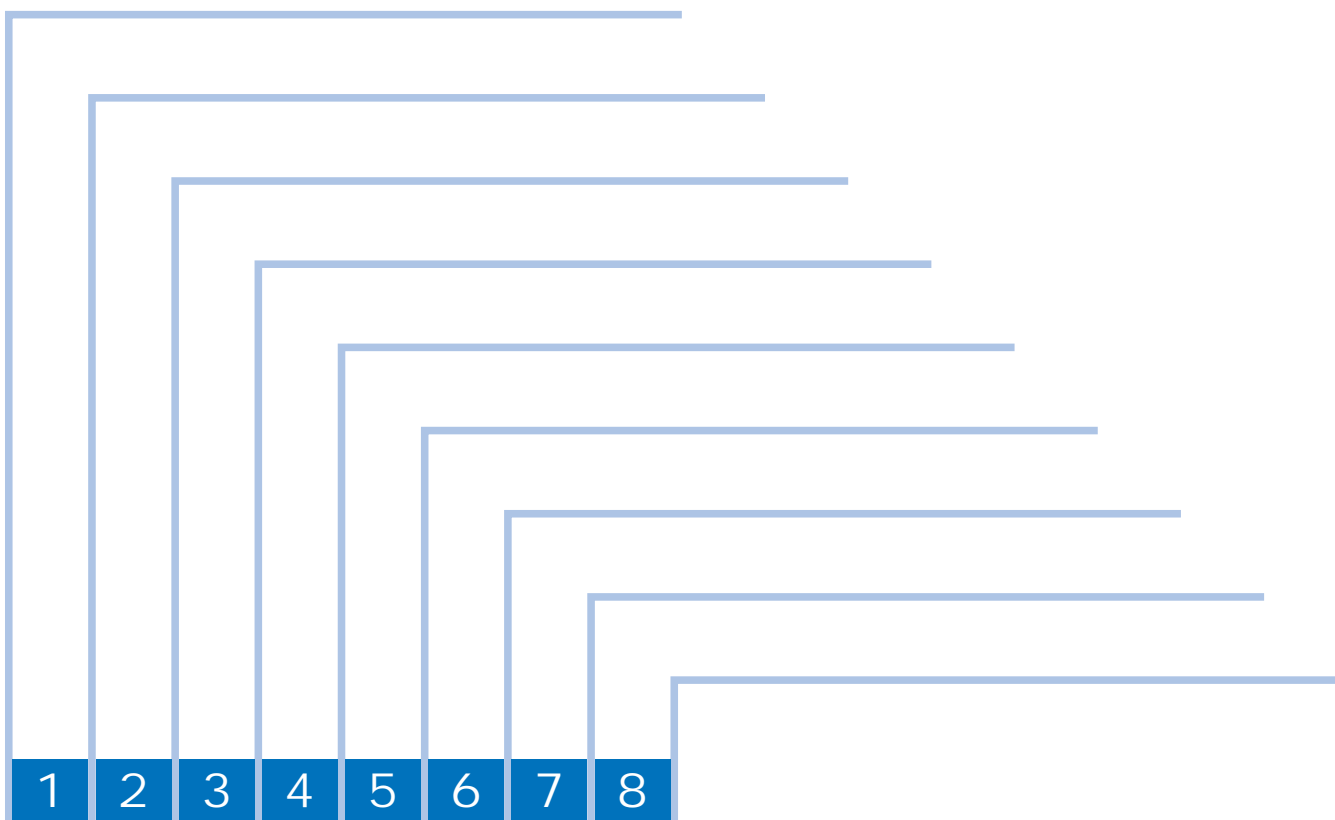

















# MF8350Cdn/MF8050Cn

## Service Manual





## 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 Provisions
- Laser Safety
- Toner Safety
- Notes on Handling  
Lithium Battery
- Notes on Assembly/  
Disassembly




MF8350Cdn/8330Cdn/  
8050Cn/8030Cn Series

F-0-1

# CDRH Provisions

Food and Drug CDRH (Center for Devices and Radiological Health) under FDA (Food and Drug Administration) enforced provisions of the section for laser and laser products on August 2, 1976. These provisions are applicable to all laser products manufactured or assembled after August 1, 1976 and allow only products certified their compliance with the provisions to market in the US. Each product shall have affixed the applicable label as shown below to follow the labeling requirements prescribed in CDRH provisions.

Note that the wording included in labels is different depending on laser product classifications.

 Note that the wording included in labels is different depending on laser product classifications.

# Laser Safety

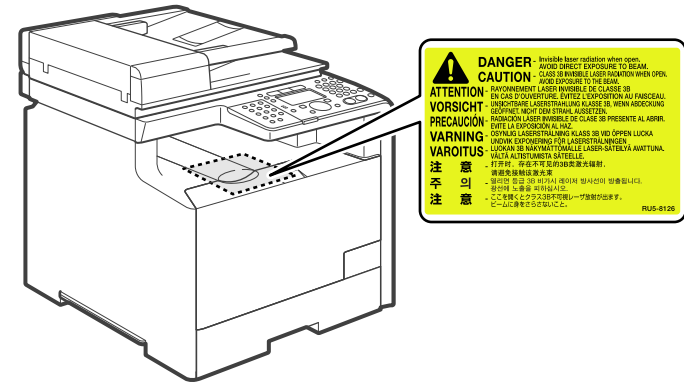
## About Laser Beams

Laser radiation may be hazardous to human. The laser scanner unit mounted in this device is sealed in the protective housing and the external cover to prevent laser beams from leaking to the environment. As long as the device is operated under normal conditions, users are safely arded from laser leaks.

## Handling Laser Scanner Unit

Before providing service works for the laser scanner unit and its peripherals, ensure to turn off the power of the device.

Any cover with potential dangers of laser beam reflection has affixed the caution label at the position shown in the figure below.



F-0-2

## Toner Safety

### About Toner

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

Never throw toner in flames to avoid explosion.



Never throw toner in flames to avoid explosion.

### Handling Adhered Toner

- Use dry tissue paper to wipe off toner adhered to skin or clothes and wash in water.
- Never use warm water for cleaning up toner to prevent toner particles from being gelated to soak into fibers permanently.
- Toner particles are reactive with vinyl polymers. Avoid contacting these materials.

## Notes on Handling Lithium Battery



Replacing with wrong battery types may cause explosion.

Follow instructions to dispose used batteries properly.

## 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.





# Product Overview

- Product Lineups
- Product Features
- Specifications
- Name of Parts

## Product Lineups

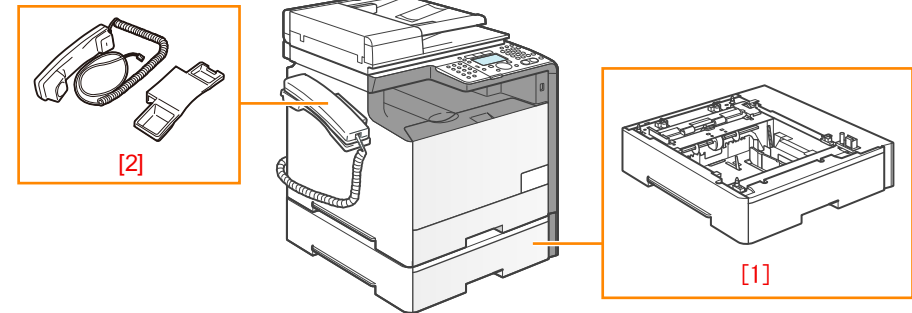
### Main Unit

Function	MF8300 Series		MF8000 Series	
	MF8350Cdn	MF8330Cdn	MF8050Cn	MF8030Cn
Appearance				
Copy	Yes	Yes <sup>F-1-1</sup>	Yes	Yes <sup>-1-2</sup>
Print	Yes	Yes	Yes	Yes
Fax	Yes	-	Yes	-
USB Scan	Yes	Yes	Yes	Yes
Network Scan	Yes	Yes	Yes	Yes
Remote UI	Yes	Yes	Yes	Yes
ADF (1-side)	Yes	Yes	Yes	Yes
Automatic 2-sided Print	Yes	Yes	-	-

T-1-1

### Options

#### MF8300 Series



No.	Name	Description	Remarks
1	Cassette Feeding Module-V1	A cassette unit with 250 sheet capacity (for paper of 60-90g/m <sup>2</sup> )	
2	TELEPHONE 6 KIT Long cord Cool White	Telephone call is enabled by using the handset.	AUS, EUR
	HANDSET KIT 3 Long cord Cool White		SGP

F-1-3

T-1-2

#### MF8000 Series

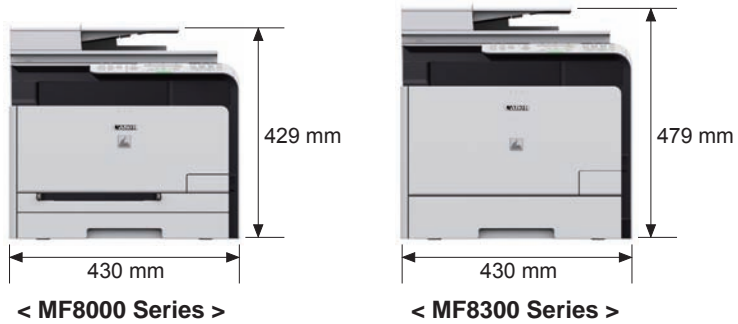
No option available.

## Product Features

### Features

#### Compact MFP

By introducing horizontal inline cartridges, this product attained the compact footprint with reduced height.



F-1-4

#### High-speed & High-quality MFP

The compact A4 color MFP (MF8300 Series) achieved the print speed of 20 pages per minutes (A4). The full-automatic image exposure control function is introduced firstly in this class, enhancing print quality.

#### Power-saving MFP

On-demand fixing and 3W sleep employed in this product achieved lower power consumption.

#### Enhanced Usability

With increased operability and installability, this product provides better usability.

- Front access: Jam recovery and cartridge replacement can be done from the front of the device.
- Wide LCD panel: The movie shown on the panel will guide you how to recover jam, etc.

##### < Front Operation >

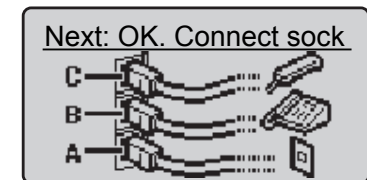
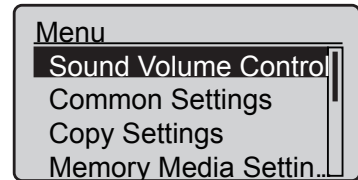


Takeoff paper



Toner Cartridge Replacement

##### < Wide LCD Panel >



F-1-5

## Specifications

### Main Unit Specifications

Item	Specification / function	
	MF8300 Series	MF8000 Series
Copyboard	Fixed	
Device Installation	Desktop	
Light source	LED (RGB)	
Photoreceptor	OPC drum ( 24)	
Image scanning	CIS (color)	
Light exposure method	Laser beam exposure	
Charging method	Roller charging	
Developing method	Contact development	
Transfer method	Intermediate transfer (ITB: intermediate transfer belt)	
Separation method	Curvature separation	
Cassette paper feed	Simple separation retard	
Multi-purpose tray paper feed	Pad separation method	Separation roller method
Drum cleaning method	Cleaning blade	
Transfer cleaning method	Cleaning brush and roller	
Fixing method	On-demand fixing	
Paper delivery method	Face-down	
Toner level sensor	Mounted	
Toner type	Non-magnetic one-component toner	
Toner supply method	All-in-one cartridge (drum + toner)	
Toner save mode	N/A	
Document types	Sheet, book, 3-dimensional (up to 2 kg)	
Maximum document size	216 x 356 mm	
Document size sensor	N/A	
Image size magnification	AB series :50%, 70%, 81%, 86%, 115%, 122%, 141%, 200% Inch series :50%, 64%, 78%, 12%, 200% A series :50%, 70%, 141%, 200% Zoom :25 to 400% (1% increment)	
Warm-up Time *1	About 23 seconds or less	About 30 seconds or less
Print area	For print jobs Leading edge: 4.0±2.0 mm Side:3.0±2.0 mm Trailing edge:5.0±2.0 mm For copy jobs: Leading edge:4.0±2.0 mm Side:3.0±2.0 mm Trailing edge:4.0±2.0 mm Reception output Leading edge:2.0±2.0 mm Side:2.0±2.0 mm Trailing edge:6.0±2.0 mm	
Reading resolution	Color: 600 x 600 dpi, 300 x 600 dpi, 300 x 300 dpi B&W: 600 x 600 dpi, 300 x 600 dpi	

Item	Specification / function	
	MF8300 Series	MF8000 Series
Reading Speed	Fixed (A4/LTR): N/A Continuous reading (A4/LTR): Color: 10 images / minute B&W: 20/21 images/minute SEND (A4 / Letter) Color: 10 images / minute B&W: 20/21 images/minute	Fixed (A4/LTR): N/A Continuous reading (A4/LTR): Color: 8 images / minute B&W: 12 images/minute SEND (A4 / Letter) Color: 10 images / minute B&W: 20/21 images/minute
Copy resolution	600 x 600 dpi (Fixed,Continuous reading)	
Print resolution	600 x 600 dpi	
First copy time	Fixed (A4/LTR): Color: 17 seconds or less B&W: 16 seconds or less Continuous reading: (A4/LTR) Color: 23 seconds or less B&W: 22 seconds or less	Fixed (A4/LTR): Color: 30 seconds or less B&W: 23 seconds or less Continuous reading (A4/LTR) Color: 36 seconds or less B&W: 29 seconds or less
First print time	Color: 15 seconds or less (A4/LTR) B&W: 15 seconds or less (A4/LTR)	Color: 29/28 seconds or less (A4/LTR) B&W: 22 seconds or less (A4/LTR)
Print Speed (Plain paper )	Color: 20/21 ppm (A4/LTR) B&W: 20/21 ppm (A4/LTR) (See "Print Speed" for details.)	Color: 8 ppm (A4/LTR) B&W: 12 ppm (A4/LTR) (See "Print Speed" for details.)
Available paper type for cassette	Plain paper, Recycled paper, Color paper, Thick paper, Coated paper, Transparency, Label, Index card, Envelope (See "Paper types" for details.)	
Available paper type for MP tray	Plain paper, Recycled paper, Color paper, Thick paper, Coated paper, Transparency, Label, Index card, Envelope (See "Paper types" for details.)	
Available paper size in Cassette	A4, B5, A5, LGL, LTR, STMT, EXEC, OFFICIO, B-OFFICIO, M-OFFICIO, G-LTR, Envelopes (COM10, Monarch, C5, B5, DL) Custom Paper Size Width:100 to 215.9mm, Length:148 to 355.6mm	
Available paper size in multi-purpose tray	A4, B5, A5, LGL, LTR, STMT, EXEC, OFFICIO, B-OFFICIO, M-OFFICIO, G-LTR, Envelopes (COM10, Monarch, C5, B5, DL) Custom paper size Width:76.2 to 215.9mm, Length:127 to 355.6mm	
Cassette capacity	Cassette: 250 sheets (60 to 90 g/m <sup>2</sup> ) Option: 250 sheets (60 to 90 g/m <sup>2</sup> )	Cassette: 150 sheets (60 to 90 g/m <sup>2</sup> )
MP tray capacity	50 sheets (60 to 90 g/m <sup>2</sup> )	1 sheet
Delivery tray stacking capacity	125 sheets (60 to 90 g/m <sup>2</sup> )	
Continuous copying	1 - 99 sheets	
Automatic 2-sided	Available (A4, B5, LGL, LTR, EXEC, FLSC)	N/A
Memory capacity	128 MB	
Sleep mode	Available	

Item	Specification / function	
	MF8300 Series	MF8000 Series
Allowable environmental temperature	10 - 30 deg C	
Allowable humidity	20 - 80% in relative humidity (no condensation)	
Operational noise	At stand-by: • 46dB or lower (acoustic power level) During copy jobs: • Color: 67 dB or lower • B&W: 66 dB or lower	At stand-by: • 43 dB or lower (acoustic power level) During copy jobs: • Color: 63.4 dB or lower • B&W: 63.2 dB or lower
Power rating	Rated input voltage : 100-127 V(100V system)/ 220-240 V (200V system) Rated input frequency: 50/60 Hz	
Maximum power consumption	1200 W or lower	900 W or lower
Power consumption	At stand-by: Approx. 23 W During sleep mode: Approx. 3 W	At stand-by: Approx. 15 W During sleep mode: Approx. 3 W
Ozone emission	Color: 3.0 mg/hr B&W: 1.5 mg/hr	
Footprint	Device: 430 mm x 484 mm x 479 mm With accessories: 430 mm x 484 mm x 579 mm	Device: 430 mm x 484 mm x 429 mm
Weight	Approx. 31 kg (including toner cartridges)	Approx. 25 kg (including toner cartridges)
Accessories:	See accessory configuration	

\*1: Temperature: 20 degC, Humidity: 65%, from when the machine is turned on to when the standby screen is displayed.

## ADF Specifications

Item	Specification / Function
Document setting direction	Set the document face up (face-up method)
Document setting position	Center reference
Document processing mode	One-face document 1-sided/2-sided
Document scanning	Continuous reading
Loadable sheets	A4/LTR 50 sheets(80g/m <sup>2</sup> ) LGL 30 sheets(80g/m <sup>2</sup> )
Mixed paper reading	Available
Document AE sensor	N/A
Document size sensor	N/A
Stamp function	N/A
Allowable environment	Same as device

T-1-4

## FAX Specifications

Item	Specification/function
Suitable line	Public Switched Telephone Network (PSTN) Up to 28.8Kbps in modem speed is currently available in PSTN. Note that available modem speed is telephone-line dependent. Telephone line connection: 1
Communication Protocol	Super G3
Modulation method	Image modulation: V.34/V.17/V.29/V.27ter Transmission procedure: V.21
Transmission speed	33,600 bps
Coding	Compression method: JBIG, MMR, MR, MH
Error correction	ECM
Minimum receivable input level	V.17, V.27ter, V.29: -6 to -43 dBm V.34: -10 to -43 dBm
Modem IC	CONEXANT DFX336
Scanning line density	Normal: 8 dots/mm x 3.85 lines/mm Fine: 8 dots/mm x 7.7 lines/mm Super fine: 8 dots/mm x 15.4 lines/mm Ultra fine: 16 dots/mm x 15.4 lines/mm
Half tone	256 tones
Reproduction resolution	600 x 600 dpi
Receivable reduction setting	Automatic reduction: 75-100% (1% increment)
FAX/TEL switching	Available
Answering machine transfer setting	Available
Remote reception	Available
Auto-dialing	Available
Delayed transmission	N/A
Broadcast transmission	Destinations: up to 201
Dual access	Up to 70 schedules
Image data backup	Available

T-1-5



## Print Speed

### MF8300 Series

Unit: page/minute.

Paper type		Cassette		MP Tray	
		1-sided	2-sided	1-sided	2-sided
Plain 1 (60 to 74g/m <sup>2</sup> ) Plain 2 (70 to 90g/m <sup>2</sup> )	A4	20.0	9.9	16.0	9.1
	LTR	21.0	10.2	16.0	9.2
	LGL	17.1	9.2	14.1	8.4
Thick 1 (86 to 119g/m <sup>2</sup> )	A4	20.0	9.9	16.0	9.1
	LTR	21.0	10.2	16.0	9.2
	LGL	17.1	9.2	14.1	8.4
Thick 2 (120 to 128g/m <sup>2</sup> )	A4	11.9	8.8	11.9	8.8
	LTR	12.2	9.0	12.2	9.0
	LGL	10.8	8.0	10.8	8.0
Thick 3 (129 to 163g/m <sup>2</sup> )	A4	9.7	5.0	7.6	4.6
	LTR	9.7	5.2	7.6	4.6
	LGL	8.3	5.0	6.7	4.4
Coated 1 (100 to 110g/m <sup>2</sup> )	A4	11.9	8.8	11.9	8.8
	LTR	12.2	9.0	12.2	9.0
	LGL	10.8	8.0	10.8	8.0
Coated 2 (120 to 130g/m <sup>2</sup> ) Coated 3 (155 to 165g/m <sup>2</sup> )	A4	6.5	3.0	5.0	3.0
	LTR	6.9	3.0	5.0	3.0
Coated 4 (210 to 220g/m <sup>2</sup> )	LGL	5.6	3.0	4.4	2.8
	A4	6.5	-	5.0	-
	LTR	6.9	-	5.0	-
LGL	5.6	-	4.4	-	
Transparency		6.5	-	5.0	-
Label		9.7	-	7.6	-
Index card		4.3	-	4.6	-
Envelope		7.6	-	5.4	-

T-1-7

### MF8000 Series

Unit: page/minute

Paper type		Color Mode	B&W Mode
Plain 1 (60 to 74g/m <sup>2</sup> ) Plain 2 (75 to 90g/m <sup>2</sup> )	A4	8.0	12.0
	LTR	8.0	12.0
	LGL	6.8	10.2
Thick 1 (91 to 120g/m <sup>2</sup> ) Thick 2 (121 to 163g/m <sup>2</sup> ) Thick 3 (164 to 176 g/m <sup>2</sup> )	A4	6.0	6.0
	LTR	6.0	6.0
	LGL	5.0	5.0
Coated 1 (100 to 110g/m <sup>2</sup> ) Coated 2 (120 to 130g/m <sup>2</sup> ) Coated 3 (155 to 165g/m <sup>2</sup> ) Coated 4 (210 to 220g/m <sup>2</sup> )	A4	6.0	6.0
	LTR	6.0	6.0
	LGL	5.0	5.0
Transparency		6.0	6.0
Label		6.0	6.0
Index card		6.0	6.0
Envelope		6.0	6.0

T-1-8

## Paper types

Paper type		Printer driver setting	Cassette	MP tray /Manual feed slot
Plain <sup>*1</sup> (MF8300 series)	60 to 74 g/m <sup>2</sup>	Plain 1	Yes	Yes
	70 to 90 g/m <sup>2</sup>	Plain 2	Yes	Yes
Plain (MF8000 series)	60 to 74 g/m <sup>2</sup>	Plain 1	Yes	Yes
	75 to 90 g/m <sup>2</sup>	Plain 2	Yes	Yes
Thick <sup>*1</sup> (MF8300 series)	86 to 119 g/m <sup>2</sup>	Heavy 1	Yes	Yes
	120 to 128 g/m <sup>2</sup>	Heavy 2	Yes	Yes
	129 to 163 g/m <sup>2</sup>	Heavy 3	Yes	Yes
Thick (MF8000 series)	91 to 120 g/m <sup>2</sup>	Heavy 1	Yes	Yes
	121 to 163 g/m <sup>2</sup>	Heavy 2	Yes	Yes
	164 to 176 g/m <sup>2</sup>	Heavy 3	-	Yes
Recycled <sup>*1 *3</sup>	60 to 74 g/m <sup>2</sup>	Recycled	Yes	Yes
Color	60 to 74 g/m <sup>2</sup>	Color	Yes	Yes
Coated <sup>*1</sup>	100 to 110 g/m <sup>2</sup>	Glossy 1 <sup>*2</sup>	Yes	Yes
	120 to 130 g/m <sup>2</sup>	Glossy 2 <sup>*2</sup>	Yes	Yes
	155 to 165 g/m <sup>2</sup>	Glossy 3 <sup>*2</sup>	Yes	Yes
	210 to 220 g/m <sup>2</sup>	Glossy 4	Yes <sup>*5</sup>	Yes
Transparency <sup>*4</sup>		Transparency	Yes	Yes
Label		Labels	Yes	Yes
Index Card		Heavy 2	Yes	Yes
Envelope		Envelope	Yes	Yes

T-1-9

\*1: Auto 2-sided print is available only in MF8300 series.

\*2: Auto 2-sided print provided in MF8300 series meet A4 or letter size only.

\*3: 100% recycled paper is also usable.

\*4: Use transparency sheets for laser printers.

Canon's genuine transparency sheets are specially recommended.

\*5: Coated Paper 4 is available only in MF8300 series.

## Paper size

Paper size	Cassette *1	MP tray /Manual feed slot
A4 (210.0 mm × 297.0 mm) <sup>*2 *3</sup>	Yes	Yes
B5 (182.0 mm × 257.0 mm) <sup>*2</sup>	Yes	Yes
A5 (148.0 mm × 210.0 mm)	Yes	Yes
Legal (LGL) (215.9 mm × 355.6 mm) <sup>*2</sup>	Yes	Yes
Letter (LTR) (215.9 mm × 279.4 mm) <sup>*2 *3</sup>	Yes	Yes
Statement (STMT) (139.7 mm × 215.9 mm)	Yes	Yes
Executive (EXEC) (184.0 mm × 266.7 mm) <sup>*2</sup>	Yes	Yes
Officio (215.9 mm × 317.5 mm)	Yes	Yes
Brazil Officio (215.9 mm × 355.6 mm)	Yes	Yes
Mexico Officio (215.9 mm × 341 mm)	Yes	Yes
Government Letter (203.2 mm × 266.7 mm)	Yes	Yes
Government Legal (203.2 mm × 330.2 mm)	Yes	Yes
FOOLSCAP (215.9 mm × 330.2 mm) <sup>*2</sup>	Yes	Yes
Envelope COM10 (104.7 mm × 241.3 mm)	Yes	Yes
Envelope Monarch (98.4 mm × 190.5 mm)	Yes	Yes
Envelope C5 (162 mm × 229 mm)	Yes	Yes
Envelope B5 (176 mm × 250 mm)	Yes	Yes
Envelope DL (110 mm × 220 mm)	Yes	Yes
Custom Paper Size	Yes <sup>*4</sup>	Yes <sup>*5</sup>

T-1-10

\*1: Cassette Feeding Module-V1 is available only in MF8300 series.

\*2: Auto 2-sided print is available only in MF8300 series.

\*3: Received documents, report and lists can be printed.

\*4: You can load paper of the following custom paper sizes.

- MF8300 series  
Width 4" to 8 1/2"(100 to 215.9 mm); Length 5 7/8" to 14"(148 to 355.6 mm)
- MF8000 series  
Width 3" to 8 1/2" (76.2 to 215.9 mm); Length 5" to 14"(127 to 355.6 mm)

\*5: You can load paper of the following custom paper sizes.

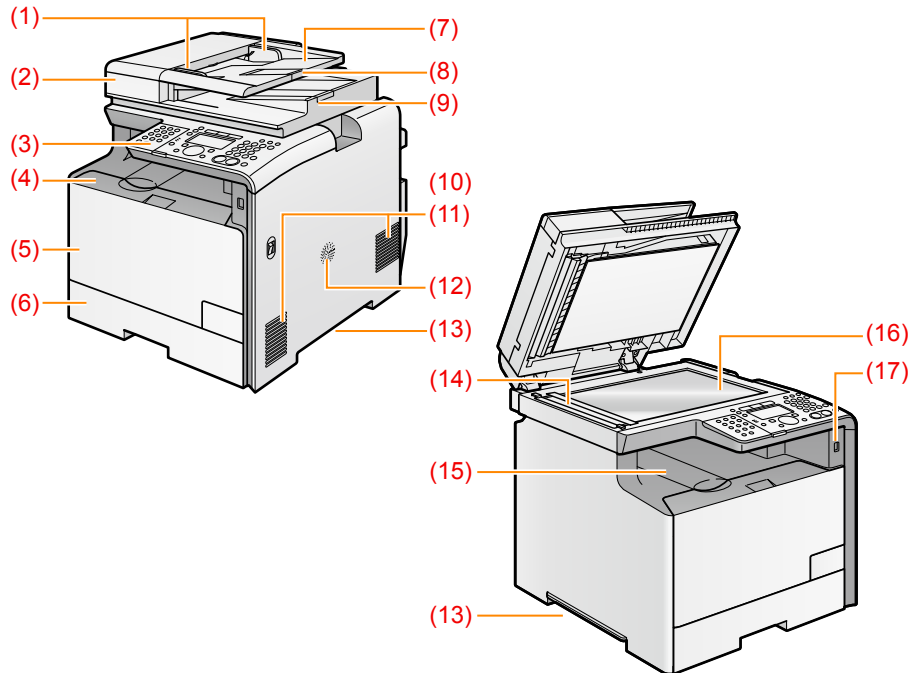
- Width 3" to 8 1/2" (76.2 to 215.9 mm); Length 5" to 14"(127 to 355.6 mm)

## Name of Parts

### External View

#### MF8300 Series

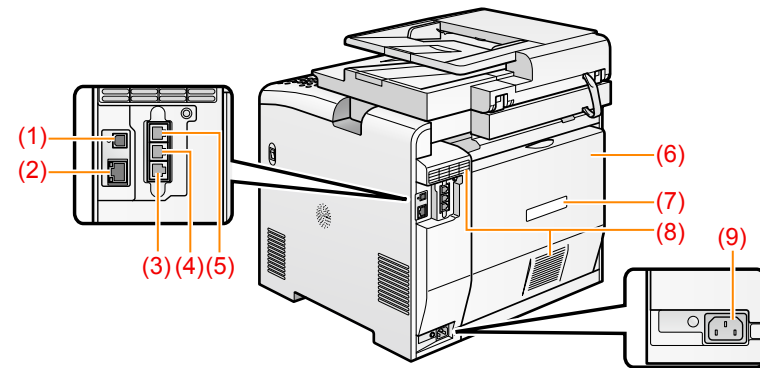
#### Front Side



F-1-6

- |                                |   |
|--------------------------------|---|
| 1 Document guide               | 10 Main power switch                      |
| 2 Feeder                       | 11 Vent-hole                              |
| 3 Control panel                | 12 Speaker                                |
| 4 Front cover                  | 13 Grip                                   |
| 5 Multi-purpose tray (MP tray) | 14 Paper scanner for document from feeder |
| 6 Paper cassette               | 15 Delivery tray                          |
| 7 Document feed tray           | 16 Copyboard glass                        |
| 8 Extension tray               | 17 USB memory port                        |
| 9 Document delivery tray       |   |

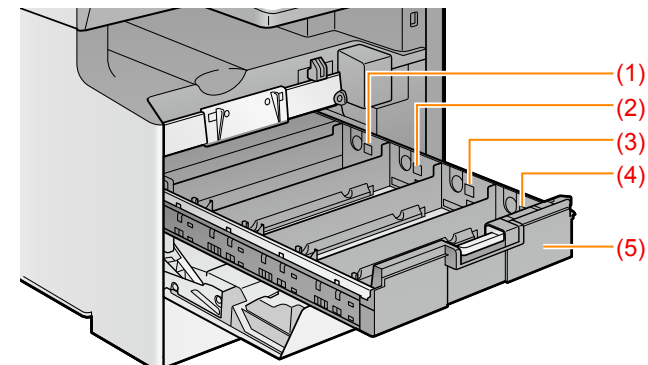
#### Rear Side



F-1-7

- |   |                |
|---|----------------|
| 1 USB port  | 6 Rear cover   |
| 2 LAN port  | 7 Rating plate |
| 3 Telephone line terminal (only for MF8350Cdn)      | 8 Vent-hole    |
| 4 External telephone terminal (only for MF 8350Cdn) | 9 Power socket |
| 5 Handset terminal (only for MF 8350Cdn)            |                |
- \*: Only for AUS, EUR, SGP

#### Inside

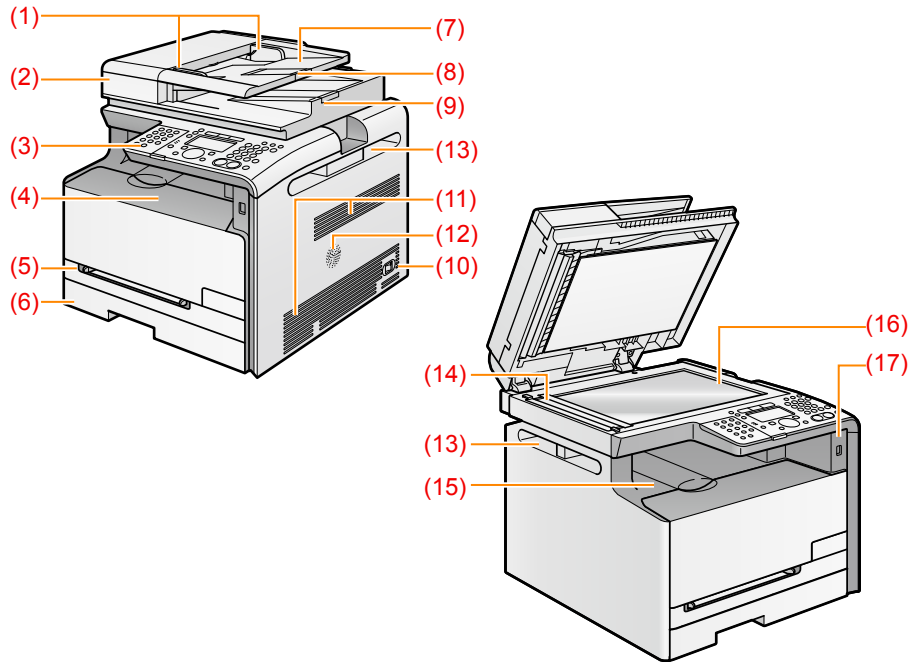


F-1-8

- |                           |
|---------------------------|
| 1 Y toner cartridge slot  |
| 2 M toner cartridge slot  |
| 3 C toner cartridge slot  |
| 4 Bk toner cartridge slot |
| 5 Toner cartridge tray    |

## MF8000 Series

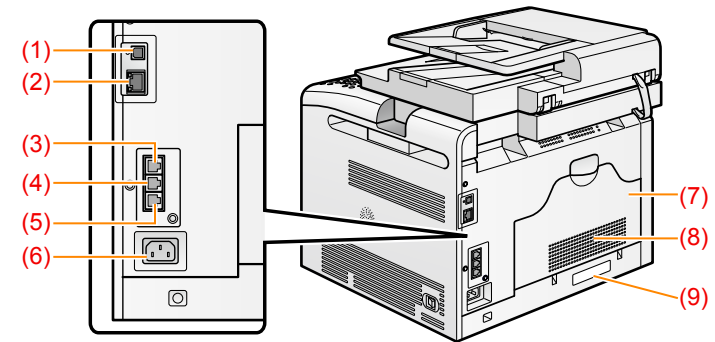
### Front Side



- |                          |                                      |
|--------------------------|--------------------------------------|
| 1 Document guide         | 11 Vent-hole                         |
| 2 Feeder                 | 12 Speaker                           |
| 3 Control panel          | 13 Grip                              |
| 4 Front cover            | 14 Scanner for documents from feeder |
| 5 Manual feed slot       | 15 Delivery tray                     |
| 6 Cassette               | 16 Copyboard glass                   |
| 7 Document feed tray     | 17 USB memory port                   |
| 8 Extension tray         |                                      |
| 9 Document delivery tray |                                      |
| 10 Main power switch     |                                      |

F-1-9

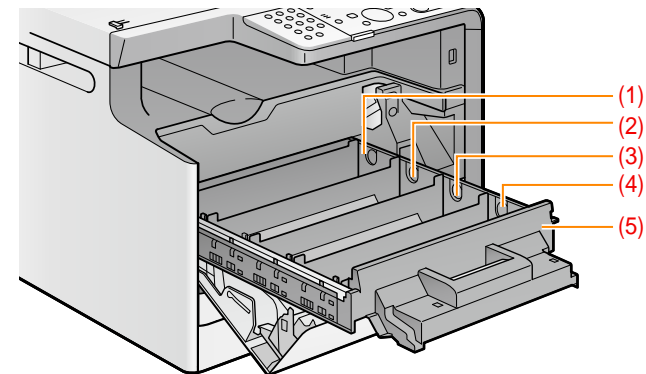
### Rear Side



- |  |                |
|--|----------------|
| 1 USB port   | 6 Power socket |
| 2 LAN port   | 7 Rear cover   |
| 3 Handset terminal (only for MF8050Cn)*            | 8 Vent-hole    |
| 4 External telephone terminal (only for MF 8050Cn) | 9 Rating plate |
| 5 Telephone line terminal (for MF8050Cn only)      |                |
- \*: Only for AUS, EUR, SGP

F-1-10

### Inside



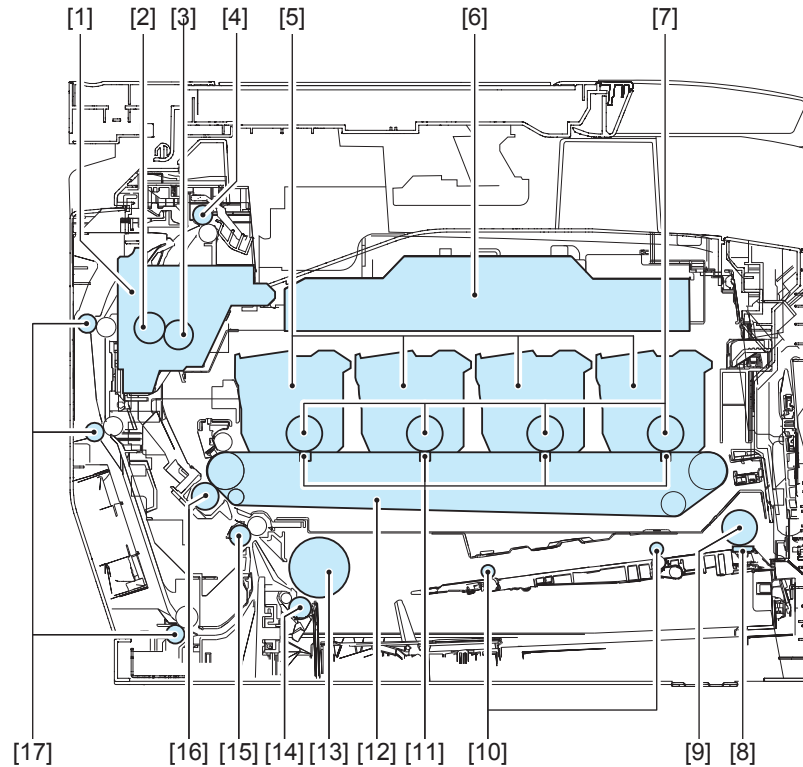
- 1 Y toner cartridge slot
- 2 M toner cartridge slot
- 3 C toner cartridge slot
- 4 Bk toner cartridge slot
- 5 Toner cartridge tray

F-1-11

## Cross Section View

### MF8300 Series

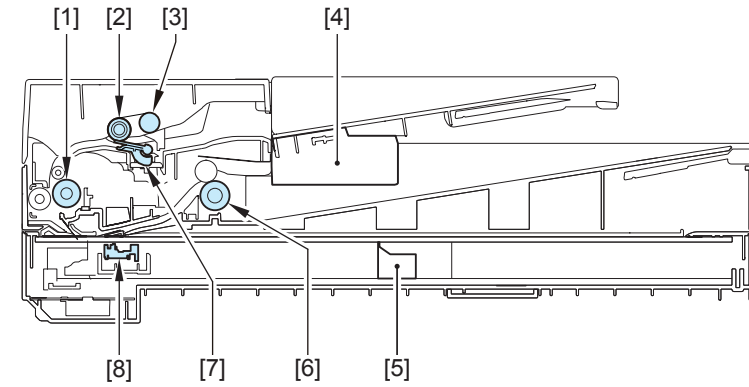
### Printer



F-1-12

- |                          |                                       |
|--------------------------|---------------------------------------|
| 1 Fixing assembly        | 10 MP tray feed roller                |
| 2 Pressure roller        | 11 Primary transfer pad               |
| 3 Fixing film unit       | 12 ITB unit                           |
| 4 Delivery roller        | 13 Cassette pickup roller             |
| 5 Toner cartridge        | 14 Cassette separation roller         |
| 6 Laser scanner unit     | 15 Registration roller                |
| 7 Photosensitive drum    | 16 Secondary transfer external roller |
| 8 MP tray separation pad | 17 Duplex feed roller                 |
| 9 MP tray pickup roller  |                                       |

## Reader/ADF Unit

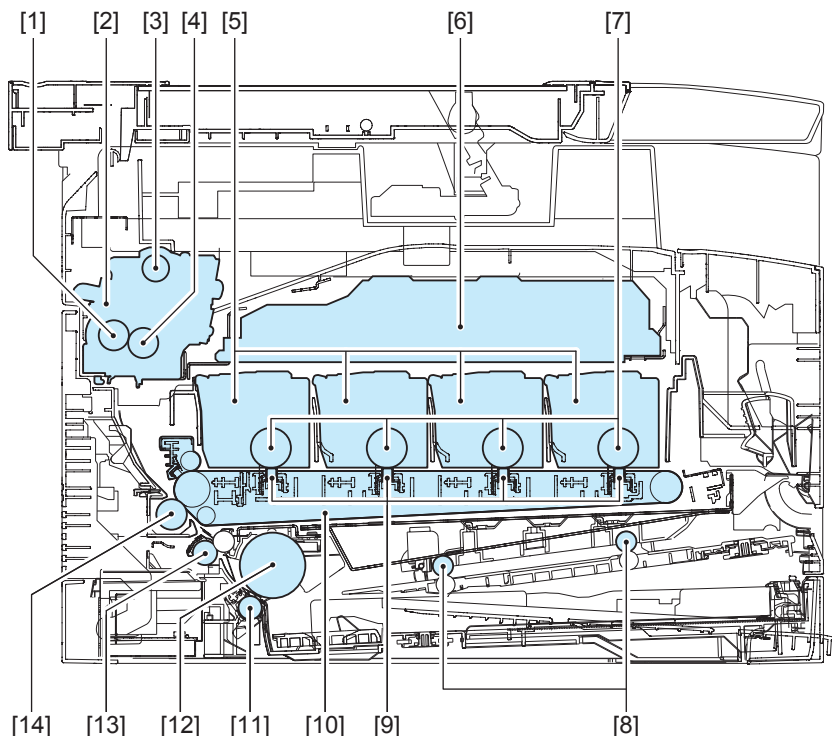


F-1-13

- |                           |
|---------------------------|
| 1 ADF registration roller |
| 2 ADF separation roller   |
| 3 ADF pickup roller       |
| 4 ADF unit                |
| 5 Reader unit             |
| 6 ADF delivery roller     |
| 7 ADF separation pad      |
| 8 CIS unit                |

MF8000 Series

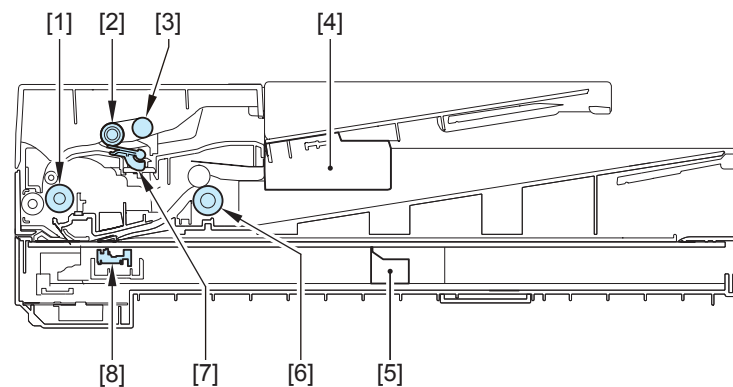
Printer



F-1-14

- |                       |                                       |
|-----------------------|---------------------------------------|
| 1 Pressure roller     | 8 Manual feed roller                  |
| 2 Fixing assembly     | 9 Primary transfer pad                |
| 3 Feed roller         | 10 ITB unit                           |
| 4 Fixing film unit    | 11 Cassette separation roller         |
| 5 Toner cartridge     | 12 Cassette pickup roller             |
| 6 Laser scanner unit  | 13 Registration roller                |
| 7 Photosensitive drum | 14 Secondary transfer external roller |

Reader/ADF Unit



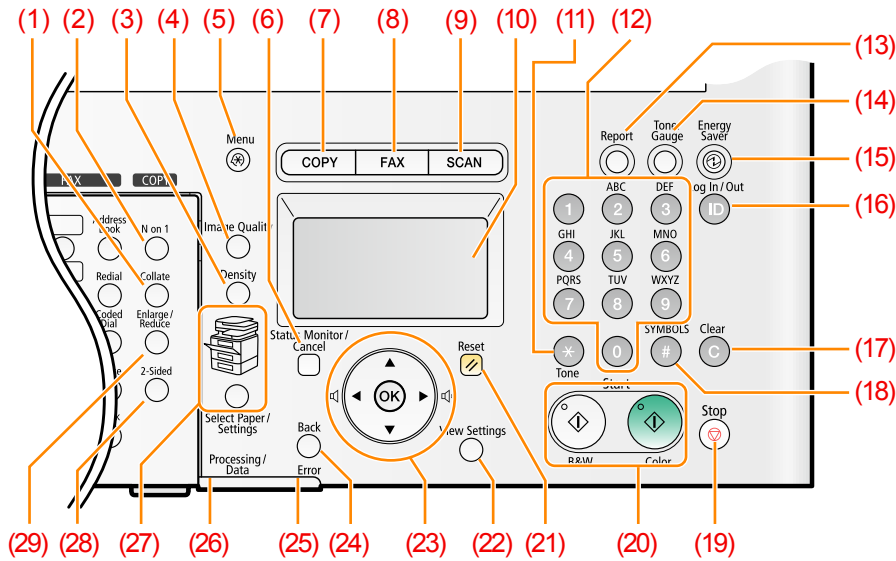
F-1-15

- |                           |
|---------------------------|
| 1 ADF registration roller |
| 2 ADF separation roller   |
| 3 ADF pickup roller       |
| 4 ADF unit                |
| 5 Reader unit             |
| 6 ADF delivery roller     |
| 7 ADF separation pad      |
| 8 CIS unit                |

Control Panel

MF8300 Series

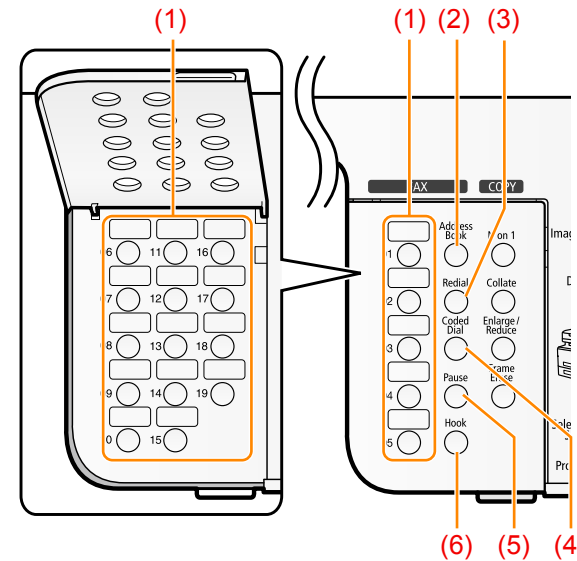
Main Control Panel



F-1-16

- |                                  |                                |
|----------------------------------|--------------------------------|
| 1 [Collate] key                  | 16 [ID] key                    |
| 2 [N on 1] key                   | 17 [Clear] key                 |
| 3 [Density] key                  | 18 [#] key                     |
| 4 [Image quality] key            | 19 [Stop] key                  |
| 5 [Menu] key                     | 20 [Start] key                 |
| 6 [Confirm status/Cancel] key    | 21 [Reset] key                 |
| 7 [Copy] key                     | 22 [View Settings] key         |
| 8 [FAX] key (only for MF8350Cdn) | 23 [▲][ ] [◀] [▶] key          |
| 9 [Scan] key                     | 24 [Back] key                  |
| 10 Display                       | 25 [Error] indicator           |
| 11 [*] key                       | 26 [Processing/Data] indicator |
| 12 [Numeric] keys                | 27 [Select Paper/Settings] key |
| 13 [Report] key                  | [Select Paper] indicator       |
| 14 [Toner Gauge] key             | 28 [2-sided] key               |
| 15 [Energy Saver] key            | 29 [Enlarge / Reduce] key      |

FAX Control Panel (only for MF8350Cdn)

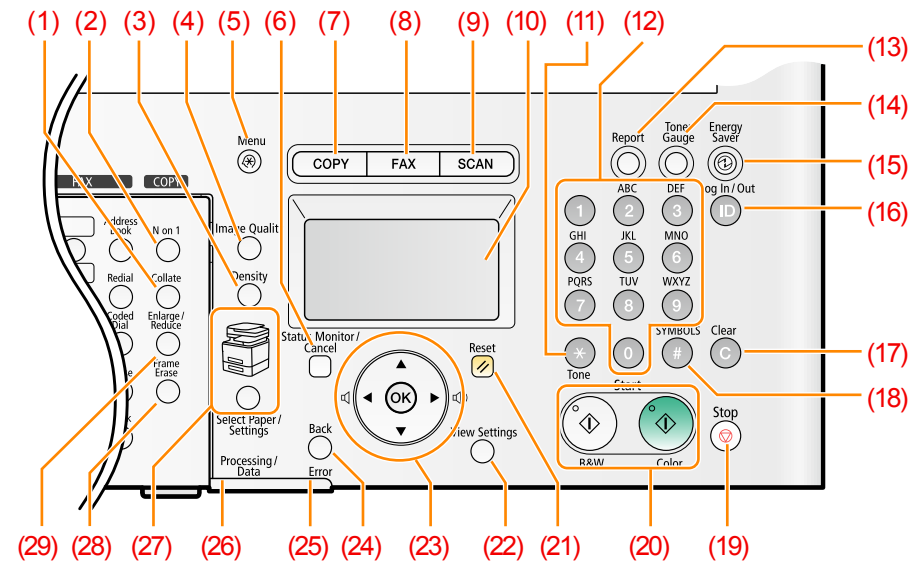


F-1-17

- 1 [One-touch Speed Dial] keys
- 2 [Address Book] key
- 3 [Redial] key
- 4 [Coded Dial] key
- 5 [Pause] key
- 6 [Hook] key

MF8000 Series

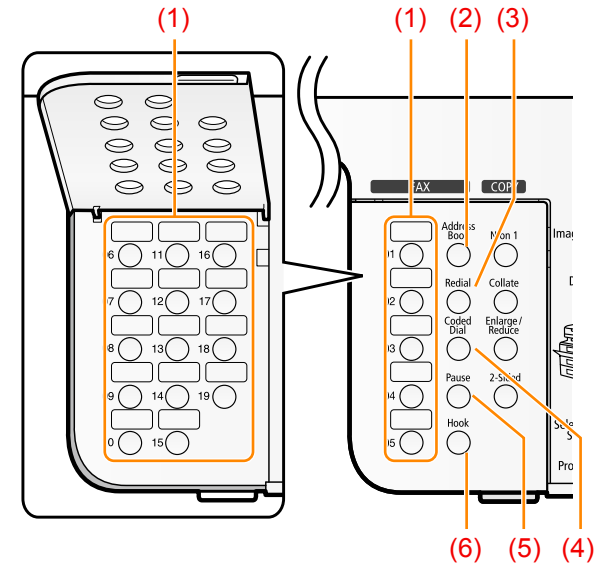
Main Control Panel



F-1-18

- 1 [Collate] key
- 2 [N on 1] key
- 3 [Redial] key
- 4 [Image quality] key
- 5 [Menu] key
- 6 [Confirm status/Cancel] key
- 7 [Copy] key
- 8 [FAX] key (only for MF8050Cdn)
- 9 [Scan] key
- 10 Display
- 11 [\*] key
- 12 [Numeric] keys
- 13 [Report] key
- 14 [Toner Gauge] key
- 15 [Energy Saver] key
- 16 [ID] key
- 17 [Clear] key
- 18 [#] key
- 19 [Stop] key
- 20 [Start] key
- 21 [Reset] key
- 22 [View Settings] key
- 23 [▲][ ] [◀] [▶] key
- 24 [Back] key
- 25 [Error] indicator
- 26 [Processing/Data] indicator
- 27 [Select Paper/Settings] key
- 28 [Frame Erase] key
- 29 [Enlarge / Reduce] key

FAX Control Panel (only for MF8050Cn)



F-1-19

- 1 [One-touch Speed Dial] keys
- 2 [Address Book] key
- 3 [Redial] key
- 4 [Coded Dial] key
- 5 [Pause] key
- 6 [Hook] key



# 2

## Function

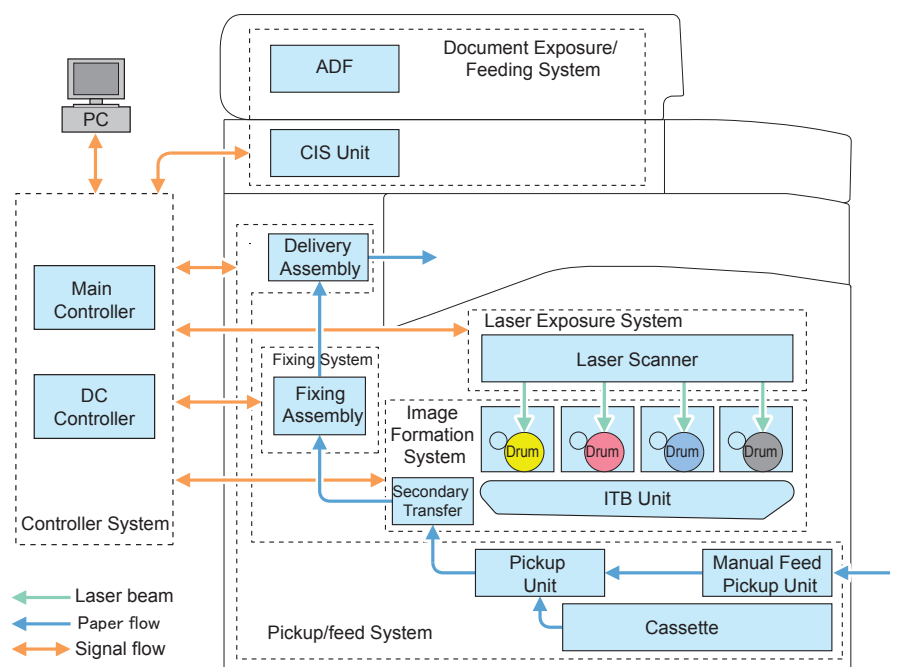
- Basic Configuration
- Document Exposure/Feeder System
- Controller System
- Laser Control System
- Image Formation System
- Fixing System
- Pickup / Feed System

## Basic Configuration

### Configuration function

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

- Document exposure/delivery system
- Controller system
- Laser exposure system
- Image formation system
- Fixing system
- Pickup / Feed System



F-2-1

## Basic Sequence

### Basic Operational Sequence

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

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

T-2-1

## Print Sequence

### MF8300 Series

Full-color print on A4 plain paper (3 pages)

		Print command					(単位: 秒)
Operation		STBY	INTR	PRNT	LSTR	STBY	
1	Fixing temperature control						
2	Drum motor (M1)	1.0					
3	Developing motor (M2)	1.2					
4	Pickup motor (M3)		0.7				
5	Fixing motor (M4)	0.2					
6	Scanner motor (M7)						
7	Cassette pickup solenoid (SL2)	4.5					
8	Development contact solenoid (SL3)	4.0					
9	Registration sensor (SR4)	5.2					
10	Fixing / delivery sensor (SR5)	11.5					
11	Vertical sync signal (/TOP)	4.5					
12	Primary charging bias	1.7					
13	Development bias (Y, M, C)	3.6					
14	Development bias (Bk)	3.6					
15	Primary transfer bias (Y)	2.5	2.2				
16	Primary transfer bias (M, C)		2.9				
17	Primary transfer bias (Bk)	2.0	4.7				
18	Secondary transfer bias	1.0	9.2				
19				ATVC	Print bias	Sheet-to-sheet bias	
20							

F-2-2

## MF8000 Series

Full-color print on A4 plain paper (3 pages)

プリントコマンド  
▽

(単位: 秒)

Operation	STBY	INTR	PRNT	LSTR	STBY
1 Fixing temperature control					
2 Main motor (M701)					
3 Pickup motor (M702)		約3.5			
4 Fixing motor (M703)		約3.9			
5 Scanner motor (M704)		約2.0			
6 Cassette pickup solenoid (SL705)		約6.1			
7 Development contact solenoid (SL706)		約4.4			
8 Paper leading edge sensor (SR602)		約7.6			
9 Fixing/delivery sensor (SR609)			約21.2		
10 Vertical sync signal (/TOP)		約6.1			
11 Primary charging bias		約1.6			
12 Development bias (Y, M, C)		約4.4			
13 Development bias (Bk)		約4.4			
14 Primary transfer bias (Y)		約2.1	約4.7		
15 Primary transfer bias (M, C)			約6.1		
16 Primary transfer bias (Bk)		約0.5	約10.5		
17 Secondary transfer bias		約3.7	約14.7		
18			← ATVC	← Print bias	← Sheet-to-sheet bias
19					
20					

F-2-3

## Print Mode

### MF8300 Series

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

Print mode	Paper feed speed	Paper type	Print speed	Remarks
Normal speed mode	1/1 speed	Plain paper 1 (60 to 74 g/m <sup>2</sup> ) Plain paper 2 (75 to 90 g/m <sup>2</sup> ) Recycled paper (60 to 74 g/m <sup>2</sup> ) Color paper (60 to 74 g/m <sup>2</sup> ) Thick paper 1 to 2 (91 to 128 g/m <sup>2</sup> )* <sup>1</sup> Coated paper 1 (100 to 110 g/m <sup>2</sup> ) Postcards* <sup>3</sup>	20 ppm* <sup>4</sup>	Common to color and B&W printing
1/2 speed mode	1/2 speed	Thick paper 1 to 2 (91 to 128 g/m <sup>2</sup> ) Thick paper 3 (129 to 163 g/m <sup>2</sup> ) Envelopes Labels Postcards* <sup>3</sup>	9.7 ppm* <sup>4</sup>	
1/3 speed mode	1/3 speed	Thick paper 3 (129 to 163 g/m <sup>2</sup> )* <sup>2</sup> Coated paper 2 to 4 (120 to 220 g/m <sup>2</sup> ) Transparency	7.6 ppm* <sup>4</sup>	

T-2-2

\*1: For Thick Paper 1 and 2 (91 to 128 g/m<sup>2</sup>), switched to normal mode when environment temperature is 20 deg C and above, and switched to 1/2 speed mode when the temperature is lower than 20 deg C.

\*2: For Thick Paper 3 (129 to 163 g/m<sup>2</sup>), switched to 1/2 speed mode when environment temperature is 20 deg C and above, and switched to 1/3 speed mode when the temperature is lower than 20 deg C.

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

\*4: The fastest print speed in each mode. The print speed differs depending on paper type

### MF8000 Series

The models of this series switch among 3 print modes to optimize the normal print speed each for color and B&W printing.

Print mode	Paper feed speed	Paper type	Print speed	Remarks
B&W normal speed mode	3/2 speed	Plain paper 1 (60 to 74 g/m <sup>2</sup> ) Plain paper 2 (70 to 90 g/m <sup>2</sup> ) Recycled paper (60 to 74 g/m <sup>2</sup> ) Color paper (60 to 74 g/m <sup>2</sup> )	12 ppm	for B&W printing
Color normal speed mode	1/1 speed	Plain paper 1 (60 to 74 g/m <sup>2</sup> ) Plain paper 2 (70 to 90 g/m <sup>2</sup> ) Recycled paper (60 to 74 g/m <sup>2</sup> ) Color paper (60 to 74 g/m <sup>2</sup> )	8 ppm	for color printing
3/4 speed mode	3/4 speed	Thick paper 1 to 3 (91 to 163 g/m <sup>2</sup> ) Coated paper 1 to 4 (100 to 220 g/m <sup>2</sup> ) Transparency Labels Envelopes Postcards	6 ppm	Common to color and B&W printing

T-2-3

## Document Exposure/Feeder System

### Document Exposure System

#### Overview

Specifications / Control / Function List

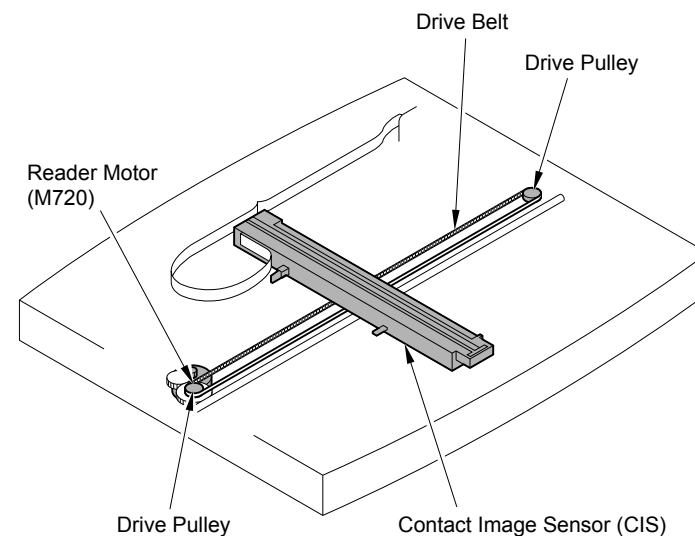
Item	Function / Method
Document Exposure	LED
Document Scan	Book Mode: <ul style="list-style-type: none"> <li>Scan by the shift of the contact sensor (CIS)</li> </ul> ADF : <ul style="list-style-type: none"> <li>Document stream reading by fixed contact sensor (CIS)</li> </ul>
Scanning Resolution	600dpi( Horizontal Scanner)×600dpi( Vertical Scanner)
Number of Gradations	256 Gradations
Magnification	50% to 200% Horizontal: Image processing by Main Controller PCB Vertical: Change of carriage shift speed, image processing by Main Controller PCB
Lens	Rod Lens Array
CIS	Number of lines: 1 line Number of pixels: 5184 pixels as total pixels (5107 pixels as effective pixels) Maximum document scanning width: 216mm
CIS Drive Control	Drive Control by Reader Motor (M720)
Document Size Detection	None
Dirt Sensor Detection	Yes

T-2-4

#### Major Components

Followings are the major components for Document Exposure System.

- The contact sensor to scan document.
- The Reader motor (M720), The drive pulley, The drive belt, to shift The contact sensor  
 In image scanning control, the contact sensor is shifted by rotating the Reader motor based on the drive signal from the Main Controller PCB and scan the original on the copyboard glass. When ADF is in use, image is scanned by feeding the originals by ADF instead of shifting the contact sensor.



F-2-4

## Document Feeder System

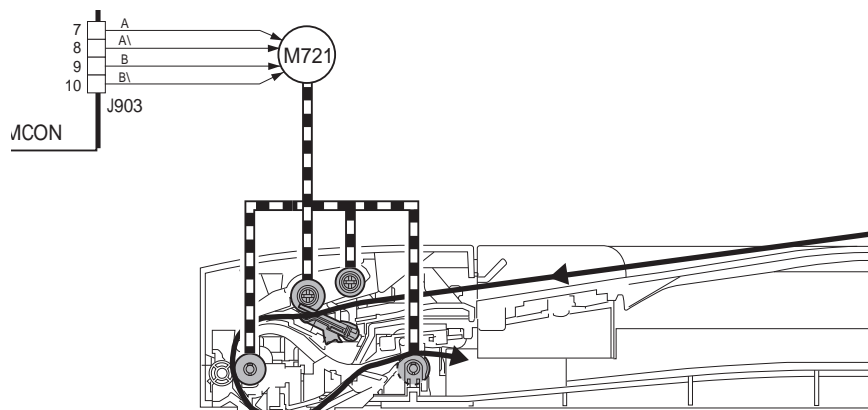
### Overview

Pickup/Feed/Delivery Operation

The Auto Document Feeder (ADF) mounted onto this host machine is dedicated to stream-reading.

1 Motor (ADF Motor: M721) is engaged in Pickup/Feeding/Delivery.

At the start of Copy/Fax/Scan, the ADF Motor (M721) is driven by the drive command from the Main Controller PCB to Pickup/Feed the originals set face up on the original tray one by one in order from the top. The original is scanned by the contact sensor when moving through the copyboard glass, and then delivered face down to the original Delivery Assembly.



F-2-5

### Various Control

#### Original Detection

There are two types of Original Detection in this Equipment.

##### 1. Original Presence / Absence Detection

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

##### 2. Detection of the End of the Original

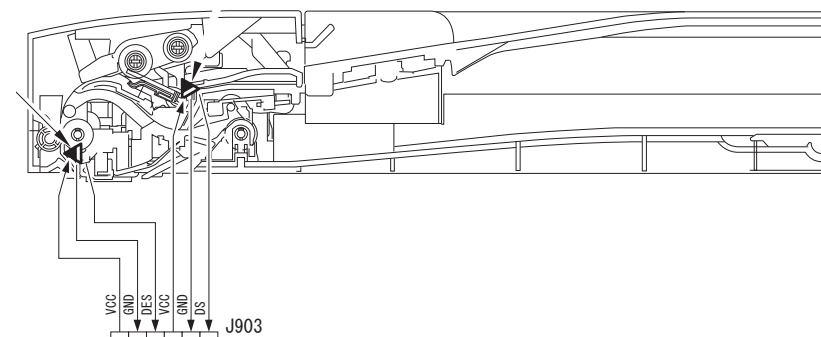
The leading edge of the original that is fed pushes up the actuator, activating the Document End Sensor (SR702) (light shielded =>light transmitted) and resulting in detection of the reach of the leading edge of original. Furthermore, when the trailing edge of the original passes the actuator position, the actuator returns to the original position, inactivating the Document End Sensor (SR702) (light transmitted => light shielded). The trailing edge of the original is detected by this mechanism.

The original length that can be scanned with this equipment is less than 400 mm. Passing of the original longer than this results in jam stop. The original length is calculated by the time it takes from detection of the leading edge of the original to detection of the trailing edge of the original.

MEMO:

There is no function to detect the original size (original width, length) in this equipment.

PS703



F-2-6

## ● Jam Detection

The following cases are judged as jam.

1. In case of delay in reaching DS/DES or stationary during scanning of original
  2. In case DS/DES is detected as ON at power-on (residual paper jam)
  3. In case of detecting original of which length is 400 mm or longer
- Operation after Detection of Jam  
The host machine stops scanning operation and displays "CHECK DOCUMENT" on the control panel. No jam code is displayed.  
In case of the model equipped with fax function (with built-in speaker), the warning beep occurs at the detection of jam.
  - How to release Jam.  
Remove the jammed paper and open / close the ADF upper cover

## ● Service Tasks

### ■ Action for Parts Replacement

Outline of the measures is described in this section. For the detailed procedure, refer to the "Chapter 5 Adjustment".

### ● After replacing ADF Unit

- 1)Execute the white level adjustment.
- 2)Execute the reading position adjustment.
- 3)Execute the original stop position and feed speed adjustment at stream reading.

### ● Reader Unit

- 1)Enter the setting value of the Standard White Plate.
- 2)Execute the color/B&W AGC adjustment.
- 3)Execute the reading position adjustment.
- 4)Execute the white level adjustment.
- 5)Enter the value on the label packed with the part in the service mode item.
- 6)Execute the image reading adjustment at ADF reading.

### ● Reader Unit Upper Cover (Copyboard Glass)

- 1)Enter the value on the label affixed on the glass in the service mode item.
- 2)Execute the reading position adjustment.
- 3)Execute the white level adjustment.

### ● CIS Unit

- 1)Execute the color/B&W AGC adjustment.
- 2)Execute the auto detection of the reading position at DF stream reading.
- 3)Execute the white level adjustment.
- 4)Execute the image reading position adjustment.
- 5)Execute the image reading adjustment at ADF reading.



## ■ Maintenance

No periodically replaced parts, durable parts or periodical service is set for this product.

## ■ Service Notes

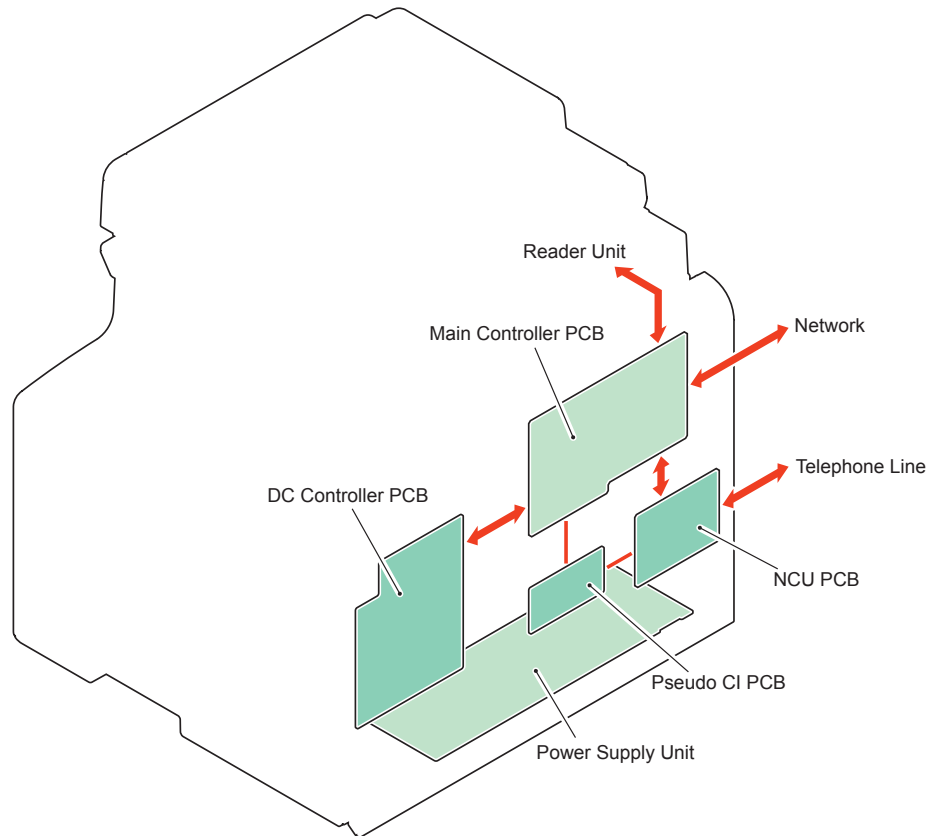
None

## Controller System

### Overview

#### Overview

This product is mainly controlled by the main and DC controllers.



Parts name	Role	F-2-7
Main Controller PCB	Provides controls on the system, image processing, reader / ADF, FAX and network and maintain various setting values.	
DC Controller PCB	Provides controls on printer, laser, high-voltage PCBs, I/O, etc. and maintain setting values.	

## Controls

### Motor Controls

This product uses 3 motors for paper feed and image formation.

The tables below show motor specifications used in this product.

- MF8350Cdn/8330Cdn

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

T-2-5

- MF8050Cn/8030Cn

Name	Driving parts	Type	Failure detection	
Drum Motor	M701	Photosensitive Drum, Developing Cylinder, ITB	DC Motor	Available
Pickup Motor	M702	Pickup Roller, Feed Roller, Registration Roller	Stepping Motor	Not Available
Fixing Motor	M703	Pressure Roller, Delivery Roller	Stepping Motor	Not Available

T-2-6

### Open door detection

This product detects door opening by the door open sensor.

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

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

## Low-Voltage Power Supply Control

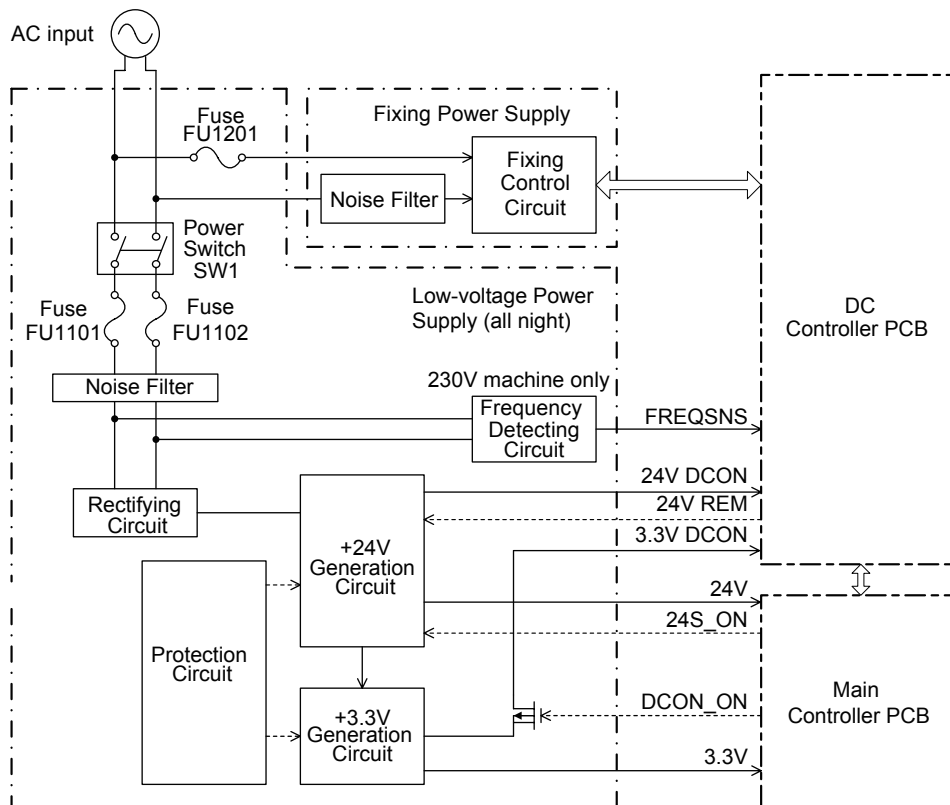
This circuit converts AC voltage input from the power supply receptacle through the fixing power supply into DC power supply and supplies it to each load.

See the figures below for low-voltage / fixing power supply block diagrams.

- Low-voltage power supply: generates DC power supply required in the printer.
- Fixing power supply: supplies AC power supply to the low-voltage power supply and control the fixing heater temperatures.

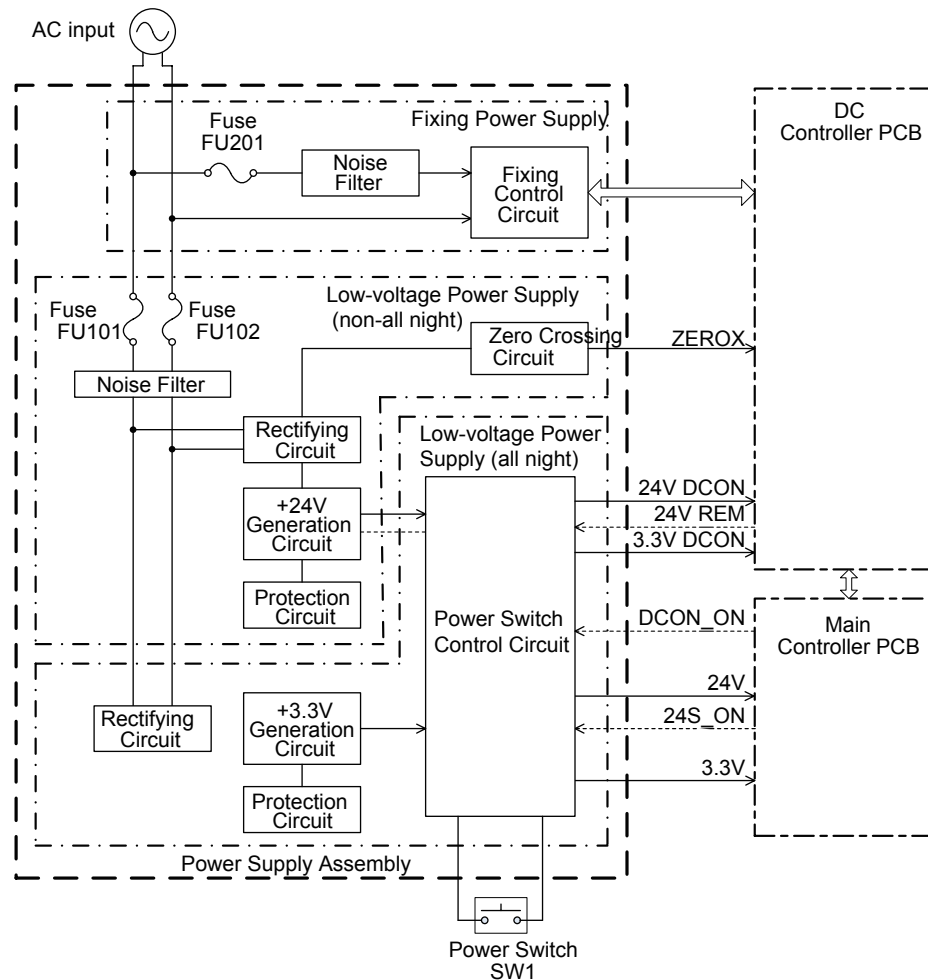
The low-voltage power supply is actuated when the AC power supply is attached to the inlet and the power switch is turned on. The AC power supply supplied through the fixing power supply is converted to +24V and +3.3V of the DC power supply in the low-voltage power supply before supplied to the printer engine.

- MF8350Cdn/8330Cdn



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- MF8050Cn/8030Cn



F-2-9

## Protective control

The low-voltage power supply has protective controls against excessive current and voltage, which automatically detect excessive current or abnormal voltage to shut off the output voltage for avoiding the power supply circuit failures.

In case the DC voltage output is not detected from the low-voltage power supply, the protective control may be activated. Turn off the power switch and remove the AC power supply from the inlet to settle load troubles. Once these are settled, turn on the power switch again.

Another protective control is provided by 2 power fuses on the fixing power supply. These are open when excessive current is detected to shut off power supply to low-voltage power supply.

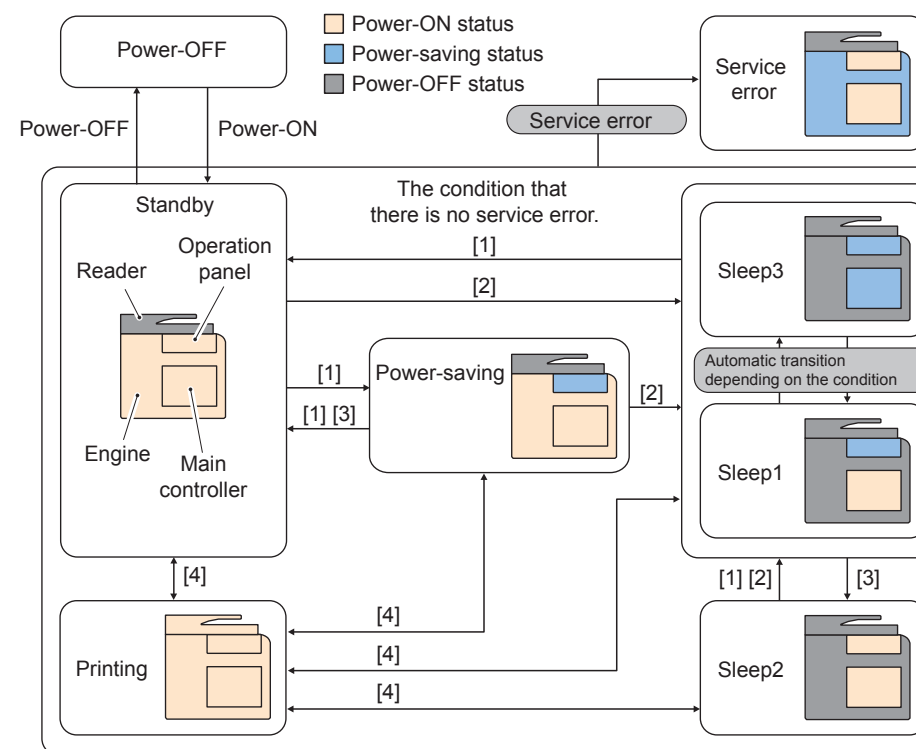
## Power-Saving Mode

This is the function to save power consumed by the printer.

The table below lists various power-saving modes.

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

T-2-7



F-2-10

[1]	Press [Power-saving] key.	[3]	Detects hook.
[2]	Enters auto-sleep status.	[4]	Start / complete jobs.

## Service Tasks

### ■ Action for Parts Replacement

Outline of the measures is described in this section. For the detailed procedure, refer to the "Chapter 5 Adjustment".

#### ● After replacing Main Controller PCB

- Before replacing PCBs

Back up user data (settings / registered data, etc.) and Service mode data for setting / registration after replacing PCBs. Take notes of data unable to back up.

- After replacing PCBs

- 1) Setting of destination / paper size groups
- 2) Clearing setting / registered data
- 3) Adjustment and input of default values

#### ● After replacing DC controller PCB

- 1) Restore the DC Controller backup information.
- 2) Turn OFF/ON the power.
- 3) Execute the print color displacement correction and the quick correction.
- 4) Turn OFF/ON the power.

### ■ Maintenance

No periodically replaced parts, durable parts or periodical service is set for this product.

### ■ Service Notes

None

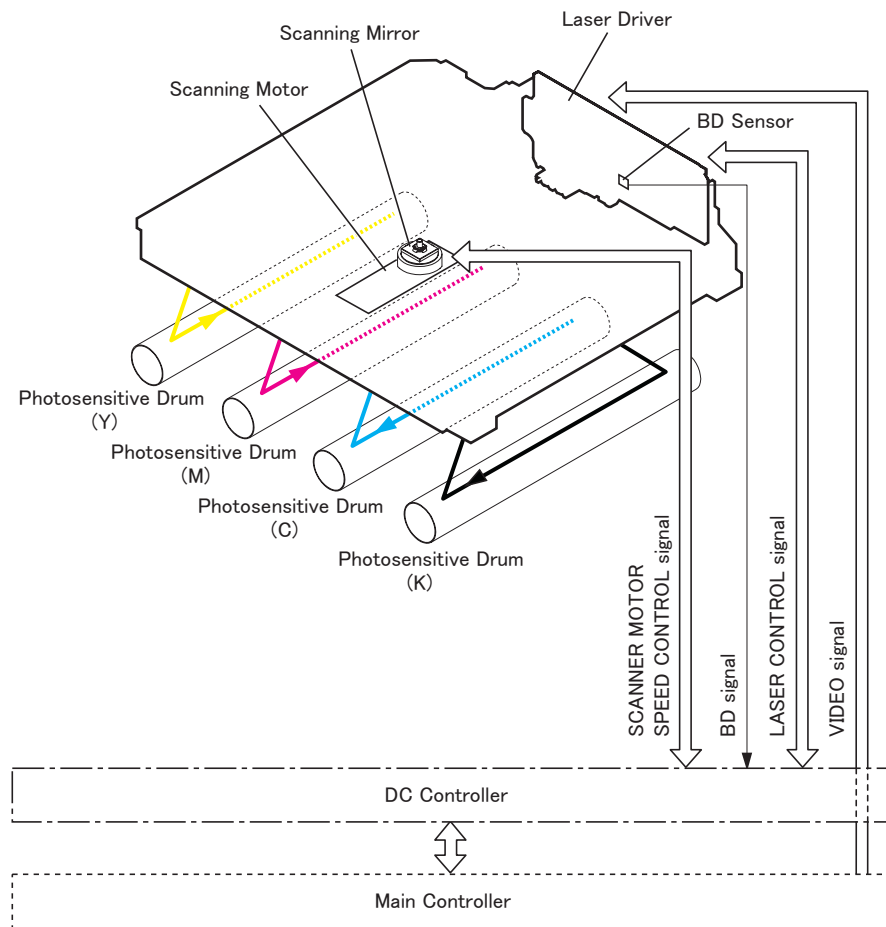
## Laser Control System

### Overview

The Laser Scanner system is to form a static latent image on the photosensitive drum based on the video signal sent from the Main Controller.

The Laser Scanner Unit is composed of the laser driver, the Scanner Motor Unit and other components, which are controlled based on signals input by the DC Controller.

The figure below shows the Laser Scanner Unit schematically.



F-2-11

### Controls

#### Failure detection

##### 1. Scanner Motor failures

- The rotation does not reach the pre-defined value after a certain time elapsed from the Scanner Motor actuated.
- The rotation failed to meet the tolerable range consecutively within a certain time during the Scanner Motor in drive.

Error Code: E110-0000

##### 2. BD failures

- When out-of-range BD cycle is detected during printing.

## Service Tasks

### ■ Action for Parts Replacement

Outline of the measures is described in this section. For the detailed procedure, refer to the "Chapter 5 Adjustment".

#### ● After replacing Laser Scanner Unit

- 1) Register the value on the label packed with the Laser Scanner Unit in service mode.
- 2) After the registration, affix the label packed with the unit on the inside of the Right Cover.

### ■ Maintenance

No periodically replaced parts, durable parts or periodical service is set for this product.

### ■ Service Notes

#### ● Point to note when replacing the laser scanner unit

Do not disassemble the laser scanner unit in the field because it has been adjusted in the factory.

Otherwise, it may cause image fault such as color displacement. (you need to replace the laser scanner unit in that case.)

## Image Formation System

### Overview

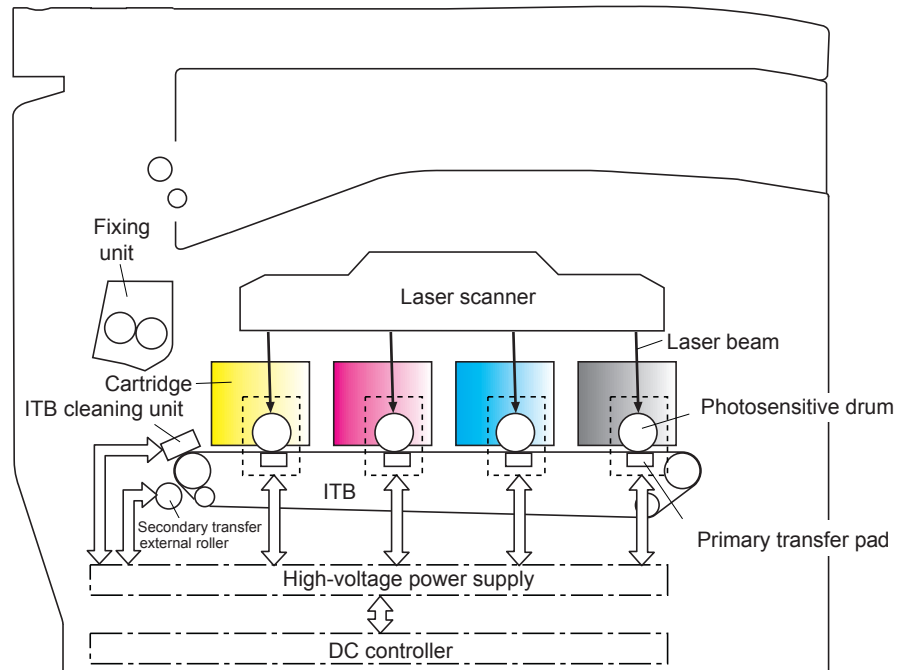
The image formation system holds the core function of this product to form toner images on paper.

To form toner images, the DC controller controls various high-voltage power supply PCBs. This product is a compact and high-speed color printing device that employs the 4-drum and intermediate transfer method.

The image formation system is composed of the following components.

- 4 cartridges
- ITB unit
- Secondary transfer external roller

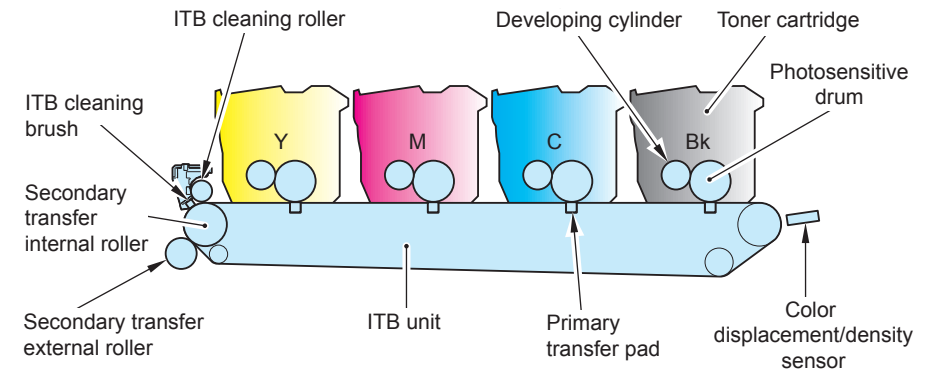
The figure below shows the image formation system schematically.



F-2-12

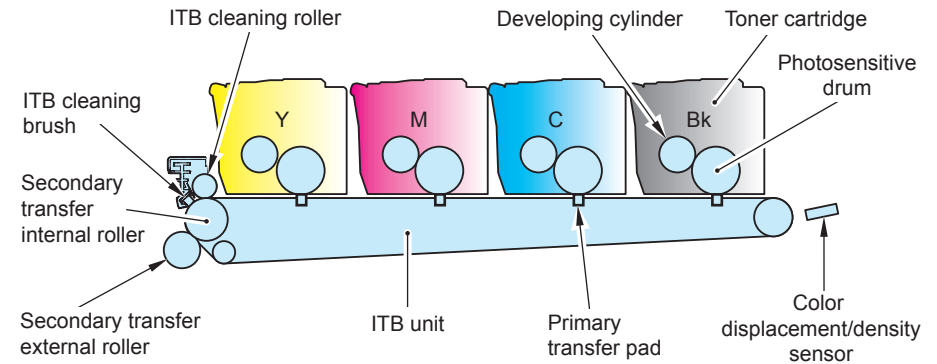
### Parts

#### MF8350Cdn/8330Cdn



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#### MF8050Cn/8030Cn



F-2-14



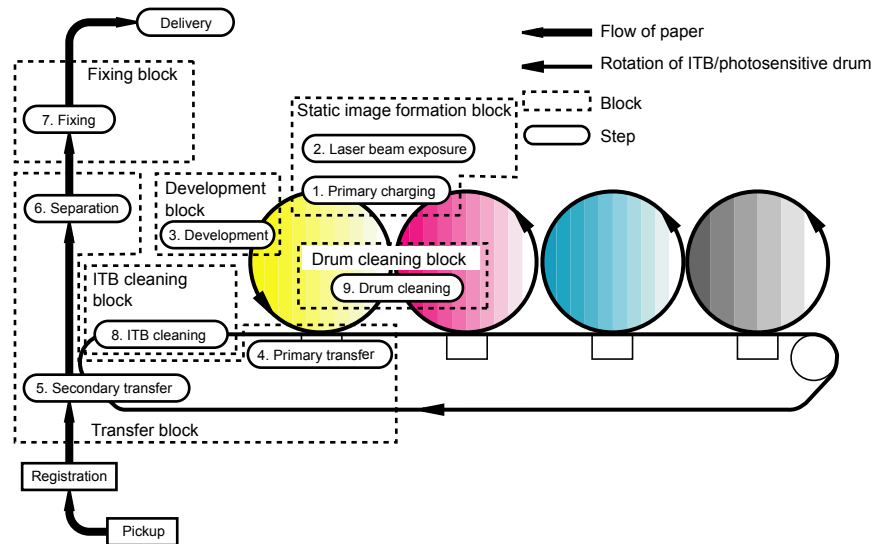
## Image Forming Process

### Overview

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

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

T-2-8



F-2-15

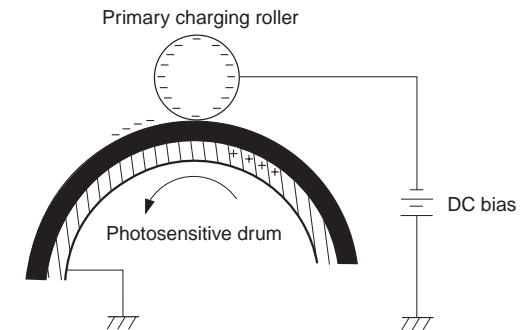
### Static latent image forming block

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

#### Step 1: Primary charging

Before forming a static latent image, the photosensitive drum surface should be charged negatively.

This product employs the method to charge the photosensitive drum directly from the primary charging roller, applying the DC negative bias in order to negatively charge the photosensitive drum surface.

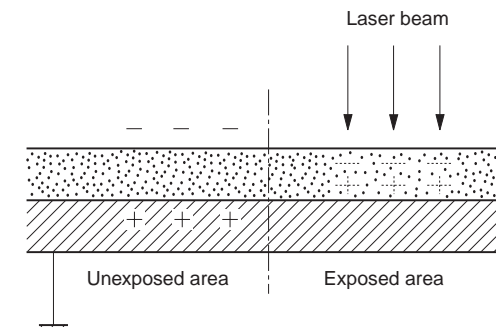


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#### Step 2: Laser beam exposure

Expose the photosensitive drum with laser beams to form a static latent image.

The static latent image is formed by laser beam scanning that neutralizes or strips negative potentials on the scanned parts.



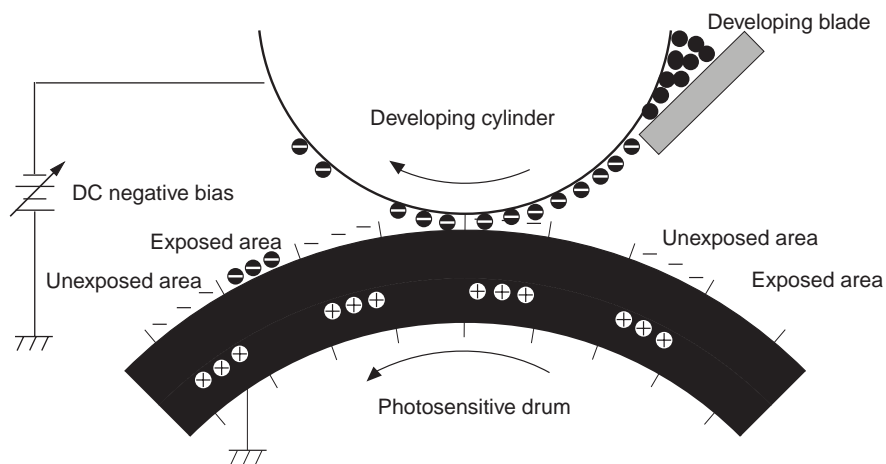
F-2-17

## Development block

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

### Step 3: Development

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

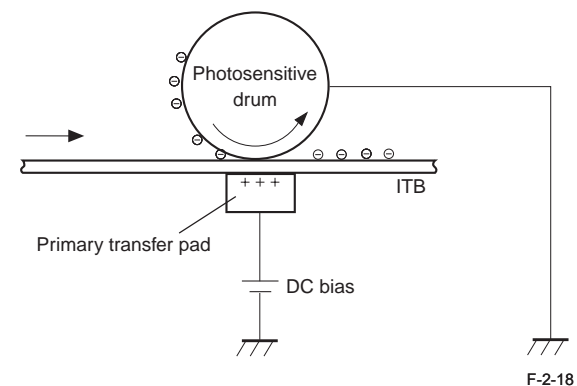


## Transfer block

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

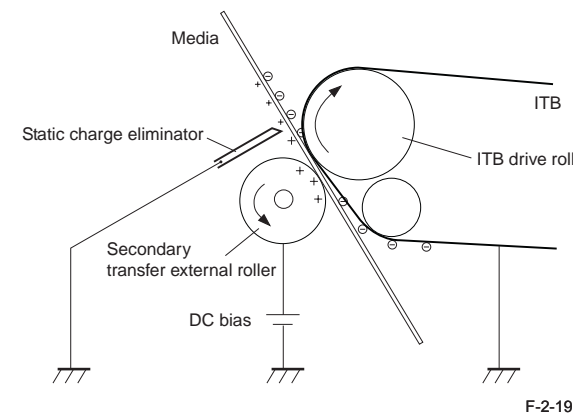
### Step 4: Primary transfer

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



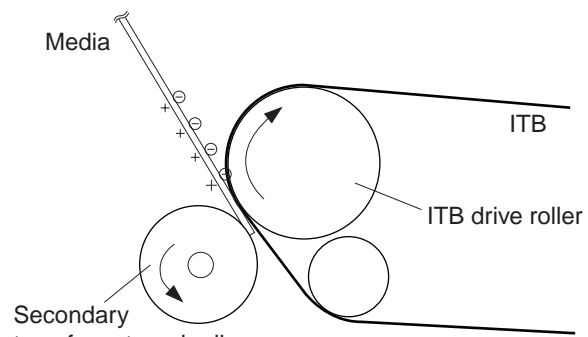
### Step 5: Secondary transfer

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



### ● Step 6: Separation

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



F-2-20

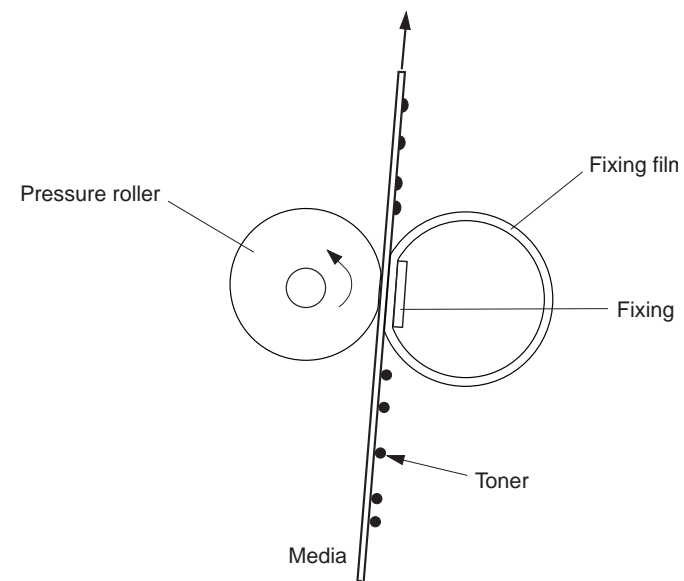
### ■ Fixing block

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

### ● Step 7: Fixing

This product employs the on-demand fixing method.

By applying pressure and heat on the paper and the toner image on it, the toner is fused to develop the permanent image.



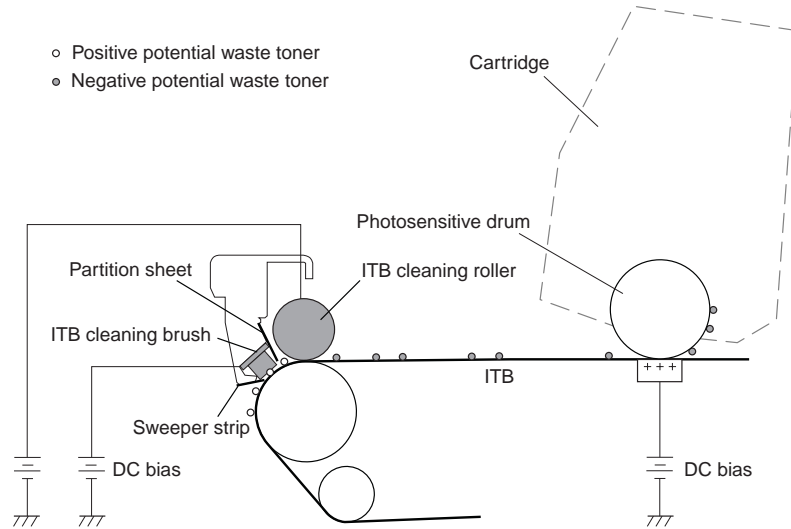
F-2-21

## ■ Cleaning block

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

### ● Step 8: ITB cleaning

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



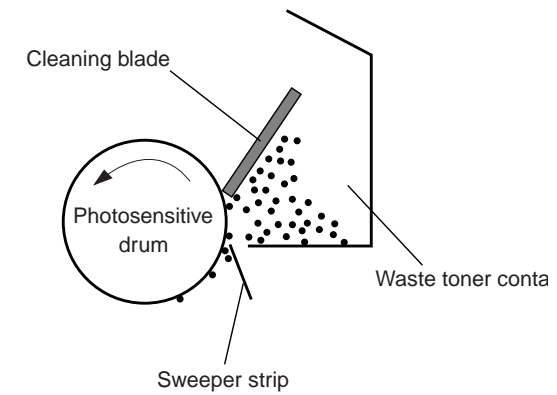
F-2-22

## ■ Cleaning block

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

### ● Step 9: Drum cleaning

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



F-2-23

## Controls

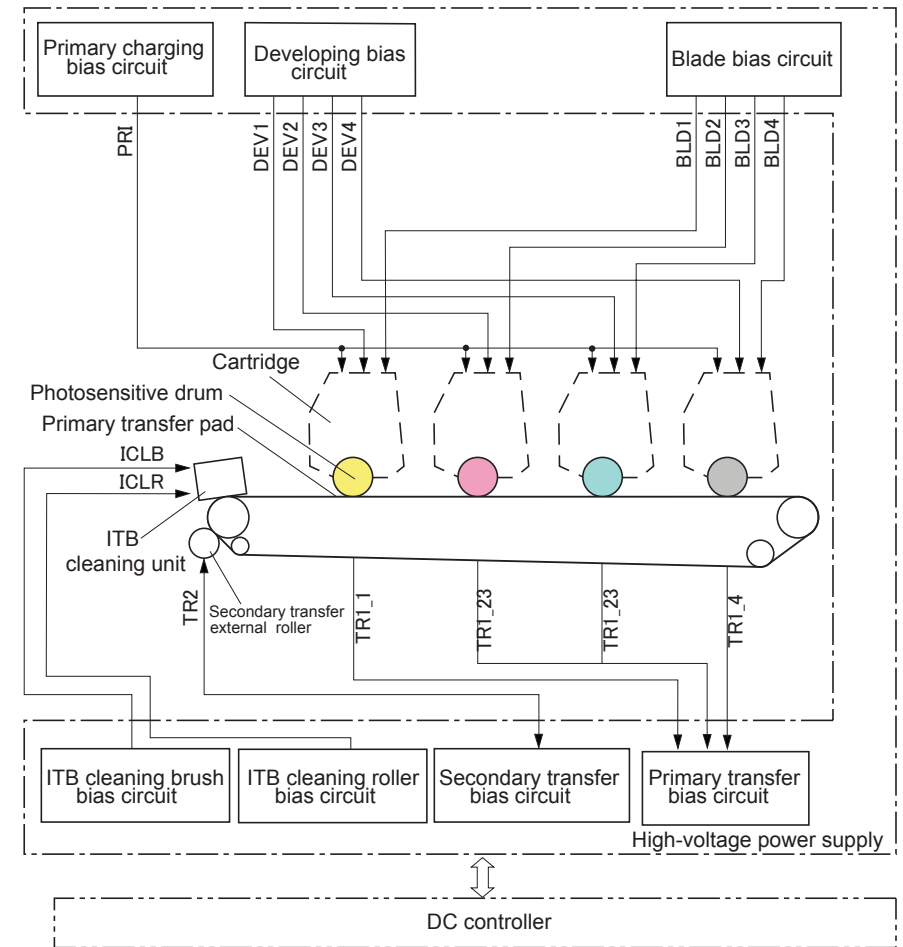
### High-voltage power supply control

#### Overview

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

The figure below shows the high-voltage power source schematically.

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



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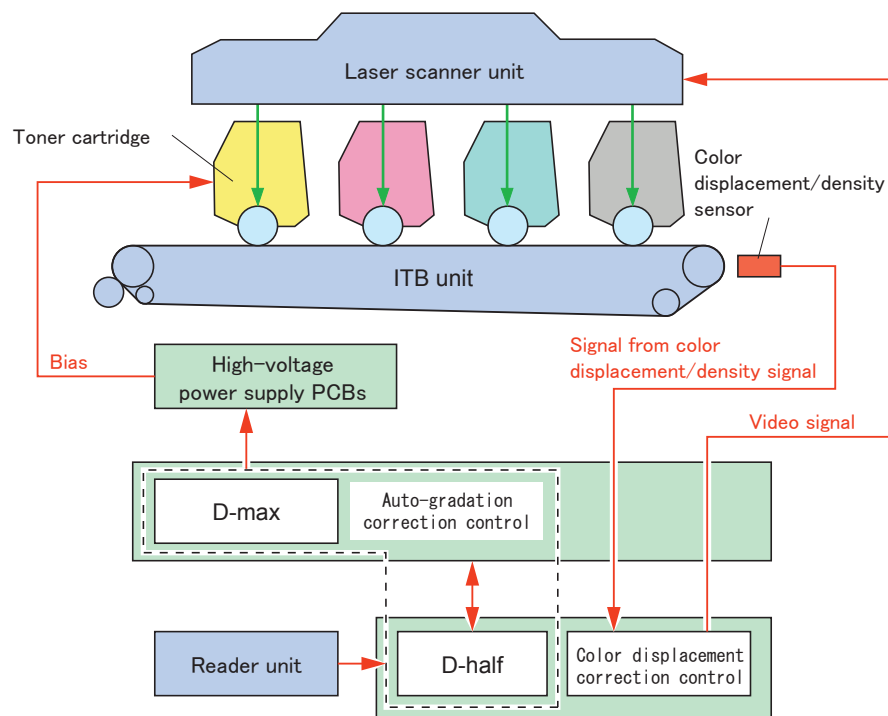
## Image stabilization control

### Overview

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

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

T-2-9



F-2-25

### Execution timing

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

No.	Execution timing	Duration		D-max	D-half	Color displacement correction	Remarks
		MF8300 series	MF8000 series				
1	Power-ON	Approx.195 seconds	Approx.120 seconds				Executed at initial rotation
2	Toner cartridge replacement	Approx.195 seconds	Approx.120 seconds				Executed at initial rotation
3	Environmental changes	Approx.195 seconds	Approx.120 seconds				Executed after job completion Detected by the environment sensor
4	After the pre-defined counts printed	Approx.195 seconds	Approx.120 seconds				Executed after job completion
5	After the pre-defined time elapsed	Approx.195 seconds	Approx.120 seconds				Executed after job completion
6	Resumed from sleep (after 8 hours or more)	Approx.100 seconds	Approx.60 seconds			-	Executed after job completion upon resumed
7	Full correction	Approx.100 seconds	Approx.60 seconds			-	Executed by users
8	Quick correction	Approx.100 seconds	Approx.60 seconds			-	
9	Copy image correction	Approx.100 seconds	Approx.60 seconds			-	

T-2-10

## ● Image density correction control (D-max control)

This control is to stabilize the print image density.

The DC controller PCB triggers D-max control under the pre-defined conditions.

1. Measure the density detection patterns for each color on the ITB.
2. To optimize the density of the measured patterns, control the primary charging bias and the developing bias.

The image density correction control is triggered under the conditions below.

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

## ● Image gradation correction control (D-half control)

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

Upon D-max control completed, the DC controller PCB and the main controller PCB enter the following steps of D-half control.

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

## ● Color displacement control

This control is to correct color displacement due to variability of the laser units or toner cartridges.

The following displacements are corrected through this control.

- Horizontal scanning start position
- Horizontal scanning magnification
- Vertical scanning start position

The DC controller PCB controls the color displacement/density sensor and the color displacement sensor under the conditions below.

- In the case of Menu > Adjustment/Cleaning > Auto Adjustment Settings > Correct Color Mismatch when turned ON: OFF (default)
  - 1) When completing the first job after power ON
  - 2) When replacing the Toner Cartridge
  - 3) After printing the specified number of sheet (every 150 sheets)
  - 4) After the specified time has passed
    - MF8000 Series: only twice (100 min, and 300 min)
    - MF8300 Series: 60 min, after that every 240 min
  - 5) When completing the first job after recovering from the 8-hour (or longer) sleep state
  - 6) When the user commands execution of the color displacement correction
- In the case of Menu > Adjustment/Cleaning > Auto Adjustment Settings > Correct Color Mismatch when turned ON: ON, the operation of (1) and (5) mentioned in the above conditions will be as follow:
  - 1)' At power ON, execute before executing a job
  - 5)' At recovery from the 8-hour (or longer) sleep state, execute before executing a job

This control follows the sequence below.

- 1) The DC controller computes the color displacement degree for each color based on the color displacement detection patterns measured on the ITB. The computed color displacement data is sent to the main controller.
- 2) The main controller controls the video signals for each color based on the data received from the DC controller to adjust the horizontal scanning start position, the horizontal scanning magnification and the vertical scanning start position.  
In addition to the above, the DC controller PCB on the printer engine controls the scanner motor speed to correct the color displacement in the vertical scanning direction.

### Scanning magnification

This refers to the size of the image in the horizontal scanning direction.

The laser path length is dependent on the photosensitive drums independently included in each toner cartridge. This causes color displacement at the trailing edge due to cartridge-dependent image area in the horizontal scanning direction.

### ● Auto-gradation correction control

This control is to stabilize the image gradation density characteristic.

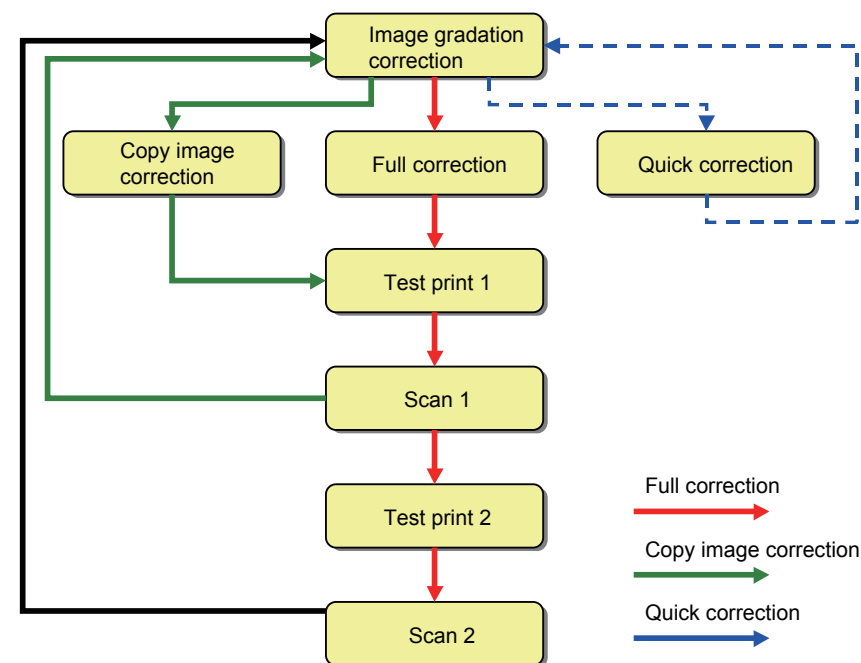
To execute this control, go to “Adjustment / Cleaning > Auto-gradation correction” in User mode.

This control is performed in the following 3 approaches.

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

### Operational flow

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





## ■ Toner cartridges

### ● Developing cylinder contact control

The control makes the developing cylinder engagement / disengagement to the photosensitive drum as required in the specified print mode (full color or monochrome). By controlling the developing cylinder engagement to the photosensitive drum only when needed, this control effectively prevents the photosensitive drums from being deteriorated to maximize the service life.

The DC controller actuates the motor (MF8300: Developing motor, MF8000: Main motor) to switch the direction of the engagement / disengagement cam to contact / separate the developing cylinder to / from the photosensitive drum.

The DC controller controls the developing cylinder (engagement / disengagement) by regulating the main motor rotation upon detecting signals from the development home position sensor.

The state of the Developing Cylinder for each color (engagement / disengagement) differs depending on the condition of the Main Body.

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

T-2-11

### Related Error Code

- E015-000 (Error in developing roller contact)  
Failed to detect changes in developing home position sensor signals within the pre-defined time after actuating motor (MF8300: Developing motor, MF8000: Main motor) to control the developing roller contact.

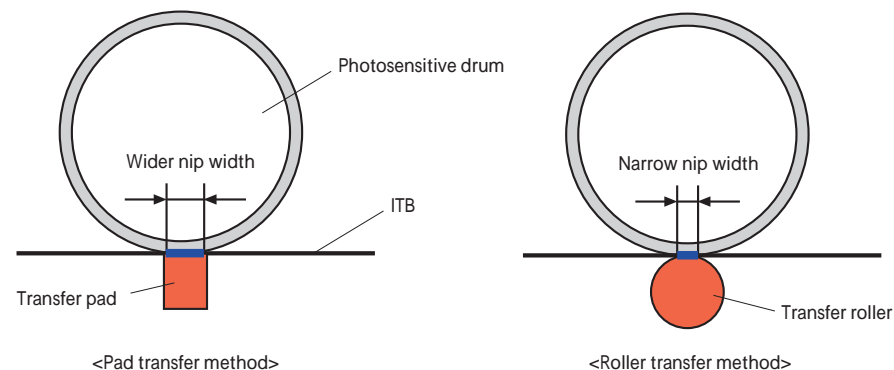
## ■ Transfer unit

### ● Pad transfer method

This product employs the pad transfer method in the primary transfer mechanism. Enhanced image stabilization is achieved by replacing the conventional transfer roller with the transfer pad. The characteristic of the pad transfer method is:

- It maintains the wider nip to the photosensitive drum to increase transferability.

The figures below show the difference between the pad transfer method and the conventional roller transfer method schematically.



## Service Tasks

### ■ Action for Parts Replacement

No work is required at parts replacement of this product.

### ■ Maintenance

No periodically replaced parts, durable parts or periodical service work is set for this product.

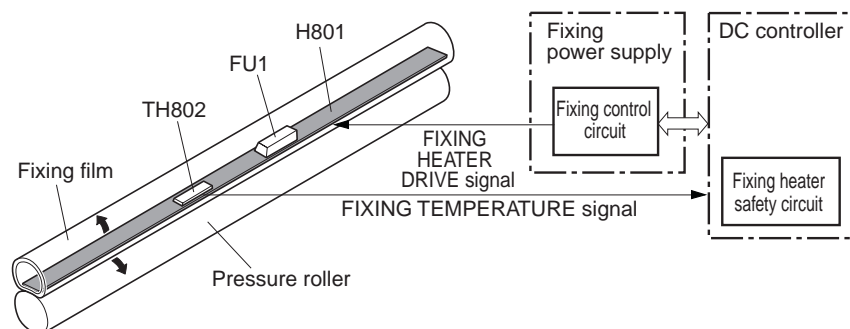
### ■ Notes on Field Service

## Fixing System

### Overview

The fixing power supply controls temperatures of the Fixing Assembly.

This product employs the on-demand fixing method in the Fixing Assembly. The figure below shows the structure schematically.



F-2-27

Name	MF8300	MF8000	Role	
Fixing heater	100V	H100	T801	To heat the fixing film
	120V	H120		
	230V	H220		
Main thermistor	TH801	TH802	To detect the fixing heater temperature (center of the heater, contact thermistor)	
Sub thermistor 1	TH802	-	To detect the fixing heater temperature (heater ends, contact thermistor)	
Sub thermistor 2	TH803	-		
Temperature fuse	FU1		To prevent abnormal temperature rise in the fixing heater	

T-2-12

The temperature fuse is attached to the center of the fixing heater.

When the fixing heater comes to be abnormally hot, the temperature fuse is open to shut off the power supply to the fixing heater.

The thermistor detects the fixing heater temperature to input the temperature detection signal to the DC controller. Note that temperatures at heater ends are not detected in models of MF8000 series with slower print speed.

The temperatures in the whole fixing assembly are controlled by the fixing control circuit and the fixing heater safety circuit based on commands from the DC controller.

## Controls

### Fixing Speed Control

This control prevents abnormal temperature rise at ends of the fixing heater during continuous printing using paper with width less than A4.

When using paper in width narrower than 210mm (A4) at continuous printing, decrease throughput by setting longer pickup intervals.

#### MF8300 Series

Paper Type	Paper Size	Print speed
Plain paper1 (60 to 74g/m <sup>2</sup> )	A4	20.0 -> 10.0 -> 6.6 -> 5.0 -> 3.3
	LTR	21.0 -> 10.2 -> 6.7 -> 5.0 -> 3.3
	LGL	17.1 -> 9.2 -> 6.3 -> 4.7 -> 3.2
Thick paper 1(86 to 119g/m <sup>2</sup> )	A4	20.0 -> 10.0 -> 6.6 -> 5.0 -> 3.3
	LTR	21.0 -> 10.3 -> 6.7 -> 5.0 -> 3.3
	LGL	17.1 -> 9.2 -> 6.3 -> 4.7v3.2
Thick paper 2(120 to 128g/m <sup>2</sup> )	A4	11.9 -> 11.9 -> 6.5 -> 4.8 -> 3.2
	LTR	12.2 -> 12.2 -> 6.5 -> 4.8 -> 3.2
	LGL	10.8 -> 10.8 -> 6.1 -> 4.6 -> 3.1
Thick paper 2(129 to 163g/m <sup>2</sup> )	A4	9.7 -> 6.4 -> 4.8 -> 3.8 -> 2.7
	LTR	9.7 -> 6.4 -> 4.8 -> 3.8 -> 2.7
	LGL	8.3 -> 5.8 -> 4.4 -> 3.6 -> 2.6
Coated paper 1(100 to 110g/m <sup>2</sup> )	A4	11.9 -> 11.9 -> 6.5 -> 4.8 -> 3.2
	LTR	12.2 -> 12.2 -> 6.5 -> 4.8 -> 3.2
	LGL	10.8 -> 10.8 -> 6.1 -> 4.6 -> 3.1
Coated paper 2(120 to 130g/m <sup>2</sup> )	A4	6.5 -> 4.9 -> 3.9 -> 3.3 -> 2.4
	LTR	6.9 -> 5.1 -> 4.0 -> 3.3 -> 2.5
	LGL	5.6 -> 4.3 -> 3.6 -> 3.0 -> 2.3

T-2-13

#### MF8000 Series

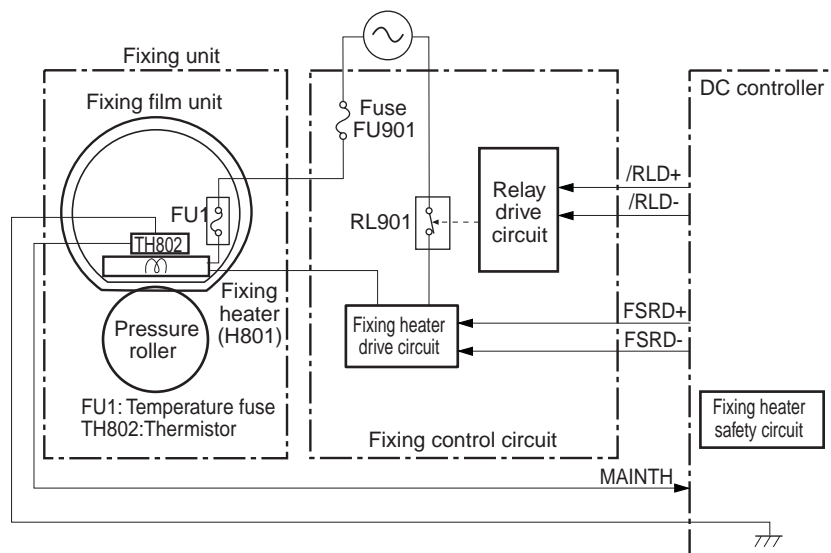
Paper Type	Print speed				
	1-5 sheets	6-10 Sheets	11-20 sheets	21-50 sheets	50 sheets
Plain paper1 (60 to 74g/m <sup>2</sup> )	8	6	5.5	4	2
Plain paper2 (75 to 90g/m <sup>2</sup> )					
Thick paper1(91 to 120 g/m <sup>2</sup> )	6	5	5	2	2
Thick paper2 (121 to 163 g/m <sup>2</sup> )					

T-2-14

## Fixing temperature control

The fixing control circuit controls temperatures of the fixing heater to attain the respective target temperatures.

The figure below shows this circuit schematically.



F-2-28

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

### 1) Start-up temperature control

This controls the fixing heater warm-up to the target temperature.

Different temperatures are targeted depending on elapsed time after the last print job, paper types or the environment.

### 2) Printing temperature control

This controls the fixing film temperature during printing to maintain the target.

Different temperatures are set in the fixing film depending on paper types.

### 3) Sheet-to-sheet temperature control

This control lowers the sheet-to-sheet fixing heater temperature during continuous printing in the low-speed mode to prevent temperature rise on the pressure roller.

Different sheet-to-sheet temperatures are set depending on sheet intervals or paper types.

## Protective Control

This control is to detect abnormal temperature rise in the fixing assembly to shut off power supply to the fixing heater.

This product has the following 3 protective controls to prevent abnormal temperature rise in the fixing assembly.

- DC controller
- Fixing heater safety circuit
- Temperature fuse

The descriptions below are the details of each protective control.

### 1) DC controller

When DC Controller monitors temperature of the central thermistor of the fixing heater and exceeds the pre-defined temperature, which is thought abnormally high temperature, therefore the drive signal (FSRD+, FSRD-) of the fixing heater is stopped outputting and the relay is turned off and the power distribution to the heater is stopped.

### 2) Fixing heater safety circuit

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

### 3) Temperature fuse

When the temperature of the fixing heater abnormally rises, the temperature fuse is open to shut off power supply to the heater.

- 226 deg C or higher detected at the temperature fuse.

## ■ Failure detection

The DC controller determines failures of the fixing assembly under conditions below to stop the fixing heater drive signal output (FSRD+, FSRD-) and shut off relay and power supply to the heater. At the same time, it notifies the failure occurrence to the main controller.

### 1) Start-up failure detection

- The thermistor temperature does not exceed startup temperature 1 within the pre-defined time after start-up of the heater from the waiting status.
- The thermistor temperature does not exceed startup temperature 2 within the pre-defined time after reaching startup temperature 1 upon start-up of the heater from the waiting status.
- The thermistor temperature does not reach the target temperature within the pre-defined time after heater temperature control during initial rotation.

[Related error code]

E000-0000

### 2) Abnormally high temperature failure

- The thermistor temperature remains at pre-defined temperature or higher for the pre-defined time.

[Related error code]

E001-0000 main thermistor

E001-0001 sub thermistor (MF8300 Series only)

### 3) Abnormally low temperature failure

- The thermistor temperature remains at pre-defined temperature or lower within the pre-defined time after heater temperature control during printing.

[Related error code]

E003-0000 main thermistor

E003-0001 sub thermistor (MF8300 Series only)

### 4) Fixing heater drive circuit failure

- The zero-cross signal has not been detected for a certain times within the pre-defined time after power-ON.
- ned time after power-ON.
- The zero-cross signal is detected after power-ON but has not been detected continuously within the pre-defined time during printing.

[Related error code]

E004-0000

## ● Service Works

### ■ At parts replacement

No work is required for this product at parts replacement.

### ■ Maintenance

No periodically replaced parts, durable parts or periodical service is set for this product.

### ■ Notes on service works

When removing the fixing assembly, perform the operation after the fixing assembly is surely cooled. The fixing assembly just after printing may cause burn injury.

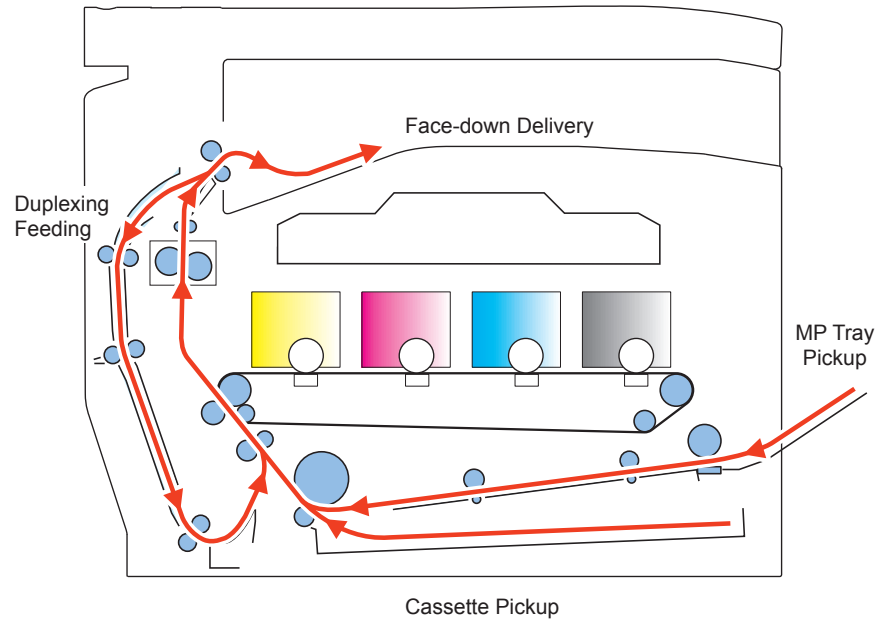
## Pickup / Feed System

### Overview

The Pickup / Feed System is responsible for paper pickup and delivery, made up with multiple rollers.

The figure below shows the structure of the Pickup/Feed System schematically.

### MF8300 Series



<Pickup slot>

- Cassette
- MP tray

<Delivery slot>

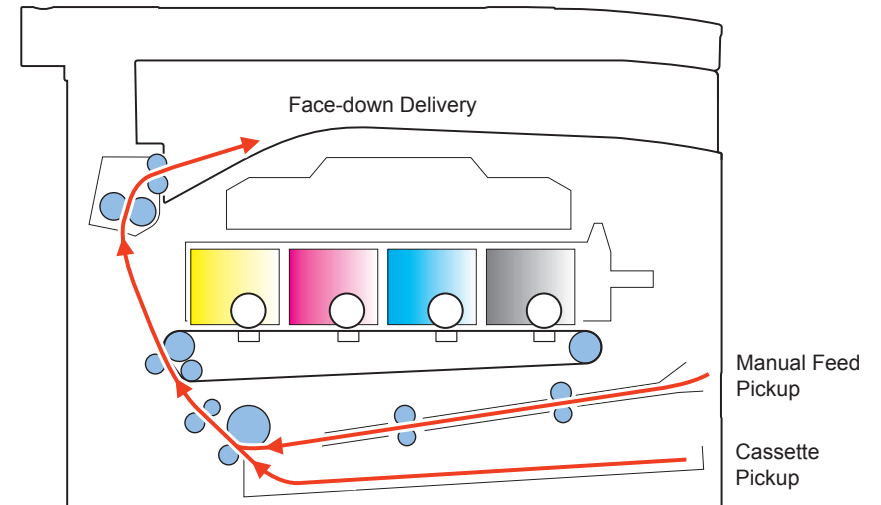
- Face-down tray

<Automatic 2-sided>

- Available

F-2-29

### MF8000 Series



<Pickup slot>

- Cassette
- Manual feed slot

<Delivery slot>

- Face-down tray

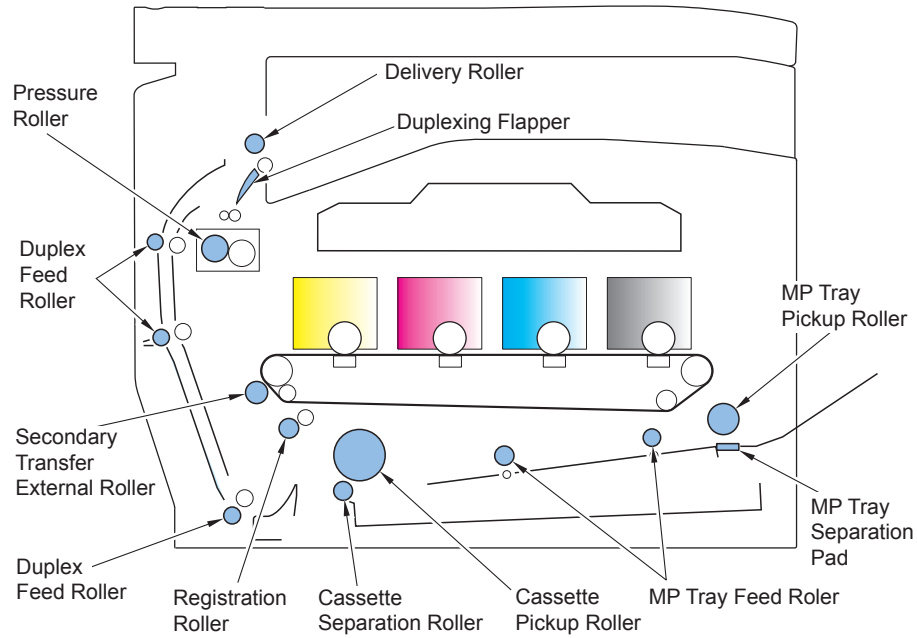
<Automatic 2-sided>

- Not Available

F-2-30

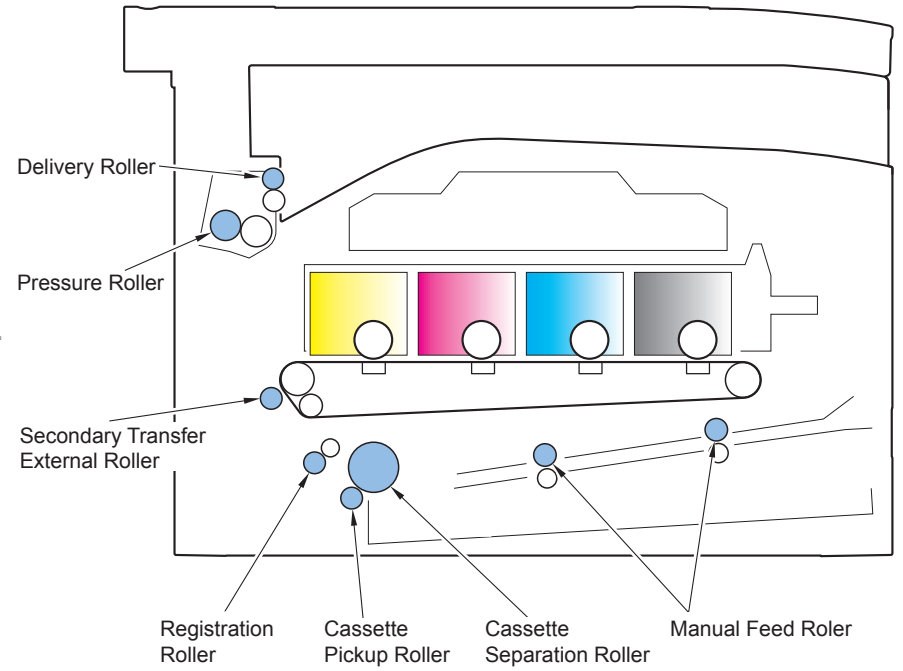
Parts

MF8300 Series



F-2-31

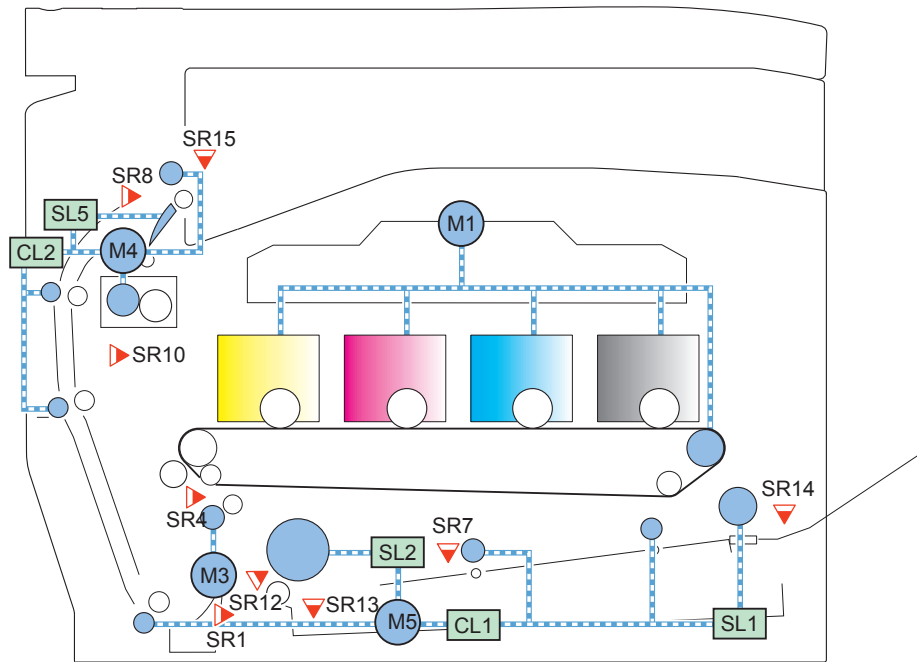
MF8000 Series



F-2-32

## Drive Configuration

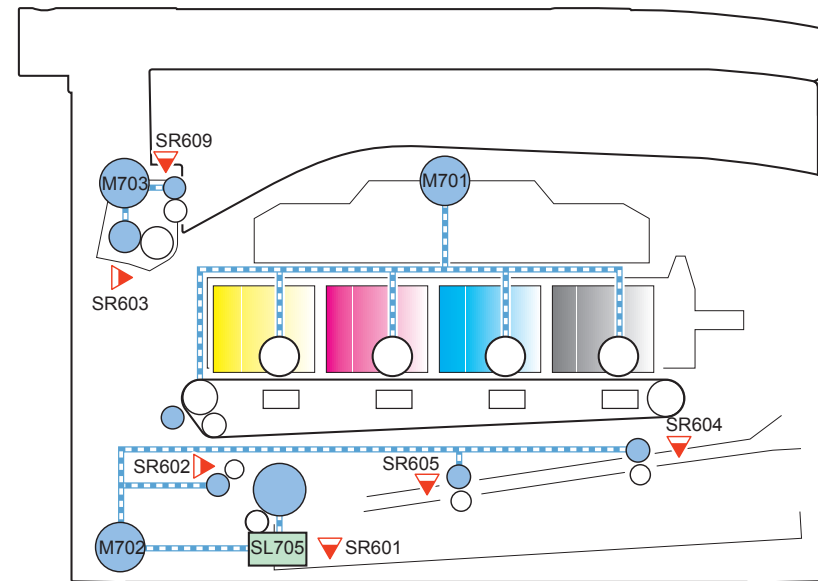
### MF8300 Series



F-2-33

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

### MF8000 Series



F-2-34

Symbol	Name	Symbol	Name
M701:	Main Motor	SR601:	Cassette paper sensor
M702:	Pickup Motor	SR602:	Registration sensor
M703:	Fixing Motor	SR603:	Fixing arch sensor
SL705:	Cassette pickup solenoid	SR604:	Manual feed paper sensor
		SR605:	Manual feed pre-registration sensor
		SR609:	Fixing delivery sensor



## Controls

### ■ Cassette paper feed

#### ● Roller separation method

This product employs the separation roller method to avoid multi-feeding.

This method prevents multiple sheets from being fed by the driven separation roller. The separation roller is driven by the pickup roller.

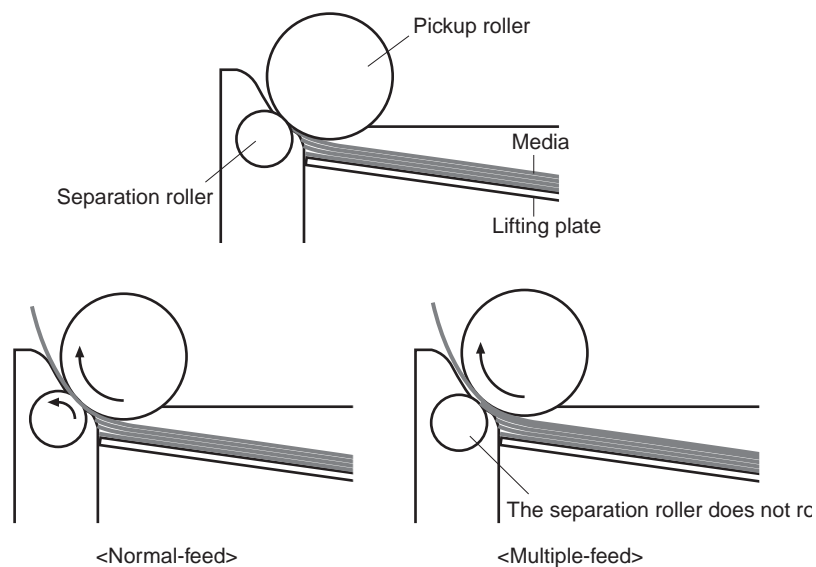
<When normally operated>

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

<When multiple sheets are fed>

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

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



F-2-35

### ■ Jam detection

#### ● Overview

This product has the paper sensors as listed below to detect paper level and paper feed status.

- Registration sensor
- MP tray pre-registration sensor (MF8300 Series only)
- Manual feed pre-registration sensor (MF8000 Series only)
- Fixing delivery sensor
- Fixing arch sensor
- Pre-registration sensor (MF8300 Series only)
- Cassette paper sensor
- MP tray paper sensor (MF8300 Series only)
- Delivery full sensor (MF8300 Series only)
- Paper feeder pre-registration sensor (MF8300 Series only)

The following jams are detected in this product.

1. Pickup delay jam 1
2. Pickup delay jam 2 (MF8300 Series only)
3. Pickup stationary jam
4. Fixing / delivery delay jam
5. Delivery stationary jam
6. Fixing seizure jam
7. Internal paper remaining jam
8. Duplex re-pickup jam (MF8300 Series only)
9. Open door jam

## ● Delay jams

### Pickup delay jam 1

This occurs when the leading edge of the paper is not detected by the registration sensor<sup>\*</sup> from the start of image formation to re-pickup.

<sup>\*</sup>: MF8300: SR4, MF8000: SR602

### Pickup delay jam 2 (MF8300 Series only)

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

### Fixing / delivery delay jam

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

<sup>\*1</sup>: MF8300: SR8, MF8000: SR609

<sup>\*2</sup>: MF8300: SR15

## ● Stationary jams

### Pickup stationary jam

This occurs when the trailing edge of the paper is not detected by the registration sensor<sup>\*</sup> within the pre-defined duration after re-pickup.

<sup>\*</sup>: MF8300: SR4, MF8000: SR602

### Fixing / delivery stationary jam

This occurs when the trailing edge of the paper is not detected by the fixing delivery sensor<sup>\*2</sup> within the pre-defined duration after the trailing edge of the paper is detected by the registration sensor<sup>\*1</sup>.

<sup>\*1</sup>: MF8300: SR4, MF8000: SR602

<sup>\*2</sup>: MF8300: SR8, MF8000: SR609

## ● Other jams

### Fixing seizure jam

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

<sup>\*</sup>: MF8300: SR8, MF8000: SR609

### Internal paper remaining jam

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

< MF8300 Series >

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

< MF8000 Series >

- Registration sensor (SR602)
- Fixing arch sensor (SR603)
- Manual feed pre-registration sensor (SR605)
- Fixing delivery sensor (SR609)

### Duplex re-pickup jam (MF8300 Series only)

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

### Open door jam

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

## Service Works

### ■ At parts replacement

No work is accompanied with parts replacement.

### ■ Maintenance

No periodically replaced parts, durable parts or periodical service is set for this product.

### ■ Notes on service works

No periodically

# 3

## Periodic Servicing

- Periodically Replaced Parts
- Durable Parts
- Periodical Services
- Cleaning

## Periodically Replaced Parts

No periodically replaced parts is set for this product.

## Durable Parts

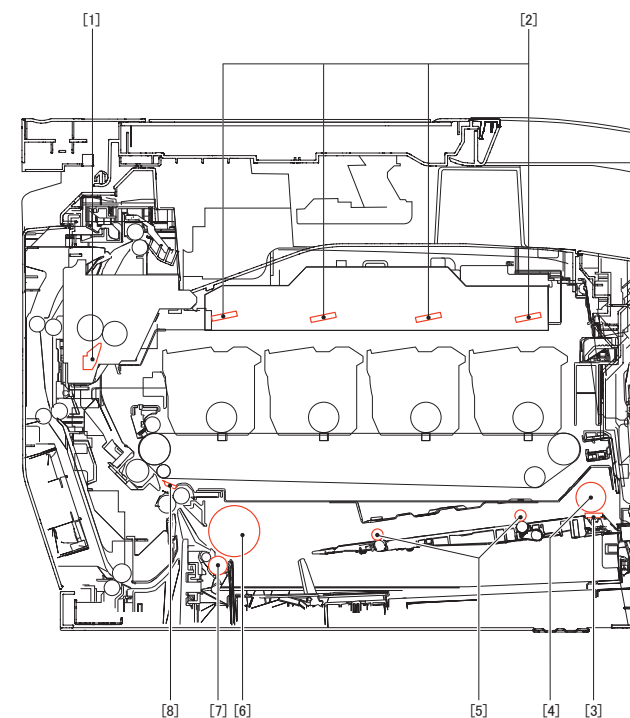
No durable parts is set for this product.

## Periodical Services

No periodical service is set for this product.

## Cleaning

- MF8350/8330 series

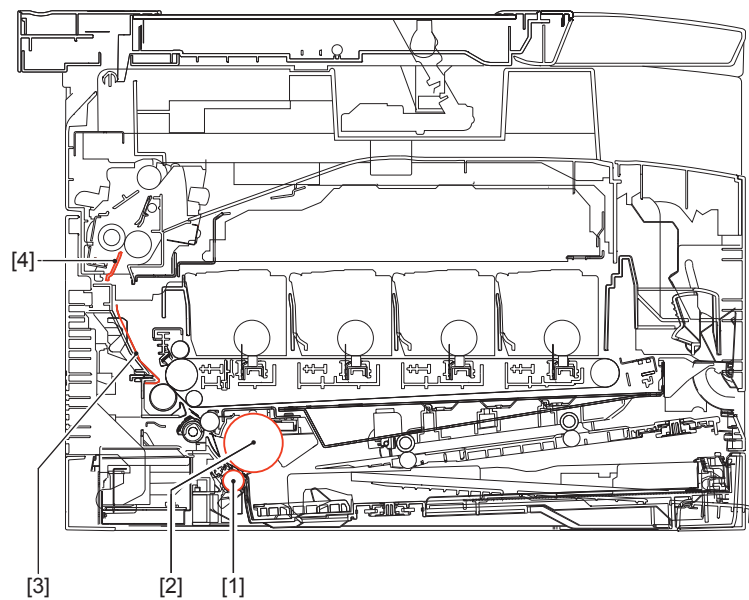


F-3-1

Cleaning parts	Procedure
1 Fixing front guide	Clean with lint-free paper. For heavy soils, use alcohol to wipe off with lint-free paper.
2 Laser beam window glass	Clean with lint-free paper.
3 Multi-purpose tray separation pad	Clean with lint-free paper. For heavy soils, use alcohol to wipe off with lint-free paper.
4 Multi-purpose tray pickup roller	
5 Multi-purpose tray feed roller	
6 Cassette pickup roller	
7 Cassette separation roller	
8 Registration upper guide	Clean with lint-free paper.

T-3-1

MF8050/8030 series



F-3-2

Cleaning parts		Procedure
1	Pickup roller	Clean with lint-free paper. For heavy soils, use alcohol to wipe off with lint-free paper.
2	Separation roller	
3	Paper feed guide	
4	Fixing front guide	

T-3-2

# 4

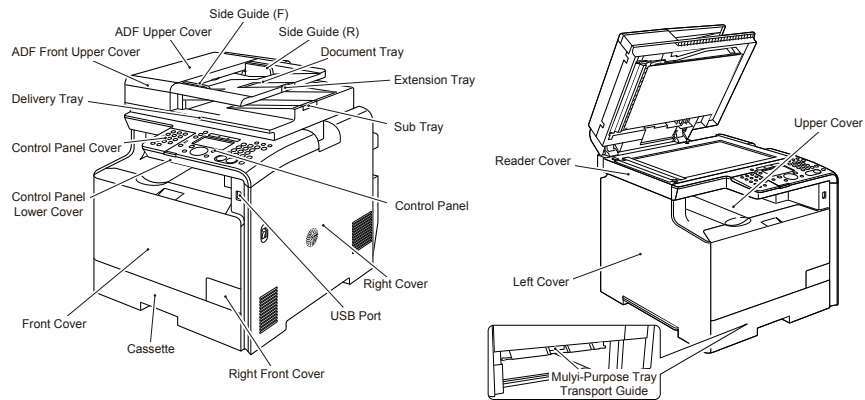
## Disassembly/ Assembly

- MF8300 Series
  - List of Parts
  - External Cover, Internal Cover
  - Document Exposure, Feed System
  - Controller System
  - Laser Exposure System
  - Image Formation System
  - Fixing System
  - Pickup Feeder System
- MF8000 Series
  - List of Parts
  - External Cover, Internal Cover
  - Document exposure/ feeder system
  - Controller System
  - Laser Exposure System
  - Image Formation System
  - Fixing System
  - Pickup Feeder System

## MF8300 series

## List of Parts

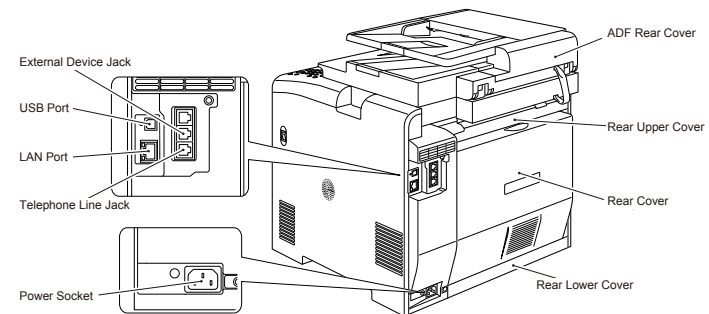
## List of External / Internal Cover



F-4-1

Name	Service Parts No	Reference
USB Port	FM4-3989	-
Right Front Cover	FC9-4579	-
Cassette	FM4-4279	-
Front Cover	FM4-4285	Refer to page 4-21
Control Panel Lower Cover	FC9-4502	-
Control Panel Cover	-	-
Delivery Tray	-	-
Upper Cover	FM4-4287	Refer to page 4-26
MP Tray Transport Guide	FM3-8301	-
Left Cover	FC9-4545	Refer to page 4-16 Refer to page 4-17
Reader Cover	-	Refer to page 4-40

T-4-1



F-4-2

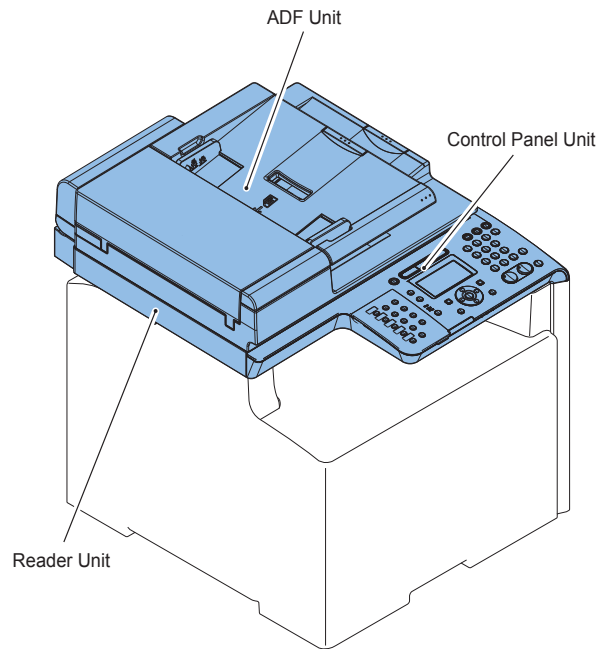
Name	Service Parts No	Reference
ADF Front Upper Cover	FC9-1533	-
ADF Upper Cover	FC9-1536	-
Side Guide (F)	FC9-5656	-
Side Guide (R)	FC9-5657	-
Document Tray	FC9-1534	-
Extension Tray	FC9-1535	-
Sub Tray	FC9-5655	-
Control Panel	FM4-1526 (MF8350Cdn JP) FM4-1533 (MF8330Cdn JP) FM4-1525 (MF8350Cdn US) FM4-1529 (MF8350Cdn AE) FM4-1530 (MF8350Cdn CHN) FM4-1531 (MF8350Cdn KOR) FM4-1532 (MF8350Cdn TWN) FM4-1528 (MF8350Cdn EU) FM4-1527 (MF8330Cdn EU)	Refer to page 4-58
Right Cover	FC9-4551	Refer to page 4-18 Refer to page 4-19

Name	Service Parts No	Reference
ADF Rear Cover	FC9-1532	-
Rear Upper Cover	FC9-4547	Refer to page 4-22
Rear Cover	-	Refer to page 4-23
Rear Lower Cover	FC9-4546	Refer to page 4-23
Power Socket	FM4-3790 (100V) FM4-3800 (200V)	-
Telephone Line Jack	-	-
External Device Jack	-	-
LAN Port	-	-
USB Port	-	-

T-4-2



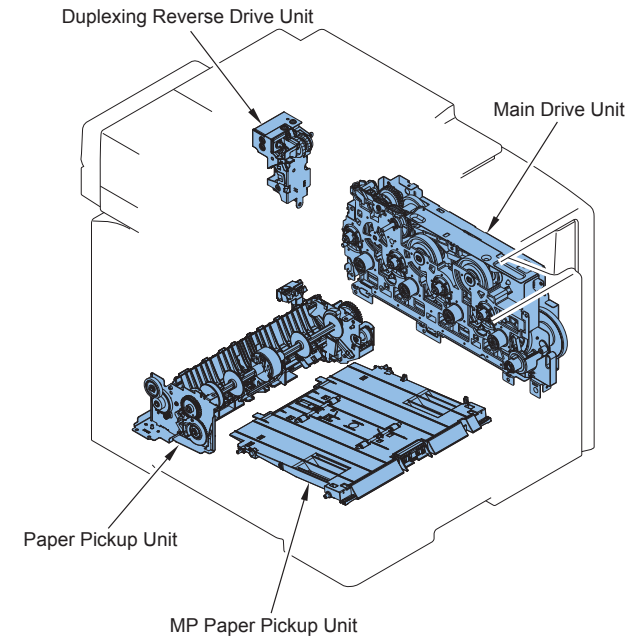
## List of Main Unit



F-4-3

Name	Service Parts No	Reference	Adjustment during parts replacement
ADF Unit	-	Refer to page 4-28 Refer to page 4-30	Refer to page 5-2
Reader Unit	FM4-4300	Refer to page 4-28 Refer to page 4-30	Refer to page 5-2
Control Panel Unit	FM4-1526 (MF8350Cdn JP)	Refer to page 4-58	-
	FM4-1533 (MF8330Cdn JP)		
	FM4-1525 (MF8350Cdn US)		
	FM4-1529 (MF8350Cdn AE)		
	FM4-1530 (MF8350Cdn CHN)		
	FM4-1531 (MF8350Cdn KOR)		
	FM4-1532 (MF8350Cdn TWN)		
	FM4-1528 (MF8350Cdn EU)		
FM4-1527 (MF8330Cdn EU)			

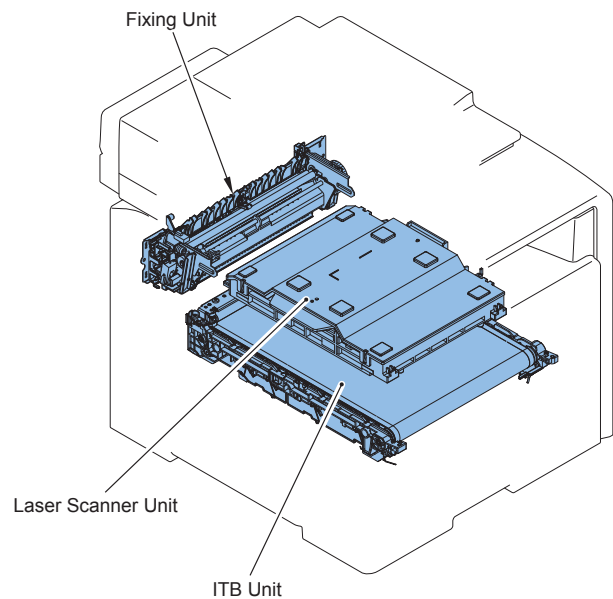
T-4-3



F-4-4

Name	Service Parts No	Reference	Adjustment during parts replacement
Main Drive Unit	RM1-4837	Refer to page 4-60	-
Duplexing Reverse Drive Unit	RM1-4880	Refer to page 4-63	-
Paper Pickup Unit	RM1-4853	Refer to page 4-93	-
MP Paper Pickup Unit	FM3-8301	Refer to page 4-96	-

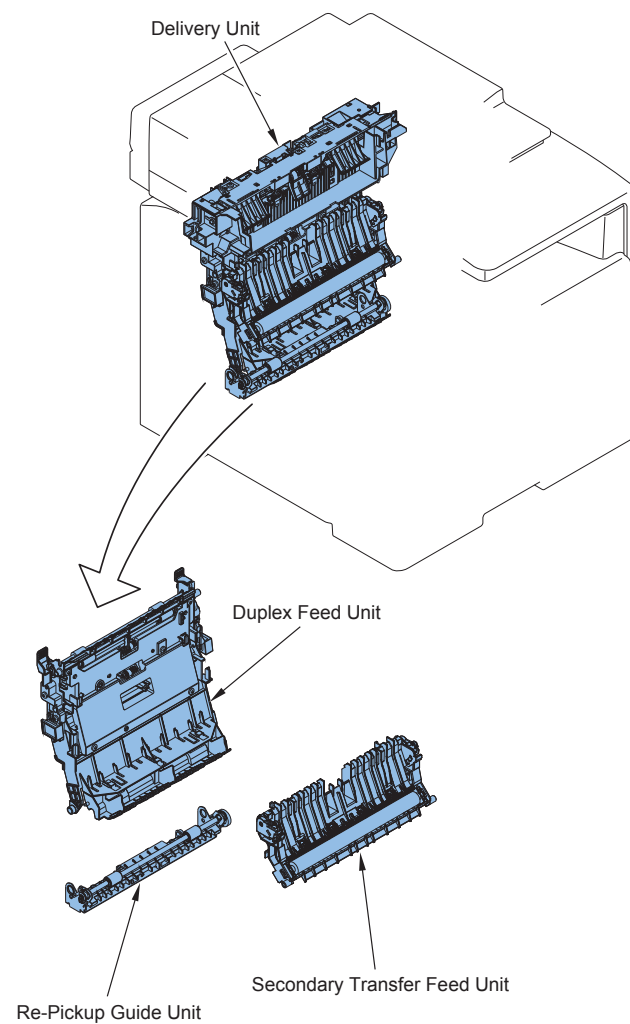
T-4-4



F-4-5

Name	Service Parts No	Reference	Adjustment during parts replacement
Fixing Unit	FM4-4289 (100V)	Refer to page 4-83	-
	FM4-4290 (120V)		
	FM4-4291 (220V)		
Laser Scanner Unit	FM4-3359	Refer to page 4-70	Refer to page 5-6
ITB Unit	RM1-4852	Refer to page 4-75	-

T-4-5

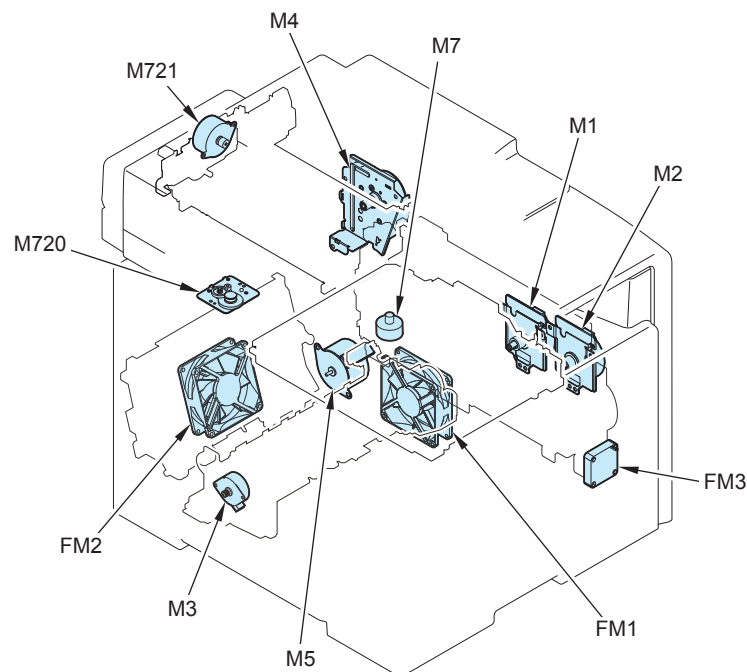


F-4-6

Name	Service Parts No	Reference	Adjustment during parts replacement
Secondary Transfer Feed Unit	RM1-4838	Refer to page 4-98	-
Delivery Unit	FM4-4286	Refer to page 4-99	-
Duplex Feed Unit	RM1-4879	Refer to page 4-100	-
Re-Pickup Guide Unit	RM1-4877	Refer to page 4-100	-

T-4-6

## List of Motor/Fan

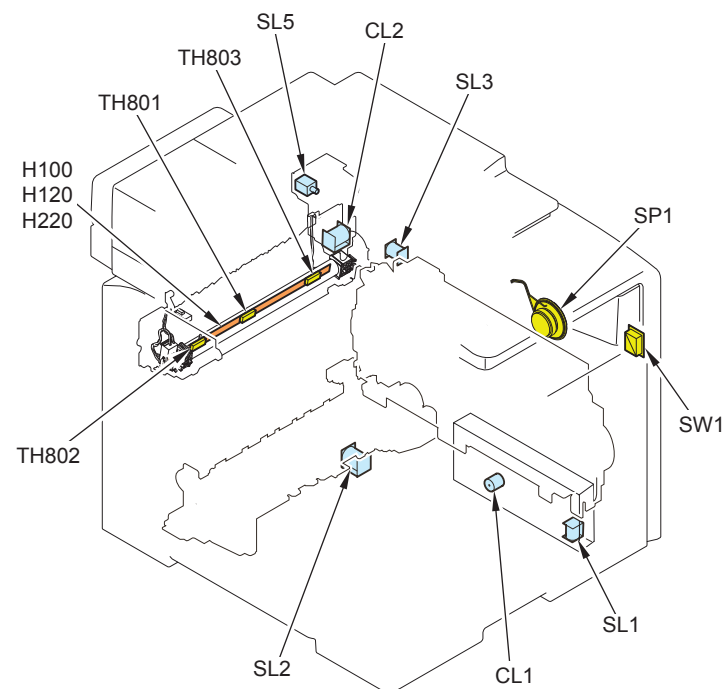


No.	Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
FM1	Fixing /Fixing Power Supply Cooling Fan	Product configuration	RK2-2276	Refer to page 4-66	-
FM2	Duplex Cooling Fan	Multi-purpose Feed Unit	RK2-2276	Refer to page 4-67	-
FM3	Low Voltage Unit Cooling Fan	Product configuration	FK2-9747	Refer to page 4-64	-
M1	Drum Motor	Main Drive Unit	RL1-1800	Refer to page 4-78	-
M2	Developing Motor	Main Drive Unit	RL1-1800	Refer to page 4-80	-
M3	Registration Motor	Pickup Unit	-	-	-
M4	Fixing Motor	Product configuration	RM1-4896	Refer to page 4-87	-
M5	Pickup Motor	Product configuration	RM1-5419	Refer to page 4-92	-

No.	Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
M7	Laser Scanner Motor	Laser Scanner Unit	-	Refer to page 4-70	Refer to page 5-6
M720	Reader Motor	Reader Unit	FM4-4301	Refer to page 4-45	-
M721	ADF Motor	ADF Unit	FM4-1881	Refer to page 4-39	-

## List of Clutch / Solenoid/Heater/Thermistor/Switch/speaker

T-4-7

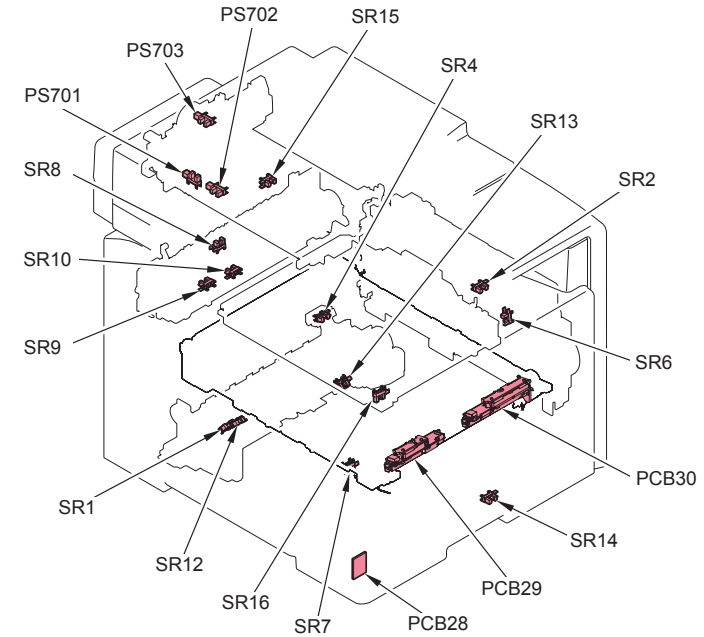


No.	Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
H100	Fixing Heater (100V)	Fixing Assembly	-	-	-
H120	Fixing heater (120V)	Fixing Assembly	-	-	-
H220	Fixing heater (230V)	Fixing Assembly	-	-	-
TH801	Main Thermistor	Fixing Assembly	-	-	-

No.	Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
TH802	Sub Thermistor 1	Fixing Assembly	-	-	-
TH803	Sub Thermistor 2	Fixing Assembly	-	-	-
SP1	Speaker	Product configuration	FM4-3985	Refer to page 4-69	-
SL3	Developing Separation Solenoid	Main Drive Unit	-	-	-
CL1	MP Tray Feeding Clutch	Product configuration	RM1-5428	-	-
CL2	Duplex Feeding Clutch	Duplex Reversing Drive Unit	-	-	-
SL1	MP Tray Pickup Solenoid	Product configuration	RM1-5420	-	-
SL2	Cassette Pickup Solenoid	Pickup Unit	-	-	-
SL5	Duplex Reversal Solenoid	Duplex Reversing Drive Unit	-	-	-
SW1	Main Power Switch	Product configuration	FM4-3796	-	-

T-4-8

## List of Sensor



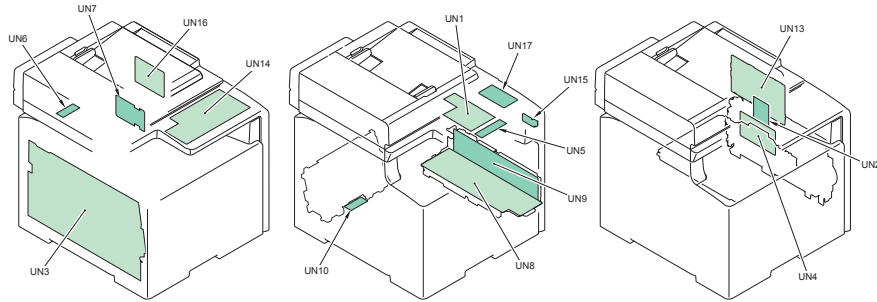
F-4-9

No.	Name	Main Unit	Service Parts No
PCB28	Environment Sensor	Product configuration	RK2-2229
PCB29	Patch Sensor	Product configuration	-
PCB30	Patch Registration Sensor	Product configuration	-
PS701	CIS Unit Homeposition Sensor	Product configuration	WG8-5696
PS702	Document Sensor	ADF Unit	WG8-5696
PS703	Document End Sensor	ADF Unit	WG8-5696
SR1	Paper Feeder Pre-Registration Detection Sensor	Pickup Unit	-
SR2	Front Cover Sensor	Product configuration	WG8-5696
SR4	Registration Detection Sensor	Pickup Unit	-
SR6	Developing Homeposition Sensor	Product configuration	-
SR7	MP Tray Pre-Registration Detection Sensor	Product configuration	WG8-5696
SR8	Fixing Delivery Sensor	Fixing Assembly	WG8-5696
SR9	Fixing Pressure Release Sensor	Fixing Assembly	WG8-5696
SR10	Fixing Loop Sensor	Fixing Assembly	WG8-5696
SR12	Pre-registration Detection Sensor	Pickup Unit	-
SR13	Cassette Paper Detection Sensor	Pickup Unit	-
SR14	MP Tray Paper Detection Sensor	Product configuration	WG8-5696

No.	Name	Main Unit	Service Parts No
SR15	Delivery Full Sensor	Delivery Unit	-
SR16	ITB Pressure Release Sensor	ITB Unit	-

T-4-9

## PCB



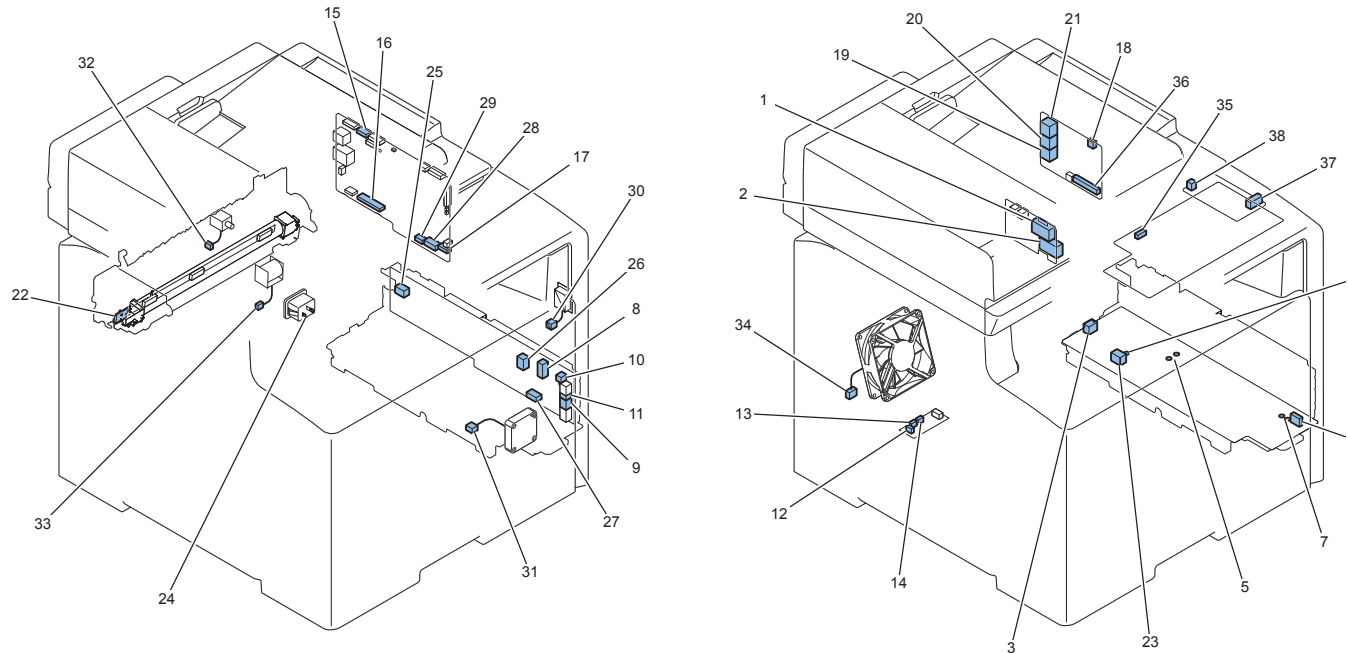
F-4-10

No.	Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
UN1	DC Controller PCB	Product configuration	FM4-3776	Refer to page 4-50	Refer to page 5-5
UN2	Driver PCB	Product configuration	RM1-5288	-	-
UN3	High Voltage PCB	Product configuration	RM1-5294	Refer to page 4-51	-
UN4	Laser Driver PCB	Laser Scanner Unit	-	Refer to page 4-70	Refer to page 5-6
UN5	Relay PCB	Product configuration	RM1-5293	Refer to page 4-57	-
UN6	Fixing Relay PCB	Product configuration	-	-	-
UN7	Fixing Sub PCB	Product configuration	RM1-5303	Refer to page 4-55	-

No.	Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
UN8	Low Voltage Main PCB	Product configuration	FM4-3778 (100V) FM4-3779 (120V) FM4-3780 (200V)	Refer to page 4-53	-
UN9	Low Voltage Sub PCB	Product configuration	-	Refer to page 4-53	-
UN10	Duplex Driver PCB	Product configuration	RM1-5289	Refer to page 4-56	-
UN13	Main Controller PCB	Product configuration	FM4-3961 (MF8350Cdn) FM4-3960 (MF8330Cdn)	Refer to page 4-48	Refer to page 5-5
UN14	Control Panel PCB	Control Panel Unit	-	Refer to page 4-59	-
UN15	USB Host PCB	Product configuration	FM4-3989	-	-
UN16	FAX-NCU PCB	Product configuration	FM4-3970 (100V) FM4-3971 (120V) FM4-3972 (230V) FM4-3973 (AUS)	Refer to page 4-60	-
UN17	Off Hook PCB	Product configuration	FM3-5378	-	-

T-4-10

## List of Connector

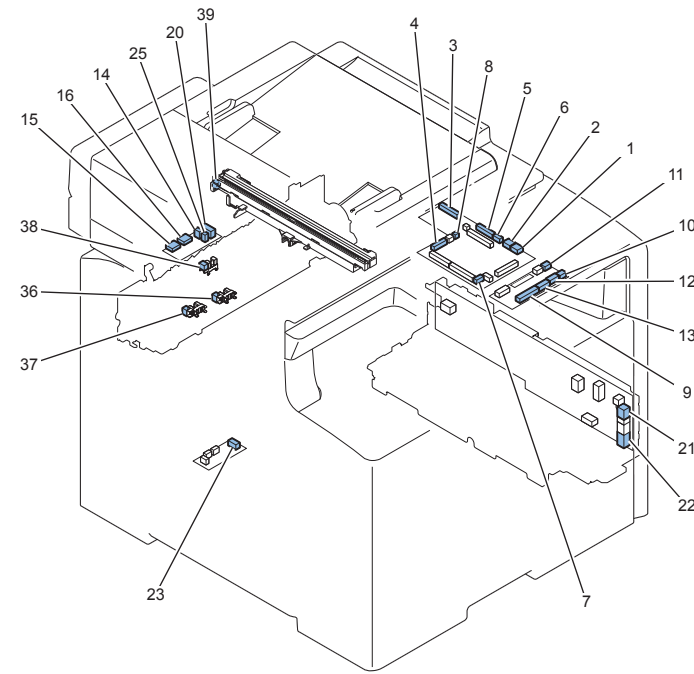
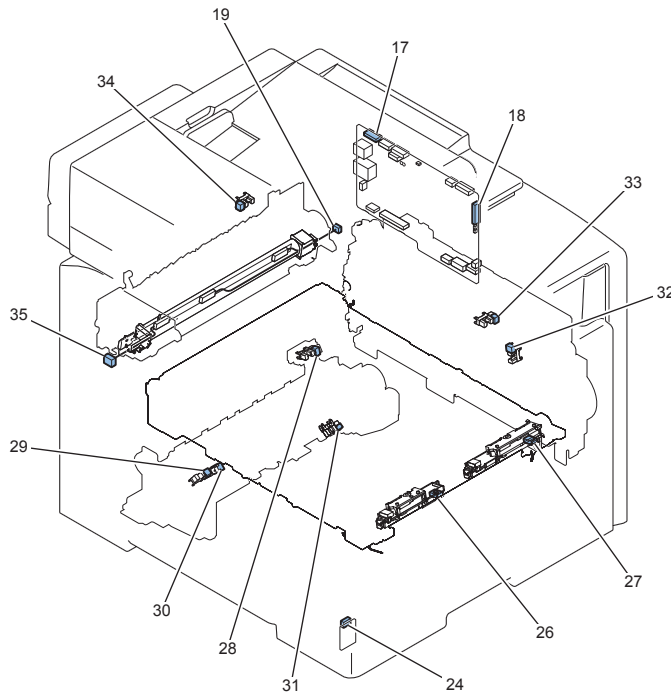


F-4-11

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector				KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
1	J651	UN7	Fixing Sub PCB	J4003F	J4003M							
1	J651	UN7	Fixing Sub PCB	J4003F	J4003MA			22	J1301	H100	Fixing Heater(100V)	
1	J651	UN7	Fixing Sub PCB	J4003F	J4003MB			22	J1301A	H120	Fixing Heater(120V)	
2	J652	UN7	Fixing Sub PCB					22	J1301B	H230	Fixing Heater(230V)	
3	J301B	UN8	Low Voltage Main PCB					23	J311	UN8	Low Voltage Main PCB	
4	J321	UN8	Low Voltage Main PCB	J322	J323			24	J6002	-	INLET	200V
5	J381	UN8	Low Voltage Main PCB					-	-	UN16	FAX-NCU PCB	
5	J382	UN8	Low Voltage Main PCB					25	J386	UN9	Low Voltage Sub PCB	
6	J383	UN8	Low Voltage Main PCB					25	J386	UN9	Low Voltage Sub PCB	
7	J384	UN8	Low Voltage Main PCB					26	J387	UN9	Low Voltage Sub PCB	
7	J385	UN8	Low Voltage Main PCB					27	J388	UN9	Low Voltage Sub PCB	
7	J385	UN8	Low Voltage Main PCB					27	J388	UN9	Low Voltage Sub PCB	
8	J351	UN9	Low Voltage Sub PCB					28	J914	UN13	Main Controller PCB	
9	J352	UN9	Low Voltage Sub PCB					29	J915	UN13	Main Controller PCB	
10	J391	UN9	Low Voltage Sub PCB	J1391D	J1391DH			30	J1391L	SW1	Main Power Switch	
11	J392	UN9	Low Voltage Sub PCB	J5001D	J5001DH			31	J5001L	FM3	Low Voltage Unit Cooling Fan	
12	J703	UN10	Duplex Driver PCB					32	-	SL5	Duplex Reversal Solenoid	
13	J704	UN10	Duplex Driver PCB					33	-	CL2	Duplex Feeding Clutch	
14	J705	UN10	Duplex Driver PCB					34	-	FM2	Duplex Cooling Fan	

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector						KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
15	J913	UN13	Main Controller PCB							35	J952	UN14	Operation Panel PCB	
16	J918	UN13	Main Controller PCB							36	J931	UN16	FAX-NCU PCB	
17	J921	UN13	Main Controller PCB							37	J6011	UN17	Off Hook PCB	
18	J932	UN16	FAX-NCU PCB							38	J602	UN17	Off Hook PCB	
19	J933	UN16	FAX-NCU PCB							-	-	-	-	
20	J934	UN16	FAX-NCU PCB							-	-	-	-	
21	J935	UN16	FAX-NCU PCB							-	-	-	-	

T-4-11

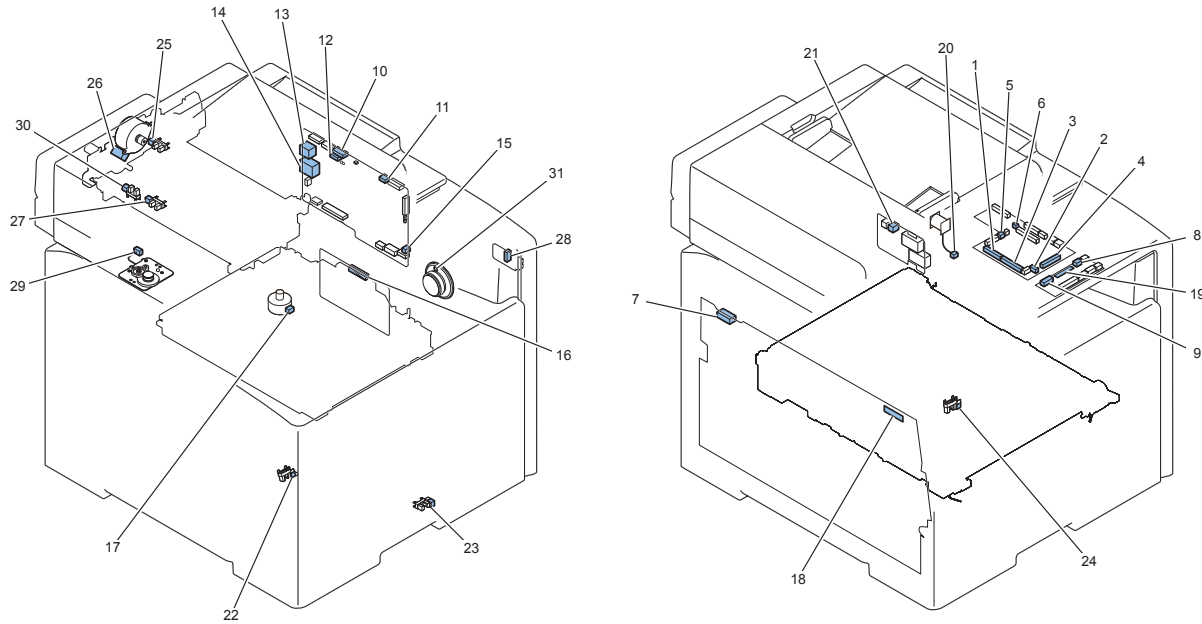


KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector				KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
1	J110	UN1	DC Controller PCB					-	-	-	IOT	
2	J111	UN1	DC Controller PCB					-	-	-	Flash Writer	
3	J130	UN1	DC Controller PCB					18	J912	UN13	Main Controller PCB	
4	J150	UN1	DC Controller PCB	J4001D	J4001DH			19	J4001L	TH801	Main Thermistor	
4	J150	UN1	DC Controller PCB	J4001D	J4001DH			19	J4001L	TH802	Sub Thermistor 1	
4	J150	UN1	DC Controller PCB					20	J707	UN6	Fixing Relay PCB	
5	J151	UN1	DC Controller PCB					21	J361	UN9	Low Voltage Sub PCB	
5	J151	UN1	DC Controller PCB					22	J362	UN9	Low Voltage Sub PCB	
6	J152	UN1	DC Controller PCB					23	J701	UN10	Duplex Driver PCB	
7	J153	UN1	DC Controller PCB					24	J3015	PCB28	Environment Ssensor	
8	J157	UN1	DC Controller PCB					25	J706	UN6	Fixing Relay PCB	
9	J161	UN5	Relay PCB					26	J601	PCB29	Patch Sensor	
9	J161	UN5	Relay PCB					27	J611	PCB30	Patch Registration Sensor	
10	J163	UN5	Relay PCB					28	J3011	SR4	Registration Detection Sensor	
11	J164	UN5	Relay PCB					29	J3002	SR1	Paper Feeder Pre-Registration Detection Sensor	
12	J165	UN5	Relay PCB					30	J3003	SR12	Pre-Registration Detection Sensor	
12	J165	UN5	Relay PCB					31	J3004	SR13	Cassette Paper Detection Sensor	
13	J166	UN5	Relay PCB					32	J3001	SR6	Developing Homeposition Sensor	



KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector						KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
13	J166	UN5	Relay PCB							33	J3005	SR2	Front Cover Sensor	
14	J708	UN6	Fixing Relay PCB							34	J4018	SR15	Delivery Full Sensor	
15	J709	UN6	Fixing Relay PCB							35	-	TH803	Sub Thermistor 2	
16	J710	UN6	Fixing Relay PCB							36	J3012	SR10	Fixing Loop Sensor	
16	J710	UN6	Fixing Relay PCB							37	J3013	SR9	Fixing Pressure Release Sensor	
16	J710	UN6	Fixing Relay PCB							38	J3014	SR8	Fixing Delivery Sensor	
17	J901	UN13	Main Controller PCB							39	J409	-	CIS Unit	

T-4-12

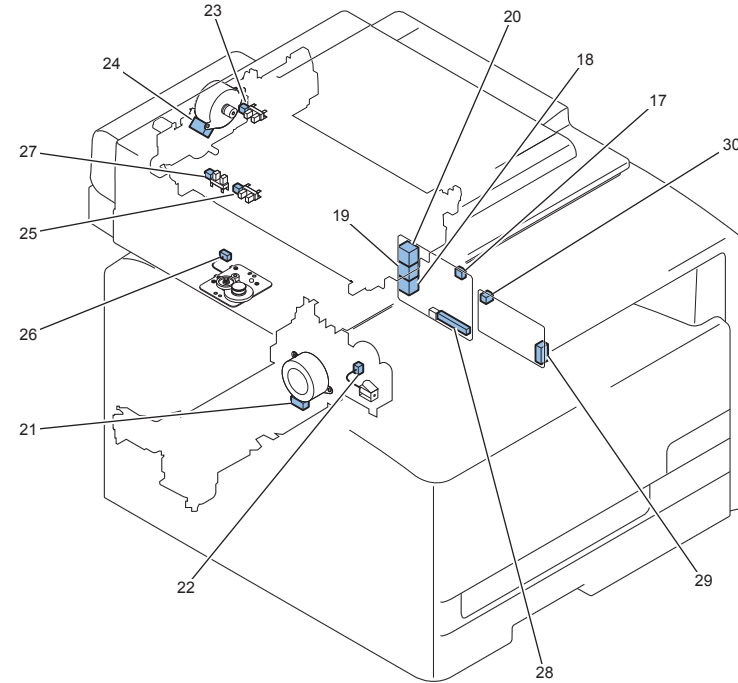
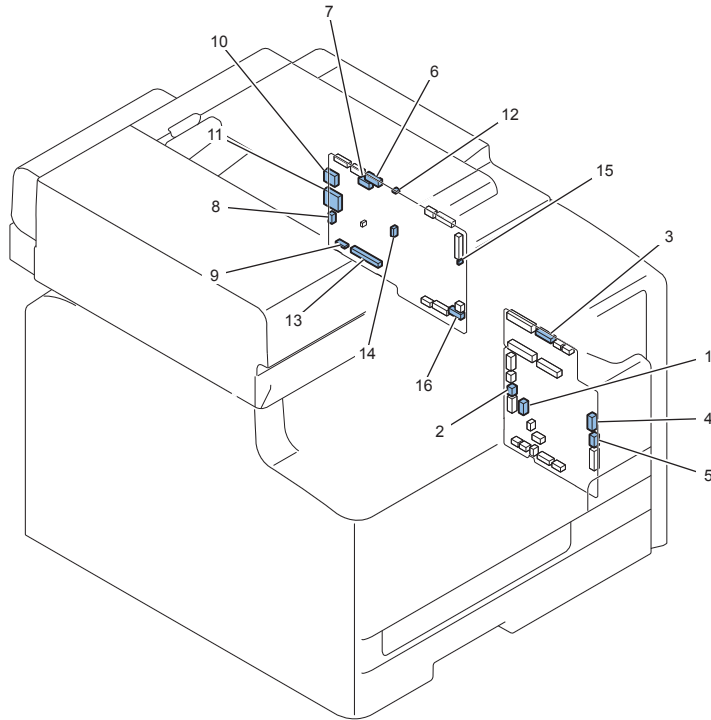


F-4-13

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector			KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
1	J131	UN1	DC Controller PCB				16	J501	UN4	Laser Driver PCB	
2	J132	UN1	DC Controller PCB				17	J2007	M7	Laser Scanner Motor	
3	J133	UN1	DC Controller PCB				18	J1001	UN3	High Voltage PCB	
4	J141	UN1	DC Controller PCB				19	J160	UN5	Relay PCB	
5	J154	UN1	DC Controller PCB				20	-	SL3	Developing Separation Solenoid	
6	J156	UN1	DC Controller PCB				21	J654	UN7	Fixing Sub PCB	
7	J1002	UN3	High Voltage PCB				-	-	-	TAG 1	
7	J1002	UN3	High Voltage PCB				-	-	-	TAG 2	
7	J1002	UN3	High Voltage PCB				-	-	-	TAG 3	
7	J1002	UN3	High Voltage PCB				-	-	-	TAG 4	
8	J162	UN5	Relay PCB				22	J3010	SR7	MP Tray Pre-Registration Detection Sensor	
9	J167	UN5	Relay PCB				23	J3006	SR14	MP Tray Paper Detection Sensor	
9	J167	UN5	Relay PCB	J4017D	J4017DH	J4017L	24	J3009	SR16	ITB Pressure Release Sensor	
10	J903	UN13	Main Controller PCB				25	J1302	PS703	Document End Sensor	
10	J903	UN13	Main Controller PCB				26	J1305	M721	ADF Motor	
10	J903	UN13	Main Controller PCB	J1310D	J1310DH	J1310L	27	J1312	PS702	Document Sensor	
11	J908	UN13	Main Controller PCB	J908			28	J2	UN15	USB Host PCB	
12	J904	UN13	Main Controller PCB	J1402D	J1402DH		29	J1402L	M720	Reader Motor	
12	J904	UN13	Main Controller PCB	J1401D	J1401DH	J1401L	30	J1404	PS701	CIS Unit Homeposition Sensor	

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector						KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
13	J909	UN13	Main Controller PCB							-	-	-	-	
14	J911	UN13	Main Controller PCB							-	-	-	-	
15	J922	UN13	Main Controller PCB							31	-	SP1	Speaker	

T-4-13

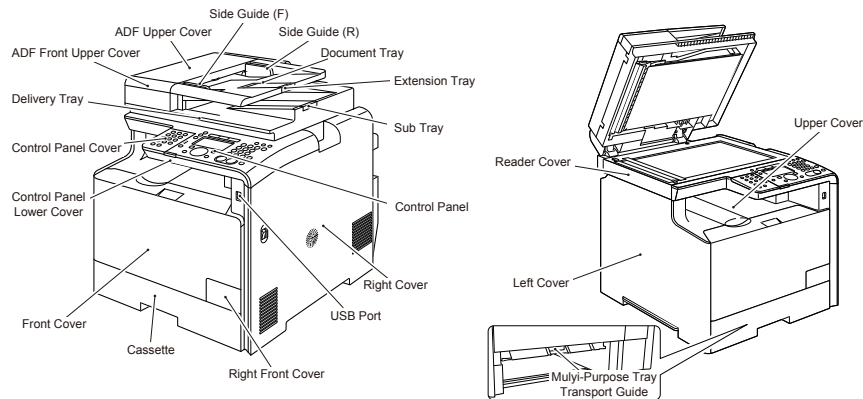


KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector	KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
1	J140	UN1	DC Controller PCB		13	J201	UN2	Driver PCB	
2	J202	UN2	Driver PCB		14	J2004	M5	Pickup Motor	
3	J203	UN2	Driver PCB		15	J2005	M3	Registration Motor	
4	J204	UN2	Driver PCB		16	J2003	M2	Developing Motor	
5	J205	UN2	Driver PCB		17	J2001	M4	Fixing Motor	
6	J206	UN2	Driver PCB		18	-	FM1	Fixing /Fixing Power Supply Cooling Fan	
7	J207	UN2	Driver PCB		19	-	SL2	Cassette Pickup Solenoid	
8	J208	UN2	Driver PCB		20	-	CL1	MP Tray Feeding Clutch	
9	J209	UN2	Driver PCB		21	-	SL1	MP Tray Pickup Solenoid	
10	J210	UN2	Driver PCB		22	J363	UN9	Low Voltage Sub PCB	
10	J210	UN2	Driver PCB		22	J364	UN9	Low Voltage Sub PCB	
11	J211	UN2	Driver PCB		23	J2002	M1	Drum Motor	
12	J213	UN2	Driver PCB	J4004D	-	J4004L	-	Paper Feeder Relay PCB	
12	J213	UN2	Driver PCB	J4004D	24	J653	UN7	Fixing Sub PCB	

T-4-14

## External Cover, Internal Cover

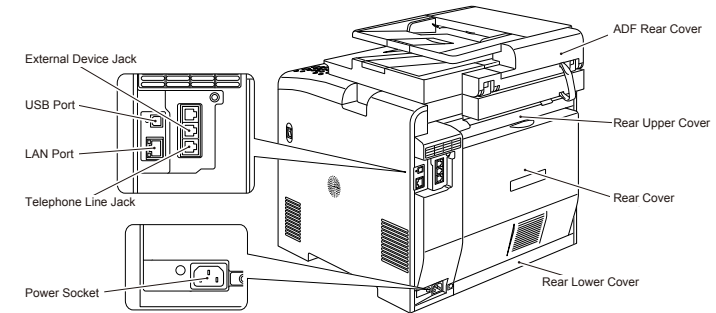
### Location



Name	Service Parts No	Reference
ADF Front Upper Cover	FC9-1533	-
ADF Upper Cover	FC9-1536	-
Side Guide (F)	FC9-5656	-
Side Guide (R)	FC9-5657	-
Document Tray	FC9-1534	-
Extension Tray	FC9-1535	-
Sub Tray	FC9-5655	-
Control Panel	FM4-1526 (MF8350Cdn JP) FM4-1533 (MF8330Cdn JP) FM4-1525 (MF8350Cdn US) FM4-1529 (MF8350Cdn AE) FM4-1530 (MF8350Cdn CHN) FM4-1531 (MF8350Cdn KOR) FM4-1532 (MF8350Cdn TWN) FM4-1528 (MF8350Cdn EU) FM4-1527 (MF8330Cdn EU)	Refer to page 4-58
Right Cover	FC9-4551	Refer to page 4-18 Refer to page 4-19
USB Port	FM4-3989	-
Right Front Cover	FC9-4579	-
Cassette	FM4-4279	-
Front Cover	FM4-4285	Refer to page 4-21
Control Panel Lower Cover	FC9-4502	-
Control Panel Cover	-	-
Delivery Tray	-	-
Upper Cover	FM4-4287	Refer to page 4-26

Name	Service Parts No	Reference
MP Tray Transport Guide	FM3-8301	-
Left Cover	FC9-4545	Refer to page 4-16 Refer to page 4-17
Reader Cover	-	Refer to page 4-40

T-4-15

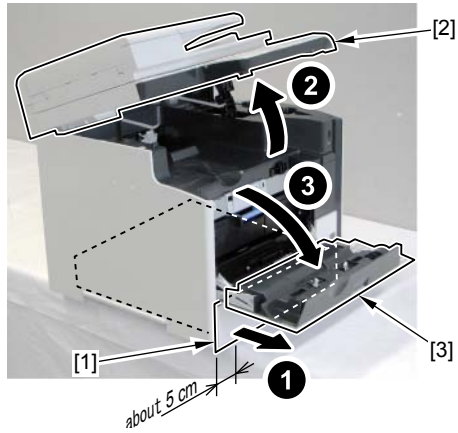


Name	Service Parts No	Reference
ADF Rear Cover	FC9-1532	-
Rear Upper Cover	FC9-4547	Refer to page 4-22
Rear Cover	-	Refer to page 4-23
Rear Lower Cover	FC9-4546	Refer to page 4-23
Power Socket	FM4-3790 (100V) FM4-3800 (200V)	-
Telephone Line Jack	-	-
External Device Jack	-	-
LAN Port	-	-
USB Port	-	-

T-4-16

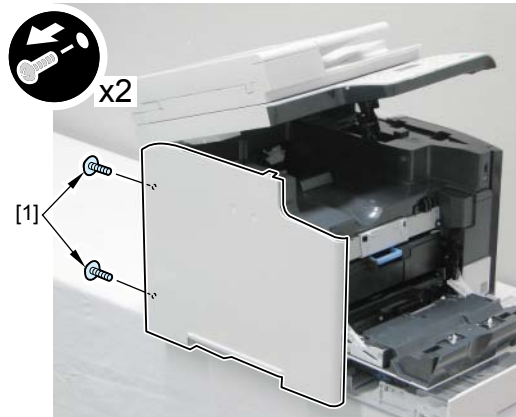
## Removing the Left Cover

- 1) To remove the lower claw of the Left Cover, shift the host machine by 5cm from the base.
- 2) Remove the Cassette [1].
- 3) Open the ADF Unit + Reader Unit [2] and the Front Cover [3].



F-4-16

- 4) Remove the 2 screws [2].

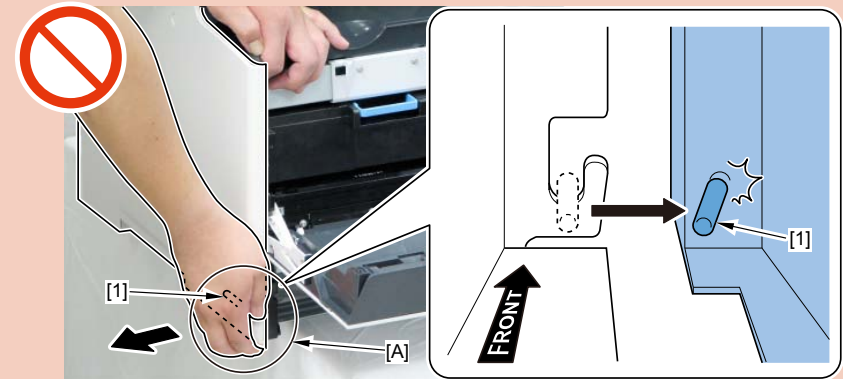


F-4-17

- 5) Hold the upper surface of the Host Machine while pushing the claw [2] of the Left Cover, and then put [A] part of the Left Cover with your finger to lift the Left Cover straight upward and remove the claw [2] of the Left Cover.

### Caution:

Do not open [A] part of the Left Cover in the direction of the arrow when removing the Left Cover; otherwise, the projection [1] of the Left Cover can be damaged/broken.

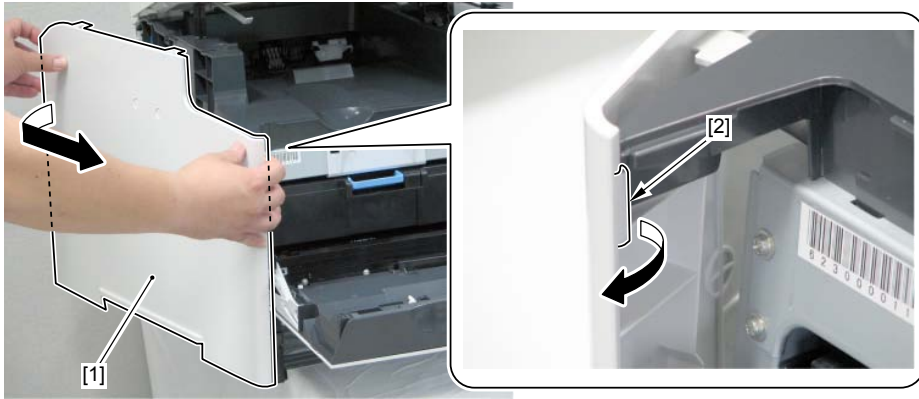


F-4-18



F-4-19

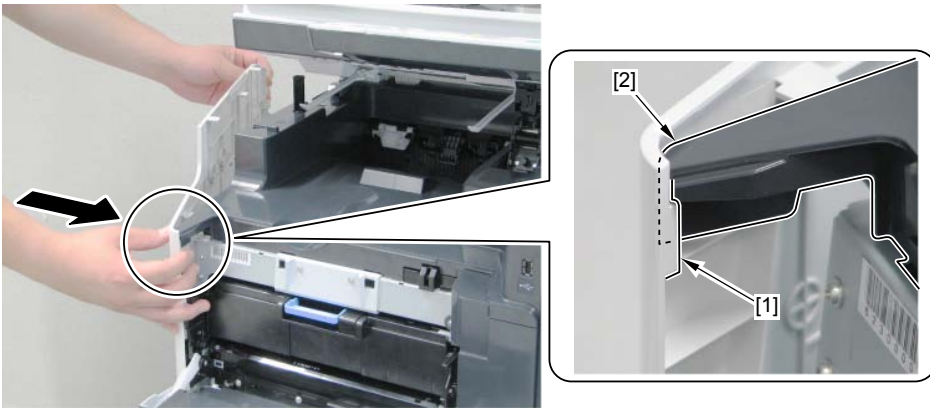
6) While opening the rear side of the Left Cover [1], remove the projection [2] to remove the Left Cover [1]



F-4-20

### Installing the Left Cover

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



F-4-21

2) Fit the projection [1] of the Left Cover to the groove [2] of the frame.

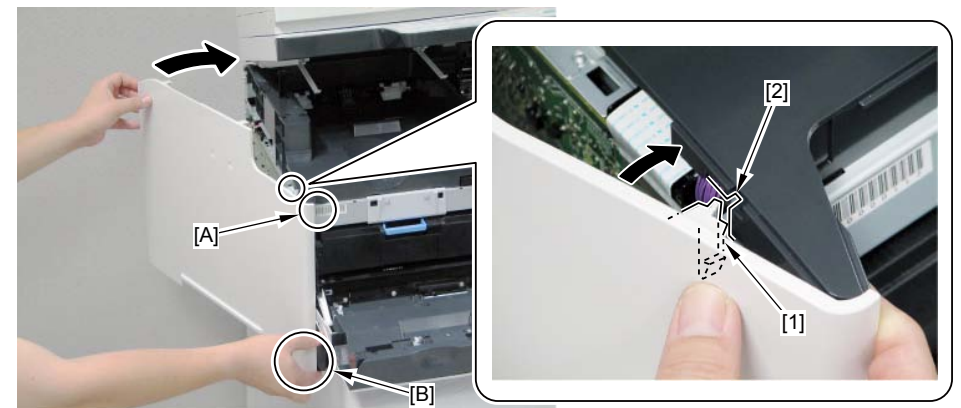
#### Caution:

Do not break the projection [1] of the Left Cover



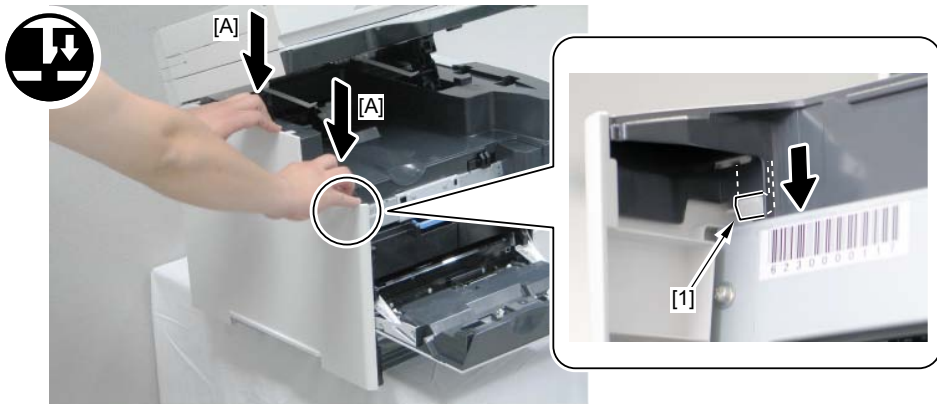
F-4-22

3) While keeping the state of [A] part and [B] part of the Left Cover, put the claw [1] into the hole [2] of the Upper Cover to fit the Left Cover to the Host Machine.



F-4-23

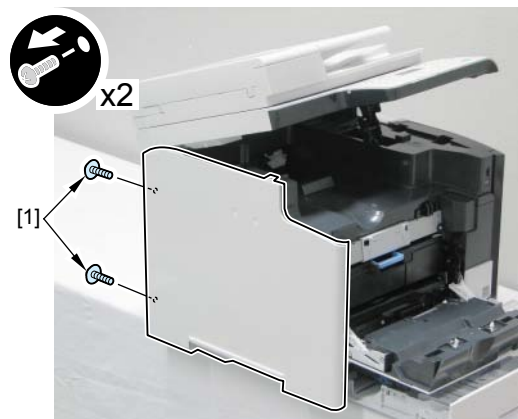
4) Push in [A] part of the Left Cover to install.



F-4-24

5) Install the Left Cover [1].

- 2 screws [2]



F-4-25

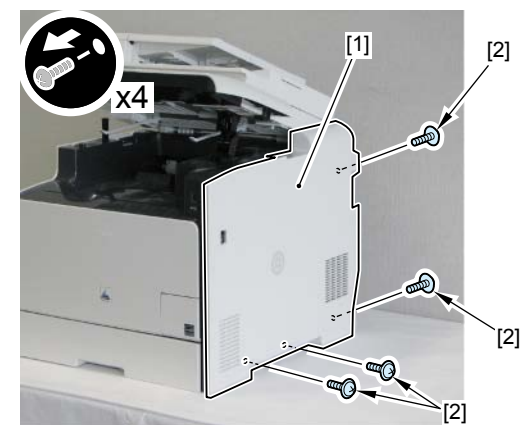
## ■ Removing the Right Cover

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



2) Remove the 4 screws [2] that secure the Right Cover [1].

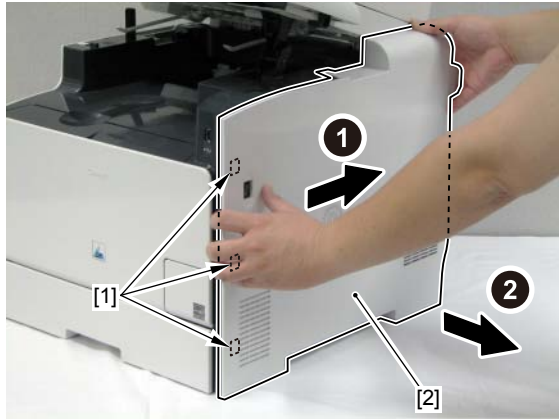
F-4-26



F-4-27



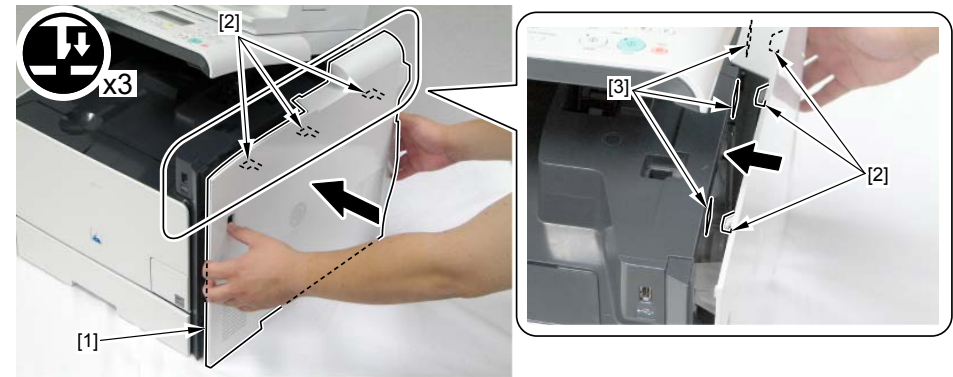
3) Shift the 3 hooks [1] in the direction of the arrow and remove the Right Cover [2].



F-4-28

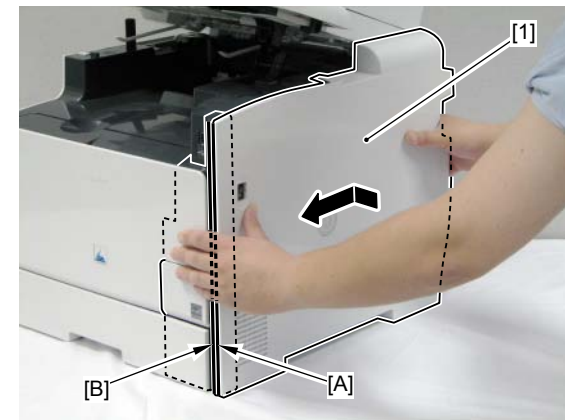
## Installing the Right Cover

1) Fit the 3 hooks [2] of the Right Cover into the holes [3] of the Upper Cover



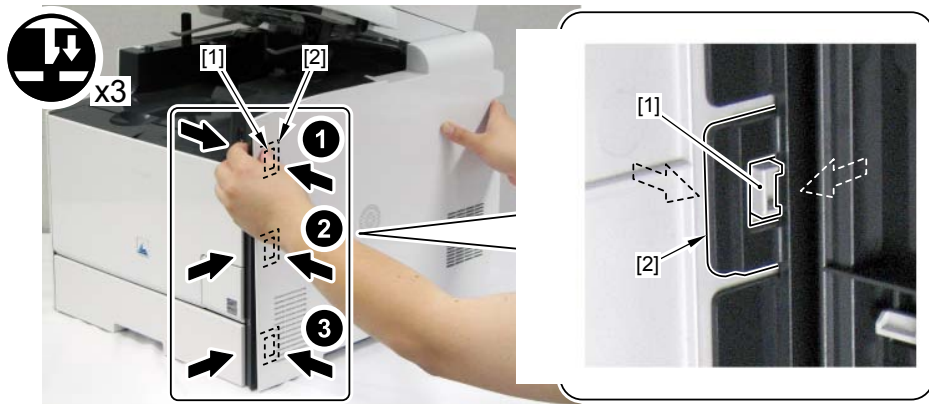
F-4-29

2) While pushing the Right Cover [1] to the Host Machine to slide, fit the left surface [A] of the Right Cover to the right surface [B] of the Right Front Cover.



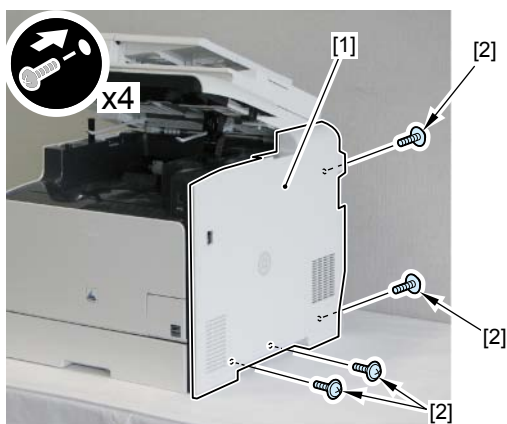
F-4-30

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



F-4-31

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



F-4-32

## ■ Removing the Right Front Cover

### Pre-procedure

1) Remove the Right Cover. Refer to page 4-18.

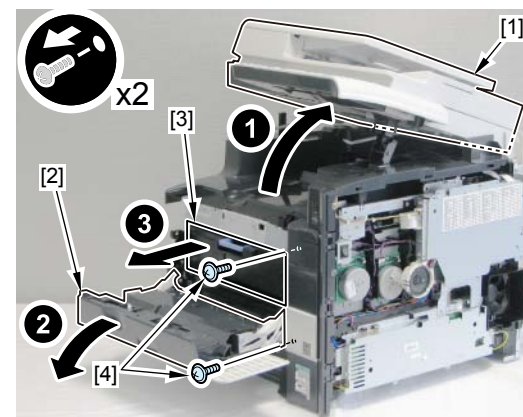
### Procedure

1) Remove the Cassette.

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

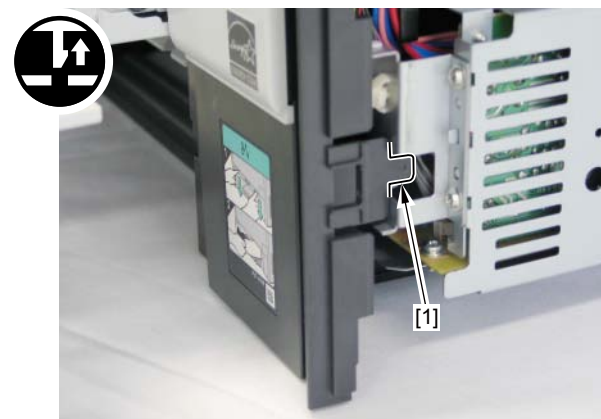
3) Draw out the Cartridge Tray.

4) Remove the 2 screws [2].



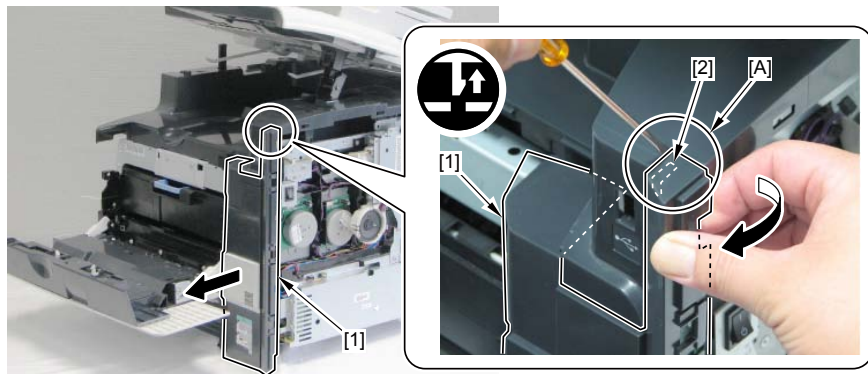
F-4-33

5) Remove the claw [1] at the lower right side of the Right Front Cover.



F-4-34

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



F-4-35

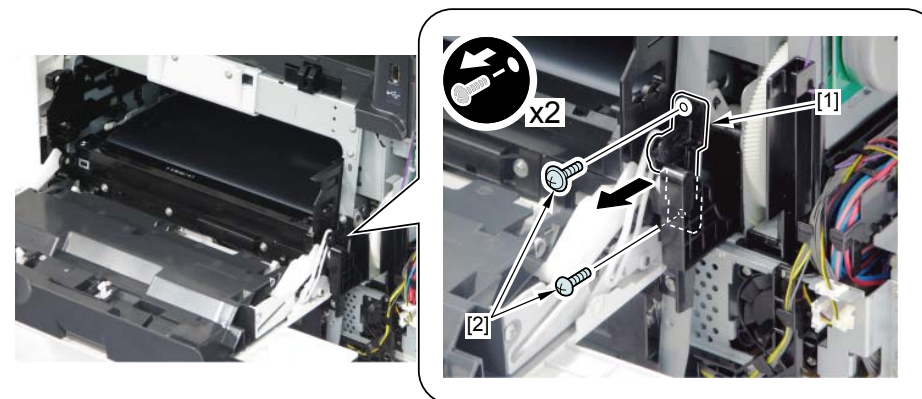
## ■ Removing the Front Cover

### Pre-procedure

- 1) Remove the Cartridge Tray. Refer to page 4-27.
- 2) Remove the Right Cover. Refer to page 4-18.
- 3) Remove the Right Front Cover. Refer to page 4-20.

### Procedure

- 1) Remove the bushing support [1].  
- 2 screws [2]

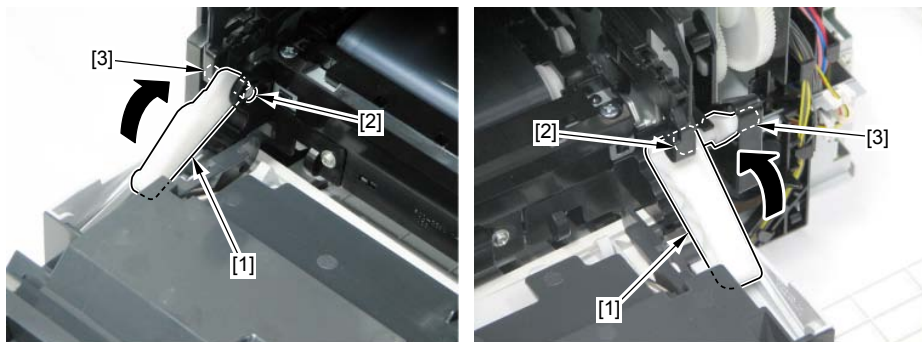


F-4-36

- 2) Push 2 pins [1] outward with a precision screwdriver to remove.

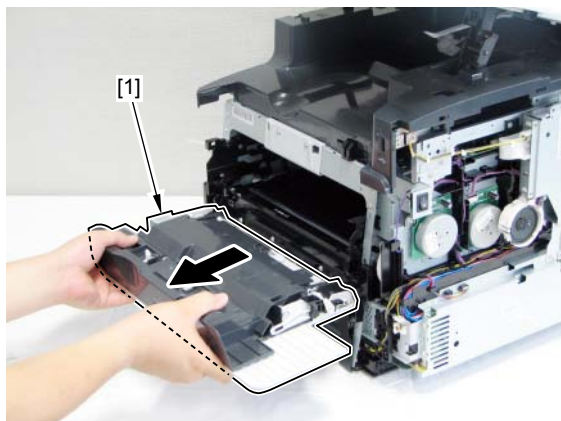


3) Unlock projection [2] and [3] on the link [1], and turn the link [1] in the arrow direction to remove. (2 places)



F-4-37

4) Remove the Front Cover [1].



F-4-38

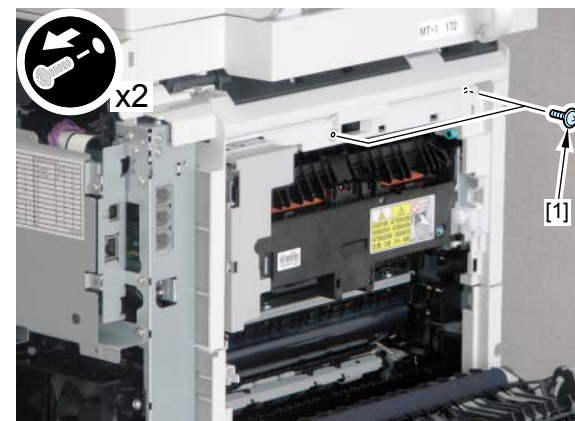
## ■ Removing the Rear Upper Cover

### Pre-procedure

- 1) Remove the Right Cover. Refer to page 4-18
- 2) Remove the Left Cover. Refer to page 4-16.

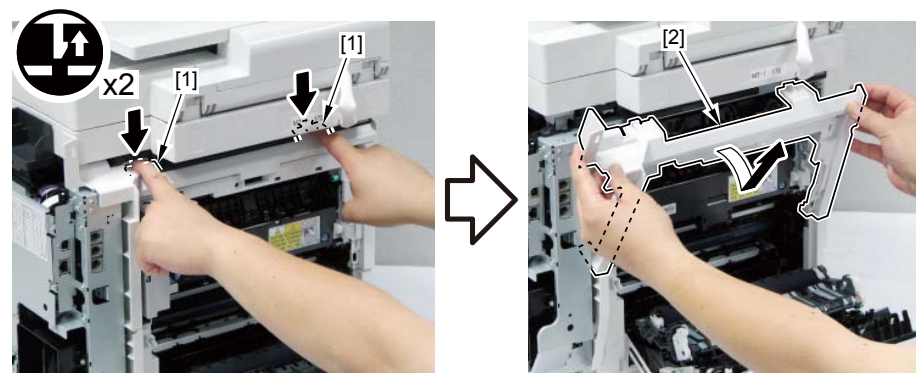
### Procedure

- 1) Open the Rear Cover.
- 2) Remove the 2 screws [1].



F-4-39

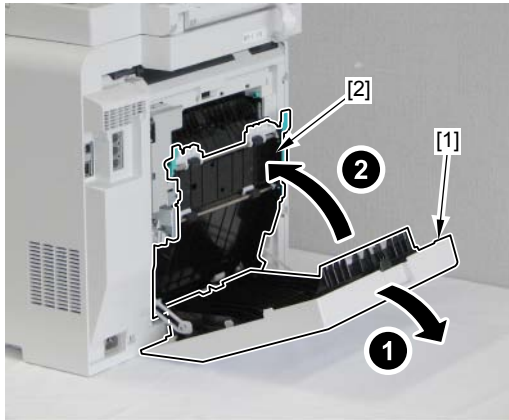
3) Push the 2 claws [1] to remove the Rear Upper Cover [2].



F-4-40

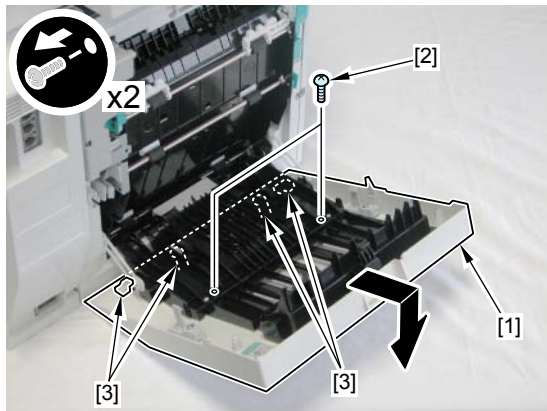
## ■ Removing the Rear Cover

- 1) Open the Rear Cover [1].
- 2) Close the Duplex Feed Unit [2].



F-4-41

- 3) Remove the Rear Cover [1].
  - 2 screws [2]
  - 4 hooks [3]



F-4-42

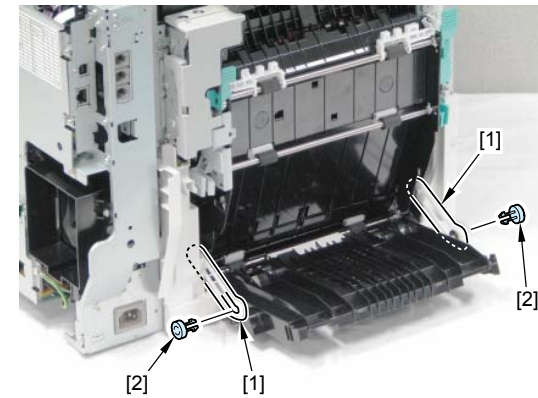
## ■ Removing the Rear Lower Cover

### Pre-procedure

- 1) Remove the Right Cover. Refer to page 4-18.
- 2) Remove the Left Cover. Refer to page 4-16.
- 3) Remove the Rear Upper Cover. Refer to page 4-22.
- 4) Remove the Rear Cover. Refer to page 4-9.

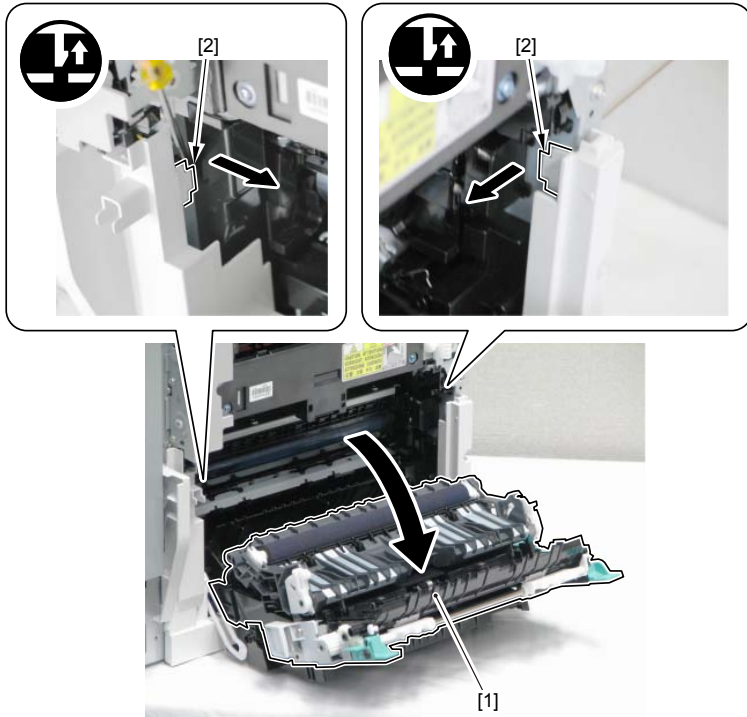
### Procedure

- 1) Remove the arm [1].
  - 2 link caps [2]



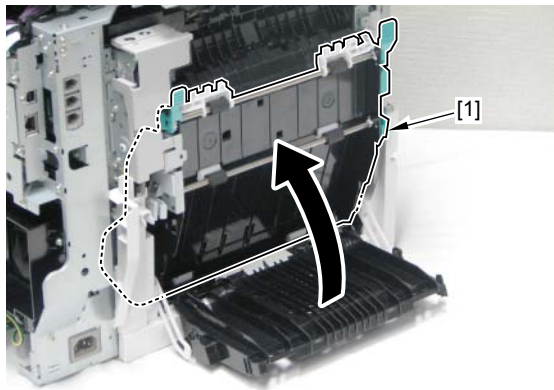
F-4-43

2) Open the Duplex Feed Unit [1] to remove the 2 claws [2].



F-4-44

3) Close the Duplex Feed Unit [1].



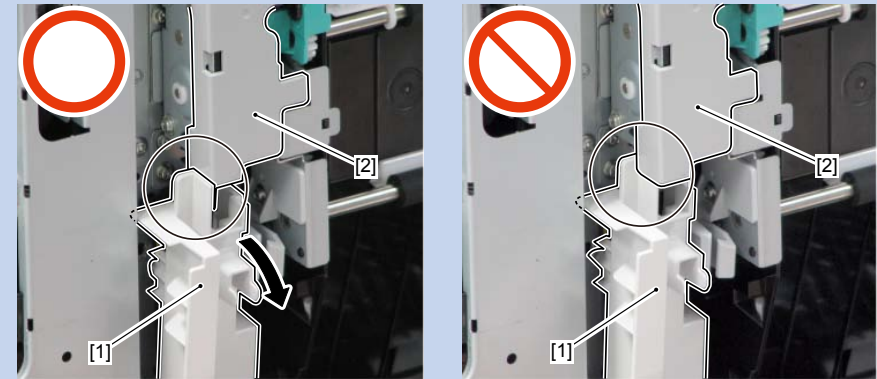
F-4-45

4) Remove the Rear Lower Cover [1].

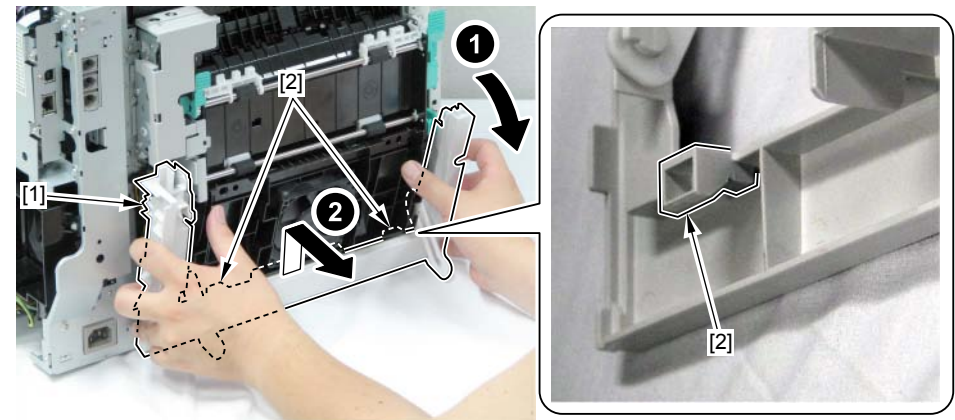
- 2 hooks [2]

MEMO:

When removing the Rear Lower Cover [1], be careful not to make the Rear Lower Cover [1] cause interference with the Duplex Reverse Drive Unit [2].



F-4-46



F-4-47

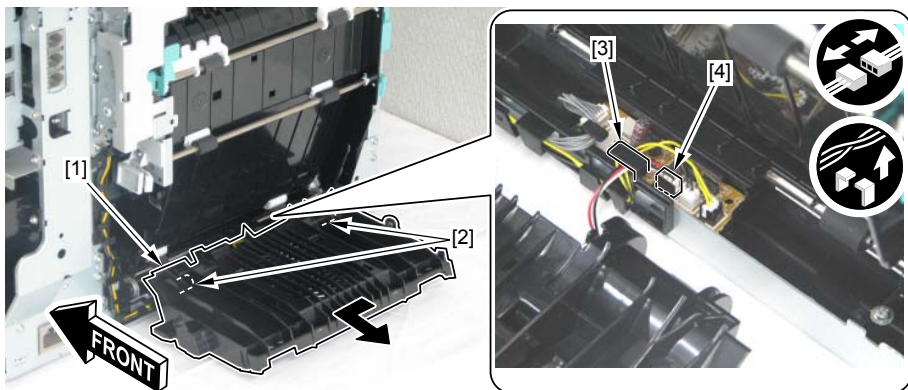
## ■ Removing the Rear Cover Rib Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page 4-18.
- 2) Remove the Left Cover. Refer to page 4-16.
- 3) Remove the Rear Upper Cover. Refer to page 4-22.
- 4) Remove the Rear Cover. Refer to page 4-23
- 5) Remove the Rear Lower Cover. Refer to page 4-23

### Procedure

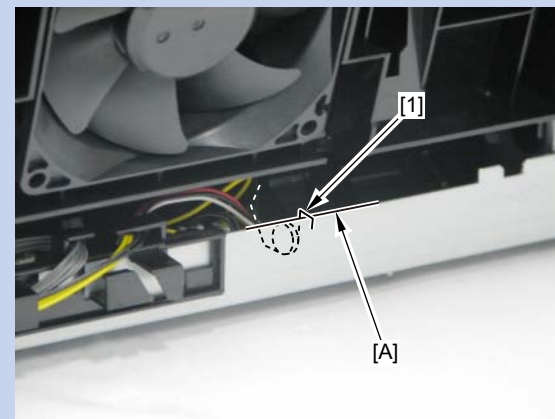
- 1) Remove the Rear Cover Rib Unit [1].
  - 2 bearing holders [2]
  - 1 fixing guide [3]
  - 1 connector [4]



F-4-48

### MEMO:

At installation, make sure that the spring [1] is installed on [A] part before installing the Rear Cover Rib Unit.



F-4-49

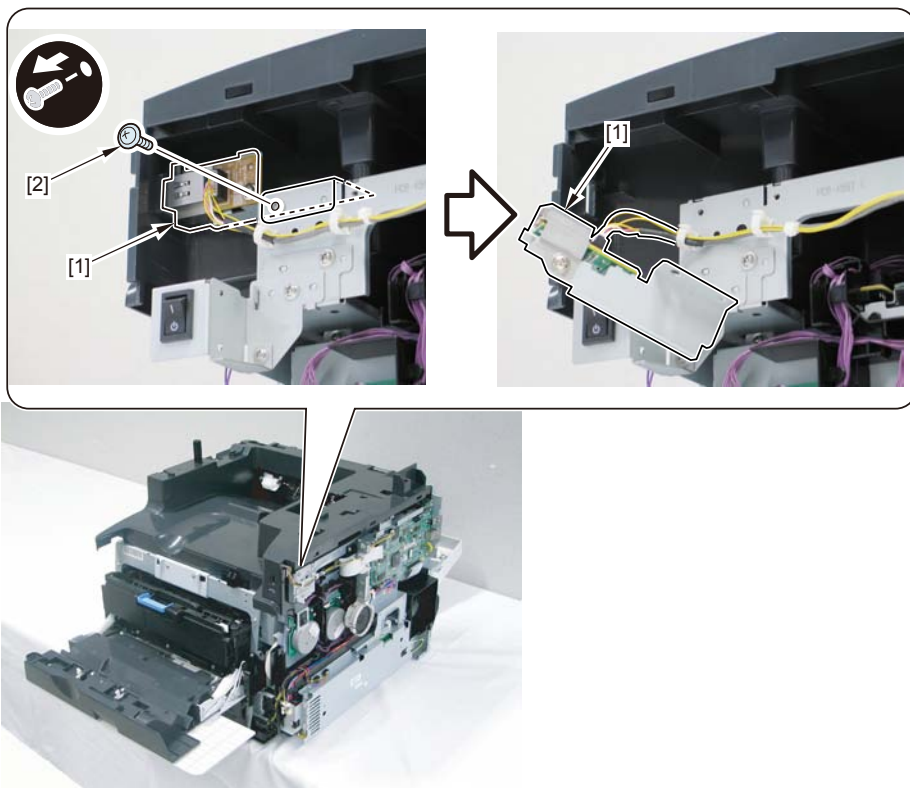
## Removing the Upper Cover

### re-procedure

- 1) Remove the Right Cover. Refer to page 4-18.
- 2) Remove the Left Cover. Refer to page 4-16.
- 3) Remove the Right Front Cover. Refer to page 4-20.
- 4) Remove the ADF Unit + Reader Unit. Refer to page 4-28.
- 5) Remove the Rear Upper Cover. Refer to page 4-22.

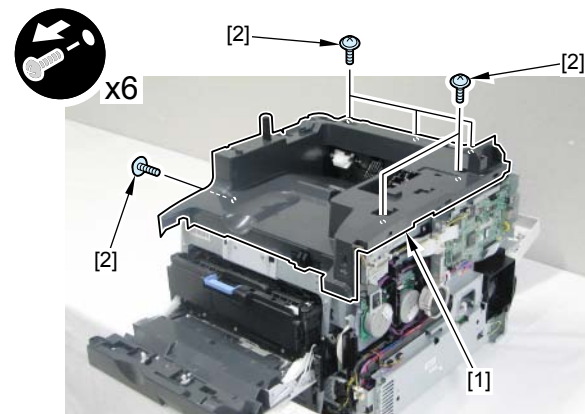
### Procedure

- 1) Remove the USB Host PCB Unit [1].
- 1 screw [2]



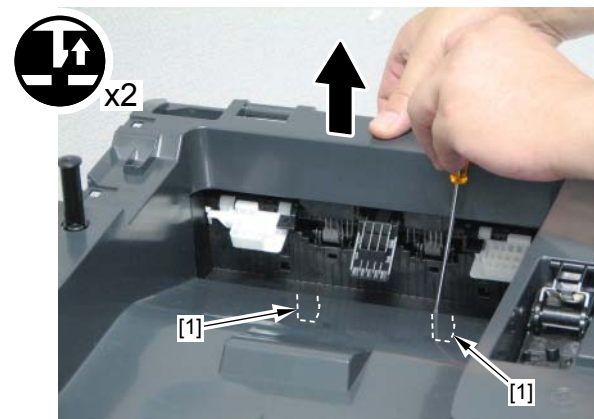
F-4-50

- 2) Remove 6 screws [1].



F-4-51

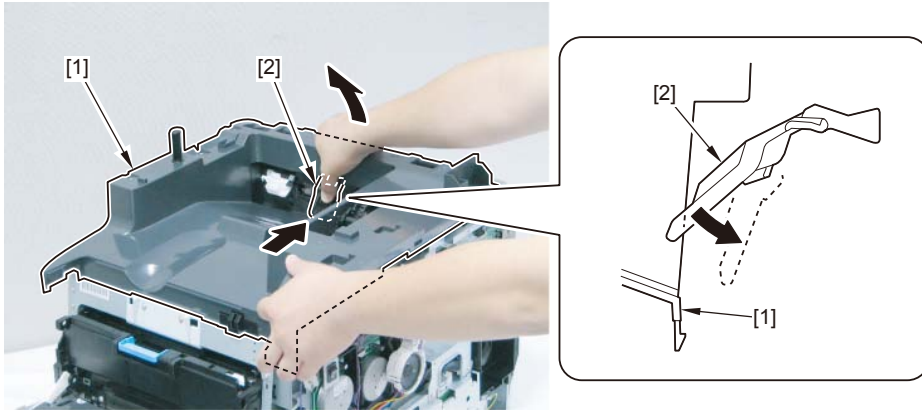
- 3) Release 2 claws [1] of the Upper Cover with a flat-blade screwdriver.



F-4-52

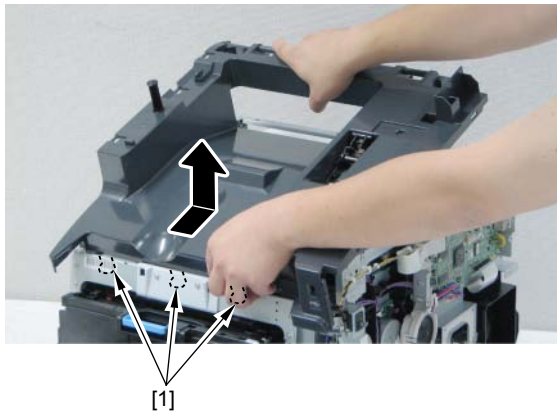


- 4) When removing the Upper Cover [1], hold the FD Flag [2] with a finger in order to prevent the interference, and lift up the rear of the Upper Cover [1].



F-4-53

- 5) Remove the Upper Cover while sliding 3 hooks [1] on the Upper Cover in the arrow direction.



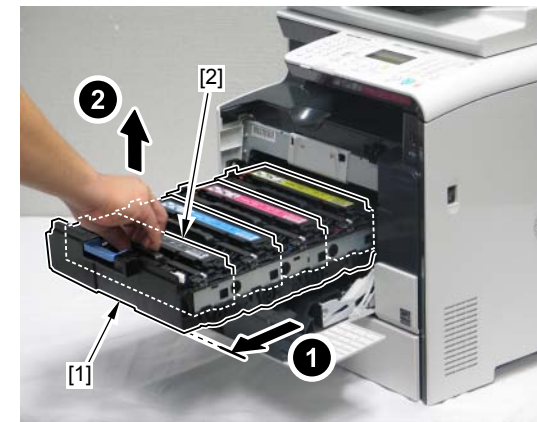
F-4-54

## ■ Removing the Cartridge Tray

### MEMO:

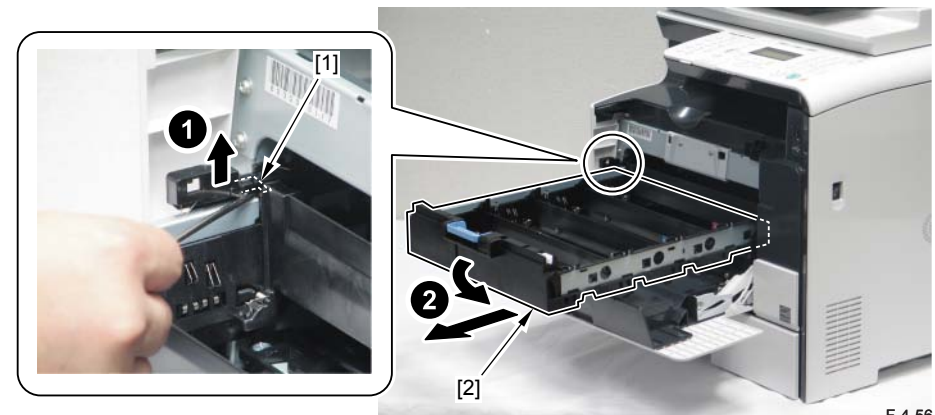
There is no shutter for drum protection in the Toner Cartridge for this machine, hence when removing the Toner Cartridge from the host machine, use paper, etc. to shade the Photosensitive Drum from light.

- 1) Open the Front Cover.
- 2) Pull out the Cartridge Tray [1].
- 3) Remove the toner cartridges (Y, M, C, Bk) [2].



F-4-55

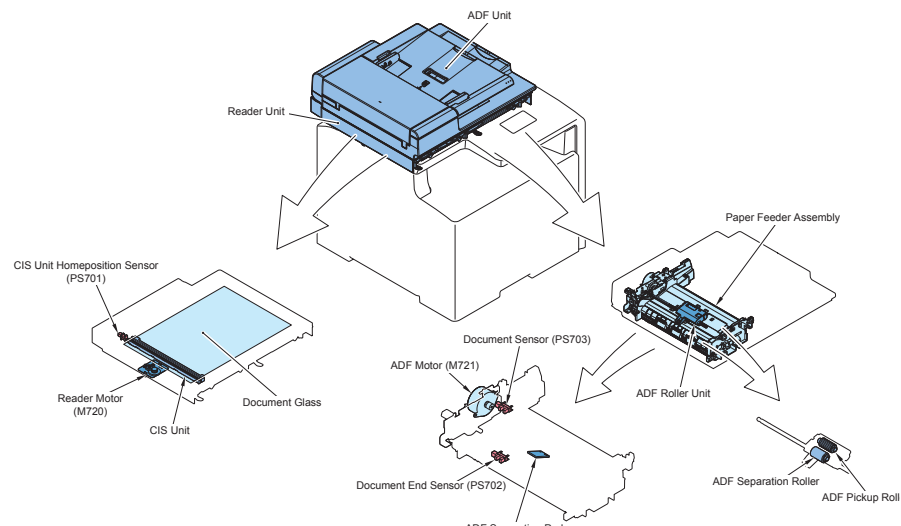
- 4) Release 1 claw [1] on the stopper, and slide the Cartridge Tray [2] in the arrow direction to remove.



F-4-56

## Document Exposure, Feed System

### Location



Electric symbol	Name	Service Parts No	Reference	Adjustment during parts replacement
-	ADF Unit	-	Refer to page 4-28 Refer to page 4-30	Refer to page 5-2
-	Reader Unit	FM4-4300	Refer to page 4-28 Refer to page 4-30	Refer to page 5-2
-	ADF Roller Unit	FM3-9538	Refer to page 4-32	-
-	ADF Separation Roller	FL2-6637	Refer to page 4-34	-
-	ADF Pickup Roller	FC7-6189	Refer to page 4-34	-
-	Paper Feeder Assembly	FM4-1879	Refer to page 4-37	-
PS703	Document End Sensor	WG8-5696	-	-
M721	ADF Motor	FM4-1881	Refer to page 4-39	-
PS702	Document Sensor	WG8-5696	-	-
-	ADF Separation Pad	FC7-6297	Refer to page 4-35	-
-	Document Glass	-	Refer to page 4-40	Refer to page 5-3
-	CIS Unit	FM4-4307	Refer to page 4-41	Refer to page 5-4
M720	Reader Motor	FM4-4301	Refer to page 4-45	-
PS701	CIS Unit HhomePosition Sensor	WG8-5696	-	-

T-4-17

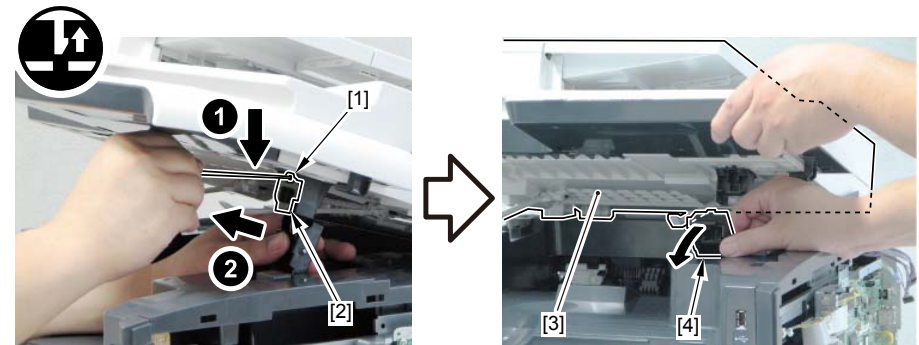
## Removing the ADF Unit + Reader Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page 4-18.
- 2) Remove the Left Cover. Refer to page 4-16.

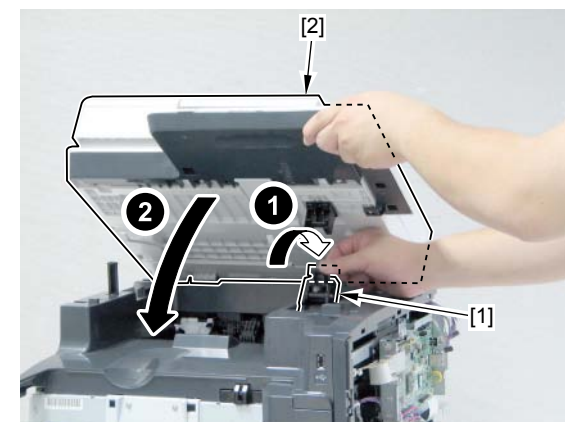
### Procedure

- 1) Open the ADF Unit + Reader Unit.
- 2) Remove the claw [1] to remove the Reader Shaft Retainer [2].
- 3) While supporting the ADF Unit + Reader Unit [3], remove the Reader Support Shaft [4].



F-4-58

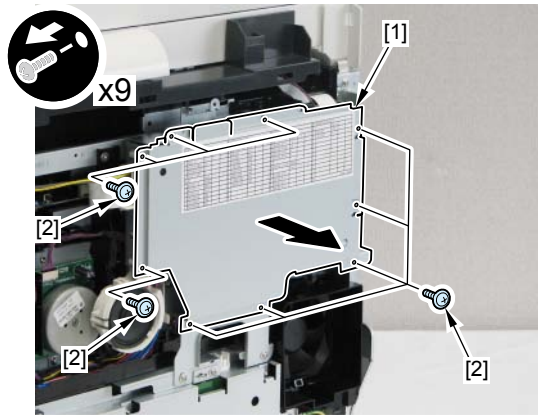
- 4) Bring down the Reader Support Shaft [1] to close the ADF Unit + Reader Unit [2].



F-4-59

5) Remove the Controller Cover [1] at the right side of the host machine.

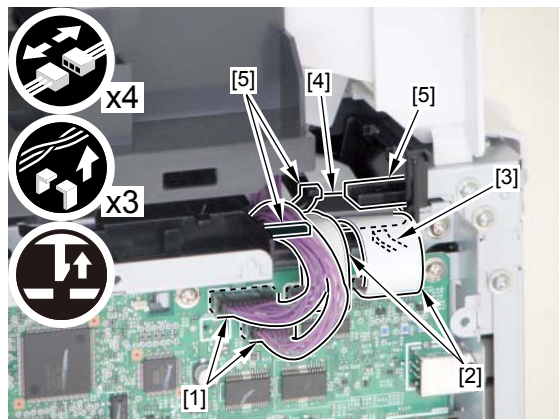
- 9 screws [2]



5) Disconnect the 2 connectors [1] and the 2 flat cables [2] at the right side of the host machine.

6) remove the 1 claw [3] to remove the 1 core [4] from the flat cables.

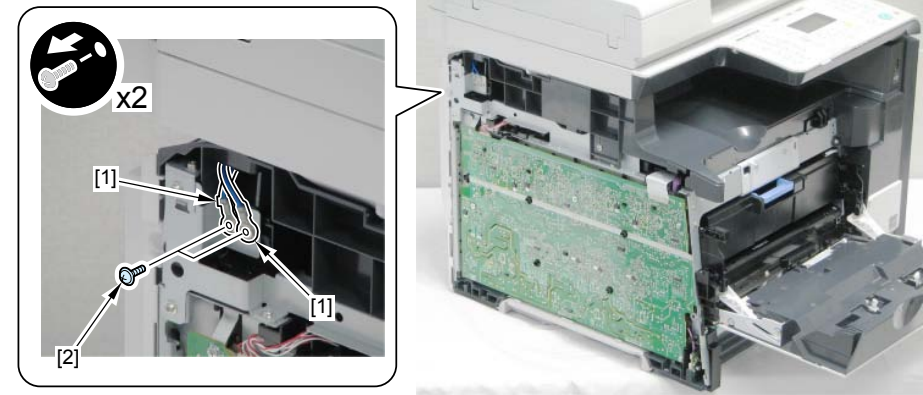
7) remove the cables from the 3 harness guides [5].



F-4-60

8) Remove the 2 groundings [1] at the left side of the Host Machine.

- 2 screws [2]

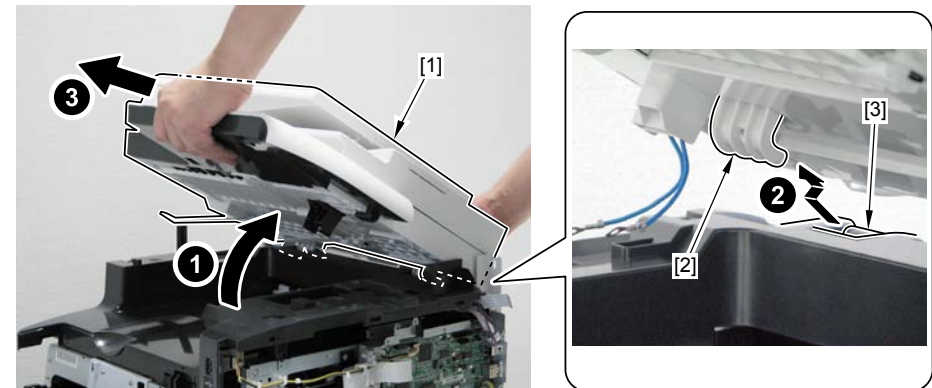


F-4-61

9) Open the ADF Unit + Reader Unit [1], remove the hook [2] from the shaft [3] and remove the ADF Unit + Reader Unit [1].

- 2 shafts [2]

- 2 hooks [3]



F-4-62

## ■ Separating the ADF Unit + Reader Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page 4-18.
- 2) Remove the Left Cover. Refer to page 4-16.
- 3) Remove the ADF Unit + Reader Unit. Refer to page 4-28.

### Procedure

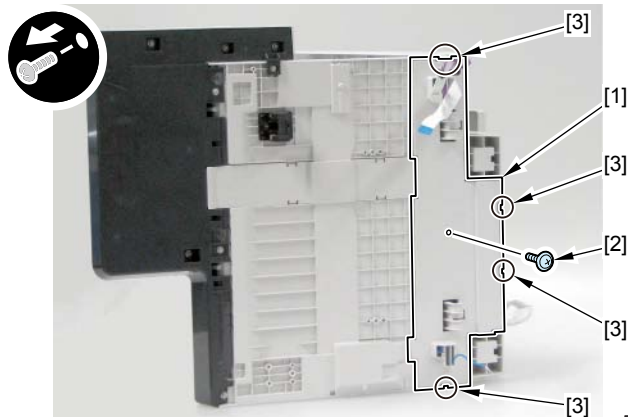
- 1) Place the ADF Unit and the Reader Unit to be open as shown in the figure below.



F-4-63

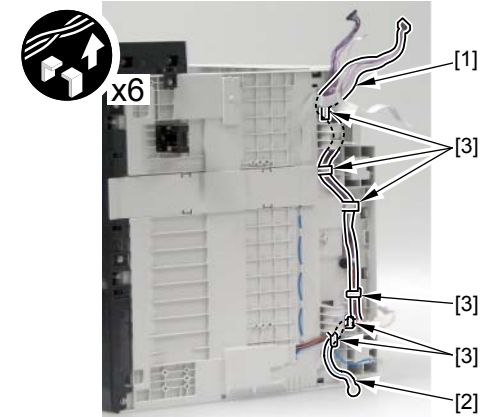
- 2) Remove the Reader Unit Lower Cover [1].

- 1 screw [2]
- 4 claws [3]



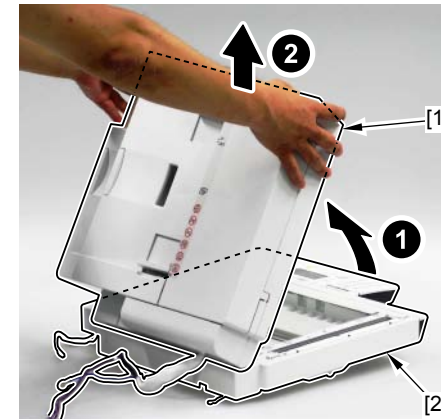
F-4-64

- 3) Remove the harness [1] and the grounding [2].
- 6 harness guides [3]



F-4-65

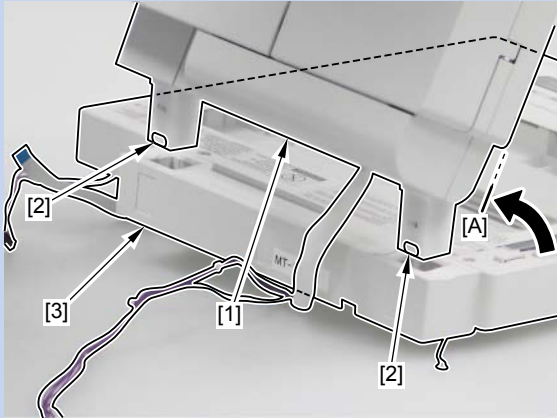
- 4) Raise the ADF Unit [1] to separate from the Reader Unit [2] in the direction of the arrow.



F-4-66

**MEMO:**

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



F-4-67

**After replacing ADF units**

1) After executing the white level adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.

**1.White level adjustment**

- COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

**2.Checking the setting value**

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)

2) Execute the reading position adjustment with the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start

position [vertical scanning direction] <X-axis direction>)

- COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning position in FEEDER mode)
- COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)

3) Execute the original stop position and feed speed adjustment at stream reading.

- FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
- FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

**After replacing reader units**

1) Enter the setting value of the Standard White Plate.

- COPIER > ADJUST > CCD > W-PLT-X (X signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Y (Y signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Z (Z signal data for the standard white plate)



F-4-68

2) Execute the white level adjustment.

- COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
- COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)

3) After executing the CCD reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.

- 1.COPIER> FUNCTION> INSTALL> STRD-POS (CCD reading position adjustment auto execution)
- 2.COPIER> ADJUST> ADJ-XY> STRD-POS (CCD reading position adjustment value reference)

4) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.

**1.White level adjustment**

- COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])

- COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])

Then, set a blank paper on the DF, and execute the following service mode.

- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

#### 2. Checking the setting value

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)

#### 5) Enter the value on the label packed with the part in the following service mode item.

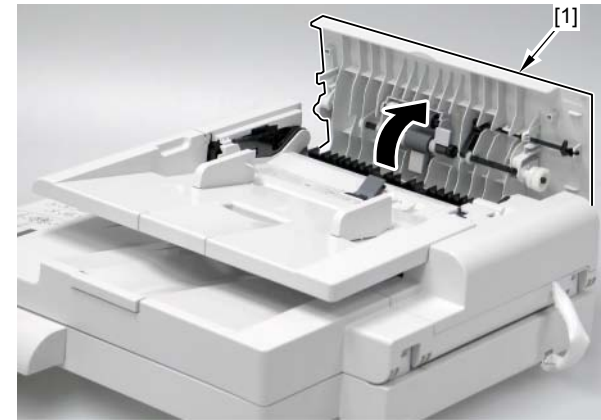
- COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
- COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning position in FEEDER mode)
- COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)
- COPIER> ADJUST> CCD> 50-RG (Color displacement correction value between RG in the vertical scanning direction (50%))
- COPIER> ADJUST> CCD>50-GB (Color displacement correction value between GB in the vertical scanning direction (50%))
- COPIER> ADJUST> CCD>100-RG (Color displacement correction value between RG in the vertical scanning direction (100%))
- COPIER> ADJUST> CCD>100-GB (Color displacement correction value between GB in the vertical scanning direction (100%))
- COPIER>ADJUST>PASCAL>OFST-P-Y (Adjustment of test chart reading density)
- COPIER>ADJUST>PASCAL> OFST-P-M (Adjustment of test chart reading density)
- COPIER>ADJUST>PASCAL> OFST-P-C (Adjustment of test chart reading density)
- COPIER>ADJUST>PASCAL> OFST-P-K (Adjustment of test chart reading density)

#### 6) Read the image and execute the adjustment with the following service mode.

- FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
- FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

## ■ Removing the ADF Roller Unit

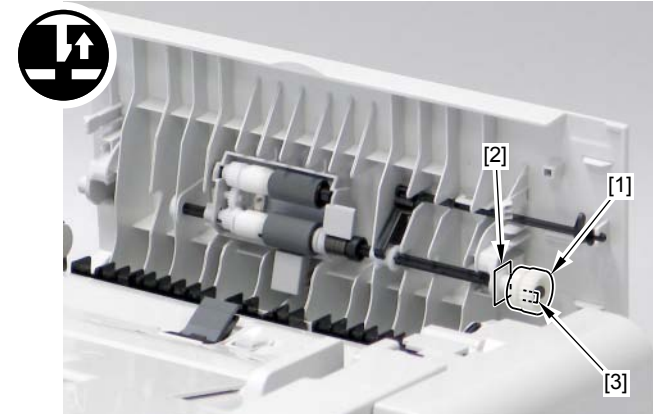
1) Open the ADF Upper Cover [1].



F-4-69

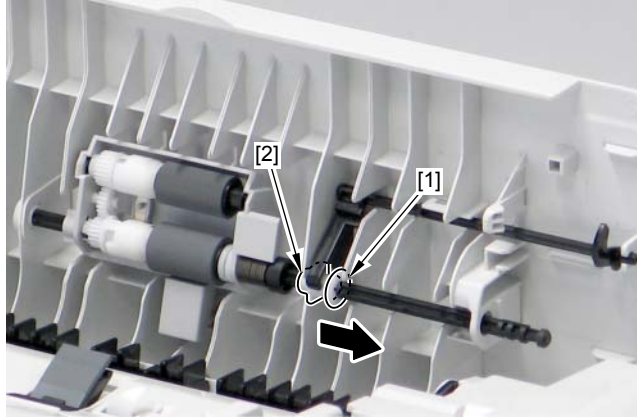
2) Remove the gear [1] and the bushing [2].

- 1 claw [3]



F-4-70

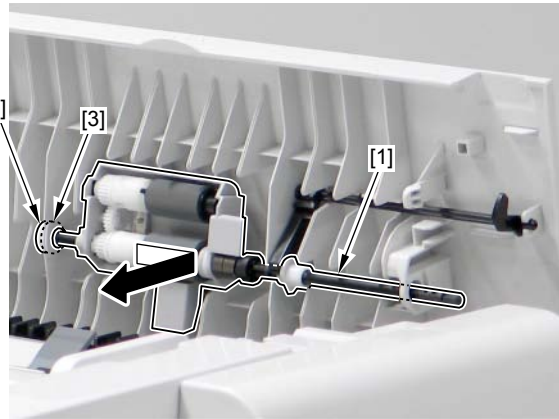
3) Remove the plastic E-ring [1] and slide the bushing [2].



F-4-71

4) Remove the ADF Roller Unit [1].

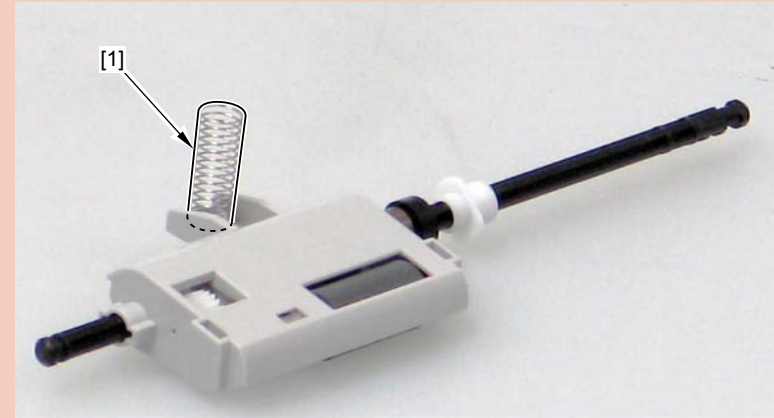
- 1 plastic E-ring [2]
- 1 bushing [3]



F-4-72

Caution:

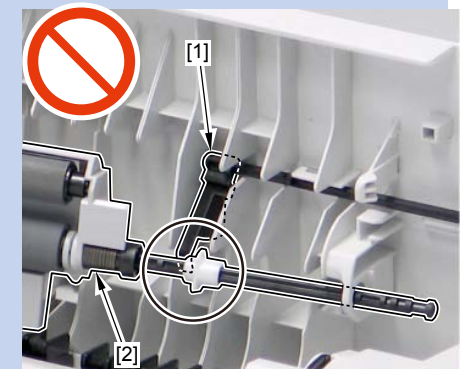
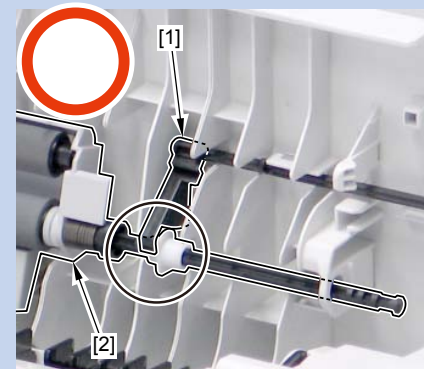
Be careful not to lose the spring [1] attached to the ADF Roller Unit.



F-4-73

MEMO:

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



F-4-74

## ■ Removing the ADF Pickup Roller

### Pre-procedure

1) Remove the ADF Roller Unit. Refer to page 4-32.

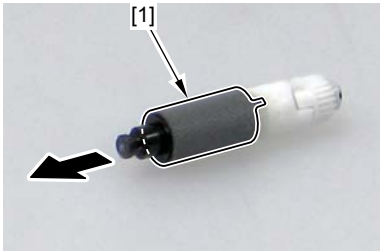
### Procedure

1) Put in the tip of a flat-blade screwdriver to remove the ADF Pickup Roller Unit [1].



F-4-75

2) Remove the ADF Pickup Roller [1].



F-4-76

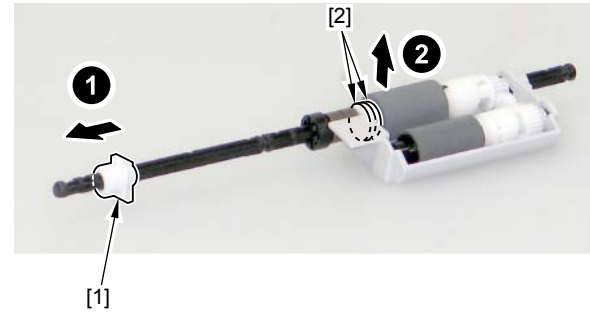
## ■ Removing the ADF Separation Roller

### Pre-procedure

1) Remove the ADF Roller Unit. Refer to page 4-32.

### Procedure

1) Remove the bushing [1] and the 2 plastic E-rings [2].

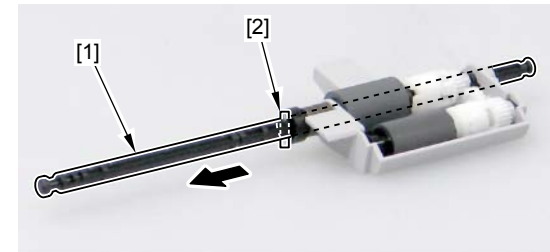


F-4-77

2) Slide the Roller Shaft [1] to remove the parallel pin [2] and the bushing [3].

### Caution:

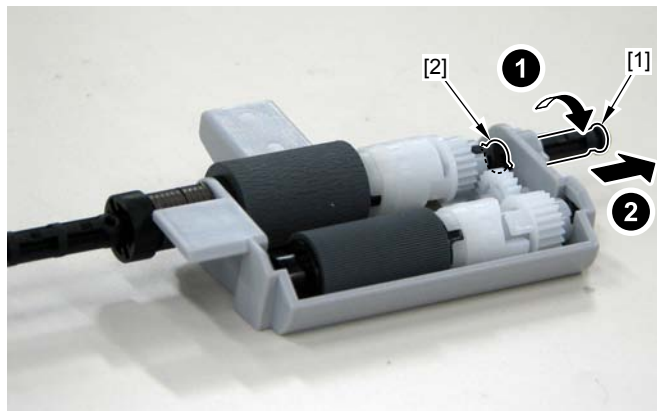
Be careful not to lose the parallel pin [2] at assembly/disassembly.



F-4-78

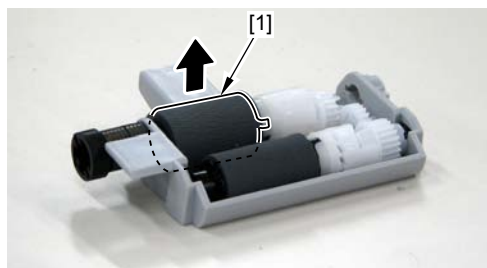


- 4) Turn the Roller Shaft [1] in the direction of the arrow and fit the projection [2] to the hole of the Roller Holder to remove.



F-4-79

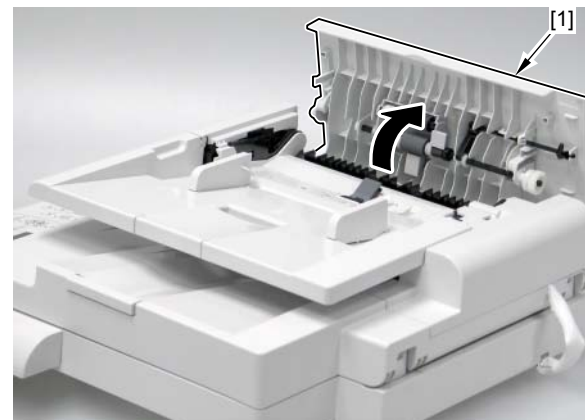
- 5) Remove the ADF Separation Roller [1].



F-4-80

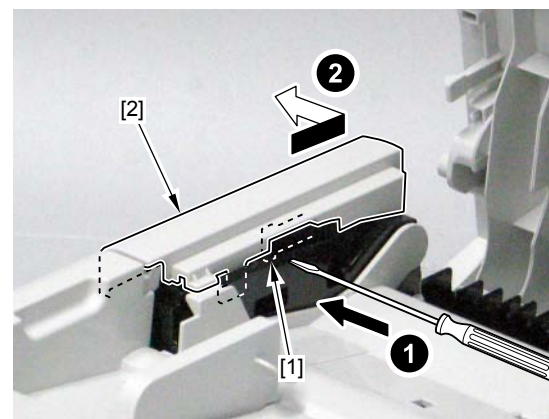
## ■ Removing the ADF Separation Pad

- 1) Open the ADF Upper Cover [1].



F-4-81

- 2) Unhook the hook [1] using the flat-head screw driver and remove the ADF Front Cover [1] in the direction of the arrow.

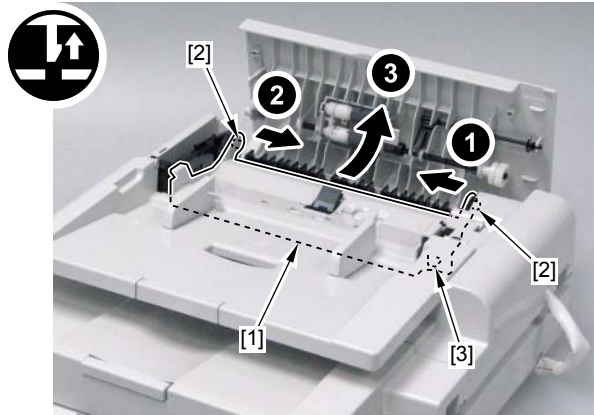


F-4-82

3) Remove the Feed Guide [1] in the direction of the arrow.

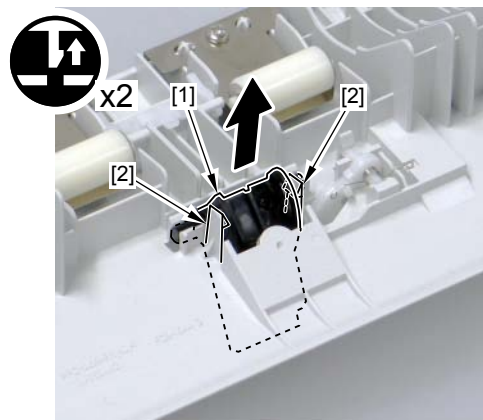
- 2 bosses [2]

- 1 claw [3]



4) Reverse the Feed Guide.

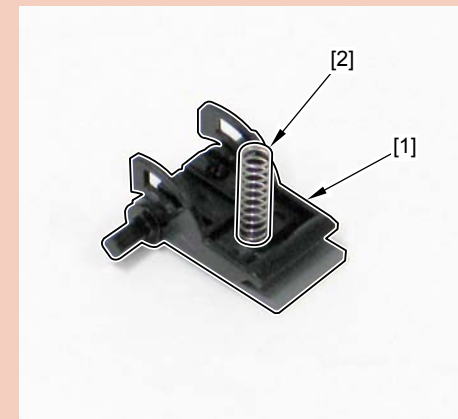
5) Remove 2 claws [1] and remove the Separation Pad Holder [2] in the direction of the arrow.



F-4-83

Caution:

Be careful not to lose the spring [2] attached to the Separation Pad Holder [1].

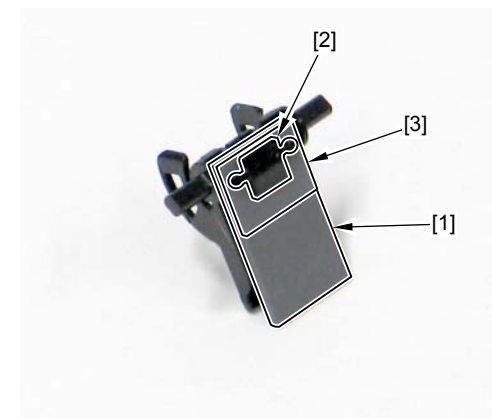


F-4-84

6) Remove the Separation Pad [1].

- Pad retainer [2]

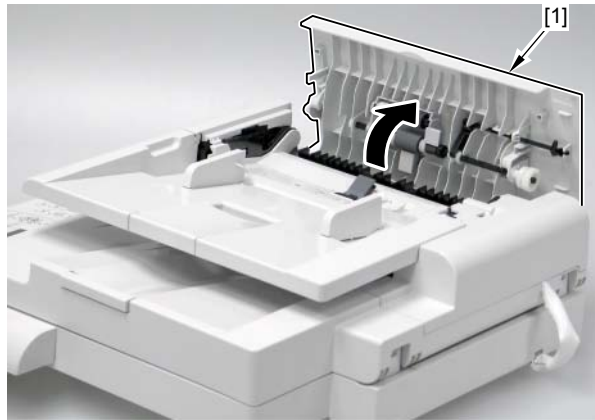
- Sheet [3]



F-4-85

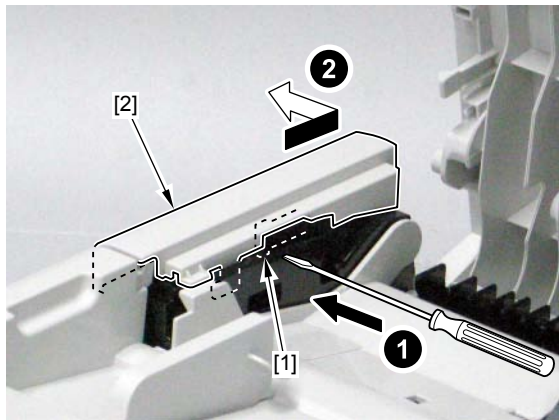
## ■ Removing the ADF Pickup Feed Unit

1) Open the ADF Upper Cover [1].



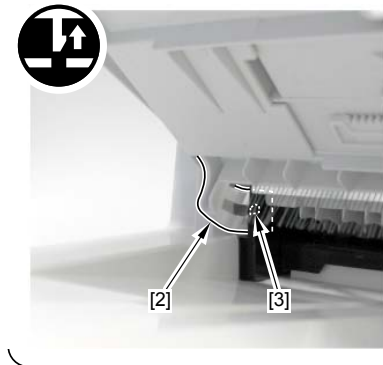
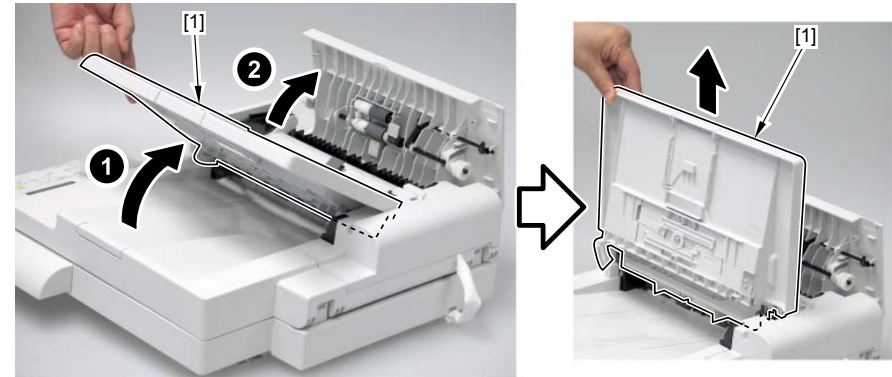
F-4-86

2) Remove the ADF Front Cover [1] in the direction of the arrow.

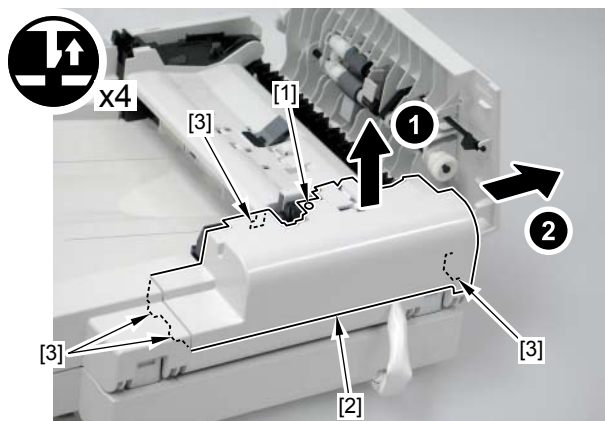


F-4-87

3) Bring up the ADF Tray [1] all the way until it stops and remove the claw [2] to make it straight to remove upward.



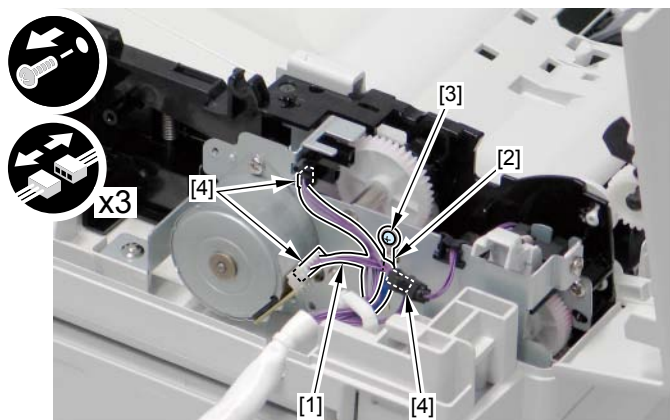
4) Remove the boss [1] to remove the ADF Rear Cover [2] in the direction of the arrow.  
- 4 claws [3]



5) Remove the harness [1] and the grounding cord [2].

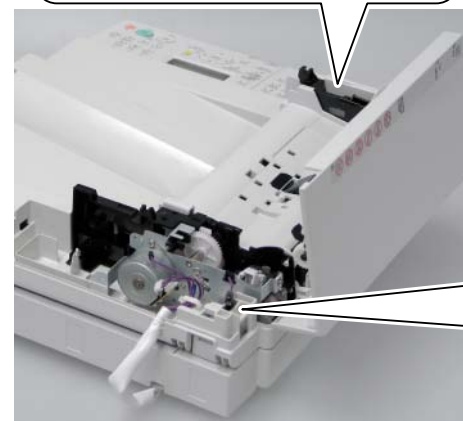
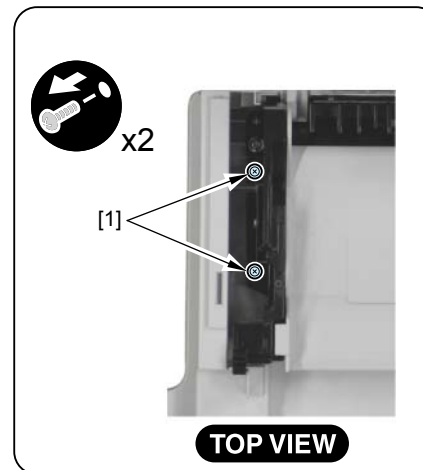
- 1 screw (binding) [3]

- 3 connectors [4]



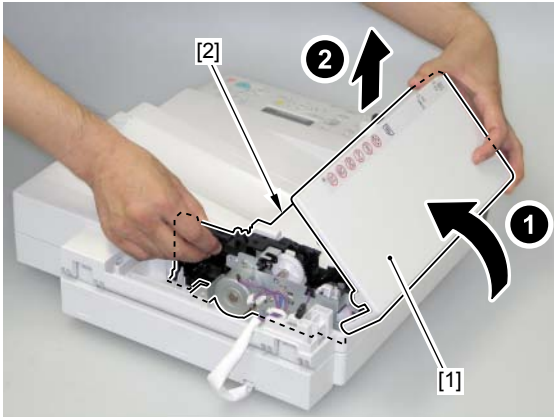
F-4-88

6) Remove the 4 screws [1] of the ADF Pickup Feed Unit.



F-4-89

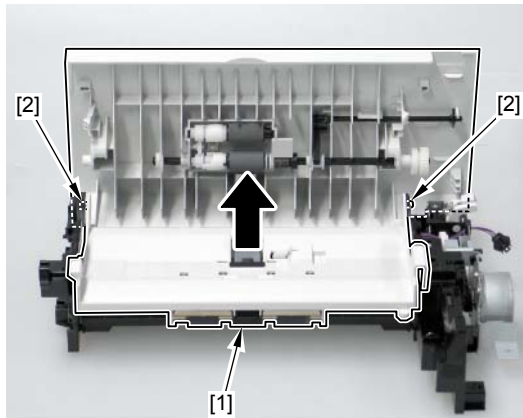
7) Close the ADF Upper Cover [1] to remove the ADF Pickup Feed Unit [2].



F-4-90

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

- 2 bosses [2]



F-4-91

## Removing the ADF Pickup Motor

### Pre-procedure

1) Remove the ADF Pickup Feed Unit. Refer to page 4-37.

### Procedure

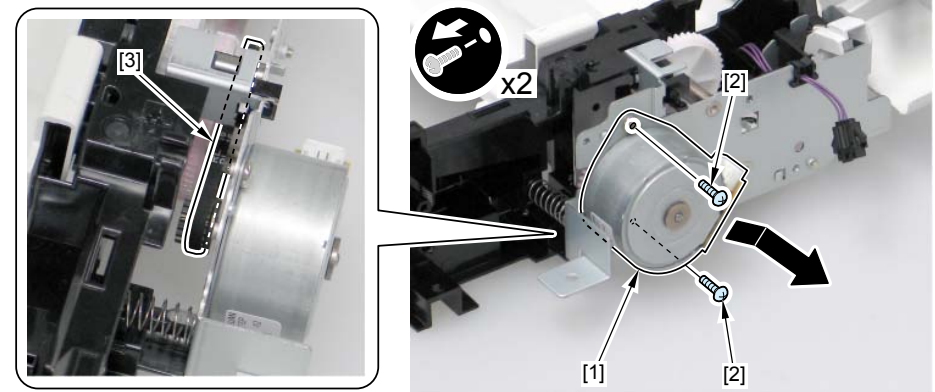
#### MEMO:

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

1) Remove the ADF Motor [1] in the direction of the arrow.

- 2 screws [2]

- 1 belt [3]



F-4-92

## ■ Removing the Reader Unit Upper Cover

### Pre-procedure

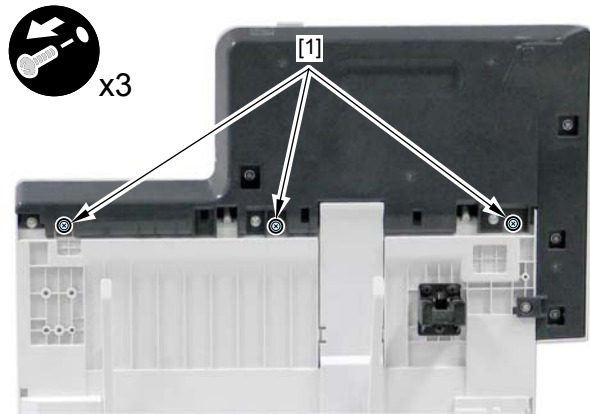
- 1) Remove the Right Cover. Refer to page 4-18.
- 2) Remove the Left Cover. Refer to page 4-16.
- 3) Remove the ADF Unit + Reader Unit. Refer to page 4-28.
- 4) Separate the ADF Unit from the Reader Unit. Refer to page 4-30.

### Procedure

#### Caution:

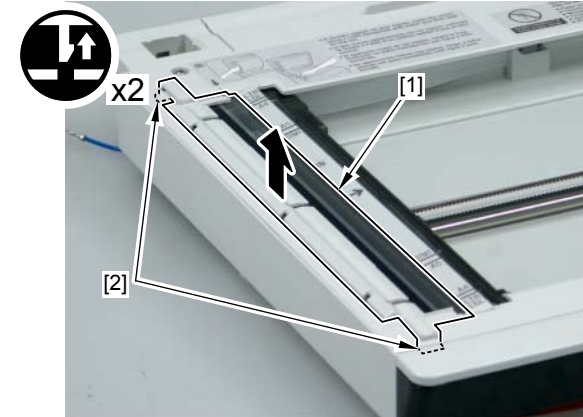
To replace the Copyboard Glass, be sure to replace the Copyboard Glass together with the Reader Unit Upper Cover.

- 1) Remove the 3 screws [1] at the bottom of the Reader Unit.



F-4-93

- 2) Remove the Scoopup sheet holder [1].  
- 2 claws [2]

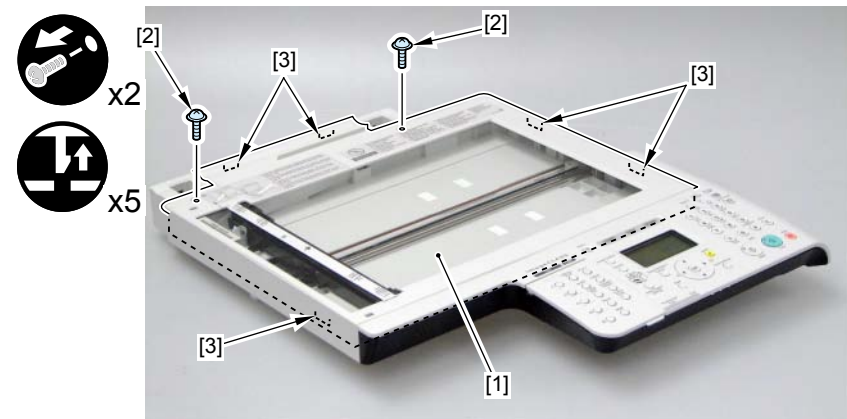


F-4-94

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

#### Caution:

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

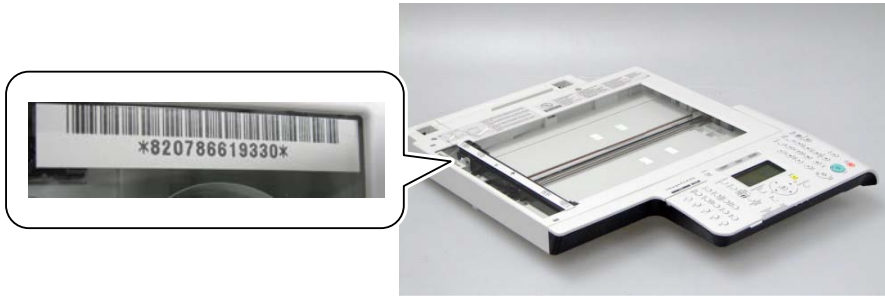


F-4-95

### After Replacing the Reader Upper Cover Unit

1) Enter the setting value of the Standard White Plate.

- COPIER > ADJUST > CCD > W-PLT-X (X signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Y (Y signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Z (Z signal data for the standard white plate)



2) After executing the CCD reading position adjustment with the following service mode, check the auto setting value with the following service mode 2 and write the value in the service label.

- 1.COPIER> FUNCTION> INSTALL> STRD-POS (CCD reading position adjustment auto execution)
- 2.COPIER> ADJUST> ADJ-XY> STRD-POS (CCD reading position adjustment value reference)

3) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.

1.White level adjustment

- COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
- COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)

Then, set a blank paper on the DF, and execute the following service mode.

- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

2.Checking the setting value

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)

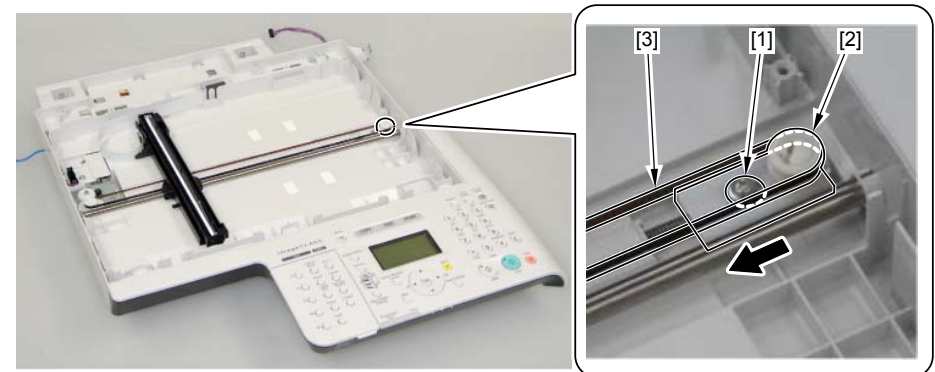
### Removing the CIS Unit

#### Pre-procedure

- 1)Remove the Right Cover. Refer to page 4-18.
- 2)Remove the Left Cover. Refer to page 4-16.
- 3)Remove the ADF Unit + Reader Unit. Refer to page 4-28.
- 4)Separate the ADF Unit from the Reader Unit. Refer to page 4-30.
- 5)Remove the Reader Unit Upper Cover Unit. 4-13.

#### Procedure

- 1) Loosen the screw [1] and move the Pulley golder [2] in the direction to the arrow to remove the drive belt [3].



F-4-97

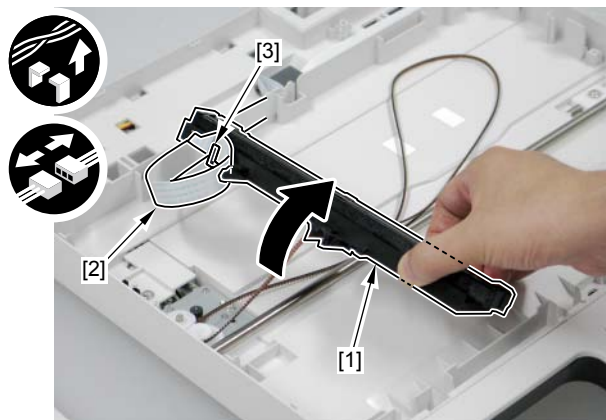
- 2) Remove the CIS Unit Mount [1] and remove the flat cable [2].  
- 1 guide [3]

**Caution:**

The 2 CIS Spacers [1] are removed when tilting the CIS Unit Mount; therefore, be careful not to lose them.

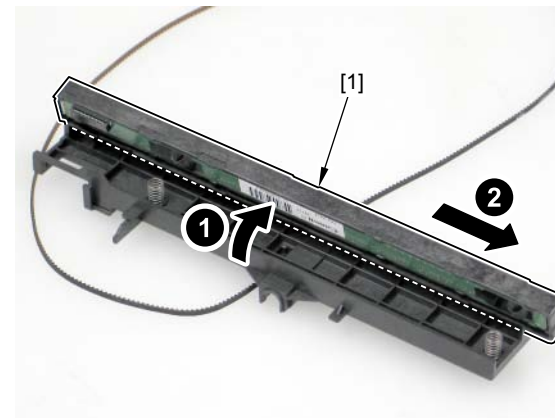


F-4-98



F-4-99

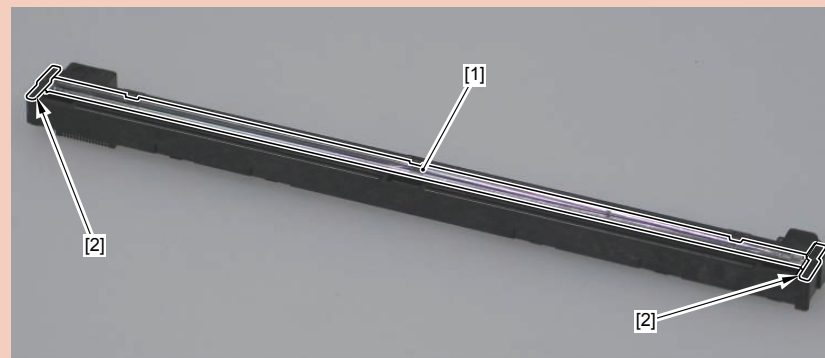
- 3) Bring up the CIS Unit [1] to remove in the direction of the arrow.



F-4-100

**Caution:**

When replacing the CIS Unit, be sure to execute the procedure to be performed after replacing the CIS Unit.

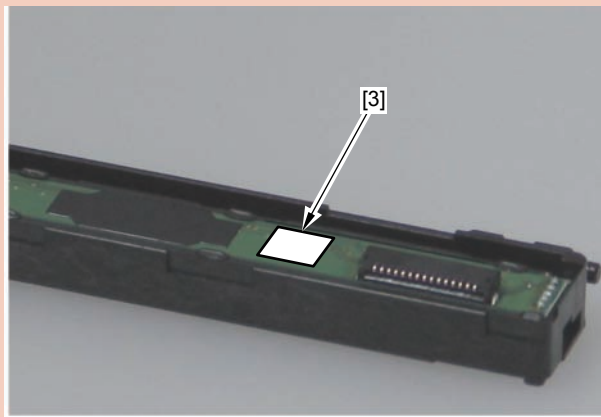


F-4-101



## Caution:

- When installing the CIS Unit [1], be sure to replace the CIS Spacer [2] together with the CIS Unit [1] (included in the package of the Service Parts).



F-4-102

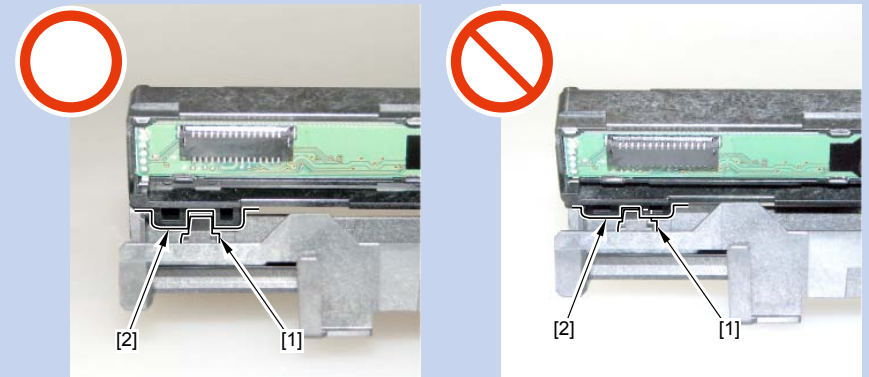
- When the CIS Spacers are mixed up or lost, check the CIS Rank Label [3] to use, and use the appropriate CIS Spacer that fits the rank of the CIS Unit.

Rank	Dimension (Height of spacer)	Part No.	Color of spacer
rank A	1.17 mm	FC9-7573	light gray
rank B	1.27 mm	FC9-7571	dark gray
rank C	1.37 mm	FC9-7574	brown

T-4-18

## MEMO:

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



F-4-103

### After replacing CIS units

- 1) Execute the white level adjustment. If it fails, turn OFF/ON the power and execute the operation again.
  - COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
  - COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)
  
- 2) After executing the CCD reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.
  1. COPIER> FUNCTION> INSTALL> STRD-POS (CCD reading position adjustment auto execution)
  2. COPIER> ADJUST> ADJ-XY> STRD-POS (CCD reading position adjustment value reference)
  
- 3) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.
  - 1.White level adjustment
    - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])

Then, set a blank paper on the DF, and execute the following service mode.

  - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
  - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

  - 2.Checking the setting value
    - COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)
  
- 4) Execute the reading position adjustment with the following service mode.
  - COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
  - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning

- position in FEEDER mode)
  - COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)
- 5) Execute the original stop position and feed speed adjustment at stream reading.
    - FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
    - FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

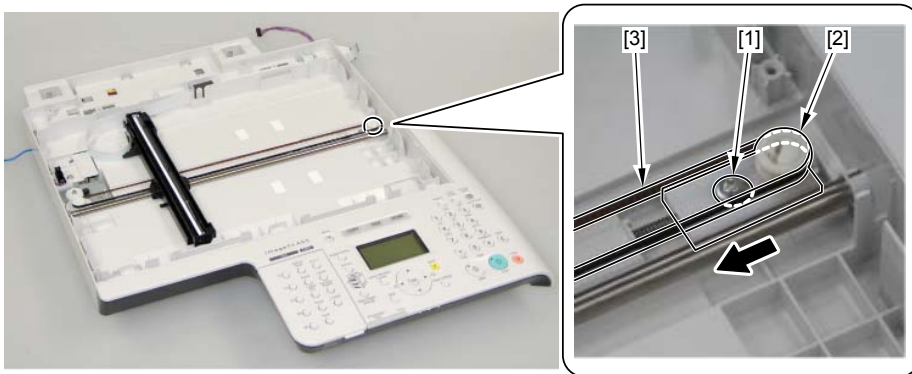
## ■ Removing the Reader Scanner Motor

### Pre-procedure

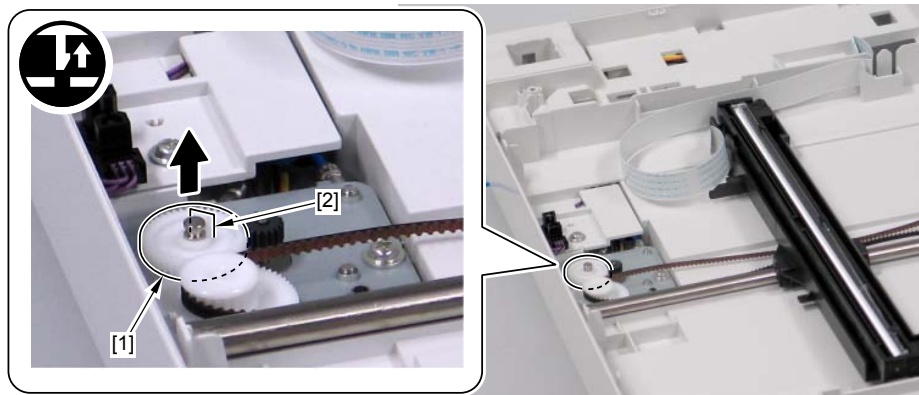
- 1) Remove the Right Cover. Refer to page 4-20.
- 2) Remove the Left Cover. Refer to page 4-16.
- 3) Remove the ADF Unit + Reader Unit. Refer to page 4-28.
- 4) Separate the ADF Unit from the Reader Unit. Refer to page 4-30.
- 5) Remove the Reader Unit Upper Cover Unit. Refer to page 4-40.

### Procedure

- 1) Loosen the screw [1] and move the Pulley Holder [2] in the direction to the arrow, to remove the drive belt [3].

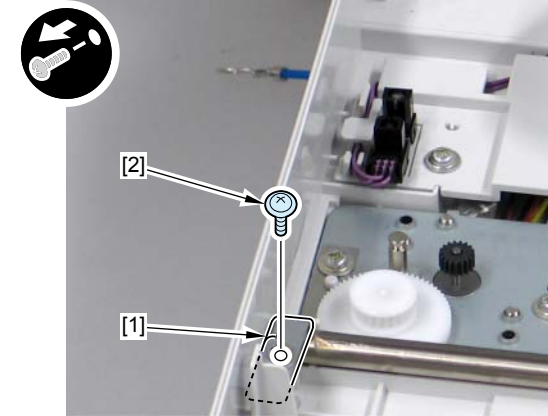


- 2) Remove the gear [1].  
- 1 claw [2]



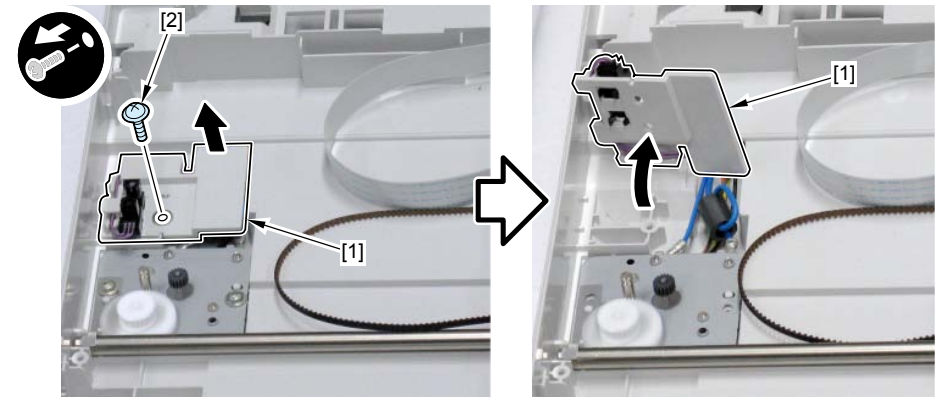
F-4-104

- 3) Remove the Shaft Retaining Plate [1].  
- 1 screw [2]



F-4-105

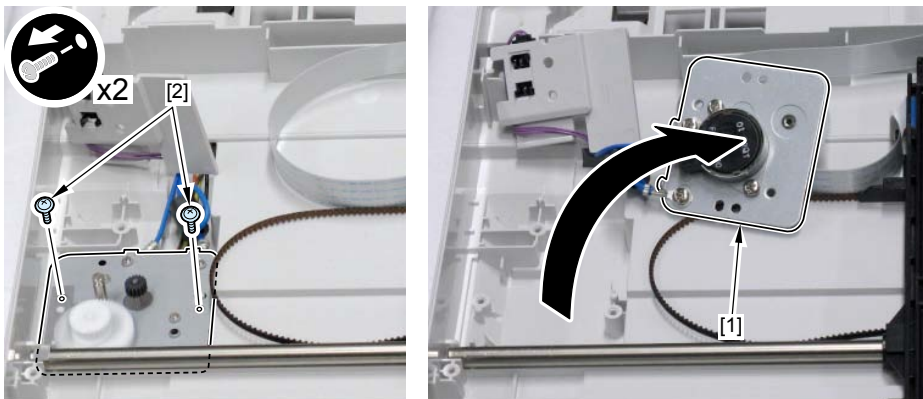
- 4) Move the Sensor Mount [1].  
- 1 screw [2]



F-4-106

5) Move the Motor Mounting Plate [1] and turn it over.

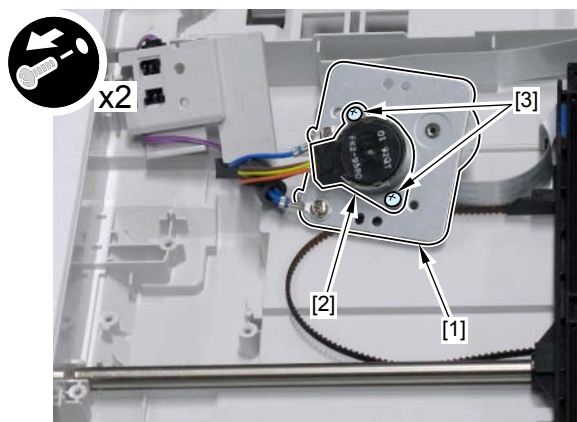
- 2 screws [2]



F-4-107

6) Remove the Reader Scanner Motor [2] from the Motor Mounting Plate [1].

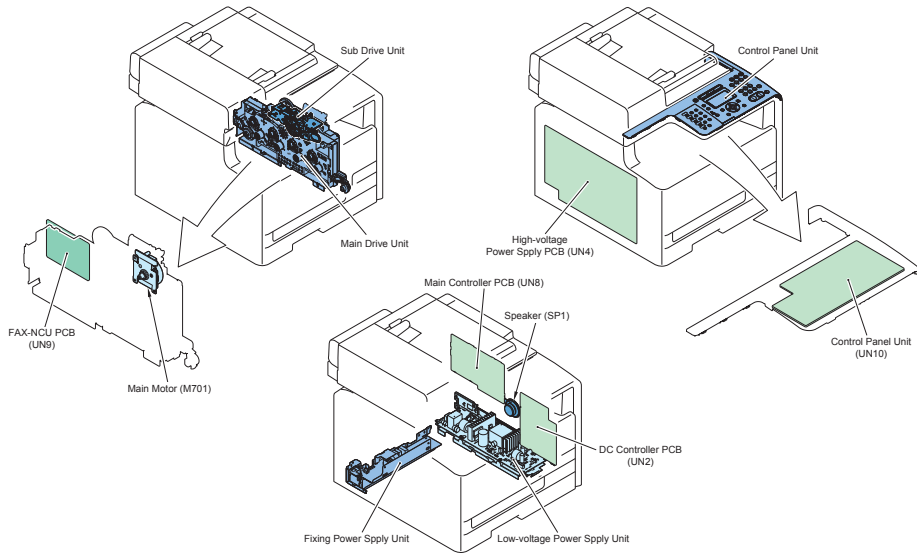
- 2 screws [3]



F-4-108

## Controller System

### Location



Name	Service Parts No.	Reference	Adjustment during parts replacement
Duplex Reverse Drive Unit	RM1-4880	Refer to page 4-63	-
Main Controller PCB	FM4-3961 (MF8350Cdn) FM4-3960 (MF8330Cdn)	Refer to page 4-48	Refer to page 5-5
Main Drive Unit	RM1-4837	Refer to page 4-60	-
Duplex Reversal Solenoid	-	-	-
Duplex Feeding Clutch	-	-	-
Driver PCB	RM1-5288	-	-
DC Controller PCB	FM4-3776	Refer to page 4-50	Refer to page 5-5
Speaker	FM4-3985	Refer to page 4-69	-
Low Voltage Unit Cooling Fan	FK2-9747	Refer to page 4-64	-
Low Voltage Unit	FM4-3778 (100V) FM4-3779 (120V) FM4-3780 (200V)	Refer to page 4-53	-

Name	Service Parts No.	Reference	Adjustment during parts replacement
High Voltage Power Supply PCB	RM1-5294	Refer to page 4-51	-
Driver PCB	RM1-5288	-	-
Control Panel Unit	FM4-1526 (MF8350Cdn JP) FM4-1533 (MF8330Cdn JP) FM4-1525 (MF8350Cdn US) FM4-1529 (MF8350Cdn AE) FM4-1530 (MF8350Cdn CHN) FM4-1531 (MF8350Cdn KOR) FM4-1532 (MF8350Cdn TWN) FM4-1528 (MF8350Cdn EU) FM4-1527 (MF8330Cdn EU)	Refer to page 4-58	-
Control Panel PCB	-	Refer to page 4-59	-
Fixing/Fixing Power Supply Cooling Fan Unit	RK2-2276	Refer to page 4-66	-
Duplex Driver PCB	RM1-5289	Refer to page 4-56	-
Duplex Feeding Fan	RK2-2276	Refer to page 4-67	-
Fixing Relay PCB	-	Refer to page 4-57	-
Fixing Sub PCB	RM1-5303	Refer to page 4-55	-
FAX-NCU PCB	FM4-3970 (100V) FM4-3971 (120V) FM4-3972 (230V) FM4-3973 (AUS)	Refer to page 4-60	-

T-4-19

## ■ Removing the Main Controller PCB

### Measures before the replacement

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

- 1) In Remote UI, export user data.
- 2) Record the default settings shown on the service label [1] (these are entered after replacement).

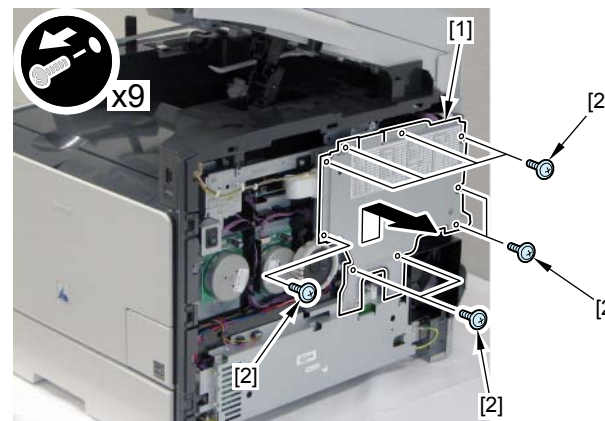


### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18

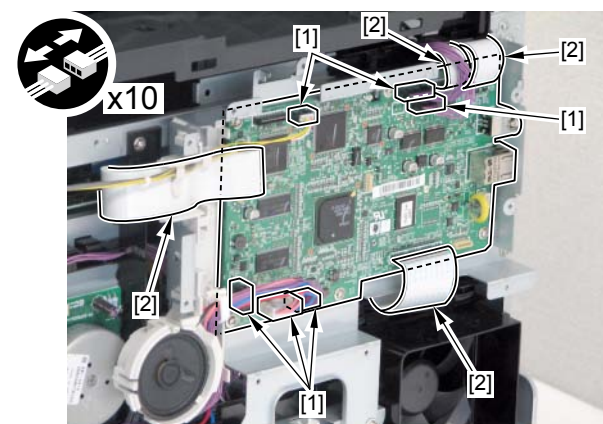
### Procedure

- 1) Remove the Controller Cover [1].  
- 9 screws [2]



F-4-110

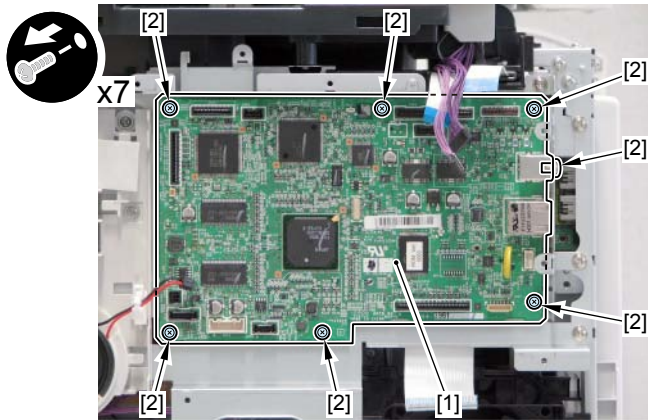
- 2) Disconnect the 6 connectors [1] and the 4 flat cables [2].



F-4-111

3) Remove the Main Controller PCB [1].

- 7 screws [2]



F-4-112

#### After replacing main controller PCB

1. Setting of destination/paper size group

1) COPIER > OPTION > BODY > LOCALE (to set destination groups)

[Settings]

1: Japan, 2: North America, 3: Korea, 4: China, 5: Taiwan, 6: Europe, 7: Asia,  
8: Oceania

2) COPIER > OPTION > BODY > SIZE-LC (to set paper size groups)

[Settings]

1: AB series, 2: Inch series, 3: A series, 4: AB/Inch series

2. Clearing Setting/Registration data

1) COPIER > FUNCTION > CLEAR > ALL (to clear all data)

Once executed, the following data are cleared according to the values of LOCALE and SIZE-LC set in step 1.

- Setting / Registration data (the default value for each destination is set).
- Service mode data (the default value for each destination is set).
- Job IDs
- Log data
- Dates

2) COPIER > FUNCTION > CLEAR > R-CON (to clear default setting values for the reader/DF)

3. Adjustment, input of default setting values

1) Close the ADF.

2) COPIER > FUNCTION > CCD > CL-AGC, BW-AGC (to adjust white levels)

The white level is adjusted.

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

4) COPIER > FUNCTION > VIFFNC > STOR-DCN (to back up DC controller setting values)

Purpose: to be prepared for replacing DC controller PCBs

5) Turn off and on the power.

6) Start in the initial installation mode. Follow instructions shown on the screen for setup. (setting of date/time, auto-gradation correction)

7) In Remote UI, import user data.

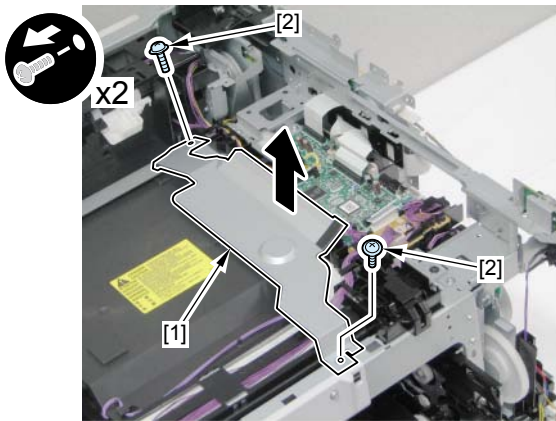
## ■ Removing the DC Controller PCB

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Rear Upper Cover. Refer to page 4-22
- 4) Removing the ADF Unit + Reader Unit. Refer to page 4-28
- 5) Removing the Right Front Cover. Refer to page 4-20
- 6) Removing the Upper Cover. Refer to page 4-26

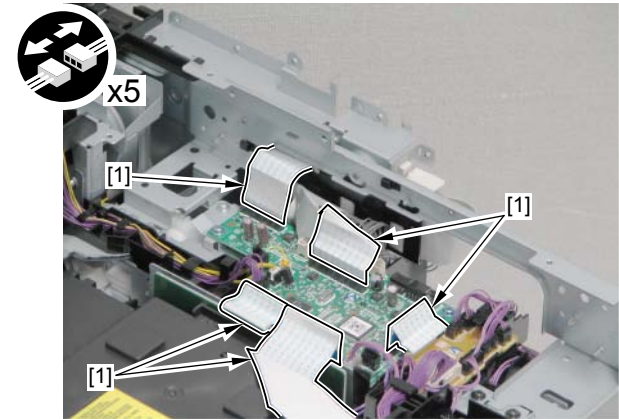
### Procedure

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



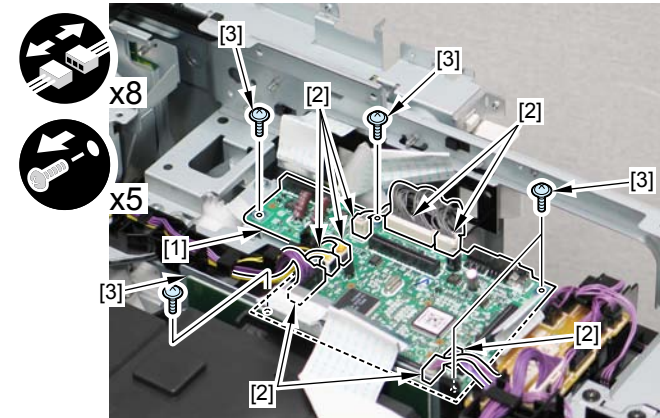
F-4-113

- 2) Disconnect the 5 flat cables [1].



F-4-114

- 3) Remove the DC Controller PCB [1].  
- 8 connectors [2]  
- 5 screws [3]



F-4-115



#### After replacing DC Controller PCB

- 1) Execute the following in Service Mode
  - COPIER>FUINCTION>VIFFNC>RSTR-DCN

#### MEMO

After executing the Printer Recovery Setting, be sure to wait for about 15 seconds because of internal process/operation.

- 2) Turn OFF and then ON the power.
- 3) \*Execute the following: > Adjustment/Cleaning > Print Color Displacement Correction
- 4) \* Execute the following: > Adjustment/Cleaning > Auto Gradation Correction > Quick Correction
- 5) Turn OFF and then ON the power.

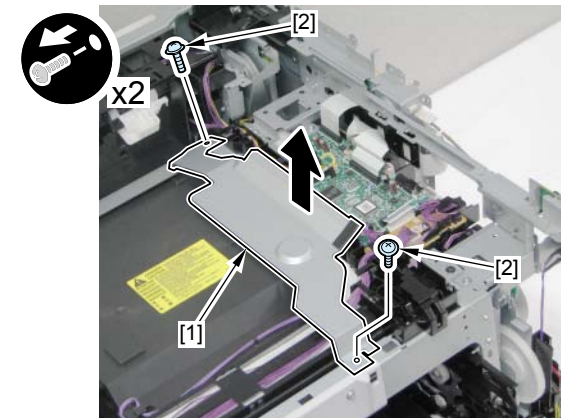
## ■ Removing the High Voltage Power Supply PCB

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Rear Upper Cover. Refer to page 4-22
- 4) Removing the ADF Unit + Reader Unit. Refer to page 4-28
- 5) Removing the Right Front Cover. Refer to page 4-20
- 6) Removing the Upper Cover. Refer to page 4-26

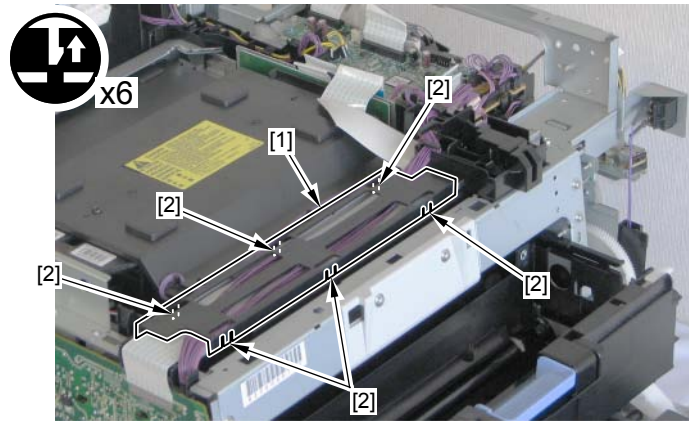
### Procedure

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



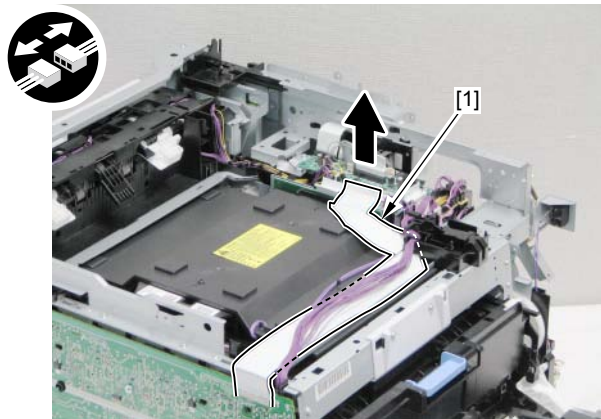
F-4-116

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



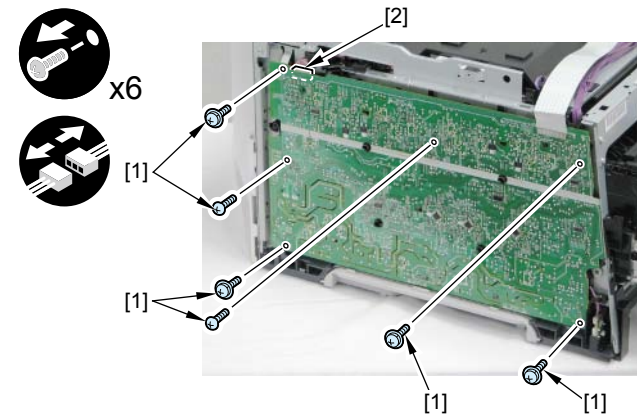
F-4-117

- 3) Disconnect the flat cable [1].



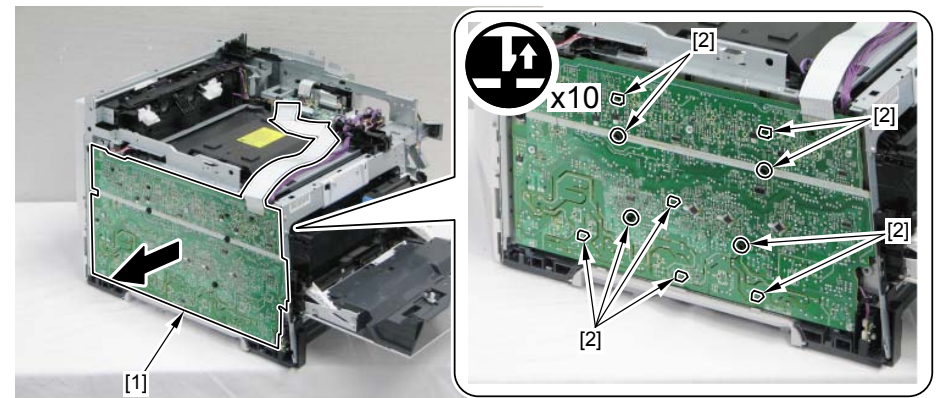
F-4-118

- 4) Remove the 6 screws [1] and disconnect the connector [2].



F-4-119

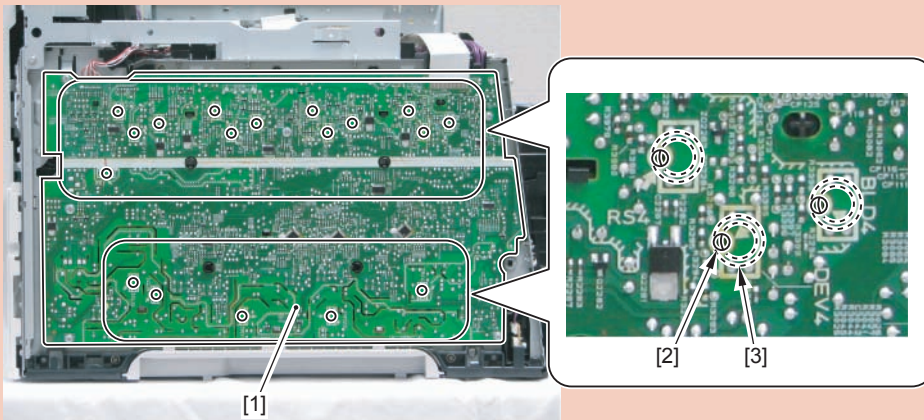
- 5) Remove the High Voltage Power Supply PCB [1].  
- 9 claws [2]



F-4-120

**Caution:**

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



F-4-121

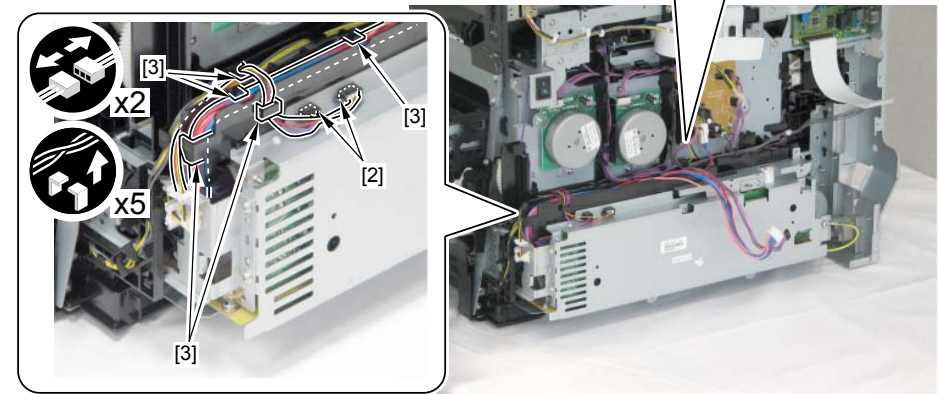
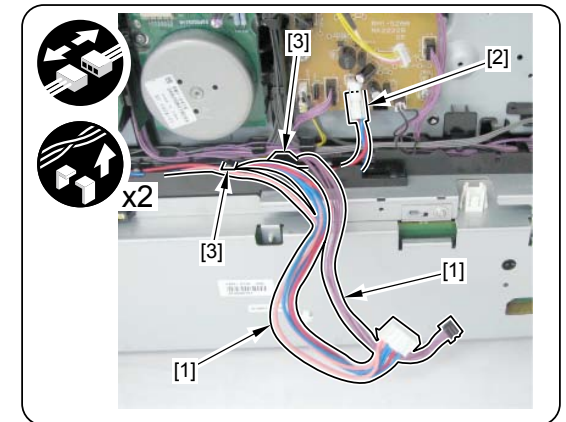
## ■ Removing the Low Voltage Unit

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-16
- 2) Removing the Right Front Cover. Refer to page 4-20
- 3) Removing the Main Controller PCB. Refer to page 4-48
- 4) Removing the Fixing/Fixing Power Supply Cooling Fan Unit. Refer to page 4-66

### Procedure

- 1) Remove the wire harness [1].
  - 3 connectors [2]
  - 7 fixing guides [3]

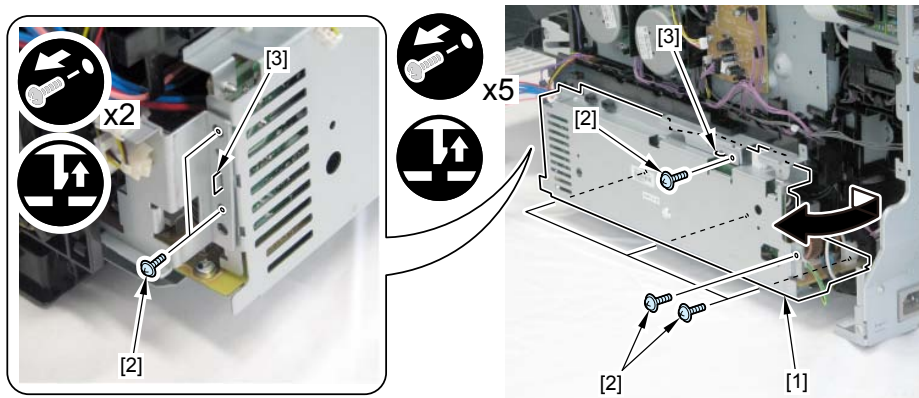


F-4-122

2) Slide the Low Voltage Unit [1] in the arrow direction to open.

- 7 screws [2]

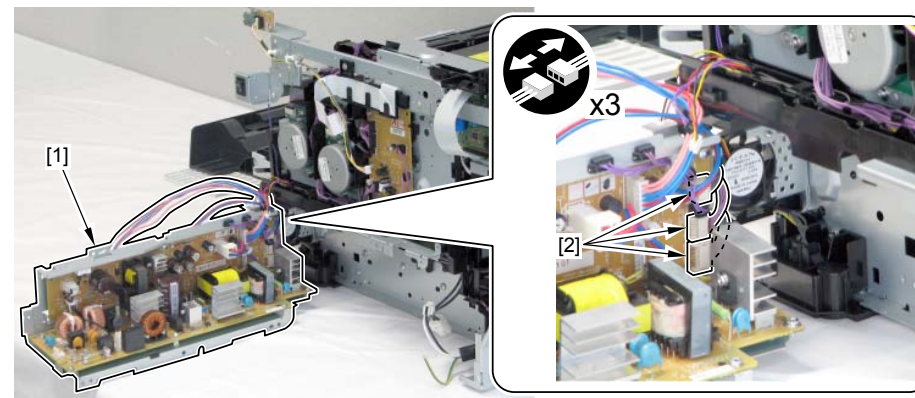
- 2 claws [3]



F-4-123

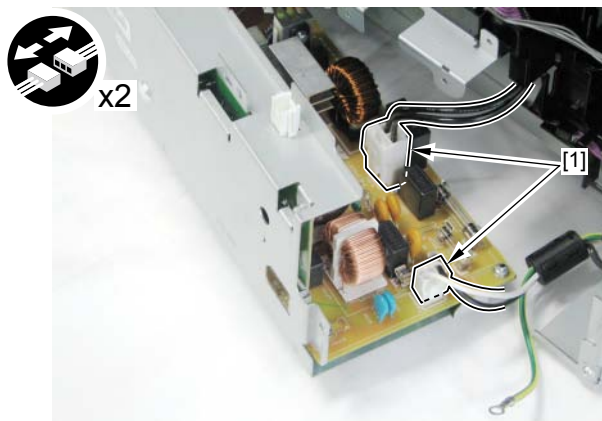
4) Remove the Low Voltage Unit [1]

- 3 connectors [2]



F-4-124

3) Remove 2 connectors [1].



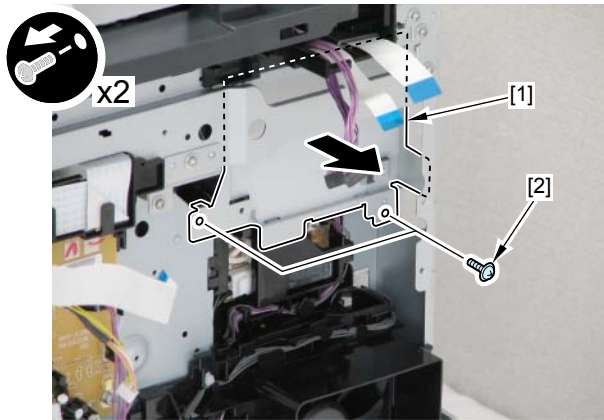
## ■ Removing the Fixing Sub PCB

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Main Controller PCB. Refer to page 4-48
- 3) Removing the FAX PCB. Refer to page 4-60

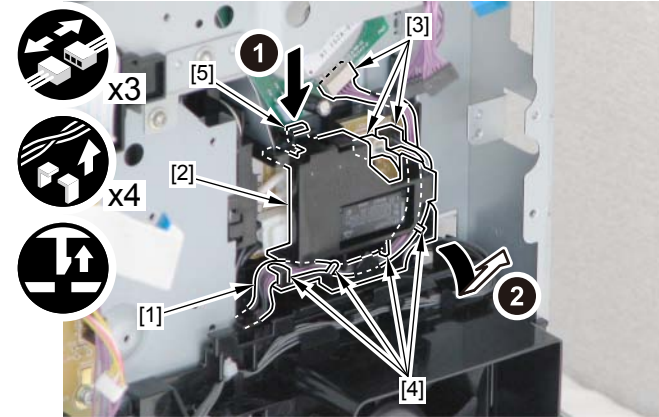
### Procedure

- 1) Remove the PCB fixing plate [1].
- 2 screws [2]



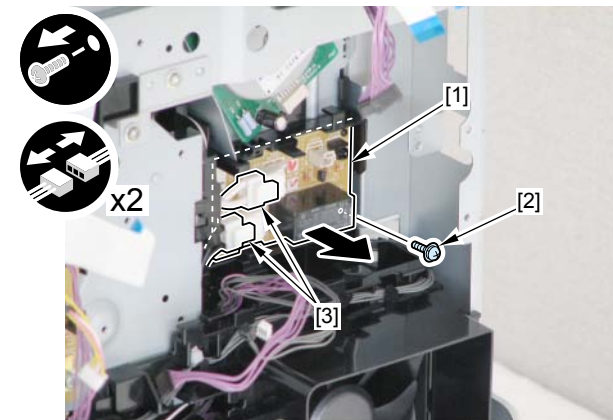
F-4-125

- 2) Remove the wire harness [1], and remove the wire harness guide [2].
- 3 connectors [3]
- 4 fixing guides [4]
- 1 claw [5]



F-4-126

- 3) Remove the Fixing Sub PCB [1].
- 1 screw [2]
- 2 connector [3]



F-4-127

## ■ Removing the Duplex Driver PCB

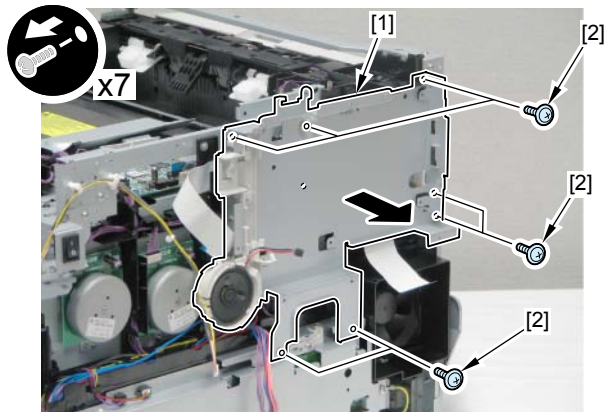
### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Right Front Cover. Refer to page 4-20
- 4) Removing the ADF Unit + Reader Unit. Refer to page 4-28
- 5) Removing the Rear Upper Cover. Refer to page 4-22
- 6) Removing the Upper Cover. Refer to page 4-26
- 7) Removing the Main Controller PCB. Refer to page 4-48

### Procedure

Remove the controller fixing plate [1].

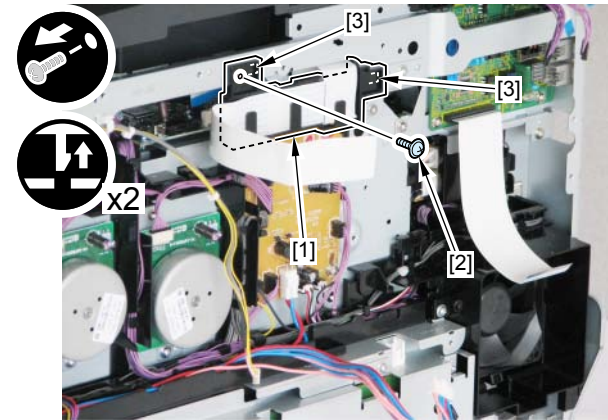
- 7 screws [2]



F-4-128

2) Remove the flat cable guide case [1].

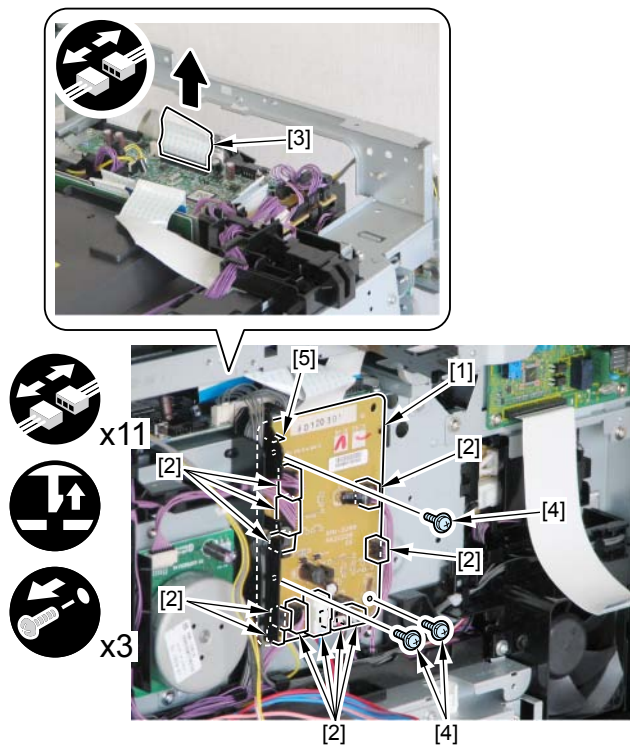
- 1 screw [2]
- 2 claws [3]



F-4-129

3) Remove the Duplex Driver PCB [1].

- 11 connectors [2]
- 1 flat cable [3]
- 3 screws [4]
- 1 claw [5]



F-4-130

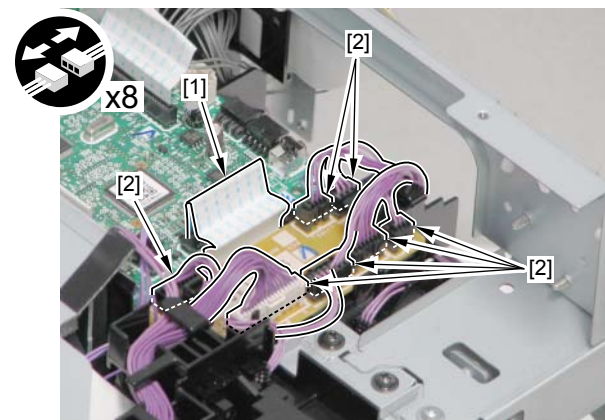
## ■ Removing the Relay PCB

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Rear Upper Cover. Refer to page 4-22
- 4) Removing the ADF Unit + Reader Unit. Refer to page 4-28
- 5) Removing the Right Front Cover. Refer to page 4-20
- 6) Removing the Upper Cover. Refer to page 4-26

### Procedure

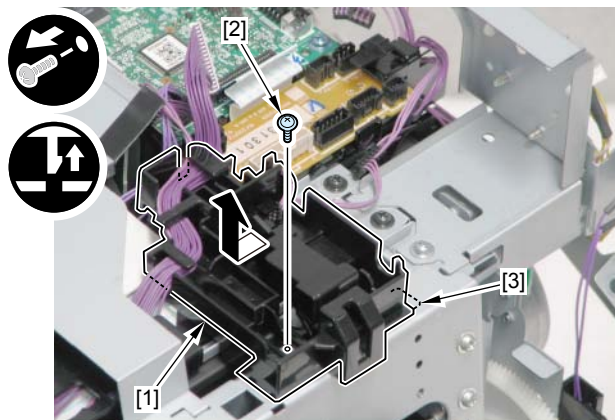
- 1) Disconnect the flat cable [1] and the 7 connectors [2].



F-4-131

2) Remove the harness guide [1].

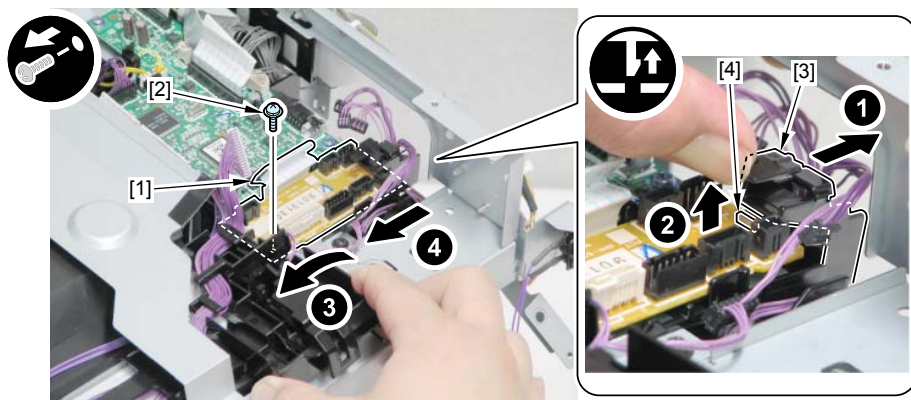
- 1 screw [2]
- 1 hook [3]



F-4-132

3) Remove the Relay PCB [1].

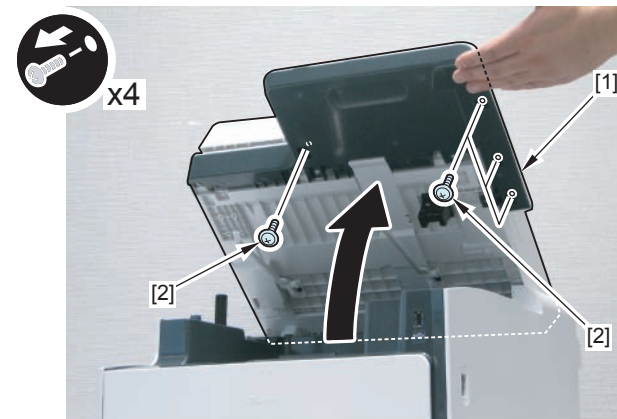
- 1 screw [2]
- 1 harness guide [3]
- 1 claw [4]



F-4-133

## ■ Removing the Control Panel Unit

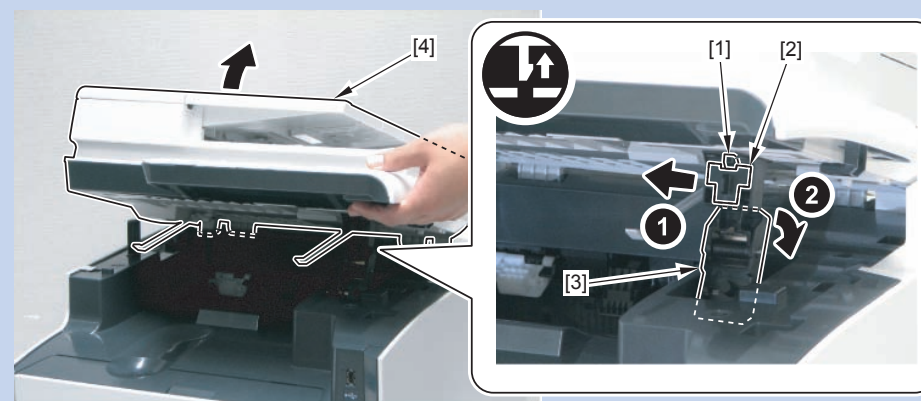
1) Open the Reader Unit [1], and remove 4 screws [2] on the bottom of the Reader Unit.



F-4-134

### MEMO:

Easier way to remove the screws on the bottom of the Reader Unit, open the Reader Unit [4] after removing the parts in the order of 1 claw [1], the Reader Shaft Holder [2] and the Reader Support Shaft [3].



F-4-135



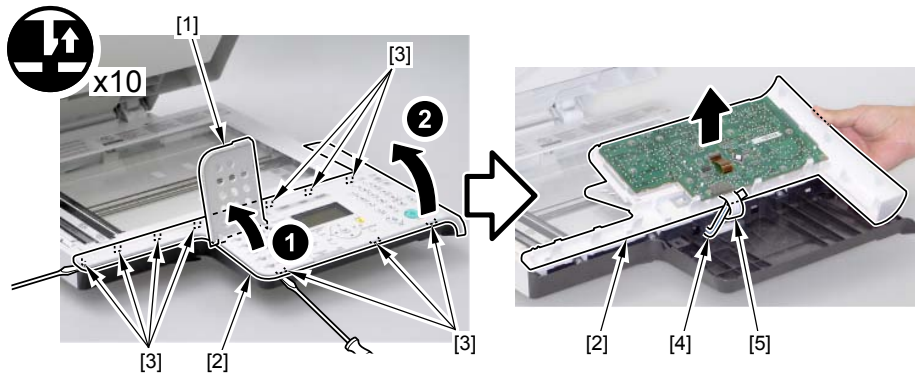
2) Open the ADF Unit [1].



F-4-136

3) Open the Control Panel [1], and remove the Control Panel Unit [2].

- 10 claws [3]
- 1 flat cable [4]
- 1 grounding wire [5]



F-4-137

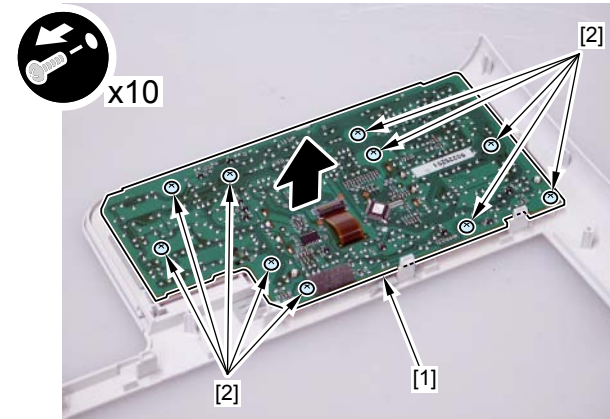
## ■ Removing the Control Panel PCB

### Pre-procedure

1) Removing the Control Panel Unit. Refer to page 4-58

### Procedure

- 1) Remove the Control Panel PCB [1].
- 10 claws [2]



F-4-138

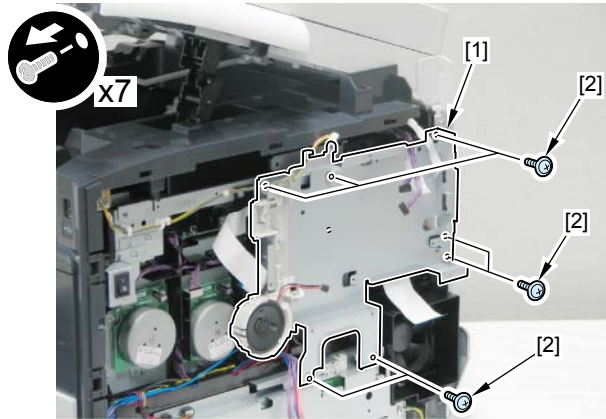
## ■ Removing the FAX PCB

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Main Controller PCB. Refer to page 4-48

### Procedure

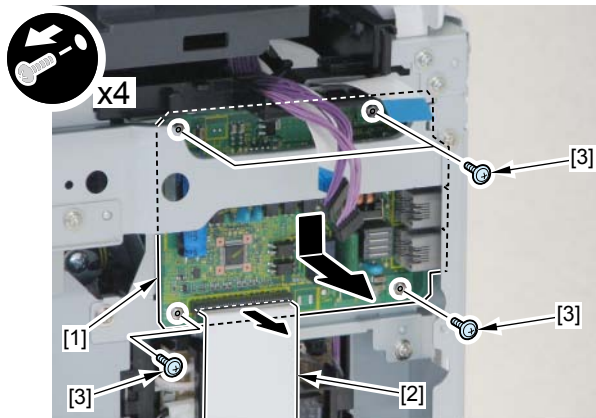
- 1) Remove the Controller Fixing Plate [1].
- 7 screws [2]



F-4-139

- 2) Remove the FAX PCB [1].

- 1 flat cable [2]
- 4 screws [3]



F-4-140

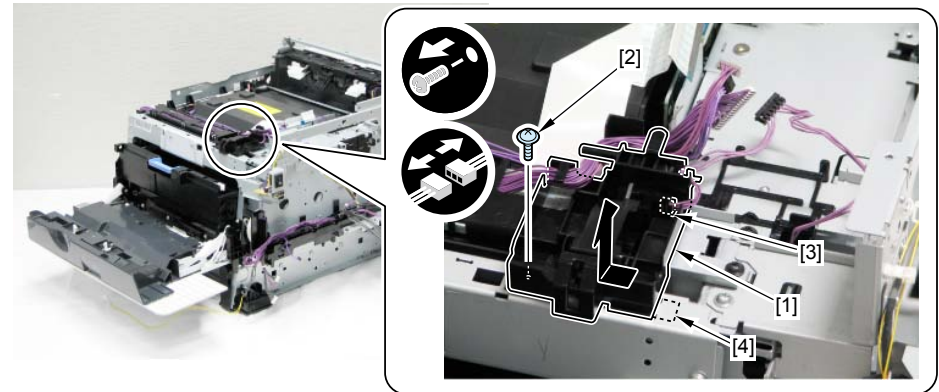
## ■ Removing the Drive Unit

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Right Front Cover. Refer to page 4-20
- 4) Removing the ADF Unit + Reader Unit. Refer to page 4-28
- 5) Removing the Rear Upper Cover. 4-8
- 6) Removing the Upper Cover. Refer to page 4-26
- 7) Removing the Main Controller PCB. Refer to page 4-48
- 8) Removing the Drum Motor. Refer to page 4-78
- 9) Removing the Developing Motor. Refer to page 4-80
- 10) Removing the Duplex Driver PCB. Refer to page 4-56
- 11) Removing the FAX PCB. Refer to page 4-60
- 12) Removing the Fixing Sub PCB. Refer to page 4-55
- 13) Removing the Fixing/Fixing Power Supply Cooling Fan Unit. Refer to page 4-66
- 14) Removing the Fixing Motor Unit. Refer to page 4-87
- 15) Removing the Low Voltage Unit. Refer to page 4-53

### Procedure

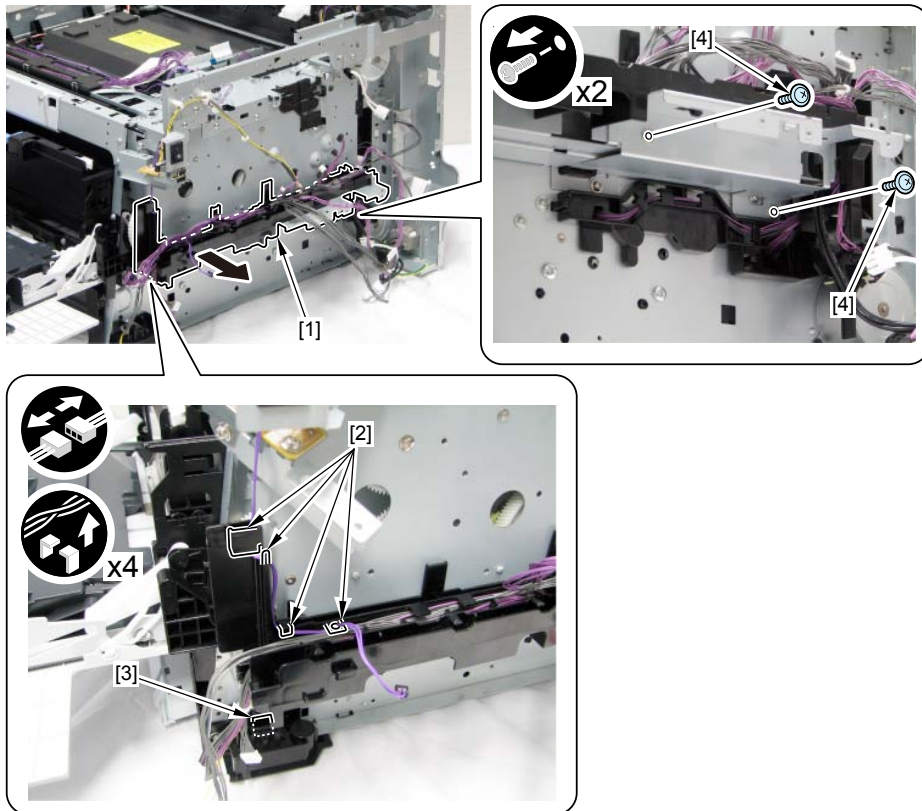
- 1) Remove the wire harness guide [1].
- 1 screw [2]
- 1 connector [3]
- 1 hook [4]



F-4-141

2) Remove the wire harness guide and the Power Supply Supporting Plate [1].

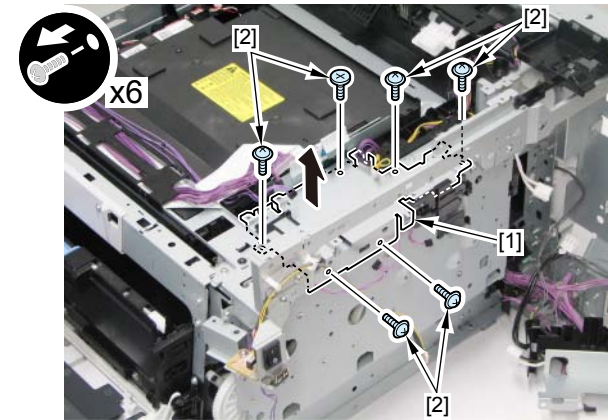
- 4 fixing guides [2]
- 1 connector [3]
- 2 screws [4]



F-4-142

3) Remove the DC controller Support Plate [1].

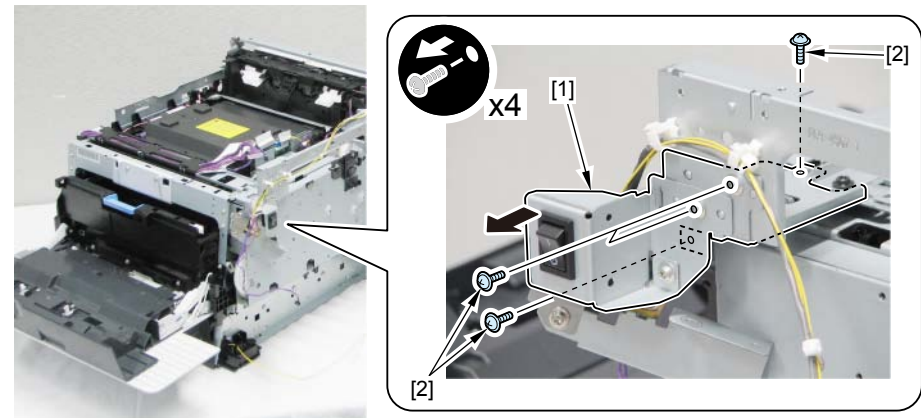
- 6 screws [2]



F-4-143

4) Remove the Main Switch Unit [1].

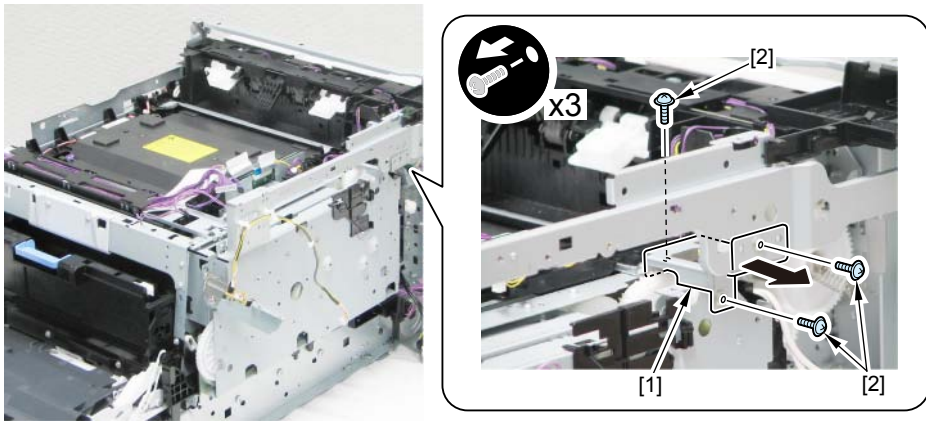
- 4 screws [2]



F-4-144

5) Remove the Right Frame Supporting Plate [1].

- 3 screws [2]

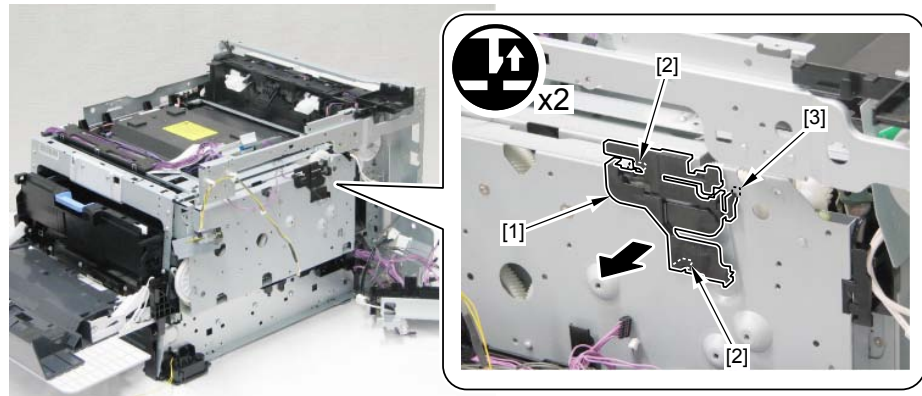


F-4-145

6) Remove the wire harness guide [1].

- 2 claws [2]

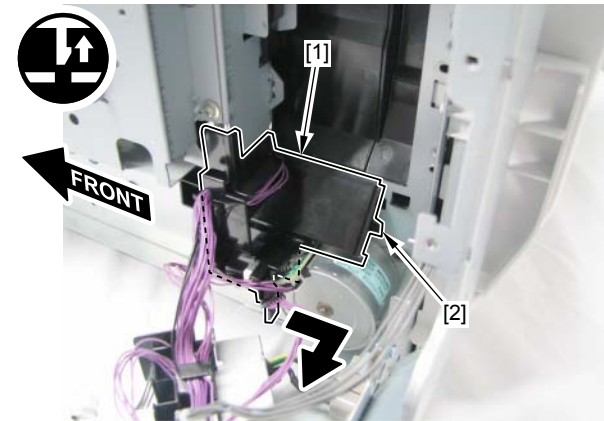
- 1 hook [3]



F-4-146

7) Remove the wire harness guide [1] in the arrow direction.

- 1 claw [2]

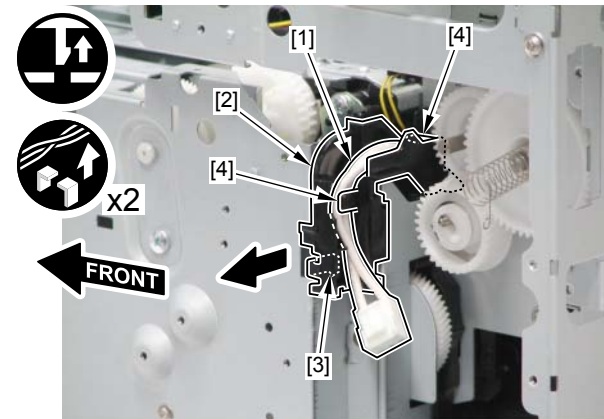


F-4-147

8) Remove the wire harness [1] from the wire harness guide [2], and remove the wire harness guide [2] in the arrow direction.

- 1 claw [3]

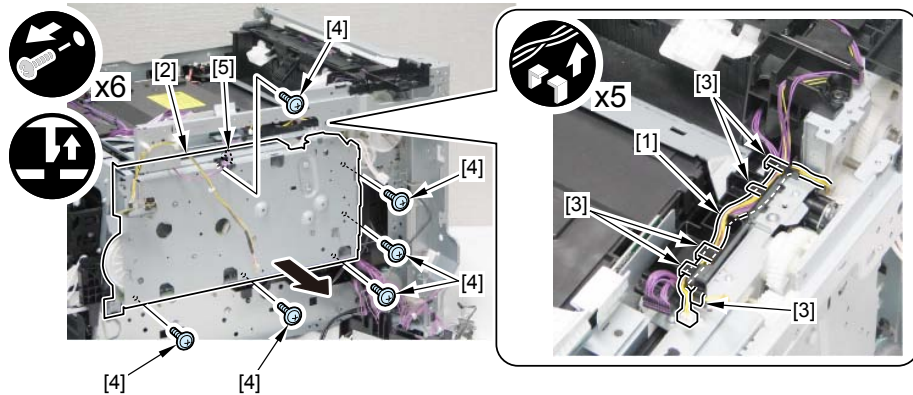
- 2 fixing guides [4]



F-4-148

9) Remove the wire harness [1], and remove the Drive Unit [2].

- 5 fixing guides [3]
- 6 screws [4]
- 1 claw [5]

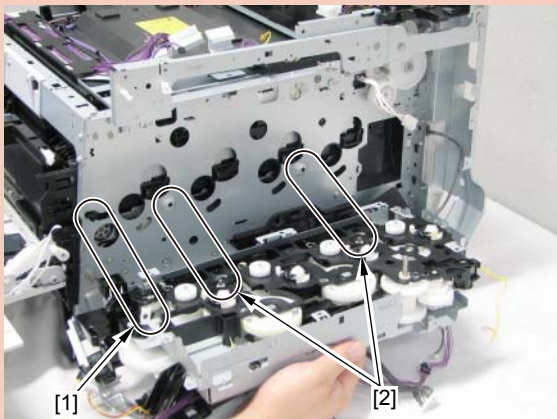


F-4-149

**Caution:**

When installing the Drive Unit, be careful to the following points.

- The Link Arm on the Drive Unit side shall be engaged with 1 projection [1] on the frame side.
- 2 projections [2] on the Drive Unit side shall be in the holes on the frame side



F-4-150

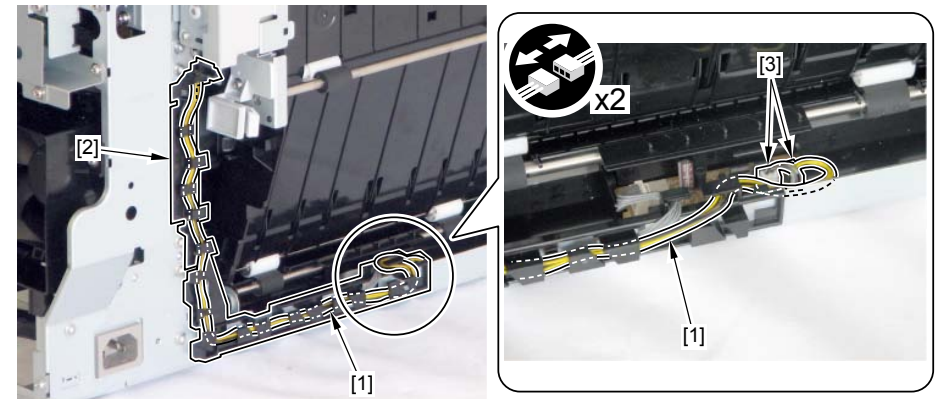
## ■ Removing the Duplex Reverse Drive Unit

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Rear Upper Cover. Refer to page 4-22
- 4) Removing the Rear Cover. Refer to page 4-23
- 5) Removing the Rear Lower Cover. Refer to page 4-23

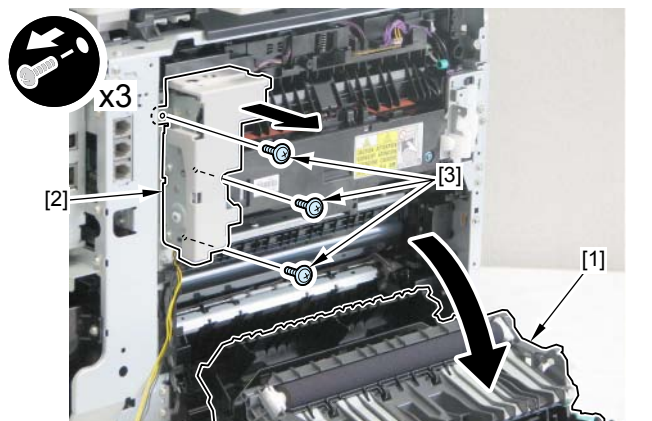
### Procedure

- 1) Remove the wire harness [1] from the wire harness cover [2].
- 2 connectors [3]



F-4-151

- 2) Open [1] the Duplex Feed Unit, and remove the Duplex Reverse Drive Unit [2].  
- 3 screws [3]



F-4-152

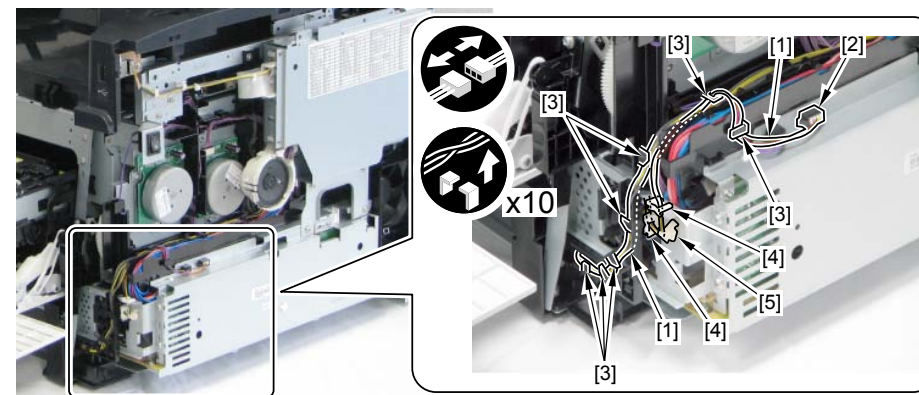
## ■ Removing the Low Voltage Unit Cooling Fan

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Right Front Cover. Refer to page 4-20

### Procedure

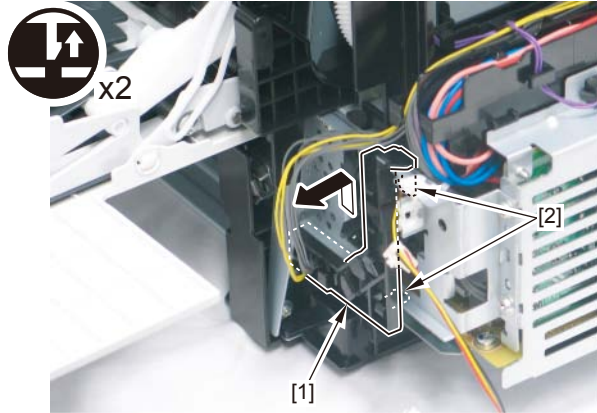
- 1) Remove the wire harness [1].
  - 1 connector [2]
  - 7 fixing guides [3]
  - 2 edge saddles [4]
  - 1 Re-use band [5]



F-4-153

2) Remove the wire harness guide [1].

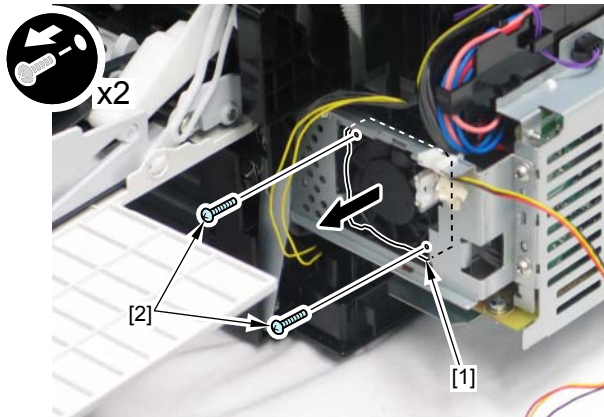
- 2 claws [2]



3) Remove the Low Voltage Unit Cooling Fan [1].

- 2 screws [2]

F-4-154

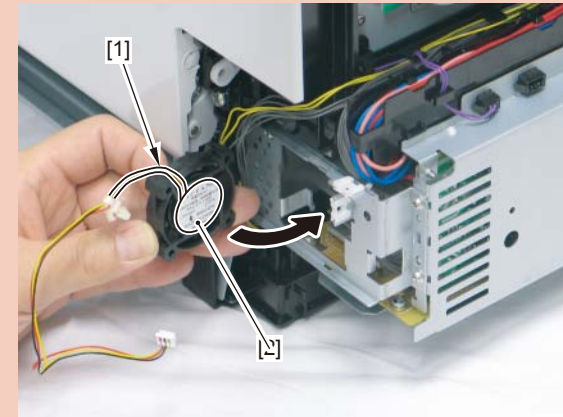


F-4-155

Caution:

When installing the Low Voltage Unit Cooling Fan, ensure its direction.

- Put the Fan Cable [1] at the position shown in the figure.
- Ensure that the label [2] on the fan is facing to the Power Supply Unit.



F-4-156

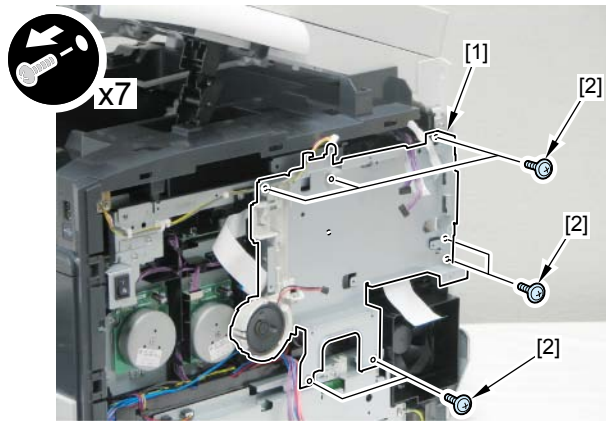
## ■ Removing the Fixing/Fixing Power Supply Cooling Fan Unit

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Rear Upper Cover. Refer to page 4-22
- 4) Removing the ADF Unit + Reader Unit. Refer to page 4-28
- 5) Removing the Right Front Cover. Refer to page 4-20
- 6) Removing the Upper Cover. Refer to page 4-26
- 7) Removing the Main Controller PCB. Refer to page 4-48

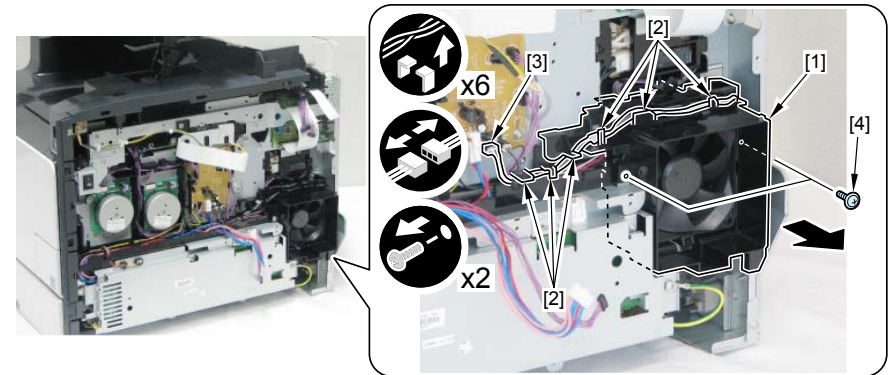
### Procedure

- 1) Remove the Controller Fixing Plate [1].  
- 7 screws [2]



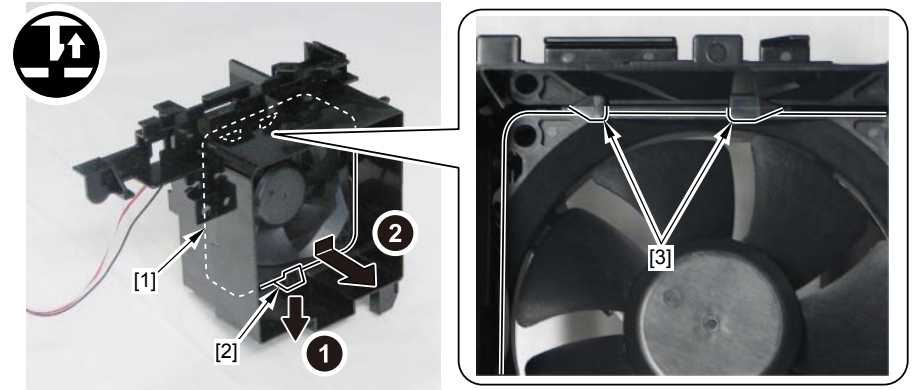
F-4-157

- 2) Remove the Fixing/Fixing Power Supply Cooling Fan Unit [1].  
- 6 fixing guides [2]  
- 1 connector [3]  
- 2 screws [4]



F-4-158

- 3) Remove the Fixing/Fixing Power Supply Cooling Fan [1].  
- 1 claw [2]  
- 2 protrusions [3]



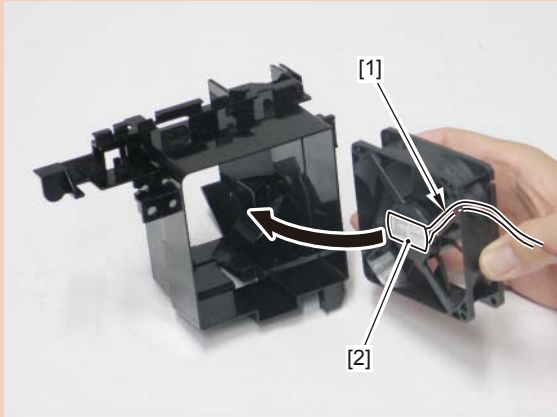
F-4-159



**Caution:**

When installing the Cooling Fan, be careful of the installation direction.

- Place the Fan Cable [1] in the indicated position.
- Make sure that the fan label [2] faces to the inside of the host machine.



F-4-160

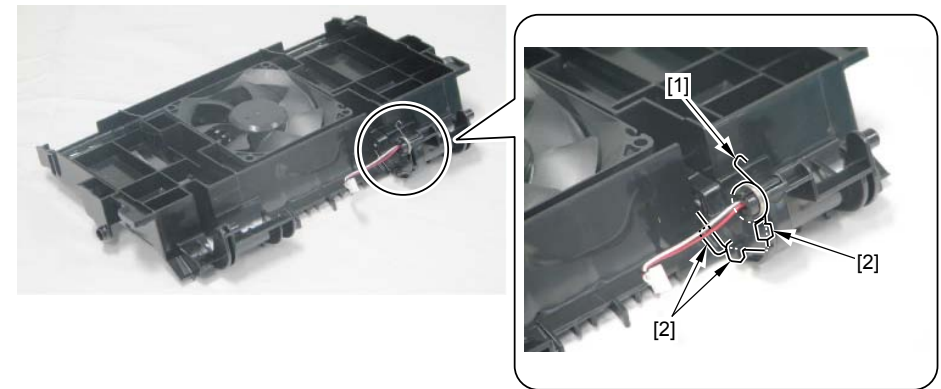
## ■ Removing the Duplex Feeding Fan

### Pre-procedure

- 1) Removing the Right Cover. Refer to page 4-18
- 2) Removing the Left Cover. Refer to page 4-16
- 3) Removing the Rear Upper Cover. Refer to page 4-22
- 4) Removing the Rear Cover. Refer to page 4-23
- 5) Removing the Rear Lower Cover. Refer to page 4-23
- 6) Removing the Rear Cover Rib Unit. Refer to page 4-25

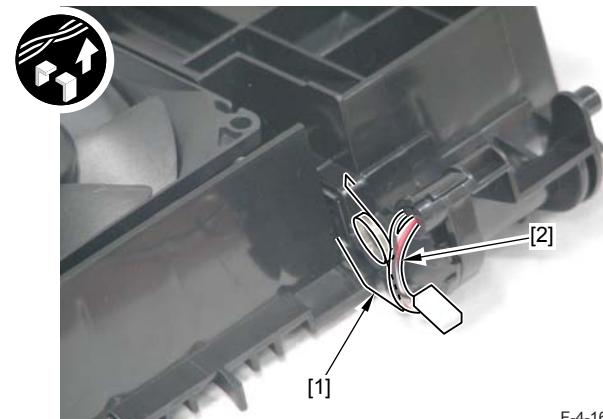
### Procedure

- 1) Remove the spring [1].  
- 3 bosses [2]



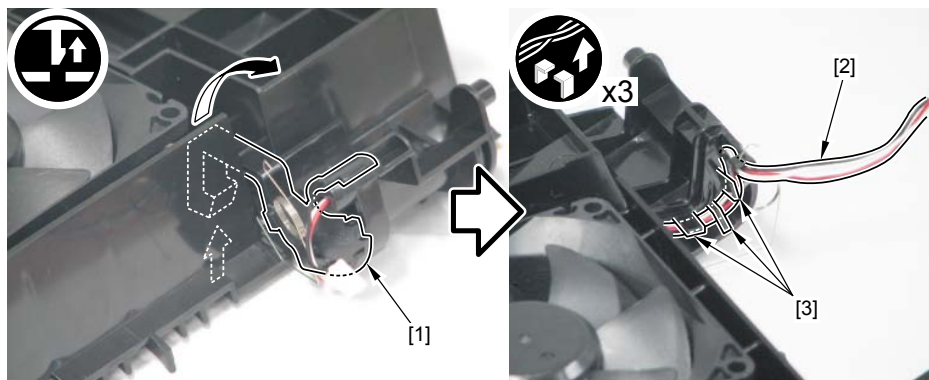
F-4-161

- 2) Free the harness [2] from the spring [1].



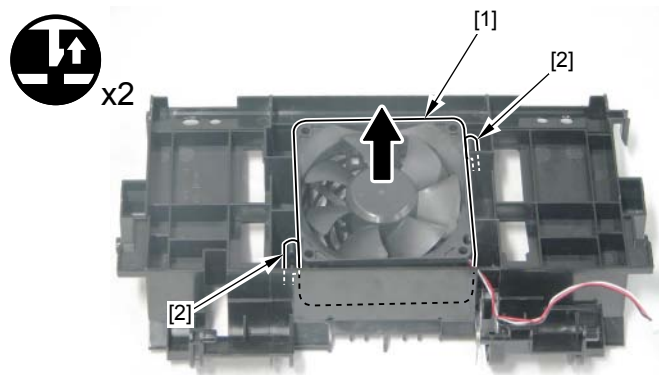
F-4-162

- 3) Remove the fixing guide [1] and free the harness [2] from the harness guide.  
- 3 fixing guides [3]



F-4-163

- 4) Remove the 2 claws [1] to remove the Duplex Feeding Fan [2].

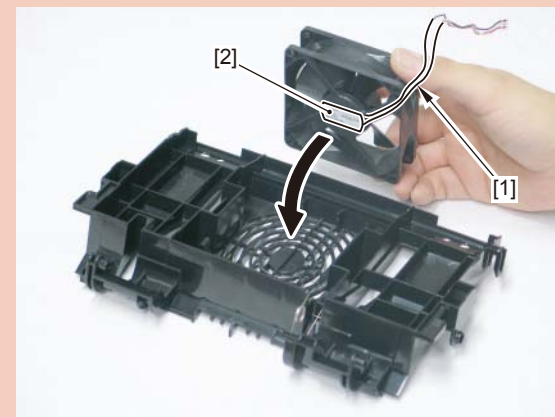


F-4-164

Caution:

When installing the Duplex Feeding Fan, be careful of the installation direction.

- Place the Fan Cable [1] in the indicated position.
- Make sure that the fan label [2] faces to the Duplex Feeding Unit side.



F-4-165

## ■ Removing the Speaker

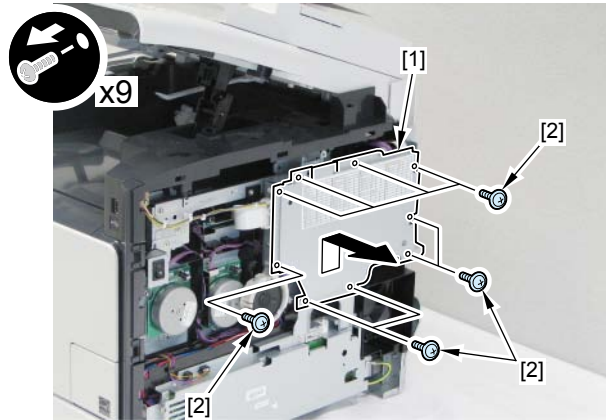
### Pre-procedure

1) Removing the Right Cover. Refer to page 4-18

### Procedure

1) Remove the Controller Cover [1].

- 9 screws [2]



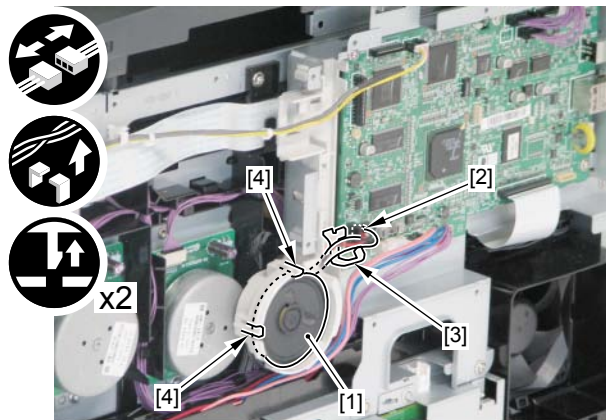
F-4-166

2) Remove the Speaker [1].

- 1 connector [2]

- 1 wire saddle [3]

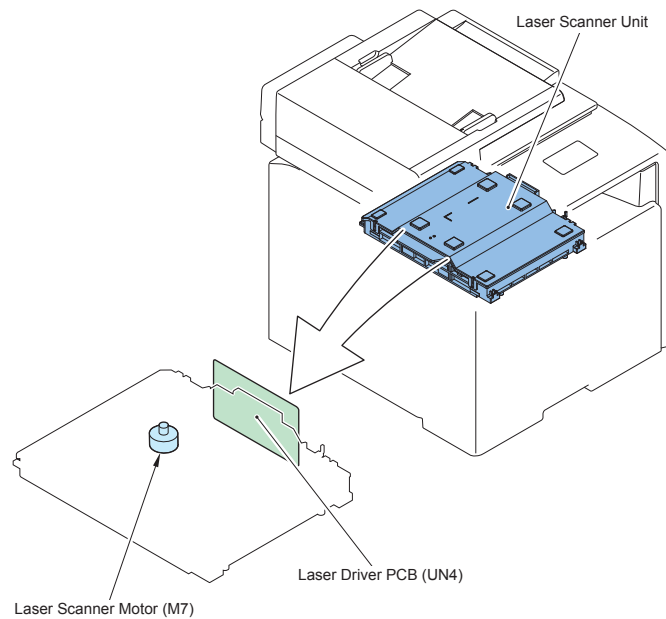
- 2 claws [4]



F-4-167

## Laser Exposure System

### Location



F-4-168

Name	Service Parts No.	Reference	Adjustment during parts replacement
Laser Scanner Unit	FM4-3359	Refer to page 4-70	Refer to page 5-6
Laser Driver PCB	-	-	-
Laser Scanner Motor	-	-	-

T-4-20

## Removing the Laser Scanner Unit

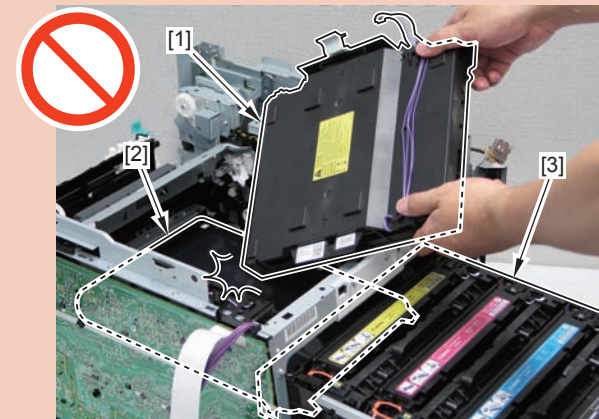
### Pre-procedure

- 1) Removing the Right CoverRefer to page 4-18
- 2) Removing the Left CoverRefer to page 4-16
- 3) Removing the Right Front CoverRefer to page 4-20
- 4) Removing the ADF Unit + Reader UnitRefer to page 4-28
- 5) Removing the Rear Upper CoverRefer to page 4-22
- 6) Removing the Upper CoverRefer to page 4-26
- 7) Removing the Rear CoverRefer to page 4-23
- 8) Removing the Rear Lower CoverRefer to page 4-23
- 9) Removing the Duplex Printing Reverse Drive UnitRefer to page 4-63
- 10) Removing the Fixing AssemblyRefer to page 4-83
- 11) Removing the Delivery UnitRefer to page 4-99

### Procedure

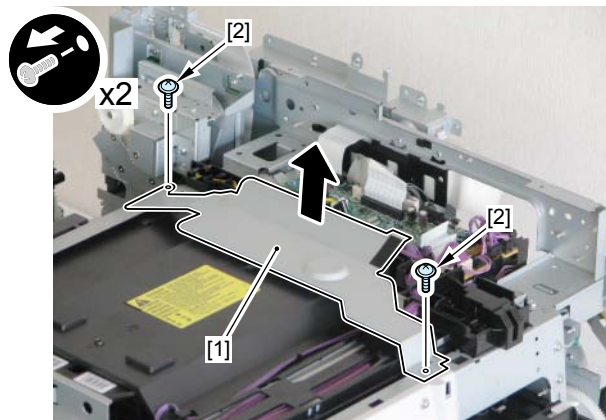
#### Caution:

The ITB Unit is under the Laser Scanner Unit. Ensure to close a Cartridge Tray when performing this procedure, because there is a possibility that the ITB Unit might be damaged when the Laser Scanner Unit is mistakenly dropped during installation/removal.



F-4-169

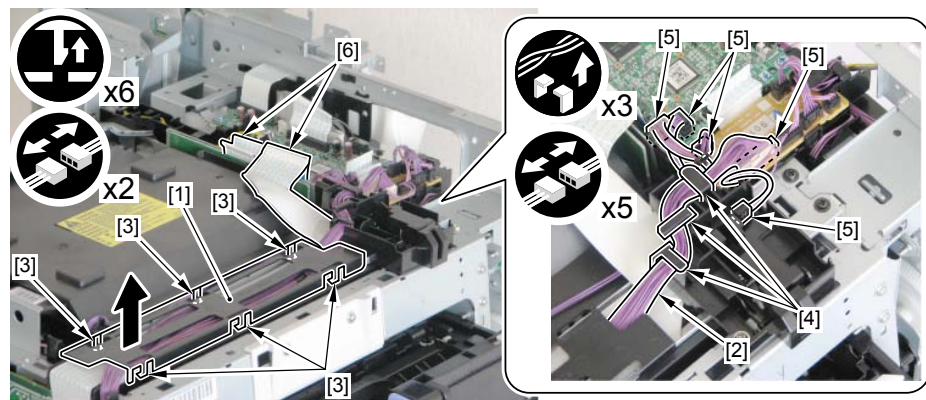
- 1) Remove the wire harness cover plate [1].
- 2 screws [2]



F-4-170

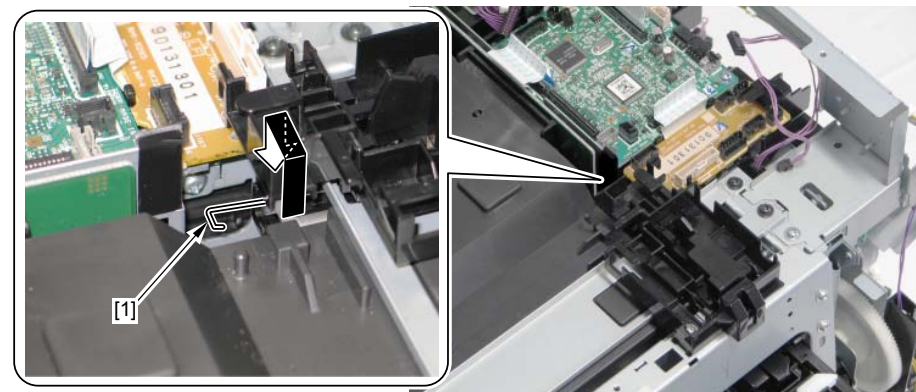
2) Remove the wire harness guide [1], and remove the wire harness [2].

- 6 claws [3]
- 3 fixing guides [4]
- 5 connectors [5]
- 2 flat cables [6]



F-4-171

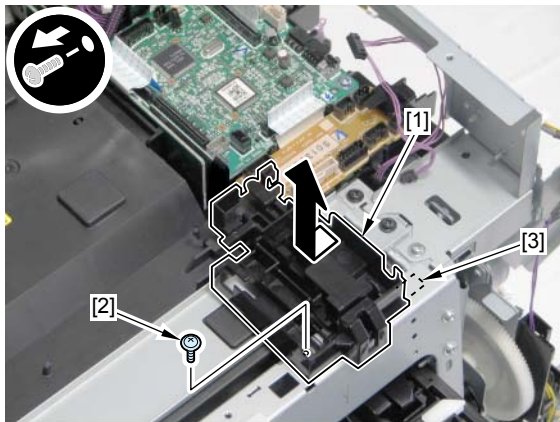
3) Remove 1 spring [1].



F-4-172

4) Remove the wire harness guide [1].

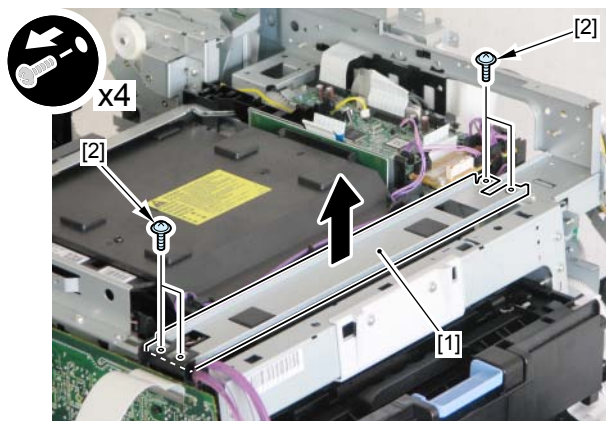
- 1 screw [2]
- 1 hook [3]



F-4-173

5) Remove the Upper Front Supporting Plate [1].

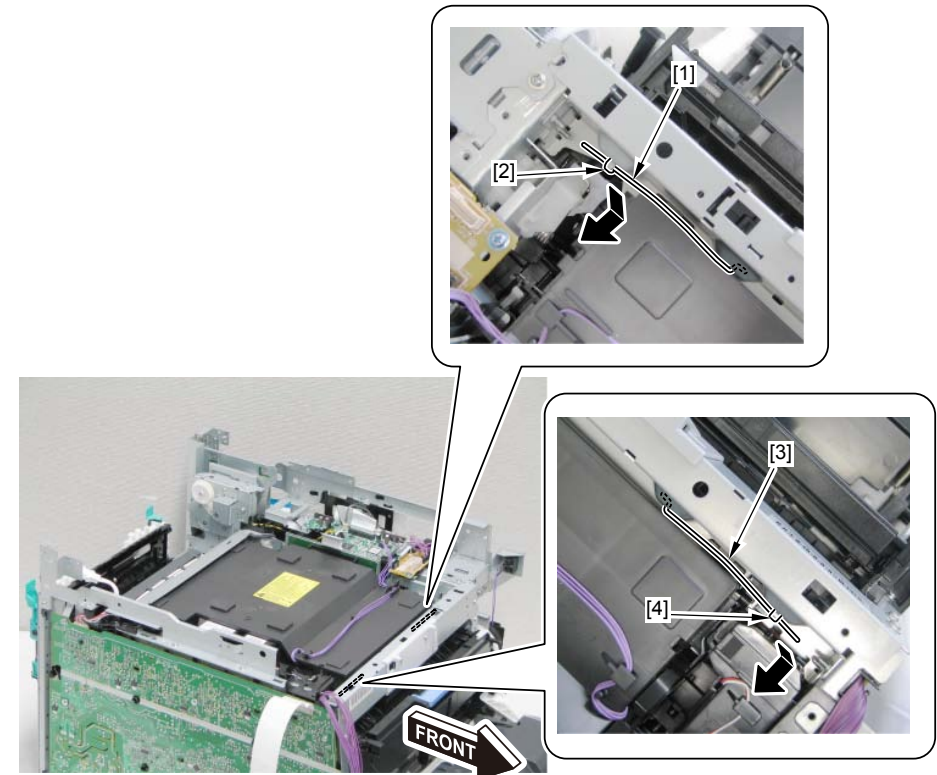
- 4 screws [2]



F-4-174

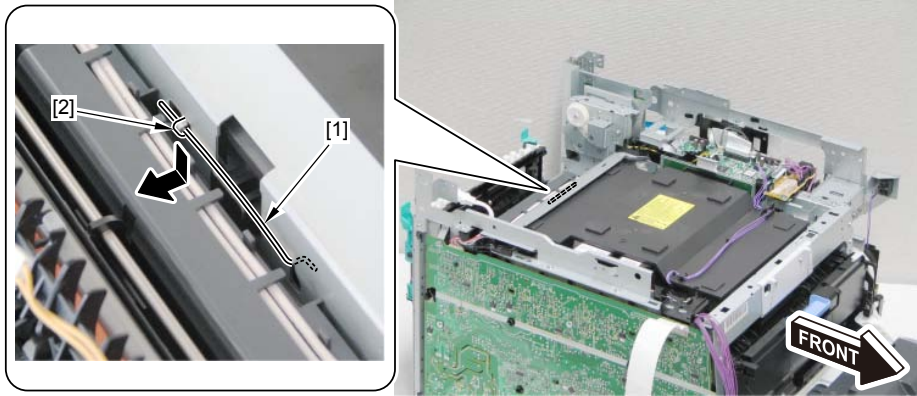
6) Remove the Scanner Fixing Spring [1] on the right side from 1 hook [2].

7) Remove the Scanner Fixing Spring [3] on the left from the 1 hook [4].



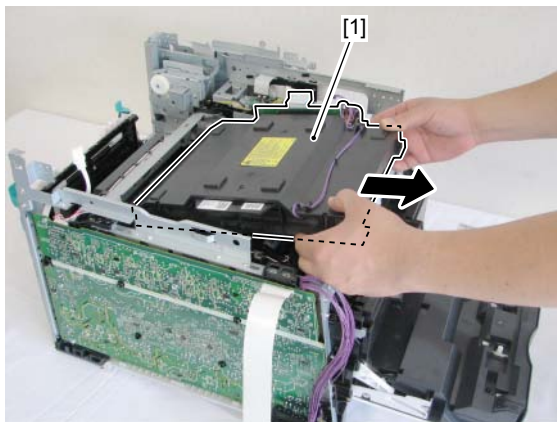
F-4-175

8) Remove the Scanner Fixing Spring [1] in the rear from 1 hook [2].



F-4-176

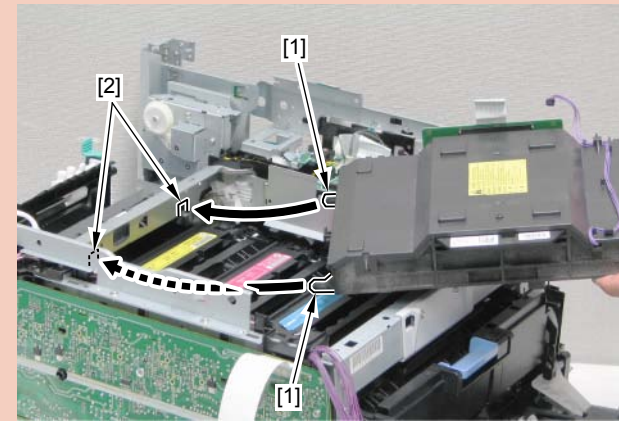
9) Remove the Laser Scanner Unit [1].



F-4-177

Caution::

Insert 2 bosses [1] into 2 boss holes [2] when installing.



F-4-178

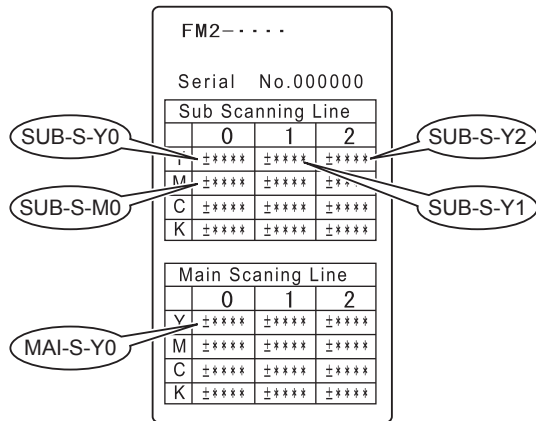
#### After replacing laser exposure units

1) Register values indicated on the label packaged with the laser scanner unit in the following service mode items.

COPIER>ADJUST>SCNR>

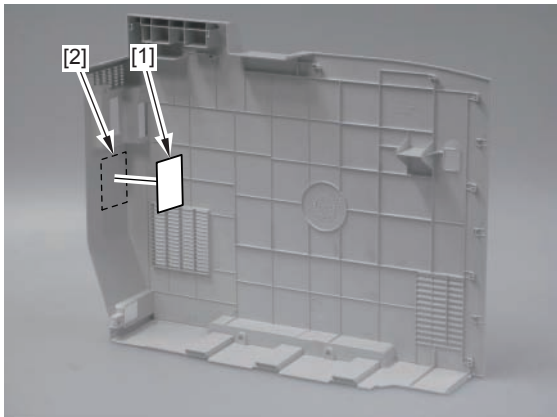
- SUB-S-Y0(Laser output correction value, vertical scanning irradiation position0 Y)
- SUB-S-M0(Laser output correction value, vertical scanning irradiation position0 M)
- SUB-S-C0(Laser output correction value, vertical scanning irradiation position0 C)
- SUB-S-K0(Laser output correction value, vertical scanning irradiation position0 K)
- SUB-S-Y1(Laser output correction value, vertical scanning irradiation position1 Y)
- SUB-S-M1(Laser output correction value, vertical scanning irradiation position1 M)
- SUB-S-C1(Laser output correction value, vertical scanning irradiation position1 C)
- SUB-S-K1(Laser output correction value, vertical scanning irradiation position1 K)
- SUB-S-Y2(Laser output correction value, vertical scanning irradiation position2 Y)
- SUB-S-M2(Laser output correction value, vertical scanning irradiation position2 M)
- SUB-S-C2(Laser output correction value, vertical scanning irradiation position2 C)
- SUB-S-K2(Laser output correction value, vertical scanning irradiation position2 K)
- MAI-S-Y0(Laser output correction value, horizontal scanning irradiation position0 Y)
- MAI-S-M0(Laser output correction value, horizontal scanning irradiation position0 M)
- MAI-S-C0(Laser output correction value, horizontal scanning irradiation position0 C)
- MAI-S-K0(Laser output correction value, horizontal scanning irradiation position0 K)

MAI-S-Y1(Laser output correction value, horizontal scanning irradiation position1 Y)  
 MAI-S-M1(Laser output correction value, horizontal scanning irradiation position1 M)  
 MAI-S-C1(Laser output correction value, horizontal scanning irradiation position1 C)  
 MAI-S-K1(Laser output correction value, horizontal scanning irradiation position1 K)  
 MAI-S-Y2(Laser output correction value, horizontal scanning irradiation position2 Y)  
 MAI-S-M2(Laser output correction value, horizontal scanning irradiation position2 M)  
 MAI-S-C2(Laser output correction value, horizontal scanning irradiation position2 C)  
 MAI-S-K2(Laser output correction value, horizontal scanning irradiation position2 K)



F-4-179

2) After values are registered, affix the label [1] packaged with the unit on the inside [2] of the right cover.

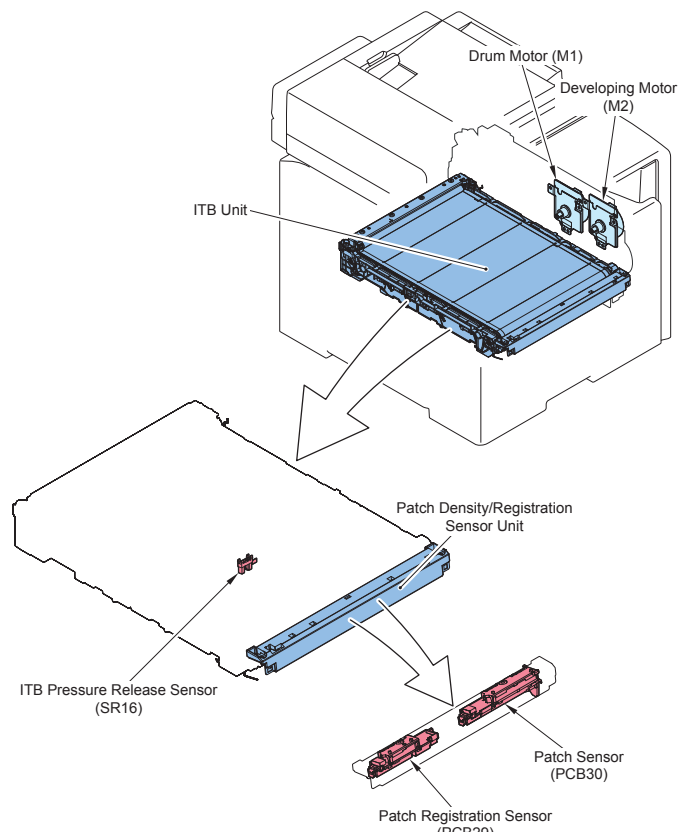


F-4-180



## Image Formation System

### Location



F-4-181

No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
-	ITB Unit	RM1-4436	Refer to page 4-75	-
M1	Drum Motor	RL1-1800	Refer to page 4-78	-
M2	Developing Motor	RL1-1800	Refer to page 4-80	-

No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
SR16	ITB Pressure Release Sensor	-	-	-
-	Patch Density/Registration Sensor Unit	RM1-4850	4-77	-
PCB29	Patch Sensor	-	-	-
PCB30	Patch Registration Sensor	-	-	-

### Removing the ITB Unit

T-4-21

#### Pre-procedure

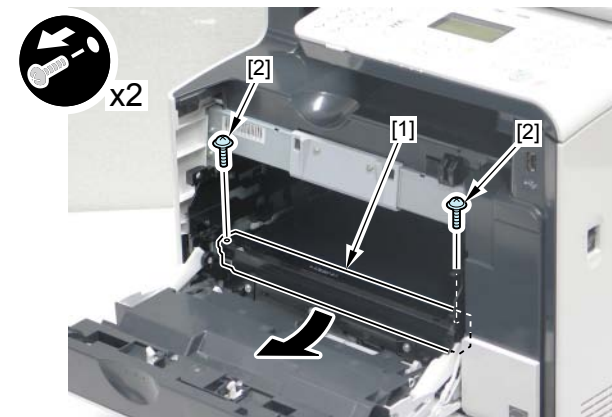
- 1) Removing the Cartridge Tray Refer to page 4-27

#### Procedure

##### Caution:

Do not touch the ITB.

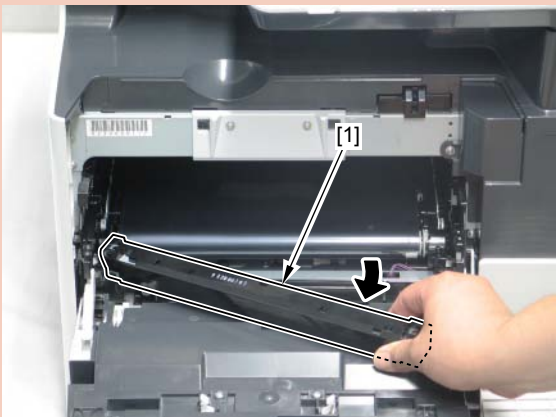
- 1) Remove the Patch Density/Registration Sensor unit [1] to the front.  
- 2 screws [2]



F-4-182

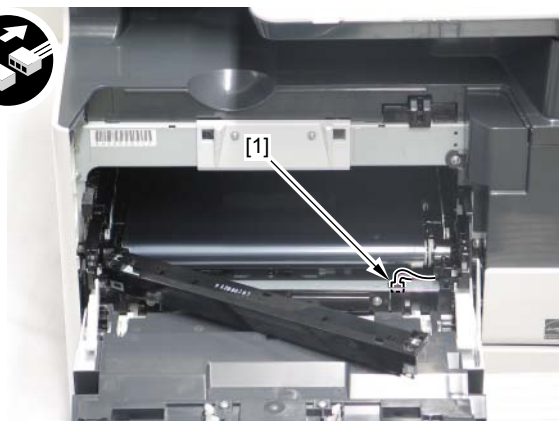
**Caution:**

When removing the ITB Unit, pull out the Patch Density/Registration Sensor Unit [1] more to the front in order to prevent from damaging on the ITB.



F-4-183

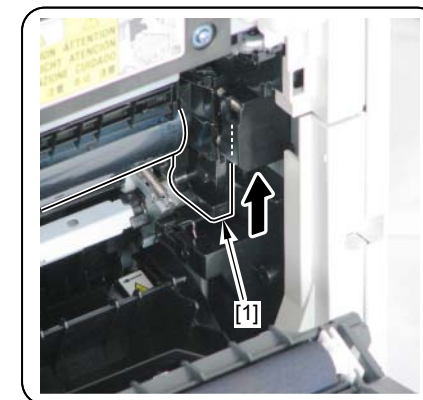
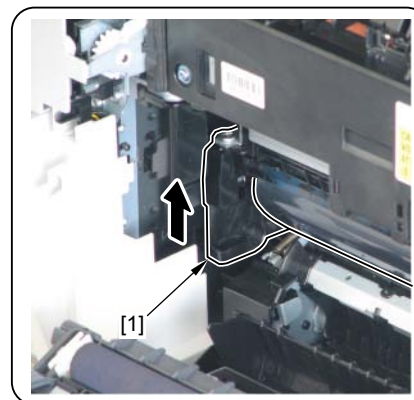
2) Remove 1 connector [1].



F-4-184

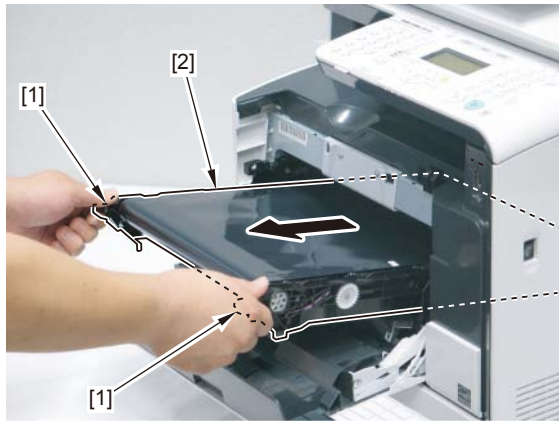
3) Open the Rear Cover.

4) Remove 2 handles [1] on the ITB Unit at the rear of this machine toward the arrow direction.



F-4-185

- 5) Hold 2 handles [1] on the ITB Unit at the front of this machine, and remove the ITB Unit [2] toward the arrow direction.



F-4-186

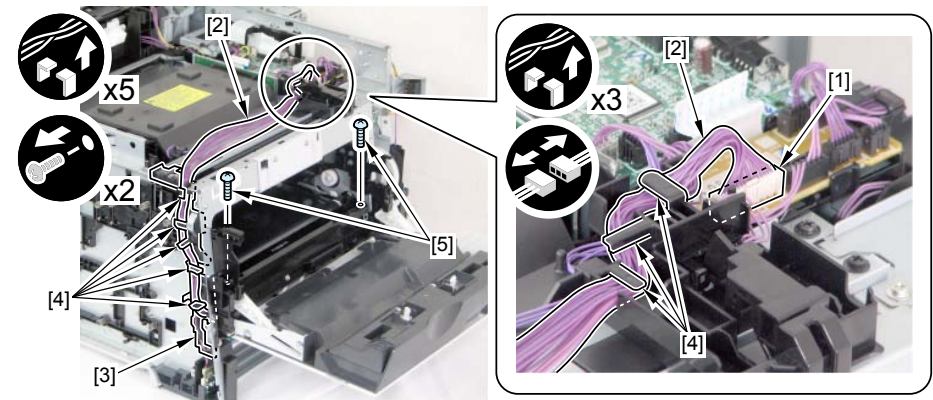
## ■ Removing the Patch Density and Registration Sensor unit

### Pre-procedure

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Rear Upper Cover Refer to page 4-22
- 4) Removing the ADF Unit + Reader Unit Refer to page 4-28
- 5) Removing the Right Front Cover Refer to page 4-20
- 6) Removing the Upper Cover Refer to page 4-26
- 7) Removing the High Voltage Power Supply PCB Refer to page 4-51

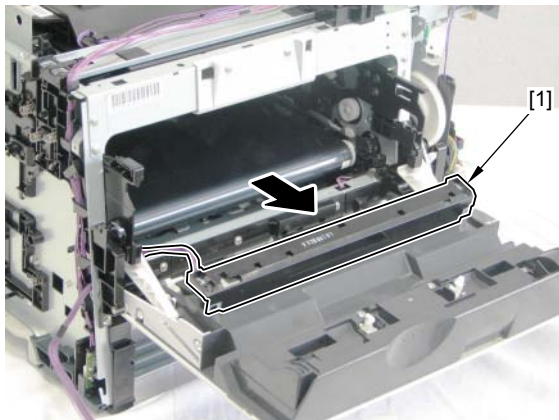
### procedure

- 1) Remove 1 connector [1], and remove the wire harness [2] from the wire harness guide [3].
  - 8 fixing guides [4]
  - 2 screws [5]



F-4-187

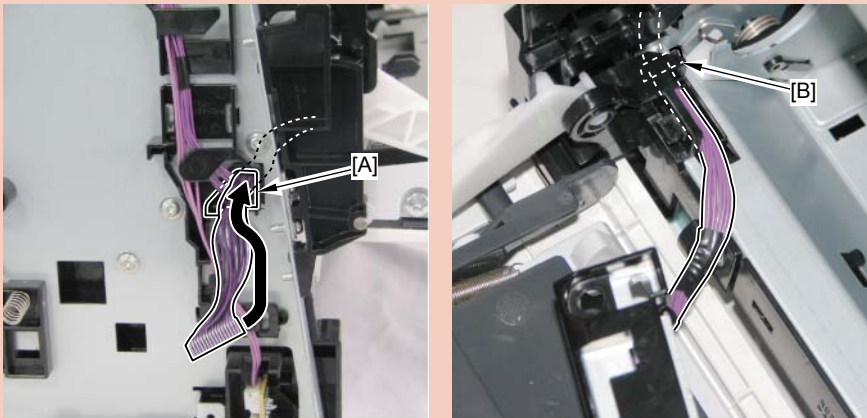
2) Remove the Patch Density and Registration Sensor unit [1].



F-4-188

**Caution:**

When removing the Patch Density and Registration Sensor Unit, Do not damage the wire harness by catching a connector with the [A] part and [B] part.



F-4-189

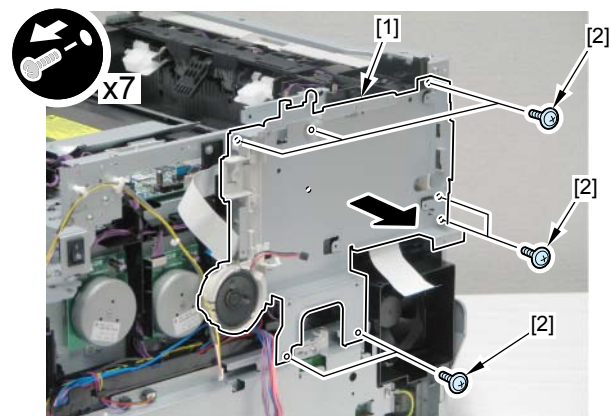
## ■ Removing the Drum Motor

### Pre-procedure

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Right Front Cover Refer to page 4-20
- 4) Removing the ADF Unit + Reader Unit Refer to page 4-28
- 5) Removing the Rear Upper Cover Refer to page 4-22
- 6) Removing the Upper Cover Refer to page 4-26
- 7) Removing the Main Controller PCB Refer to page 4-48

### procedure

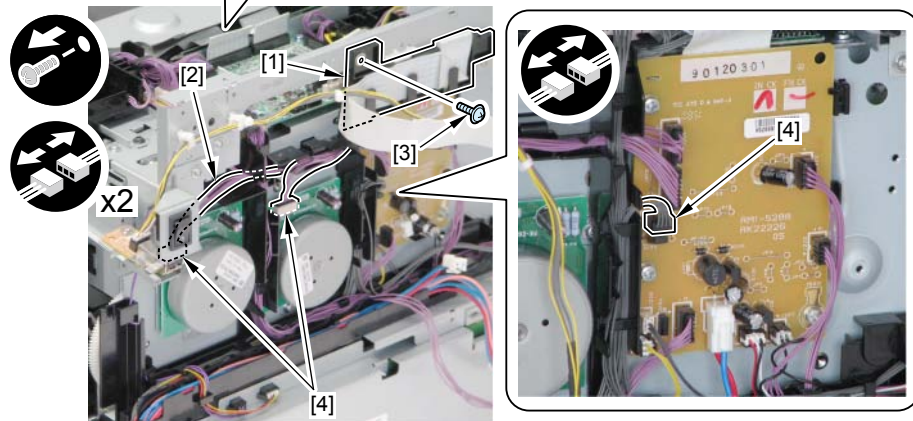
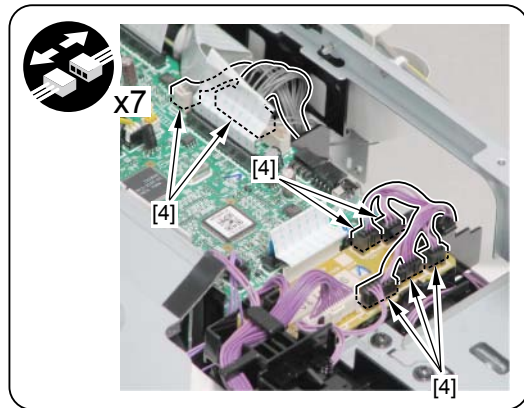
- 1) Remove the Controller Fixing Plate [1].
- 7 screws [2]



F-4-190

2) Remove the fixing guide [1] and the wire harness [2].

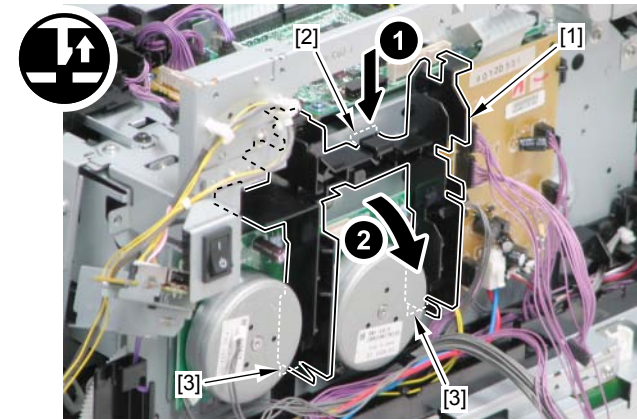
- 1 screw [3]
- 10 connectors [4]



F-4-191

3) Remove the wire harness guide [1].

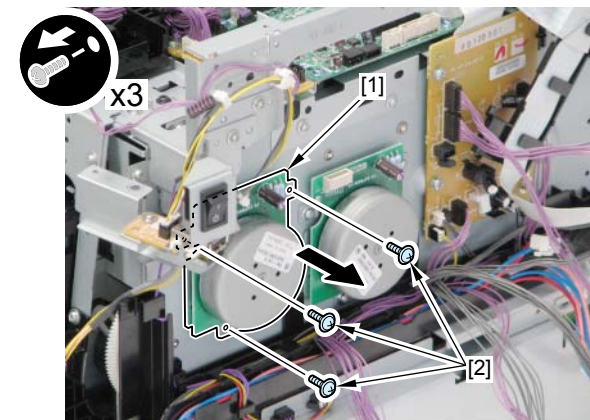
- 1 claw [2]
- 2 hooks [3]



F-4-192

4) Remove the Drum Motor [1].

- 3 screws [2]



F-4-193

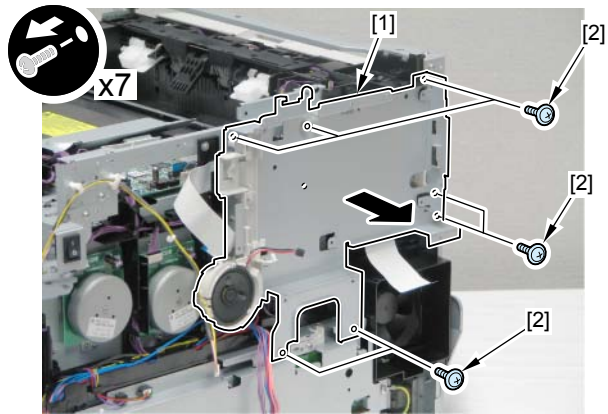
## ■ Removing the Developing Motor

### Pre-procedure

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Right Front Cover Refer to page 4-20
- 4) Removing the ADF Unit + Reader Unit Refer to page 4-28
- 5) Removing the Rear Upper Cover Refer to page 4-22
- 6) Removing the Upper Cover Refer to page 4-26
- 7) Removing the Main Controller PCB Refer to page 4-48

### procedure

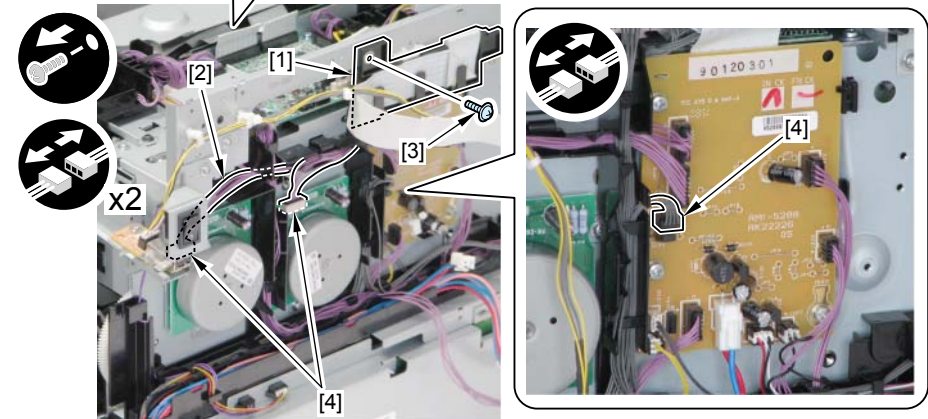
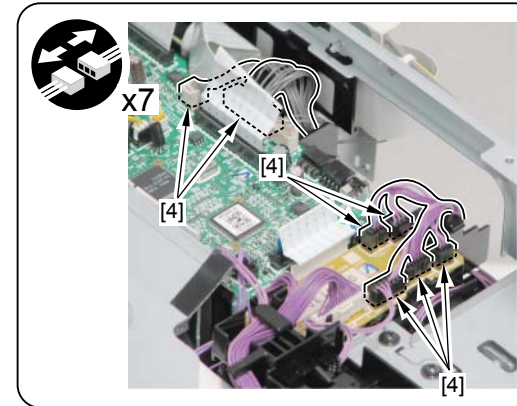
- 1) Remove the Controller Fixing Plate [1].
- 7 screws [2]



F-4-194

- 2) Remove the fixing guide [1] and the wire harness [2].

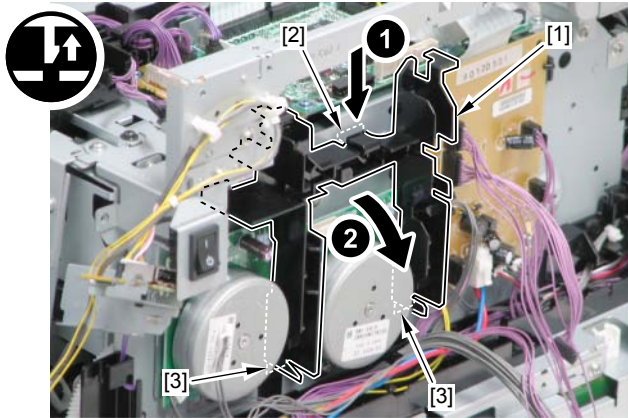
- 1 screw [3]
- 10 connectors [4]



F-4-195

3) Remove the wire harness guide [1].

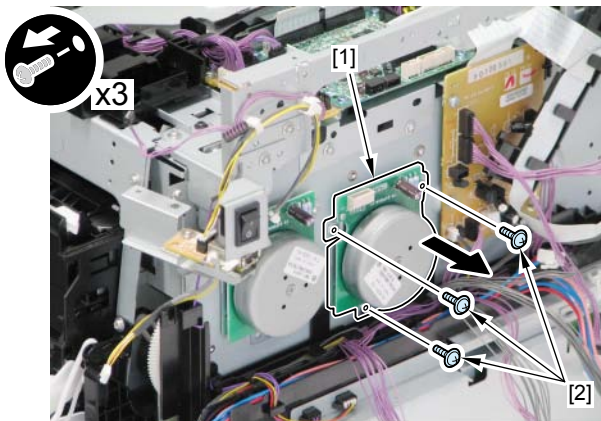
- 1 claw [2]
- 2 hooks [3]



F-4-196

4) Remove the Developing Motor [1].

- 3 screws [2]



F-4-197

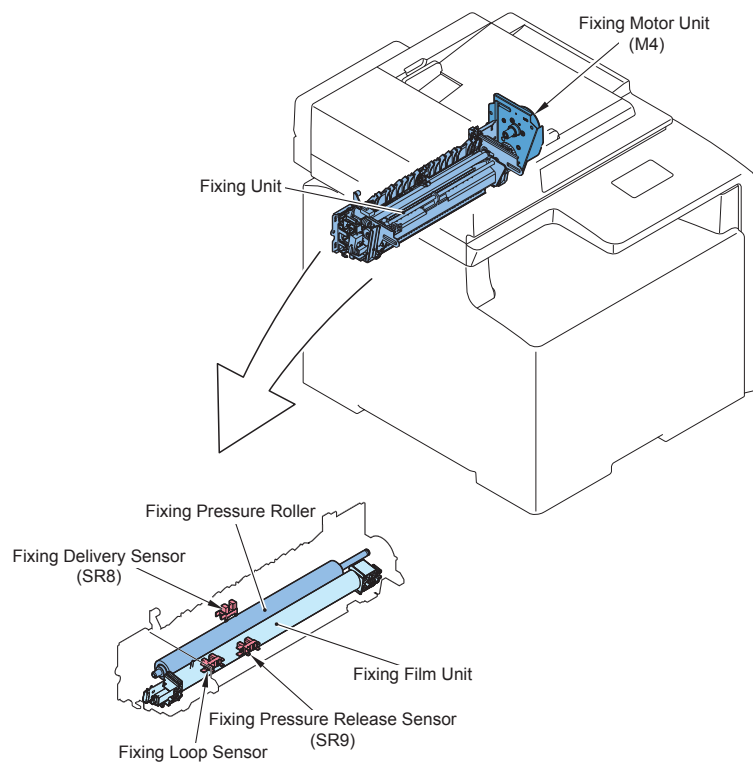
## ■ Removing the Secondary Transfer Outer Roller

Caution:

Secondary Transfer Outer Roller is included in Secondary Transfer FeedUnit so when replacing the Secondary Transfer Outer Roller, be sure to replace the Secondary Transfer Feed Unit itself. Refer to page 4-98

## Fixing System

### Location



F-4-198

No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
SR9	Fixing Pressure Release Sensor	WG8-5696	-	-
SR10	Fixing Loop Sensor	WG8-5696	-	-

T-4-22

No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
	Fixing Unit	FM4-4289 (100V) FM4-4290 (120V) FM4-4291 (220V)	Refer to page 4-83	-
M4	Fixing Motor	RM1-4896	Refer to page 4-87	-
	Fixing Pressure Roller	RC2-3367	Refer to page 4-86	-
	Fixing Film Unit	FM3-8292 (100V) RM1-4845 (110V) RM1-4893 (220V)	Refer to page 4-84	-
SR8	Fixing Delivery Sensor	WG8-5696	-	-



## ■ Removing the Fixing Assembly

### Pre-procedure

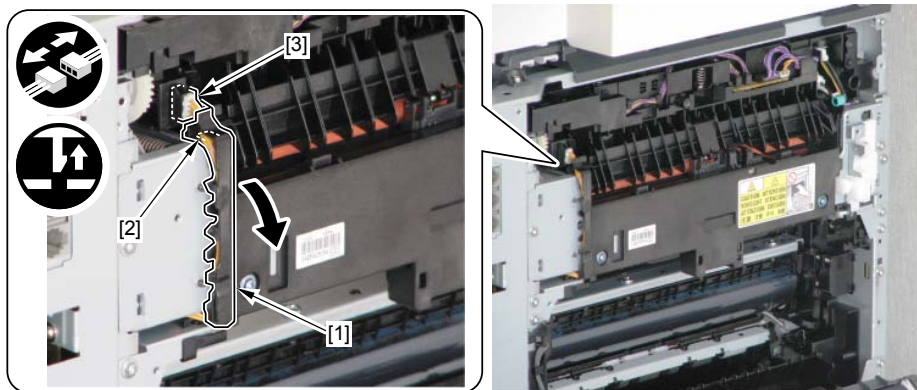
- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Rear Upper Cover Refer to page 4-22
- 4) Removing the Rear Cover Refer to page 4-22
- 5) Removing the Rear Lower Cover Refer to page 4-23
- 6) Removing the Duplex Printing Reverse Drive Unit Refer to page 4-63

### Procedure

#### Caution:

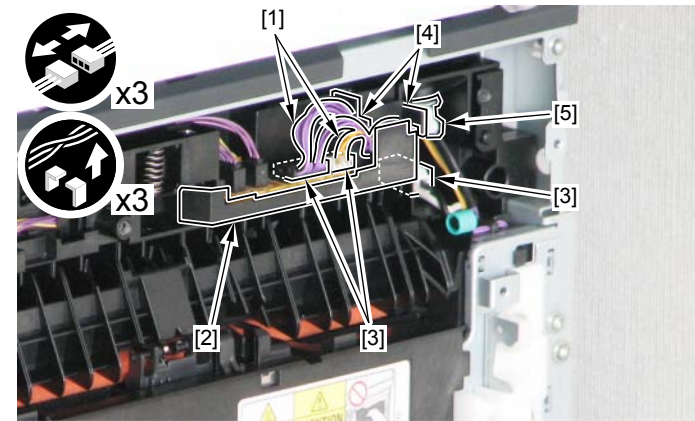
When removing the fixing unit, be sure to turn OFF the power.  
 Since the fixing assembly is extremely hot just after the printing, do not handle it unless it cools down completely.  
 If you touch the high-temperature assembly, it may cause a burn.

- 1) Remove the claw [2] of the harness guide [1] and disconnect the connector [3].



F-4-199

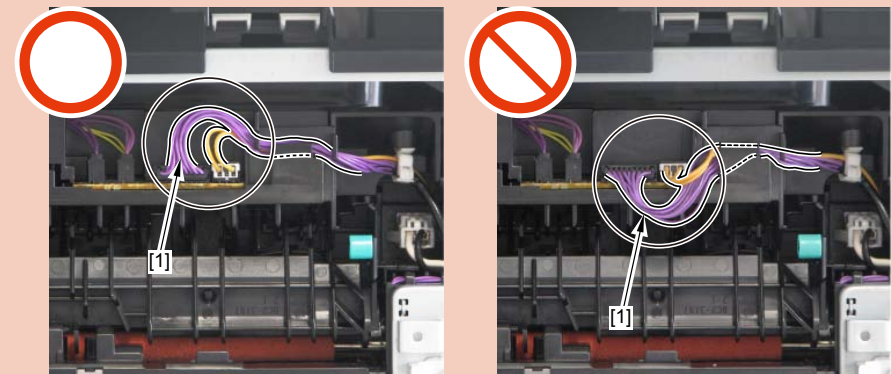
- 2) Free the harness [1] from the harness guide [2].
- 3 connectors [3]
  - 2 fixing guides [4]
  - 1 wire saddle [5]



F-4-200

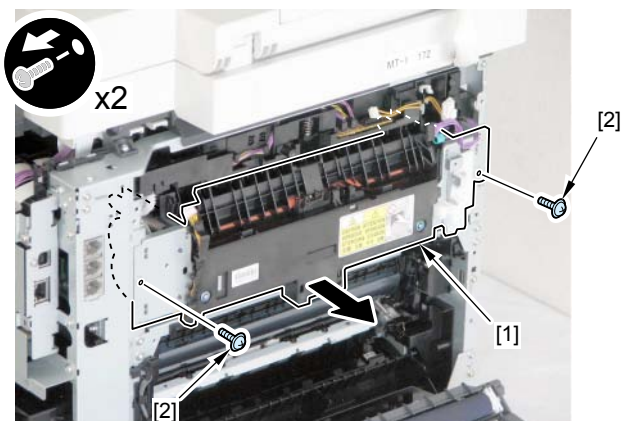
#### Caution:

When the fixing assembly is installed, handle the harness [1] like the figure to prevent papers from the interference at the transit



F-4-201

- 3) Remove the Fixing Assembly [1].  
- 2 screws [2]



F-4-202

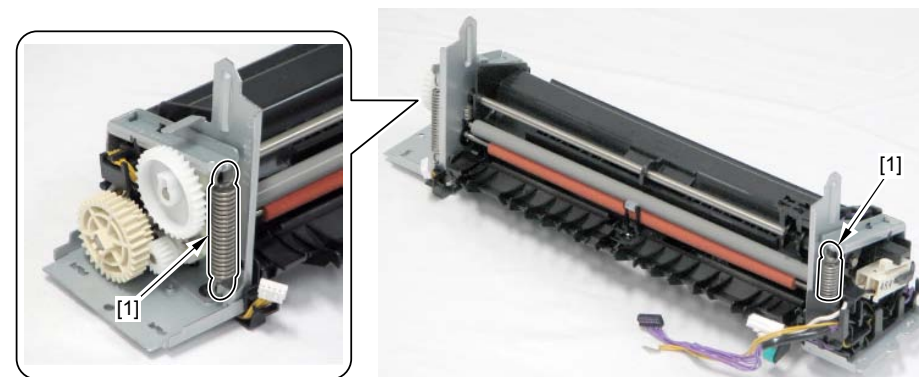
## ■ Removing the Fixing Film Unit

### Pre-procedure

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Rear Upper Cover Refer to page 4-22
- 4) Removing the Rear Cover Refer to page 4-22
- 5) Removing the Rear Lower Cover Refer to page 4-23
- 6) Removing the Duplex Printing Reverse Drive Unit Refer to page 4-63
- 7) Removing the Fixing Assembly 4-83

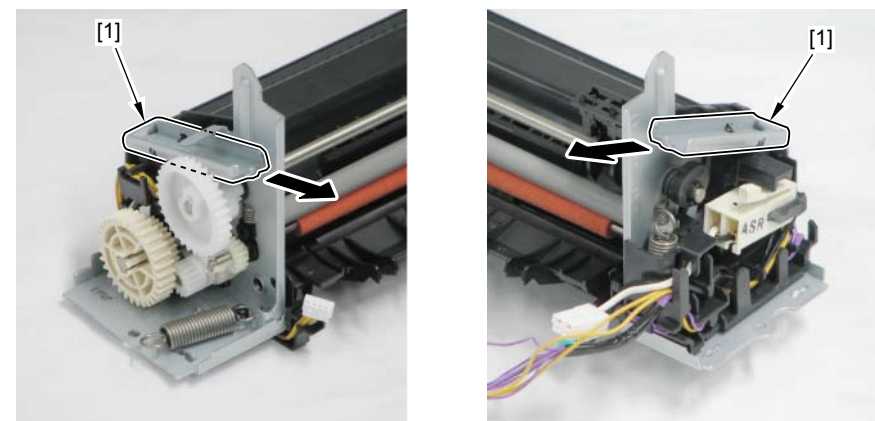
### Procedure

- 1) Remove the left and right Pressure Springs [1].



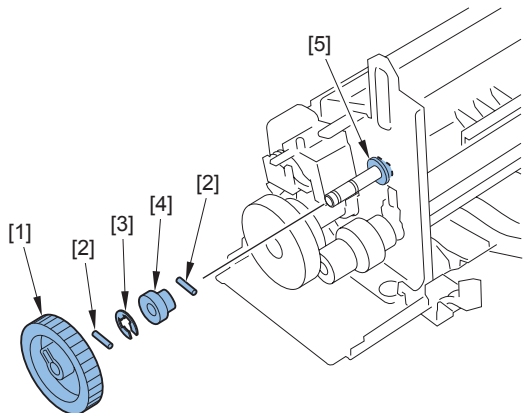
F-4-203

- 2) Remove the left and right Pressure Plates [1].



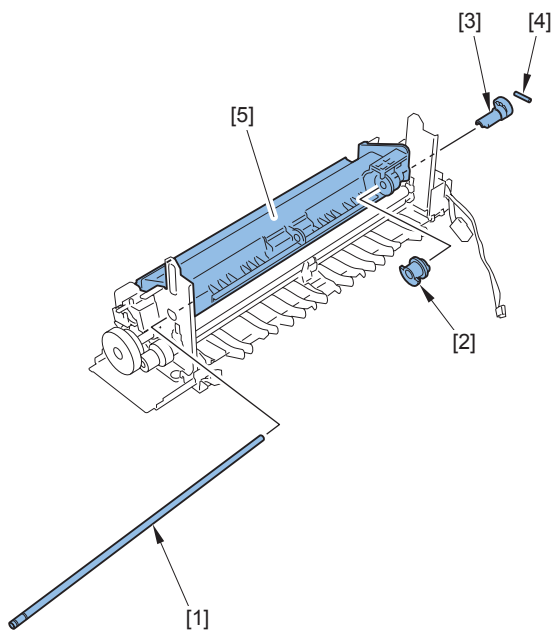
F-4-204

3) Remove the gear [1], the 2 parallel pins [2], the E-ring [3], the cam [4] and the bushing [5].



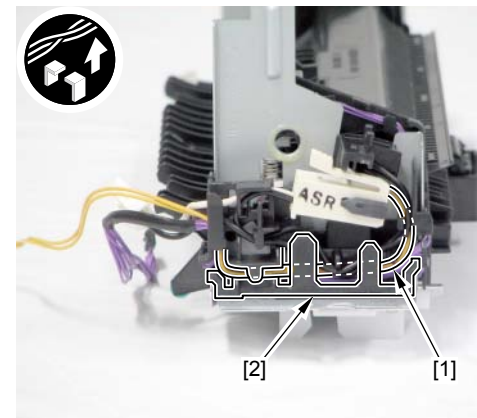
F-4-205

4) After removing the shaft [1], the sensor flag [2], the cam [3] and the parallel pin [4], remove the Guide Plate [5].



F-4-206

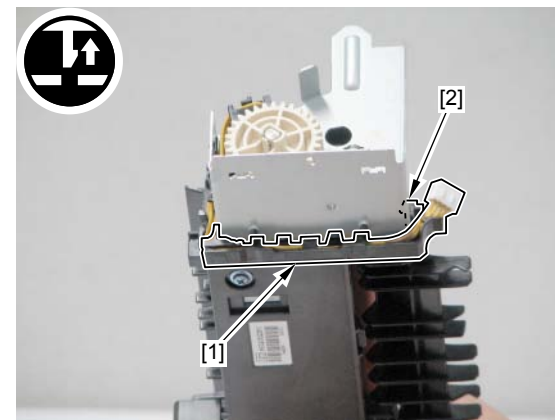
5) Free the harness [1] from the harness guide [2].



F-4-207

6) Remove the harness guide [1].

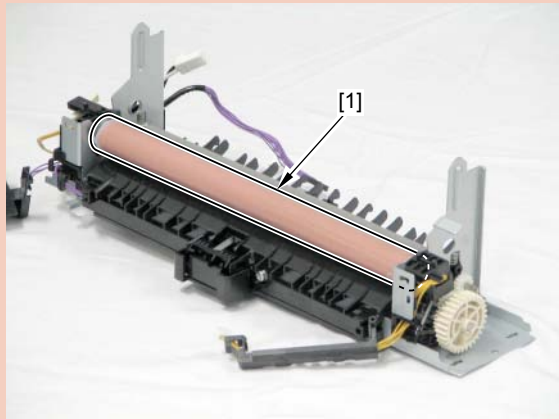
- 1 claw [2]



F-4-208

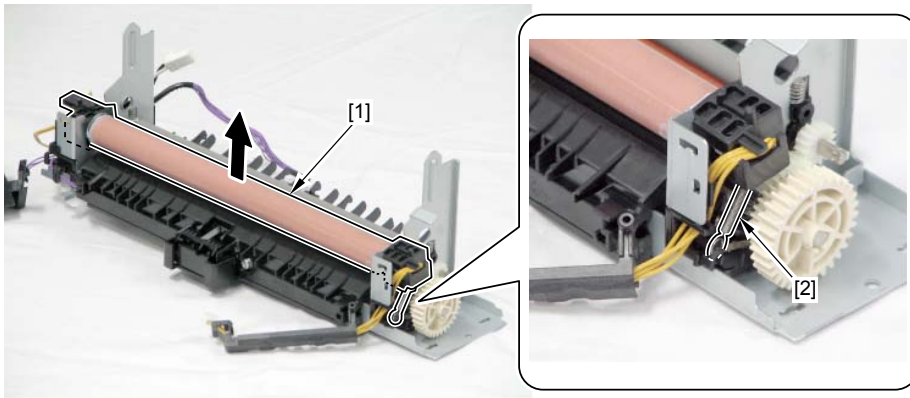
**Caution:**

Be careful not to touch or damage the Fixing Film [1] when removing or installing the Fixing Film Unit.



F-4-209

- 7) Remove the Fixing Film Unit [1].  
- 1 spring [2]



F-4-210

**Caution:**

Be careful not to lose the spring because the spring is small.

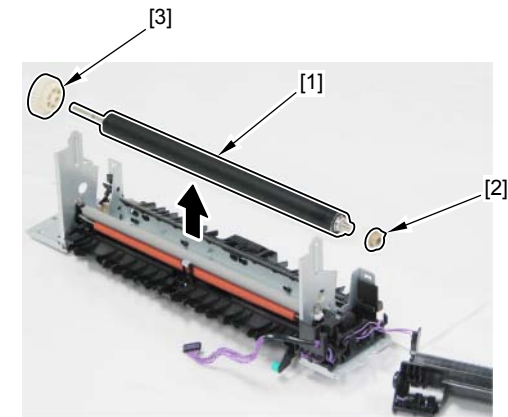
## ■ Removing the Fixing Pressure Roller

**Pre-procedure**

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Rear Upper Cover Refer to page 4-22
- 4) Removing the Rear Cover Refer to page 4-22
- 5) Removing the Rear Lower Cover Refer to page 4-23
- 6) Removing the Duplex Printing Reverse Drive Unit Refer to page 4-63
- 7) Removing the Fixing Assembly 4-83
- 8) Removing the Fixing Film Unit Refer to page 4-84

**Procedure**

- 1) Remove the Fixing Pressure Roller [1].
  - 1 bushing [2]
  - 1 gear [3]



F-4-211

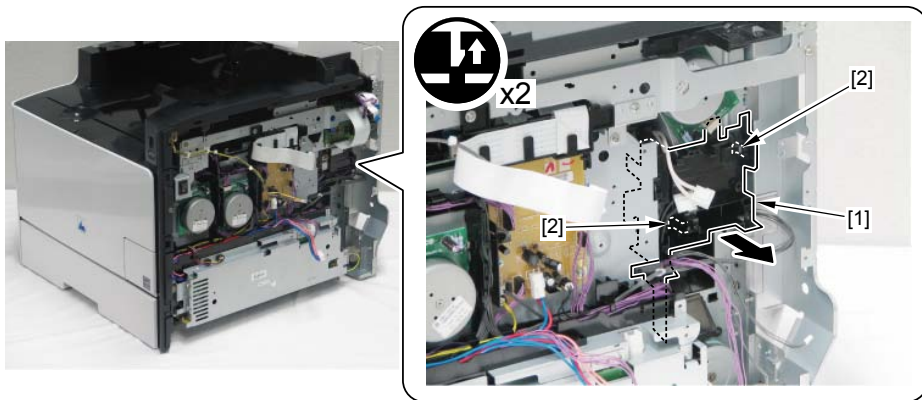
## ■ Removing the Fixing Motor Unit

### Pre-procedure

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Main Controller PCB Refer to page 4-48
- 3) Removing the FAX PCB Refer to page 4-60
- 4) Removing the Fixing Sub PCB Refer to page 4-55
- 5) Removing the Fixing/Fixing Power Supply Cooling Fan Unit Refer to page 4-66

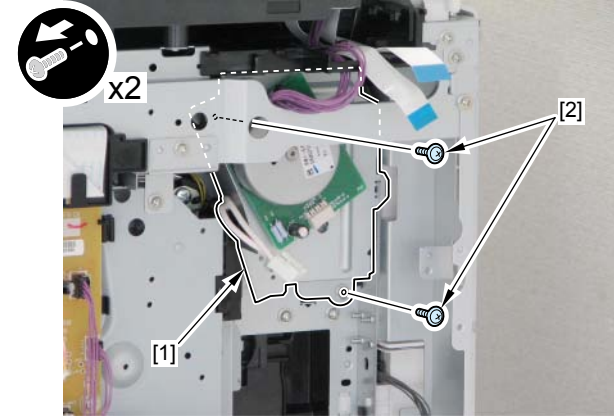
### Procedure

- 1) Remove the Sub-Power Supply PCB Unit [1].  
- 2 claws [2]



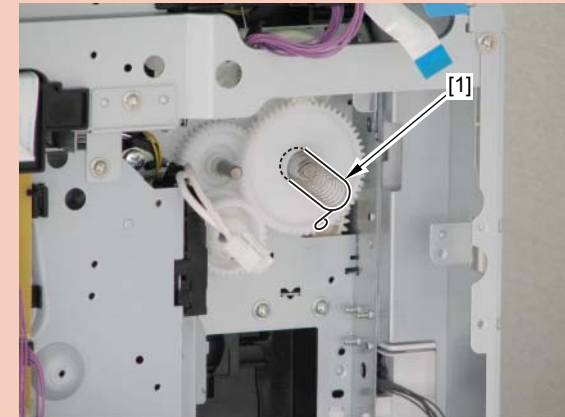
F-4-212

- 2) Remove the Fixing Motor unit [1].  
- 2 screws [2]



F-4-213

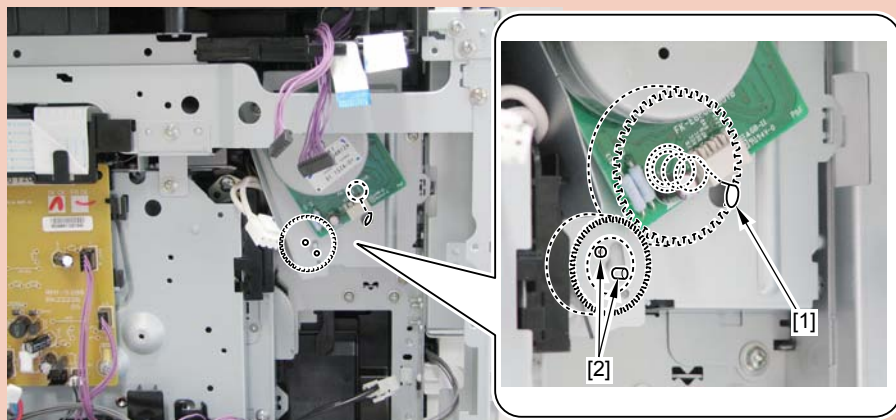
**Caution:**  
When removing the Fixing Motor Unit, do not lose the spring [1] in the backside.



F-4-214

Caution:

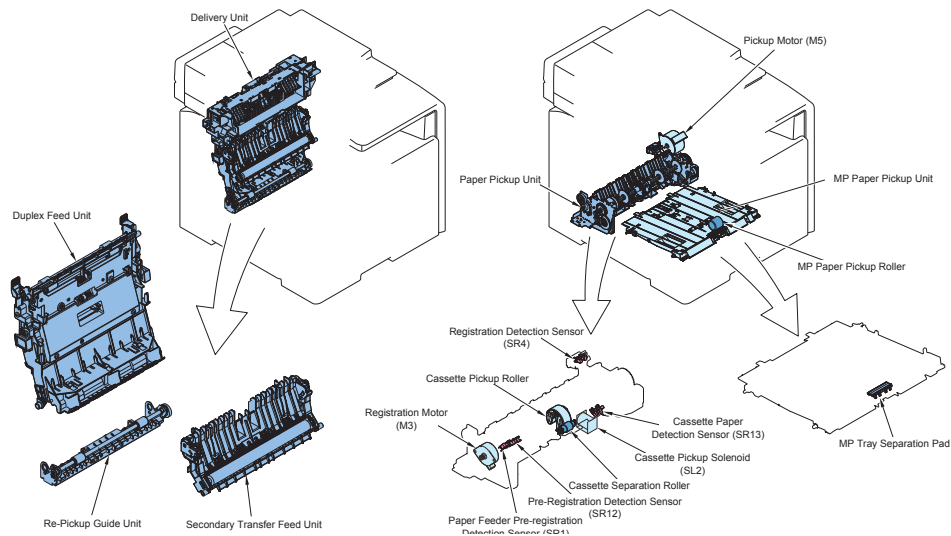
In installation, put the edge of the spring [1] and the projection [2] of the gear into the hole on the sheet metal.



F-4-215

## Pickup Feeder System

### Location



F-4-216

No	Name	Service Parts No.	Reference
	Cassette Separation Roller	RM1-4840	Refer to page 4-90
SR12	Pre-registration Detection Sensor	-	-
SR1	Paper Feeder Pre-registration Detection Sensor	-	-
M3	Registration Motor	-	Refer to page 4-93
	Cassette Pickup Roller	RM1-4853	Refer to page 4-89
SR4	Registration Detection Sensor	-	-

T-4-23

### Removing the Cassette Pickup Roller

- 1) Turn ON the power switch.
- 2) Execute the following items in Service mode.  
COPIER > FUNCTION > VIFFNC > FD-R-CHG
- 3) The Pickup Roller rotates and stops at the replacement position.
- 4) Turn OFF the power.

#### Caution:

Before tilting a host machine, remove toner cartridges (Y, M, C, Bk).

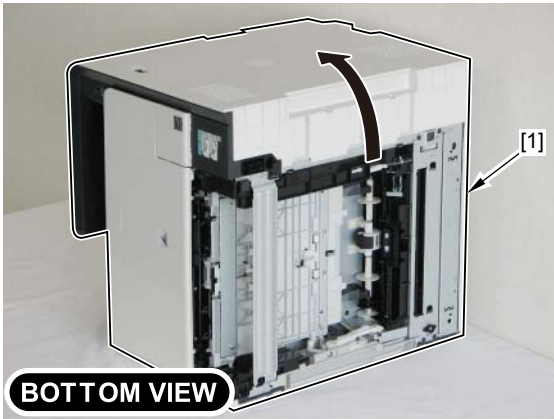
- 5) Remove the cassette.
- 6) Place a host machine [1] as the Left Cover faces to the bottom.

#### Caution:

When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.

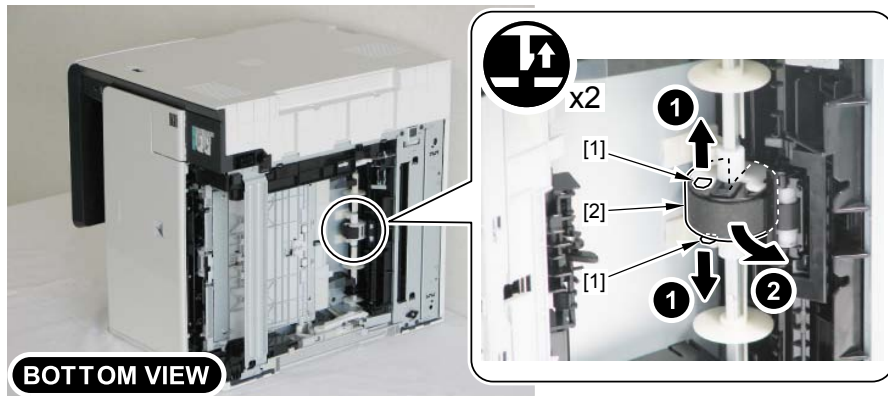
In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.

No	Name	Service Parts No.	Reference
	Delivery Unit	FM4-4286	Refer to page 4-99
	Duplex Feed Unit	RM1-4879	Refer to page 4-100
	Re-Pickup Guide Unit	RM1-4877	Refer to page 4-100
	Secondary Transfer Feed Unit	RM1-4838	Refer to page 4-98
	Paper Pickup Unit	RM1-4853	Refer to page 4-93
M5	Pickup Motor	RM1-5419	Refer to page 4-92
	MP Paper Pickup Unit	FM3-8301	Refer to page 4-96
	MP Paper Pickup Roller	RL1-1802	Refer to page 4-91
	MP Separation Pad	RL1-1785	Refer to page 4-92
SR13	Cassette Paper Detection Sensor	-	-
SL2	Cassette Pickup Solenoid	-	-



F-4-217

7) Open 2 projections [1] of the holder in the arrow direction, and remove the Pickup Roller [2].



F-4-218

## ■ Removing the Cassette Separation Roller

### Caution:

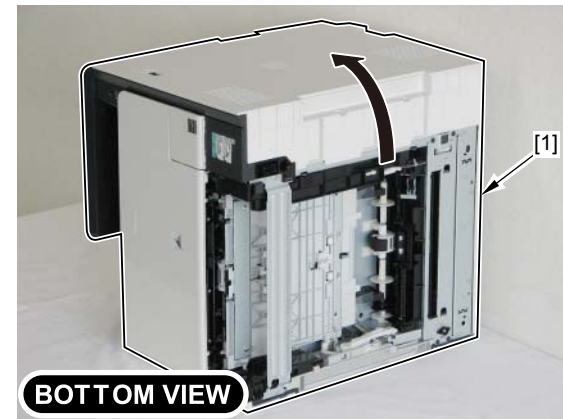
When tilting the host machine, remove the Toner Cartridge (Y, M, C, Bk) beforehand.

- 1) Remove the cassette.
- 2) Make the Left Cover face down and place the host machine [1].

### Caution:

When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.

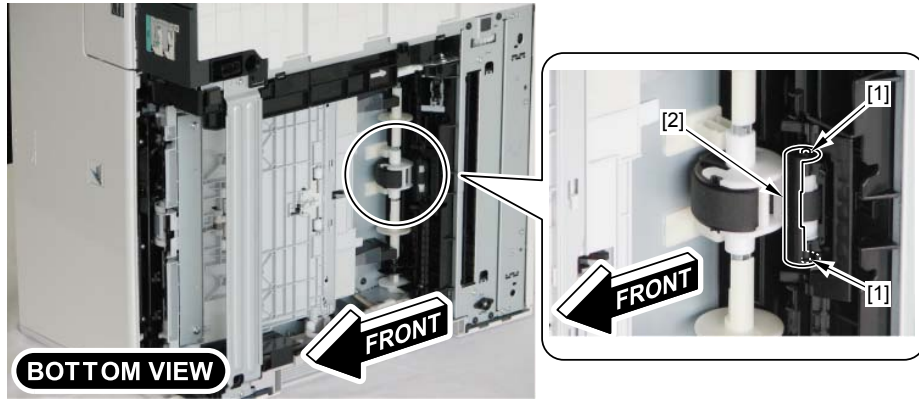
In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.



F-4-219

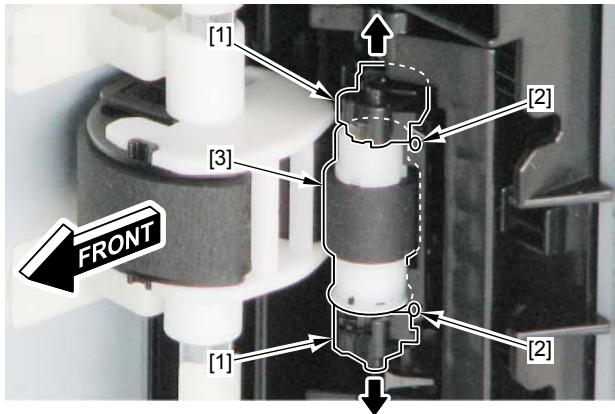


3) Remove the 2 projections [1] to remove the Cover [2].



F-4-220

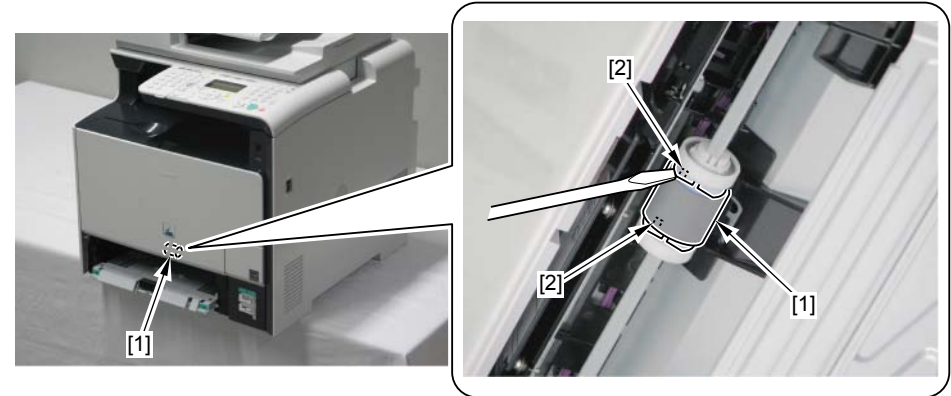
4) Open the Holder [1] in the direction of the arrow and release the projection [2] of the Cassette Separation Roller to remove the Cassette Separation Roller [3].



F-4-221

## ■ Removing the MP Tray Pickup Roller

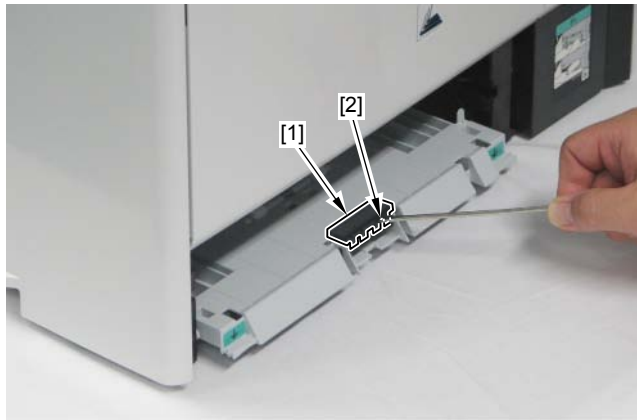
1) Remove the MP Tray Pickup Roller [1].  
- 2 claws [2]



F-4-222

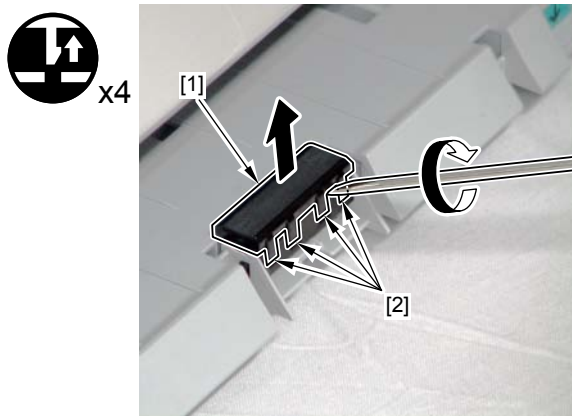
## ■ Removing the MP Tray Separation Pad

1) Put a Screwdriver into the gap [2] between the MP Tray Separation Pad [1] and the Pad Holder.



F-4-223

2) Turn the Screwdriver in the direction of the arrow to remove the MP Tray Separation Pad [1].  
- 4 claws [2]

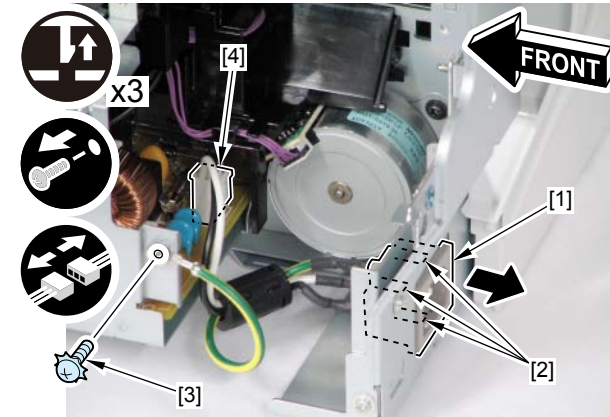


F-4-224

## ■ Removing the Pickup Motor

Remove the power cord outlet [1].

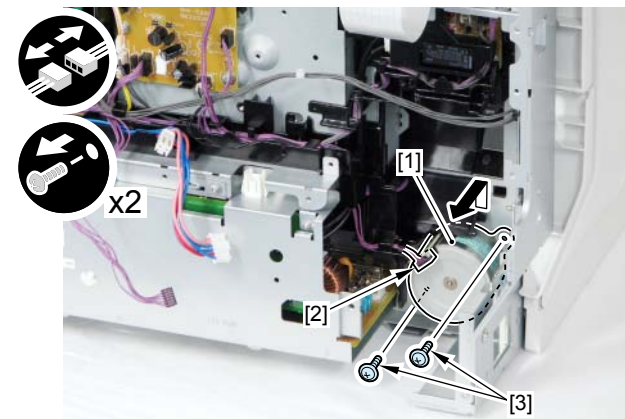
- 3 claws [2]
- 1 screw [3]
- 1 connector [4]



F-4-225

2) Remove the Pickup Motor [1].

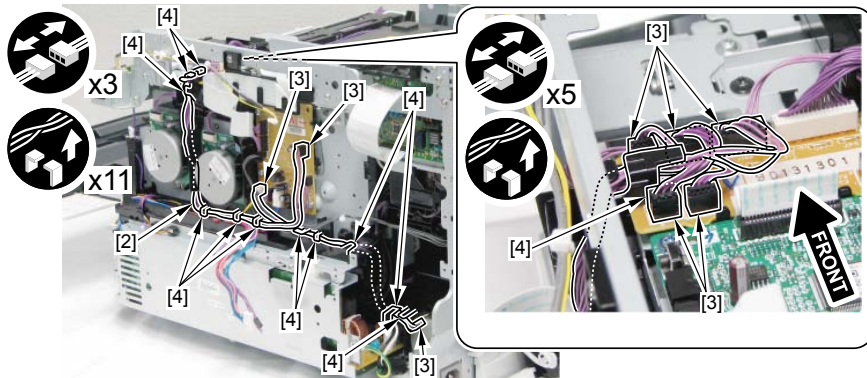
- 1 connector [2]
- 2 screws [3]



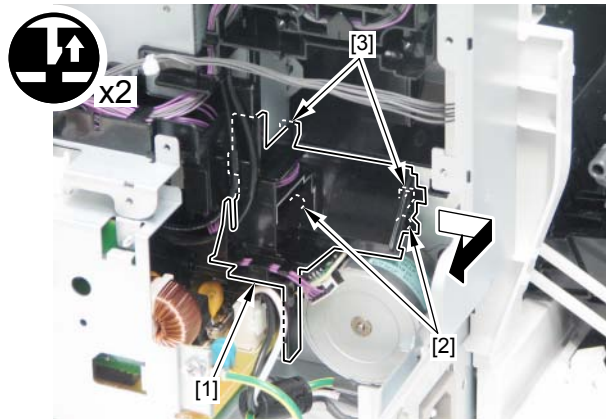
F-4-226

## Removing the Pickup Unit

- 1) Remove the wire harness [2] from the wire harness guide [1].
- 8 connectors [3]
  - 12 fixing guides [4]

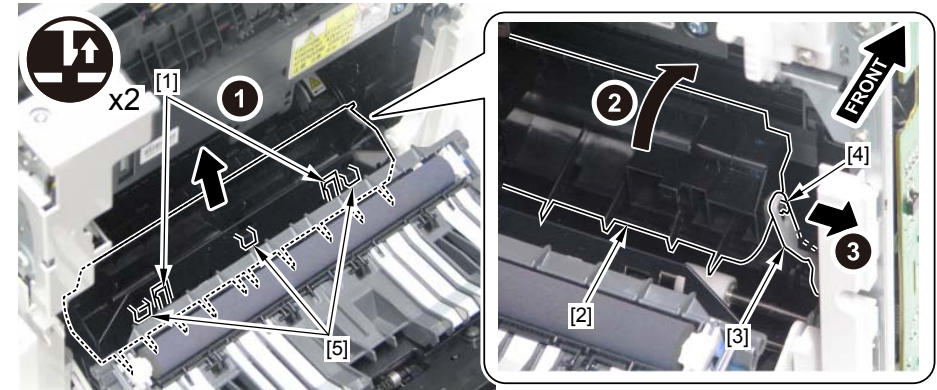


- 2) Remove the wire harness guide [1] in the arrow direction.
- 1 boss [2]
  - 2 claws [3]



F-4-227

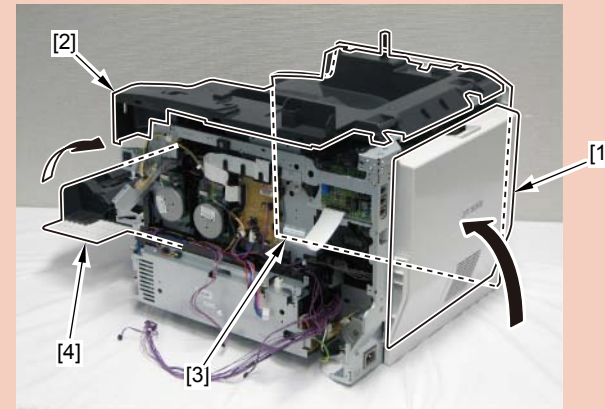
- 3) Release 2 claws [1], and turn the guide [2] to align the hook [4] with the hole on the arm [3], and remove the arm [3].
- 3 hooks [5]



F-4-228

Caution: For protection, install each cover before tilting the machine.

- Close the Rear Cover [1].
- Install the Upper Cover [2].
- Install the Left Cover [3].
- Close the Front Cover [4].



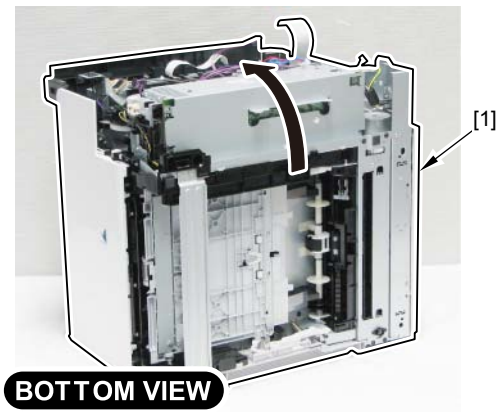
F-4-229

4) Please the machine as the Left Cover faces to the bottom.

**Caution:**

When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.

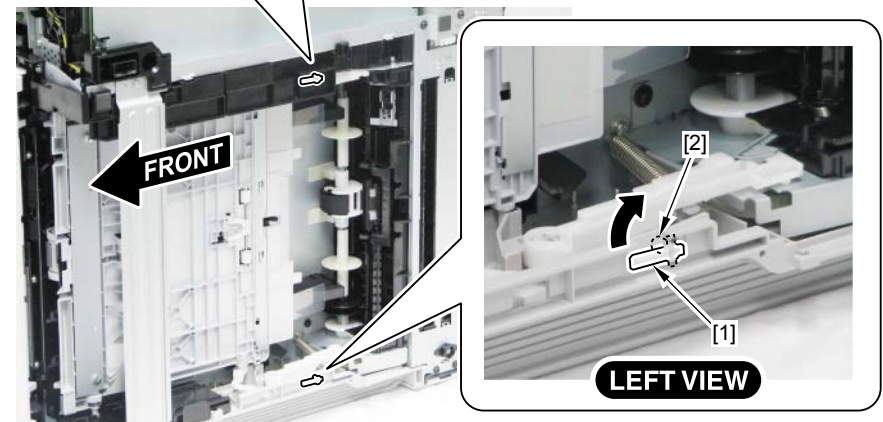
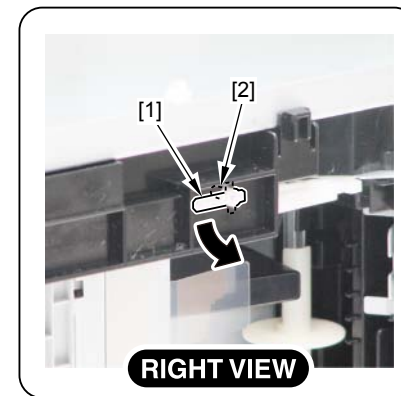
In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.



F-4-230

5) Remove 2 stoppers [1] in the arrow direction.

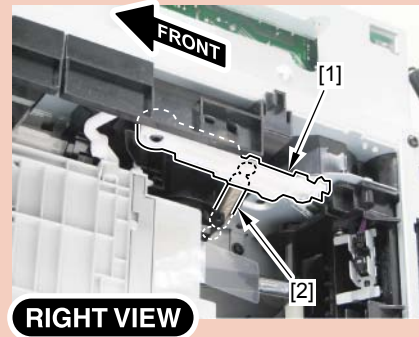
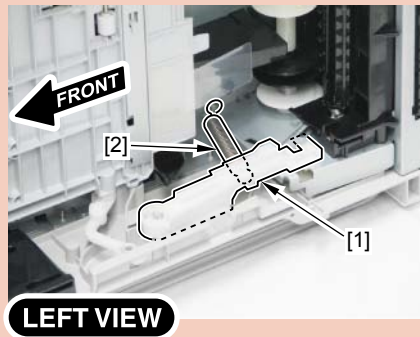
- 2 bosses [2]



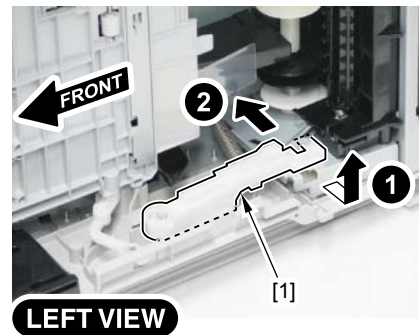
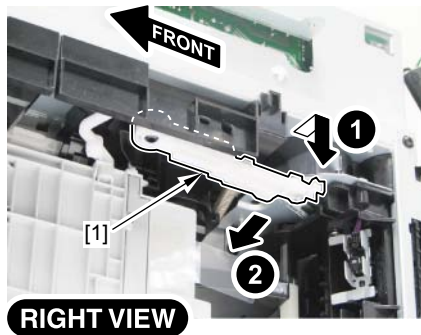
F-4-231

6) Remove 2 arms [1] in the arrow direction.

Caution: Be careful not to lose the spring [2] when removing the arm [1], since it is easy to come off.



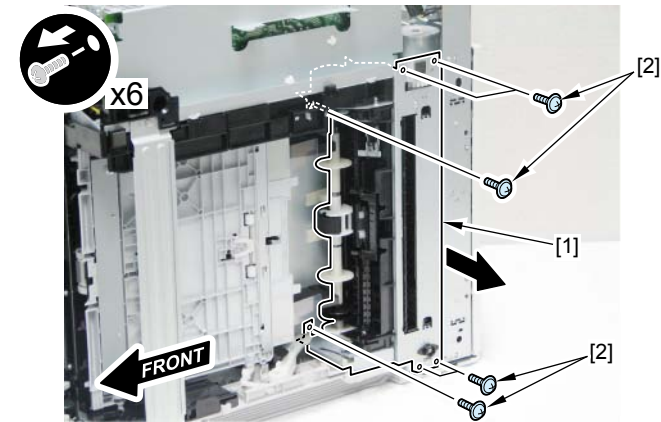
F-4-232



F-4-233

7) Remove the Pickup Unit [1].

- 6 screws [2]



F-4-234

## ■ Removing the MP Tray Pickup Unit

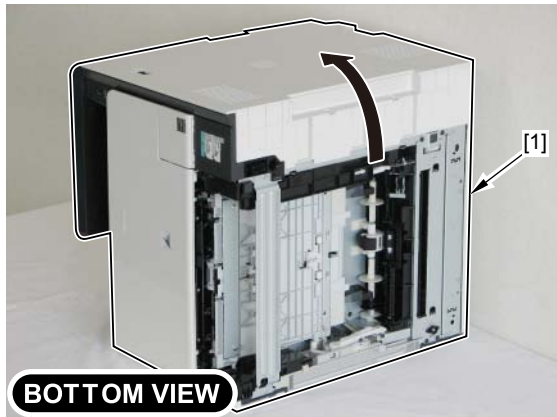
### Caution:

When tilting the host machine, make sure to remove the Toner Cartridge (Y, M, C, Bk) beforehand.

- 1) Remove the cassette.
- 2) Make the Left Cover face down and place the host machine [1].

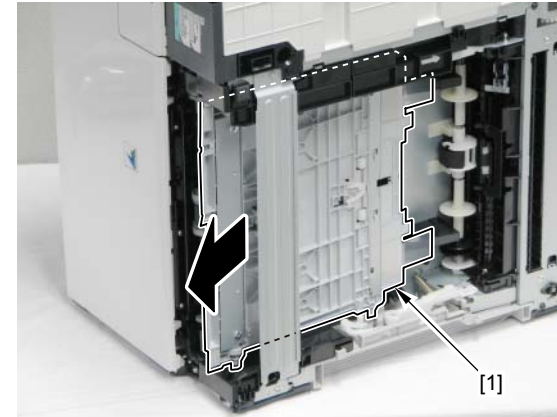
### Caution:

When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.  
In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.



F-4-235

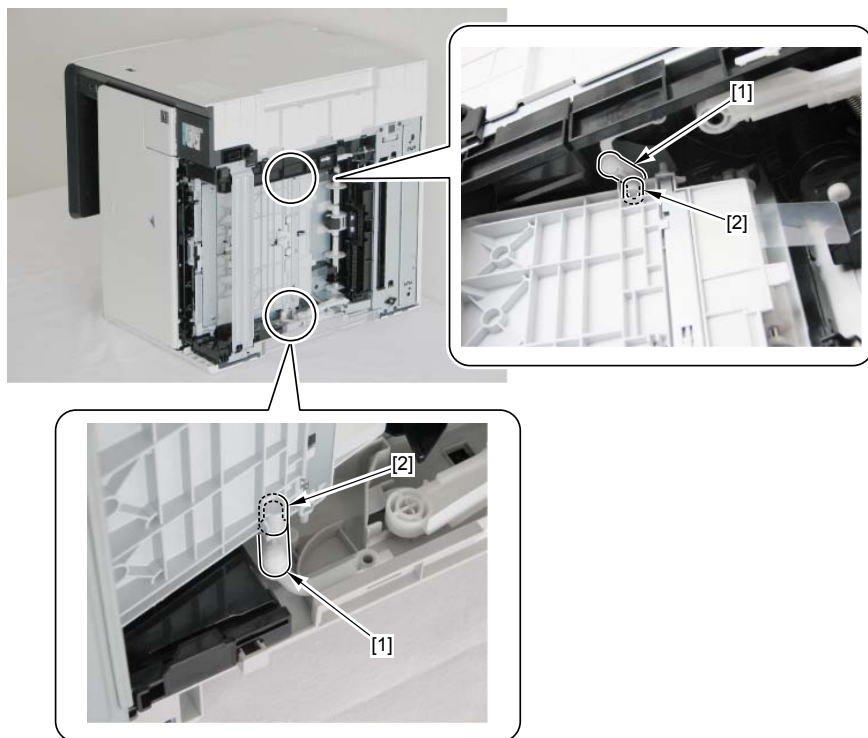
- 3) Move the MP Tray Pickup Unit [1] in the direction of the arrow.



- 4) Remove the 2 Links [1] (left and right) from the bushings [2] of the MP Tray Pickup Unit.

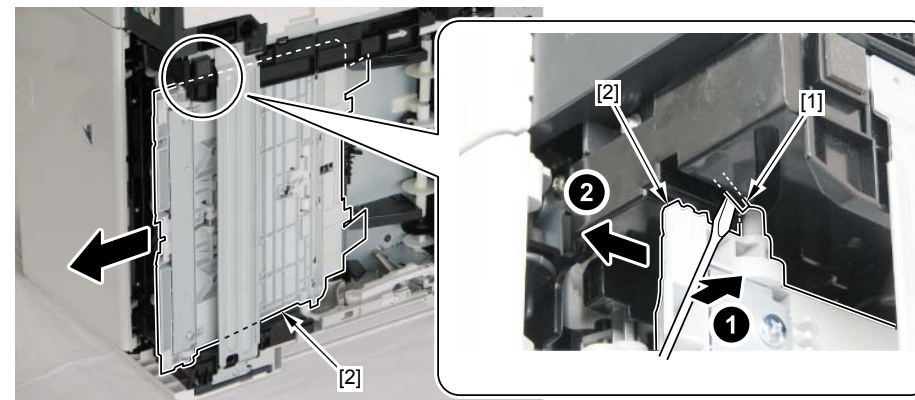
### Caution:

When removing the MP Tray Pickup Unit, be careful not to lose the link.



F-4-236

7) Push a flat-blade screwdriver to the stopper [1] and remove the MP Tray Pickup Unit [2] in the direction of the arrow.



F-4-237

## ■ Removing the Secondary Transfer Feed Unit

### Caution:

Secondary Transfer Outer Roller is included in Secondary Transfer Feed Unit so when replacing the Secondary Transfer Outer Roller, be sure to replace the Secondary Transfer Feed Unit itself.

1) Open the Rear Cover [1].



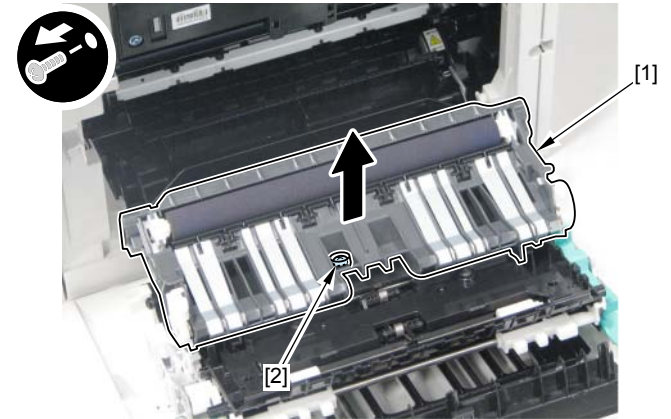
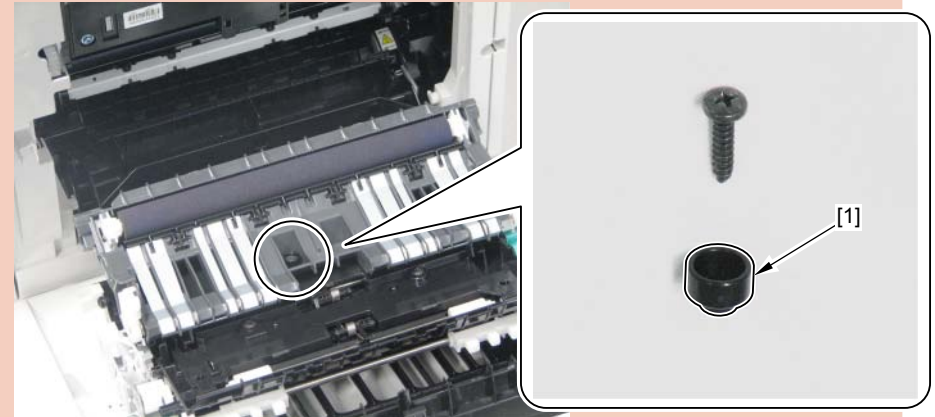
2) Remove the Secondary Transfer Feed Unit [1].

- 1 screw [2]

F-4-238

### Caution:

When removing the screw, be careful not to lose the guide cap [1] because the guide cap is removed together with the screw



F-4-239



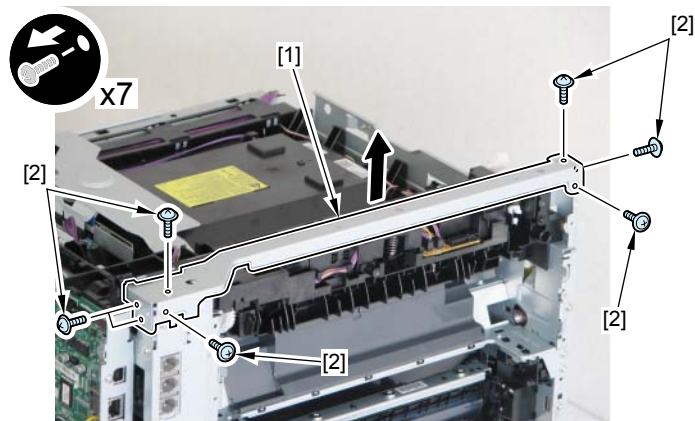
## ■ Removing the Delivery Unit

### Pre-procedure

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Rear Upper Cover Refer to page 4-22
- 4) Removing the Rear Cover Refer to page 4-23
- 5) Removing the Rear Lower Cover Refer to page 4-23
- 6) Removing the Duplex Printing Reverse Drive Unit Refer to page 4-63
- 7) Removing the Fixing Assembly Refer to page 4-83
- 8) Removing the ADF Unit + Reader Unit Refer to page 4-28
- 9) Removing the Upper Cover Refer to page 4-26

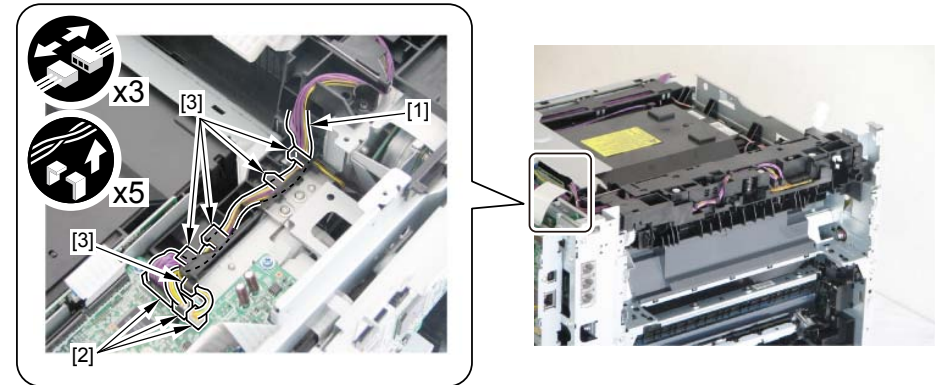
### procedure

- 1) Remove the frame [1].  
- 7 screws [2]



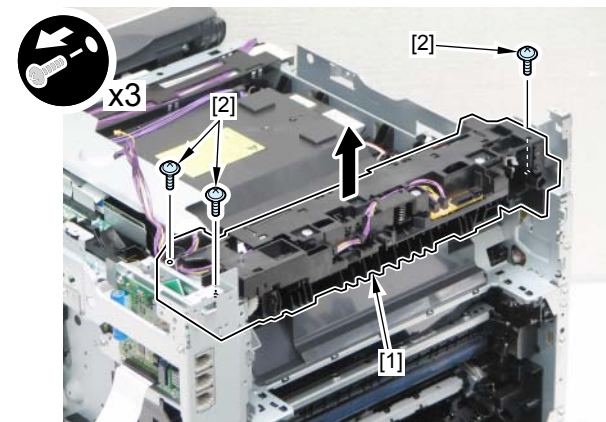
F-4-240

- 2) Remove the wire harness [1] from the wire harness guide.  
- 3 connectors [2]  
- 5 fixing guides [3]



F-4-241

- 3) Remove the Delivery Unit [1].  
- 3 screws [2]



F-4-242

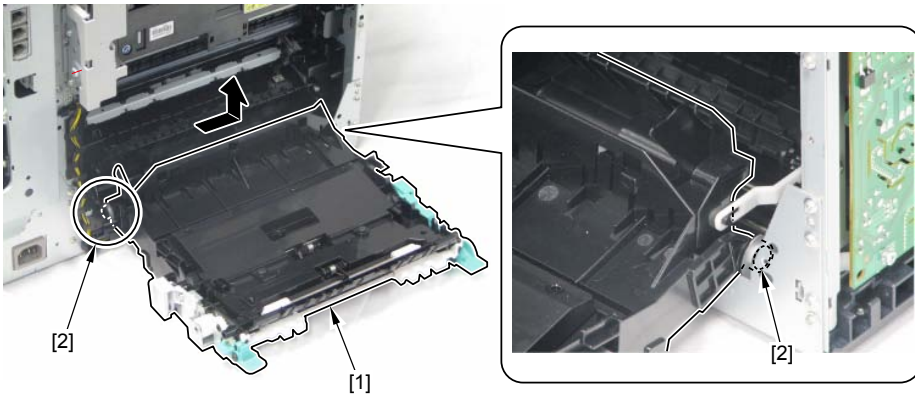
## ■ Removing the Duplex Feed Unit

### Pre-procedure

- 1) Removing the Secondary Transfer Feed Unit Refer to page 4-98
- 2) Removing the Rear Cover Refer to page 4-23
- 3) Removing the Right Cover Refer to page 4-18
- 4) Removing the Left Cover Refer to page 4-16

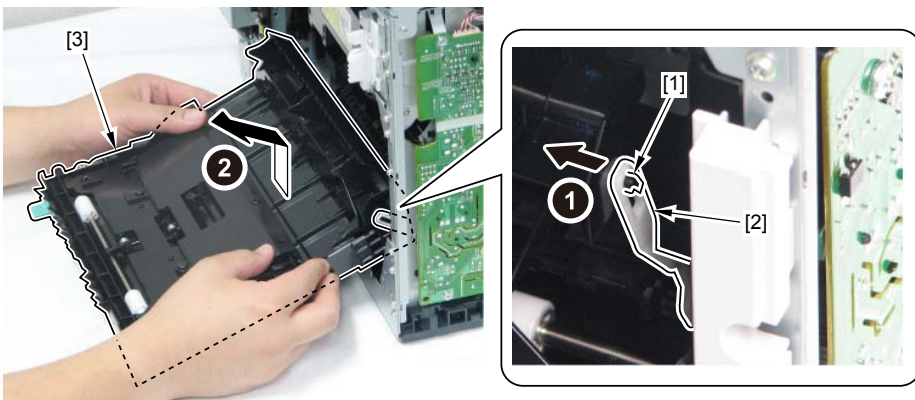
### procedure

- 1) Shift the Duplex Feed Unit [1] in the direction of the arrow and remove the 2 bearings [2].



F-4-243

- 2) Align the claw [1] with the hole of the link [2] and remove the Duplex Feed Unit [3] in the direction of the arrow.



F-4-244

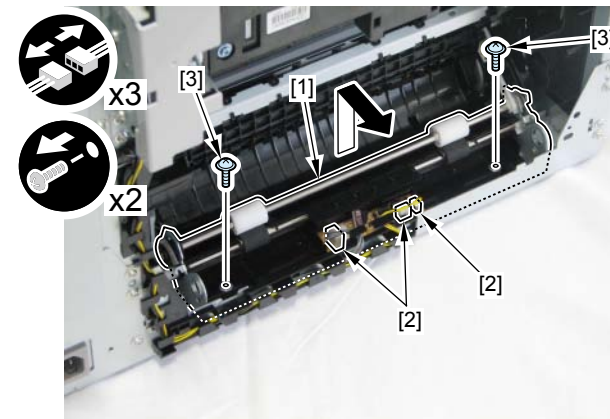
## ■ Removing the Re-pickup Guide Unit

### Pre-procedure

- 1) Removing the Right Cover Refer to page 4-18
- 2) Removing the Left Cover Refer to page 4-16
- 3) Removing the Rear Upper Cover Refer to page 4-22
- 4) Removing the Rear Cover Refer to page 4-23
- 5) Removing the Rear Lower Cover Refer to page 4-23
- 6) Removing the Rear Cover Rib Unit Refer to page 4-25

### procedure

- 1) Remove the Re-pickup Guide Unit [1].
  - 3 connectors [2]
  - 2 screws [3]

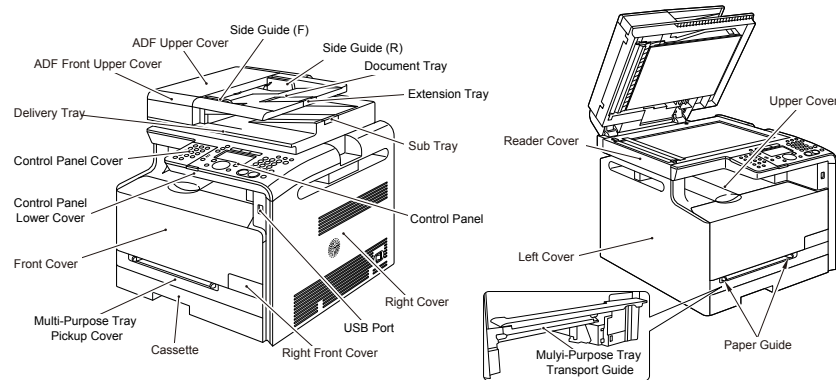


F-4-245

## MF8000 series

### List of Parts

#### List of External / Internal Cover

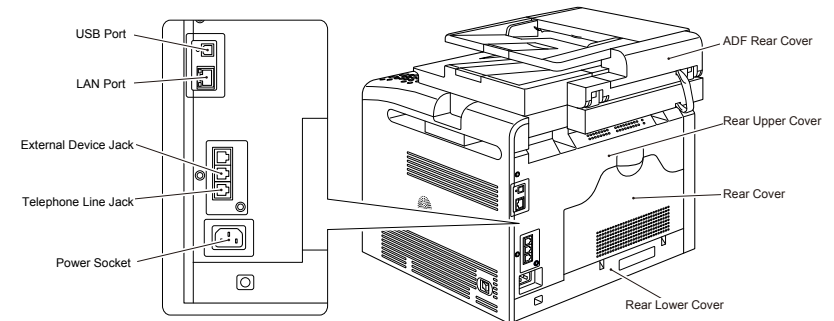


F-4-246

Name	Service Parts No	Reference
Right Cover	FC9-4441	Refer to page 4-117 Refer to page 4-118
USB Port	FM4-3989	-
Right Front Cover	FC9-4446	-
Cassette	FM4-4279	-
Multi-Purpose Tray Pickup Cover	FC9-4454	-
Front Cover	FM4-4266	Refer to page 4-119
Control Panel Lower Cover	FC9-4502	-
Control Panel Cover	-	-
Delivery Tray	-	-
Upper Cover	FM4-4262	Refer to page 4-125
Paper Guide	-	-
Mulyi-Purpose Tray Transport Guide	FM3-3441	-
Left Cover	FC9-4440	Refer to page 4-114 Refer to page 4-116
Reader Cover	-	Refer to page 4-138

T-4-24

Name	Service Parts No	Reference
ADF Front Upper Cover	FC9-1533	-
ADF Upper Cover	FC9-1536	-
Side Guide (F)	FC9-5656	-
Side Guide (R)	FC9-5657	-
Document Tray	FC9-1534	-
Extension Tray	FC9-1535	-
Sub Tray	FC9-5655	-
Control Panel	FM4-1496 (MF8050Cn JP) FM4-1505 (MF8030Cn JP) FM4-1495 (MF8050Cn US) FM4-1499 (MF8050Cn AE) FM4-1502 (MF8030Cn AE) FM4-1500 (MF8050Cn CHN) FM4-1503 (MF8030Cn CHN) FM4-1501 (MF8050Cn KOR) FM4-1504 (MF8030Cn KOR) FM4-1498 (MF8050Cn EU) FM4-1497 (MF8030Cn EU)	Refer to page 4-152



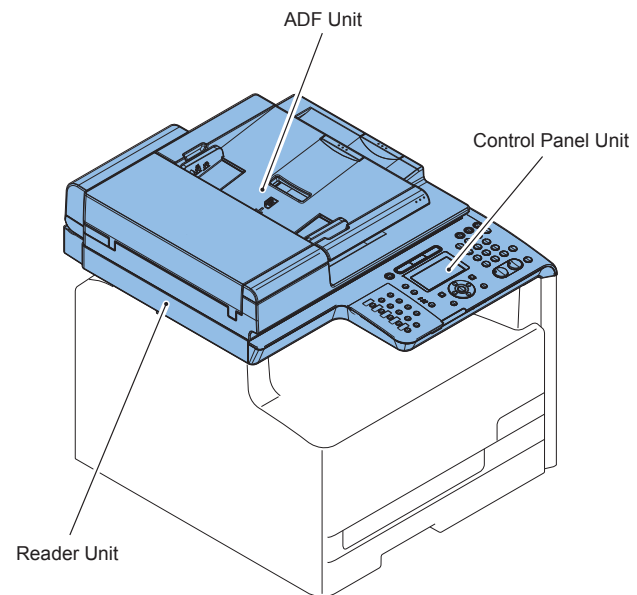
F-4-247

Name	Service Parts No	Reference
ADF Rear Cover	FC9-1532	-
Rear Upper Cover	FC9-4449	Refer to page 4-123
Rear Cover	FC9-4452	Refer to page 4-124
Rear Lower Cover	FC9-4451	Refer to page 4-124
Power Socket	FM4-3695 (100V) FM4-3696 (200V)	-
Telephone Line Jack	-	-

Name	Service Parts No	Reference
External Device Jack	-	-
LAN Port	-	-
USB Port	-	-

T-4-25

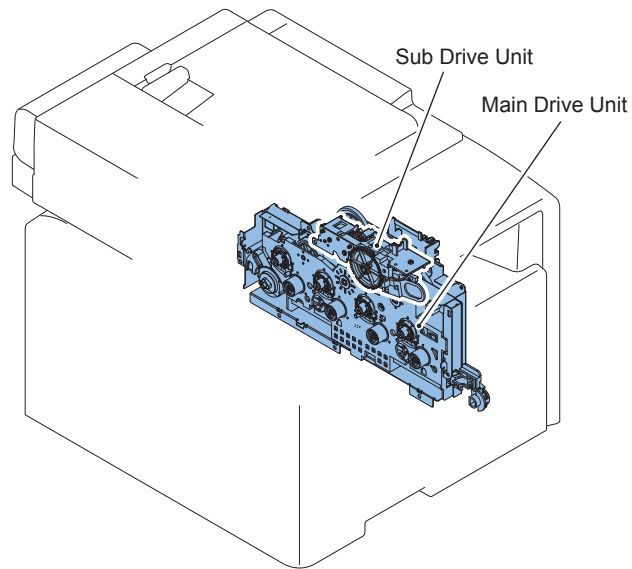
## List of Main Unit



F-4-248

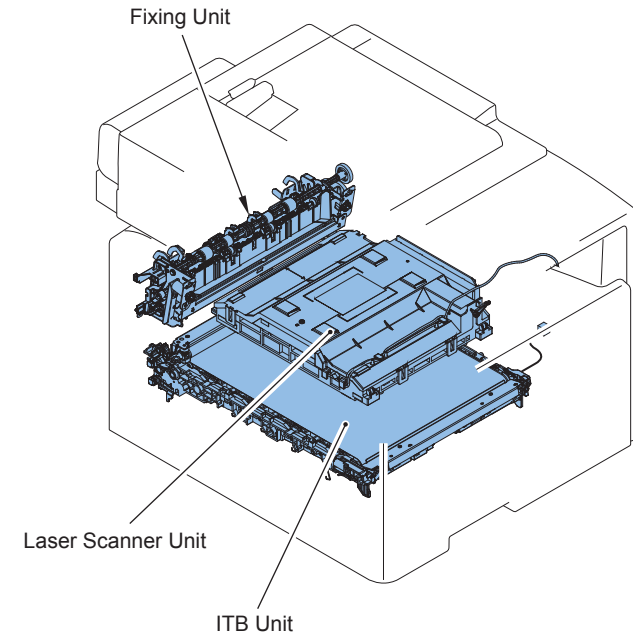
Name	Service Parts No	Reference	Adjustment during parts replacement
ADF Unit	-	Refer to page 4-126 Refer to page 4-128	Refer to page 5-2
Reader Unit	FM4-4300	Refer to page 4-126 Refer to page 4-128	Refer to page 5-2
Control Panel Unit	FM4-1496 (MF8050Cn JP) FM4-1505 (MF8030Cn JP) FM4-1495 (MF8050Cn US) FM4-1499 (MF8050Cn AE) FM4-1502 (MF8030Cn AE) FM4-1500 (MF8050Cn CHN) FM4-1503 (MF8030Cn CHN) FM4-1501 (MF8050Cn KOR) FM4-1504 (MF8030Cn KOR) FM4-1498 (MF8050Cn EU) FM4-1497 (MF8030Cn EU)	Refer to page 4-152	-

T-4-26



Name	Service Parts No	Reference
Main Drive Unit	RM1-4443	Refer to page 4-154
Sub Drive Unit	RM1-4478	Refer to page 4-159

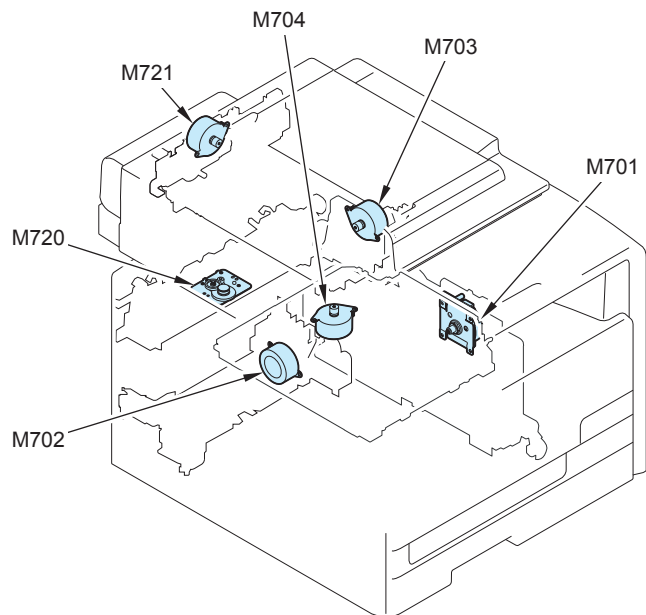
T-4-27



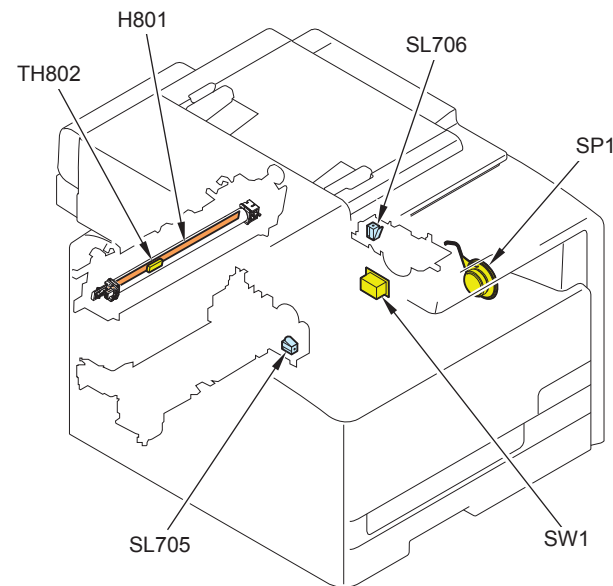
Name	Service Parts No	Reference	Adjustment during parts replacement
Laser Scanner Unit	FM3-3453	Refer to page 4-162	Refer to page 5-6
ITB Unit	RM1-4436	Refer to page 4-166	
Fixing Unit	FM3-3435 (100V)	Refer to page 4-171	
	RM1-4430 (120V)		
	RM1-4431 (220V)		

T-4-28

List of Motor/Fan



List of Clutch / Solenoid/Heater/Thermistor/Switch/speaker



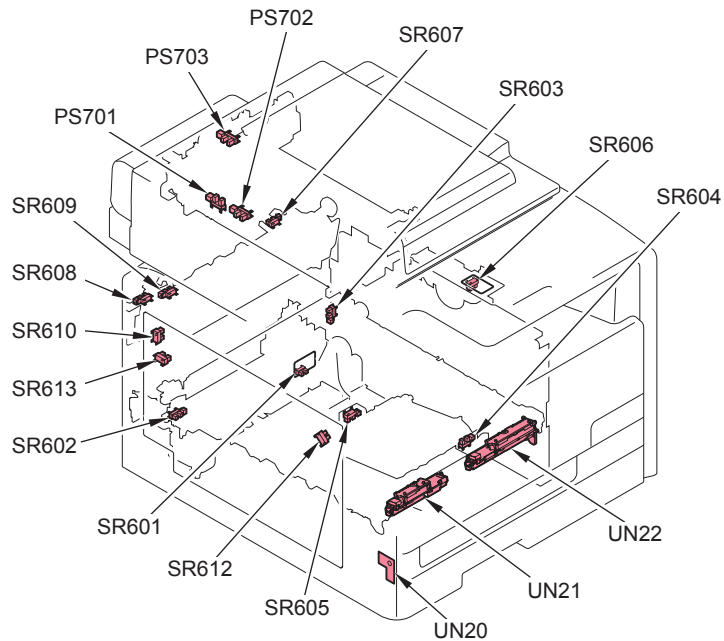
Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
Main Motor	Main Drive Unit	RL1-1617	Refer to page 4-160	-
Pickup Motor	Pickup Unit	-	-	-
Fixing Motor	Product configuration	RK2-1872	Refer to page 4-175	-
Laser Scanner Motor	Laser Scanner Unit	-	Refer to page 4-162	Refer to page 5-6
Reader Motor	Reader Unit	FM4-4301	Refer to page 4-143	-
ADF Motor	ADF Unit	FM4-1881	Refer to page 4-138	-

T-4-29

Name	Main Unit	Service Parts No	Reference
Fixing Heater (100V)	Fixing Assembly	-	-
Fixing Heater (120V)		-	-
Fixing Heater (230V)		-	-
Thermistor	Fixing Assembly	-	-
Speaker	Product configuration	FM4-3985	Refer to page 4-161
Developing Separation Solenoid	Sub Drive Unit	-	-
Cassette Pickup Solenoid	Pickup Unit	-	-
Main Power Switch	Product configuration	-	-

T-4-30

## List of Sensor

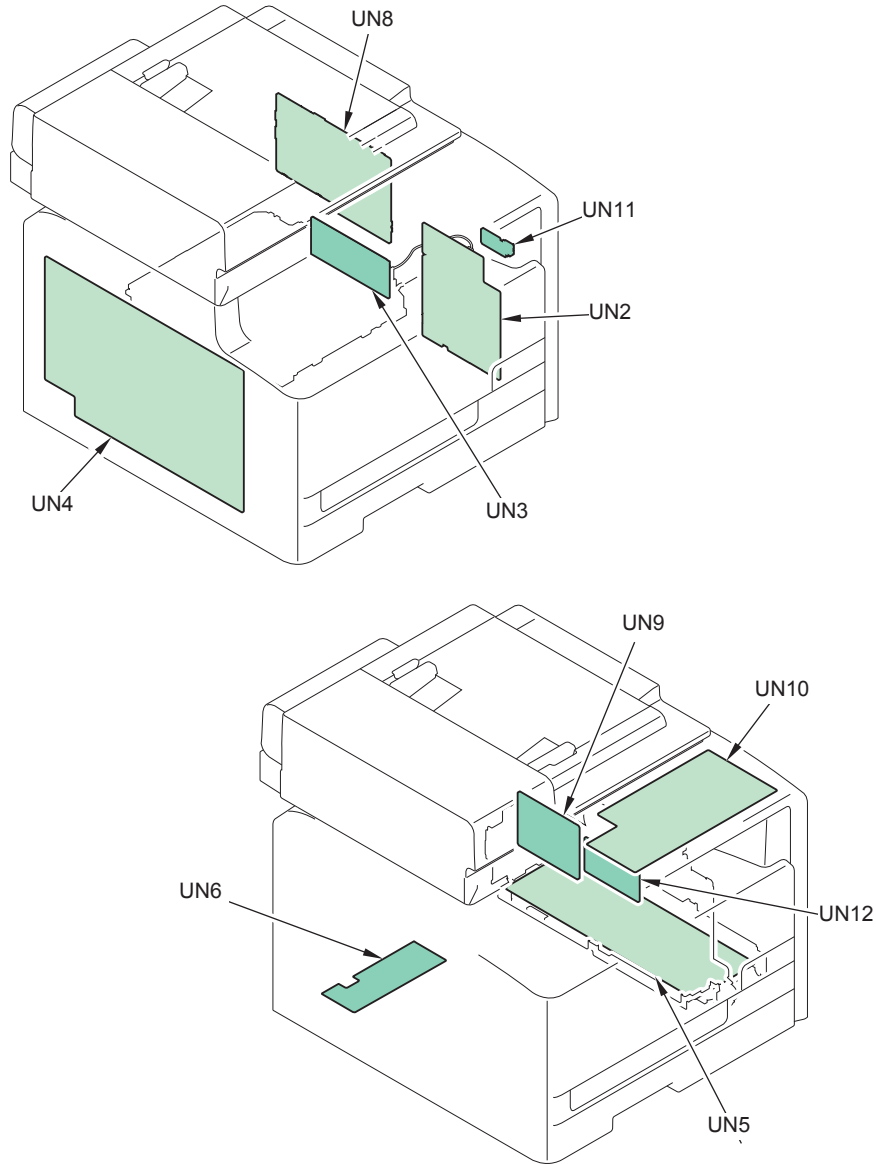


Name	Main Unit	Service Parts No	Reference
Fixing Delivery Sensor	Fixing Assembly	WG8-5696	-
Fixing Pressure Release Sensor	High Voltage Power Supply	-	-
Front Cover Sensor	High Voltage Power Supply Unit	-	-
Rear Cover Sensor	High Voltage Power Supply Unit	-	-
Environment Sensor	Product configuration	-	-
Patch Sensor	ITB Unit	-	-
Patch Registration Sensor	ITB Unit	-	-

T-4-31

Name	Main Unit	Service Parts No	Reference
CIS Unit Homeposition Sensor	Reader Unit	WG8-5696	-
Document Sensor	ADF Unit	WG8-5696	-
Document End Sensor	ADF Unit	WG8-5696	-
Cassette Paper Detection Sensor	Pickup Unit	-	-
Registration Detection Sensor	Pickup Unit	-	-
Fixing Loop Sensor	Product configuration	WG8-5696	-
MP Tray Paper Detection Sensor	MP Tray Unit	-	-
MP Tray Pre-Registration Detection Sensor	MP Tray Unit	-	-
Developing Homeposition Sensor	Product configuration	-	-
Media Width Sensor (R)	Fixing Assembly	WG8-5696	-
Media Width Sensor (L)	Fixing Assembly	WG8-5696	-

## PCB



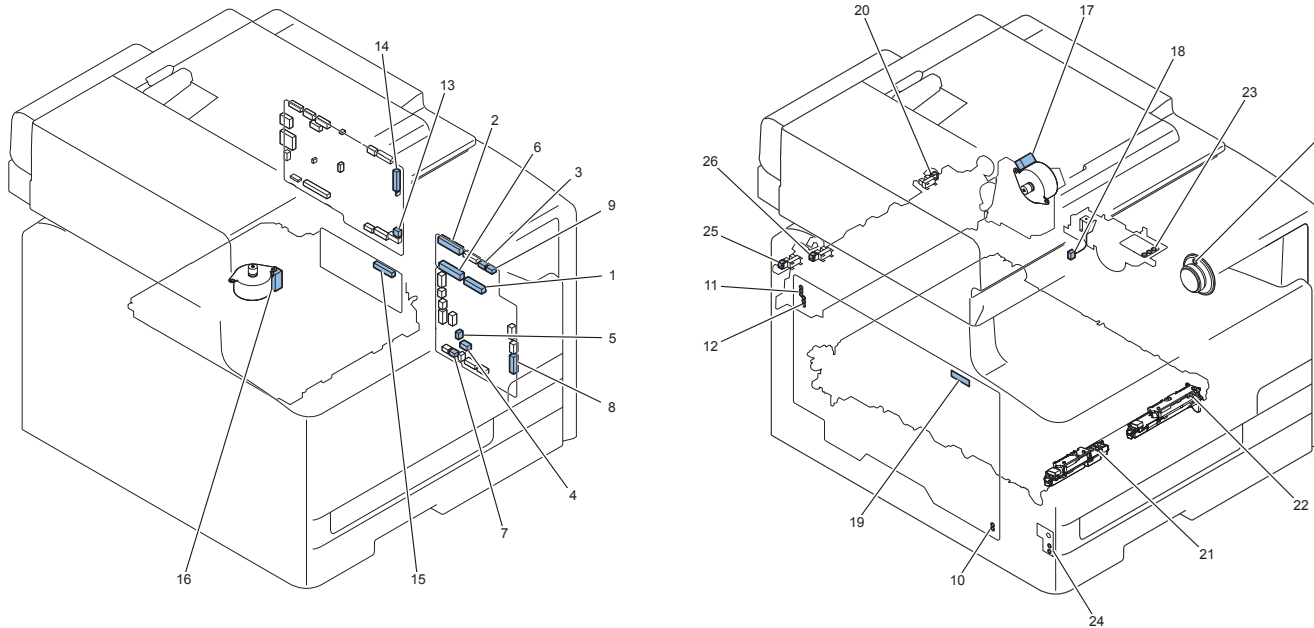
F-4-254

No.	Name	Main Unit	Service Parts No	Reference	Adjustment during parts replacement
UN2	DC Controller PCB	-	FM4-3677	Refer to page 4-147	Refer to page 4-147
UN3	Laser Driver PCB	Laser Scanner Unit	-	Refer to page 4-162	Refer to page 5-6
UN4	High Voltage Power Spply PCB	-	RM1-4689	Refer to page 4-149	-
UN5	Low Voltage Power Spply PCB	-	FM4-3678 (100V) FM4-3684 (120V) FM4-3679 (200V)	Refer to page 4-149	-
UN6	Fixing Power Spply	-	-	Refer to page 4-151	-
UN8	Main Controller PCB	-	FM4-3977 (4in1) FM4-3976 (3in1)	Refer to page 4-146	Refer to page 5-5
UN9	FAX-NCU PCB	-	FM4-3970 (100V) FM4-3971 (120V) FM4-3972 (230V) FM4-3973 (AUS)	Refer to page 4-153	-
UN10	Control Panel PCB	Control Panel Unit	-	Refer to page 4-153	-
UN11	USB Host PCB	-	FM4-3989	-	-
UN12	Off Hook PCB	-	FM3-5378	-	-

T-4-32



## List of connector

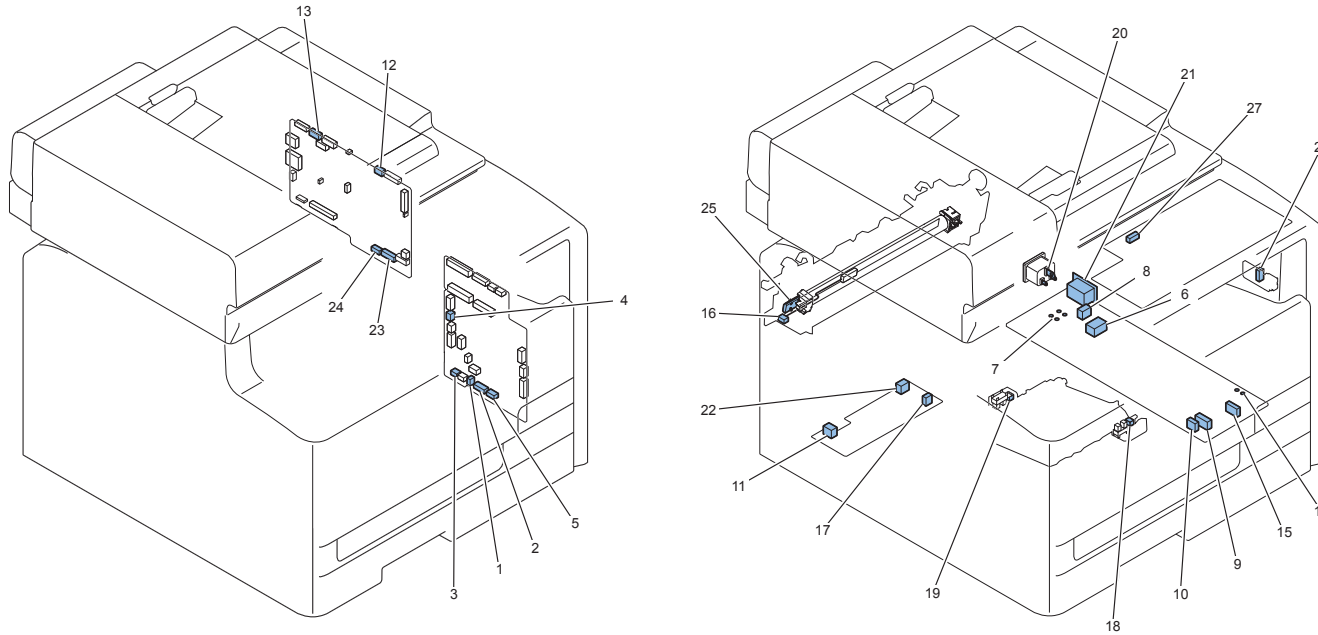


F-4-255

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector	KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
1	J107	UN2	DC controller PCB		14	J912	UN8	Main controller PCB	
2	J108	UN2	DC controller PCB		15	J501	UN3	Laser driver PCB	
3	J109	UN2	DC controller PCB		16	J704	M704	Laser scanner motor	
4	J110	UN2	DC controller PCB		17	J703	M703	Fixing motor	
5	J112	UN2	DC controller PCB		18		SL706	Developing separation solenoid	
6	J115	UN2	DC controller PCB		19	J1001	UN4	High-voltage power supply PCB	
7	J118	UN2	DC controller PCB		20	J607	SR607	Media width sensor (R)	
8	J119	UN2	DC controller PCB		21	J611	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		21	J612	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		21	J613	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		21	J614	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		21	J615	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		21	J616	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		21	J617	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		21	J618	UN21	Patch sensor	
8	J119	UN2	DC controller PCB		22	J621	UN22	Patch registration sensor	
8	J119	UN2	DC controller PCB		22	J622	UN22	Patch registration sensor	

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector					KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
8	J119	UN2	DC controller PCB						22	J623	UN22	Patch registration sensor	
8	J119	UN2	DC controller PCB						22	J624	UN22	Patch registration sensor	
8	J119	UN2	DC controller PCB						22	J625	UN22	Patch registration sensor	
8	J119	UN2	DC controller PCB						22	J626	UN22	Patch registration sensor	
8	J119	UN2	DC controller PCB						22	J627	UN22	Patch registration sensor	
9	J120	UN2	DC controller PCB						23	J151	SR606	Developing homeposition sensor	
9	J120	UN2	DC controller PCB						23	J152	SR606	Developing homeposition sensor	
9	J120	UN2	DC controller PCB						23	J153	SR606	Developing homeposition sensor	
10	J1011	UN4	High-voltage power sapply PCB						24	J172	UN20	Environment sensor	
10	J1012	UN4	High-voltage power sapply PCB						24	J171	UN20	Environment sensor	
11	J1021	UN4	High-voltage power sapply PCB						25	J608	SR608	Media width sensor (L)	
11	J1022	UN4	High-voltage power sapply PCB						25	J608	SR608	Media width sensor (L)	
11	J1023	UN4	High-voltage power sapply PCB						25	J608	SR608	Media width sensor (L)	
12	J1031	UN4	High-voltage power sapply PCB						26	J609	SR609	Fixing delivery sensor	
12	J1032	UN4	High-voltage power sapply PCB						26	J609	SR609	Fixing delivery sensor	
12	J1033	UN4	High-voltage power sapply PCB						26	J609	SR609	Fixing delivery sensor	
13	J922	UN8	Main controller PCB						27	-	SP1	Speaker	

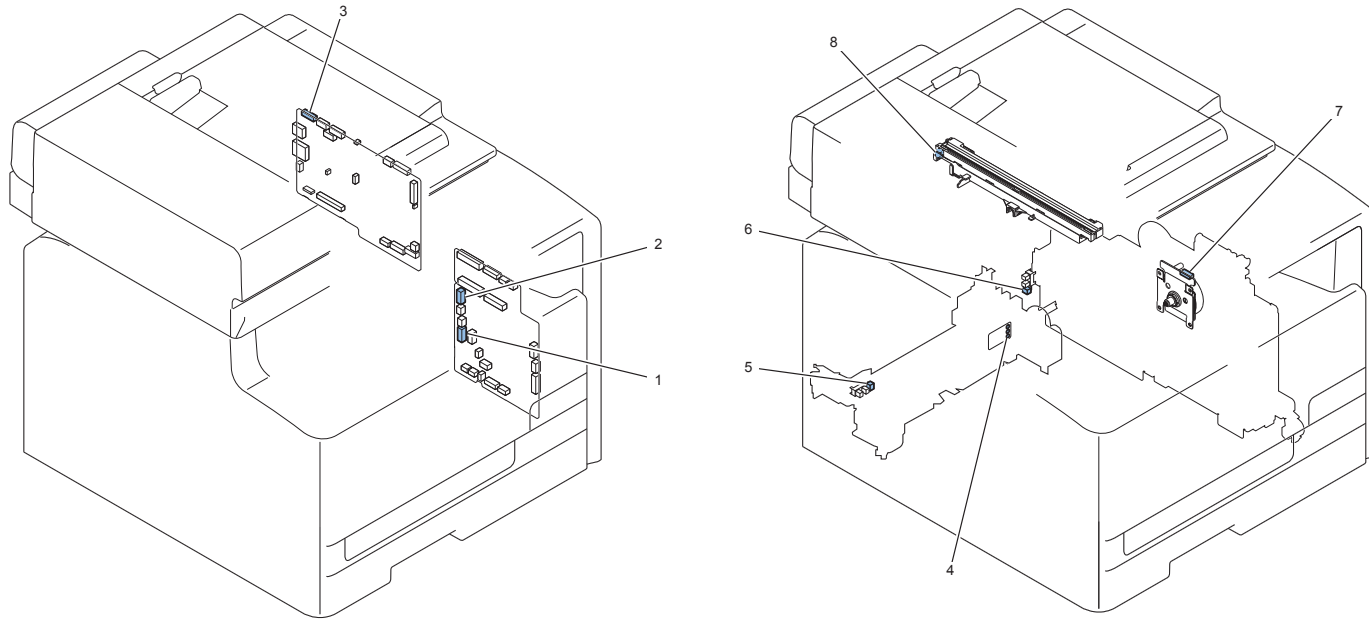
T-4-33



F-4-256

KeyNo	J No.	Electric symbol	Electric parts name	Relay connector				KeyNo.	J No.	Electric symbol	Electric symbol	REMARKS
1	J102	UN2	DC controller PCB					14	J371	UN5	Low-voltage power spply PCB	
1	J102	UN2	DC controller PCB					14	J372	UN5	Low-voltage power spply PCB	
2	J103	UN2	DC controller PCB					15	J373	UN5	Low-voltage power spply PCB	
3	J104	UN2	DC controller PCB	J802D	J802H			16	J802L	TH802	Thermistor	
4	J105	UN2	DC controller PCB					17	J374	UN6	Fixing power supply PCB	
5	J117	UN2	DC controller PCB					18	J604	SR604	MP tray paper detection sensor	
5	J117	UN2	DC controller PCB					19	J605	SR605	MP tray pre registration detection sensor	
6	J301A	UN5	Low-voltage power spply PCB					20	J6001	-	INLET	100V
6	J301B	UN5	Low-voltage power spply PCB					20	J6002	-	INLET	200V
7	J302	UN5	Low-voltage power spply PCB					21	-	SW1	Main power switch	
7	J303	UN5	Low-voltage power spply PCB					21	-	SW1	Main power switch	
7	J304	UN5	Low-voltage power spply PCB					21	-	SW1	Main power switch	
7	J305	UN5	Low-voltage power spply PCB					21	-	SW1	Main power switch	
8	J311	UN5	Low-voltage power spply PCB					22	J312	UN6	Fixing power spply	
9	J351	UN5	Low-voltage power spply PCB					23	J914	UN8	Main controller PCB	
10	J352	UN5	Low-voltage power spply PCB					24	J915	UN8	Main controller PCB	
11	J313	UN6	Fixing power spply					25	J801	H801	Fixing heater	
12	J908	UN8	Main controller PCB					26	J2	UN11	USB host PCB	
13	J913	UN8	Main controller PCB					27	J1	UN10	Control panel PCB	

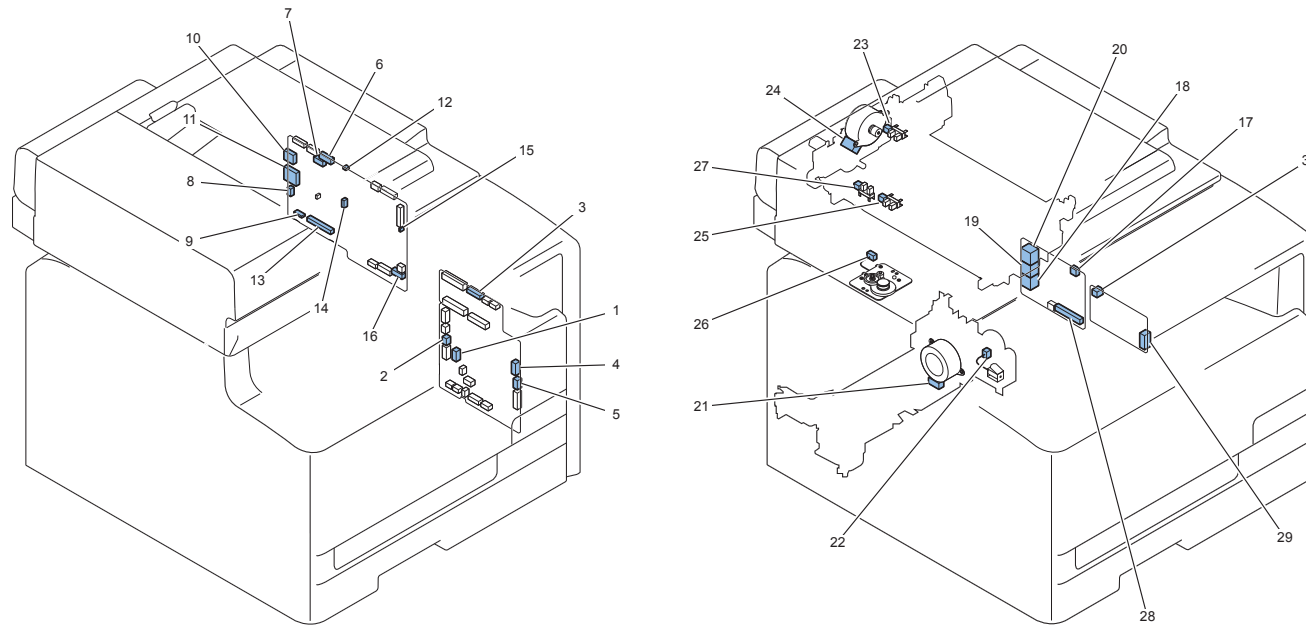
T-4-34



F-4-257

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector	KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
1	J116	UN2	DC controller PCB		4	J161	SR601	Cassette paper detection sensor	
1	J116	UN2	DC controller PCB		4	J162	SR601	Cassette paper detection sensor	
1	J116	UN2	DC controller PCB		4	J163	SR601	Cassette paper detection sensor	
1	J116	UN2	DC controller PCB		5	J602	SR602	Registration detection sensor	
1	J116	UN2	DC controller PCB		6	J603	SR603	Fixing loop sensor	
2	J121	UN2	DC controller PCB		7	J701	M701	Main motor	
3	J901	UN8	Main controller PCB		8	J409	-	CIS Unit	

T-4-35



F-4-258

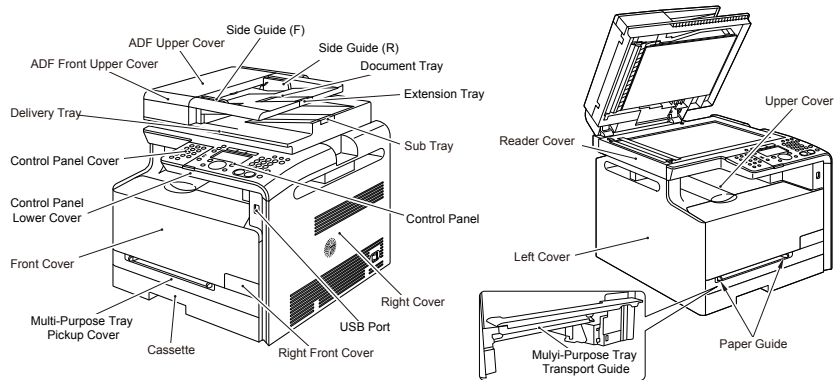
KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector			KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
1	J111	UN2	DC controller PCB				21	J702	M702	Pickup motor	
2	J113	UN2	DC controller PCB				22	-	SL705	Cassette pickup solenoid	
3	J124	UN2	DC controller PCB				-	-	-	TAG 1st	
3	J124	UN2	DC controller PCB				-	-	-	TAG 2nd	
3	J124	UN2	DC controller PCB				-	-	-	TAG 3rd	
3	J124	UN2	DC controller PCB				-	-	-	TAG 4th	
4	J126	UN2	DC controller PCB				-	-	-	IOT	
5	J127	UN2	DC controller PCB				-	-	-	FLASH	
6	J903	UN8	Main controller PCB				23	J1302	PS703	Document End Sensor	
6	J903	UN8	Main controller PCB				24	J1305	M721	ADF motor	
6	J903	UN8	Main controller PCB	J1310D	J1310DH	J1310L	25	J1312	PS702	Document Sensor	
7	J904	UN8	Main controller PCB	J1402D	J1402DH		26	J1402L	M720	Reader motor	
7	J904	UN8	Main controller PCB	J1401D	J1401DH	J1401L	27	J1404	PS701	CIS Unit homeposition sensor	
8	J906	UN8	Main controller PCB				-	-	-	-	
9	J907	UN8	Main controller PCB				-	-	-	-	
10	J909	UN8	Main controller PCB				-	-	-	-	
11	J911	UN8	Main controller PCB				-	-	-	-	
12	J917	UN8	Main controller PCB				-	-	-	-	
13	J918	UN8	Main controller PCB				28	J931	UN9	FAX-NCU PCB	

KeyNo.	J No.	Electric symbol	Electric parts name	Relay connector					KeyNo.	J No.	Electric symbol	Electric parts name	REMARKS
14	J919	UN8	Main controller PCB						-	-	-	-	
15	J920	UN8	Main controller PCB						-	-	-	-	
16	J921	UN8	Main controller PCB						29	J601	UN12	Off hook PCB	
16	J921B	UN8	Main controller PCB						-	-	-	-	
17	J932	UN9	FAX-NCU PCB						30	J602	UN12	Off hook PCB	
18	J933	UN9	FAX-NCU PCB						-	-	-	-	
19	J934	UN9	FAX-NCU PCB						-	-	-	-	
20	J935	UN9	FAX-NCU PCB						-	-	-	-	

T-4-36

## External Cover, Internal Cover

### Location

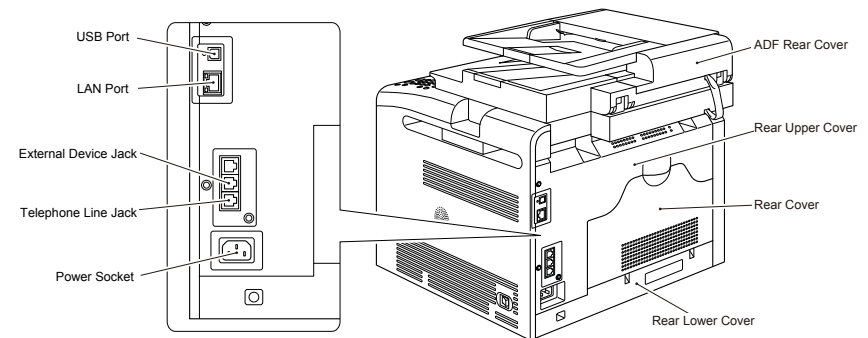


F-4-259

Name	Service Parts No.	Reference
ADF Front Upper Cover	FC9-1533	-
	FC9-1536	-
Side Guide (F)	FC9-5656	-
Side Guide (R)	FC9-5657	-
Document Tray	FC9-1534	-
Extension Tray	FC9-1535	-
Sub Tray	FC9-5655	-
Control Panel	FM4-1496 (MF8050Cn JP)	refer to page Refer to page 4-152
	FM4-1505 (MF8030Cn JP)	
	FM4-1495 (MF8050Cn US)	
	FM4-1499 (MF8050Cn AE)	
	FM4-1502 (MF8030Cn AE)	
	FM4-1500 (MF8050Cn CHN)	
	FM4-1503 (MF8030Cn CHN)	
	FM4-1501 (MF8050Cn KOR)	
	FM4-1504 (MF8030Cn KOR)	
FM4-1498 (MF8050Cn EU)		
FM4-1497 (MF8030Cn EU)		
Right Cover	FC9-4441	refer to page Refer to page 4-117 refer to page Refer to page 4-118
USB Port	FM4-3989	-
Right Front Cover	FC9-4446	-

Name	Service Parts No.	Reference
Cassette	FM4-4279	-
Multi-Purpose Tray Pickup Cover	FC9-4454	-
Front Cover	FM4-4266	refer to page Refer to page 4-119
Control Panel Lower Cover	FC9-4502	-
Control Panel Cover	-	-
Delivery Tray	-	-
Upper Cover	FM4-4262	refer to page Refer to page 4-125
Paper Guide	-	-
Muli-Purpose Tray Transport Guide	FM3-3441	-
Left Cover	FC9-4440	refer to page Refer to page 4-116 refer to page Refer to page 4-116
Reader Cover	-	refer to page Refer to page 4-138

T-4-37



Name	Service Parts No.	Reference
ADF Rear Cover	FC9-1532	-
Rear Upper Cover	FC9-4449	refer to page Refer to page 4-124
Rear Cover	FC9-4452	refer to page Refer to page 4-125
Rear Lower Cover	FC9-4451	refer to page Refer to page 4-125
Power Socket	FM4-3695 (100V)	-
	FM4-3696 (200V)	-
Telephone Line Jack	-	-
External Device Jack	-	-
LAN Port	-	-

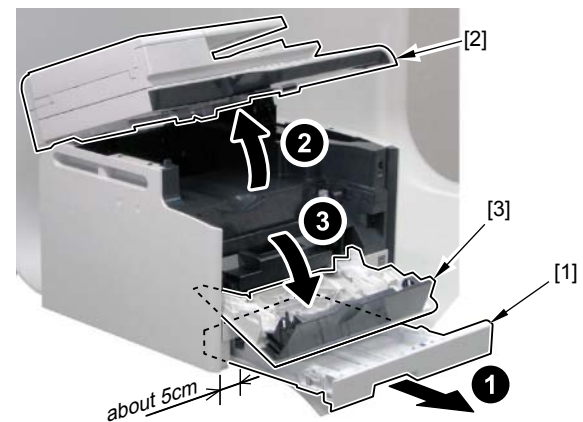
F-4-260

Name	Service Parts No.	Reference
USB Port	-	-

T-4-38

## ■ Removing the Left Cover

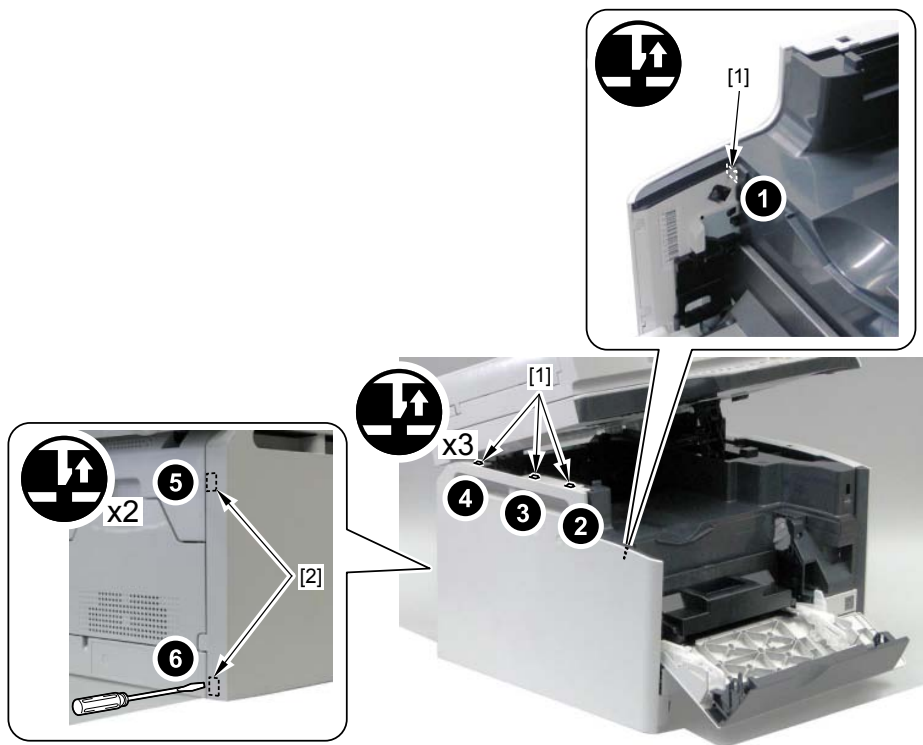
- 1) Remove the Cassette [1].
- 2) To remove the claw at the lower side of the Left Cover, move the Host Machine for about 5cm from the base.
- 3) Open the ADF Unit + Reader Unit [2].
- 4) Open the Front Cover [3].



F-4-261

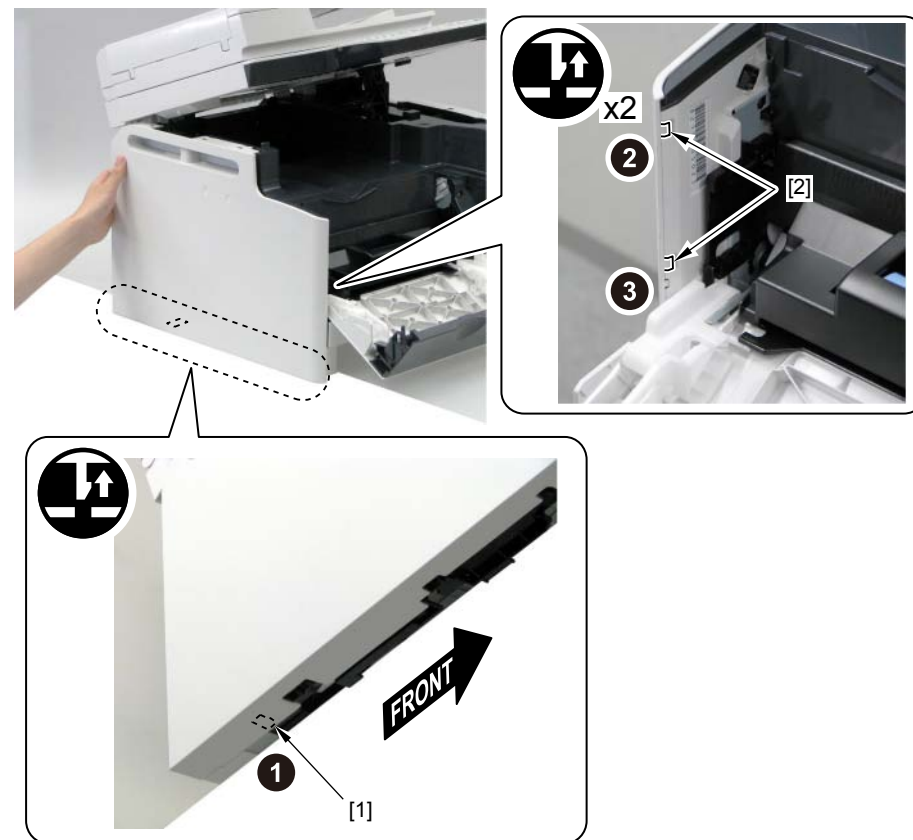


- 5) Remove the 4 claws [1] at the upper side of the Left Cover.  
 6) Remove the 2 claws [2] at the rear side of the Left Cover.



F-4-262

- 7) Remove the claw [1] at the lower side of the Left Cover.  
 8) While supporting the Left Cover, remove the 2 claws [2] at the upper front side of the Left Cover.



F-4-263

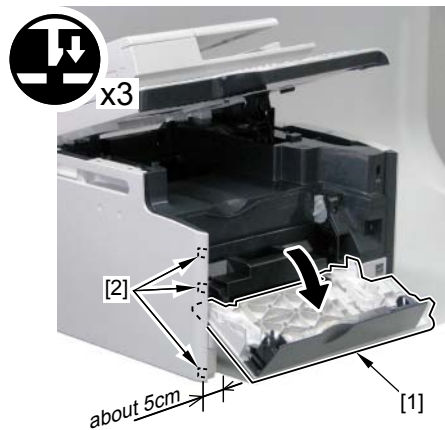
- 9) Close the Front Cover [1], and then hold the Left Cover [2] to remove.  
- 1 claw [3]



F-4-264

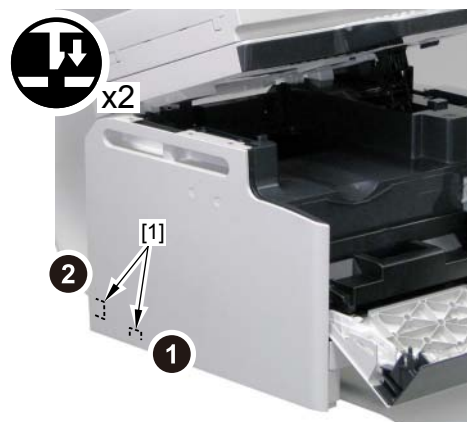
#### Installing the Left Cover

- 1) To remove the claw at the lower side of the Left Cover, move the Host Machine for about 5cm from the base.
- 2) Open the Front Cover [1].
- 3) Install the 3 claws [2] at the front side of the Left Cover.



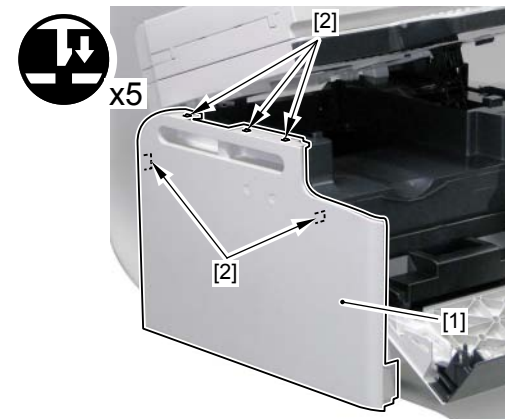
F-4-265

4) Fit in the claw [1] at the lower side of the Left Cover.



F-4-266

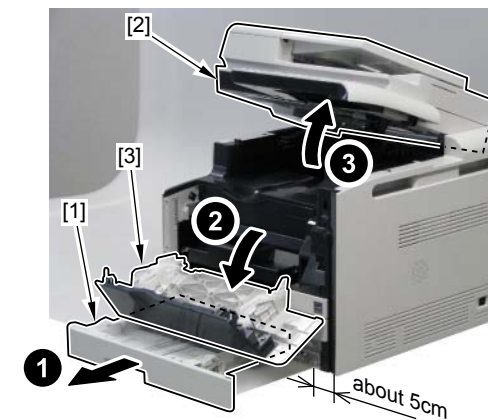
5) Install the Left Cover [1].  
- 5 claws [2]



F-4-267

## ■ Removing the Right Cover

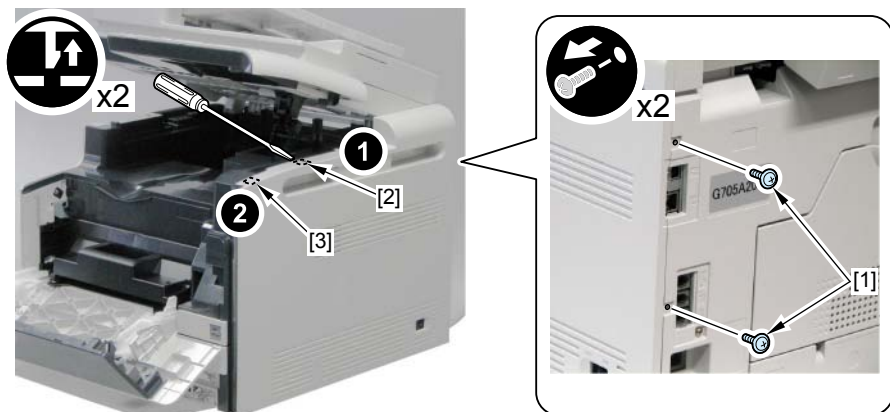
- 1) Remove the Cassette [1]
- 2) To remove the claw at the lower side of the Right Cover, move the Host Machine for about 5cm from the base.
- 3) Open the ADF Unit + Reader Unit [2].
- 4) Open the Front Cover [3].



F-4-268

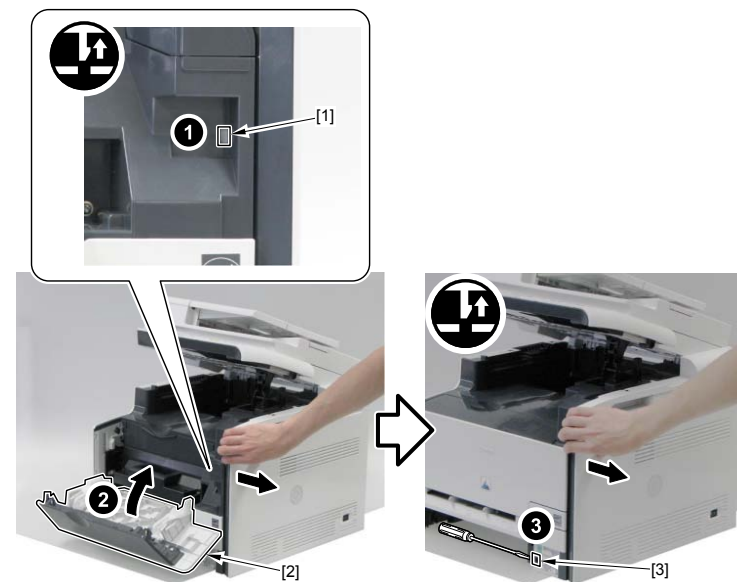
5) Remove the 2 screws [1], and then remove the claw [2] at the rear side and remove the

claw [3] at the front side.



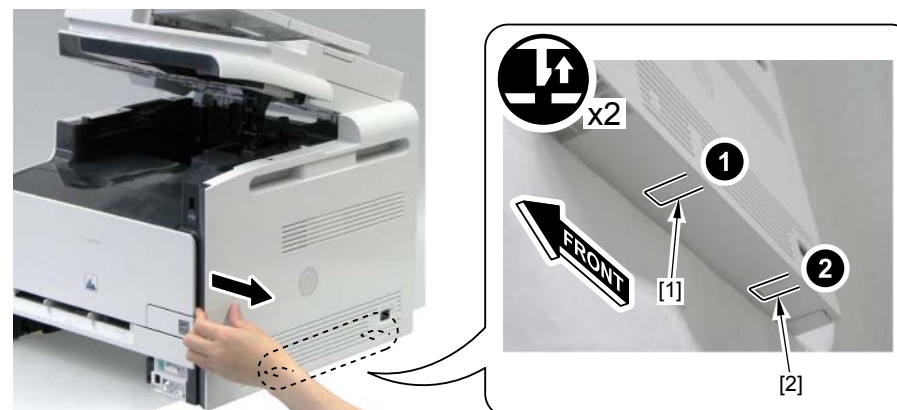
F-4-269

6) While pulling the upper front side of the Right Cover, remove the claw [1] at the upper front side, and then close the Front Cover [2] to remove the claw [3] at the lower front side.



F-4-270

7) While pulling the left side of the Right Cover, remove the claw [1] at the front side, and then remove the claw [2] at the rear side.



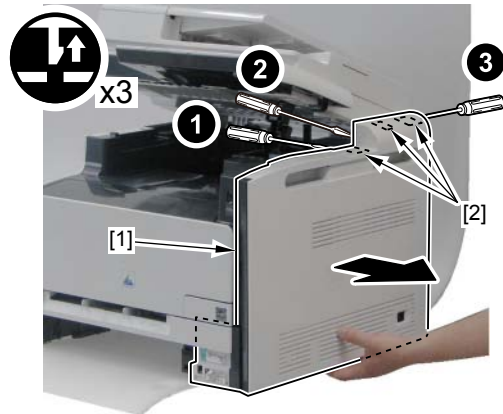
F-4-271

8) Hold the Right Cover [1] to remove.

- 3 claws [2]

**MEMO:**

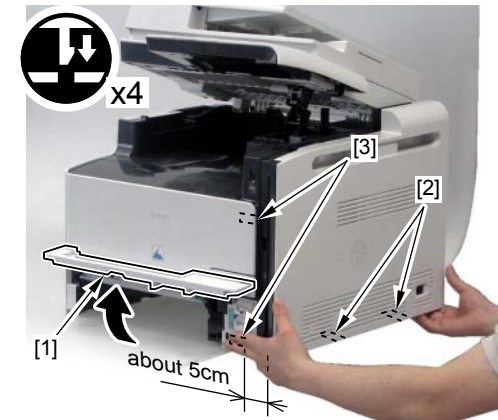
When the claw is removed, insert the driver from the front side and the rear side as the figure mentions. It's not necessary to open ADF Unit + Reader Unit much bigger.



F-4-272

**Installing the Right Cover**

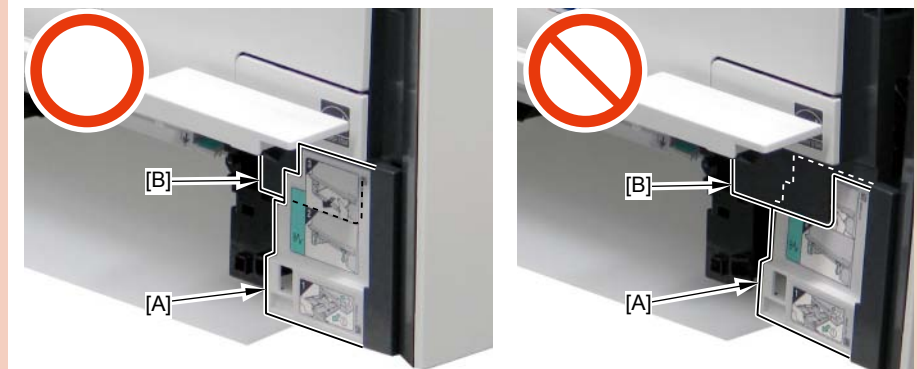
1) Install the 2 claws [2] at the lower side of the Right Cover and the 2 claws at the front side.



F-4-273

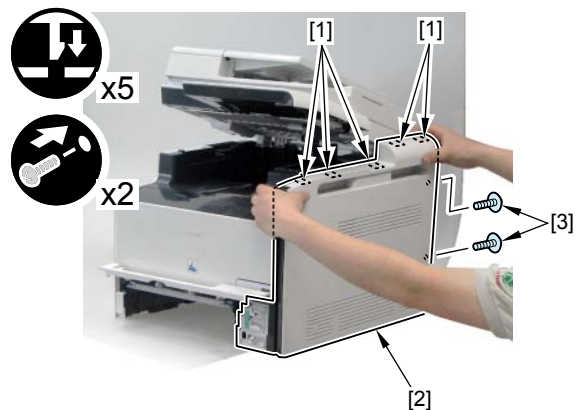
**Caution:**

To install the Right Cover to the Host Machine, be sure to install [A] part of the Right Cover to be attached outside of [B] part.



F-4-274

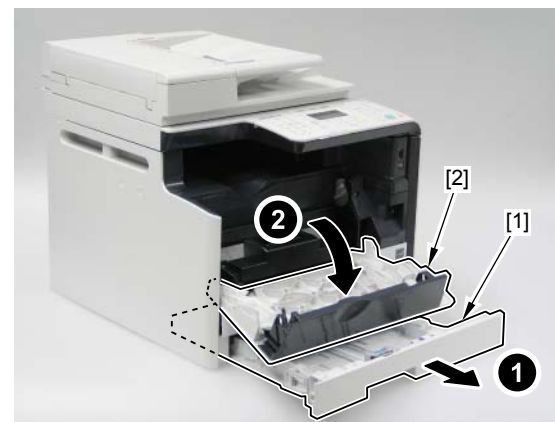
- 2) Fit in the 5 claws [1] at the upper side of the Right Cover to install the Right Cover [2].  
- 2 screws [3]



F-4-275

## ■ Removing the Front Cover

- 1) Remove the Cassette [1].
- 2) Open the Front Cover [2].



F-4-276

- 3) Pull the Cartridge Tray [1].

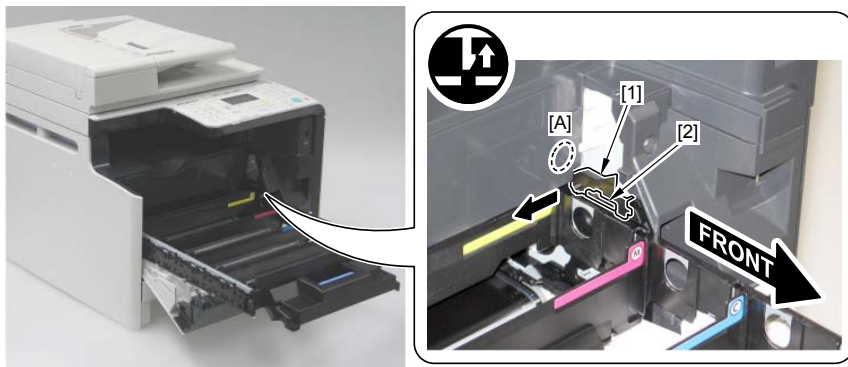
### MEMO:

Since the Cartridge Tray interferes with the stopper when removing the stopper, do not pull out the Cartridge Tray until it hits the end.



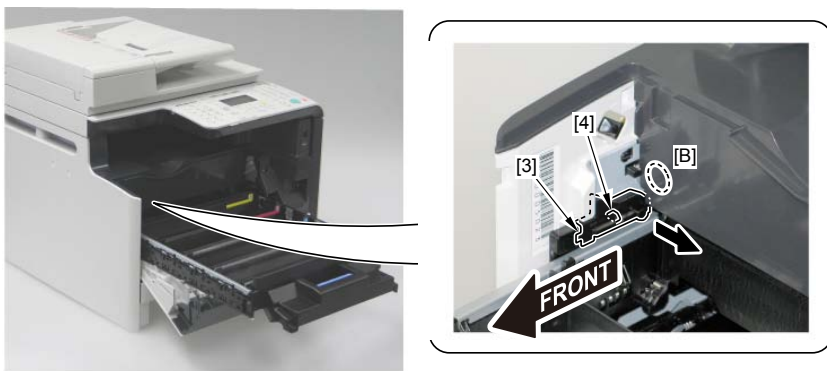
F-4-277

- 4) Remove the cartridges
- 5) Remove the claw [2] of the Right Stopper [1].
- 6) While pushing the [A] area, remove the Right Stopper [1].



F-4-278

- 7) Remove the claw [3] of the Left Stopper [4].
- 8) While pushing the [B] area, remove the Left Stopper [3].



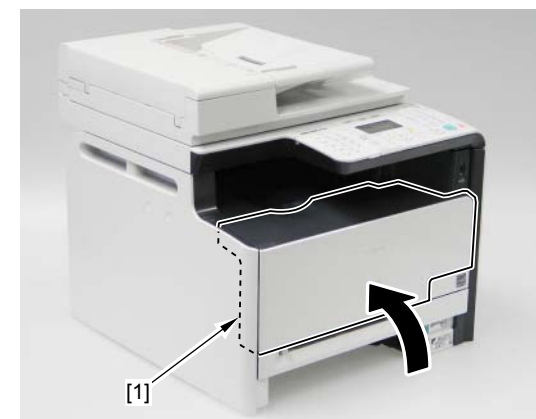
F-4-279

- 9) Remove the Cartridge Tray [1].



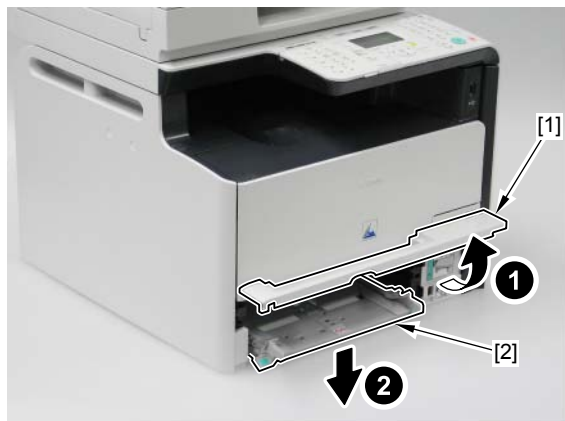
F-4-280

- 10) Close the Front Cover [1].



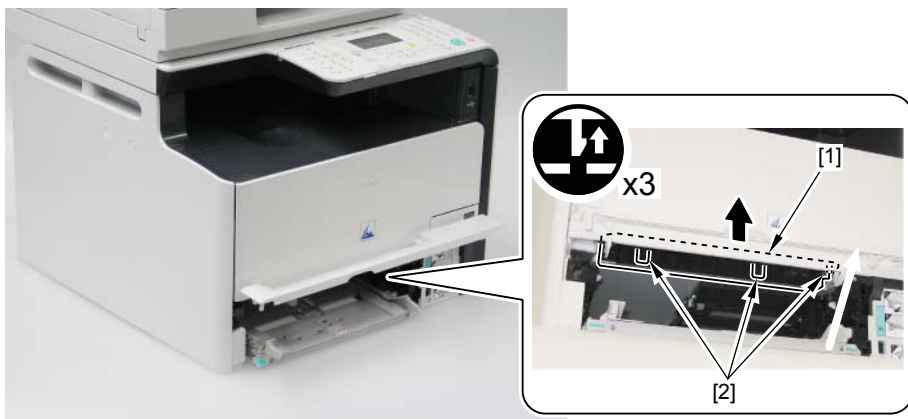
F-4-281

- 11) Open the Multi-purpose Pickup Slot Cover [1].
- 12) Open the Multi-purpose Pickup Tray [2].



F-4-282

- 13) While lifting the Feeding Guide [2] in the direction of the arrow, remove the 3 claws [1].



F-4-283

- 14) Open the Front Cover [1] to remove the Feeding Guide [2].



F-4-284

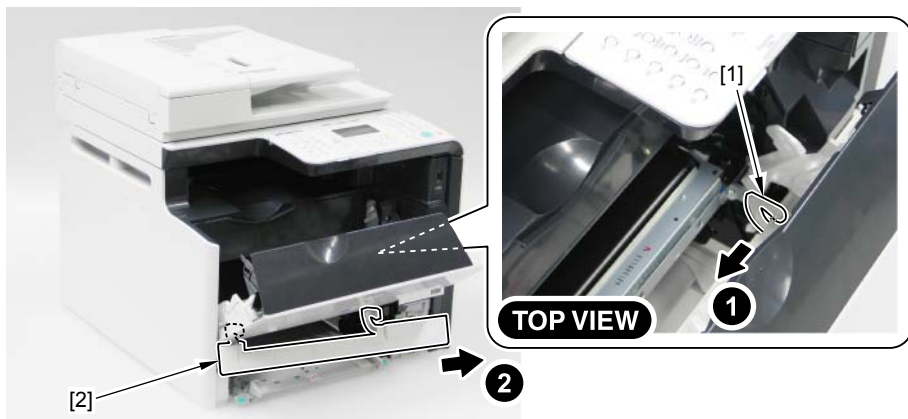
- 15) Put the Front Cover [1] back to position A.



F-4-285

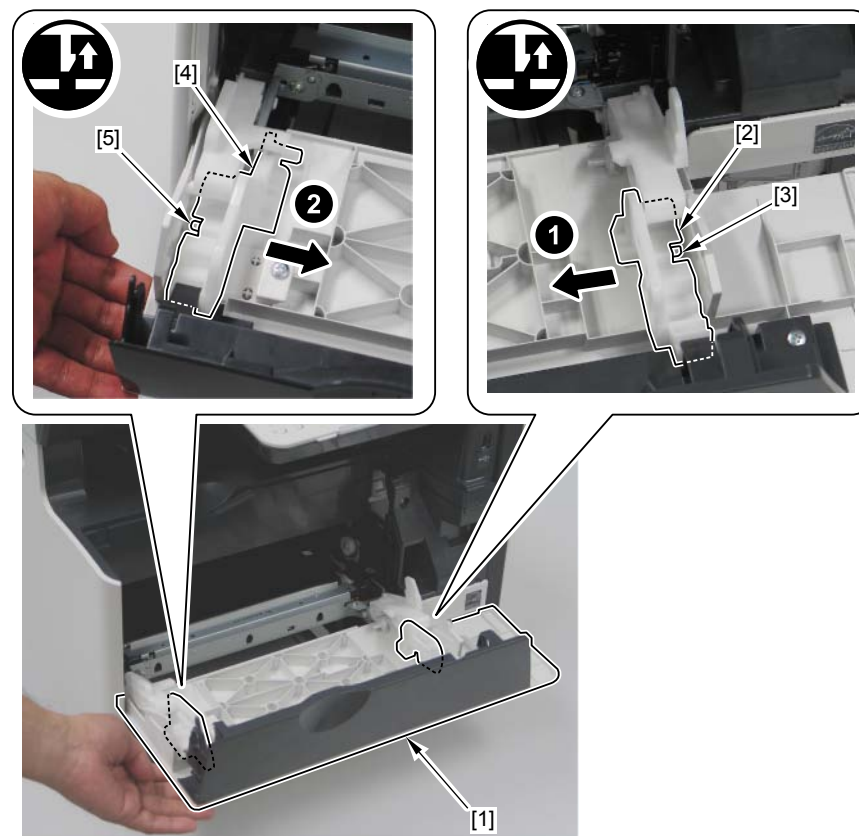


- 16) Remove the Right Arm [1] of the Multi-purpose Pickup Slot Cover to remove the Multi-purpose Pickup Slot Cover [2] in the direction of the arrow.



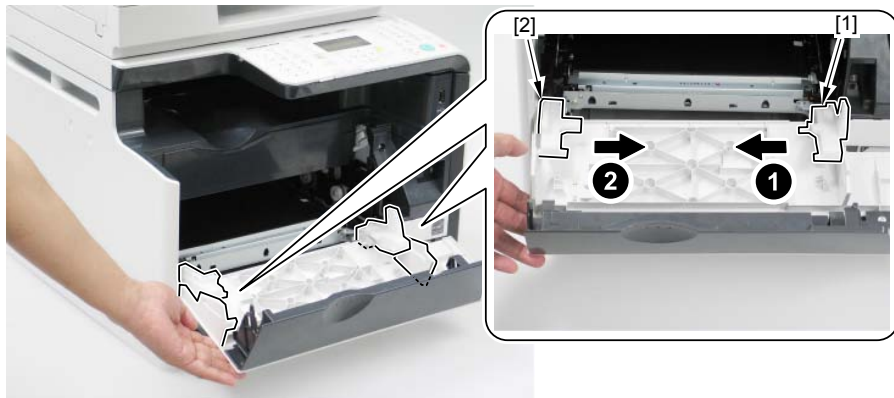
F-4-286

- 17) While supporting the Front Cover [1], remove the claw [2] of the Right Holder to remove the Right Holder [3] in the direction of the arrow.
- 18) Remove the claw [4] of the Left Holder to remove the Left Holder [5] in the direction of the arrow.



F-4-287

- 19) Push the Right Arm [1] in the direction of the arrow to remove the link.  
 20) Push the Left Arm [2] in the direction of the arrow to remove the link.



F-4-288

- 21) Remove the shaft [1] of the Front Cover to remove the Front Cover [2] in the direction of the arrow.



F-4-289

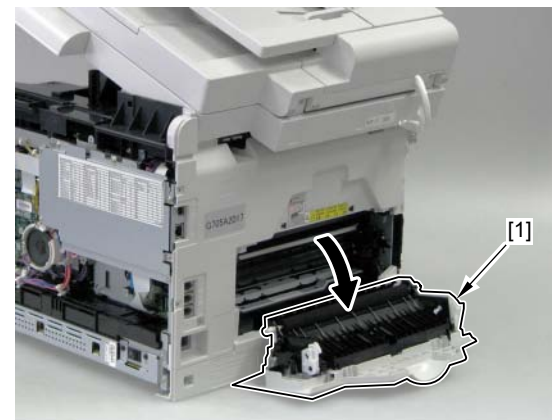
## ■ Removing the Rear Upper Cover

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.  
 2) Remove the Left Cover. Refer to page Refer to page 4-114.

### Procedure

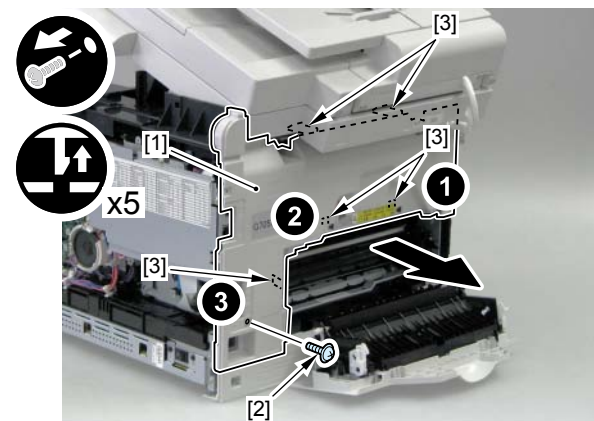
- 1) Open the Rear Cover [1].



F-4-290

- 2) Remove the Rear Upper Cover [1].

- 1 screw [2]
- 5 claws [3]



F-4-291

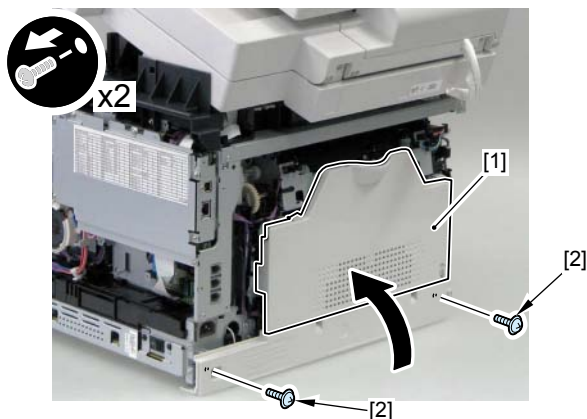
## Removing the Rear Lower Cover

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-123.

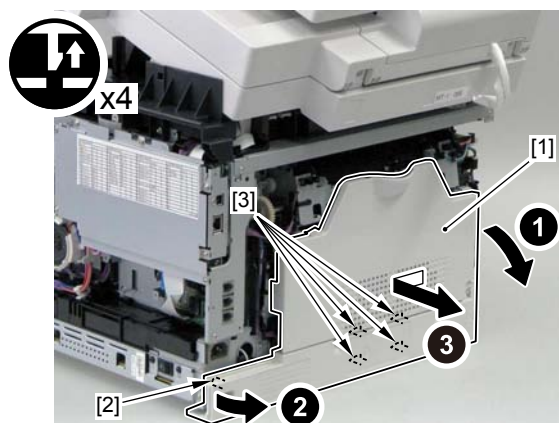
### Procedure

- 1) Close the Rear Cover [1] and remove the 2 screws [2].



- 2) Open the Rear Cover and remove the Rear Lower Cover [1] in the direction of the arrow. F-4-292

- 1 boss [2]
- 4 claws [3]



F-4-293

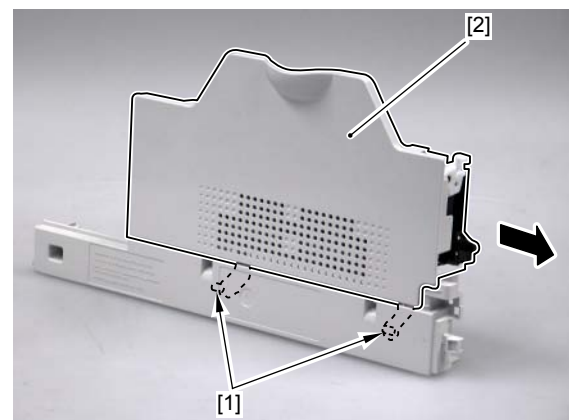
## Removing the Rear Cover.

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-123.
- 4) Remove the Rear Lower Cover. Refer to page Refer to page 4-124.

### Procedure

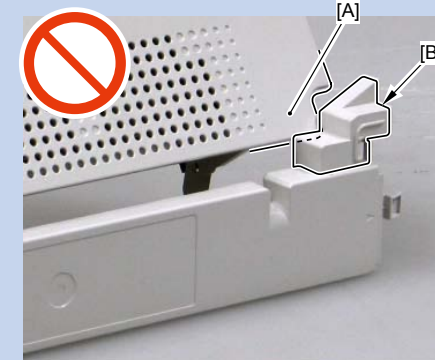
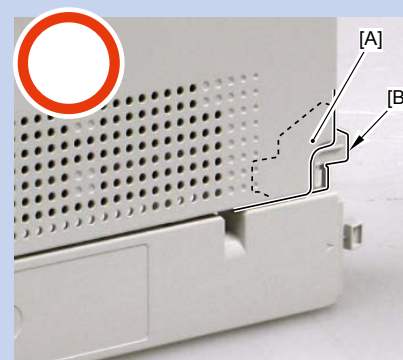
- 1) Remove the Rear Cover [2] from the shafts [1] of the Rear Lower Cover.



F-4-294

### MEMO:

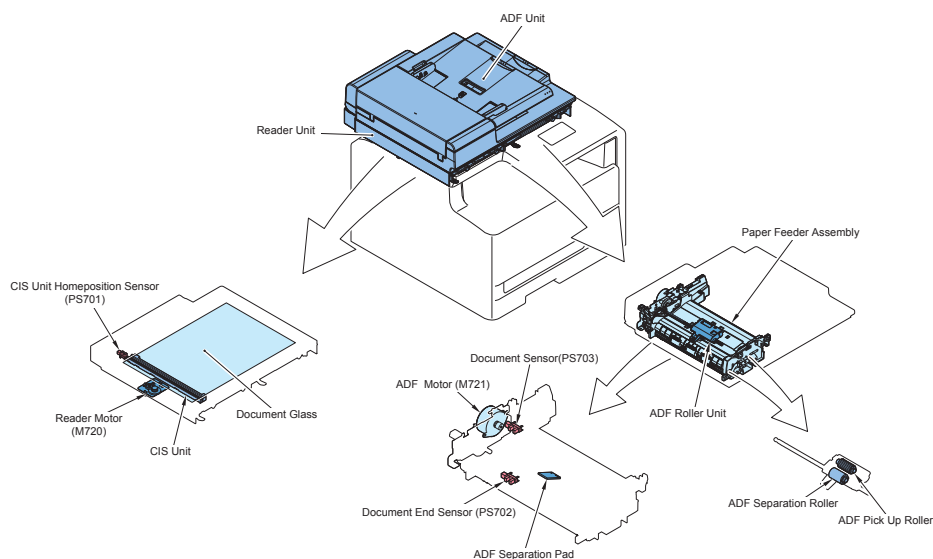
When installing the Rear Door, be sure to install [A] part to be attached outside of [B] part.



F-4-295

## Document exposure/feeder system

### Location



F-4-299

Name	Service Parts No.	Reference	Adjustment during parts replacement
ADF Unit	-	refer to page Refer to page 4-126 refer to page Refer to page 4-128	refer to page Refer to page 5-2
Reader Unit	FM4-4300	refer to page Refer to page 4-126 refer to page Refer to page 4-128	refer to page Refer to page 5-2
ADF Roller Unit	FM3-9538	refer to page Refer to page 4-131	-
ADF Separation Roller	FL2-6637	refer to page Refer to page 4-133	-
ADF Pickup Roller	FC7-6189	refer to page Refer to page 4-133	-
Paper Feeder Assembly	FM4-1879	refer to page Refer to page 4-136	-
Document End Sensor	WG8-5696	-	-
ADF Motor	FM4-1881	refer to page Refer to page 4-138	-

Name	Service Parts No.	Reference	Adjustment during parts replacement
Document Sensor	WG8-5696	-	-
ADF Separation Pad	FC7-6297	refer to page Refer to page 4-134	-
Document Glass	-	refer to page Refer to page 4-139	refer to page Refer to page 5-3
CIS Unit	FM4-4307	refer to page Refer to page 4-140	refer to page Refer to page 5-4
Reader Motor	FM4-4301	refer to page Refer to page 4-143	-
CIS Unit Home Position Sensor	WG8-5696	-	-

T-4-39

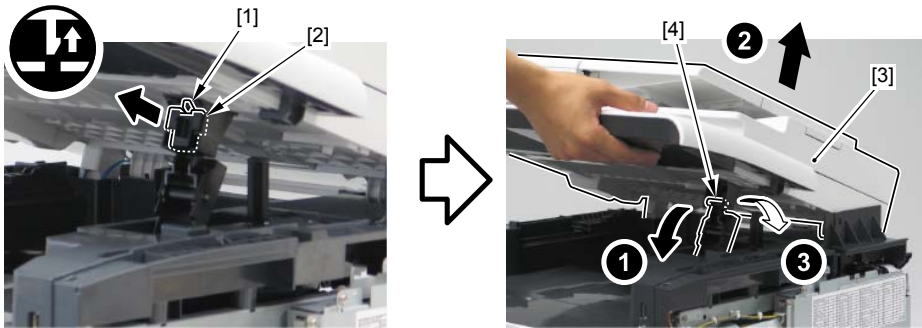
## ■ Removing the ADF Unit + Reader Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to Page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to Page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to Page 4-138

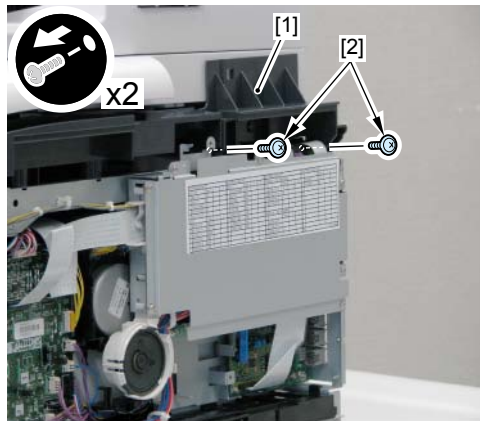
### Procedure

- 1) Remove the claw [1] to remove the Reader Shaft Retainer [2].
- 2) While supporting the ADF Unit + Reader Unit [3], remove the Reader Support Shaft [4].
- 3) Bring down the Reader Support Shaft [4] to close the ADF Unit + Reader Unit [3].



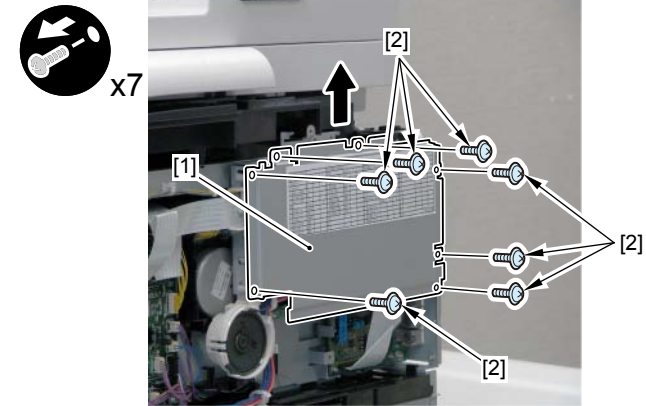
F-4-300

- 4) Remove the handle [1].
- 2 screws [2]



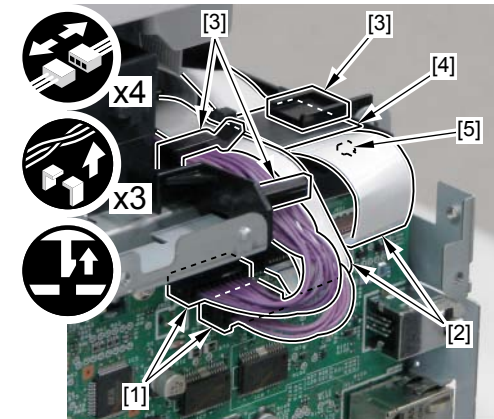
F-4-301

- 5) Remove the Controller Cover [1].
- 7 screws [2]



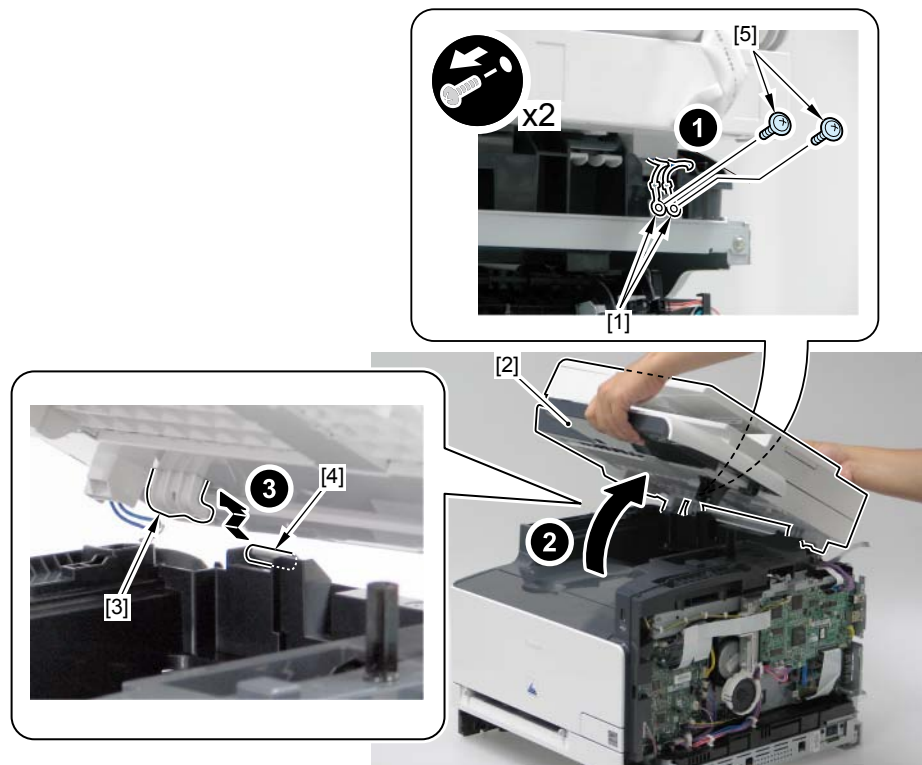
F-4-302

- 6) Disconnect the 2 connectors [1] and the 2 flat cables [2].
- 1 claw [3]
- 1 core [4]
- 3 harness guides [5]



F-4-303

- 7) Remove the grounding cord [1], open the ADF Unit + Reader Unit [2] to remove the hook [3] from the shaft [4], and remove the ADF Unit + Reader Unit [2].  
- 2 screws [5]



F-4-304

**MEMO:**

When ADF Unit and Reader Unit are exchanged, the treats after ADF Unit and Reader Unit are exchanged must be done.

## ■ Separating the ADF Unit + Reader Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page 4-Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the ADF Unit + Reader Unit. Refer to page Refer to page 4-126.

### Procedure

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

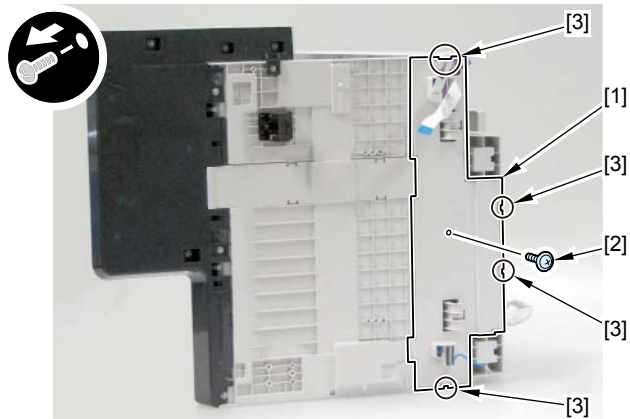


F-4-305

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

1 screw [2]

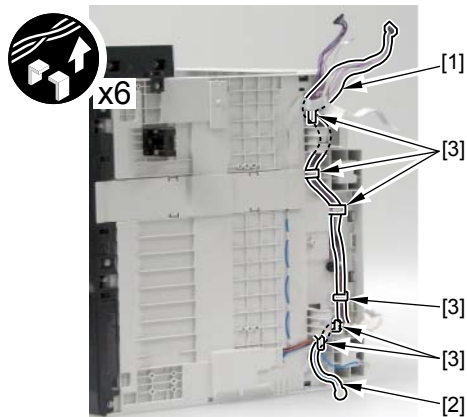
4 claws [3]



F-4-306

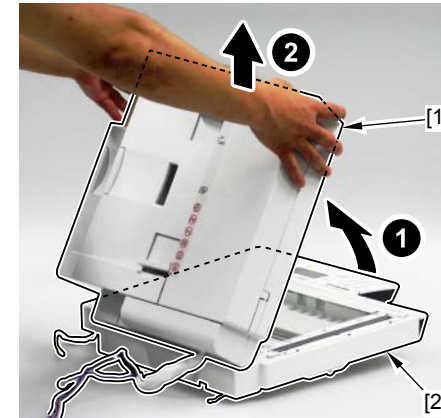
3) Remove the cable [1] and the grounding wire [2].

6 wire guides [3]



F-4-307

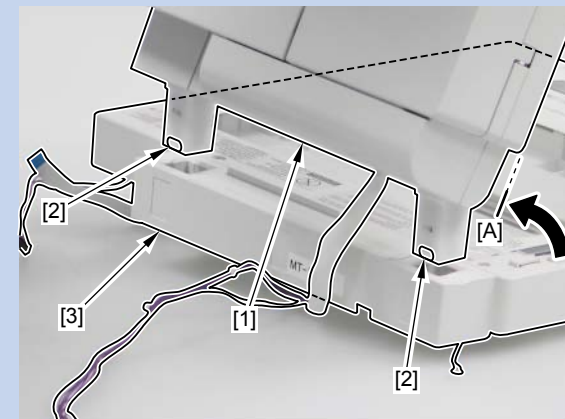
4) Open the ADF Unit and separate it to the direction of the arrow from the Reader Unit [2].



F-4-308

MEMO:

If ADF Unit [1] is not opened to the position [A], it cannot be separated from the Reader Unit, because of the 2 claws [2].



F-4-309

### After replacing ADF units

1) After executing the white level adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.

#### 1.White level adjustment

- COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

#### 2.Checking the setting value

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)

2) Execute the reading position adjustment with the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
- COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning position in FEEDER mode)
- COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)

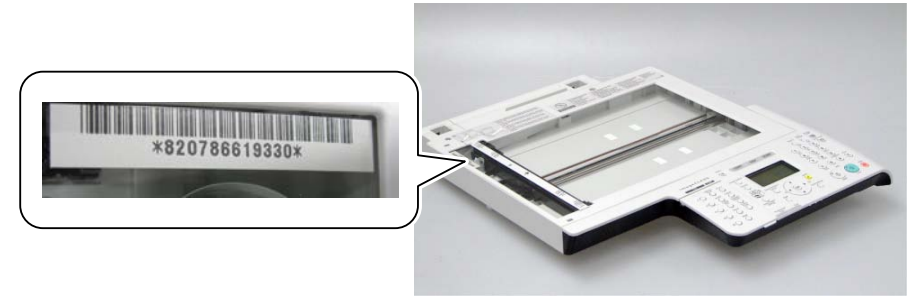
3) Execute the original stop position and feed speed adjustment at stream reading.

- FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
- FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

### After replacing reader units

1) Enter the setting value of the Standard White Plate.

- COPIER > ADJUST > CCD > W-PLT-X (X signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Y (Y signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Z (Z signal data for the standard white plate)



F-4-310

2) Execute the white level adjustment.

- COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
- COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)

3) After executing the CCD reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.

- 1.COPIER> FUNCTION> INSTALL> STRD-POS (CCD reading position adjustment auto execution)
- 2.COPIER> ADJUST> ADJ-XY> STRD-POS (CCD reading position adjustment value reference)

4) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.

#### 1.White level adjustment

- COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])

Then, set a blank paper on the DF, and execute the following service mode.

- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

#### 2.Checking the setting value

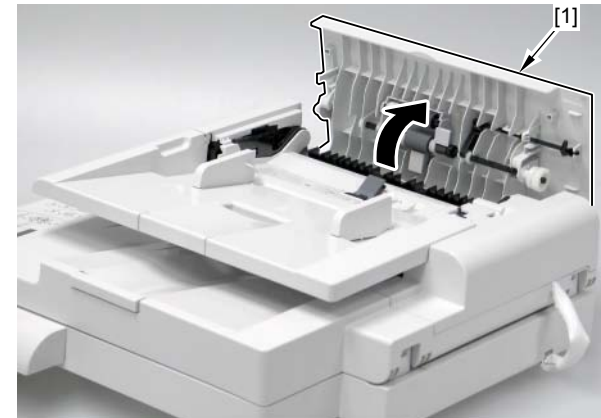
- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)



- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
  - COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
  - COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)
- 5) Enter the value on the label packed with the part in the following service mode item.
- COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
  - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning position in FEEDER mode)
  - COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)
  - COPIER> ADJUST> CCD> 50-RG (Color displacement correction value between RG in the vertical scanning direction (50%))
  - COPIER> ADJUST> CCD>50-GB (Color displacement correction value between GB in the vertical scanning direction (50%))
  - COPIER> ADJUST> CCD>100-RG (Color displacement correction value between RG in the vertical scanning direction (100%))
  - COPIER> ADJUST> CCD>100-GB (Color displacement correction value between GB in the vertical scanning direction (100%))
  - COPIER>ADJUST>PASCAL>OFST-P-Y (Adjustment of test chart reading density)
  - COPIER>ADJUST>PASCAL> OFST-P-M (Adjustment of test chart reading density)
  - COPIER>ADJUST>PASCAL> OFST-P-C (Adjustment of test chart reading density)
  - COPIER>ADJUST>PASCAL> OFST-P-K (Adjustment of test chart reading density)
- 6) Read the image and execute the adjustment with the following service mode.
- FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
  - FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

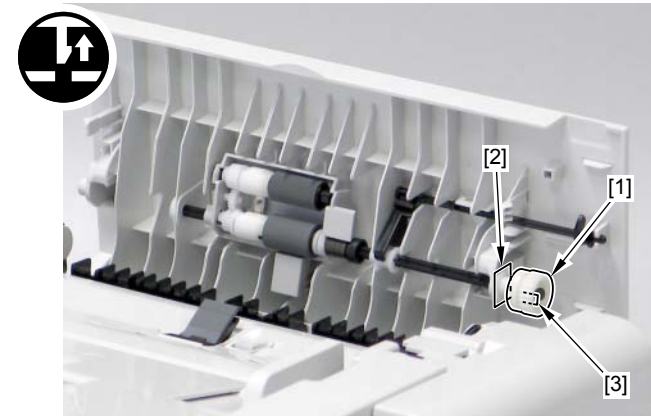
## ■ Removing the ADF Roller Unit

- 1) Open the ADF Upper Cover [1].



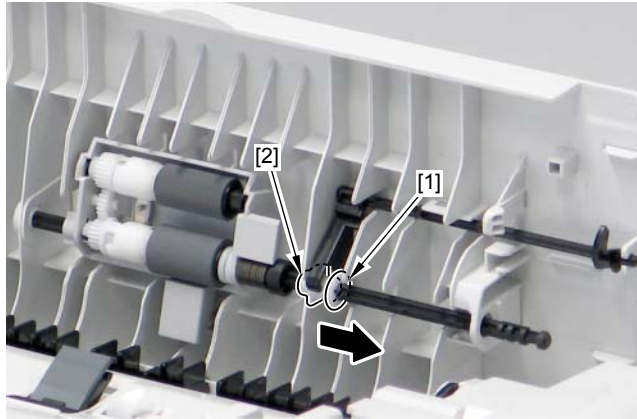
F-4-311

- 2) Remove the gear [1] and the bushing [2].  
- 1 claw [3]



F-4-312

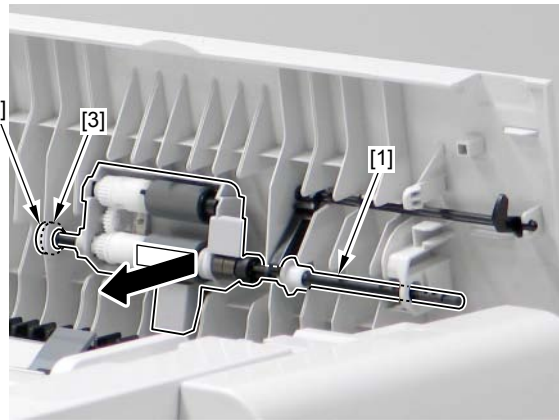
3) Remove the plastic E-ring [1] and slide the bushing [2].



F-4-313

4) Remove the ADF Roller Unit [1].

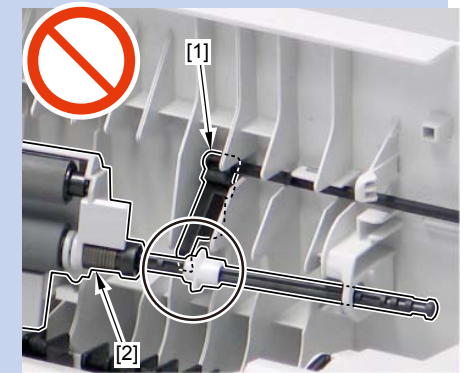
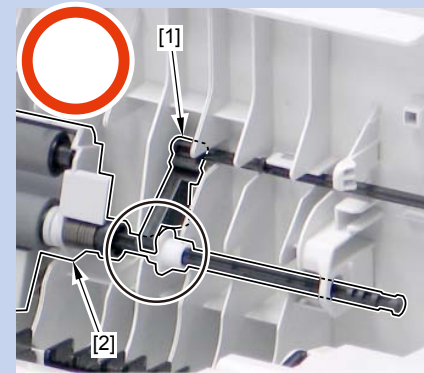
- 1 plastic E-ring [2]
- 1 bushing [3]



F-4-314

MEMO:

The sensor flag [1] should be on the ADF Roller Unit [2].

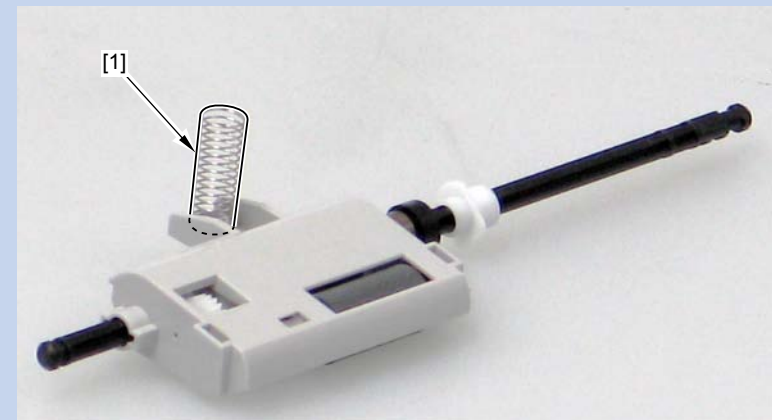


F-4-315

NOTE:

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

Caution: Be careful not to lose the spring [1] attached to the ADF Roller



F-4-316

## ■ Removing the ADF Pickup Roller

### Pre-procedure

- 1) Remove the ADF roller unit. Refer to page Refer to page 4-131.

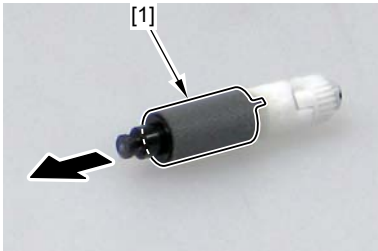
### Procedure

- 1) Put in the tip of a flat-blade screwdriver to remove the ADF Pickup Roller Unit [1].



F-4-317

- 2) Remove the ADF Pickup Roller [1].



F-4-318

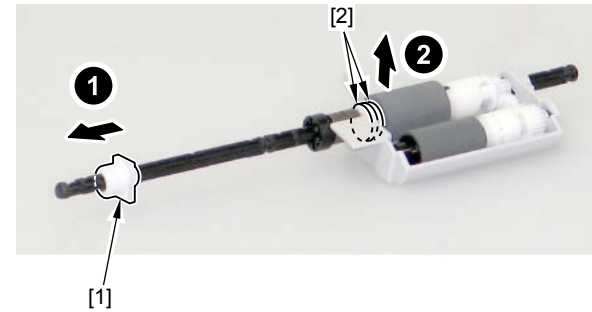
## ■ Removing the ADF separation roller

### Pre-procedure

- 1) Remove the ADF roller unit. Refer to page Refer to page 4-131.

### Procedure

- 1) Remove the bushing [1] and 2 plastic e-rings [2].

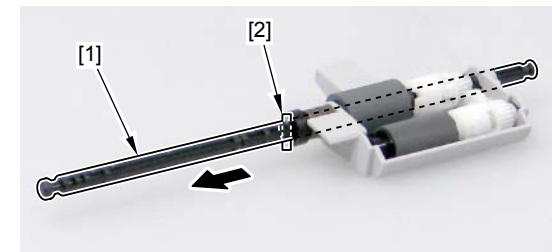


F-4-319

- 2) Slide the Roller Shaft [1] to remove the parallel pin [2].

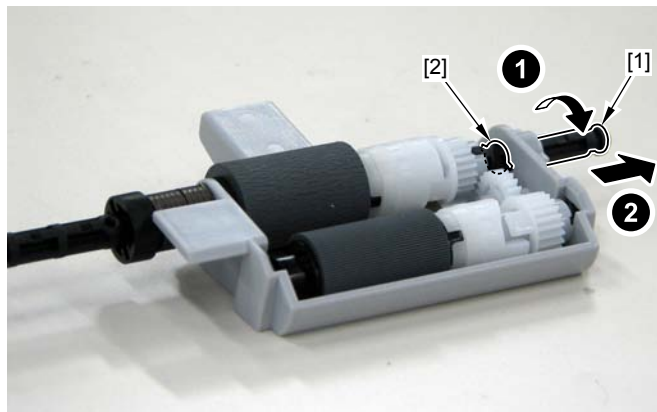
### MEMO:

Be careful not to lose the parallel pin at assembly/disassembly.



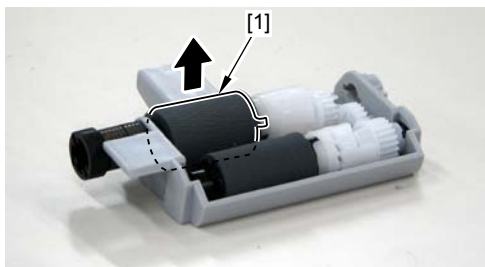
F-4-320

- 3) Turn the Roller Shaft [1] in the direction of the arrow and fit the projection [2] to the hole of the Roller Holder to remove.



F-4-321

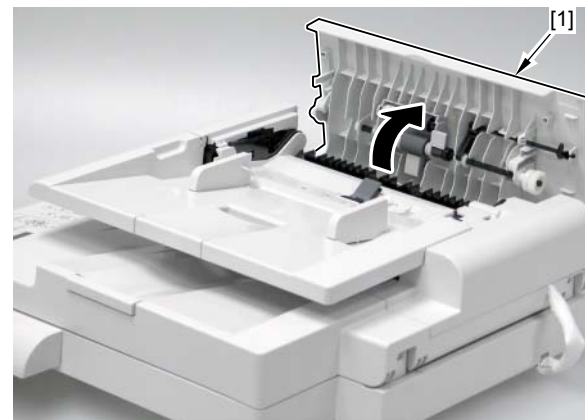
- 4) Remove the ADF Separation Roller [1].



F-4-322

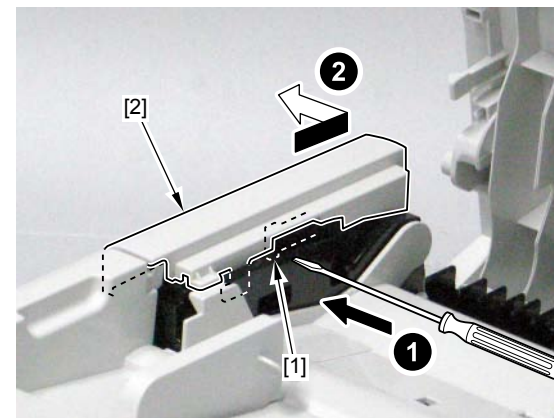
## ■ Removing the ADF Separation Pad

- 1) Open the ADF Upper Cover [1].



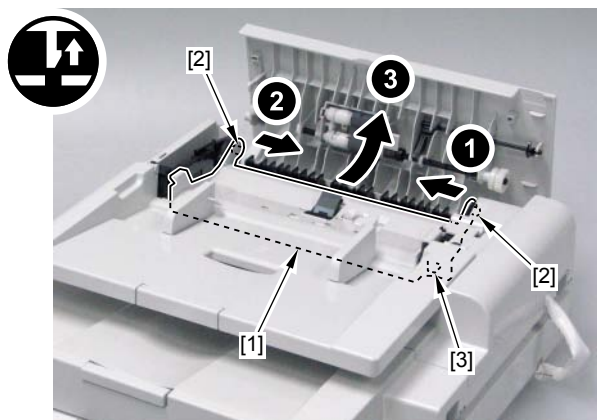
F-4-323

- 2) Unhook the hook [1] using the flat-head screw driver and remove the ADF Front Cover [1] in the direction of the arrow.



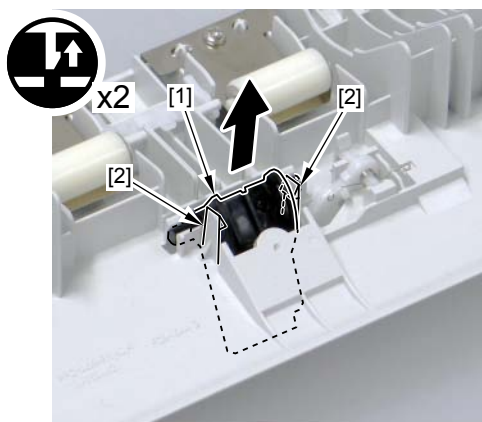
F-4-324

- 3) Remove the Feed Guide [1] in the direction of the arrow.  
 - 2 bosses [2]  
 - 1 claw [3]



F-4-325

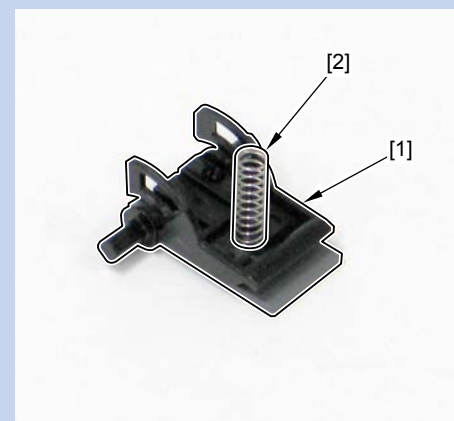
- 4) Reverse the Feed Guide.  
 5) Remove 2 claws [1], push and remove the Separation Pad Holder [2] in the direction of the arrow.



F-4-326

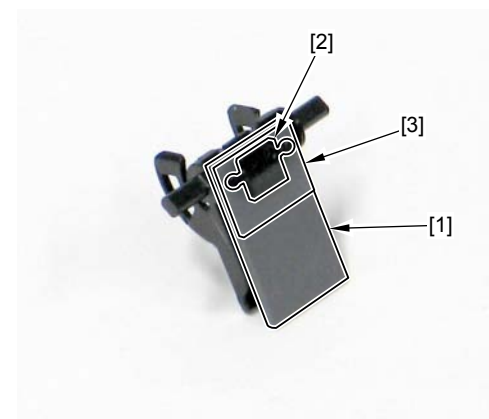
## MEMO:

Do not lost the spring [2] on the separation pad holder [1].



F-4-327

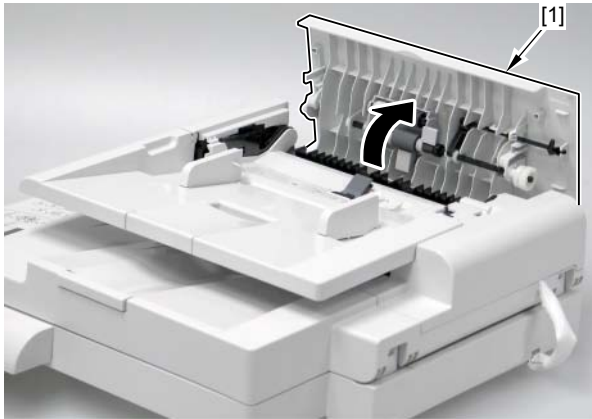
- 6) Remove the Separation Pad [1].  
 - Pad retainer [2]  
 - Sheet [3]



F-4-328

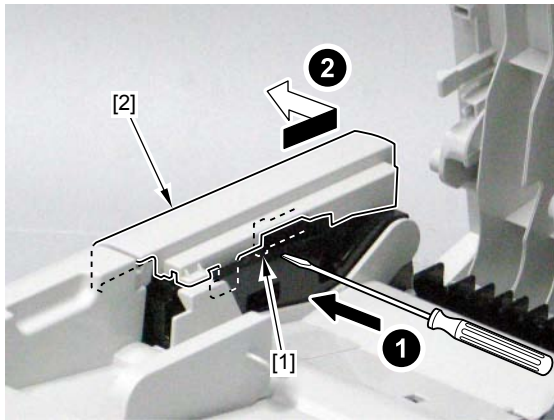
## ■ Removing the ADF Pickup Feed Unit

1) Open the ADF Upper Cover [1].



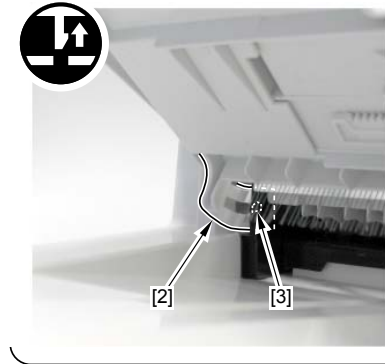
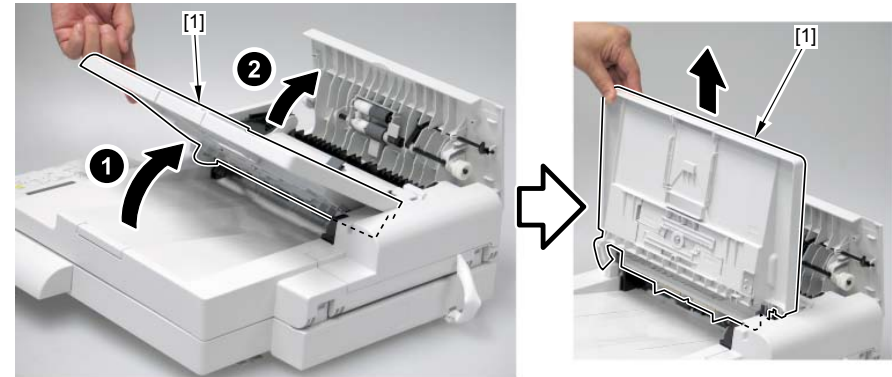
F-4-329

2) Remove the hook [1] using flat-head driver, and remove the ADF Front Cover [2] in the direction of the arrow.



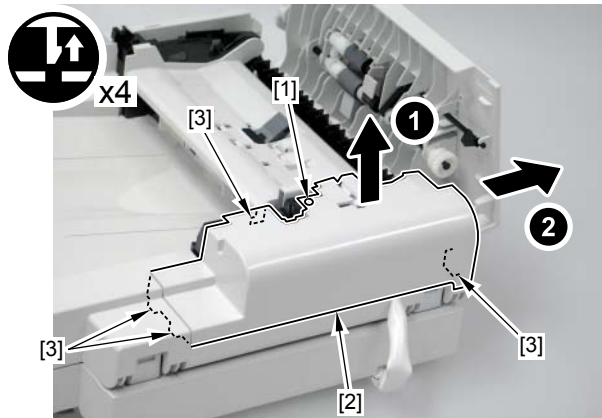
F-4-330

3) Bring up the ADF Tray [1] all the way until it stops and remove the claw [2] to make it straight to remove upward.



4) Remove the boss [1] to remove the ADF Rear Cover [2] in the direction of the arrow.

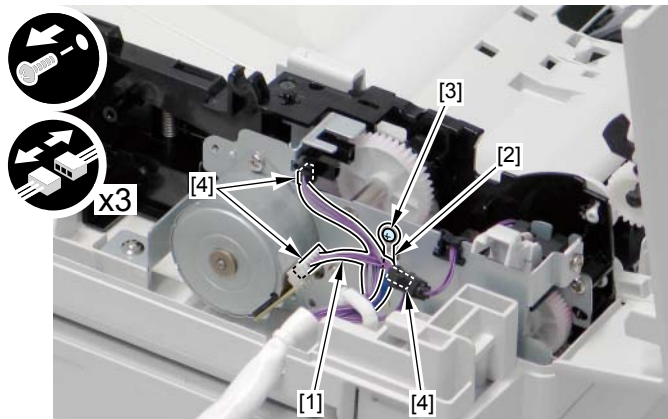
- 4 claws [3]



5) Remove the harness [1] and the grounding cord [2].

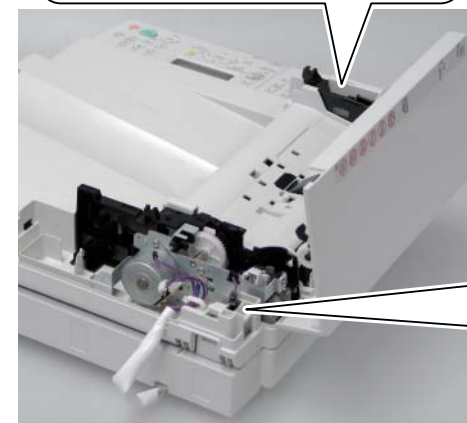
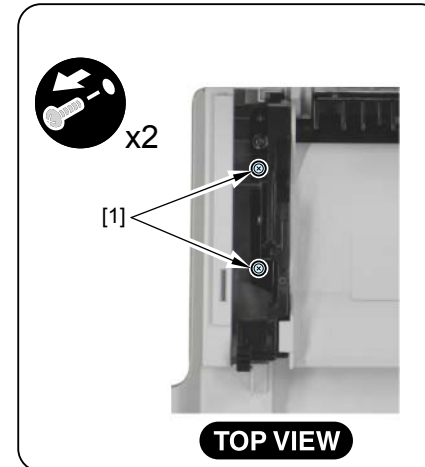
- 1 screw (binding) [3]

- 3 connectors [4]



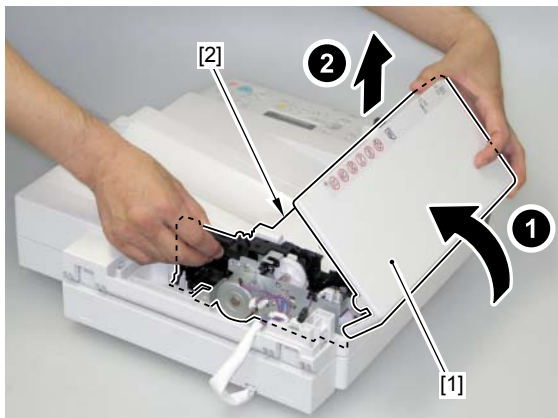
F-4-331

6) Remove the 5 screws [1] of the ADF Pickup Feed Unit.



F-4-332

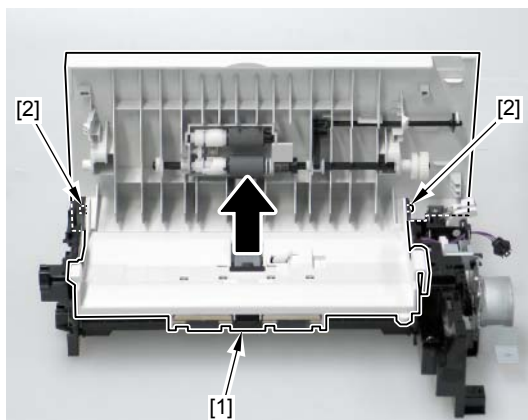
7) Close the ADF Upper Cover [1] to remove the ADF Pickup Feed Unit [2].



F-4-333

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

- 2 bosses [2]



F-4-334

## ■ Removing the ADF Pickup Motor

### Pre-procedure

1) Remove the ADF Pickup Feed Unit Refer to page Refer to page 4-135.

### Procedure

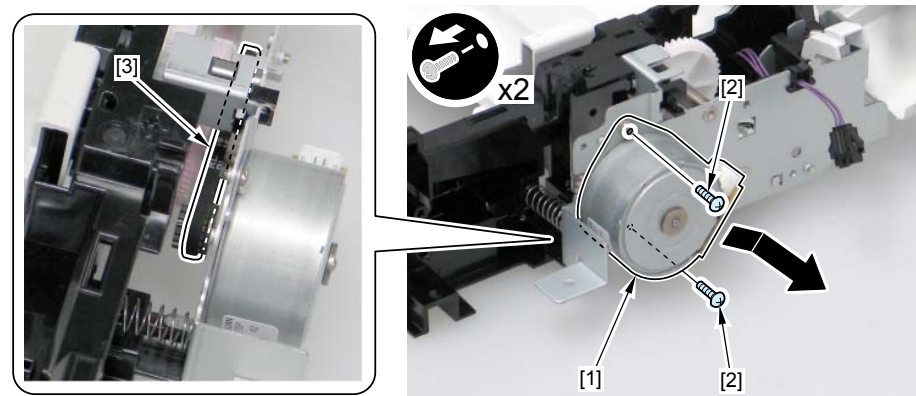
#### MEMO:

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

1) Remove the ADF Motor [1] in the direction of the arrow.

- 2 screws [2]

- 1 belt [3]



F-4-335



## ■ Removing the Reader Unit Upper Cover

### Pre-procedure

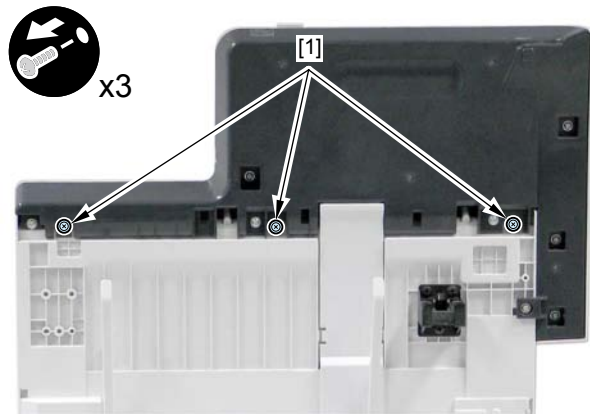
- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the ADF + Reader Unit. . Refer to page Refer to page 4-126.
- 5) Separate the ADF Unit + Reader Unit Refer to page Refer to page 4-128.

### Procedure

#### MEMO:

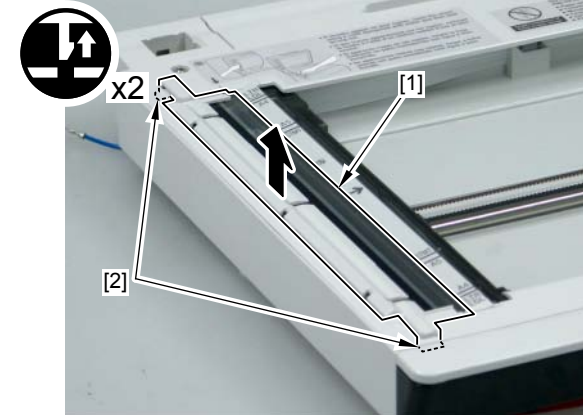
To replace the Copyboard Glass, be sure to replace the Copyboard Glass together with the Reader Upper Cover Unit.

- 1) Remove the 3 screws [1] at the bottom of the Reader Unit..



F-4-336

- 2) Remove the Scoopup sheet holder [1].  
- 2 claws [2]

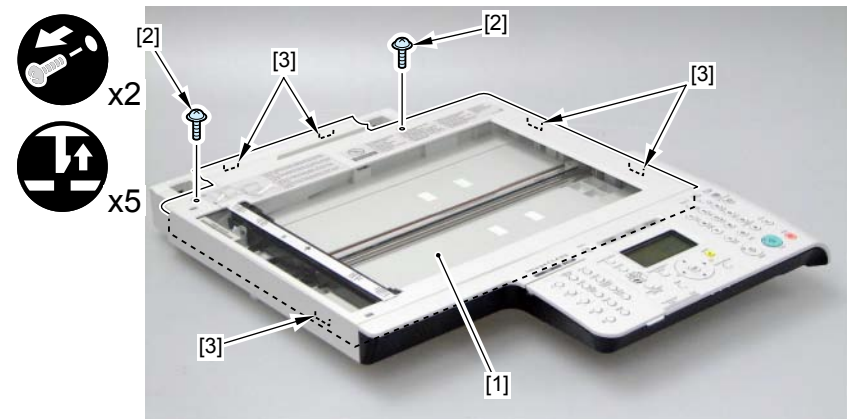


F-4-337

- 3) Remove the Reader Unit Upper Cover [1].  
2 screw [2]  
5 claws [3]

#### Caution:

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

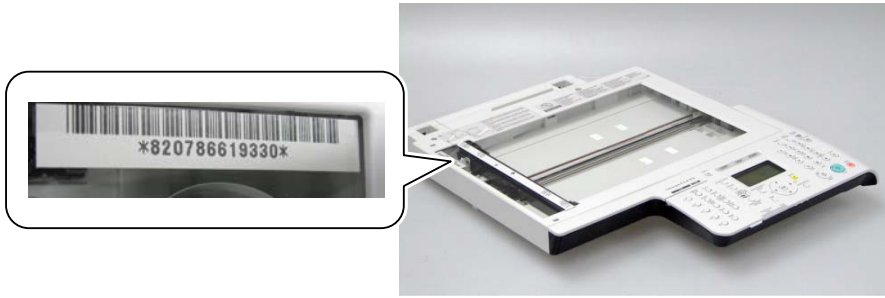


F-4-338

### After Replacing the Reader Upper Cover Unit

1) Enter the setting value of the Standard White Plate.

- COPIER > ADJUST > CCD > W-PLT-X (X signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Y (Y signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Z (Z signal data for the standard white plate)



2) After executing the CCD reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.

- 1.COPIER> FUNCTION> INSTALL> STRD-POS (CCD reading position adjustment auto execution)
- 2.COPIER> ADJUST> ADJ-XY> STRD-POS (CCD reading position adjustment value reference)

3) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.

1.White level adjustment

- COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
- COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)

Then, set a blank paper on the DF, and execute the following service mode.

- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

2.Checking the setting value

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)

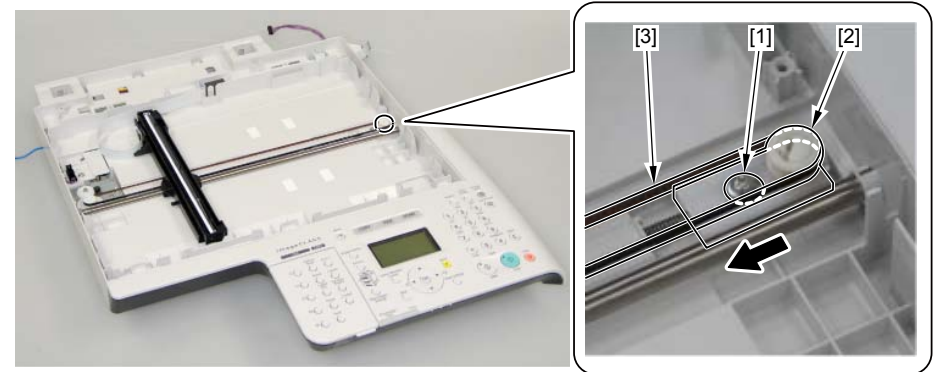
### Removing the CIS Unit

Pre-procedure

- 1)Remove the Right Cover. Refer to page Refer to page 4-117.
- 2)Remove the Left Cover. Refer to page Refer to page 4-114.
- 3)Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4)Remove the ADF Unit + Reader Unit. Refer to page Refer to page 4-126.
- 5)Separate the ADF Unit from the Reader Unit. Refer to page Refer to page 4-128.
- 6)Remove the Reader Unit Upper Cover. Refer to page Refer to page 4-138.

Procedure

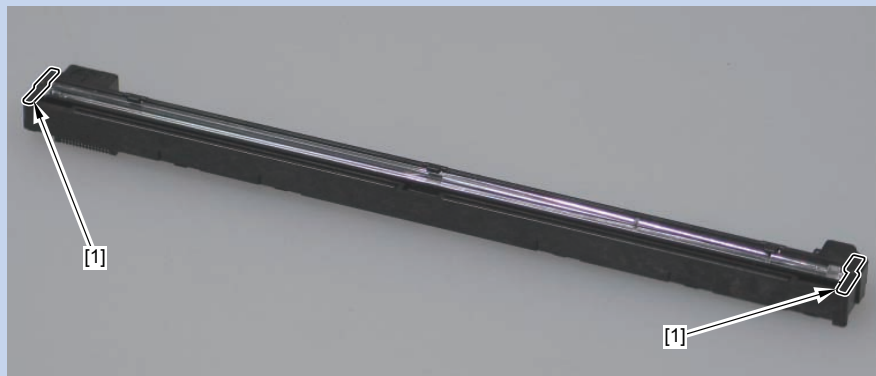
- 1) Loosen the screw [1], move the pulley holder [2] to the direction of the arrow and remove the drive belt [3].



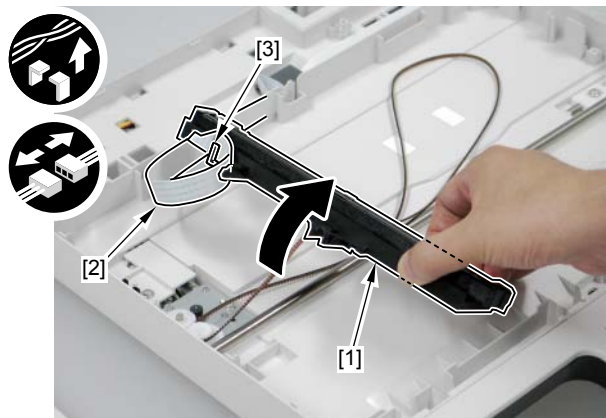
- 2) Remove the CIS Unit Mount [1] and remove the flat cable [2].  
- 1 guide [3]

## MEMO:

When CIS Unit Mount is tilt, CIS spacers[1] are removed. Do not lost the CIS spacers.

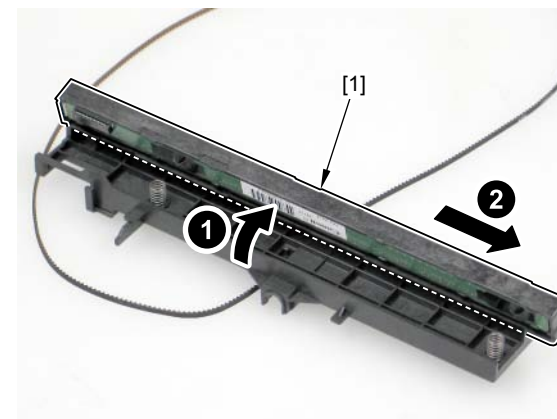


F-4-340



F-4-341

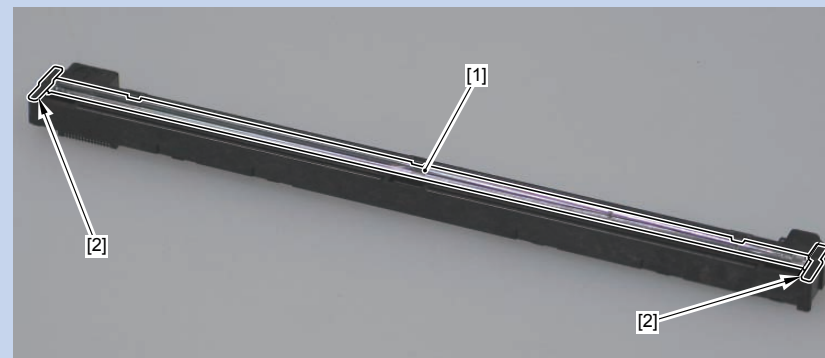
- 3) Bring up the CIS Unit [1] to remove in the direction of the arrow.



F-4-342

## MEMO:

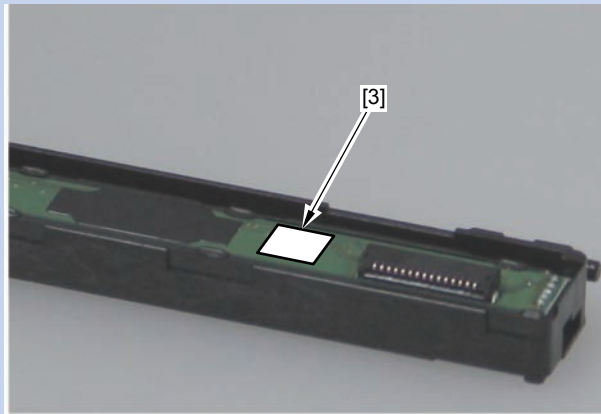
- When installing the CIS Unit, be sure to replace the CIS Spacer together with the CIS Unit (included in the package of the Service Parts).



F-4-343

## MEMO:

- When the CIS Spacers are mixed up or lost, check the CIS Rank Label to use, and use the appropriate CIS Spacer that fits the rank of the CIS Unit.



- There are 3 CIS Unit lanks and 3 types of spacers.

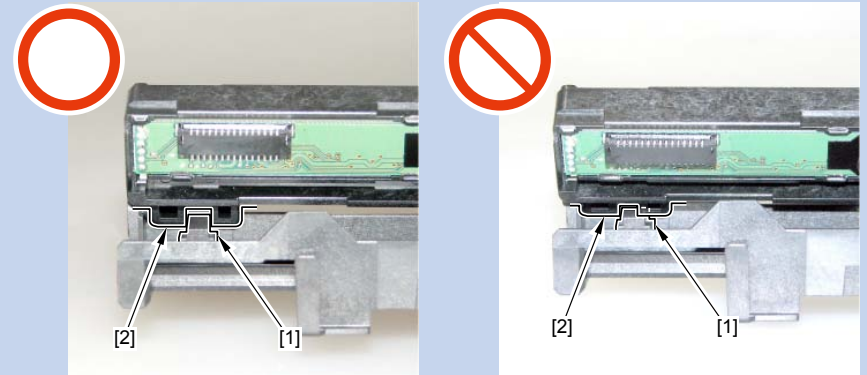
F-4-344

Rank	Dimension (Height of spacer)	Part No.	Color of spacer
rank A	1.17 mm	FC9-7573	light gray
rank B	1.27 mm	FC9-7571	dark gray
rank C	1.37 mm	FC9-7574	brown

T-4-40

## MEMO:

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



F-4-345

## After replacing CIS units

- 1) Execute the white level adjustment. If it fails, turn OFF/ON the power and execute the operation again.
  - COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
  - COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)
- 2) After executing the CCD reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.
  1. COPIER> FUNCTION> INSTALL> STRD-POS (CCD reading position adjustment auto execution)
  2. COPIER> ADJUST> ADJ-XY> STRD-POS (CCD reading position adjustment value reference)
- 3) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.
  1. White level adjustment
    - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])

Then, set a blank paper on the DF, and execute the following service mode.

- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

#### 2. Checking the setting value

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
  - COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
  - COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
  - COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)
- 4) Execute the reading position adjustment with the following service mode.
- COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
  - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning position in FEEDER mode)
  - COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)
- 5) Execute the original stop position and feed speed adjustment at stream reading.
- FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
  - FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

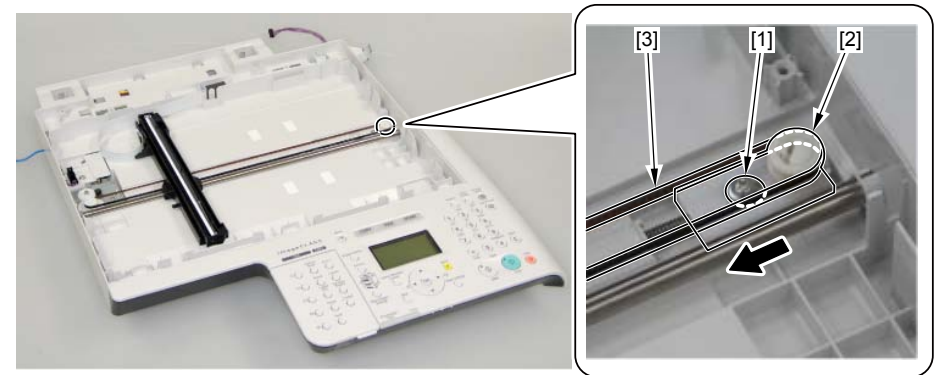
## ■ Removing the Reader Scanner Motor

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the ADF Unit + Reader Unit.. Refer to page Refer to page 4-126.
- 5) Separate the ADF Unit from the Reader Unit. Refer to page Refer to page 4-128.
- 6) Remove the Reader Unit Upper Cover. Refer to page Refer to page 4-138.

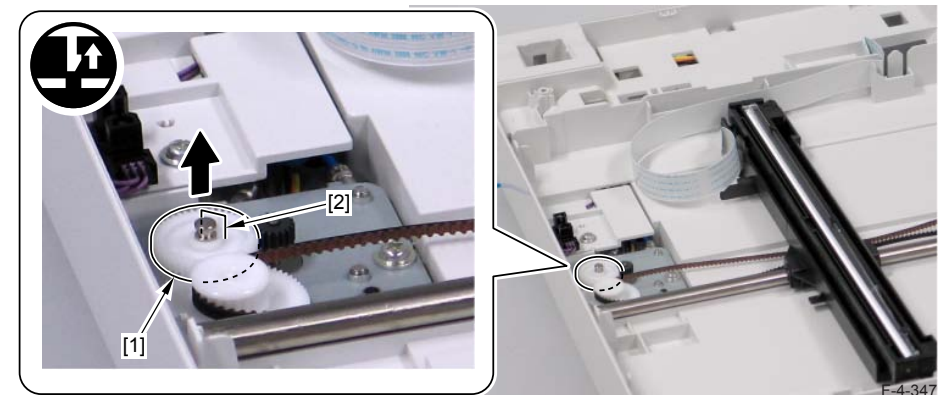
### Procedure

- 1) Loosen the screw [1], move the pulley holder [2] to the direction of the arrow and remove the drive belt [3].



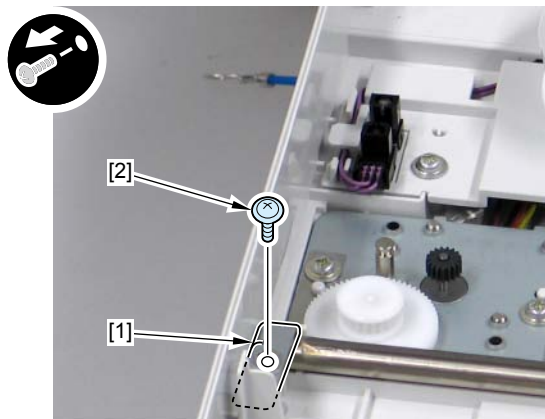
F-4-346

- 2) Remove the gear [1].  
- 1 claw [2]



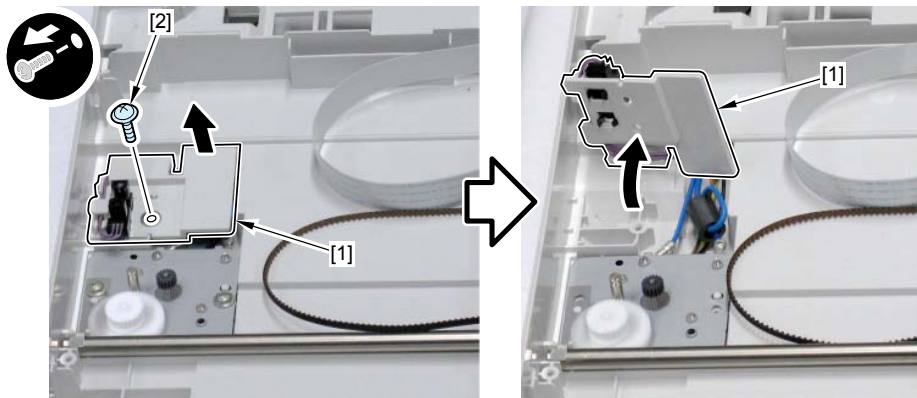
F-4-347

- 3) Remove the Shaft Retaining Plate [1].  
- 1 screw [2]



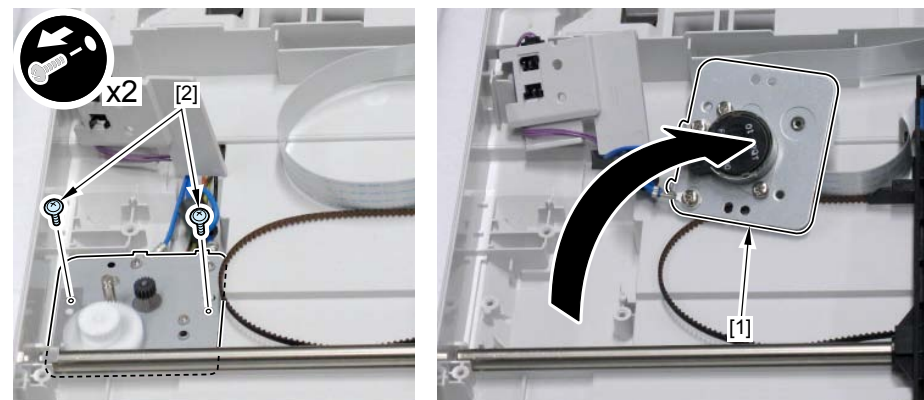
F-4-348

- 4) Move the Sensor Mount [1].  
- 1 screw [2]



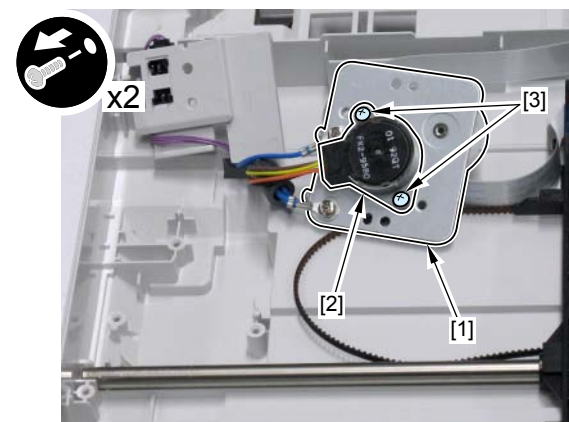
F-4-349

- 5) Move the Motor Mounting Plate [1] and turn it over.  
- 2 screws [2]



F-4-350

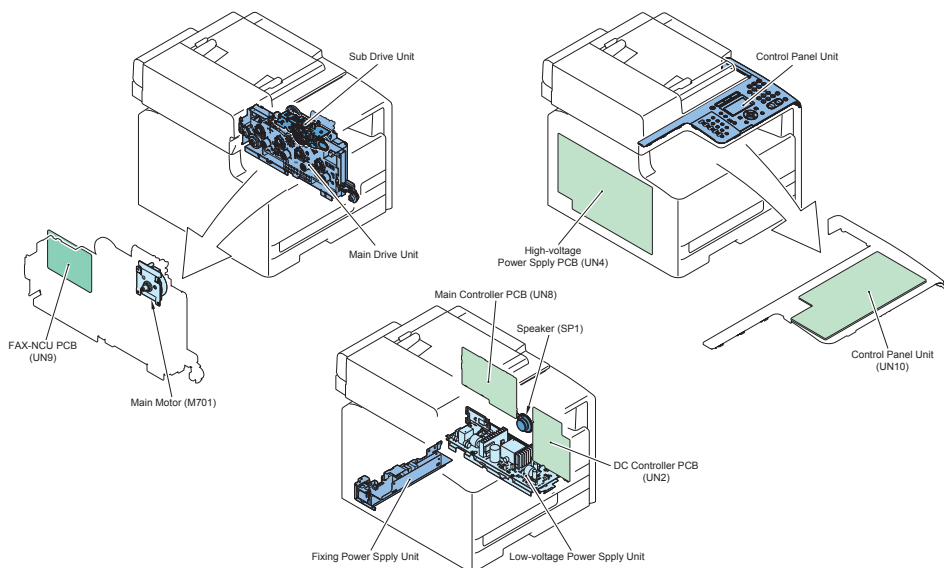
- 6) Remove the Reader Scanner Motor [2] from the Motor Mounting Plate [1].  
- 2 screws [3]



F-4-351

# Controller System

## Location



No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
-	Control Panel	FM4-1496 (MF8050Cn JP)	refer to page Refer to page 4-152	-
		FM4-1505 (MF8030Cn JP)		-
		FM4-1495 (MF8050Cn US)		-
		FM4-1499 (MF8050Cn AE)		-
		FM4-1502 (MF8030Cn AE)		-
		FM4-1500 (MF8050Cn CHN)		-
		FM4-1503 (MF8030Cn CHN)		-
		FM4-1501 (MF8050Cn KOR)		-
		FM4-1504 (MF8030Cn KOR)		-
		FM4-1498 (MF8050Cn EU)		-
	FM4-1497 (MF8030Cn EU)	-		
UN10	Operation Panel PCB	-	refer to page Refer to page 4-153	-

No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
UN4	High Voltage Power Spply PCB	RM1-4689	refer to page Refer to page 4-149	-
UN8	Main Controller PCB	FM4-3977 FM4-3976	refer to page Refer to page 4-146	refer to page Refer to page 5-5
SP1	Speaker	FM4-3985	refer to page Refer to page 4-161	-
UN2	DC Controller PCB	FM4-3677	refer to page Refer to page 4-147	refer to page Refer to page 5-5
UN5	Low Voltage Power Spply PCB	FM4-3678 (100V) FM4-3684 (120V) FM4-3679 (200V)	refer to page Refer to page 4-149	-
UN6	Fixing Power Spply	-	refer to page Refer to page 4-151	-
-	Main Drive Unit	RM1-4443	refer to page Refer to page 4-154	-
M701	Main Motor	RL1-1617	refer to page Refer to page 4-160	-
-	Sub Drive Unit	RM1-4478	refer to page Refer to page 4-159	-
UN9	FAX-NCU PCB	FM4-3970 (100V) FM4-3971 (120V) FM4-3972 (230V) FM4-3973 (AUS)	refer to page Refer to page 4-153	-

T-4-41

## ■ Removing the Main Controller PCB

### Before replacement

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

- 1) In Remote UI, export user data.
- 2) Record the default settings shown on the service label [1] (these are entered after replacement).



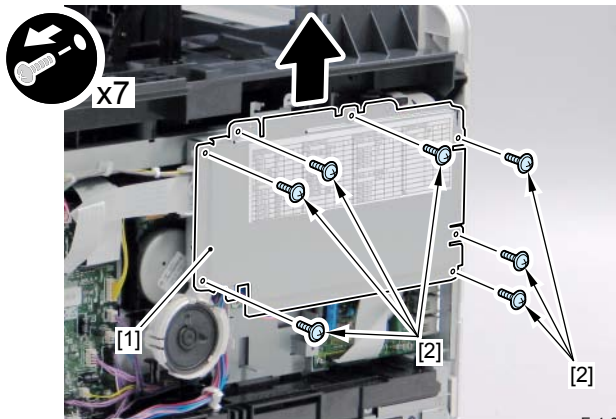
F-4-353

### Pre-procedure

- 1) Remove the Right Cover. Refer to page 4-117.

### Procedure

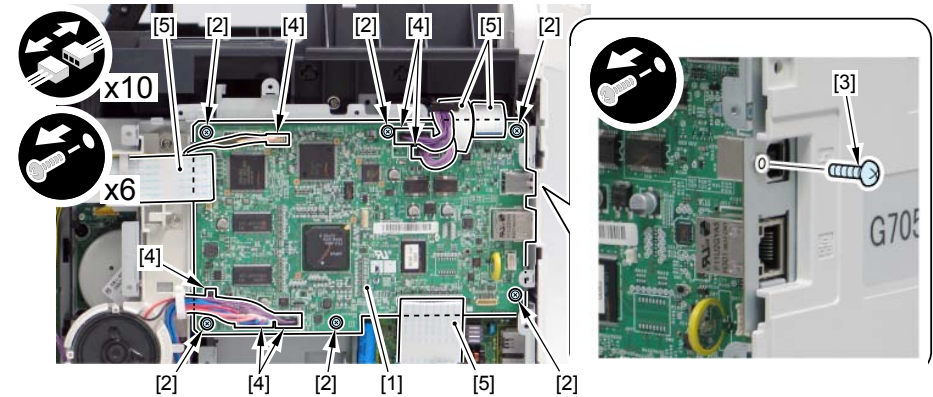
- 1) Remove the Controller Cover [1].
- 7 screws [2]



F-4-354

- 2) Remove the Main Controller PCB [1].

- 6 screws (TP) [2]
- 1 screw (binding) [3]
- 6 connectors [4]
- 4 flat cables [5]



F-4-355



### After replacing main controller PCBs\

#### 1. Setting of destination/paper size group

- 1) COPIER > OPTION > BODY > LOCALE (to set destination groups)

[Settings]

1: Japan, 2: North America, 3: Korea, 4: China, 5: Taiwan, 6: Europe, 7: Asia,  
8: Oceania

- 2) COPIER > OPTION > BODY > SIZE-LC (to set paper size groups)

[Settings]

1: AB series, 2: Inch series, 3: A series, 4: AB/Inch series

#### 2. Clearing Setting/Registration data

- 1) COPIER > FUNCTION > CLEAR > ALL (to clear all data)

Once executed, the following data are cleared according to the values of LOCALE and SIZE-LC set in step 1.

- Setting / Registration data (the default value for each destination is set).
- Service mode data (the default value for each destination is set).
- Job IDs
- Log data
- Dates

- 2) COPIER > FUNCTION > CLEAR > R-CON (to clear default setting values for the reader/DF)

#### 3. Adjustment, input of default setting values

- 1) Close the ADF.

- 2) COPIER> FUNCTION > CCD > CL-AGC, BW-AGC (to adjust white levels)

The white level is adjusted.

- 3) Enter default setting values indicated on the service label in the corresponding service mode items.

- 4) COPIER> FUNCTION > VIFFNC > STOR-DCN (to back up DC controller setting values)

Purpose: to be prepared for replacing DC controller PCBs

- 5) Turn off and on the power.

- 6) Start in the initial installation mode. Follow instructions shown on the screen for setup. (setting of date/time, auto-gradation correction)

- 7) In Remote UI, import user data.

## ■ Removing the DC Controller PCB

### Pre-procedure

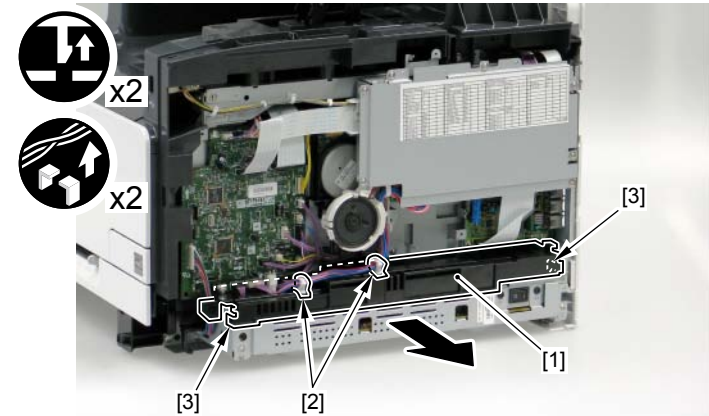
- 1) Remove the Right Cover. Refer to page Refer to page 4-117.

### Procedure

- 1) Remove the Cover [1].

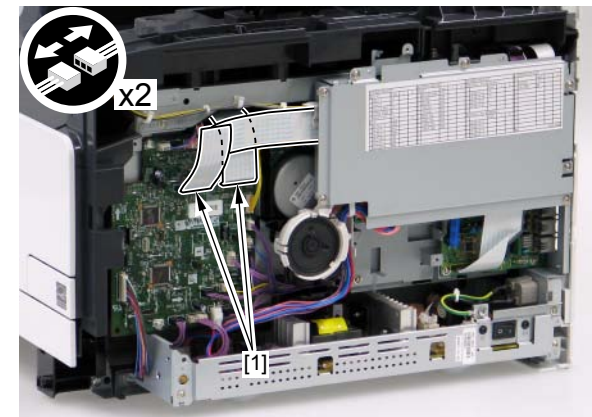
- 2 wire saddles [2]

- 2 claws [3]



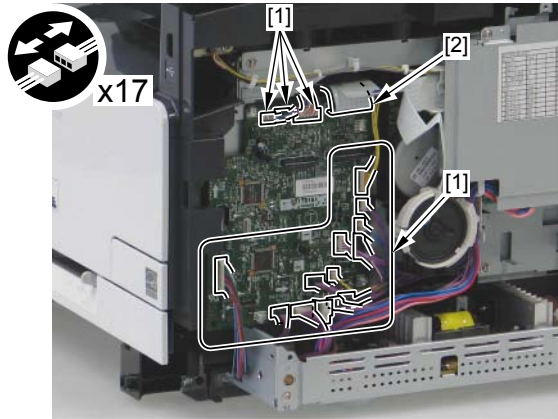
F-4-356

- 2) Disconnect the 2 flat cables [1].



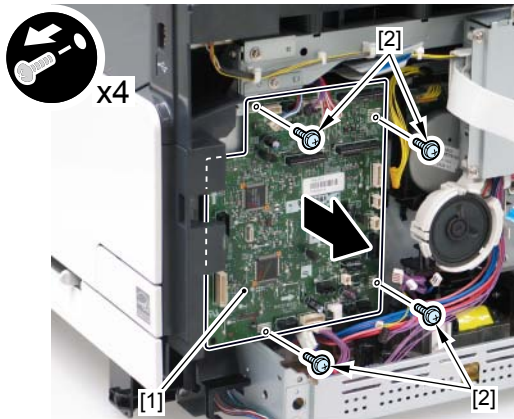
F-4-357

- 3) Disconnect the 16 connectors [1] and the flat cable [2].



F-4-358

- 4) Remove the DC Controller PCB [1].  
- 4 screws [2]



F-4-359

#### The Procedure to be Performed after Replacing the DC Controller PCB

- 1) Execute the following in Service Mode
- COPIER>FUINCTION>VIFFNC>RSTR-DCN

#### MEMO

After executing the Printer Recovery Setting, be sure to wait for about 15 seconds because of internal process/operation.

- 2) Turn OFF and then ON the power.
- 3) \* > Execute the following: > Adjustment/Cleaning > Print Color Displacement Correction
- 4) \* > Execute the following: > Adjustment/Cleaning > Auto Gradation Correction > Quick Correction
- 5) Turn OFF and then ON the power.

## ■ Removing the Low Voltage Power Supply Unit

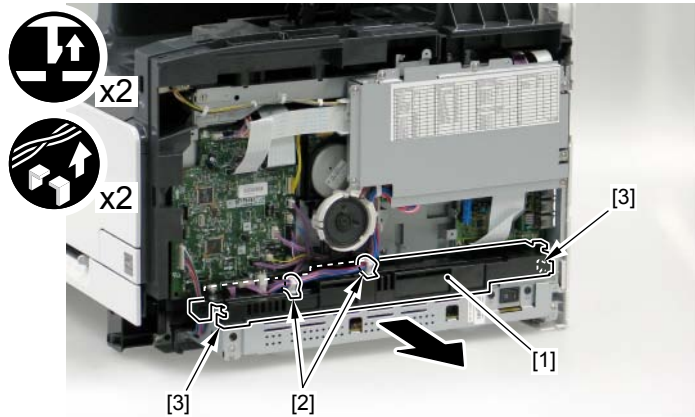
### Pre-procedure

1) Remove the Right Cover. Refer to page Refer to page 4-117.

### Procedure

1) Remove the Cover [1].

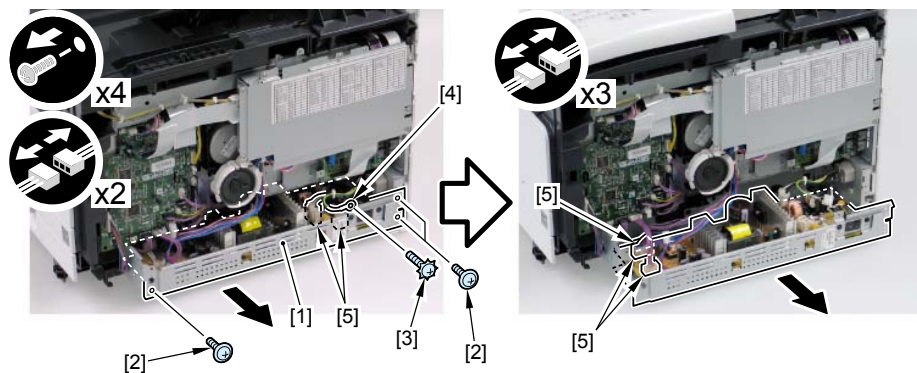
- 2 wire saddles [2]
- 2 claws [3]



F-4-360

2) Remove the Low Voltage Power Supply Unit [1].

- 3 screws (D tightening) [2]
- 1 screw (toothed screw) [3]
- 1 grounding [4]
- 5 connectors [5]



F-4-361

## ■ Removing the High Voltage Power Supply PCB

### Pre-procedure

1) Remove the Right Cover. Refer to page Refer to page 4-117.

2) Remove the Left Cover. Refer to page Refer to page 4-114.

3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.

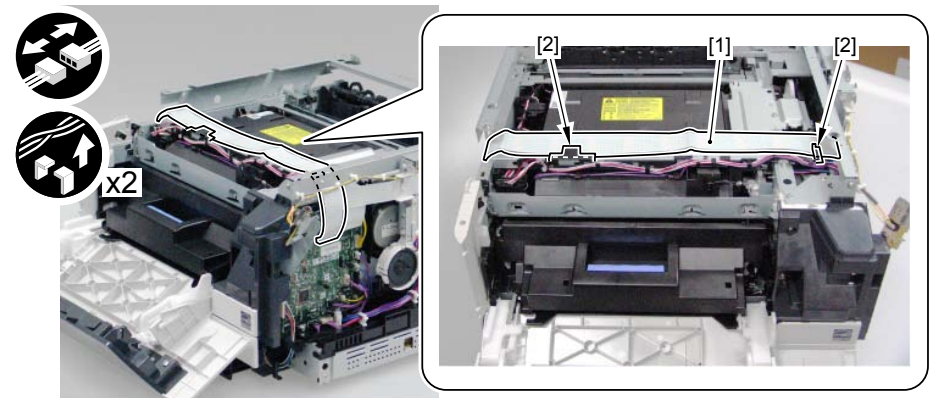
4) Remove the ADF Unit + the Reader Unit. Refer to page Refer to page 4-127.

5) Remove the Reader Upper Cover. Refer to page 4-139

### Procedure

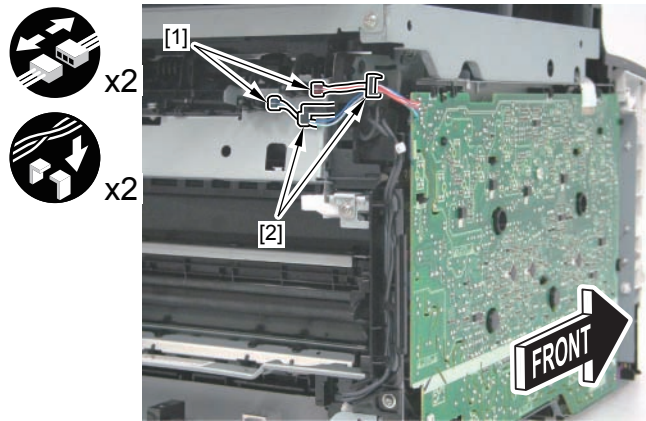
1) Disconnect the flat cable [1].

- 1 guide [2]



F-4-362

- 2) Disconnect the 2 connectors [1] and free the harness [3] from the 2 harness guides [2].

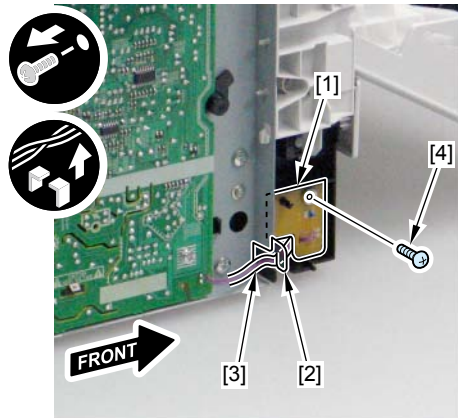


F-4-363

- 3) Remove the Sub PCB [1].

- 4) Free the harness [3] from the harness guide [2].

- 1 screw [4]



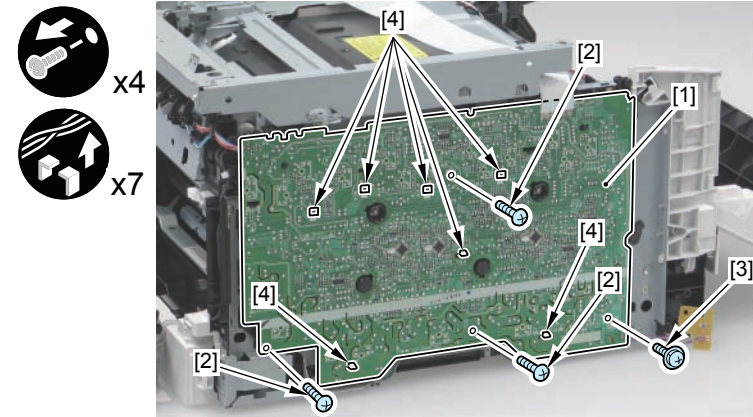
F-4-364

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

- 3 screws (binding) [2]

- 1 screw (W SEMS) [3]

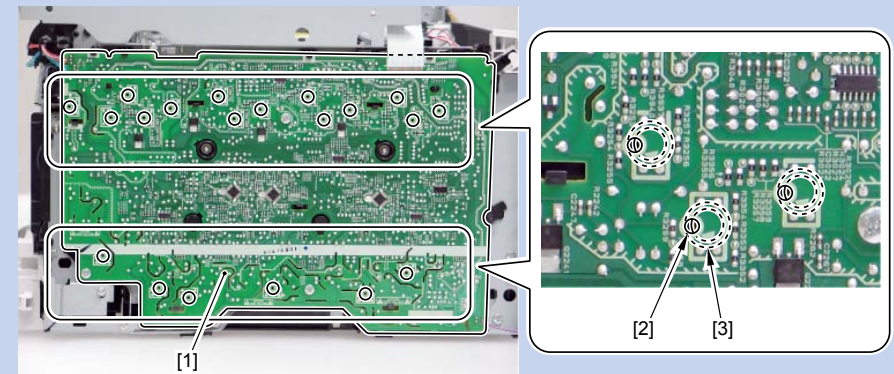
- 7 claws [4]



F-4-365

#### MEMO:

When installing the High Voltage Power Supply PCB [1], be sure to check that the contact springs [3] are in contact with the 20 round holes.



F-4-366

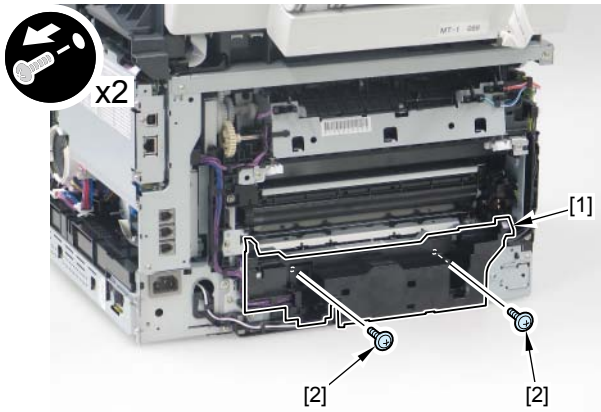
## ■ Removing the Fixing Power Supply Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the Rear Lower Cover. Refer to page Refer to page 4-125.

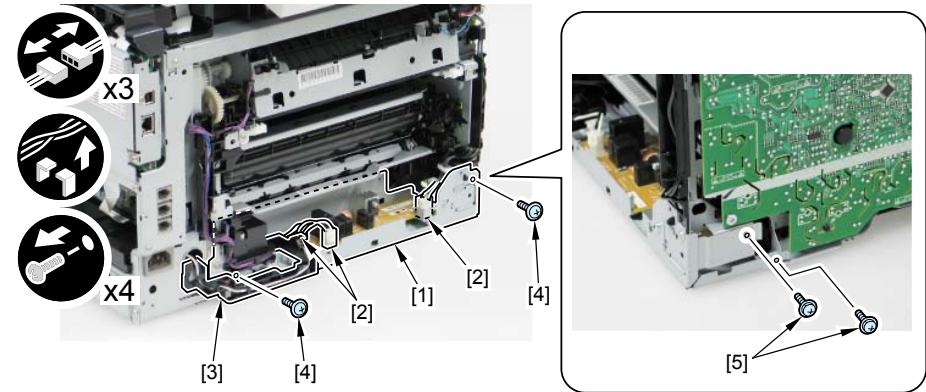
### Procedure

- 1) Remove the Fixing Power Supply Cover [1].
- 2 screws [2]



F-4-367

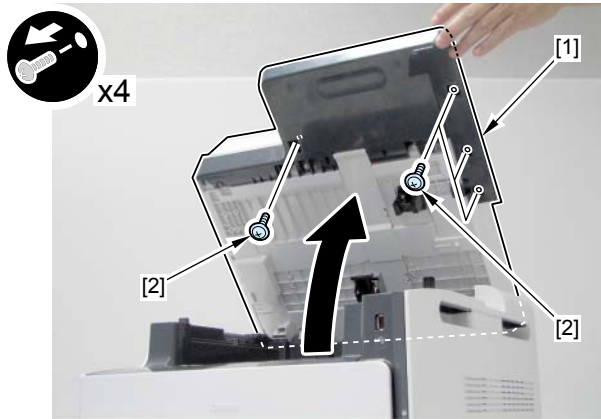
- 2) Remove the Fixing Power Supply Unit [1].
- 3 connectors [2]
- 1 harness guide [3]
- 2 screws (TP) [4]
- 2 screws (W SEMS) [5]



F-4-368

## Removing the Control Panel

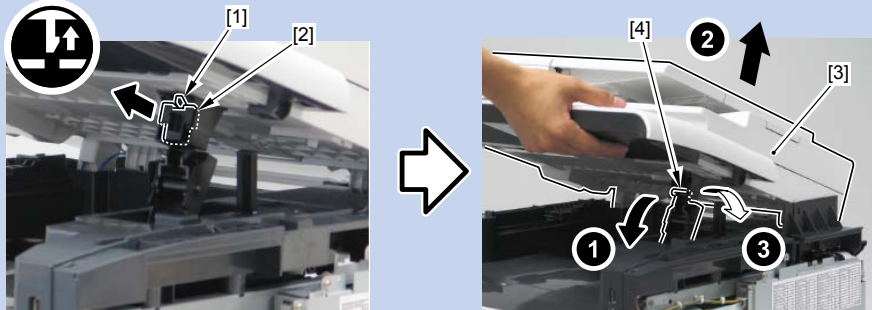
1) Open the ADF Unit + Reader Unit [1] to remove the 4 screws (TP) [2] at the bottom of the Reader Unit.



F-4-369

### MEMO:

When removing the screws at the bottom of the Reader Unit, removing work gets easy by performing the following steps: remove the claw [1] to remove the Reader Shaft Retainer [2] and remove the Reader Support [2], and open ADF and Reader Unit [3] furthermore while ADF Unit and Reader Unit [3] are sustained.



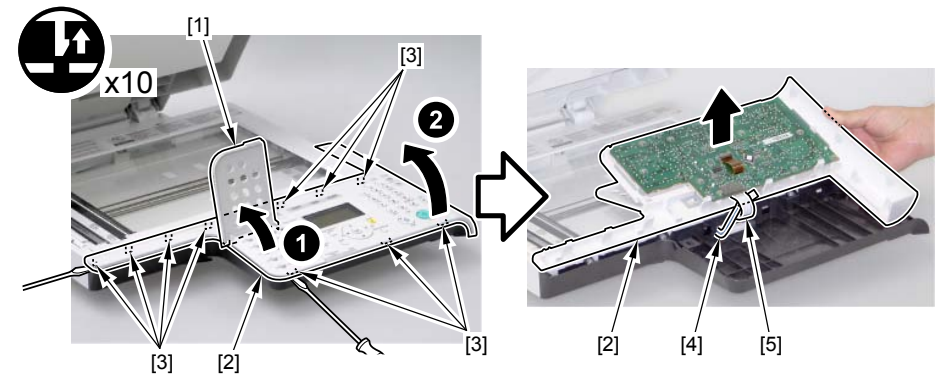
2) Open the ADF Unit [1].



F-4-370

3) Open the Control Panel Cover [1] to remove the Control Panel Unit [2].

- 9 claws [3]
- 1 flat cable [4]
- 1 grounding cord [5]



F-4-371

## ■ Removing the Control Panel PCB

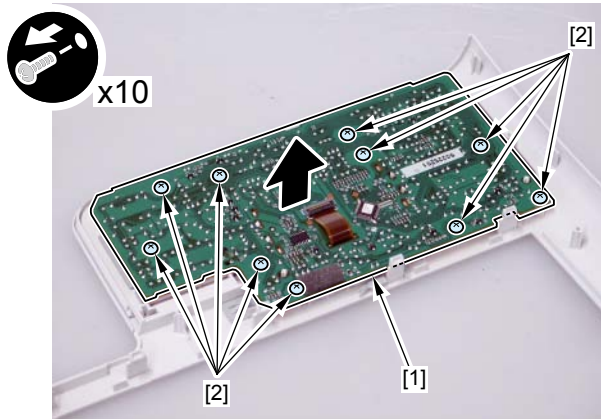
### Pre-procedure

1) Remove the Control Panel Unit. Refer to page Refer to page 4-152.

### Procedure

1) Remove the Control Panel PCB [1].

- 10 screws [2]



F-4-372

## ■ Removing the FAX PCB

### Pre-procedure

1) Remove the Right Cover. Refer to page Refer to page 4-117.

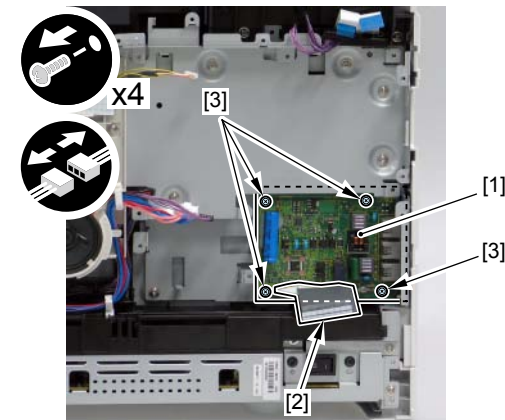
2) Remove the Main Controller PCB. Refer to page Refer to page 4-146.

### Procedure

1) Remove the FAX PCB [1].

- 1 flat cable [2]

- 4 screws [3]



F-4-373

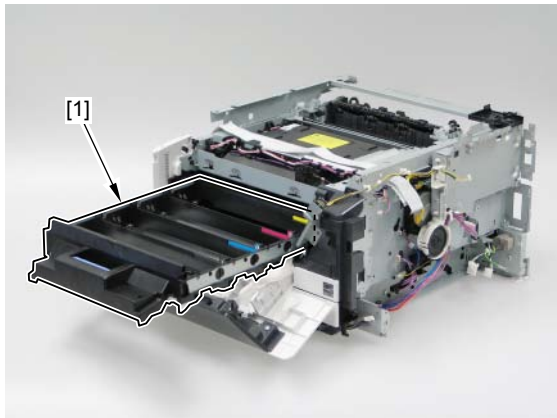
## ■ Removing the Main Drive Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the ADF Unit + Reader Unit. Refer to page Refer to page 4-127.
- 5) Remove the Reader Upper Cover. Refer to page 4-139
- 6) Remove the DC Controller PCB. Refer to page Refer to page 4-147.
- 7) Remove the Low Voltage Power Supply Unit. Refer to page Refer to page 4-149.
- 8) Remove the Main Controller PCB. Refer to page Refer to page 4-146.
- 9) Remove the FAX PCB. Refer to page Refer to page 4-153.

### Procedure

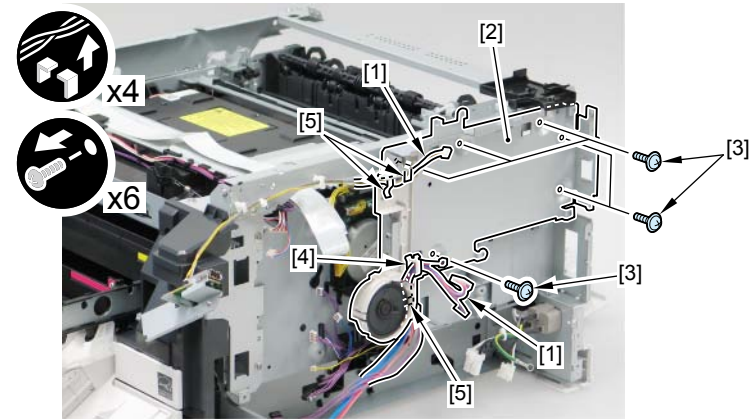
- 1) Pull out the Cartridge Tray [1].



F-4-374

- 2) Remove the cable and the Controller fixing plate [1].

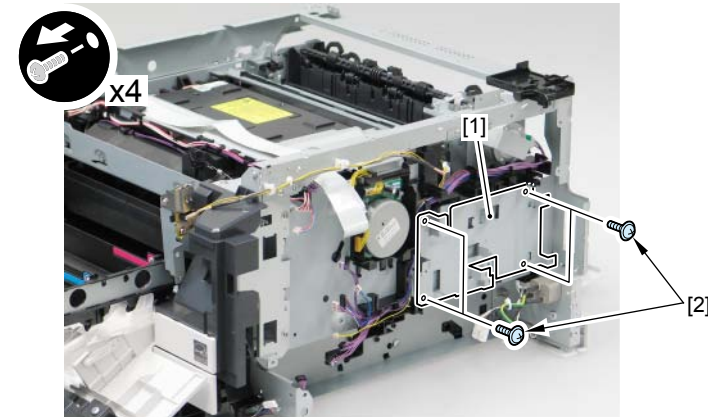
- 6 screws [2]
- wire saddle [4]
- 3 wire guide [5]



F-4-375

- 3) Remove the Plate [1].

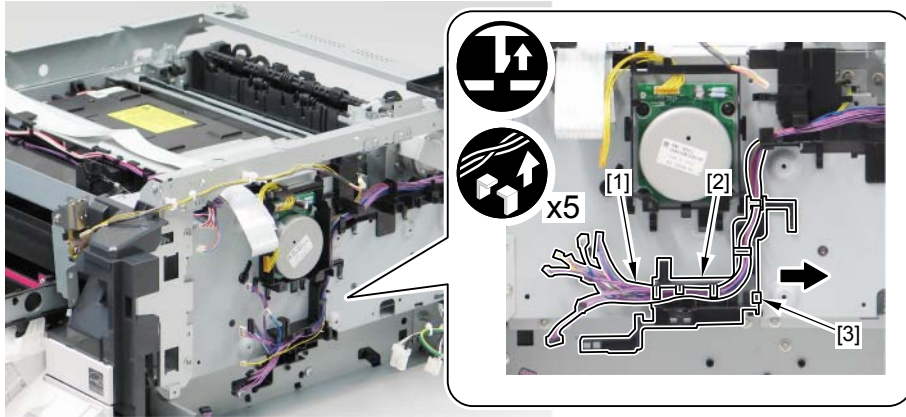
- 4 screws [2]



F-4-376

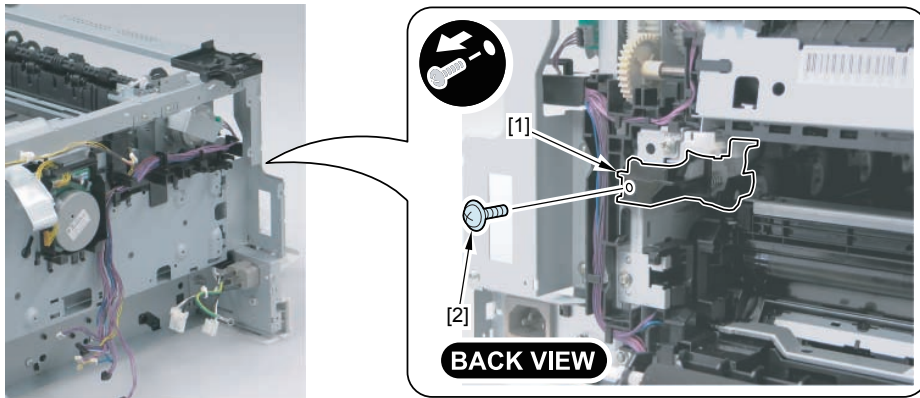


- 4) Remove the harness [1] and then remove the harness guide [2] in the direction of the arrow.  
- claws [3]



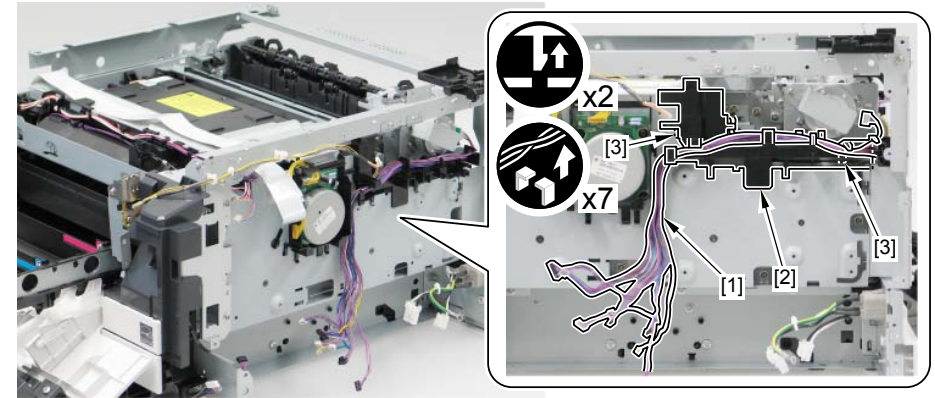
F-4-377

- 5) Remove the ITB fixing holder [1].  
- screw [2]



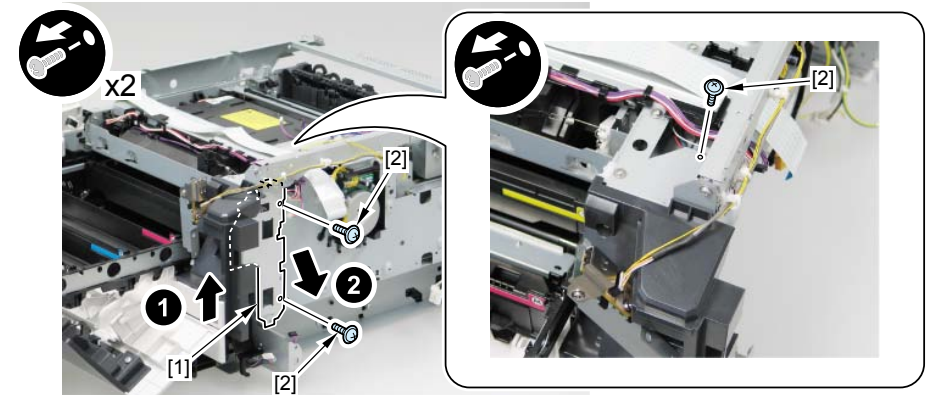
F-4-378

- 6) Remove the harness [1] and then remove the harness guide [2].  
- 2 claws [2]



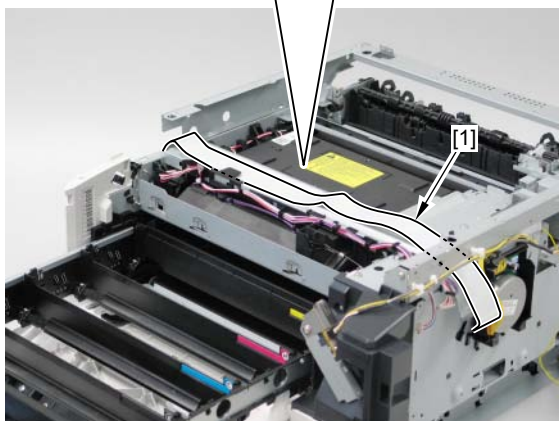
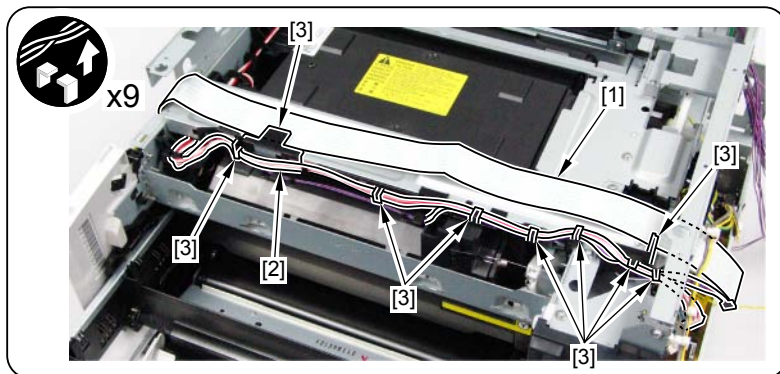
F-4-379

- 7) Remove the DC controller Plate [1].  
- 3 screws [2]



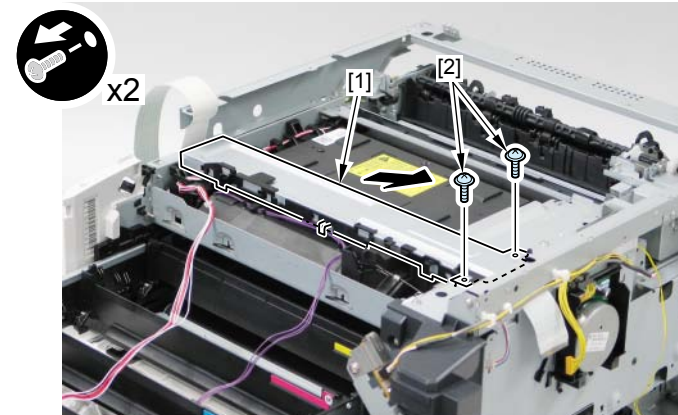
F-4-380

8) Free the flat cable [1] and the 2 harnesses [2] from the 9 guides [3].



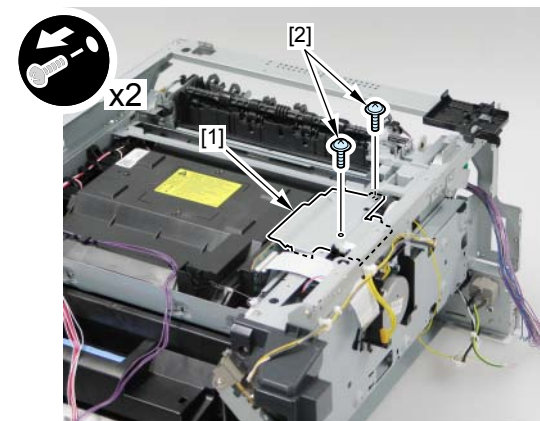
F-4-381

9) Remove the Harness Support Plate [1] in the direction of the arrow.  
- 2 screws [2]



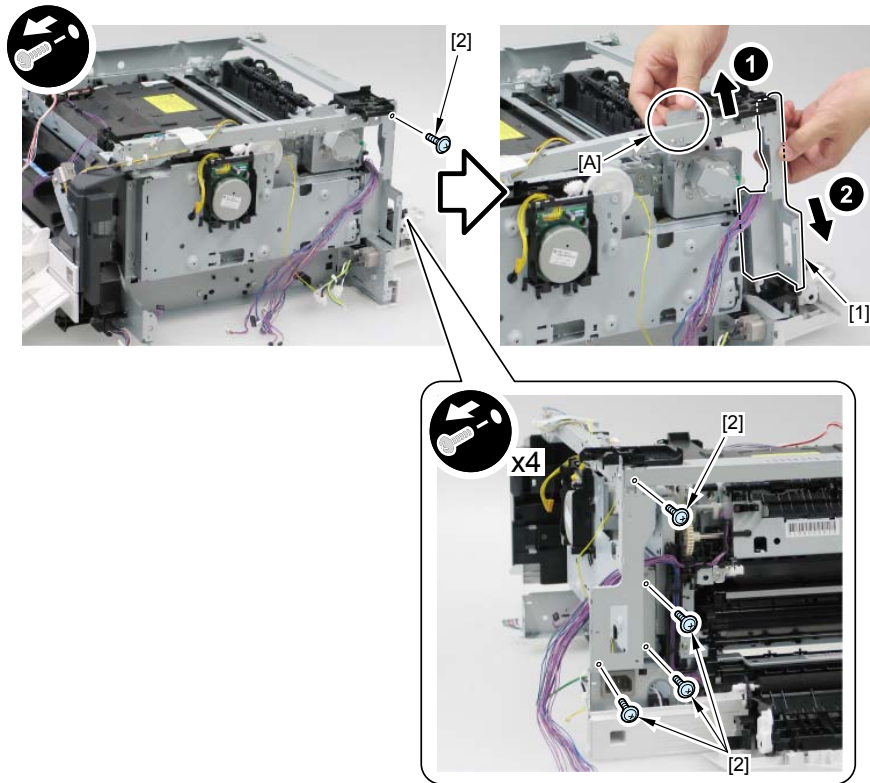
F-4-382

10) Remove the Sub Drive Cover [1].  
- 2 screws [2]



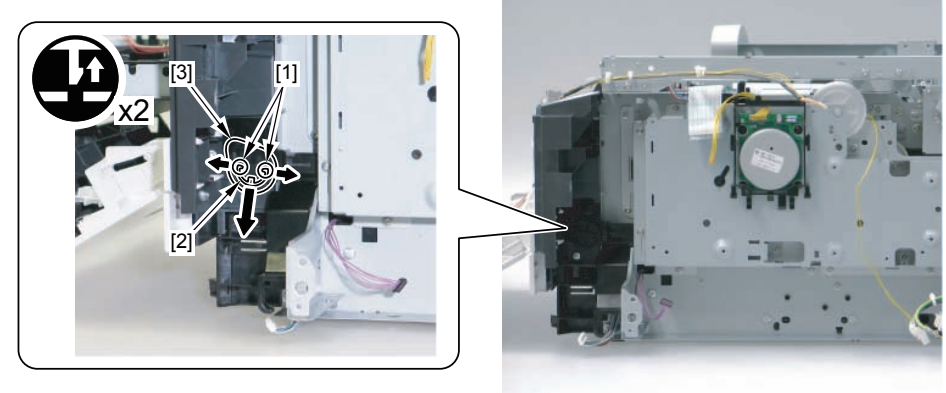
F-4-383

- 11) Hold [A] part to remove the Right Rear Frame [1].  
5 screws [2]



F-4-384

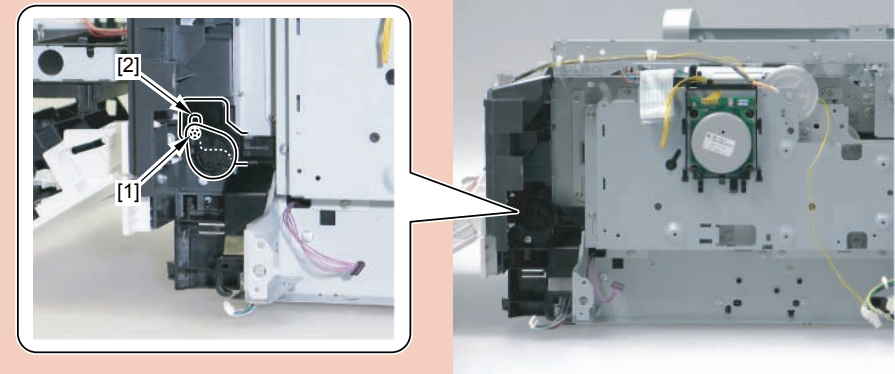
- 12) Release the 2 claws [1] in the direction of the arrow and remove the Link Shaft Stopper [2] in the direction of the arrow, and then remove the Link Shaft [3].



F-4-385

**Caution:**

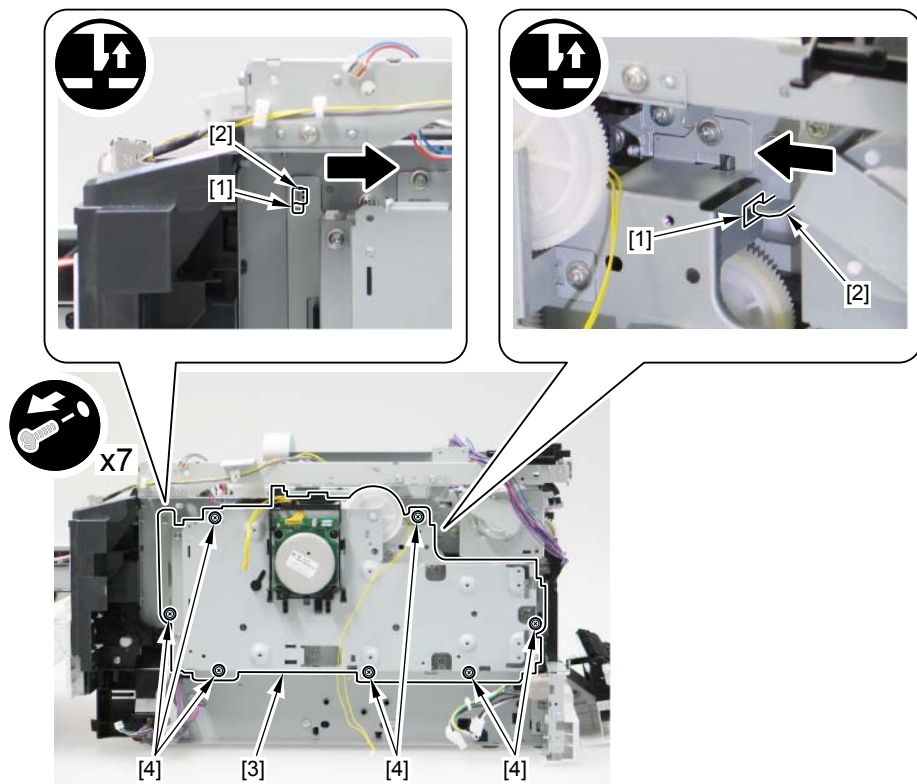
When installing the Link Shaft, be sure to fit the boss [1] of the Link Shaft to the groove [2] of the Main Drive Unit to install.



F-4-386

- 13) Release the 2 hooks [1] of the Main Drive Unit from the claws [2] in the direction of the arrow to remove the Main Drive Unit [3].

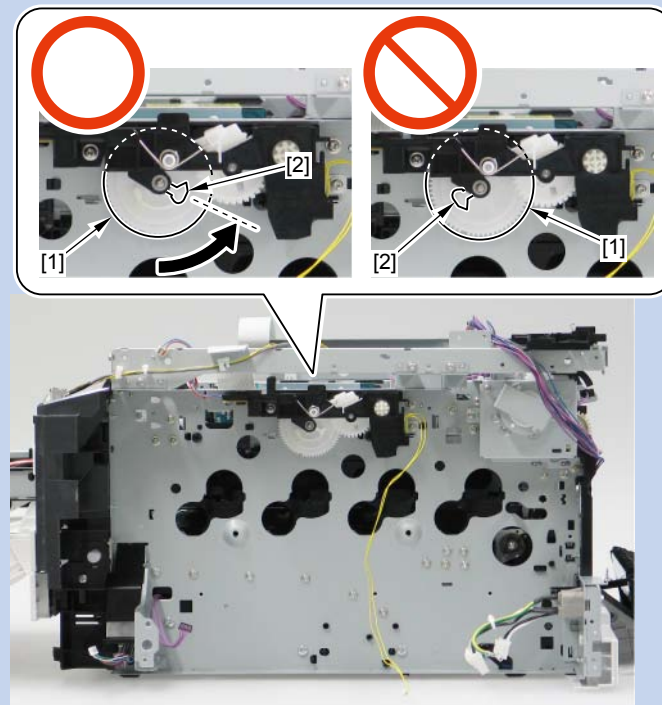
- 7 screws [4]



F-4-387

MEMO:

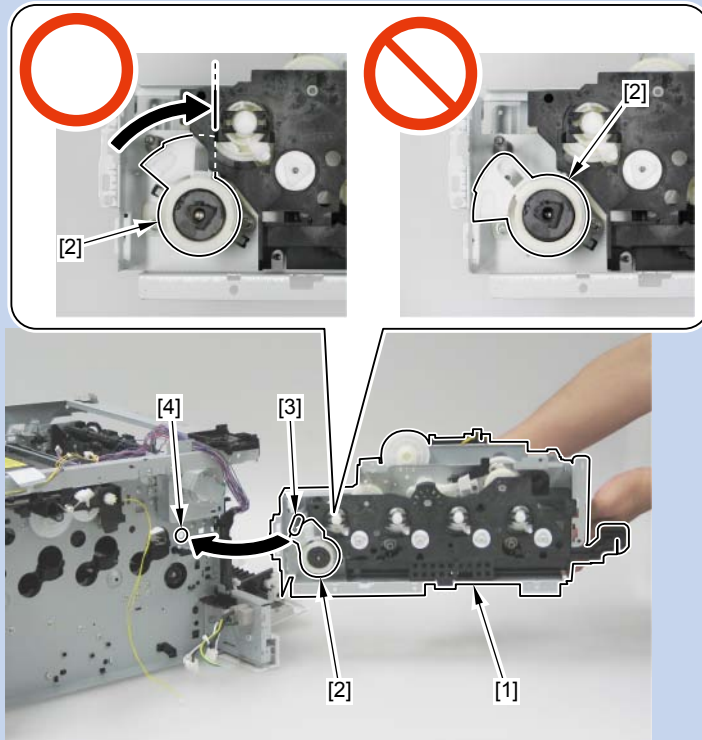
- At installation, make sure that the hook [2] of the Sub Drive Unit Gear [1] is placed in the correct position described below. If the hook fails to be engaged properly, turn the gear [1] in the direction of the arrow to make the hook [2] to be engaged at the correct position.



F-4-388

## MEMO:

Be sure to check that the ITB Link Unit [2] of the Main Drive Unit [1] is set at the correct position as shown in the figure below. If not, turn the ITB Link Unit [2] in the direction of the arrow to be set at the correct position. Be sure to fit the shaft [3] of the Main Drive Unit to the hole [4] of the Side Plate to install.



F-4-389

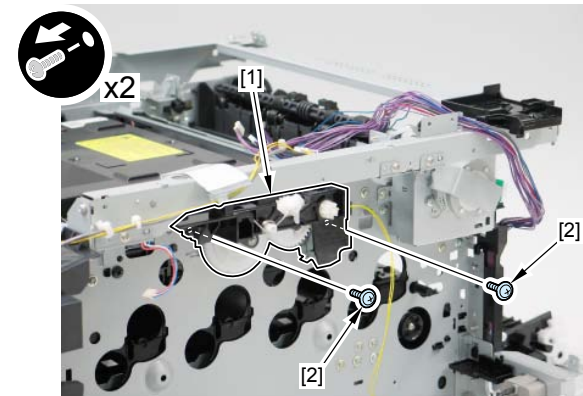
## ■ Removing the Sub Drive Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page 4-139
- 4) Remove the ADF Unit + the Reader Unit. Refer to page Refer to page 4-127.
- 5) Remove the Reader Upper Cover. Refer to page 4-40.
- 6) Remove the DC Controller PCB. Refer to page Refer to page 4-147.
- 7) Remove the Low Voltage Power Supply Unit. Refer to page Refer to page 4-149.
- 8) Remove the Main Controller PCB. Refer to page Refer to page 4-146.
- 9) Remove the FAX PCB. Refer to page Refer to page 4-153.
- 10) Remove the Main Drive Unit . Refer to page Refer to page 4-154.

### Procedure

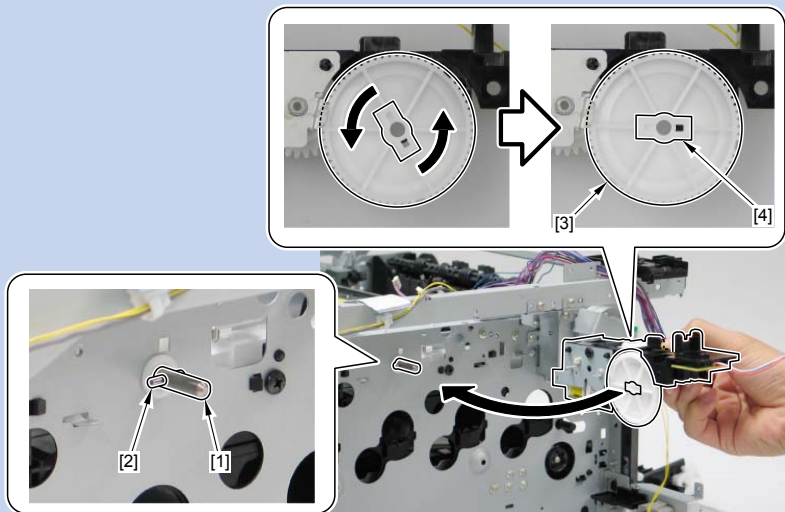
- 1) Remove the Sub Drive Unit [1].  
- 2 screws [2]



F-4-390

## MEMO:

At installation, since the parallel pin [2] drops depending on the direction of the shaft [1], be careful not to drop or lose it. When installing the Sub Drive Assembly, install the parallel pin [2] to the shaft [1] and make the direction of parallel pin [2] and the pin reception area [4] of gear aligned by rotating the shaft [1] and the gear [3] to install it. 065-RPL-EXTR-0690.jpg IMG\_1200,1239,1225,1226



F-4-391

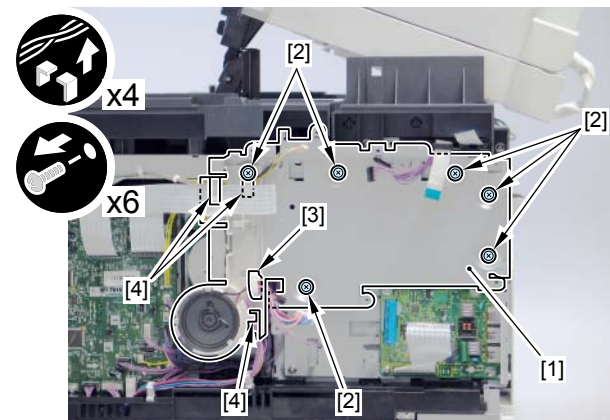
## Removing the Main Motor

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Main Controller PCB. Refer to page Refer to page 4-146.

### Procedure

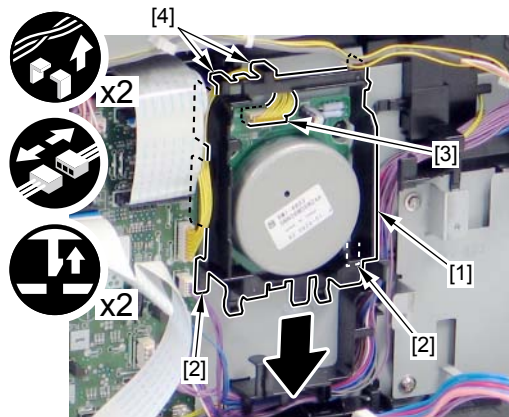
- 1) Remove the Controller Cover [1].
  - 6 screws [2]
  - 1 wire saddle [3]
  - 3 harness guides [4]



F-4-392

2) Slide the Motor Cover [1] in the direction of the arrow to remove.

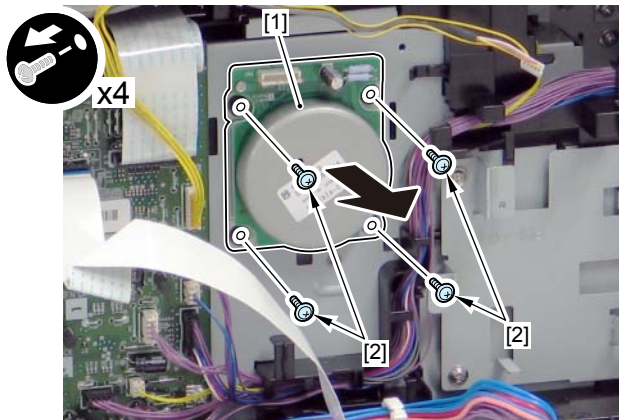
- 2 claws [2]
- 1 connector [3]
- 2 harness guides [4]



F-4-393

3) Remove the Main Motor [1].

- 4 screws [2]



F-4-394

## ■ Removing the Speaker

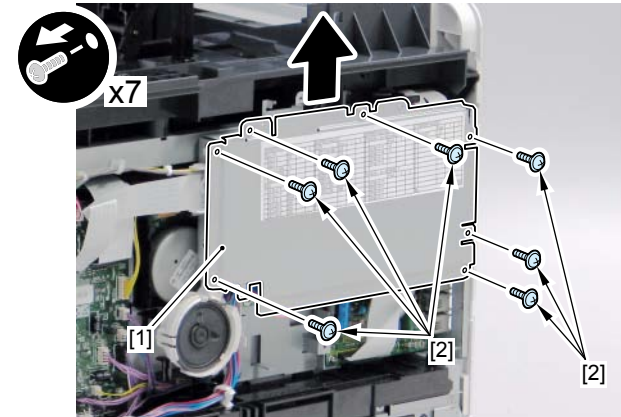
### Pre-procedure

1) Remove the Right Cover. Refer to page Refer to page 4-117.

### Procedure

1) Remove the Controller Cover [1].

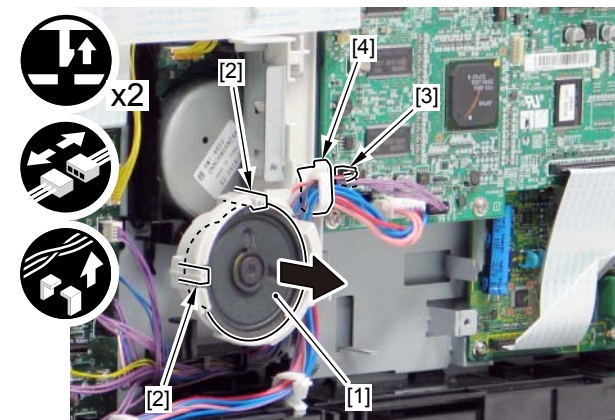
- 7 screws [2]



F-4-395

2) Remove the Speaker [1].

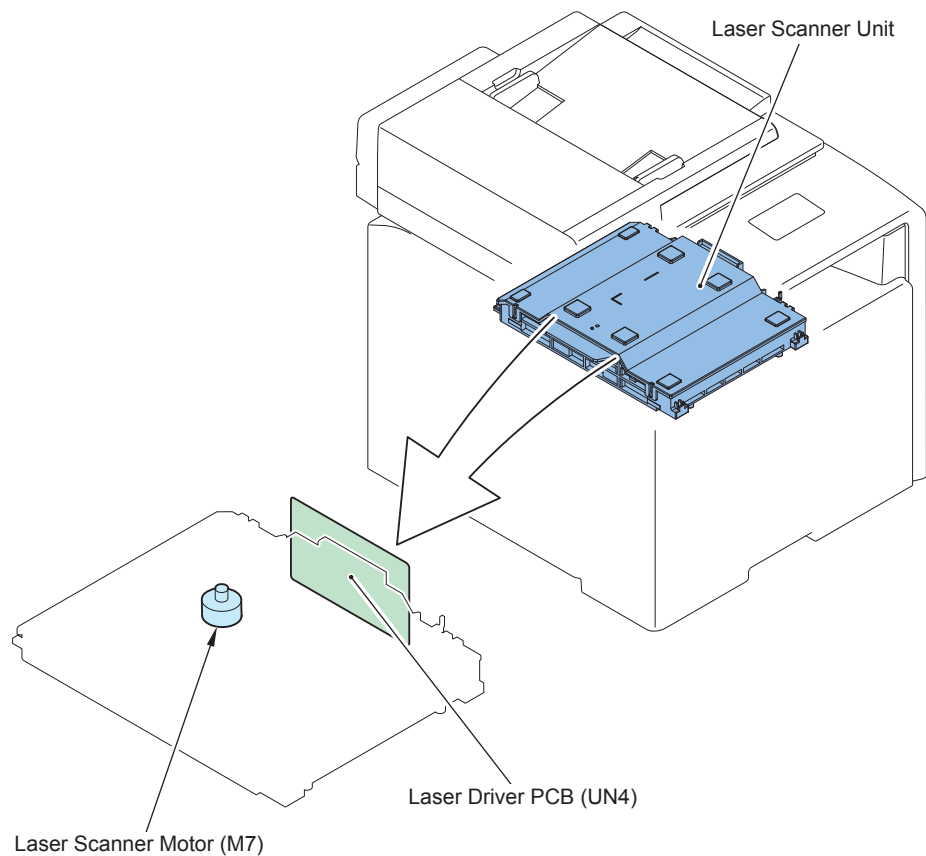
- 2 claws [2]
- 1 connector [3]
- 1 wire saddle [4]



F-4-396

## Laser Exposure System

### Location



No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
-	Laser Scanner Unit	FM3-3453	refer to page Refer to page 4-162	refer to page Refer to page 5-6
UN3	Laser Driver PCB	-	-	-
M704	Laser Scanner Motor	-	-	-

T-4-42

## Removing the Laser Scanner Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the ADF.+ Reader Unit. Refer to page Refer to page 4-127.
- 5) Remove the Reader Upper Cover. Refer to page 4-139

### Procedure

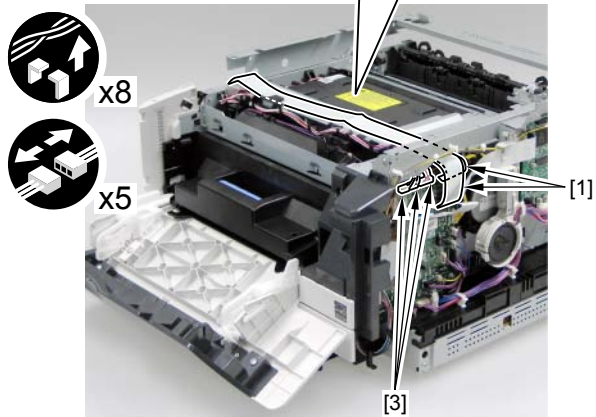
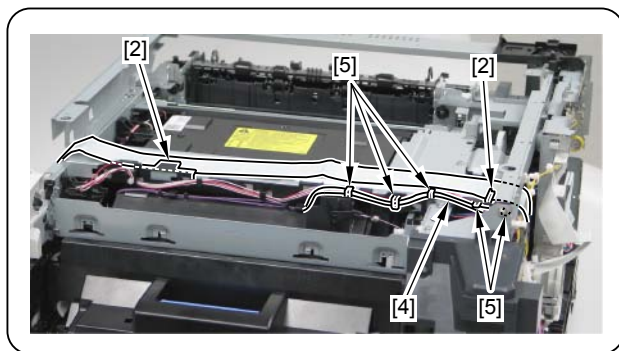
#### Caution:

Close the cartridge tray and operate because there is a possibility that ITB is broken if Laser Scanner Unit is mistakenly dropped when it is removed.

Do not disassemble the Laser Scanner Unit.

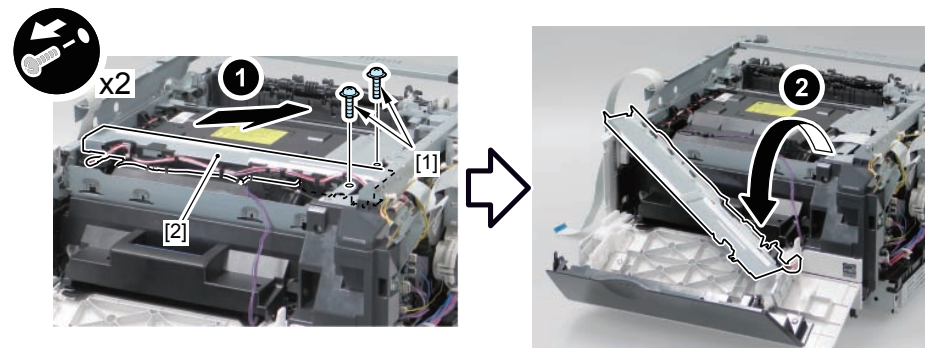


- 1) Remove the 2 flat cables [1] and free from the 2 guides [2].
- 2) Disconnect the 3 connectors [3].
- 3) Free the purple harness [4] from the 5 harness guides [5].



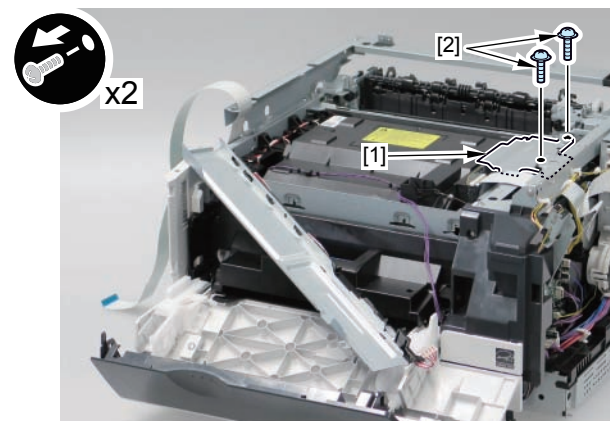
F-4-398

- 4) Remove the 2 screws [1] to remove the Harness Support Plate [2].



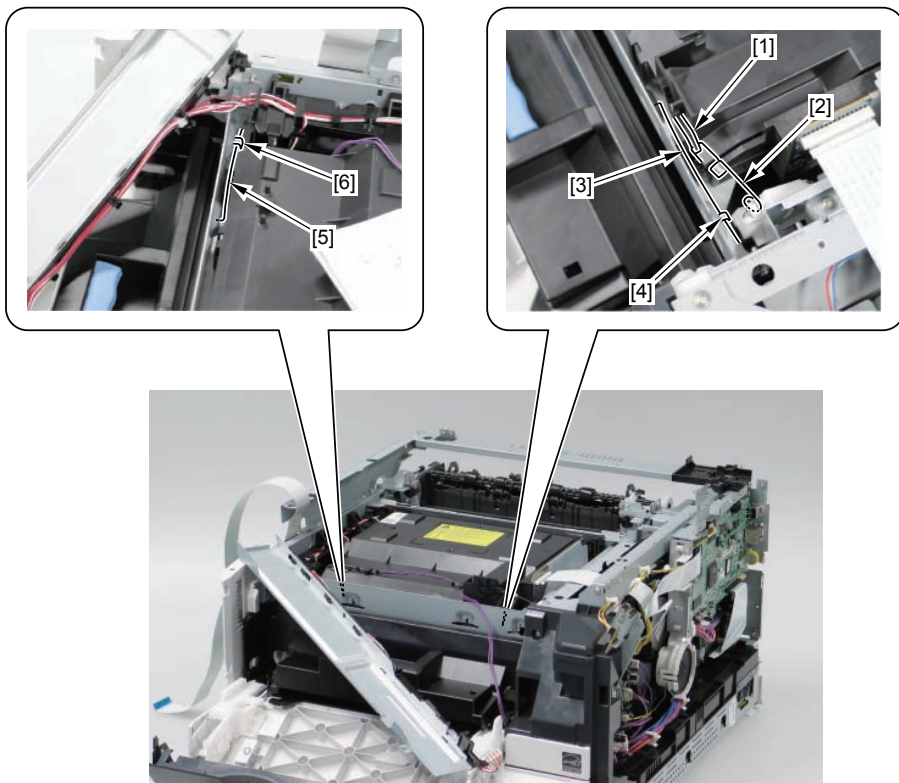
F-4-399

- 5) Remove the Sub Drive Unit Cover [1].  
- 2 screws [2]



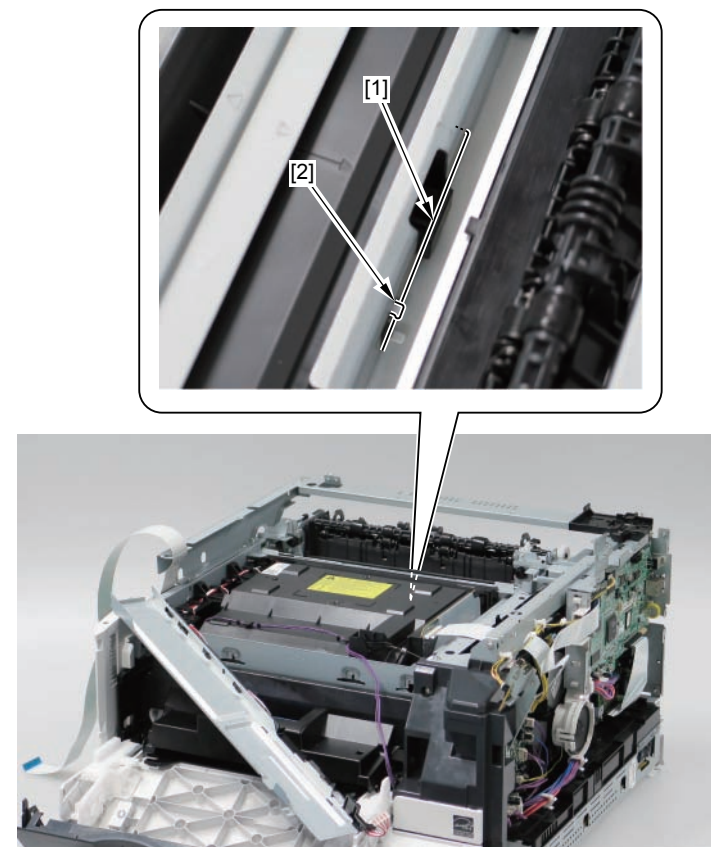
F-4-400

- 6) Remove the spring [2] from the Sensor Arm [1].  
 7) Remove the Scanner fixing spring [3] at the right side from the hook [4].  
 8) Remove the Scanner fixing spring [5] at the left side from the hook [6].



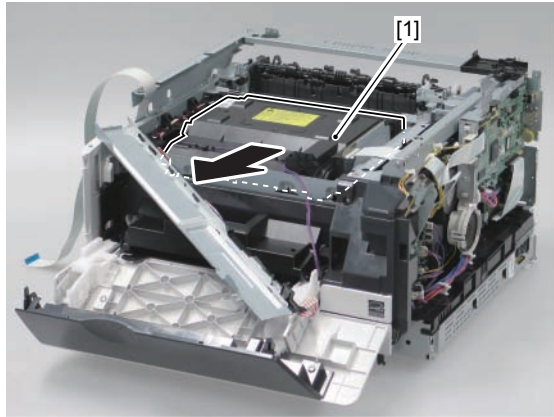
F-4-401

- 9) Remove the Scanner fixing spring [1] at the rear side from the hook [2].



F-4-402

- 10) Remove the Laser Scanner Unit [1].



F-4-403

#### After replacing laser exposure units

- 1) Register values indicated on the label packaged with the laser scanner unit in the following service mode items.

COPIER>ADJUST>SCNR>

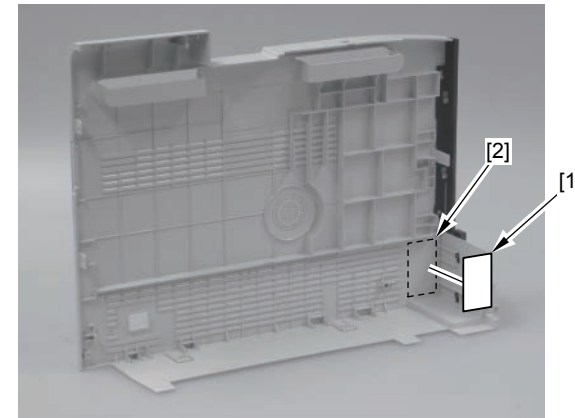
SUB-S-Y0(Laser output correction value, vertical scanning irradiation position0 Y)  
 SUB-S-M0(Laser output correction value, vertical scanning irradiation position0 M)  
 SUB-S-C0(Laser output correction value, vertical scanning irradiation position0 C)  
 SUB-S-K0(Laser output correction value, vertical scanning irradiation position0 K)  
 SUB-S-Y1(Laser output correction value, vertical scanning irradiation position1 Y)  
 SUB-S-M1(Laser output correction value, vertical scanning irradiation position1 M)  
 SUB-S-C1(Laser output correction value, vertical scanning irradiation position1 C)  
 SUB-S-K1(Laser output correction value, vertical scanning irradiation position1 K)  
 SUB-S-Y2(Laser output correction value, vertical scanning irradiation position2 Y)  
 SUB-S-M2(Laser output correction value, vertical scanning irradiation position2 M)  
 SUB-S-C2(Laser output correction value, vertical scanning irradiation position2 C)  
 SUB-S-K2(Laser output correction value, vertical scanning irradiation position2 K)  
 MAI-S-Y0(Laser output correction value, horizontal scanning irradiation position0 Y)  
 MAI-S-M0(Laser output correction value, horizontal scanning irradiation position0 M)  
 MAI-S-C0(Laser output correction value, horizontal scanning irradiation position0 C)  
 MAI-S-K0(Laser output correction value, horizontal scanning irradiation position0 K)  
 MAI-S-Y1(Laser output correction value, horizontal scanning irradiation position1 Y)  
 MAI-S-M1(Laser output correction value, horizontal scanning irradiation position1 M)  
 MAI-S-C1(Laser output correction value, horizontal scanning irradiation position1 C)  
 MAI-S-K1(Laser output correction value, horizontal scanning irradiation position1 K)

MAI-S-Y2(Laser output correction value, horizontal scanning irradiation position2 Y)  
 MAI-S-M2(Laser output correction value, horizontal scanning irradiation position2 M)  
 MAI-S-C2(Laser output correction value, horizontal scanning irradiation position2 C)  
 MAI-S-K2(Laser output correction value, horizontal scanning irradiation position2 K)

FM2- . . . .				
Serial No.000000				
Sub Scanning Line				
	0	1	C	
SUB-S-Y0	Y	±±±±	±±±±	±±±±
	M	±±±±	±±±±	±±±±
SUB-S-M0	C	±±±±	±±±±	±±±±
	K	±±±±	±±±±	±±±±
Main Scanning Line				
	0	1	2	
MAI-S-Y0	Y	±±±±	±±±±	±±±±
	M	±±±±	±±±±	±±±±
	C	±±±±	±±±±	±±±±
	K	±±±±	±±±±	±±±±

F-4-404

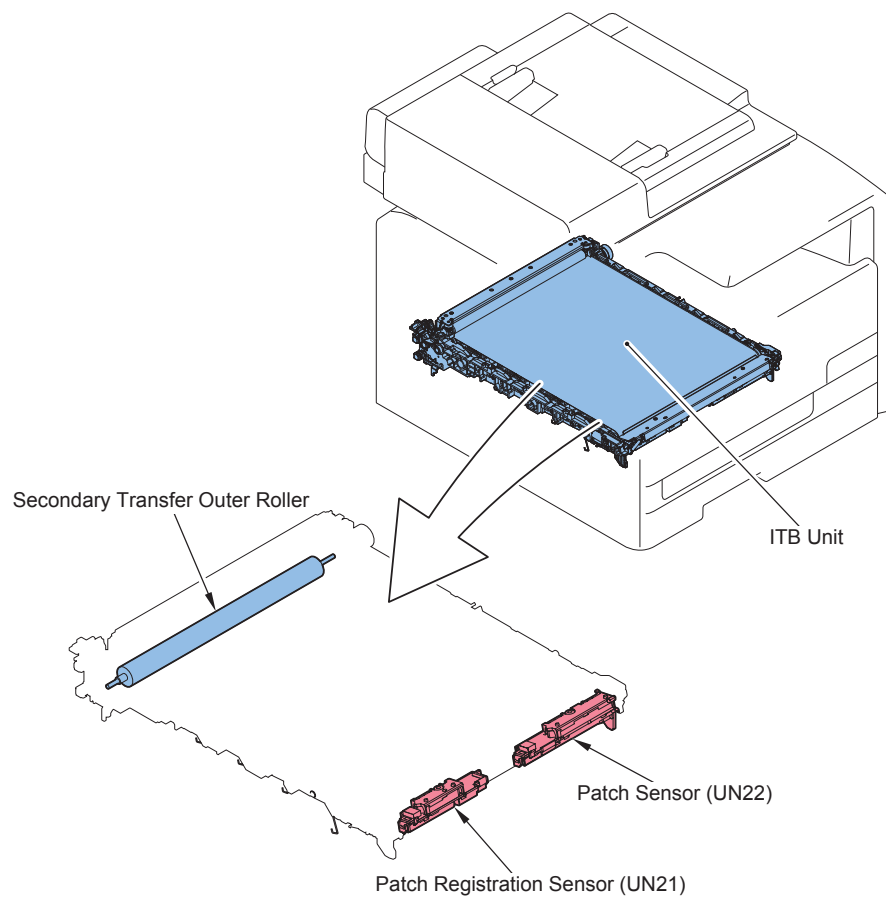
- 2) After values are registered, affix the label [1] packaged with the unit on the inside [2] of the right cover.



F-4-405

## Image Formation System

### Location



No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
-	ITB Unit	RM1-4436	refer to page Refer to page 4-166	-
-	Secondary Transfer Outer Roller	-	-	-
UN21	Patch Sensor	-	-	-
UN22	Patch Registration Sensor	-	-	-

T-4-43

## Removing the ITB Unit

### Pre-procedure

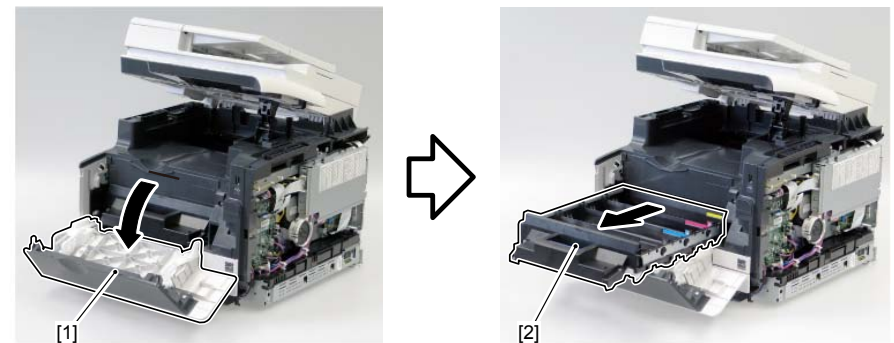
- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.

### Procedure

**Caution:**  
Do not touch the ITB.

**Caution:**  
While removing the cartridges, be sure not to scratch the drum surface. And cover the drum surface.

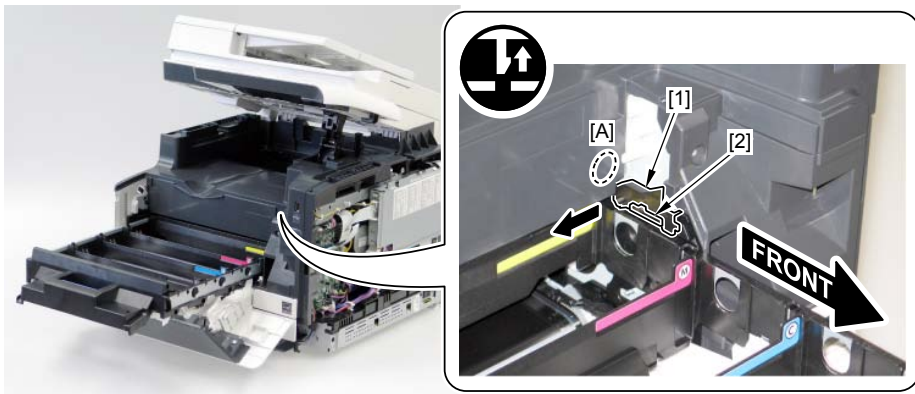
- 1) Open the Front Cover [1].
- 2) Pull out the Cartridge Tray [1].



F-4-407

3) Remove the claw [2] of the Right Stopper [1].

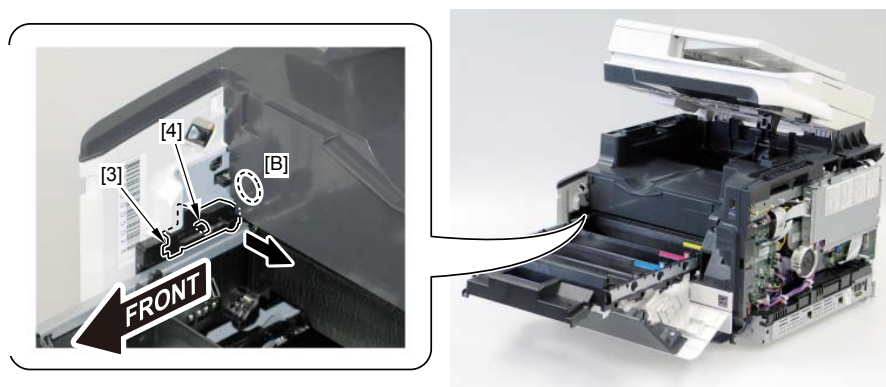
4) While pushing the [A] area, remove the Right Stopper [1].



F-4-408

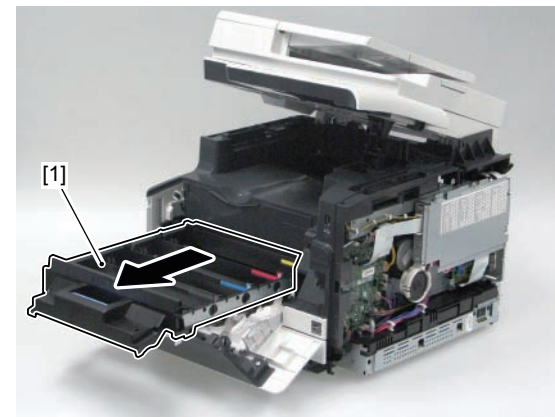
5) Remove the claw [2] of Left Stopper [1].

6) While pushing the [B] area, remove the Left Stopper [1].



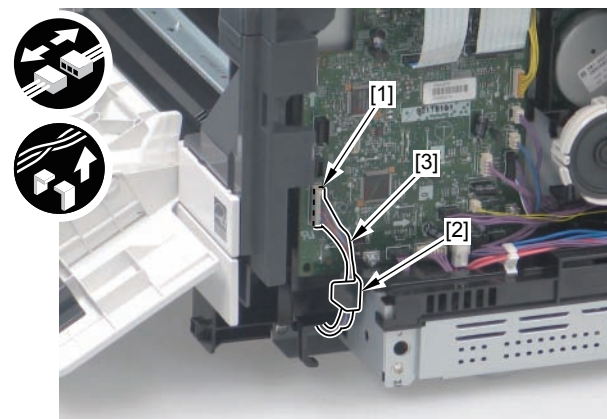
F-4-409

7) Remove the Cartridge Tray [1].



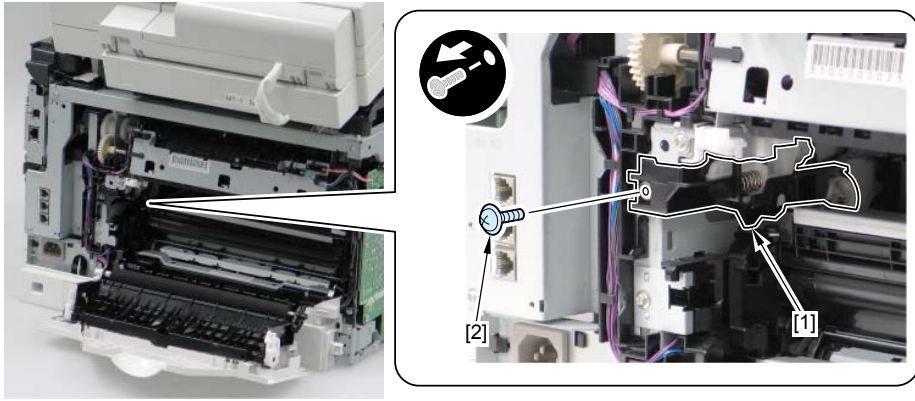
F-4-410

8) Disconnect the connector [1] and free the harness [3] from the harness guide [2].



F-4-411

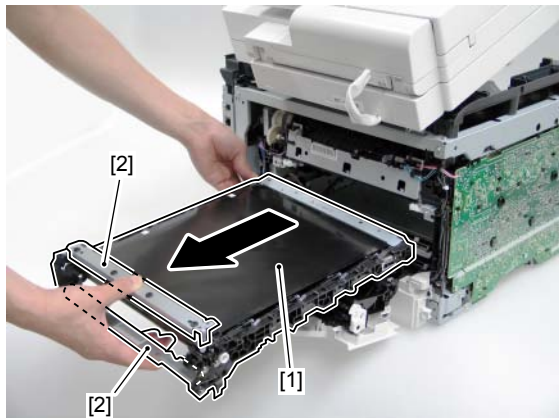
- 9) Remove the ITB Fixing Holder [1].  
- 1 screw [2]



F-4-412

- 10) Remove the ITB Unit in the direction of the arrow.

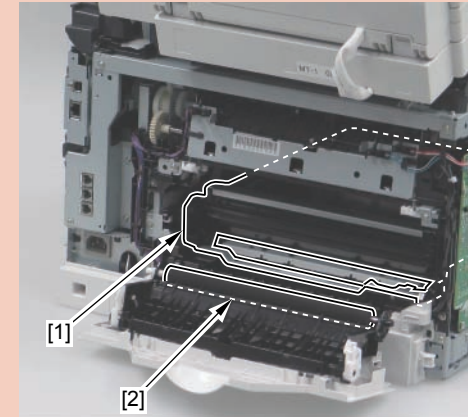
Caution:  
Do not make the Plate [2] deformed.



F-4-413

Caution:

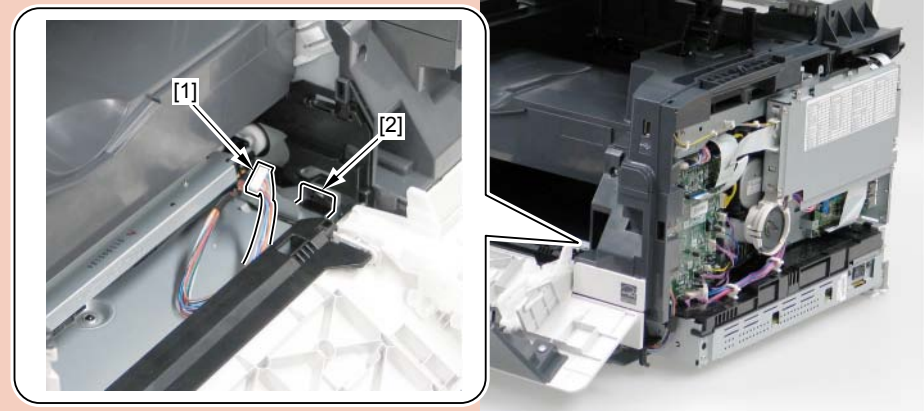
When removing the ITB Unit [1], do not touch the Secondary Transfer Outer Roller [2].



F-4-414

Caution:

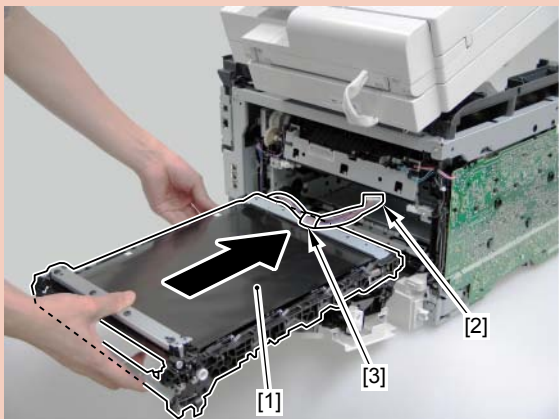
When removing the ITB Unit, be careful not to get the connector [1] (removed in step 8)) caught at the slot [2] of the guide.



F-4-415

**Caution:**

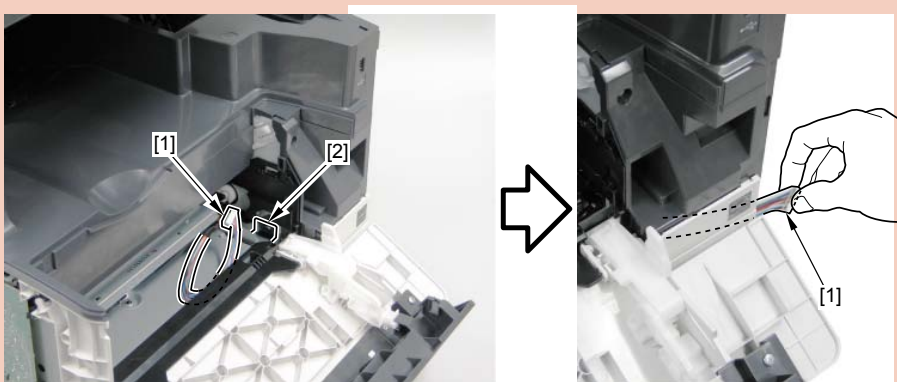
When installing the ITB Unit [1], be sure to secure the ITB harness [2] with the tape [3] as shown in the figure below because the ITB harness [2] can be caught inside the Host Machine.



F-4-416

**Caution:**

When installing the ITB Unit, make sure to put the connector [1] through the guide inlet [2] and take it out.



F-4-417

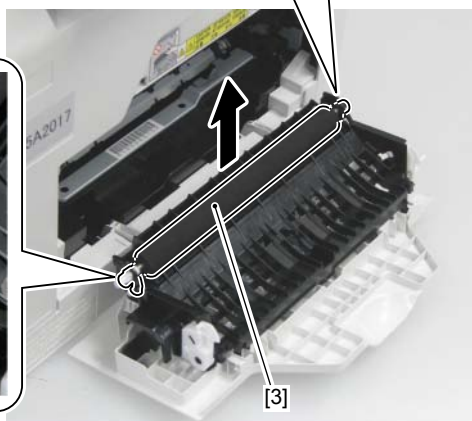
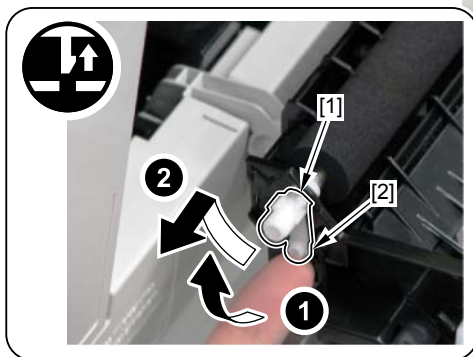
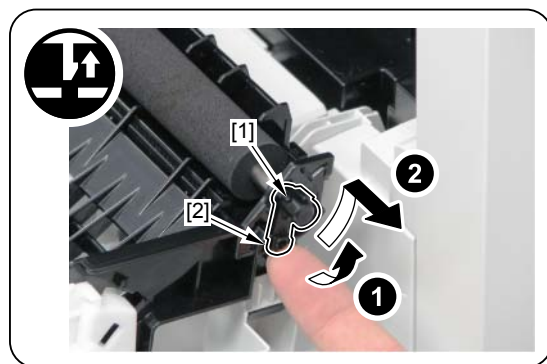
## ■ Removing the Secondary Transfer Outer Roller

- 1) Open the Rear Cover [1].



F-4-418

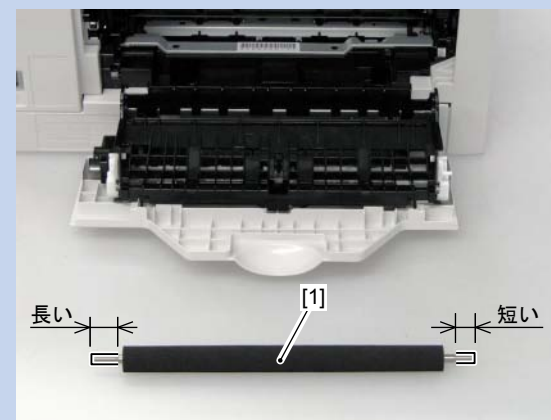
- 2) Remove the 2 stoppers [1].  
- 2 claws [2]
- 3) Remove the Secondary Transfer Outer Roller [3].



F-4-419

## MEMO:

When installing the Secondary Transfer External Roller, take note of the direction of the Secondary Transfer Roller [1].

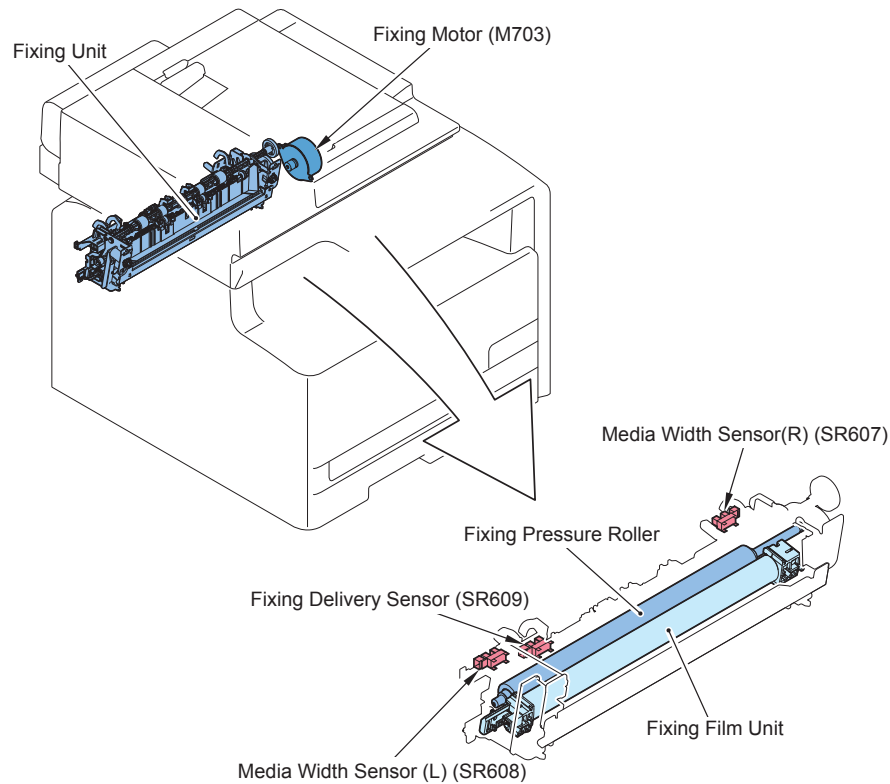


F-4-420



## Fixing System

### Location



No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
-	Fixing Assembly	FM3-3435 (100V) RM1-4430 (120V) RM1-4431 (220V)	refer to page Refer to page 4-171	-
M703	Fixing Motor	RK2-1872	refer to page Refer to page 4-175	-

No.	Name	Service Parts No.	Reference	Adjustment during parts replacement
-	Fixing Film Unit	FM3-3434 (JP) RM1-4432 (US,CND) RM1-4433 (EXCEPT JP,US,CND)	refer to page Refer to page 4-173	-
-	Fixing Pressure Roller	RC2-2146	refer to page Refer to page 4-175	-
SR607	Media Width Sensor R	WG8-5696	-	-
SR608	Media Width Sensor L	WG8-5696	-	-
SR609	Fixing Delivery Sensor	WG8-5696	-	-

T-4-44

### Removing the Fixing Assembly

#### Pre-procedure

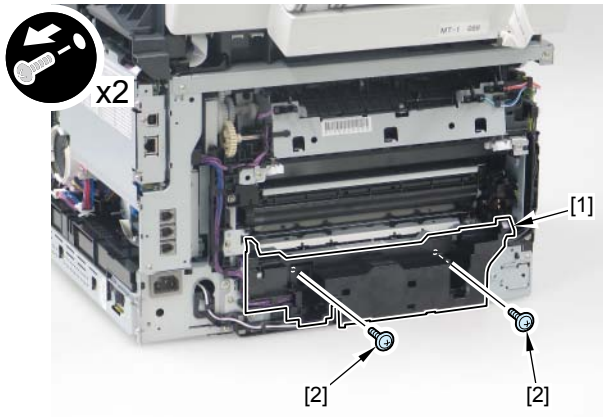
- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.

#### Procedure

##### Caution:

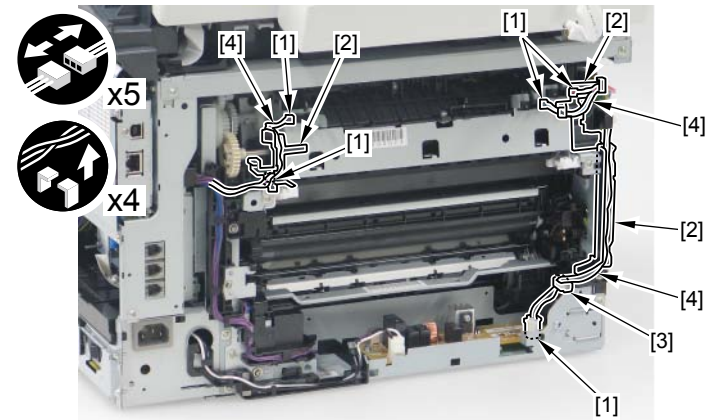
Take some time until the fixing assembly gets cooler and then remove it because the fixing assembly right after the power supply is turned off is at high heat

- 1) Remove the Fixing Power Supply Cover [1].  
- 2 screws [2]



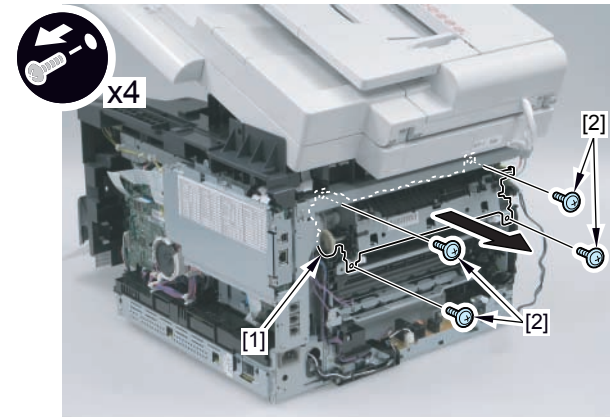
F-4-422

2) Disconnect the 5 connectors [1] and free the harness [4] from the 3 harness guides [2] and the wire saddle [3].



F-4-423

3) Remove the Fixing Assembly [1].  
- 4 screws [2]



F-4-424

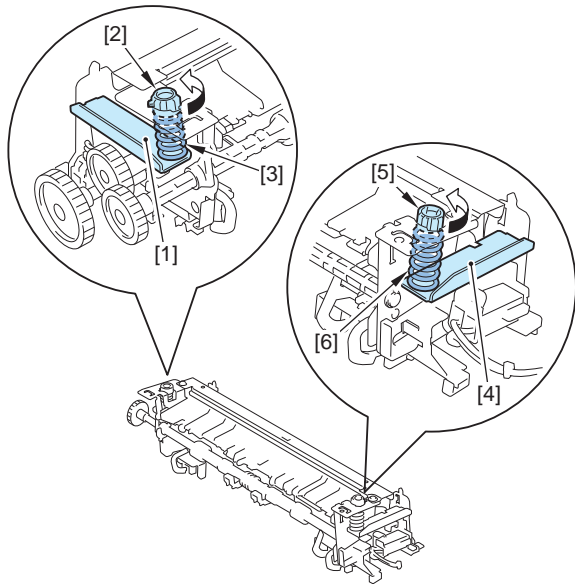
## Replacing the Fixing Film Unit

### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the Fixing Assembly. Refer to page Refer to page 4-171.

### Procedure

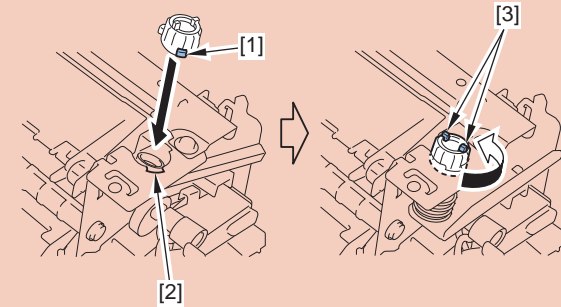
- 1) Remove the Right Fixing Pressure Plate [1].
  - 1 spring holder [2]
  - 1 spring [3]
- 2) Remove the Left Fixing Pressure Plate [4].
  - 1 spring holder [5]
  - 1 spring [6]



F-4-425

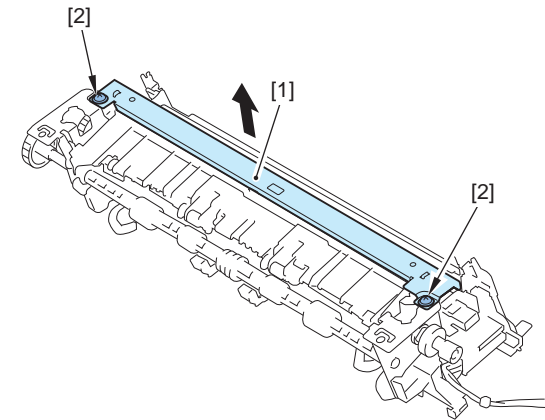
### Caution:

When installing the Fixing Film Unit, fit the projection [1] of the spring holder to the cutoff [2] of the Fixing Frame to turn in the direction of the arrow, and then install the unit while the dent [3] faces in the direction as shown in the figure below.



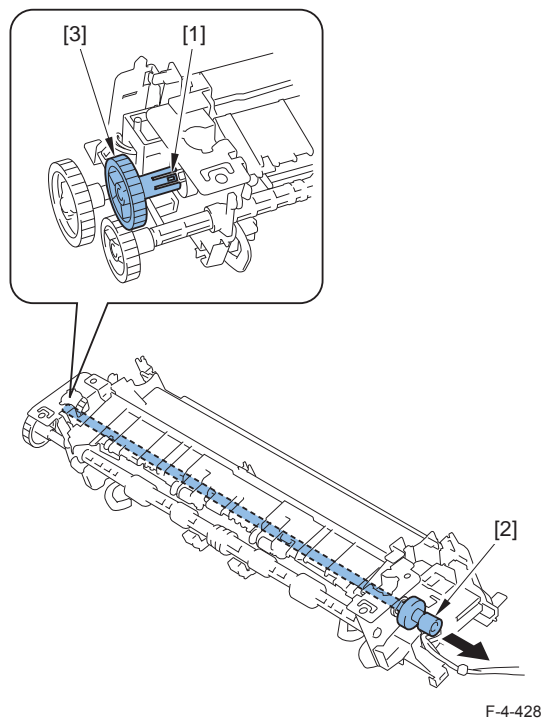
F-4-426

- 3) Remove the Guide Retaining Plate [1].
  - 2 screws [2]



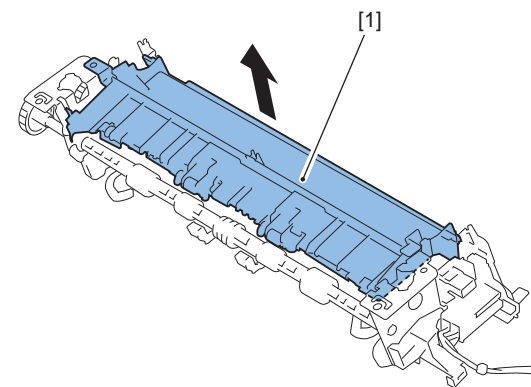
F-4-427

- 4) Remove the claw [1] of the gear and pull out the Shaft Unit [2] in the direction of the arrow to remove the gear [3].



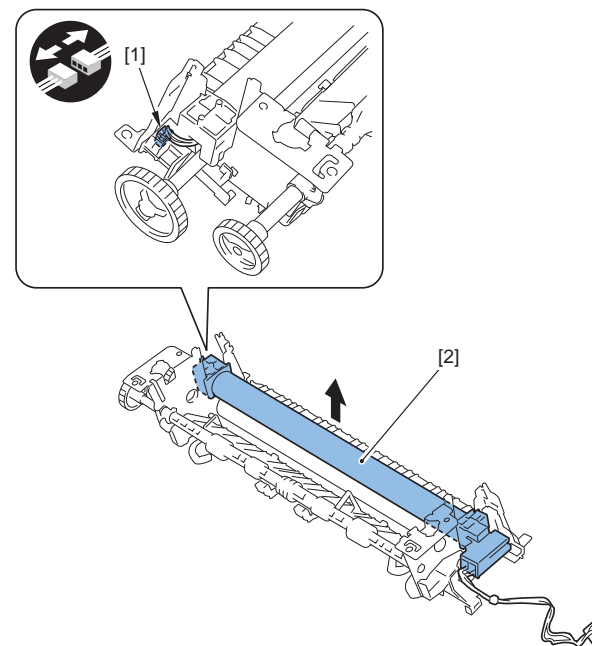
F-4-428

5) Remove the Upper Fixing Guide [1].



F-4-429

6) Disconnect the connector [1] and remove the Fixing Film Unit [2] in the direction of the arrow.



F-4-430

## ■ Removing the Fixing Pressure Roller

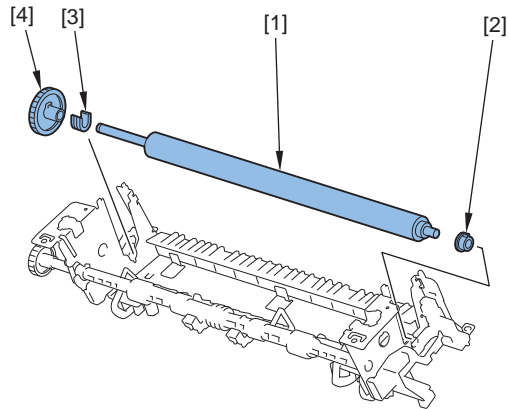
### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Left Cover. Refer to page Refer to page 4-114.
- 3) Remove the Rear Upper Cover. Refer to page Refer to page 4-124.
- 4) Remove the Fixing Assembly. Refer to page Refer to page 4-171.
- 5) Remove the Fixing Film Unit. Refer to page Refer to page 4-172.

### Procedure

- 1) Remove the Fixing Pressure Roller [1].

- 1 bushing [2]
- 1 bushing [3]
- 1 gear [4]



F-4-431

## ■ Removing the Fixing Motor

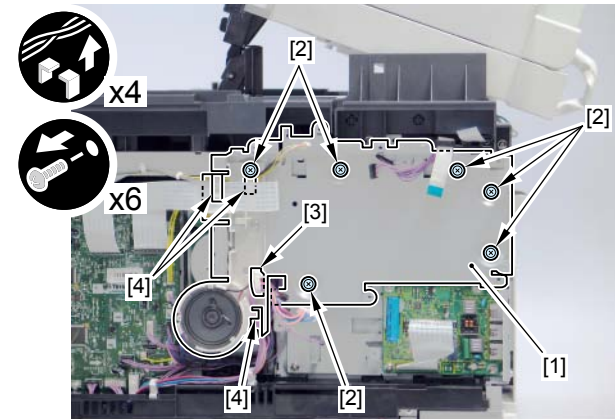
### Pre-procedure

- 1) Remove the Right Cover. Refer to page Refer to page 4-117.
- 2) Remove the Main Controller PCB. Refer to page Refer to page 4-146.

### Procedure

- 1) Remove the Controller Fixing Plate [1].

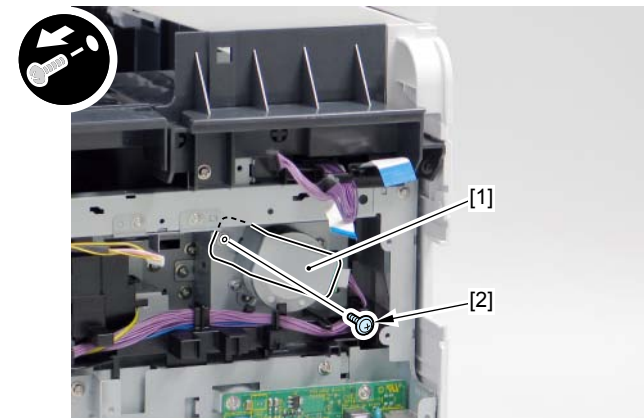
- 6 screws [2]
- 1 wire saddle [3]
- 3 harness guides [4]



F-4-432

- 2) Remove the Motor Cover [1].

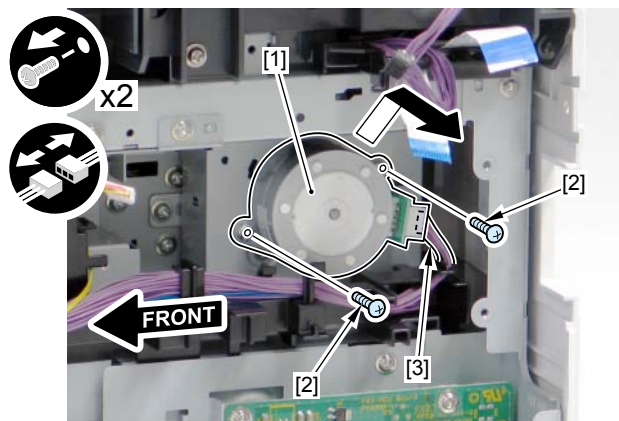
- 1 screw [2]



F-4-433

- 3) Slide the Fixing Motor [1] in the upper right direction to remove.

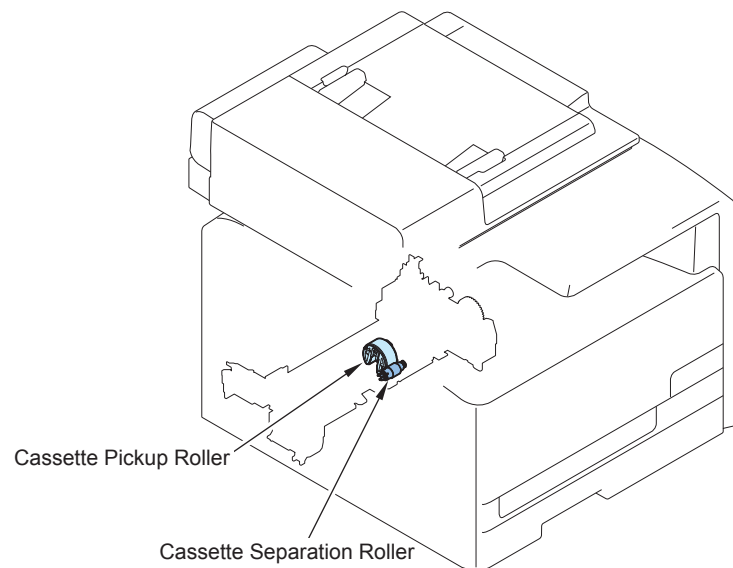
- 2 screws [2]
- 1 connector [3]



F-4-434

## Pickup Feeder System

### Location



Name	Service Parts No.	Reference	Adjustment during parts replacement
Cassette Pickup Roller	RM1-4426	refer to page Refer to page 4-177	-
Cassette Separation Roller	RM1-4425	refer to page Refer to page 4-178	-

T-4-45

### Removing the Cassette Pickup Roller

- 1) Turn ON the power switch.
- 2) Execute the following items in Service mode.  
COPIER > FUNCTION > VIFFNC > FD-R-CHG
- 3) The Pickup Roller rotates and stops at the replacement position.
- 4) Turn OFF the power.

#### Caution:

Before tilting a host machine, remove toner cartridges (Y, M, C, Bk).

- 5) Remove the cassette [1].



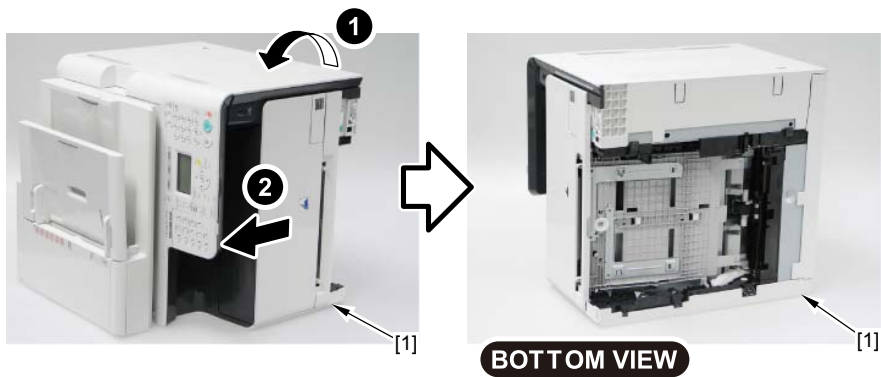
F-4-436

- 6) Place a host machine [1] as the Left Cover faces to the bottom.

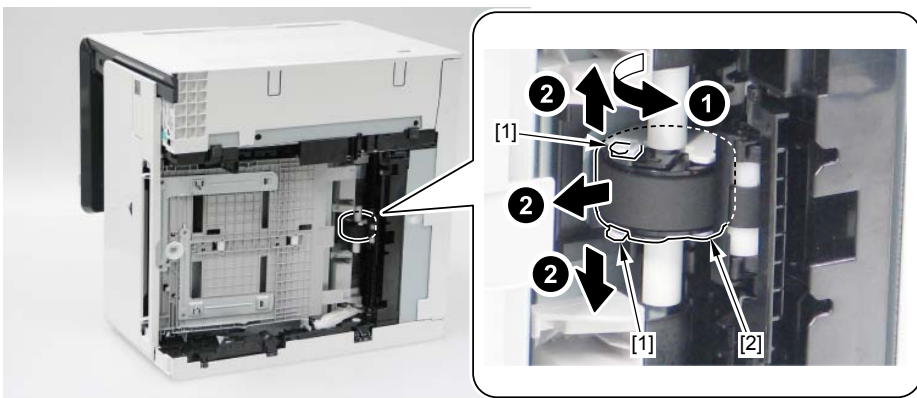
#### Caution:

When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.

In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.



F-4-437  
7) Open 2 projections [1] of the holder in the arrow direction, and remove the cassette Pickup Roller [2].



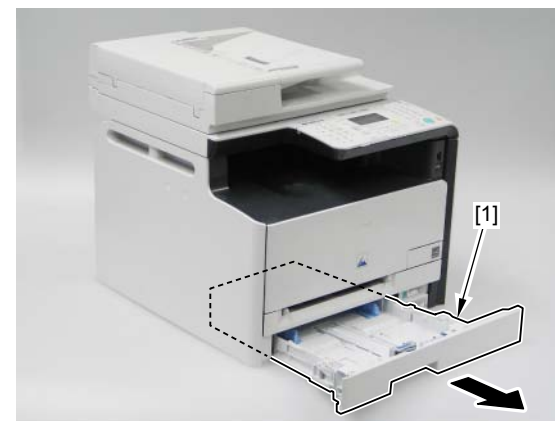
F-4-438

## ■ Removing the Cassette Separation Roller

Caution:  
Do not touch the Cassette Separation Roller surface.

Caution:  
Before tilting a host machine, remove toner cartridges (Y, M, C, Bk).

1) Remove the cassette [1].



F-4-439

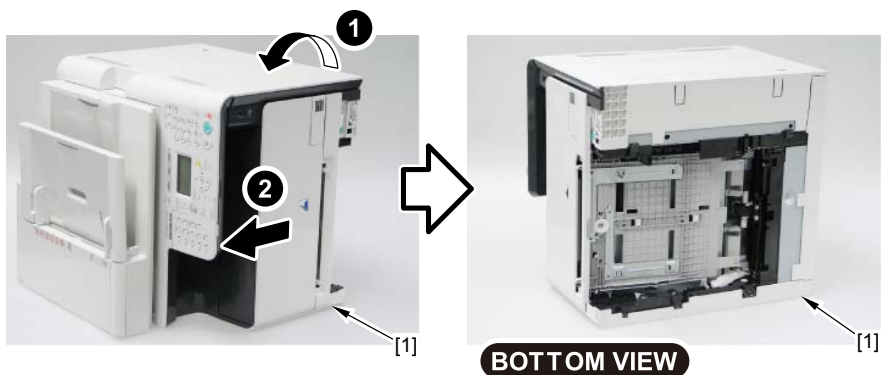


2) Make the Left Cover face down and place the host machine [1].

**Caution:**

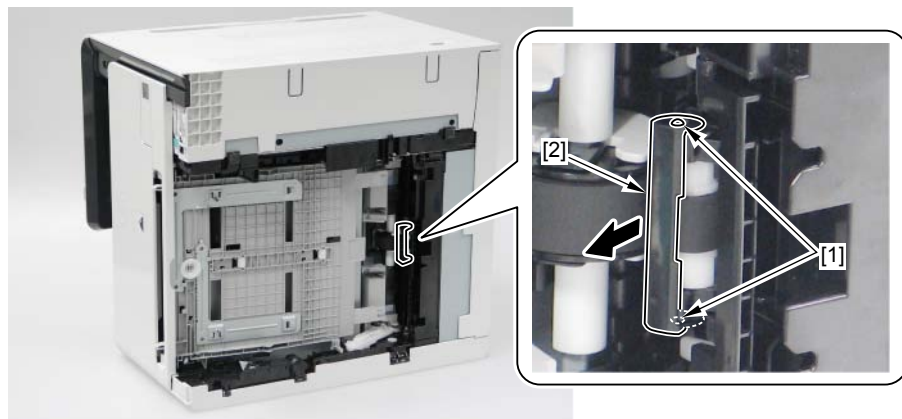
When laying down the main body, be sure to secure the ADF Unit with tape to prevent from opening.

In case that the ADF Unit is not secured with tape, when returning the main body to its original position, the ADF Unit is closed swiftly, so this might cause damage on the main body or injuries by catching the fingers.



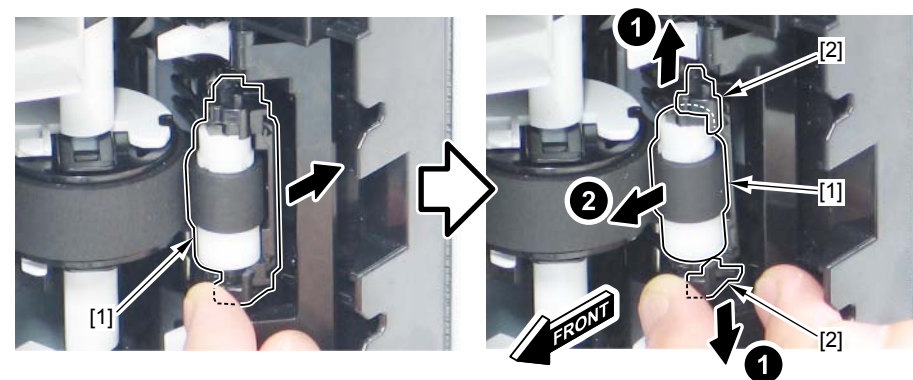
F-4-440

3) Remove the 2 projections [1] to remove the Cover [2].



F-4-441

4) Open the Holder [1] in the direction of the arrow and release the projection [2] of the Cassette Separation Roller to remove the Cassette Separation Roller [3].



F-4-442



# Adjustment

- Adjustment at Parts Replacement

## Adjustment at Parts Replacement

### Document Exposure / Feed System

#### After replacing ADF units

1) After executing the white level adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.

##### 1.White level adjustment

- COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

##### 2.Checking the setting value

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
- COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)

2) Execute the reading position adjustment with the following service mode.

- COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
- COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning position in FEEDER mode)
- COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)

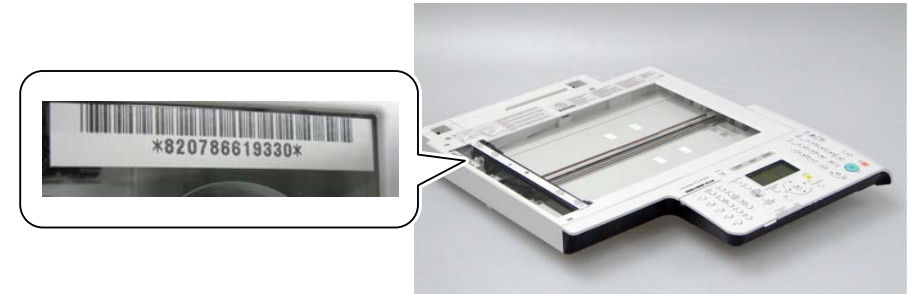
3) Execute the original stop position and feed speed adjustment at stream reading.

- FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
- FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

#### After replacing reader units

1) Enter the setting value of the Standard White Plate.

- COPIER > ADJUST > CCD > W-PLT-X (X signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Y (Y signal data for the standard white plate)
- COPIER > ADJUST > CCD > W-PLT-Z (Z signal data for the standard white plate)



F-5-1

2) Execute the white level adjustment.

- COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
- COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)

3) After executing the reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.

- 1.COPIER> FUNCTION> INSTALL> STRD-POS (reading position adjustment auto execution)
- 2.COPIER> ADJUST> ADJ-XY> STRD-POS (reading position adjustment value reference)

4) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.

##### 1.White level adjustment

- COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
- COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])

Then, set a blank paper on the DF, and execute the following service mode.

- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
- COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

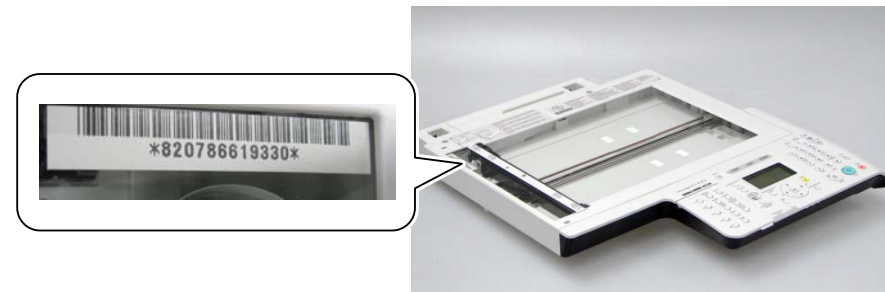
##### 2.Checking the setting value

- COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)

- COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
  - COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
  - COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)
- 5) Enter the value on the label packed with the part in the following service mode item.
- COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
  - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning position in FEEDER mode)
  - COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)
  - COPIER> ADJUST> CCD> 50-RG (Color displacement correction value between RG in the vertical scanning direction (50%))
  - COPIER> ADJUST> CCD>50-GB (Color displacement correction value between GB in the vertical scanning direction (50%))
  - COPIER> ADJUST> CCD>100-RG (Color displacement correction value between RG in the vertical scanning direction (100%))
  - COPIER> ADJUST> CCD>100-GB (Color displacement correction value between GB in the vertical scanning direction (100%))
  - COPIER>ADJUST>PASCAL>OFST-P-Y (Adjustment of test chart reading density)
  - COPIER>ADJUST>PASCAL> OFST-P-M (Adjustment of test chart reading density)
  - COPIER>ADJUST>PASCAL> OFST-P-C (Adjustment of test chart reading density)
  - COPIER>ADJUST>PASCAL> OFST-P-K (Adjustment of test chart reading density)
- 6) Read the image and execute the adjustment with the following service mode.
- FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
  - FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

## ■ After Replacing the Reader Upper Cover Unit

- 1) Enter the setting value of the Standard White Plate.
- COPIER > ADJUST > CCD > W-PLT-X (X signal data for the standard white plate)
  - COPIER > ADJUST > CCD > W-PLT-Y (Y signal data for the standard white plate)
  - COPIER > ADJUST > CCD > W-PLT-Z (Z signal data for the standard white plate)



- 2) After executing the CCD reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.
- 1.COPIER> FUNCTION> INSTALL> STRD-POS (reading position adjustment auto execution)
  - 2.COPIER> ADJUST> ADJ-XY> STRD-POS (reading position adjustment value reference)
- 3) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.
- 1.White level adjustment
    - COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
    - COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)
- Then, set a blank paper on the DF, and execute the following service mode.
- COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
  - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])
- If it fails, turn OFF/ON the power and execute the operation again.
- 2.Checking the setting value
    - COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)

## ■ After replacing CIS units

- 1) Execute the white level adjustment. If it fails, turn OFF/ON the power and execute the operation again.
  - COPIER > FUNCTION > CCD > CL-AGC (Color AGC adjustment)
  - COPIER > FUNCTION > CCD > BW-AGC (B&W AGC adjustment)
  
- 2) After executing the reading position adjustment with the following service mode 1, check the auto setting value with the following service mode 2 and write the value in the service label.
  1. COPIER> FUNCTION> INSTALL> STRD-POS (reading position adjustment auto execution)
  2. COPIER> ADJUST> ADJ-XY> STRD-POS (reading position adjustment value reference)
  
- 3) Set a blank paper on the Copyboard Glass, and execute the white level adjustment with the following service mode 1. Then, check the auto setting value with the following service mode 2 and write the value in the service label.
  - 1.White level adjustment
    - COPIER > FUNCTION > CCD > DF-WLVL1 (White level adjustment [copyboard scanning])
    - COPIER > FUNCTION > CCD > DF-WLVL3 (White level adjustment BW [copyboard scanning])

Then, set a blank paper on the DF, and execute the following service mode.

  - COPIER > FUNCTION > CCD > DF-WLVL2 (White level adjustment [DF scanning])
  - COPIER > FUNCTION > CCD > DF-WLVL4 (White level adjustment BW [DF scanning])

If it fails, turn OFF/ON the power and execute the operation again.

  - 2.Checking the setting value
    - COPIER> ADJUST> CCD> DFTAR-R (RED shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-G (GREEN shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-B (BLUE shading target value when using DF)
    - COPIER> ADJUST> CCD> DFTAR-BW (Monochrome shading target value when using DF)
  
- 4) Execute the reading position adjustment with the following service mode.
  - COPIER > ADJUST > ADJ-XY > ADJ-Y (Value adjustment for image reading start position [vertical scanning direction] <X-axis direction>)
  - COPIER > ADJUST > ADJ-XY > ADJ-Y-DF (Adjustment of surface horizontal scanning

- position in FEEDER mode)
  - COPIER > ADJUST > ADJ-XY > ADJ-X-MG (Fine-adjustment of optical motor speed)
- 5) Execute the original stop position and feed speed adjustment at stream reading.
    - FEEDER > ADJUST > DOCST (Image reading start position adjustment at ADF reading)
    - FEEDER > ADJUST > LA-SPEED (Original feed speed adjustment)

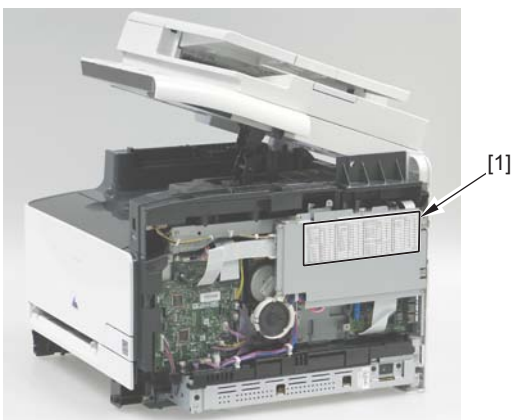
## Controller System

### After replacing main controller PCBs

#### Before replacement

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

- 1) In Remote UI, export user data.
- 2) Record the default settings shown on the service label [1] (these are entered after replacement).



F-5-3

#### After replacement

##### 1. Setting of destination/paper size group

- 1) COPIER > OPTION > BODY > LOCALE (to set destination groups)

[Settings]

1: Japan, 2: North America, 3: Korea, 4: China, 5: Taiwan, 6: Europe, 7: Asia,  
8: Oceania

- 2) COPIER > OPTION > BODY > SIZE-LC (to set paper size groups)

[Settings]

1: AB series, 2: Inch series, 3: A series, 4: AB/Inch series

##### 2. Clearing Setting/Registration data

- 1) COPIER > FUNCTION > CLEAR > ALL (to clear all data)

Once executed, the following data are cleared according to the values of LOCALE and SIZE-LC set in step 1.

- Setting / Registration data (the default value for each destination is set).
- Service mode data (the default value for each destination is set).
- Job IDs
- Log data

- Dates
- 2) COPIER > FUNCTION > CLEAR > R-CON (to clear default setting values for the reader/DF)

##### 3. Adjustment, input of default setting values

- 1) Close the ADF.
- 2) COPIER> FUNCTION > CCD > CL-AGC, BW-AGC (to adjust white levels)  
The white level is adjusted.
- 3) Enter default setting values indicated on the service label in the corresponding service mode items.
- 4) COPIER> FUNCTION > VIFFNC > STOR-DCN (to back up DC controller setting values)

Purpose: to be prepared for replacing DC controller PCBs

- 5) Turn off and on the power.
- 6) Start in the initial installation mode. Follow instructions shown on the screen for setup. (setting of date/time, auto-gradation correction)
- 7) In Remote UI, import user data.

### The Procedure to be Performed after Replacing the DC Controller PCB

#### 1) Execute the following in Service Mode

- COPIER>FUINCTION>VIFFNC>RSTR-DCN

#### MEMO

After executing the Printer Recovery Setting, be sure to wait for about 15 seconds because of internal process/operation.

- 2) Turn OFF and then ON the power.
- 3) \*Execute the following: > Adjustment/Cleaning > Print Color Displacement Correction
- 4) \* Execute the following: > Adjustment/Cleaning > Auto Gradation Correction > Quick Correction
- 5) Turn OFF and then ON the power.

## Laser Exposure System

### After replacing Laser Scanner Unit

1) Register values indicated on the label packaged with the Laser Scanner Unit in the following service mode items.

COPIER>ADJUST>SCNR>

SUB-S-Y0(Laser output correction value, vertical scanning irradiation position0 Y)

SUB-S-M0(Laser output correction value, vertical scanning irradiation position0 M)

SUB-S-C0(Laser output correction value, vertical scanning irradiation position0 C)

SUB-S-K0(Laser output correction value, vertical scanning irradiation position0 K)

SUB-S-Y1(Laser output correction value, vertical scanning irradiation position1 Y)

SUB-S-M1(Laser output correction value, vertical scanning irradiation position1 M)

SUB-S-C1(Laser output correction value, vertical scanning irradiation position1 C)

SUB-S-K1(Laser output correction value, vertical scanning irradiation position1 K)

SUB-S-Y2(Laser output correction value, vertical scanning irradiation position2 Y)

SUB-S-M2(Laser output correction value, vertical scanning irradiation position2 M)

SUB-S-C2(Laser output correction value, vertical scanning irradiation position2 C)

SUB-S-K2(Laser output correction value, vertical scanning irradiation position2 K)

MAI-S-Y0(Laser output correction value, horizontal scanning irradiation position0 Y)

MAI-S-M0(Laser output correction value, horizontal scanning irradiation position0 M)

MAI-S-C0(Laser output correction value, horizontal scanning irradiation position0 C)

MAI-S-K0(Laser output correction value, horizontal scanning irradiation position0 K)

MAI-S-Y1(Laser output correction value, horizontal scanning irradiation position1 Y)

MAI-S-M1(Laser output correction value, horizontal scanning irradiation position1 M)

MAI-S-C1(Laser output correction value, horizontal scanning irradiation position1 C)

MAI-S-K1(Laser output correction value, horizontal scanning irradiation position1 K)

MAI-S-Y2(Laser output correction value, horizontal scanning irradiation position2 Y)

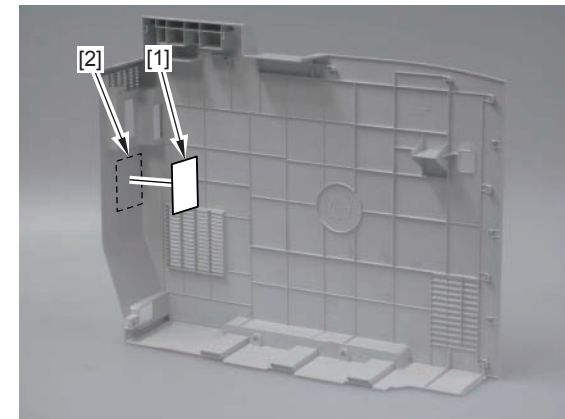
MAI-S-M2(Laser output correction value, horizontal scanning irradiation position2 M)

MAI-S-C2(Laser output correction value, horizontal scanning irradiation position2 C)

MAI-S-K2(Laser output correction value, horizontal scanning irradiation position2 K)

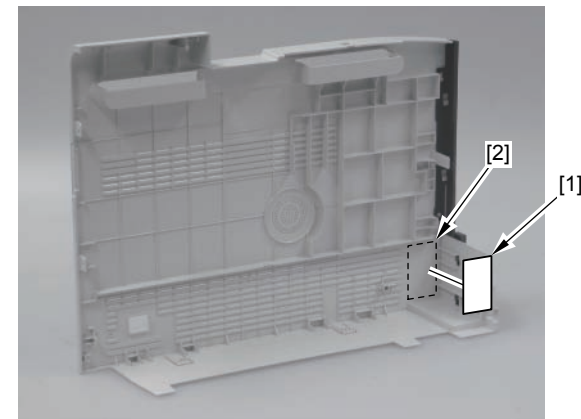
2) After values are registered, affix the label [1] packaged with the unit on the inside [2] of the right cover.

- MF8300 series



F-5-4

- MF8000 series



F-5-5

# 6

## Trouble Shooting

- Test Print
- Trouble shooting items
- Version Upgrade
- Special Management Mode

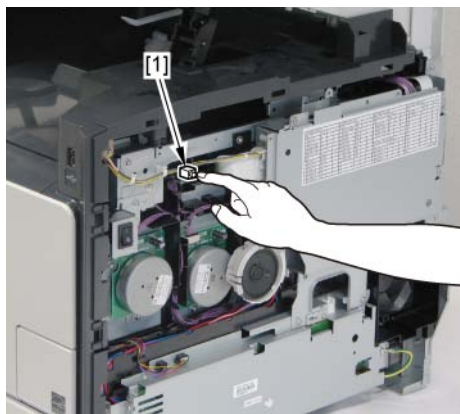


## Test Print

### Engine test print

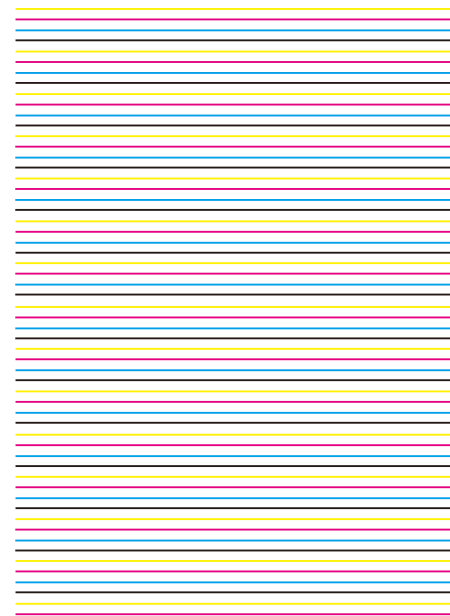
The engine test print is to check normal operation of the device.  
Print the engine test chart in the following steps.

- MF8300 series
- 1) Detach the right cover. Refer to page 4-18
  - 2) Turn on the device on standby to press the test print switch [1] on the right side of the device.



F-6-1

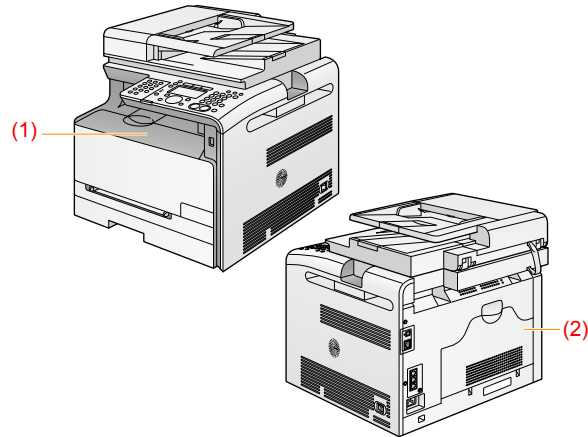
- 3) The engine test chart is printed in the horizontal line patterns on a sheet as shown below.



F-6-2

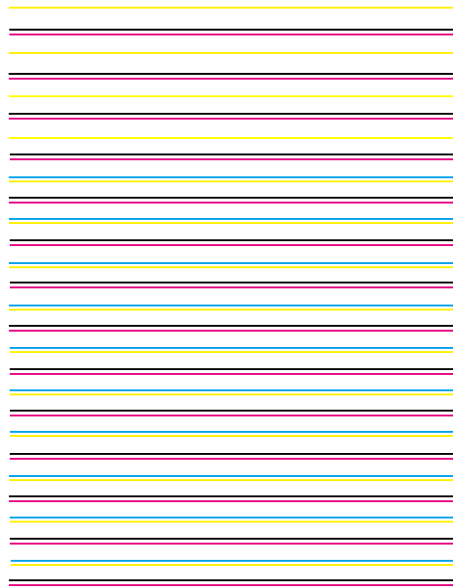
- MF8000 series

1) Leave the front cover(1) and the rear cover(2) open to turn on the power.



2) Close the Front Cover (1) and the Rear Cover (2) within 5 seconds since the Control Panel lights up white.

3) The engine test chart is printed in the horizontal line patterns on a sheet as shown below.



F-6-4

## Controller test print

### Overview

This product provides the following 6 test chart types to determine causes of faulty images.

The data for test charts are created in the main controller. If no problem is found on the output test charts, the cause may lie in the PDL input or the reader.

TYPE NO.	Test chart type	Purpose
0	Pascal correction chart 1	For checking density characteristic (Error diffusion)
1	Pascal correction chart 2	For checking density characteristic (Screen)
2	Color chart	For checking color reproduction characteristic
3	Color displacement correction chart	For checking color displacement correction
4	Rainbow chart (vertical scanning direction)	For checking color displacement (Vertical scanning)
5	Rainbow chart (horizontal scanning direction)	For checking color displacement (Horizontal scanning)

T-6-1

### Selecting test chart

- 1) Select TESTMODE>PRINT>PG-TYPE in Service mode.
- 2) Enter TYPE NO from the numeric keypad and press [OK] key.
- 3) Go to the following Service mode to set up for test print. If no setting is made in Service mode, the test chart is output based on the default value of each Service mode item.

TESTMODE>PRINT		
Item	Description	Default value
COUNT	Enter the number of sheets to output. Settings: 1-99	1
PHASE [MF8300 series only]	Select [1-side] or [2-side]. [2-side] selected for 1-side devices is invalid. Settings: 0=1-side, 1=2-side	0
MODE	Specify how to form the image to be output. Regardless of PG-TYPE settings (0 or 1), the image is processed in the fixed method. Settings: 0: T-MIC 1: High LPI screen 2: Low LPI screen 3: T-BIC	0

TESTMODE>PRINT		
Item	Description	Default value
THRU	Select ON or OFF for gamma correction. Setting: 0: Normal gamma 1: Through (linear) gamma	0
NRKE	Flag to switch the color displacement correction processing 1 0: Adopt without processing 1: Adopt with processing	0
BLND	Flag to switch the color displacement correction processing 2 0: Adopt without processing 1: Adopt with processing	0
FEED	Select the paper source and press [Start] key to output in the specified settings as set in above steps. When the multi-purpose tray is selected, the sheet is fed only when paper in the specified size is set in the tray. When Cassette 2 is selected but the device has only a cassette, paper is fed from Cassette 1. *Any paper source with color paper is invalid for printing. Setting: 0: MPTray 1: Cassette 1 2: Cassette 2	1

4)Select TESTMODE>PRINT>PG-TYPE>START.

T-6-2

## Trouble shooting items

### Recurring faulty image

Foreign matters or lines on rollers along the paper feed path may cause faulty images in the vertical scanning direction.

Field action

See the roller pitches listed in the tables below to clean and/or replace the corresponding parts.

- MF8300 series

Roller pitch	Parts
about 44 mm	Registration roller
about 58 mm	Secondary transfer external roller
about 75 mm	Photosensitive drum
about 22 mm	Developing cylinder
about 58 mm	Fixing film
about 63 mm	Pressure roller
about 78 mm	ITB (drive roller, secondary transfer internal roller)

T-6-3

- MF8000 series

Roller pitch	Parts
about 44 mm	Registration roller
about 57 mm	Secondary transfer external roller
about 27 mm	Primary transfer roller
about 76 mm	Photosensitive drum
about 22 mm	Developing cylinder
about 57 mm	Fixing film
about 57 mm	Pressure roller
about 634 mm	ITB

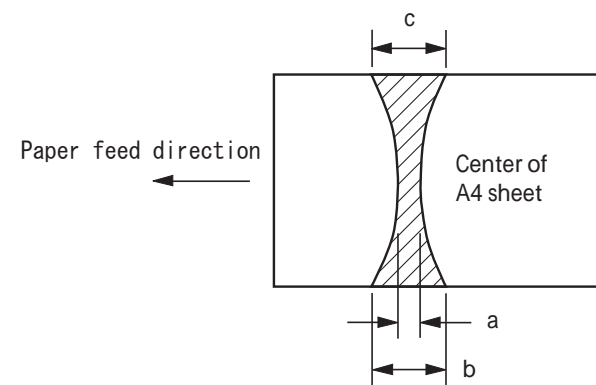
T-6-4

### Confirming nip width

This product does not provide the function to adjust nip width. Improper nip width, however, may cause faulty fixing.

To avoid potential faults, confirm the nip width of the fixing assembly in the following steps.

- 1) Output a A4 sheet printed in solid black using the cartridges for this product and bring it to the customer site.
- 2) Set the solid black sheet face-down to the cassette of this product.
- 3) Use an external device to print out a solid white image on the sheet.
- 4) Open the front door after about 25 seconds from the step above and leave it for 10 seconds or more in the device to take out the printed sheet.
- 5) Measure the glossy part on the printed sheet as shown in the figure below to confirm if the width is in the tolerable ranges.
  - Center (a): 6.0±1mm
  - Sides (b), (c): 5.0-7.5mm
  - Difference (b-c): 1.0mm or less



F-6-5

## Special Management Mode

### Overview

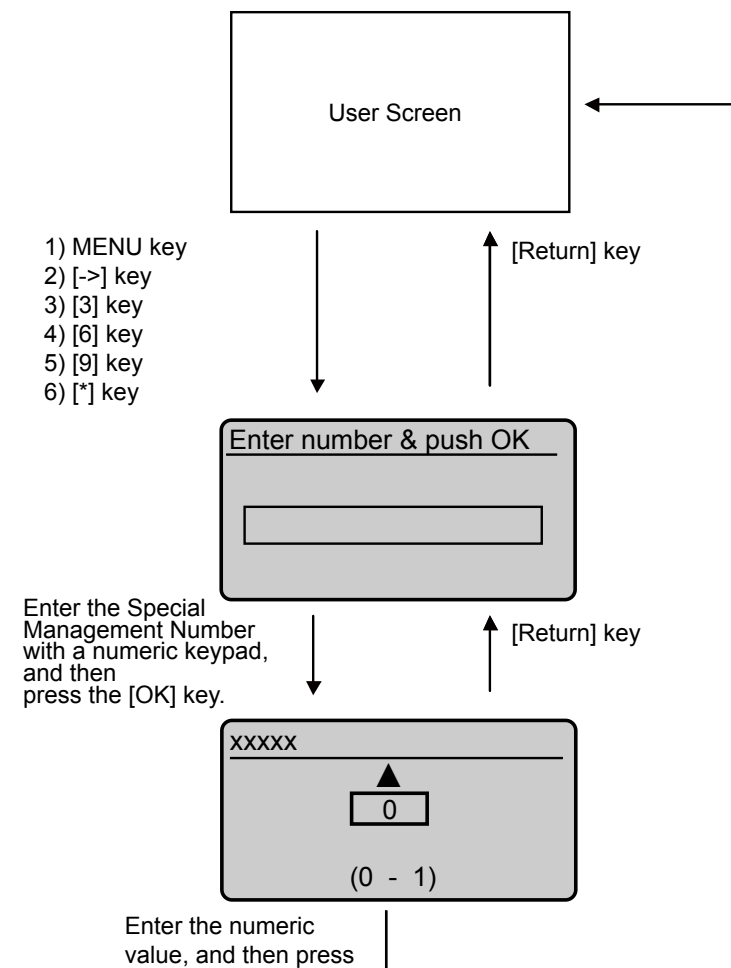
The Special Management Mode is the mode for taking a measure and solving the occurred problem by a user. However, information about this mode is not disclosed to users. Basically, if a problem is not solved when using the target item or when printing with a condition differs from the target item, be sure to return the setting to its original value. Otherwise, errors such as image error may occur.

#### MEMO:

Items of the Special Management Mode can be set in service mode.  
COPIER > FUNCTION > SPLMAN

### Operational Description

Operational procedure of this mode is indicated below.



F-6-6


**Menu List**

Item No.	Item Name	M83	M80	Description	Setting Value
14159	Serial Number Fixation			When establishing USB connection to more than one MFP with a PC, drivers for the number of connected MFPs are installed. Fixing the USB serial number prevents to install more than one driver. However, by fixing the ID, MFP cannot be specified in an environment where HUB is used; thus, printing may not be performed correctly.	0-1 (0 by default)
27767	Highly-resistive Paper Specification (Soiled Trailing Edge Margin)			Use the item when stray toner-like traces appear around the texts or patterns depending on paper type and usage environment (especially in a low humidity environment).	0-1 (0 by default)
26535	Highly-resistive Paper Specification 2		-	Use the item when image error with transparency occurred.	0-1 (0 by default)
89793	Green Re-transfer Prevention Specification	-		Use the item when re-transfer occurred due to strong primary transfer bias.	0-1 (0 by default)
23846	Moist Paper Specification		-	Use the item when color text that more than 2 color toners are overlapped or patterns are paled out depending on paper type and usage environment (especially in a high humidity environment).	0-1 (0 by default)
26433	Banding Alleviation Specification			Use the item when thin and sharp horizontal lines appear on a halftone image after a long recess.	0-1 (0 by default)
14682	Image Fogging Prevention Specification 1			Use the item when toner is transferred on the non-colored area thinly at printing an image with large non-colored area using a gloss paper.	0-1 (0 by default)
83279	Chinese Paper Specification			Use the item when stray toner-like traces appear around the texts or patterns at the time of using Chinese paper.	0-1 (0 by default)
50288	Measure against ICL Error 1			Use the item when image of the n-2 print lightly appears on the nth print at the time of continuous n prints output depending on paper type and printing pattern (especially high print ratio)	0-1 (0 by default)
41971	Measure against Curl Specification 2			Use the item when a printed paper curls toward the printed side depending on paper type, usage environment (especially in a low humidity environment), and printing pattern (especially high print ratio).	0-1 (0 by default)
69399	Measure against Curl Specification 3			Use the item when a printed thin paper curls toward the printed side. Lower the fixing temperature only for thin papers.	0-1 (0 by default)
35607	Measure against Hot Offset Specification	-		Use the item when hot offset occurs. Decrease the control temperatures of the Fixing Assembly uniformly.	0-1 (0 by default)
37510	Any-any Mode 0			Use the item when an image error due to toner stain on the ITB caused by paper size mismatch (an image is bigger than the paper size). When paper size mismatch (an image is larger than a paper (length, width)) occurs, execute the ITB cleaning.	0-1 (0 by default)
65677	Change of the leading edge margin (increase margin)			Increase the leading edge margin. The standard margin is set when this setting causes a conflict with the setting to reduce margin.	0-20 (0.1mm unit) (0 by default)
68676	Change of the leading edge margin (reduce margin)			Reduce the leading edge margin. The standard margin is set when this setting causes a conflict with the setting to increase margin.	0-20 (0.1mm unit) (0 by default)
68677	Change of the side margin (increase margin)			Increase the side margin. The standard margin is set when this setting causes a conflict with the setting to reduce margin.	0-20 (0.1mm unit) (0 by default)
25607	Change of the side margin (reduce margin)			Reduce the side margin. The standard margin is set when this setting causes a conflict with the setting to increase margin.	0-20 (0.1mm unit) (0 by default)
80925	Maximum Host numbers available for pseudo-PushScan			Use the item to change the max. Host number to be retained at the pseudo PushScan.	1-10 (10 by default)

\* For the item which has only 2 setting values "0, 1", each value means as follow: 0= OFF, 1= ON.

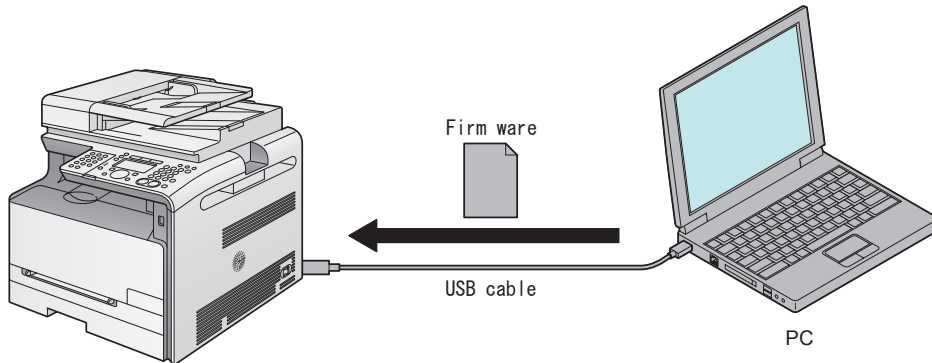
\* M83=MF8300 series M80=MF8000 series

T-6-5

## Version Upgrade

### Overview

To upgrade versions, use the user support tool (hereinafter UST) and download firmware from a personal computer (hereinafter PC) to this product.



F-6-7

#### Firmware configuration

Firmware	Function	Stored in
BOOTROM	Start the main controller.	Main controller PCB
BOOTABLE	Control overall performance.	Main controller PCB
LANGUAGE	Manage languages used in panel / Remote UI and font data.	Main controller PCB
DEMO PRINT	Manage data for demo printing.	Main controller PCB
DCON	Control the printer unit.	DC controller PCB

T-6-6

Some UST versions meet less numbers of firmware than those listed above.

### Preparation

#### System Requirements

- OS (one of the following)
  - Microsoft Windows 2000 Server/Professional
  - Microsoft Windows XP Professional/Home Edition
  - Microsoft Windows Server 2003
  - Microsoft Windows Vista\*
    - \*Only as for the 32 bit processor version
  - Microsoft Windows Server 2008  
(Microsoft Windows 7 to be supported)
- PC
  - Compatible to the selected OS
  - Memory (RAM): 32MB or more free space
  - Hard Disk: 100MB or more free space
  - Display: 640x480 pixels or more in resolution, 256 tones or more
  - With USB ports
- UST file for this product\*
  - \*: Download the corresponding file from the system CD or the service site (ask the service technician in charge for details)
- USB cable (USB1.1/2.0)

#### Preparation

- 1) Start the PC.
- 2) Connect the device to the PC with the USB cable.
- 3) Turn on the device on standby.
- 4) Press [Menu] key to upgrade firmware in User mode.
  - System Settings > Update Firmware
  - The message, "Will you restart the device to upgrade firmware?", is shown on the display. Select Yes.
- 5) Press OK to automatically restart the device. "\*\*\*\*DOWNLOAD MODE\*\*\*\*" is shown on the display.
- 6) Wait for the motor of the host machine to stop.

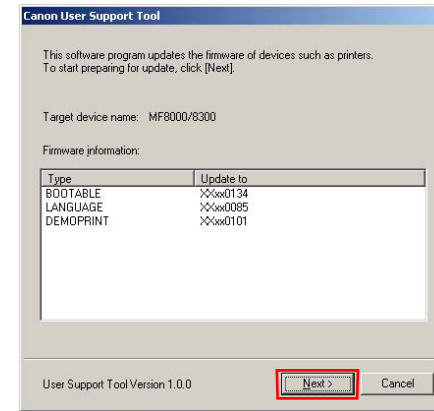
MEMO :  
Press STOP key to cancel Download mode and return to the normal operation.

# Downloading System Software

1) Open UST.

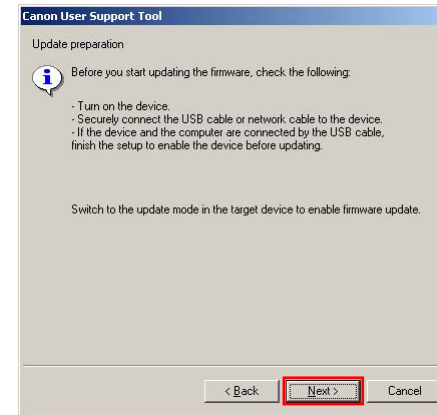


2) Take a note of the firmware version to upgrade and click [Next] button.



F-6-9

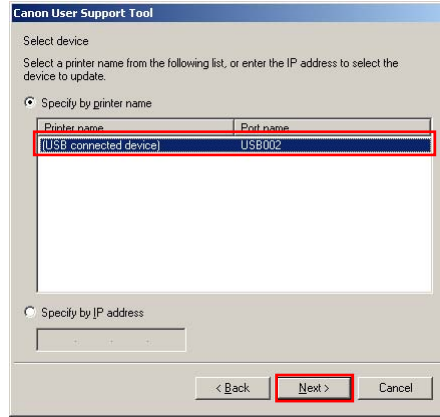
3) Click [Next] button.



F-6-10

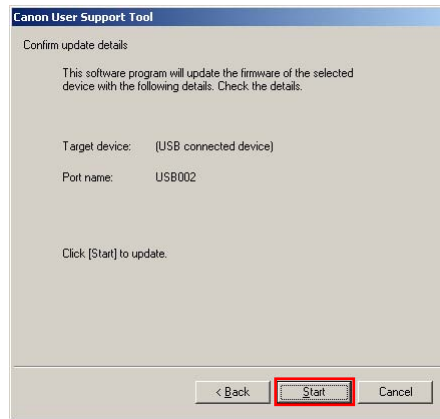


4) Select [USB Device] and click [Next] button.



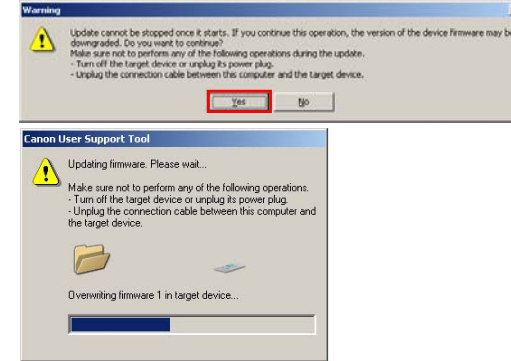
F-6-11

5) Click [Start] button.



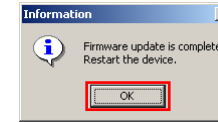
F-6-12

6) Click [Yes] button for the warning message to start download.



F-6-13

7) Click [OK] button when download is completed.



F-6-14

8) Turn off and on the power to restart the device.

9) Output the spec report from Service mode to confirm if the firmware version is the same as that on the note taken in Step 2).

COPIER> FUNCTION> MISC-P> SPEC



# Error codes

- Overview
- Error Codes

## Overview

This section describes codes shown in case any problem is occurred.

Since this product does not collect logs for jams and alarms, no jam / alarm code is shown.

Code type	Description	Reference
Error code	Shown for any problem occurred in the device.	List of error codes
Jam code	N/A	-
Alarm code	N/A	-

T-7-1

## Error Codes

Whenever an error occurs, firstly turn off and on the power to check if the error is persistent.  
(Controller-related errors tend to recover by power-OFF/ON.)

- M83=MF8300 series
- M80=MF8000 series

Code	M83	M80	Symptom	Actions
E000			Error in the fixing assembly start-up	
0000			Insufficient temperature rise detected by thermistor even after applying bias to the heater Cause: disconnected main thermistor / fixing heater, problem in DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of fixing assembly, DC controller PCB, fixing power supply unit, etc.</li> <li>• Replace fixing film units</li> <li>• Replace fixing power supply units</li> <li>• Replace DC controller PCBs</li> </ul>
E001			Abnormally high temperature detected in fixing assembly	
0000			Abnormally high temperature detected by main thermistor Cause: problem in main thermistor / DC controller	<ul style="list-style-type: none"> <li>• Check connectors of fixing assembly / DC controller PCB</li> <li>• Replace fixing film units</li> <li>• Replace fixing power supply units</li> <li>• Replace DC controller PCB</li> </ul>
0001		-	Abnormally high temperature detected by sub thermistor (sub thermistor triggered) Cause: problem in sub thermistor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of fixing assembly / DC controller PCB</li> <li>• Replace fixing film units</li> <li>• Replace fixing power supply units</li> <li>• Replace DC controller PCBs</li> </ul>
E003			Abnormally low temperature detected in fixing assembly	
0000			Temperature drop detected by main thermistor after attaining the target temperature Cause: problem in fixing power supply unit, disconnection of main thermistor, problem in DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of fixing assembly / DC controller PCB</li> <li>• Replace fixing film/fixing power supply units</li> <li>• Replace DC controller PCBs</li> </ul>
0001		-	Temperature drop detected by sub thermistor after attaining the target temperature (sub thermistor triggered) Cause: problem in fixing power supply unit, disconnection of sub thermistor, problem in DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of fixing assembly / DC controller PCB</li> <li>• Replace fixing film units</li> <li>• Replace fixing power supply units</li> <li>• Replace DC controller PCBs</li> </ul>
E004			Error in fixing power supply drive circuit	
0000			Error in zero-cross signal detection for the pre-defined duration Cause: problem in fixing control circuit	<ul style="list-style-type: none"> <li>• Check connectors of fixing assembly / DC controller PCB</li> <li>• Replace fixing power supply units</li> </ul>
E012			Error in ITB motor startup	

Code	M83	M80	Symptom	Actions
0000			Error in attaining the target ITB motor rotation detected based on ITB motor speed detection signal after ITB motor is actuated. Cause: problem in ITB motor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of ITB motor / DC controller PCB</li> <li>• Replace ITB motors</li> <li>• Replace DC controller PCBs</li> </ul>
0001			Error in ITB motor rotation after attaining the target rotation detected based on ITB motor speed detection signal. Cause: problem in ITB motor / DC controller PCB	
E014			Error in fixing motor startup	
0000		-	Error in attaining the target fixing motor rotation detected based on fixing motor speed detection signal after fixing motor is actuated. Cause: problem in fixing motor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of ITB motor / DC controller PCB</li> <li>• Replace ITB motors</li> <li>• Replace DC controller PCBs</li> </ul>
0001		-	Error in fixing motor rotation after attaining the target rotation detected based on fixing motor speed detection signal. Cause: problem in fixing motor / DC controller PCB	
E015			Error in developing roller contact	
0001			Failed to detect changes in developing home position sensor signals within the pre-defined time after actuating main motor to control the developing roller contact. Cause: problem in developing home position sensor / main motor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of developing home position sensor, main motor and DC controller PCB.</li> <li>• Replace developing home position sensors</li> <li>• Replace main motors</li> <li>• Replace DC controller PCBs</li> </ul>
E020			Error in density sensor	
0000			Failed to receive sufficient light to detect image density Cause: Dirt on density sensor, problem of density sensor / DC controller PCB / toner cartridge	<ul style="list-style-type: none"> <li>• Check DC controller PCB connectors.</li> <li>• Replace ITB units</li> <li>• Replace DC controller PCBs</li> <li>• Replace toner cartridges</li> </ul>
E021			Error in developing motor	
1003		-	Cause of developing motor rotation error: problem in developing motor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of developing motor and DC controller PCB.</li> <li>• Replace developing motor</li> <li>• Replace DC controller PCB</li> </ul>

Code	M83	M80	Symptom	Actions
2003			Error in attaining the target developing motor rotation detected based on developing motor speed detection signal after developing motor is actuated. Cause: problem in developing motor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of developing motor and DC controller PCB.</li> <li>• Replace developing motor</li> <li>• Replace DC controller PCBs</li> </ul>
E024			Error in toner level sensor	
0000	-		Abnormal output of toner level sensor (Yellow) Cause: problem in toner cartridge / high-voltage power supply PCB / DC controller PCB	<ul style="list-style-type: none"> <li>• Replace toner cartridges</li> <li>• Replace high-voltage power supply PCBs</li> <li>• Replace DC controller PCBs</li> </ul>
0001	-		Abnormal output of toner level sensor (Magenta) Cause: problem in toner cartridge / high-voltage power supply PCB / DC controller PCB	
0002	-		Abnormal output of toner level sensor (Cyan) Cause: problem in toner cartridge / high-voltage power supply PCB / DC controller PCB	
0003	-		Abnormal output of toner level sensor (Black) Cause: problem in toner cartridge / high-voltage power supply PCB / DC controller PCB	
E052			Error in 2-sided unit detection	
0000		-	Failed to detect 2-sided unit Cause: improper 2-sided unit connection	<ul style="list-style-type: none"> <li>• Check connectors of 2-sided unit and DC controller PCB</li> <li>• Replace DC controller PCBs</li> </ul>
E066			Error in environment sensor	
0000			Error in environment sensor Cause: Problem in environment sensor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of environment sensor and DC controller PCB.</li> <li>• Replace environment sensor</li> <li>• Replace DC controller PCBs</li> </ul>
E070			Error in ITB / TOP sensor	
0000			Error in ITB / TOP sensor Cause: Problem in ITB / TOP sensor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of ITB unit and DC controller PCB.</li> <li>• Replace ITB units</li> <li>• Replace DC controller PCBs</li> </ul>
E078			Error in primary transfer roller contact	

Code	M83	M80	Symptom	Actions
0000		-	Primary transfer roller contact mechanism does not normally function Cause: problem in contact mechanism / ITB tension sensor / pickup motor / DC controller PCB	<ul style="list-style-type: none"> <li>• Check contact mechanism</li> <li>• Check connectors of ITB tension sensor, pickup motor and DC controller PCB.</li> <li>• Replace ITB tension sensors</li> <li>• Replace pickup motors / DC controller PCBs</li> </ul>
E100			Error in scanner motor/laser unit/BD	
0000			Failure in Yellow optical unit Cause: Problem in laser scanner unit / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of laser scanner unit and DC controller PCB</li> <li>• Replace laser scanner units</li> <li>• Replace DC controller PCBs</li> </ul>
0001			Failure in Magenta optical unit Cause: Problem in laser scanner unit / DC controller PCB	
0002			Failure in Cyan optical unit Cause: Problem in laser scanner unit / DC controller PCB	
0003			Failure in Black optical unit Cause: Problem in laser scanner unit / DC controller PCB	
E110			Error in primary pseudo-BD correction	
0000			Scanner failed to be ready after starting up pseudo-BD control Cause: Problem in laser scanner unit / DC controller PCB	<ul style="list-style-type: none"> <li>• Replace laser scanner units</li> <li>• Replace DC controller PCBs</li> </ul>
E194			Error in CPR sensor	
0000		-	CPR sensor does not function normally Cause: Dirt on density sensor, problem in density sensor / DC controller PCB / toner cartridge	<ul style="list-style-type: none"> <li>• Check DC controller PCB connectors</li> <li>• Replace ITB units</li> <li>• Replace DC controller PCBs</li> <li>• Replace toner cartridges</li> </ul>
E196			Error in DCON ROM	
0000			Failed to update ROM of DC controller PCB Cause: Problem in DC controller PCB	<ul style="list-style-type: none"> <li>• Update the set of main controller firmware</li> <li>• Replace DC controller PCB</li> </ul>

Code	M83	M80	Symptom	Actions
1000			Error in writing in / reading from ROM (main) Cause: Problem in main controller PCB	<ul style="list-style-type: none"> <li>Update the set of main controller firmware</li> <li>Replace DC controller PCBs</li> </ul>
2000			Error in writing in/reading from ROM (storing settings) Cause: Problem in main controller PCB	
E198			Failure in DC controller memory	
0000			Failure in DC controller memory Cause: Problem in DC controller PC	<ul style="list-style-type: none"> <li>Replace DC controller PCBs</li> </ul>
E202			Error in reader HP sensor	
0001			Error in reader HP outward Failed to move to HP even when CIS unit moves backward.	<ul style="list-style-type: none"> <li>Replace reader HP sensors</li> <li>Replace reader motors</li> <li>Replace reader units</li> </ul>
0002			Error in reader HP homeward Failed to move to HP even when CIS unit moves forward.	
E351			Error in main controller PCB	
0000			Communication error occurred in main controller (scanner-related) Cause: Problem in main controller PCB	<ul style="list-style-type: none"> <li>Replace main controller PCBs</li> </ul>
E733			Error in printer communication	
0000			Failure between DC controller PCB and controller PCB Cause: Poor connection between PCBs, problem in DC controller PCB / main controller PCB	<ul style="list-style-type: none"> <li>Check connectors of DC controller PCB and main controller PCB</li> <li>Replace DC controller PCBs</li> <li>Replace main controller PCBs</li> </ul>
E736			Error in CCU communication	
0000			Error in CCU-modem communication Cause: Problem in FAX-NCU PCB / main controller PCB	<ul style="list-style-type: none"> <li>Update the set of main controller firmware</li> <li>Replace FAX-NCU PCBs</li> <li>Replace main controller PCBs</li> </ul>
E744			Error in language file/BootRom/USB memory	

Code	M83	M80	Symptom	Actions
0001			Error in language file version The version of language file does not match to Bootable	<ul style="list-style-type: none"> <li>Update the set of main controller firmware</li> </ul>
0002			Error in language file size Language file exceeds allowable size	
1001			Versions of Bootable and BootRom do not match	
4000			Error in engine ID Detected illegal engine connection	<ul style="list-style-type: none"> <li>Check DC controller</li> <li>Update DC controller firmware</li> <li>Update the set of main controller firmware</li> </ul>
5000			Error in panel microcomputer	<ul style="list-style-type: none"> <li>Check panel microcomputer to upgrade the version</li> <li>Update the set of main controller firmware</li> <li>Replace main controller PCBs</li> </ul>
E746			Error in main controller PCBs	
0000			Communication error occurred in main controller PCB (other than scanner-related) Cause: Problem in main controller PCB	<ul style="list-style-type: none"> <li>Replace main controller PCBs</li> </ul>
E766			Error in firmware	
xxxx			Error in connection occurred due to main controller software *: xxxx Task number related to Exception is shown in decimal Cause: Problem in firmware	<ul style="list-style-type: none"> <li>Power off/on</li> <li>Update firmware</li> </ul>
8000			Incorrect digital registration 3 point information Cause: Problem in firmware	<ul style="list-style-type: none"> <li>Power off/on</li> <li>Update firmware</li> </ul>
9000			Error in laser scanner unit power supply Cause: Problem in firmware	<ul style="list-style-type: none"> <li>Power off/on</li> <li>Update firmware</li> </ul>
E804			Error in power supply cooling fan	
0004		-	Power supply cooling fan does not rotate in the specified rotation speed. Cause: Problem in power supply cooling fan / DC controller PCB	<ul style="list-style-type: none"> <li>Check connectors of power supply cooling fan / DC controller PCB</li> <li>Replace power supply cooling fans</li> <li>Replace DC controller PCBs</li> </ul>
E805			Error in 2-sided cooling fan	

Code	M83	M80	Symptom	Actions
0005		-	2-sided cooling fan does not rotate in the specified rotation speed. Cause: Problem in 2-sided cooling fan / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of 2-sided cooling fan / DC controller PCB</li> <li>• Replace 2-sided cooling fans</li> <li>• Replace DC controller PCBs</li> </ul>
E806			Error in fixing / fixing power supply cooling fan	
0000		-	Fixing / fixing power supply cooling fan does not rotate in the specified rotation speed. Cause: Problem in fixing / fixing power supply cooling fan / DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of fixing/fixing power supply cooling fan and DC controller PCB</li> <li>• Replace fixing / fixing power supply cooling fans</li> <li>• Replace DC controller PCBs</li> </ul>
E808			Error in low-voltage power supply	
0000		-	Printer detected failure in low-voltage power supply Cause: Failure in low-voltage power supply, problem in DC controller PCB	<ul style="list-style-type: none"> <li>• Check connectors of power supply unit and DC controller PCB</li> <li>• Replace power supply units</li> <li>• Replace DC controller PCBs</li> </ul>
E840			Error in pressure release mechanism	
0000			Failed to control in home position (under pressure) after starting home position control Cause: Problem in fixing drive unit / fixing pressure release cam	<ul style="list-style-type: none"> <li>• Replace fixing drive units</li> <li>• Replace fixing pressure release cams</li> </ul>

T-7-2



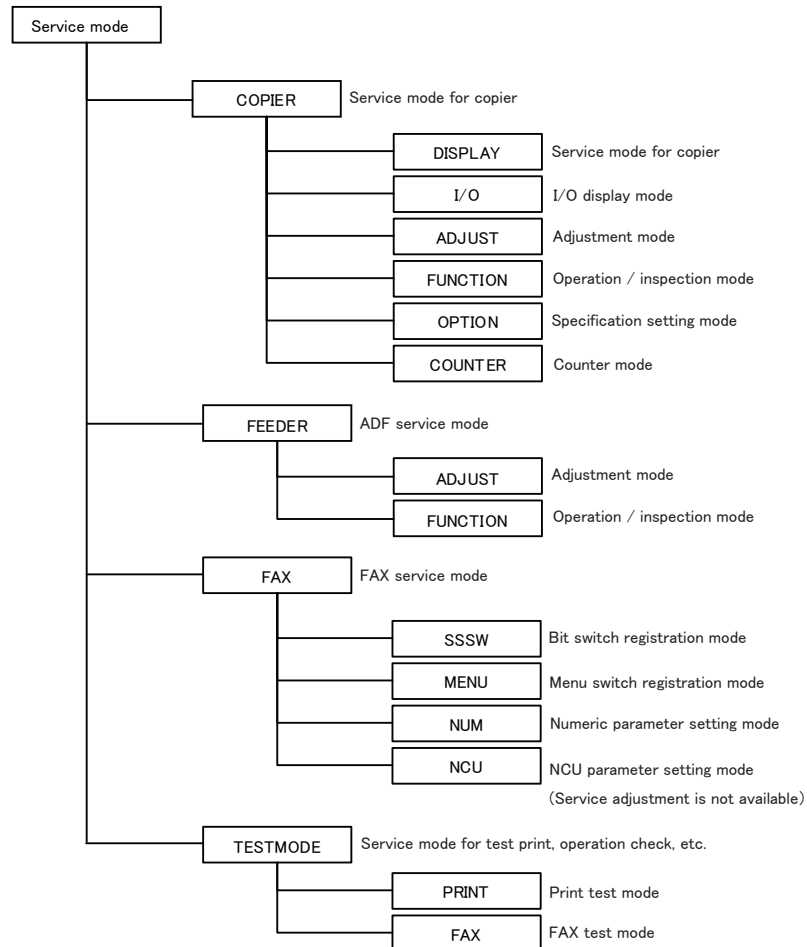
# Service Mode

- Overview
- COPIER
- FEEDER
- FAX
- TESTMODE



## Overview

### Service Mode Menu



F-8-1

### Backing up Service Mode

Each device is tuned at the time of shipment and the tuned values are written on the service label.

However, when replacing the main controller PCBs / DC controller PCBs or clearing RAM, tuned ADJUST and OPTION values are reset to defaults. Each service technician should adjust these values in field and ensure to write values after changes in the service label. If the corresponding item is not found on the service label, enter the value in the blank space.

- Service label position (MF8350/8330 series)



F-8-2

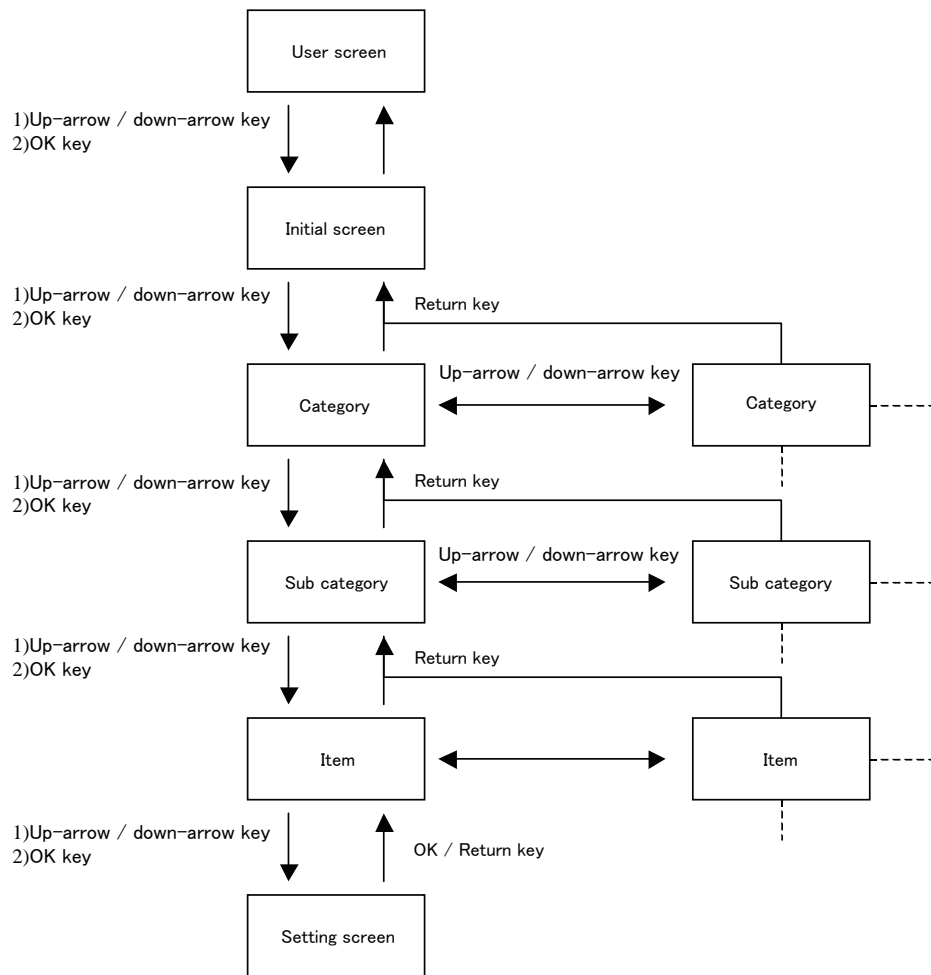
- Service label position (MF8050/8030 series)



F-8-3

## Screen flow of Service Mode

### Service mode structure

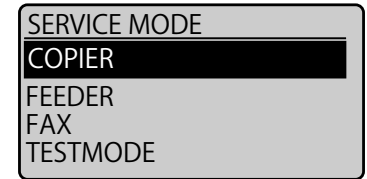


F-8-4

### Screen flow of Service mode

- Initial / Category / Sub category screen

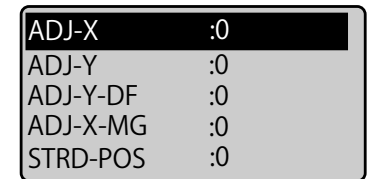
Select the item : Up-arrow / down-arrow key  
 Go to Sub category screen : OK key  
 Go to Initial screen : Return key



F-8-5

- Item selection screen

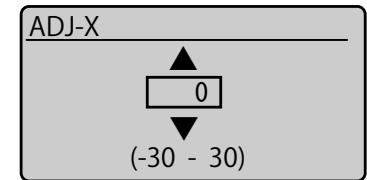
Select the item : Up-arrow / down-arrow key  
 Go to Setting screen : OK key  
 Go to Sub category screen : Return key



F-8-6

- Input value screen

Enter the setting value : numeric keypad  
 Increment the setting value one by one : Up-arrow key  
 Decrease the setting value one by one : Down-arrow key  
 Nullify the setting value : Clear key  
 Change the setting : OK key  
 Maintain the setting : Return key



F-8-7

- How to input the switch setting value

[Enter the decimal value converted from binary 8 bit value.]

See the table below to obtain the total decimal value by summing respective digits with 1.

Bit	Bit0	Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	Bit7
Decimal value for "1"	128	64	32	16	8	4	2	1

T-8-1

(Ex.)

When converting "00100010", enter "34" as the sum of 32 (Bit 2) + 2 (Bit 6).

# COPIER

## DISPLAY

### VERSION

COPIER>DISPLAY>VERSION			
Item	MF83	MF80	Description
MAIN			Display Ver. / check sum / date of Bootable (product program area).
BOOT			Display Ver. / check sum / date of BootableROM (boot program area).
LANG			Language pack version
DEMODATA			Demo print data version
ECONT			Display Ver. of the record engine ROM.
PANEL			FW version of the panel microcomputer.
ECO			JUST dictionary version

T-8-2

### ERR

Error code display screen

Up to 10 E codes and detailed codes for system errors can be shown.

080508	2310	E767-0333
080507	1024	E001-0002
080506	2310	E767-0333
080503	2310	E001-0002
080501	0913	E001-0002

F-8-8

### CCD

COPIER>DISPLAY>CCD			
Item	MF83	MF80	Description
TARGET-B			Shading target value for BLUE
TARGET-G			Shading target value for GREEN
TARGET-R			Shading target value for RED
TARGETBW			Shading target value for monochrome

T-8-3

## IO

### R-CON

COPIER>IO>R-CON				
Address	MF83	MF80	BIT	Description
P001			0	Display sensor status (DES)
			1	Display sensor status (DS)
			2	Display sensor status (HPS)
P002			-	No sensor allocated; 0 is always shown.

T-8-4



ADJUST  
ADJ-XY

COPIER>ADJUST>ADJ-XY			
Item	MF83	MF80	Description
ADJ-X			<p>Value adjustment for image reading start position (vertical scanning direction) &lt;X-axis direction&gt; [Use case] When the reading position in the vertical scanning direction is wrong for fixed reading. [Adjustment]</p> <ul style="list-style-type: none"> <li>Set a smaller value when the non-image width is greater than the specified value</li> <li>Set a greater value when the page margin is also copied</li> <li>The image reading start position shifts 0.1mm to the trailing edge for every 1 increment of the set value.</li> </ul> <p>Setting range: -30 to 30 [Factory default setting: different by device] [Value after clearing RAM: 0]</p>
ADJ-Y			<p>Value adjustment for image reading start position (horizontal scanning direction) &lt;Y-axis direction&gt; [Use case] When the reading position in the horizontal scanning direction is wrong for fixed reading. [Adjustment]</p> <ul style="list-style-type: none"> <li>Set a smaller value when the non-image width is greater than the specified value</li> <li>Set a greater value when the page margin is also copied</li> <li>The image reading start position shifts 0.1mm to the front for every 1 increment of the set value.</li> </ul> <p>Setting range: -10 to 10 [Factory default setting: different by device] [Value after clearing RAM: 0]</p>
ADJ-Y-DF			<p>Adjustment of surface horizontal scanning position in FEEDER mode [Use case] When the reading position in the horizontal scanning direction is wrong for DF continuous reading [Adjustment]</p> <ul style="list-style-type: none"> <li>The image reading start position shifts 0.1mm to the front for every 1 increment of the set value.</li> </ul> <p>Setting range: -10 to 10 [Factory default setting: different by device] [Value after clearing RAM: 0]</p>

COPIER>ADJUST>ADJ-XY			
Item	MF83	MF80	Description
ADJ-X-MG			<p>Fine-adjustment of optical motor speed (0.01 % increment) [Use case] When the image output on paper is greater/smaller than that on the document [Adjustment] Visually cross check the document and output images to fine-adjust when necessary</p> <ul style="list-style-type: none"> <li>Set a greater value when the output image is smaller</li> <li>Set a smaller value when the output image is greater</li> </ul> <p>Setting range: -200 to 200 [Factory default setting/value after clearing RAM: 0] [Note] This adjustment is for copied image position. It may adversely affect SEND images.</p>
STRD-POS			<p>Adjustment of DDC reading position for DF continuous reading [Use case] When the reading position in the vertical scanning direction is wrong in DF continuous reading [Adjustment]</p> <ul style="list-style-type: none"> <li>The image reading start position shifts 0.1mm to the leading edge for every 1 increment of the set value.</li> </ul> <p>Setting range: -20 to 20 [Factory default setting: different by device (depending on the reader / ADF)] [Value after clearing RAM: 0]</p>

T-8-5

## ■ CCD

COPIER>ADJUST>CCD			
Item	MF83	MF80	Description
W-PLT-X			X signal data for the standard white plate After replacing copyboard glasses or clearing RAM of the reader unit, enter the correction value (X) for the standard white board behind the copyboard glass. Setting range: 7000 to 9999 [Factory default setting/value after clearing RAM: 8237]
W-PLT-Y			Y signal data for the standard white plate After replacing copyboard glasses or clearing RAM of the reader unit, enter the correction value (Y) for the standard white board behind the copyboard glass. Setting range: 7000 to 9999 [Factory default setting/value after clearing RAM: 8237]
W-PLT-Z			Z signal data for the standard white plate After replacing copyboard glasses or clearing RAM of the reader unit, enter the correction value (Z) for the standard white board behind the copyboard glass. Setting range: 7000 to 9999 [Factory default setting/value after clearing RAM: 9427]
DFTAR-R			RED shading target value when using DF [Use case] When the image came faulty after adjusting the ADF white level (COPIER>FUNCTION>CCD>DF-WLVL1/DF-WLVL2) (due to contamination on charts, etc.) Setting range: 128 to 384 [Factory default setting: different by device] [Value after clearing RAM: 299]
DFTAR-G			GREEN shading target value when using DF [Use case] When the image came faulty after adjusting the ADF white level (COPIER>FUNCTION>CCD>DF-WLVL1/DF-WLVL2) Setting range: 128 to 384 [Factory default setting: different by device] [Value after clearing RAM: 309]
DFTAR-B			BLUE shading target value when using DF [Use case] When the image came faulty after adjusting the ADF white level (COPIER>FUNCTION>CCD>DF-WLVL1/DF-WLVL2) Setting range: 128 to 384 [Factory default setting: different by device] [Value after clearing RAM: 307]
DFTAR-BW			Monochrome shading target value when using DF Setting range: 128 to 384 [Factory default setting: different by device] [Value after clearing RAM: 307]

COPIER>ADJUST>CCD			
Item	MF83	MF80	Description
50-RG			Color displacement correction value between RG in the vertical scanning direction (50%) Setting range: 1 to 500 [Value after clearing RAM: 333]
50-GB			Color displacement correction value between GB in the vertical scanning direction (50%) Setting range: 1 to 500 [Value after clearing RAM: 333]
100-RG			Color displacement correction value between RG in the vertical scanning direction (100%) Setting range: 1 to 500 [Value after clearing RAM: 333]
100-GB			Color displacement correction value between GB in the vertical scanning direction (100%) Setting range: 1 to 500 [Value after clearing RAM: 333]
50DF-RG			Color displacement correction value between RG in the vertical scanning direction when using DF (50%) Setting range: 1 to 500 [Value after clearing RAM: 333]
50DF-GB			Color displacement correction value between GB in the vertical scanning direction when using DF (50%) Setting range: 1 to 500 [Value after clearing RAM: 333]
100DF-RG			Color displacement correction value between RG in the vertical scanning direction when using DF (100%) Setting range: 1 to 500 [Value after clearing RAM: 333]
100DF-GB			Color displacement correction value between GB in the vertical scanning direction when using DF (100%) Setting range: 1 to 500 [Value after clearing RAM: 333]
OFST-BW0			Offset level adjustment value of CIS-ch0 for monochrome reading Setting range: 1 to 255 [Value after clearing RAM: 138]
OFST-BW1			Offset level adjustment value of CIS-ch1 for monochrome reading Setting range: 1 to 255 [Value after clearing RAM: 138]
OFST-BW2			Offset level adjustment value of CIS-ch2 for monochrome reading Setting range: 1 to 255 [Value after clearing RAM: 138]
OFST-CL0			Offset level adjustment value of CIS-ch0 for color reading Setting range: 1 to 255 [Value after clearing RAM: 138]

COPIER>ADJUST>CCD			
Item	MF83	MF80	Description
OFST-CL1			Offset level adjustment value of CIS-ch1 for color reading Setting range: 1 to 255 [Value after clearing RAM: 138]
OFST-CL2			Offset level adjustment value of CIS-ch2 for color reading Setting range: 1 to 255 [Value after clearing RAM: 138]
GAIN-BW0			Gain level adjustment value of CIS-ch0 for monochrome reading Setting range: 1 to 255 [Value after clearing RAM: 54]
GAIN-CLO			Gain level adjustment value of CIS-ch0 for color reading Setting range: 1 to 255 [Value after clearing RAM: 54]
LED-BW-R			Red LEDSTOP value for monochrome reading Setting range: 1 to 1664 [Value after clearing RAM: 1000]
LED-BW-G			Green LEDSTOP value for monochrome reading Setting range: 1 to 1664 [Value after clearing RAM: 1000]
LED-BW-B			Blue LEDSTOP value for monochrome reading Setting range: 1 to 1664 [Value after clearing RAM: 1000]
LED-CL-R			Red LEDSTOP value for color reading Setting range: 1 to 1664 [Value after clearing RAM: 1100]
LED-CL-G			Green LEDSTOP value for color reading Setting range: 1 to 1664 [Value after clearing RAM: 1100]
LED-CL-B			Blue LEDSTOP value for color reading Setting range: 1 to 1664 [Value after clearing RAM: 1100]

T-8-6

COPIER>ADJUST>SCNR			
Item	MF83	MF80	Description
SUB-S-K0			Laser output correction value, Vertical scanning direction exposure position0 K
SUB-S-Y1			Laser output correction value, Vertical scanning direction exposure position1 Y
SUB-S-M1			Laser output correction value, Vertical scanning direction exposure position1 M
SUB-S-C1			Laser output correction value, Vertical scanning direction exposure position1 C
SUB-S-K1			Laser output correction value, Vertical scanning direction exposure position1 K
SUB-S-Y2			Laser output correction value, Vertical scanning direction exposure position2 Y
SUB-S-M2			Laser output correction value, Vertical scanning direction exposure position2 M
SUB-S-C2			Laser output correction value, Vertical scanning direction exposure position2 C
SUB-S-K2			Laser output correction value, Vertical scanning direction exposure position2 K
MAI-S-Y0			Laser output correction value, horizontal scanning irradiation position0 Y
MAI-S-M0			Laser output correction value, horizontal scanning irradiation position0 M
MAI-S-C0			Laser output correction value, horizontal scanning irradiation position0 C
MAI-S-K0			Laser output correction value, horizontal scanning irradiation position0 K
MAI-S-Y1			Laser output correction value, horizontal scanning irradiation position1 Y
MAI-S-M1			Laser output correction value, horizontal scanning irradiation position1 M
MAI-S-C1			Laser output correction value, horizontal scanning irradiation position1 C
MAI-S-K1			Laser output correction value, horizontal scanning irradiation position1 K
MAI-S-Y2			Laser output correction value, horizontal scanning irradiation position2 Y
MAI-S-M2			Laser output correction value, horizontal scanning irradiation position2 M
MAI-S-C2			Laser output correction value, horizontal scanning irradiation position2 C
MAI-S-K2			Laser output correction value, horizontal scanning irradiation position2 K

T-8-7

## ■ SCNR

COPIER>ADJUST>SCNR			
Item	MF83	MF80	Description
SUB-S-Y0			Laser output correction value, Vertical scanning direction exposure position0 Y
SUB-S-M0			Laser output correction value, Vertical scanning direction exposure position0 M
SUB-S-C0			Laser output correction value, Vertical scanning direction exposure position0 C

## PASCAL

COPIER>ADJUST>PASCAL			
Item	MF83	MF80	Description
OFST-P-Y			RCON device-dependent value Adjustment of test chart reading density In PASCAL control for auto-gradation correction (full correction), adjust offset to test print reading signals. Setting range: -16 to 16 [Value after clearing RAM: 0]
OFST-P-M			RCON device-dependent value Adjustment of test chart reading density In PASCAL control for auto-gradation correction (full correction), adjust offset to test print reading signals. Setting range: -16 to 16 [Value after clearing RAM: 0]
OFST-P-C			RCON device-dependent value Adjustment of test chart reading density In PASCAL control for auto-gradation correction (full correction), adjust offset to test print reading signals. Setting range: -16 to 16 [Value after clearing RAM: 0]
OFST-P-K			RCON device-dependent value Adjustment of test chart reading density In PASCAL control for auto-gradation correction (full correction), adjust offset to test print reading signals. Setting range: -16 to 16 [Value after clearing RAM: 0]

T-8-8

## VIFADJ

COPIER>ADJUST>VIFADJ			
Item	MF83	MF80	Description
DEV-HV-Y			Developing bias setting value (Y) Setting range: -5 to 5 [Value after clearing RAM: 0]
DEV-HV-M			Developing bias setting value (M) Setting range: -5 to 5 [Value after clearing RAM: 0]
DEV-HV-C			Developing bias setting value (C) Setting range: -5 to 5 [Value after clearing RAM: 0]
DEV-HV-K			Developing bias setting value (Bk) Setting range: -5 to 5 [Value after clearing RAM: 0]
TR1-HV-Y			T1 bias setting value (Y) Setting range: -5 to 5 [Value after clearing RAM: 0]
TR1-HV-M			T1 bias setting value (M) Setting range: -5 to 5 [Value after clearing RAM: 0]
TR1-HV-C			T1 bias setting value (C) Setting range: -5 to 5 [Value after clearing RAM: 0]
TR1-HV-K			T1 bias setting value (Bk) Setting range: -5 to 5 [Value after clearing RAM: 0]
TR2SF-HV			T2 bias setting value (side-1) Setting range: -5 to 5 [Value after clearing RAM: 0]
TR2BK-HV			T2 bias setting value (side-2) Setting range: -5 to 5 [Value after clearing RAM: 0]
ICL-HV			ICL bias setting value Setting range: -5 to 5 [Value after clearing RAM: 0]
FU-TMP			Fixing temperature surface setting value (Y) Setting range: -2 to 2 [Value after clearing RAM: 0]

T-8-9

 FUNCTION

 CCD

COPIER>FUNCTION>CCD			
Item	MF83	MF80	Description
DF-WLVL1			White level adjustment (copyboard scanning) Execute this item after replacing the following parts. ADF Unit / Reader Unit / Reader Upper Cover Unit
DF-WLVL2			White level adjustment (DF scanning) Execute this item after replacing the following parts. ADF Unit / Reader Unit / Reader Upper Cover Unit
DF-WLVL3			White level adjustment BW (copyboard scanning) Execute this item after replacing the following parts. ADF Unit / Reader Unit / Reader Upper Cover Unit
DF-WLVL4			White level adjustment BW (DF scanning) Execute this item after replacing the following parts. ADF Unit / Reader Unit / Reader Upper Cover Unit
CL-AGC			White level adjustment CL (DF scanning) Execute this item after replacing the Reader Unit.
BW-AGC			White level adjustment BW (DF scanning) Execute this item after replacing the Reader Unit.

T-8-10

 CLEAR

COPIER>FUNCTION>CLEAR			
Item	MF83	MF80	Description
R-CON			Initialize the factory default values for the reader / ADF
SRVC-DAT			Clear Service Data User data are not cleared. The factory default values for the reader / ADF are not initialized
COUNTER			Clear to 0 the reading of the maintenance, parts and mode counters. Clear to 0 the reading of the counter (molecule) on the system damp list.
HIST			Clear logs (communication management, print, jam, error).
ALL			The following items are cleared based on the setting of COPIER>OPTION>BODY>LOCALE and COPIER>OPTION>BODY>SIZE-LC. <ul style="list-style-type: none"> <li>• USER DATA</li> <li>• SERVICE DATA</li> <li>• JOB ID</li> <li>• Logs</li> <li>• Clear Date</li> </ul> User data and Service data are initialized to the default setting for each destination. The default values for the reader / ADF (RCON shown in E-column) are not initialized. Before executing CLEAR>ALL, an appropriate value should be set to LOCAL/SIZE-LC. If executing this service mode without setting an appropriate value to LOCAL/SIZE-LC, it is cleared for Japanese model, which is the default location; thus, only either Japanese or English will be available for the language selection.

T-8-11



## MISC-R

COPIER>FUNCTION>MISC-R			
Item	MF83	MF80	Description
SCANLAMP			Illuminate the scanning lamp

T-8-12

## MISC-P

COPIER>FUNCTION>MISC-P			
Item	MF83	MF80	Description
SRVC-DAT			Output the system data list / system damp list as described below. (MF8350Cdn/MF8050Cn onry)
SYS-DAT			Output the system data list. The list is mainly output as the report on service soft switches and parameters used in FAX function. (MF8350Cdn/MF8050Cn onry)
SYS-DMP			Output the system damp list. The list is output as the service data on communication counts, received pages, transmitted pages, used sheets, error counts, etc. (MF8350Cdn/MF8050Cn onry)
CNTR			Output the counter report. The counter readings are included in the report to show usage frequencies of functions such as reading, recording, communication, copy, etc.
ERR-LOG			Output the error log report.
SPEC			Output the spec report. Print out the report on the current device conditions.

T-8-13

## SYSTEM

COPIER>FUNCTION>SYSTEM			
Item	MF83	MF80	Description
DOWNLOAD			N/A
PANEL-UP			N/A
LOGWRITE			N/A.
IMPORT			Read the service mode setting values from the USB memory. Note that the items indicated on the service label are not included in the above.
EXPORT			Write the service mode setting values into the USB memory. Note that the items indicated on the service label are not included in the above.

T-8-14

## VIFFNC

COPIER>FUNCTION>VIFFNC			
Item	MF83	MF80	Description
SMEAR-PV			Specify the smeared image prevention mode. Function: On some paper type or under a certain environment (specially under high humidity), fine lines and halftone images may be printed too light. This mode is helpful to improve such faulty images. Control: (1) Eject toner of all colors. (2) Set the drum rotation to 60SEC.
FEED-IMP		-	Specify to improve paper pickup performance Function: specify this item when using multi-feed prone paper that may cause pickup delay jam due to insufficient sheet-to-sheet intervals. Control: Extend the sheet-to-sheet interval.
FOG-PV		-	Specify the foggy image prevention mode 2 Function: Fine vertical line fogging may appear on images. This mode is helpful to improve such faulty images. Control: (1) Eject toner of all colors. (2) Set the drum rotation to 60SEC. Offset the charging. Execute the cleaning sequence for talc paper.
ICL-IMP			Countermeasure against faulty ICL 2
FD-R-CHG			Function: specify this item when replacing pickup rollers.
STOR-DCN			Store the Dcon NVRAM value when replacing Dcon PCBs
RSTR-DCN			Restore the backup data stored in NVRAM to Dcon NVRAM

T-8-15

## SPLMAN

COPIER>FUNCTION>SPLMAN			
Item	MF83	MF80	Description
SPL14159			Serial Number Fixation When establishing USB connection to more than one MFP with a PC, drivers for the number of connected MFPs are installed. Fixing the USB serial number prevents to install more than one driver. However, by fixing the ID, MFP cannot be specified in an environment where HUB is used; thus, printing may not be performed correctly. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL27767			Setting for paper with high resistance (Soiled Trailing Edge Margin) Use the item when stray toner-like traces appear around the texts or patterns depending on paper type and usage environment (especially in a low humidity environment). Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL26535	-		Setting for paper with high resistance 2 Use the item when image error with transparency occurred. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL89793		-	Setting for Green re-transfer prevention Use the item when re-transfer occurred due to strong primary transfer bias. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL23846	-		Setting for hygroscopic paper Use the item when color text that more than 2 color toners are overlapped or patterns are paled out depending on paper type and usage environment (especially in a high humidity environment). Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL26433			Setting for banding correction Use the item when thin and sharp horizontal lines appear on a halftone image after a long recess. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL14682			Setting for foggy image prevention 1 Use the item when toner is transferred on the non-colored area thinly at printing an image with large non-colored area using a gloss paper. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]

COPIER>FUNCTION>SPLMAN			
Item	MF83	MF80	Description
SPL83279			Setting for Chinese paper Use the item when stray toner-like traces appear around the texts or patterns at the time of using Chinese paper. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL50288			Countermeasure against ICL fault 1 Use the item when image of the n-2 print lightly appears on the nth print at the time of continuous n prints output depending on paper type and printing pattern (especially high print ratio) Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL41971			Setting for decurling 2 Use the item when a printed paper curls toward the printed side depending on paper type, usage environment (especially in a low humidity environment), and printing pattern (especially high print ratio). Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL69399			Setting for decurling 3 Use the item when a printed thin paper curls toward the printed side. Lower the fixing temperature only for thin papers. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL35607		-	Setting for hot off-set prevention Use the item when hot offset occurs. Decrease the control temperatures of the Fixing Assembly uniformly. Settings 0: OFF, 1: ON [Factory default setting / value after clearing RAM: 0]
SPL37510			any-any mode 0 Use the item when an image error due to toner stain on the ITB caused by paper size mismatch (an image is bigger than the paper size). When paper size mismatch (an image is larger than a paper (length, width)) occurs, execute the ITB cleaning. Settings 0: Clean ITB when paper size mismatch is detected 1: Do not clean [Factory default setting / value after clearing RAM: 0]
SPL65677			Change the setting of the leading edge margin (to increase margin) Increase the margin at the leading edge of the print. The margin is set to the default when this setting causes a conflict with that for reducing the leading edge margin. Settings : 0 to 20 (0.1mm increment) [Factory default setting / value after clearing RAM: 0]

COPIER>FUNCTION>SPLMAN			
Item	MF83	MF80	Description
SPL68676			Change the setting of the leading edge margin (to reduce margin) Reduce the margin at the leading edge of the print. The margin is set to the default when this setting causes a conflict with that for increasing the leading edge margin. Settings : 0 to 20 (0.1mm increment) [Factory default setting / value after clearing RAM: 0]
SPL68677			Change the setting of the side margin (to increase margin) Increase the margin at sides of the print. The margin is set to the default when this setting causes a conflict with that for reducing the side margin. Settings : 0 to 20 (0.1mm increment) [Factory default setting / value after clearing RAM: 0]
SPL25607			Change the setting of the side margin (to reduce margin) Reduce the margin at sides of the print. The margin is set to the default when this setting causes a conflict with that for increasing the side margin. Settings : 0 to 20 (0.1mm increment) [Factory default setting / value after clearing RAM: 0]

T-8-16

## ■ INSTALL

COPIER>FUNCTION>INSTALL			
Item	MF83	MF80	Description
STRD-POS			Automatically detect the reading position for the DF continuous reading

T-8-17

## OPTION

### ■ BODY

COPIER>OPTION>BODY			
Item	MF83	MF80	Description
TMIC-BK			Change TMIC_BK_PASCAL_LUT end (high-density area) correction methods Settings: 0: BK_LUT end correction OFF for PDL, Bk_LUT end correction OFF for COPY 1: BK_LUT end correction ON for PDL, Bk_LUT end correction ON for COPY [Value after clearing RAM: 0]
TMIC-CMY			Change TMIC_PASCAL_LUT end (high-density area) correction methods Settings: 0: LUT end correction OFF for PDL, LUT end correction OFF for COPY 1: LUT end correction ON for PDL, LUT end correction ON for COPY [Value after clearing RAM: 0]
LOCALE			Set up the destination group Settings: 1: Japan 2: North America 3: Korea 4: China 5: Taiwan 6: Europe 7: Asia 8: Oceania [Value after clearing RAM: 1]
SIZE-LC			Set the size property Settings: 1: AB series 2: Inch series 3: A series 4: ABInch series [Value after clearing RAM: 1]

T-8-18

# COUNTER

## TOTAL

COPIER>COUNTER>TOTAL			
Display / setting / adjustment range: 0-99,999,999			
Return to 0 when the setting value exceeds 99,999,999.			
Item	MF83	MF80	Description
SERVICE1			Total counter for service 1 The counter reading is incremented when a sheet is delivered out of the printer device (regardless of paper sizes).
SERVICE2			Total counter for service 2 The counter reading is incremented when a sheet is delivered out of the printer device (incremented by 2 for large-size paper and 1 for small-size paper).
TTL			Total counter (the sum of COPY, PDL-PRT, FAX-PRT and RPT-PRT below)
COPY			Total COPY counter The counter reading is incremented when a sheet is delivered out of the printer device for a COPY job.
PDL-PRT			PDL print counter For PDL print jobs, the counter reading is incremented when a sheet is delivered out of the printer device or on the 2-sided unit as counted in the charging counter. No count is added for blank sheet delivery. The count is incremented by 1 regardless of paper size: large/small.
FAX-PRT			Received FAX print counter For received FAX messages, the counter reading is incremented when a sheet is delivered out of the printer device or on the 2-sided unit as counted in the charging counter. No count is added for blank sheet delivery. The count is incremented by 1 regardless of paper size: large/small. (MF8350Cdn/MF8050Cn only)
RPT-PRT			Report print counter For report print jobs, the counter reading is incremented when a sheet is delivered out of the printer device or on the 2-sided unit as counted in the charging counter. No count is added for blank sheet delivery. The count is incremented by 1 regardless of paper size: large/small. The counter can be reset.
2-SIDE			2-sided COPY / print counter For 2-sided copy/print jobs, the counter reading is incremented when a sheet is delivered out of the printer device or on the 2-sided unit as counted in the charging counter. No count is added for blank sheet delivery. The count is incremented by 1 regardless of paper size: large/small. The counter can be reset.

COPIER>COUNTER>TOTAL			
Display / setting / adjustment range: 0-99,999,999			
Return to 0 when the setting value exceeds 99,999,999.			
Item	MF83	MF80	Description
SCAN			SCAN counter For SCAN jobs, the counter reading is incremented when a sheet is delivered out of the printer device or on the 2-sided unit as counted in the charging counter. The count is incremented by 1 regardless of paper size: large/small. The counter can be reset.

T-8-19

## PICK-UP

COPIER>COUNTER>PICK-UP			
Display / setting / adjustment range: 0-99,999,999			
Return to 0 when the setting value exceeds 99,999,999.			
Item	MF83	MF80	Description
C1			Cassette 1 total paper feed counter Display the paper counts fed from Cassette 1.
C2		-	Cassette 2 total paper feed counter Display the paper counts fed from Cassette 2.
MF			Multi-purpose tray total paper feed counter Display the paper counts fed from the multi-purpose tray.
2-SIDE		-	2-sided total paper feed counter Display the paper counts fed for 2-sided.

T-8-20

## FEEDER

COPIER>COUNTER>FEEDER			
Display / setting / adjustment range: 0-99,999,999			
Return to 0 when the setting value exceeds 99,999,999.			
Item	MF83	MF80	Description
FEED			Total document counter fed from ADF

T-8-21

## JAM

COPIER>COUNTER>JAM			
Display / setting / adjustment range: 0-99,999,999			
Return to 0 when the setting value exceeds 99,999,999.			
Item	MF83	MF80	Description
TOTAL			Total jam counter
FEEDER			Total jam counter for feeder
2-SIDE		-	2-sided unit jam counter
MF			Multi-feeder jam counter
C1			Cassette 1 jam counter
C2		-	Cassette 2 jam counter

T-8-22

## DRBL-2

COPIER>COUNTER>DRBL-2			
Display / setting / adjustment range: 0-99,999,999			
Return to 0 when the setting value exceeds 99,999,999.			
Item	MF83	MF80	Description
DF-SP-PD			Paper counts passed through ADF separation pad
DF-SP-RL			Paper count passed through ADF pickup roller

T-8-23

## FEEDER

### ADJUST

FEEDER>ADJUST			
Item	MF83	MF80	Description
DOCST			VSYNC timing fine-adjustment when using feeder surface Setting range: -30 to 30
LA-SPD			Vertical scanning magnification adjustment for feeder surface continuous reading Setting range: -200 to 200

T-8-24

### FUNCTION

FEEDER>FUNCTION			
Item	MF83	MF80	Description
MTR-ON			Actuate motor
FEED-ON			ADF-independent paper pass check

T-8-25

## FAX

 List of SSSW

- MF8350Cdn/MF8050Cn only

FAX>SSSW				
SSSW No.	MF83	MF80	Bit No.	Function
SW 01				(Errors, COPY functions)
			Bit 0	Output error codes for service technicians
			Bit 1	Error in memory dump
			Bit 2	Enter the password for transferring received confidential image
			Bit 3	Prohibit COPY
			Bit 4	Display No. 300s
			Bit 6	Prohibit users from setting date/time
			Bit 7	Collectively clear user setting prohibition
SW 02				(Setting for network connection criteria)
			Bit 0	Do not start when memory clear list is unable to output
			Bit 4	V34 CCRTN OFF
			Bit 7	Connect the terminal as F network type 2
SW 03				(Echo measures)
			Bit 0	Check EQM of TCF
			Bit 1	Apply echo protect tone to V.29
			Bit 4	Heard DIS twice
			Bit 5	First DIS interference
			Bit 6	Interfered DIS frequency
			Bit 7	Output 1080Hz before CED
SW 04				(Measures against communication troubles)
			Bit 0	Monitor LC
			Bit 1	Check CI signal frequency
			Bit 2	V21 end flag
			Bit 3	Prohibit T.30 node F kept by both parties
			Bit 4	T.30 node F echo timer
			Bit 5	Check CI signal frequency when setting PBX
			Bit 6	Do not send CNG for manual outgoing transmission
Bit 7	Do not send CED for manual incoming transmission			

FAX>SSSW				
SSSW No.	MF83	MF80	Bit No.	Function
SW 05				(Standard functions, DIS signal setting)
			Bit 1	mm/inch conversion (text mode)
			Bit 2	mm/inch conversion (text and picture / picture mode)
			Bit 3	Prohibit DIS from transmitting bit33 and the followings.
			Bit 4	Declare cut sheets
			Bit 5	Declare LRT/LGL in DIS
			Bit 6	Prohibit ECM outgoing transmission
			Bit 7	Prohibit ECM incoming transmission
SW 06				(Setting of reading criteria)
			Bit 0	Move from DES to pre-scan position
			Bit 1	Pre-scan at time other than power-ON
			Bit 2	Restrict document length
			Bit 3	Stamp option
			Bit 4	Reading width 0:A4 1: LTR
			Bit 5	Record memory copy time sharing
			Bit 6	Variable resolution at COPY
SW 12				(Page timer setting)
			Bit 0	1 page timeout (outgoing transmission)
			Bit 1	
			Bit 2	1 page timeout (HT transmission)
			Bit 3	
			Bit 4	1 page timeout (incoming transmission)
			Bit 5	
			Bit 7	1 page timeout
SW 13			Bit 0	Prohibit relay broadcasting / transfer while receiving relay / transfer
			Bit 1	Response to faulty image while receiving relay / transfer
			Bit 2	Convert mm/inch when transmitting received image
SW 14			Bit 0	Standard paper size type
			Bit 1	<NADA>COPIER > OPTION > BODY > MODEL-SZ
			Bit 2	Convert inch to mm in both main/vertical scanning directions or only in vertical scanning direction
			Bit 3	Convert inch to mm only for OCR transmission
			Bit 4	Declare resolution for Inch series

FAX>SSSW				
SSSW No.	MF83	MF80	Bit No.	Function
SW 15			Bit 1	Polarity memory timing at dial-in
			Bit 2	Receive incoming calls to ND circuit: device circuit
			Bit 6	Detect continuous signals when switching F/T
SW 18			Bit 0	Detect carrier disconnection between DCS and TCF
			Bit 1	Waiting time for carrier disconnection between DCS and TCF
			Bit 2	Prohibit communication control for IP network
SW 22			Bit 0	Prohibit NSX transmission
			Bit 1	Prohibit separated A4 record
			Bit 2	Prohibit broadcasting transmission
			Bit 3	Prohibit manual polling actions
			Bit 4	Prohibit manual transmission when transmitting archives
			Bit 6	With archive transmission function (Setting for report display function)
SW 25			Bit 0	Prioritize the received telephone number to the dialed number
			Bit 1	Prioritize the received abbreviated name to the dialed abbreviated name
			Bit 2	Regard a received blank CIS as an unreceived CIS
			Bit 3	Message language selection for user SW
SW 28			Bit 0	Prohibit calling party for V8 procedure
			Bit 1	Prohibit called party from V8 procedure
			Bit 2	Prohibit calling party from V8 late-start
			Bit 3	Prohibit called party from V8 late-start
			Bit 4	Prohibit V.34 called party from starting fallback
			Bit 5	Prohibit V.34 calling party from starting fallback
SW 30			Bit 0	Support for 1284 device ID
			Bit 5	New dial tone detection method
SW 32			Bit 0	Canon/NTT NSX switching SW
			Bit 5	0:NCU2004 1:NCU2002

T-8-26

## List of Menu

- MF8350Cdn/MF8050Cn only

Menu switch registration mode				
No.	MF83	MF80	Parameter	Selection
05			ON/OFF of NL equalizer	0: OFF 1: ON
06			Telephone line monitor	0-3 0: DIAL 1: SERVICEMAN 1 2: SERVICEMAN 2 3: OFF
07			Transmission level (ATT)	0-15
08			Upper limit of V.34 modulation speed	0-5 0: 3429BAUD 1: 3200BAUD 2: 3000BAUD 3: 2800BAUD 4: 2743BAUD 5: 2400BAUD
09			Upper limit of V.34 data speed	0-13 0: 33.6kbps, 1:31.2, 2: 28.8, 3: 26.4, 4: 24.0, 5: 21.6, 6: 19.2, 7: 16.8, 8: 14.4, 9: 12.0, 10: 9.6, 11: 7.2, 12: 4.8, 13: 2.4
10			Pseudo-CI signal frequency	0-2 0: 50Hz, 1: 25Hz, 2: 17Hz

T-8-27



## List of NUM

- MF8350Cdn/MF8050Cn only

Numeric parameter setting mode				
No.	MF83	MF80	Parameter	Allowable setting range
02			RTN transmission criteria X	1 to 99%
03			RTN transmission criteria n	2 to 99 times
04			RTN transmission criteria m	1 to 99 lines
05			NCC pause (before ID code)	1 to 60s
06			NCC pause (after ID code)	1 to 60s
10			T.30 T0 timer	55s principally
11			T.30 T1 timer (for incoming transmission)	0 to 9999 (France=3500, Others=3000)
12			Maximum incoming lines	0 to 65535 (line) 0: without limitation
13			T.30 EOL timer	500 to 3000 (set to 55s by default)
15			Threshold between hooking and on-hook	0 to 999
16			Lead time to the first response when switching between FAX and TEL	0 to 9
17			Duration to activate pseudo-RBT cadence	0 to 999
18			Duration to deactivate pseudo-RBT cadence (short)	0 to 999
19			Duration to deactivate pseudo-RBT cadence (long)	0 to 999
20			Duration to activate pseudo-ring cadence	0 to 999
21			Duration to deactivate pseudo-CI cadence (short)	0 to 999
22			Duration to deactivate pseudo-CI cadence (long)	0 to 999
23			CNG detection level when switching between FAX and TEL	0 to 7
24			Pseudo-RBT outgoing level when switching between FAX and TEL	10 to 20 (100v), 0 to 20 (120, 230v)
25			CNG monitor duration while the answering device is activated	0 to 999
26			No signal detection level while the answering device is activated	0 to 7
27			Duration to detect preamble of V21 low-speed flag	20 (*10ms)
51			Threshold to detect hook	10 to 9999
53			Set DTMF calling counts when receiving FAX remotely	0 to 9999

Numeric parameter setting mode				
No.	MF83	MF80	Parameter	Allowable setting range
54			Set BusyTone outgoing duration when using handset	0 to 9999

T-8-28

## TESTMODE

 PRINT

TESTMODE>PRINT			
Item	MF83	MF80	Description
PG-TYPE			Enter PG number Settings: 0: PASCAL correction chart 1 1: PASCAL correction chart 2 2: Color chart 3: Curvature correction chart 4: Rainbow chart (vertical scanning direction) 5: Rainbow chart (horizontal scanning direction)
COUNT			Enter the output counts Settings: 1 to 99
PHASE		-	Select 1-side or 2-side 2-side selection is invalid for 1-side devices. Settings: 0: 1-side 1: 2-side
MODE			Specify image forming method for output PG-TYPE set to 0 or 1 processes images in the fixed method, regardless of MODE settings. Settings: 0: T-MIC (T-MIC) 1: High LPI screen (SCA) 2: Low LPI screen (SCB) 3: TBIC
THRU			Select ON or OFF of g correction Settings: 0: Normal gamma LUT 1: Through (linear) gamma
NRKE			Flag to switch the switching process Setting: 0: Adopt without processing 1: Adopt with processing
BLND			Flag to switch the setting of correction (linked to NSC) Setting: 0: Adopt without correction (shift phase) 1: Adopt with correction (do not shift phase)

TESTMODE>PRINT			
Item	MF83	MF80	Description
FEED			Select the paper source and press start to apply the settings above to output. Paper is fed from the multi-purpose tray only when paper in the specified size is set in the tray. Paper is fed from Cassette 1 for devices without Cassette 2 even when Cassette 2 is selected. *Any paper source with color paper nullifies the setting. Settings: 0: MPTray 1: Cassette1 2: Cassette2
START			Start PG pattern printing.

T-8-29



## MODEM

- MF8350Cdn/MF8050Cn only

TESTMODE>FAX>MODEM			
Item	MF83	MF80	Description
RELAY-1			Test ON/OFF of NCU relays and port SW Settings: 0 to 6
RELAY-2			Test ON/OFF of NCU relays and port SW Settings: 0 to 7
FREQ			Close the DC circuit and transmit the selected signal pattern using the tone transmission function of the modem. Settings: 0 to 7
G3TX			Close the DC circuit and transmit the selected signal pattern in the selected frequency using the G3 signal transmission function of the modem. Settings: 0 to 9
DTMFTX			Close the DC circuit and transmit the DTMF signal using the DTMF transmission function of the modem. Settings: 0 to 12
V34G3TX			Close the DC circuit and transmit the selected frequency using the G3 signal transmission function of the modem (V.34). Settings: 0 to 614

T-8-30

## FACULTY

- MF8350Cdn/MF8050Cn only

TESTMODE>FAX>FACULTY			
Item	MF83	MF80	Description
G34800TX			Close the DC circuit and transmit the 4800bps frequency using the G3 signal transmission function of the modem.
DETECT1			Detect ring Check Ci, Fc and hook status (ON/OFF) in a line.
DETECT2			CNG detection test 1 Check CNG signals and FED Turn on CML relay to detect CNG
DETECT3			CNG detection test 2 Check CNG signals and FED Turn off CCML relay to detect CNG

T-8-31

# Appendix

- Service Tools
- Solvent/Oil List
- General Circuit Diagram
- General Timing Chart

## Service Tools

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

No.	Name of Tool	Tool No.	Use/Remarks
1	Tool bag	TKN-0001	
2	Jumper wire	TKN-0069	with clip
3	Gauge	CK-0057	0.02 - 0.03mm
4	Spring scale	CK-0058	To check cassette spring pressure
5	Phillips screwdriver	CK-0101	M4 and M5 Length: 363mm
6	Phillips screwdriver	CK-0104	M3 and M4 Length: 55mm
7	Phillips screwdriver	CK-0105	M4 and M5 Length: 191mm
8	Phillips screwdriver	CK-0106	M4 and M5 Length: 85mm
9	Flat-blade screwdriver	CK-0111	
10	Flat-blade screwdriver set	CK-0114	6 in a set
11	Hex key and wrench set	CK-0151	5 in a set
12	Fine metallic file	CK-0161	
13	Hex screwdriver	CK-0170	M4 Length: 107mm
14	Wire cutter	CK-0201	
15	Needle-nose pliers	CK-0202	
16	Pliers	CK-0203	
17	Stop ring pliers	CK-0205	for shaft rings
18	Pressing plate	CK-0218	
19	Tweezers	CK-0302	
20	Scale	CK-0303	for 150mm measurement
21	Plastic hammer	CK-0314	
22	Brush	CK-0315	
23	Penlight	CK-0327	
24	Plastic bottle	CK-0328	
25	Lint-free paper	CK-0336	500SH/PKG
26	Lubricant bottle	CK-0349	30cc
27	Plastic bottle	CK-0351	30cc
28	Digital multi-meter	FY9-2032	

T-9-1

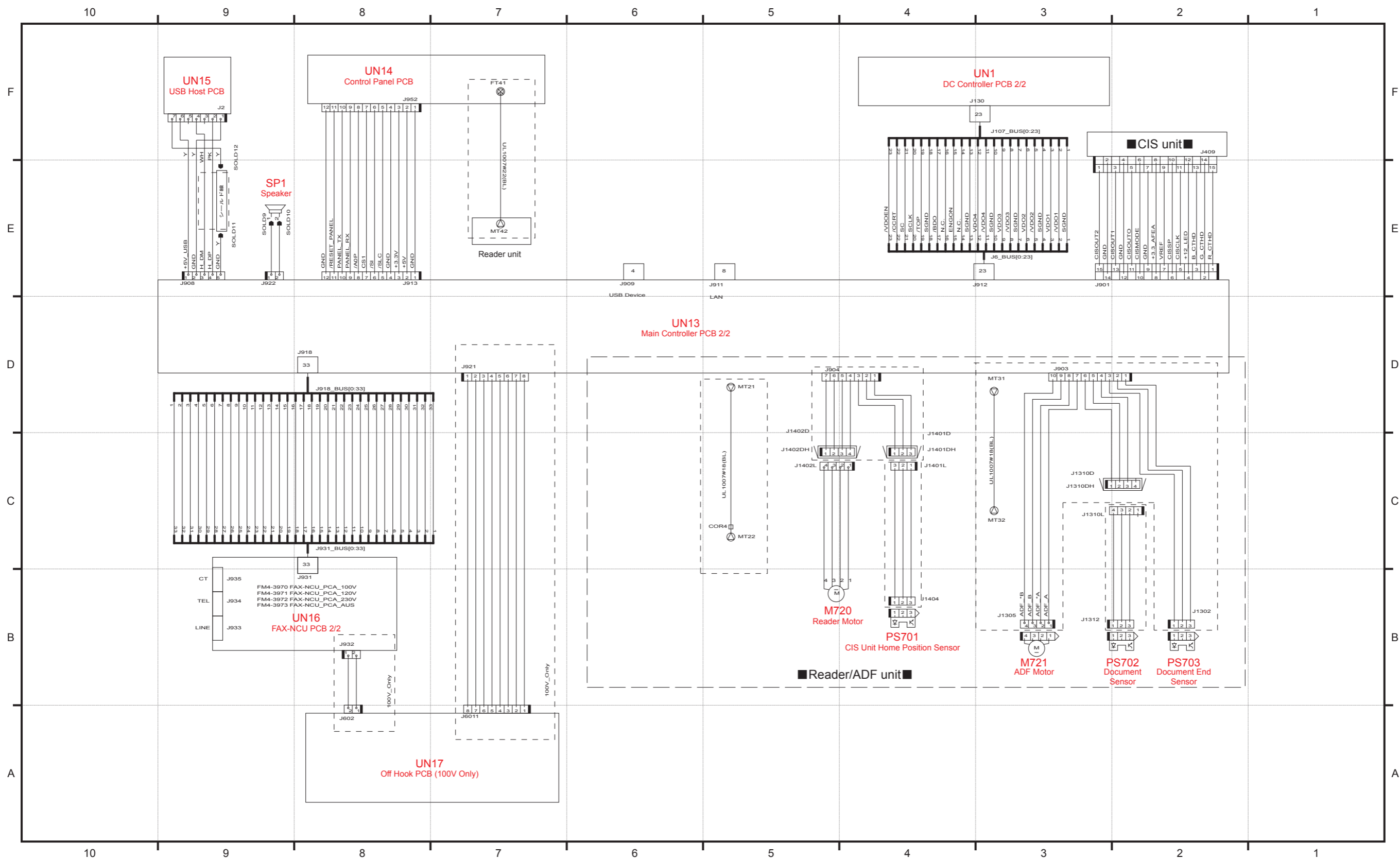
## Solvent/Oil List

No.	Name of Tool	Use	Remarks
1	Alcohol	Cleaning: <ul style="list-style-type: none"> <li>• Plastic</li> <li>• Rubber</li> <li>• Oil/toner contamination</li> </ul>	Keep fire away
2	Lubricant	Apply to gears	Molykote EM-50L (from Dow corning) Tool No.: HY9-0007

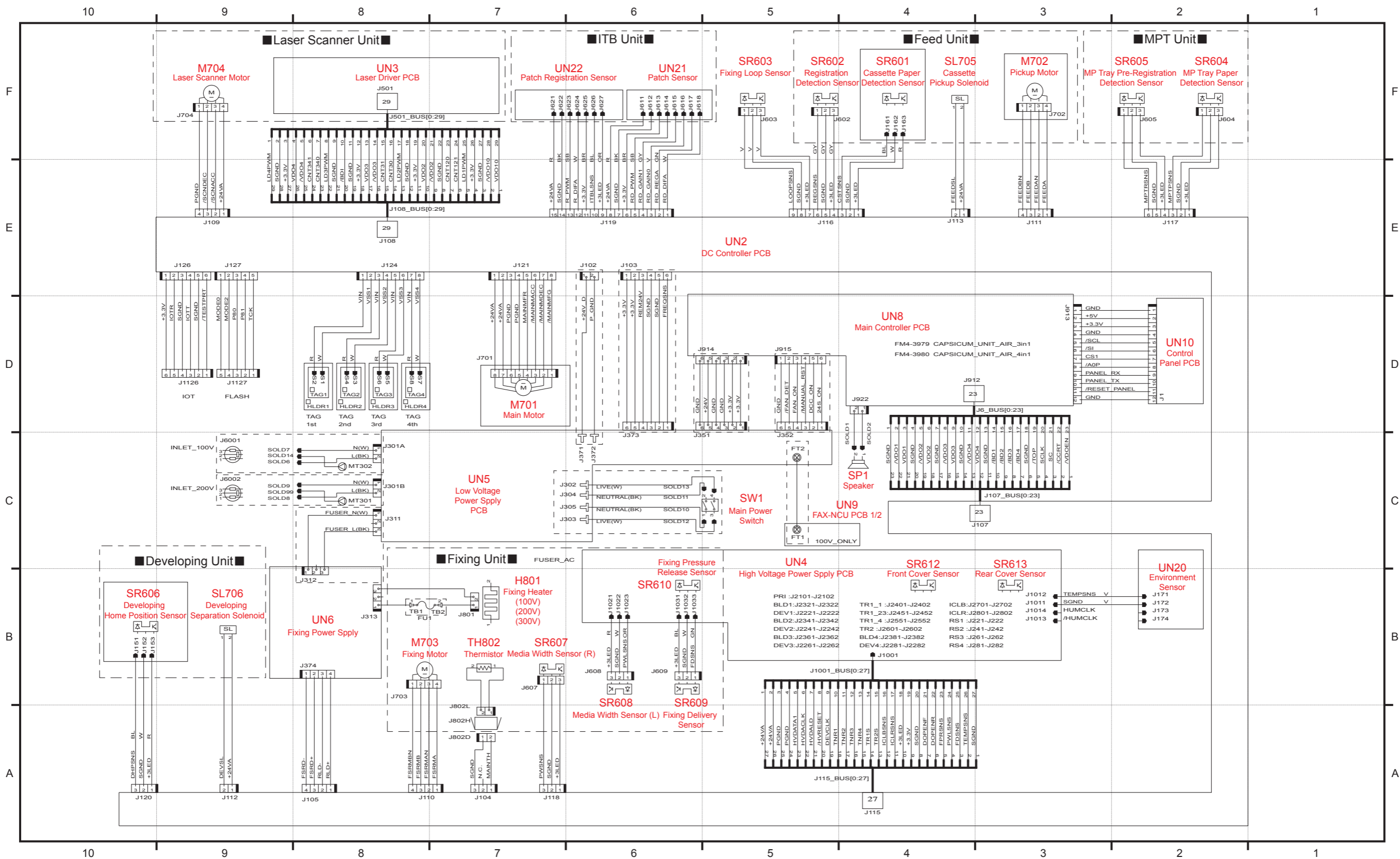
T-9-2

Do not use alcohol in cleaning the external covers. Ensure to use wet cloth (the one tightly wrung out).



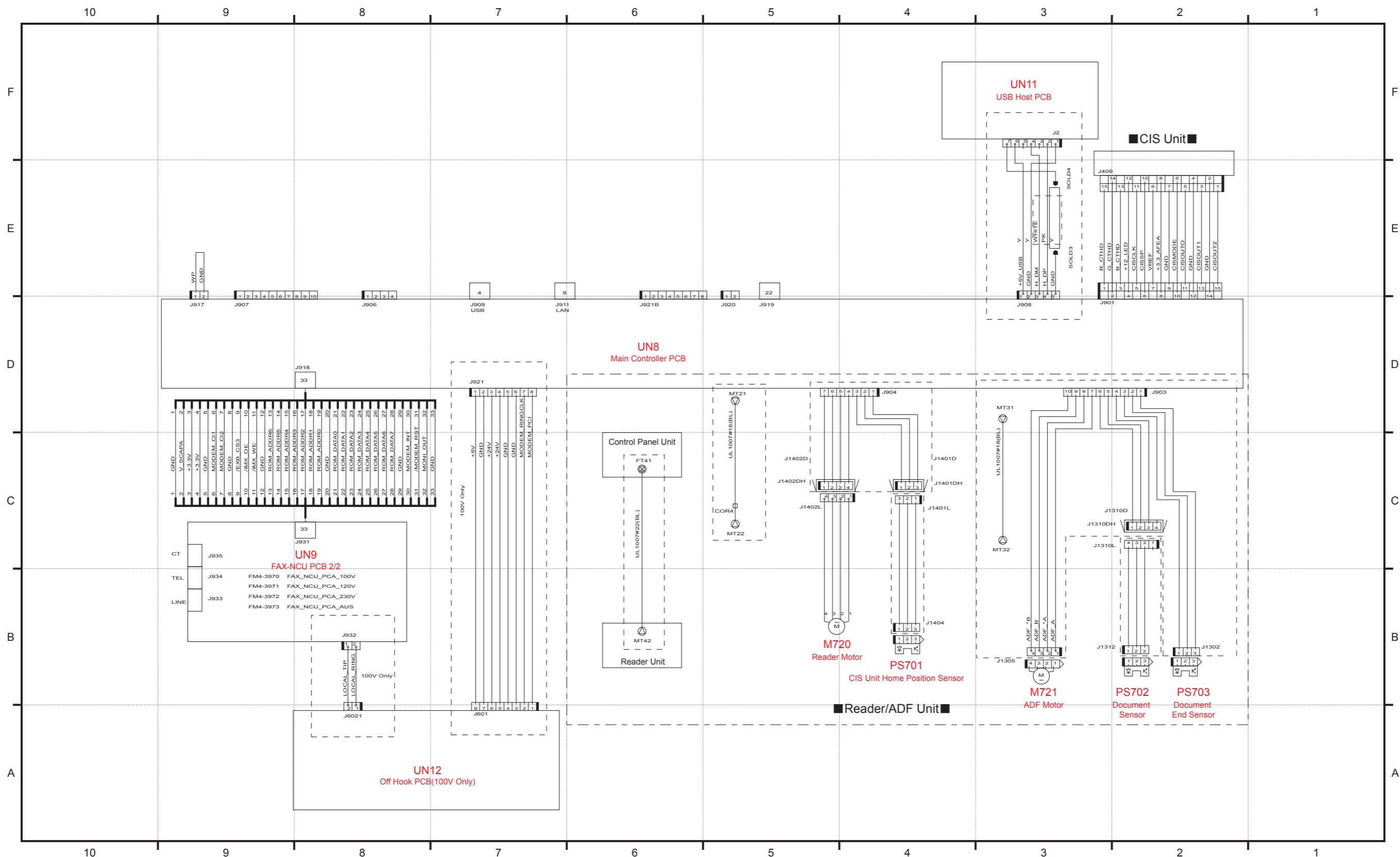






P.1

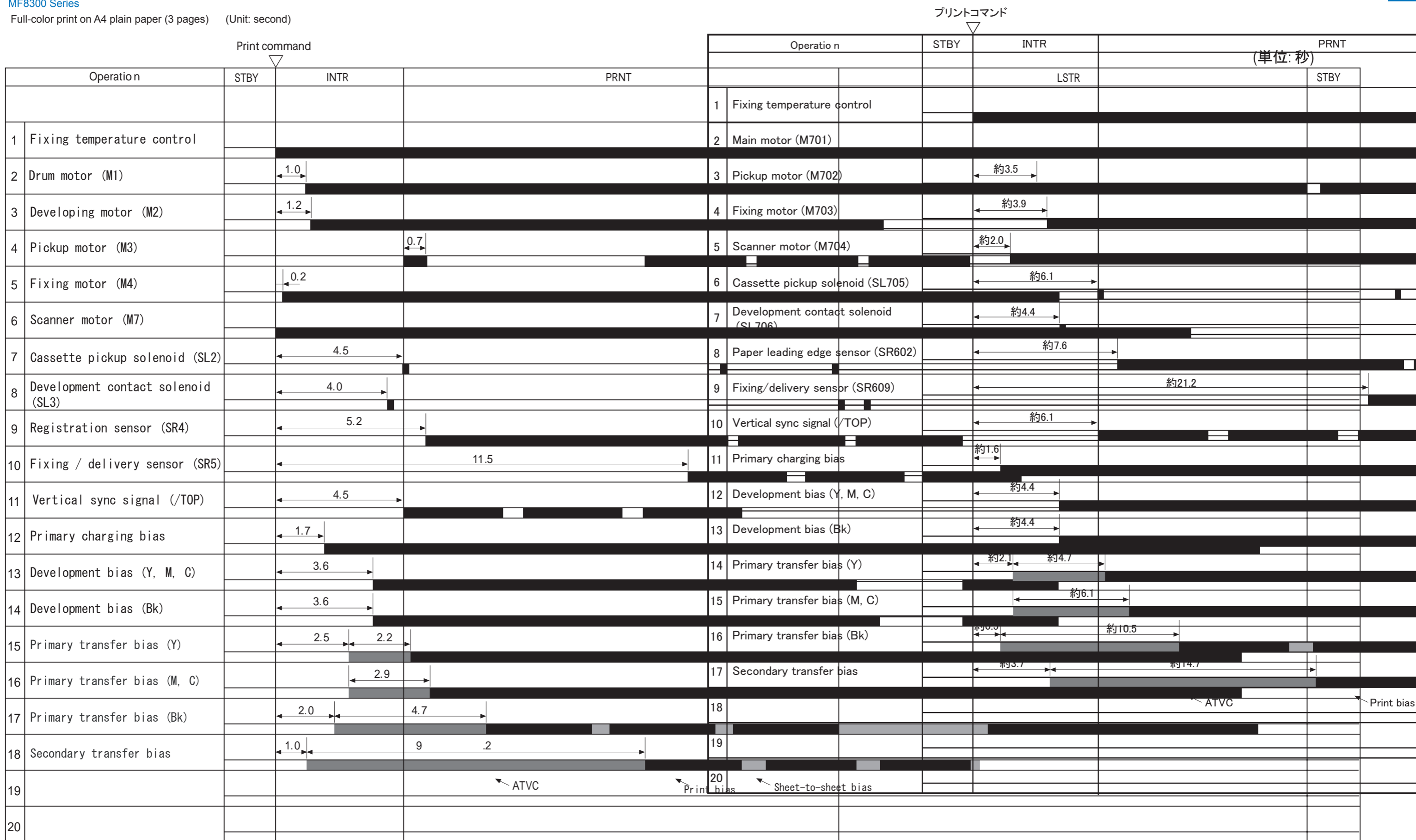
F-9-3



# General Timing Chart

MF8300 Series  
Full-color print on A4 plain paper (3 pages) (Unit: second)

MF8000 Series  
Full-color print on A4 plain paper (3 pages) (Unit: second)



# **Color imageCLASS MF8350Cdn**

## **PARTS CATALOG**



# **Canon**

JULY 30, 2009  
REV. 0

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FC5-5256-000	100 - 1	FC9-7567-000	160 - 18	FM4-1879-000	162 -
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FC7-6189-000	160 - 1	FC9-7571-000	400 - 5	FM4-1881-000	162 - 14
FC7-6297-000	162 - 2	FC9-7573-000	400 - 5	FM4-1882-000	162 - 31
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FC8-8715-000	103 - 1	FK2-4390-000	104 - 25	FM4-3778-000	104 - 3
FC8-8730-000	106 - 7	FK2-5274-000	001 - 12	FM4-3779-000	104 - 3
FC8-8742-000	100 - 2	FK2-5275-000	001 - 1	FM4-3780-000	104 - 3
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FC9-1486-000	160 - 13	FK2-8641-000	001 - 17	FM4-3802-000	105 - 11
FC9-1503-000	160 - 5	FK2-8643-000	001 - 16	FM4-3960-000	900 -
FC9-1512-000	162 - 5	FK2-8767-000	107 - 6	FM4-3961-000	900 -
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FC9-1526-000	162 - 7	FK2-9583-000	104 - 25	FM4-3971-000	107 - 7
FC9-1532-000	160 - 6	FK2-9738-000	107 - 2	FM4-3972-000	107 - 7
FC9-1533-000	160 - 7	FK2-9747-000	104 - 1	FM4-3973-000	107 - 7
FC9-1534-000	160 - 8	FK2-9836-000	107 - 3	FM4-3985-000	107 - 8
FC9-1535-000	160 - 9	FK2-9839-000	001 - 10	FM4-3989-000	107 - 9
FC9-1536-000	160 - 10	FK2-9840-000	001 - 10	FM4-4279-000	300 -
FC9-1539-000	160 - 11	FK2-9841-000	001 - 10	FM4-4284-000	106 - 3
FC9-1650-000	400 - 1	FK2-9842-000	001 - 10	FM4-4285-000	100 - 11
FC9-2101-000	400 - 2	FK2-9843-000	001 - 10	FM4-4286-000	105 - 1
FC9-4502-000	160 - 12	FK2-9844-000	001 - 10	FM4-4287-000	100 - 12
FC9-4507-000	107 - 1	FK2-9845-000	001 - 10	FM4-4289-000	810 -
FC9-4510-000	001 - 11	FK2-9861-000	400 - 7	FM4-4290-000	810 -
FC9-4541-000	100 - 3	FK2-9877-000	001 - 17	FM4-4291-000	810 -
FC9-4545-000	100 - 4	FL2-6637-000	160 - 19	FM4-4301-000	400 - 10
FC9-4546-000	106 - 1	FL3-1431-000	162 - 9	FM4-4306-000	400 -
FC9-4547-000	106 - 2	FL3-1437-000	162 - 10	FM4-4307-000	400 - 11
FC9-4551-000	100 - 5	FL3-2453-000	160 - 20	FM4-4308-000	400 - 8
FC9-4579-000	100 - 6	FL3-2458-000	162 - 12	FU5-6992-000	162 - 15
FC9-4584-000	100 - 7	FL3-3539-000	160 - 21	FU6-2998-000	162 - 16
FC9-4589-000	400 - 3	FM3-5378-000	107 - 4	FU6-2999-000	162 - 17
FC9-4590-000	400 - 4	FM3-8292-000	810 - 1	FU7-0667-000	162 - 18
FC9-5109-000	160 - 13	FM3-8294-000	103 - 3	FU7-0668-000	162 - 19
FC9-5110-000	160 - 13	FM3-8301-000	103 - 4	FU7-0669-000	162 - 20
FC9-5115-000	160 - 13	FM3-9538-000	160 - 23	FU7-0671-000	162 - 21
FC9-5654-000	162 - 8	FM4-1493-000	100 - 9	FU7-0672-000	160 - 25
FC9-5655-000	160 - 14	FM4-1525-000	100 - 10	FU7-0676-000	162 - 22
FC9-5656-000	160 - 15	FM4-1526-000	100 - 10	FU7-0678-000	162 - 23
FC9-5657-000	160 - 16	FM4-1527-000	100 - 10	FU7-2016-000	162 - 24
FC9-7561-000	160 - 17	FM4-1528-000	100 - 10	FU7-2018-000	160 - 26
FC9-7562-000	160 - 17	FM4-1529-000	100 - 10	FU7-8091-000	100 - 13
FC9-7563-000	160 - 17	FM4-1530-000	100 - 10	FU7-8093-000	001 - 13
FC9-7564-000	160 - 17	FM4-1531-000	100 - 10	FU7-8094-000	001 - 9
FC9-7565-000	160 - 18	FM4-1532-000	100 - 10	FU7-8108-000	106 - 16
FC9-7566-000	160 - 18	FM4-1533-000	100 - 10	FU7-8109-000	100 - 14

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## MF8350Cdn/MF8330Cdn Series(Numerical Index)

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FU7-8111-000	810 - 2	RM1-4837-000	104 - 6	XA9-1671-000	101 - 10
FU7-8405-000	160 - 27	RM1-4838-000	106 - 9	XA9-1671-000	102 - 5
FU7-8406-000	160 - 27	RM1-4840-000	103 - 9	XA9-1671-000	103 - 13
FU7-8407-000	160 - 27	RM1-4845-000	810 - 1	XA9-1671-000	104 - 24
FU7-8408-000	160 - 27	RM1-4850-000	102 - 2	XA9-1671-000	105 - 12
FU7-8409-000	160 - 27	RM1-4852-000	102 - 3	XA9-1671-000	106 - 15
FU7-8410-000	160 - 27	RM1-4853-000	103 - 10	XA9-1835-000	101 - 9
FU7-8411-000	160 - 27	RM1-4876-000	106 - 10	XA9-1835-000	103 - 14
FU7-8413-000	160 - 27	RM1-4877-000	106 - 11	XA9-1835-000	104 - 23
FU8-0895-000	160 - 28	RM1-4879-000	106 - 12	XA9-1835-000	105 - 10
FU8-2007-000	160 - 29	RM1-4880-000	106 - 13		
FU8-2008-000	162 - 25	RM1-4893-000	810 - 1		
FU8-2010-000	162 - 26	RM1-4896-000	105 - 2		
HB1-4978-000	001 - 14	RM1-5288-000	104 - 7		
HC1-0586-000	160 - 30	RM1-5293-000	104 - 8		
HC1-0586-000	162 - 27	RM1-5294-000	101 - 3		
HC1-2034-000	001 - 15	RM1-5303-000	105 - 3		
HK1-0175-000	001 - 4	RM1-5385-000	104 - 9		
HU1-1022-000	160 - 31	RM1-5393-000	104 - 10		
HU1-1022-000	162 - 28	RM1-5394-000	104 - 11		
NPN	001 -	RM1-5395-000	104 - 12		
NPN	100 -	RM1-5397-000	106 - 14		
NPN	101 -	RM1-5398-000	101 - 5		
NPN	102 -	RM1-5399-000	101 - 6		
NPN	103 -	RM1-5400-000	104 - 13		
NPN	104 -	RM1-5419-000	105 - 4		
NPN	105 -	RM1-5420-000	102 - 4		
NPN	106 -	RM1-5428-000	103 - 11		
NPN	107 -	RM1-5433-000	105 - 5		
NPN	160 -	RM1-5434-000	104 - 14		
QK1-6441-000	001 - 5	RM1-5435-000	104 - 15		
QK1-6443-000	001 - 7	RM1-5437-000	105 - 6		
QK1-6446-000	001 - 6	RM1-5438-000	104 - 16		
QK1-6449-000	001 - 8	VS1-7177-003	400 - 12		
QK1-6455-000	001 - 2	VS1-7177-004	400 - 13		
RB2-6297-000	103 - 5	VS1-7207-004	162 - 29		
RC2-0062-000	100 - 1	WG8-5696-000	101 - 7		
RC2-2014-000	103 - 6	WG8-5696-000	103 - 12		
RC2-3367-000	810 - 3	WG8-5696-000	104 - 18		
RC2-3719-000	104 - 21	WG8-5696-000	162 - 30		
RC2-3750-000	106 - 4	WG8-5696-000	400 - 14		
RC2-3752-000	106 - 5	WG8-5696-000	810 - 4		
RC2-3774-000	106 - 6	XA9-0476-000	160 - 32		
RK2-2276-000	105 - 8	XA9-0476-000	400 - 15		
RK2-2276-000	106 - 8	XA9-0679-000	104 - 19		
RK2-2302-000	104 - 4	XA9-0831-000	160 - 24		
RK2-3267-000	101 - 1	XA9-1418-000	104 - 20		
RL1-1785-000	103 - 7	XA9-1418-000	105 - 9		
RL1-1800-000	104 - 5	XA9-1420-000	101 - 8		
RL1-1802-000	102 - 1	XA9-1420-000	104 - 22		
RM1-4426-000	103 - 8	XA9-1422-000	105 - 7		
RM1-4836-000	101 - 2	XA9-1671-000	100 - 8		

# MF8350Cdn/MF8330Cdn Series(Parts Catalog)

## Satera MF8350Cdn

JP	F15-7911-000	EXA
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## Satera MF8330Cdn

JP	F15-7912-000	EZH
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## i-SENSYS MF8350Cdn

EUR1	F15-7991-000	EWV
------	--------------	-----

EUR2	F15-7991-000	EWX
------	--------------	-----

EUR3	F15-7991-000	EWZ
------	--------------	-----

## i-SENSYS MF8330Cdn

EUR1	F15-7992-000	EXK
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EUR2	F15-7992-000	EXL
------	--------------	-----

## imageCLASS MF8350Cdn

TW	F15-7921-000	EXG
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US	F15-7931-000	EWU
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CA	F15-7931-000	EXB
----	--------------	-----

ASIA	F15-7941-000	EXC
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CN	F15-7951-000	EXE
----	--------------	-----

KR	F15-7961-000	EXF
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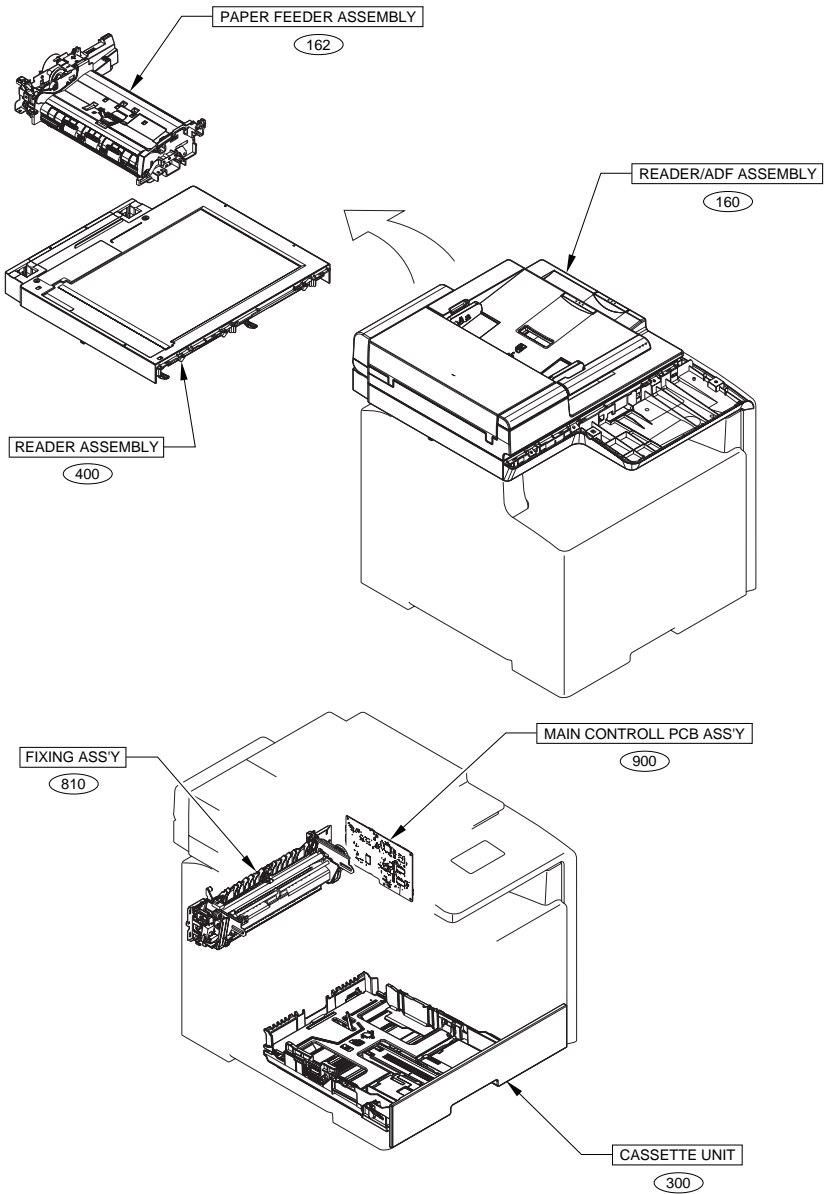
AU	F15-7981-000	EXD
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# FIGURE A1 ASSEMBLY LOCATION DIAGRAM

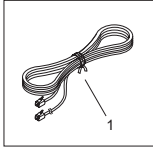


## FIGURE A2 OPTION PARTS CATALOG LIST

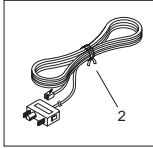
This is the table of the machine's options whose parts catalog is issued.

No.	Model Name(English)	Model Name(Japanese)
1	Cassette Feeding Module-V1	1段カセットユニット・V1

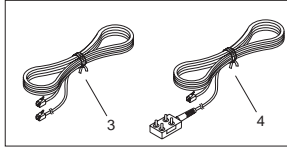
# FIGURE 001 ACCESSORIES



JP, EUR, TW, CN, ASIA, US, CA



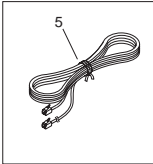
AU



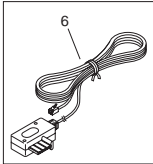
KR



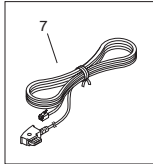
10



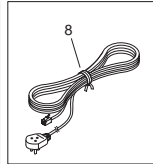
EUR



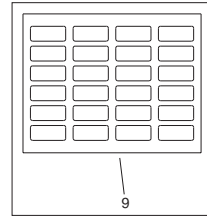
FR



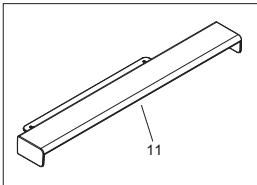
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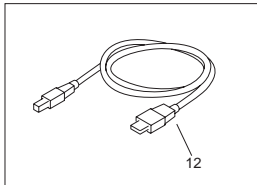
IT



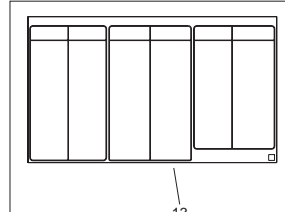
MF8350



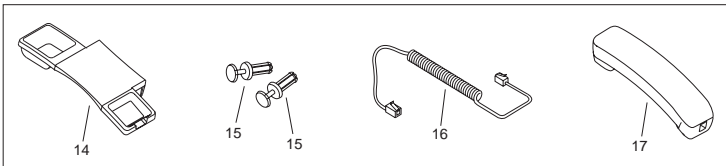
US, CA



EXCEPT EUR, US, CA



US, CA



TW, CN

FIGURE & KEY NO.	PARTS NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.001	NPN		RF	ACCESSORIES		
1	FK2-5275-000		1	CORD, MODULAR	MF8350 JP, EUR, TW, CN, ASIA, US, CA	
2	QK1-6455-000		1	CORD, MODULAR	MF8350 AU	
3	FK2-5281-000		1	CORD, MODULAR	MF8350 KR	
4	HK1-0175-000		1	CORD, MODULAR	MF8350 KR	
5	QK1-6441-000		1	CORD, MODULAR	MF8350 EUR	
6	QK1-6446-000		1	CORD, MODULAR	MF8350 FR	
7	QK1-6443-000		1	CORD, MODULAR	MF8350 DE	
8	QK1-6449-000		1	CORD, MODULAR	MF8350 IT	
9	FU7-8094-000		1	LABEL, DESTINATION	MF8350	
10	FK2-9839-000		1	CD-ROM, USER SOFTWARE	US, CA	
10	FK2-9842-000		1	CD-ROM, USER SOFTWARE	EUR	
10	FK2-9843-000		1	CD-ROM, USER SOFTWARE	EUR	
10	FK2-9841-000		1	CD-ROM, USER SOFTWARE	JP	
10	FK2-9840-000		1	CD-ROM, USER SOFTWARE	US, CA	
10	FK2-9844-000		1	CD-ROM, USER SOFTWARE	AU, ASIA	
10	FK2-9845-000		1	CD-ROM, USER SOFTWARE	TW, KR, CN	
11	FC9-4510-000		1	COVER, PAPER	US, CA	
12	FK2-5274-000		1	CABLE, USB	EXCEPT EUR, US, CA	
13	FU7-8093-000		1	LABEL, CONTROL PANEL	US, CA	
14	HB1-4978-000		1	HOLDER, HANDSET CRADLE	TW, CN	
15	HC1-2034-000		2	RIVET	TW, CN	
16	FK2-8643-000		1	CORD, CURL	TW, CN	
17	FK2-8641-000		1	HANDSET	TW	
17	FK2-9877-000		1	HANDSET	CN	

# FIGURE 100 EXTERNAL COVERS, PANELS, ETC.

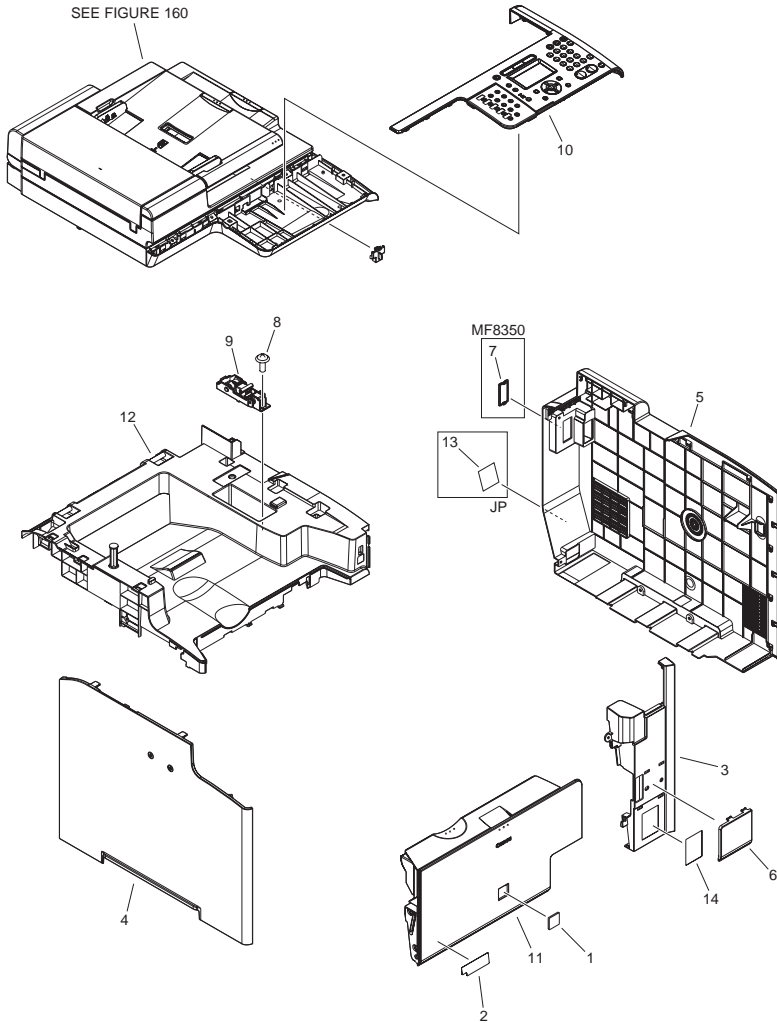


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.100	NPN		RF	EXTERNAL COVERS, PANELS, ETC.		
1						
1	RC2-0062-000		1	EMBLEM	EXCEPT JP	
2						
2	FC8-8742-000		1	LABEL, PAPER SIZE	EXCEPT JP	
3	FC9-4541-000		1	COVER, RIGHT FRONT		
4	FC9-4545-000		1	COVER, LEFT		
5	FC9-4551-000		1	COVER, RIGHT		
6	FC9-4579-000		1	COVER, SUB, FRONT		
7						
8	XA9-1671-000		AR	SCREW, D, M3X8		
9	FM4-1493-000		1	HINGE ASSMBLY		
10						
10						
10						
10						
10						
10						
10	FM4-1525-000		1	CONTROL PANEL ASSEMBLY	MF8350 US,CA	
10						
11	FM4-4285-000		1	FRONT DOOR ASS'Y		
12	FM4-4287-000		1	COVER, TOP		
13	FU7-8091-000		1	LABEL,GROUNDING CAUTION		
14	FU7-8109-000		1	LABEL, JAM		

# FIGURE 101 INTERNAL COMPONENTS 1

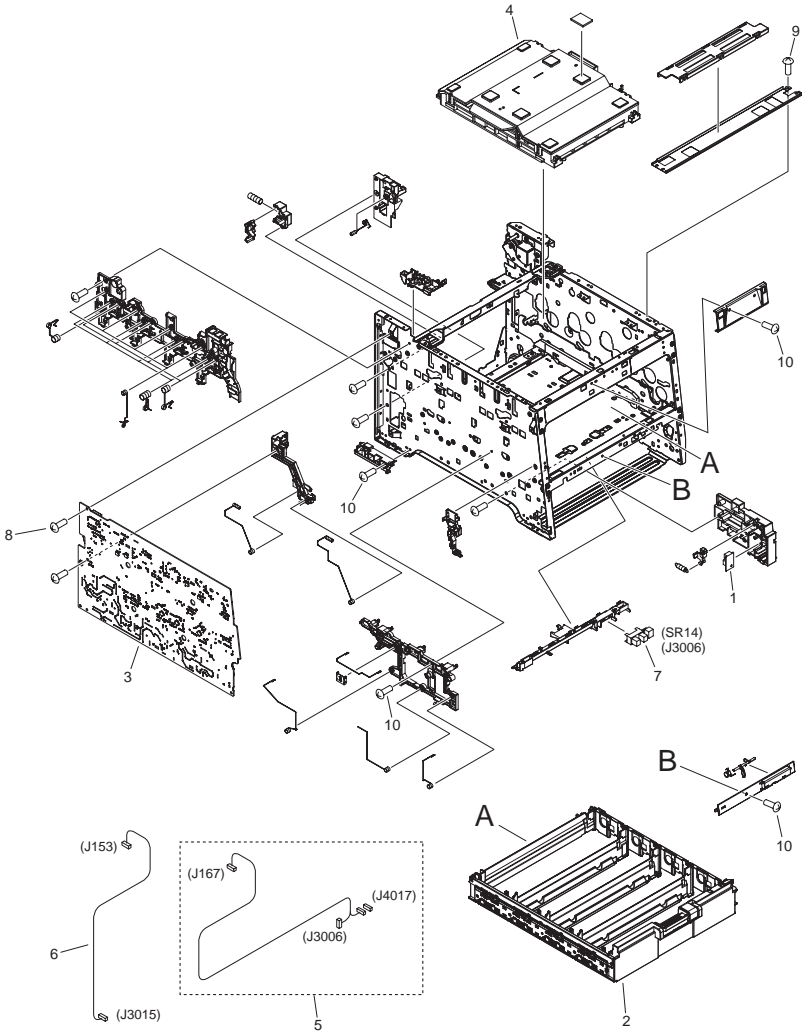




FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.101	NPN		RF	INTERNAL COMPONENTS 1		
1	RK2-3267-000		1	TEMPERATURE SENSOR UNIT		
2	RM1-4836-000		1	CARTRIDGE TRAY ASS'Y		
3	RM1-5294-000		1	H. V. POWER SUPPLY PCB ASS'Y		
4	FM4-3359-000		1	LASER SCANNER ASS'Y		
5	RM1-5398-000		1	SENSOR CABLE ASS'Y		
6	RM1-5399-000		1	ENV. SENSOR CABLE ASS'Y		
7	WG8-5696-000		1	PHOTO INTERRUPTER, TLP1243	SR14	
8	XA9-1420-000		8	SCREW, W/WASHER, M3X8		
9	XA9-1835-000		AR	SCREW, D, M3X6		
10	XA9-1671-000		AR	SCREW, D, M3X8		

# FIGURE 102 INTERNAL COMPONENTS 2

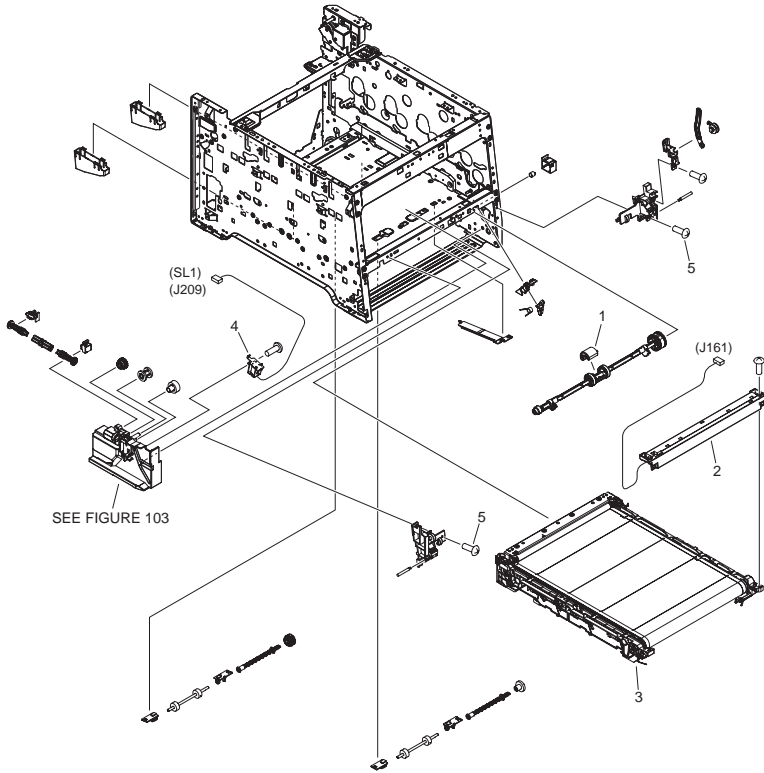


FIGURE & KEY NO.	PARTS NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.102	NPN		RF	INTERNAL COMPONENTS 2		
1	RL1-1802-000		1	ROLLER, PAPER PICK-UP		
2	RM1-4850-000		1	COLOR MISREGIST. SENSOR ASS'Y		
3	RM1-4852-000		1	INTERMEDIATE TRANS. BELT ASS'Y		
4	RM1-5420-000		1	MP SOLENOID ASS'Y	SL1	
5	XA9-1671-000		AR	SCREW, D, M3X8		

# FIGURE 103 INTERNAL COMPONENTS 3

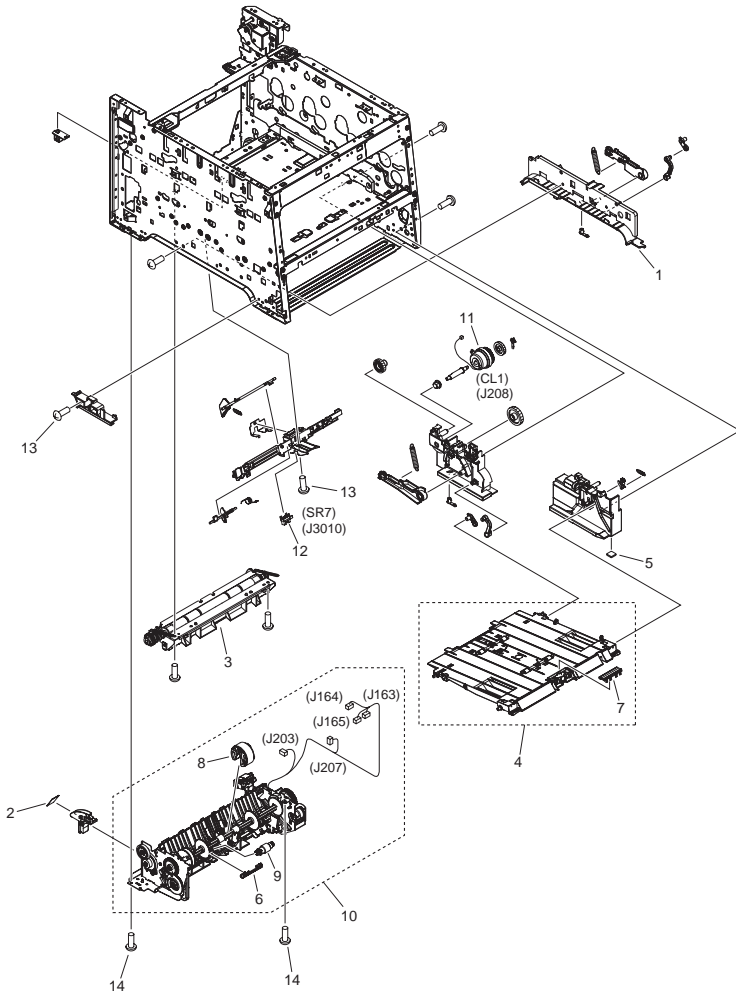


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.103	NPN		RF	INTERNAL COMPONENTS 3		
1	FC8-8715-000		1	HANDLE, LEFT		
2	FC8-8748-000		1	LABEL, MOTOR CAUTION		
3	FM3-8294-000		1	REGISTRATION ASS'Y		
4	FM3-8301-000		1	MP PAPER PICK-UP ASS'Y		
5	RB2-6297-000		1	FOOT, RUBBER		
6	RC2-2014-000		1	COVER, HOLDER		
7	RL1-1785-000		1	PAD, SEPARATION		
8	RM1-4426-000		1	PICK-UP ROLLER ASS'Y		
9	RM1-4840-000		1	SEPARATION ROLLER ASS'Y		
10	RM1-4853-000		1	PAPER PICK-UP ASS'Y		
11	RM1-5428-000		1	MP CLUTCH ASS'Y	CL1	
12	WG8-5696-000		1	PHOTO INTERRUPTER, TLP1243	SR7	
13	XA9-1671-000		AR	SCREW, D, M3X8		
14	XA9-1835-000		6	SCREW, D, M3X6		



FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.104	NPN		RF	INTERNAL COMPONENTS 4		
1	FK2-9747-000		1	FAN	FM3	
2	FM4-3776-000		1	DC CONTROLLER PCB ASS'Y		
3						
3	FM4-3779-000		1	POWER SUPPLY ASS'Y	120V	
3						
4	RK2-2302-000		1	CABLE, FLAT		
5	RL1-1800-000		2	MOTOR, DC	M1,M2	
6	RM1-4837-000		1	MAIN DRIVE ASS'Y		
7	RM1-5288-000		1	DRIVER PCB ASS'Y		
8	RM1-5293-000		1	RELAY PCB ASS'Y		
9	RM1-5385-000		1	SENSOR CABLE ASS'Y		
10	RM1-5393-000		1	DRAM MOTOR CABLE ASS'Y		
11	RM1-5394-000		1	DEVELOPING MOTOR CABLE ASS'Y		
12	RM1-5395-000		1	FEED MOTOR CABLE ASS'Y		
13	RM1-5400-000		1	SENSOR CABLE ASS'Y		
14	RM1-5434-000		1	OPTION CABLE ASS'Y		
15	RM1-5435-000		1	RLD CABLE ASS'Y		
16	RM1-5438-000		1	FIXING MOTOR CABLE ASS'Y		
17	FM4-3800-000		1	CORD, POWER SUPPLY	230V	
18	WG8-5696-000		1	PHOTO INTERRUPTER, TLP1243	SR2	
19	XA9-0679-000		4	SCREW, MACH., FLAT HEAD, M3X4		
20	XA9-1418-000		AR	SCREW, TP, M3X6		
21	RC2-3719-000		1	BUTTON, TEST PRINT SWITCH		
22	XA9-1420-000		4	SCREW, WWASHER, M3X8		
23	XA9-1835-000		2	SCREW, D, M3X6		
24	XA9-1671-000		AR	SCREW, D, M3X8		
25						
25						
25						
25						
25						

FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
25	FK2-9583-000		1	CORD, POWER	120V US,CA	



# FIGURE 105 INTERNAL COMPONENTS 5

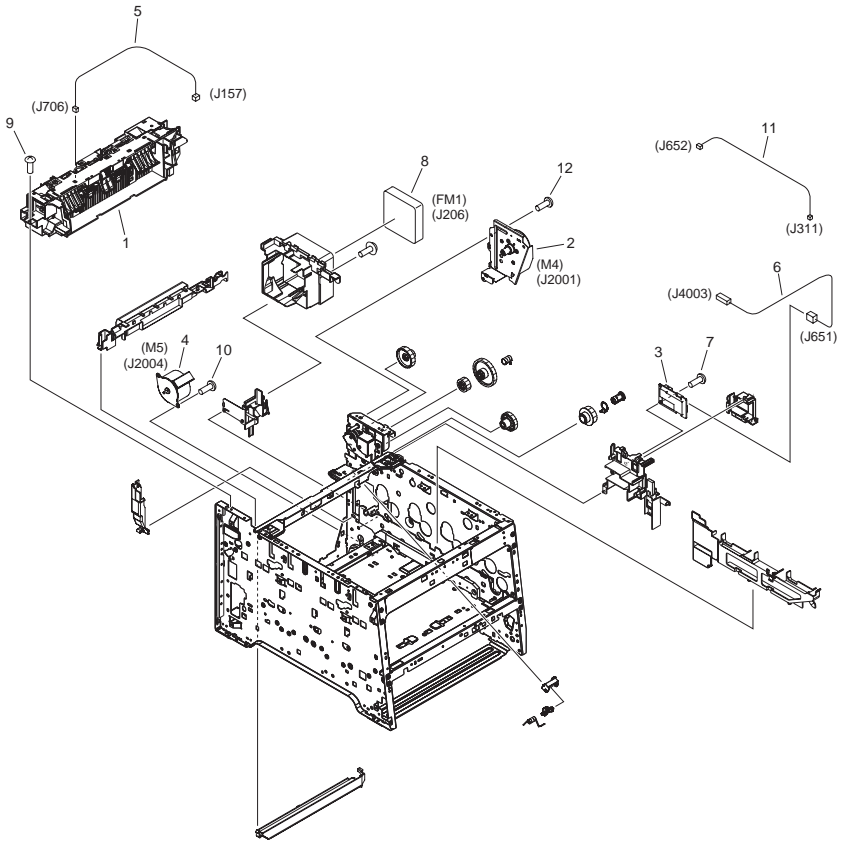


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.105	NPN		RF	INTERNAL COMPONENTS 5		
1	FM4-4286-000		1	PAPER DELIVERY ASS'Y		
2	RM1-4896-000		1	FIXING MOTOR UNIT	M4	
3	RM1-5303-000		1	POWER SUPPLY SUB PCB ASS'Y		
4	RM1-5419-000		1	REGISTRATION MOTOR ASS'Y	M5	
5	RM1-5433-000		1	THERMISTOR CABLE ASS'Y		
6	RM1-5437-000		1	FIXING AC CABLE ASS'Y		
7	XA9-1422-000		1	SCREW, WWASHER, M4X12		
8	RK2-2276-000		1	FAN	FM1	
9	XA9-1418-000		AR	SCREW, TP, M3X6		
10	XA9-1835-000		AR	SCREW, D, M3X6		
11	FM4-3802-000		1	CABLE, FIXING SUB		
12	XA9-1671-000		AR	SCREW, D, M3X8		

# FIGURE 106 INTERNAL COMPONENTS 6

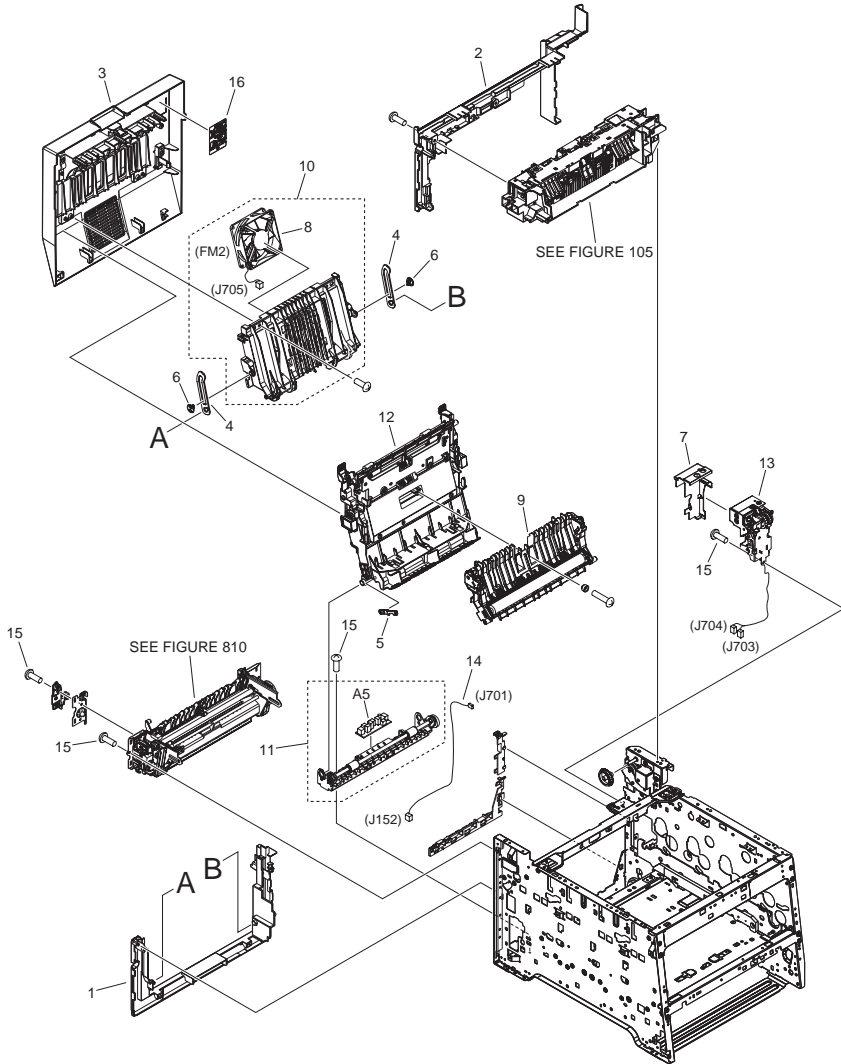


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.106	NPN		RF	INTERNAL COMPONENTS 6		
1	FC9-4546-000		1	COVER, REAR LOWER		
2	FC9-4547-000		1	COVER, REAR UPPER		
3	FM4-4284-000		1	REAR DOOR ASS'Y		
4	RC2-3750-000		2	LINK, DOOR		
5	RC2-3752-000		1	LINK, GUIDE		
6	RC2-3774-000		2	CAP, LINK		
7	FC8-8730-000		1	COVER, REVERSE		
8	RK2-2276-000		1	FAN	FM2	
9	RM1-4838-000		1	PAPER FEED GUIDE ASS'Y		
10	RM1-4876-000		1	REAR DOOR RIB ASS'Y		
11	RM1-4877-000		1	PAPER RE-PICK UP GUIDE ASS'Y		
12	RM1-4879-000		1	DUPLEXING FEED GUIDE ASS'Y		
13	RM1-4880-000		1	REVERSE DRIVE ASS'Y		
14	RM1-5397-000		1	DUPLEX CABLE ASS'Y		
15	XA9-1671-000		AR	SCREW, D, M3X8		
16	FU7-8108-000		1	LABEL, DUPLEX JAM		

# FIGURE 107 INTERNAL COMPONENTS 7

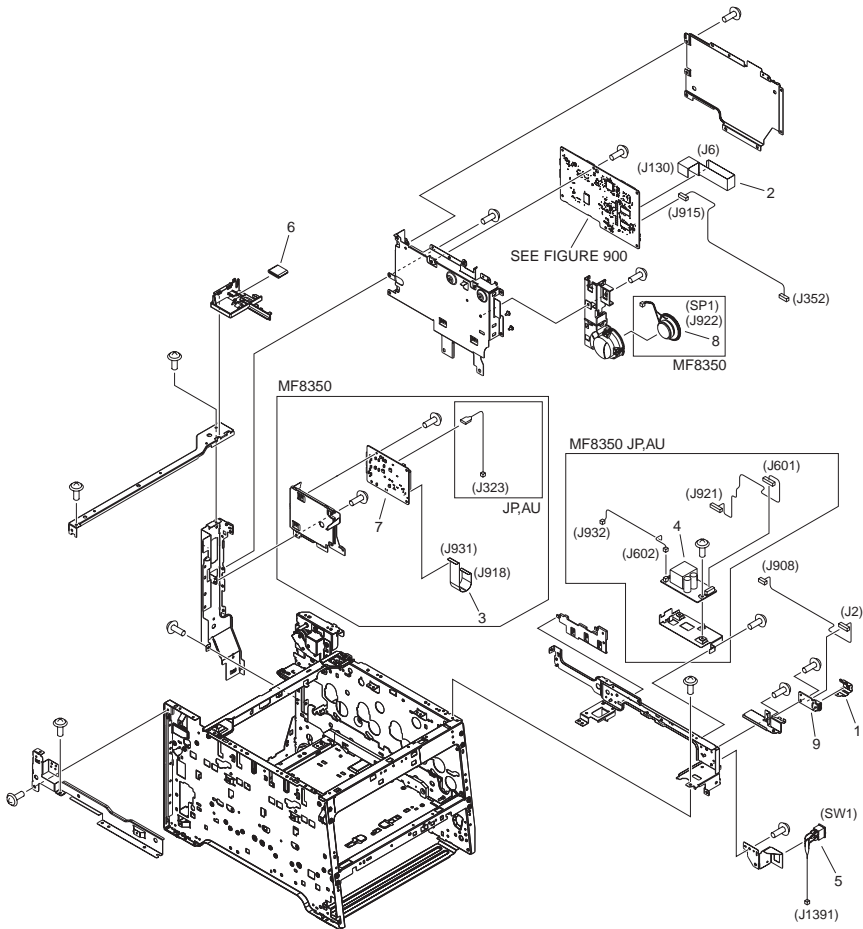


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS	S V C
Fig.107	NPN		RF	INTERNAL COMPONENTS 7		
1	FC9-4507-000		1	PLATE, USB GROUNDING		
2	FK2-9738-000		1	CABLE, FLAT		
3	FK2-9836-000		1	CABLE, FLAT	MF8350	
4						
5	FM4-3796-000		1	CABLE, MAIN SWITCH	SW1	
6	FK2-8767-000		1	CORE, FERRITE		
7						
7						
7	FM4-3971-000		1	NCU BOARD PCB ASSEMBLY	MF8350 TW,US,CN	
7						
8	FM4-3985-000		1	SPEAKER ASSEMBLY	MF8350 SP1	
9	FM4-3989-000		1	USB PCB ASSEMBLY		

# FIGURE 160 READER/ADF ASSEMBLY

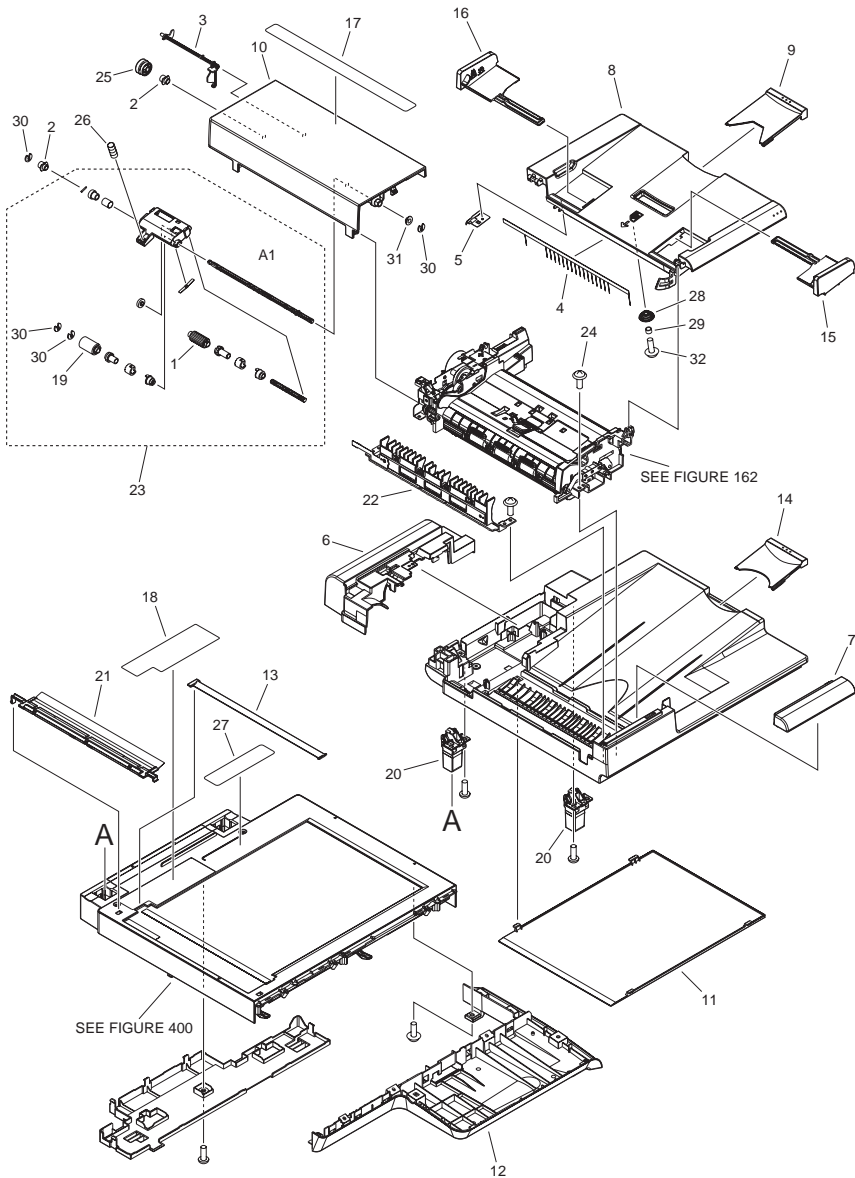


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.160	NPN		RF	READER/ADF ASSEMBLY		
1	FC7-6189-000		1	ROLLER, PICK-UP		
2	FC7-6320-000		2	BUSHING		
3	FC7-6321-000		1	FLAG, DOCUMENT SCANNER		
4	FC7-6322-000		1	ELIMINATOR, STATIC CHARGE		
5	FC9-1503-000		1	PLATE, GROUNDING		
6	FC9-1532-000		1	COVER, REAR		
7	FC9-1533-000		1	COVER, FRONT UPPER		
8	FC9-1534-000		1	TRAY, DOCUMENT		
9	FC9-1535-000		1	TRAY, SUB DOCUMENT		
10	FC9-1536-000		1	PANEL, OPEN/CLOSE		
11	FC9-1539-000		1	SHEET, WHITE		
12	FC9-4502-000		1	COVER, BASE		
13						
13						
13						
13	FC9-1486-000		1	PLATE, PAPER SIZE	INCH/A	
14	FC9-5655-000		1	TRAY, SUB		
15	FC9-5656-000		1	GUIDE, DOCUMENT, FRONT		
16	FC9-5657-000		1	GUIDE, DOCUMENT, REAR		
17						
17						
17						
17	FC9-7562-000		1	LABEL, SIZE INDEX	INCH/A	
18						
18						
18						
18	FC9-7566-000		1	LABEL, GLASS CLEANING	US,CA	
19	FL2-6637-000		1	ROLLER, SEPARATION		
20	FL3-2453-000		2	HINGE, ADF		
21	FL3-3539-000		1	HOLDER, DOCUMENT,RELEASE SHEET		
22	FM4-1883-000		1	PAPER FEED GUIDE ASSEMBLY		



FIGURE & KEY NO.	PARTS NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
23	FM3-9538-000		1	SEPARATION ROLLER ASSEMBLY		
24	XA9-0831-000		7	SCREW,TP M3X8		
25	FU7-0672-000		1	GEAR, 24T		
26	FU7-2018-000		1	SPRING, COMPRESSION		
27						
27						
27						
27	FU7-8406-000		1	LABEL, COPY PROHIBITION	AU,ASIA,US,CA	
27						
27						
27						
27	FU7-8411-000		1	LABEL, COPY PROHIBITION	ASIA,US,CA	
28	FU8-0895-000		1	GEAR, 18T		
29	FU8-2007-000		1	SPRING, COMPRESSION		
30	HC1-0586-000		4	RETAINING RING		
31	HU1-1022-000		1	BUSHING		
32	XA9-0476-000		1	SCREW,TP M3X8		

# FIGURE 162 PAPER FEEDER ASSEMBLY

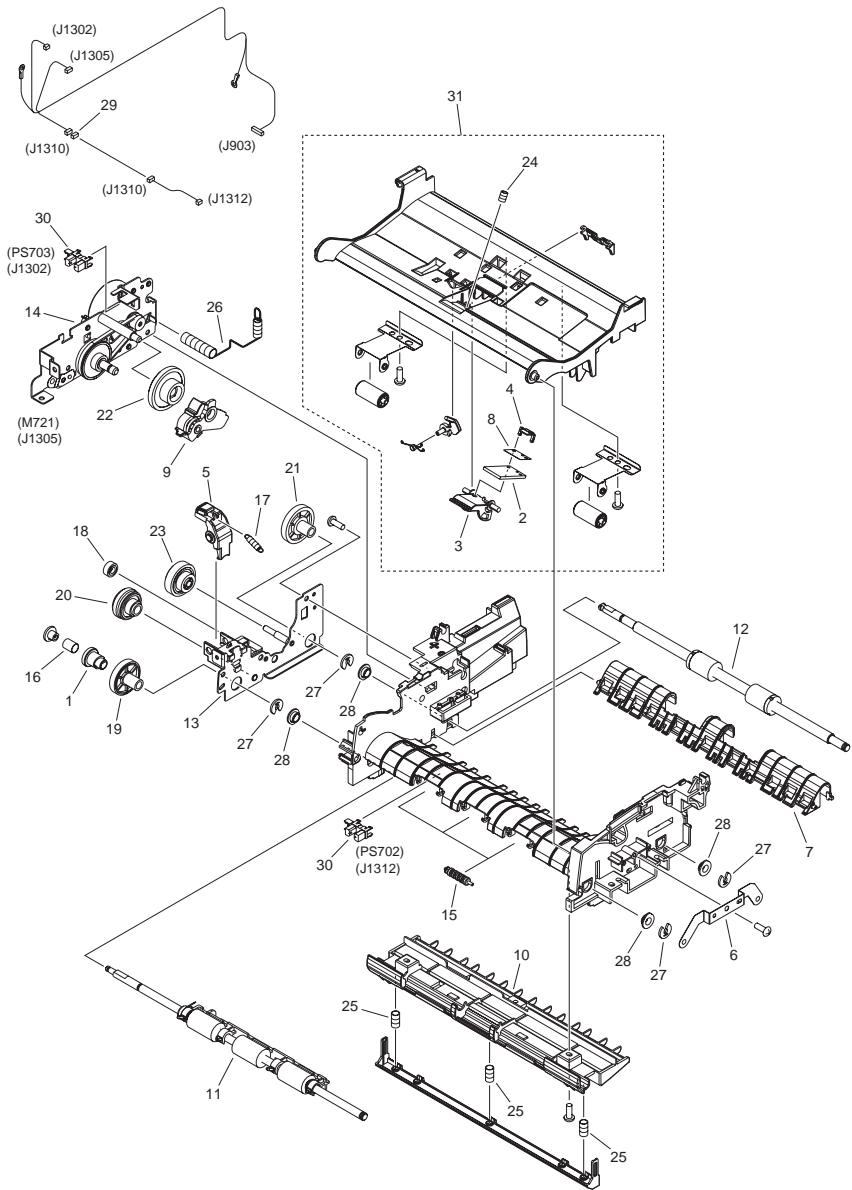


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.162	FM4-1879-000		1	PAPER FEEDER ASSEMBLY		
1	FC7-6052-000		1	RATCHET, PAPER FEED ROLLER		
2	FC7-6297-000		1	PAD, SEPARATION		
3	FC7-6299-000		1	HOLDER, SEPARATION PAD		
4	FC7-6300-000		1	CLAMP, SEPARATION PAD		
5	FC9-1512-000		1	LEVER, RELEASE		
6	FC9-1523-000		1	PLATE, ROLLER GROUNDING		
7	FC9-1526-000		1	GUIDE, PAPER DELIVERY		
8	FC9-5654-000		1	SHEET, SEPARATION PAD		
9	FL3-1431-000		1	ARM, SEPARATION SWING		
10	FL3-1437-000		1	GUIDE, LOWER ASSEMBLY		
11	FM4-1885-000		1	PAPER FEED ROLLER ASSEMBLY		
12	FL3-2458-000		1	PAPER DELIVERY ROLLER ASSY		
13	FM4-1880-000		1	DRIVE PLATE ASSEMBLY		
14	FM4-1881-000		1	MOTOR ASSEMBLY	M721	
15	FU5-6992-000		3	ROLLER, AUXILIARY		
16	FU6-2998-000		1	SPRING, COMPRESSION		
17	FU6-2999-000		1	SPRING, TENSION		
18	FU7-0667-000		1	GEAR, 20T		
19	FU7-0668-000		1	GEAR, 54T		
20	FU7-0669-000		1	GEAR, 46T/23T		
21	FU7-0671-000		1	GEAR, 36T		
22	FU7-0676-000		1	GEAR, 21T/42T		
23	FU7-0678-000		1	GEAR, 51T/17T		
24	FU7-2016-000		1	SPRING, COMPRESSION		
25	FU8-2008-000		3	SPRING, COMPRESSION		
26	FU8-2010-000		1	SPRING, COMPRESSION		
27	HC1-0586-000		4	RETAINING RING		
28	HU1-1022-000		4	BUSHING		
29	VS1-7207-004		1	CONNECTOR, SNAP TIGHT, BK		
30	WG8-5696-000		2	PHOTO INTERRUPTER, TLP1243	M702,M703	
31	FM4-1882-000		1	GUIDE ASSEMBLY, UPPER		

# FIGURE 300 CASSETTE ASSEMBLY

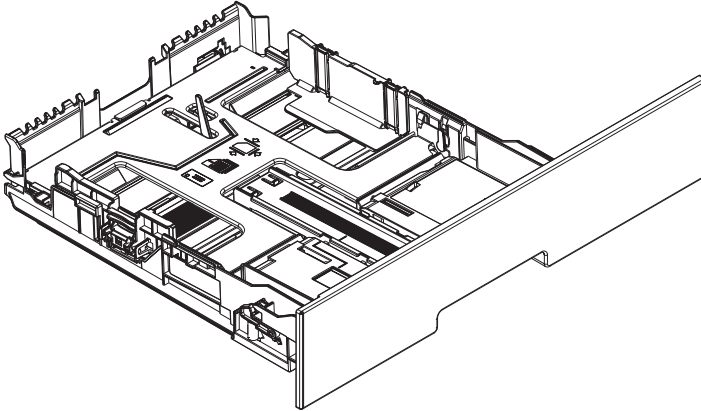


FIGURE & KEY NO.	PARTS NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.300	FM4-4279-000		1	CASSETTE		

# FIGURE 400 READER ASSEMBLY

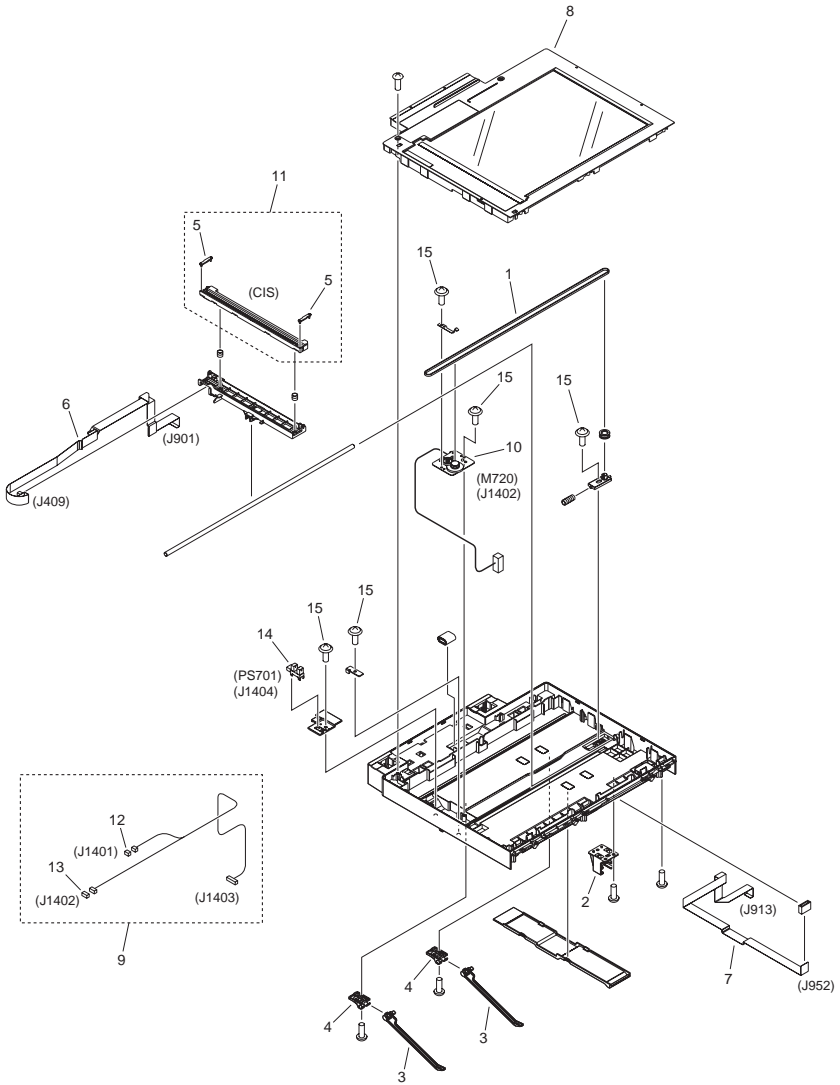


FIGURE & KEY NO.	PARTS NUMBER	R A N K	Q'TY	DESCRIPTION	SERIAL NUMBER/ REMARKS	S V C
Fig.400	FM4-4306-000		1	READER, ASSEMBLY		
1	FC9-1650-000		1	BELT, TIMING		
2	FC9-2101-000		1	MOUNT, SUPPORTER		
3	FC9-4589-000		2	LEVER, FACE-DOWN		
4	FC9-4590-000		2	HOLDER, FACE-DOWN LEVER		
5	FC9-7573-000		2	SPACER, CIS	rankA	
5	FC9-7571-000		2	SPACER, CIS	rankB	
5	FC9-7574-000		2	SPACER, CIS	rankC	
6	FK2-9581-000		1	CABLE, FLAT		
7	FK2-9861-000		1	CABLE, FLAT		
8	FM4-4308-000		1	READER COVER UNIT		
9	FM4-3653-000		1	CABLE, READER		
10	FM4-4301-000		1	DC MOTOR ASSEMBLY	M720	
11	FM4-4307-000		1	CONTACT IMAGE SENSOR ASS'Y	CIS	
12	VS1-7177-003		1	CONNECTOR, SNAP TIGHT, BK		
13	VS1-7177-004		1	CONNECTOR, SNAP TIGHT, BK		
14	WG8-5696-000		1	PHOTO INTERRUPTER, TLP1243	PS701	
15	XA9-0476-000		11	SCREW,TP M3X8		

FIGURE 810  
FIXING ASS'Y

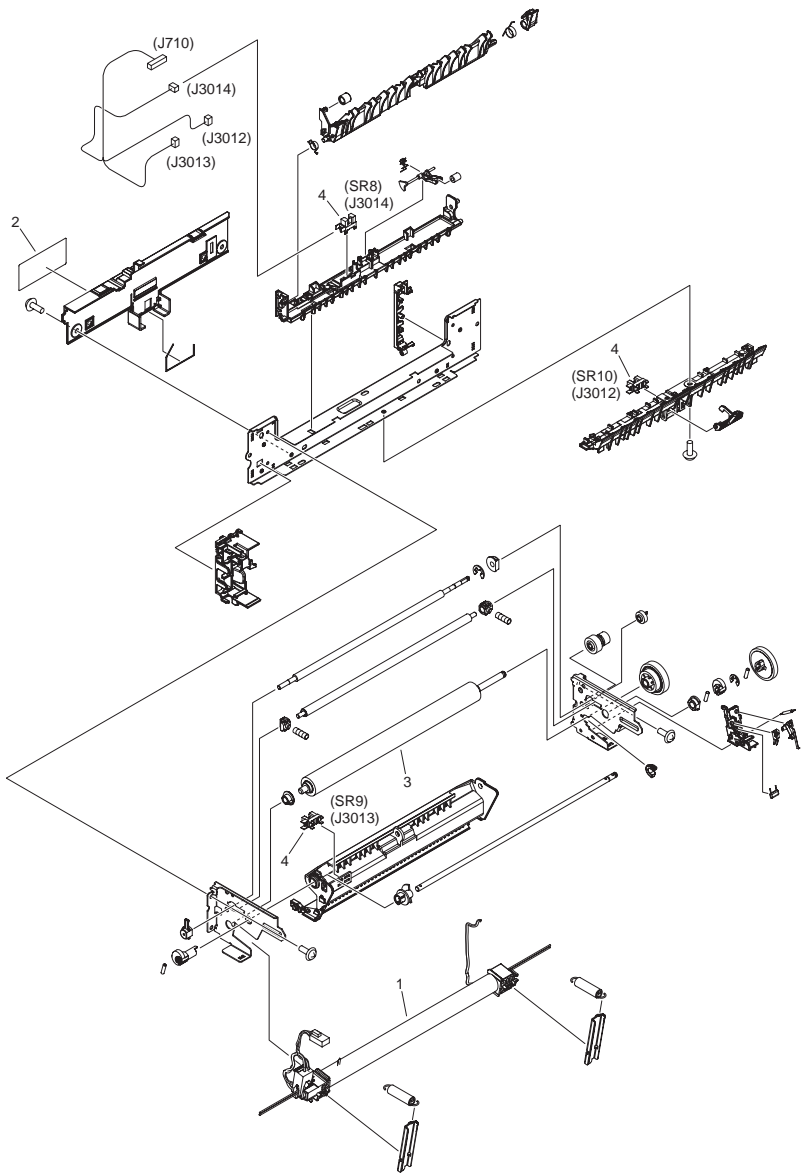


FIGURE & KEY NO.	PARTS NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.810						
Fig.810						
Fig.810	FM4-4290-000		1	FIXING ASS'Y	120V	
1						
1						
1	RM1-4845-000		1	FIXING FILM ASSEMBLY	120V	
2	FU7-8111-000		1	LABEL, CAUTION		
3	RC2-3367-000		1	ROLLER, PRESSURE		
4	WG8-5696-000		3	PHOTO INTERRUPTER, TLP1243	SR8,SR9,SR10	



# FIGURE 900 MAIN CONTORLLER PCB ASS'Y

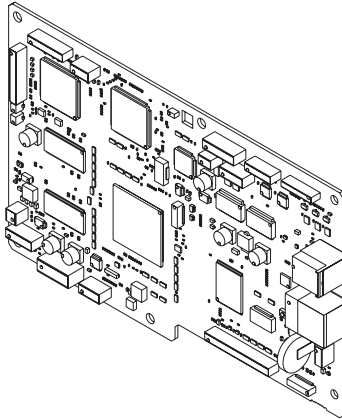


FIGURE & KEY NO.	PARTS NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.900	FM4-3961-000		1	MAIN CONTROLLER PCB ASSEMBLY	M F 8350	
Fig.900 IC	FK2-8321-000		1	IC, MB87S1801		

# Cassette Feeding Module-V1

## PARTS CATALOG



# Canon

JULY 31, 2009  
REV. 0

# Contents

## NUMERICAL INDEX

Cassette Feeding Module-V1(Numerical Index)..... 1-1

## Cassette Feeding Module-V1(Parts Catalog)

F10	EXTERNAL COVERS, PANELS, ETC. ....	2-1
F11	INTERNAL COMPONENTS .....	2-3
F30	CASSETTE ASSEMBLY .....	2-5

# NUMERICAL INDEX

## Cassette Feeding Module-V1(Numerical Index)

PARTS NUMBER	FIGURE & KEY NO.	PARTS NUMBER	FIGURE & KEY NO.	PARTS NUMBER	FIGURE & KEY NO
FC9-4573-000	F10 - 1				
FC9-4574-000	F10 - 2				
FC9-4575-000	F10 - 3				
FC9-4576-000	F10 - 4				
FC9-4577-000	F10 - 5				
FM4-4279-000	F30 -				
NPN	F10 -				
NPN	F11 -				
RC2-2014-000	F11 - 1				
RM1-4426-000	F11 - 2				
RM1-4840-000	F11 - 3				
RM1-4902-000	F11 - 4				
RM1-6637-000	F11 - 5				
WG8-5696-000	F11 - 6				
XA9-1671-000	F10 - 6				
XA9-1671-000	F11 - 7				

# Cassette Feeding Module-V1(Parts Catalog)

Cassette Feeding Module-V1

F27-7601-000 FDA

# Contents

F10	EXTERNAL COVERS, PANELS, ETC. ....	2-1
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# FIGURE F10 EXTERNAL COVERS, PANELS, ETC.

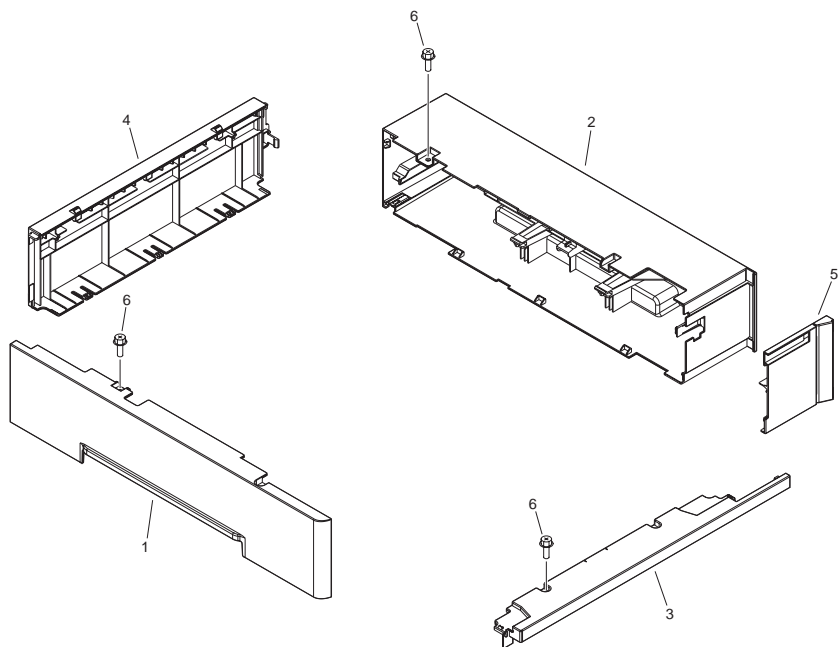


FIGURE & KEY NO.	PARTS NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.F10	NPN		RF	EXTERNAL PANELS, COVERS, ETC.		
1	FC9-4573-000		1	COVER, LEFT, 1		
2	FC9-4574-000		1	COVER, RIGHT, 1		
3	FC9-4575-000		1	COVER, FRONT		
4	FC9-4576-000		1	COVER, REAR		
5	FC9-4577-000		1	COVER, RIGHT FRONT		
6	XA9-1671-000		AR	SCREW, D, M3X8		



# FIGURE F11 INTERNAL COMPONENTS

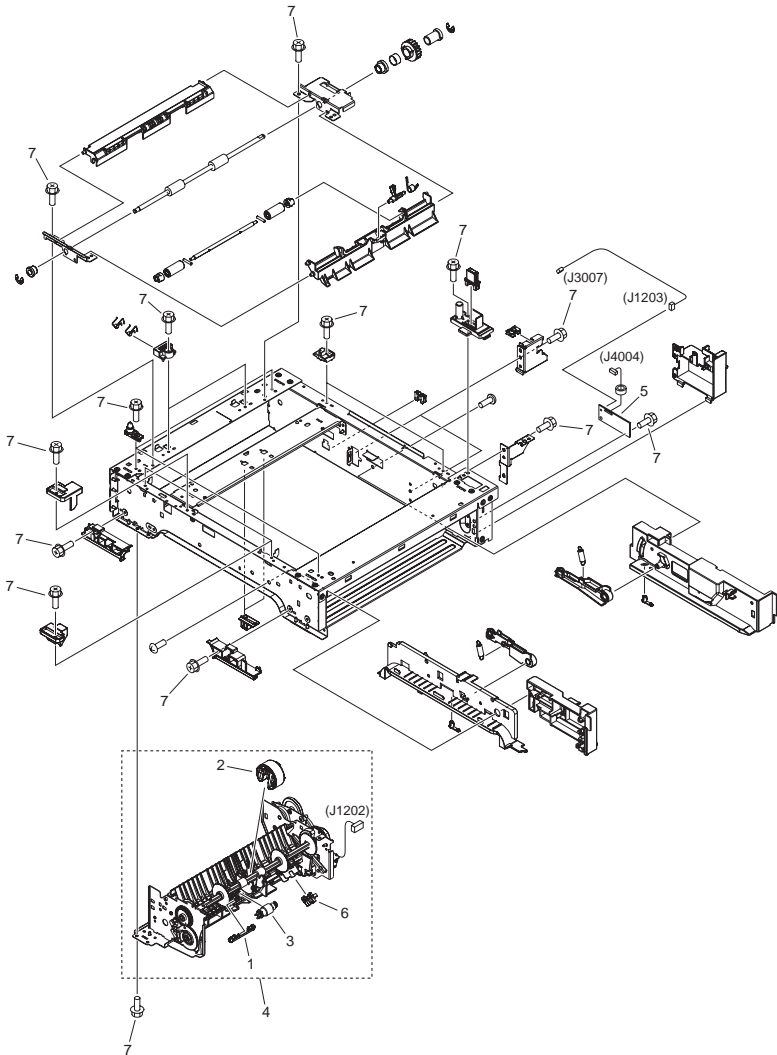


FIGURE & KEY NO.	PARTS NUMBER	RANK	Q'TY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.F11	NPN		RF	INTERNAL COMPONENTS		
1	RC2-2014-000		1	COVER, HOLDER		
2	RM1-4426-000		1	PICK-UP ROLLER ASS'Y		
3	RM1-4840-000		1	SEPARATION ROLLER ASS'Y		
4	RM1-4902-000		1	PAPER PICK-UP ASS'Y		
5	RM1-6637-000		1	PAPER FEEDER PCB ASS'Y		
6	WG8-5696-000		1	PHOTO INTERRUPTER, TLP1243		
7	XA9-1671-000		AR	SCREW, D, M3X8		

# FIGURE F30 CASSETTE ASSEMBLY

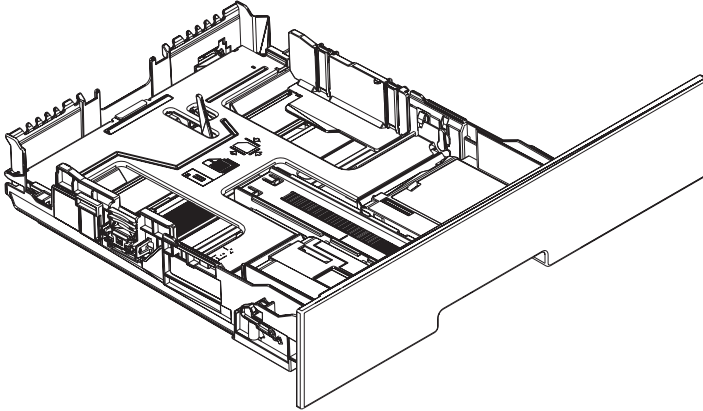


FIGURE & KEY NO.	PARTS NUMBER	RANK	QTY	DESCRIPTION	SERIAL NUMBER/REMARKS	SVC
Fig.F30	FM4-4279-000		1	CASSETTE		

# FIGURE ZZA

## MECHANICAL STANDARD PARTS (HOW TO USE)

### Mechanical standard parts

#### 機械標準部品

#### About a mechanical standard parts

A Mechanical standard parts is a mechanical part which not parts peculiar to a product. They are parts which are common to a Canon product and are used, such as a screw and a washer. The Fig No. and parts number of the mechanical standard parts are not listed in the product parts catalog. Refer to the parts catalog of mechanical standard parts when checking the parts number for screw or washer etc. and identify them by part shape or size.

#### 機械標準部品とは

機械標準部品とは、製品特有の部品ではなく、ねじやワッシャなどキヤノン製品共通で使用されている機械部品（メカ部品）のことです。  
製品のパーツカタログには、機械標準部品のFig No.や部品番号は記載していません。  
ねじや、ワッシャ等の部品番号を調べるときは、機械標準部品のパーツカタログを参照し、部品の形状や大きさから判断し、使用している部品を調べてください。

#### Material and surface treatment of a mechanical standard parts

Material and surface treatment of mechanical standard parts are assigned commonly for each part. Refer to the Table 1 for the parts which material and surface treatment are assigned as numbers.

#### 機械標準部品の材料および表面処理

機械標準部品の材料および表面処理については、各種部品共通で決められています。  
材料および表面処理が番号で決められている部品については、表1を参照してください。

Table 1 Material and Surface treatment  
表1 材料および表面処理

No. 番号	Material 材料	Surface treatment 表面処理	Color 色
1	Stainless steel ステンレス	Stainless steel black coloring (BC4) ステンレス黒着色(BC4)	Black 黒
2		not to be given なし	White 白
3	Brass 黄銅	Regular nickel plating (NL) 普通ニッケルメッキ(NL)	White 白
4		Black nickel plating (BN) 黒色ニッケルメッキ(BN)	Black 黒
5	Steel 鋼	White zinc trivalent chromate treating (ZC3) 白色亜鉛3価クロメート(ZC3)	White 白
6		Regular nickel chromium plating (NC) 普通ニッケルクロムメッキ(NC)	White 白
7		Regular nickel plating (NL) 普通ニッケルメッキ(NL)	White 白
8		Iron and steel phosphating (P1) 鉄鋼磷酸塩処理(P1)	Black 黒
9		Black zinc trivalent chromate treating (BZ3) 黒色亜鉛3価クロメート(BZ3)	Black 黒

# FIGURE ZZB MECHANICAL STANDARD PARTS (SCREWS)

## 1. Screws ねじ

How to read Parts Numbers  
部品番号の見方

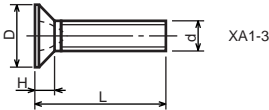
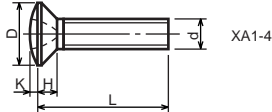
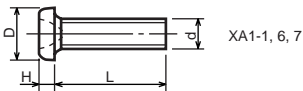
Screws  
ねじ

**XB1-2400-609**

Type No.  
類別番号  
Normal designation (d)  
ねじの呼び(d)  
Length (L)  
ねじの長さ(L)  
Material and Surface treatment  
材料および表面処理

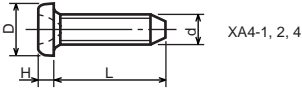
XB1-2 expresses Binding head machine screw.  
XB1-2は、バインドねじを表す  
40 expresses M4.0.  
40は、M4.0を表す  
0-60 expresses a length of 6.0mm.  
0-60は、6.0mmの長さを表す  
9 expresses Steel (Black zinc trivalent chromate  
treating) from Table 1.  
9は、表1より鋼(黒色亜鉛3価クロメート)を表す

### 1-1. Cross Recessed Head Screws for Precision Equipments 精密機器用十字穴付き小ねじ

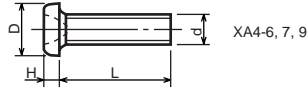


Type No. 類別番号	Type 類別	Head size (mm) 頭部寸法 (mm)							
		M1.4	M1.6	M1.7	M2	M2.5	M2.6		
XA1-1	Pan head Class 1 なべ1種	D	XA1-1	2	2.4	2.5	3	3.8	4
		H	XA1-1	0.5	0.55	0.5	0.6	0.9	0.8
XA1-3	Countersunk head Class 1 さら1種	D	XA1-3	2	2.4	2.5	3	3.8	4
		H	XA1-3	0.48	0.55	0.58	0.73	0.85	0.93
XA1-4	Oval countersunk head Class 1 丸さら1種	D	XA1-4	2	2.4	2.5	3	3.8	4
		H + K	XA1-4	0.68	0.8	0.88	1	1.25	1.3
XA1-6	Pan head Class 3 なべ3種	D	XA1-6	2.5	2.8	3	3.5	4.3	4.5
		H	XA1-6	0.8	0.85	0.9	1	1.3	1.2
XA1-7	Pan head Class 2 なべ2種	D	XA1-7	2.5	2.8	3	3.5	4.3	4.5
		H	XA1-7	0.5	0.55	0.5	0.6	0.9	0.8

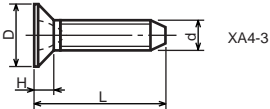
1-2. Precision Tapping Screws  
精密用タッピンねじ



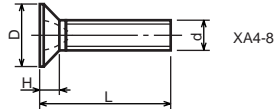
XA4-1, 2, 4



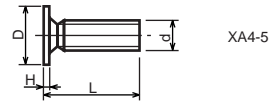
XA4-6, 7, 9



XA4-3



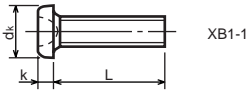
XA4-8



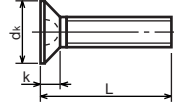
XA4-5

Type No. 類別番号	Type 類別	Head size (mm) 頭部寸法 (mm)						
		M1.4	M1.6	M1.7	M2	M2.5	M2.6	
XA4-1	With tapered end pan head Class 1 絞りなべ1種	D XA4-1	2	2.4	2.5	3	3.8	4
		H XA4-1	0.5	0.55	0.5	0.6	0.9	0.8
XA4-2	With tapered end pan head Class 3 絞りなべ3種	D XA4-2	2.5	2.8	3	3.5	4.3	4.5
		H XA4-2	0.8	0.85	0.9	1	1.3	1.2
XA4-3	With tapered end countersunk head 絞り-さら	D XA4-3	2	2.4	2.5	3	3.8	4
		H XA4-3	0.48	0.55	0.58	0.73	0.85	0.93
XA4-4	With tapered end pan head Class 2 絞りなべ2種	D XA4-4	2.5	2.8	3	3.5	4.3	4.5
		H XA4-4	0.5	0.55	0.5	0.6	0.9	0.8
XA4-5	With parallel end ultra thin head ストレート-超薄頭	D XA4-5	2.5	2.8	3	-	-	-
		H XA4-5	0.2	0.2	0.2	-	-	-
XA4-6	With parallel end pan head Class 1 ストレートなべ1種	D XA4-6	2	2.4	2.5	3	3.8	4
		H XA4-6	0.5	0.55	0.5	0.6	0.9	0.8
XA4-7	With parallel end pan head Class 3 ストレートなべ3種	D XA4-7	2.5	2.8	3	3.5	4.3	4.5
		H XA4-7	0.8	0.85	0.9	1	1.3	1.2
XA4-8	With parallel end countersunk head ストレート-さら	D XA4-8	2	2.4	2.5	3	3.8	4
		H XA4-8	0.48	0.55	0.58	0.73	0.85	0.93
XA4-9	With parallel end pan head Class 2 ストレートなべ2種	D XA4-9	2.5	2.8	3	3.5	4.3	4.5
		H XA4-9	0.5	0.55	0.5	0.6	0.9	0.8

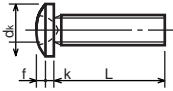
**1-3. Cross Recessed Head Screws**  
 一般用十字穴付き小ねじ



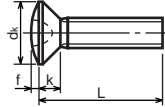
XB1-1



XB1-3



XB1-2

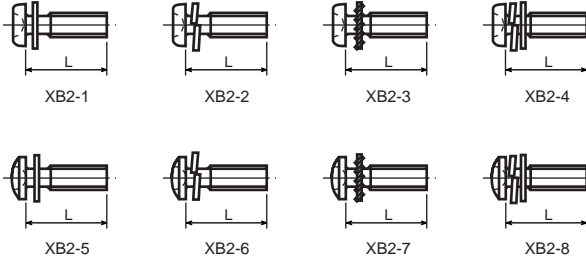


XB1-4

Type No. 類別番号	Type 類別
XB1-1	Pan head なべ
XB1-2	Binding head バインド
XB1-3	Countersunk head ざら
XB1-4	Oval countersunk head 丸ざら

		Head size (mm) 頭部寸法 (mm)					
		M2	M2.5	M2.6	M3	M4	M5
dk	XB1-1	3.5	4.5	4.5	5.5	7	9
k	XB1-1	1.3	1.7	1.7	2	2.6	3.3
dk	XB1-2	4.3	5.3	5.5	6.3	8.3	10.3
k+f	XB1-2	1.2	1.5	1.6	1.9	2.5	3.1
dk	XB1-3	4	5	-	6	8	10
k	XB1-3	1.2	1.45	-	1.75	2.3	2.8
dk	XB1-4	4	5	-	6	8	10
k+f	XB1-4	1.6	2	-	2.45	3.2	4
Screw part length ねじ部長さ b		8	12	12	12	16	20

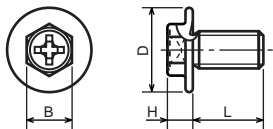
1-4. Cross Recessed Head Screws with Captive Washer  
座金組込み十字穴付き小ねじ



Type No. 類別番号	Type 類別
XB2-1	Pan head + Plain washer (circular bright) なべねじ+平座金
XB2-2	Pan head + Spring washer なべねじ+ばね座金
XB2-3	Pan head + Toothed lock washer なべねじ+歯付座金
XB2-4	Pan head + Spring washer and plain washer (circular bright) なべねじ+(ばね+平)座金
XB2-5	Binding head + Plain washer (circular bright) バインドねじ+平座金
XB2-6	Binding head + Spring washer バインドねじ+ばね座金
XB2-7	Binding head + Toothed lock washer バインドねじ+歯付座金
XB2-8	Binding head + Spring washer and plain washer (circular bright) バインドねじ+(ばね+平)座金

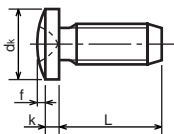


**1-5. Hexagon Head Tapping Screws for Metallic Materials**  
 金属用六角タッピンねじ



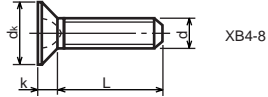
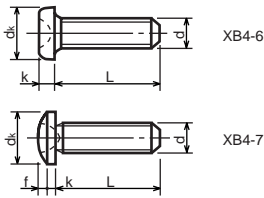
Type No. 類別番号	Type 類別	Head size (mm) 頭部寸法 (mm)		
		M3	M4	
XB3-6	For metallic materials 金属用タッピン	D	8	10
		B	5.5	5.5
XB3-7	For metallic materials with clawed 金属用タッピン-つめ付き	H XB3-6	3.1	3.1
		H XB3-7	3.2	3.2

**1-6. Special Tapping Screws**  
 特殊タッピンねじ



Type No. 類別番号	Type 類別	Head size (mm) 頭部寸法 (mm)		
		M3	M4	
XB4-5	Binding head バインド	dk	6.3	8.3
		k	1.3	1.7
		k+f	1.9	2.5

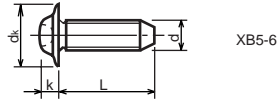
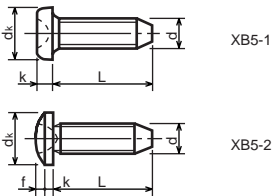
**1-7. General Head Tapping Screws**  
 一般用タッピンねじ



Type No. 類別番号	Type 類別
XB4-6	Pan head なべ
XB4-7	Binding head バインド
XB4-8	Countersunk head さら

		Head size (mm) 頭部寸法 (mm)					
		M2	M2.5	M2.6	M3	M4	M5
d <sub>k</sub>	XB4-6	3.5	4.5	4.5	5.5	7	9
k	XB4-6	1.3	1.7	1.7	2	2.6	3.3
d <sub>k</sub>	XB4-7	4.3	5.3	5.5	6.3	8.3	10.3
k+f	XB4-7	1.2	1.5	1.6	1.9	2.5	3.1
d <sub>k</sub>	XB4-8	4	5	5.2	6	8	10
k	XB4-8	1.2	1.45	1.5	1.75	2.3	2.8

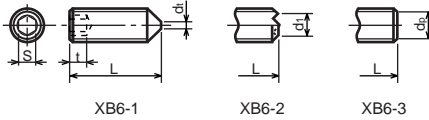
**1-8. Tapping Screws for Metallic Materials**  
 金属用タッピンねじ



Type No. 類別番号	Type 類別
XB5-1	Pan head なべ
XB5-2	Binding head バインド
XB5-6	Flanged pan head つば付きなべ

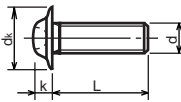
		Head size (mm) 頭部寸法 (mm)				
		M2.5	M2.6	M3	M4	M5
d <sub>k</sub>	XB5-1	4.5	4.5	5.5	7	9
k	XB5-1	1.7	1.7	2	2.6	3.3
d <sub>k</sub>	XB5-2	5.5	5.5	6.3	8.3	10.3
k+f	XB5-2	1.6	1.6	1.9	2.5	3.1
d <sub>k</sub>	XB5-6	6.5	6.5	8	10	12
k	XB5-6	2.1	2.1	1.75	3.2	4

**1-9. Hexagon Socket Set Screws**  
六角穴付止めねじ



Type No. 類別番号	Type 類別	Head size (mm) 頭部寸法 (mm)							
		M1.6 M1.7	M2	M2.5 M2.6	M3	M5	M5	M6	
XB6-1	Cone point とがり先	S	0.7	0.9	1.3	1.5	2	2.5	3
		t	1.5	1.7	2	2	2.5	3	3.5
		$d_{t \max}$ XB6-1	0.4	0.5	0.65	0.75	1	1.25	1.5
		$d_{l \max}$ XB6-2	-	1.2	1.5	1.7	2.2	2.8	3.3
		$d_{l \min}$ XB6-2	-	1	1.2	1.4	1.9	2.4	2.9
		$d_{p \max}$ XB6-3	0.8	1	1.5	2	2.5	3.5	4
		$d_{p \min}$ XB6-3	0.55	0.75	1.25	1.75	2.25	3.2	3.7

**1-10. Flanged Pan Head Machine Screws**  
つば付きなべ小ねじ



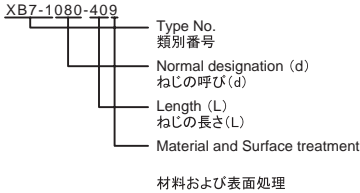
Type No. 類別番号	Type 類別	Head size (mm) 頭部寸法 (mm)					
		M2	M2.5 M2.6	M3	M5	M5	
XB6-7	Flanged pan head つば付きなべ	$d_k$	5	6.5	8	10	12
		k	1.7	2.1	2.5	3.2	4

# FIGURE ZZC MECHANICAL STANDARD PARTS (BOLTS)

## 2. Bolts (Socket head cap screw) ボルト

How to read Parts Numbers  
部品番号の見方

Bolt (Socket head cap screw)  
ボルト



XB7-1 expresses Hexagon socket head cap screws.  
XB7-1は、六角穴付きボルトを表す

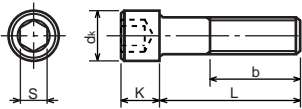
080 expresses M8.0.  
080は、M8.0を表す

40 expresses a length of 40mm.  
40は、40mmの長さを表す

9 expresses Steel (Black zinc trivalent chromate  
treating) from Table 1.

9は、表1より鋼(黒色亜鉛3価クロメート)を表す

### 2-1. Hexagon socket head cap screws 六角穴付きボルト



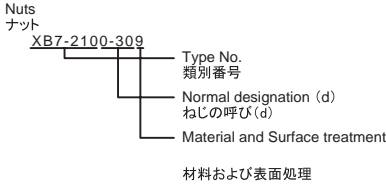
Type No. 類別番号	Type 類別
XB7-1	Hexagon socket head cap screws 六角穴付きボルト

	Head size (mm) 頭部寸法 (mm)						
	M3	M4	M5	M6	M8	M10	M12
S	2.5	3	4	5	6	8	10
$d_k$	5.5	7	8.5	10	13	16	18
K	3	4	5	6	8	10	12
Screw part length $b_{max}$ ねじ部長さ $b_{max}$	18	20	22	24	28	32	36

# FIGURE ZZD MECHANICAL STANDARD PARTS (NUTS)

## 3. Nuts ナット

How to read Parts Numbers  
部品番号の見方

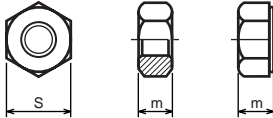


XB7-210 expresses Hexagon nut class 1.  
XB7-210は、六角ナット1種を表す

0-30 expresses M3.0.  
0-30は、M3.0を表す

9 expresses Steel (Black zinc trivalent chromate  
treating) from Table 1.  
9は、表1より鋼(黒色亜鉛3価クロメート)を表す

### 3-1. Hexagon Nuts and Hexagon Thin Nuts 六角ナット



Type No. 類別番号	Type 類別
XB7-210	Hexagon nut Class 1 六角ナット-1種
XB7-220	Hexagon nut Class 3 六角ナット-3種
XB7-230	Hexagon nut Style 1 double chamfered 六角ナット-スタイル1-両面とり
XB7-231	Hexagon nut Style 1 washer faced 六角ナット-スタイル1-座付き
XB7-240	Hexagon nut Style 2 double chamfered 六角ナット-スタイル2-両面とり
XB7-241	Hexagon nut Style 2 washer faced 六角ナット-スタイル2-座付き
XB7-250	Hexagon nut 六角ナット
XB7-260	Hexagon thin nut double chamfered 六角低ナット-両面とり
XB7-270	Hexagon thin nut not chamfered 六角低ナット-面とり無し

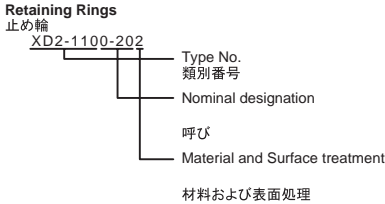
	Head size (mm) 頭部寸法 (mm)						
	M2	M2.5	M3	M4	M5	M6	M8
S	4	5	5.5	7	8	10	13
m XB7-210	1.6	2	2.4	3.2	4	5	6.5
m XB7-220	1.2	1.6	1.8	2.4	3.2	3.6	5
m XB7-230, 231	1.6	2	2.4	3.2	4.7	5.2	6.8
m XB7-240, 241	-	-	-	-	5.1	5.7	7.5
m XB7-250	-	-	-	-	5.6	6.1	7.9
m XB7-260	1.2	1.6	1.8	2.2	2.7	3.2	4
m XB7-270	1.2	1.6	1.8	2.2	2.7	3.2	4

# FIGURE ZZE MECHANICAL STANDARD PARTS (RETAINING RINGS)

## 5. Retaining Rings

止め輪

How to read Parts Numbers  
部品番号の見方



XD2-110 expresses retaining ring-E type (Type1).  
XD2-110は、E形止め輪(1種)を表す

0-20 expresses a 020 of nominal designation.  
(See Table 5)

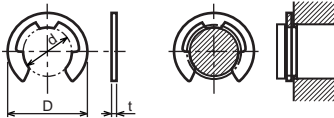
0-20は、呼び020を表す(表5参照)

2 expresses Stainless steel (Surface treatment is not to be given) from Table 1.

2は、表1よりステンレス(表面処理なし)を表す

### 5-1. Retaining Rings - E type

E形止め輪

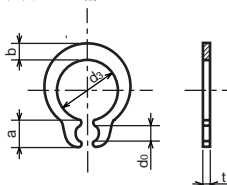


Type No. 類別番号	Type 類別
XD2-110	Retaining ring - E type (Type 1) E形止め輪(1種)
XD2-120	Retaining ring - E type (Type 2) E形止め輪(2種)

Table 5 表5

Type 種類	Nominal designation 呼び	d (mm)	D (mm)	t (mm)
Type 1 1種	007	0.65	2	0.2
	010	0.95	2.8	0.2
	013	1.25	3.3	0.3
	017	1.65	4.2	0.4
	020	1.95	4.6	0.5
	024	2.35	6	0.6
	028	2.74	6.5	0.6
	032	3.14	7.2	0.6
	037	3.64	8	0.7
	040	3.93	10	0.7
	042	4.13	10	0.7
	050	4.93	11	0.7
	058	5.73	12	0.7
	060	5.93	12.7	0.9
	064	6.32	13.5	0.9
	074	7.31	15	0.9
080	7.91	16.5	1	
Type 2 2種	008	0.8	2	0.2
	012	1.2	3	0.3
	015	1.5	4	0.4
	020	2	5	0.4
	025	2.5	6	0.4
	030	3	7	0.6
	040	4	9	0.6
	050	5	11	0.6
	060	6	12	0.8
	070	7	14	0.8
	080	8	16	0.8
	090	9	18	0.8
	100	10	20	1

5-2. Grip Rings  
グリップ止め輪

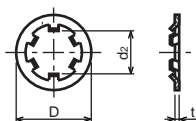


Type No. 類別番号	Type 類別
XD2-210	Grip ring グリップ止め輪

Table 5 表5

Nominal designation 呼び	d <sub>3</sub> (mm)	t (mm)	b (mm)	a (mm)	d <sub>0</sub> (mm)
020	1.9	0.5	1	1.8	0.8
025	2.35	0.5	1.2	1.9	0.9
030	2.85	0.6	1.4	1.9	0.9
035	3.3	0.6	1.6	2	0.9
040	3.8	0.8	1.8	2.8	1.2
045	4.25	0.8	2	2.9	1.3
050	4.75	0.8	2.2	2.9	1.3
060	5.7	1	2.4	3.1	1.4
070	6.7	1	2.7	3.3	1.4
080	7.7	1	3	3.5	1.4
090	8.65	1.2	3.3	4.7	1.5
100	9.65	1.2	3.5	4.7	2

5-3. Toothed Retaining Rings  
歯付き形止め輪



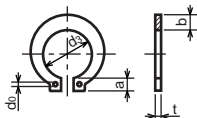
Type No. 類別番号	Type 類別
XD2-230	Toothed retaining ring 歯付き形止め輪

Table 5 表5

Nominal designation 呼び	d <sub>z</sub> (mm)	D (mm)	t (mm)	No of teeth 歯数
015	1.4	5.2	0.25	3
020	1.9	6	0.25	3
024	2.3	6.4	0.25	3
030	2.8	8	0.25	4
040	3.8	9	0.25	4
050	4.8	10	0.25	5
060	5.8	11	0.25	5
080	7.8	13	0.25	5
100	9.8	15.4	0.25	6

### 5-4. Retaining Rings - C Type

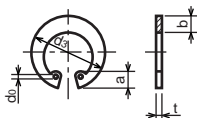
C形止め輪



Type No. 類別番号	Type 類別
XD2-310	Retaining ring - C type for shaft C形止め輪 軸用

Table 5 表5

Nominal designation 呼び	d <sub>3</sub> (mm)	t (mm)	b (mm)	a (mm)	d <sub>0</sub> (mm)
010	9.3	1	1.6	3	1.2
012	11.1	1	1.8	3.2	1.5
014	12.9	1	2	3.4	1.7
015	13.8	1	2.1	3.5	1.7
016	14.7	1	2.2	3.6	1.7
017	15.7	1	2.2	3.7	1.7
018	16.5	1.2	2.6	3.8	1.7
020	18.5	1.2	2.7	3.9	2
022	20.5	1.2	2.7	4.1	2
025	23.2	1.2	3.1	4.3	2
028	25.9	1.5	3.1	4.6	2
030	27.9	1.5	3.5	4.8	2
032	29.6	1.5	3.5	5	2.5
035	32.2	1.5	4	5.4	2.5



Type No. 類別番号	Type 類別
XD2-320	Retaining ring - C type for hole C形止め輪 穴用

Table 5 表5

Nominal designation 呼び	d <sub>3</sub> (mm)	t (mm)	b (mm)	a (mm)	d <sub>0</sub> (mm)
010	10.7	1	1.8	3.1	1.2
011	11.8	1	1.8	3.2	1.2
012	13	1	1.8	3.3	1.5
014	15.1	1	2	3.6	1.7
016	17.3	1	2	3.7	1.7
018	19.5	1	2.5	4	1.7
019	20.5	1	2.5	4	2
020	21.5	1	2.5	4	2
022	23.5	1	2.5	4.1	2
025	26.9	1.2	3	4.4	2
028	30.1	1.2	3	4.6	2
030	32.1	1.2	3	4.7	2
032	34.4	1.2	3.5	5.2	2.5
035	37.8	1.5	3.5	5.2	2.5
037	39.8	1.5	3.5	5.2	2.5
040	43.5	1.8	4	5.7	2.5
042	45.5	1.8	4	5.8	2.5
045	48.5	1.8	4.5	5.9	2.5
047	50.5	1.8	4.5	6.1	2.5
050	54.2	2	4.5	6.5	2.5
052	56.2	2	5.1	6.5	2.5
055	59.2	2	5.1	6.5	2.5
060	64.2	2	5.1	6.8	2.5
062	66.2	2	5.5	6.9	2.5
068	72.5	2.5	6	7.4	2.5
072	76.5	2.5	6.6	7.4	2.5
075	79.5	2.5	6.6	7.8	2.5
080	85.5	2.5	7	8	2.5
085	90.5	3	7	8	3
090	95.5	3	7.6	8.3	3
095	100.5	3	8	8.5	3



**Canon**