OKI
PRINTING SOLUTIONS

MC363

Maintenance Manual

042518B

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PREFACE

This manual explains the maintenance methods of MC363dn series.

This manual is prepared for the maintenance person. In regard to the handling methods of MC363dn series, please refer to the User's Manual.

Note!
- Contents of this manual is subject to change without notice.
- While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy of the information contained herein. Oki Data assumes no responsibility to the damages caused or claimed to have been caused by the user as a result of repair, adjustment and/or change using this manual.
- Parts of this product are delicate and can be damaged unless properly handled. We strongly recommend the user to maintain the product at the hand of the registered maintenance person of our company
- Before starting the maintenance work, please neutralize the static electricity.

Refer to the following table for a classification and function of equipment.

Model	Function	
	FAX	Wireless LAN
MC363dn	Apply	Option

Refer to the following table for the board classification and the board name.

Classification	Board name
CU/PU board	77M
High voltage power supply board	ORZ
Toner sensor board	ZHE
SU board	77S
Ope board	OPM
ADF board	MHD
Option tray board	GOG

⚠Warning

Battery of the printer need not to be replaced. Do not touch the battery.
Replace the whole board to replace the SU board.
Installation of another type batteries may result in explosion.
Caution for used batteries are as follows; do not recharge, force open, heat or dispose of in fire.

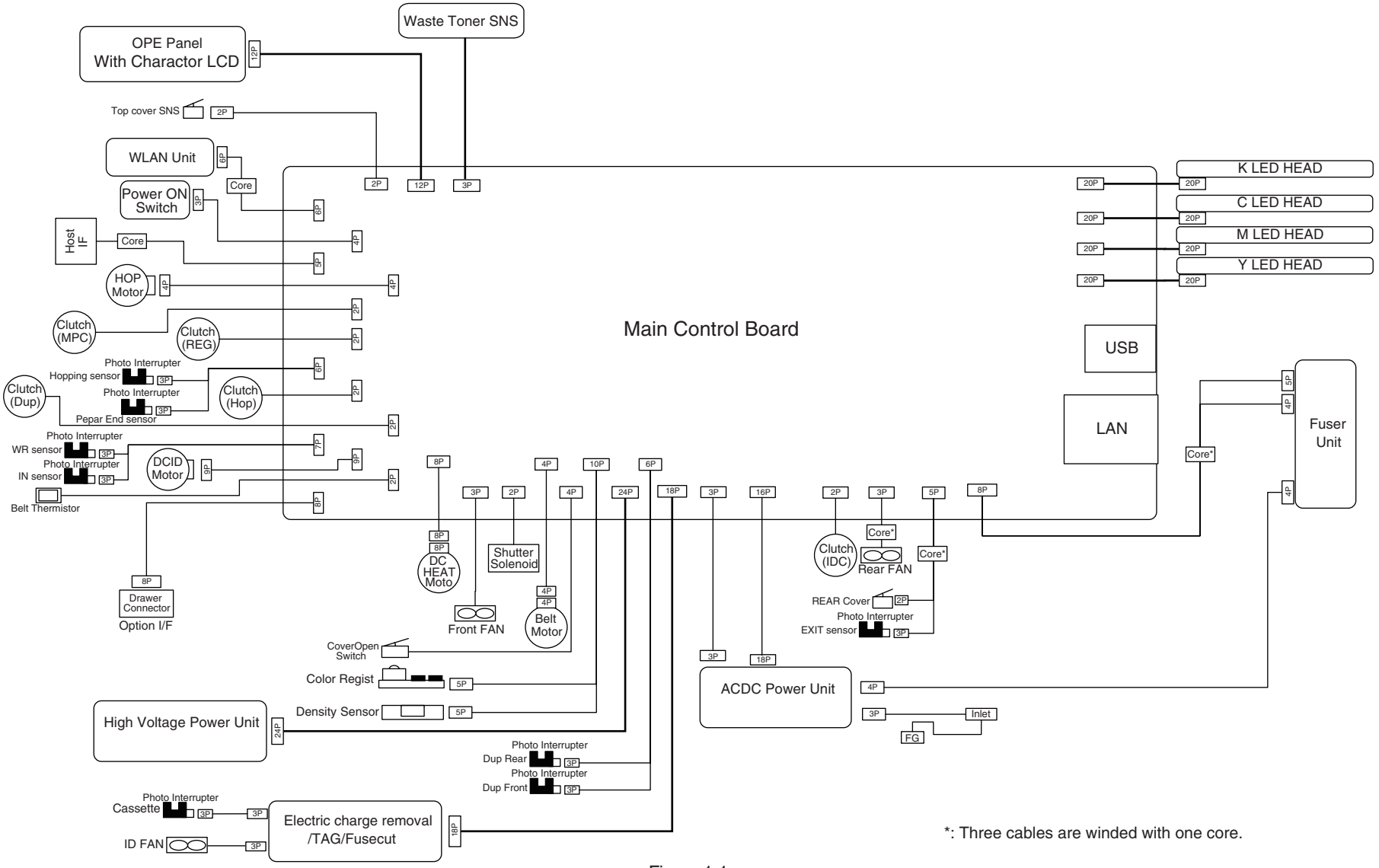
CONTENTS

1. CONFIGURATION

1.1 System configuration

System Configurations of the MFP Unit.

The system configuration of this product is shown in Figure 1-1, and Figure 1-2.



*: Three cables are winded with one core.

Figure 1-1

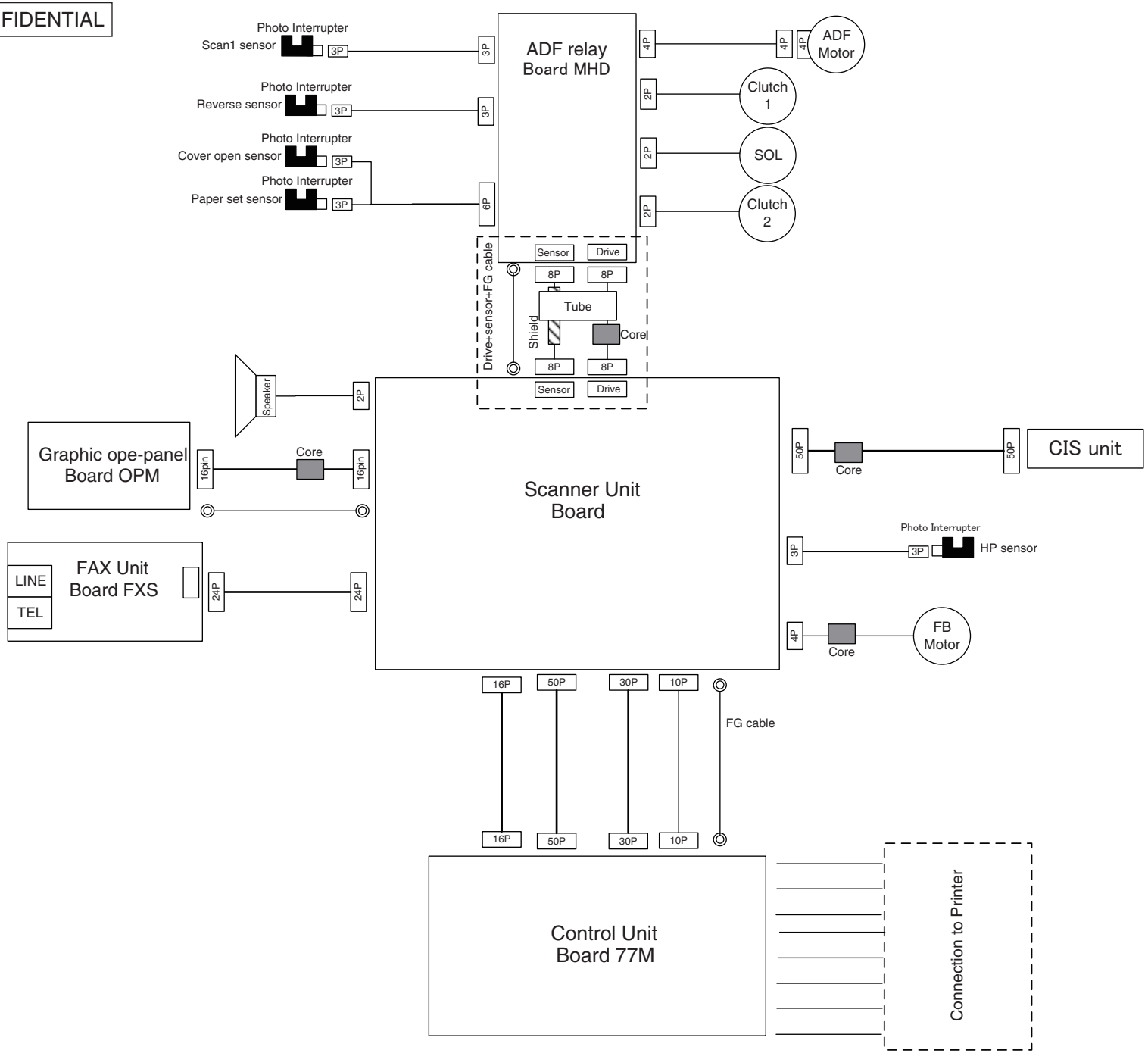


Photo Interrupter
Scan1 sensor
3P
Photo Interrupter
Reverse sensor
Photo Interrupter
Cover open sensor
Photo Interrupter
Paper set sensor
ADF relay
Board MHD
4P
ADF
Motor
Clutch
1
SOL
Clutch
2
Sensor
Drive
8P
Tube
Shield
Core
Drive+sensor+FG cable
Speaker
2P
Graphic ope-panel
Board OPM
16pin
Core
Scanner Unit
Board
50P
CIS unit
Photo Interrupter
HP sensor
FB
Motor
FAX Unit
Board FXS
LINE
TEL
24P
16P
50P
30P
10P
FG cable
Control Unit
Board 77M
Connection to Printer

Figure 1-2

1.2 Structure of MFP

The insides of MC363dn multi function printers are composed of the following parts.

- Scanner part
- Electronic photography process part
- Paper path
- Control part (CU part/PU part)
- Power supply parts (high voltage part/low voltage part)

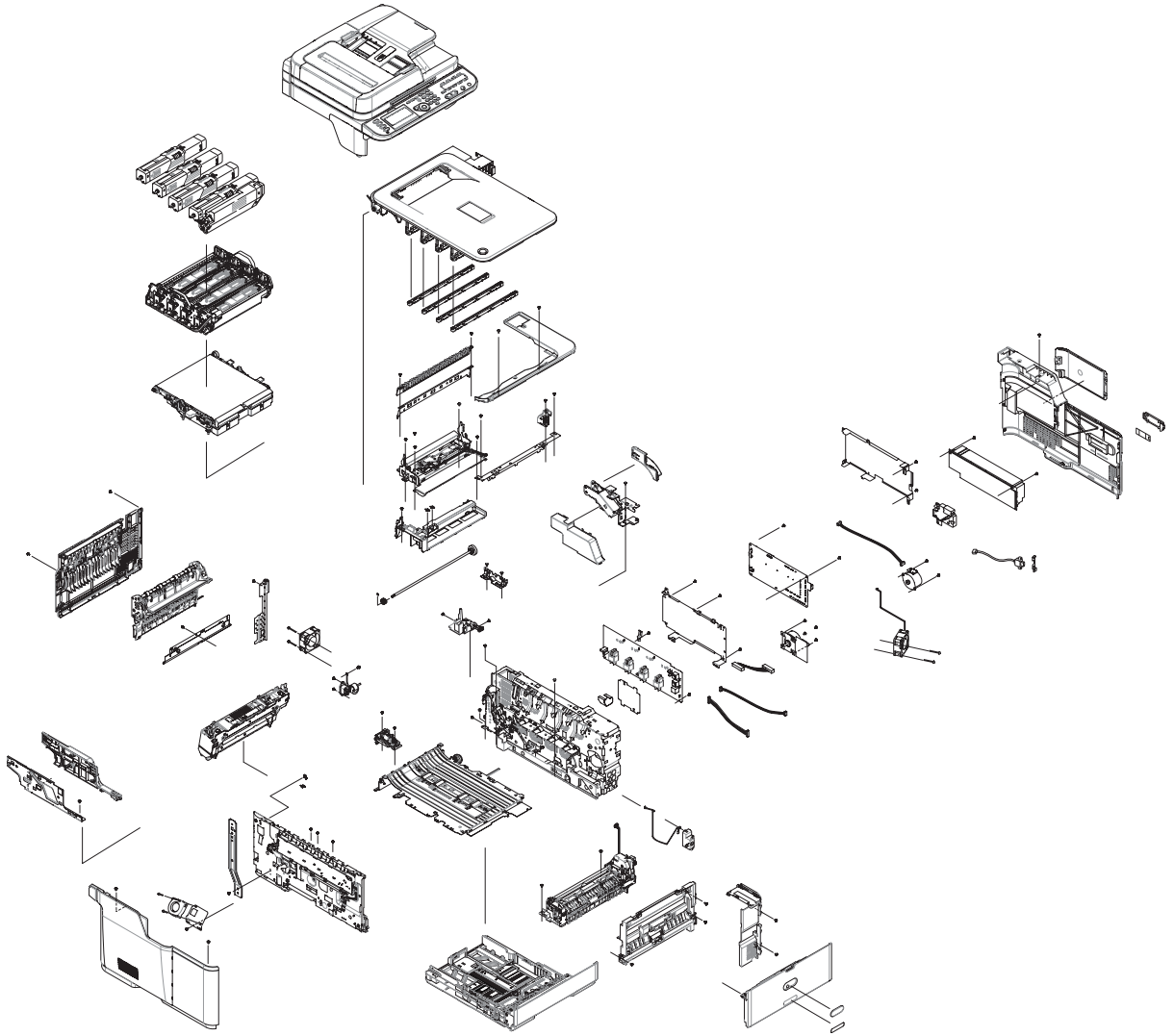
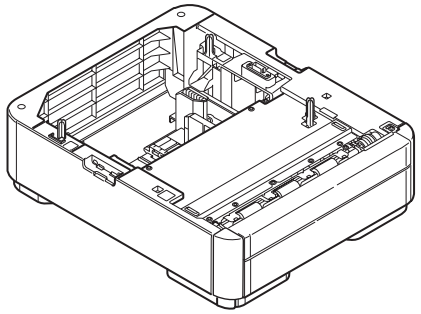


Figure 1-3

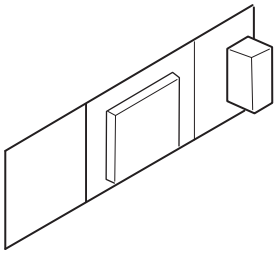
1.3 Offer of Options

This product can be installed with the following option.

(1) Second Tray Unit



(2) Wireless LAN module



1.4 Specifications

Print specifications

item		MC363dn
Segment		DT
Mono Print speed (simplex)	A4	30ppm
	Letter	31ppm
Color Print speed (simplex)	A4	26ppm
	Letter	27ppm
Mono Print speed (duplex)	A4	16ppm
	Letter	16ppm
Color Print speed (duplex)	A4	14ppm
	Letter	14ppm
Print Width		A4/Letter
Time to First Print	Color	9 sec
	Mono	8.5 sec
Warm-up time from power on		Less than 60sec
Recovery time from power save	Panel/Scan	Less than 32sec
	Print	Less than 32sec
Print Resolution	Head	600dpi
	Maximum Input dpi	600dpi
	Output dpi	600x600dpi 2bit 600x1200dpi 1bit 600x600dpi 1bit
CPU	Core	MF2
	Clock	667MHz
RAM	Resident	1GB
	Option	No
ROM		3.0GB (eMMC) Program + font area : 0.25GB Data storage area : 2.75GB
HDD/SD card (Data storage)		No
Connectivity	Standard	USB 2.0 Device, 10/100/1000 Bace Ethernet, Host USB x 1 (Front), RJ11x2 (Line/Tel)
	Options	Wireless IEEE802.11a/b/g/n

item		MC363dn
Printer Language		PCL6 (XL3.0 and PCL5c), PostScript 3 (Emulation), IBM-ProPrinter, EPSON-FX, XPS, PDF(V1.x)
Fonts	Scalable Typefaces	87 PCL fonts, 80 PostScript fonts
	Bitmap Typefaces	4 PCL fonts (Line Printer, OCR-A/B, USPS ZIP Barcode)
	Barcode	10 types of one dimension with 26 variations: UPC-A, UPC-E, EAN/JAN-8, EAN/JAN-13, Interleaved2of5, Code39, Code 128, EAN/UCC-128, CODABAR, ZIP+4POSTNET 2 types of two dimensions : PDF417, Qrcode
Paper Handling		See paper handling table for detail
Acoustic noise	Operating	52dBA (print) 54dbA (copy)
	Operating (Quiet mode)	TBD
	Standby	37dBA
	Power save mode	Inaudible
Power consumption	Off mode	Less than 0.5W
	Deep sleep mode	1.5W
	Power save mode	Less than 20W
	Idle	Ave 100W
	Typical operation	570W
	Peak	1170W
Power Requirment		<Voltage> ODA, Taiwan : 120V AC +/-10% OEL, ODA230, AOS : 230V AC +/-10% <Frequency> 50/60Hz +/-2%
Operating tempature		10 - 32 (C degree)
Operating humidity		20 - 80 %

item			MC363dn
Operation panel	Display	Type/Color	Single simplified graphics panel
		Size	Size: 84.1 mm (W) x 33.6mm (H) Resolution : 320 dot x120 dot
		Back Light	-
	LED		-
	Switches		-
	Soft power switch		-
Buzzer			Yes (Speaker)
Dimension (inch./mm)		Width	427mm
		Depth	509mm
		Height	444mm
Weight			29kg
Printer life			300,000 pages or 5 years
Max. Monthly Printer duty			45,000 pages
Recommended Duty Cycle			5,000 pages
MTBF (2.3% duty)			60,000 pages
MPBF			35,000 pages
MTTR			less than 20 min.
Toner life (@ ISO19798)		Starter K	1,000 pages
		Starter CMY	1,000 pages
		Supplies K	1,500 pages / 3,500 pages / 5,000 pages (*1)
		Supplies CMY	1,500 pages / 3,000 pages / 5,000 pages (*1)
Image drum life at simplex (w/o power save)		Continuous	K 37,500 pages / CMY 25,000 pages
		3 pages per job	K 30,000 pages / CMY 20,000 pages
		1 page per job	K 17,800 pages / CMY 11,900 pages
Image drum life at duplex (w/o power save)		Continuous	K 11,500 pages / CMY 7,000 pages
		3 pages per job (6 images per job)	K 9,800 pages / CMY 6,500 pages
		1 page per job (2 images per job)	K 6,400 pages / CMY 4,200 pages
Transfer belt life			60,000 pages
Fuser life			60,000 pages
Waste toner box life			No

item		MC363dn
Print Function	Quiet mode	Yes
	Toner save mode	Yes
	Override A4/ Letter	Yes (for Printing)
	AirPrint	Yes
	Google Cloud Print	Yes
	USB direct print	Yes (PDF, JPEG, TIFF, XPS)
	Public Print (stored)	No
	Private Print (stored)	No
	mono print w/o CMY toner	Yes
	IC card reader	No
Remote Firmware update		Yes
Certification		Energy star (ver.2)

*1: "5,000 pages" is applied to only ODA

Copy specifications

item		MC363dn
Platen size		A4
Mono Copy speed (Flatbed)	A4	30cpm
	Letter	31cpm
Color Copy speed (Flatbed)	A4	26cpm
	Letter	27cpm
Mono Copy speed (ADF simplex, multipul originals)	A4	30cpm
	Letter	31cpm
Color Copy speed (ADF simplex, multipul originals)	A4	26cpm
	Letter	27cpm
Mono Copy speed (ADF duplex, multipul originals)	A4	13cpm
	Letter	13cpm
Color Copy speed (ADF duplex, multipul originals)	A4	9cpm
	Letter	9cpm
Time to first copy	Color (flatbed)	less than 14 sec
	Mono (flatbed)	less than 12 sec
Copy resolution	Scan	300x600dpi, 600x600dpi
	Print	600x1200dpi, 600x600dpi
	Resolution selection	Normal, High quality
Original size		See paper handling table <Scanner section> for detail
Copy Scaling		Auto, Manual : 25% - 400%, Preset : 100%, 70%(A4->A5), 78%(Legal14->Letter), 81%(Legal13.5->Letter), 84%(Legal13->Letter), 86%(A4->B5), 94%(A4->Letter), 97%(Letter->A4), 98%(Fit to page), 115%(B5->A4), 141%(A5->A4)
Copy Quantity Selectcion		up to 999
Document type selection		Text, Photo/Text, Photo, Photo(Glossy)
Image quality adjustment		Density, Background removal, Show-Through removal,Contrast, Hue, Saturation, RGB adjustment

item		MC363dn
Copy function	Duplex copy	Yes (1 to 2, 2 to 1, 2 to 2)
	ID card copy	Yes
	Collate	Yes
	Continuous scan	Yes
	N in 1	Yes (2in1/4in1)
	Repeat	Yes (x2/x4)
	Mixed originals	Yes (comibination of Letter and Legal 13/13.5/14)
	Edge erase	Yes (OFF, 2 to 50mm)
	Center erase	No
	Margin shift	Yes (OFF,-25 to +25mm from left/top)
	Interrupt Copy(while print_job)	No
	Book copy	No
	Watermark	No

Scan specifications

item		MC363dn
Sensor	type	Color CIS
	Optical resolution	600dpi
Scan speed	Flatbed	2 sec/page (A4, Gray, 300dpi), 2 sec/page (A4, Color, 300dpi)
	ADF(Simplex)	2 sec/page (A4, Gray, 300dpi), 2 sec/page (A4, Color, 300dpi)
	ADF(Duplex)	4.5 sec/page (A4, Gray, 300dpi), 4.5 sec/page (A4, Color, 300dpi)
Original size		See paper handling table <Scanner section> for detail
Dual Scan		No
Scan to Function		Email, Shared folder (CIFS/FTP/HTTP), USB, Computer(Local PC), Remote scan
Scan to email, network PC, USB	Mode	Color, Grayscale, Binary
	Resolution	75, 100, 150, 200, 300, 400, 600dpi
	File format	S/M-PDF, S/M-Secure PDF, S/M-TIFF(RAW/G3/G4 Compressed), JPEG(color, grayscale only), XPS, S/M-Hi compression PDF, PDF/A
	Document type selection	Text, Photo/Text, Photo, Photo(Glossy)
	Duplex scan	Yes (OFF/Long edge bind/Short edge bind)
	Continuous scan (Job build)	Yes
	Image quality adjustment	Density, Background removal, Show-Through removal, Contrast, Hue, Saturation, RGB adjustment
	Mixed originals	Yes
	Edge erase	Yes (OFF, 5 to 50mm)
	Center erase	No
	Scanning Orientation	Yes
	File compression level	Low / Medium / High
	Address book	300 locations, 20 group address
	Scan profile	50 profiles
	File system (scan to USB)	FAT12, FAT(FAT16), FAT32
Scan to local PC (with Actkey)	Mode	Color, Grayscale, Binary, Halftone
	Resolution	75, 100, 150, 200, 300, 400, 600dpi
	File format	PDF(Multi/Single), TIFF(Multi/Single), JPEG, BMP, PCX, GIF, TGA, PNG, WMF, EMF

item		MC363dn
Scan to remote PC	Mode	Color, Grayscale, Binary, Halftone
	Resolution	75, 100, 150, 200, 300, 400, 600, 1200, 2400, 4800, 9600, 19200dpi, Custom(50 to 600dpi)
Communication data storage		Yes
Scan Preview		No

FAX specifications

item		MC363dn
Connetivity		PSTN, PBX line
Speed		ITU-T G3 (Super G3) up to 33.6kbps, Approx. 2seconds/page
Coding method		MH, MR, MMR, JBIG
Fax memory		256MB
One-touch dials		16 dials (8 x 2 using Shift key)
Speed dials		300 locations, 20 groups
On hook dial		Yes
Redial		Yes
Internet Fax		T.37 simple mode
Original size		A4, Letter, Legal13, Legal13.5, Legal14, Folio
Resolution		Std, Fine, Ex-fine, Photo
Density control		Yes (7 levels)
Duplex scan/print		Yes
Continuous scan		Yes
Image quality adjustment		Yes
FAX function	TEl/TAD/FAX auto switching	Yes
	Distinctive Ring Detection	Yes
	Automatic Tray select for Fax print	Yes (Letter&Legal13/13.5/14)
	Block junk FAX	Yes
	PC FAX	Yes (sending only)
	Automated delivery	No
	Edge erase	Yes
	FAX reception image preview	No
	Multi Polling	No
	Polling Receive	No
	Rotation Transmission	No
	F-code	Yes
	Report	Yes
	Fax Preview	No

Front End Installer specifications

item	MC363dn
Driver Install	Yes
Utility Install	Yes
Language Setting	Yes
Network Setting	Yes
Scan To Setting	Yes
FAX Setting	Yes

Other specifications

item		MC363dn
Option	2nd tray	530 sheets (80gsm) 580 sheets (64gsm)
	3rd tray	No
	4th tray	No
IC card reader for panel unlock & secure print		No
Open-API support	Output Management	No
	Indexed Scan	No
	Embedded Web Browser (EWB)	No
	WSD-Scan	No
Scan to Box Function Support		No
Wi-Fi Direct		No
SoftAP		Yes
Concurrent Connection of Wired & Wireless		Yes
Citrix		Yes (XenApp 7.6)
Print Fleet compatibility		Yes
Manual format		HTML
Auto sensing/feeding MPT tray		No
PDF/A		Yes
Searchable PDF		No
FDI		No
2 Bin		No
Finisher		No
In-line stapler		No
Off-line stapler		No
LCF		No

Paper handling

Printer section

<Paper input>

			standard			option
			MPT	1st tray	Duplex	2nd tray
input capacity			100 sheets (80gsm) 110 sheets (64gsm)	250 sheets (80gsm) 280 sheets (64gsm)	-	530 sheets (80gsm) 580 sheets (64gsm)
size	A4		Yes	Yes	Yes	Yes
	A5		Yes	Yes	Yes	Yes
	A6		Yes	Yes	-	-
	B5		Yes	Yes	Yes	Yes
	B6		Yes	Yes	-	-
	B6 half		Yes	-	-	-
	Letter (8.5 x 11)		Yes	Yes	Yes	Yes
	Legal13		Yes	Yes	Yes	Yes
	Legal13.5		Yes	Yes	Yes	Yes
	Legal14		Yes	Yes	Yes	Yes
	Executive (7.25 × 10.5)		Yes	Yes	Yes	Yes
	Statement (5.5 x 8.5)		Yes	Yes	-	-
	8.5" SQ (8.5 × 8.5)		Yes	Yes	-	-
	Folio (210 × 330.2)		Yes	Yes	Yes	Yes
	China 16K (197 x 273)		Yes	Yes	Yes	Yes
	China 16K (195 x 270)		Yes	Yes	Yes	Yes
	China 16K (184 x 260)		Yes	Yes	Yes	Yes
	Index card (3" × 5")		Yes	-	-	-
	4" x 6"		Yes	-	-	-
	5" x 7"		Yes	-	-	-
	Custom Size		Yes	Yes	Yes	Yes
	Envelop	C5, DL, Com-9, Com-10, Monarch	Yes	-	-	-
	Other					
minimum size		(inch)	2.5" x 5.0"	3.9" x 5.8"	5.8" x 8.3"	
		(mm)	64 x 127mm	100 x 148mm (Post Card size)	148 x 210mm (A5)	
maximum size		(inch)	8.5" x 52"	8.5" x 14" (Legal14)		
		(mm)	216 x 1,321mm	216 x 356mm		
weight			16 - 58lb 64 - 220gsm	16 - 47lb, 64 - 176gsm		
max input capacity (80gsm)			880 sheets			

<Paper output>

			Face up	Face down
Paper Output Capability			100 sheets (<80gsm) 10 sheets (Ultra-Heavy & Envelope)	NN/LL : 150 sheets (<80gsm) HH : 50 sheets (<80gsm)
size	A4		Yes	Yes
	A5		Yes	Yes
	A6		Yes	Yes
	B5		Yes	Yes
	B6		Yes	Yes
	B6 half		Yes	-
	Letter (8 x 11)		Yes	Yes
	Legal13		Yes	Yes
	Legal13.5		Yes	Yes
	Legal14		Yes	Yes
	Executive (7.25 × 10.5)		Yes	Yes
	Statement (5.5 x 8.5)		Yes	Yes
	8.5" SQ (8.5 × 8.5)		Yes	Yes
	Folio (210 × 330.2)		Yes	Yes
	China 16K(197x273)		Yes	Yes
	China 16K(195x270)		Yes	Yes
	China 16K(184x260)		Yes	Yes
	Custom Size		Yes	Yes (100×148mm to 216×356mm)
	others	Com-9, Com-10, Monarch, DL, C5, Banner up to 52"	Yes	-
weight			16 - 58lb, 64 - 220gsm	16 - 47lb, 64 - 176gsm

Scanner section

< Document Paper Input >

		RADF		Platen
		Simplex	Duplex	
max inpput capacity		50 sheet (80gsm)	50 sheet (80gsm)	-
size	A3 nobi	No	No	No
	SR A3	No	No	No
	A3	No	No	No
	A4	Yes	Yes	Yes
	A5	Yes	Yes	Yes
	A6	Yes	No	Yes
	B4	No	No	No
	B5	Yes	Yes	Yes
	Tabloid(11"x172")	No	No	No
	Letter(8.5"x11")	Yes	Yes	Yes
	Legal13"	Yes	Yes	No
	Legal13.5"	Yes	Yes	No
	Legal14"	Yes	Yes	No
	Executive (7.25"x10.5")	Yes	Yes	Yes
	Statement(5.5"x8")	No	No	Yes
	China 8K(270x390)	No	No	No
	China 8K(273x394)	No	No	No
	China 8K(260x368)	No	No	No
	China 16K(197x273)	No	No	No
	China 16K(195x270)	No	No	No
	China 16K(184x260)	No	No	No
	others	No	No	No
maximum size		8.5"x14" (215.9x355.6mm)		8.5"x11.69" (215.9x297mm)
minimum size		4.13"x5.8" (105x148mm)		N/A
weight		16 - 28lb (60 - 105g/m2)		N/A

Report Print

No	Report Name	Manual				Auto
		Op Panel	Configuration Tool	Web Page	Special Operations	
1	Configuration	Yes	No	No	No	No
2	File List	Yes	No	No	No	No
3	Error Log	Yes	No	No	No	No
4	Demo Page	Yes	No	No	No	No
5	MFP Usage Report	Yes	No	No	No	No
6	Network Information	Yes	No	No	No	No
7	PCL Font List	Yes	No	No	No	No
8	PSE Font List	Yes	No	No	No	No
9	PPR Font List	Yes	No	No	No	No
10	FX Font List	Yes	No	No	No	No
11	Color Profile List	Yes	No	No	No	No
12	Color Tuning Pattern	Yes	No	No	No	No
13	ID Check	Yes*	No	No	No	No
14	Engine Menu Print	Yes*	No	No	No	No
15	Color Table Status	No	No	No	Yes	No
16	File System Check Report	No	No	No	No	Yes
17	Scan To Log Report	Yes	No	No	No	No
18	E-Mail Address List	Yes	No	No	No	No
19	Speed Dial List	Yes	No	No	No	No
20	Group List	Yes	No	No	No	No
21	Transmit Journal, Receipt Journal	Yes	No	No	No	Yes
22	Transmit Confirmation Report	No	No	No	No	Yes
23	Check Message	No	No	No	No	Yes
24	F-code Box Journal	No	No	No	No	Yes
25	Erased Report	No	No	No	No	Yes
26	F-code Box List	Yes	No	No	No	No
27	T30 Monitor	Yes	No	No	Yes	No
28	E-mail / Internet FAX Transmit and Receipt Journal	Yes	No	No	No	Yes
29	E-mail / Internet FAX Transmit Confirmation Report	No	No	No	No	Yes
30	E-mail / Internet FAX Check Message Report	No	No	No	No	Yes
31	Network Syslog Print	Yes	No	No	No	No
32	Print check Pattern	Yes	No	No	No	No

* Default settings is not to be displayed in a menu item.

Print from USB memory

Item		Description
Interface		USB2.0 (High Speed) Host IF
Storage Device		USB Memory (Recognized up to 32GB)
	File System	FAT12, FAT (FAT16), FAT32
USB port		Below the operator panel on the device's front side
Printable file format		JPEG, PDF (v1.7), M-TIFF (v6 Baseline), PRN (PCL, PS)
		(Encrypted PDF is not supported)
File size limit		The range that can be spooled to installed memory (RAM)
Print file selection		A list of files is displayed on the panel for selection. (Selection of multiple files is not supported.) Files for view are filtered by their extension. Extensions: JPG, JPEG, PDF, TIF, TIFF, PRN (no casesensitive)
	Specifying Sub Folder	Yes
	Displaying a file name in 2-byte characters	Yes
Unit of print		One file at a time, selected from the panel
Print Range		The entire file (pages cannot be specified)
Print Mode	Paper Size	By the current Menu settings (Size of paper presently loaded in the tray can be selected from the panel.)
	Copies	By the current Menu settings (With PRN, by the value specified at a time of file creation)
	Duplex Print	By the current Menu settings (With PRN, by the value specified at a time of file creation)
	Fitting	By the current Menu settings (A new item in the menu) Can be turned ON/OFF on the panel. (Always OFF with PRN)
	N-up	No
Printing restrictions		Yes

Item	Description
Color/Mono switch	Possible to print color images in mono mode and monochrome images in color mode.
Print logs	Job Log : Print JA Log : Counted under USB Memory to Print.
Behavior when printing is disabled	The Print Job specs are followed. Behavior in case of encrypted PDF files: Displays an error on the panel and end the job.

Display information

Information provided (displayed)	Comment
Path	Can be displayed in Japanese (Maximum Length 2-byte Code : 255 characters)
Name	Can be displayed in Japanese (Maximum Length 2-byte Code : 255 characters)
Type	File or Directory only
Size	File only
Last update date	YYYY/MM/DD

Email To Print Overview Spec.

Item		Description
Mail format		Compliant to MIME1.0.
Printing mail text		No
Printing attached file	PDF	Yes (v1.7)
	JPEG	Yes
	TIFF	Yes (v6 Baseline)
Valid extension		pdf / jpg / jpeg / tif /tiff
Printing sequence		Files are printed in the order in which they are attached.
Maximum number of attached files		10
File size limit		Maximum size is 8MB per file.
Print Mode	Paper Size	By image's page size.
	Copies	By the current Menu settings
	Duplex	By the current Menu settings
	Fitting	Dependent on the file format.
	N-up	No
	Others	N/A
Print Range		Entire file
		(Cannot be specified by page)
Password for PDF print		Encrypted PDF is not supported.
Printing restrictions		By NetPrint settings.
Print logs		By attached file
Behavior when printing is disabled		Don't display any warning message on the panel.
		Don't send error notification by mail to Email senders.

Access Control and Job Accounting Functions Overview Specs

Item		Description
Access Control		Yes
	Copy	Color enabled / Color disabled / Printing disabled
	Print	Color enabled / Color disabled / Printing disabled
		In addition, Printing disabled / Forced to print in Mono in case of Color disabled
	Scan to Email	Use enabled / Use disabled
	Scan to Network PC	Use enabled / Use disabled
	Scan to USB Memory	Use enabled / Use disabled
	Push Scan	N/A
	PC Scan	N/A
	Fax Send	Use enabled / Use disabled
	Fax Receive	N/A
	PC Fax Send	Use enabled / Use disabled
	E-mail to Print	N/A (Not support by user)
	Print from USB Memory	Color enabled / Color disabled / Printing disabled
PIN ID		1 ~ 10 digits
	Number of ID that can be registered	Max. 100
	Register/Edit	Configuration Tool, Web Page, JA Server
User/Password		1 ~ 32 characters
	Number of ID that can be registered	Max. 100
	Register/Edit	Configuration Tool
	User Authentication Method	Local/LDAP/Secure Protocol

Item		Description
Job Accounting		Yes
	Number of JA Logs that can be saved	Approx. 5000
	Copy	Counted as printed sheets
	Print	Yes
	Scan to Email	N/A
	Scan to Network PC	N/A
	Scan to USB Memory	N/A
	Push Scan	N/A
	PC Scan	N/A
	Fax Send	N/A
	Fax Received	Counted as printed sheets
	PC Fax Send	N/A
	E-mail to Print	Counted as printed sheets
	Print from USB Memory	Counted as printed sheets

1.5 Interface specifications

1.5.1 USB Interface Specification

1.5.1.1 Outline of USB Interface

(1) Basic Specification

USB

(2) Transmission Mode

Hi speed (480Mbps±0.05% max.)

(3) Power Control

Self power device

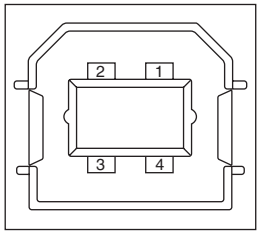
1.5.1.2 USB Interface Connector and Cable

(1) Connector

• Printer side: B receptacle

Upstream port

Equivalent of UBB-4R-D14C-4D(LF)SN
(made by JST Mfg Co.,ltd.)



Connector pin arrangement

• Cable side: B plug (off)

(2) Cable

Cable length : Specification Cable of USB2.0 spec. of less than 5m.(less than 2m is recommended)

1.5.1.3 USB Interface Signal

	Name of Single	Function
1	Vbus	Power Supply (+5V)(red)
2	D -	Data transmission (white)
3	D +	Data transmission (green)
4	GND	Single ground (black)
Shell	Shield	

1.5.2 Network Interface Specification

1.5.2.1 Outline of Network Interface

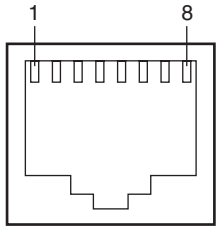
Table 1.5.2 Basic Specification of Network Interface

Protocol Family	Network Protocol	Application
TCP/IP	IPv4, IPv6, TCP, ICMP, UDP	LPR, RAW SNMPv1 DHCP/BOOTP HTTP

1.5.2.2 Network Interface Connector and Cable

(1) Connector

1000 BASE-T / 100 BASE-TX / 10 BASE-T
(automatic switch, no simultaneous use)



Connector pin arrangement

(2) Cable

Unshielded twist pair cable with RJ-45 connector (Category 5e is recommended.)

1.5.2.3 Network Interface Signal

(1) 100 BASE-TX / 10 BASE-T

Pin No.	Singles	Single Direction	Functions
1	TXD+	FROM PRINTER	Send Data +
2	TXD-	FROM PRINTER	Send Data -
3	RXD+	TO PRINTER	Received Data +
4	-	-	Unassigned
5	-	-	Unassigned
6	RXD-	TO PRINTER	Received Data -
7	-	-	Unassigned
8	-	-	Unassigned

(2) 1000 BASE-T

Pin No.	Singles	Single Direction	Functions
1	BI_DA+	Both direction	
2	BI_DA-	Both direction	
3	BI_DB+	Both direction	
4	BI_DC+	Both direction	
5	BI_DC-	Both direction	
6	BI_DB-	Both direction	
7	BI_DD+	Both direction	
8	BI_DD-	Both direction	

1.5.3 Telephone Line Interface Specification

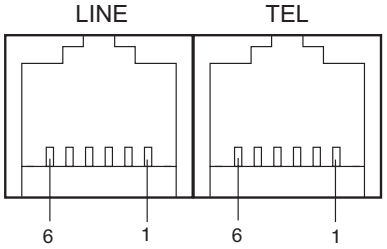
1.5.3.1 Outline of telephone Line Interface

The machine will reliably communicate with distant stations over voice-level telephone line.

1.5.3.2 Telephone Line Interface Connector and Cable

Connector Type : RJ-11
Cable Type : TEL Cable (With RJ-11 plug)

Connector contact arrengement



1.5.3.3 Telephone Line Interface signal

	Contact No.	Functions
TEL	1	Unspecified
	2	Unspecified
	3	TCP
	4	TCP
	5	Unspecified
	6	Unspecified
LINE	1	Unspecified
	2	Unspecified
	3	TCP
	4	TCP
	5	Unspecified
	6	Unspecified

TCP : Terminal Connection Point

1.5.4 USB Host Interface

1.5.4.1 Outline of USB Host Interface

(1) Basic Specification
USB

(2) Transmission Mode
Hi Speed (480Mbps±0.05% max.)

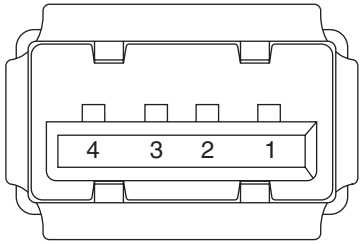
(3) Supply Power
Max. 500mA

(4) Connection devices
USB memory

1.5.4.2 USB Host Interface Connector

USB A plug connector

Equivalent of UBA-4R-D14-4DLF (JST Mfg. Co.,Ltd)



Connector pin arrangement

1.5.4.3 USB Host Interface Signal

	Name of Signal	Function
1	Vbus	Power Supply (+5V)(red)
2	D -	Data transmission (white)
3	D +	Data transmission (green)
4	GND	Single ground (black)
Shell	Shield	

1.5.5 Wireless LAN Interface (User option)

1.5.5.1 Outline of Wireless LAN

(1) Specification

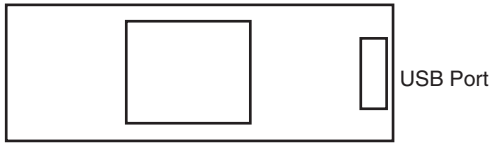
IEEE 802.11 a/b/g/n (2.4GHz / 5GHz)

(2) Power supply voltage

5V

(3) Printer side interfaces

USB



2. MFP INSTALLATION

2.1 Precautions and Prohibition

⚠ Warning

- Do not install the MFP in the vicinity of high temperature or fire.
- Do not install the MFP at the place where a chemical reaction may take place (laboratory, etc.).
- Do not install the MFP near flammable solution like alcohol, thinner, etc.
- Do not install the MFP at the place where a small child can reach.
- Do not install the MFP at an unstable place (unsteady frame, tilted place, etc.).
- Do not install the MFP at a highly humid or dusty place or under the direct sunshine.
- Do not install the MFP under the environment of sea breeze or caustic gas.
- Do not install the MFP at a highly vibrating place.
- When you drop the MFP or damage the cover, remove the power plug from the outlet and contact the Customers' Service Center.
  Electric shock, fire or injury may occur.
- Do not connect the power cord, printer cable and earth wire as otherwise directed by the Manual. A fire may break out.
- Do not insert a thing in the vent hole.
  Electric shock, fire or injury may occur.
- Do not place a cup with water on the MFP.
  Electric shock or fire may occur.
- Do not touch the fuser unit when you open the printer cover.
  Burn may occur.
- Do not throw the toner cartridge or image drum cartridge into fire.
  Burn may occur by the dust explosion.
- Do not use a highly flammable spray near the MFP.
  Fire may break out as there are high temperature parts inside the printer.
- When the cover becomes abnormally hot, a smoke arises or a strange odor comes out, remove the power plug from the outlet and contact the Customers' Service Center.
  Fire may break out.
- When liquid like water drops inside the MFP, remove the power plug from the outlet and contact the Customers' Service Center.
  Fire may break out.
- When a thing like a clip drops inside the MFP, remove the power plug from the outlet and take out that thing.
- Do not clean spilled toner with a vacuum cleaner.
  Fire may occur due to the sparks from electric contact.
- Do not operate or disassemble the MFP as otherwise directed in the Manual.
  Electric shock, fire or injury may occur.

⚠ Caution

- Do not install the MFP at the place where the vent hole is blocked.
- Do not install the MFP on the shaggy carpet.
- Do not install the MFP at the place with little draught or without ventilation like a room with no window.
- Install away from strong magnetic fields and sources of noise.
- Install the MFP away from the monitor TV
- When the MFP is to be moved, hold both ends of the printer.
- This MFP weighs about 29kg and should be lifted by 2 or more persons.
- When to switch the power on or while printing, do not come near the paper exit of the MFP.
  Injury may occur.

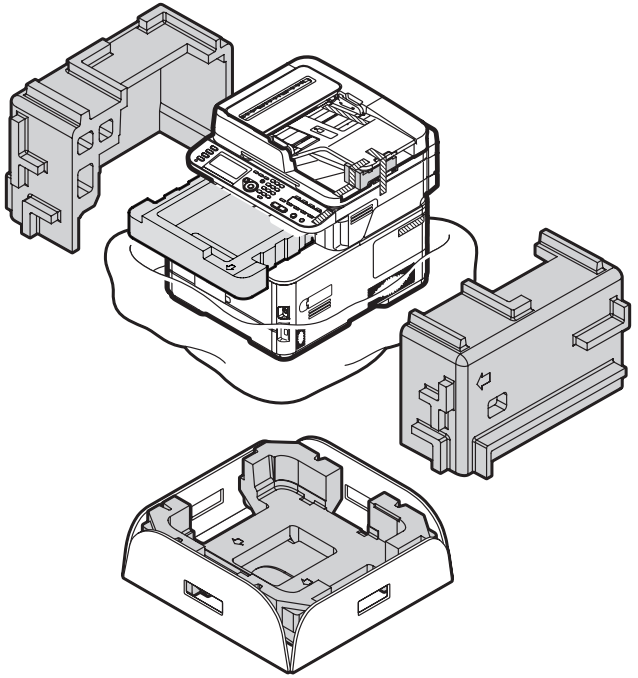
As regards the items of caution, explain to the customer showing the items of caution of the User's Manual. Particularly, explain fully about the power supply cord and earth cable.

2.2 MFP Unpacking Procedure

⚠ Warning	Personal injury may occur.	⚠

This MFP weighs about 29kg. So lift it up with 2 or more persons.

- Open the upper lid.
- Take out the accessory box.
- Remove the upper buffer material.
- Take out the equipment



3. REPLACEMENT OF PARTS

This chapter describes the procedures of the field replacement of parts, assemblies and units. The procedures are to detach them. Reverse the procedures to attach them.

The reference part numbers used in this manual (such as ① and ②) do not identical to the part numbers in the maintenance disassembly configuration diagram (46403501TL) and RSPL (46403501TR) for the manual.

3.1 Notes on replacement of parts

(1) Prior to replacing a part, unplug the AC cord and the interface cable.

(a) Be sure to use the following procedure to unplug the AC cord:

① Turn off the printer, then the LED indicator goes out.

② Pull out the AC plug of the AC cord from the AC power source.

③ Unplug the AC cord and the interface cable.

⚠ Warning	Electric shock hazard.	⚡

Be sure to unplug the AC cable as some circuits keep working while the power cable is connected even after the power is turned off.

When replacing the low-voltage power supply and high-voltage power supply, due to potential electric shock, wear insulated gloves or be careful not to touch the conductors or terminals of the power supply directly.

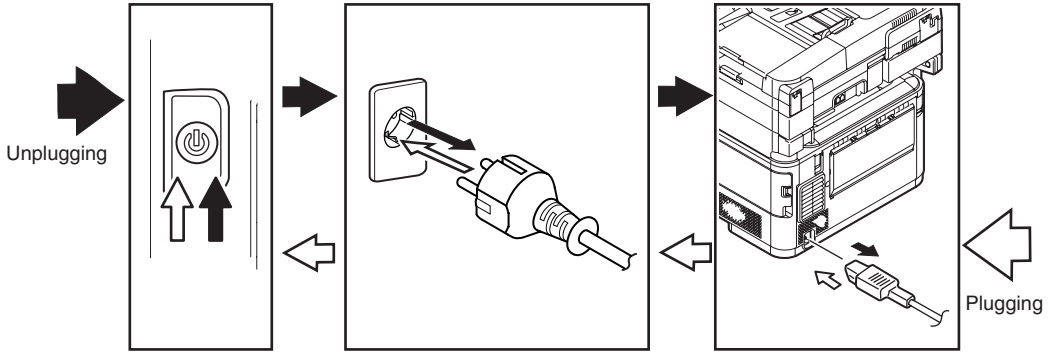
After the AC cord is unplugged, the capacitor may take about one minute to discharge completely, or could not discharge due to PCB breakdown. Use caution about electric shock.

(b) Be sure to use the following procedure to reconnect the printer:

① Connect the AC cord and the interface cable to the printer.

② Turn on the printer.

③ Turn on the printer, then the LED indicator lights up.



(2) Do not disassemble the printer so long as it operates properly.

(3) Minimize disassembly. Do not detach the parts not shown in the part replacement procedure.

(4) Use the replacement tools specified.

(5) Conduct disassembly in the order instructed, or part damage may occur.

(6) Removed small parts, such as screws or collars, should be tentatively installed in their original positions.

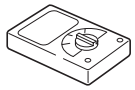
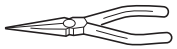
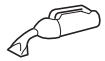
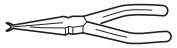
(7) Do not use static-prone gloves when handling integrated circuits (ICs) or circuit boards, including microprocessors, and ROM and RAM chips.

(8) Do not place printed-circuit boards (PCBs) directly on the printer or a floor.

Maintenance Tools:

Table 3-1-1 shows the tools necessary to replace printed-circuit boards and units:

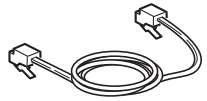
Table 3-1-1: Maintenance Tools

No.	Maintenance Tool		Quantity	Use	Remarks
1		Phillips screwdriver with magnetic tip, No. 2-200	1	3- to 5-mm screws	
2		Screwdriver No. 3-100	1		
3		Screwdriver No. 5-200	1		
4		Digital multimeter	1		
5		Pliers	1		
6		Handy vacuum cleaner (toner vacuum)	1		See note.
7		E-ring pliers	1	E-shaped ring removal	

Note! Use a toner vacuum. Using a general-purpose vacuum may cause fire.

Table 3-1-2 shows the tools necessary to use Maintenance Utility software.

Table 3-1-2: Maintenance Tools

No.	Maintenance Tool		Quantity	Use	Remarks
1		Notebook personal computer (with Maintenance Utility software installed)	1		Refer to the 46470802TH for Maintenance Utility.
2		USB cable	1		
3		Ethernet cable (crossover cable)	1		

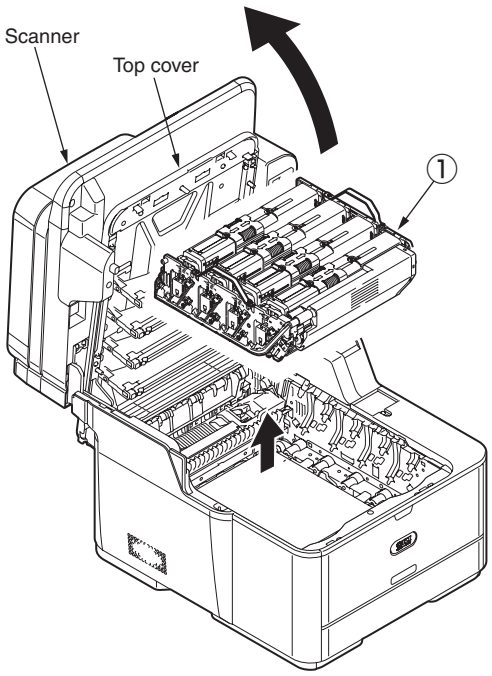
3.2 Part replacement procedure

This section describes the procedure for replacing the parts and assemblies shown in the disassembly diagrams below.

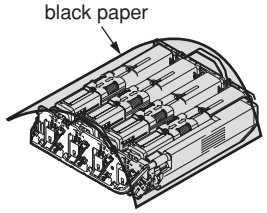
3.2.1 Belt unit

(1) Open the scanner and the top cover.

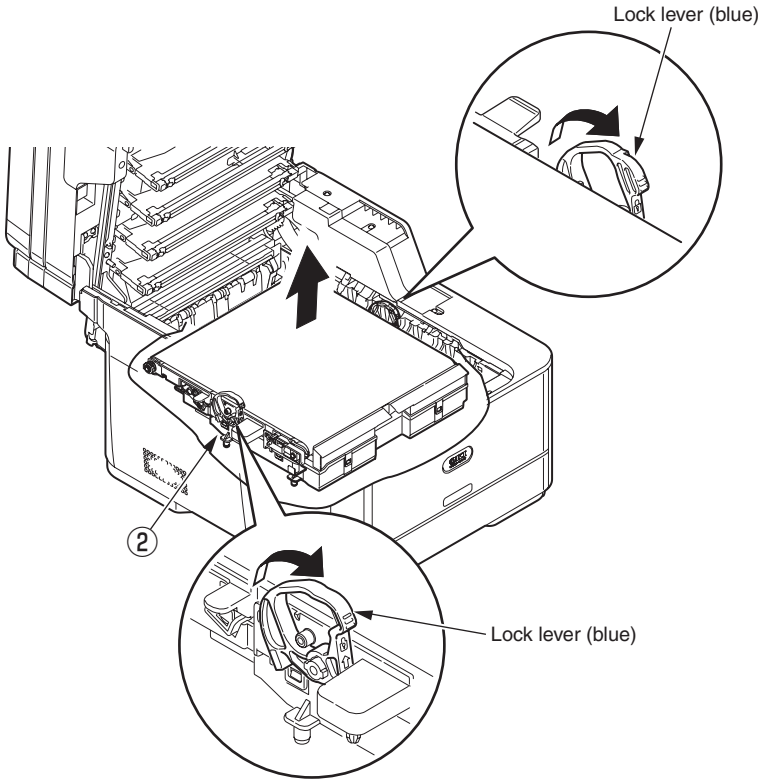
(2) Remove the image drum unit ① .



Note! Cover the removed image drum cartridges with a piece of black paper.



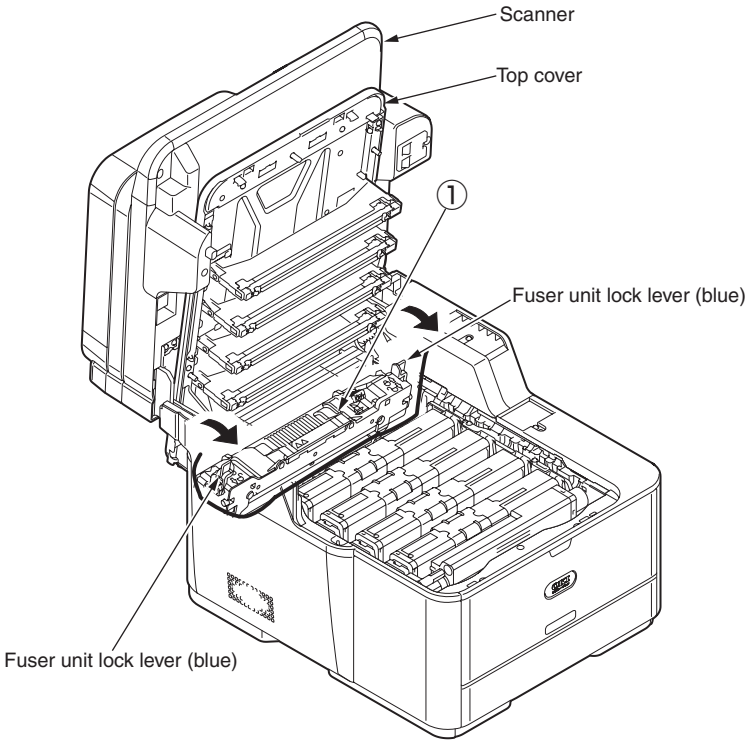
(3) Turn the (two blue) lock handles of the belt unit ② in the direction of the arrows and, holding the unit by the (blue) handle, detach the unit.



3.2.2 Fuser unit

(1) Open the scanner and the top cover.

(2) Pull the (blue) fuser unit lock lever in the direction of the arrow and detach the fuser unit ① .

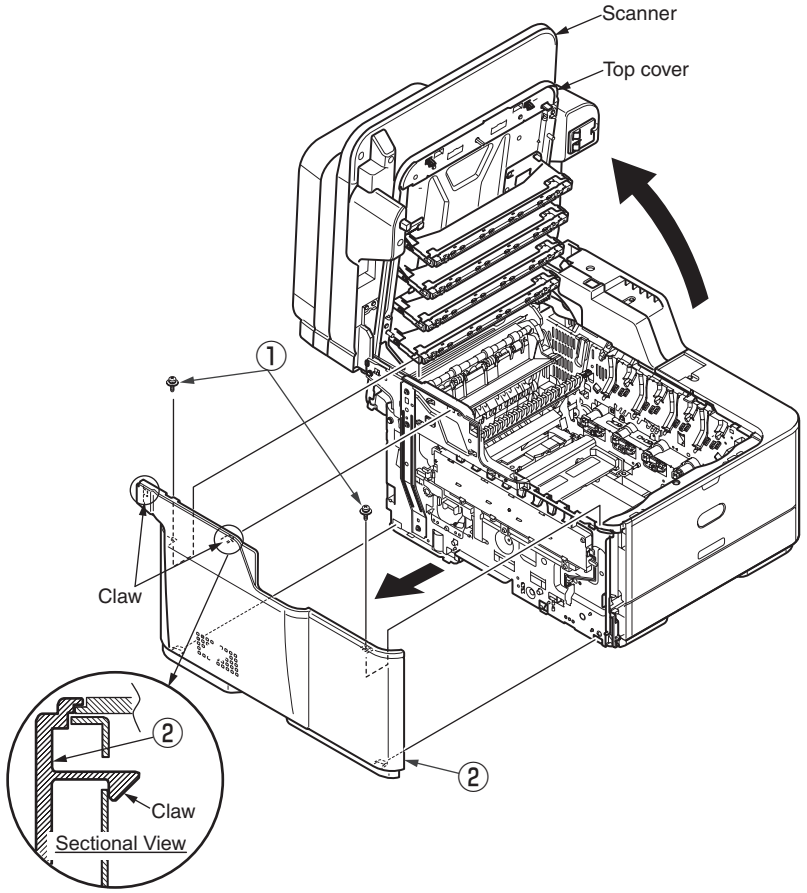


3.2.3 Left side cover

(1) Open the scanner and the top cover.

(2) Remove the two (silver-colored) screws ① .

(3) Unlatch and detach the left side cover ② .



3.2.4 Right side cover

(1) Open the scanner and the top cover.

(2) Remove the cassette Assy.

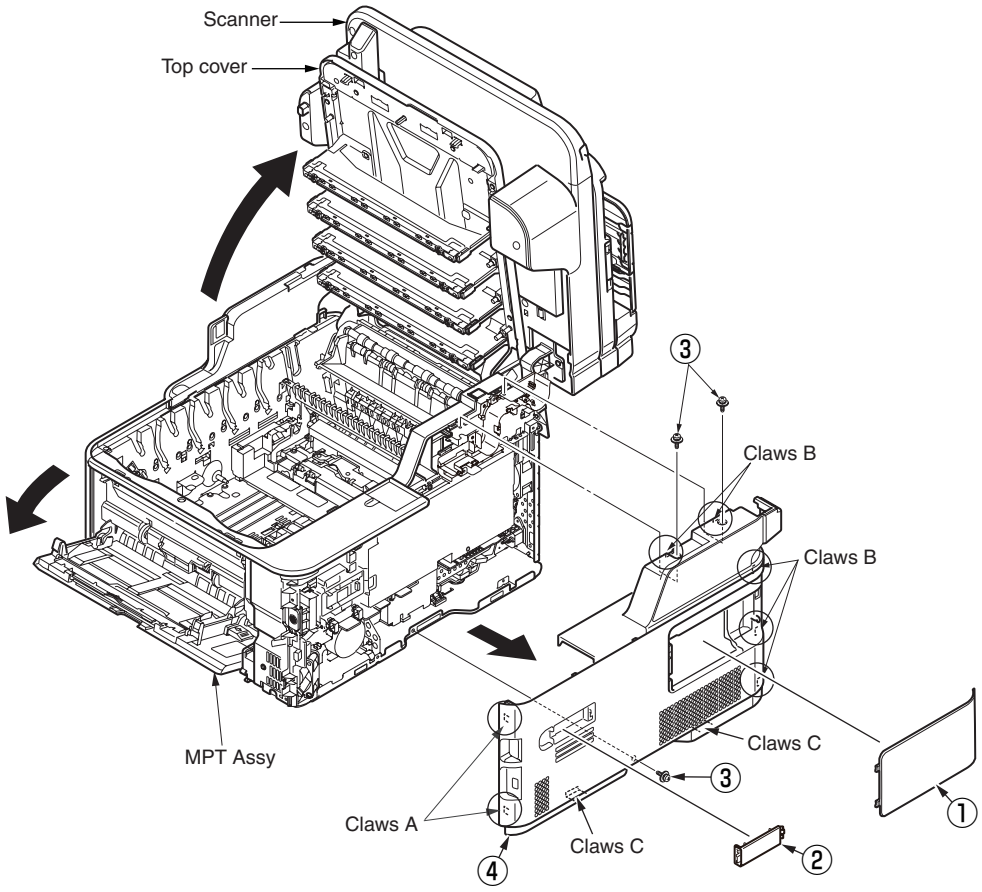
(3) Remove the interface cover ① .

(4) Remove the WLAN cover ② .

(5) Open the MPT Assy.

(6) Remove the three screws ③ .

(7) Disengage two claws A, five claws B and two claws C to detach the right side cover (R) ④ .



3.2.5 CU/PU board and low-voltage power supply

⚠ Warning	Electric shock hazard	⚡

When replacing the low-voltage power supply, electric shock may occur. Wear insulated gloves, or be careful not to touch the conductors or terminals of the power supply directly. After the AC cord is unplugged, the capacitor may take about one minute to discharge completely or, due to PCB breakdown, could not discharge. Use caution about electric shock.

(1) Remove the right side cover. (See 3.2.4)

(2) Remove the six (silver-colored) screws ① and unlatch and remove the plate shield ② .

(3) Disconnect the WLAN cable ③ from the WLAN, and remove the Wireless-LAN board ④ .

(4) Remove the two (silver-colored) screws ⑤ and remove the Holder-WLAN ⑥ .

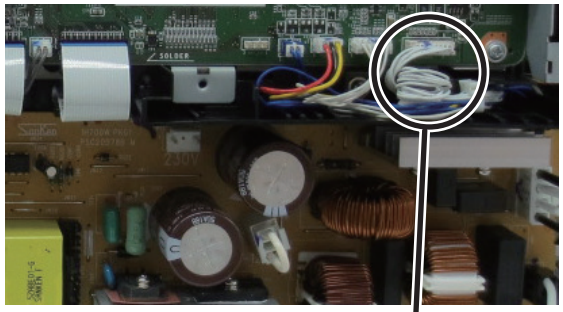
(5) Remove the WLAN cable ③ and core ⑦ from Holder-WLAN ⑥ .

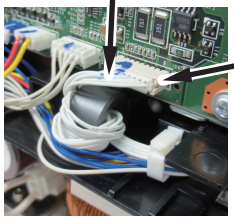
(6) Remove all the CU/PU board cables (⑧ etc.).

(7) Remove the three (silver-colored) screws ⑨ to detach the CU/PU board ⑩ .

(8) Remove all the low-voltage power supply ⑪ cables.

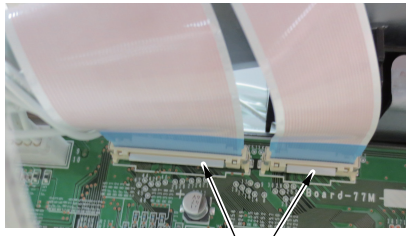
(9) Remove the two (silver-colored L=8mm) screws ⑫ , and detach the low-voltage power supply ⑪ , FG-cable ⑬ .



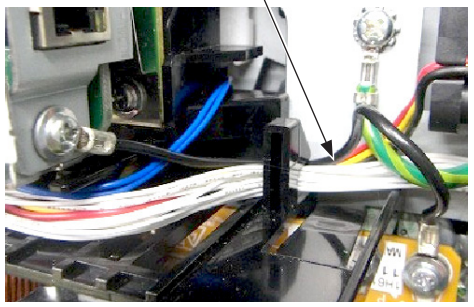


Exit cable wound one turn around core

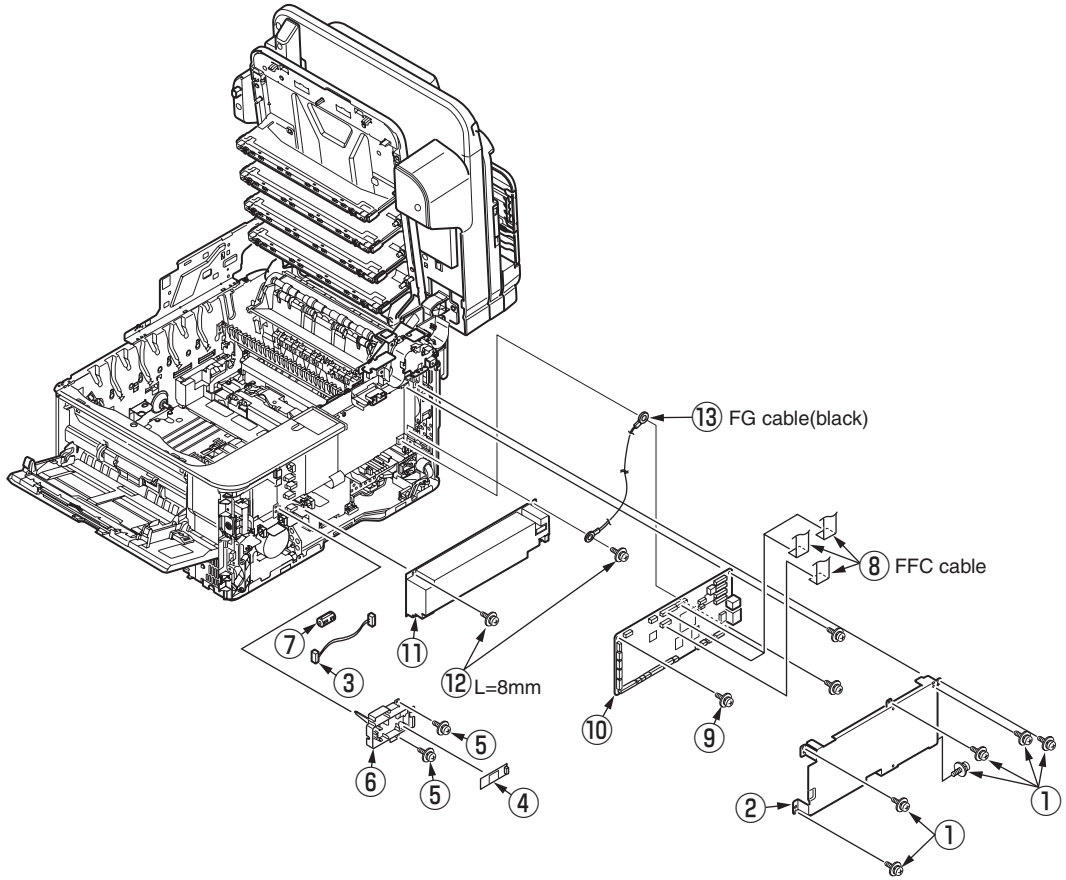
Note! When you remove a FFC cable, refer to the figure of the below.
Refer to the figure of the below for the position of FG-cable.



Method of removing FFC cable



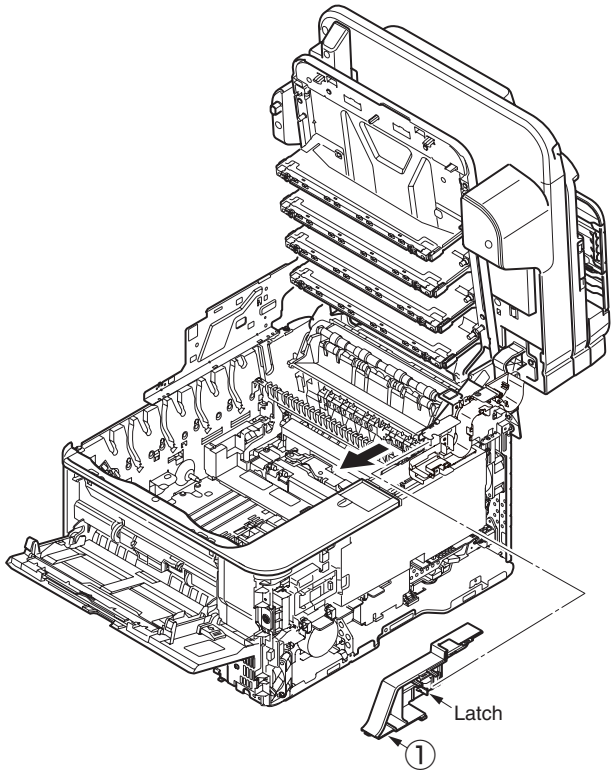
FG cable position


⑬ FG cable(black)
⑧ FFC cable
⑦
③
⑪
⑫ L=8mm
⑤
⑥
⑤
④
⑩
⑨
②
①
①

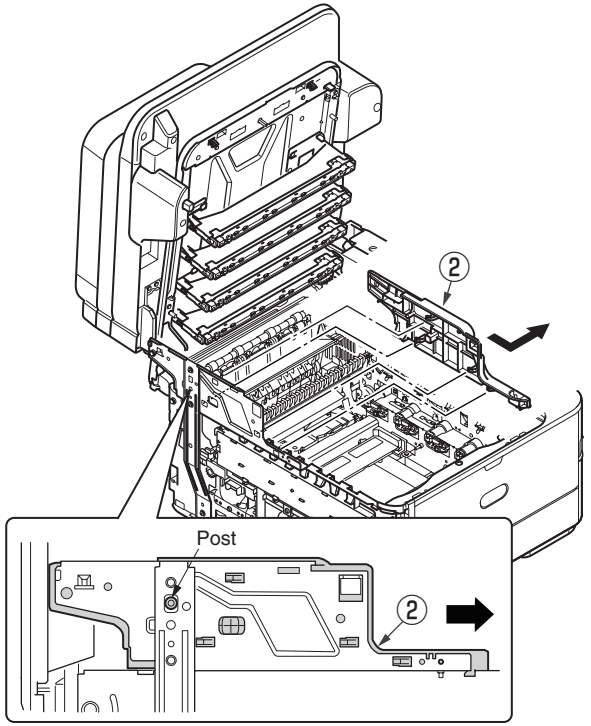
3.2.6 Front cover

(1) Remove the left side cover and right side cover. (See 3.2.3, 3.2.4)

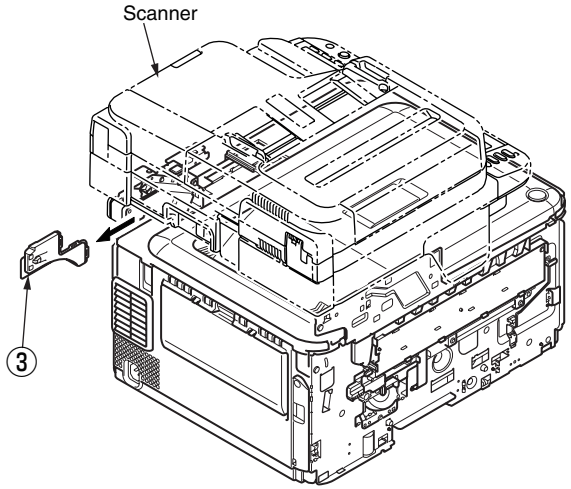
(2) Remove the latch, and remove the cover-Hinge-R ① in the direction of the arrow.



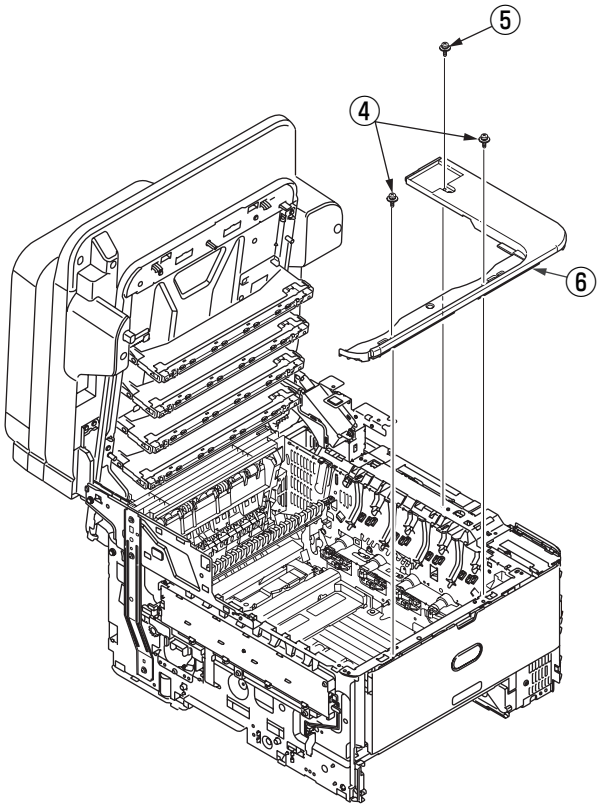
(3) Hold the post of the cover-stay-L ② depressed and slide the cover-stay-L ② in the direction of the arrow to detach.



(4) Remove the cover-hinge-RB ③ in tne direction of the arrow.



(5) Remove the two screws (black) ④ and one screw (silver-coloved) ⑤ to detach the front cover ⑥ .



3.2.7 Scanner unit

(1) Remove the left side cover, the right side cover, the CU/PU board and the front cover. (See 3.2.3, 3.2.4, 3.2.5 (6) and 3.2.6.)

(2) Remove the cover-hinge-R, the cover-stay-L and Remove the cover-hinge-RB. (See 3.2.6 (2), (3), (4))

(3) Remove the screw ① to detache the FG cable ② from the printer's mainbody.

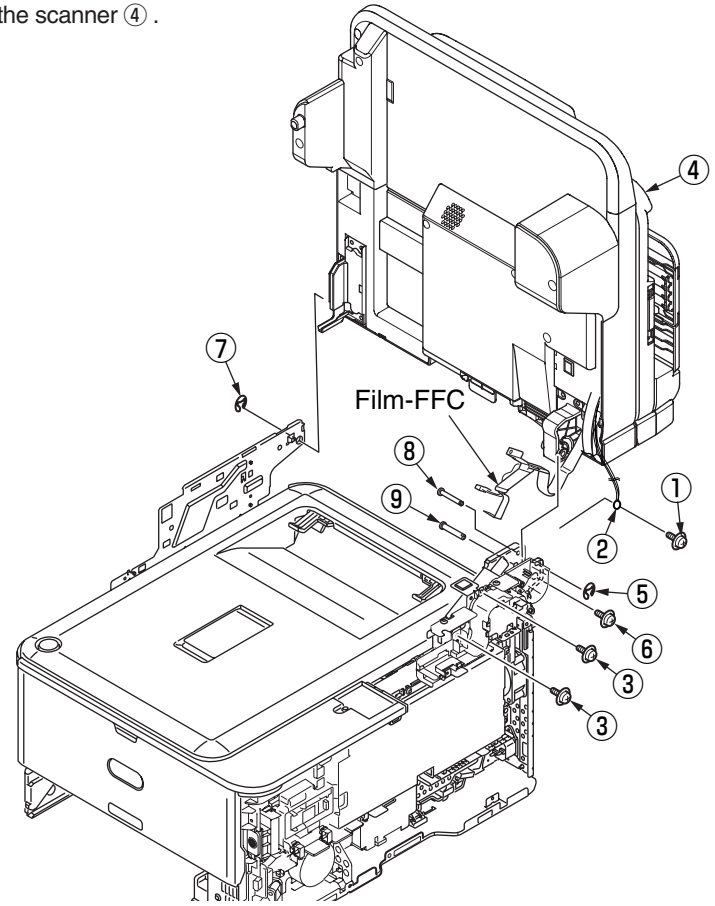
(4) Remove two (silver-colored) screws ③ to disconnect Film-FFC.

(5) Open the scanner ④ and remove the E-shaped retainer ring ⑤ and screw ⑥ .

(6) Remove the E-shaped retainer ring ⑦ .

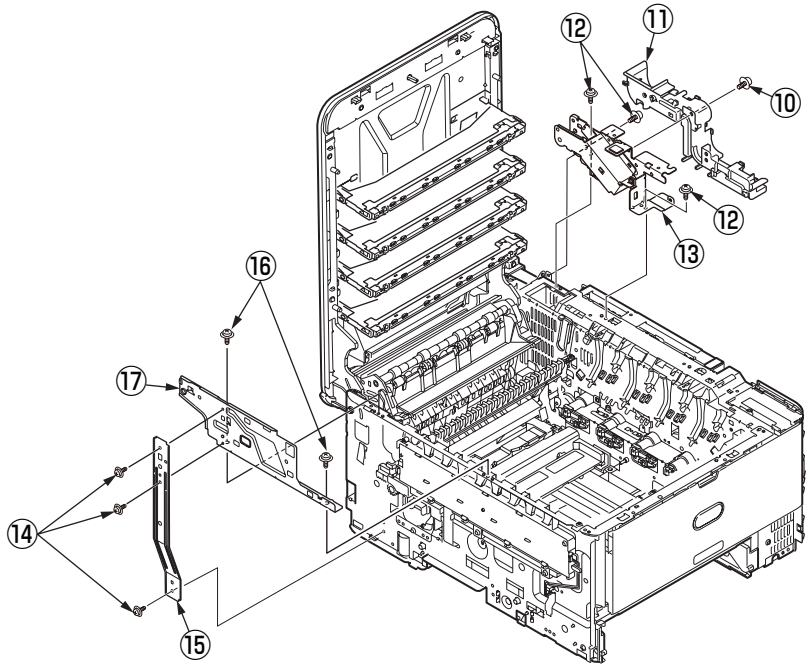
(7) Remove the shaft-stopper (hinge) ⑧ and remove the shaft-guide (hinge) ⑨ .

(8) Remove the scanner ④ .



(9) Remove the screw ⑩ and remove the guide cable ⑪ . Remove the three screws ⑫ and remove the hinge Assy FB ⑬ .

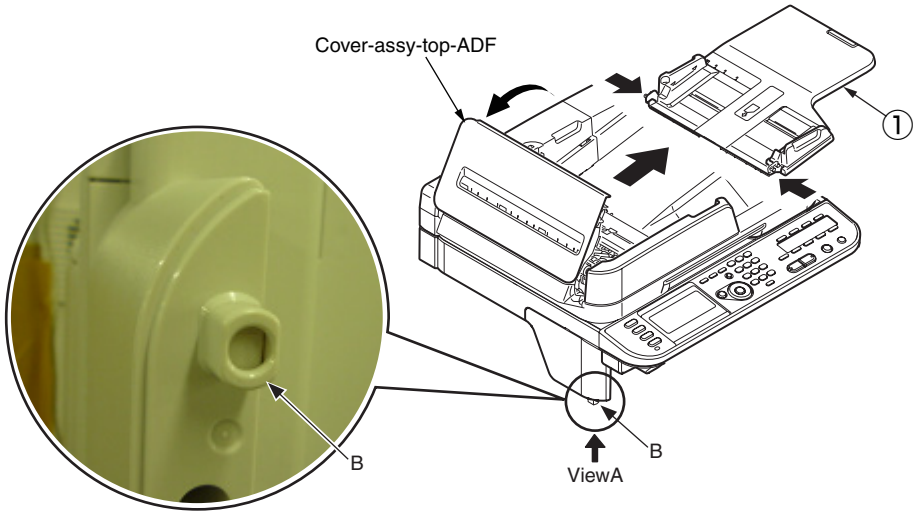
(10) Remove the three screws ⑭ and remove the plate support R ⑮ . Remove the two screws ⑯ and remove plate support stay L ⑰ .



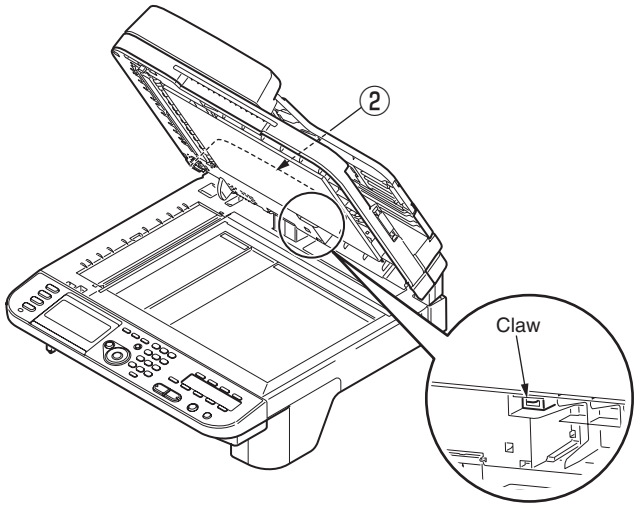
3.2.7.1 Tray-Assy-document / Cover-ADF-R-Assy

(1) Open the cover-Assy-top-ADF .

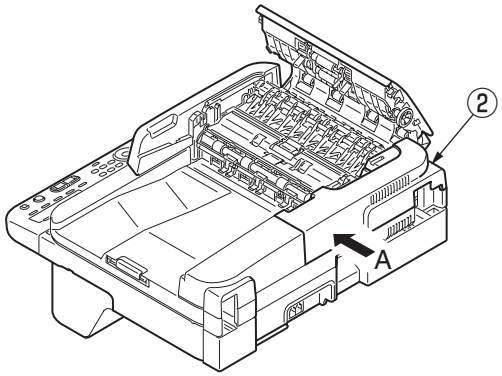
(2) Remove the tray-Assy-document ① by pull it in the direction of the arrow.



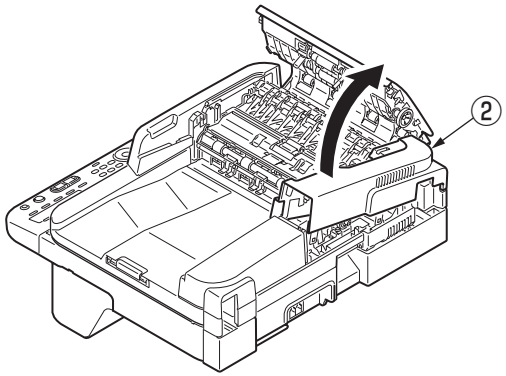
(3) Open the ADF-unit while pushing the portion B, and push the claw of cover-ADF-R-Assy ② .



(4) Push the portion A. (Concurrent to push the (3))



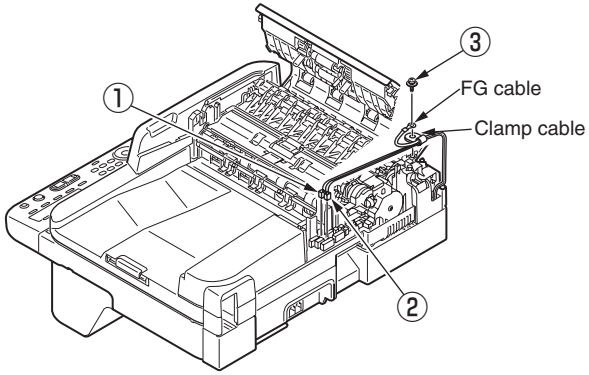
(5) Remove the cover-ADF-R-Assy ② in the direction of the arrow.



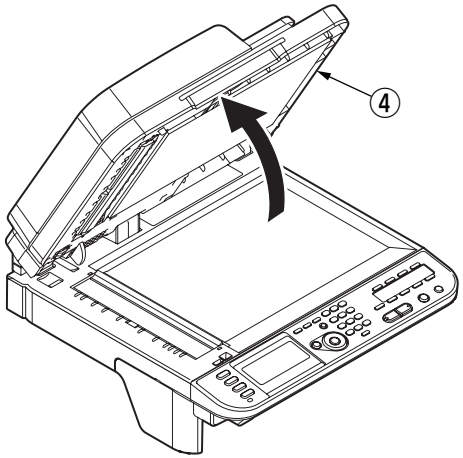
3.2.7.2 ADF-unit

(1) Remove the cover-ADF-R-Assy. (See 3.2.7.1)

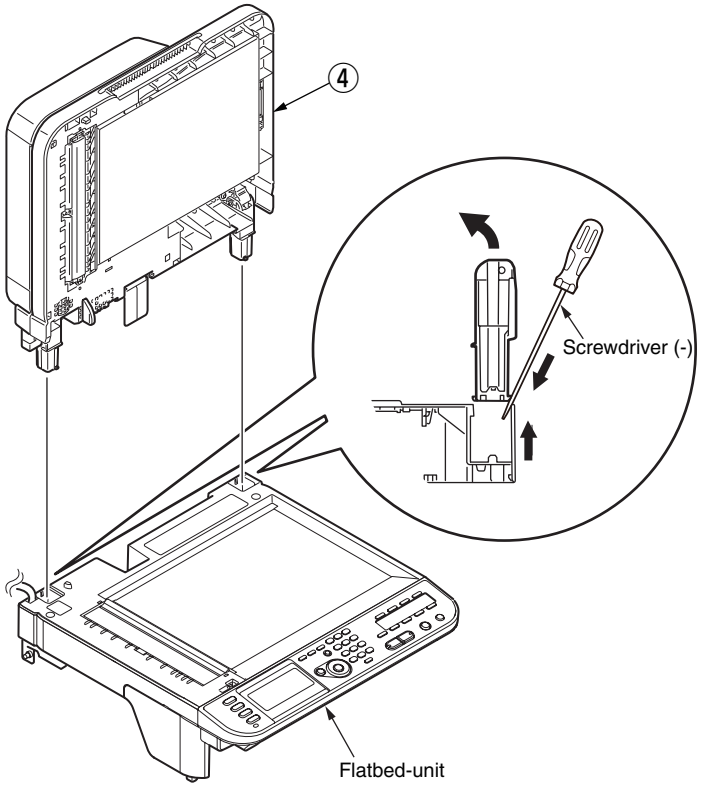
(2) Detach a connector ① and ② from the ADF board, and remove the screw ③ to remove the FG cable.



(3) Remove the clamp cable and pull the cables out of the hinge, and Open the ADF-unit ④ .



(4) Remove the ADF-unit ④ by insert the screwdriver to gap between ADF-unit ④ and flatbed-unit.

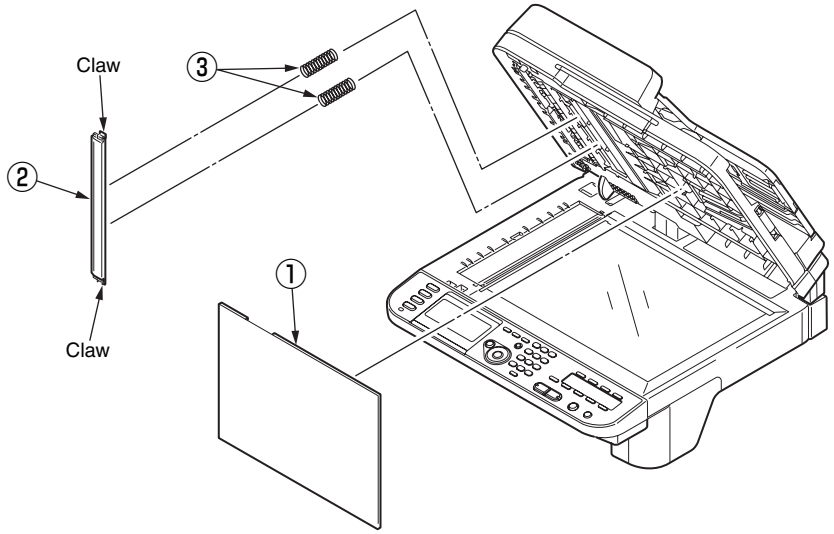


3.2.7.3 Sheet-document / Paper-weight-Assy / Spring-PW-ADF

(1) Open the ADF-unit.

(2) Remove the sheet-document ① .

(3) Remove two claws to remove the paper-weight-Assy ② and two spring-PW-ADF ③.



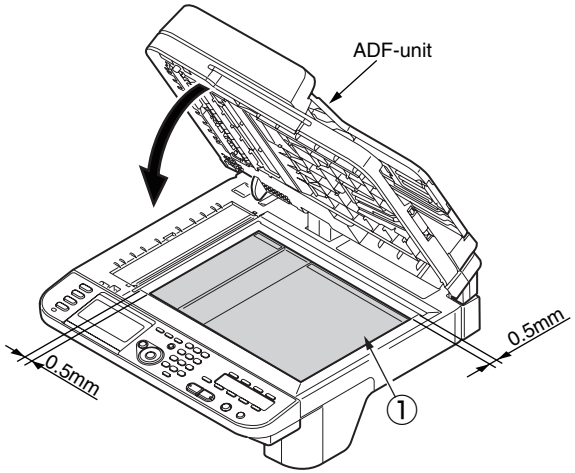
<Attention of affix the sheet-document>

(1) Degrease the affix area of ADF-unit.

(2) Remove the peeling-off sheet.

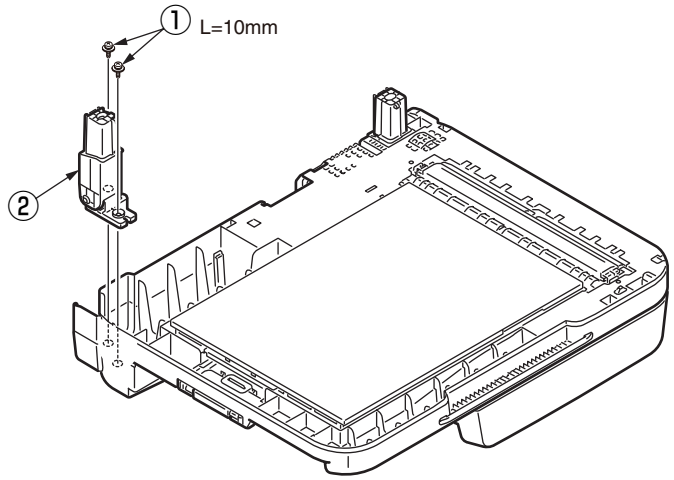
(3) Set the sheet-document ① (see the figure below).

(4) Close the ADF-unit.

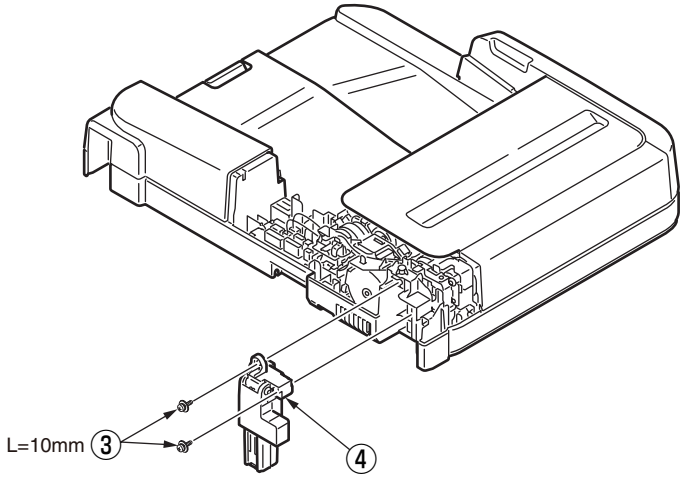


3.2.7.4 Hinge-Assy-L / Hinge-Assy-R

(1) Remove the two screws (L=10mm) ① and remove the hinge-Assy-R ② .

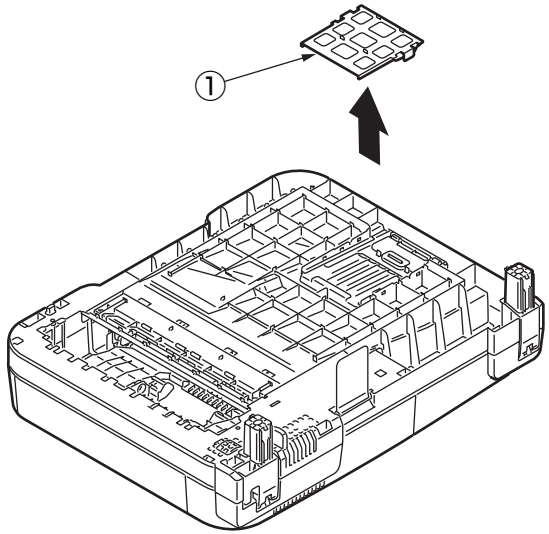


(2) Remove the two screws (L=10mm) ③ and remove the hinge-Assy-L ④ .

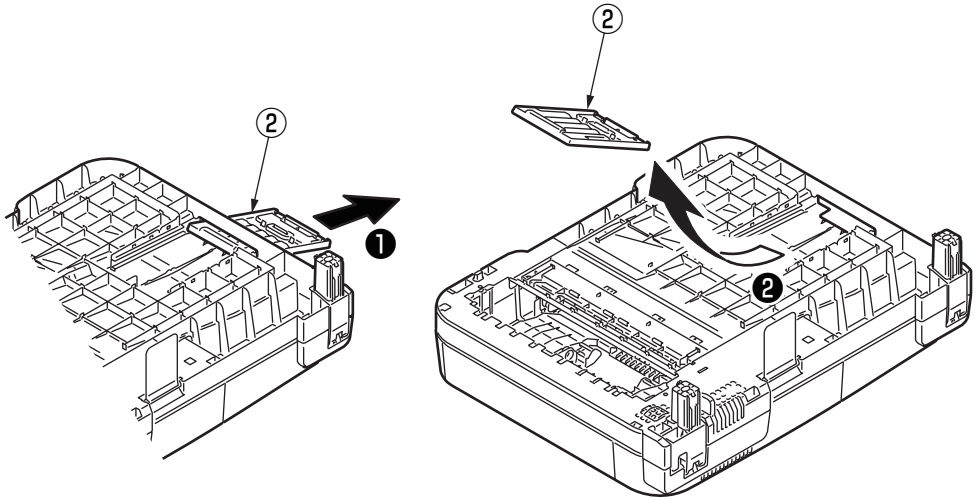


3.2.7.5 Cover-ADF-F / Guide-Assy-exit-sub / ADF-Assy / ADF board

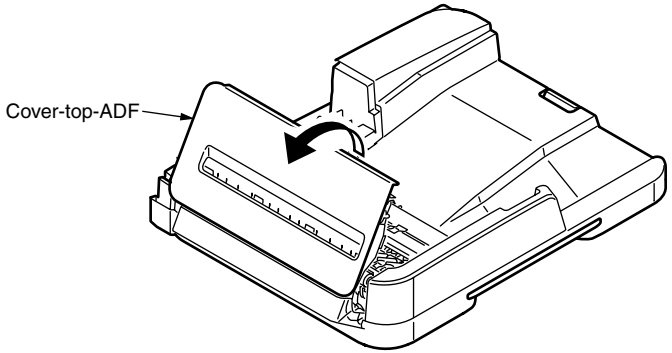
(1) Turn the ADF unit upside down and remove the support-sponge ① .



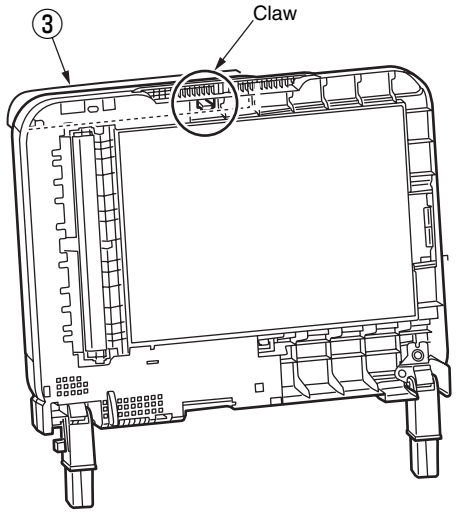
(2) Remove the guide-Assy-exit-sub ② by pull it in the direction of the arrow.



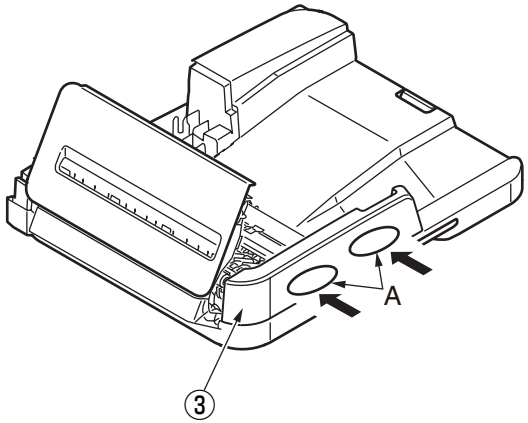
(3) Open the cover-top-ADF .



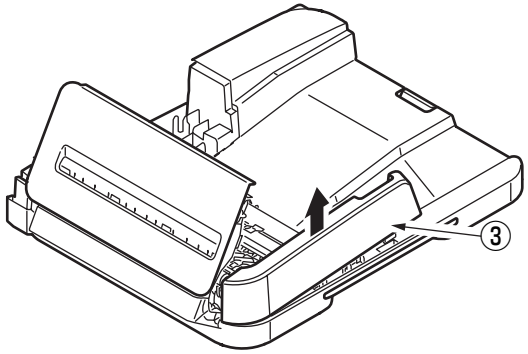
(4) Push the claw of cover-ADF-F ③ .



(5) Push the portion A (2 places). (Concurrent to push the (4))

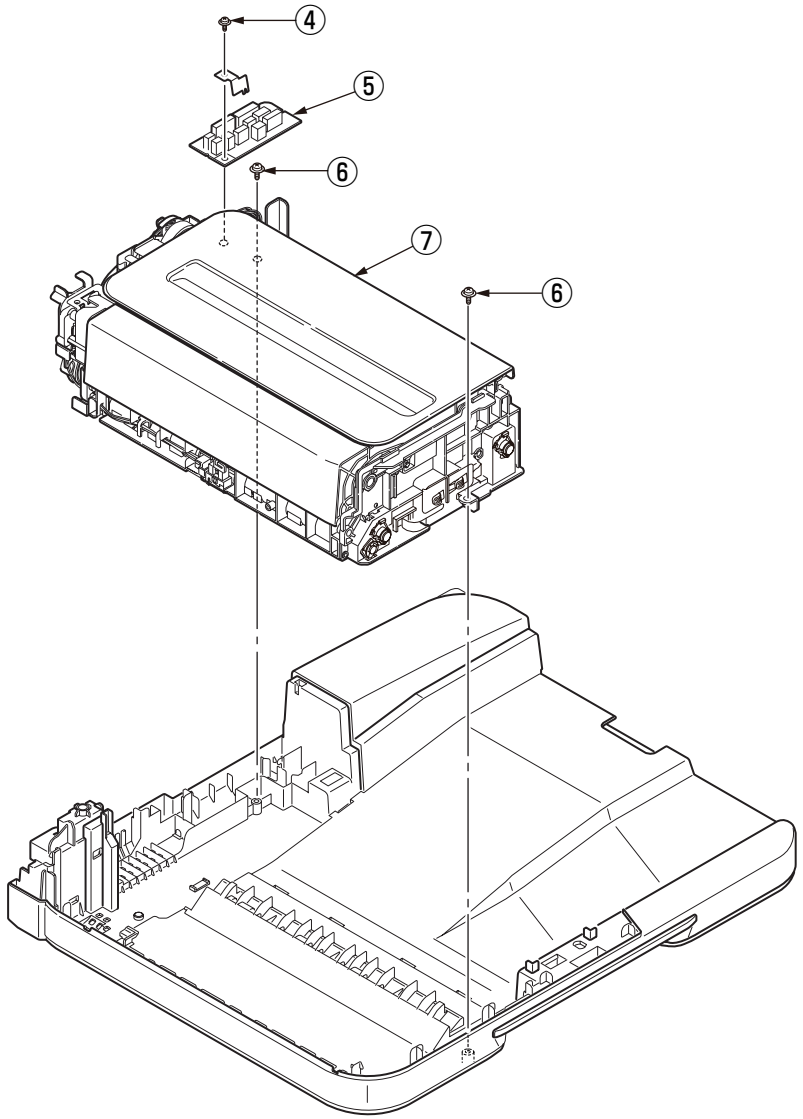


(6) Remove the cover-ADF-F ③ in the direction of the arrow.



(7) Remove the screw (silver) ④ and remove the ADF board ⑤ .

(8) Remove the two screws (black) ⑥ and remove the ADF-Assy ⑦ .



3.2.7.6 Cover-Assy-top-ADF / Guide-Assy / Roller / Motor / Clutch / Solenoid

(1) Remove the cover-Assy-top-ADF ① .

(2) Remove the guide-Assy-A ② .

(3) Remove the guide-B ③ .

(4) Remove the guide-cable ④ .

(5) Remove the guide-Assy-C ⑤ .

(6) Remove the guide-Assy-D ⑥ .

(7) Remove the two screws (silver) ⑦ and remove the motor-pulse-belt ⑧ .

(8) Remove the E-type retaining ring ⑨ and remove the clutch ⑩ .

(9) Remove the plate-FG-S ⑪ .

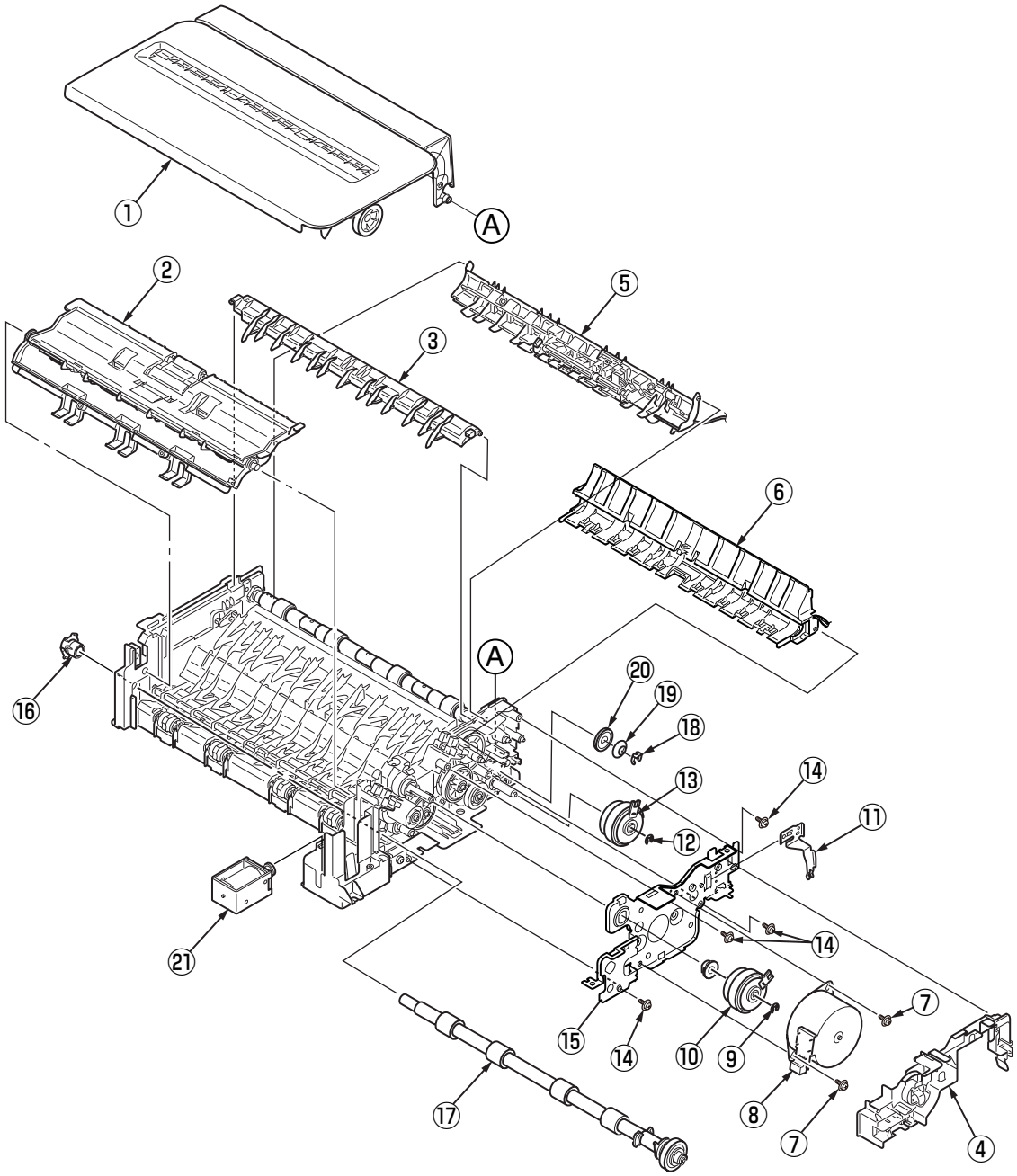
(10) Remove the E-type retaining ring ⑫ and remove the clutch ⑬ .

(11) Remove the four screws (black) ⑭ and remove the plate-motor-ADF ⑮ .

(12) Remove the bearing-shaft ⑯ and remove the roller-Assy-eject-ADF ⑰ .

(13) Remove the retainer-4 ⑱ , spring ⑲ and washer-A ⑳ .

(14) Remove the solenoid ㉑ .

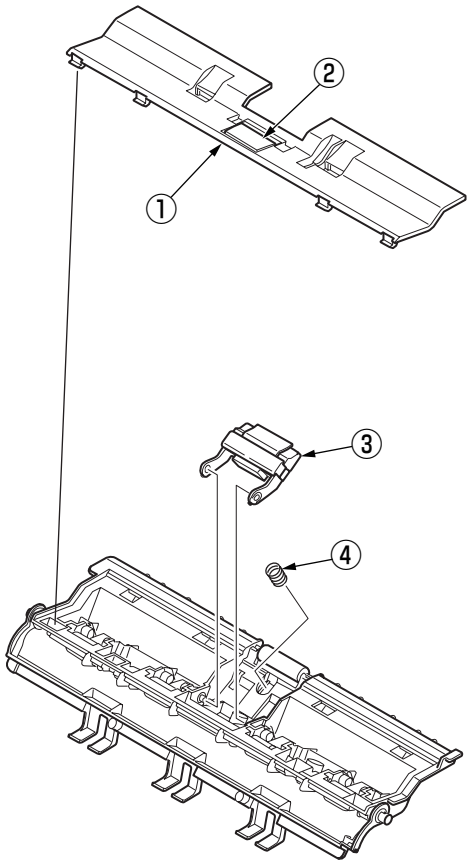


3.2.7.7 Guide-A-sub / Frame-Assy-separator / Spring-separator / Rubber-friction

(1) Remove the guide-A-sub ① with rubber-friction ② .

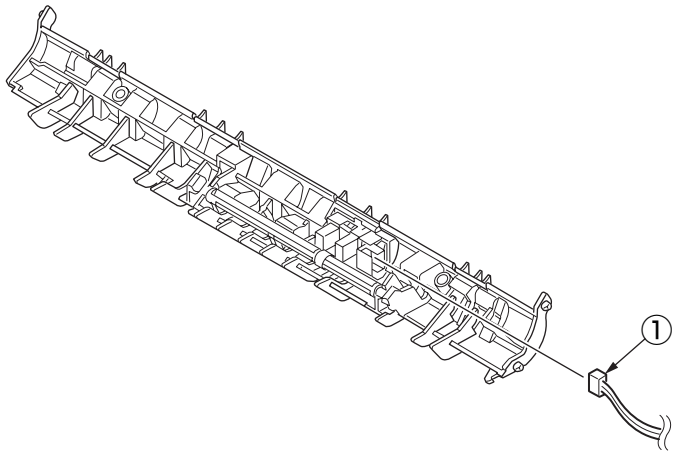
(2) Remove the frame-Assy separator ③ and spring-separator ④ .

Note! • If change the ② … Remove the ② , then degrease the ① and affix the ② .
• If change the ① … Remove the ① and ② together.



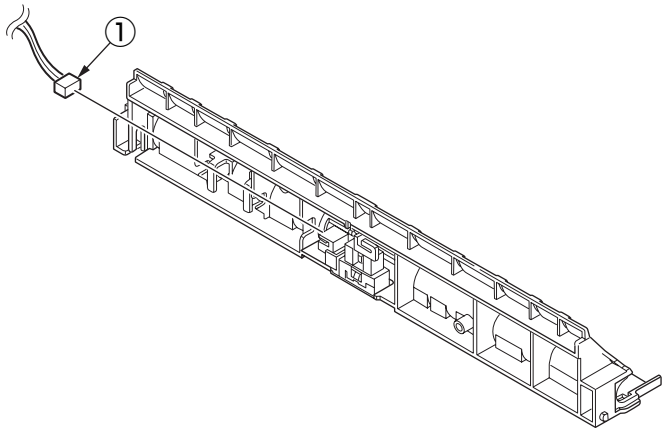
3.2.7.8 Cable (ADF-Rev SNS)

(1) Remove the cable ① .



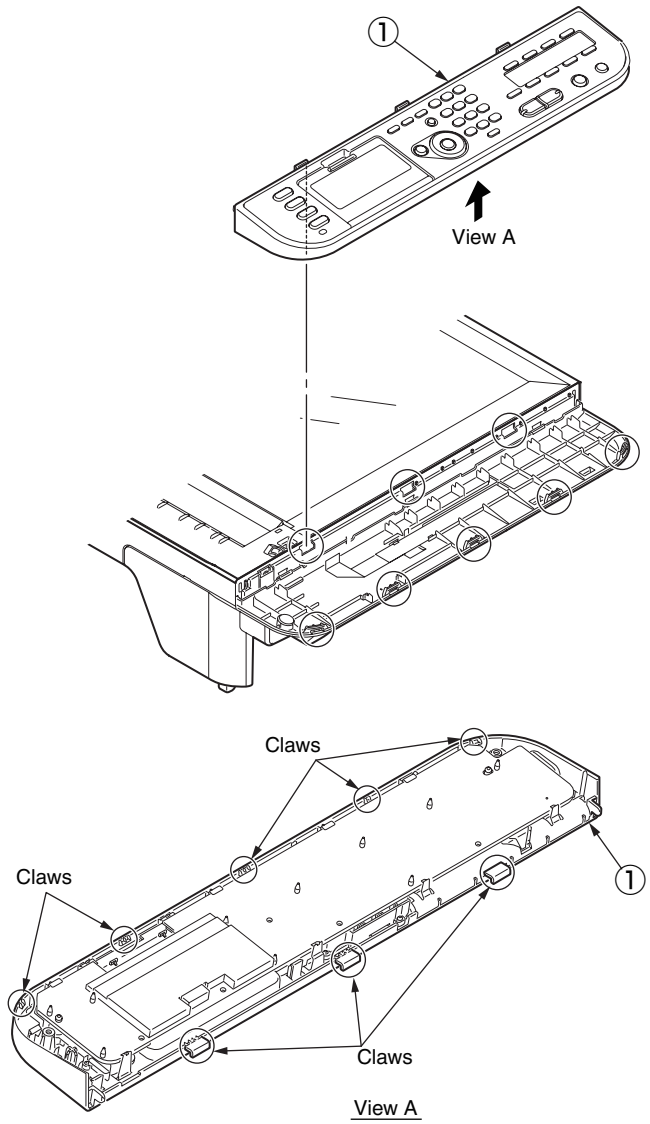
3.2.7.9 Cable (ADF-Reg SNS)

(1) Remove the cable ① .



3.2.7.10 Frame-Assy-OP

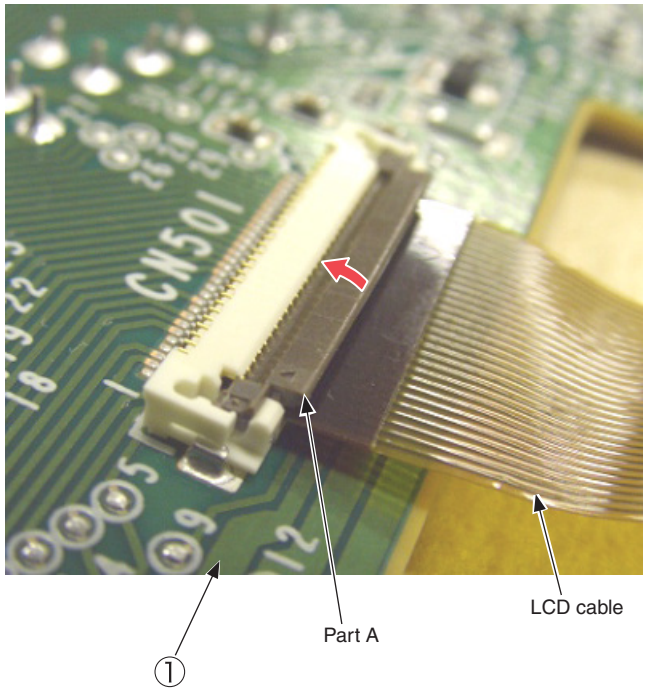
(1) Remove the eight claws to remove the frame-Assy-OP ① .



3.2.7.11 Frame-OP-panel / OPE board

(1) Remove the eight claws to remove the OPE board ① .

(2) Remove the LCD cable, while part A is raised in the direction of the arrow.



Method of removing LCD cable

(3) Remove the rubber-pad (R) ② and rubber-pad (L) ③ .

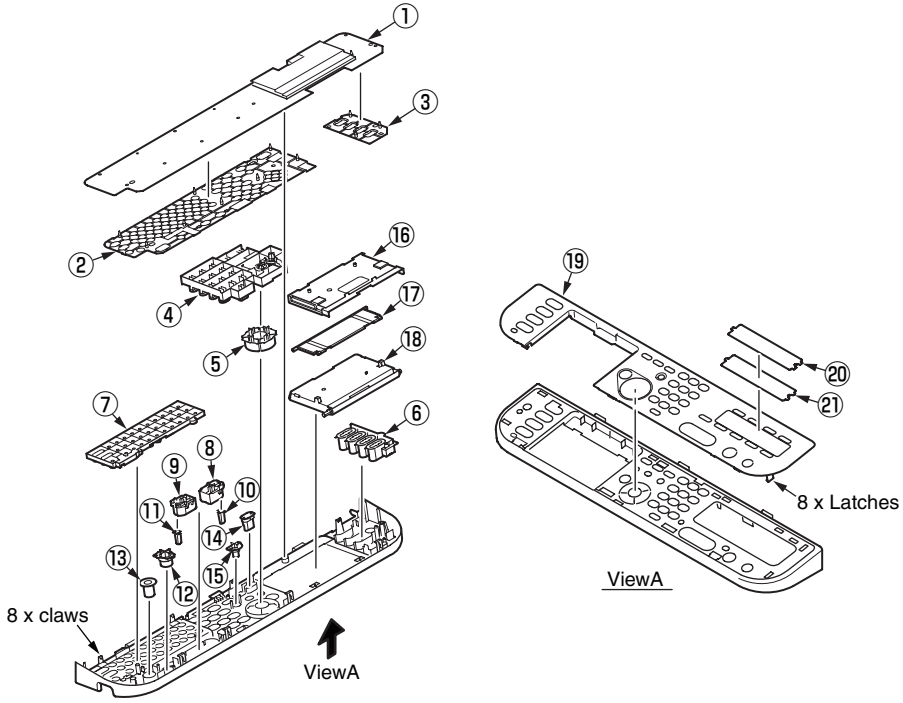
(4) Remove the button and lens ④ to ⑮ .

(5) Remove the cover bottom ⑯ and cover-cable ⑰ and LCD-Assy ⑱ .

(6) Remove the eight latches to remove the cover-op-panel ⑲ .

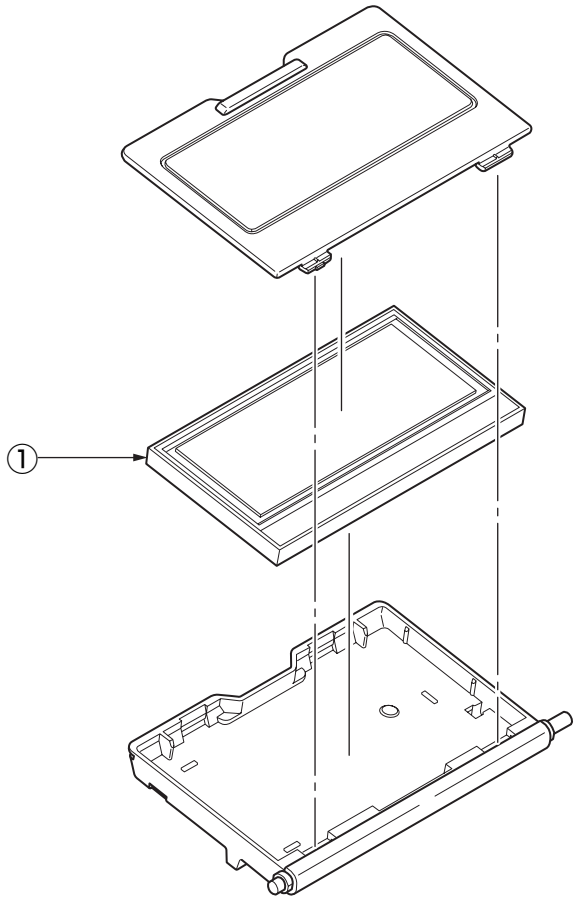
(7) Remove the film-one-touch ⑳ and sheet-one-touch ㉑ .

(7) Remove the film-one-touch ⑳ and sheet-one-touch ㉑ .



3.2.7.12 LCD-Assy

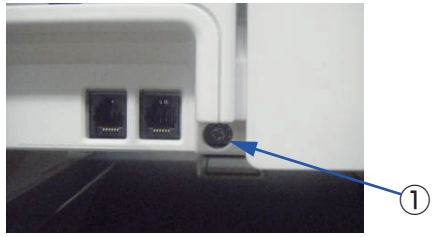
(1) Remove the LCD-Assy ① .



3.2.7.13 Frame-Assy-FB

Note! • It exchanges it detaching the scanner unit from the MFP when the SU-board is exchanged.

(1) Remove the screw (silver-colored M4) ① .

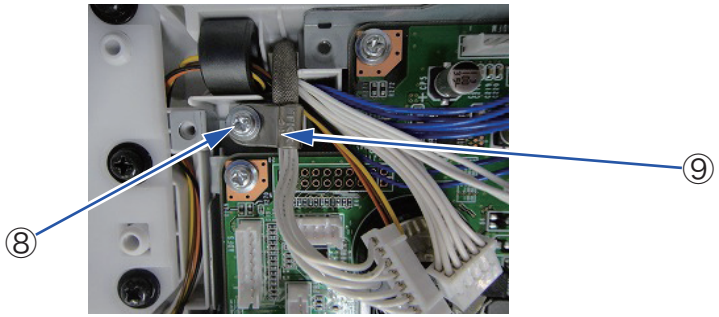


(2) Remove four screws (black-colored, L=10mm) ② to remove the Cover Bottom ③.

(3) Remove Plate-FG (FAX) ④ from Cover Bottom ③ .

(4) Remove five screws (silver-colored) ⑤ and five screws (black-colored, L=8mm) ⑥ to remove the Plate-Shield (SU) ⑦ .

(5) Remove the screw (silver-colored) ⑧ to remove the Clamp ⑨ . And remove all SU-Board cables.



(6) Remove the screw (silver-colored M4) ⑩ to remove the Plate-FG ⑪ .

(7) Remove five screws (silver-colored) ⑫ to remove the SU-Board ⑬ .

(8) Remove the screw (silver-colored M4) ⑭ to remove the cord-FG ⑮ .

(9) Remove three screws (black-colored, L=8mm) ⑯ to remove the Plate-Board (SU) ⑰.

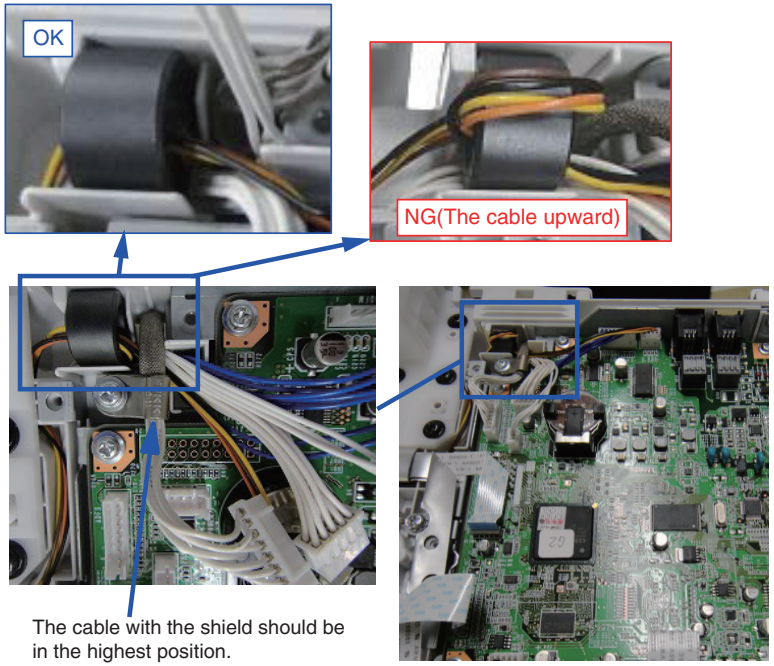
(10) Remove the screw (black-colored, L=10mm) ⑱ to remove the Cover-Assy-LF ⑲ .

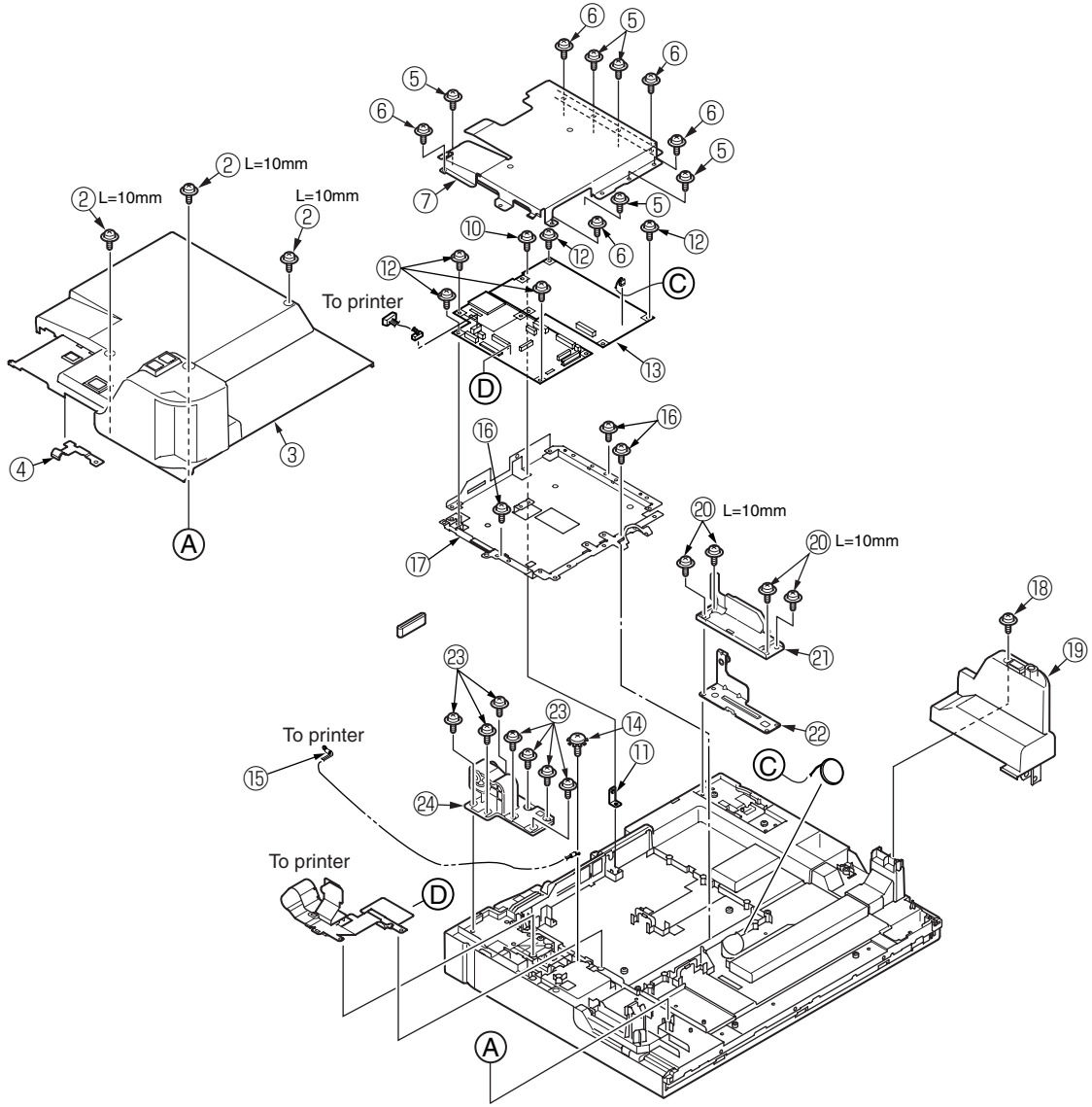
(11) Remove four screws (black-colored, L=10mm) ⑳ to remove the Cover-Hinge-L ㉑ and the Plate-Hinge-L (Caulking) ㉒ .

(12) Remove seven screws (black-colored, L=10mm M4) ㉓ to remove the Cam-hinge ㉔.

***Note!* (to assemble)**

1. Since a cable will be pushed by Plate-Shield (SU), please place downward.




⑥
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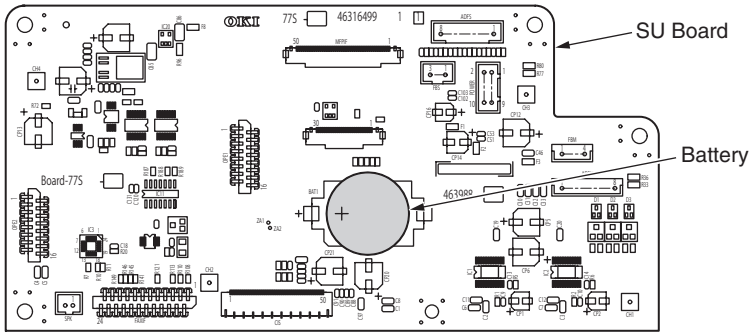
A

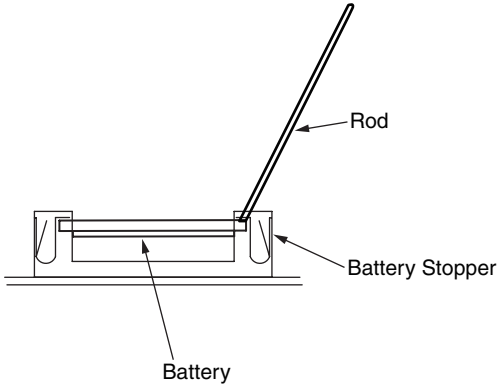
3.2.7.14 How to remove Battery (SU Board)

(1) The position of the battery is shown in the below picture.

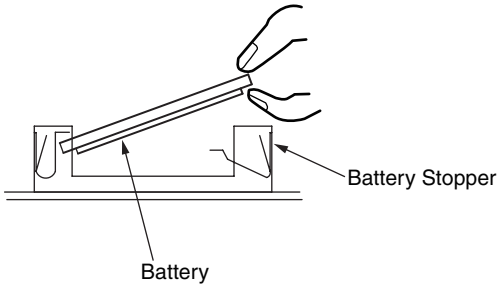


(2) How to remove the battery.

Insert finger, a needle or a rod in the gap between the battery and its holder.

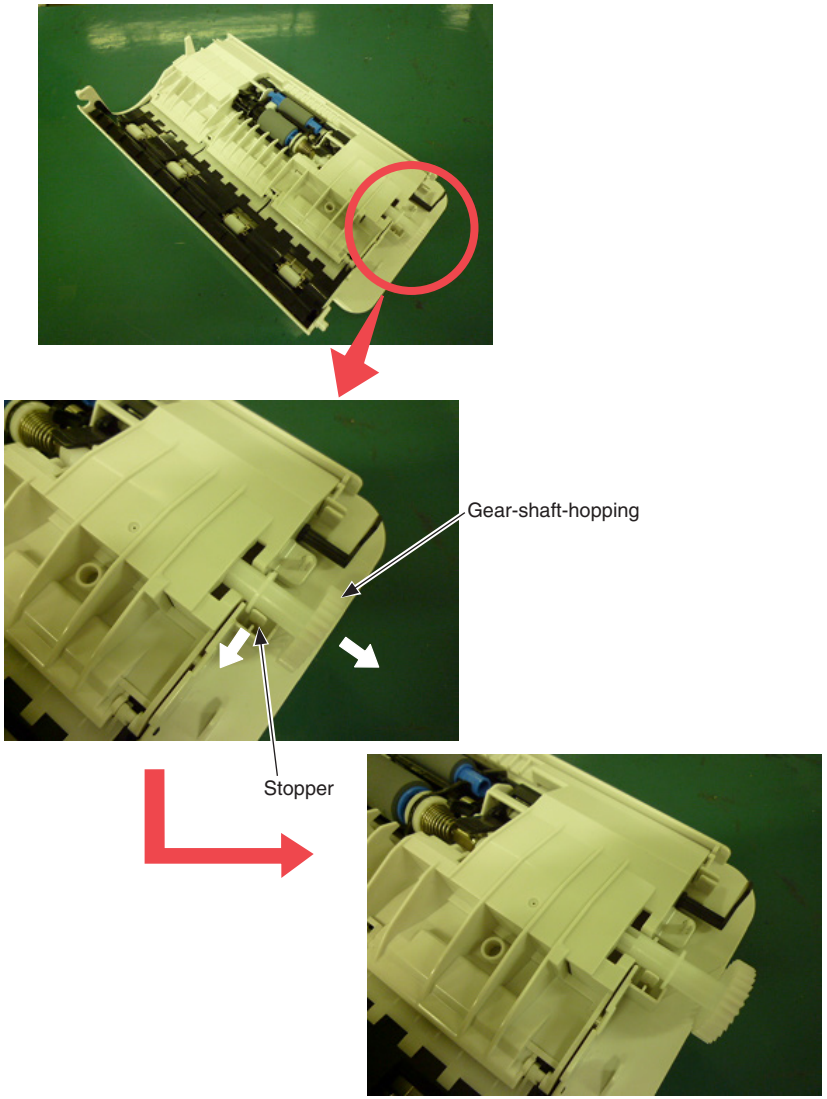


Raise the battery up so that it is put on the battery stopper, and remove it.

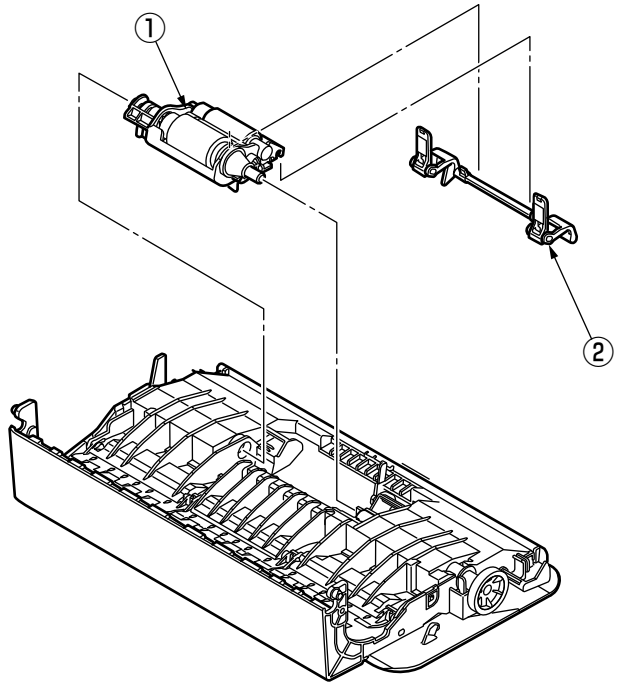


3.2.7.15 Frame-Assy-hopping-ADF

(1) Slide the Gear-shaft-hopping while opening the stopper.

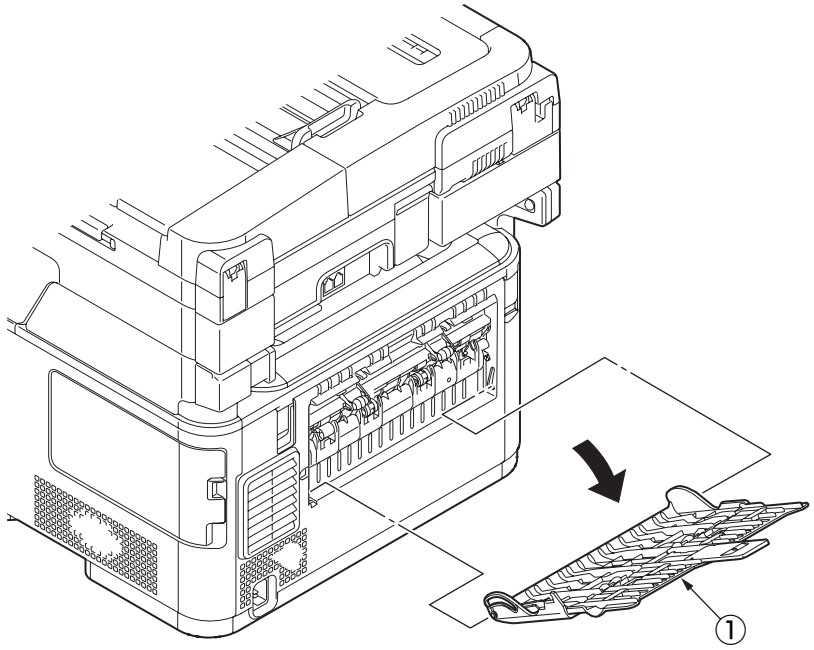


(2) Remove the Frame-Assy-hopping-ADF ① and the Stopper-Assy-Gate ② .



3.2.8 Face-up tray

(1) Open the face-up tray ① in the direction of the arrow and, warping it, disengage two portions to detach the face-up tray.



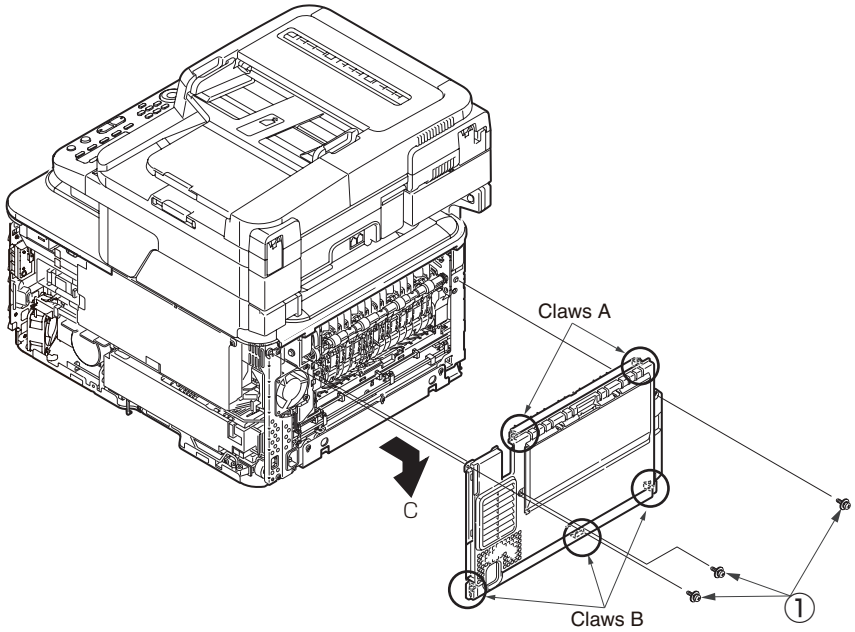
3.2.9 Rear cover

(1) Remove the left side cover and the right side cover. (See 3.2.3, 3.2.4)

(2) Remove the three (silver-colored) screws ① .

(3) Disengage two claws A with a flat-blade screwdriver.

(4) Disengage three claws B to slide the rear cover ② in the direction of the arrow C to detach it.

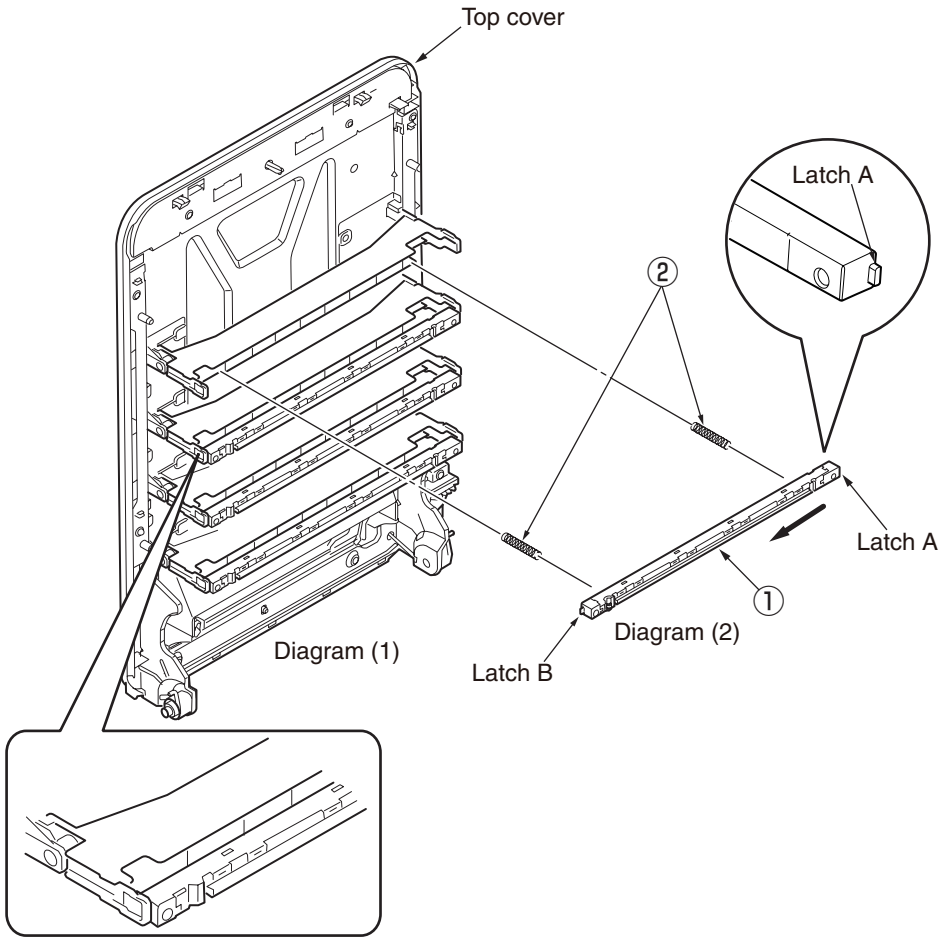


3.2.10 LED Assy and LED Assy springs

(1) Open the Scanner and the top cover.

(2) Remove the cables of the LED Assy. As shown in diagram (2), apply force in the direction of the arrow to unlatch the latch A and then the latch B to detach the LED Assy ① .

(3) Turning the LED Assy springs ② clockwise, detach it.

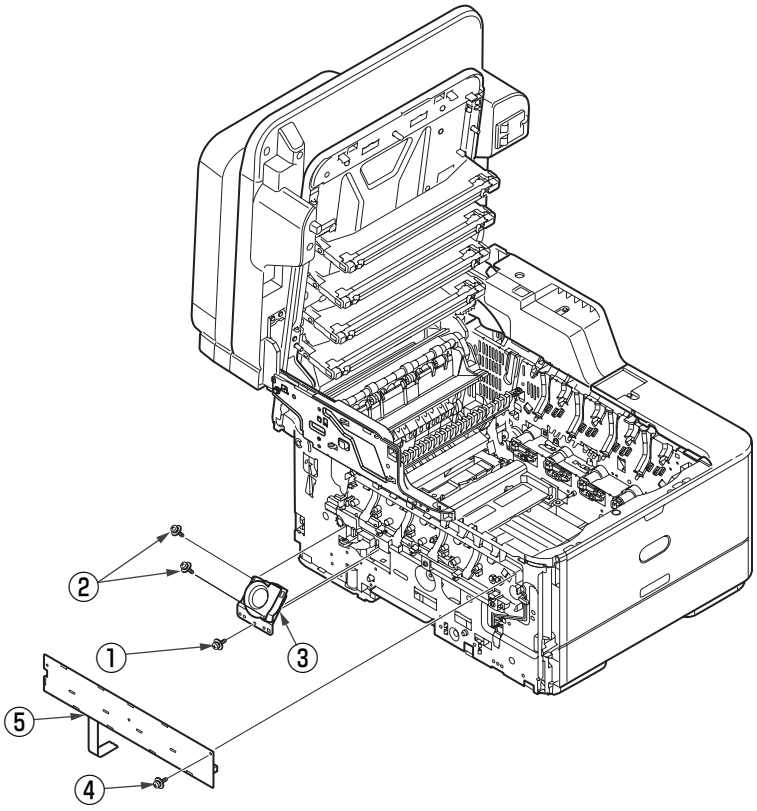


3.2.11 Image drum fan and ZHE board

(1) Remove the left side cover. (See 3.2.3)

(2) Remove the (silver-colored) screw ① and the two (silver-colored) screws ② to detach the image drum fan ③ .

(3) Remove the (silver-colored) screw ④ and unlatch five portions to detach the ZHE board ⑤ .



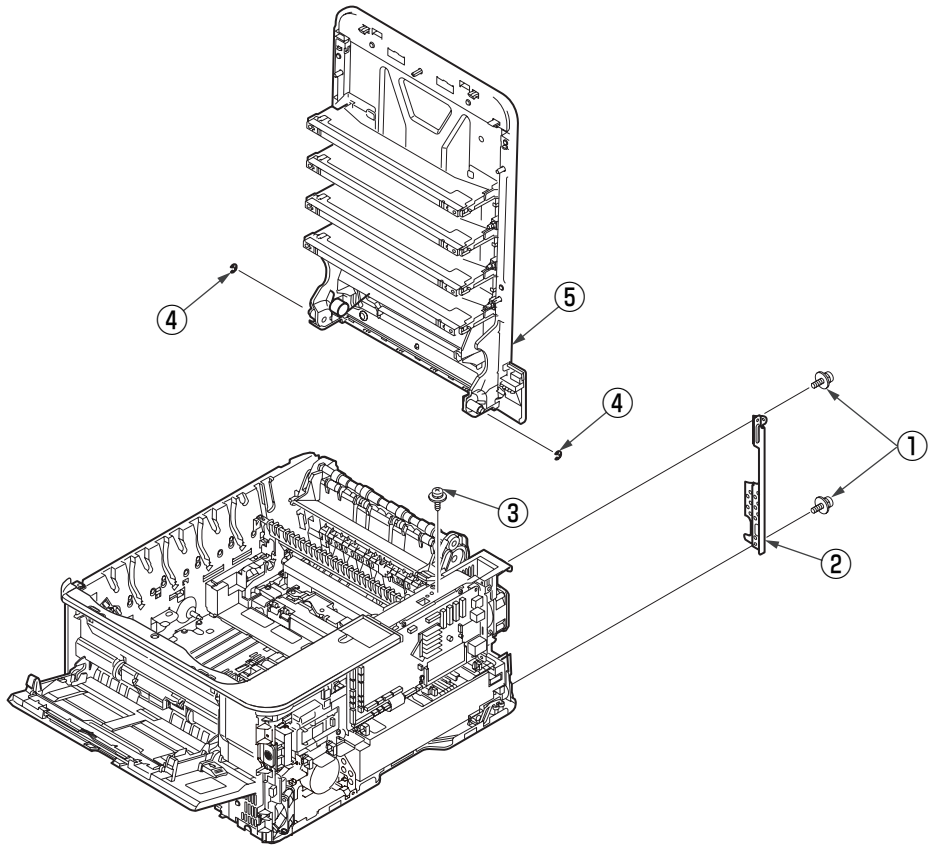
3.2.12 Top cover Assy

(1) Remove the left side cover, the right side cover and the rear cover.

(2) Remove the plate shield Assy and then the LED head cables from the CU/PU board.

(3) Remove the two screws ① to remove the plate-rear ② .

(4) Remove the (silver-colored) screw ③ and then the two E-shaped retainer rings ④ to detach the top cover Assy ⑤ .



3.2.13 Top cover and LED head cable Assy

(1) Remove the LED Assy. and LED Assy springs. (See 3.2.7)

(2) Remove the Top cover Assy. (See 3.2.10)

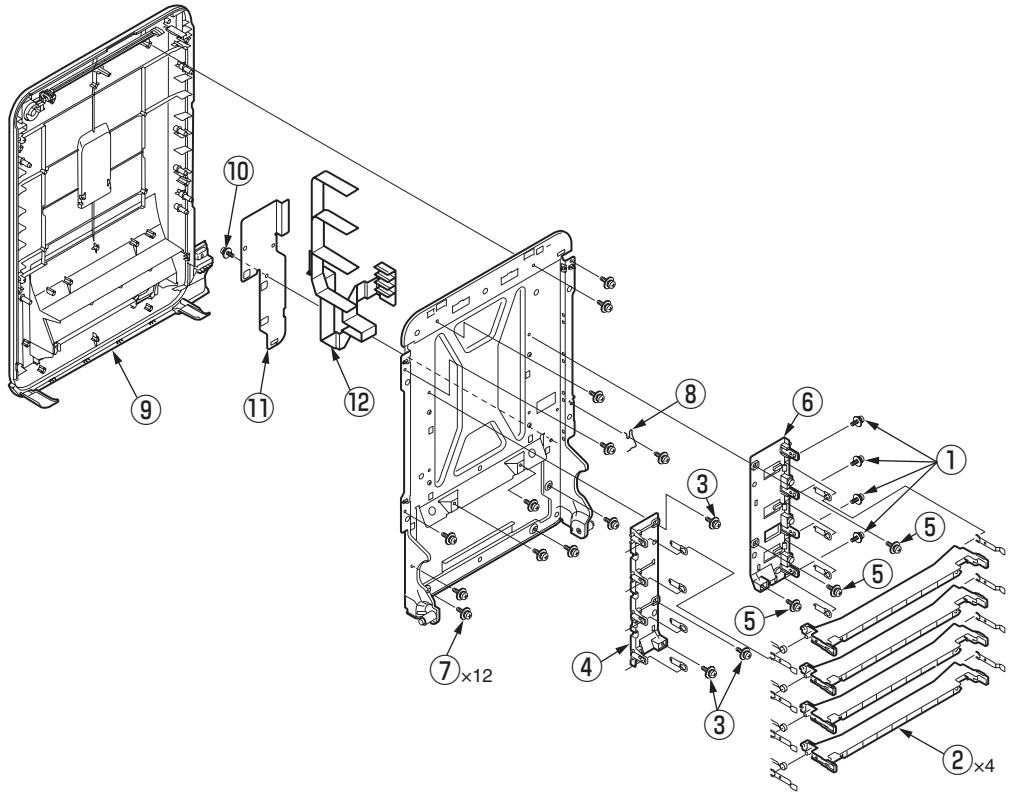
(3) Remove four screws (black) ① to detach four Head-holders ② .

(4) Remove three screws (black) ③ to detach a Frame-Head-L ④ .

(5) Remove three screws (black) ⑤ to detach a Frame-Head-R ⑥ .

(6) Remove the twenty (black) screws ⑦ to detach a Spring ⑧ and a top cover ⑨

(7) Remove a (silver-colored) screw ⑩ and a Film ⑪ to detach the LED head cable Assy ⑫.

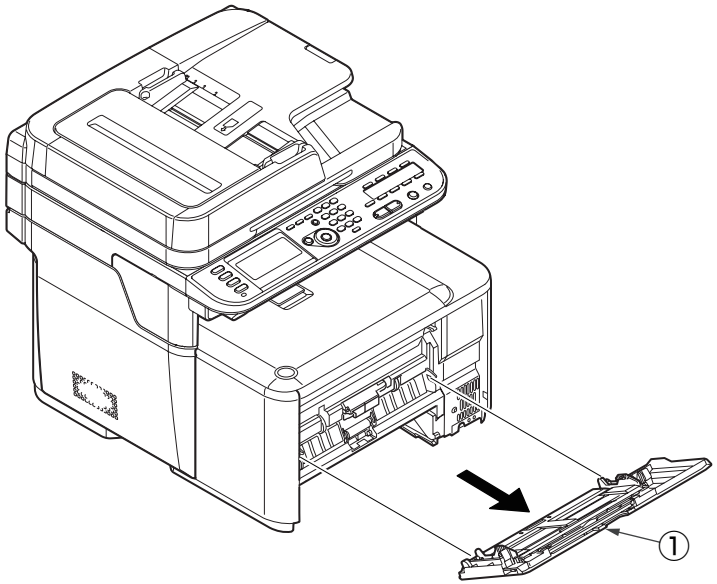


3.2.14 MPT Assy

(1) Remove the cassette Assy.

(2) Open the MPT Assy ① .

(3) Pull the direction of the arrow and remove the MPT Assy ① .



3.2.15 Front fan, hopping motor, rear fan, image drum motor and cover-open switch

(1) Remove the left side cover, the right side cover, the rear cover, the MPT Assy, the plate-rear, the plate shield Assy, low voltage power supply, cover front Assy and the WLAN-holder.

(2) Remove the two (silver-colored) screws ① to detach the hopping motor ② .

(3) Remove the two (silver-colored) screws ③ to detach the rear FAN ④ .

(4) Remove the two (silver-colored) screws ⑤ to detach the plate support ⑥ .

(5) Disconnect the CONN Cord ⑦ from the PU/CU PCB and the Holder Assy.-Switch ⑧ with the CONN Cord ⑦ from the side R of the main body.

(6) Disconnect the CONN Cord ⑦ from the Holder Assy.-Switch ⑧ .

(7) Remove the (silver-colored) screw ⑨ to detach the Host USB-Assy ⑩ .

(8) Remove the two (silver-colored) screws ⑪ to detach the USB-Cable ⑫ .

(9) Remove the two (silver-colored) screws ⑬ and unlatch the Frame-MPT-side ⑭ to remove it.

(10) Remove the two (silver-colored) screws ⑮ to detach the Front FAN ⑯ .

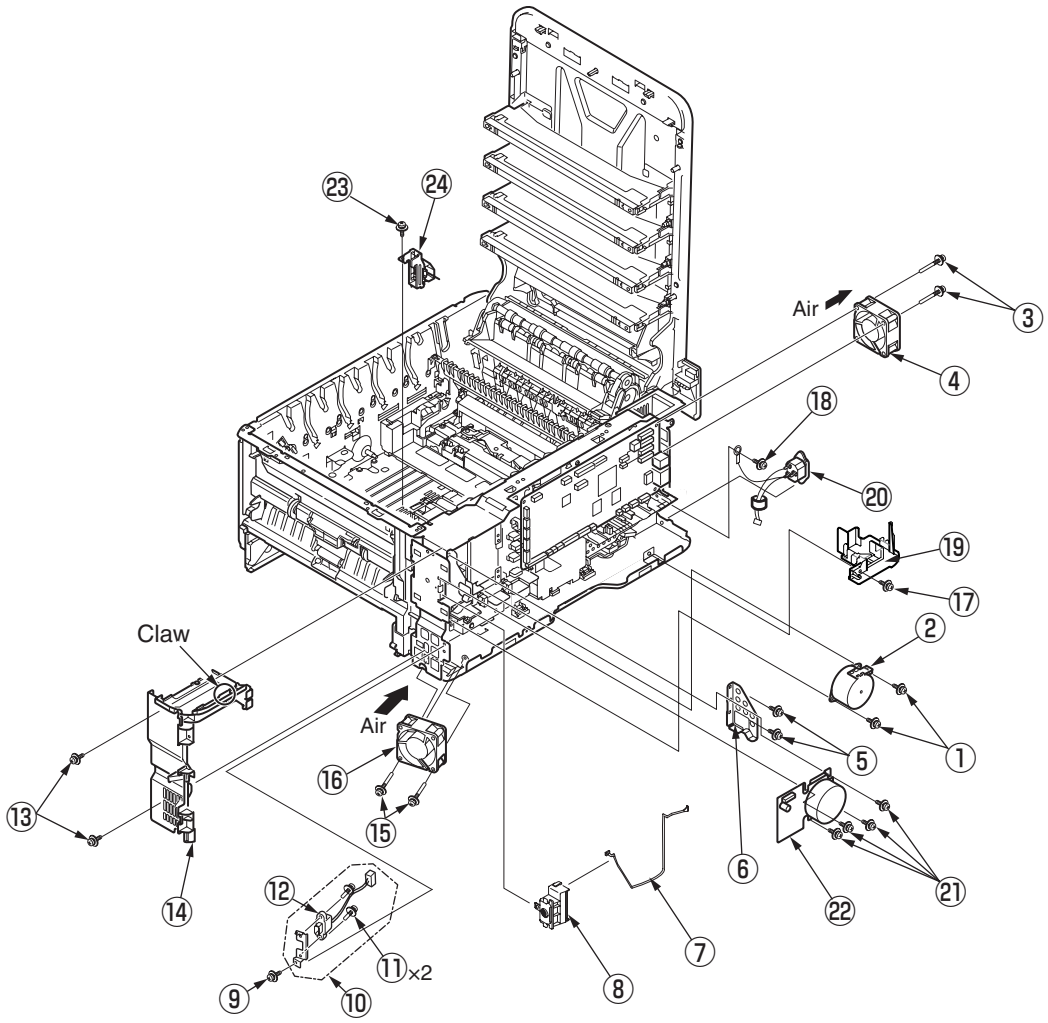
(11) Remove the (silver-colored) screw ⑰ and the FG-screw ⑱ to detach the Frame-AC ⑲ and the AC inlet ⑳ .

(12) Remove the four (silver-colored) screws ㉑ to detach the image drum motor ㉒ .

(13) Remove the screw ㉓ to detach the cover-open switch ㉔ .

Note!

- Note the air flow direction of these FANs to assemble.
- While removing or installing FAN, do not press impeller of the FAN.
  In case of the impeller unfastened by mistake, do not reuse it and install a new FAN.



3.2.16 High-voltage power supply board

⚠ Warning	Electric shock hazard	⚡

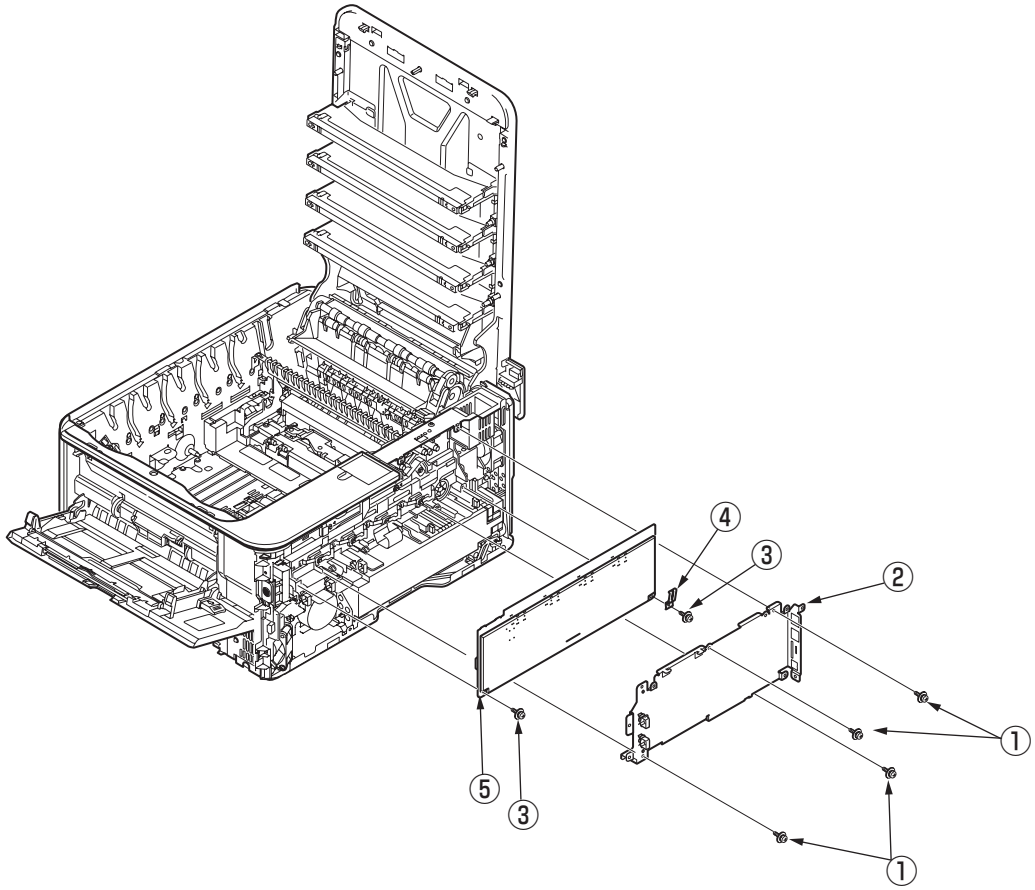
When replacing the low-voltage power supply, electric shock may occur. Wear insulated gloves, or be careful not to touch the conductors or terminals of the power supply directly. After the AC cord is unplugged, the capacitor may take about one minute to discharge completely or, due to PCB breakdown, could not discharge. Use caution about electric shock.

(1) Remove the right side cover and the CU/PU board.

(2) Remove the four (silver-colored) screws ① to remove the plate board ② .

(3) Remove the two (silver-colored) screws ③ to remove the plate-FG ④ .

(4) Unlatch the four portions to detach the high-voltage power supply board ⑤ .



3.2.17 Guide-ejection Assy, fuser connector Assy and color-registration Assy

(1) Remove the left side cover, the right side cover, the rear cover, the top cover Assy, and the ID fan Assy.

(2) Remove the CU/PU board and the low-voltage power supply.

(3) Detach the guide-ejection Assy ① .

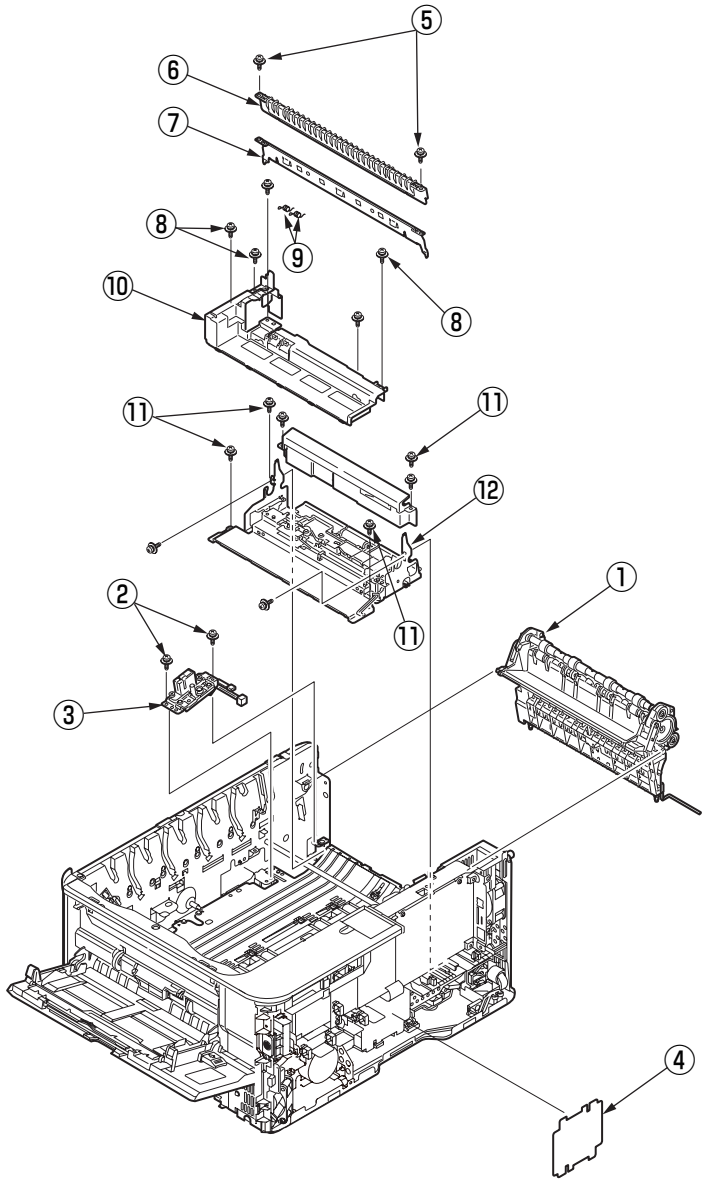
(4) Remove the two (silver-colored) screws ② to detach the fuser connector Assy ③ .

(5) Remove the film-power board ④ .

(6) Remove the two (silver-colored) screws ⑤ to remove the cover-beam ⑥ and the plate-beam ⑦ .

(7) Remove the three (silver-colored) screws ⑧ to remove the two torsion springs ⑨ and then the cover-code ⑩ .

(8) Remove the four (silver-colored) screws ⑪ to detach the color-registration Assy ⑫ .



3.2.18 Frame-MPT Assy and feeder Assy

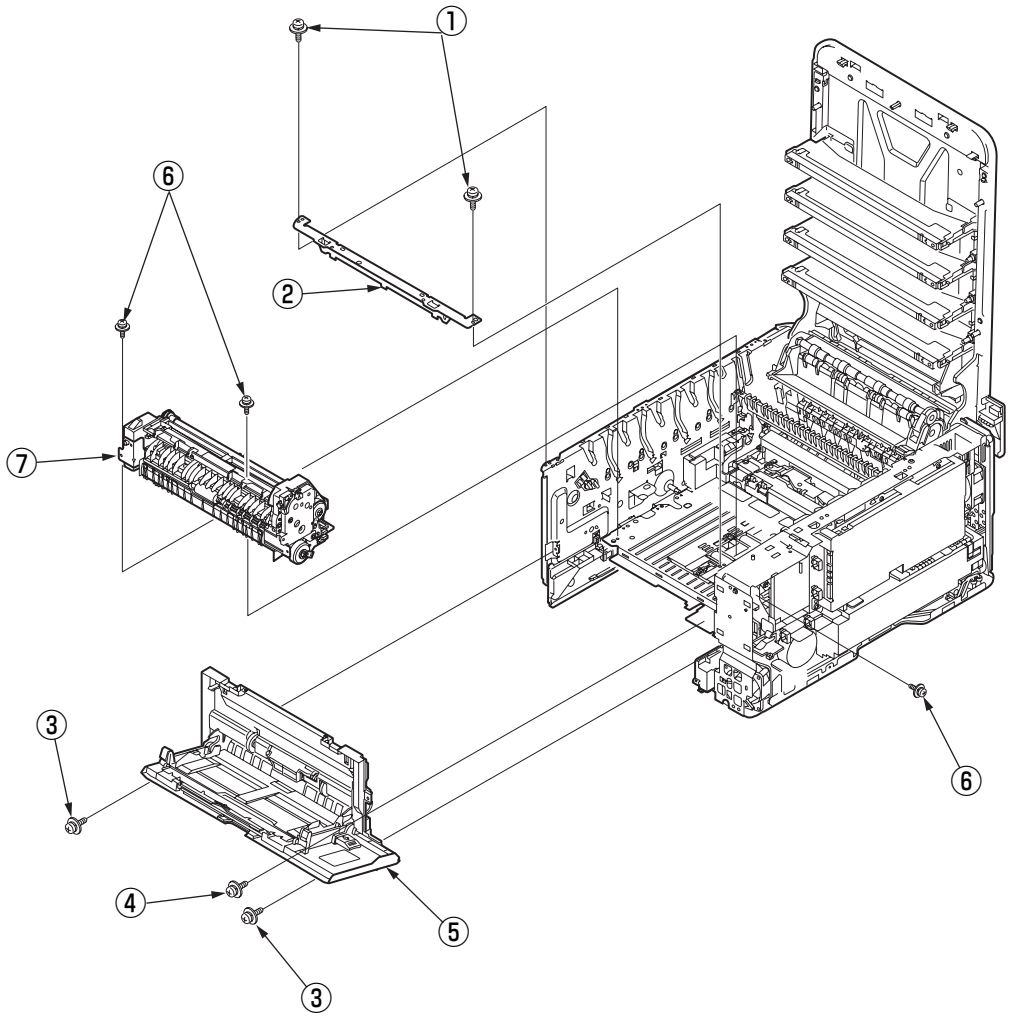
(1) Remove the left side cover, the right side cover, the rear cover, the hopping motor, the plate shield Assy, the operator panel Assy, the cover-open switch and the frame-MPT-side.

(2) Remove the RGSNS, HPSNS and MPC cables of the CU/PU board.

(3) Remove the two (silver-colored) screws ① to remove the plate-front ② .

(4) Remove the two (silver-colored) screws ③ and the (black) screw ④ and unlatch the two portions to detach the frame-MPT Assy ⑤ .

(5) Remove the three (silver-colored) screws ⑥ to detach the feeder Assy ⑦ .



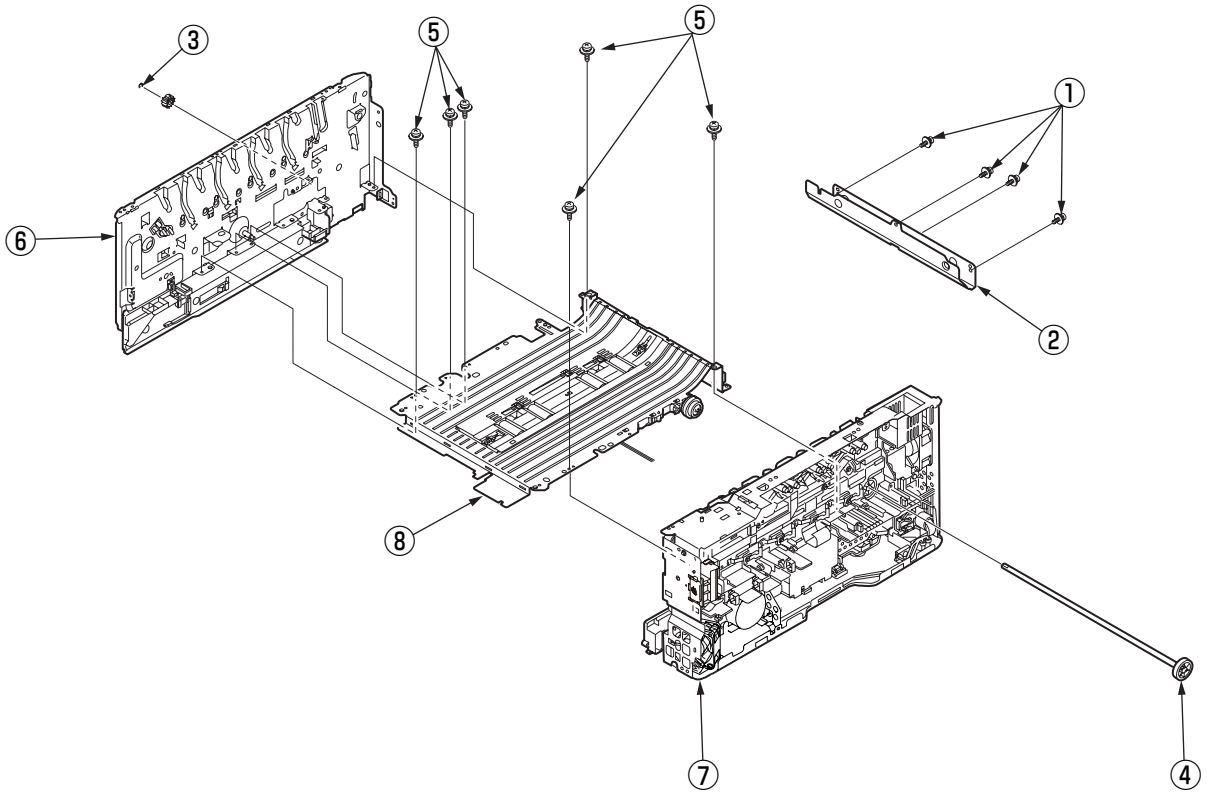
3.2.19 Side-L Assy, side-R Assy and base Assy

(1) Remove the left side cover, the right side cover, the rear cover, the top cover Assy, the operator panel Assy, the feeder Assy, the guide-ejection Assy and the registration Assy.

(2) Remove the four (silver-colored) screws ① to remove the plate-bottom ② .

(3) Remove the E-shaped retainer ring ③ and then the shaft ④ .

(4) Remove the six (silver-colored) screws ⑤ to detach the side-L Assy ⑥ , the side-R Assy ⑦ and the base Assy ⑧ .



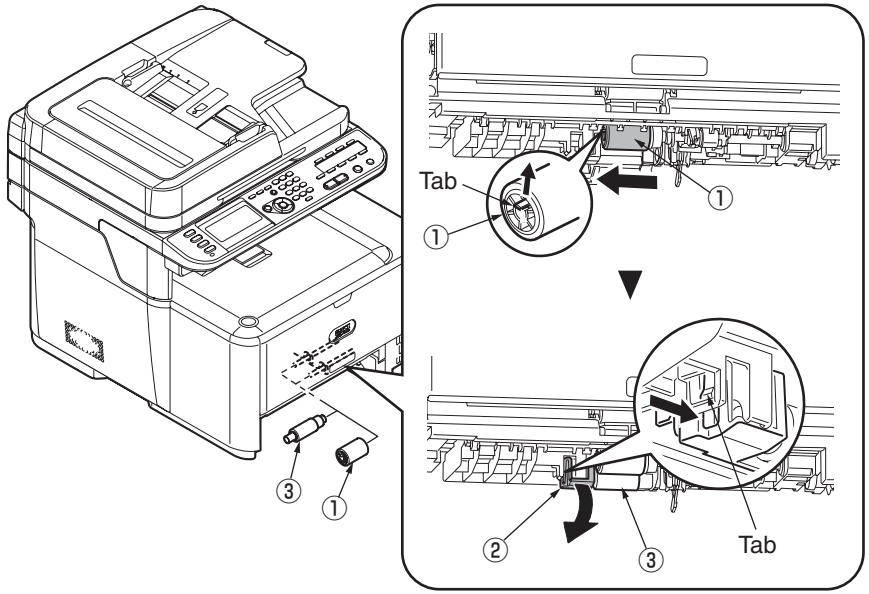
3.2.20 Feed rollers

(1) Remove the cassette.

(2) Lift the tab of the front paper feed roller ① outward, slide the front paper feed roller ① to the left and remove it.

(3) Press the tab on the black cover ② attached to the left side of the rear paper feed roller ③ and open the black cover ② downward.

(4) Remove the rear paper feed roller ③ .



3.3 Locations to lubricate

This section shows the locations to lubricate. The other locations must not be lubricated. Lubrication is not required during assembly or disassembly, except that, after lubricant is wiped off locations, the appropriate lubricant specified must be applied to the locations.

Each number circled, accompanied with the number and name of a drawing indicates that the lubrication work with the number is specified in the drawing.

Lubrication work

(1) Lubricant notations and names

EM-30LP:Molykote EM-30LP (part number 44498501)

EM-D110:Molykote EM-D110 (part number 44594501)

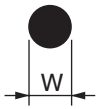
PM: Pan motor oil 10W-40 or ZOA 10W-30

GE-334C: FLOIL GE-334C (part number 41823301)

SF-133: HANARL SF-133

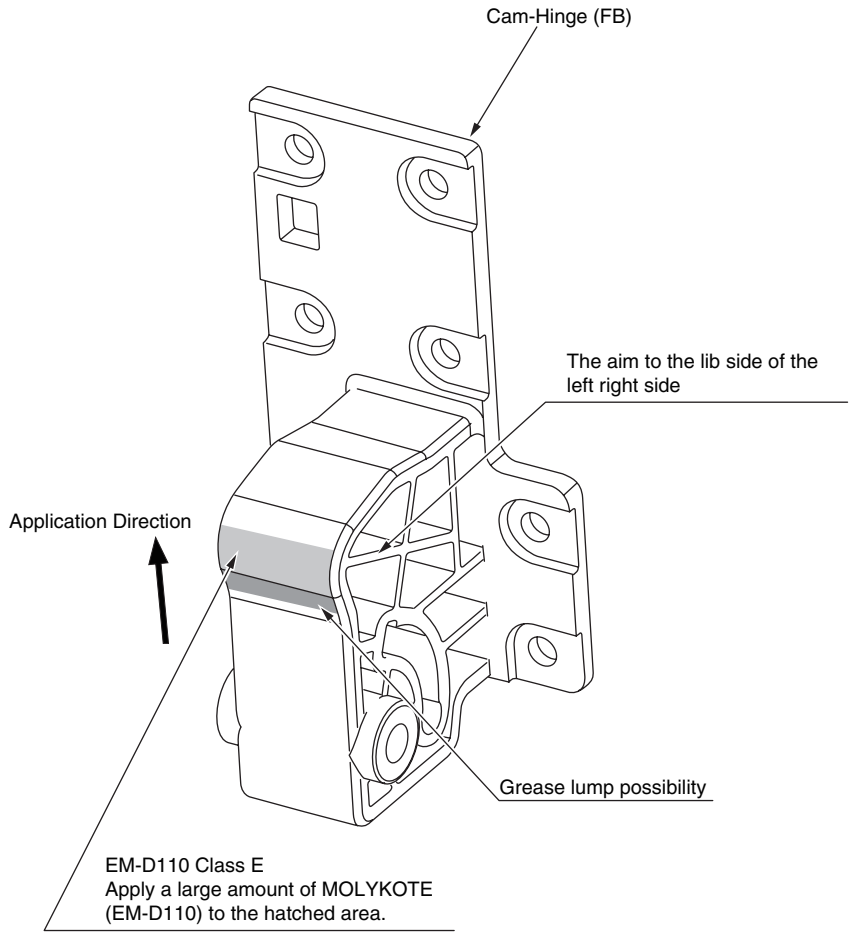
(2) Grease boundary samples

Class	S	A	B	C	D	E	F
Amount applied (cc)	0.0005	0.003	0.005	0.01	0.03	0.05	0.1
W(mm)	1.24	2.25	2.67	3.37	4.86	5.76	7.26
Sample	•	●	●	●	●	●	●

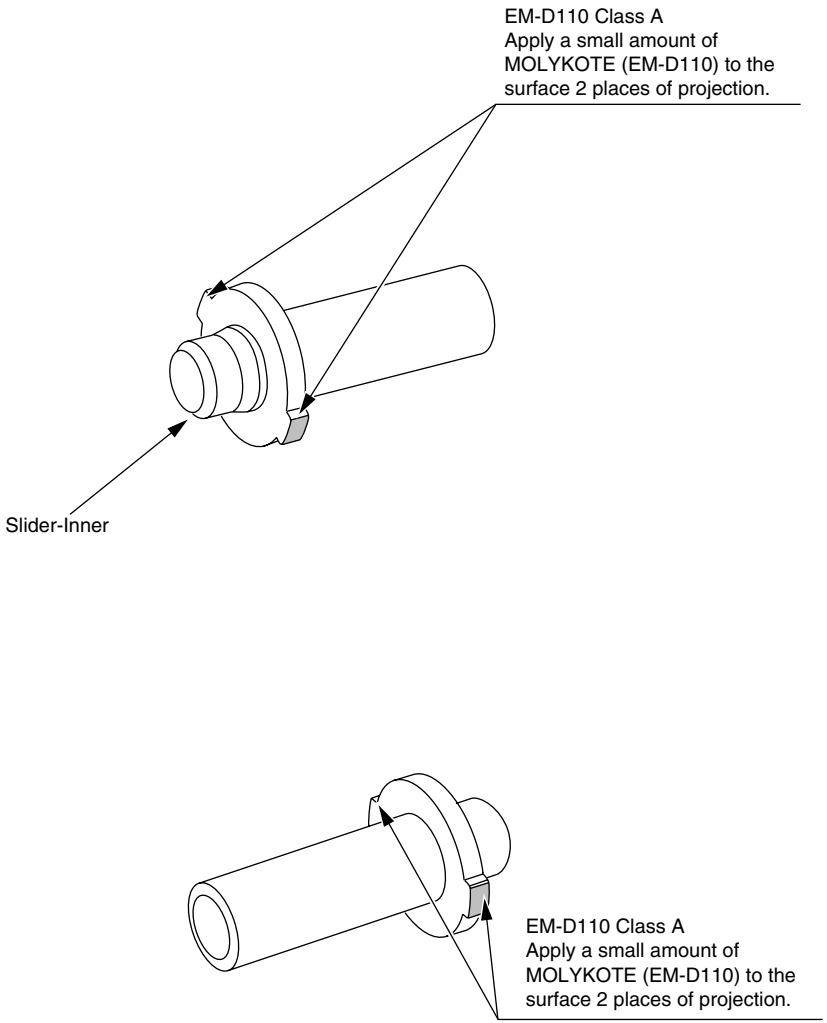


3.3.1 ADF

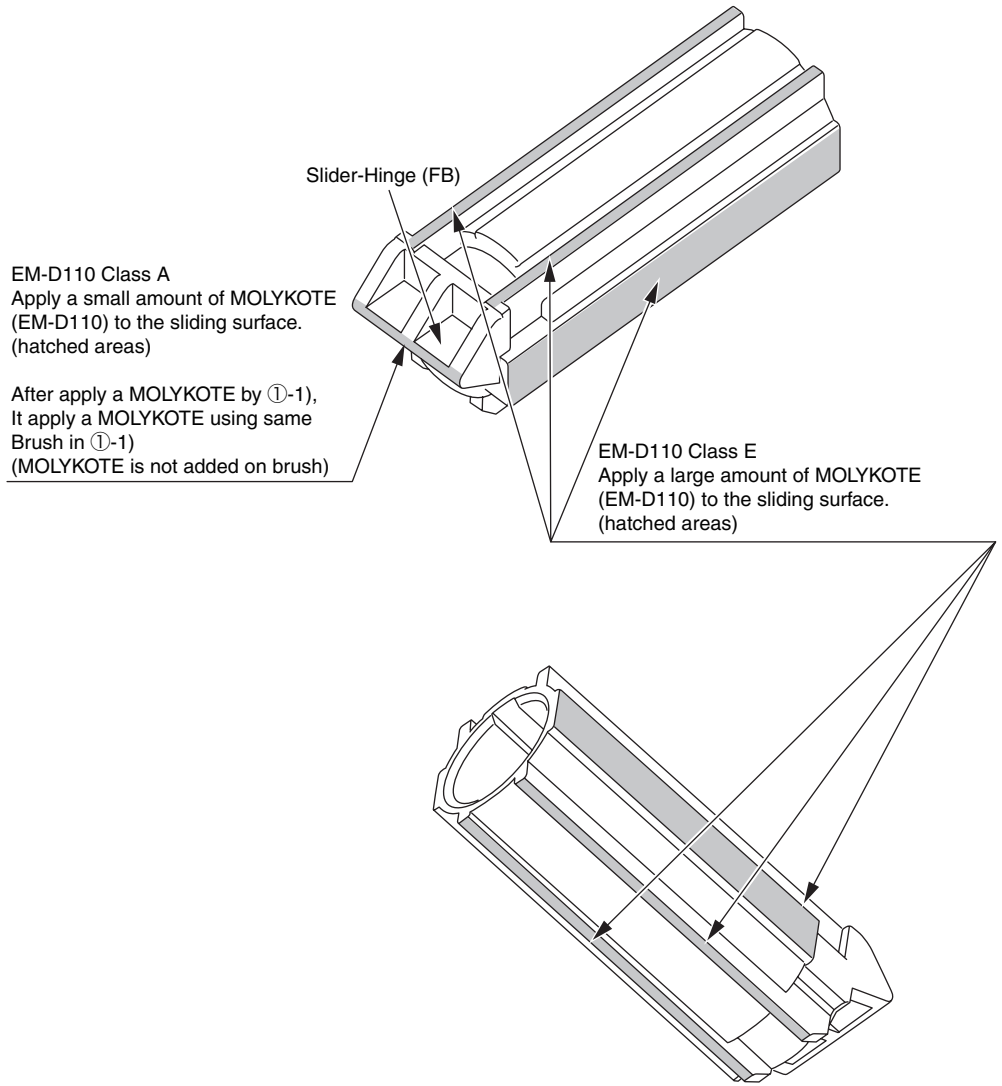
① -1 44597101PP Cam-Hinge (FB)



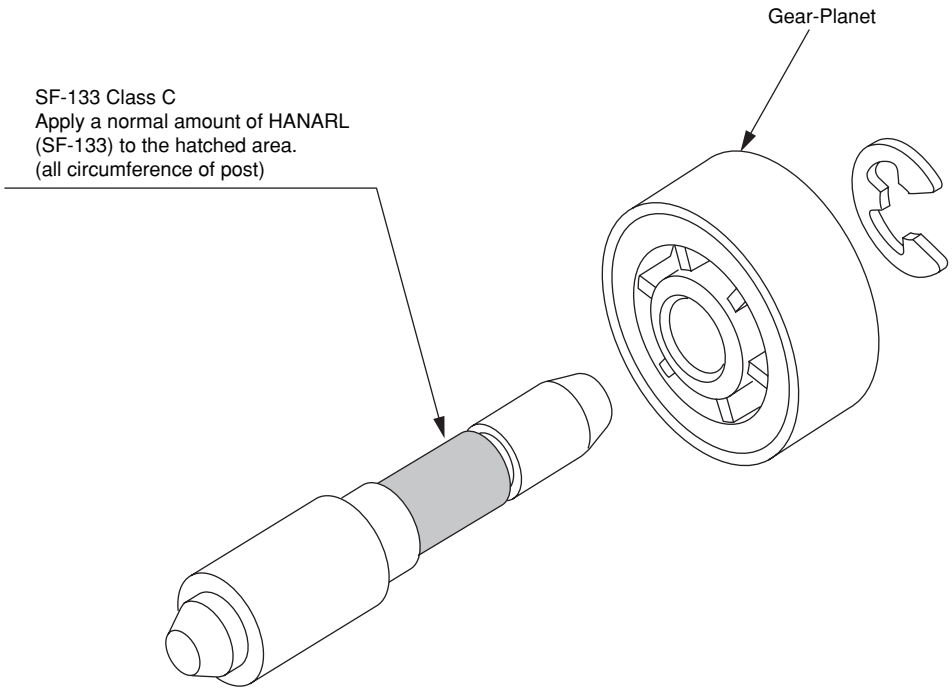
① -2 44527201PP Slider Inner



① -3 44527301PP Slider-Hinge (FB)

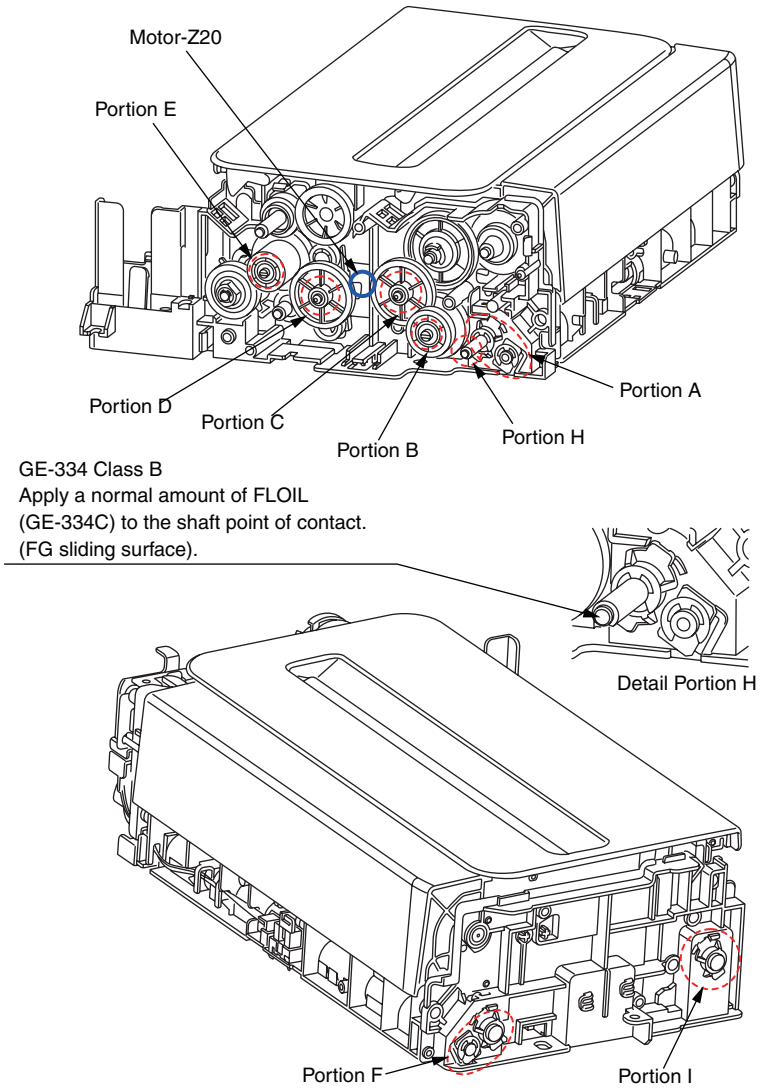


② 44659101PA Gear-Idle-Assy

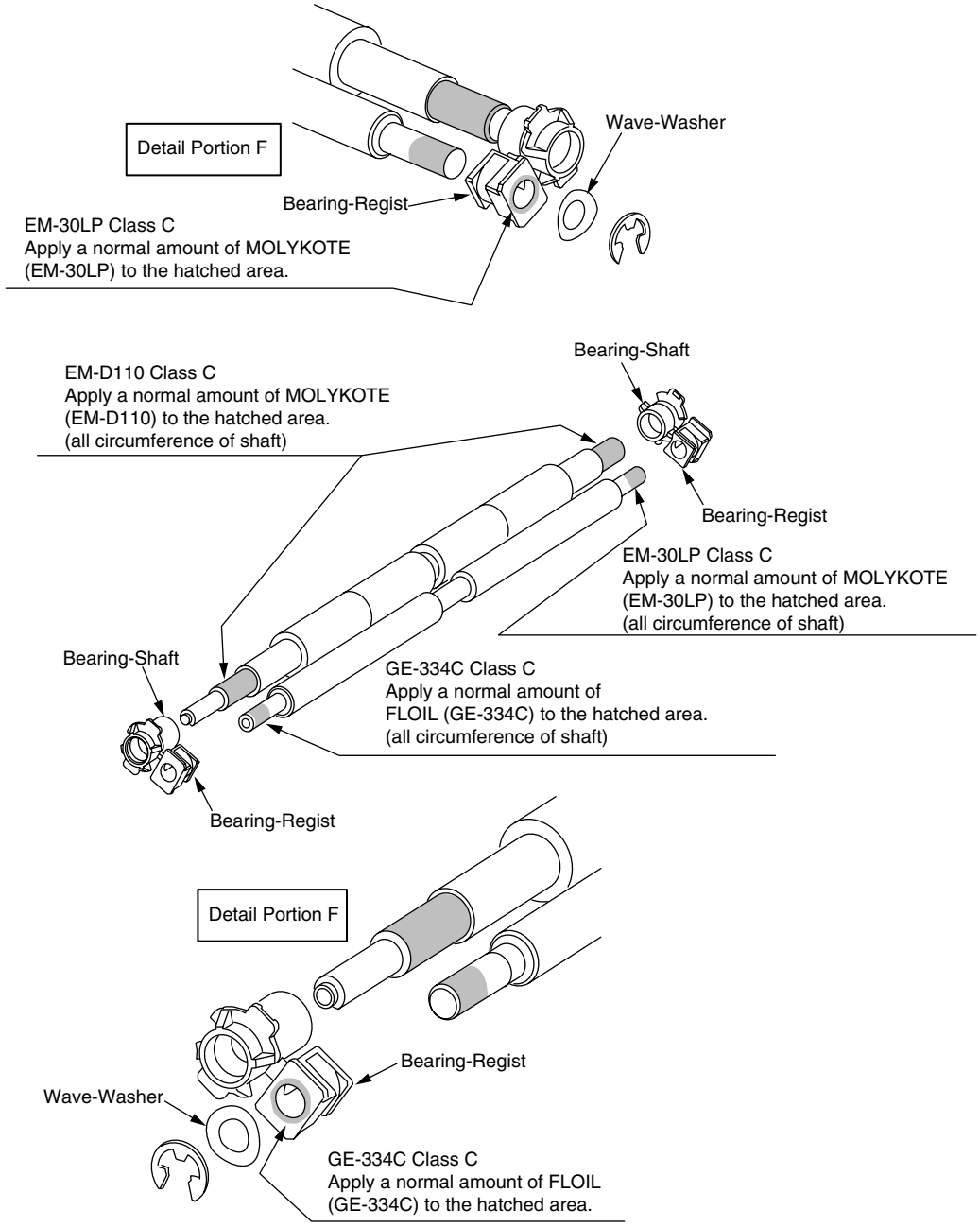


Leave it for about 3minutes (drying time) after painting HANARL SF-133,
and then assemble the Gear-Idle-Assy.

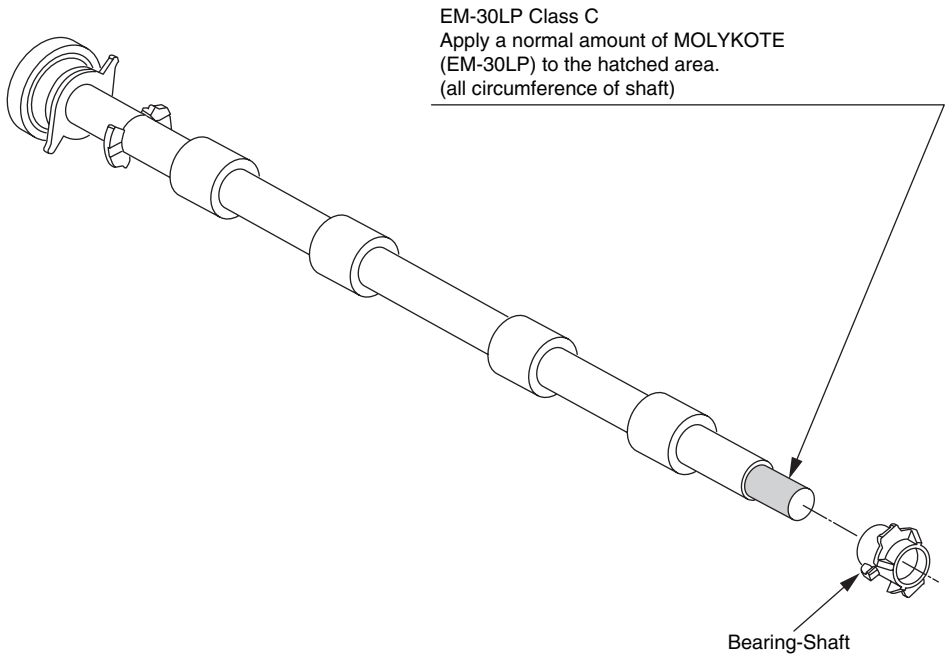
③ -1 44529501PA ADF-Assy



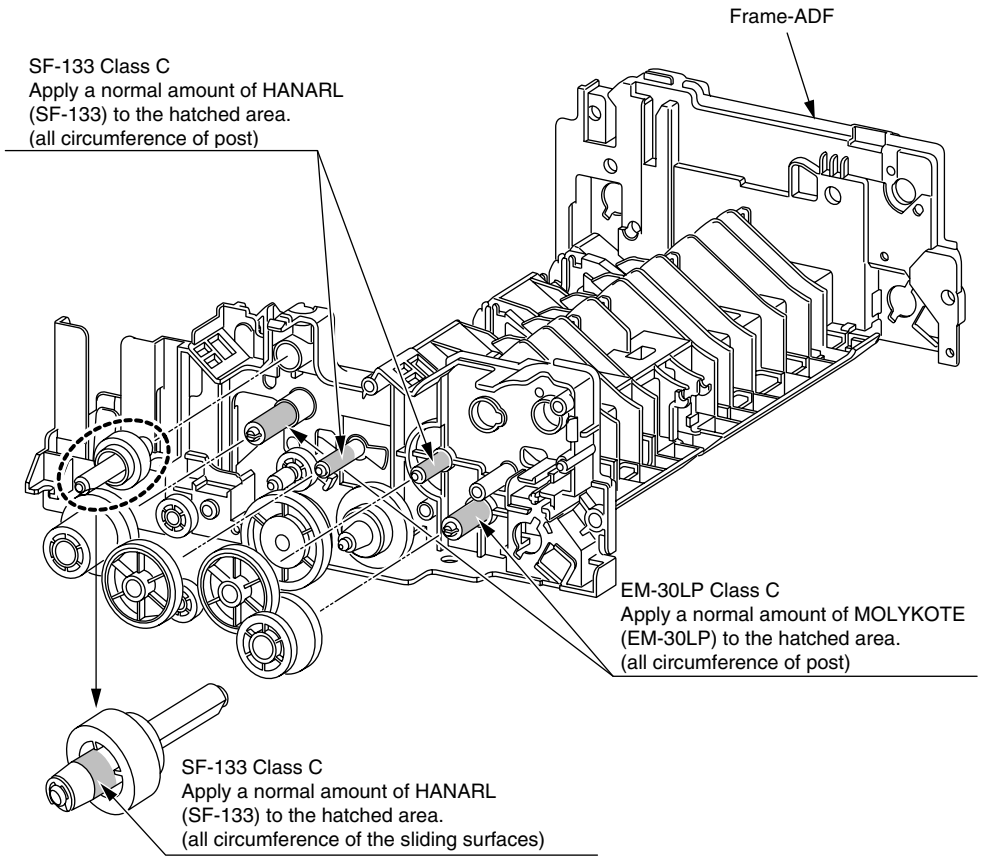
③ -2 Portion A and F



③ -3 Portion I

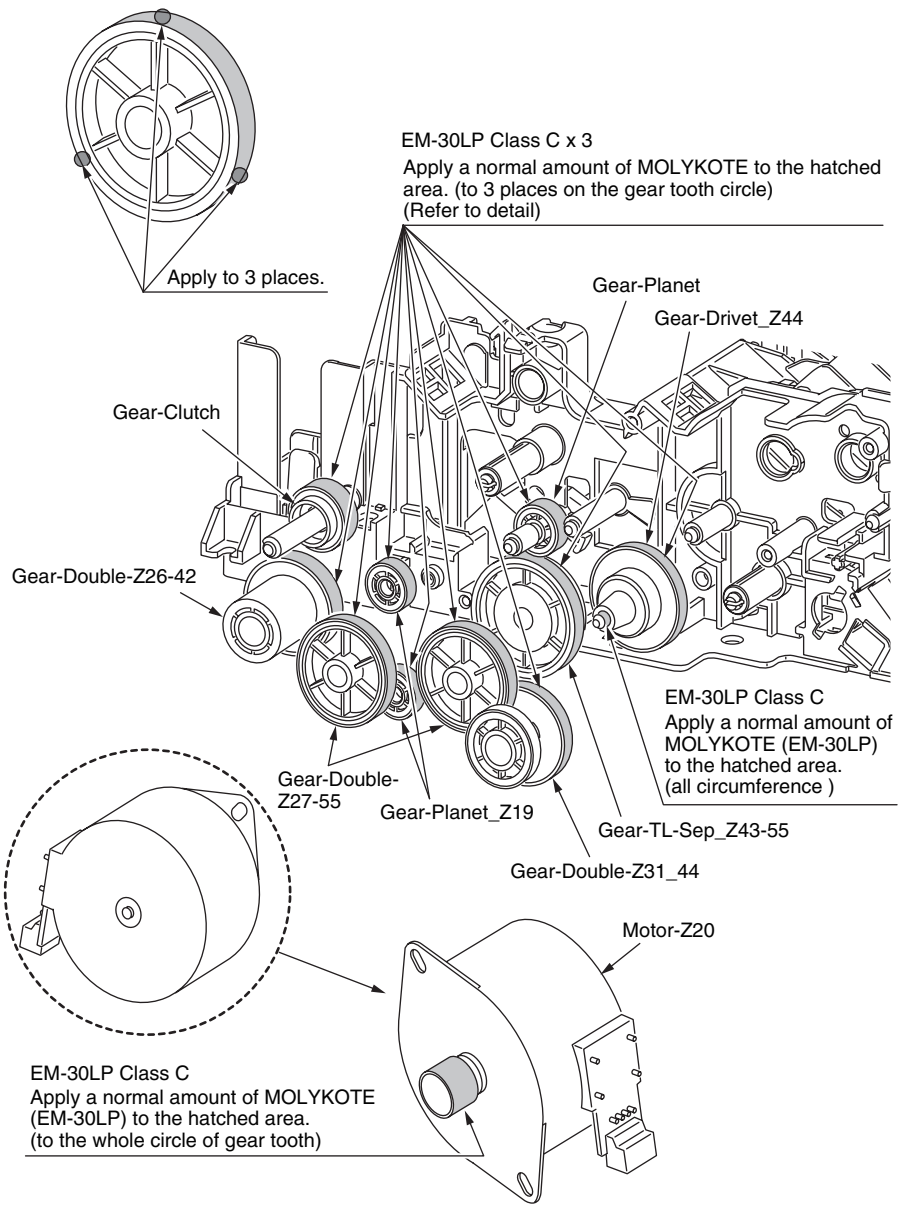


③ -4 Portion B, C, D and E

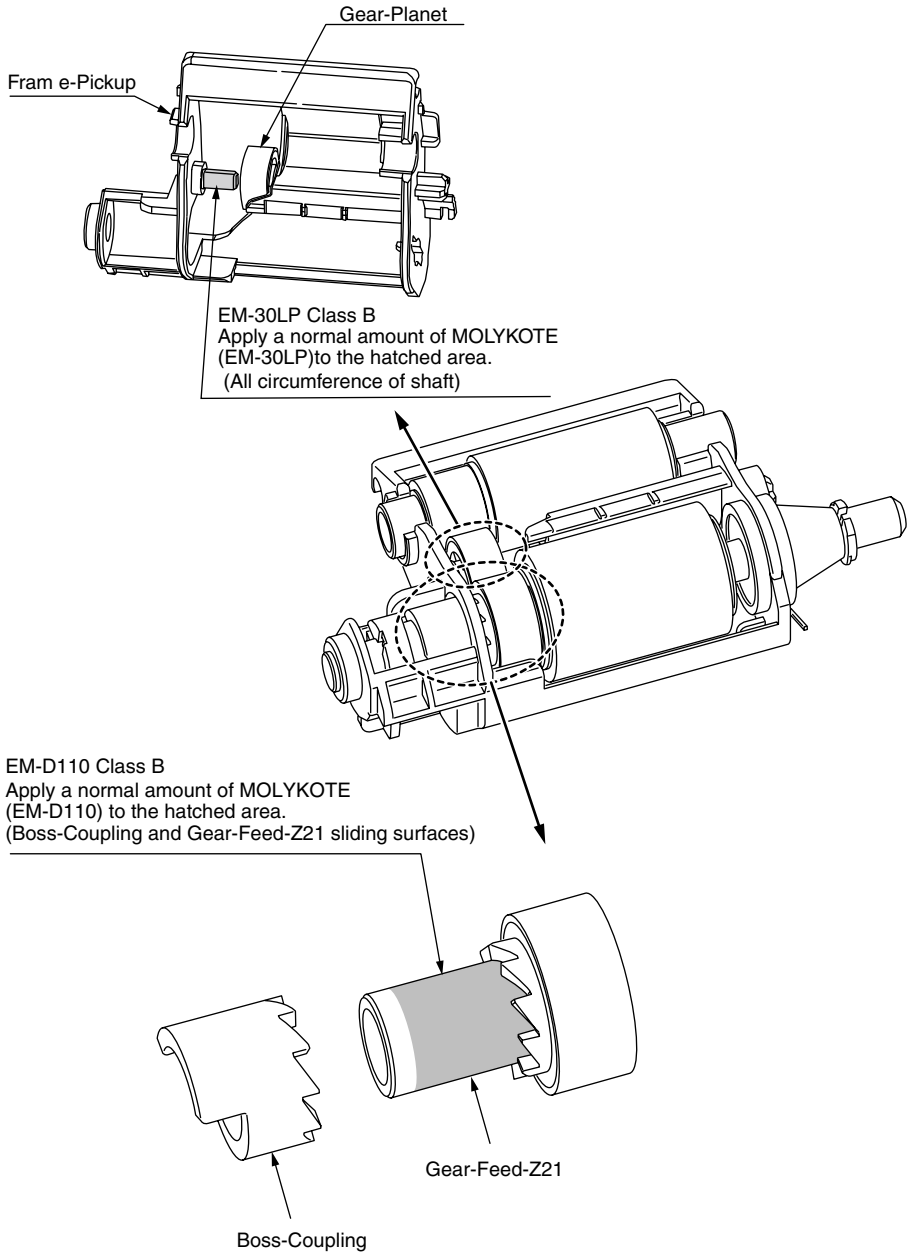


Leave it for about 3minutes (drying time) after painting HANARL SF-133, and then assemble the ADF-Assy.

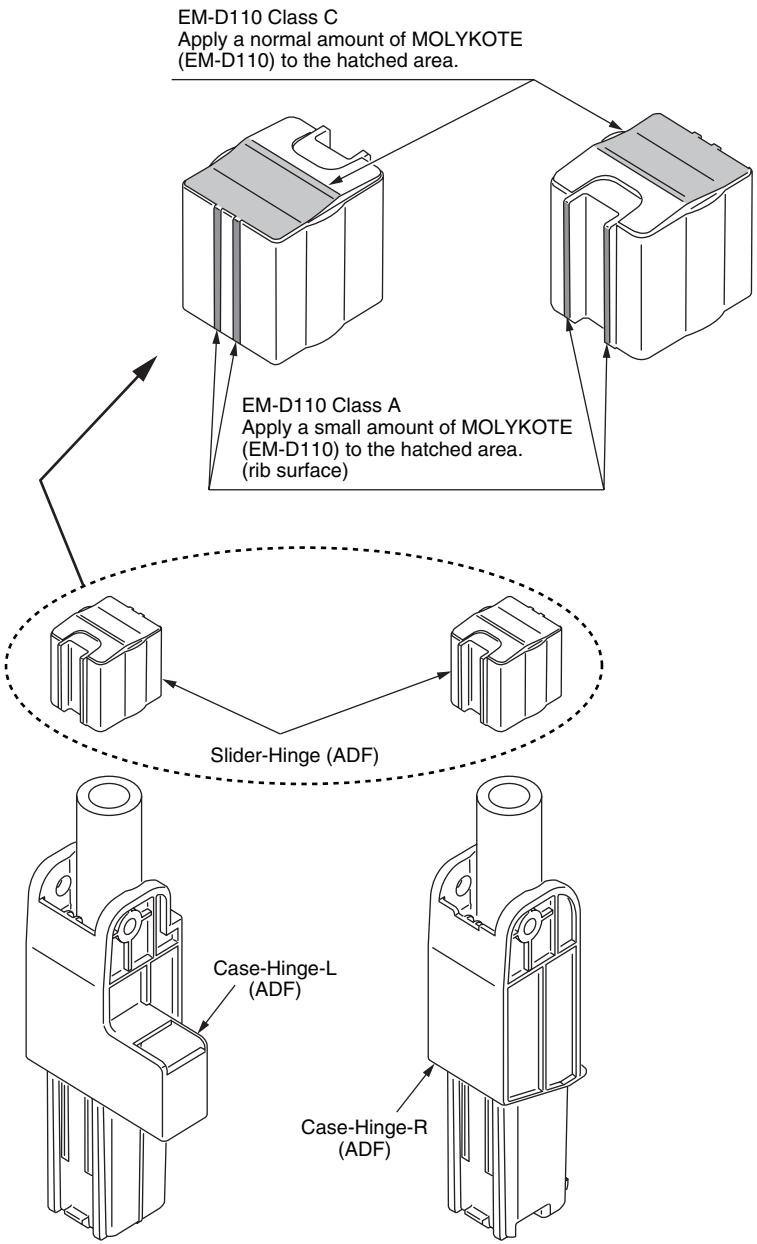
For detail



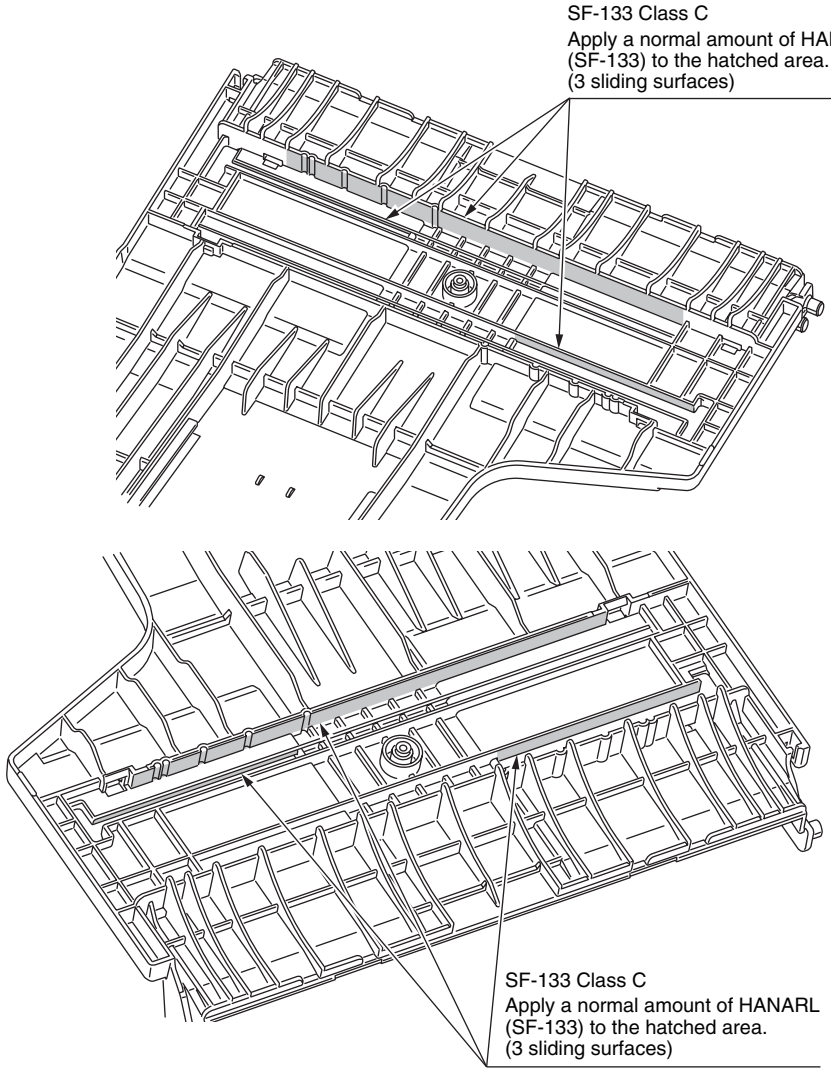
④ 44531101PA Frame-Assy-Hopping-ADF



⑤ 44539301PA Hinge-Assy-L (ADF)
44539901PA Hinge-Assy-R (ADF)

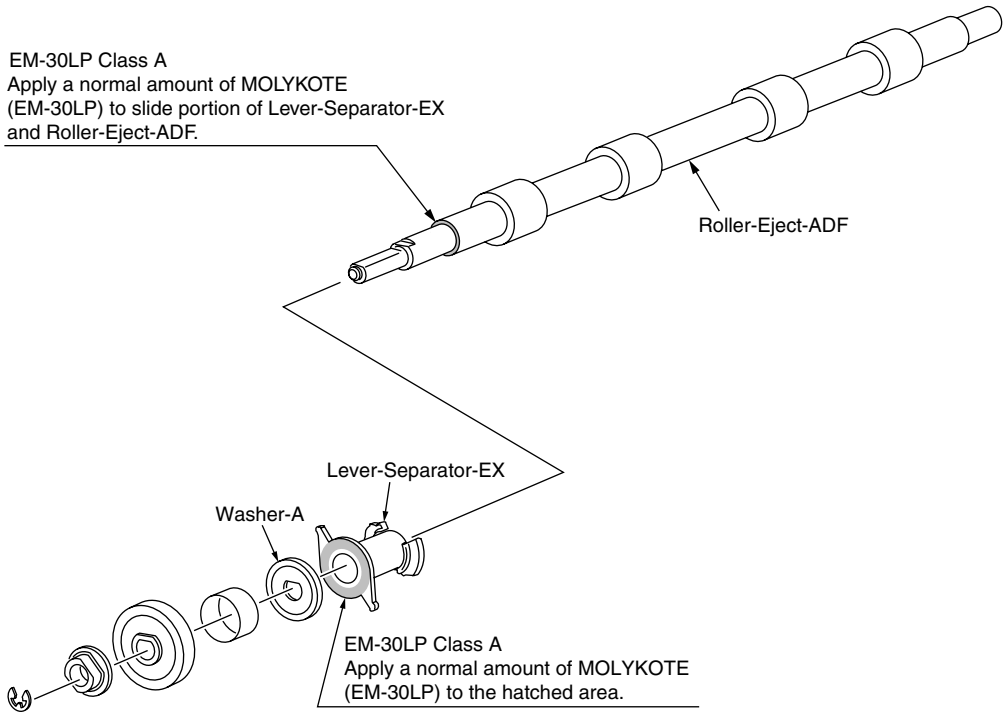


⑥ 44538701PA Tray-Assy-Document 44538801_Tray-Document



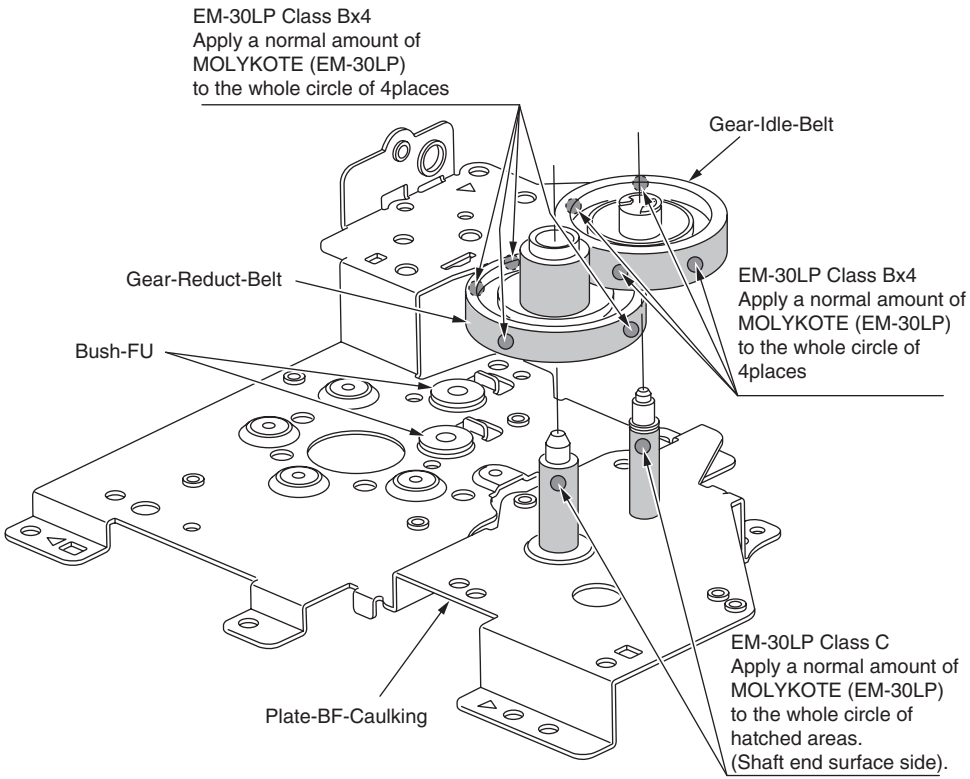
※ Leave it for about 3minutes (drying time) after painting HANARL SF-133, and then assemble the Tray-Assy-Document.

⑦ 44534901PA Roller-Assy-Eject-ADF

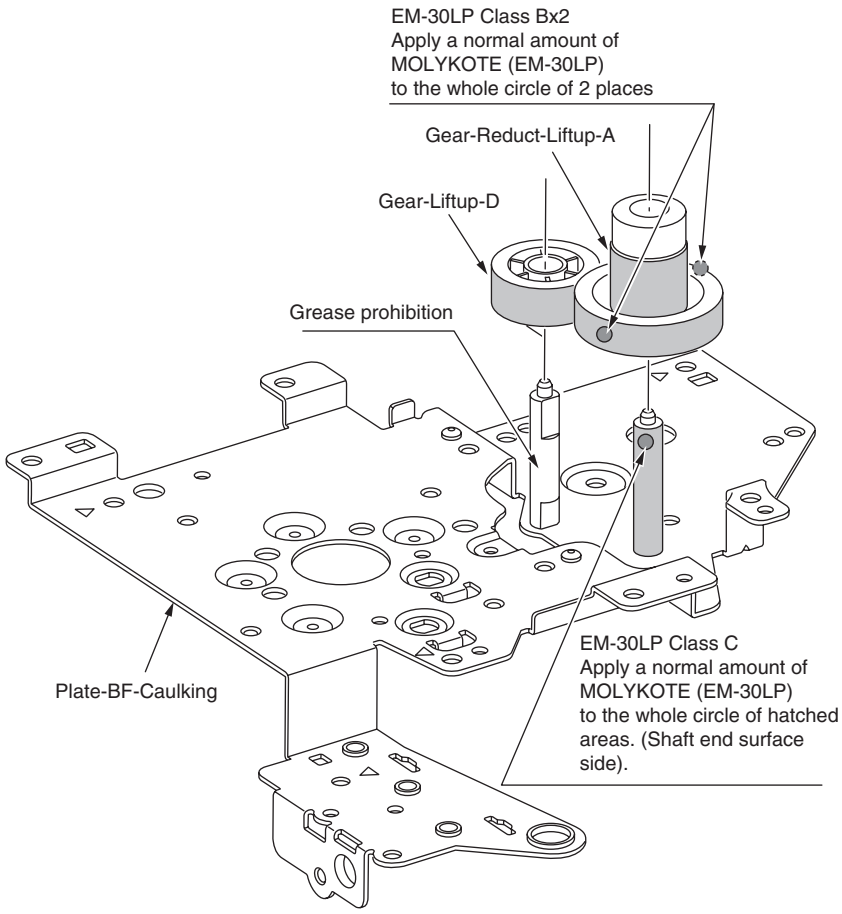


3.3.2 Printer

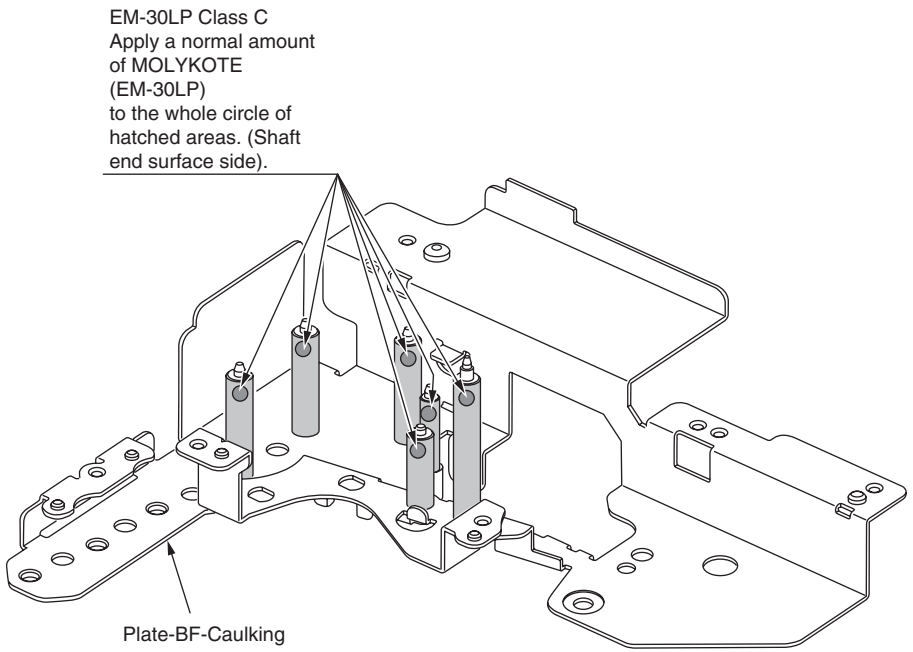
① -1 44452301PA Side-R Assy.



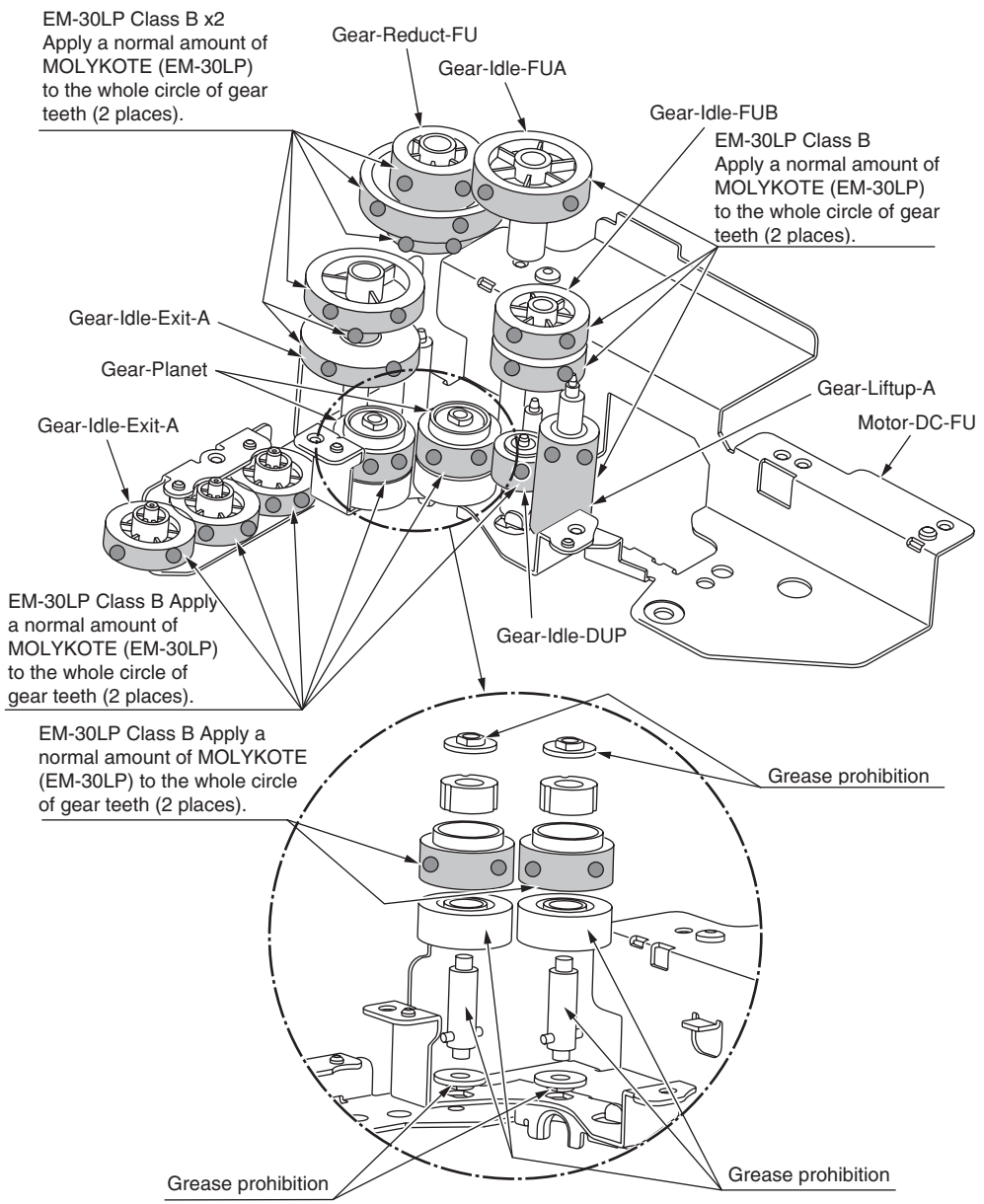
① -2 44452301PA Side-R Assy.



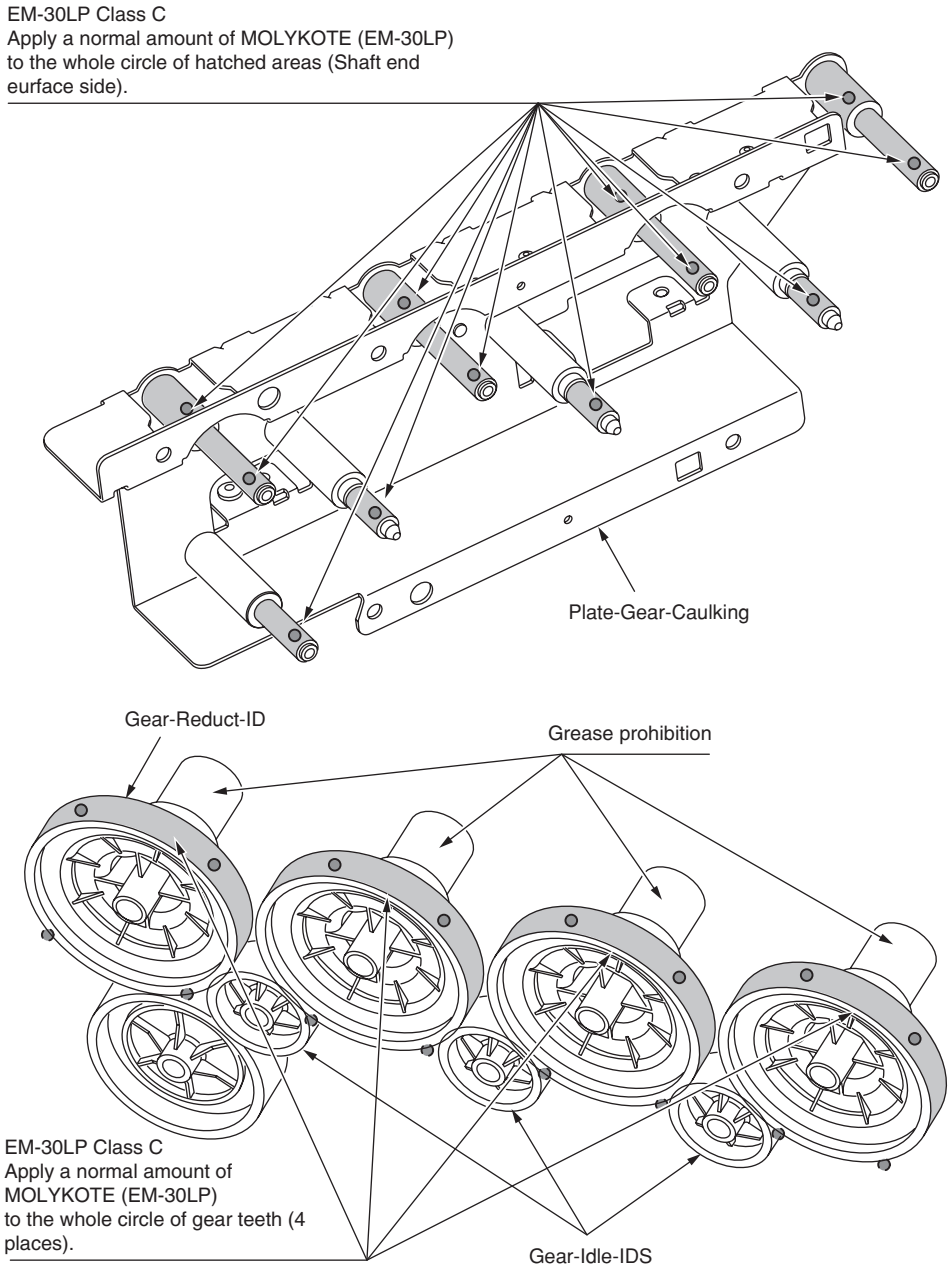
① -3 44452301PA Side-R Assy.



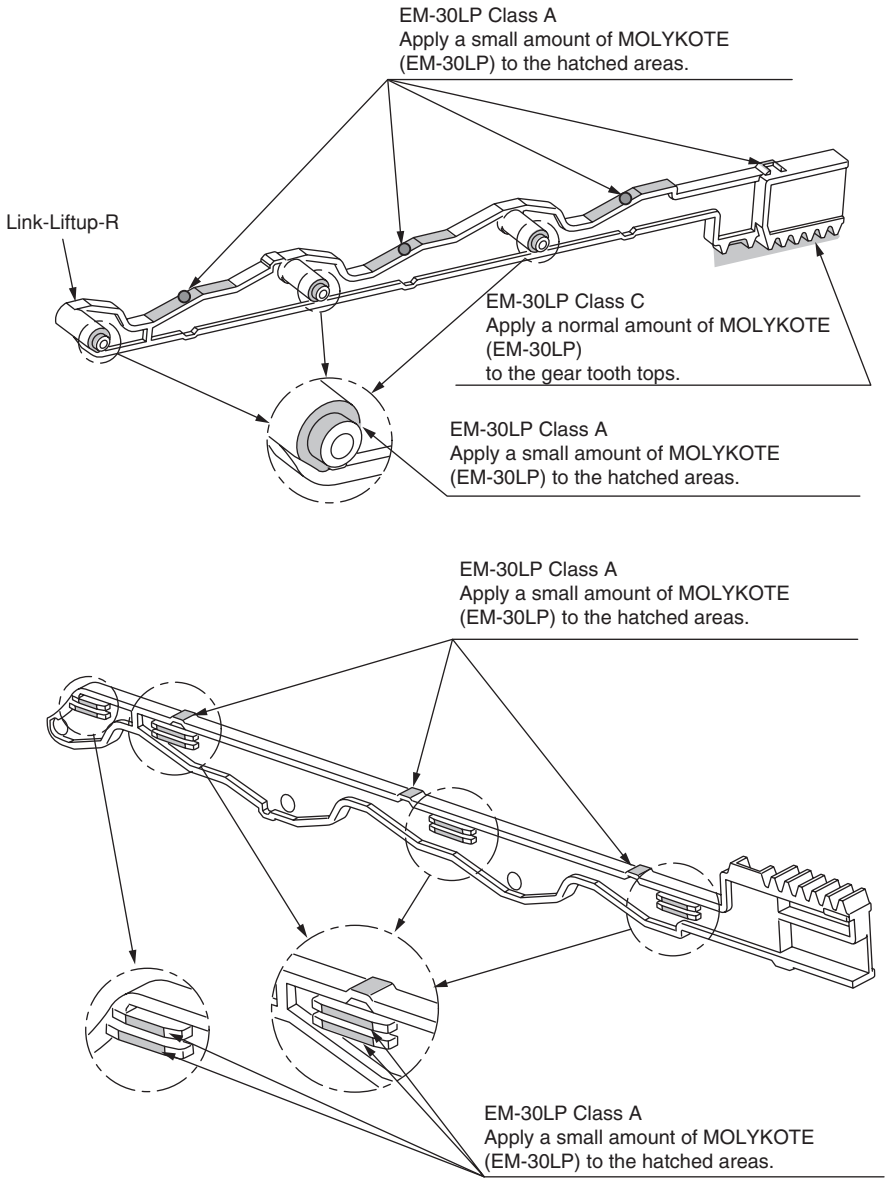
① -4 44452301PA Side-R Assy.



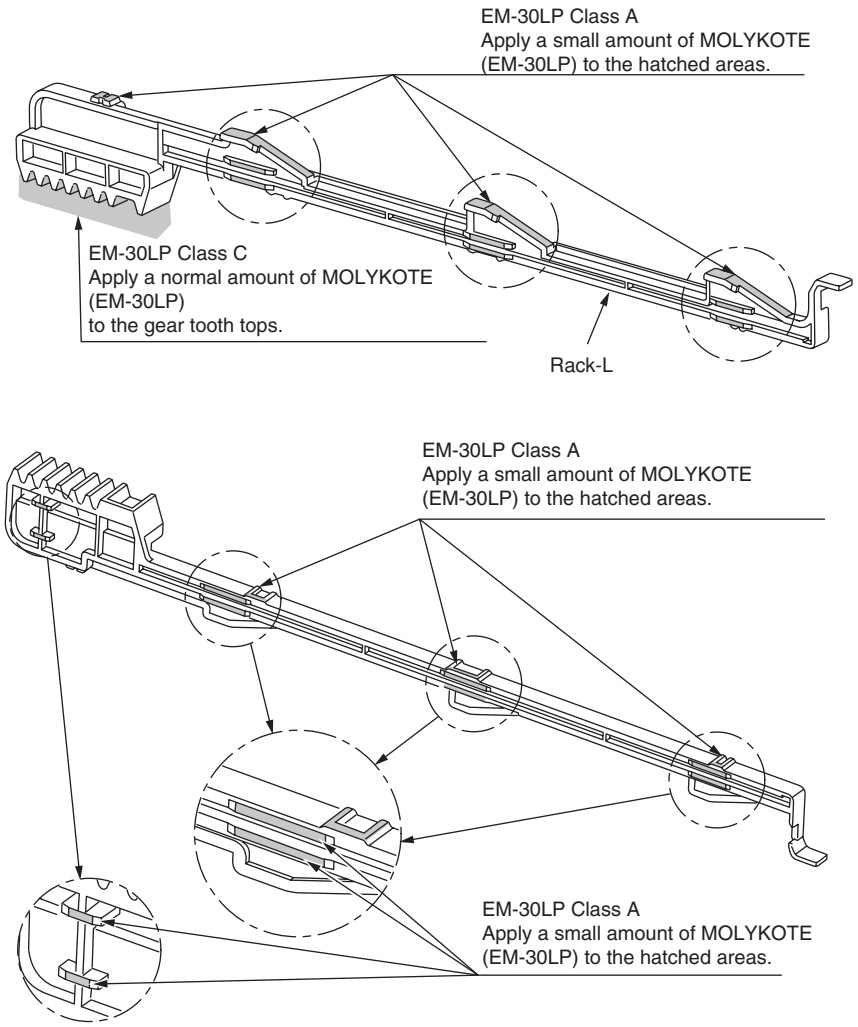
① -5 44452301PA Side-R Assy.



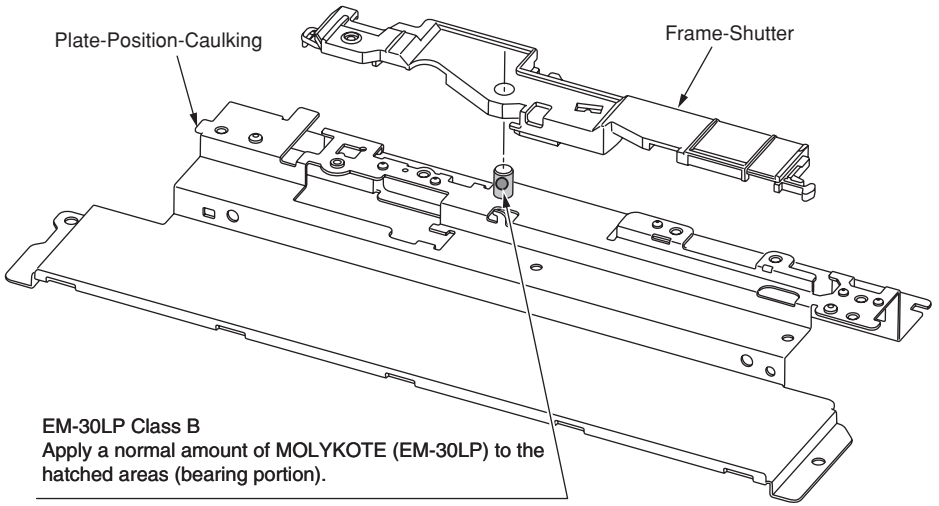
① -6 44452301PA Side-R Assy.



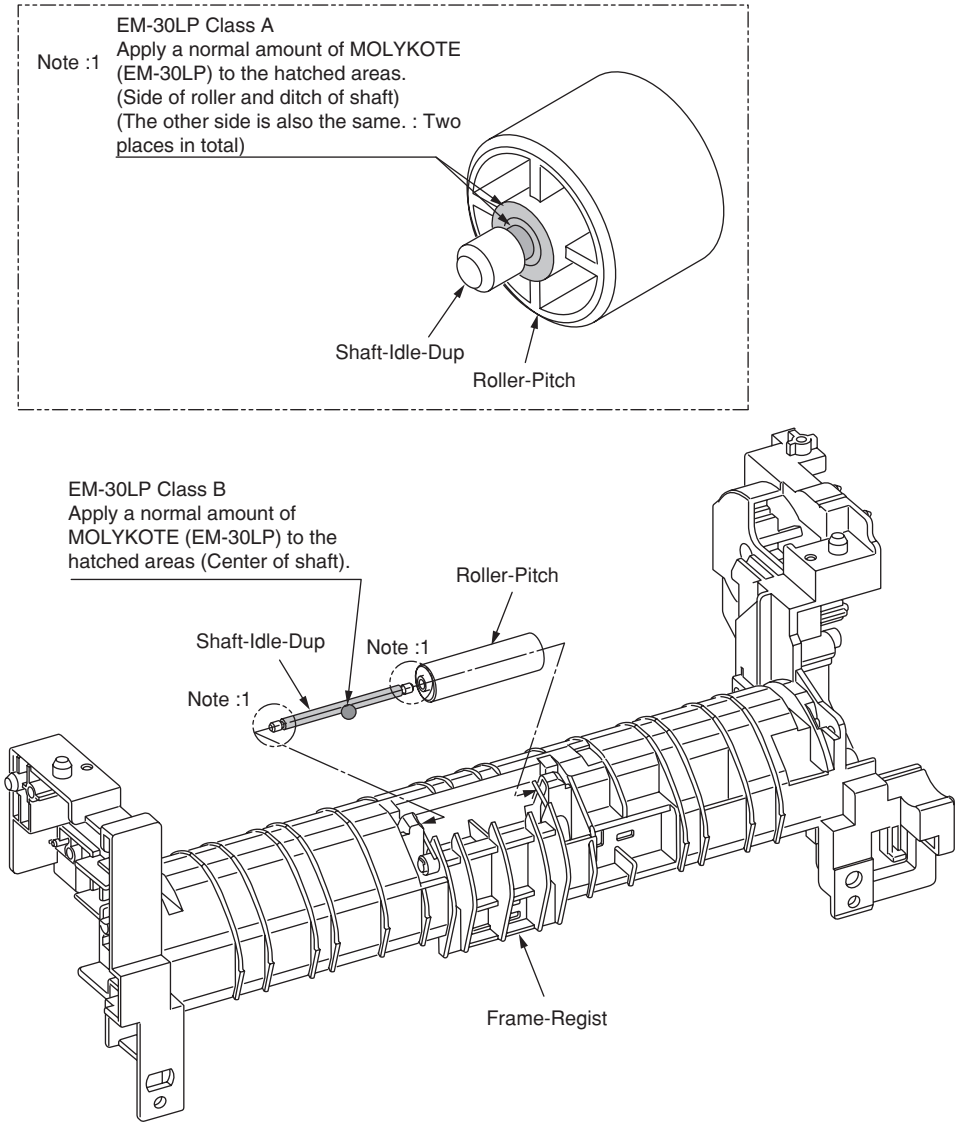
② 44452401PA Side-L Assy.



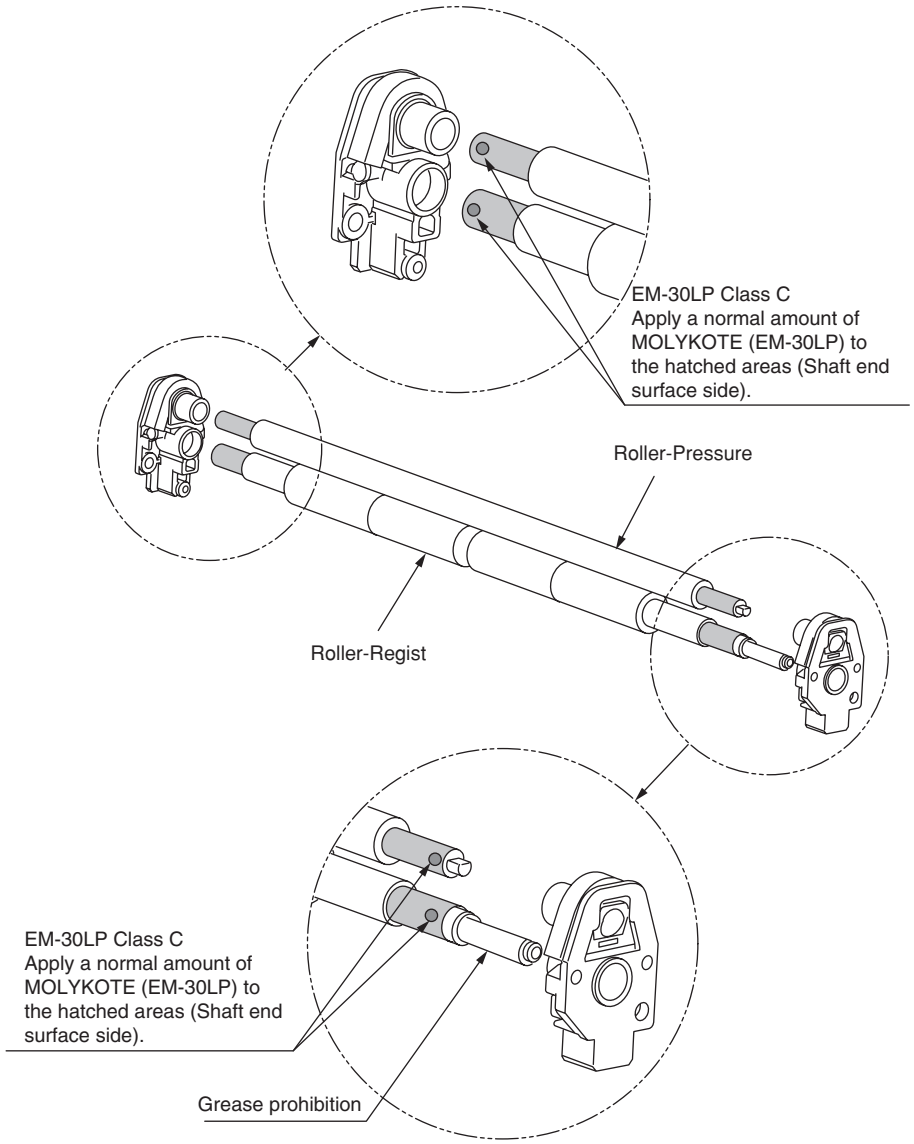
③ 44452601PA Sensor Assy.-Regist



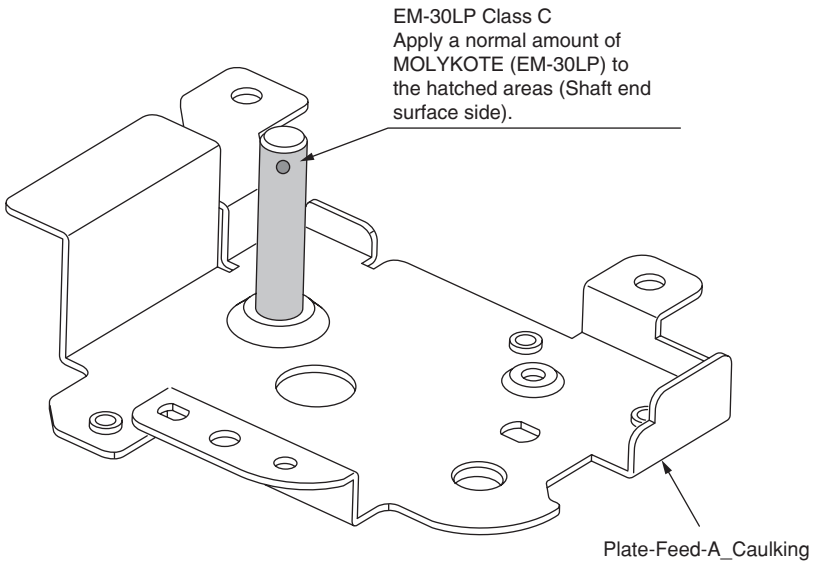
④ -1 44452701PA Front Assy.-Reg/Hop

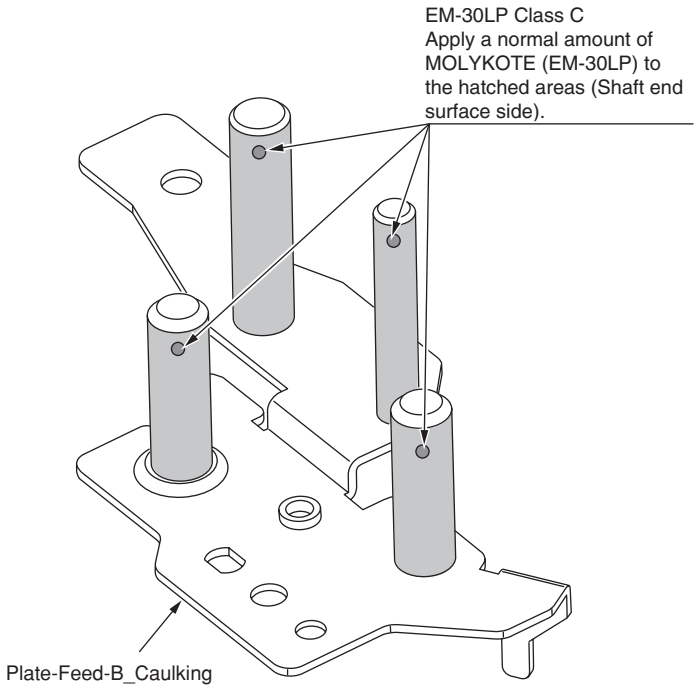


④ -2 44452701PA Front Assy.-Reg/Hop

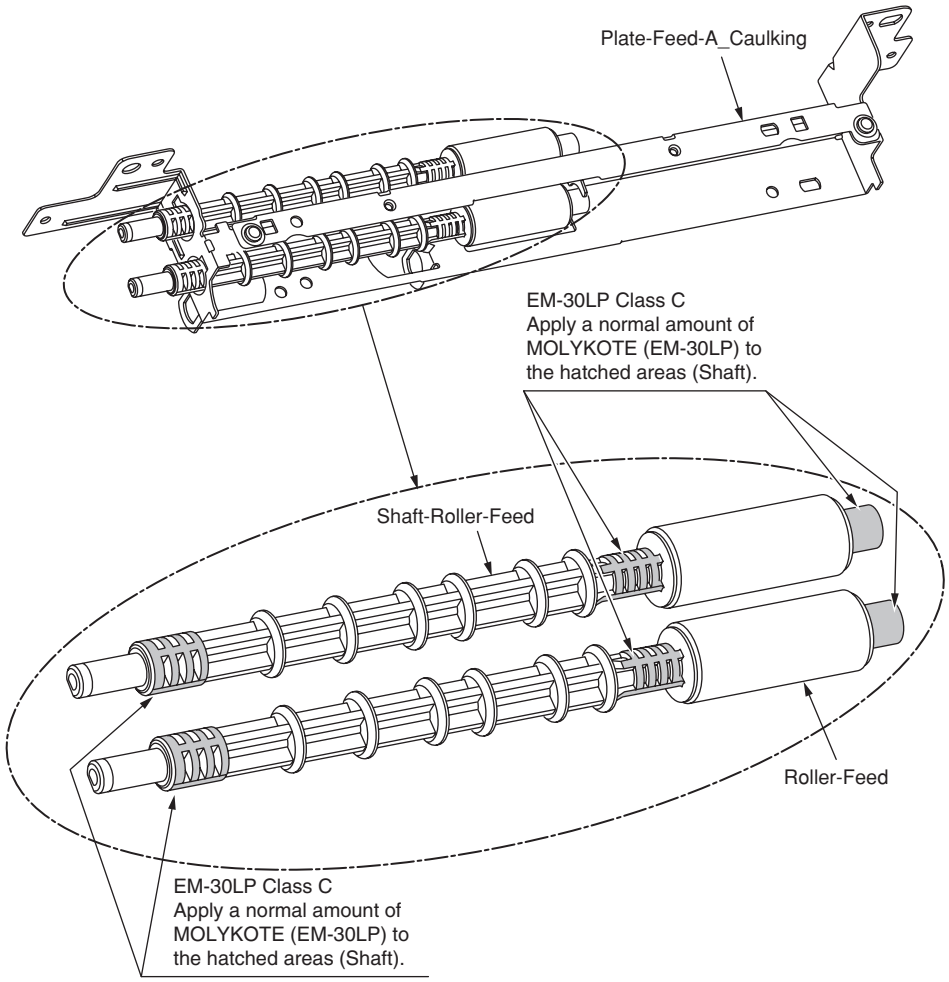


④ -3 44452701PA Front Assy.-Reg/Hop

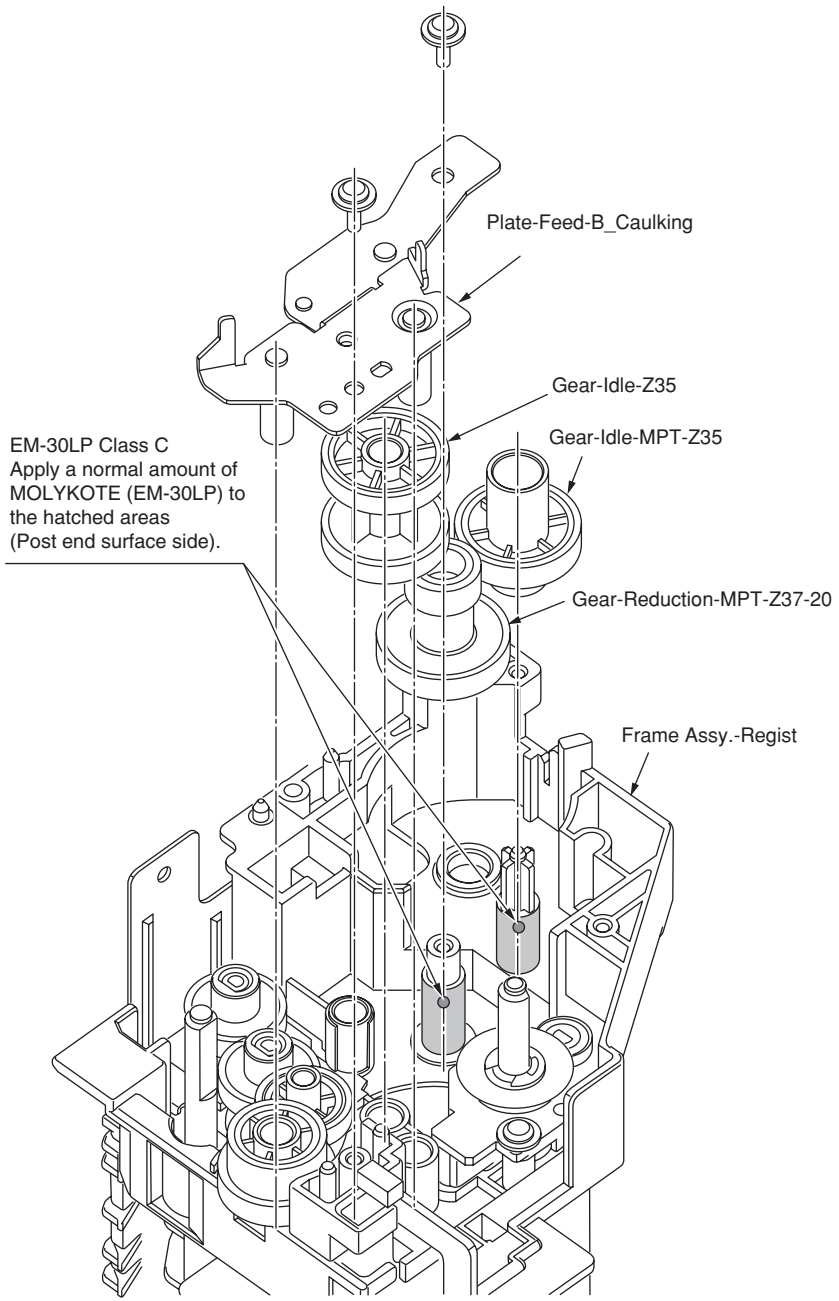




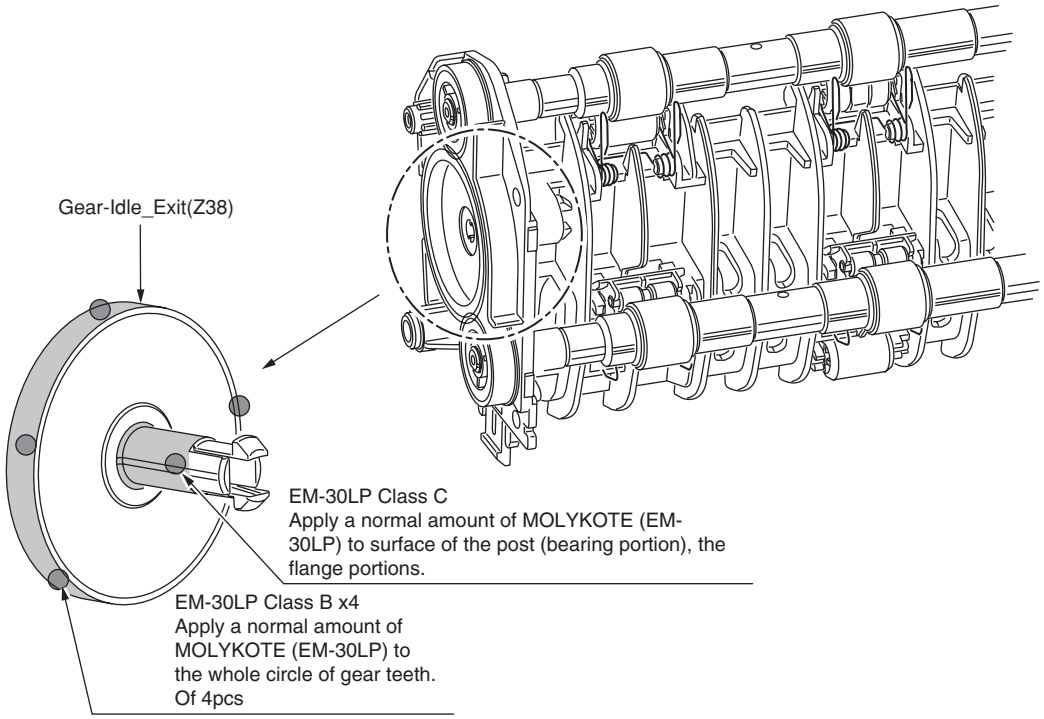
④ -4 44452701PA Front Assy.-Reg/Hop



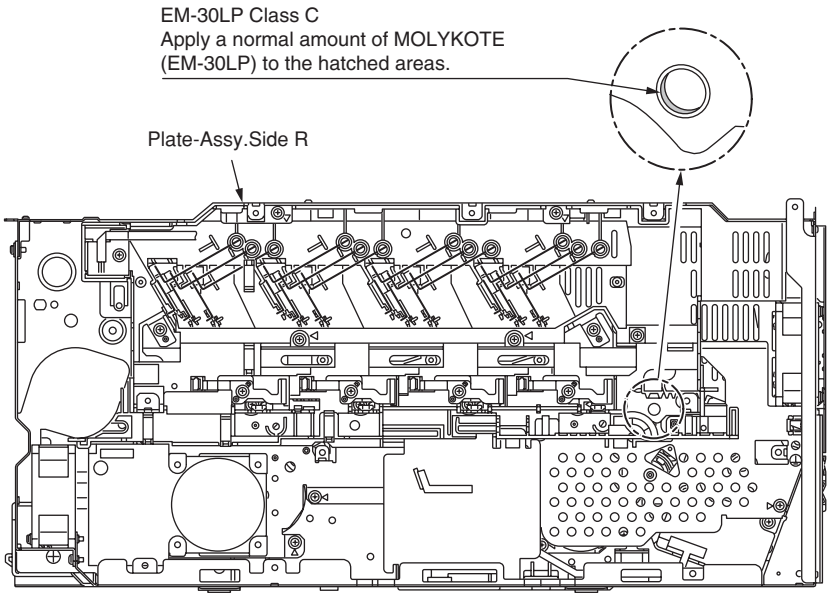
④ -5 44452701PA Front Assy.-Reg/Hop



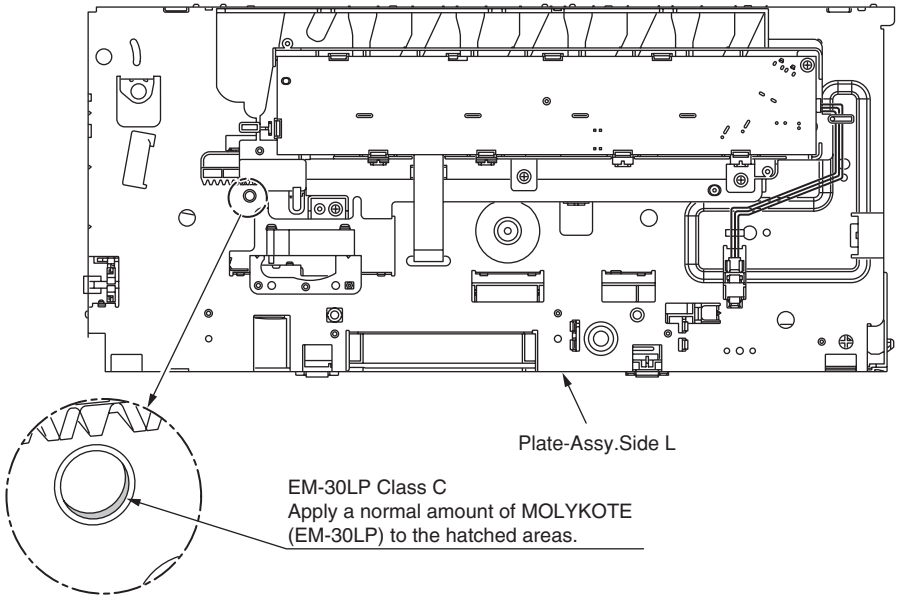
⑤ 44364101PA Eject Assy



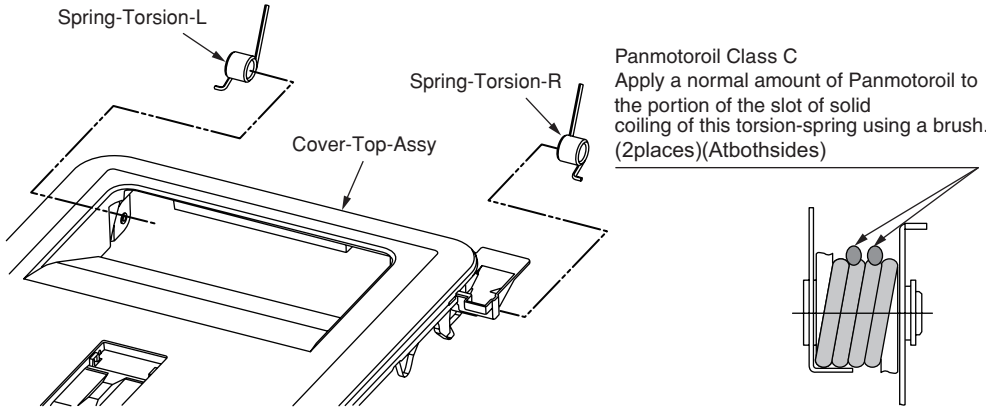
⑥ -1 44453001PA Printer Unit-PX750



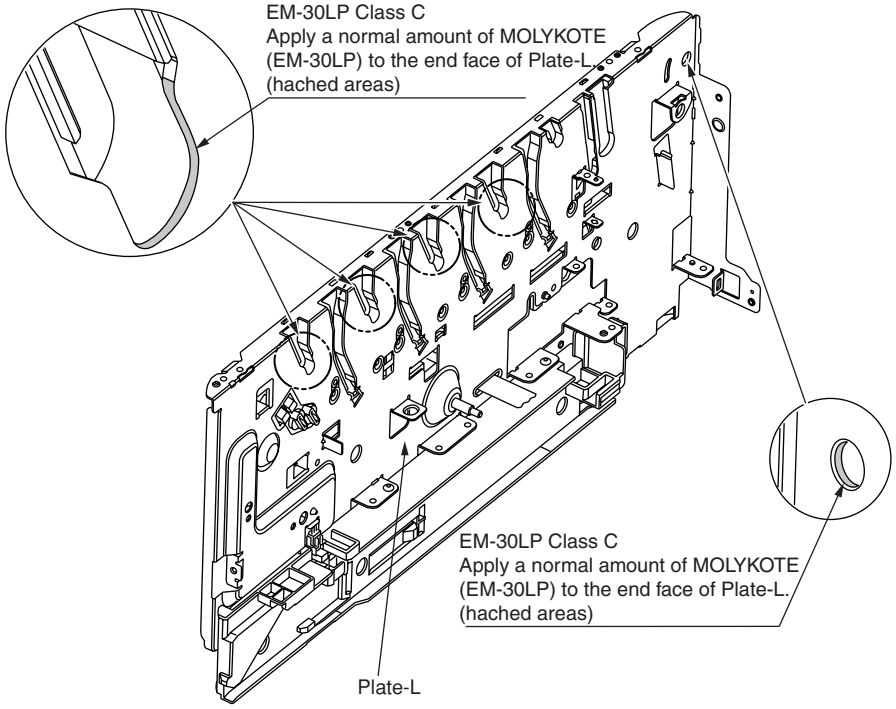
⑥ -2 44453001PA Printer Unit-PX750



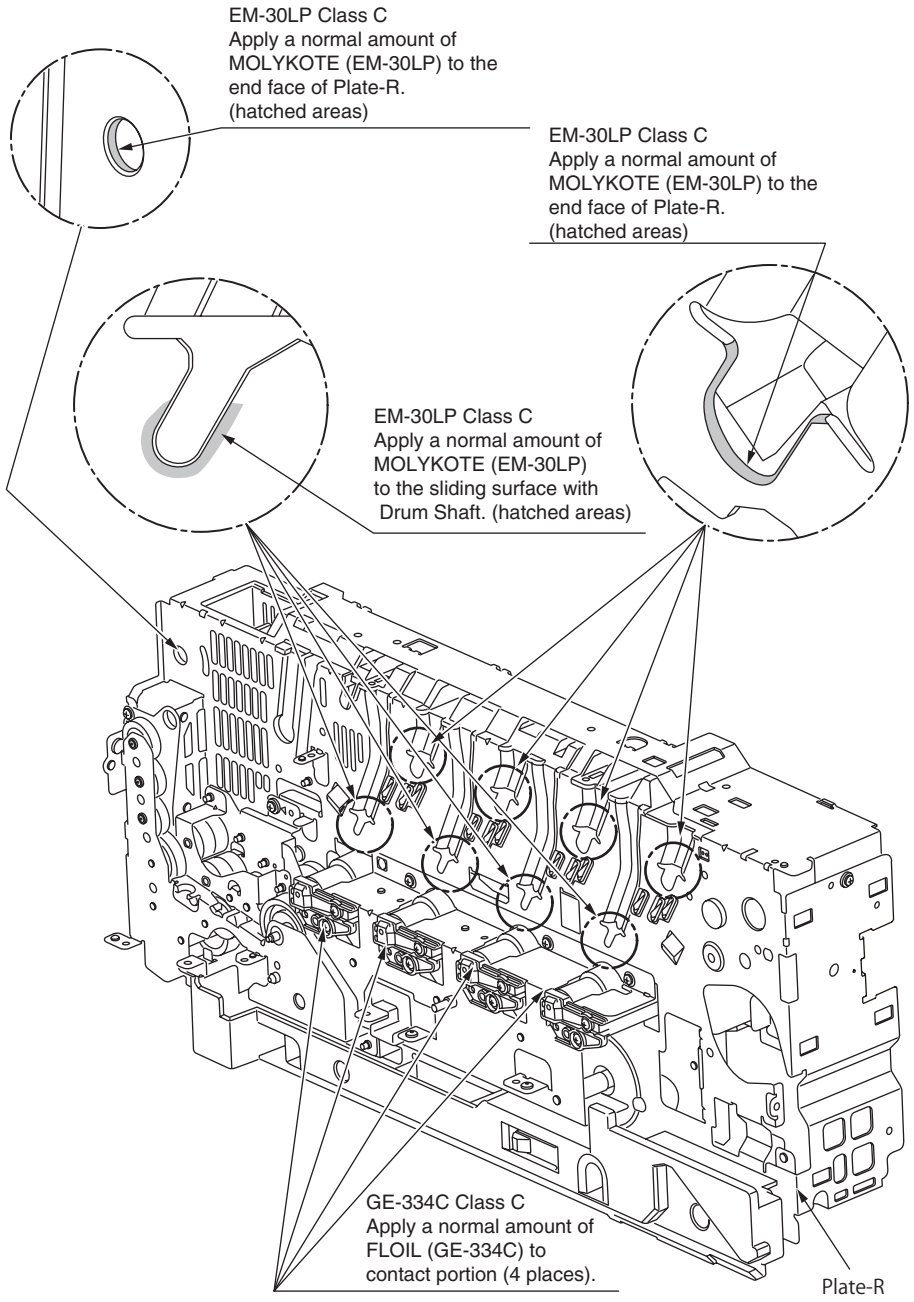
⑥ -3 44453001PA Printer Unit-PX750



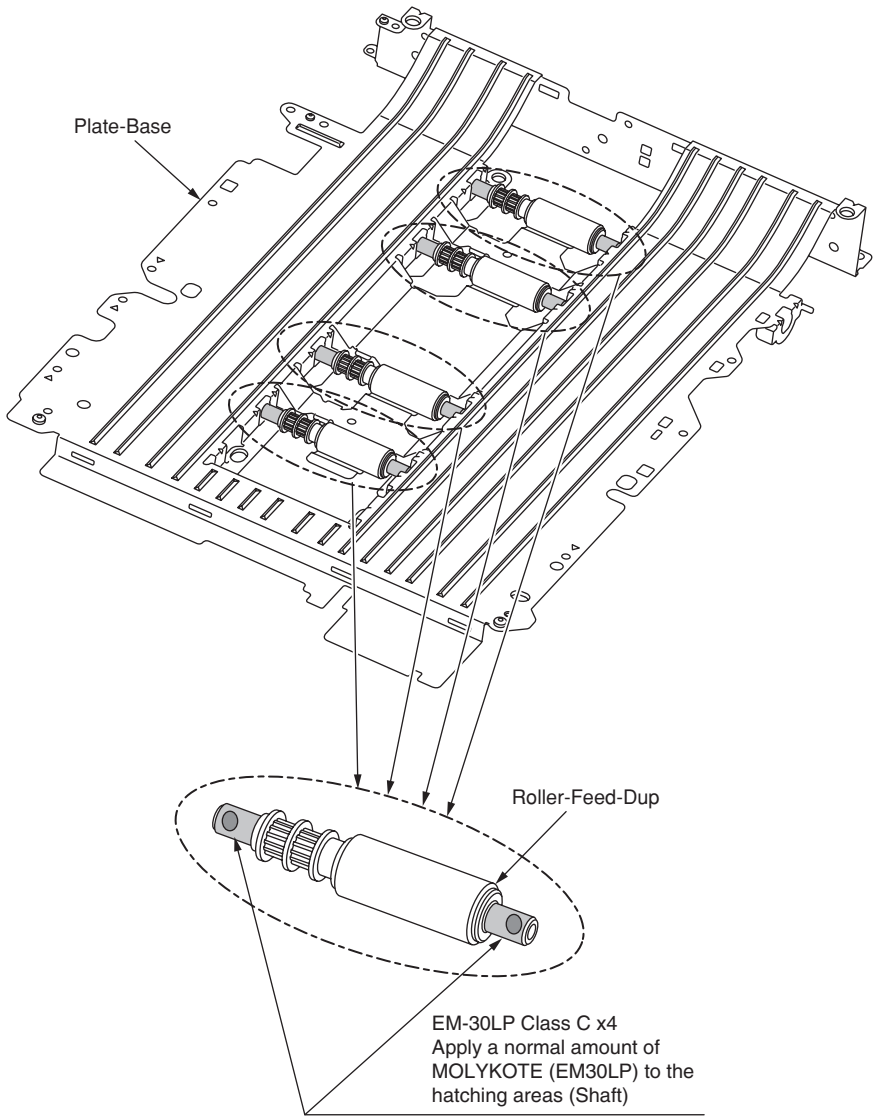
⑥ -4 44453001PA Printer Unit-PX750



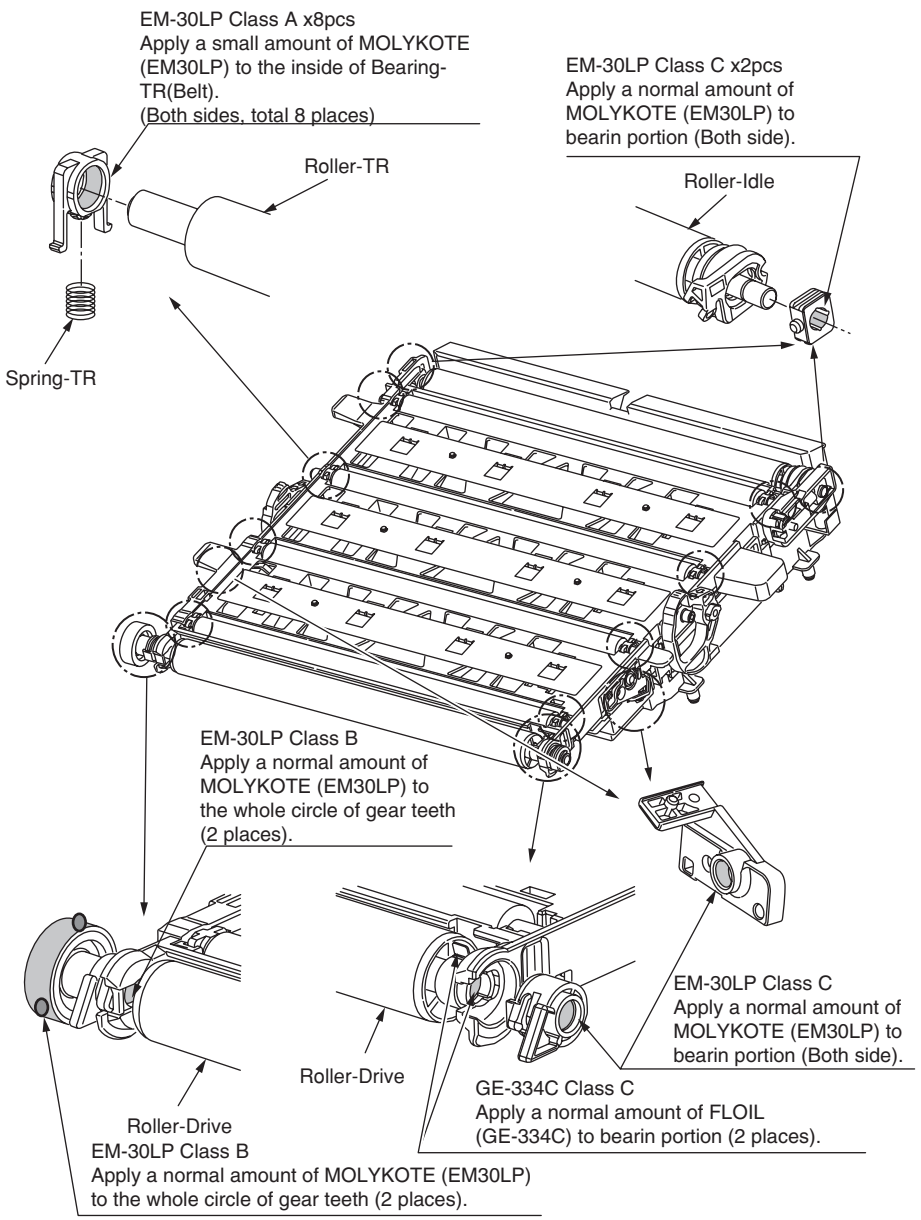
⑥ -5 44453001PA Printer Unit-PX750



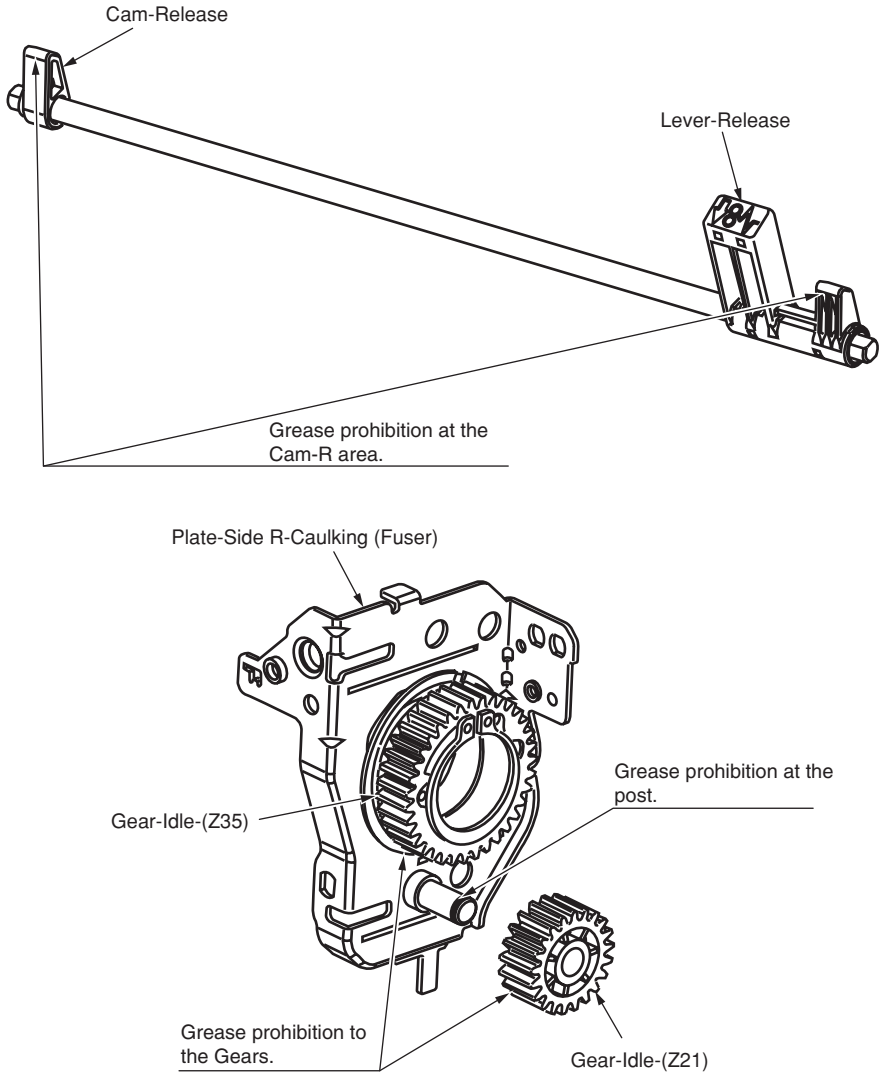
⑦ 44452501PA Base-Assy



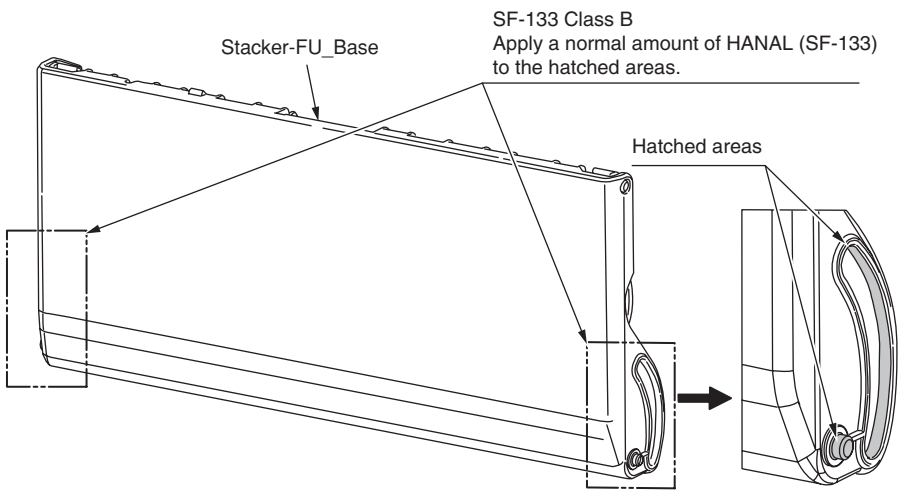
⑧ 44458601PA Belt-Unit



⑨ 44381001PA Fuser-Assy

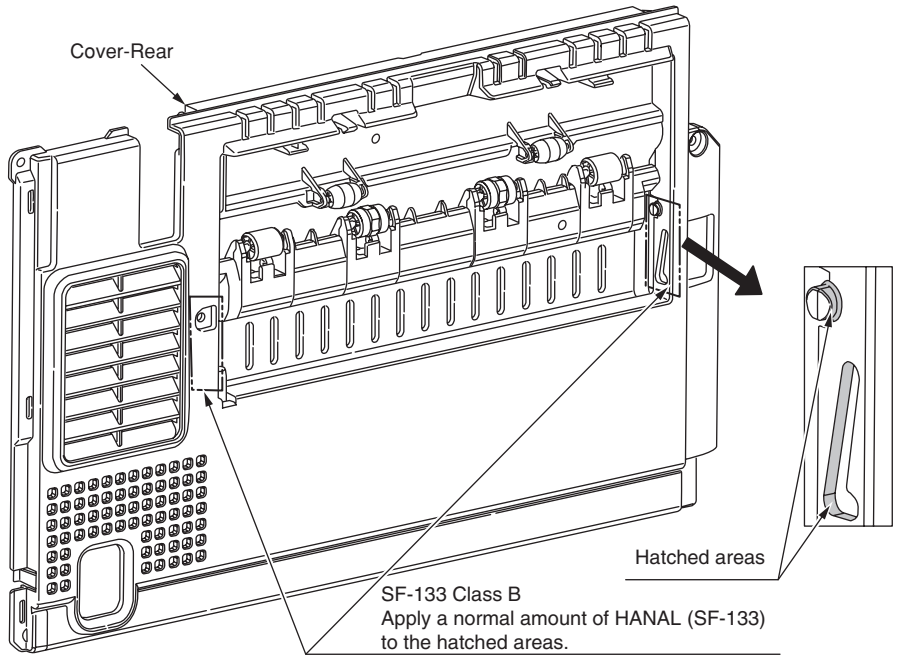


⑩ -1 44453701PA Cover-Assy.-Rear

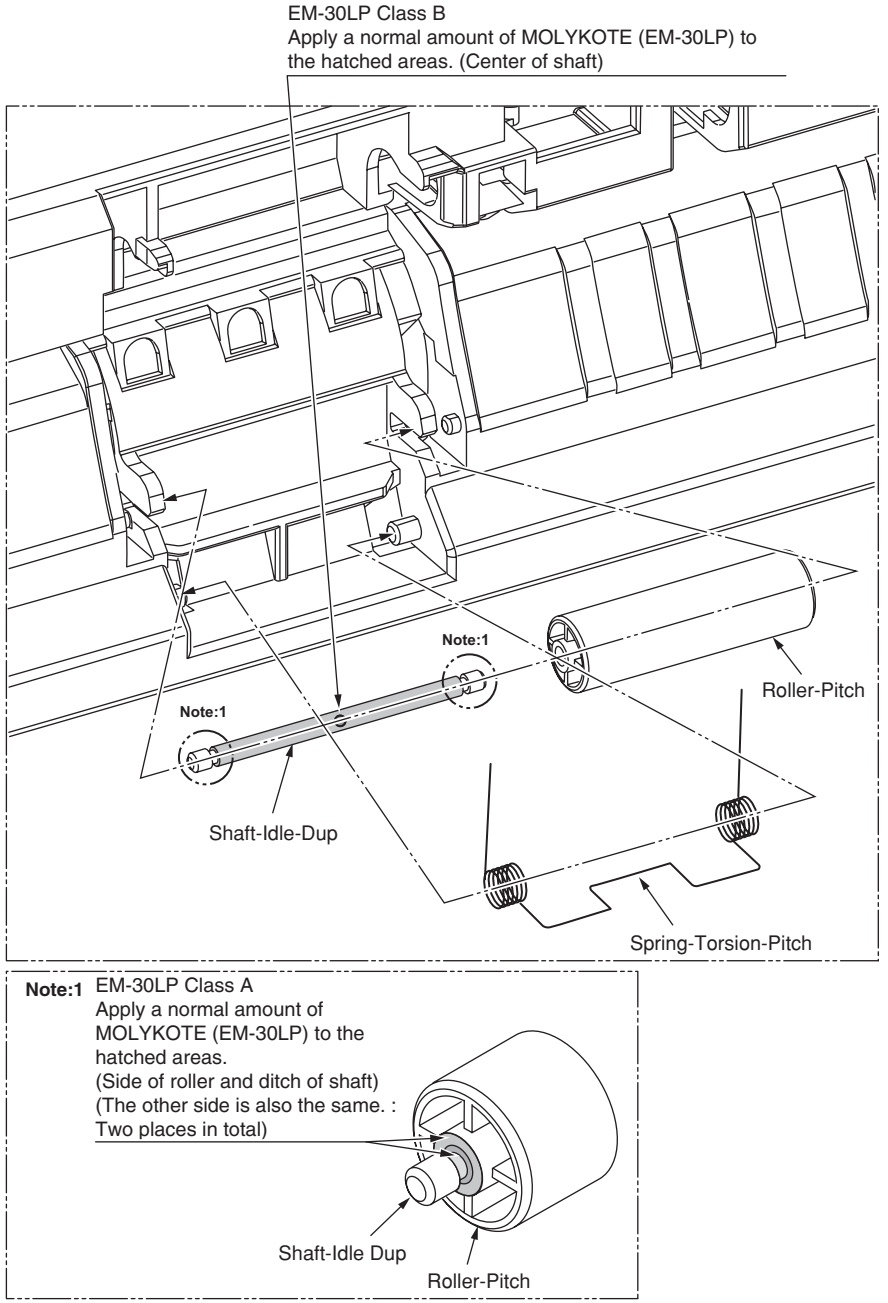


Leave it for about 3 minutes (drying time) after painting HANAL SF-133, and then assemble the Cover-Assy.-Stacker.

⑩ -2 44453701PA Cover-Assy.-Rear



⑪ 44359201PA Frame-Assy.-MPT



4. MAINTENANCE MENUS

This apparatus can be adjusted by using Maintenance Utility, or button operation on its operator panel.

This apparatus has maintenance menus in addition to general menus. The menus intended for adjustment purposes should be selected.

Refer to the Multi Function Printer(MFP) Maintenance Manual for common section (46470902TH) for the detail of the Maintenace menus.

4.1 Self-diagnostic mode

4.1.1 Switch scan test

Refer to the Multi Function Printer(MFP) Maintenance Manual for common section (46470902TH) for the method of detailed Switch scan test.
See the following Figure 4-1 for the position of switches for this apparatus.

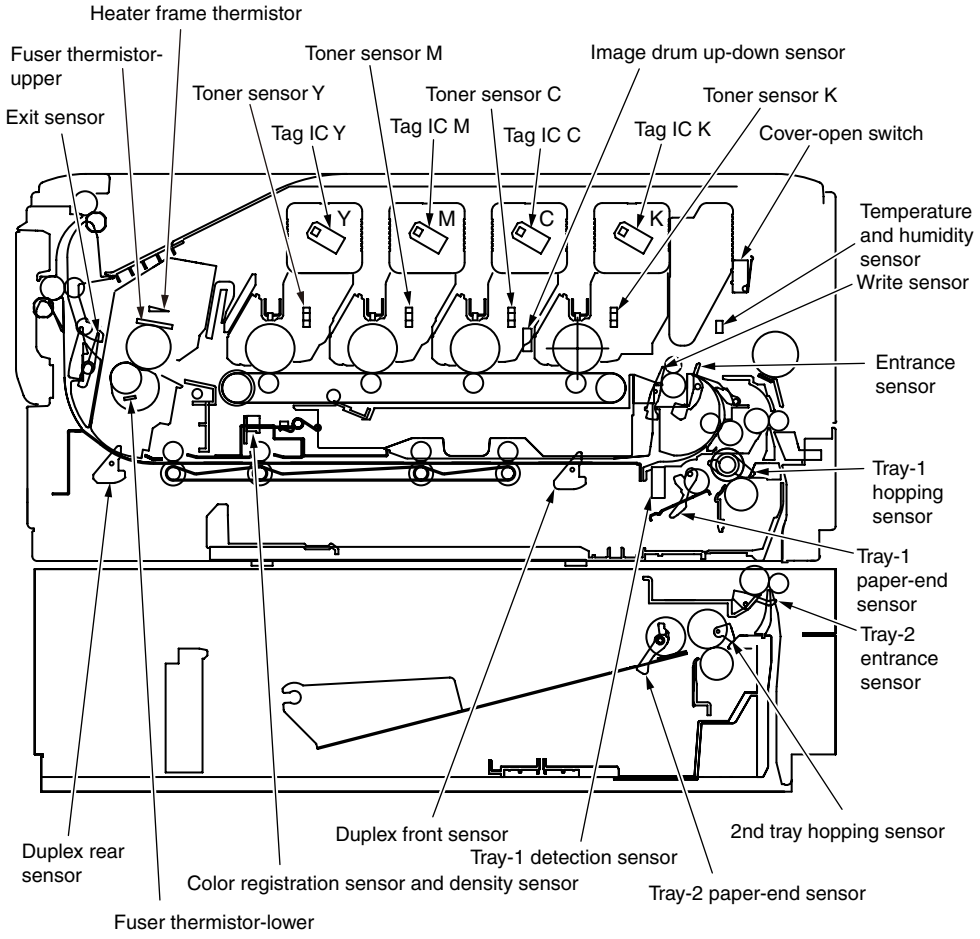


Figure 4-1

4.1.2 Motor and clutch test

Refer to the Multi Function Printer(MFP) Maintenance Manual for common section (46470902TH) for the method of detailed Motor and clutch test.

See the following Figure 4-2 for the position of switches for this apparatus.

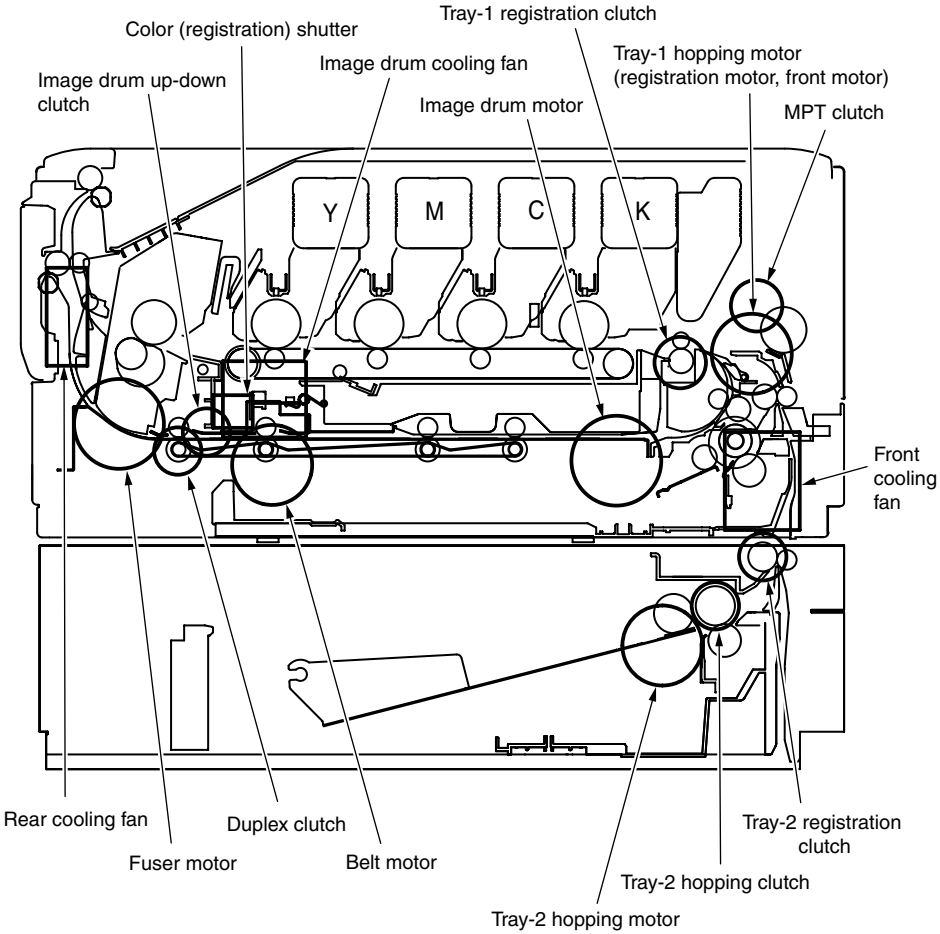


Figure 4-2

5. REGULAR MAINTENANCE

5.1 Recommended substitutes

It is recommended by our company that only heavy users should change the following parts.

(If not changed, the printing quality cannot be guaranteed and failures may arise.)

Part Name	Parts No.
Frame Assy. - Retard	44384701
Roller-Assy. - Hopping	44483301
Roller-Assy. - Pick Up	44483601
Frame Assy. - Separator	43922402
Roller-Assy. - MPT	43922301

Note! 1. Consumables (image drum, toner cartridge, fuser and belt unit) are not included.

2. Power supply and main circuit board, etc. are not included.

The above mentioned regular parts exchange should be done by users.

5.2 Cleaning

If necessary, users should use soft cloths and minitype cleaner to clean the inside and outside of the machine.

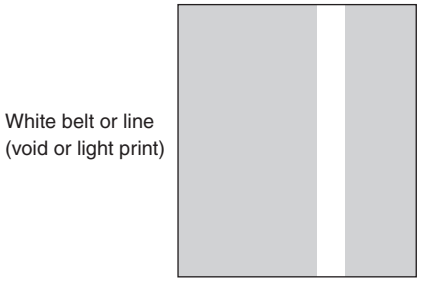
Note! Don't touch image drum terminals, LED lens array and LED head connector.

Do not use benzin, thinner and alcohol.

5.3 Cleaning LED lens array

If there appear white vertical lines or white stripe (white defection, light printing), please clean your LED lens array.

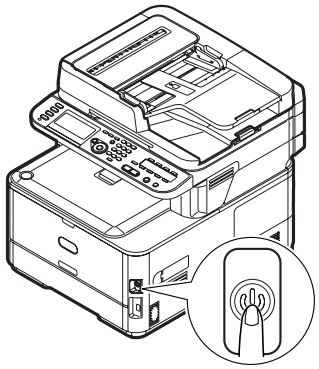
Note! Make sure to use soft tissues to clean the LED lens array.



Cleaning LED head

If there appear line breaks or white lines, or the letters and characters are blurred, please clean LED head.

(1) Switch off the power supply.

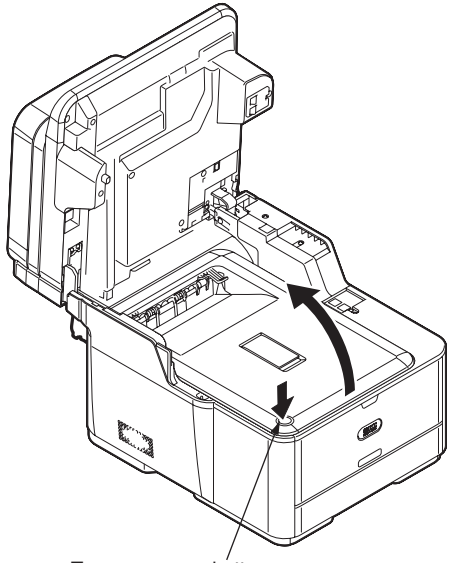


(2) Lift the scanner.

(3) Press OPEN button and open the top cover.

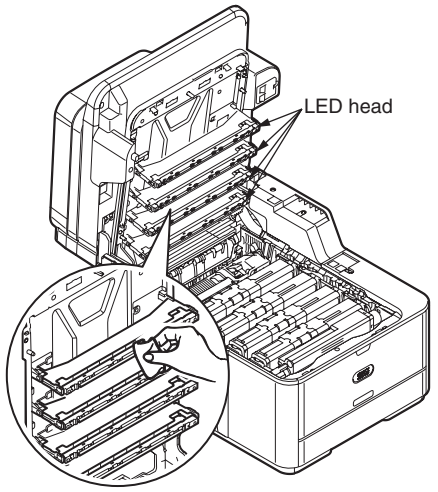
⚠Caution	Personal injuries may occur.	

The fuser unit is extremely hot. Do not touch it.



(4) Lightly wipe the lens (4 points) of the LED head with soft tissues.

Note! Do not use solvents as methyl alcohol or thinner, as they might cause damage to the LED head.



(5) Close the top cover.

(6) Lower the scanner.

5.4 Cleaning the Paper Feed Roller

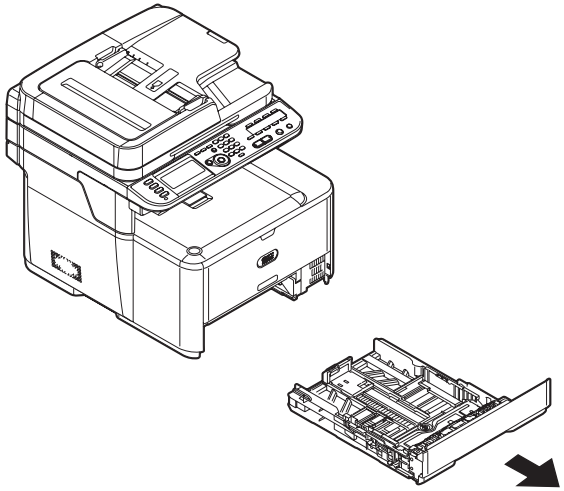
If there appear vertical lines on the printing side, please clean the pick-up roller.

Note! In order not to cause damage to the surface of roller, please use soft cloths to clean it.

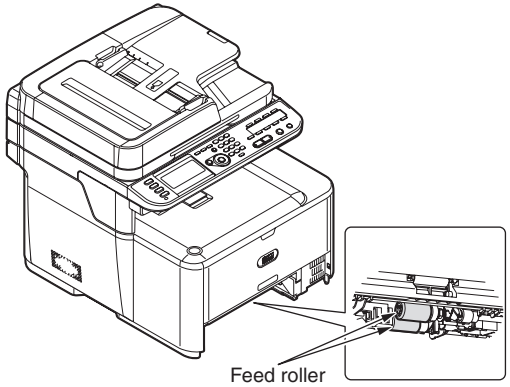
Cleaning paper Feed Rollers and pad

Note! The following images use tray 1 as an example, but the same procedure applies to tray 2.

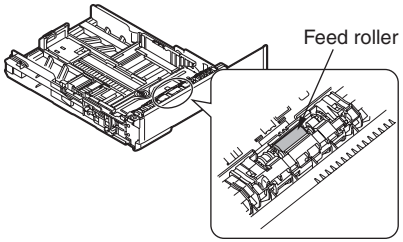
(1) Pull out the paper cassette.



(2) Wipe the paper feed rollers inside the machine with a soft cloth lightly moistened with water.



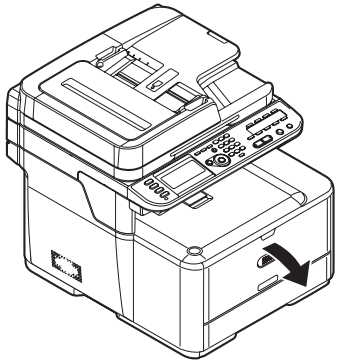
(3) Wipe the paper feed roller on the paper cassette.



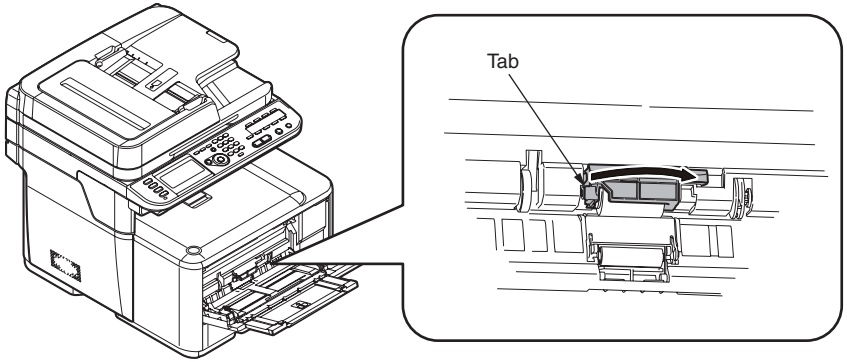
(4) Push the paper cassette back into the tray.

5.5 Cleaning the Paper Feed Rollers for MP Tray

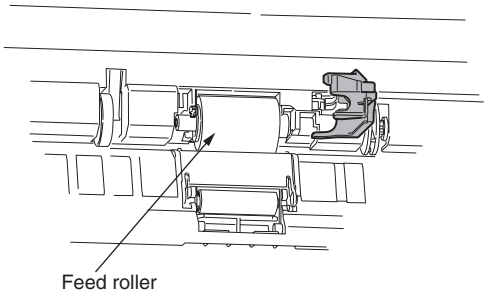
(1) Open the MP tray.



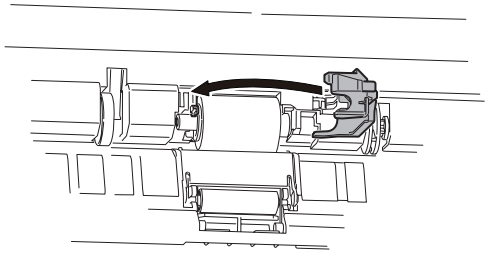
(2) While pressing the tab of the paper feed roller cover to the right, open the cover.



(3) Wipe the paper feed roller with a soft cloth lightly moistened with water.



(4) Close the cover of the paper feed roller.



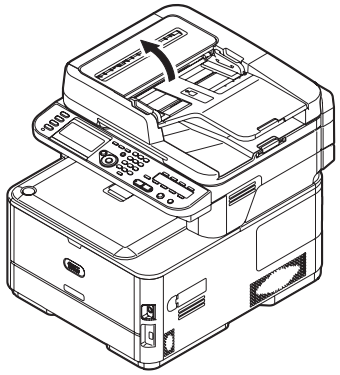
(5) Close the MP tray.

5.6 Cleaning Rollers in the ADF

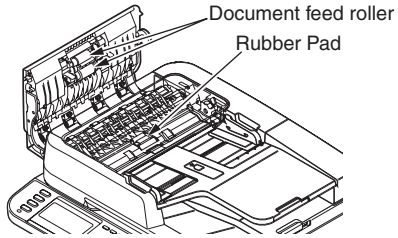
If the document feeding rollers in the ADF are contaminated with ink, toner particles or paper dust, documents and outputs get dirty and a paper jam may occur. To prevent this, it is recommended to clean the rollers once a month.

(1) Thrn off the power of MFP.

(2) Open the ADF cover.



(3) Wipe the document feeding rollers with a soft cloth lightly moistened with water.
Wipe the whole surface of the roller and rubber pad while turning it with your hand.



Note! If the rollers get too dirty, wipe them with a soft cloth lightly moistened with neutral detergent, and then wipe it again with a soft cloth lightly moistened with water.

(4) Close the ADF Cover.

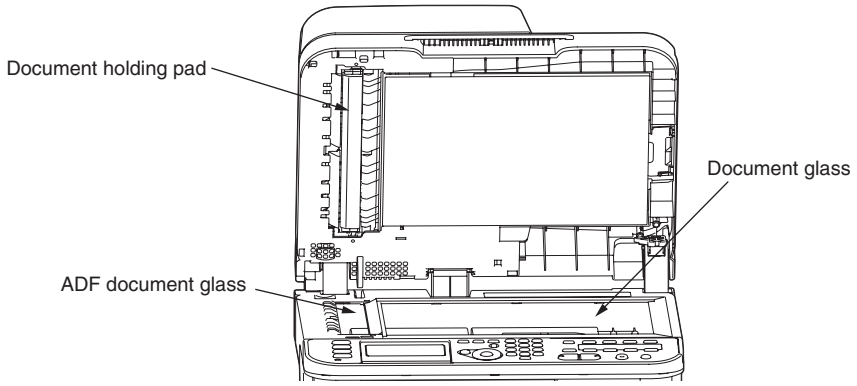
5.7 Cleaning the Document Glass

It is recommended to clean the document glass once a month to maintain image quality of the printouts.

(1) Open the document glass cover.

(2) Wipe the document holding pad, document glass and ADF document glass surface with a soft cloth lightly moistened with water.

Caution! Do not use benzine, thinners or alcohol as a cleaning agent. They may damage the plastic parts of the MFP.



(3) Close the document glass cover.

6. TROUBLESHOOTING PROCEDURES

6.1 Precautions prior to repair

(1) Confirm the basic check items indicated in the User's Manual.

(2) Through hearing from the user, obtain information, as far in detail as possible, on the situation concerning the fault.

(3) Inspect the printer in a condition close to the actual situation in which the fault occurred.

6.2 Items to be checked prior to taking action on abnormal images

(1) Check to see if the printer is operated in an adequate environment.

(2) Check to see if the consumables (toner, drum cartridges) are replaced properly.

(3) Check to see if the right paper is used. See the paper specifications.

(4) Check to see if the drum cartridges are installed properly.

6.3 Precautions when taking action on abnormal images

(1) Do not bring your hand or any object in contact with the surface of the OPC drum.

(2) Do not expose the OPC drum to direct sun.

(3) Do not touch the fuser unit, which can be very hot.

(4) Do not expose the image drums to light for over five minutes at the room temperature.

6.4 Preparations for troubleshooting

(1) Display of LCD

The breakdown situation of this machine is display in LCD.
Do an appropriate trouble repair based on information displayed in LCD.

6.5 Troubleshooting method

(1) Refer to the Multi Function Printer(MFP) Maintenance Manual for common section (46470902TH) for the method of detailed troubleshooting.

6.5.1 Preparing for troubleshooting

Note! • When replacing the CU/PU board, please read the content on the EEPROM chip of the old board and copy it to the new board. (Refer to the Multi Function Printer(MFP) Maintenance Manual for common section (46470902TH) when exchange the CU/PU board)

• Connection diagram is see Fig1-1.

6.5.1.(1) LCD Display Trouble

(1-1) LCD displays nothing

Check item	Checking method	Action in case of NG
(1-1-1) Checking connections		
Connection between the printer and AC power supplied	Check the connection between the printer and AC power supplied.	Connect the AC cable properly.
Cable assembly connecting low-voltage power supply unit to CU/PU board	Make sure the low-voltage power supply unit is connected to the POWER connector and SP connector on the CU/PU board properly. Check whether the cable connector is half-connected or tilted.	Connect the cable properly.
	Check whether there is any fault in the cable assembly, e.g., missing wires.	Replace the cable with a good cable.
Connection between CU/PU board and SU board	Make sure the 16-pin FFC is connected to the OPE_OPM connector on the CU/PU board properly. Make sure the 16-pin FFC is connected to the OPE1 connector on the SU board properly. Check whether the cable connector is half-connected or tilted.	Connect the FFC cable properly.
	Check for broken wires using a tester. Check visually whether the sheath peels.	Replace the FFC cable with a good cable.
Connection between SU board and OPM board	Make sure the 16-pin FFC is connected to the OPE2 connector on the SU board properly. Make sure the 16-pin FFC is connected to the CN1 connector on the OPM board properly. Check whether the cable connector is half-connected or tilted.	Connect the FFC cable properly.
	Check for broken wires using a tester. Check visually whether the sheath peels.	Replace the cable with a good cable.
(1-1-2) Checking power supplies		
AC power supplied to CU/PU board	Check the supplied voltage of the connector on the CU/PU board. A)POWER connector 1, 2, 3pin: 5V 4, 5, 6pin: 0V B)SP connector 1pin: 3.3V 2pin: 0V	Replace the low-voltage power supply. Replace the POWER cable or SP cable.
AC power supplied to SU board	Check the supplied voltage of the OPE1 connector on the SU board. 3pin: 3.3V 16pin: 5V 5, 15pin: 0V	Replace the CU/PU board or OPE1_FFC cable.
AC power supplied to OPM board	Check the supplied voltage of the CN1 connector on the OPM board. 14pin: 3.3V 1pin: 5V 2, 12pin: 0V	Replace the SU board or FFC cable.
AC power supplied to LCD	Check the supplied voltage of the CN501 connector on the OPM board. 12pin: 3.3V 29pin: 5V 11, 30pin: 0V	Replace the OPM board or LCD.
(1-1-3) Checking LSI operation		
I/F signal from CU/PU board to OPM board	Check whether signals are output to the OPE_OPM connector on the CU/PU board. 9pin: Transmission data 11pin: Clock 13pin: Enabling 15pin: Reset Signals should be always output under normal conditions.	Replace the CU/PU board.

(1-2) Display of OKI logo

Check item	Checking method	Action in case of NG
(1-2-1) Operation panel display does not change.		
Operation panel display	OKI logo stays on.	Replace the CU/PU board.

(1-3) Error message display

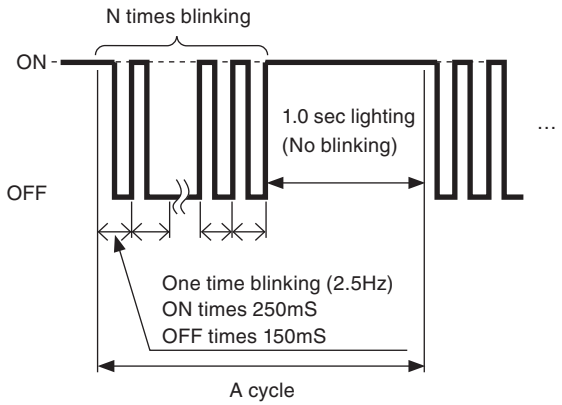
Check item	Checking method	Action in case of NG
(1-3-1) Error message		
Error message display	Check the detail of the error on the error message list.	Follow the instructions.

6.5.1.(2) Abnormal MFP operation after powered on

(2-1) No operation

Check item	Checking method	Action in case of NG
(2-1-1) Checking connections		
The same check of (1-1-1)		
(2-1-2) Confirmation of the power switch LED		
Power Switch LED	Confirm whether the LED is off. If the LED blinks rapidly, the number of blinking times in a cycle shows an error. The timing of blinking rapidly is shown in the below figure	Replace either of the low-voltage power supply unit, the CU/PU board, Power SW-board, the cables connected to the low-voltage power supply unit and CU/PU board or the cables connected to the CU/PU board and Power SW-board. In case of 2, 4, 8 or 10 times of LED blinking rapidly: Replace either of the low-voltage power supply unit, the CU/PU board, the cables connected to the low-voltage power supply unit and the CU/PU board. In case of 3, 6 or 9 times of LED blinking rapidly: Replace the CU/PU board.

Rapid blinking of the LED



Check item	Checking method	Action in case of NG
(2-1-3) Checking power supplies		
AC power supplied to printer	Check the supplied voltage of the AC power supplied.	To supplies the AC power.
AC power supplied to CU/PU board	Check the supplied voltage of the connector on the CU/PU board. A)POWER connector 1, 2, 3pin: 5V 7, 8, 9pin: 24V 4, 5, 6pin: 0V B)SP connector 1pin: 3.3V 2pin: 0V	Replace the low-voltage power supply. Replace the POWER cable or SP cable.
AC power supplied to SU board	Check the supplied voltage of the POWER connector on the SU board. 1pin: 3.3V 3, 4pin: 5V 7, 8pin: 24V 2, 5, 6, 9, 10pin: 0V	Replace the CU/PU board or cable.

(2-2) Abnormal sound

Check item	Checking method	Action in case of NG
(2-2-1) Checking for loss of synchronization of motor (driver failure)		
Operation of each motor	Check whether each motor operates properly using the self-diagnosis mode. Check by detection of a load. Noise that sounds like "pooh" is made when there is a fault.	Replace CU/PU board and SU board.
Condition of each motor cable	Check the wiring of each motor. Check for a short circuit by visual check and using a tester. Disconnect the motor cable from the PCB and check the resistance between the FG and each pin of the disconnected cable.	Replace the motor cable. Correct the wiring.
(2-2-2) Checking for loss of synchronization of motor (load by consumables)		
Operation of each motor	Check whether each motor operates properly using the self-diagnosis mode. Check by detection of a load. Noise that sounds like "pooh" is made when there is a fault.	Replace the consumable(s).
(2-2-3) Check for gear jumping (load by consumables)		
Operation of each motor	Check whether each motor operates properly using the self-diagnosis mode. Check by detection of a load. Noise that sounds like "batz batz" is made when there is a fault.	Replace the consumable(s).
Position of consumables	Check visually whether each consumable gear is in place and they engage with one another.	Replace or repair mechanical part(s).
(2-2-4) Checking cable wiring		
Cable wiring around cooling fans	Check whether a cable touches the blades of a fan as the cable is not properly laid. When it does, noise that sounds like "clack clack" is made.	Lay the cable properly.

(2-3) Abnormal odor

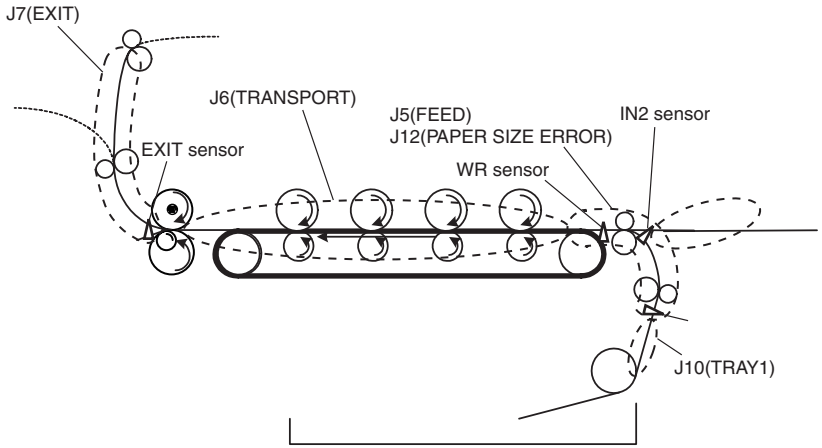
Check item	Checking method	Action in case of NG
(2-3-1) Locate the position with abnormal odor occurred.		
Fuser unit	Take out the fuser and confirm the odor.	Perform (2-3-2).
Low-voltage power supply unit	Take out the low-voltage power supply unit and confirm the odor.	Exchange low-voltage power supply unit
(2-3-2) Check the condition of fuser.		
Life count of fuser	Confirm the life count of the fuser by the maintenance utility.	It may have abnormal smell around a new printer.
Foreign confirmation of fuser	Confirm whether the fuser is jammed with foreign body such as paper inside.	Remove the foreign body.

(2-4) Slow starting time

Check item	Checking method	Action in case of NG
(2-4-1) Check a fuser unit		
Halogen lamp	Confirm the wattage of the halogen lamp mounted in the fuser.	Exchange for wattage parts of the rated voltage.

(3) Error number and jam location at paper jam

Name	Reference	Corresponding	Jam release method
Feed (front cover jam)	J5	IN2, WR	Jam release method ①
Transport (paper feed jam)	J6	IN1, IN2, WR, EXIT	Jam release method ②
Exit (paper reject jam)	J7	EXIT	Jam release method ②
Tray1 (paper feed jam)	J10	IN1	Jam release method ①, ④
Paper size error (paper size error)	J12	IN1	Jam release method ①



Recovering Paper Jam

- **Refer to the User's Manual for method of Jam recovering.**

⚠Warning

- If the machine has turned on, the fuser unit may be hot. This area is cleanly labelled. Do not touch

⚠Caution

- The image drum (the green tube) is very delicate. Handle it carefully.
- Do not expose the image drum unit to direct sunlight or very bright interior light (approximately more than 1500lux). Even under the normal interior light, do not leave it for more than 5 minutes.

Note! You can also refer to the instructions on how to clear paper jams by pressing the <?HELP> key while the error message is displayed.

Error Code 370, 371

(1) Remove any documents from the document tray.

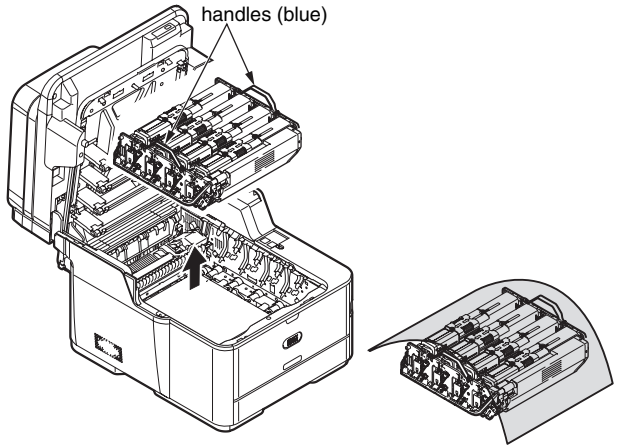
(2) Open the scanner unit.

(3) Press the top cover open button and open the top cover.

Important Touch any screw inside the machine to remove static electricity from your body.

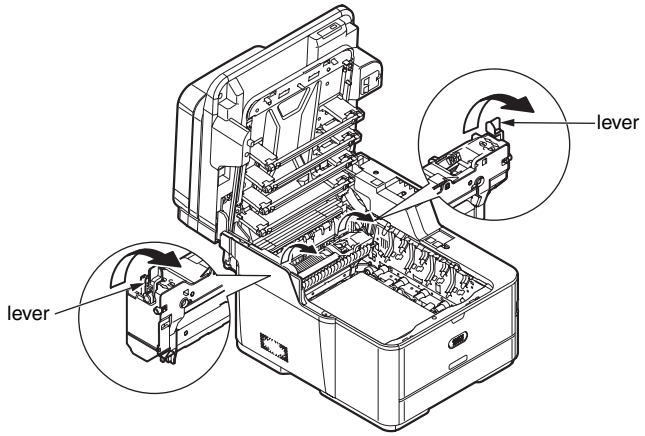
(4) Hold the handles (blue) of the image drum unit with both hands and lift it out of the machine, and then place it on a flat surface.

Cover the image drum unit with black paper or a black bag.

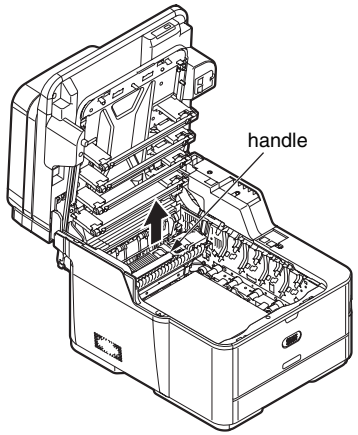


(5) Remove any paper from the belt unit.

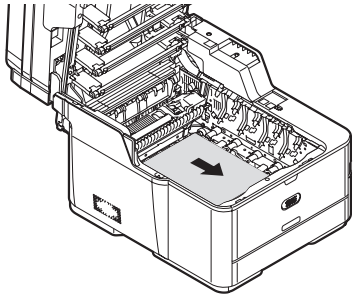
(6) Pull the locking levers on each side of the fuser unit to the "unlock" position.

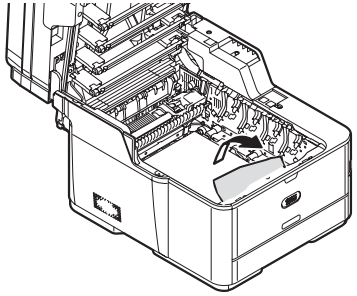


(7) Hold the fuser unit handle and lift the fuser unit out of the MFP.



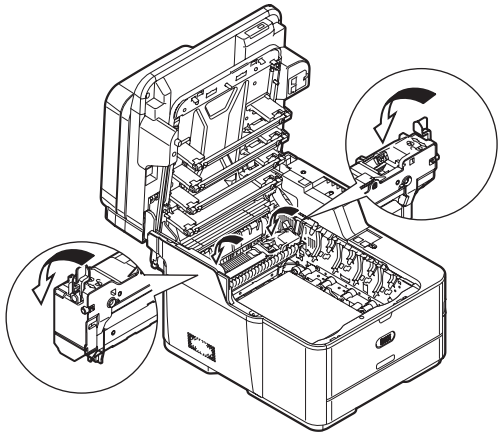
(8) Remove any jammed paper in the direction of the arrow.





(9) Hold the fuser unit handle and place the fuser unit into the MFP.

(10) Push the locking levers on each side of the fuser unit to the "lock" position.



(11) Hold the blue handles of the image drum unit with both hands and place it into the MFP.

(12) Close the top cover and scanner unit.

Error Code 372

(1) Remove any documents from the document tray.

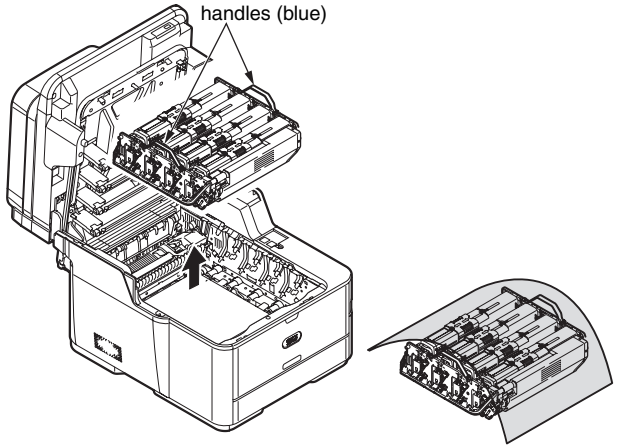
(2) Open the scanner unit.

(3) Press the top cover open button and open the top cover.

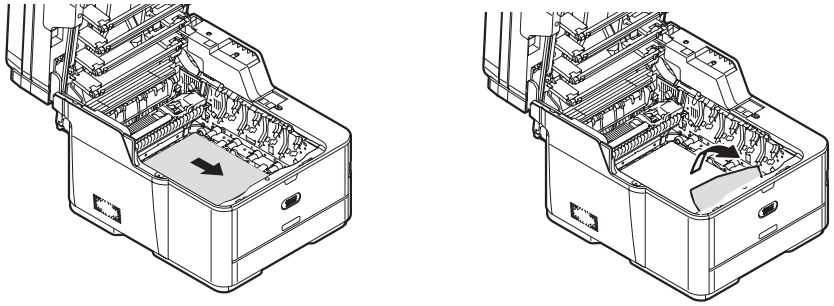
Important Touch any screw inside the machine to remove static electricity from your body.

(4) Hold the handles (blue) of the image drum unit with both hands and lift it out of the MFP, and then place it on a flat surface.

Cover the image drum unit with black paper or a black bag.



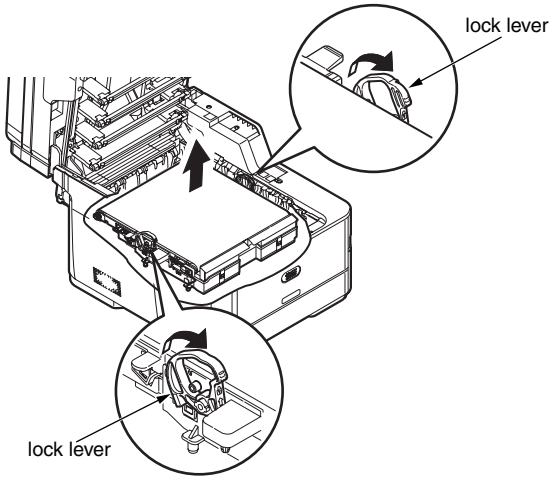
(5) Remove any jammed paper in the direction of the arrow.



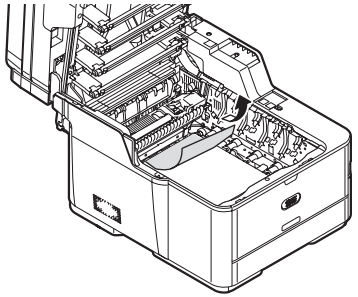
If all the paper comes out, go to step (10).

If the top edge of the paper cannot be seen, go to step (6).

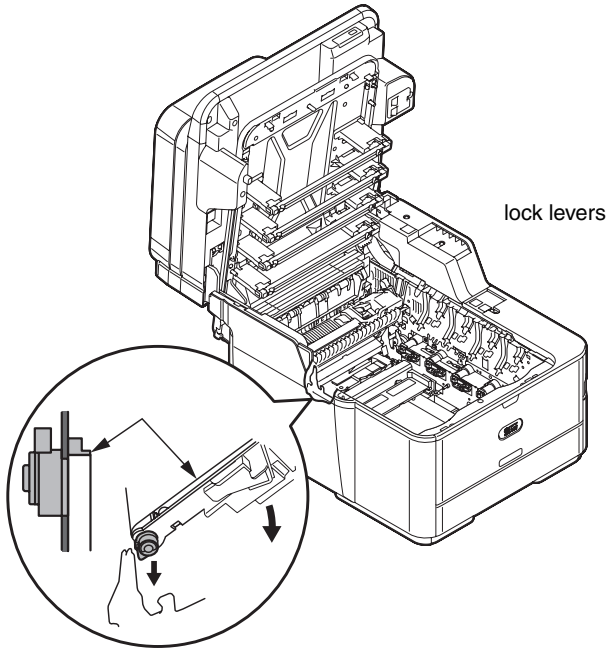
(6) Turn the lock lever on each side of the belt unit toward you, hold the lock levers with both hands and remove the belt unit.



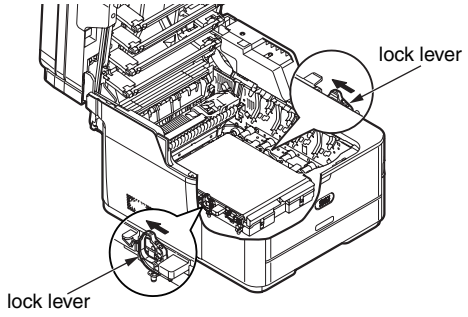
(7) Slowly pull out the paper by the bottom edge.



(8) Hold the lock levers on each side of the belt unit with both hands and place it into the MFP.



(9) Turn the lock levers of the belt unit away from you.



(10) Hold the blue handles of the image drum unit with both hands and place it into the MFP.

(11) Close the top cover and scanner unit.

Error Code 380, 390

(1) Remove any documents from the document tray.

(2) Remove any paper in the MP tray.

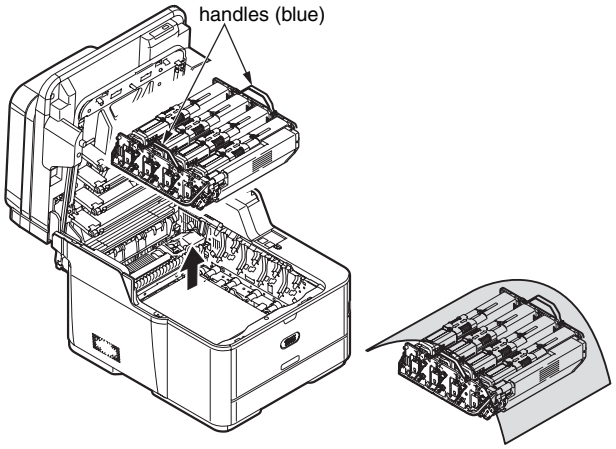
(3) Open the scanner unit.

(4) Press the top cover open button and open the top cover.

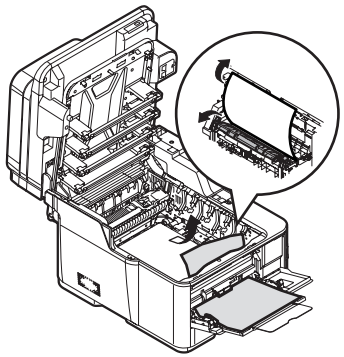
Important Touch any screw inside the MFP to remove static electricity from your body.

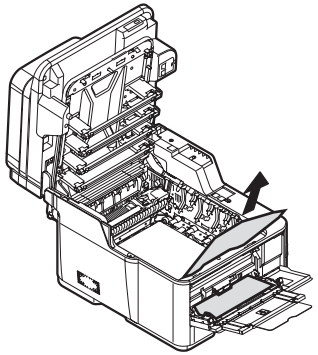
(5) Hold the handles (blue) of the image drum unit with both hands and lift it out of the MFP, and then place it on a flat surface.

Cover the image drum unit with black paper or a black bag.

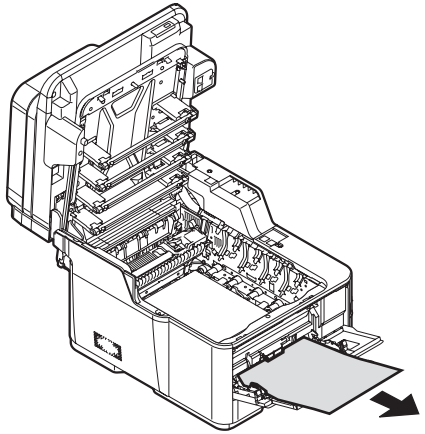


(6) Hold jammed paper by the top edge, and gently pull it out.





If the top edge of the paper cannot be seen, slowly pull out the paper with by the bottom edge.



(7) Hold the blue handles of the image drum unit with both hands and place it into the MFP.

(8) Close the top cover and scanner unit.

Error Code 381, 382, 385

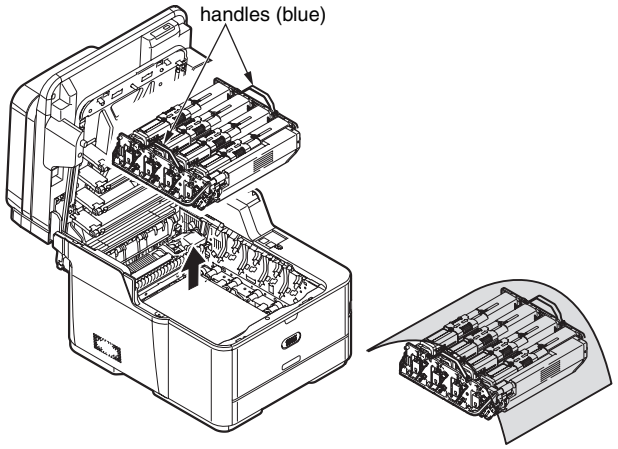
(1) Remove any documents from the document tray.

(2) Open the scanner unit.

(3) Press the top cover open button and open the top cover.

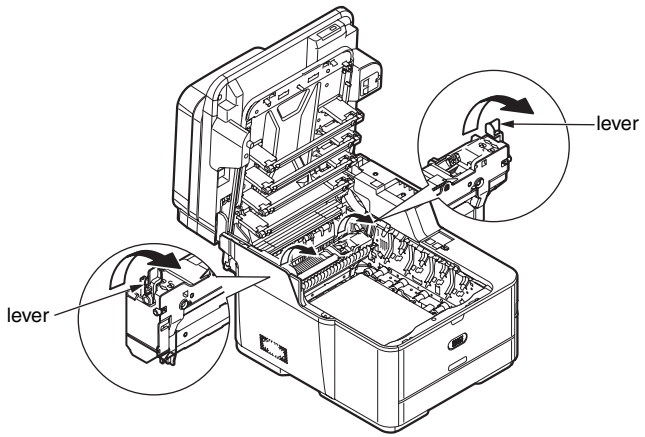
Important Touch any screw inside the MFP to remove static electricity from your body.

(4) Hold the blue handles of the image drum unit with both hands and lift it out of the MFP, and then place it on a flat surface.
Cover the image drum unit with black paper or a black bag.

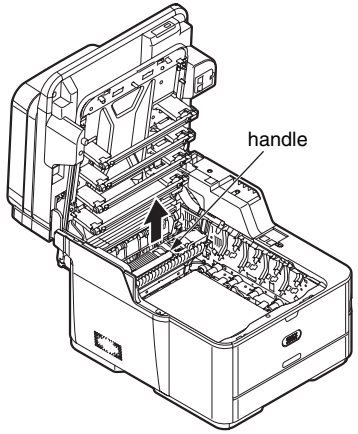


(5) Remove any paper from the belt unit.

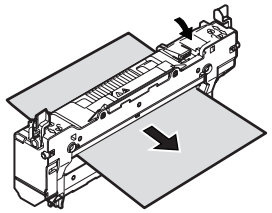
(6) Pull the locking levers on each side of the fuser unit to the "unlock" position.



(7) Hold the fuser unit handle and lift the fuser unit out of the MFP.

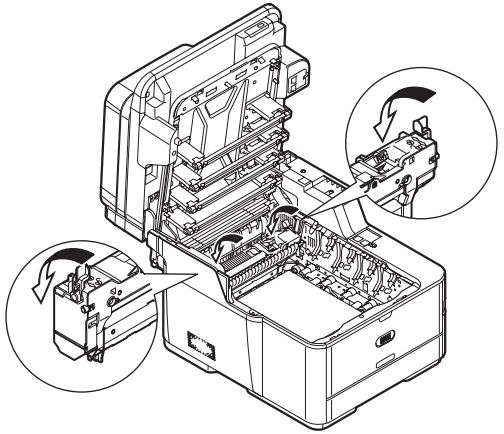


(8) While pushing the jam release lever of the fuser unit, gently pull jammed paper directly outward.



(9) Hold the fuser unit handle and place the fuser unit into the MFP.

(10) Push the locking levers on each side of the fuser unit to the 'lock' position.



(11) Hold the blue handles of the image drum unit with both hands and place it into the MFP.

(12) Close the top cover and scanner unit.

Error Code 389

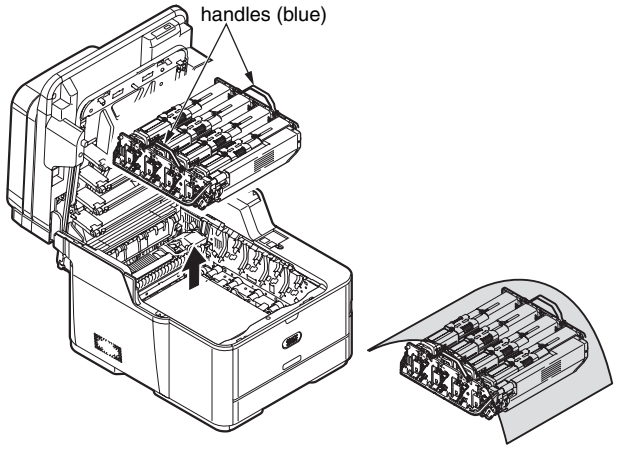
(1) Remove any documents from the document tray.

(2) Open the scanner unit.

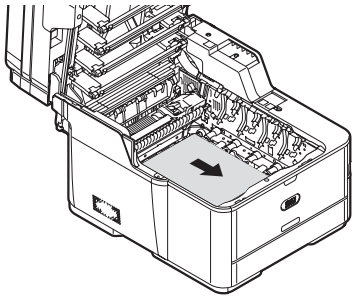
(3) Press the top cover open button and open the top cover.

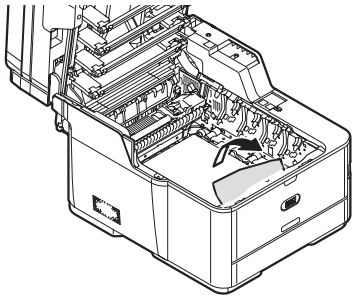
Important Touch any screw inside the machine to remove static electricity from your body.

(4) Hold the blue handles of the image drum unit with both hands and lift it out of the MFP, and then place it on a flat surface.
Cover the image drum unit with black paper or a black bag.

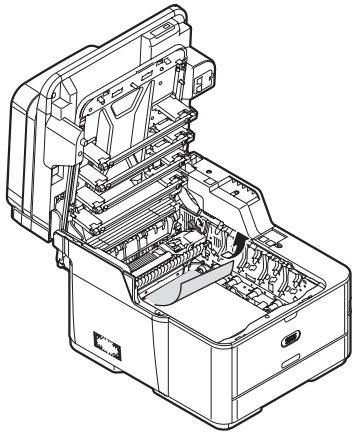


(5) Remove any jammed paper in the direction of the arrow.





If the top edge of the paper cannot be seen, push the jam release lever of the fuser unit and then gently pull out the paper.



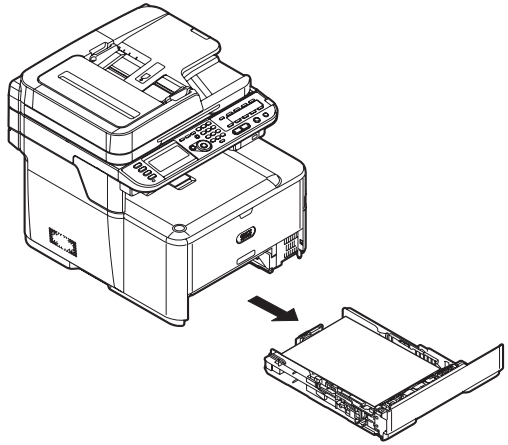
(6) Hold the blue handles of the image drum unit with both hands and place it into the MFP.

(7) Close the top cover and scanner unit.

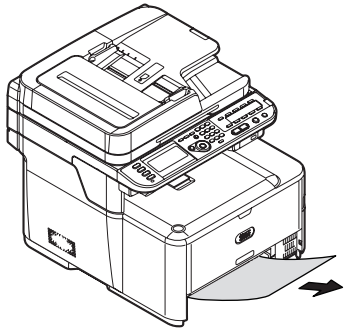
Error Code 391, 392

Note! The following images use tray 1 as an example, but the same procedure applies to tray 2.

(1) Pull out and remove the paper cassette of the indicated tray.



(2) Remove jammed paper.



(3) Push the paper cassette back into the tray.

(4) Open the scanner unit.

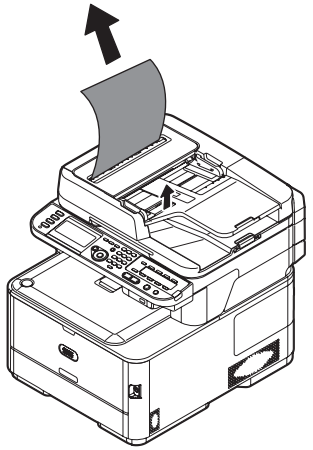
(5) Open and close the top cover.

(6) Close the scanner unit.

Document Jam

In the Duplex Paper Path

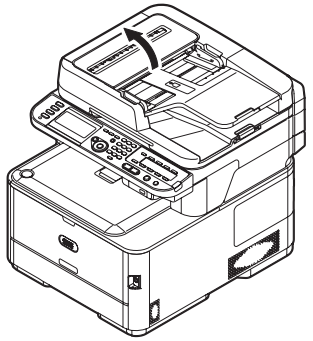
(1) While opening the ADF cover, pull out the document from the duplex paper path.



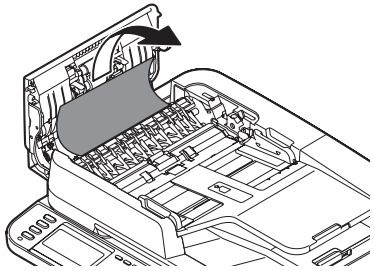
Inside the ADF

(1) Remove any documents from the document tray.

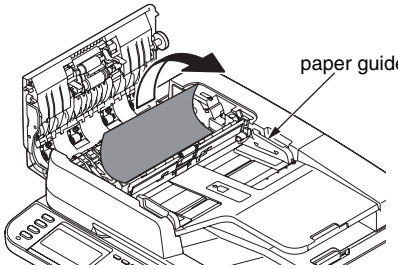
(2) Open the ADF cover.



(3) Hold jammed document by the top edge, and gently pull it out.

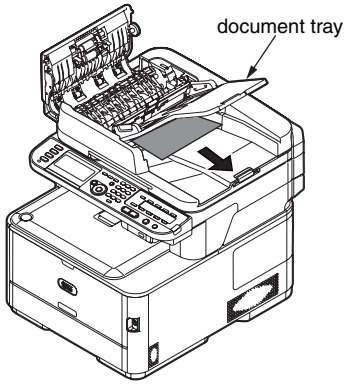


If the edge of the document can been seen under the paper guide, lift the paper guide and then pull out the document.



If the edge of the document cannot be seen in the ADF, lift the document tray and then pull out the document.

Pull down the document tray.



(4) Close the ADF cover.

6.5.1. (3) Paper feed jam (error code 391: 1st tray)

(3-1) Jam occurs immediately after the power is turned on. (1st tray)

Check item	Checking method	Action in case of NG
(3-1-1) Check condition of the paper running path		
Paper running path of the front unit	Open the front cover check if paper is not jammed in the paper running path.	Remove the jammed paper.
(3-1-2) Check condition of the mechanical parts		
Hopping sensor and IN sensor lever check	Check the sensor lever shapes and operations for any problem.	Replace the sensor lever(s) with proper one(s).
(3-1-3) Check condition of electrical parts		
Check the detection condition of the sensor signal.	Confirm that the sensor signals are normally detected by using the Maintenance Menu SWITCH SCAN function.	Replace the CU/PU board, or appropriate sensor(s) or connection cord(s)
Hopping sensor and IN sensor output level check	Check the following signals by using the CU/PU board HPSNS and RGSNS connector : HPSNS pin 2: Hopping sensor RGSNS pin 5: IN sensor Check that the above signal levels are changed by operating the levers of the sensors.	Replace the CU/PU board.

(3-2) Jam occurs immediately after the paper feed is started. (1st tray)

Check item	Checking method	Action in case of NG
(3-2-1) Check condition of the paper running path		
Paper running path of the front unit	Check if paper is jammed or not in the paper running path.	Remove the jammed paper.
(3-2-2) Check condition of the mechanical parts		
Hopping sensor and IN sensor lever check	Check the sensor lever shapes and operations for any problem.	Replace the sensor lever(s) with proper one(s).
Check the separator assemblies of the feed roller, the pickup roller and the tray.	Check if any foreign materials such as paper dust on the surface of the feed roller or of the pickup roller or not.	Remove the foreign material.
	Check if the feed roller or the pickup roller has worn out or not.	Replace the separator assemblies of the feed roller, pickup roller and tray.
(3-2-3) Motor operation check		
Paper feed motor	Confirm that the paper feed motor works normally by using the Motor & Clutch Test of the self-diagnostic mode.	Replace the CU/PU board or the paper feed motor.
Paper feed motor driver	Pull out the CU/PU board HOP connector, and check the following at the side of the connector. Between 1pin – FG: Several MΩ Between 2pin – FG: Several MΩ Between 3pin – FG: Several MΩ Between 4pin – FG: Several MΩ	Replace the CU/PU board.
(3-2-4) Clutch operation check		
Feed clutch and regist clutch	Confirm that the feed clutch and regist clutch works normally by using the Motor & Clutch Test of the self-diagnostic mode. Pull out the cassette for the rollers to be seen, and check operation.	Replace the CU/PU board or the feed clutch or regist clutch.

Check item	Checking method	Action in case of NG
(3-2-5) Check the system connection		
Paper feed motor drive cable	Check the connection condition of the cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not. Check also that cables are assembled without any abnormality.	Connection state normally. Replace the cable.
	Pull out the CU/PU board HOP connector, and check the following at the side of the connector. Between 1pin – FG: Do not short-circuit Between 2pin – FG: Do not short-circuit Between 3pin – FG: Do not short-circuit Between 4pin – FG: Do not short-circuit	Replace the cable with the good cable that normalizes the connection condition.
Feed clutch cable cable and regist clutch cable	Check the connection condition of the cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not. Check also that cables are assembled without any abnormality.	Connection state normally. Replace the clutch.
Feed clutch	Pull out the CU/PU board HOC connector, and check the following at the side of the connector. Between 1pin – FG: Do not short-circuit Between 1pin – 2pin: About 240Ω	Replace the clutch and properly assemble appropriate parts.
Regist clutch	Pull out the CU/PU board REC connector, and check the following at the side of the connector. Between 1pin – FG: Do not short-circuit Between 1pin – 2pin: About 240Ω	Replace the clutch and properly assemble appropriate parts.
Paper feed motor	Pull out the CU/PU board HOP connector, and check the following at the side of the connector. Between 1pin – 2pin: 3.4Ω or 5Ω Between 3pin – 4pin: 3.4Ω or 5Ω	Replace the Paper feed motor.

6.5.1. (4) Feed jam (error code 380)

(4-1) Jam occurs immediately after the power is turned on.

Check item	Checking method	Action in case of NG
(4-1-1) Check condition of the paper running path		
Paper running path of the front unit	Open the front cover check if paper is not jammed in the paper running path.	Remove the jammed paper.
(4-1-2) Check condition of the mechanical parts		
Hopping sensor, IN sensor and WR sensor lever check	Check the sensor lever shapes and operations for any problem.	Replace the sensor lever(s) with proper one(s).
(4-1-3) Check condition of electrical parts		
Check the detection condition of the sensor signal.	Confirm that the sensor signals are normally detected by using the Maintenance Menu SWITCH SCAN function.	Replace the CU/PU board or sensor or cable.
Hopping sensor, IN sensor and WR sensor output level check	Check the following signals by using the CU/PU board HPSNS and RGSNS connector : HPSNS 2pin: Hopping sensor RGSNS 5pin: IN sensor RGSNS 2pin: WR sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the appropriate sensor(s).

(4-2) Jam occurs immediately after the paper feed is started.

Check item	Checking method	Action in case of NG
(4-2-1) Check condition of the paper running path		
Paper running path of the front unit	Check if paper is jammed or not in the paper running path.	Remove the jammed paper.
(4-2-2) Check condition of the mechanical parts		
Hopping sensor, IN sensor and WR sensor lever check	Check the sensor lever shapes and operations for any problem	Replace the sensor lever(s) with proper one(s).
(4-2-3) Motor operation check		
Paper feed motor	Confirm that the paper feed motor works normally by using the Motor & Clutch Test of the self-diagnostic mode.	Replace the CU/PU board or the feed motor.
Paper feed motor driver	Pull out the CU/PU board HOP connector, and check the following at the side of the connector: Between 1pin – FG: Several MΩ Between 2pin – FG: Several MΩ Between 3pin – FG: Several MΩ Between 4pin – FG: Several MΩ	Replace the CU/PU board.
(4-2-4) Clutch operation check		
Feed clutch and regist clutch	Confirm that the feed clutch and regist clutch works normally by using the Motor & Clutch Test of the self-diagnostic mode. Pull out the cassette for the rollers to be seen, and check operation.	Replace the CU/PU board or the feed clutch or regist clutch.

Check item	Checking method	Action in case of NG
(4-2-5) Check the system connection		
Paper feed motor drive cable	Check the connection condition of the cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not. Check also that cables are assembled without any abnormality.	Replace the cable with the good cable that normalizes the connection condition.
	Pull out the CU/PU board HOP connector, and check the following at the side of the connector: Between 1pin – FG: Do not short-circuit Between 2pin – FG: Do not short-circuit Between 3pin – FG: Do not short-circuit Between 4pin – FG: Do not short-circuit	Replace the cable and properly assemble.
Feed clutch cable	Check the connection condition of the cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not.	Normalizes the connection condition. Replace the clutch.
Feed clutch	Pull out the CU/PU board HOC connector, and check the following at the side of the connector. Between 1pin – FG: Do not short-circuit Between 1pin – 2pin: About 240Ω	Replace the clutch and properly assemble appropriate parts.
Regist clutch	Pull out the CU/PU board REC connector, and check the following at the side of the connector. Between 1pin – FG: Do not short-circuit Between 1pin – 2pin: About 240Ω	Replace the clutch and properly assemble appropriate parts.
Paper feed motor	Pull out the CU/PU board HOP connector, and check the following at the side of the connector. Between 1pin – 2pin: 3.4Ω or 5Ω Between 3pin – 4pin: 3.4Ω or 5Ω	Replace the Paper feed motor.

6.5.1. (5) Paper feed jam (error code 390: Multipurpose tray)

(5-1) Jam occurs immediately after the power is turned on. (Multipurpose tray)

Check item	Checking method	Action in case of NG
(5-1-1) Check condition of the paper running path		
Paper running path of the front unit	Check if paper is jammed or not in the paper running path.	Remove the jammed paper.
(5-1-2) Check condition of the mechanical parts		
IN sensor and WR sensor lever check	Check the sensor lever shapes and operations for any problem	Replace the sensor lever(s) with proper one(s)
(5-1-3) Check condition of electrical parts		
Check the detection condition of the sensor signal.	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the Maintenance menu.	Replace the CU/PU board, or appropriate sensor(s) or connection cord(s).
In sensor and WR sensor output level check	Check the following signals by using the CU/PU board RGSNS connector : RGSNS 5pin: IN sensor RGSNS 2pin: WR sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the sensor.

(5-2) Jam occurs immediately after paper feed is started. (Multipurpose tray)

Check item	Checking method	Action in case of NG
(5-2-1) Check condition of the paper running path		
Paper running path of the multipurpose tray	Check if paper is jammed or not in the paper running path.	Remove the jammed paper.
Sheet Receive of the multipurpose tray	Confirm that the Sheet Receive has moved up normally. Confirm that the support spindle and spring of the Sheet Receive have been installed in the specified positions normally.	Correct installation of the above parts so that the Sheet Receive moves up to the specified position normally.
(5-2-2) Check condition of the mechanical parts		
IN sensor and WR sensor lever check	Check the sensor lever shapes and operations for any problem	Replace the sensor lever(s) with proper one(s).
Front cover	Confirm that the locks in the right and left of the front cover are locked normally.	Replace the font cover assembly
Check the feed roller and the pickup roller.	Check if any foreign materials such as paper dust on the surface of the feed roller or of the pickup roller or not.	Remove the foreign material.
	Check if the feed roller has worn out or not.	Replace the feed roller.
(5-2-3) Motor operation check		
Paper feed motor	Confirm that the paper feed motor works normally by using the Motor & Clutch Test of the self-diagnostic mode.	Replace the CU/PU board or the feed motor.
Paper feed motor driver	Pull out the CU/PU board HOP connector, and check the following at the side of the connector: Between 1pin – FG: Several MΩ Between 2pin – FG: Several MΩ Between 3pin – FG: Several MΩ Between 4pin – FG: Several MΩ	Replace the CU/PU board.

Check item	Checking method	Action in case of NG
(5-2-4) Clutch operation check		
MPT clutch and regist clutch	Confirm that the paper feed motor works normally by using the Motor & Clutch Test of the self-diagnostic mode. Pull out the cassette for the rollers to be seen, and check operation.	Replace the CU/PU board or MPT clutch or regist clutch.
(5-2-5) Check the system connection		
Paper feed motor drive cable	Check the connection condition of the cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not. Check also that cables are assembled without any abnormality.	Replace the cable with the good cable that normalizes the connection condition.
	Pull out the CU/PU board HOP connector, and check the following at the side of the connector: Between 1pin – FG: Do not short-circuit Between 2pin – FG: Do not short-circuit Between 3pin – FG: Do not short-circuit Between 4pin – FG: Do not short-circuit	Replace the cable with the good cable that normalizes the connection condition.
MPT clutch cable	Check the connection condition of the cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not. Check also that cables are assembled without any abnormality.	Normalizes the connection condition. Replace the clutch.
MPT clutch	Pull out the CU/PU board MPC connector, and check the following at the side of the connector. Between 1pin – FG: Do not short-circuit Between 1pin – 2pin: About 240Ω	Replace the clutch and properly assemble appropriate parts.
Paper feed motor	Pull out the CU/PU board HOP connector, and check the following at the side of the connector. Between 1pin – 2pin: 3.4Ω or 5Ω Between 3pin – 4pin: 3.4Ω or 5Ω	Replace the Paper feed motor.

6.5.1. (6) Paper running jam (error code 381)

(6-1) Jam occurs immediately after the power is turned on.

Check item	Checking method	Action in case of NG
(6-1-1) Check condition of the running path.		
Paper running path of the front unit	Check if paper is jammed or not in the paper running path.	Remove the jammed paper.
(6-1-2) Check condition of the mechanical parts		
Check the sensor lever of the WR sensor.	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.
(6-1-3) Check condition of electrical parts		
Check the detection condition of the sensor signal.	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the maintenance menu.	Replace the CU/PU board, or appropriate sensor(s) or connection cord(s).
Check the sensor lever of the WR sensor.	Check the following signal by using the CU/PU board RGSNS connector : RGSNS 2pin: WR sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the sensor.

(6-2) Jam occurs immediately after a paper is taken into printer.

Check item	Checking method	Action in case of NG
(6-2-1) Check condition of the paper running path		
Paper running path on the belt.	Remove the ID unit and check if paper is jammed or not in the paper running path.	Remove the jammed paper.
(6-2-2) Check condition of the mechanical parts		
Check the sensor lever of the WR sensor.	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.
(6-2-3) Motor operation check		
Paper feed motor driver, belt motor driver and ID motor	Confirm that the paper feed motor, belt motor and ID motor work normally by using the Motor & Clutch Test of the self-diagnostic mode. Check if any load exists or not.	Replace the CU/PU board or the feed motor or the belt motor or the ID motor or the ID unit or the belt unit.
Paper feed motor driver, belt motor driver	Pull out the CU/PU board HOP connector, and check the following at the side of the connector: Between 1pin – FG: Several MΩ Between 2pin – FG: Several MΩ Between 3pin – FG: Several MΩ Between 4pin – FG: Several MΩ Pull out the CU/PU board BELT connector, and check the following at the side of the connector: Between 1pin – FG: Several MΩ Between 2pin – FG: Several MΩ Between 3pin – FG: Several MΩ Between 4pin – FG: Several MΩ	Replace the CU/PU board.

Check item	Checking method	Action in case of NG
(6-2-4) Check the system connection		
Feed motor drive cable, ID motor drive cable, belt motor drive cable, fuser drive cable	Check the connection condition of the CU/PU board HOP connector, DCID connector, DCHEAT connector, BELT connector cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not. Check also that cables are assembled without any abnormality.	Normalize the connection condition. Replace the cable with the normal cable.
	Pull out the CU/PU board HOP connector, and check the following at the side of the connector: Between 1pin – FG: Do not short-circuit Between 2pin – FG: Do not short-circuit Between 3pin – FG: Do not short-circuit Between 4pin – FG: Do not short-circuit Pull out the CU/PU board BELT connector, and check the following at the side of the connector: Between 1pin – FG: Do not short-circuit Between 2pin – FG: Do not short-circuit Between 3pin – FG: Do not short-circuit Between 4pin – FG: Do not short-circuit	Normalize the connection condition. Replace the cable with the normal cable.
MPT clutch cable	Check the connection condition of the cable. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not. Check also that cables are assembled without any abnormality.	Normalizes the connection condition. Replace the clutch.
MPT clutch	Pull out the CU/PU board MPC connector, and check the following at the side of the connector. Between 1pin – FG: Do not short-circuit Between 1pin – 2pin: About 240Ω	Replace the clutch and properly assemble appropriate parts.
Paper feed motor	Pull out the CU/PU board HOP connector, and check the following at the side of the connector. Between 1pin – 2pin: 3.4Ω or 5Ω Between 3pin – 4pin: 3.4Ω or 5Ω Pull out the CU/PU board BELT connector, and check the following at the side of the connector. Between 1pin – 2pin: 3.4Ω or 5Ω Between 3pin – 4pin: 3.4Ω or 5Ω	Replace the Paper feed motor.

(6-3) Jam occurs in the middle of paper running path.

Check item	Checking method	Action in case of NG
(6-3-1) Motor operation check		
Paper feed motor, belt motor and ID motor	Confirm that the paper feed motor, belt motor and ID motor work normally by using the Motor & Clutch Test of the self-diagnostic mode. Check if any load exists or not.	Replace the CU/PU board or the feed motor or the belt motor or the ID motor or the ID unit or the belt unit.
Paper feed motor driver, belt motor driver	Pull out the CU/PU board HOP connector, and check the following at the side of the connector: Between 1pin – FG: Several MΩ Between 2pin – FG: Several MΩ Between 3pin – FG: Several MΩ Between 4pin – FG: Several MΩ Pull out the CU/PU board BELT connector, and check the following at the side of the connector: Between 1pin – FG: Several MΩ Between 2pin – FG: Several MΩ Between 3pin – FG: Several MΩ Between 4pin – FG: Several MΩ	Replace the CU/PU board

(6-4) Jam occurs immediately after paper has reached the fuser.

Check item	Checking method	Action in case of NG
(6-4-1) Motor operation check		
Fuser motor	Confirm that the fuser motor works normally by using the Motor & Clutch Test of the self-diagnostic mode. Check if any load exists or not.	Replace the CU/PU board. Replace the fuser motor. Replace the fuser unit.
(6-4-2) Temperature control of the roller rotation speed		
Heat roller detected temperature	Check the detected temperature of the heat roller using the self-diagnostic mode. Is abnormally high temperature or abnormally temperature detected?	Replace the fuser unit and the CU/PU board.
(6-4-3) Check the installation condition of fuser unit		
Fuser unit	Check that the fuser unit is installed normally. (Is it pushed in down to the bottom-most point?)	Install the fuser unit correctly in a printer.

6.5.1. (7) Paper unloading jam (error code 382)

(7-1) Paper exit jam occurs immediately after the power is turned on.

Check item	Checking method	Action in case of NG
(7-1-1) Check condition of the paper running path		
Paper running path of the paper eject unit	Check if paper is jammed or not in the paper running path.	Remove the jammed paper.
(7-1-2) Check condition of the mechanical parts		
EXIT sensor lever check	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.
(7-1-3) Check condition of electrical parts		
Check the detection condition of the sensor signal.	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the maintenance menu.	Replace the CU/PU board or the EXIT sensor or its cord or connection cord.
Check the output signal level of the EXIT sensor.	Check the following signal by using the CU/PU board EXIT connector : 2pin: EXIT sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the EXIT sensor.
(7-1-4) Check the system connection		
EXIT sensor cord	Confirm that the cables are not pinched, sheathes are not peeled off, and they are assembled normally.	Replace the connecting cable and normalize the assembled condition.

(7-2) Paper exit jam occurs after a paper is taken into printer.

Check item	Checking method	Action in case of NG
(7-2-1) Check condition of the paper running path		
Face Up Stacker Cover	Confirm that it is either fully opened or fully closed	Eliminate any in-between condition of the cover between the fully open position and fully closed position.
Rear panel	Check that the installation condition of the rear panel hampers smooth movement of a paper in the paper running path, or not.	Remove the rear panel and re-install it.
Paper running path of eject unit	Check that any mechanical load does not exist that hampers the smooth movement of paper in the paper running path of the paper eject unit, by the visual inspection. Check if the eject roller becomes difficult to rotate or not.	Correct the portion that becomes mechanical load.
(7-2-2) Check condition of the mechanical parts		
Sensor lever of the paper exit sensor	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.
(7-2-3) Motor operation check		
Fuser motor	Confirm that the fuser motor works normally by using the Motor & Clutch Test of the self-diagnostic mode. Check if any load exists or not.	Replace the CU/PU board, the fuser motor or the fuser unit.
(7-2-4) Check the system connection		
Fuser motor drive cable	Check the connection condition of the cables. Visually check whether the CU/PU board DCHEAT connector is connected half or inserted skewed or its cord assembly is improper.	Replace the cable with the good cable that normalizes the connection condition.

(7-3) Paper unloading jam occurs in the middle of paper running path.

Check item	Checking method	Action in case of NG
(7-3-1) Motor operation check		
Fuser motor	Confirm that the fuser motor works normally by using the Motor & Clutch Test of the self-diagnostic mode. Check if any load exists or not.	Replace the CU/PU board, the fuser motor or the fuser unit.

6.5.1. (8) Two-sided printing jam (error code 370, 371, 372, 373, 383)

(8-1) Two-sided printing jam occurs immediately after the power is turned on.

Check item	Checking method	Action in case of NG
(8-1-1) Check condition of the paper running path		
Paper running path of the Duplex unit	Check if paper is jammed or not in the paper running path. Open the top cover and remove the ID unit and belt unit, and check if any paper remains in the paper reversing path or not.	Remove the jammed paper.
(8-1-2) Check condition of the mechanical parts		
Check the sensor levers of the respective sensors of the Duplex unit.	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.
(8-1-3) Check condition of electrical parts		
Check the detection condition of the sensor signal.	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the self-diagnostic mode. Check sensor detection with paper in the duplex unit, and with it removed from the duplex unit.	Replace the defective sensor or connection cable.

(8-2) Two-sided printing jam occurs during taking in the paper into Duplex unit.

Check item	Checking method	Action in case of NG
(8-2-1) Sensor lever operation check		
DUP-IN sensor lever	Open the top cover, remove the ID and the belt unit, and touch the DUP-IN sensor lever to check whether it moves smoothly.	Replace the DUP-IN sensor lever.
DUP-IN sensor	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the self-diagnostic mode.	Replace the CU/PU board, or appropriate sensor(s) or connection cord(s).
(8-2-2) Check condition of the paper running path		
Paper inverting transport path	Check that any foreign materials such as paper chip or blue do not exist that hampers the smooth movement of paper in the paper inverting transport path.	Remove the foreign material.
(8-2-3) Motor operation check		
Duplex pull-in/ reversing roller and its pinch roller	Check if the pull-in/reversing roller of the Duplex unit contacts or not with the pinch roller of the cover side when the Duplex rear cover is closed. (Does the pinch roller rotate when the roller is rotating?)	Replace the rear cover.

(8-3) Two-sided printing jam occurs in the process of reversing paper.

Check item	Checking method	Action in case of NG
(8-3-1) Sensor lever operation check		
DUP-R sensor lever	Open the top cover, remove the ID and the belt unit, and touch the DUP-R sensor lever to check whether it moves smoothly.	Replace the DUP-R sensor lever
DUP-R sensor	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the self-diagnostic mode.	Replace the CU/PU board, the sensor or its connection cord.
(8-3-2) Motor operation check		
Fuser motor	Visually check whether paper started being reversed. When no paper reversing operation has performed, check whether the planet gear at the lower right side of the fuser moves smoothly.	Replace the planetary gear.

(8-4) Two-sided printing jam occurs during transporting paper inside the Duplex unit.

Check item	Checking method	Action in case of NG
(8-4-1) Sensor lever operation check		
Dup-F sensor lever	Open the top cover, remove the ID and the belt unit and check the operation of the DUP-F sensor lever.	Replace the sensor lever.
(8-4-2) Sensor check		
Check the detection condition of the sensor signal	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the self-diagnostic mode. Check sensor detection with paper in the duplex unit, and with it removed from the duplex unit.	Replace the CU/PU board, appropriate sensor(s) or connection cord(s).

(8-5) Paper is not supplied from the Duplex unit to the regist roller.

Check item	Checking method	Action in case of NG
(8-5-1) Clutch operation check		
Duplex clutch	Confirm that the Duplex clutch works normally by using the Motor & Clutch Test of the self-diagnostic mode. Confirm it by listening to the sound.	Replace the CU/PU board or the clutch.

6.5.1. (9) Paper size error (error code 400)

(9-1) Jam occurs when paper end is located near the hopping sensor.

Check item	Checking method	Action in case of NG
(9-1-1) Check paper feed condition		
Multifeed of papers	Open the top cover and check if multifeed of papers occurs or not.	If the multifeed occurs again after the jammed paper is removed, replace the roller of the tray in use.
Paper size	Does the paper size specified for print match the paper size of paper stuck in the tray.	Change the specified paper size or size of paper inside the tray.
Hopping sensor	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.

6.5.1. (10) ID unit Up/Down error (Service call 142)

(10-1) Error occurs during the Up movement of the ID unit

Check item	Checking method	Action in case of NG
(10-1-1) Check the mechanical load during the Up movement		
Mechanical load during installation and removal of the ID unit	Check if abnormal heavy load is applied when removing the ID unit.	Replace the ID unit, or replace the right/left side plate.
Greasing to the right and left Up/Down link levers	Check if the slant surface of the link lever is coated by grease or not.	Apply grease.
Assembled condition of the right and left Up/Down link levers	Check if any part exists or not in the vicinity of link lever, that hampers movement of the link lever.	Assemble them correctly.
(10-1-2) Up/Down mechanism		
Assembled condition of the peripheral mechanism of the link lever	Is the mechanism assembled so that the link lever is connected to the driving gear?	Assemble them correctly.
Right and left link levers	Check if the link lever is set in the correct position that enables the specified engagement of gears. (Check if the link lever is set in the wrong position that results in the wrong engagement of gears by several teeth.)	Assemble them correctly.

Check item	Checking method	Action in case of NG
(10-1-3) Sensor check		
Up/Down sensor lever (unified structure with the left link lever)	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the left link lever.
Up/Down sensor	Confirm that the sensor signals are normally detected by using the SWITCH SCAN function of the self-diagnostic mode. Check if the SCAN state changes or not when the incoming light is interrupted/ passed by using a piece of paper or the like for the transparent type sensor.	Replace the high voltage board.

(10-2) Error occurs during the Down movement of the ID unit

Check item	Checking method	Action in case of NG
(10-2-1) Check the mechanical load during the Down movement		
Mechanical load during installation and removal of the ID unit	Check if abnormal heavy load is applied when removing the ID unit.	Replace the ID unit, or replace the right/left side plate.
Greasing to the right and left Up/Down link levers	Check if the slant surface of the link lever is coated by grease or not.	Apply grease.
Assembled condition of the right and left Up/Down link levers	Check if any part exists or not in the vicinity of link lever, that hampers movement of the link lever.	Assemble them correctly.

6.5.1. (11) Fuser unit error (error 170 to 177)

(11-1) Error occurs immediately after the power is turned on.

Check item	Checking method	Action in case of NG
(11-1-1) Thermistor is defective Note)		
Upper thermistor, lower thermistor, frame thermistor	Check the respective thermistors if they are shorted or opened internally. Check the resistance value at the connector pins in the bottom of the fuser unit. (Refer to section 7.1 Resistance check (fuser unit).)	Replace the fuser unit.
Installed condition of fuser unit.	Check if the fuser nit is pressed in until the connector in the bottom of the fuser unit is surely connected.	Re-set the fuser unit.

Note! Service calls 171 error and 171 error can occur when the printer temperature is below 0℃. Turn on the power again after the printer temperature has increased.

(11-2) Error occurs approx. 1 minute after the power is turned on.

Check item	Checking method	Action in case of NG
(11-2-1) Temperature increase of fuser unit		
Thermostat, halogen lamp	Heater of the fuser unit is controlled of its temperature. Check if the fuser unit gets hot or not by touching it with hands. If the fuser unit temperature does not increase and remains cold, check that the resistance between pin-1 and pin-2, and that in between pin-3 and pin-4 of the two connectors is in the range of several ohms to several ten ohms respectively. (Refer to section 7.1 Resistance value (fuser unit).)	Replace the fuser unit.

Check item	Checking method	Action in case of NG
(11-2-2) Temperature increase of fuser unit		
Installation position of the upper thermistor	Check if the upper thermistor is installed in the far position from the specified position or not causing detection of the lower temperature than the actual temperature of fuser unit. Remove the heater cover, and check warpage of sensor by visual inspection.	Replace the fuser unit.
Installation position of the lower thermistor	The lower thermister must be installed while contacting with the fuser unit. Check if the lower thermister is installed in the far position from the specified position or not causing detection of the lower temperature than the actual temperature of fuser unit.	Replace the fuser unit.
(11-2-3) AC power input to the halogen lamp		
AC power voltage from the low voltage power supply	Check if the AC voltage for heater is normally supplied or not. Power supply CN2 connector, between pin-1 and pin-2, and between pin-3 and pin-4.	Replace the low voltage power supply.
Heater ON signal that is output from CU/PU to the low voltage power supply	Check that the heater ON signal goes active at the warming up timing, or not. "L" active while ON. CU/PU board POWER connector pin-14 and pin-15.	Replace the CU/PU board.

6.5.1. (12) Motor fan error (error code 122, 128)

(12-1) The rear fan and front fan does not rotate immediately after the power is turned on.

Check item	Checking method	Action in case of NG
(12-1-1) Cable connection condition and wiring condition		
Cable connection condition and wiring condition of the rear fan and front fan	Check if the connectors are connected normally or not. Check if extra length of the cables does not touch the fan blade or not.	Correct the connection condition of the connectors. Correct the cable wiring route. Replace the fan.

(12-2) All fans of the printer do not rotate.

Check item	Checking method	Action in case of NG
(12-2-1) 24V power supply		
CU/PU board fuses, F5 and F6	Check if the fuses F5 and F6 are not open-circuit or not.	Replace the CU/PU board
24V power supplied to the CU/PU board	Check the power supply voltages at the POWER connector of the CU/PU board. Pins 7, 8 and 9: 24V Pins 10, 11 and 12: 0VP	Replace the low voltage power supply.

6.5.1. (13) Print speed is slow. (Performance is low.)

(13-1) Print speed decreases.

Check item	Checking method	Action in case of NG
(13-1-1) Media Weight setting		
Media Weight that is specified for the print	Check if the wrong Media Weight has been specified or not.	Correct the Media Weight.

6.5.1. (14) Option unit cannot be recognized.

(14-1) Option tray unit cannot be recognized.

Check item	Checking method	Action in case of NG
(14-1-1) Option try board		
Option tray unit	Check if the option tray unit in use is of correspond to MC363dn.	Replace it with an appropriate option tray unit.
(14-1-2) Check the system connection		
Connection between the CU/PU board and the option tray board (GOG-1)	Check that the cord between the 2ND connector of the CU/PU board and the option tray board is properly connected.	Correct the connections.
Square connector connecting the option tray unit with the main unit	Check if any foreign material exists in the connecting portion of the square connector.	Remove the foreign material.
	Is the terminals of the square connector damaged?	Replace the connector.
(14-1-3) Check the control signals.		
Control signal that is output from the CU/PU board to the option tray board (GOG-1)	Check the control signals that are output from the 2ND connector of the CU/PU board. Pin 6: TXD (PU -> 2nd) Pin 5: RXD (2nd -> PU)	Replace the CU/PU board.

6.5.1. (15) LED head cannot be recognized. (error code 131, 132, 133, 134)

(15-1) Service call 131 to 134 (LED HEAD Missing)

Check item	Checking method	Action in case of NG
(15-1-1) Check the system connection		
Connecting condition of the CU/PU board connector and the head connector	Check the connecting condition of the FFC by the visual inspection.	Correct the connection to the normal connecting condition.
Head FFC	Remove the head FFC from the printer. Check if any open-circuit or peeling-off of sheath has occurred or not throughout the cable.	Replace the head FFC or CU/PU board.
Conduction of the fuse on the CU/PU board	Check if each fuse F12, F16 is open or not.	Replace the CU/PU board.

6.5.1. (16) Toner cartridge cannot be recognized. (error code 540, 541, 542, 543)

(16-1) Error caused by the consumable items.

Check item	Checking method	Action in case of NG
(16-1-1) Consumable items installation condition		
ID unit and toner cartridge	Check that the ID unit is installed in the normal position. Check that the lock lever of the toner cartridge is locked.	Correct the installation to the normal installation condition.

(16-2) Error caused by the toner sensor

Check item	Checking method	Action in case of NG
(16-2-1) Toner sensor condition		
Toner sensor	Is the receptor of the toner sensor stained?	Wipe off the stain from the toner sensor.
Toner sensor	Confirm that the toner sensor works normally by using the SWITCH SCAN function of the self-diagnostic mode. Place a white paper in front of the toner sensor, and check if the SCAN state changes or not.	Replace the toner sensor board, CU/PU board, or FFC that is located between the toner sensor board and the CU/PU board.

Note! Toner sensor operation check method using the SWITCH SCAN function of the self-diagnostic mode.

(1) How to check operation of the toner sensor at the printer side.

1. Status change of the toner sensor can be checked from the Operator Panel using the self-diagnostic mode. First, switch the display to the Operator Panel display. For the method of switching the display to the Operator Panel display, refer to section 5.4.3 Switch Scan Test
2. Remove the ID unit and the toner cartridge (TC) from a printer. There is a window inside a printer opposing the ID side when viewed from the front of a printer. The toner sensor is located inside the window.
3. Place a white paper 3 mm away from the sensor window. The white paper should be placed in the manner of opposing the toner sensor.
4. When light is reflected by a white paper so that incident light falls on the toner sensor, the Operator Panel display shows "L". When the paper is moved so that any light is not reflected by the paper so that the incident light does not reach the toner sensor, "H" is displayed on the Operator Panel.
5. If the Operator Panel display toggles between "H" <-> "L" as a paper is flipped in front of the toner sensor, it indicates that the toner sensor and the related system of the printer are working normally.

Action to be taken at NG

- Clean surface of the toner sensor to remove the stains due to residual toner and paper dust.
- Check the connection state between the CU/PU board and the toner sensor board (ZHE) that are connected with the FFC cable.
- Check it once again, and if no change has found in the state, replace the CU/PU board or the toner sensor board (ZHE).

(2) How to check operation of the toner sensor at the toner cartridge (TC) side

1. To the position where the toner sensor is confirmed to be operating normally in the printer itself by the above paragraph (1), install the TC and the ID unit to check operations by observing display on the Operator Panel.
2. If the ID unit works normally, the display on the Operator Panel will toggle between "H" <-> "L" in synchronism with movement of the silver reflector plate that is located on the side of the ID.

Action to be taken at NG

- Check operation condition of the respective ID motors by using the Motor & Clutch Test of the self-diagnostic mode.
- Clean surface of the silver reflector plate on the side of ID to remove stains. (Stain due to toner or paper dust)
- Replace the TC of different color and the ID unit as a pair.

  If a satisfactory operation is attained by using the a pair of TC of different color and the ID unit, replace the TC or replace the ID unit.

(16-3) Error caused by the defective mechanism

Check item	Checking method	Action in case of NG
(16-3-1) Mechanical load applied to the ID unit		
ID unit	Check if a heavy mechanical load is being applied to the ID unit due to breakage of the waster toner belt, or not. Check if a heavy mechanical load is being applied to the ID unit by the waster toner box, or not.	Replace the K toner.
(16-3-2) Motor operating condition		
ID motor	Confirm that the respective ID motors work normally or not by using the Motor & Clutch Test of the self-diagnostic mode. Check if any extra load exists or not.	Replace the CU/PU board or the ID motor.

6.5.1. (17) Fuse cut error (error codes 153 to 155)

(17-1) Fuse cut error

Check item	Checking method	Action in case of NG
(17-1-1) Check the system connection		
Connecting the CU/PU board and the toner sensor board	Check if the SSNS connector of the CU/PU board and the SSNS connector of the toner sensor board is connected normally. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not.	Connect the FFC normally.
	Check if any peeling-off of sheath has occurred or not throughout the cable.	Alternately, replace the FFC.
(17-1-2) Fuse cut circuit		
CU/PU board	Upon completion of the system connection check, turn off the power once and back on. The, check if the error occurs or not.	Replace the CU/PU board.

6.5.1. (18) Humidity sensor error (error code 123)

(18-1) Humidity sensor error

Check item	Checking method	Action in case of NG
(18-1-1) Check the system connection		
Connection to the CU/PU board and to the toner sensor board	Check if the 18-conductor FFC is connected to the SSNS connector of the CU/PU board normally. Check if the 18-conductor FFC is connected to the SSNS connector of the toner sensor board normally. Check if the connector is connected in the half-way only or not, and check if the connector is inserted in a slanted angle or not.	Re-connect the cable normally.
	Check if any peeling-off of sheath has occurred or not throughout the cable.	Replace the FFC with the normal FFC.
(18-1-2) Environment condition		
Sharp change of environment condition	Is the environment condition changed sharply from a low temperature environment to a high environment condition within a short time? (Example is such a case that a printer is moved from storage condition of a cold area in winter to an office environment.)	Leave a printer for around one hour in the new environment to get used to the new environment. After that, turn on the power again. Before turn on the power, touch the metal panel of the controller panel and the metal plate inside a printer to feel temperature increase inside a printer with human hands. After confirmation that the printer temperature has increased close to the room temperature, turn on the power again.

6.5.2 Image Problem Troubleshooting

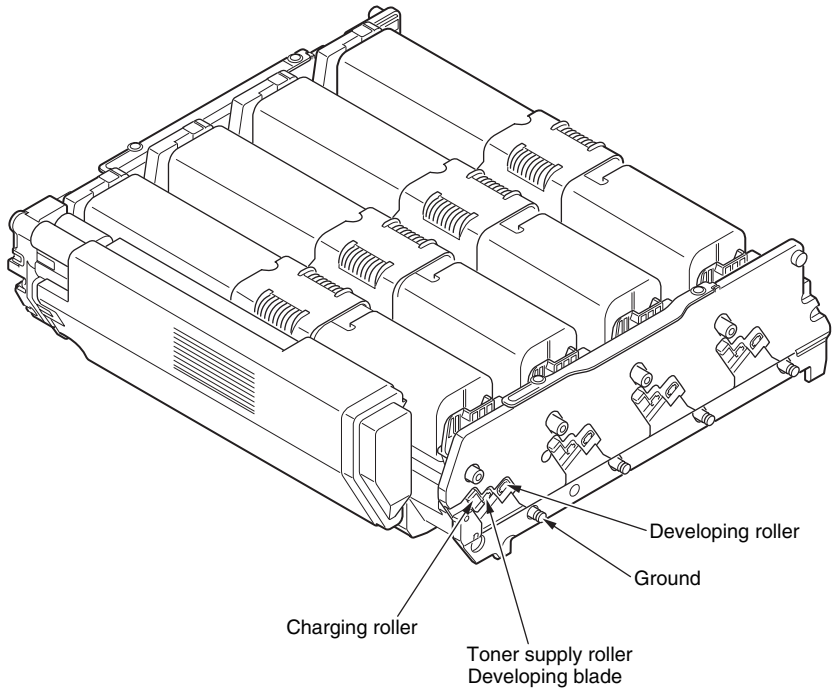
- **Refer to the Multi Function Printer(MFP) Maintenance Manual for common section (46470902TH) for troubleshooting the abnormal images.**

Information 1 : Periodic abnormalities

(1) Print quality problems appear vertically and periodically.

Check item	Checking method	Action in case of NG
(1-1) Cycle		
Image drum	Check if the cycle is 94.3 mm.	Replace any applicable ID unit.
Developing roller	Check if the cycle is 30.2 mm.	Replace any applicable ID unit.
Toner supply roller	Check if the cycle is 43.1 mm.	Replace any applicable ID unit.
Charging roller	Check if the cycle is 29.9 mm.	Replace any applicable ID unit..
Roller above the fuser	Check if the cycle is 85.4 mm.	Replace any applicable fuser unit.
Fuser belt	Check if the cycle is 94.2 mm.	Replace any applicable fuser unit.
Transfer roller	Check if the cycle is 37.7 mm.	Replace the belt unit.

Information 2 : ID contact positions



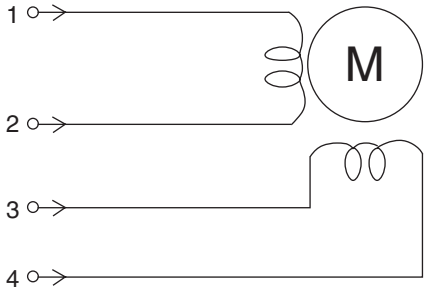
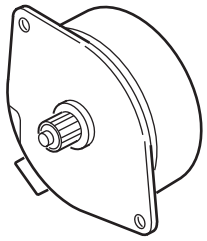
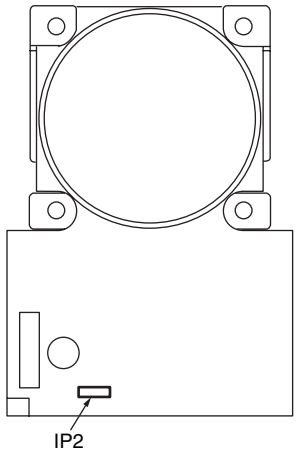
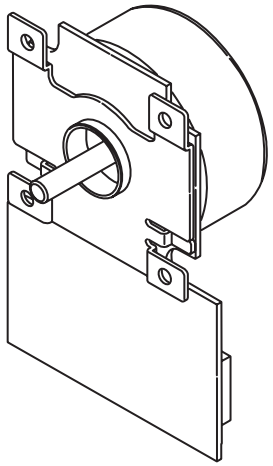
6.6 Fuse Checking

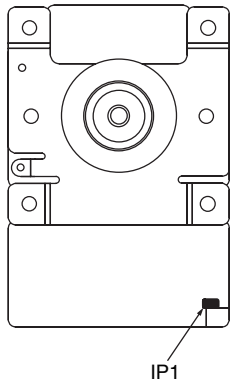
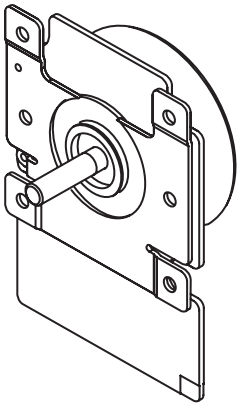
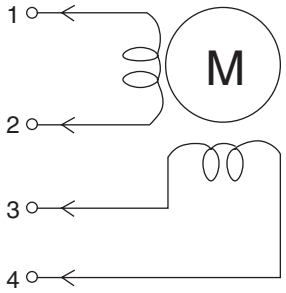
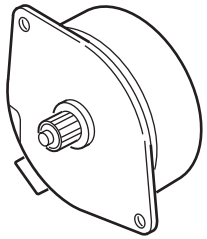
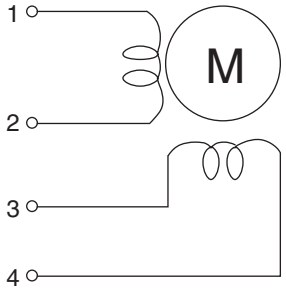
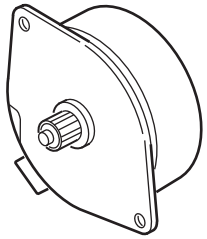
Table 6-1 MC562/MC362/MC352 Series Fuse Errors

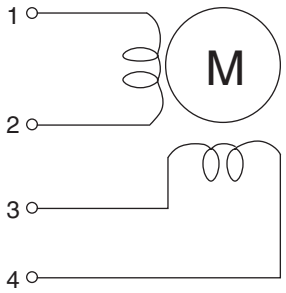
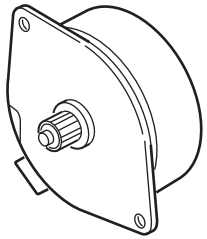
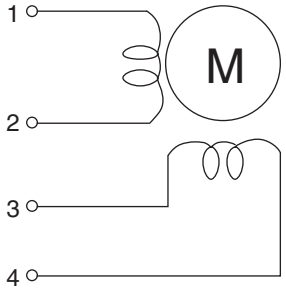
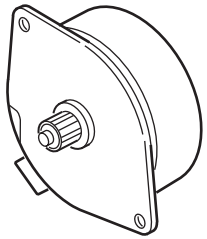
Fuse Name		Error Description	Insert Point	Resistance
CU/PU board (77M board)	F2	• Service Call 121 • Not detect optiontray • The operator panel backlight blackout	High-voltage board Option Tray OP panel Supply to F4,F14	1Ω or less
	F8	Don't use the USBHost	USBHost	
	F11	Don't use the wireless LAN	USB WLAN	
	F4	Service Call 160 to 163	SSNS	
	F14	• Scanner • Home position error • ADF sensor error • Lamp error (CIS error)	MFP	
	F9	• Service Call 231 • Service Call 990	EPU Waste toner sensor TAG Supply to F3,F7,F12	
	F3	• Service Call 123 • Service Call 124	SSNS	
	F7	No display on the operator panel	OP power supply	
	F12	Service Call 131 to 134	Head control	
	F16, F17	Service Call 131 to 134	HEAD LED	
	F6	Hopping JAM Service Call 128	Hopping motor, clutch Front FAN Option Tray	
	F5	Service Call 121, 128	High voltage power supply, Exit FAN	
	F1	Service Call 150 to 155	ID clutch, Fuse cut	
	F15	• Scanner • Carriage error	MFP	
	F13	Do not start the MFP	MFP	
	F10	Representation reception LED does not turn on	OPE-LED	
High voltage power supply board (ORZ board)	F501	Service Call 121	High voltage power board 24V	
SU board (77S board)	F1	Do not start the MFP	IC inside the SU, FAX	
	F2	• Lamp error (CIS error) • Home position error	Supply to F6,F8	
	F3	Home position error	FB motor, ADF motor	
	F6	Lamp error (CIS error)	CIS	
	F8	Home position error	FB sensor, ADF sensor	

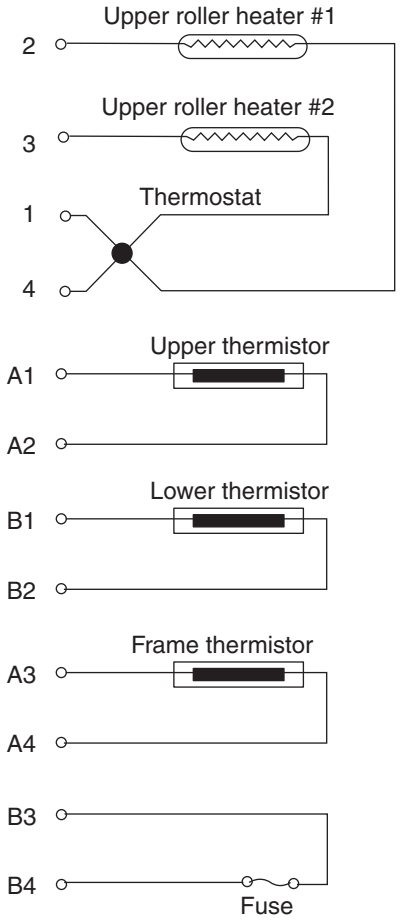
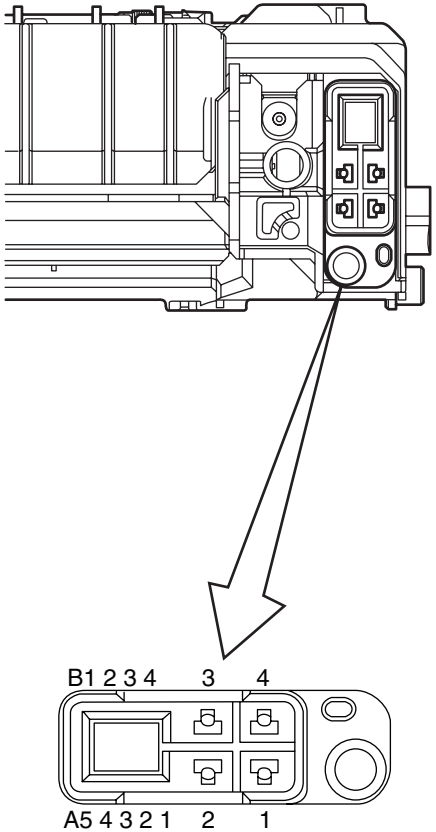
7. CONNECTION DIAGRAMS

7.1 Check of resistance values

Unit	Circuit diagram and composition	Part drawing	Resistance value
Transport belt motor			Between pins 1 and 2: 3.4 Ω Between pins 3 and 4: 3.4 Ω
ID motor			Both ends of IP2: 1 Ω or less

Unit	Circuit diagram and composition	Part drawing	Resistance value
Fuser motor			Both ends of IP1: 1 Ω or less
Feed motor			Between pins 1 and 2: 3.4 Ω Between pins 3 and 4: 3.4 Ω
2nd feed motor			Between pins 1 and 2: 3.4 Ω Between pins 3 and 4: 3.4 Ω

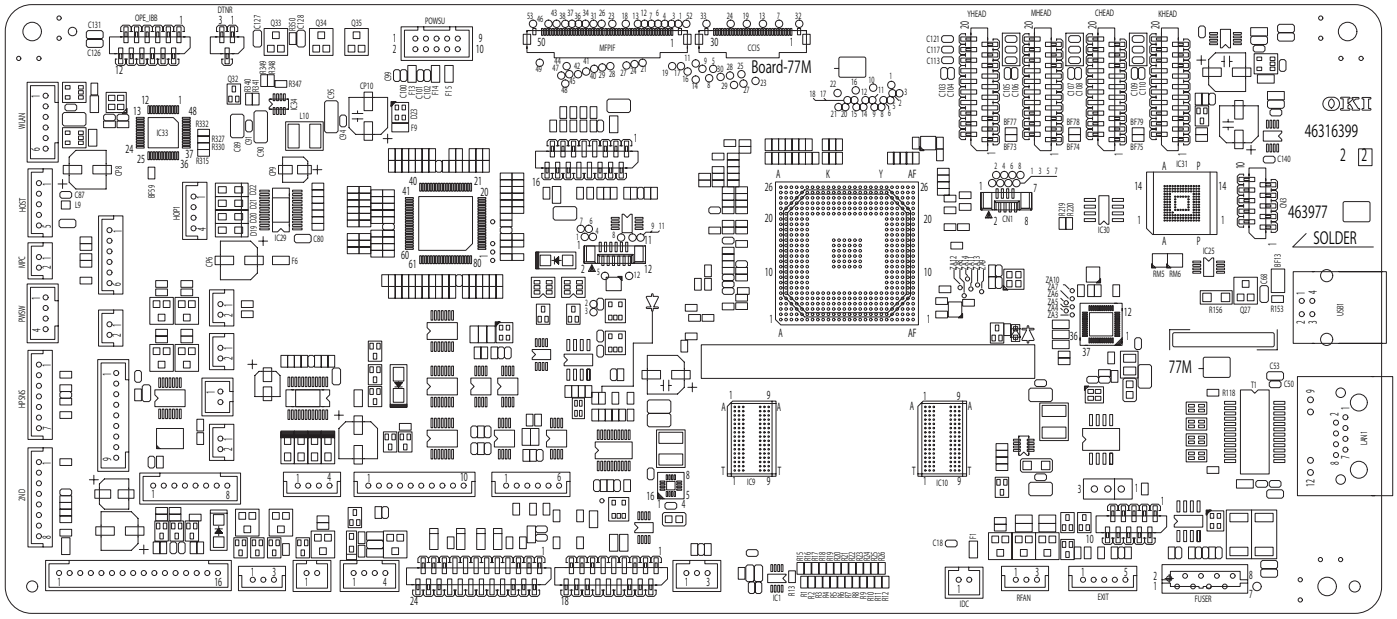
Unit	Circuit diagram and composition	Part drawing	Resistance value
ADF motor			Between pins 1 and 2: 3.4 Ω Between pins 3 and 4: 3.4 Ω
FB motor			Between pins 1 and 2: 14 Ω Between pins 3 and 4: 14 Ω

Unit	Circuit diagram and composition	Part drawing	Resistance value
Fuser unit			Between pins 1 and 2: Several ohms to several tens of ohms Between pins 3 and 4: Several ohms to several tens of ohms Between pins A1 and A2: Approx. 590 kΩ to 5338 kΩ (0 to 93°C) Between pins B1 and B2: Approx. 104.5 kΩ to 806.5 kΩ (0 to 43°C) Between pins A3 and A4: Approx. 104.5 kΩ to 806.5 kΩ (0 to 43°C) Between pins B3 and B4: Open A5 blank NC

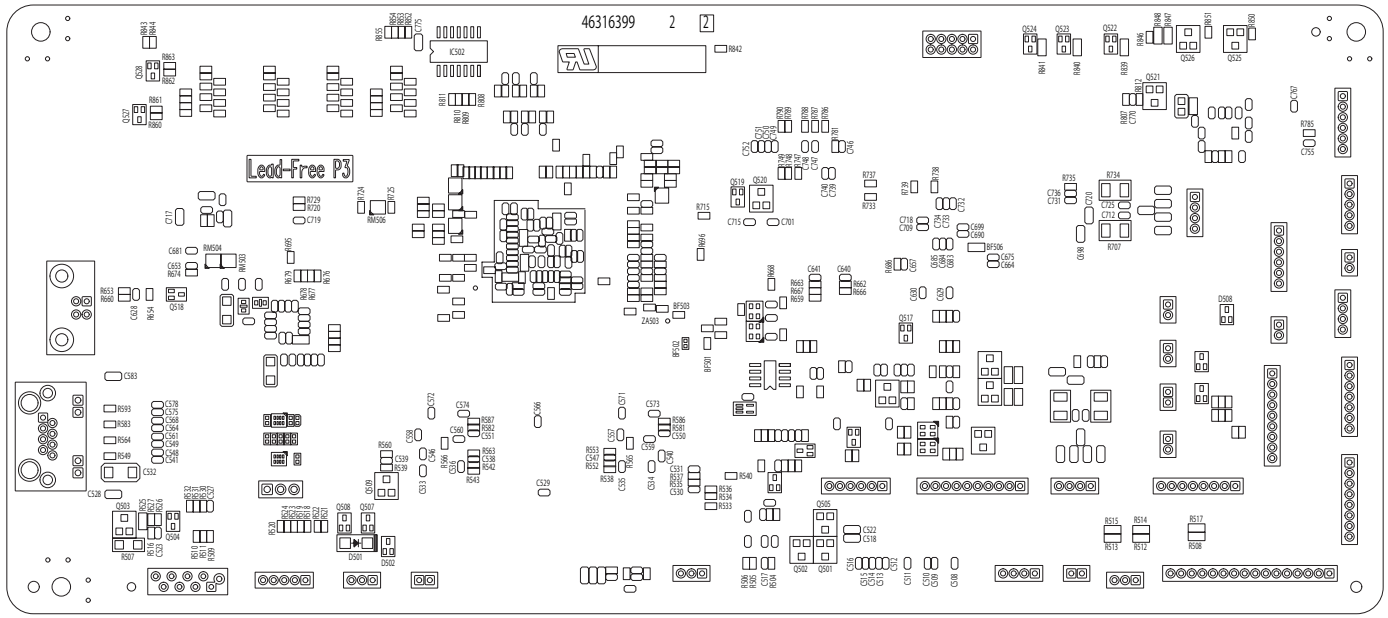
7.2 Layout of parts

(1) CU/PU board (77M)

Component side

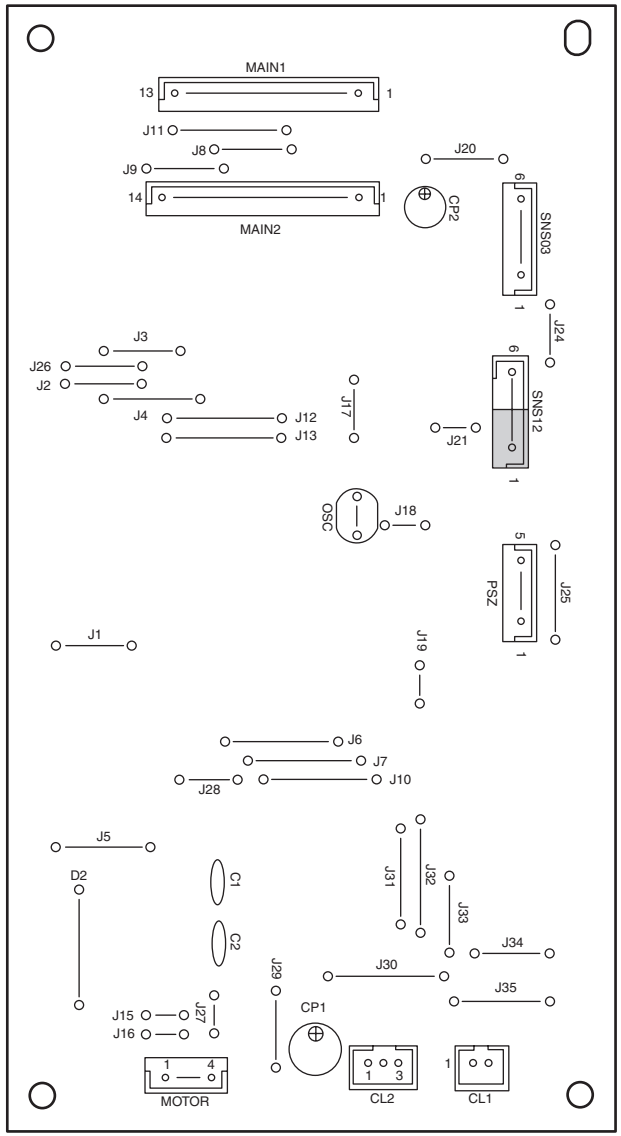


Soldering side

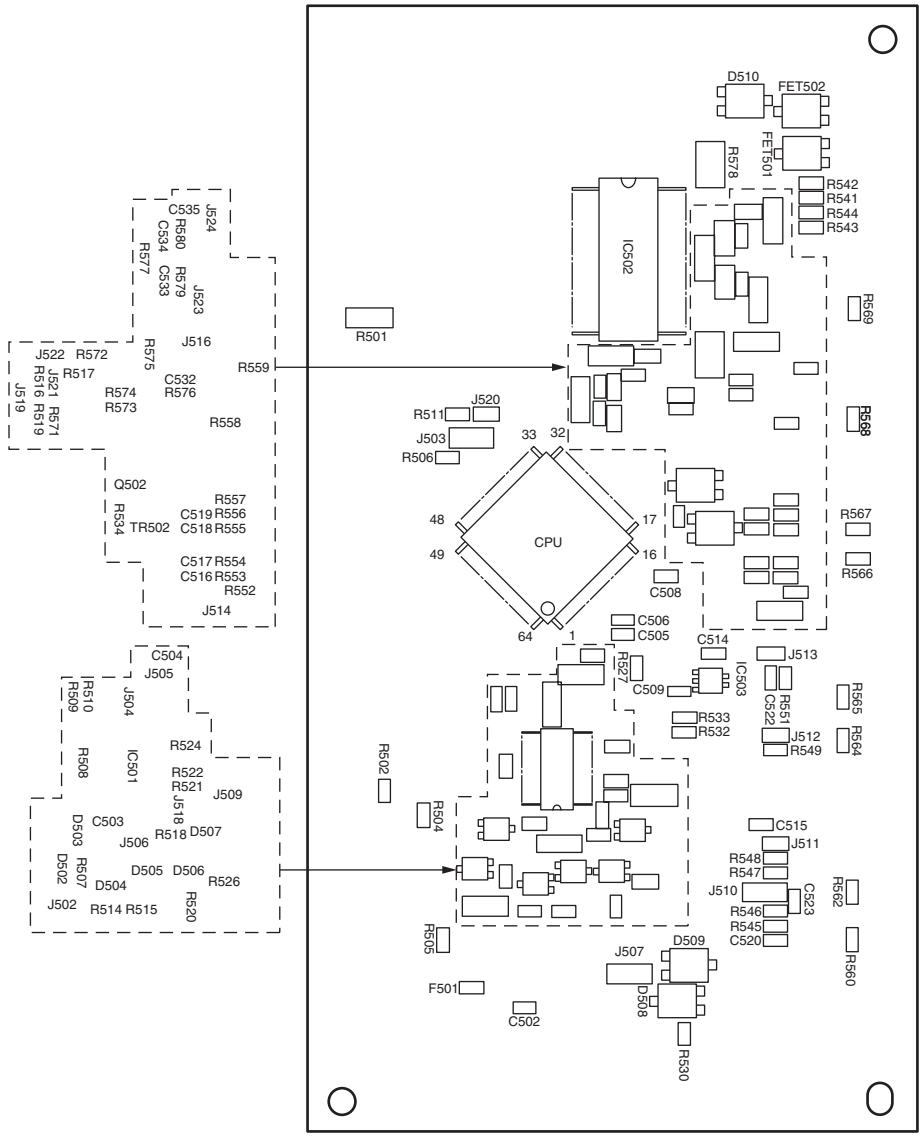


(2) Option tray board

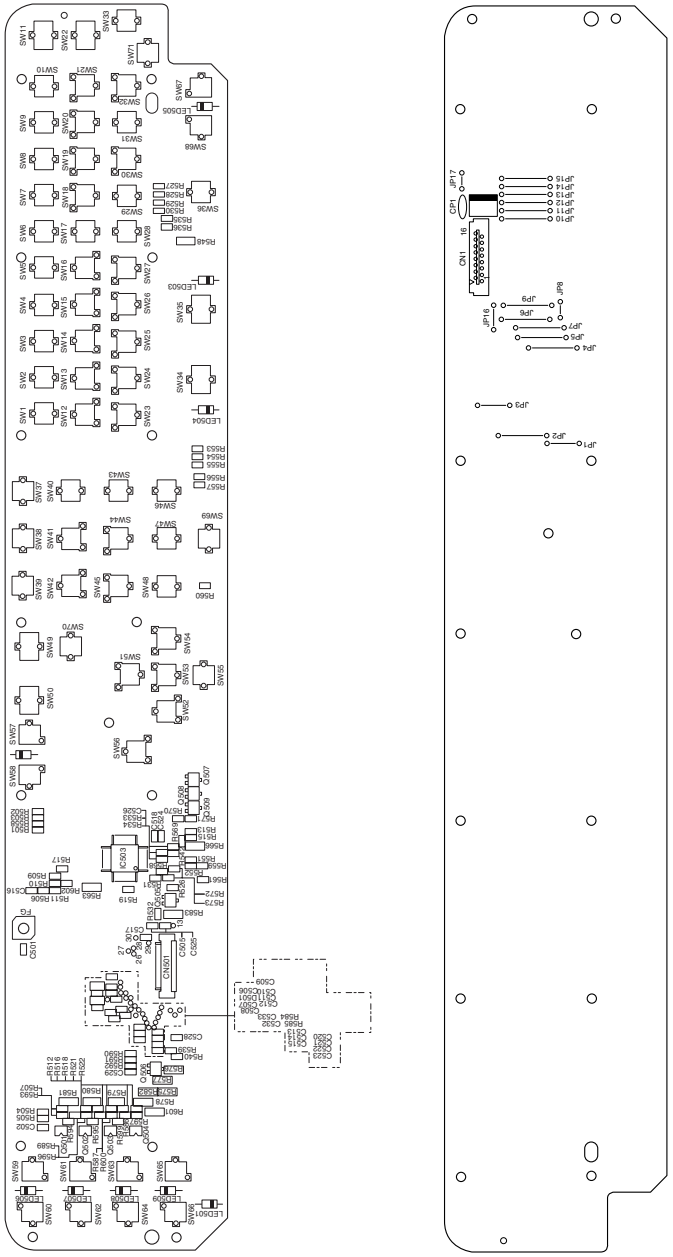
Component side



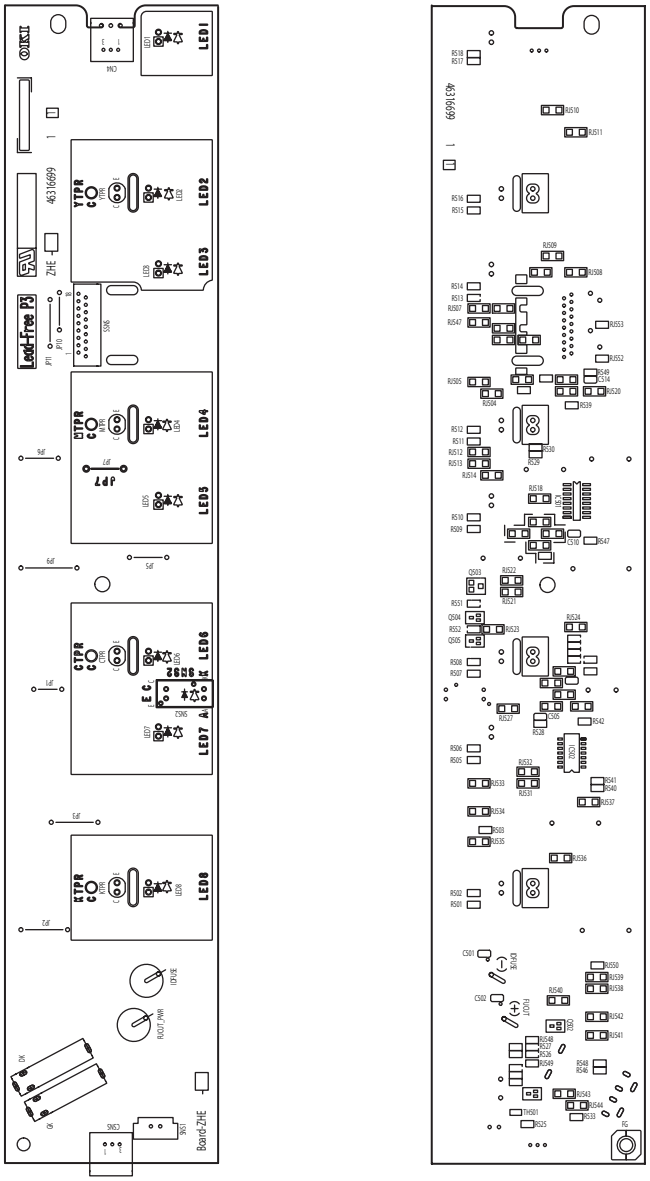
Soldering side



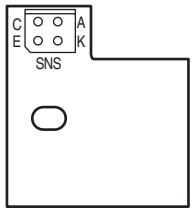
(3) OPE board



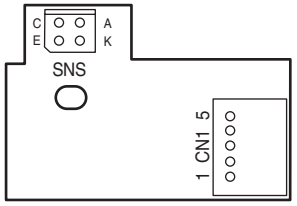
(4) Toner sensor board



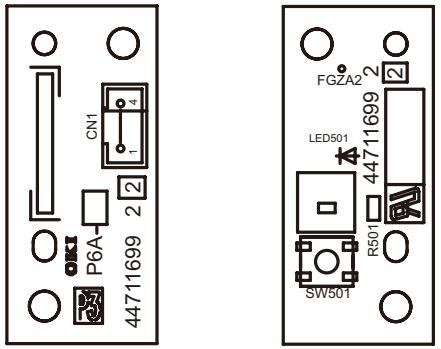
(5) Waste toner sensor PCB



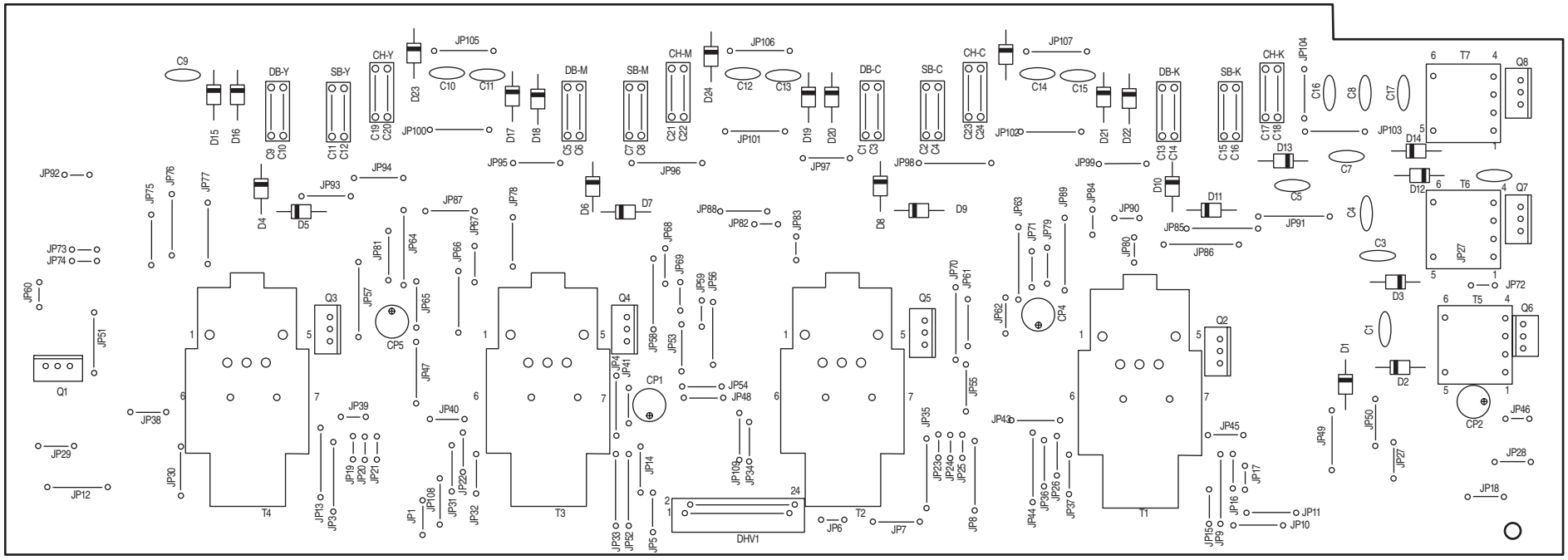
(6) Color adjustment sensor PCB



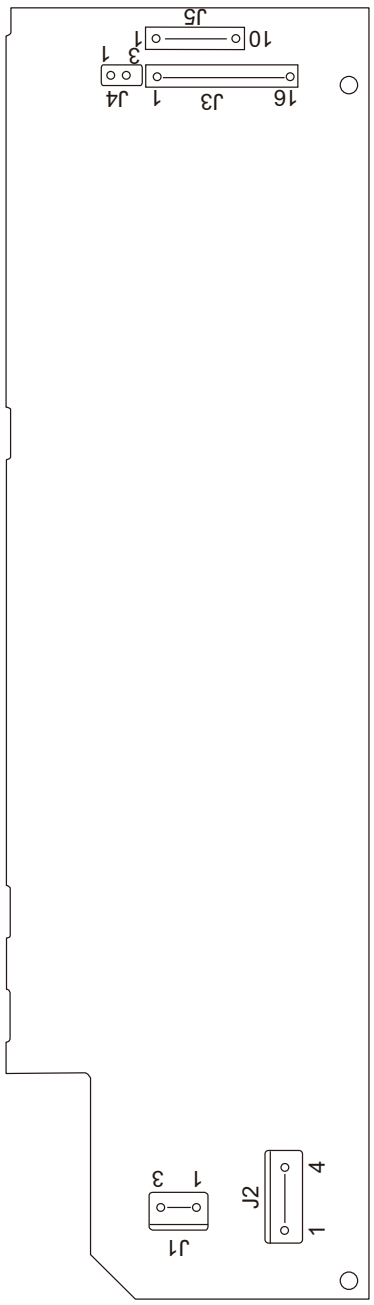
(7) Switch PCB



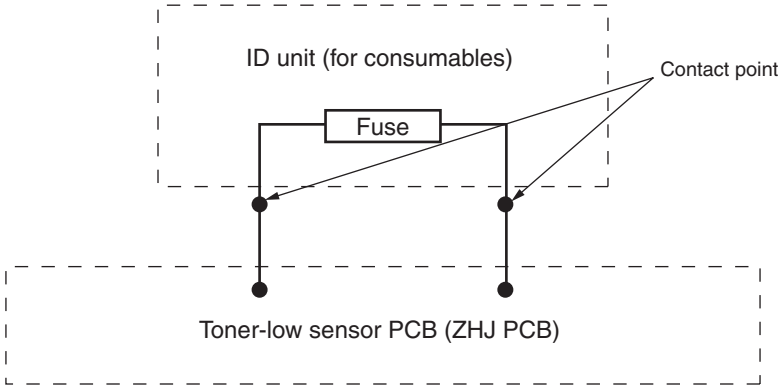
(8) High voltage power supply board

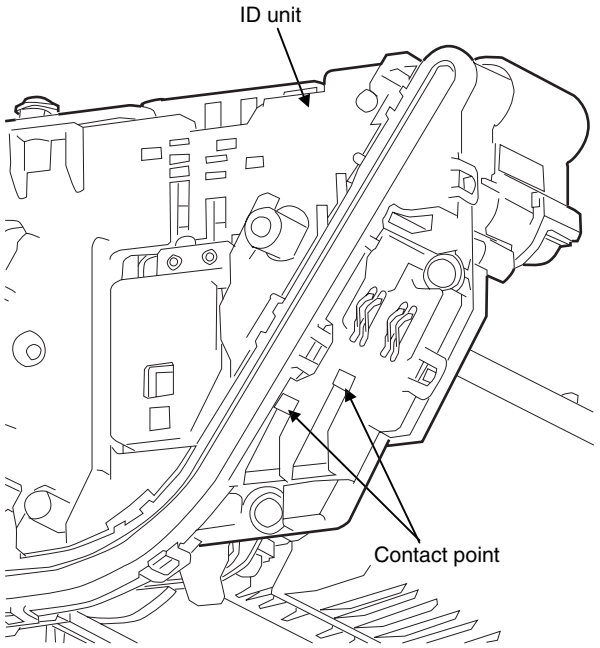


(9) Low-voltage power supply PCB

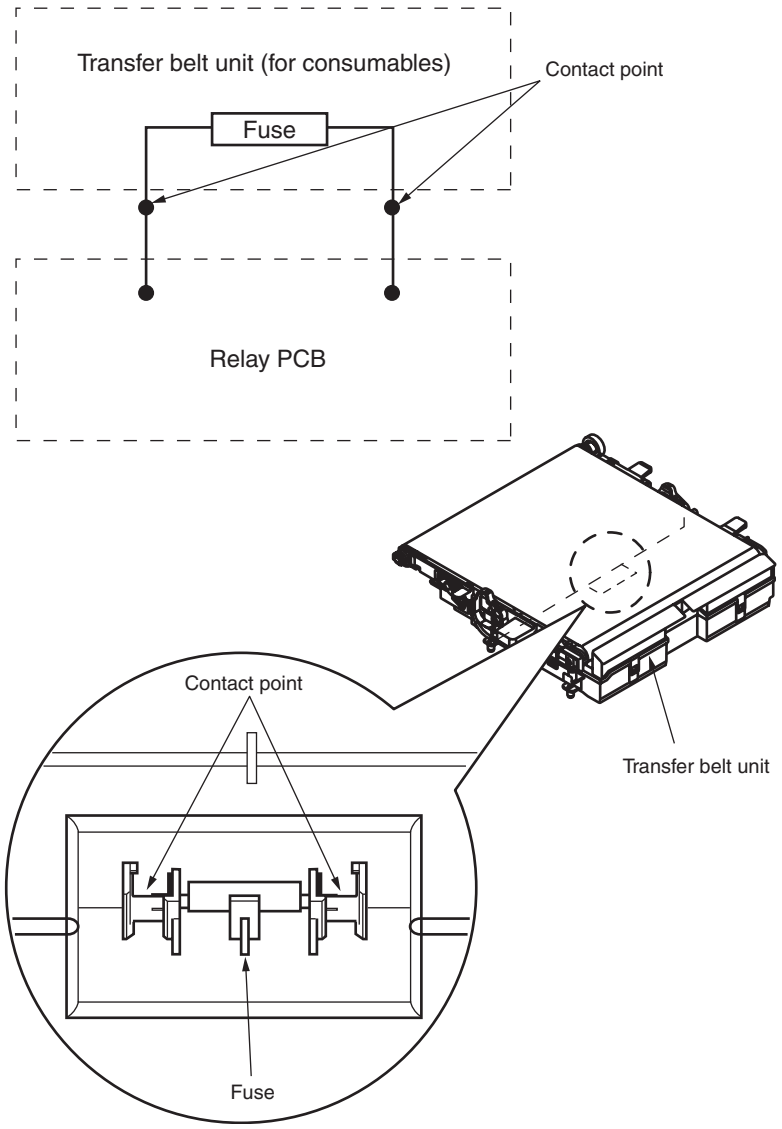


(10) ID unit



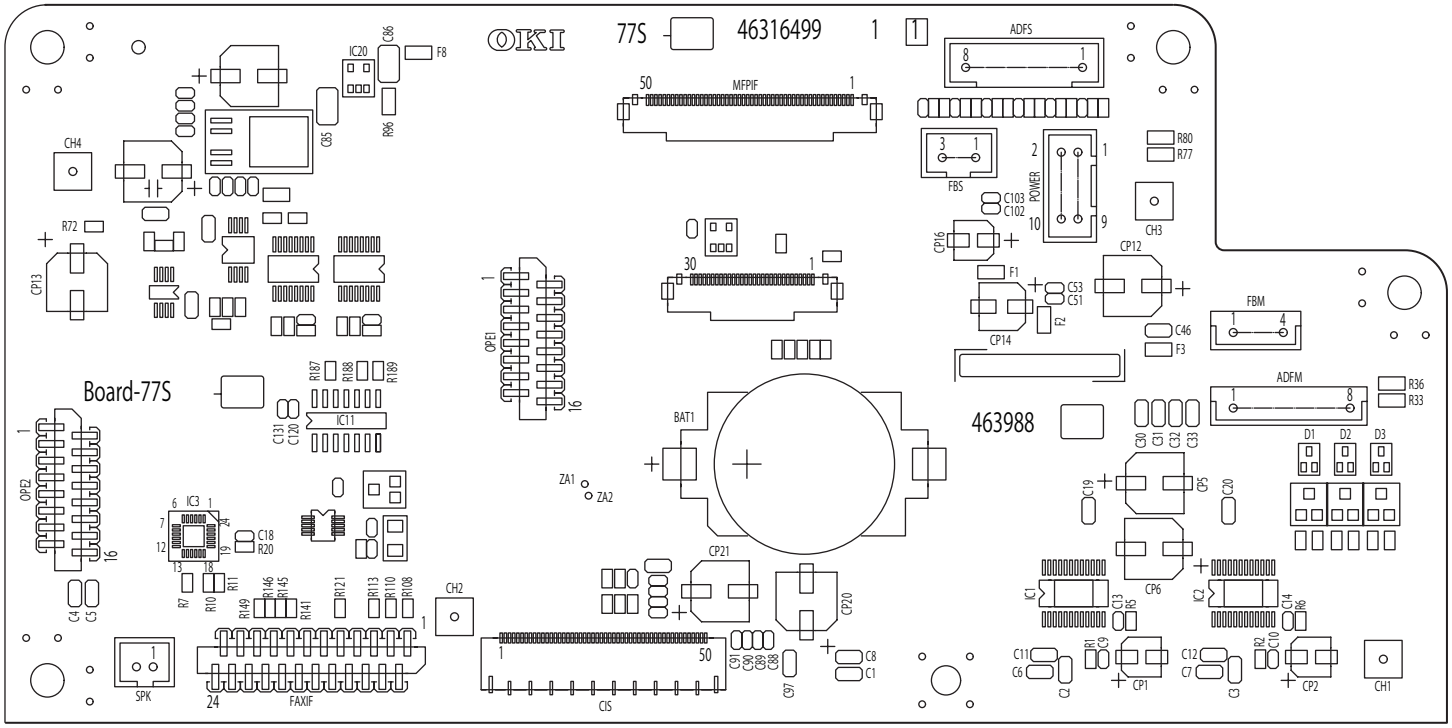


(11) Transfer belt unit

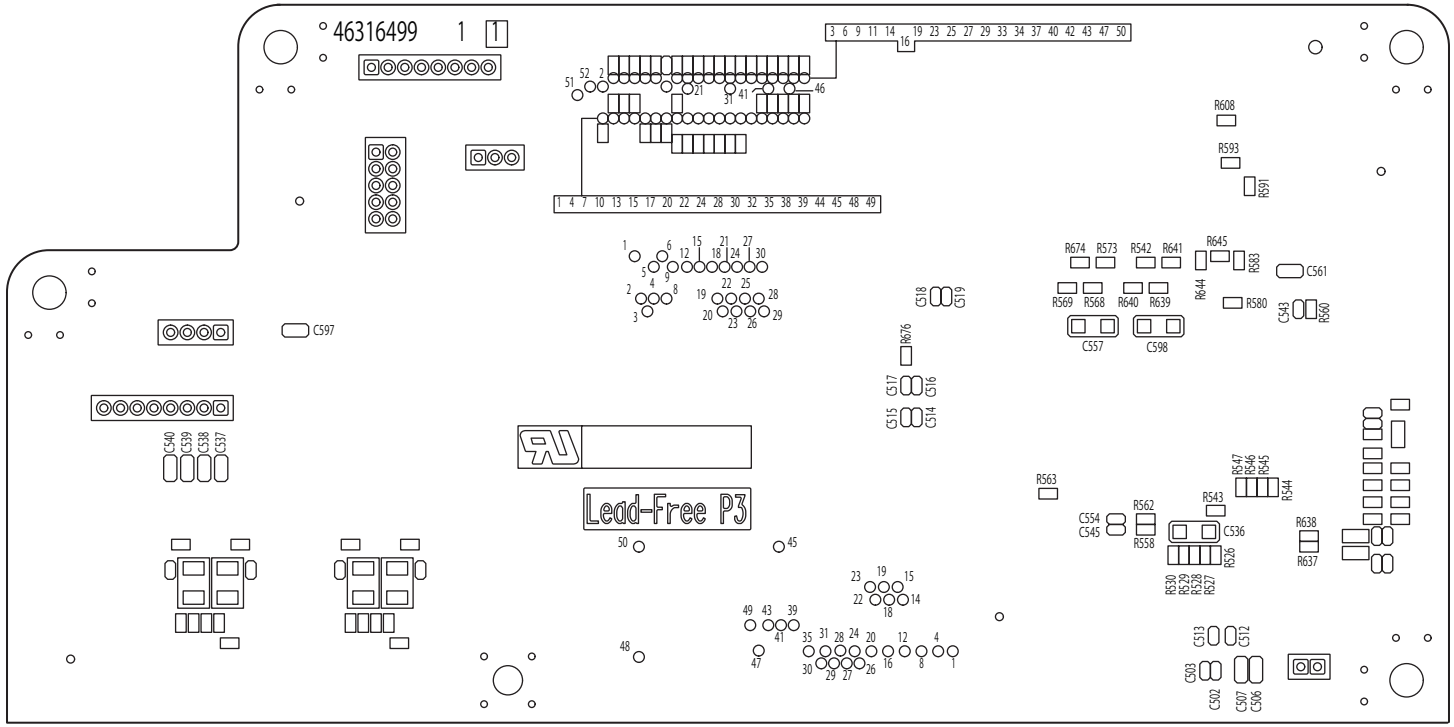


(12) SU board (77S)

Component side



Soldering side



(13) ADF board