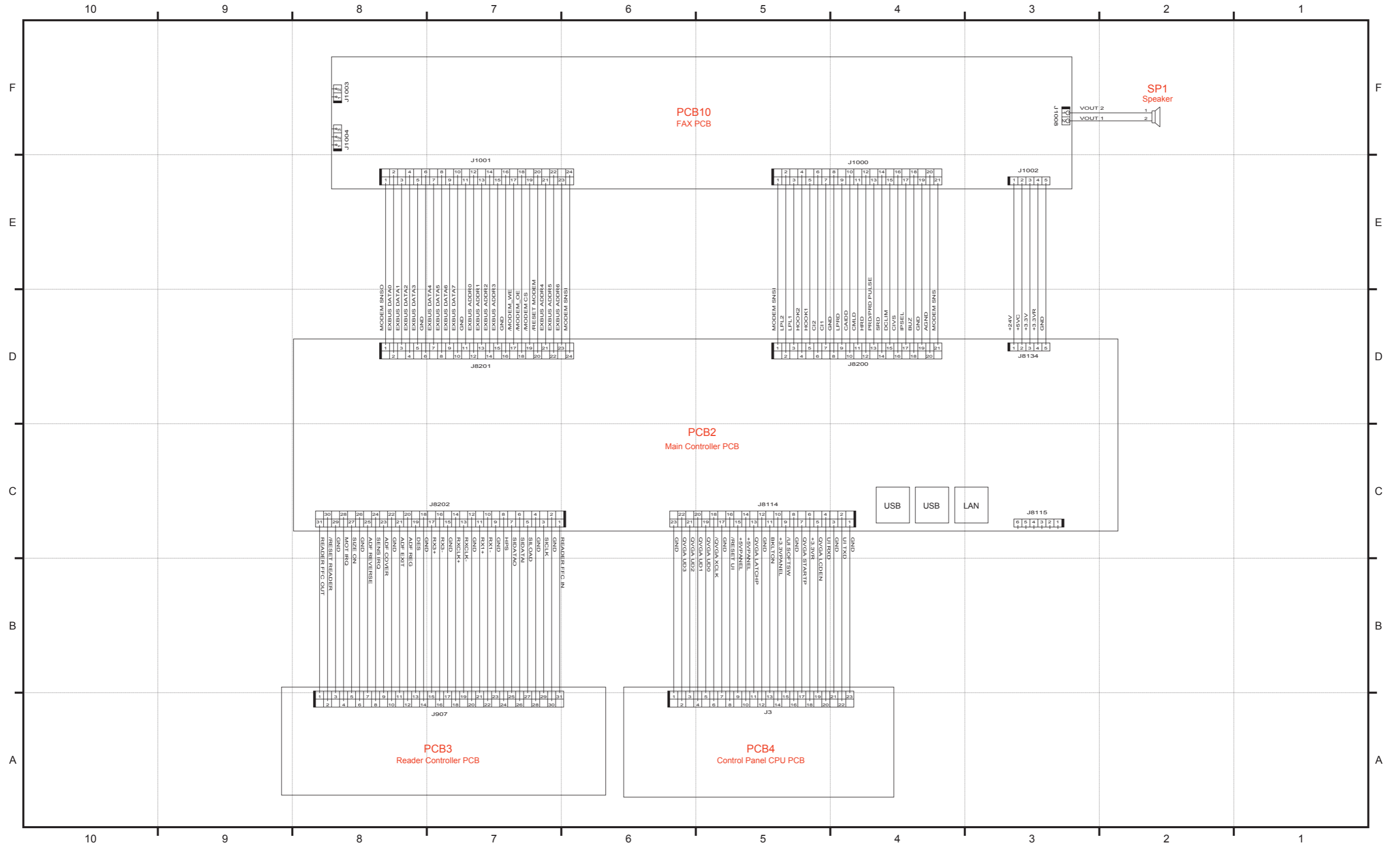
Appendix > General Circuit Diagram > General Circuit Diagram (3/10)

General Circuit Diagram (4/10)



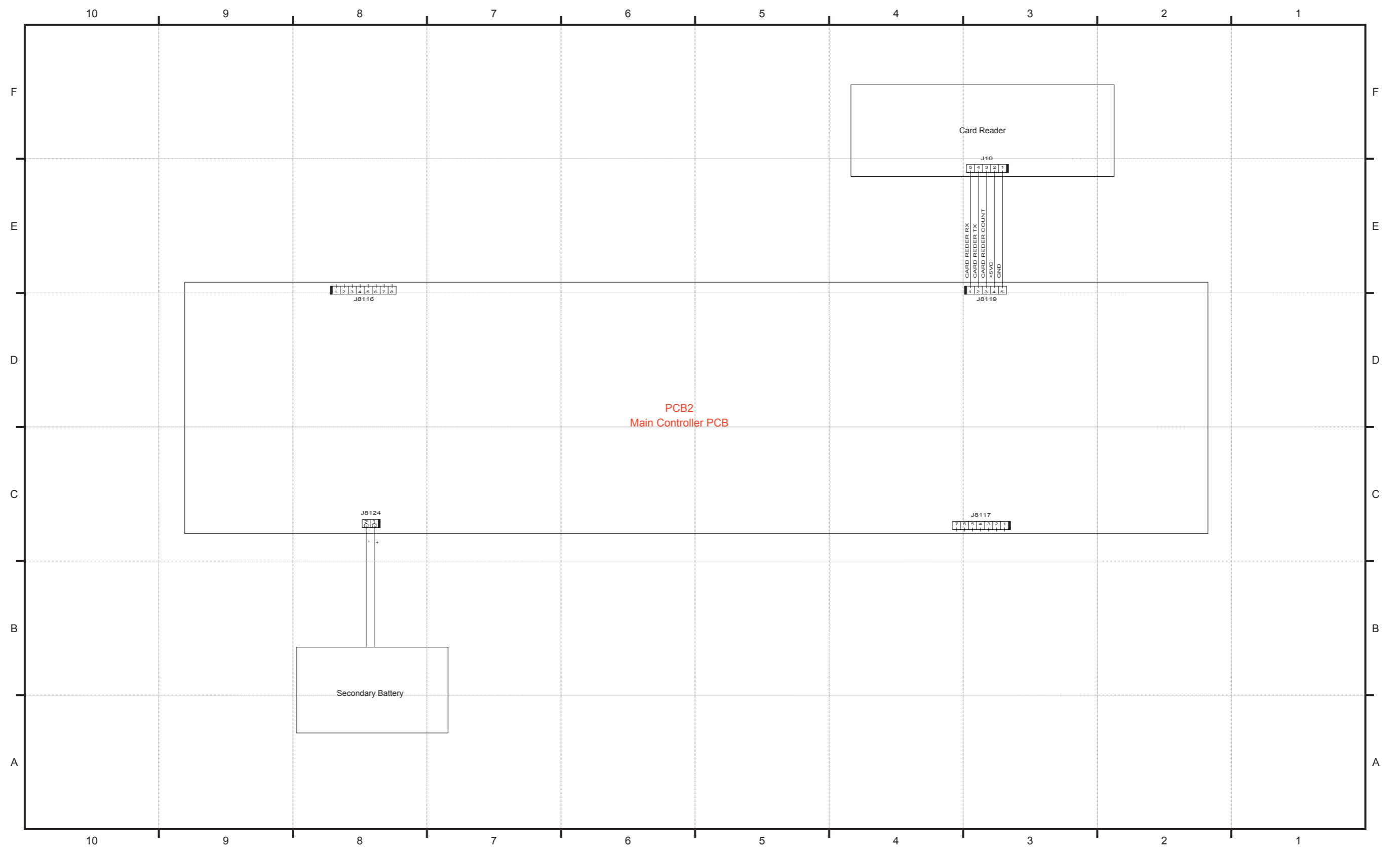
P.4

F-10-6

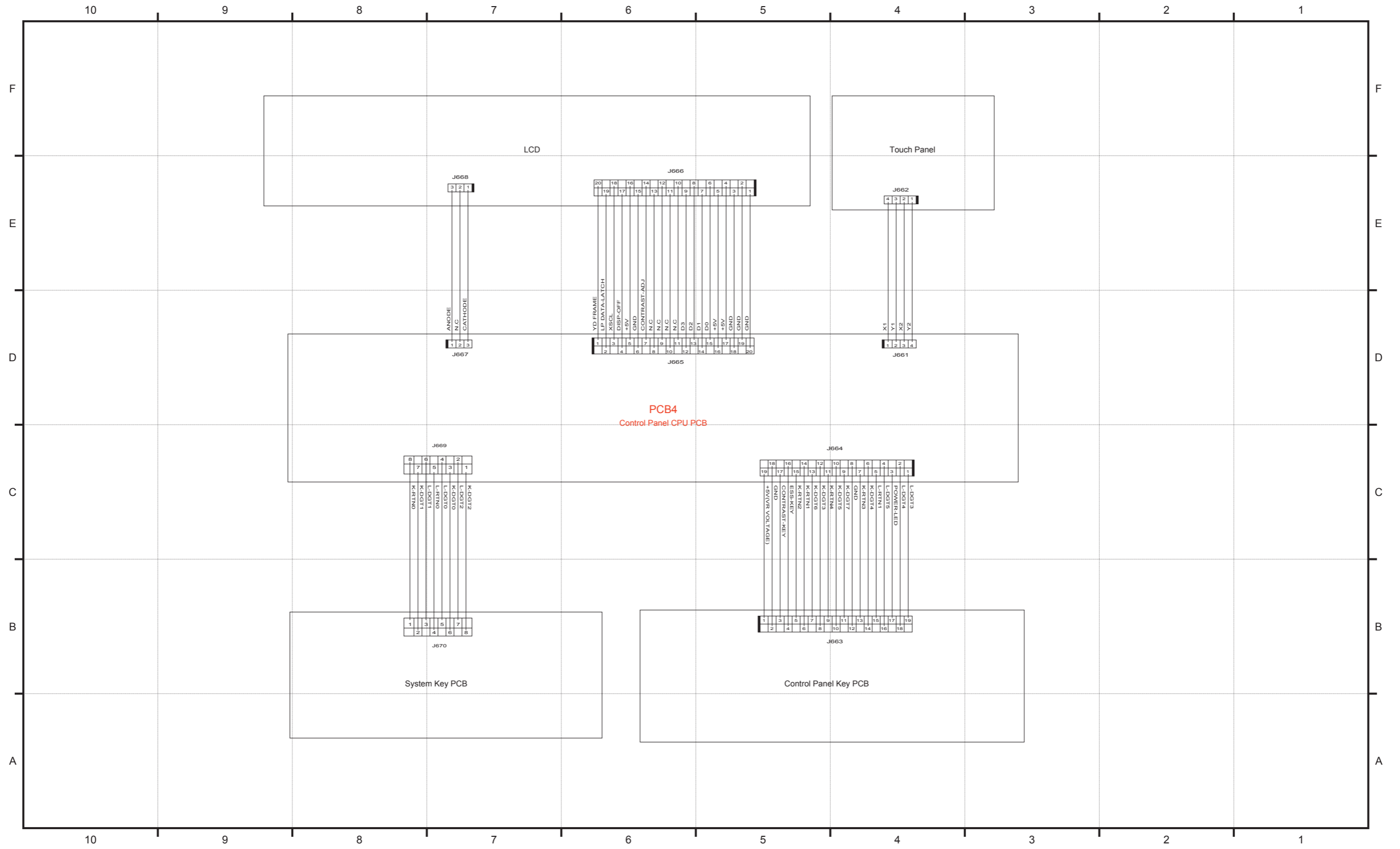


P.5

F-10-7

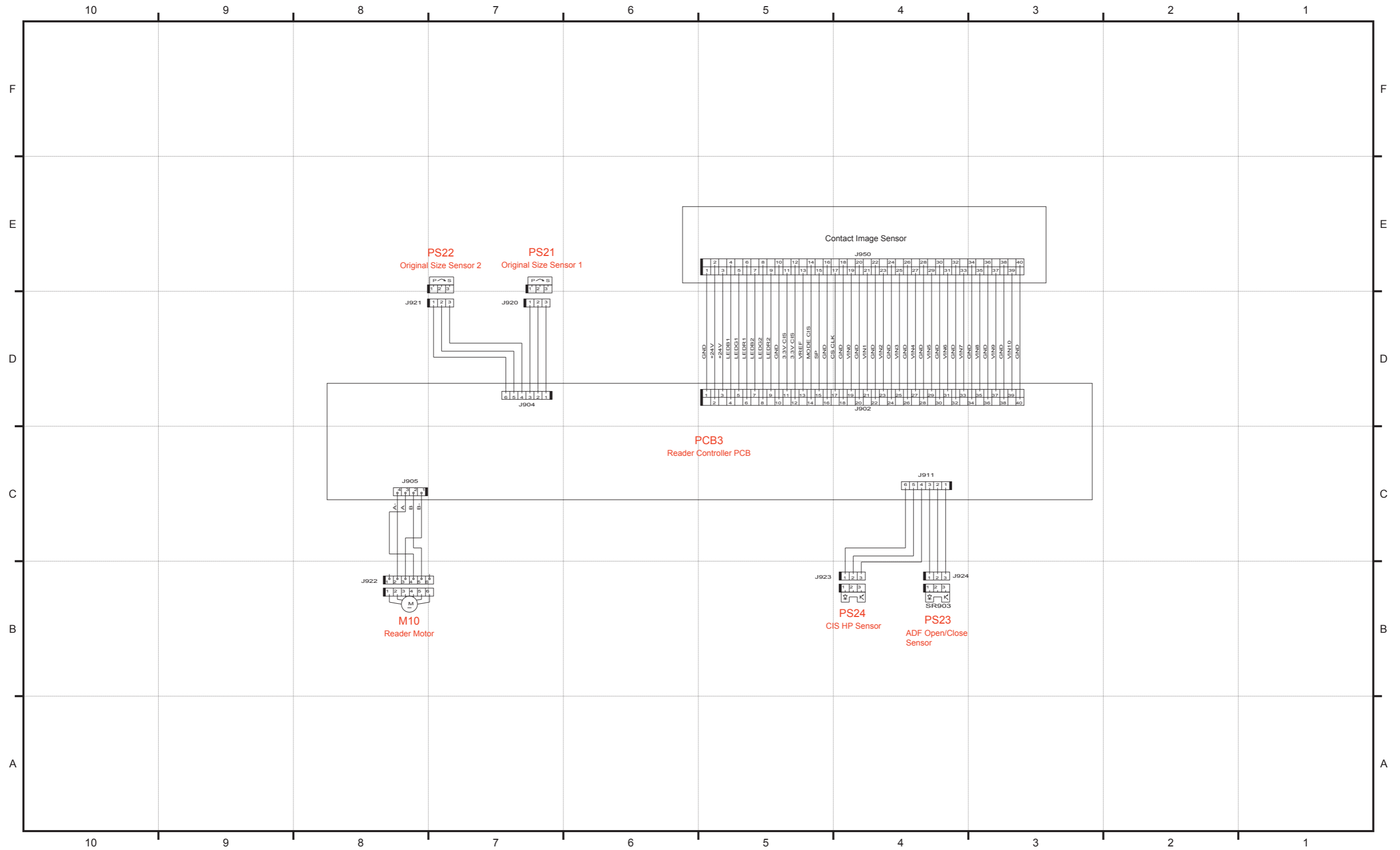


P.6



P.7

General Circuit Diagram (8/10)



P.8

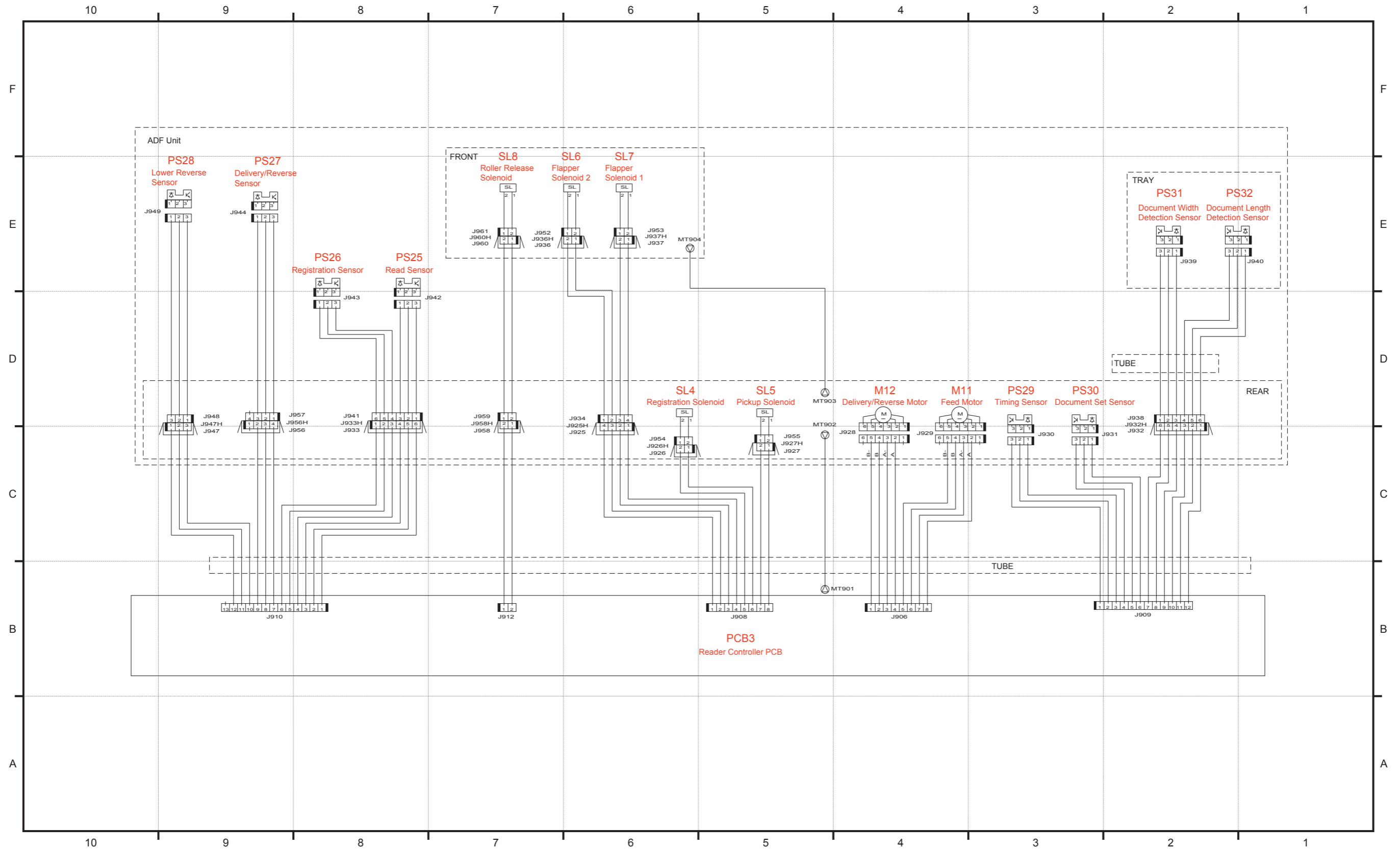
F-10-10

Appendix > General Circuit Diagram > General Circuit Diagram (8/10)

Appendix > General Circuit Diagram > General Circuit Diagram (8/10)

# General Circuit Diagram (9/10)

Appendix > General Circuit Diagram > General Circuit Diagram (9/10)



P.9

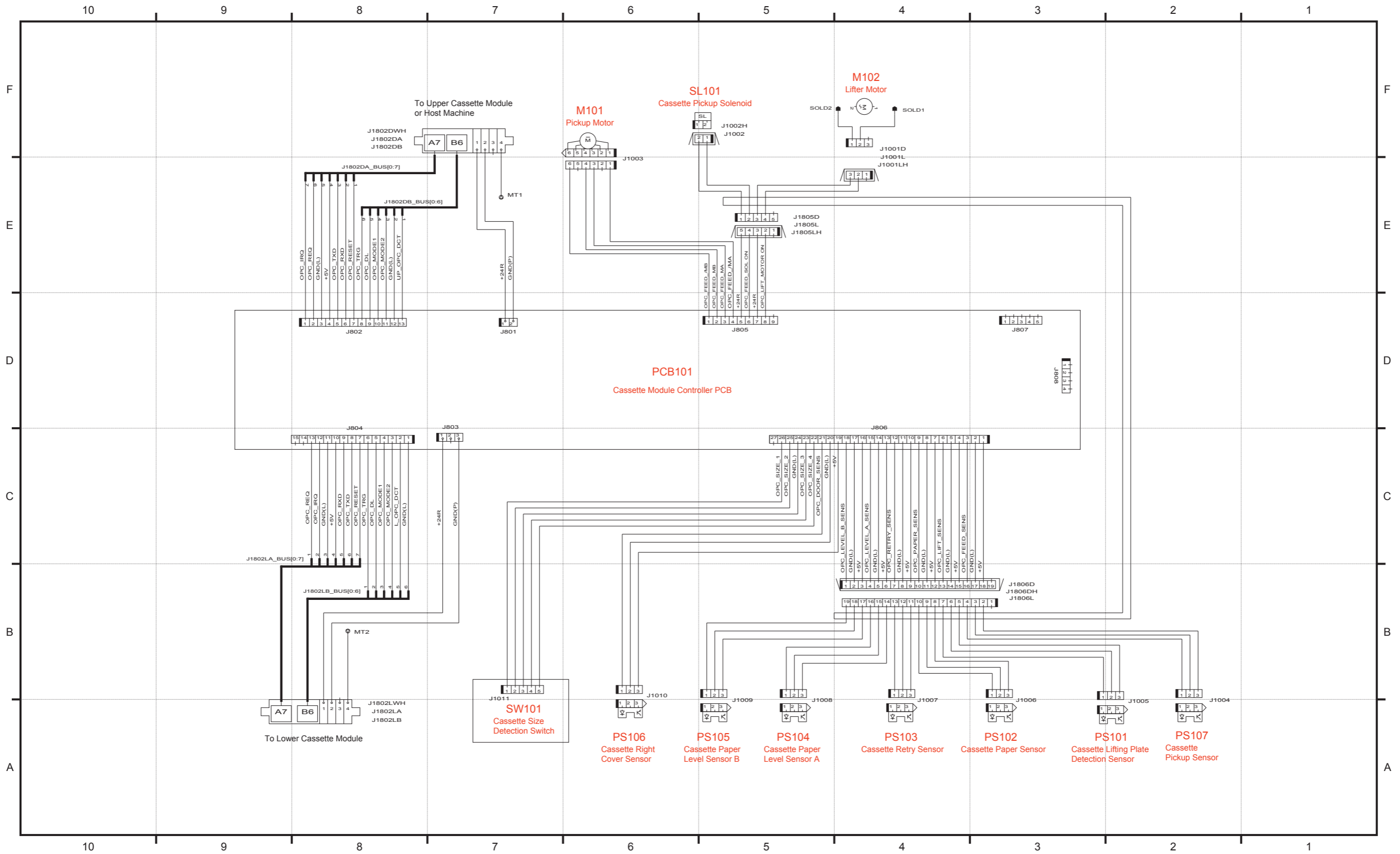
Appendix > General Circuit Diagram > General Circuit Diagram (9/10)



# General Circuit Diagram (10/10)

Appendix > General Circuit Diagram > General Circuit Diagram (10/10)

Appendix > General Circuit Diagram > General Circuit Diagram (10/10)



P.10

F-10-12

## List of User Mode

### Common Settings

\*1 Indicates items whose availability may vary depending on the machine configuration.

| Item                             | Setting Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Initial Function                 | Select Initial Function: Copy*, Send, Options<br>Set System Monitor Screen as Initial Function: On, Off*<br>Set [Device] as Default for System Monitor Screen: On*, Off                                                                                                                                                                                                                                                                                                                            |
| Auto Clear Setting               | Initial Function*, Selected Function                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Toner Save Mode                  | High, Low, Off*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Printer Density                  | -4 to +4; ±0*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Inch Entry                       | On*, Off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Drawer Eligibility For APS/ ADS  | Copy: Stack Bypass: On, Off* Drawer 1: On*, Off Drawer 2*1: On*, Off Drawer 3*1: On*, Off Drawer 4*1: On*, Off<br><br>Printer: Stack Bypass: On, Off* Drawer 1: On*, Off Drawer 2*1: On*, Off Drawer 3*1: On*, Off Drawer 4*1: On*, Off<br><br>Receive (or Fax)*1: Stack Bypass: On, Off* Drawer 1: On*, Off Drawer 2*1: On*, Off Drawer 3*1: On*, Off Drawer 4*1: On*, Off<br><br>Other: Stack Bypass: On, Off* Drawer 1: On*, Off Drawer 2*1: On*, Off Drawer 3*1: On*, Off Drawer 4*1: On*, Off |
| Envelope Drawer                  | No.10 (COM10)*, ISO-B5, Monarch, ISO-C5, DL                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Register Paper Type              | Drawer 1: Plain*, Recycled, Color, 3-hole punch, Heavy Paper 1<br>Drawer 2*1: Plain*, Recycled, Color, 3-hole punch, Heavy Paper 1<br>Drawer 3*1: Plain*, Recycled, Color, 3-hole punch, Heavy Paper 1<br>Drawer 4*1: Plain*, Recycled, Color, 3-hole punch, Heavy Paper 1                                                                                                                                                                                                                         |
| Energy Consumption in Sleep Mode | Low*, High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Stack Bypass Standard Settings   | On, Off*:<br>Paper Size<br>Inch-size: LTR*, LGL, STMT, EXEC<br>A/B-size: A4, A5, B5<br>Irregular Size: <X>: 5 9/16" - 24 3/4" (140 mm - 630 mm) <Y>: 3 15/16" - 8 1/2" (99 mm - 216 mm)<br>Envelope: No.10 (COM10), ISO-B5, Monarch, ISO-C5, DL<br>Paper Type: Plain*, Recycled, Color, 3-hole punch, Bond, Heavy Paper 1, Heavy Paper 2, Transparency, Labels                                                                                                                                     |
| Register Irregular Size          | Size 1: <X>: 5 9/16" - 24 3/4" (140 mm - 630 mm) <Y>: 3 15/16" - 8 1/2" (99 mm - 216 mm)<br>Size 2: <X>: 5 9/16" - 24 3/4" (140 mm - 630 mm) <Y>: 3 15/16" - 8 1/2" (99 mm - 216 mm)                                                                                                                                                                                                                                                                                                               |

| Item                            | Setting Description                                                                                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Paper Feed Method Switch        | Stack Bypass: Speed*, Print Side<br>Drawer 1: Speed*, Print Side<br>Drawer 2*1: Speed*, Print Side<br>Drawer 3*1: Speed*, Print Side<br>Drawer 4*1: Speed*, Print Side |
| Language Switch                 | On, Off*<br>Chinese (Simplified), English, French, Japanese, Korean, Portuguese, Spanish                                                                               |
| Reversed Display (B/W)          | On, Off*                                                                                                                                                               |
| Error Display for Dirty Feeder* | On*, Off                                                                                                                                                               |
| Gamma Value for Remote Scans    | Gamma 1.0, Gamma 1.4, Gamma 1.8*, Gamma 2.2                                                                                                                            |
| Limited Functions Mode*         | On, Off*                                                                                                                                                               |
| A5/STMT Paper Selection         | Drawer 1: A5, STMT*<br>Drawer 2*1: A5, STMT*<br>Drawer 3*1: A5, STMT*<br>Drawer 4*1: A5, STMT*                                                                         |
| Initialize Common Settings      | Select <Yes> or <No>.                                                                                                                                                  |

T-10-3

### Timer Settings

\*1 It is recommended to use the factory-installed settings for this item.

| Item                 | Setting Description                                                                                                                                                                                      |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date & Time Settings | Enter <MM/DD YYYY hh:mm>.<br>Time Zone Settings:<br>GMT -12:00 to GMT +12:00; GMT -5:00*<br>Daylight Saving Time Settings: On, Off*<br>Start Date: March, 2nd Sunday*<br>End Date: November, 1st Sunday* |
| Auto Sleep Time*1    | On*, Off (1 to 30 minutes in one minute increments; 2 min*)                                                                                                                                              |
| Auto Clear Time      | 0 to 9 minutes in one minute increments (0: Off); 2min*                                                                                                                                                  |

T-10-4

## Adjustment/Cleaning

| Item                             | Setting Description                                                                                    |
|----------------------------------|--------------------------------------------------------------------------------------------------------|
| Transfer Roller Cleaning         | Press [Start] to start cleaning.                                                                       |
| Drum Cleaning                    | Press [Start] to start cleaning.                                                                       |
| Fixing Unit Cleaning             | Press [Start] to start cleaning.<br>Press [Cleaning Sheet Print] to start printing the cleaning sheet. |
| Feeder Cleaning                  | Press [Start] to start cleaning.                                                                       |
| Special Mode M                   | Standard*, Low, High                                                                                   |
| Special Mode N                   | Auto*, Manual (Medium, High), Off                                                                      |
| Special Mode O                   | On, Off*                                                                                               |
| Special Mode P                   | Off*, Medium, High                                                                                     |
| Special Mode G                   | On, Off*                                                                                               |
| Special Mode S                   | On, Off*                                                                                               |
| Auto Adjustment for Dirty Feeder | On*, Off                                                                                               |
| Special Mode E                   | On, Off*                                                                                               |
| Special Mode F                   | Off*, MODE1, MODE2, MODE3                                                                              |
| Initialize After Replacing Drum  | Select [Yes] or [No]. (This function is used only when the drum unit needs to be replaced.)            |

T-10-5

## Report Settings

\*1 Indicates items that are available only when the optional Super G3 Fax Board-AJ1 (standard equipped for the imageRUNNER 1750iF/1740iF/1730iF) is attached to the machine.

| Item                  | Setting Description                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------|
| Settings              |                                                                                                 |
| TX Report             | On, For Error Only*<br>Report With TX Image: On*, Off<br>Off                                    |
| Activity Report       | Auto Print: On*, Off<br>Send/Receive Separate: On, Off*<br>Daily Activity Report Time: On, Off* |
| RX Report             | On, For Error Only, Off*                                                                        |
| Fax Activity Report*1 | Auto Print: On, Off*<br>Send/Receive Separate: On, Off*<br>Daily Activity Report Time: On, Off* |
| Print List            |                                                                                                 |
| Address Book List     | One-touch Buttons, Address Book: Yes, No                                                        |
| User's Data List      | Yes, No                                                                                         |

T-10-6

## Copy Settings

| Item                     | Setting Description |
|--------------------------|---------------------|
| Standard Settings        | Store, Initialize   |
| Initialize Copy Settings | Yes, No             |

T-10-7

## Communications Settings

\*1 Indicates items that are available only when the optional Super G3 Fax Board-AJ1 (standard equipped for the imageRUNNER 1750iF/1740iF/1730iF) is attached to the machine.

\*2 The setting for [Sharpness] is invalid when all of the conditions below are met.

- [100 × 100 dpi], [150 × 150 dpi], or [200 × 100 dpi] is selected as the resolution.
- [B&W] is selected as the color mode.
- [Text] is selected as the image quality.

To activate [Sharpness], change the settings.

\*3 Indicates items that are available only when the Color Send Searchable PDF Kit-E1 (optional for the imageRUNNER 1750/1740/1730) is activated.

| Item                                    | Setting Description                                                                                                                                           |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Common Settings                         |                                                                                                                                                               |
| TX Settings                             |                                                                                                                                                               |
| Unit Name                               | 24 characters maximum                                                                                                                                         |
| Data Compression Ratio                  | High Ratio, Normal*, Low Ratio                                                                                                                                |
| Retry Times                             | 0 to 5 times; 3 times*                                                                                                                                        |
| Edit Standard Send Settings             | Store, Initialize                                                                                                                                             |
| TX Terminal ID                          | On*<br>Printing Position: Inside, Outside<br>Telephone # Mark*1: FAX*, TEL                                                                                    |
| Gamma Value for Color Send Jobs         | Gamma 1.0, Gamma 1.4, Gamma 1.8*, Gamma 2.2                                                                                                                   |
| Sharpness*2                             | 7 levels; 4*                                                                                                                                                  |
| Register Favorites Button               | Register/Edit, Erase                                                                                                                                          |
| PDF (Compact) Image Quality             | Image Level in Text/Photo or Photo Mode: Data Size Priority, Normal*, Image Priority<br>Image Level in Text Mode: Data Size Priority, Normal*, Image Priority |
| PDF (OCR) Orig. Auto Detect. Settings*3 | On, Off                                                                                                                                                       |
| Color TX Scan Settings                  | Speed Priority, Image Priority                                                                                                                                |
| Default Screen for Send                 | Favorites Buttons, One-touch Buttons, Initial Function                                                                                                        |
| Initialize TX Settings                  | Yes, No                                                                                                                                                       |
| RX Settings                             |                                                                                                                                                               |
| 2-Sided Print                           | On, Off*                                                                                                                                                      |
| Receive Reduction                       | On*<br>RX Reduction: Auto*, Fix. Red.<br>Reduce %: 97%, 95%, 90%*, 75%<br>Reduce Direction: Ver. Hor., Vertical Only*<br>Off                                  |
| Received Page Footer                    | On, Off*                                                                                                                                                      |
| Gamma Value for YCbCr Received Jobs     | Gamma 1.0, Gamma 1.4, Gamma 1.8*, Gamma 2.2                                                                                                                   |

| Item                           | Setting Description                                                                                                                                         |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fax Settings*1                 |                                                                                                                                                             |
| User Settings                  |                                                                                                                                                             |
| Unit Telephone #               | 20 digits maximum                                                                                                                                           |
| Tel Line Type                  | Pulse, Tone*                                                                                                                                                |
| TX Settings                    |                                                                                                                                                             |
| ECM TX                         | On*, Off                                                                                                                                                    |
| Pause Time                     | 1 to 15 seconds; 2 seconds*                                                                                                                                 |
| Auto Redial                    | On*<br>Redial Times: 1 to 10 times; 2 times*<br>Redial Interval: 2 to 99 minutes; 2 minutes*<br>TX Error Redial: Error and 1st page, All Pages*, Off<br>Off |
| Check Dial Tone Before Sending | On*, Off                                                                                                                                                    |
| RX Settings                    |                                                                                                                                                             |
| ECM RX                         | On*, Off                                                                                                                                                    |
| RX Restriction                 | On, Off*                                                                                                                                                    |

T-10-8

## Printer Settings

### Settings Menu

\*1 The Offset and Staple modes are available only when the optional Staple Finisher-H1 is attached to the machine.

| Item              | Setting Description                                                                             |
|-------------------|-------------------------------------------------------------------------------------------------|
| Default PaperSize | LTR*, STMT, EXECUTIV, No. 10 (COM10), MONARCH, ISO-C5, ISO-B5, DL, A4, B5, A5, LGL              |
| Default PaperType | Plain*, Color, Recycled, Heavy Paper 1, Transparency, Bond, Labels, 3Hole Punch Paper, Envelope |
| Copies            | 1* to 999                                                                                       |
| 2-Sided Printing  | Off*, On                                                                                        |
| Print Quality     |                                                                                                 |
| Image Refinement  | On*, Off                                                                                        |
| Density           | 9 levels; 5*                                                                                    |
| Toner Save        | Off*, On                                                                                        |
| Line Refinement   | On*, Off                                                                                        |
| Horizontal Line   | Off*, Level 1, Level 2, Level 3, Level 4                                                        |
| Vertical Line     | Off*, Level 1, Level 2, Level 3, Level 4                                                        |
| Layout            |                                                                                                 |
| Binding Location  | Long Edge*, Short Edge                                                                          |
| Margin            | -1.90 to +1.90Inches; 00.00Inches*                                                              |
| Auto Continue     | Off*, On                                                                                        |
| Timeout           | On (5 to 300sec), Off; 15sec*                                                                   |
| Finishing         | Off*, Collate, Offset+Collate*1, Offset+Group*1, Staple+Collate*1                               |
| Personality       | Auto*, PCL, PS                                                                                  |
| Mode Priority     | Off*, PCL, PS                                                                                   |
| Auto Select       |                                                                                                 |
| PCL               | On*, Off                                                                                        |
| PS                | On*, Off                                                                                        |
| Initialize        | Off*, On                                                                                        |

T-10-9

### PCL Settings\*1

\*1 To use the PCL Printer function with the imageRUNNER 1750/1740/1730, the optional PCL Printer Kit-AL1 is required.

\*2 The BarDIMM function is available only when it is activated.

| Item        | Setting Description          |
|-------------|------------------------------|
| Paper Save  | OFF*, ON                     |
| Orientation | Portrait*, Landscape         |
| Font Number | 0* to 104                    |
| Point Size  | 4.00 to 999.75 point; 12.00* |
| Pitch       | 0.44 to 99.99 cpi; 10.00*    |

| Item            | Setting Description                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Form Lines      | 5 to 128 lines; 60*                                                                                                                                                                                                                                                                                                                                                                       |
| Symbol Set      | PC8*, PC850, PC851, PC852, PC862, PC864, PC866, PC8DN, PC8GRK, PC8TK, PC1004, PIFONT, PSMATH, PSTEXT, ROMAN8, VNINTL, VNMATH, VNUS, WIN30, WINARB, WINBAL, WINCYR, WINGRK, WINL1, WINL2, WINL5, ARABIC8, DESKTOP, GREEK8, HEBREW7, HEBREW8, ISO4, ISO6, ISO11, ISO15, ISO17, ISO21, ISO60, ISO69, ISOCYR, ISOGRK, ISOHEB, ISOL1, ISOL2, ISOL5, ISOL6, LEGAL, MATH8, MCTEXT, MSPUBL, PC775 |
| Custom Paper    | Off*, On                                                                                                                                                                                                                                                                                                                                                                                  |
| Unit of Measure | Inches*, Millimeters                                                                                                                                                                                                                                                                                                                                                                      |
| X dimension     | 05.51 to 24.80 inch; 14.00*                                                                                                                                                                                                                                                                                                                                                               |
| Y dimension     | 03.90 to 08.50 inch; 08.50*                                                                                                                                                                                                                                                                                                                                                               |
| Append CR to LF | No*, Yes                                                                                                                                                                                                                                                                                                                                                                                  |
| Widen A4 Print  | Off*, On                                                                                                                                                                                                                                                                                                                                                                                  |
| Halftones       |                                                                                                                                                                                                                                                                                                                                                                                           |
| Text            | Resolution*, High Resolution, Tone, Gradation                                                                                                                                                                                                                                                                                                                                             |
| Graphics        | Tone*, Gradation, Resolution, High Resolution                                                                                                                                                                                                                                                                                                                                             |
| Image           | Tone*, Gradation, Resolution, High Resolution                                                                                                                                                                                                                                                                                                                                             |
| BarDIMM*2       | Enable*, Disable                                                                                                                                                                                                                                                                                                                                                                          |
| FreeSpace       | ~, ", #, \$, /, \, ?, {, },  , OFF                                                                                                                                                                                                                                                                                                                                                        |

T-10-10

### PS Settings\*

\* To use the PS Printer function with the imageRUNNER 1750/1740/1730, the optional PS Printer Kit-AL1 is required.

| Item            | Setting Description                     |
|-----------------|-----------------------------------------|
| Job Timeout     | 0 to 3600 seconds; 0s*                  |
| Wait Timeout    | 0 to 3600 seconds; 300s*                |
| Print PS Errors | Off*, On                                |
| Halftones       |                                         |
| Text            | High Resolution*, Gradation, Resolution |
| Graphics        | Gradation*, Resolution, High Resolution |
| Image           | Gradation*, Resolution, High Resolution |

T-10-11

### Other Settings

| Item              | Setting Description |
|-------------------|---------------------|
| Ppr Size Override | Off*, On            |

T-10-12

## Address Book Settings

### Register Address

| Item                     | Setting Description                                                                               |
|--------------------------|---------------------------------------------------------------------------------------------------|
| Register New add.        |                                                                                                   |
| Fax                      |                                                                                                   |
| Register Name            | Max. 16 characters                                                                                |
| Destination Registration | Max. 16 characters                                                                                |
| Fax Number               | Max. 120 characters (+, Pause, Tone, <, >, Backspace, Space, ISDN sub Address, F net, DT, R, PIN) |
| Option                   |                                                                                                   |
| ECM TX                   | OFF/ON*                                                                                           |
| Sending Speed            | 33600bps*, 14400bps, 9600bps, 4800bps                                                             |
| Long Distance            | Domestic*, Long Distance 1, Long Distance 2, Long Distance 3                                      |
| E-mail                   |                                                                                                   |
| Register Name            | Max. 16 characters                                                                                |
| Destination Registration | Max. 16 characters                                                                                |
| E-Mail Address           | Max. 120 characters                                                                               |
| I-Fax                    |                                                                                                   |
| Register Name            | Max. 16 characters                                                                                |
| Destination Registration | Max. 16 characters                                                                                |
| I-Fax Address            | Max. 120 characters                                                                               |
| File                     |                                                                                                   |
| Register Name            | Max. 16 characters                                                                                |
| Destination Registration | Max. 16 characters                                                                                |
| Protocol                 | FTP*, Windows(SMB)                                                                                |
| Host Name                | FTP:Max.47 characters<br>Windows(SMB):Max. 120 characters                                         |
| File Path                | Max. 120 characters                                                                               |
| User                     | Max. 24 characters                                                                                |
| Password                 | FTP:Max.24 characters<br>Windows(SMB):Max. 14 characters                                          |
| Group                    |                                                                                                   |
| Register Name            | Max. 16 characters                                                                                |
| Destination Registration | Max. 16 characters                                                                                |
| Address Book             | Fax, E-Mail, I-Fax, RemoteFileSystem, JetSend, Box, LocalPrinter                                  |
| Details                  | -                                                                                                 |
| Erase                    | -                                                                                                 |

| Item                    | Setting Description                                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Network Add. Book       |                                                                                                                                            |
| Simple Search           |                                                                                                                                            |
| Server to Search        | Registered LDAP Server                                                                                                                     |
| Name                    | Max. 120 characters                                                                                                                        |
| E-mail                  | Max. 120 characters                                                                                                                        |
| Fax                     | Max. 120 characters                                                                                                                        |
| Detailed Search         |                                                                                                                                            |
| Server to Search        | Registered LDAP Server                                                                                                                     |
| Add Condition           | Name, E-mail, Fax, Organization, Org.Unit<br>contains, doesnotcontain, equals, differsfrom, beginswith,<br>endswith<br>Max. 120 characters |
| (matching)              | or/and                                                                                                                                     |
| Search Results          |                                                                                                                                            |
| Type                    | All, E-mail, Fax                                                                                                                           |
| Select e-mail for I-Fax | ON/OFF                                                                                                                                     |
| Edit                    | -                                                                                                                                          |
| Erase                   | -                                                                                                                                          |

T-10-13

## One-touch Buttons

| Item                                             | Setting Description                                          |
|--------------------------------------------------|--------------------------------------------------------------|
| (Select the number of registered one-touch dial) |                                                              |
| Details/Edit                                     | (To display the address details/editing screen)              |
| Fax                                              |                                                              |
| Register Name                                    | Max. 16 characters                                           |
| Register One-Touch Name                          | Max. 12 characters                                           |
| Destination Registration                         | Max. 120 characters                                          |
| ECM TX                                           | OFF/ON*                                                      |
| Sending Speed                                    | 33600bps*, 14400bps, 9600bps, 4800bps                        |
| Long Distance                                    | Domestic*, Long Distance 1, Long Distance 2, Long Distance 3 |
| E-Mail                                           |                                                              |
| Register Name                                    | Max. 16 characters                                           |
| Register One-Touch Name                          | Max. 12 characters                                           |
| E-mail Address                                   | Max. 120 characters                                          |
| I-Fax                                            |                                                              |
| Register Name                                    | Max. 16 characters                                           |
| Register One-Touch Name                          | Max. 12 characters                                           |
| I-Fax Address                                    | Max. 120 characters                                          |
| File                                             |                                                              |
| Register Name                                    | Max. 16 characters                                           |
| Register One-Touch Name                          | Max. 12 characters                                           |
| Protocol                                         | FTP*, Windows(SMB)                                           |
| Host Name                                        | FTP:Max.47 characters<br>Windows(SMB):Max. 120 characters    |
| Folder Name                                      | Max. 120 characters                                          |
| User Name                                        | Max. 24 characters                                           |
| Password                                         | FTP:Max.24 characters<br>Windows(SMB):Max. 14 characters     |
| Group                                            |                                                              |
| Register Name                                    | Max. 16 characters                                           |
| Register One-Touch Name                          | Max. 12 characters                                           |
| Destination Registration                         | Max. 299 characters                                          |

| Item                    | Setting Description                                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Network Add. Book       |                                                                                                                                            |
| Simple Search           |                                                                                                                                            |
| Server to Search        | Registered LDAP Server                                                                                                                     |
| Name                    | Max. 120 characters                                                                                                                        |
| E-mail                  | Max. 120 characters                                                                                                                        |
| Fax                     | Max. 120 characters                                                                                                                        |
| Detailed Search         |                                                                                                                                            |
| Server to Search        | Registered LDAP Server                                                                                                                     |
| Add Condition           | Name, E-mail, Fax, Organization, Org.Unit<br>contains, doesnotcontain, equals, differsfrom,<br>beginswith, endswith<br>Max. 120 characters |
| (matching)              | or/and                                                                                                                                     |
| Search Results          |                                                                                                                                            |
| Type                    | All, E-mail, Fax                                                                                                                           |
| Select e-mail for I-Fax | ON/OFF                                                                                                                                     |
| Erase                   | Erase the highlight destination? No/Yes                                                                                                    |

T-10-14



## System Management Settings

### System Manager Info. Setting

| Item                  | Setting Description     |
|-----------------------|-------------------------|
| System Mgmt. Dept ID  | Max 7 digits (7654321*) |
| System Mgmt. Password | Max 7 digits (7654321*) |
| System Manager Name   | Max 32 characters       |

T-10-15

### Device Info. Settings

| Item                 | Setting Description |
|----------------------|---------------------|
| Device Name          | Max 32 characters   |
| Location Information | Max 32 characters   |

T-10-16

### Dept. ID Management

| Item                               | Setting Description                     |
|------------------------------------|-----------------------------------------|
| (Dept. ID Management)              | OFF*/ON                                 |
| Register ID/Password               |                                         |
| Dept. ID                           | Max 7 characters                        |
| Password                           | Max 7 characters                        |
| Turn Limits ON/OFF and Page Limits |                                         |
| Total Print Limit                  | ON/OFF*, Set Page Limits (0* to 999999) |
| Copy Limit                         | ON/OFF*, Set Page Limits (0* to 999999) |
| B&W Scan Limit                     | ON/OFF*, Set Page Limits (0* to 999999) |
| Color Scan Limit                   | ON/OFF*, Set Page Limits (0* to 999999) |
| Print Limit                        | ON/OFF*, Set Page Limits (0* to 999999) |
| Page Totals                        |                                         |
| Dept.ID List                       | -                                       |
| Password                           | -                                       |
| Page Total                         | 0 to 999999                             |
| Clear                              | -                                       |
| Clear All Totals                   | -                                       |
| Print List                         | -                                       |
| Allow ID Unknown Printer Jobs      | OFF/ON*                                 |
| Allow ID Unknown Remote Scan Jobs  | OFF/ON*                                 |

T-10-17

### User ID Management

| Item                 | Setting Description                                  |
|----------------------|------------------------------------------------------|
| (User ID Management) | OFF*/ON Add user name to Send Document Name: ON*/OFF |

T-10-18

## Network Settings

| Item                               | Setting Description                                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| TCP/IP Settings                    |                                                                                                                                          |
| IPv4 Settings                      |                                                                                                                                          |
| IP Address Settings                |                                                                                                                                          |
| DHCP                               | ON/OFF*                                                                                                                                  |
| BOOTP                              | ON/OFF*                                                                                                                                  |
| RARP                               | ON/OFF*                                                                                                                                  |
| IP Address                         | IP Address 0.0.0.0*                                                                                                                      |
| Subnet Mask                        | IP Address 0.0.0.0*                                                                                                                      |
| Gateway Address                    | IP Address 0.0.0.0*                                                                                                                      |
| PING Command                       | Enter the IP Address using the numeric keys. Then press the [Start] key.                                                                 |
| IP Address Range Settings          |                                                                                                                                          |
| Reject / Permit                    | Reject / Permit                                                                                                                          |
| Register                           | Single Address: IP Address<br>Multiple Address: First Address, Last Address                                                              |
| Edit                               | -                                                                                                                                        |
| Erase                              | -                                                                                                                                        |
| DNS Server                         |                                                                                                                                          |
| DNS Server Address Settings        | Primary DNS Server: IP Address 0.0.0.0*<br>Secondary DNS Server: IP Address 0.0.0.0*                                                     |
| DNS Host Name/Domain Name Settings | Host Name: Max. 47 characters (*:Canon*****("*****" represents the last six digits of a MAC address))<br>Domain Name: Max. 47 characters |
| DNS Dynamic Update Settings        | OFF*/ON                                                                                                                                  |
| IPv6 Settings                      |                                                                                                                                          |
| Use IPv6                           |                                                                                                                                          |
| (Use IPv6)                         | OFF*/ON<br>Link-Local Address, Prefix (Display only)                                                                                     |
| Stateless Address Settings         |                                                                                                                                          |
| Use Stateless Address Settings     | ON*/OFF<br>Link-Local Address, Prefix: Max. 6 IPv6 Addresses (Display only)                                                              |
| Manual Address Settings            | ON/OFF*                                                                                                                                  |
| Manual Address                     | IPv6 Address                                                                                                                             |
| Prefix Length                      | 0 to 128 *64                                                                                                                             |
| Default Router Address             | Router Address                                                                                                                           |
| Use DHCPv6                         |                                                                                                                                          |
| Use DHCPv6                         | ON/OFF*<br>Stateful Address, Prefix (Display only)                                                                                       |
| PING Command                       |                                                                                                                                          |
| IPv6 Address                       | IPv6 Address, [Start] key                                                                                                                |
| Host Name                          | Host Name, [Start] key                                                                                                                   |
| IP Address Range Settings          | OFF*/ON                                                                                                                                  |

| Item                               | Setting Description                                                                                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reject / Permit                    | Reject / Permit                                                                                                                                                                               |
| Register                           | Single Address: IP Address<br>Multiple Address: First Address, Last Address                                                                                                                   |
| Edit                               | -                                                                                                                                                                                             |
| Erase                              | -                                                                                                                                                                                             |
| DNS Server                         |                                                                                                                                                                                               |
| DNS Server Address Settings        | Primary DNS Server: IPv6 Address<br>Secondary DNS Server: IPv6 Address                                                                                                                        |
| DNS Host Name/Domain Name Settings | Use Same Host Name / Domain Name at IPv4: OFF*/ON<br>Host Name: Max. 47 characters (*:Canon*****("*****" represents the last six digits of a MAC address))<br>Domain Name: Max. 47 characters |
| DNS Dynamic Update Settings        | DNS Dynamic Update Settings: OFF*/ON<br>Register Manual Address: OFF*/ON<br>Register Stateful Address: OFF*/ON                                                                                |
| WINS Configuration                 |                                                                                                                                                                                               |
| WINS Resolution                    | ON/OFF*                                                                                                                                                                                       |
| WINS Server                        | IP Address 0.0.0.0*                                                                                                                                                                           |
| LPD Settings                       | ON*/OFF                                                                                                                                                                                       |
| RAW Settings                       |                                                                                                                                                                                               |
| Use RAW                            | ON*/OFF                                                                                                                                                                                       |
| Use Bidirectional                  | OFF*/ON                                                                                                                                                                                       |
| WSD Print Settings                 |                                                                                                                                                                                               |
| Use WSD                            | OFF*/ON                                                                                                                                                                                       |
| Use WSD Browsing                   | OFF*/ON                                                                                                                                                                                       |
| Use Multicast Discovery            | OFF*/ON                                                                                                                                                                                       |
| SNTP Settings                      |                                                                                                                                                                                               |
| Use SNTP                           | ON/OFF*                                                                                                                                                                                       |
| Polling Interval                   | 1 to 48 24*                                                                                                                                                                                   |
| NTP Server Address                 | IP Address or Max. 47 characters                                                                                                                                                              |
| NTP Server Check                   | OK, Error                                                                                                                                                                                     |
| Use PASV Mode for FTP              | ON/OFF*                                                                                                                                                                                       |
| FTP Extension                      | ON/OFF*                                                                                                                                                                                       |

| Item                               | Setting Description                                                                                                                       |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Certificate Settings               |                                                                                                                                           |
| Generate Key                       |                                                                                                                                           |
| Key Name                           | Max. 24 characters                                                                                                                        |
| CA Certificate List                |                                                                                                                                           |
| Cert. Details                      | Version, Serial Number, Sig. Algorithm, Issue Dest., Validity Start, Validity End, Issuer, Public Key, Cert. Thmprn(SHA1)<br>Cert. Verif. |
| Erase                              | -                                                                                                                                         |
| Register CA Certificate            |                                                                                                                                           |
| Register                           | File Name                                                                                                                                 |
| Erase                              | -                                                                                                                                         |
| Key and Certificate List           |                                                                                                                                           |
| Cert. Details                      | Key Name, Use, Certificate                                                                                                                |
| Erase                              | -                                                                                                                                         |
| Display Use Loc,                   | -                                                                                                                                         |
| Register Key and Certificate       |                                                                                                                                           |
| Register                           | File Name                                                                                                                                 |
| Erase                              | -                                                                                                                                         |
| Use HTTP                           | OFF/ON*                                                                                                                                   |
| SSL Settings                       |                                                                                                                                           |
| The key used below can be changed. | List                                                                                                                                      |
| Key and Cert.                      | Set as Def. key, Cert. Details, Display Use Loc.                                                                                          |
| Port Number Settings               |                                                                                                                                           |
| LPD                                | 0 to 65535 (515*)                                                                                                                         |
| RAW                                | 0 to 65535 (9100*)                                                                                                                        |
| HTTP                               | 0 to 65535 (80*)                                                                                                                          |
| SMTP Receive                       | 0 to 65535 (25*)                                                                                                                          |
| POP3 Receive                       | 0 to 65535 (110*)                                                                                                                         |
| FTP Sending                        | 0 to 65535 (21*)                                                                                                                          |
| SMTP Send                          | 0 to 65535 (25*)                                                                                                                          |
| SNMP                               | 0 to 65535 (161*)                                                                                                                         |
| WSD                                | 0 to 65535 (3702*)                                                                                                                        |
| HTTPS                              | 1 to 65535 (443*)                                                                                                                         |
| Receiving MAC Address Settings     |                                                                                                                                           |
| Apply Settings                     | OFF*/ON                                                                                                                                   |
| Register                           | MAC Address                                                                                                                               |
| Edit                               | -                                                                                                                                         |
| Erase                              | -                                                                                                                                         |
| Proxy Settings                     |                                                                                                                                           |
| Use Proxy                          | ON/OFF*                                                                                                                                   |
| Server Address                     | IP Address or Max. 128 characters                                                                                                         |
| Port Number                        | 1 to 65535 80*                                                                                                                            |
| Use Proxy within the Same Domain   | OFF*/ON                                                                                                                                   |

| Item                                 | Setting Description          |
|--------------------------------------|------------------------------|
| Authentication Settings              |                              |
| Use Proxy Authentication             | OFF*/ON                      |
| User                                 | Max. 24 characters           |
| Password                             | Max. 24 characters           |
| Confirm Dept. ID Management Password | ON/OFF*                      |
| SMB Settings                         |                              |
| Use SMB Client                       | ON*/OFF                      |
| Server                               | Max. 15 characters           |
| Workgroup                            | Max. 15 characters           |
| Comment                              | Max. 48 characters           |
| LM Announce                          | OFF*/ON                      |
| SNMP Settings                        |                              |
| Use SNMP                             | ON*/OFF                      |
| Community Name 1                     | Max. 15 characters (Public*) |
| Writable SNMP 1                      | OFF*/ON                      |
| Community Name 2                     | Max. 15 characters           |
| Writable SNMP 2                      | OFF*/ON                      |
| Get Printer Mgt. Info from Host      | OFF*/ON                      |
| Enable Dedicated Port                | OFF/ON*                      |
| Ethernet Driver Settings             |                              |
| Auto Detect                          | OFF/ON*                      |
| Communication Mode                   | Half Duplex* , Full Duplex   |
| Ethernet Type                        | 10 Base-T* , 100 Base-TX     |
| MAC Address                          | (Display only)               |
| E-mail/I-Fax                         |                              |
| SMTP Receive                         | OFF*/ON                      |
| POP                                  | OFF/ON*                      |
| Authentication / Encryption          |                              |
| POP Auth. Before Send                | OFF*/ON                      |
| SMTP Authentication                  | OFF*/ON                      |
| User Name                            | Max. 64 characters           |
| Password                             | Max. 32 characters           |
| SMTP Server                          | Max. 47 characters           |
| E-mail Address                       | Max. 64 characters           |
| POP Server                           | Max. 47 characters           |
| POP Address                          | Max. 32 characters           |
| POP Password                         | Max. 32 characters           |
| POP Interval                         | 0 to 99 Minutes *0           |
| Startup Time Settings                | 0 to 300 Seconds 0*          |

| Item                              | Setting Description                              |
|-----------------------------------|--------------------------------------------------|
| IEEE802.1X Settings               |                                                  |
| USE IEEE802.1X Settings           | OFF*/ON                                          |
| Login Name                        | Max. 24 characters                               |
| TLS Settings                      |                                                  |
| Use TLS                           | OFF*/ON                                          |
| Key and Certificate               | Set as Def. key, Cert. Details, Display Use Loc. |
| TTLS Settings                     |                                                  |
| Use TTLS                          | OFF*/ON                                          |
| TTLS Set.(TTLS Internal Protocol) | MSCHAPv2*/PAP                                    |
| PEAP Settings                     |                                                  |
| Use PEAP                          | OFF*/ON                                          |
| User Name                         | Max. 24 characters                               |
| Password                          | Max. 24 characters                               |
| Login Name as User Name           | OFF*/ON                                          |

T-10-19

## ■ Communications Settings

| Item                      | Setting Description                                                                                                                                                 |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E-mail/I-Fax Settings     |                                                                                                                                                                     |
| Send Data Size Limit      | 0 to 99MB (3MB*)                                                                                                                                                    |
| Divide TX Data Oversize   | OFF*/ON                                                                                                                                                             |
| Default Subject           | Max. 40 characters (Attached Image*)                                                                                                                                |
| Fax Settings*1            |                                                                                                                                                                     |
| Send Start Speed          | 33600*/14400/9600/7200/4800/2400 bps                                                                                                                                |
| Receive Start Speed       | 33600*/14400/9600/7200/4800/2400 bps                                                                                                                                |
| PIN Code Access           | On (Option, Prefix, Suffix), Off*                                                                                                                                   |
| Memory Lock Settings      | ON/OFF*                                                                                                                                                             |
| Option                    |                                                                                                                                                                     |
| Password                  | Max. 7 digits                                                                                                                                                       |
| Report Print              | ON*/OFF                                                                                                                                                             |
| Memory Lock Time Settings |                                                                                                                                                                     |
| Memory Lock Start Time    | 00:00 to 23:59                                                                                                                                                      |
| Memory Lock End Time      | 00:00 to 23:59                                                                                                                                                      |
| Select Country / region   | Australia (AU), New Zealand (NZ), Hong Kong (HK), Singapore (SG), Malaysia (MY), Vietnam (VN), Argentina (AR), Other (Asia), Other (Latin America), Other (Oceania) |

T-10-20

## ■ Forwarding Settings

| Item                         | Setting Description                                                                                                                                                                                                                                                                                                   |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Forwarding Condition Setting | All*, Fax, I-Fax                                                                                                                                                                                                                                                                                                      |
| Validate/Invalidate          | Changed OFF*/ON                                                                                                                                                                                                                                                                                                       |
| Register                     |                                                                                                                                                                                                                                                                                                                       |
| Forwarding Cond. Name        | Max. 50 characters                                                                                                                                                                                                                                                                                                    |
| Forwarding Condition Setting | Fax*, I-Fax                                                                                                                                                                                                                                                                                                           |
| Fax selected                 |                                                                                                                                                                                                                                                                                                                       |
| Fax Number:                  | "Disregard*, Do Not Exist, equals, differs from, begins with, ends with, contains, does not contain<br>* Only when <Fax> is selected in <Forwarding Conditions Settings>"<br>Max. 20 characters                                                                                                                       |
| I-Fax selected               |                                                                                                                                                                                                                                                                                                                       |
| To:                          | Disregard*, equals, differs from, begins with, ends with, contains, does not contain<br>Max. 120 characters                                                                                                                                                                                                           |
| From:                        | Disregard*, equals, differs from, begins with, ends with, contains, does not contain<br>Max. 120 characters                                                                                                                                                                                                           |
| Subject:                     | Disregard*, equals, differs from, begins with, ends with, contains, does not contain<br>Max. 120 characters                                                                                                                                                                                                           |
| Forwarding destination       | Select from the list of registered addresses                                                                                                                                                                                                                                                                          |
| File Format                  | "When <Fax> is selected in <Forwarding Conditions Settings>:<br>TIFF* , PDF<br>Divide into Pages: OFF*/ON<br>When <I-Fax> is selected in <Forwarding Conditions Settings>:<br>Divide into Pages:<br>PDF (B&W)/JPEG (Color), TIFF (B&W)/JPEG (Color), PDF<br>Do not Divide into Pages:<br>PDF, TIFF (B&W)/PDF (Color)" |
| Forward w/o Condition        |                                                                                                                                                                                                                                                                                                                       |
| Receive Tipe                 | Fax*/I-Fax                                                                                                                                                                                                                                                                                                            |
| Forwarding destination       | Select from the list of registered addresses                                                                                                                                                                                                                                                                          |
| File Format                  | "When <Fax> is selected in <Receive Tipe>:<br>TIFF* , PDF<br>Divide into Pages: OFF*/ON<br>When <I-Fax> is selected in <Receive Tipe>:<br>Divide into Pages:<br>PDF (B&W)/JPEG (Color), TIFF (B&W)/JPEG (Color), PDF<br>Do not Divide into Pages:<br>PDF, TIFF (B&W)/PDF (Color)"                                     |
| Detail/Edit                  | Same as <Register>                                                                                                                                                                                                                                                                                                    |
| Erase                        | Is it OK to erase? No/Yes                                                                                                                                                                                                                                                                                             |
| Print List                   | Do you want to print the forwarding conditions list? No/Yes                                                                                                                                                                                                                                                           |

T-10-21

## ■ Store/Print When Forwarding

| Item                  | Setting Description           |
|-----------------------|-------------------------------|
| Print Image           | ON*, For Error Only, OFF      |
| Store Image in Memory | For Error Only, Do Not Store* |

T-10-22

## ■ Remote UI

| Item      | Setting Description |
|-----------|---------------------|
| Remote UI | OFF/ON*             |
| Use SSL   | ON/OFF*             |

T-10-23

## ■ Restrict the Send Function

| Item                          | Setting Description                              |
|-------------------------------|--------------------------------------------------|
| Address Book Password         | Max. 7 digits                                    |
| Restrict New Address          | OFF*/ON                                          |
| Allow Fax Driver TX           | OFF/ON*                                          |
| Restrict Recall               | OFF*/ON                                          |
| Confirm Entered Fax Numbers   | OFF*/ON                                          |
| Restrict Sequential Broadcast | OFF*, Broadcast Confirmation, Prohibit Broadcast |

T-10-24

## ■ Auto Online/Offline

| Item         | Setting Description |
|--------------|---------------------|
| Auto Online  | OFF*/ON             |
| Auto Offline | OFF*/ON             |

T-10-25

## ■ Register LDAP Server

| Item                                                  | Setting Description                                                                  |
|-------------------------------------------------------|--------------------------------------------------------------------------------------|
| Register                                              |                                                                                      |
| Server Name                                           | Max. 24 characters                                                                   |
| Server Address                                        | IP Address or Max. 47 characters                                                     |
| Location to Start Search                              | Max. 120 characters                                                                  |
| Port Number                                           | 1 to 65535 (389*)                                                                    |
| Max No. of Addresses                                  | 1 to 1000 (100*)                                                                     |
| Search Timeout                                        | 30 to 300 (60*)                                                                      |
| Login Information                                     | Do Not Use* / Use / Use(Sec,Auth):Ver 3 (UTF-8)                                      |
| User Name                                             | Max. 120 characters                                                                  |
| Password                                              | Max. 24 characters                                                                   |
| Domain Name ([Use (security authent.) Selected only]) | Max. 120 characters                                                                  |
| Display Authentication Screen                         | ON/OFF                                                                               |
| Server LDAP Version and Char.Code                     | Ver.3(UTF-8)* / Ver.2(UTF-8) / Ver.2(SJIS) / Ver.2(EUC) / Ver2(JIS) / Ver.2(ISO8859) |
| Detail/Edit                                           | -                                                                                    |
| Erase                                                 | -                                                                                    |
| Print List                                            | -                                                                                    |
| Reg/Edit LDAP Search Attributes                       | Registered 1, Registered 2, Register/Edit, Erase                                     |
| Display Name                                          | Max. 11 characters                                                                   |
| Attribute Name                                        | Max. 64 characters                                                                   |

T-10-26

## ■ Job Log Display

| Item            | Setting Description |
|-----------------|---------------------|
| Job Log Display | ON*/OFF             |

T-10-27

## ■ Memory Media Store Log

| Item                   | Setting Description    |
|------------------------|------------------------|
| Memory Media Store Log | Do Not Retain*, Retain |

T-10-28

## ■ License Registrastion

| Item                  | Setting Description                         |
|-----------------------|---------------------------------------------|
| License Registrastion | Enter a license key using the numeric keys. |

T-10-29

## ■ USB Device

| Item       | Setting Description |
|------------|---------------------|
| USB Device | ON*/OFF             |

T-10-30

## ■ Dept. ID/User Name Display

| Item                       | Setting Description |
|----------------------------|---------------------|
| Dept. ID/User Name Display | ON*/OFF             |

T-10-31

## ■ PDL Selection (PnP)

| Item                | Setting Description          |
|---------------------|------------------------------|
| PDL Selection (PnP) | UFR II LT/PCL5e/PCL6/PS3/FAX |

T-10-32

## ■ Memory Media Settings

| Item                     | Setting Description |
|--------------------------|---------------------|
| Use Scan to Memory Media | ON/OFF*             |
| Use Media Print          | ON/OFF*             |

T-10-33

## ■ Update Firmware

| Item            | Setting Description                                                     |
|-----------------|-------------------------------------------------------------------------|
| Update Firmware | This function is used only when it is necessary to update the firmware. |

T-10-34

## ● Volume Control

### NOTE:

The volume adjustment is not initially set or registered and press the volume button (hard key) to move to the menu.

\*1 Indicates items that are available only when the optional Super G3 Fax Board-AJ1 (standard equipped for the imageRUNNER 1750iF/1740iF/1730iF) is attached to the machine.

| Item                  | Setting Description    |
|-----------------------|------------------------|
| Fax Volume Settings*1 |                        |
| Monitor Volume        | ON (1* to 3) / OFF (0) |
| Audible Tones Volume  |                        |
| Entry Tone            | ON (1* to 3) / OFF (0) |
| Error Tone            | ON (1* to 3) / OFF (0) |
| Send Done Tone        | ON (1 to 3) / OFF (0*) |
| Receive Done Tone     | ON (1 to 3) / OFF (0*) |
| Print Done Tone       | ON (1* to 3) / OFF (0) |
| Scan Done Tone        | ON (1* to 3) / OFF (0) |
| Sleep Mode Tone       | ON (1* to 3) / OFF (0) |
| Feeder Set Tone       | ON (1* to 3) / OFF (0) |

T-10-35

## Backup Data

| Data to Be Stored                  | Data Location       | Replacement             |                   | Delete           |             |                |                           |                  |                | User Backup            |                                          |                       | Service Backup         |        |                       |   |
|------------------------------------|---------------------|-------------------------|-------------------|------------------|-------------|----------------|---------------------------|------------------|----------------|------------------------|------------------------------------------|-----------------------|------------------------|--------|-----------------------|---|
|                                    |                     | When Replacing Main PCB | DC Controller PCB | Service function |             |                |                           |                  |                | Can Data Be Backed up? | Method Remote UI                         | Location to Be Stored | Can Data Be Backed up? | Method | Location to Be Stored |   |
|                                    |                     |                         |                   | CLEAR > ALL      | CLEAR > PWD | CLEAR > HIST*5 | CLEAR > SYSTEM INFO CLEAR | CLEAR > ERDS-DAT | CLEAR > CA-KEY |                        |                                          |                       |                        |        |                       |   |
| Address Book                       | Main Controller PCB | Clear                   | -                 | Clear            | -           | -              | -                         | -                | -              | Yes                    | Add.Func. > Import/Export > Start Export | PC                    | No                     | -      | -                     |   |
| User Management Data               |                     | Clear                   | -                 | Clear            | -           | -              | -                         | -                | -              | -                      |                                          | -                     | -                      | -      | -                     | - |
| Additional Functions Settings Data |                     | Clear                   | -                 | Clear            | -           | -              | -                         | -                | -              | -                      |                                          | -                     | -                      | -      | -                     | - |
| Administrator Password History *5  |                     | Clear                   | -                 | Clear            | Clear       | -              | Clear                     | -                | -              | No                     | -                                        | -                     | No                     | -      | -                     |   |
| SSL Keys *4                        |                     | -                       | -                 | Clear            | -           | Clear *5       | -                         | -                | -              | No                     | -                                        | -                     | No                     | -      | -                     |   |
| CA Certificates                    |                     | Clear                   | -                 | -                | -           | -              | -                         | -                | Clear *3*4     | No                     | -                                        | -                     | No                     | -      | -                     |   |
| eRDS                               |                     | Clear                   | -                 | -                | -           | -              | -                         | -                | Clear *3       | No                     | -                                        | -                     | No                     | -      | -                     |   |
| Service Mode(Main Controller PCB)  |                     | Clear *1                | -                 | Clear            | -           | -              | -                         | -                | -              | No                     | -                                        | -                     | No                     | -      | -                     |   |
| Service Mode(DC Controller PCB)    |                     | DC Controller PCB       | -                 | Clear            | -           | -              | -                         | -                | -              | No                     | -                                        | -                     | No                     | -      | -                     |   |

T-10-36

\*1. In service mode, output #REPORT OUTPUT SERVICE DATA LIST #REPORT OUTPUT > SERVICE LABEL. After replacing the board, input the setting value.

\*2. It is initialized by selecting the following in service mode: #CLEAR > ERDS-DAT.

\*3. It is initialized by selecting the following in service mode: #CLEAR > CA-KEY.

\*4. The SSL key is not generated first.

\*5. You can clear a history in each items under #CLEAR > HIST of the service mode.

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.

ENVP- Initializes the environment log data.