MC860/CX2633MFP

Maintenance Manual

032007A

*All instances that mention MC860MFP also apply to the CX2633 unless otherwise noted.

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PREFACE

This is the Maintenance Manual for the Oki Data Color LED MFP MC860series MC860dn/ MC860dtn describing the maintenance procedures. This manual is intended to be used by the experienced maintenance engineer. For the operating procedure of the Oki Data Color LED MFP MC860 series MC860dn/MC860dtn, refer to the User's Manual.

The Oki Data Color LED MFP MC860series MC860dn/MC860dtn is sometimes abbreviated simply as MC860 or MFP in this manual.

Note! * Contents of this manual can be changed without prior notice.

* There can be errors in this manual even though Oki Data has made best efforts to create the accurate manual. Oki Data is not liable for any loss and/or damage that are asserted by user to have been caused by the repair/adjustment/change which are implemented to the MFP by using this manual.
* The parts/components that are used in the MFP are delicate and can be easily damaged if they are not handled in appropriate method. Oki Data recommends strongly that maintenance of the MFP should be made by the maintenance engineers who are the registered member of Oki Data.
* Before starting any work, remove static electricity beforehand.

Contents

1. Configuration

1.1 System configuration

MC860

Overall system configuration of the MC860 is shown in Figure 1-1.

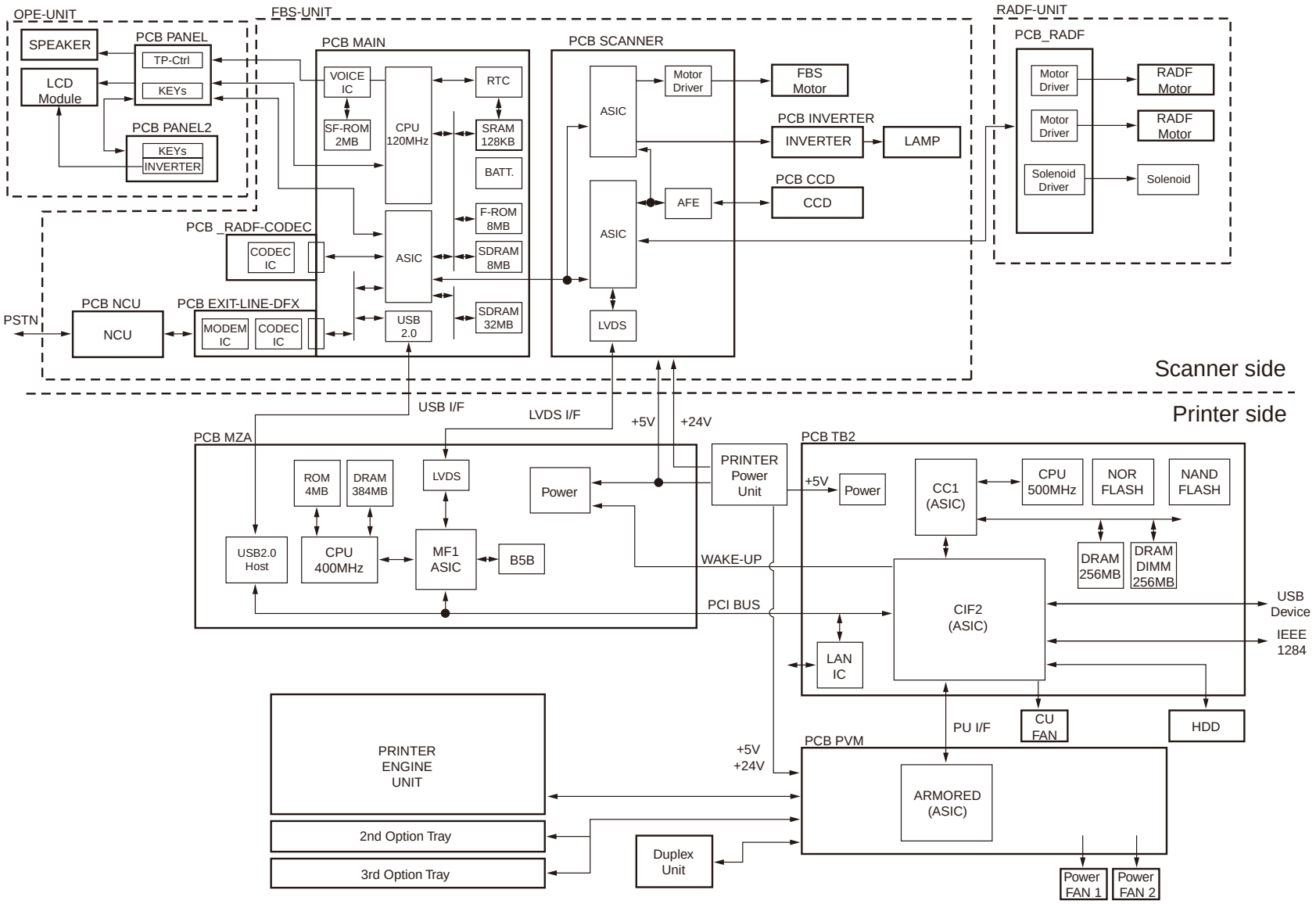


Figure 1-1

Overall system configuration of the MC860 printer section is shown in Figure 1-2.

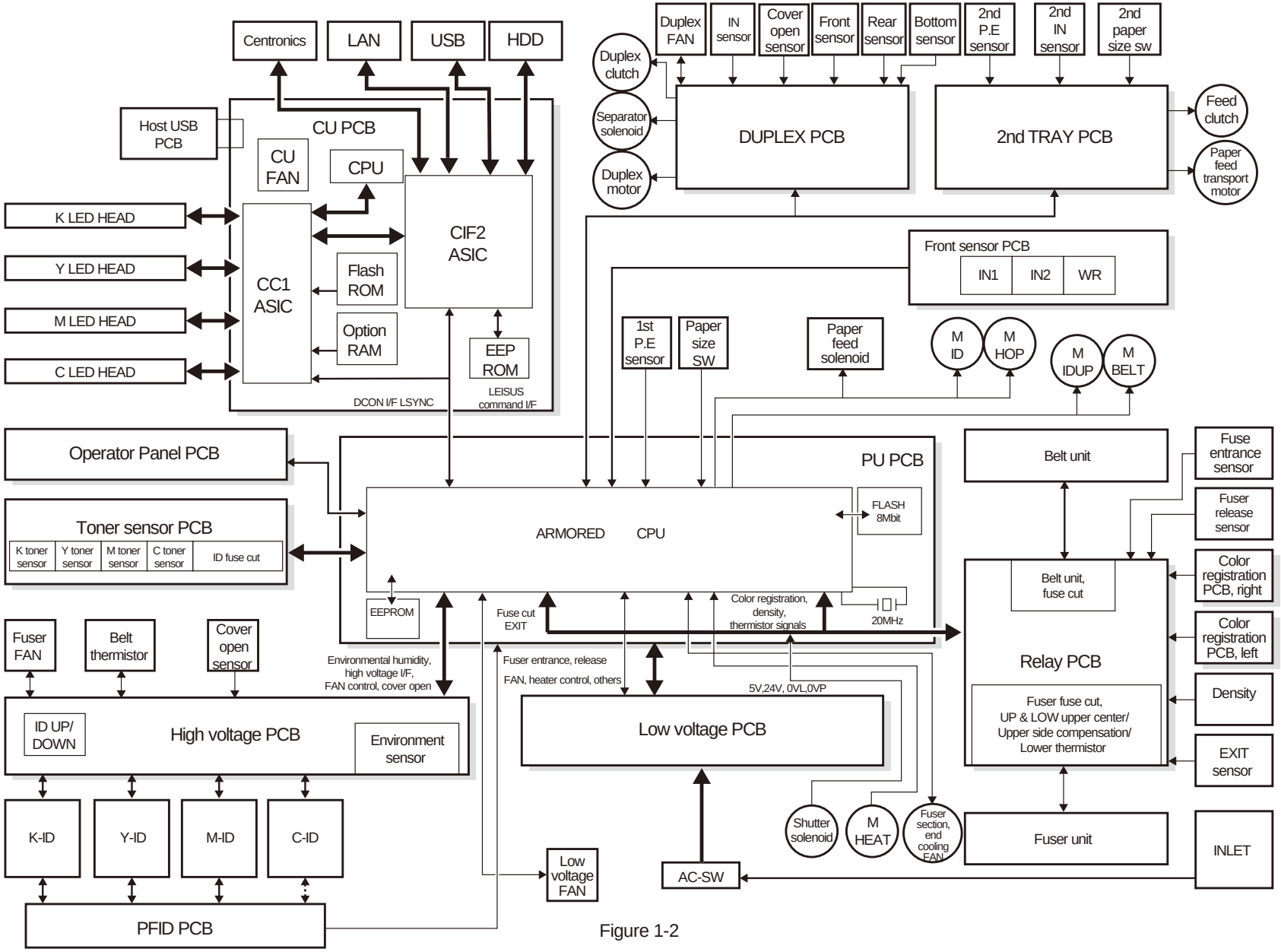
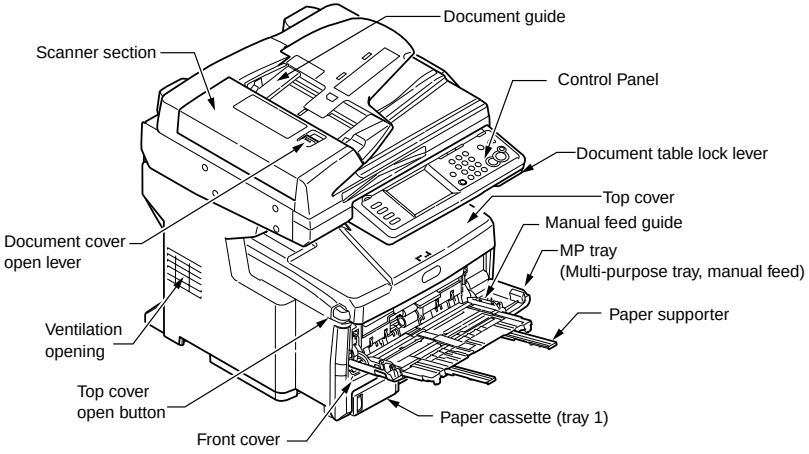


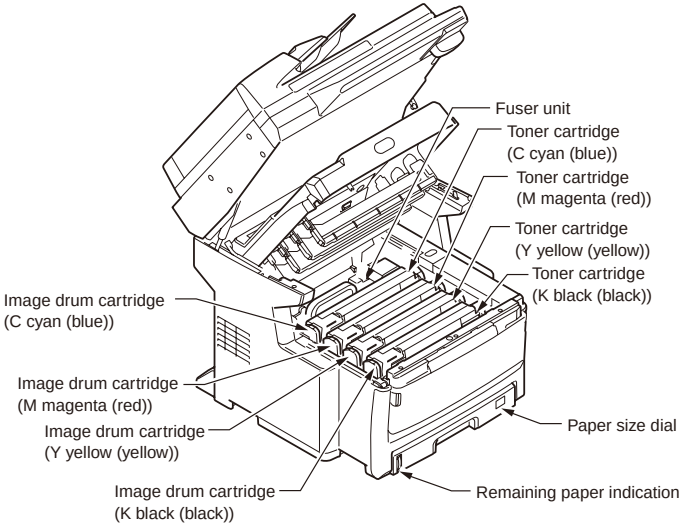
Figure 1-2

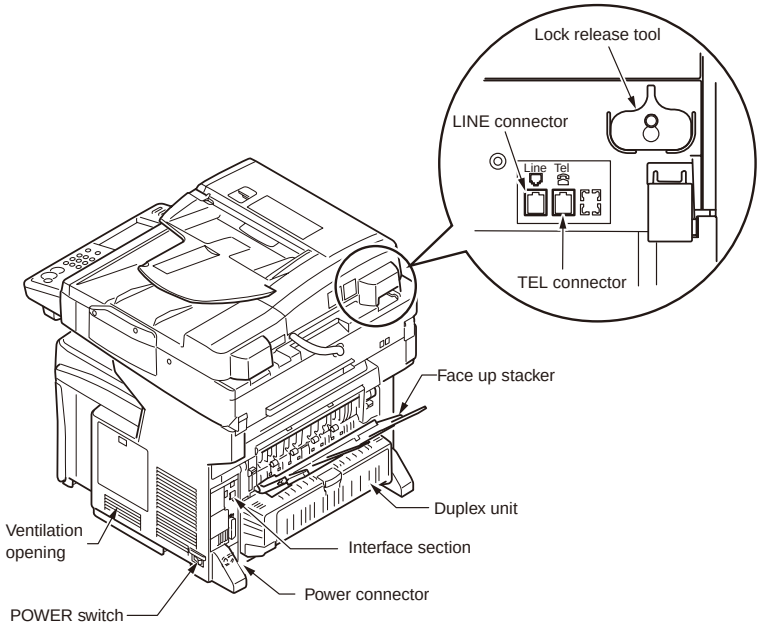
1.2 MFP configuration

1.2.1 Name and function of each part

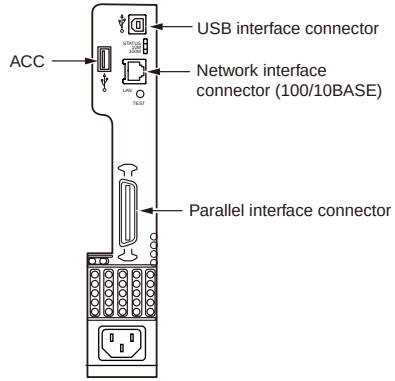
Name and function of each part of MFP



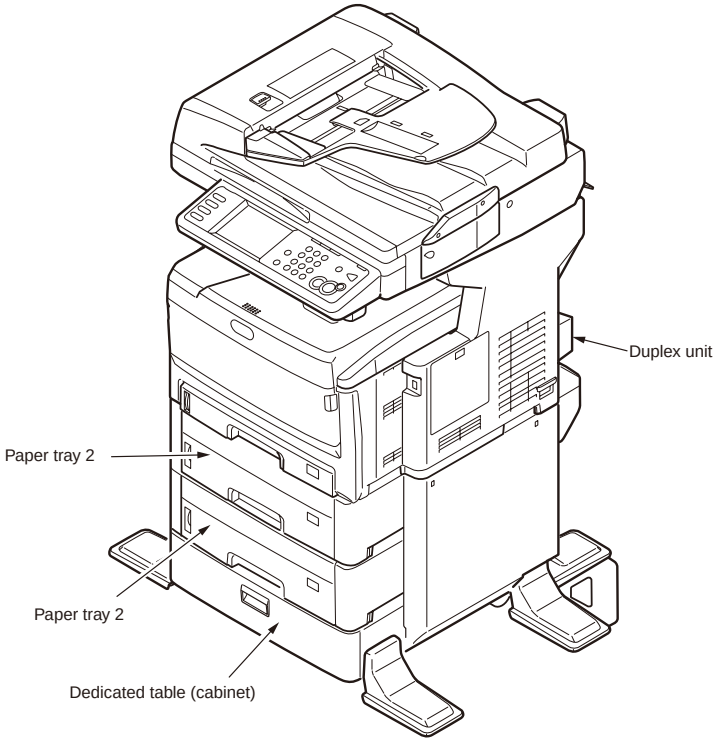


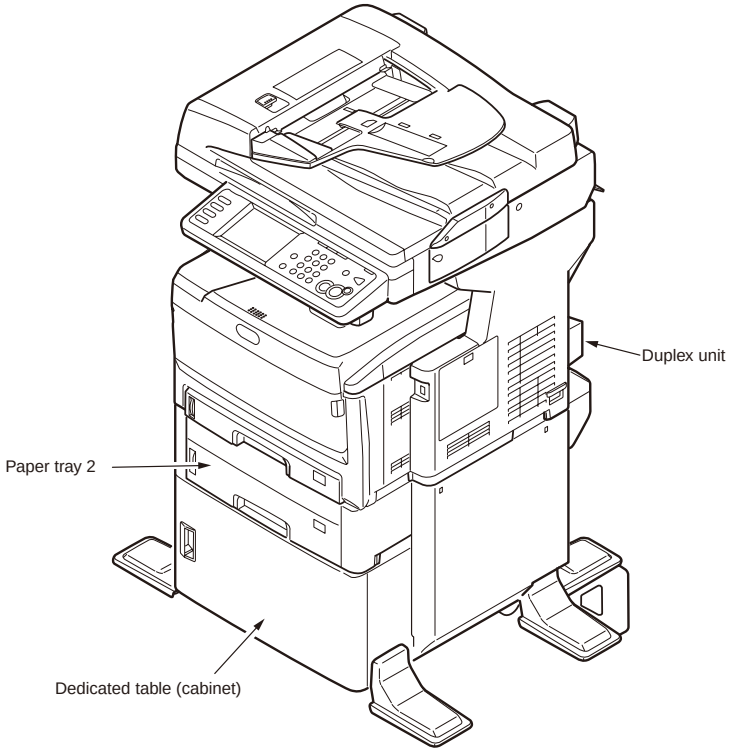


〈Interface section〉



Constituent parts and options





Inside of the MC860 consists of the following sections.

- Electro-photographic process section
- Paper path section
- Control section (CU section/PU section/SIP section)
- Power supply section (High voltage section/low voltage section)
- Scanner section

Overall configuration of the MC860 is shown in Fig. 1-2.

Printer section configuration of the MC860 is shown in Fig. 1-3 and Fig. 1-4.

Overall configuration of the scanner section of the MC860 is shown in Fig. 1-5.

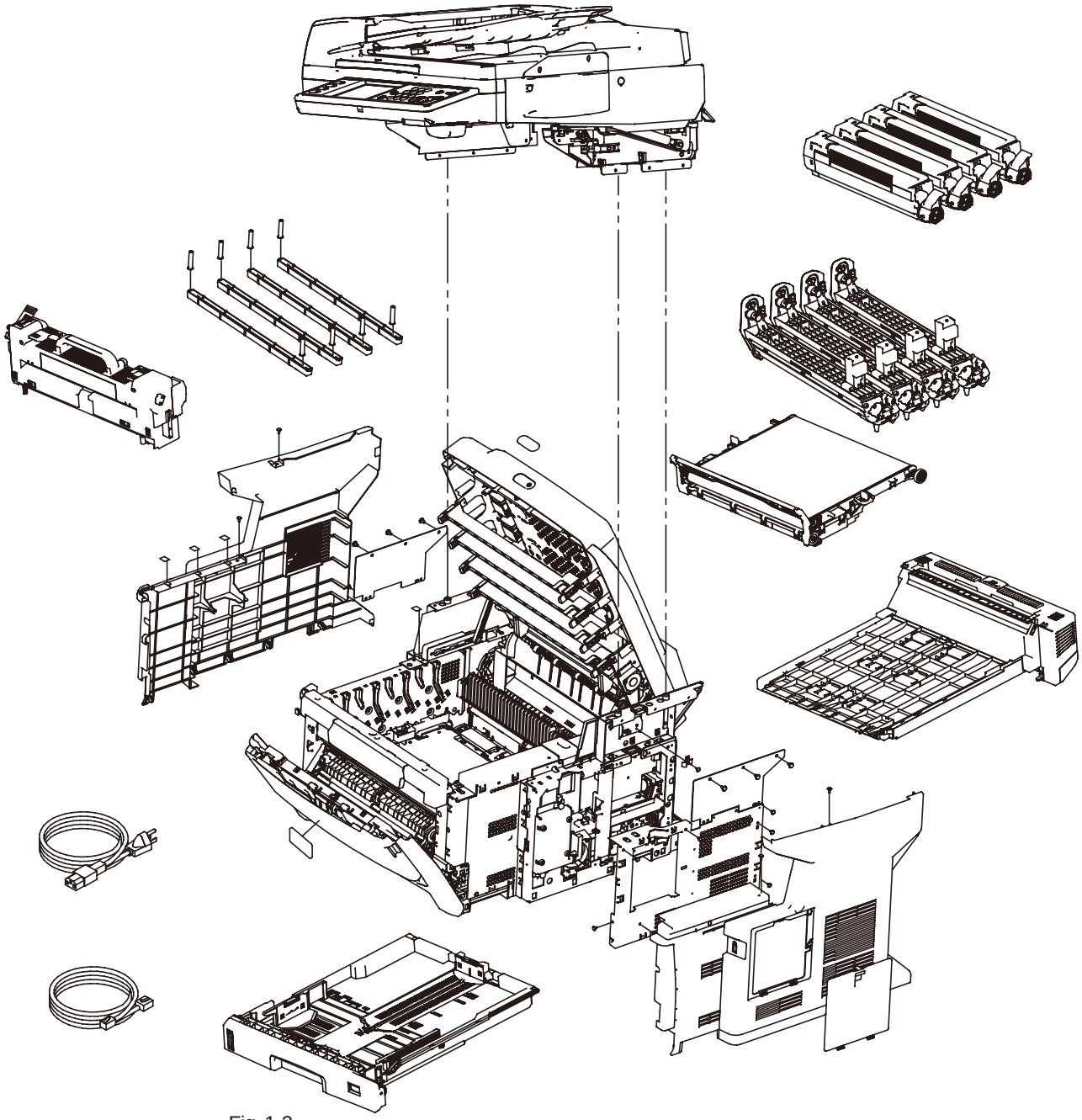


Fig. 1-2

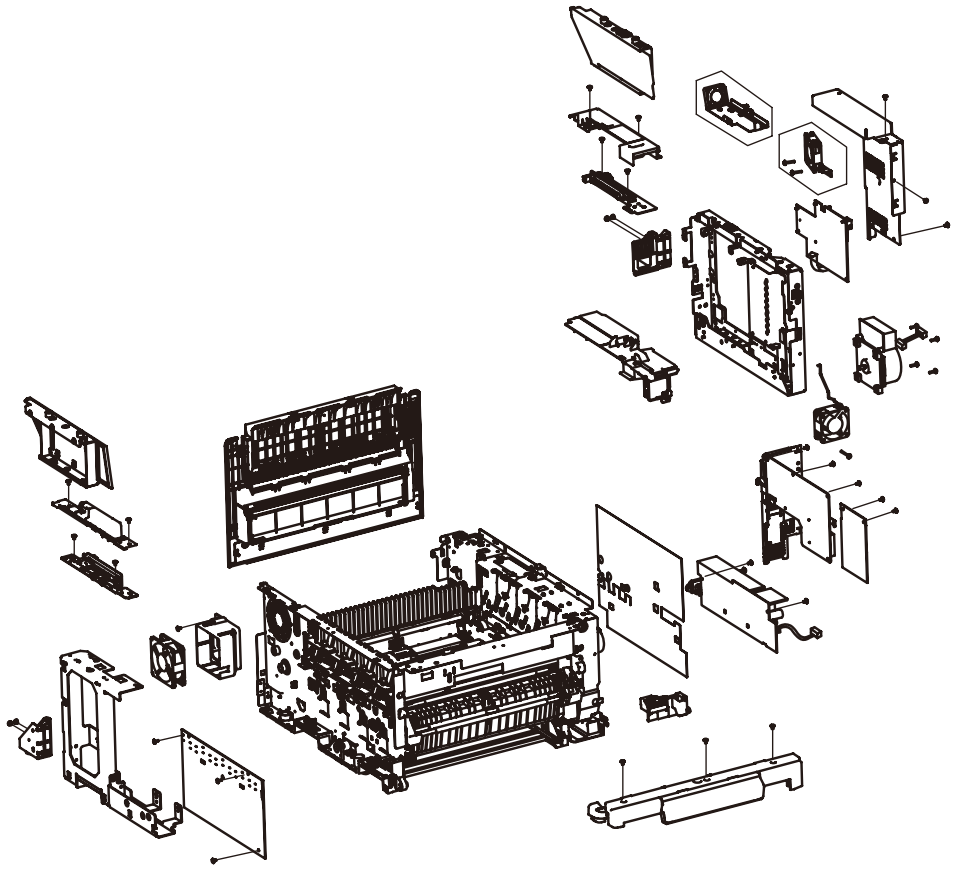


Fig. 1-3

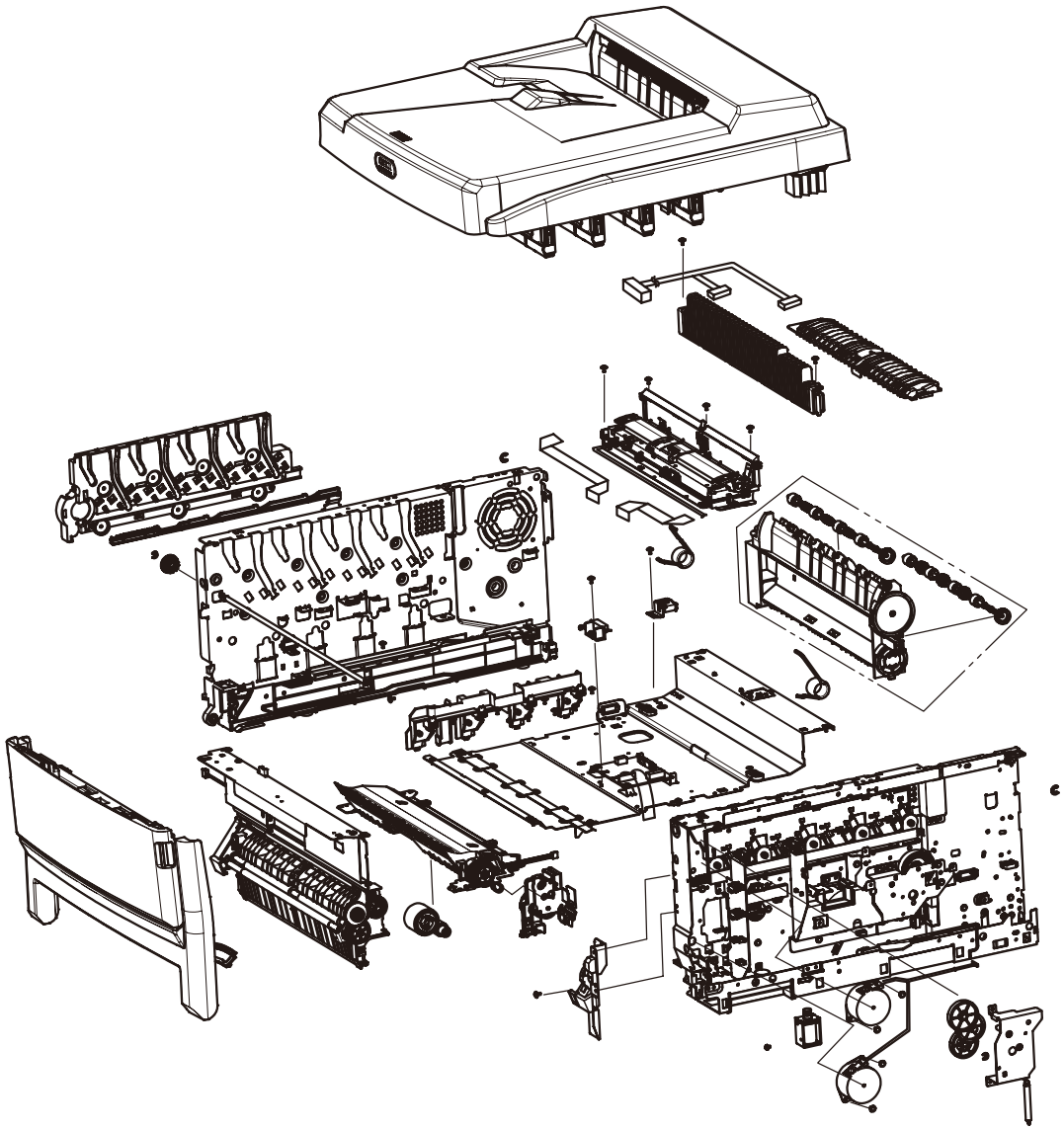


Fig. 1-4

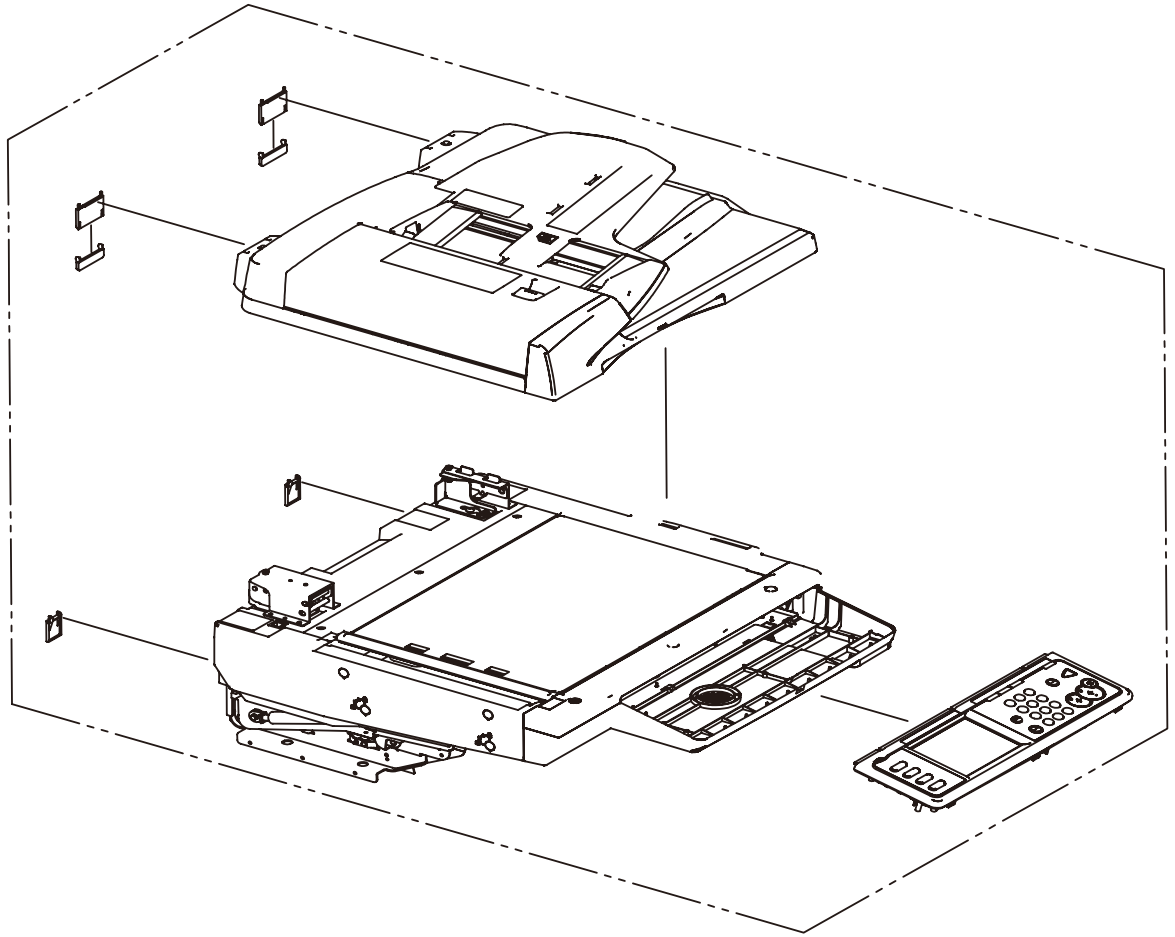


Fig. 1-5

1.3 Options configuration

The MFP provides the two types of the add-on tray unit and accessories as the options.

(1) 2 stacking tray specifications (with short cabinet) Model name TRY-C3D4

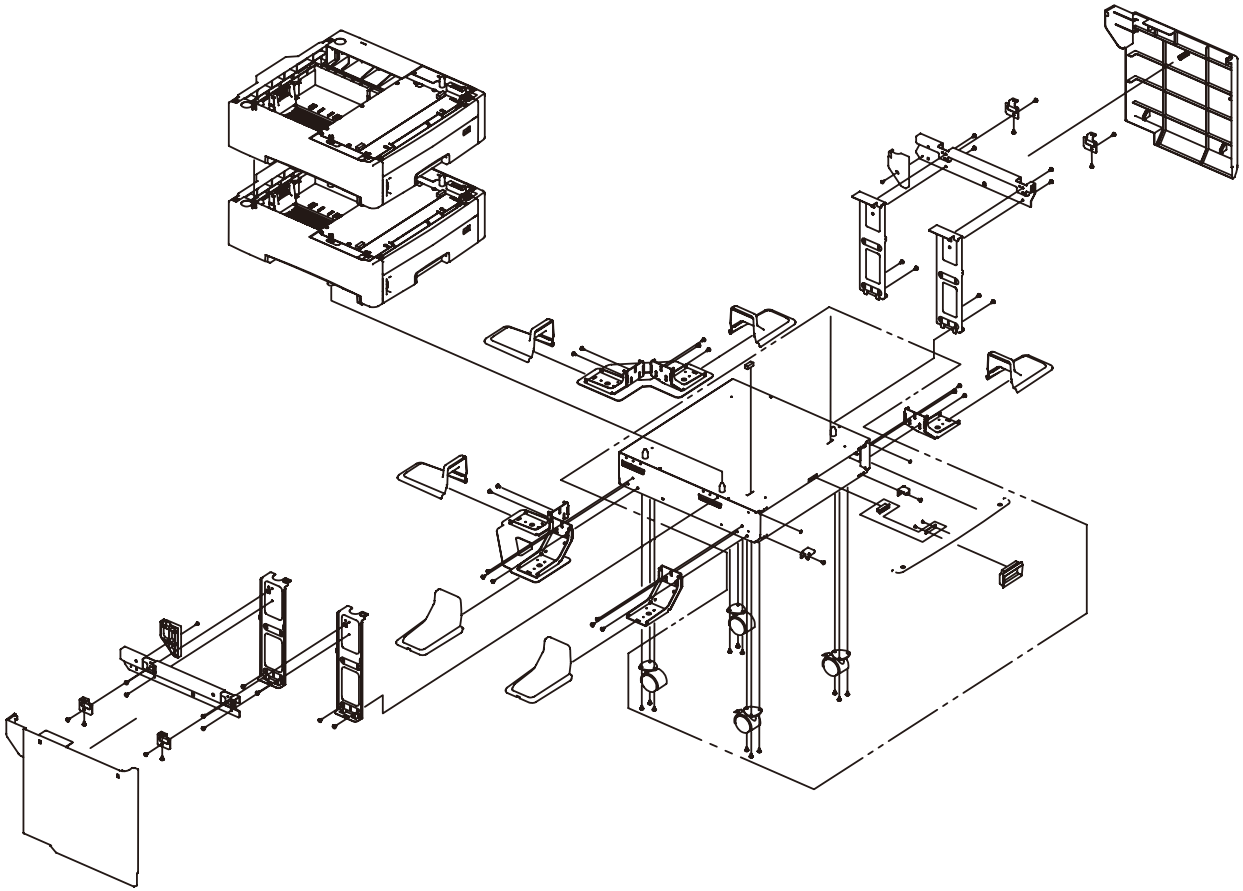


Fig. 1-6

(2) 1 stacking tray specifications (with long cabinet) Model name TRY-C3D5

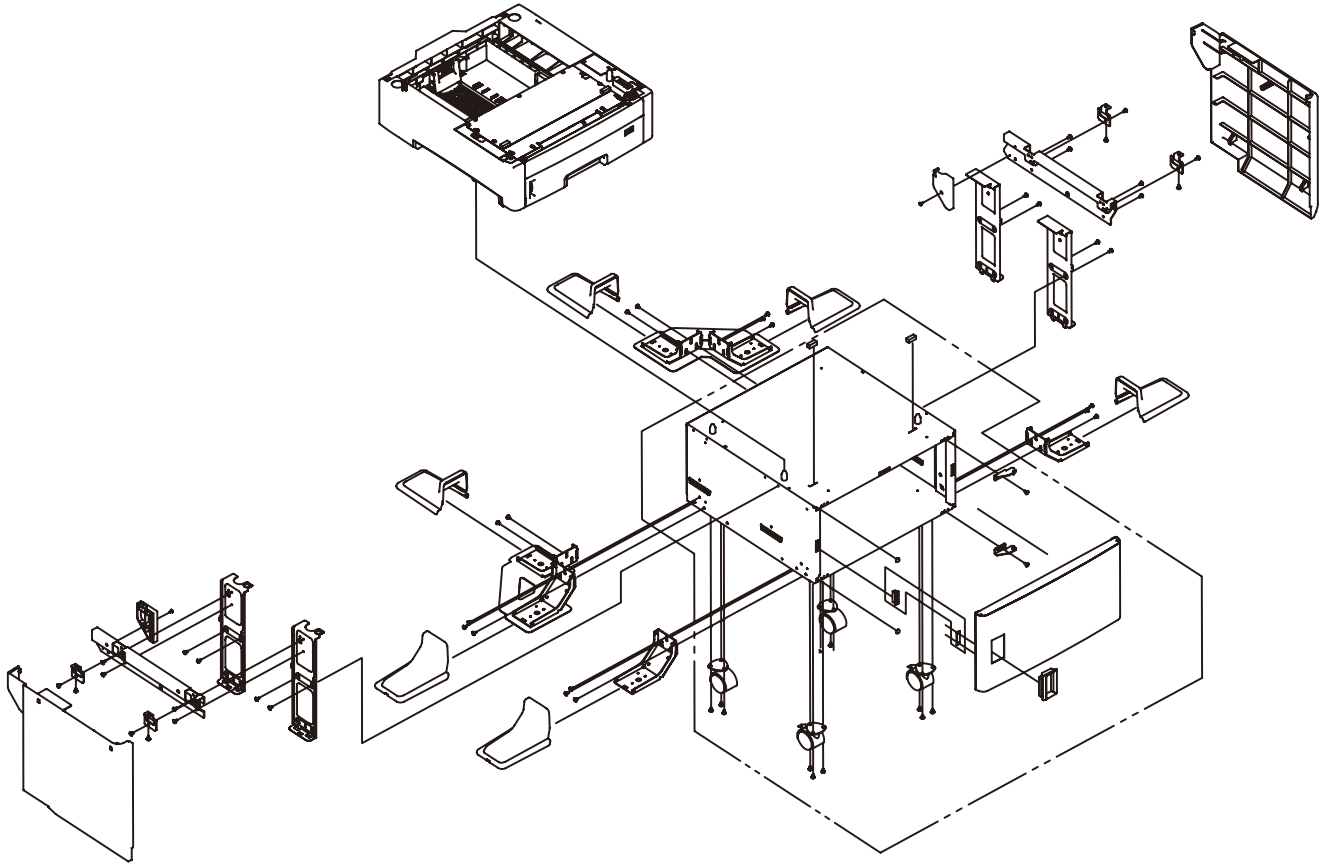


Fig. 1-7

1.4 Specifications

Fundamental specifications

Category	Item	
Outside dimensions	Width 565 mm/845 mm	565mm/845mm
	Depth 1100 [mm]	1100 mm
	Height 669 mm/1130 mm.	669mm/1130mm
Weight		Approx. 68 kg/Approx. 96 kg
CPU CU	CORE	Power PC750CL processor (500 MHz)
	I-cache	32KB L2 cache 256 kB
	D-cache	32KB
	Clock	500MHz
	Bus width	Address: 32 bits, Data: 64 bits
RAM	Resident	512 MB.(256 MB built-in, 256 MB is installed in option slot)
	Option	512 MB.(Replaceable with 256 MB)
ROM	Program	Total capacity 8 MB
Control Panel	LCD	5.8-inch monochrome graphic LCD panel (320 x 240 dots) with touch panel
	Keys	Ten key, color start key, monochrome start key, stop key, interrupt key, power save key and others
Operation sound	During operation (ISO.7779 front)	6.58 dB (A) (Sound power level)
	During standby	3.70 dB.(A) (Sound pressure level)
	Power save mode	Background level
Power consumption	Power input	100VAC (Range 90 -110VAC)
	Power save mode	25 W or less
	Idle	160W
	Normal operation	700W (Average)
	Peak	1300W

Category	Item	
Operating environment (temperature)	During operation	10 °C to 32 °C,17 °C to 27 °C (Full color print quality assurance temperature)
	During non-operation	0°C - 43°C, Power OFF
	During storage (Maximum one year)	-10°C to 43°C, with drum and toners
	During transportation (Maximum one month)	-30°C - 50°C, with drum, without toners
	During transportation (Maximum one month)	-30°C to 50°C, with drum and toners
Operating environment (humidity)	During operation	20% - 80%, 50% - 70% (Full color print quality assurance humidity), Maximum wet-bulb temperature 25°C
	During non-operation	10% - 90%, Maximum wet-bulb temperature 26.8°C, power OFF
	During storage	10% - 90%, Maximum wet-bulb temperature 35°C
	During transportation	10% - 90%, Maximum wet-bulb temperature 40°C
Emulation	Standard	PCL,PS
	Emulation switch	Automatic
Factory default setting	Japan	PDL model
Others	USB-IF logo	Yes
	Windows logo	Yes
	Operations on UPS	Operations on UPS (uninterruptible power supply) are not guaranteed. Do not use UPS.
CPU MZA	CORE	Power PC750CL processor (400 MHz)
	I-cache	32 KB L2 cache 256 kB
	D-cache	32KB
	Clock	400MHz
	Bus width	Address: 32 bits, Data: 64 bits
RAM	Resident	384 MB, 512 MB (256 MB built-in, 256 MB is installed in option slot)
	Option	None

Printer section specifications

Category	Item	
Print width	Print width	A4 horizontal
Engine speed	Monochrome	34 pages/minute (standard paper, A4 copy mode), 33 pages/minute (Letter), 9.5 pages/minute (104 kg (121 g/m2) for thick paper, postcard, label paper), 23 pages/minute (during both-side printing: standard paper, A4 mode)
	Color	26 pages/minute (standard paper, A4 copy mode), 9.5 pages/minute (104 kg (121 g/m2) for thick paper, postcard, label paper), 22 pages/minute (during both-side printing: standard paper, A4 mode)
First print time (A4)	Monochrome	9.5sec
	Color	10sec
	Warm-up time	90sec
	Low noise mode	Not applicable
Resolution	LED head	600 dpi
	Maximum input resolution	600x1200dpi
	Output resolution	True 600x1200dpi True 600x600dpi
	Gradation	4 gradation 600 x 600 dpi
	Echono mode	Toner save by low brightness
Life	Printer life	600,000 pages, 5 years
	Print duty (M = L/12, A = L/12/5)	Maximum 50,000 pages/month Average 10,000 pages/month
	MTBF (2.3% duty)	Not applicable
	MPBF	100,000 pages
	MTTR	Within 20 minutes

Category	Item		
Life	Toner life (5% duty)	Starter toner (supplied)	Approx. 2000 pages (black), Approx. 2000 pages (color)
		Standard	Standard: 6,000 pages (black), 6,000 pages (color) S-type: 2,000 pages (black), 2,000 pages (color)
		New drum, first drum	New drum, first drum is approx. 5,200 pages (standard), Approx. 1,200 pages (S-type)
		New drum Supplied toner, first toner	Approx. xxx pages (black), Approx. xxx pages (color)
	Image drum life		20,000 pages (at 3 pages/job) 11,000 pages (at 1 pages/job) 27,000 paged (at continuous printing mode) Drum counter automatic reset
	Transfer belt life		80,000 pages (at A4 horizontal size, 3 pages/job), Counter automatic reset
	Fuser life		100,000 pages.(A4 size), Counter automatic reset
Paper handling	Feed paper capacity (1st tray)		Standard paper 300 sheets/ream weight 70 kg, total thickness 30 mm or less
	Feed paper capacity (manual feeder)		Standard paper 100 sheets/ream weight 70 kg, total thickness 10mm or less Postcard 40 sheets, envelope 10 pieces/ream weight 85 g/m2
	Paper unloading		Face up: Approx. 100 sheets/ream weight 70 kg Face down: Approx. 250 sheets/ream weight 70 kg

Category	Item	
Paper size		A3, A4, A5, A6*, B4, Letter, Legal (13 in, 13.5 in, 14 in), Executive , Postcard**, Return-paid postcard**, Custom***, Envelope (Rectangular type 3, Western type 0, Western type 4, Square type 2, Square type 3) *: A6 cannot be used in tray 2. **: Postcard and return-paid postcard can be used in MPT only. ***: For Custom, usable sizes are different depending on trays. Length is up to 1200 mm.
Minimal paper size	Tray 1 A6	A6
	Tray 2 (option) A5	A5
	Tray 3 (option) A5	A5
	MPT	Postcard
Paper thickness	Tray 1	64 – 120 g/m^2
	Tray 2 (option)	64 – 175 g/m^2
	Tray 3 (option)	64 – 175 g/m^2
	MPT	64 – 200 g/m^2
Status switch/sensor	Paper out	Yes
	Paper low	None
	Toner low	Yes (Y, M, C, K)
	Cover open	Yes
	Fuser temperature	Yes
	Paper size	Yes (manual setting)
	Stacker full	None

Category	Item	
Font	Bitmap type face	Yes
	Scalable 1 type face	Yes
	Scalable 2 type face	Yes
	Scalable 3 type face	Yes
	Rasterizer	Yes
	Barcode	Yes
	OCR.	Yes

Scanner section specifications

Item		
Scanner type		Flat bed scanner with automatic document feeder device (ADF)
Image processor/Controller		SH4
Image sensor		Color CCD (R,G,B 3 lines)
Light source		External electrode-type noble gas fluorescent lamp
Optical resolution		600dpi X 600dpi
Output resolution		600dpi X 600dpi, 300dpi X 300dpi
Input level (A/D conversion)		48 bits (R,G, B, each 16 bits)
Output level		24 bits (R,G,B, each 8 bits) color, 8 bits grayscale, 4 bits CMYK,.1 bit monochrome
Document size	Flat bed	Maximum A3 (Automatic detectable sizes: A3SEF, B4SEF, A4SEF/LEF, B5SEF/LEF, A5SEF/LEF), A5, B5, Letter
	ADF	50 sheets (80 g/m2) A4, B5, Letter/25 sheets (80 kg/ m2) A3, B4
Document thickness	Flat bed 14 mm	14mm
	ADF	52-105g/m^2
Maximum scanning range	Flat bed	Maximum 297 mm
	ADF	Maximum width 297 mm, Minimum document 128.5 x 148.5 mm
ADF	Single side	Yes, 50 sheets (80g/m2)
	Both-sided	None
Scanning speed		During ADF scanning, Single side 34 pages/minute (at A4, 300 dpi, same magnification)
Warm-up time		50 ms or less
Life	MTBF	5,000 hours or more
	MTTR	Less than 30 minutes
	Flat bed	5 years or 300,000 times of scan
	ADF	5 years or 80,000 pages of scan
	Fluorescent lamp	1,000 hours (Light-ON accumulative hours)
Attachment file format		PDF (JPEG compressed) format, JPEG (JFIF) format, Multi-page format TIFF (Non-compression/G3/G4 compressed)
Supported driver		TWAIN, WIA

Network specifications

Item	
Connection	Ethernet 10BaseT/100BaseTX automatic negotiation
Communication protocol	TCP/IP V4, TCP/IP V6, LPR, Port9100, IPP, FTP, SMTP, POP3, HTTP, HTTPS, Telnet, NetBIOS over TCP, SNMP Trap, SNMPv1, SNMPv3, DHCP/BOOTP, DNS, DDNS, WINS, SLP, UPnP, Bonjour, SNTP, ODNSP, SMB, CIFS, Q-Server over IP, Q-Server over IPX, R-Printer, N-Printer, NCP, PAP, NBP, LDAP, Kerberos
Supported browser	Microsoft Internet Explorer Ver 5.5 or higher Netscape Navigator Ver 6.0 or higher
Required setup information, configuration and others	IP address, sub net mask, gate way, SMTP/POP3 server, FTP server, Web server
Output/Input switch	Automatic

Fax section specifications

Item		
Compatibility		ITU-T Super G3
Compression system		MH/MR/MMR JBIG
Communication speed		33600 bps (automatic fallback)
Document size		A3 (SEF), B4 (SEF), A4 (SEF/LEF), A5 (SEF/LEF),.B5 (SEF/LEF)
Effective scanning size		Within 1.5 mm from top/bottom/right/left of document ends
Transmission speed		Approx. 2 seconds
Number of alternate receptions	Send	Approx. 95 sheets
	Receive	Approx. 250 sheets
Scanning line density	Horizontal scanning	8 dots/mm
	Vertical scanning	3.85 lines/mm (Standard)
		7.7 lines/mm (Fine)
		15.4 lines/mm (Photo)
Density adjustment		Lightest/Lighter/Normal/Darker/Darkest
Telephone network		PSTN (Public Switched Telephone Network)
Line connection system		Communication connector (RJ-11)
Network control function		Automatic and manual
Selection signal system		PB/DP (10/20 PPS) switched by software
DC resistance		Maximum approx. 240 ohms
Maximum number of connectable lines		1
Send/Receive memory		16MB
Resolution		Std: 200 x 100dpi, Fine: 200 x 200dpi, Photo: 200 x 200dpi, ExFine: 200 x 400dpi

Copy function

Item		
Resolution		600dpi X 600dpi, 300dpi X 300dpi
Document size	Flat bed	ODA Tabloid(SEF), Legal(SEF), Letter(SEF/LEF), HalfLetter(LEF) OEL A3(SEF),B4(SEF),A4(SEF/LEF),A5(SEF/LEF), B5(SEF/LEF)
	ADF	ODA Tabloid(SEF), Legal(SEF), Letter(SEF/LEF), HalfLetter(LEF) OEL A3(SEF),B4(SEF),A4(SEF/LEF),A5(SEF/LEF), B5(SEF/LEF)
Effective scanning size		Within 4.23mm from top/bottom/right/left of document ends
Copy speed		Color: 26 pages/minute (300 dpi x 300 dpi) 9 pages/minutes (600 dpi x 600 dpi) Monochrome: 34(A4), 33(Letter) pages/minute (300 dpi x 300 dpi) 9 to 20 pages/minutes (600 dpi x 600 dpi)
First print time	Flat bed	Color: 14.5 sec, Mono: 13sec
	ADF	Color: 14.5 sec, Mono: 13 sec
COPY mode		Text, Text&Photo, Photo, Extra Fine
Copy by specifying number of copies		Maximum 999 copies
Copy density	Removal for Background &Show-Through (sTHR)	Auto, OFF, 1 – 5, sTHR
	Density	-3 (thin) to 0 to +3 (thick)
	Contrast	-3 (low) to 0 to +3 (high)
	Saturation	-3 (low) to 0 to +3 (high)
	Hue	-3 (red) to 0 to +3 (green)
	RGB	RGB each color, -3 (low) to 0 to +3 (high)

Item		
Zoom (Auto is spported)	Manual setting	1% increment in the range of 25% and 400%
	Fixed magnification ratio	A4 specification destinations (AB regions): 100% 70% :A3 → A4SEF, A3 → A4LEF, A4SEF → A5SEF, A4LEF → A5SEF, B4 → B5SEF, B4 → B5LEF 81% :B4 → A4SEF, B4 → A4LEF, B5SEF → A5SEF, B5LEF → A5SEF 86% :A3 → B4, A4LEF → B5SEF, A4LEF → B5LEF, A4SEF → B5SEF, A4SEF → B5LEF Fit to page 115% :B4 → A3, B5LEF → A4LEF, B5LEF → A4SEF, B5SEF → A4SEF, B5SEF → A4LEF 122% :A4SEF → B4, A4LEF → B4, A5LEF → B5LEF, A5LEF → B5SEF, A5SEF → B5SEF, A5SEF → B5LEF 141% :A4SEF → A3, A4LEF → A3, A5LEF → A4LEF, A5LEF → A4SEF, A5SEF → A4SEF, A5SEF → A4LEF, B5SEF → B4, B5LEF → B4 LETTER specification destinations (LETTER regions): 100% 64% : Tabloid → LetterSEF, Tabloid → LetterLEF 78% : Legal → LetterSEF, Legal → LetterLEF Fit to page 122% :Legal → Tabloid 129% :LetterSEF → Tabloid, LetterLEF → Tabloid,HalfLetterLEF → LetterLEF, HalfLetterLEF → LetterSEF 154% :HalfLetterLEF → Legal
Sort		ON/OFF

Item	
Edge Erase	ON/OFF print Margin areas A4 destination: 5 to 50 mm (in units of 1 mm) LETTER destination: 0.2 to 2.0 inches (in units of 0.1 inch)
Erase Center	ON/OFF Erase center width A4 destination: 1 to 50 mm (in units of 1 mm) LETTER destination: 0.1 to 2.0 inch (in units of 0.1 inch)
Margin	ON/OFF Top-width/Left-width shift amount A4 destination: -25 to 25mm (in units of 1 mm) LETTER destination: -1.0 to 0.0 to 1.0 inch (in units of 0.1 inch) For both-sided print, separate setting for front and rear sides
N-in-1	OFF, 2-in-1, 4-in-1(Horizontal), 4-in-1(Vertical), 8-in-1(Horizontal), 8-in-1(Vertical)
Repeat	OFF, x2, x4, x8
Book Copy	OFF, Left, Right
Duplex Copy	OFF,1 → 2 sides, 2 → 2 sides, 2 → 1 sides
Mixed Size	OFF, ON
Cont.Scan	OFF, ON

Scan To PC function

Item		
Interface		Host computer interface (USB 2.0) connection
Resolution	Flat bed	Custom setting 50 to 600 dpi (in increment of 1 dpi) Preset 75, 100, 150, 200, 300, 400, 600, 800, 1200, 2400 *1, 4800 dpi *1. * Fundamental performance of scanner is up to 600 dpi. When any resolution higher than that is required, it is supported by the resolution process in the driver side.
	ADF	
Output data		Color (24 bits), Grayscale (8 bits), Monochrome, Half tone
Document size	Flat bed	Custom setting Min: 120 x 100 mm/Max: 297 x 432 mm Preset Automatic, A3, A4 horizontal, A4 vertical, A5 vertical, B4, B5 vertical, Tabloid, Legal, Letter horizontal, Letter vertical, Half letter horizontal
	ADF	Custom setting (Duplex.off) Min: 120 x 100 mm/Max: 297 x 432 mm (Duplex on).Min: 148.5 x 128.5 mm/Max: 297 x 432 mm Preset Automatic, A3, A4 horizontal, A4 vertical, A5 vertical, B4, B5 vertical, Tabloid, Legal, Letter horizontal, Letter vertical, Half letter horizontal
Supported driver		TWAIN, WIA
File format		It depends on the scanner application.

Scan To E-Mail function

Item	
Interface	LAN interface connection
Communication protocol	SMTP, POP3, MIME
Attachment file format	PDF(JPEG Compressed), M-TIFF(RAW/ G3/ G4 Compressed), JPEG(JFIF)/XPS [JPEG/XPS cannot be selected in monochrome mode]
Attachment file format	PDF (factory shipment default setting), Default setting can be changed.
Split size specification	N/A
Resolution	75, 100, 150, 200, 300, 400, 600 dpi Default: 200 dpi
Document size	Automatic AB system (Japan specifications) A3SEF B4SEF A4SEF/LEF A5SEF/LEF B5SEF/LEF Letter system (America specifications) LedgerSEF(Tabloid) LegalSEF LetterSEF/LEF HalfLetterSEF/LEF
Number of registrations in address book	Maximum 500 addresses
Address book, number of groups	Maximum 32 groups. However number of registration addresses is up to 256 addressed within each group.
Multiple destinations specification	Total number of destinations is up to 256 destinations.
Mail server certification method	SMTP-AUTH (PLAIN, LOGIN, CRAM-MD5 GSSAPI) POP before SMTP

Item	
Main server with which connection is guaranteed	Lotus Mail Server5.0 MS ExchangeServer2000 RedHat7.0 SendMail MAC Mail Server in OS9.04
LDAP server with which connection is guaranteed	Windows2000 Active Directory Windows2003Server ActiveDirectory Lotus Notes R5
Main client with which connection is guaranteed	Microsoft Outlook2000 Microsoft Outlook Express5.0&6.0 Windows Mail (Vista) Netscape Messenger4.7&4.73 MAC built-in MAIL application Eudora4.3.2J Lotus Notes R5

Scan To Network PC function

Item	
Interface	LAN interface connection
Supported server	CIFS, FTP,HTTP
Attachment file format	PDF(JPEG Compressed), M-TIFF(RAW/ G3/ G4 Compressed), JPEG(JFIF) XPS [JPEG/XPS cannot be selected in monochrome mode]
Attachment file format	PDF (factory shipment default setting), Default setting can be changed.
Resolution	75, 100, 150, 200, 300, 400, 600 dpi Default: 200 dpi
Document size	Automatic AB system (Japan specifications) A3SEF B4SEF A4SEF/LEF A5SEF/LEF B5SEF/LEF Letter system (America specifications) LedgerSEF(Tabloid) LegalSEF LetterSEF/LEF HalfLetterSEF/LEF

Scan To USB Memory function

Item	
Interface	USB memory interface connection
Supported memory file system	FAT12, FAT(FAT16), FAT32
Attachment file format	PDF(JPEG Compressed), M-TIFF(RAW/ G3/ G4 Compressed), JPEG(JFIF) XPS [JPEG/XPS cannot be selected in monochrome mode]
Default attachment file format	PDF (factory shipment default setting), Default setting can be changed.
Resolution	75, 100, 150, 200, 300, 400, 600 dpi Default: 200 dpi
Document size	Automatic AB system (Japan specifications) A3SEF B4SEF A4SEF/LEF A5SEF/LEF B5SEF/LEF Letter system (America specifications) LedgerSEF(Tabloid) LegalSEF LetterSEF/LEF HalfLetterSEF/LEF

Fax function

Item	
Interface	Operation line PSTN (Public Switched Telephone Network) PBX Interface LINE 1, TEL 1 (built-in telephone, option)
One-touch dial	None
Speed dial	Supported, 500 destinations
Speed dial search	Supported: Search is possible form each tab of Destination table, List, Group, In the order of number, Reading and Symbol.
Group	Supported. Maximum 32 groups
Real-time transmission	Yes
Memory transmission	Yes
Transmission at the specified time (including broadcast fax)	Supported. Maximum 100 destinations
Broadcast fax	Supported. Maximum 530 destinations (Abbrev. 500 destinations, Direct dial 30 destinations)
Date header addition	Supported. Separate settings for sender and receiver are possible.
Echo Protection for International	Yes
Real-time reception	None
Memory reception	Yes
Automatic redial	Yes
Manual redial	Yes
Send ID	Supported. Maximum 32 characters
Session number addition	Yes
TSI print	Yes

Security function

Item	
Administrator password	MFP setting protection password function by administrator
Service person password	Maintenance setting protection password by service person
SMTP server with certification	Supported
POP server with SMTP certification	Supported
LDAP server with certification	Supported
IC card certification	For Japanese domestic version only
LDAP user certification	Supported
Protection from direct E-mail (Fax reception)	Supported
Secure Job (certificate print job)	Supported
Encrypted Job (encrypted certificate print job)	Supported
IEEE802.1X	Supported
SNMP.V3	Supported
SSL/TLS	Supported
IPSec	Supported
IP filtering	Supported
MAC filtering	Supported

Access control function

Item	
PIN access control	Access control to Copy, Print, Scan To functions and Fax send is possible by the PIN ID of 1 to 10 digits.

Job accounting function

Item	
Job accounting utilities	Accounting by PIN ID. Some functions are restricted.
Account log	Number of user IDs that can be registered: 5000 IDs Number of logs that can be saved: Approx. 5000 logs

Other functions

Item	
Push Scan (Scan To Application)	Calling an application in the host PC from MFP
PC-FAX	Fax send/receive using an application stored in the host PC
Web page setup	Various settings of MFP via LAN connection
Configuration Tool	Various settings of MFP via host PC connection

1.5 Interface specifications

1.5.1 USB interface specifications

Fundamental specifications

USB(Hi-speed USB is supported)

Connector

B-receptacle (female) upstream port

Cable

SUB 2.0 specification cable of less than 5 m (2 m is recommended.)
(Use the shielded cable.)

Transmission mode

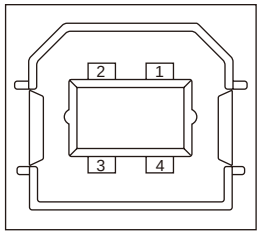
Full speed (Maximum 12 Mbps ± 0.25%)

High speed (Maximum 480 Mbps ± 0.05%)

Power control

Self-power device

Connector pin arrangement



Interface signal

	Signal name	Function
1	Vbus	Power (+5V)
2	D-	For data transfer
3	D+	For data transfer
4	GND	Signal ground
Shell	Shield	

1.5.2 Network interface specifications

Fundamental specifications

Network protocol
TCP/IP related
NetWare related
Ether Talk related
NetBEUI related

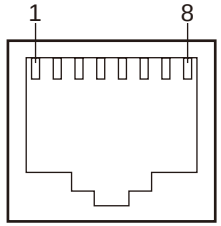
Connector

100 BASE-TX/10.BASE-T (Automatic switching. Simultaneous use is not possible.)

Cable

Non-shielded twist pair cable with RJ-45 connector (Category 5 is recommended.)

Connector pin arrangement



Interface signal

Pin No.	Signal name	Direction	Function
1	TxD+	FROM PRINTER	Send data (+)
2	TxD-	FROM PRINTER	Send data (-)
3	RXD+	TO PRINTER	Receive data (+)
4	−	−	Not used
5	−	−	Not used
6	RXD-	TO PRINTER	Receive data (-)
7	−	−	Not used
8	−	−	Not used

1.5.3 Parallel interface specifications

Fundamental specifications

Parallel interface in compliance with IEEEstd1284.-1994

Connector

Printer side: 36 pins receptacle (male) connector type: 57RE-40360-830B-D29 (Manufactured by Daiichi-Denshi Industry or equivalent)

Cable side: 36 pins plug (male) connector type: 57FE-30360 (Manufactured by Daiichi-Denshi Industry or equivalent)

Cable

Use the cable in compliance with IEEE std. 1284-1994 of less than 1.8 m or equivalent (Use the shielded cable.)

Transmission mode

Compatible/Nibble/ECP

Interface Level

Low level: +0.0 V to +0.8 V

High level: +2.4 V to +5.0 V

Connector pin arrangement

Interface signal

Pin No.	Signal name	Direction	Function
1	nStrobe (HostClk)	TO PRINTER	Pulse to read data. Data is read at trailing edge.
2 〉 9	DATA 1 〉 DATA 8	Bi-direction	8-bit parallel data High level is “1” and low level is “0”.
10	nAck(PtrClk)	FROM PRINTER	Signal indicating completion of data reception
11	Busy(PtrBusy)	FROM PRINTER	Signal indicating if a printer is ready to receive data. Data reception is impossible while it is high-level.
12	PError(AckDataReq)	FROM PRINTER	High-level indicates paper error.
13	Select(Xflag)	FROM PRINTER	When the parallel interface is available, it is always at high-level.
14	nAutoFd(HostBusy)	TO PRINTER	Used by the bidirectional communication
15	-	-	Not used
16	GND	-	Signal ground
17	FG	-	Chassis ground
18	+5V	FROM PRINTER	Unable to supply power to outside device.
19～30	GND	-	Signal ground
31	nInit(nInit)	TO PRINTER	Printer is initialized at low-level.
32	nFault(nDataAvail)	FROM PRINTER	When a printer is in the alarm state, it is set to low-level.
33	GND	-	Signal ground
34	-	-	Not used
35	HILEVEL	FROM PRINTER	Pulled up to + 5 V with 3.3 kΩ resistor inside a printer.
36	nSelectIn (IEEE1284 active)	TO PRINTER	Used by the bidirectional communication It must be at the low-level during the compatible mode.

Note! Signal name in the parenthesis ( ) indicates the nibble mode.
Functions in the compatible mode is described only.
The nibble mode in compliance with IEEE std12_4-1994 that is specified by IEEE is supported. If any computer or cable that do not comply with this specification is sued, unexpected operations may occur.

2. Theory of Operation

2.1 Electro-photographic process system

(1) Electro-photographic process

Outline of the electro-photographic process is described below.

1. Charge

Voltage is applied to the CH roller in order to charge the surface of the OPC drum.

2. Exposure

The LED head irradiates light in accordance with the image signal on the charged surface of the OPC drum.

Amount of charge at the irradiated segment on the surface of the OPC drum is decreased in accordance with strength of irradiated light so that the electrostatic latent image is created on the surface of the OPC drum.

3. Develop

The charged toner is attracted by the electrostatic latent image on the OPC so that the toner is developed on the OPC drum surface.

4. Transfer

A print paper is overlaid on the OPC drum surface and the toner image is transferred to a paper when electric charge is applied to the transfer roller from the back of a paper.

5. Drum cleaning

The drum cleaning blade removes the residual toner that is remained on the OPC drum after image transfer.

6. Belt cleaning

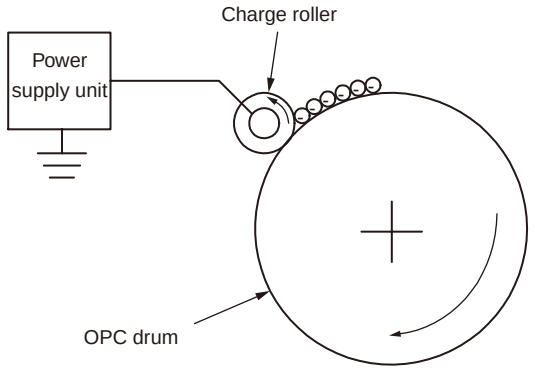
The belt cleaning blade removes the residual toner that is remained on the belt.

7. Fix

Toner is fused when heat and pressure applied to the toner image on the print paper.

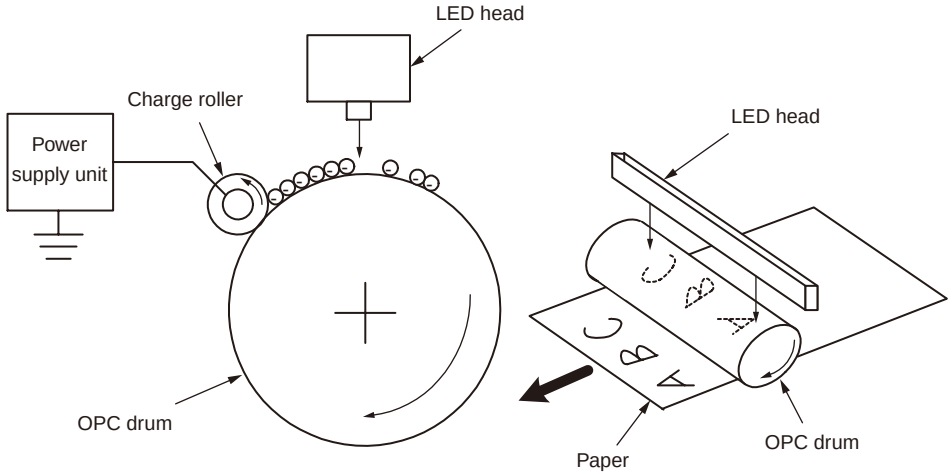
(2) Charge

Voltage is applied to the charge roller that is contacting with the OPC drum surface so that the OPC drum surface is charged.



(3) Exposure

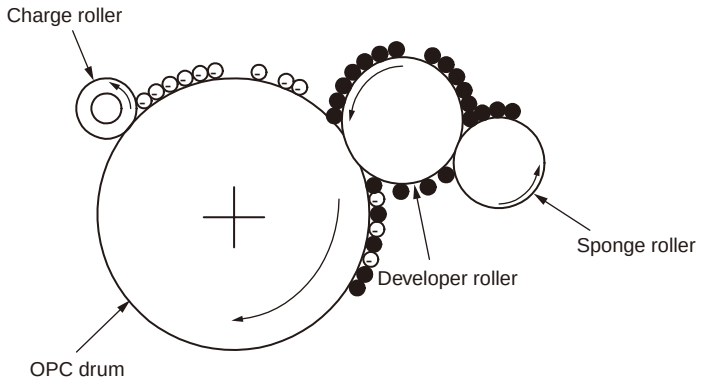
The light that is generated by the LED head is irradiated to the charged surface of the OPC drum. Amount of charge at the irradiated segment on the surface of the OPC drum is decreased in accordance with strength of irradiated light so that the electrostatic latent image is created on the surface of the OPC drum.



(4) Develop

Toner is attracted by the electrostatic latent image on the drum surface so that the electrostatic latent image is converted to the toner image.

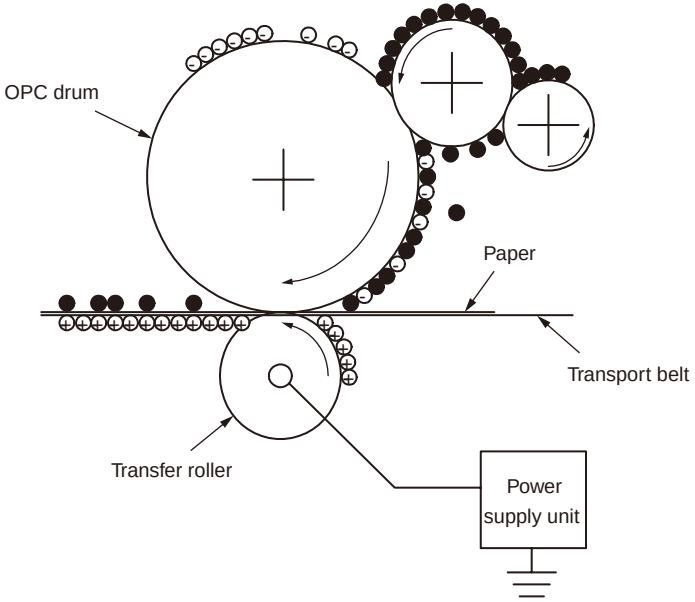
1. Toner is adhered to the developing roller by the sponge roller.



2. The electrostatic latent image on the OPC drum surface is visualized by toner.

(5) Transfer

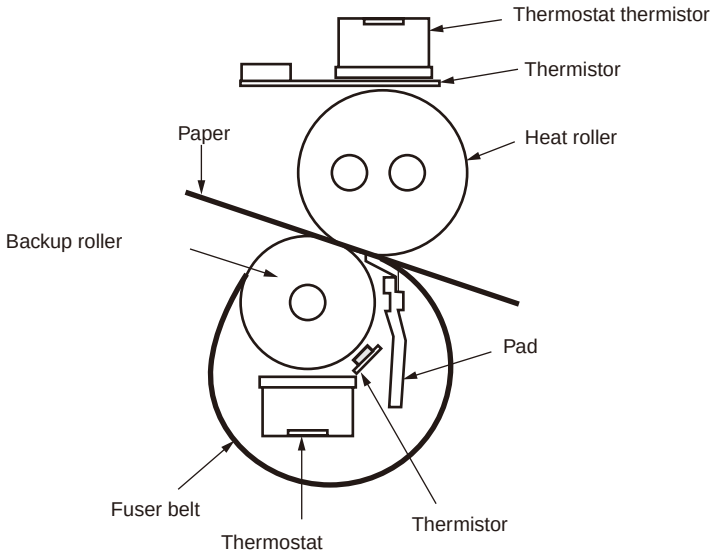
Print paper is overlaid on the OPC drum surface and charge is provided by the transfer roller from the back side of the paper. When a high voltage is applied to the transfer roller, the charge that is induced on the transfer roller is transferred to the paper surface at the contacting point between the transfer roller and paper. Thus the toner is attracted on the paper surface from the OPC drum surface.



(6) Fix

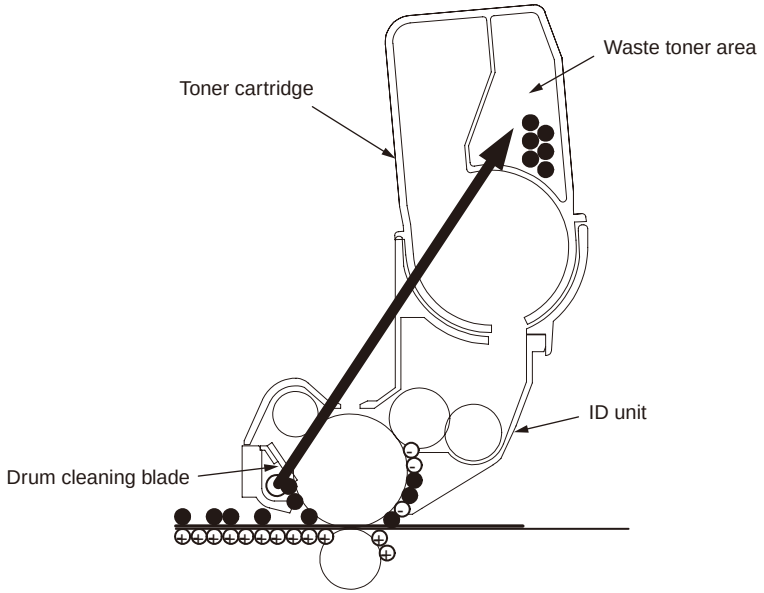
The toner image that is transferred to paper is fused on the paper when heat and pressure are applied while a paper passes through the contacting point between the heat roller and the backup roller unit (the backup roller, the pad and the fuser belt).

The heat roller is heated by the internal halogen lamps of 800W and of 350W. The backup roller is heated by the internal halogen lamp of 50 W. The fusing temperature is controlled by the sum of the temperature that is detected by the thermistor which is not contacting with the heat roller surface, and the temperature that is detected by the thermistor which is contacting with the backup roller surface. For safety purpose, thermostat is provide. If the heat roller temperature increases higher than the specified temperature, the thermostat opens so that the voltage supply to the heat is shut down. The backup roller unit is pressed against the heater by the pressure springs on both sides.



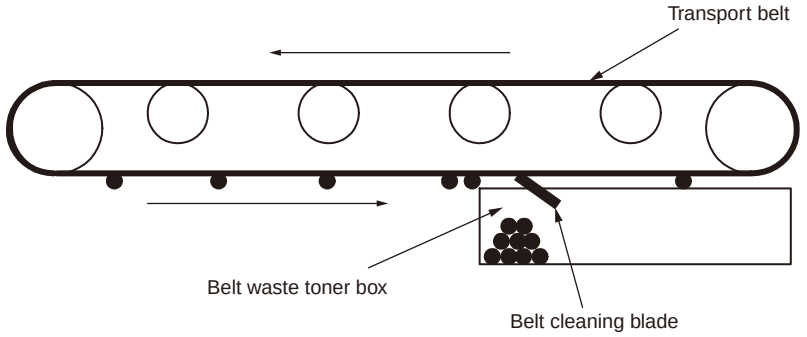
(7) Drum cleaning

The toner that is not used for fusing and remained on the OPC drum surface is scraped off by the drum cleaning blade and is collected in the waste toner area of toner cartridge.



(8) Belt cleaning

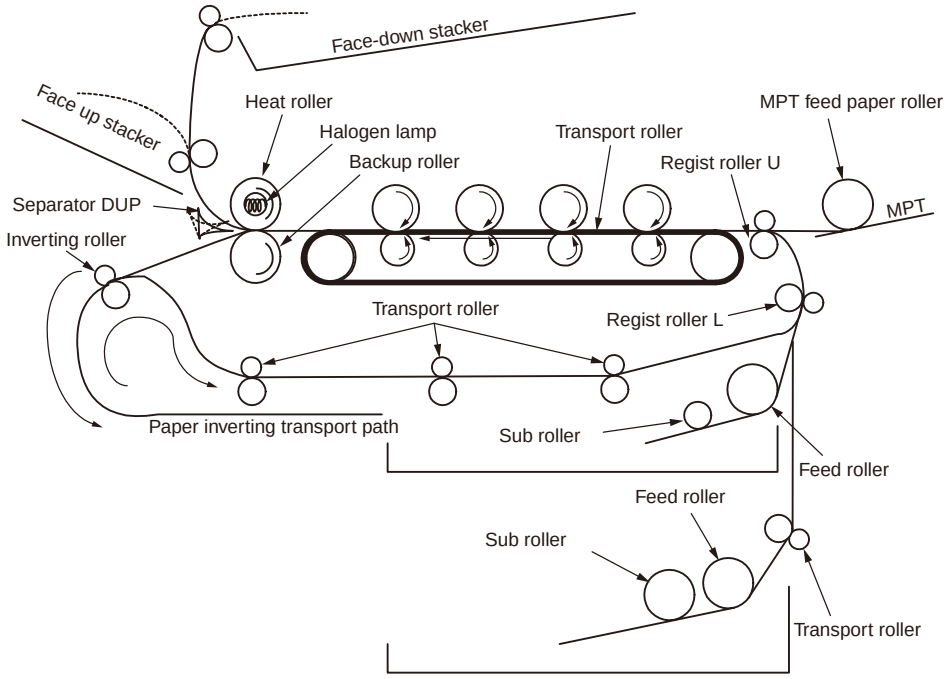
The toner that is remained on the transfer belt is scraped off by the belt cleaning belt and collected in the waste toner box.



2.2 Print process

The paper that is fed from the tray 1 or tray 2 or tray 3 is transported by the feed paper roller, the regist roller L and the transport roller. When paper is fed from MTP, paper is transported by the MPT feed paper roller and the regist roller U. The paper that is transported on the belt passes through the electro-photographic process of KYMC and the non-diffused toner image is created on the paper. When paper passes through the fuser unit, the toner image is fused by heat and pressure. After the toner image is fused, the paper is unloaded to the face-up stacker or the face-down stacker depending on the unloading method selected by open/close of the face-up stacker.

Operation during the one-sided print is described above. Operation during the both-sided print is described below The paper that has passed through the fuser unit after the rear-side print is completed first, is transported to the Duplex unit by the separator DUP. The paper that has entered in to the paper inverting transport path is then transported to the inside of the Duplex unit from the paper inverting transport path by the inverting movement of the inverting roller. The paper that has passed through the Duplex unit by the transport roller of the transport path inside the Duplex unit, is supplied from the feed paper path of the Duplex unit so that the paper enters the same paper transport path as the feed paper route from the trays. The remaining operations are the same as those of the one-sided print using the paper supplied from the trays.



(1) Feed paper from the 1st tray

1. When the regist motor rotates (in counter-clockwise direction) while the solenoid is activated to the ON state as shown in Fig. 2-1, the paper is transported until the IN1 sensor is turned ON. (When the solenoid is turned ON, the feed paper roller is driven.)
2. When the paper turns ON the IN1 sensor, the specified amount of paper is transported so that the paper is pressed against the regist roller L. (Thus, paper skew is corrected)
3. As shown in Fig. 2-2, the solenoid is turned OFF so that paper is transported by the regist roller L. (When the solenoid is turned OFF, the regist roller L is driven.)

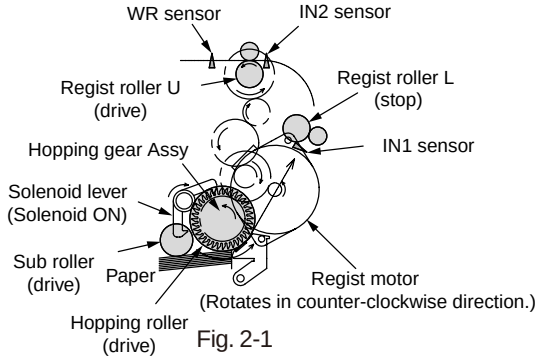


Fig. 2-1

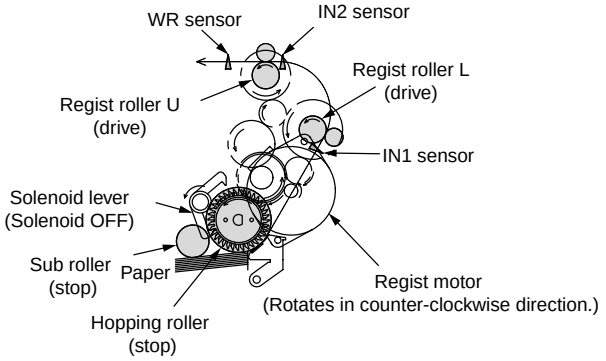


Fig. 2-2

(2) Feed paper from MPT

1. When the regist motor rotates (in clockwise direction) while the solenoid is deactivated to the OFF state as shown in Fig. 2-3, the paper is transported until the IN2 sensor is turned ON. (When the regist motor rotates in clockwise direction, the MPT feed paper roller is activated)
2. When the paper turns ON the IN2 sensor, the specified amount of paper is transported so that the paper is pressed against the regist roller U. (Thus, paper skew is corrected)
3. The regist motor rotates (in counter-clockwise direction) as shown in Fig. 2-4, the paper is transported by the regist roller U. (When the regist motor rotates in counter-clockwise direction, the regist roller U is activated)

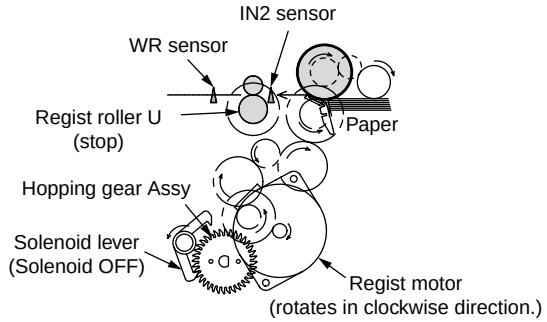


Fig. 2-3

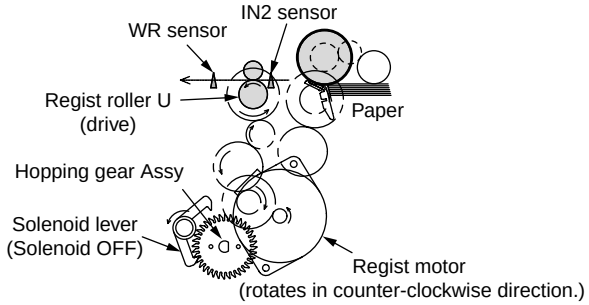


Fig. 2-4

(3) Transport belt

1. When the transport belt motor rotates in the arrow direction, the transport belt is driven. The belt unit contains a single transport roller immediately under the drums of each color in the manner that the transport belt is pinched between them.

   When the specified voltage is applied, the transport belt and the transport roller send the paper from the transport belt to the fuser unit while transferring the toner images on the drums of the respective colors.

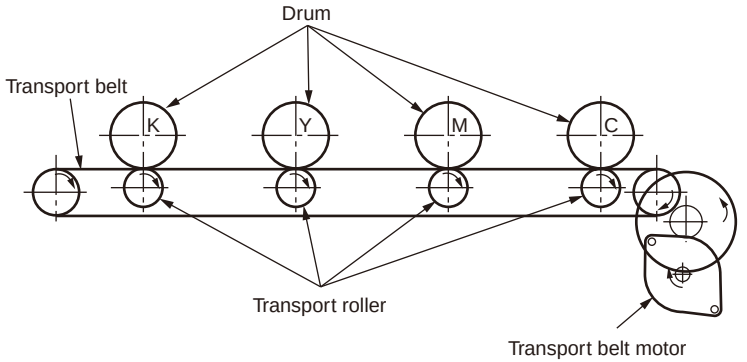


Fig. 2-5

(4) ID unit up/down movement

1. Up/down movement of the ID unit is driven by the lift up motor.
2. Operations of the respective ID units during color print are shown in Fig. 2-6. When the lift up motor rotates (in counter-clockwise direction), the lift up link slide to the left and moves down the respective ID units as shown in Fig. 2-6. This condition means that color print is ready .
3. Operations of the respective ID units during monochrome print are shown in Fig. 2-7. When the lift up motor rotates (in clockwise direction), the lift up link slide to the right and moves down the respective ID units as shown in Fig. 2-7. This condition means that monochrome print is ready .

Operations of the respective ID units during color print
C-ID unit down
M-ID unit down
Y-ID unit down
K-ID unit down

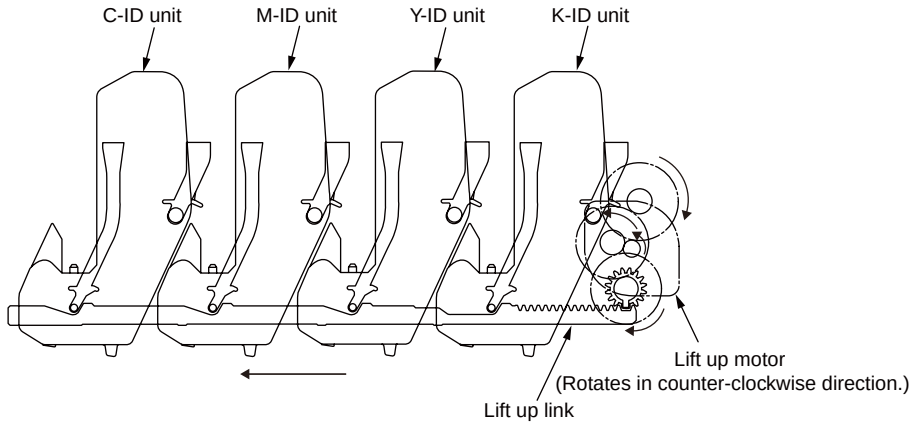


Fig. 2-6

Operations of the respective ID units during monochrome print
C-ID unit lift up
M-ID unit lift up
Y-ID unit lift up
K-ID unit down

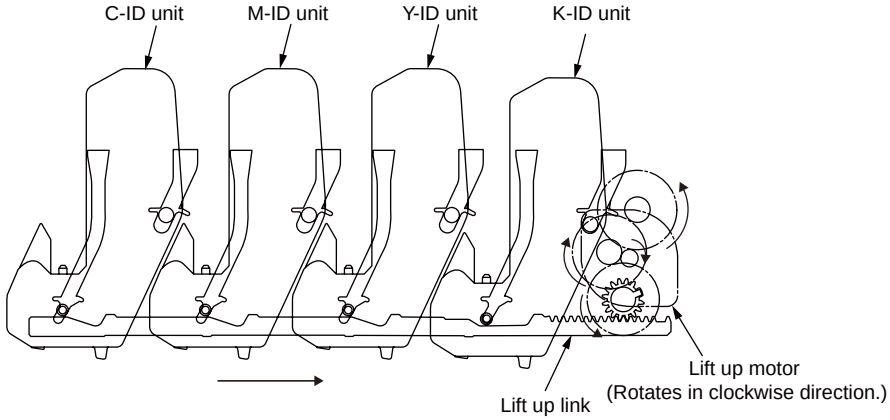


Fig. 2-7

(5) Fuser unit and paper unloading

1. The fuser unit and the unloading roller are driven by the DC motors as shown in Fig. 2-8. When the fuser motor rotates (in counter-clockwise direction), the heat roller rotates. This heat roller fuses the toner image on the paper by the heat and pressure.
2. At the same time, the unloading roller rotates to unload the paper.

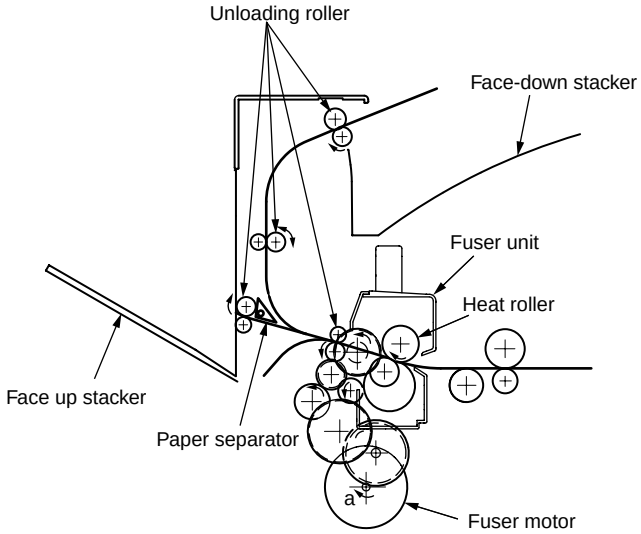


Fig. 2-8

(6) Opening operation of the covers of the color registration error sensor and of the density sensor

1. When the solenoid activated to ON as shown in Fig. 2-9, the link lever is moved to open the covers of the color registration error sensor and of the density sensor.
2. When the solenoid is deactivated to OFF, the spring presses the covers so that the covers of the color registration error sensor and of the density sensor are closed.

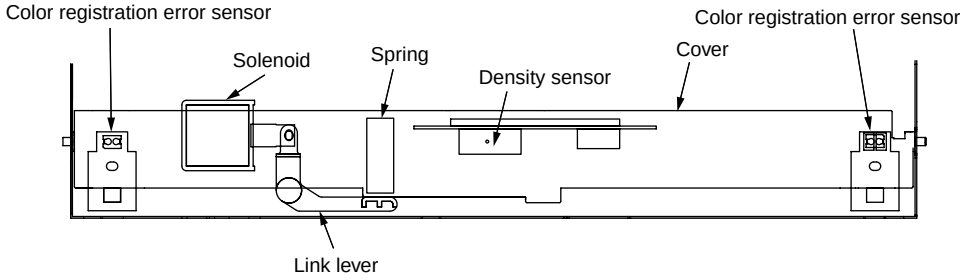


Fig. 2-9

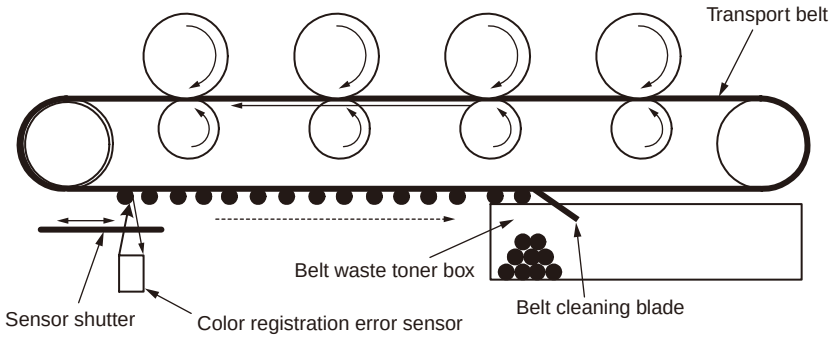
Overview of the color registration error correction method

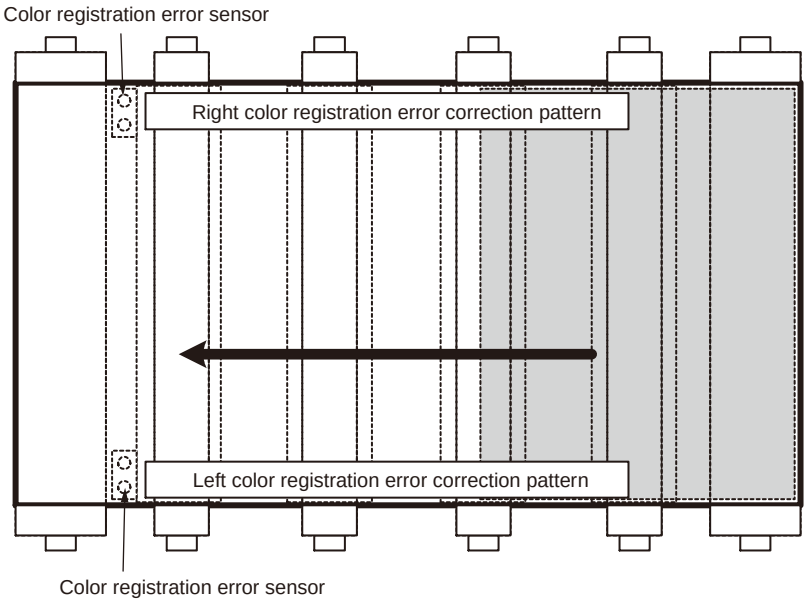
The color registration error correction is executed by reading out the registration error correction pattern that is printed on the belt, by using the sensor that is located inside the sensor shutter in the bottom of the belt unit. This sensor is used to detect the registration error pattern and implements the color registration error correction.

Automatic startup timing of the color registration error correction

- When the MFP power is turned ON.
- When the cover is closed after the cover is opened once for a short time.
- When printing of more than 400 sheets is executed after the previous color registration error correction.

The correction error can occur depending on the amount of toner of the generated pattern, or due to the dirty sensor stained by toner, or because of the defective operation of the shutter open/close operations. However, because the error is not displayed on the operator panel even when the error occurs, the error display should be checked by implementing the color registration error correction forcibly by using the self-diagnostic mode (chapter 5.3.2.6).





Error check method and remedial measure against the error

Check the error by using the color registration error correction test function of the self-diagnostic function. (chapter 5.3.2.6)

Remedial measure against the respective errors

- CALIBRATION (L or R), DYNAMICRANGE (L or R)

  Check 2. Check if the sensor surface becomes dirty or not by the toner or paper powder.
  If it is found dirty, clean it completely.

  Check 3. Check if the open/close status of the sensor shutter is normal or not by using the MOTOR&CLUTCH. TEST of the self-diagnostic function. If open/close is not executed completely, replace the shutter unit.
  If any problem is not found even when the checks 1, 2 and 3 are executed, problem may have occurred in circuitry.
  Replace the color adjustment sensor PCB (PRC.PCB), relay PCB (P6Y. PCB), PU PCB(PU.PCB)and the connection cables one after another with the good one to locate the cause of the error. Check that the error does not occur when each PCB is replaced.

- BELT REFLX ERR

  Check 4. When this error display appears, check the cleaning status of the toner that has remained on the belt surface in addition to the above checks 1, 2 and 3. Remove the belt unit and rotate the drive gear that is located in the left deep end. Check that the belt surface is cleaned completely.
  If toner remains on the belt surface even when the drive gear is rotated, and the cleaning is not executed, replace the belt unit.

- (Y or M or C) LEFT, (Y or M or C) RIGHT, (Y or M or C) HORIZONTAL

  Check 5. If the above error display appears, check if the toner is short or not in the specific color that causes the error display.
  Replace the toner cartridge as necessary.

Overview of the density error correction method

The density error correction is executed by reading out the density error correction pattern

that is printed on the belt, by using the sensor that is located inside the sensor shutter in the bottom of the belt unit.

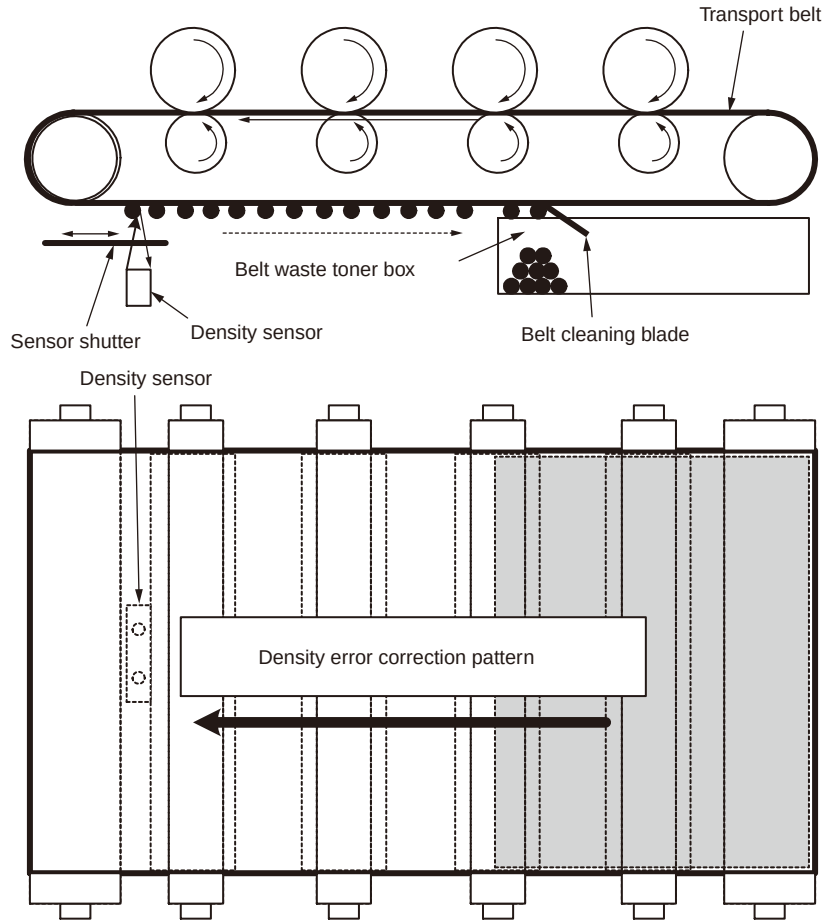
Automatic startup timing of density error correction

- If the environment is significantly different from that of the previous correction at power-on.
- When one or more ID count value among the four ID count values shows the status of nearly the new part at the power on.
- When the ID count value has exceeded 500 counts from the previous correction.

The correction error can occur depending on the amount of toner of the generated pattern, or due to the dirty sensor stained by toner, or because of the defective operation of the shutter open/close operations. However, because the error is not displayed on the operator panel even when the error occurs, the error display should be checked by implementing the density error correction forcibly by using the self-diagnostic mode (chapter 5.3.2.7).

Error check method and remedial measure against the error

Check the error by using the density error correction test function of the self-diagnostic function. (chapter 5.3.2.7)



Remedial measure against the respective errors

• CALIBRATION ERR, DENS SENSOR ERR

Check 1. When the above error indication is displayed, check the connection status of the sensor cable.
If the connection status shows any abnormality, correct it to the normal status.

Check 2. Check if the sensor surface becomes dirty or not by the toner or paper powder.
If it is found dirty, clean it completely.

If any problem was not found even when the checks 1, 2 and 3 were executed, problem might have occurred in circuitry. Replace the density sensor, relay PCB (P6Y.PCB), PU PCB(PU.PCB)and the connection cables one after another with the good one to locate the cause of the error. Check that the error does not occur when each PCB is replaced.

• DENS SHUTTER ERR

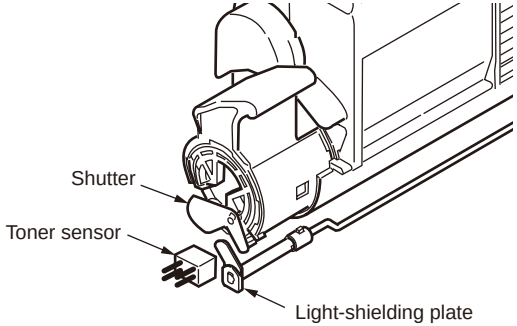
Check 3. Check if the open/close status of the sensor shutter is normal or not by using the MOTOR&CLUTCH. TEST of the self-diagnostic function. If open/close is not executed completely, replace the shutter unit.

• DENS ID ERR

Check 4. Remove the ID unit and check if any excessive toner exists or not on the drum surface.
Replacement of the LED head (out of focus) or replacement of ID unit
When a new ID unit is going to be used for the trial purpose, use the Fuse keep mode of the maintenance menu.

Detection principle of toner sensor

Detection of the toner low is executed by the toner sensor (reflection sensor) that is installed inside the unit. The light-shielding plate is installed inside the ID and rotates in synchronism with agitation of toner. At the same time, ID contains the shutter. The shutter operates in synchronism with the operation lever of the toner cartridge and can detect whether the toner cartridge is normally installed by using the toner sensor. If the light-shielding plate or the toner sensor becomes dirty by the toner, of the ID unit faces against the toner sensor in the specified location due to the defective installation of the ID unit, the detection may not be executed normally so that the toner sensor error may be issued.



Operating principle of toner counter

The image data is expended into the binary data that can be printed by a printer. Then number of the binary data is counted by LSI as the number of printing dots. Amount of the used toner is calculated from this count value, and remaining toner display is shown on the menu. However, detection of toner LOW (remaining amount display on LCD) is detected by sensor when physical amount of toner remaining inside the ID is decreased lower than a specified amount.

Operating principle of ID counter and fuser counter

ID counter: Amount of drum rotation when 3 sheets of the A4 size paper are printed consecutively, is counted as 1 count after the actual number of drum rotations is divided by 3.

Belt counter: Amount of belt rotation when 3 sheets of the A4 size paper are printed consecutively is counted as 1 count after the actual number of belt rotations is divided by 3.

Fuser counter: When length of a print paper is shorter than the paper length of Legal size 13 inch, the fuser counter is incremented by 1 count. If the paper length exceeds the paper length of Legal size 13 inch, the number of counts is determined after calculating the number of times of the Legal 13 inch paper length. (Numbers after decimal point are rounded up.)

Counter specifications

	Total number of printed sheets	Number of MPT printed sheets	Number of tray 1 printed sheets	Number of tray 2 printed sheets	Number of tray 3 printed sheets	Number of color page printings	Number of monochrome printed pages
Definition	Total number of printed pages	Number of hopping from MPT	Number of hopping from tray 1	Number of hopping from tray 2		Number of sheets in color printing	Number of sheets in monochrome printing
Count method Converted to A4 equivalent or non-dependent on size	Counts up after paper has passed the write sensor	Count-up when the MPF (MPT) hopping has succeeded.	Count up when the tray 1 hopping has succeeded.	Count up when the tray 2 hopping has succeeded.		Number of sheets that has passed the fuser unit in color mode is counted up when the print job is completed. (*1) The value is the A4/Letter converted value. Regarding the A4/Letter conversion, refer to the sheet “page count rules".	Number of sheets that has passed the fuser unit in monochrome mode is counted up when the print job is completed. (*1) Even when a color print speed is selected, there can be cases that the print is in monochrome mode. The value is the A4/Letter converted value. Regarding the A4/Letter conversion, refer to “rules” of the A4/Letter conversion.
Handling when paper jam occurs	Count is not executed during the feed paper (hopping) jam and feed jam (380). Jams other than those are counted. Because the total number of printed sheets are counted when top end of paper has passed the write sensor, the feed jam (380) is included in the condition of not counting the jam if jams are classified by the jam types.					When jam occurs before paper passes the fuser unit, the jam is not counted. Jams after paper has passed the fuser unit are counted.	
Handling during the Duplex print	Front and rear sides of papers are counted. (+2)	Only table is counted. (+1)				It is counted as 2 counts. . If color page exists within a pair of two pages, the number of color prints is incremented by +2. If color page does not exist within a pair of two pages, the number of monochrome prints is incremented by +2.	
Reset condition	None	None				(1) When ROM is replaced by the ROM of different version (2) When destination is changed (3) MENU RESET of the system maintenance menu is executed. (4) CU PCB replacement F	
Location where data is stored	PU	PU	PU	PU	PU	CU	CU
Menu/Menu Map output	○ (*2)	○	○	○		○	○
Engine Menu Map output	○	○ (*3)	○ (*3)	○ (*3)		–	–

* 1. If the main power of MFP is shut down when a jam occurs, the counter is not updated.
* 2. It is not output to the Menu Map if the MFP is in the initial state. Switching the setting to enable outputting the data is possible by operating the system maintenance menu.
* 3. The Engine Menu Map output is divided into the Engine Menu Print (first page) and the Engine EEPROM Dump Print (last page). However, the number of feed papers to the respective trays is output (DUMP display) to the latter output only.

A4/Letter conversion table

The value is counted up in accordance with following table for each sheet of the respective papers.

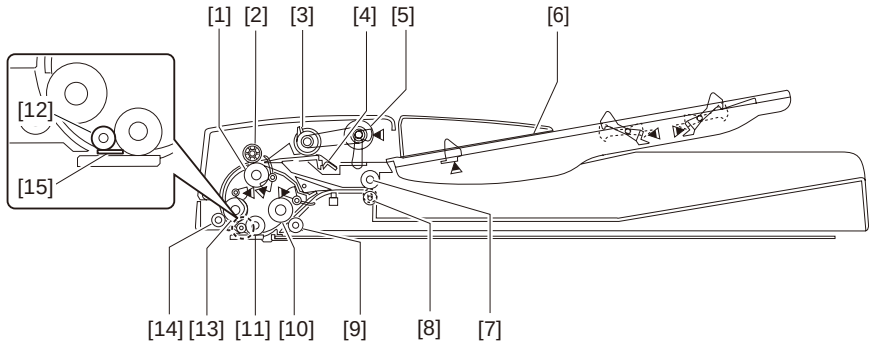
Paper size	Simplex	Duplex
LETTER	1	2
EXECUTIVE	1	2
LEGAL14	2	4
LEGAL13.5	2	4
LEGAL13	2	4
TABLOIDEXTRA	2	4
TABLOID	2	4
A3 NOBI	2	4
A3 WIDE	2	4
A3	2	4
A4	1	2
A5	1	2
A6	1	2
B4	2	4
B5	1	2
COM-9	1	2
COM-10	1	2
MONARCH	1	2
DL	1	2
C5	1	2
C4	1	2
HAGAKI	1	2
OUFUKU-HAGAKI	1	2

Paper size	Simplex	Duplex
CUSTOM	1	2
CUSTOM LENGTH > 210mm	2	4
ENVELOPE1(Choukei 3)	1	2
ENVELOPE2(Choukei 4)	1	2
ENVELOPE3(Youkei 4)	1	2
ENVELOPE4(Envelope A4)	1	2
ENVELOPE5(Kakugata 2)	2	4
ENVELOPE6(Kakugata 3)	1	2
ENVELOPE7(Kakugata 8)	1	2
ENVELOPE8(Youkei 0)	1	2
INDEXCARD	1	2
BUSINESSCARD1	1	2
BUSINESSCARD2	1	2

2.3 Image scanning process

2.3.1 Structure and process of RADF

2.3.1.1 Cross-section view



[1] Lower regist roller

[2] Upper regist roller

[3] Separator roller

[4] Separator pad

[5] Feed paper roller

[6] Document feed tray

[7] Unloading paper inversion upper roller

[8] Unloading paper inversion lower roller

[9] Read roller, 2 pieces

[10] Read roller 2

[11] Platen roller

[12] Read bearer

[13] Read roller 1

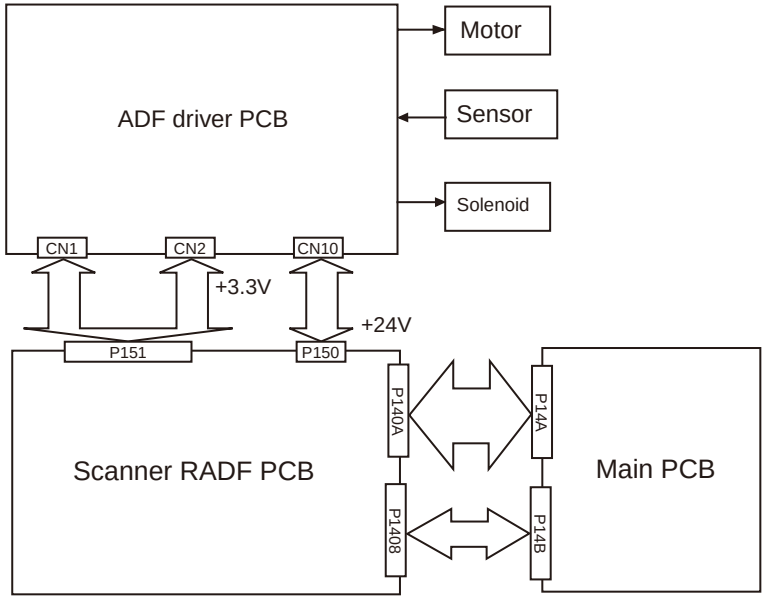
[14] Read roller, 1 piece

[15] White sheet

2.3.1.2 Electrical configuration

Electrical circuit configuration

Electrical control of the MFP is executed by the reader controller circuit PCB and the image processor circuit PCB. The ASIC of the reader controller circuit PCB and the ASIC of the image processor circuit PCB interpret the input signals that are supplied from sensors and the signals that are supplied from the externally connected equipment. The ASICs output the signals that drive the DC load devices such as motor and solenoid in accordance with the specified timings. The ADF driver circuit PCB and the reader controller circuit PCB do not contain the memory area. The data such as service mode data is stored in the processor circuit PCB.



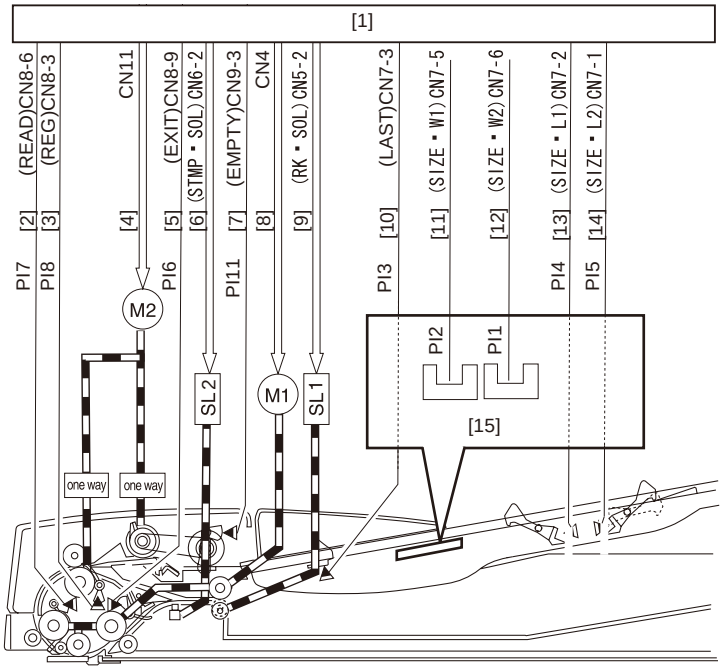
2.3.1.3 Fundamental operations

Drive force transmission diagram

The MFP is a document feed device of skim reading only. The MFP uses the two motors for document feed and document transport.

Name (symbol)	F unction
Transport motor (M1)	It transports document.
Feed paper motor (M2)	It separates and transports document.

Drive force diagram of the MFP is shown below.



[1]ADF driver circuit PCB

[2] Document detection signal

[3] Document detection signal

[4] Feed paper motor dive signal

[5] Document detection signal

[6] Stamp solenoid drive signal

[7] Document set signal

[8] Transport motor drive signal

[9] Separator solenoid drive signal

[10] Final document detection signal

[11] Paper size (width) detection signal 1

[12] Paper size (width) detection signal 2

[13] Paper size (length) detection signal 1

[14] Paper size (length) detection signal 2

[15] Relay circuit PCB

Overview of operation modes

There are four operation modes that are executed by the MFP. The respective operation modes are executed in accordance with the instructions given by the connected equipment to implement the print operation.

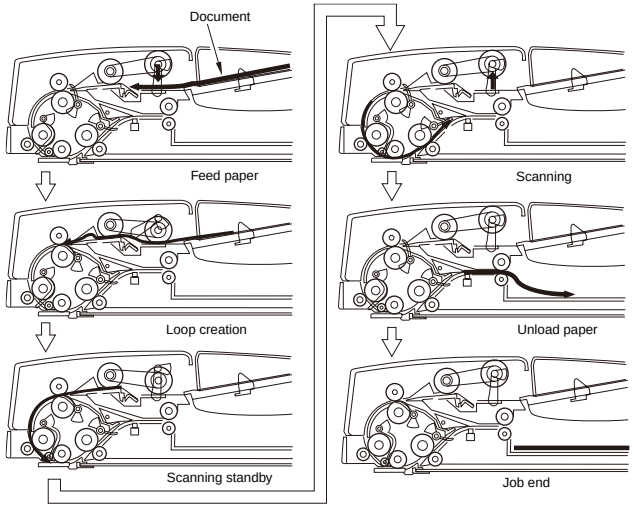
Name of the operation modes, the overview of the operation and the corresponding print modes are shown in the following table.

Name of the operation modes	Overview of the operation	Supporting print modes
[1] Normal direction feed paper/Unload paper	Document is fed and scanned. Upon completion of scan, document is unloaded as it is.	Single-sided document => Single-sided print Single-sided document => Both-sided print (This operation is performed in both cases when documents of same width and different width are used.)
[2] Normal direction feed paper/ Inverted unload paper	Document is fed and scanned. Upon completion of scan, document is inverted and unloaded.	Both-sided document => Both-sided print Both-sided document => single-sided print (This operation is performed in both cases when documents of same width and different width are used.)

Normal direction feed paper and unload paper (single-sided document => single-sided print) operation

Outline of document flow is shown below.

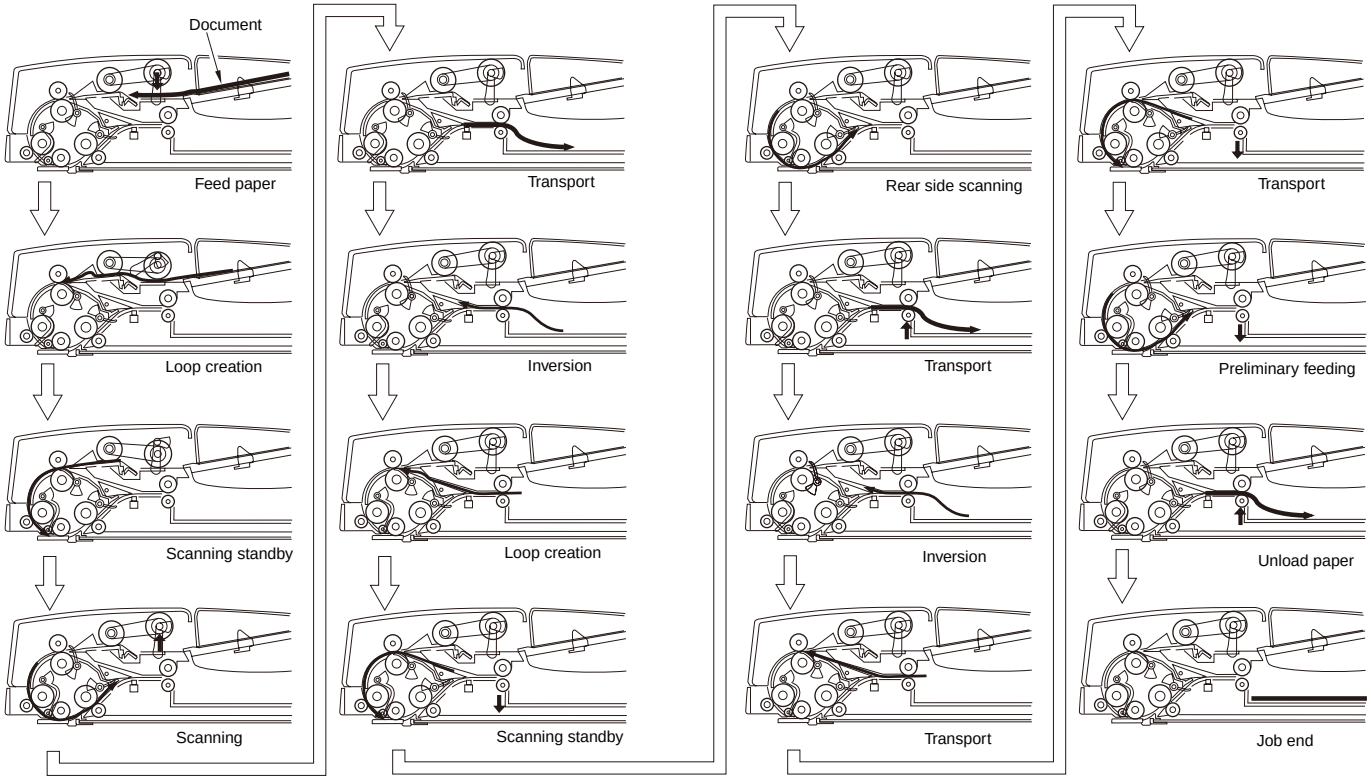
Supplement: When a single-sided document is selected, this operation is performed regardless of the same size mixed documents or different sizes mixed documents.



Normal direction feed paper/Inverted unloading of paper (both-sided document => both-sided print) operation

Outline of document flow is shown below.

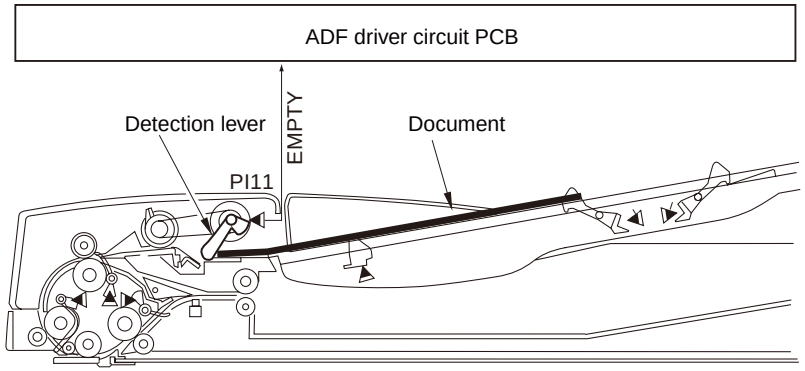
Supplement: When a both-sided document is selected, this operation is performed regardless of the same size mixed documents or different sizes mixed documents.



2.3.1.4 Document detection

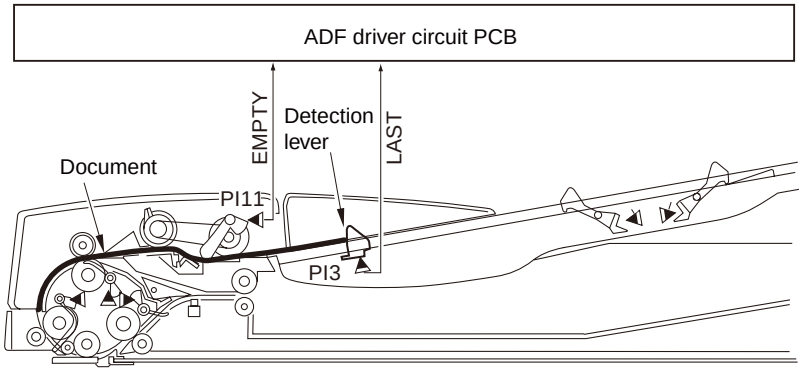
Document present/absent detection

Document present/absent detection on the document tray is performed by the document set sensor (PI11). When a document is placed on the document tray, the detection lever moves together with the light-shielding plate so that the photo interrupter that has been shutting down the light, passes the light. Thus, the document set sensor (PI11) issues the document detection signal (EMPTY) telling that a document is set, to the connected equipment via the ADF driver circuit PCB.



Detection of final document

The final document detection sensor (PI3) and the document set sensor (PI11) detect if the document that has started scanning is the final document or not. If the final document is fed, and the rear end of the final document has passed the final document detection lever of the document tray, the detection lever moves together with the light-shielding plate so that the photo interrupter that has been shutting down the light, passes the light. Thus, the final document detection sensor (PI3) issues the final document detection signal (LAST). When the final document has passed the document sensor (PI11), the no document signal (EMPTY) is issued telling that the document under feeding is the final document, to the connected equipment via the ADF driver circuit PCB.



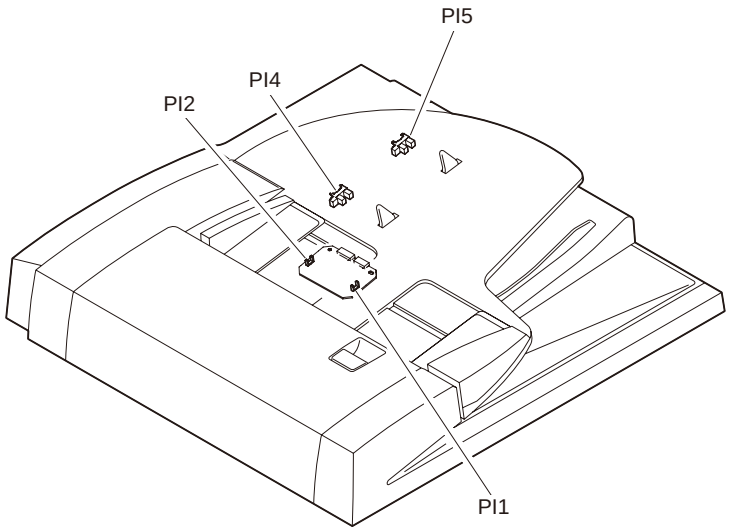
Size detection of the initial document

Size detection of the initial document that is set on the document tray is performed as follows. Size of the document in the transport direction is detected by the document length sensor 1 (PI4) and the document length detection sensor 2 (PI5). The transversal size is detected by the document width sensor 1 (PI2) and the document width sensor 2 (PI1).

When a document is placed on the document tray, the detection levers of the two document length sensors moves together with the light-shielding plate.

Then the light-shielding plate shuts down the light from the photo interrupter. When the slide guide is adjusted in accordance with the document size, the incoming light into the two document width sensors inside the document tray is interrupted by the light-shielding plate that is installed in the lower part of the slide guide.

The document size is identified by the combination of the ON/OFF signal from the document length sensors and the ON/OFF signal from the document width sensors.



Relationship between the respective length detection sensor signals, the document width and the size detection of the initial document is shown below. 1.

1. AB system

		Sensor name			
		Document width sensor 1	Document width sensor 2	Document length sensor 1	Document length sensor 2
Size	A3	ON	ON	ON	ON
	B4	OFF	ON	ON	ON
	A4R	OFF	OFF	ON	OFF
	B5R	ON	OFF	ON	OFF
	A4	ON	ON	OFF	OFF
	A5R	ON	OFF	OFF	OFF
	B5	OFF	ON	OFF	OFF
	A5	OFF	OFF	OFF	OFF

2. Inch system

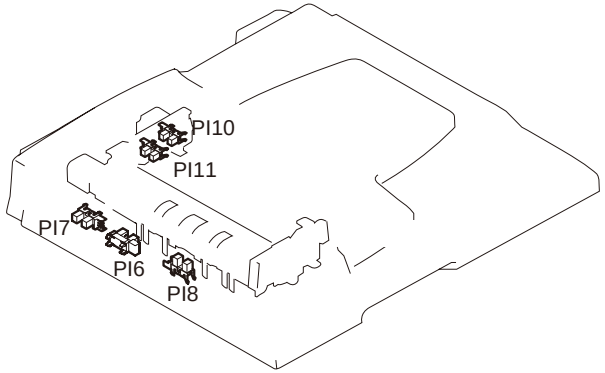
		Sensor name			
		Document width sensor 1	Document width sensor 2	Document length sensor 1	Document length sensor 2
Size	11x17	-	ON	ON	ON
	LGL	-	OFF	ON	ON
	LTRR	-	OFF	ON	OFF
	LTR	-	ON	OFF	OFF
	STMT	-	OFF	OFF	OFF

2.3.1.5 Jam detection

Jam

Document jam is detected by the sensors shown in the illustration. Check timing of the document jam detection has already been memorized in the ROM of the image processor circuit PCB beforehand so that jam occurrence can be judged from the information if a document exits or not, at the corresponding sensor block.

When jam occurs, the connected equipment memorizes the contents of the jam as a jam code. The jam code of the MFP can be checked by outputting the jam error history report by the service mode of the connected equipment.



PI6: Unload paper inversion sensor

PI7: Read sensor

PI8: Regist paper sensor

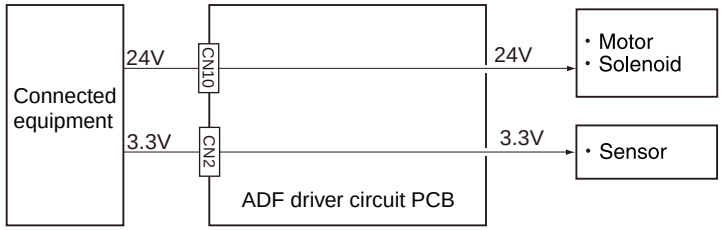
PI10: Cover open/close sensor

PI11 Document set sensor

2.3.1.6 Power supply

Power supply

Overview of the power supply is shown in the illustration below The power supply block of the MFP receives the power supply of two systems that are 24 V power supply and 3.3 V power supply.

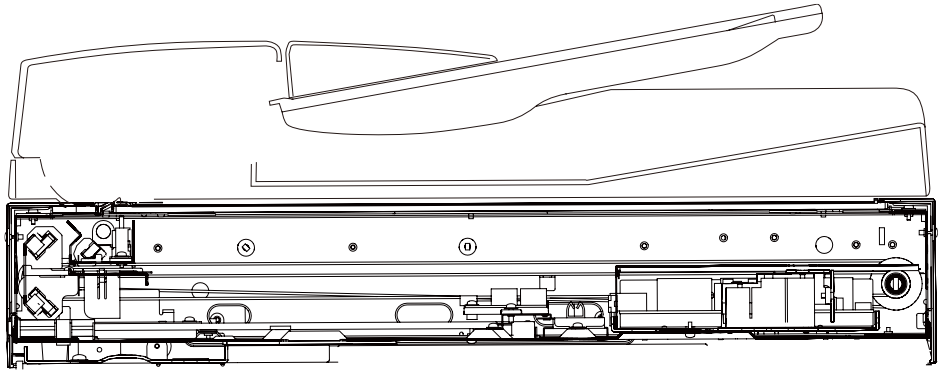


2.3.2 Document table structure

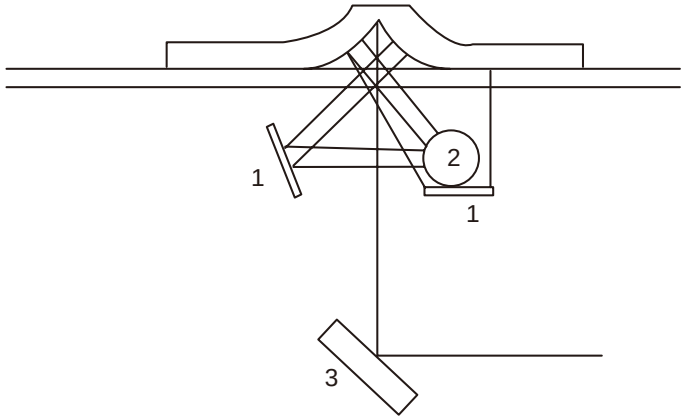
2.3.2.1 Overview

The book scanner unit consist of the book scanner scanning glass (pain), the book scanner optical scanning block (Carriage A ASSY, Carriage B ASSY, scanner frame ASSY and the book scanner drive block.)

Detection of document size is executed when the BIS sensor is ON. Detection of the closed status of the pressure plate (book cover) is executed by turning the APS sensor to ON. The lamp (cold-cathode tube) is located on top of the carriage A. The light irradiated by the cold-cathode tube enters the carriage A => carriage B => lens in this order and reaches the CCD device. The optimal focal length is maintained by the scanning that maintains a specified distance between the carriage A and the carriage B.



2.3.2.2 Exposure block



1. Reflect tape

   The document such as book does not contact completely with the glass surface. Therefore, the joining areas are copied in black. In order to reduce this adverse effect, the light from the lamp is reflected by the reflect tape before it is irradiated to the document.

2. Lamp

   Cold-cathode tube is used to irradiate light to document.

3. Mirror A

   The reflected light from document is again reflected to the mirror B.

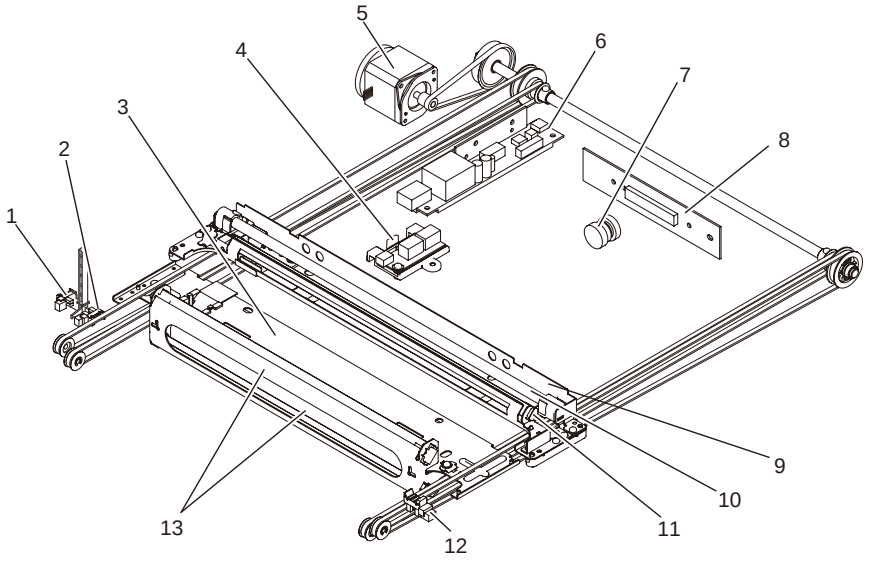
2.3.2.3 Mirror carriage drive mechanism

<Carriage A>

- Scanner performs the function of irradiating the lamp light uniformly over a document while moving its position, and also of inputting the reflected light to the mirror carriage B via the mirror A. The mirror carriage A is driven by the two timing belts which are driven by the FBS motor.
  Scanner moves at the scan speed corresponding to the respective magnification ratios that are set with reference to the standard scanning speed.
- Home position of the mirror carriage A is the position where the home sensor is located. The home sensor position is the reference position of the scanning operation.

<Carriage B>

- The mirrors B and C are fixed to the holder with the relative angle of 90 degrees. The reflected light from the mirror A is input to the CCD device via the mirrors B and C, and lens.
- The mirror carriage B is driven by the FBS motor using a timing belt and pulley. The light path length between the document and the lens is maintained to a constant value as the mirror carriage B moves at a half speed of the mirror carriage A.



1	APS sensor	8	CCD PCB
2	BIS sensor	9	Carriage A
3	Carriage B	10	Lamp
4	BSS sensor (beam sensor)	11	Mirror A
5	FBS motor	12	Home sensor
6	Inverter	13	Mirror B, Mirror C
7	Lens		

2.3.2.4 Document size detection

Scanning in the horizontal direction is performed by irradiating light to document and the light is detected by CCD device. In the vertical scanning direction, the beam sensor receives the reflected light from document and the document size detection is executed.

Document size beam sensor (vertical direction) CCD (horizontal direction)

Document size	Beam sensor (vertical direction)	CCD (horizontal direction)
A4	○	○
A4		○
A5		○
A5		○
B4	○	○
B5	○	○
B5		○
A3	○	○

○ : Detection

3. Installation

3.1 Warnings and prohibited items

⚠ Warning

- Do not install the MFP in the place that experiences high temperature or in the location near fire.
- Do not install the MFP in the locations (such as experimental laboratory) where chemical reaction occurs.
- Do not install the MFP near inflammable solvents such as alcohol and thinner.
- Do not install the MFP within the reach of small children.
- Do not install the MFP in the unstable locations (such as shaky table or slanted floor).
- Do not install the MFP in the locations which are highly humid or dusty or locations exposed to direct sunlight.
- Do not install the MFP in the environment with sea wind or corrosive gas.
- Do not install the MFP in the locations which are subject to vibrations.
- If the printer is dropped or cover is damaged, disconnect the AC power plug from the power supply source and contact your Oki contact point. Failure to observe the caution may result in electric shock, fire and physical damage.
- Do not make any connection of the power cord, printer cable and earth wire other than which are instructed by the Manual. Failure to observe the caution may result in fire.
- Do not insert any object into the ventilation holes. Failure to observe the caution may result in electric shock, fire and physical damage.
- Do not place cup with water on top of the printer. Failure to observe the caution may result in electric shock and fire.
- When the printer cover is opened, do not touch the fuser unit. Failure to observe the caution may result in burn injury.
- Do not throw toner cartridge or image drum cartridge into fire. Failure to observe the caution may result in burn injury by the dust explosion.
- Do not use highly inflammable spray near the printer. Inside of the printer gets very hot that can cause fire.
- If the cover gets abnormally hot, or the printer smokes, or smells strange odor, or generates abnormal sound, disconnect the AC power plug from the power supply source and contact Oki contact point. Failure to observe the caution may result in fire.

⚠ Warning

- If liquid such as water gets inside of the printer, disconnect the AC power plug from the power supply source and contact Oki contact point. Failure to observe the caution may result in fire.
- If foreign material such as paper clip is dropped inside the prnter, disconnect the AC power plug from the power supply source and remove the foreign material from the printer. Failure to observe the caution may result in electric shock, fire and physical damage.
- Do not perform any operations other than what are instructed by the Manual, or do not disassemble the printer. Failure to observe the caution may result in electric shock, fire and physical damage.

⚠ Caution

- Do not install the printer in the locations where ventilation hole is blocked.
- Do not install the printer directly on the thick-piled carpet.
- Do not install the printer in the locations such closed room where ventilation is poor.
- If the printer is used for long hours contiuously in a small room, good ventilation should be proved.
- Install the printer in the locations which are far from strong magenetic field or from device generatig noise.
- Install the printer in the locatios which are far from video monitor or TV receiver.
- When moving the printer, hold both sides of the MFP.
- The printer is heavy weighing approx.40 kg. Two or more persons should work together to raise the MFP when moving it.
- Keep off the paper unloading unit while the printer power is turned ON, and while printing is progress. Failure to observe the caution may result in physical damage.

Be sure to explain the precautions on installation and operation to clients while showing precautions of the User fs Manual. Explain full details of AC power cord and earth wire especially to clients.

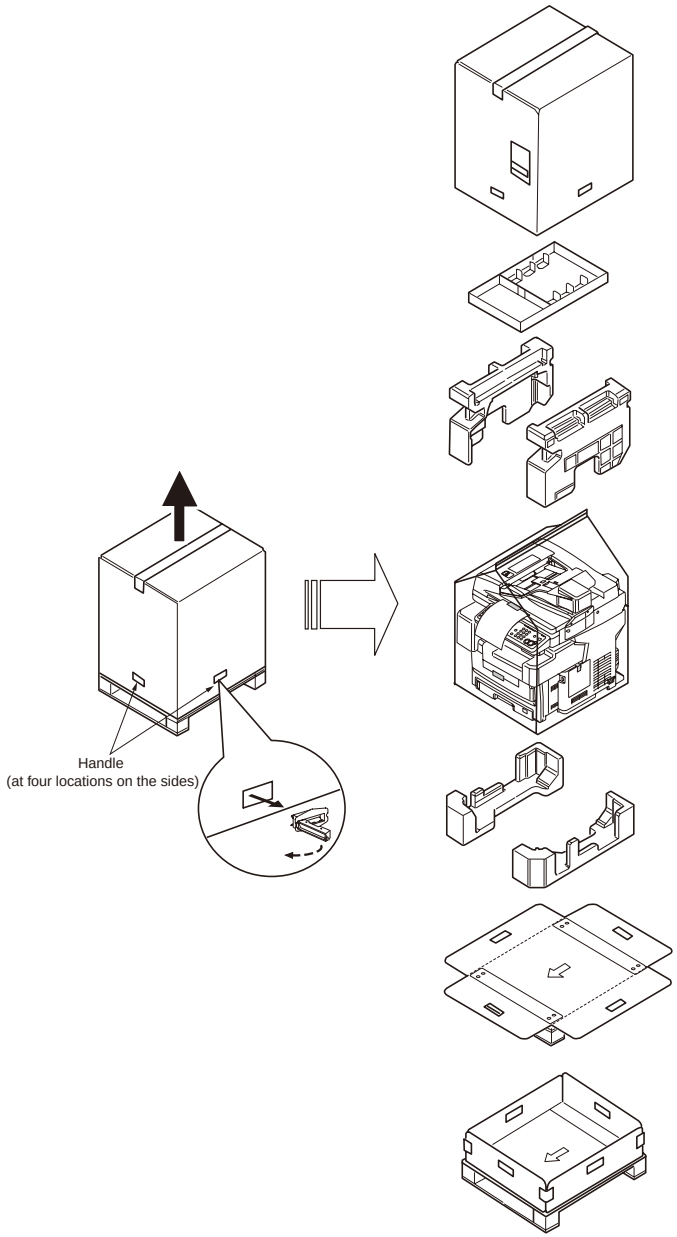
3.2 Installation of MFP

3.2.1 Unpacking

⚠ Warning	Failure to observe the following precautions may result in physical damage.	⚠

The MFP is heavy weighing approx.68 kg. Three or more persons should work together to raise the MFP.

- Remove the four handles from sides of the cardboard box as shown in the illustration and raise the cardboard box.



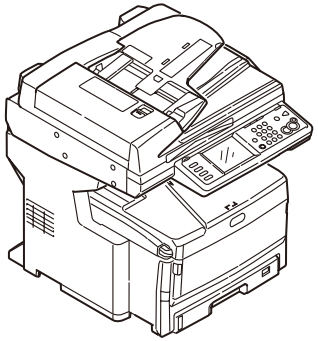
3.2.2 Main unit and list of accessories

- Confirm that main unit is free from damage and stain when observing outside of the main unit.
- Confirm that all of the accessories are supplied with the main unit and the accessories are not damaged.
- If any accessory is missing or if any abnormality is found, contact Oki contact point.

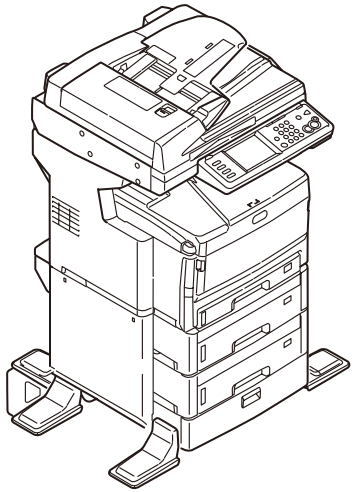
⚠ Warning	Failure to observe the following precautions may result in physical damage.	⚠

The MC860dn is heavy weighing approx.68 kg. Three or more persons should work together to raise the MFP.

☐ MC860 main unit



MC860dn

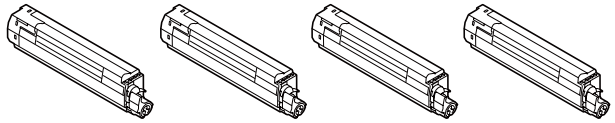


MC860dtn

Memo The add-on tray unit [1 stacking tray (with long cabinet)] and [2 stacking tray (with short cabinet)] can be installed in the MC860dn as the options.

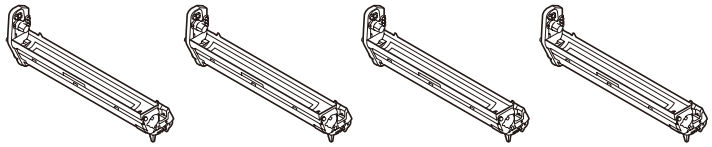
☐ Starter toner cartridge

(Each one piece of cyan, magenta, yellow, black)



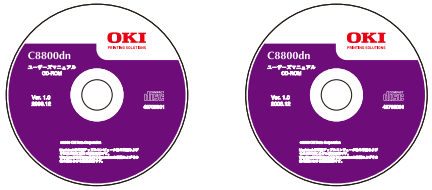
☐ Image drum cartridge

(Each one piece of cyan, magenta, yellow, black)



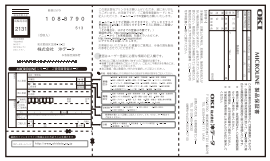
Note! The image drum cartridges have alredy been installed inside the main unit earlier.

☐ Software CD-ROM (2 pieces)

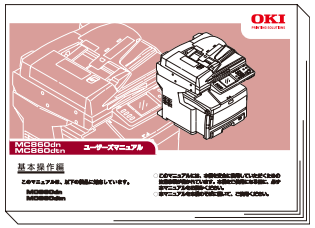


☐ User fs Manual CD-ROM

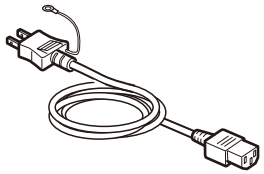
☐ Warranty card, User registration card



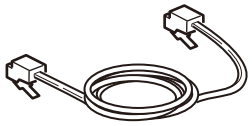
☐ User fs Manual (Basic Operation edition) (This manual)



☐ Power cord



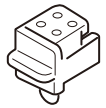
☐ Telephone line cable



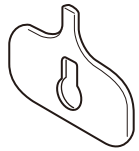
Cable

☐ Cap (2 pieces)

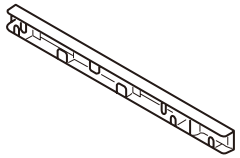
☐ Cover



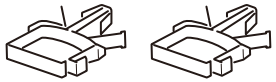
☐ Lock release tool



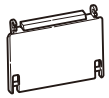
☐ Cord guide



☐ Cord clamp (2 pieces)



☐ Cover plate (large) 2 pieces



☐ Cover plate (small) 2 pieces

Note!

- Printer cable is not supplied. Prepare a printer cable separately in accordance with the PC to be connected.
- The carton box and cushions are re-used in future for transportation. Do not discard them but keep them.
- Use the telephone cable supplied. If the 4-conductor telephone cable is used, communication cannot be established.

3.2.3 Installation method

- Install the MFP in the location where the following temperature and humidity requirements are satisfied.

Ambient temperature : 10 to 32˚C

Ambient humidity : 20 to 80%RH (relative humidity)

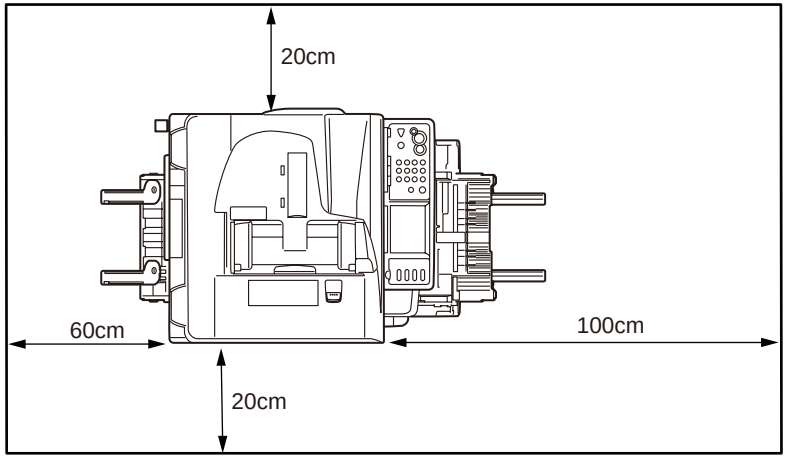
Maximum wet-bulb temperature : 25˚C

- Be careful that there should not be any dew condensation.
- If the MFB is going to be installed in the locations where ambient humidity is less than 30%, use humidifier or anti-static mat.

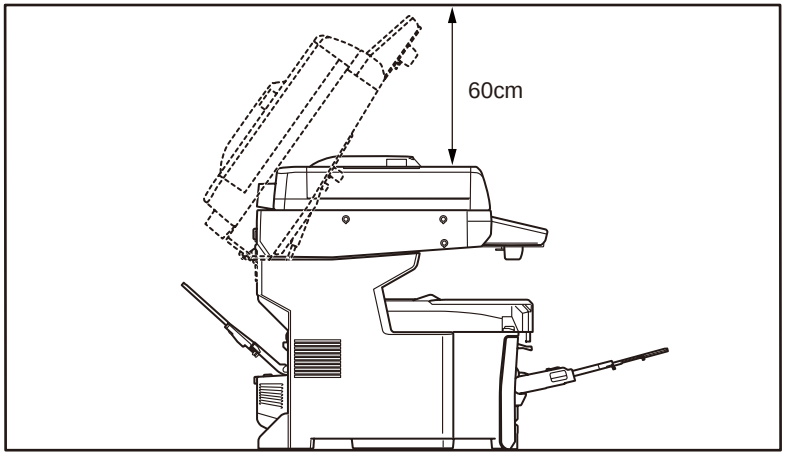
Installation space

- Place the printer on a flat table that has the sufficient space to accommodate all of the printer feet.
- Secure sufficient space around the printer.

Top view



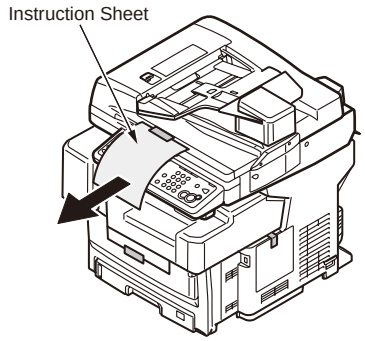
Side view



Install the accessories

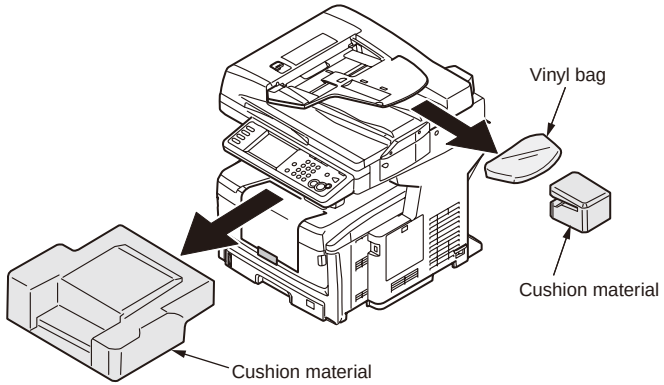
1. Remove the protection materials.

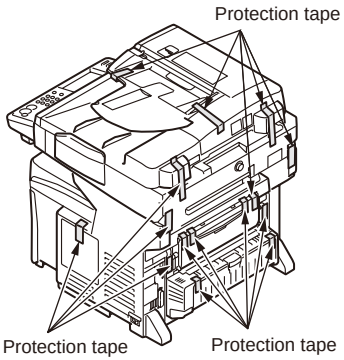
Note! Carton box and protection materials will be re-sued in future for transportation. Keep them.



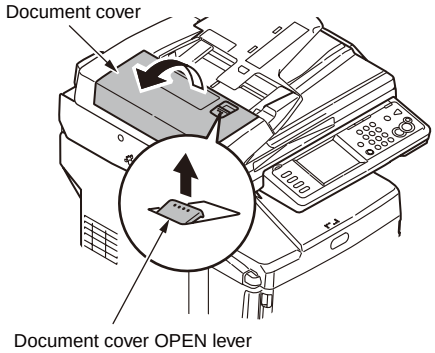
❶ Take the main unit out from the carton box and remove the Instruction Sheet and cushions.

Note! Be sure to hold the main unit by three or more people.

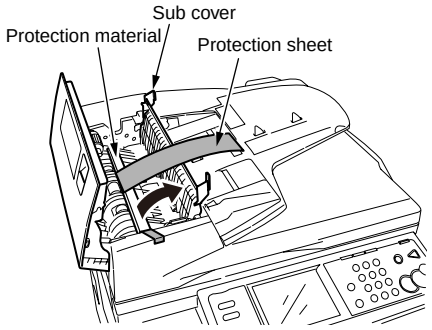




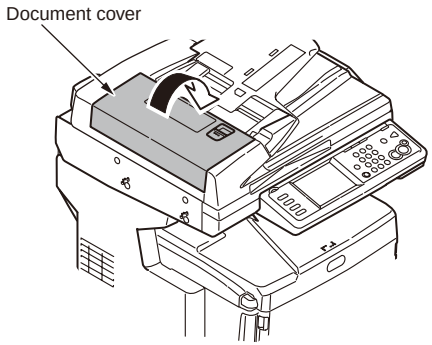
❷ Peel off the protection tape from the back and side of the main unit.



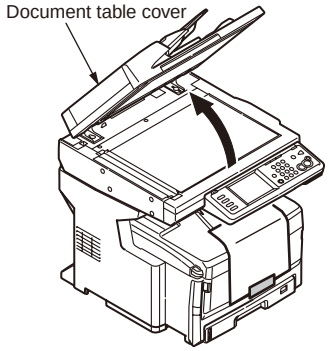
❸ Pull the cover open lever and open the document cover.



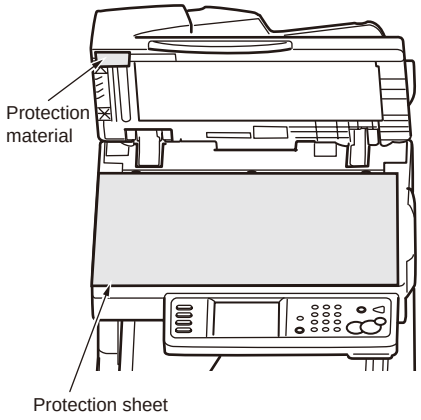
❹ Open the sub cover and remove the protection sheet and protection materials.



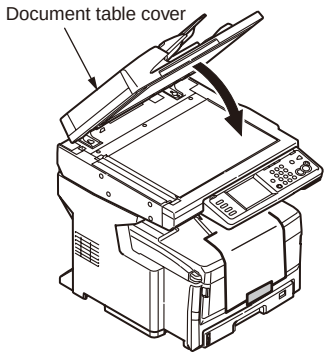
❺ Close the document cover.



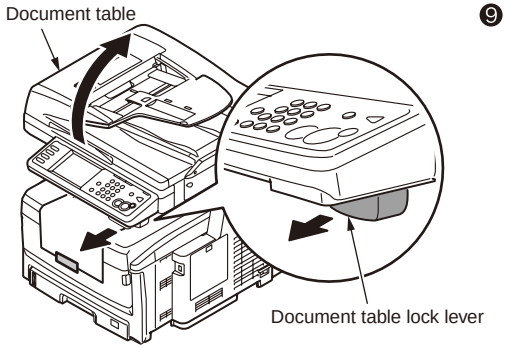
❻ Raise the document table cover.



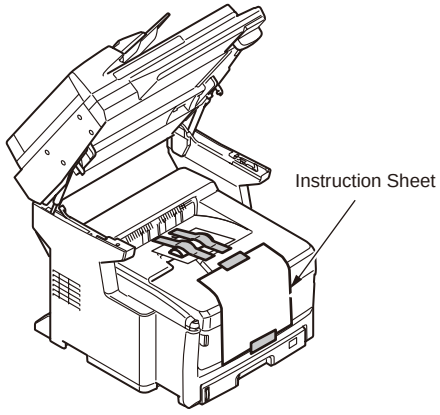
❼ Remove the protection material and the protection sheet.



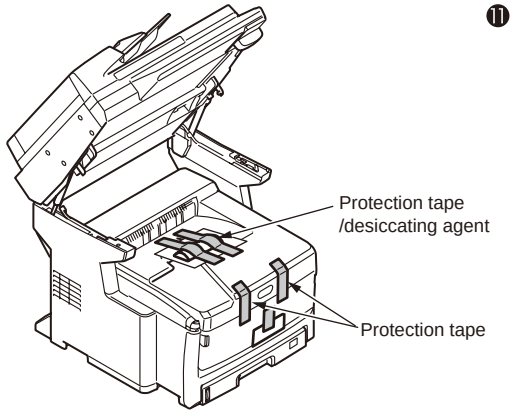
❽ Return the document table cover to the original position.



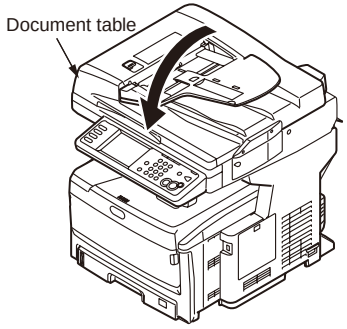
❾ Pull the document table lock lever to the front and raise the document table.



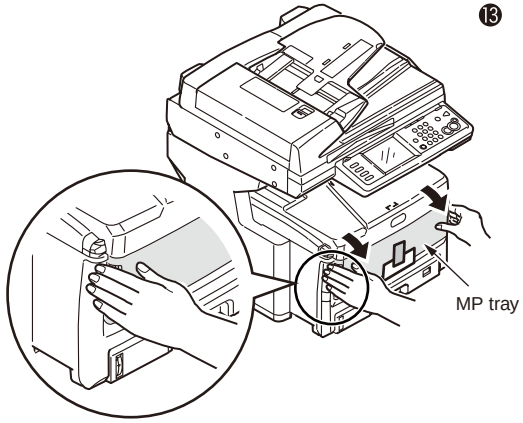
❿ Remove the Instruction Sheet.



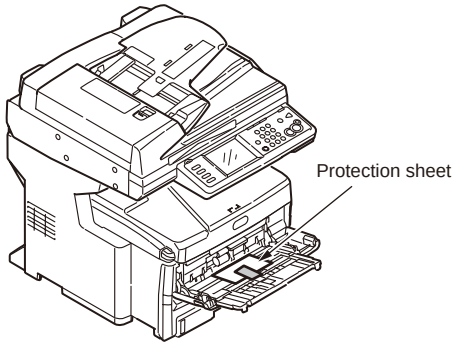
⓫ Remove the protection sheet and desiccating agent.



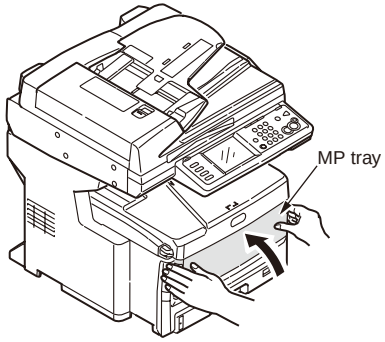
⓬ Return the document table cover to the original position.



⓭ Hold both ends of the MP tray and open it to the front.

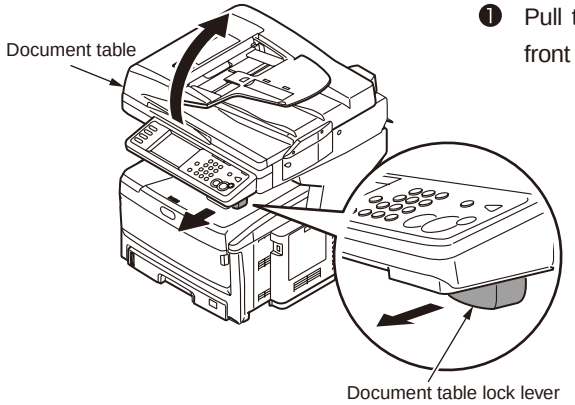


⓮ Remove the protection sheet

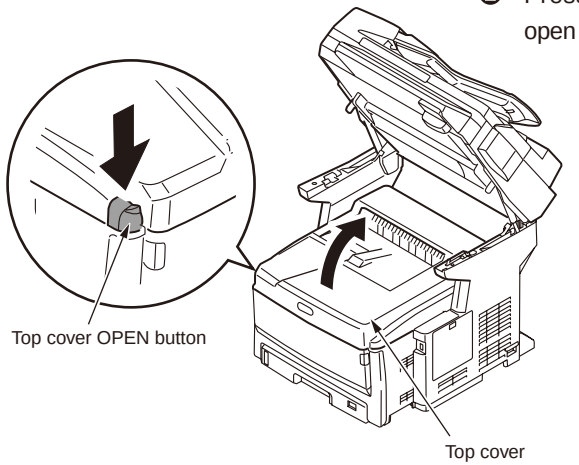


⓯ Close the MP tray.

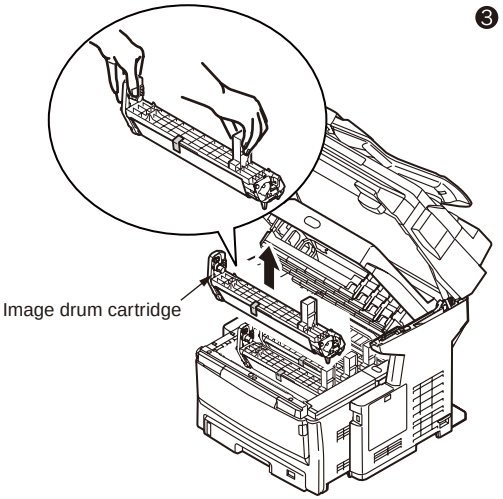
2. Remove the image drum cartridge.



❶ Pull the document table lock lever to the front and raise the document table.



❷ Press the top cover OPEN button and open the top cover.

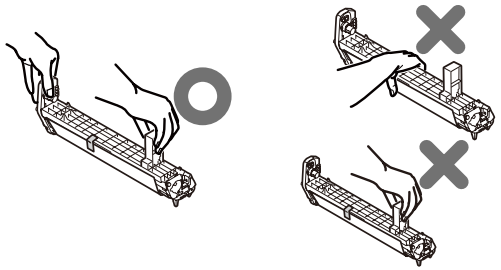


❸ Remove the image drum cartridges (4 pieces) gently with both hands.

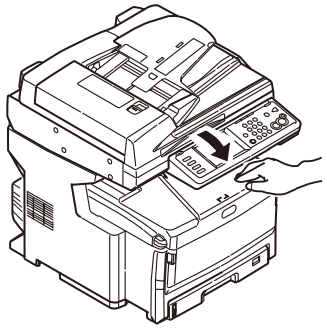
Note! • The image drum (green tubular portion) is highly inherently-brittle. Be very careful when handling it.

• Be very careful not to expose the image drum to direct sun light or intense light (light of approx. 1500 lux or more). Do not leave it under the normal illumination even indoor for 5 minutes or longer.

< How to hold the image drum cartridge >



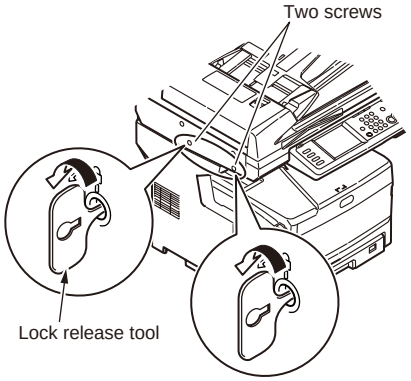
Do not hold the image drum cartridge with a single hand.



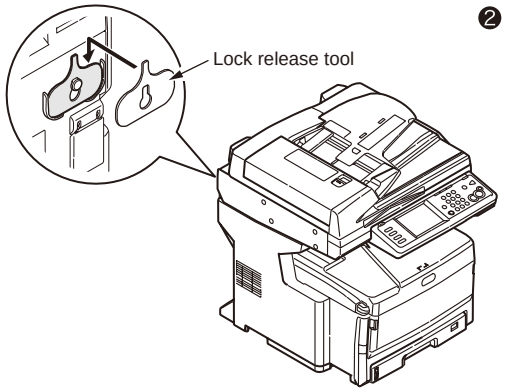
❹ Return the document table to the original position.

Note! If the Control Panel keeps displaying the message [Replace the toner], check if the toner cartridge lever is fully pressed in the direction of the arrow up to the end.

3. Release the lock.



❶ Turn the two screws on the side panel in the direction of the arrow with the lock release tool supply, to release the lock.



❷ Install the lock release tool on the back of the main unit.

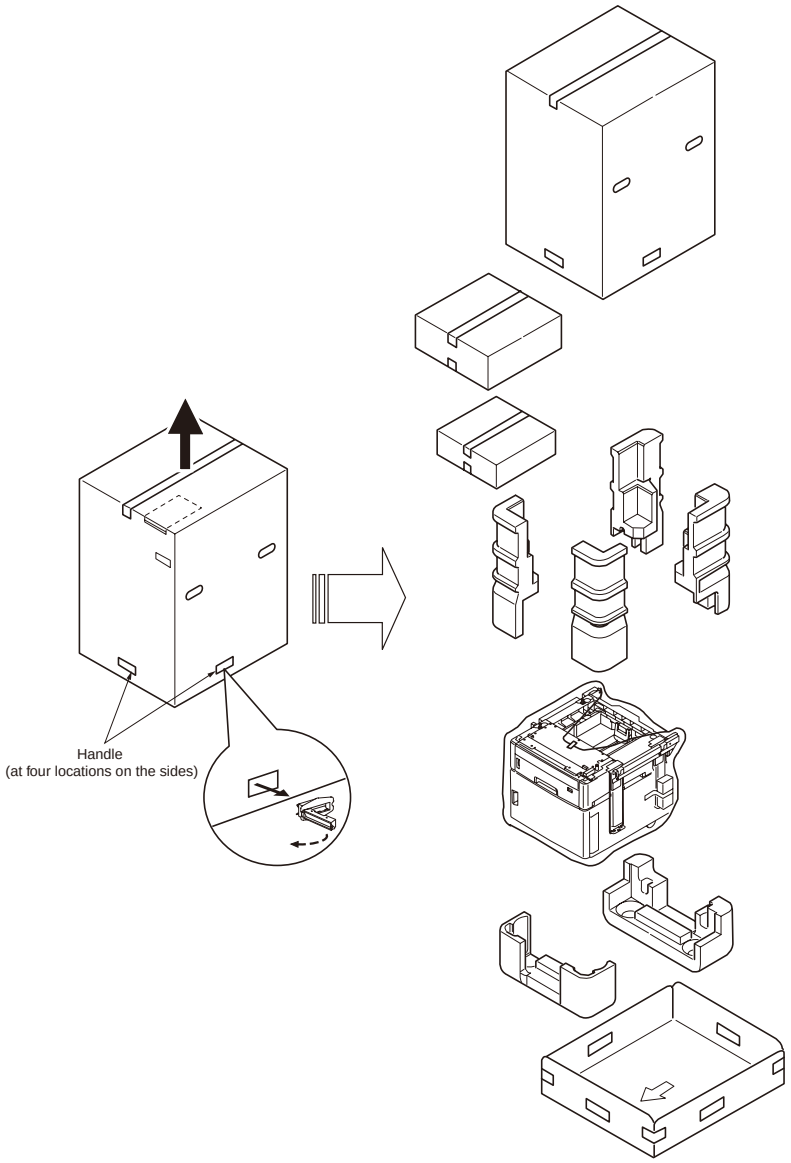
3.3 Installation of add-on tray unit

3.3.1 Unpacking

⚠ Warning	Failure to observe the following precautions may result in physical damage.	⚠

The MFP is heavy weighing approx.68 kg. Three or more persons should work together to raise the MFP.

- Remove the four handles from sides of the cardboard box as shown in the illustration and raise the cardboard box.

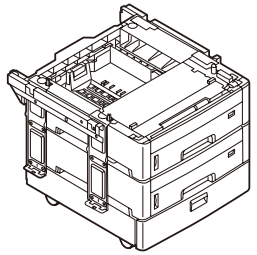
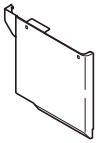
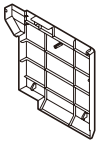
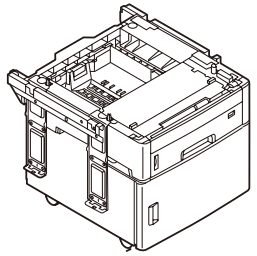


3.3.2 Main unit and list of accessories

Install the add-on tray to increase the number of papers to be set. A maximum of 2 stagger tray can be added. A single tray can accommodate 530 sheets of real weight 70 kg paper. Total 1460 sheets of paper can be printed continuously with the standard paper tray and the MP tray. The add-on trays are available as options in MC860dn.

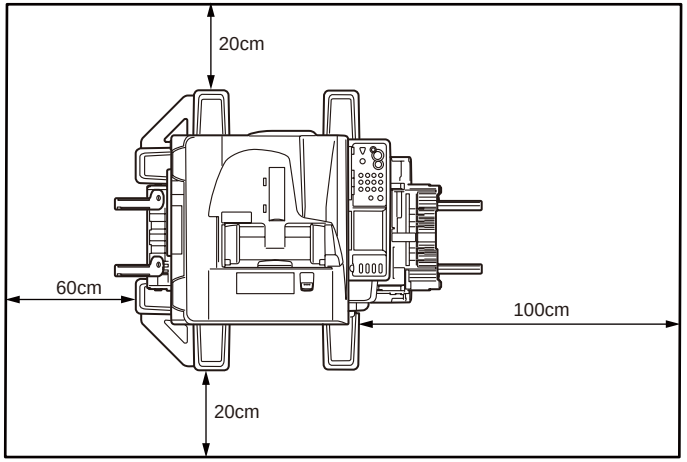
Note! A6 size paper cannot be used.

Memo The add-on trays are sometimes called tray 2 and tray 3.

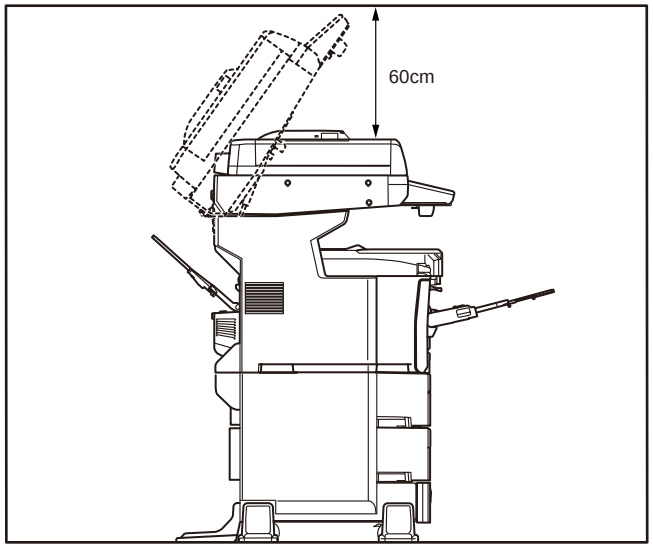
Add-on tray unit	Accessories
2 stagger tray (with short cabinet)  Model name: TRY-C3D4	 Fastener (4 pieces)  Screws (24 pieces)  Side cover (left)  Side cover (right)  Fall prevention foot covers (6 pieces)  Fall prevention foot (rear) (2 pieces)  Fall prevention foot (front) (2 pieces)
1 stagger tray (with long cabinet)  Model name: TRY-C3D5	

3.3.3 Installation method

Top view (MC860dtn)



Side view (MC860dtn)



The following example describes how to install the 2 stagger tray (with short cabinet). The 1 stagger tray (with long cabinet) can be installed in the manner.

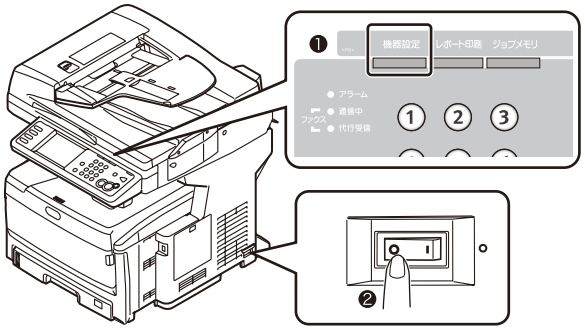
1. Take the add-on tray unit out from the carton box. Remove the cushion material and the protection material.

   Note! Be sure to hold the add-on tray unit by two or more people.

2. Turn OFF the power of the main unit, and remove the power cord and cables.

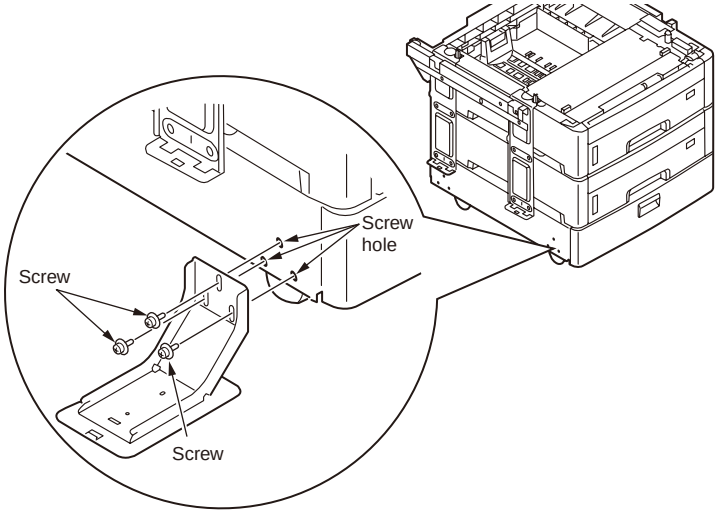
   Note! If the add-on tray unit is installed with the main unit power ON, the main unit may be damaged.

   Memo For the method of turning OFF the power, refer to (page xx) gTurn OFF the power h of the User fs Manual (Basic Operation edition).

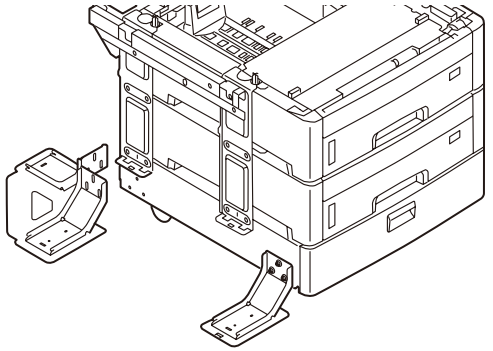


3. Attach the fall prevention foot.

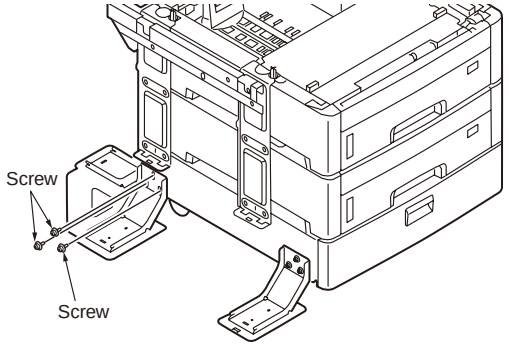
❶ Fix the fall prevention foot (front) to the left side of the add-on tray unit with the three screws.



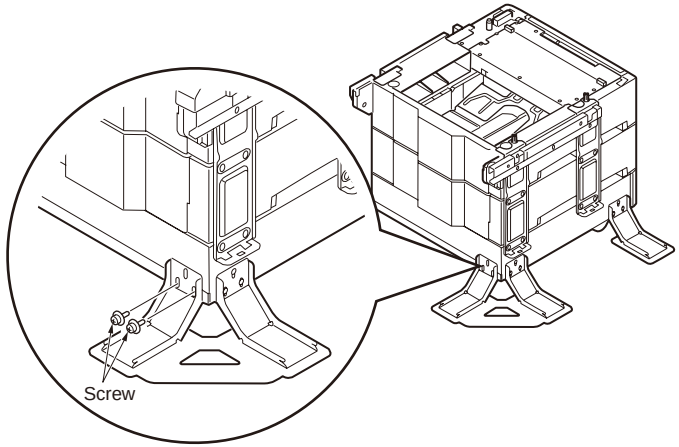
❷ Align the fall prevention foot (rear) to the deep left corner of the add-on tray unit.



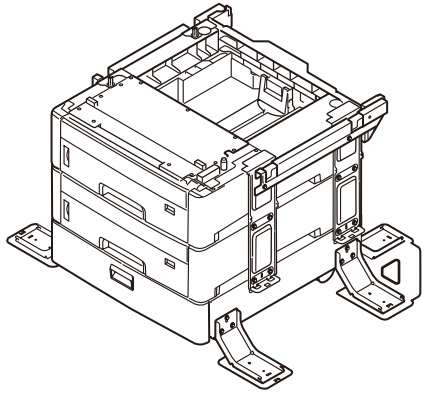
❸ Fix it to the left side with three screws.



❹ Fix it to the back with two screws.



❺ Attach the fall prevention foot (front) and the fall prevention foot (rear) to the right side in the same way as ❶ to ❹.



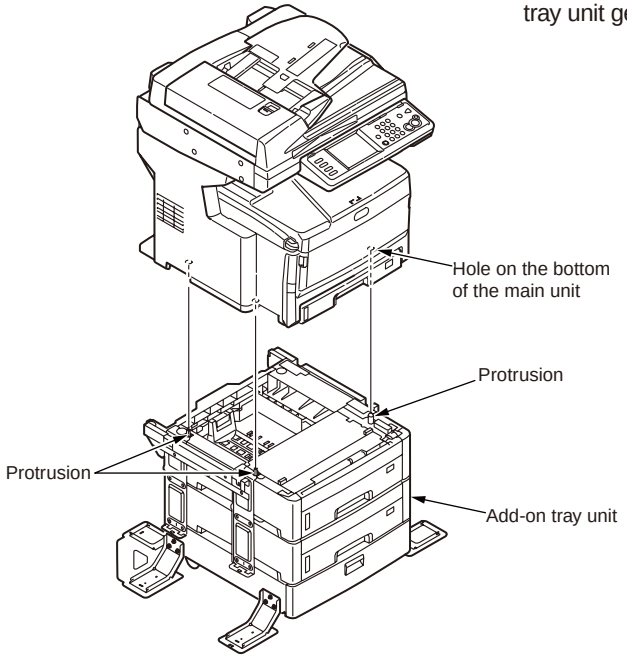
4. Install the main unit on top of the add-on tray unit.

⚠Caution	Failure to observe the following precautions may result in physical damage.	⚠

The MC860dn is heavy weighing approx.68 kg. Three or more persons should work together to raise the MFP.

❶ Align the holes on the bottom of the main unit with the three protrusions of the add-on tray unit.

❷ Install the main unit on top of the add-on tray unit gently.



5. Fix the main unit to the add-on tray unit temporarily.

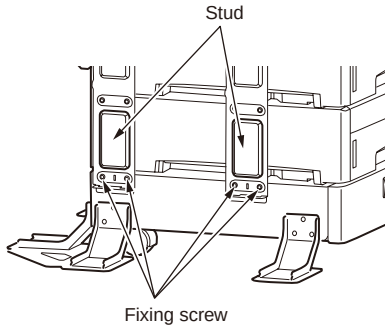
Loosen the 8 screws of the studs of the add-on tray unit first. Then fix them temporarily.

Tighten the screws temporarily at the two locations on the left side and two locations on the right side. Start tightening the screws on the left side.

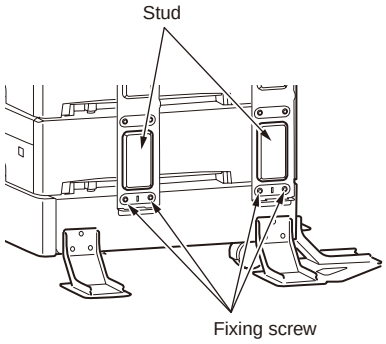
Note! Do not tighten these screws with force.

❶ Loosen the four fixing screws of studs on the left side of the add-on tray first. Then loose the four fixing screws of the studs on the right side of the add-on tray.

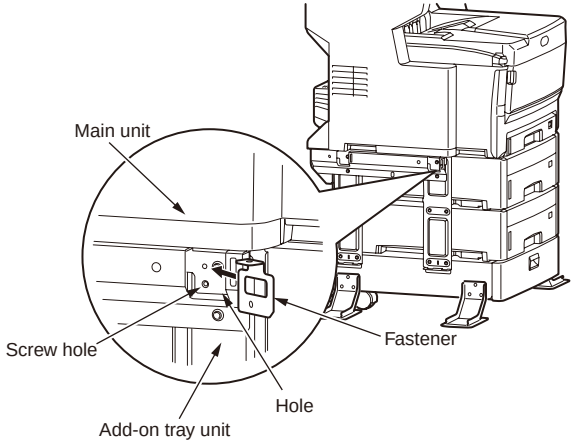
Left side

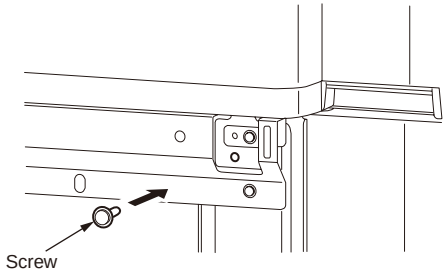


Right side



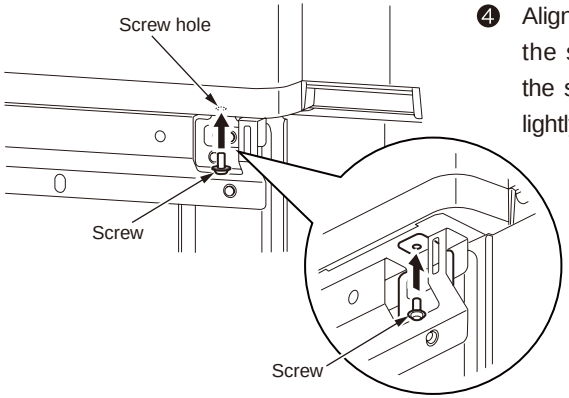
❷ Insert the fastener into the installation position from the front on the left side of the main unit.





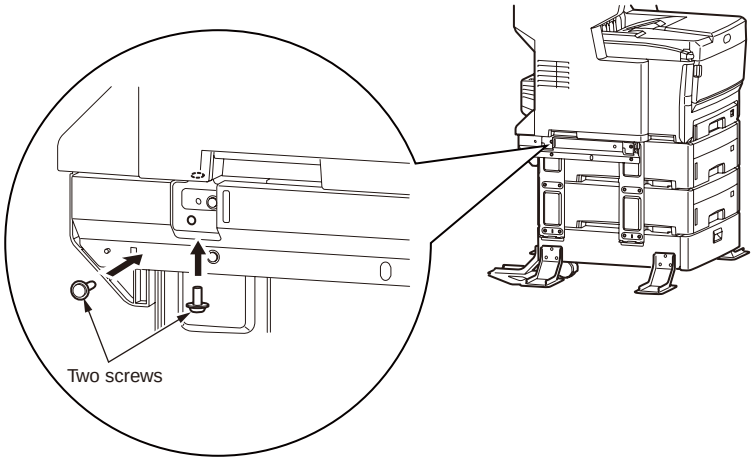
❸ Align the lower hole of the fastener with the screw hole of the add-on tray unit. Insert the screw and tighten the screw lightly.

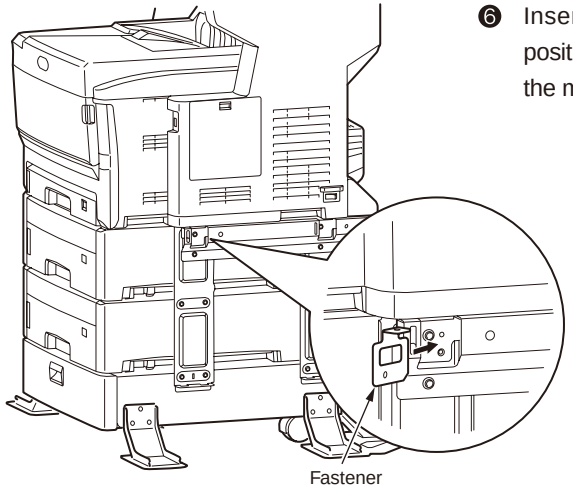
Note! Do not tighten with force.



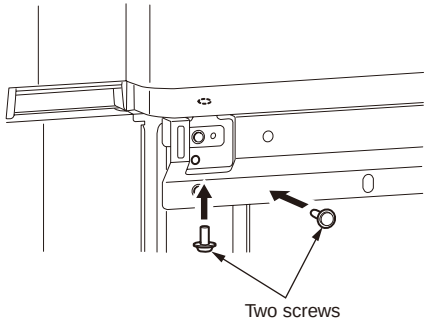
❹ Align the upper hole of the fastener with the screw hole of the main unit. Insert the screw from the bottom and tighten it lightly.

❺ Tighten the two screws at the deep end of the left side temporarily by performing steps ❷ to ❹.

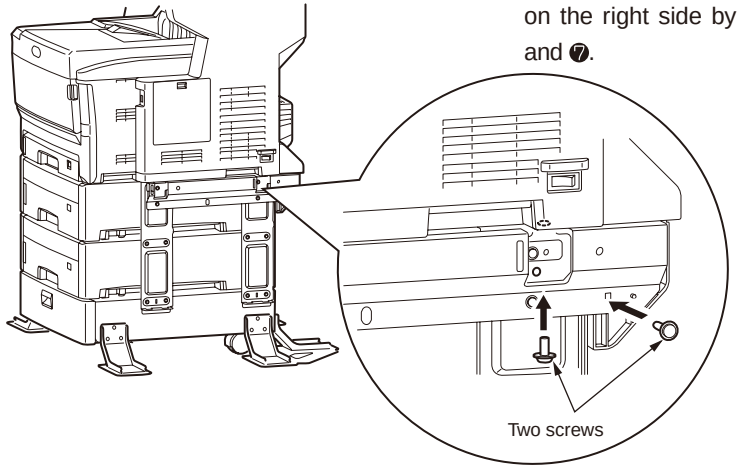




❻ Insert the fastener into the installation position from the front on the left side of the main unit.



❼ Tighten the two screws at the front on the right side by performing steps ❸ and ❹.

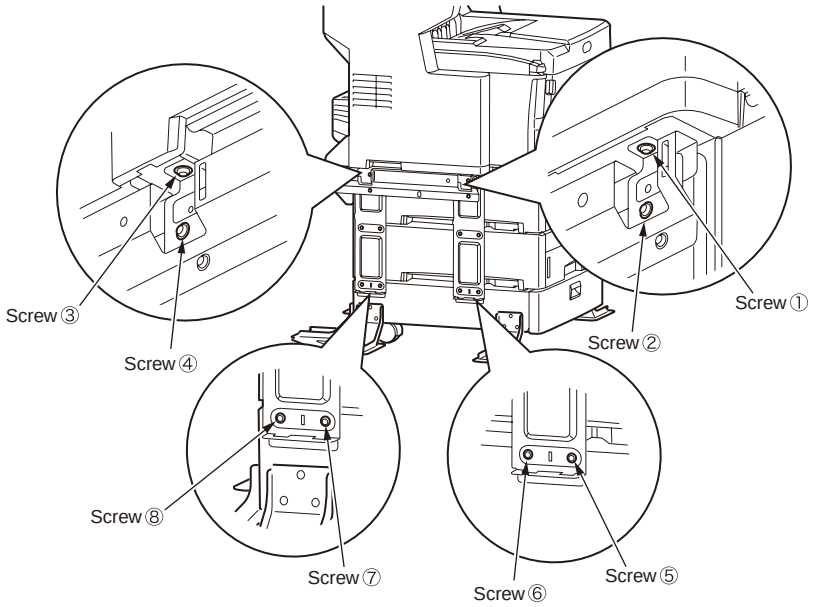


❽ Tighten the two screws at the deep end on the right side by performing steps ❻ and ❼.

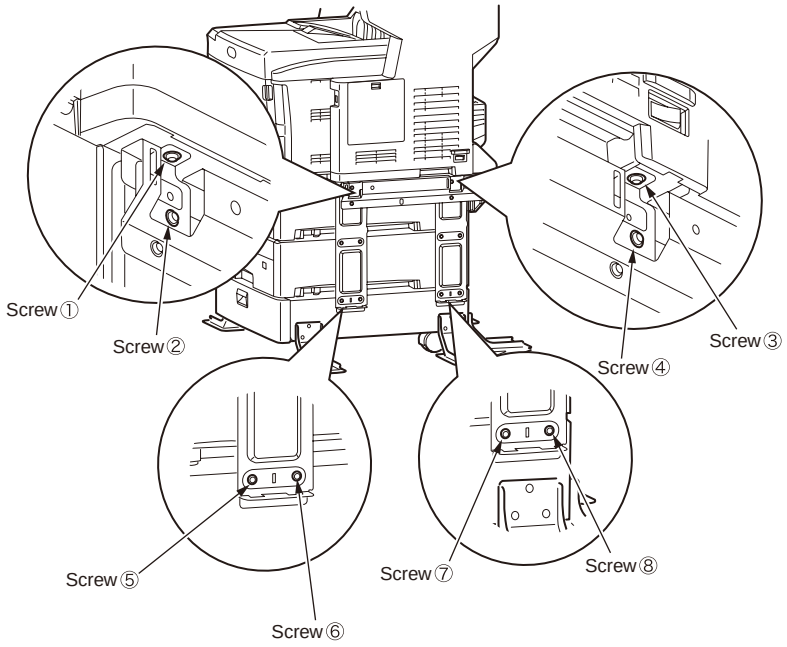
6. Fix the main unit to the add-on tray unit tightly.

Tighten securely the 8 screws that were loosened in step 5, and 0.8 screws that were tightened only temporarily in step 5, totaling 16 screws with force.

Left side

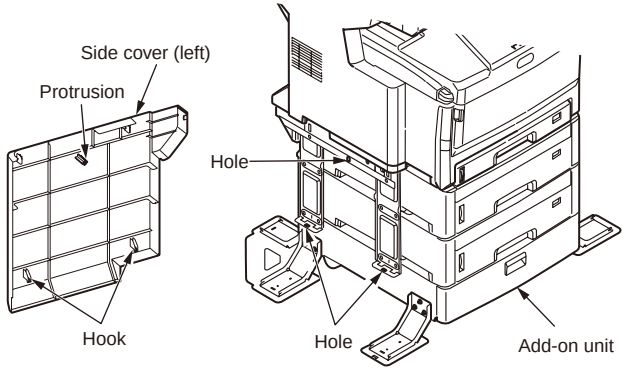


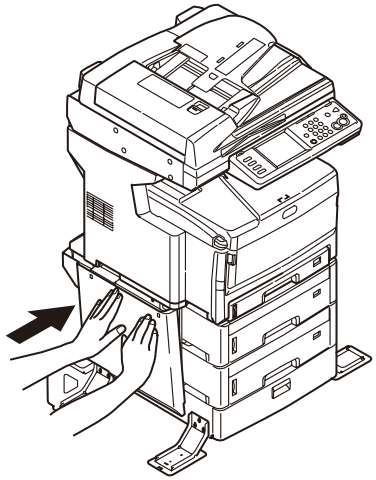
Right side



7. Attach the side cover.

❶ Prepare the side cover (left).

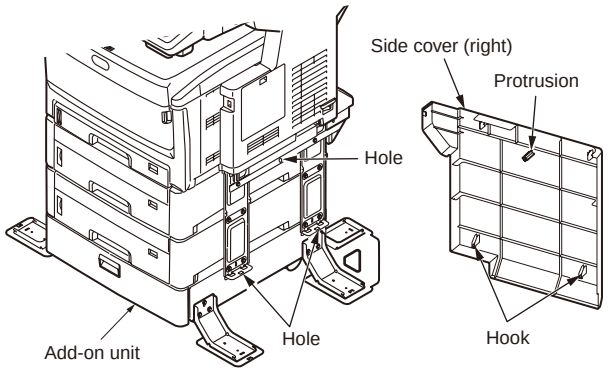


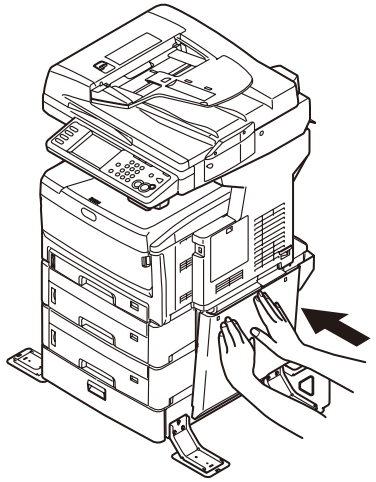


❷ Insert the hook of the side cover (left) into the lower hole of the add-on tray unit, and press the hook against the add-on unit to install it.

❸ Confirm that the side cover is installed securely.

❹ Prepare the side cover (right).



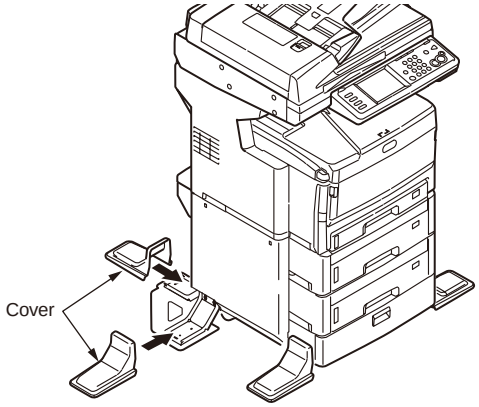


❺ Attach the side cover (right) in the same procedure as ❷ and ❸.

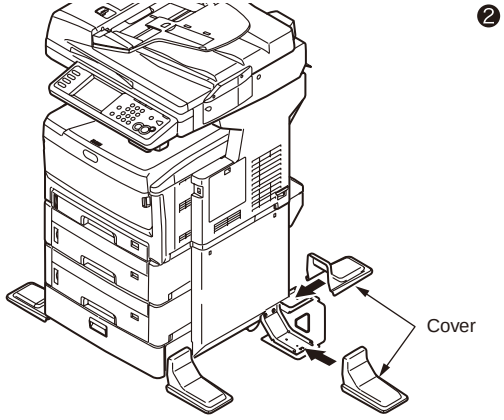
❻ Confirm that the side cover is installed securely.

8. Attach the fall prevention foot.

❶ Attach the covers (at 6 locations) to the fall prevention foot.



❷ Confirm that the side covers are installed securely.



9. Move the main unit to the installation position, and lock the front casters (at two locations).
10. Connect the AC power cord and cables. Turn ON the power.
11. Check that the main unit with the add-on tray is displayed on the control panel.
12. Set the number of trays using the printer driver.

Setup must be entered in order to recognize the add-on unit by using the printer driver.

If the printer driver is not set yet, set the printer driver by referring to Chapters 3 to 8, and perform the following setups.

Note! You must log on with administrator authority.

For the Windows PS printer driver

❶ For Windows Vista/Server 2008, select the menus: [Start]- [Control Panel] - [Printers].

For Windows, select menus: [Start]- [Control Panel] - [Printers and Other Hardware] - [Printers and Faxes].

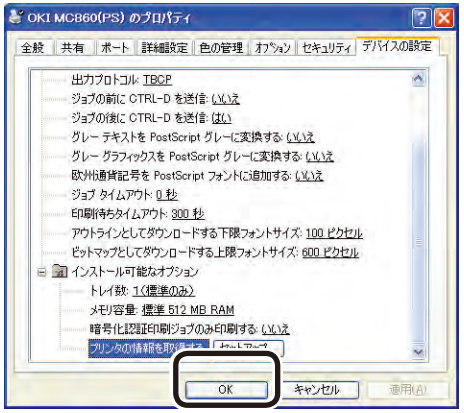
For Windows Server, select the menus: [Start]- [Printers and Faxes].

For Windows 2000, select the menus: [Start] – [Set] - [Printers].

❷ Right-click the [OKI.MC860(PS)] icon and select [Properties].

❸ Select the following menus: [Device Set] tab – [Installation Options] – [Acquire Printer Information]. Then click [Setup] or click [Acquire Printer Information]. When USB connection is selected, input an appropriate value in [Number of Trays].

❹ Click [OK].



For Windows PCL/PCL XPS printer driver

❶ For Windows Vista/Server 2008, select the menus: [Start]- [Control Panel] - [Printers].

For Windows, select menus: [Start]- [Control Panel] - [Printers and Other Hardware] - [Printers and Faxes].

For Windows Server, select the menus: [Start]- [Printers and Faxes].

For Windows 2000, select the menus: [Start] – [Set] - [Printers].

❷ Right-click the [OKI.MC860(PS)] icon and select [Properties].

❸ With the [Device Option] tab, select [Acquire printer information]. When USB connection is selected, input the total number of trays at present in the [Usable Devices].

❹ Click [OK].

For Mac OS X

For Mac OS.X, if an option has been added before the printer driver is installed, the device information is obtained automatically. However, if connection is made via [IP Print] or [Bon jour (Rendezvous)], the device information cannot be obtained automatically. When [Apple Talk] is used for connection, if option is added after the printer driver is installed, the device information cannot be obtained.

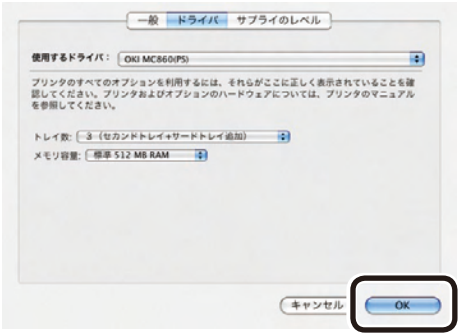
In such cases, set the option by the following procedure.

For Mac OS X 10.5

❶ Select the menus: [Apple menu] - [System environment].

❷ Click [Printers and Faxes]. Select the printer name, click [Options and Supplies], and select [Driver] tab.

❸ Select the corresponding value from [Number of Trays], and click [OK].



When application other than Mac OS X 10.5 is used

❶ Select the hard disk menus: [Application] – [Utilities], and double lick [Printer setup utilities].

❷ Select [MC860], and click [View information] and open [Printer information].

❸ Select [Installation Options].

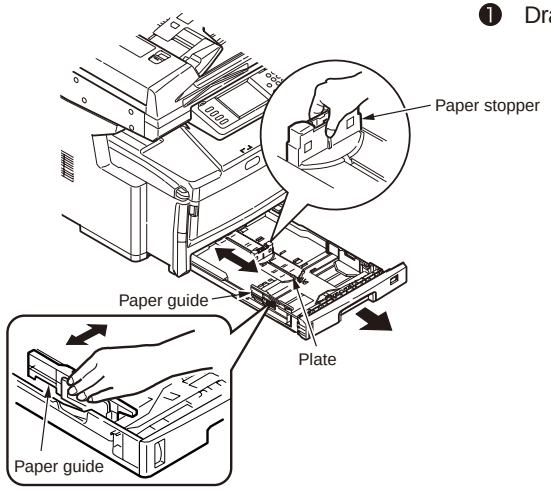
❹ Select an appropriate value from [Number of tras], and click [Apply change].

❺ Close [Printer Information].

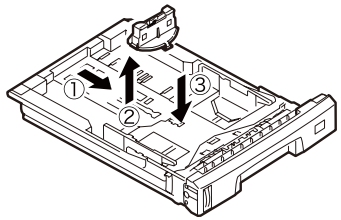
3.4 Preparation before use

3.4.1. Preparation of paper

Set paper in the paper cassette.



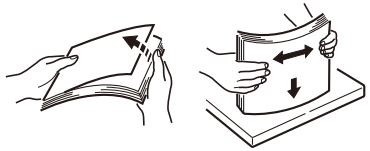
❶ Draw out the paper cassette.



❷ Align the paper stopper and the paper guide with the paper size, and fix them securely.

Note! Do not peel off the cork that is attached to the plate.

Memo When setting the A6 size paper, move the paper stopper to the front and remove it. Then attach it in the position shown.

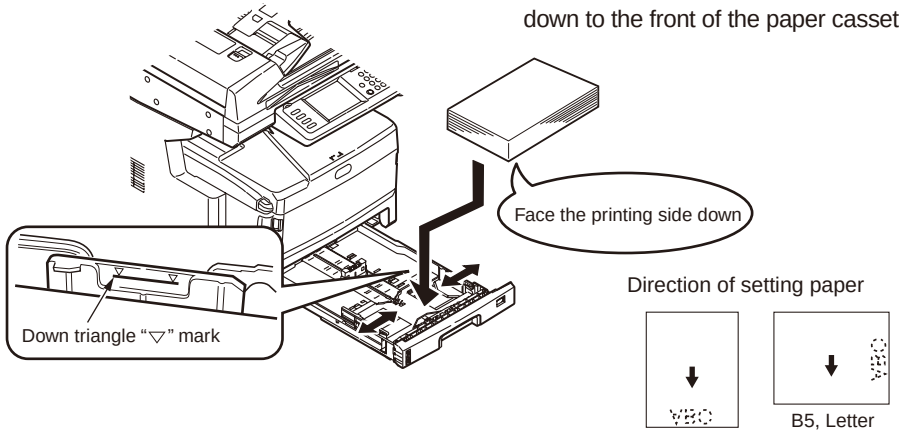


❸ Fan the papers well and align the right to left, and top to bottom.

Note! If any illegal paper that is not suited, it can cause machine trouble.

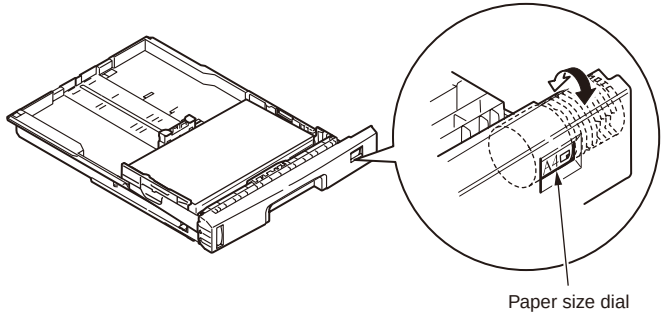
Memo For the usable paper types, refer to Chapter 9 Usable Papers.

❹ Set the papers with printing side facing down to the front of the paper cassette.



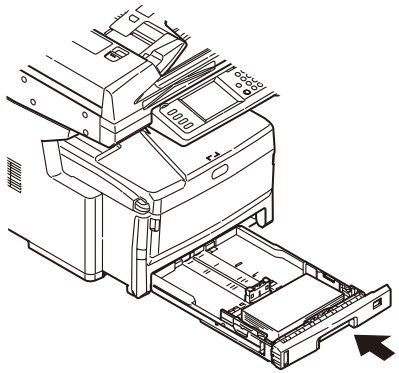
Note! Set papers so that paper should not exceed the down triangle "▽" mark. (300 sheets with realm weight 70 kg paper)

❺ Adjust the paper size dial in accordance with size of the set paper. Direction of the set paper and symbol of the paper size dial should match.



Reference For details, refer to “Paper size dial” (page *).

❻ Return the paper cassette to the MFP.



3.4.2 Power cable connection

Required conditions for power supply

- The following conditions should be satisfied.

  AC : 100V ± 10%

  Power frequency : 50 Hz or 60Hz ± 2Hz

- If the power supply is unstable, use the voltage regulator and equivalent.
- Maximum power consumption of this printer is 1,300 W. Confirm that the power supply source has sufficient margin.
- When the UPS (Uninterruptible power supply) is used, operations are not guaranteed. Explain clients not use the UPS (Uninterruptible power supply).

⚠ Warning	Failure to observe the warning may result in fire and electric shock.	

- Before connecting and disconnecting the power cord and earth wire, turn OFF the POWER switch.
- The earth wire should be connected to the dedicated earth terminal. Never connect the earth wire to city water pipe, city gas pipe, earth terminal of telephone line or lightening rod.
- To disconnect and connect the power cord, be sure to hold the power plug.
- The power plug should be inserted to the deep end of power source connector without fail.
- Do not disconnect and connect the power plug with wet hand.
- Place the power cord to the location where people do not step on it. Do not place any object on top of the power cord.
- Do not bind nor tie the power cord while using it.
- Do not use the damaged power cord.
- Do not connect many loads on one electrical outlet.
- Do not share the same electrical outlet with other electric products. If air conditioner, copying machine, paper shredder are connected in parallel, the MFP may malfunction due to electric noise. If the MFP shares the same electrical outlet with other electric products, use the noise filter or noise-cut transformer that is available on commercial markets.
- Use only the power cord that is supplied with the MFP.
- Do not use the AC extension cord. If any extension cord is used by all means, use the extension cord having rating of 15 A or more.
- If extension cord is used, AC power voltage may drop so that the MFP will not operate normally.
- Do not turn OFF the power nor disconnect the power plug while printing is in progress.
- When the MFP is not gong to be used for long time due to vacation or trip, disconnect the power cord.

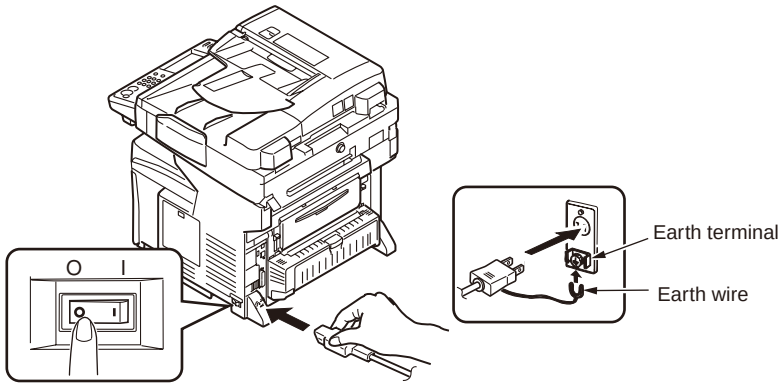
Be sure to explain details of connecting the power cord and earth wire to clients while showing the User's Manual.

Connecting the power cord

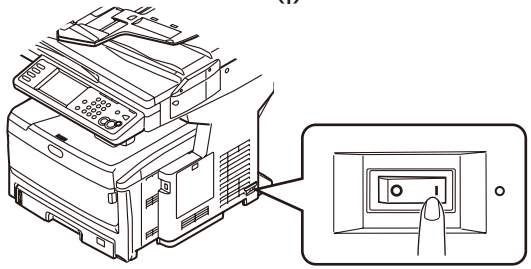
Note! Confirm that the POWER switch is set to OFF (O).

(1) Connect the power cord to the MFP.

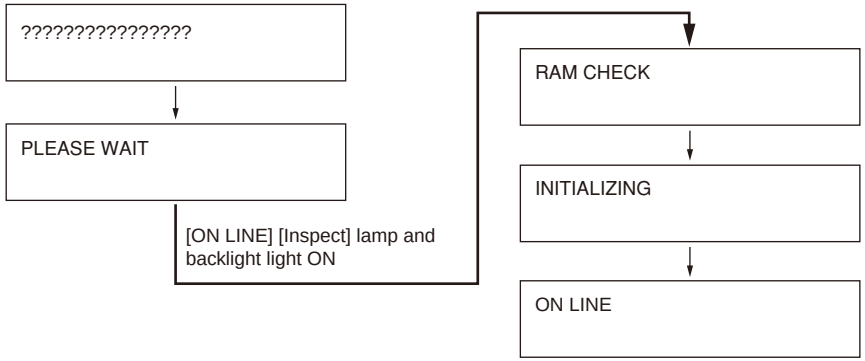
(2) Connect the earth wire to the earth terminal. Insert the power plug to the electrical outlet of power supply source.



Press the POWER switch to ON (|)



The following display appears on the Control Pane. When the MFP has started up completely, the [ON LINE] display appears.

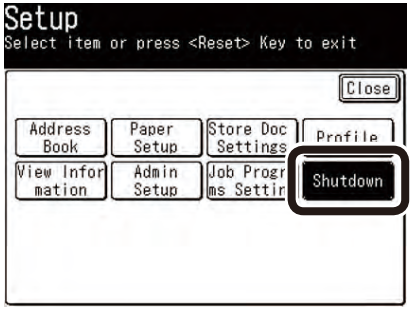


Turn OFF the power

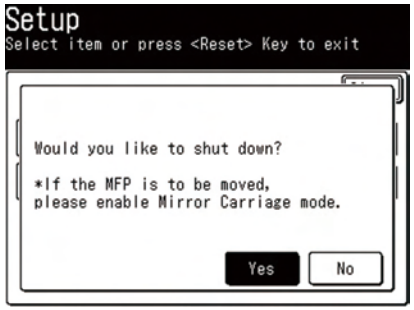
Note! If the power to the MFP is shut down abruptly, it can damage the MFP and make the MFP inoperable. Be sure to follow the procedure described below.

(1) Press the < SETUP > key of the Control Panel.

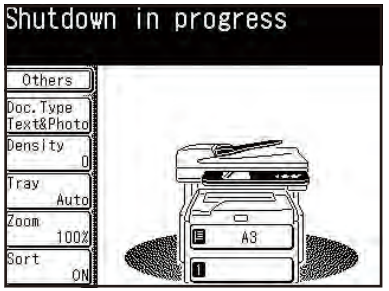
(2) Press [Shut-down]



(3) Press [Yes].

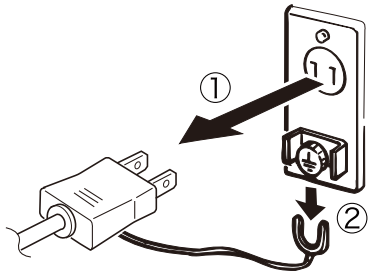


(4) When the following screen is displayed, turn OFF the POWER switch.



When the MFP is not gong to be used for long time

Explain to users to disconnect the power cord when the MFP is not gong to be used for long time due to vacation or trip.



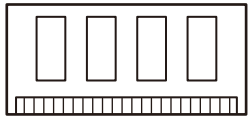
Note! This MFP will not cause any functional trouble even when the power plug is kept disconnected for long period of time (4 weeks or longer). Explain to clients that deterioration of the consumable items such as toner and image drum is not guaranteed.

3.4.3 Add-on memory replacement

Install the add-on memory when memory capacity of the MFP is wanted to increase. Add the add-on memory when the message [Memory capacity full] is displayed. .

The 256 MB memory has been installed by default. To increase the memory capacity, remove the 256 MB memory.

Add-on memory



Model name : MEM512C

Model name	Memory capacity (Total memory capacity)
MEM512C	512MB

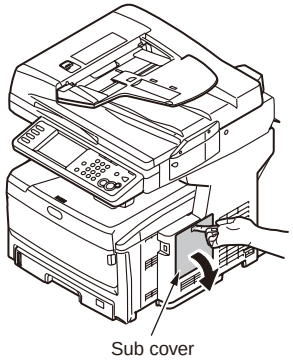
Note! • Be sure to use the Oki Data genuine add-on memory. If any add-on memory other than the Oki Data genuine add-on memory is used, operations of the MFP are not guaranteed.
- Remove the memory that has been installed by default.
- When a lengthy printing is going to be made, installation of add-on memory is recommended.

1. Turn OFF the power of the MFP and remove the power cord and cables.

Note! • If add-on memory is installed while the power is ON, it can cause damage of the MFP and add-on memory.
- Do not touch electronic part and connector terminal.
- Be careful for the correct direction of the add-on memory. Terminal of memory chip has the index cut-out so that memory chip fits the slot connector.

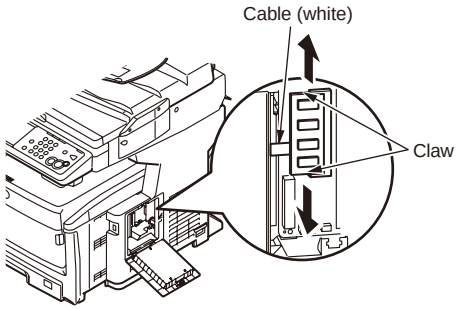
Memo For the method of turning OFF the power, refer to (page 22) “Turn OFF the power” of the User's Manual (Basic Operation edition).

2. Removing the memory.



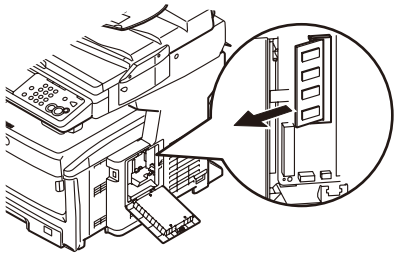
❶ Before taking out the new memory chip from the bag, touch the bag with metal portion in order to remove static electricity.

❷ Insert finger into the recess of the sub cover, and pull the recess to open it.



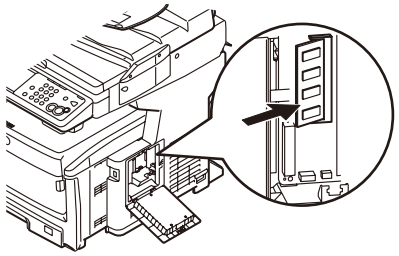
❸ Open wide the claws at both ends of the old memory.

Note! Do not touch the cable (white) that is located to the left of the memory.



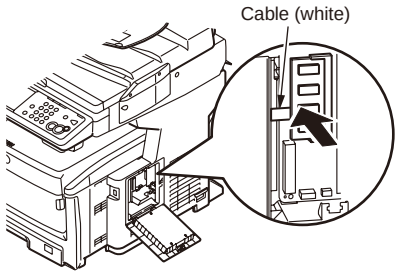
❹ Remove the memory.

3. Installing the add-on memory

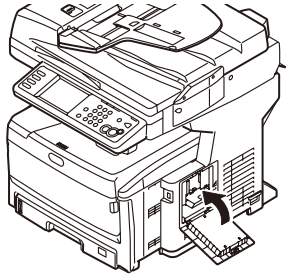


❶ Insert the new memory into the slot at an angle.

Note! Do not touch the cable (white) that is located to the left of the memory.



❷ Slant the memory toward the MFP side and fix it.



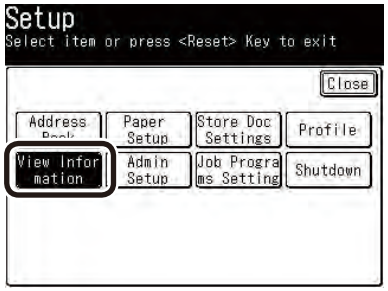
❸ Check that the cable (white) on the left of the memory is not disconnected from the connector.

❹ Close the sub cover door.

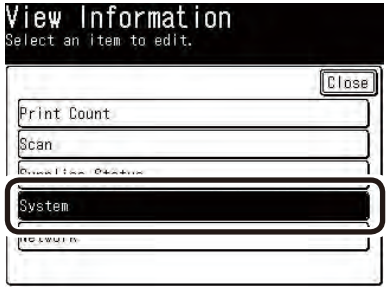
4. Connect the AC power cord and cables. Turn ON the power.

5. Check that the add-on memory is installed normally.

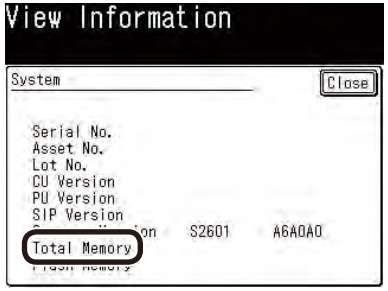
❶ Press the <SETUP> key.



❷ Press [View Information]



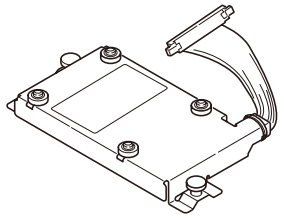
❸ Press [System]



❹ Check the Total Memory.

Note! If the Total Memory is not displayed correctly, re-install the memory.

3.4.4 Internal hard disk replacement



Note! Please note that fonts cannot be downloaded.

Three types of internal hard disk are prepared as options of MC860.

- Standard internal hard disk (model name: HDD-C3C9

  This internal hard disk can be installed in the MFP additionally. This hard disk is used for saving the Secure Job (certificate print job), for executing the buffer print, or when the message [Collation error] is displayed in the print in units of number of copies.

- Internal hard disk for IC card certification (supplied with the card certification kit F9)

  The self-job can be printed by touching the IC card with the IC card reader that is connected to the MFP. For details, refer to the Manual supplied with the card certification kit F9.

- Internal hard disk for IC card certification supporting the group print function (supplied with the card certification kit F10).

  Printing from a specific printer among a group of printers is possible by touching the IC card with the IC card reader that is connected to the desired printer. For details, refer to the Manual supplied with the card certification kit F10.

Any one type of hard disk among the three types can be installed.

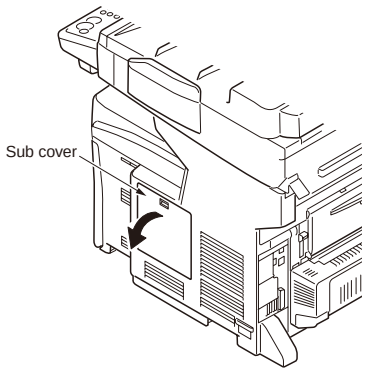
Memo Method of installation is common to all three types.

1. Turn OFF the power of the main unit, and remove the power cord.

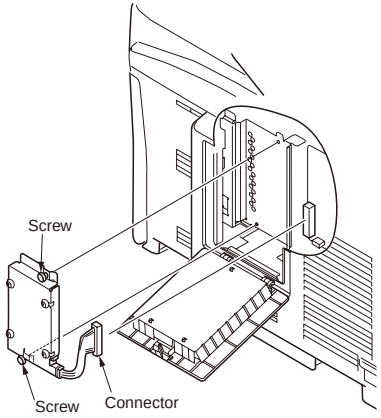
   Turn OFF the power in accordance with the item 3.5.2 Turn OFF the power.

   Note!
   - If the power to the MFP is shut down abruptly, it can damage the MFP and make the MFP inoperable. Be sure to execute the “Shut-down menu.”
   - If the hard disk is installed with the MFP power ON, the MFP may be damaged.

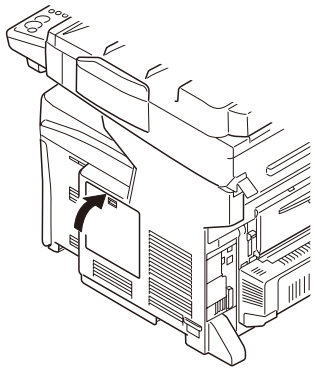
2. Install the internal hard disk.



❶ Open the sub cover.



❷ Insert the protruded portion of the internal HDD into the hole of printer side.
Fix with two screws.

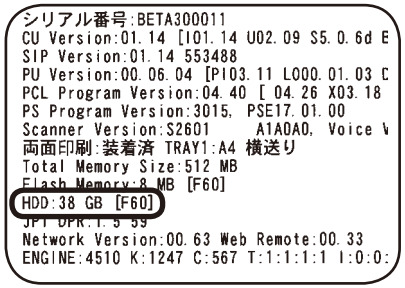


❹ Push in the connector until clicking sound is heard.

❺ Close the sub cover.

3. Connect the AC power cord and printer cable to the MFP. Turn ON the power.

4. Perform the menu map print to confirm that the internal HDD is normally installed.



❶ Perform the menu map print according to the procedure of item 3.5.

❷ Confirm that the internal HDD capacity is displayed in “HDD”.

Memo Capacity of HDD can be different from the example show in the illustration.

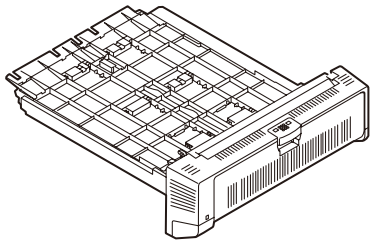
Note! If the memory capacity is not displayed correctly, re-install the HDD.

Note! When the internal HDD for the IC card certification is going to be installed, read the Manual supplied with the HDD beforehand.

3.4.5 Duplex unit installation and removal

The duplex unit that enables the both-sided print is installed in the MC860 by default.

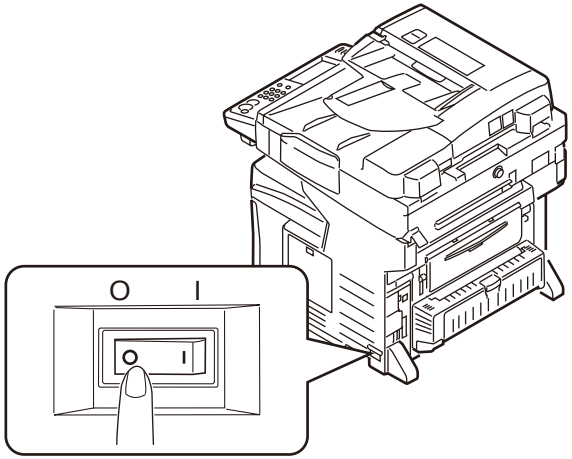
Note! • For duplex print, addition of add-on memory is recommended. For details, refer to Chapter 3 Installing the add-on memory.
• The duplex unit that enables the both-sided print is installed in the MC860dn by default.



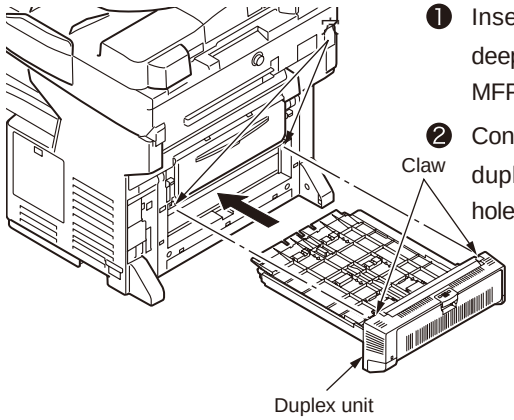
1. Turn OFF the power of the main unit, and remove the power cord and printer cable.

   Turn OFF the power in accordance with the item 3.5.2 Turn OFF the power.

   Note! If the duplex unit is installed with the MFP power ON, the MFP may be damaged.



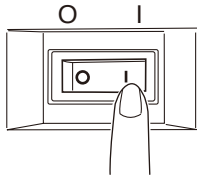
2. Install the duplex unit



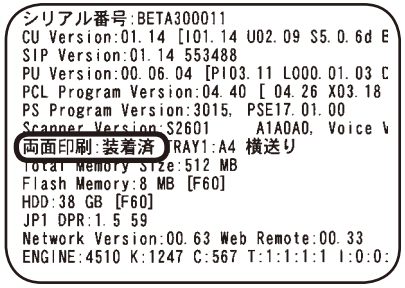
❶ Insert the duplex unit securely into the deep end in the bottom on the back of the MFP.

❷ Confirm that the claws at both ends of the duplex unit are inserted into the printer holes securely.

3. Connect the AC power cord and printer cable to the MFP. Turn ON the power.



4. Perform the menu map print to confirm that the duplex unit is normally installed.



❶ Perform the menu map print according to the procedure of item 3.6.

❷ Confirm that “Duplex print: Installed” is displayed in the header.

Note! If the “Duplex unit uninstalled” is displayed, re-install the duplex unit.

5. Set up the duplex unit with the printer driver

Setup must be entered in order to recognize the duplex unit by using the printer driver. If the printer driver is not set yet, set the printer driver by referring to the MC860 User's Manual, and perform the following setups.

For those who use Windows PS printer driver

❶ Open the file that you want to print.

❷ Select the [File] menu and [Print].

❸ Click [Detailed setting].

(This operation is not required in Windows 2000.)

❹ Select the [Layout] tab - [Both-side print] - [Binding long side].

❺ Execute print.

For those who use Windows PCL / PCL XPS

❶ Open the file that you want to print.

❷ Select the [File] menu and [Print].

❸ Click [Detailed setting].

(This operation is not required in Windows 2000.)

❹ Select the [Set] tab - [Both-side print] - [Binding long side] or [Binding short side].

❺ Execute print.

For those who use Mac OS X 10.5

❶ Open the file that you want to print.

❷ Select the [File] menu and [Print].

❸ Select the [Layout] panel - [Both-side print] - [Binding long side] or [Binding short side].

(Mac OS X 10.5 PS Printer driver)

❹ Execute print.

Memo If [Printer option] is not displayed in the [Print] dialog box in Mac OS X 10.5, click the downward triangle [XXX] button that is located next to the [Printers] pop-up menu.

3.5 Report print

MFP Setup print

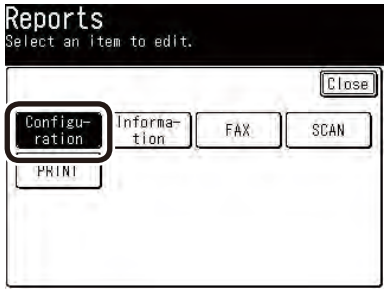
Information on the MFP is printed.

When you want to know the various setup values such as IP address, MAC address and others, or the remaining amount of consumable items, or whether the printer section of this MFP is working normally or not, they are printed by this print.

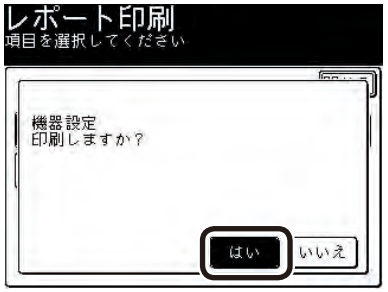
▪ How to print

(1) Press the < REPORTS > key.

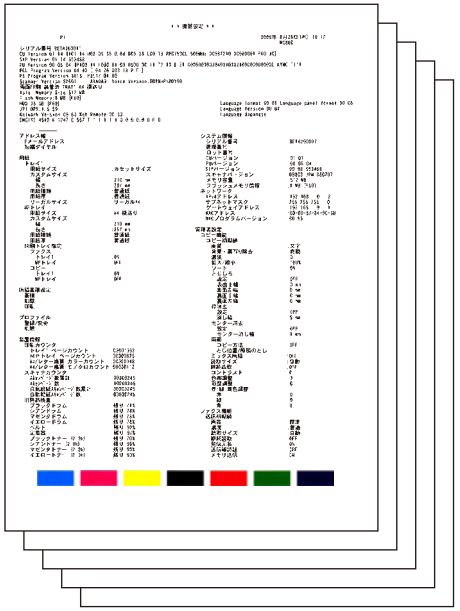
(2) Press [MFP Setup].



(3) The confirmation screen is displayed. Press [Yes].

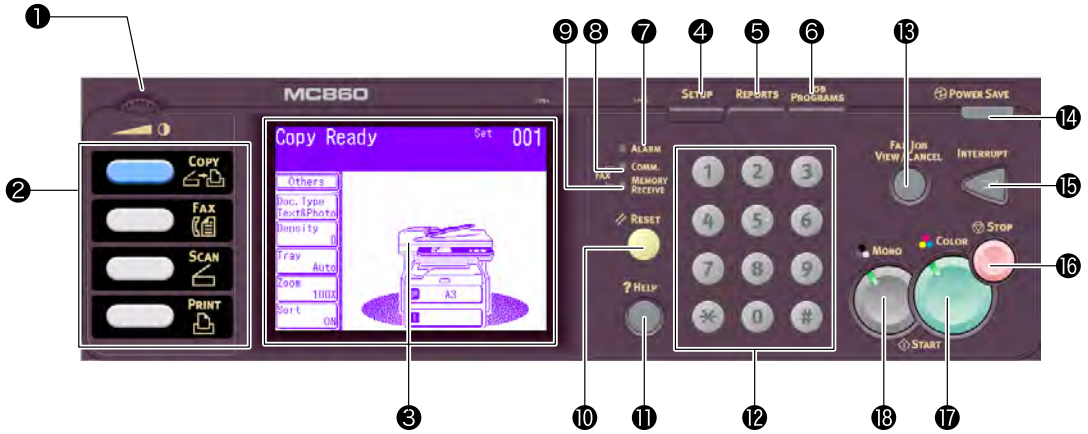


Example of print result



Reference For other report prints, refer to the User's Manual (Advanced edition).

3.6 Control panel



No.	Name	Function	No.	Name	Function
1	LCD adjust control	Adjust brightness of touch panel display.	10	< RESET > key	This key is pressed to abort operation, or to cancel the setting to return to the default value.
2	Function selector key	This key is pressed to select the various screens such as Copy, Fax, Scan or Printer. The selected key lights.	11	< ? HELP > key	This key is pressed when user wants to listen to the method of clearing the jammed paper, and to the function explanation. When the voice guidance is in progress, or when voice guidance is ready, this key illuminates. (64 page)
3	Touch panel display key	Operation is possible by touching the screen directly.	12	Ten-key	These keys are pressed to input numbers for dialing, or to indicate number of copies.
4	< SETUP > key	This key is pressed to call a specific function.	13	< FA JOB VIEW/CANCEL > key	Communication can be checked or stopped.
5	< REPORT > key	This key is pressed to output the various reports.	14	< POWER SAVE > key	This key is pressed to enter the Power save mode to reduce power consumption during standby. (page 19)
6	< JOB PROGRAMS > key	This key is pressed to register the Job Memory function (Advance edition).	15	< INTERRUPT > key	This key is pressed to put other copy in priority to other copies while printing is in progress. When the Interrupt key is pressed, the key illuminates.
7	Alarm lamp	Lights when an error occurs.	16	< STOP > key	This key is pressed to stop operations of the MFP.
8	Communication lamp	Lights while communication is in progress.	17	< COLOR > key	This key is pressed to start copying or scanning.
9	Memory receive lamp	Lights when receive data has entered into memory in such cases of paper out.	18	< MONO > key	This key is pressed to start copying or scanning.

3.7 Menu list

Copy standby screen

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
others	N-in-1	N-in-1	OFF 2-in-1 4-in-1 8-in-1	Multiple pages of document can be laid out and assembled onto a single page by this setup.
		Tray	Auto MP tray Tray 1 Tray 2 Tray 3	Select a document feeding tray.
		Layout	Horizontal Vertical	Select desired setting for arrangement. This arrangement cannot be selected when number of sheets of document is set to “OFF”, or “2 sheets”.
	Repeat	Repeat	OFF	Set number of times of repeating copying the same document into a single page.
		Tray	MP tray Tray 1 Tray 2 Tray 3	Select a document feeding tray.
	Book Copy	Doc Bind	OFF Left Right	Select orientation of binding direction when copying two-page spread document by one page after another.
		Tray	Auto MP tray Tray 1 Tray 2 Tray 3	Select a document feeding tray.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
others	Margin	Setup	ON OFF	Set Enable/Disable binding margin.
		Left (Front)	0~±25mm (1mm/Step) 0 0~±1.0inch (0.1inch/Step)	Set distance of movement of copied output image toward right on the front side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
		Top (Front)	0~±25mm (1mm/Step) 0 0~±1.0inch (0.1inch/Step)	Set distance of movement of copied output image toward bottom on the front side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
		Left (Back)	0~±25mm (1mm/Step) 0 0~±1.0inch (0.1inch/Step)	Set distance of movement of copied output image toward right on the front side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
		Top (Back)	0~±25mm (1mm/Step) 0 0~±1.0inch (0.1inch/Step)	Set distance of movement of copied output image toward bottom on the rear side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Edge Erase	Edge Erase	ON OFF	Select whether or not to erase shade that is created in the surrounding area of the thick document such a book.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
others	Edge erase	Width	5~50mm (1mm/Step) 0.2~2.0inch (0.1inch/Step)	Set erasing width when erasing frame. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Erase Center	Erase Center	ON OFF	Set default setup of selection whether to erase or not shade that is created in the center of two-page spread document.
		Erase Width	1~50mm (1mm/Step) 0.1~2.0inch (0.1inch/Step)	Set erasing width when erasing center. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Duplex Copy	Copy Method	OFF 1➡2 sides 2➡2 sides 2➡1 sides	Select type of both-sided copying.
		Doc. Bind	Right & left Top	Set binding position of document.
	Mixed Size		ON OFF	Select whether documents of different sizes are copied to the papers of different sizes or not.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	Scan Size	Automatic A3 B4 A4 ⬭ A4 ⬯ B5 ⬭ B5 ⬯ A5 ⬭ A5 ⬯ Letter ⬭ Letter ⬯ Tabloid Legal 14 Half letter ⬯	Set document scanning area.
	Cont. Scan	ON OFF	Select to inquire or not to inquire if next page of document is ready.
	Contrast	-3 -2 -1 0 +1 +2 +3	Set contrast of document.
	Hue	-3 -2 -1 0 +1 +2 +3	Set color phase of color image.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	Saturation	-3 -2 -1 0 +1 +2 +3	Set color saturation of color image
	RGB	-3 -2 -1 0 +1 +2 +3	Set relative amount of red, green and blue.
Doc. Type	Doc. Type	Text Text & Photo Photo Extra	Select desired quality setup.
	Removal for Background & Show-Through(sTHR)	Auto OFF 1 2 3 4 5 sTHR	Set default setup of selection whether the background color of document and offset phenomenon becomes less significant or not.
Density		-3 -2 -1 0 +1 +2 +3	Set image density.

The shaded portion shows the default setup value when shipped from the factory.

Item		Contents
Tray	Auto MP tray Tray 1 Tray 2 Tray 3	Select a document feeding tray.
Zoom	Auto 100% Fit Enlarge: 141% 122% 115% Reduce 86% 81% 70% +,-: 25%* 400% (arbitrary)	Set Enlarge/Reduce.
Sort	ON OFF	Set to sort copied sheets in the order of page number.

Fax standby screen

During onhook

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	Duplex Scan	OFF Right & left Top	Set the binding position of document.
	Scan sise	Auto A3 B4 A4 ⬭ A4 ⬯ B5 ⬯ A5 ⬯ Tabloid Letter ⬭ Letter ⬯ Tabloid Legal 14 H.LTR ⬯	Set document scanning area.
	Croup Tx	Group number	Select group of destination. Unregistered groups are grayed-out.
	Cont. Scan	ON OFF	Select to inquire or not to inquire if next page of document is ready.
	TTI	ON OFF	Set whether or not to print sender's name on document when it is printed at destination.
	TTI Select	1: 2: 3:	Select name of sender. Names of sender as many as three can be registered by [MPF Setup] - [Administrator Setup] - [Installation Mode]. When any one of the above is not selected, the default setup is used.
	MCF Report	ON OFF	Set whether or not to print result of transmission automatically.
	Deleyed Tx	Date, hour, minute	Send transmission by specifying time.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	Polling	ON OFF	Set whether or not to set up polling reception.
	F Polling	Sub address	Set sub address.
		Password	Set password.
	F-Code Tx	Sub address	Set sub address.
		Password	Set password.
	Memory Tx	ON OFF	When it is set to OFF, the real-time transmission enabling transmission while scanning document is set.
	Dialing Options	▶ ◀ Clear - Pause Tone Prefix First transmission First transmission Abbr. dialing registration	Entry of dialing code using dedicated keys is possible. Abbr. registration key enables registration of abbr. dialing code number directly.
	Auto Rx	ON OFF	Set the automatic reception or manual reception of facsimile reception mode.
Speed Dial		001 〉 500	Select destination of transmission from the already-registered abbr. dial code numbers.
Doc. Type		Normal Fine Ext-Fine Photo Background	Select image quality when scanning document.

The shaded portion shows the default setup value when shipped from the factory.

Item		Contents
Density	Lightest Lighter Normal Darker Darkest	Set density when scanning document.
Redial		Select destination from history of 10 redialing in the past.
OffHook		Transfers to telephone screen.

Fax standby screen

During offhook

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	Doc. Type	Standard Fine Ext. Fine Photo Background	Select image quality when scanning document.
	Density	Lightest Lighter Normal Darker Darkest	Set density when scanning document.
	TTI	ON OFF	Set whether or not to print sender's name on document when it is printed at destination.
	TTI Select	1: 2: 3:	Select name of sender.. Names of sender as many as three can be registered by [MPF Setup] - [Administrator Setup] - [Installation Mode].
	MCF Report	ON OFF	Set whether or not to print result of transmission automatically. Register prefix number.
	PreFix	001 〉 100	Prefix number is registered.
Speed Dial		001 〉 500	Select destination of transmission from the already-registered abbr. dial code numbers.
Volume		OFF Low Middle High	Set sound volume from speaker when "On-hook" is pressed.
Tone			Enter dialing code /T.
Redial			Select destination from history of 10 redialing in the past.
OnHook			Transfer to facsimile screen.. When it is pressed while phone conversion is in progress, the line is cut off once.

Scanner standby screen

Scanner menu selection screen

Item	Contents
E-mail	Sends scanned data to PC as an E-mail.
USB Memory	Saves the scanned data on USB memory.
Local PC	Stores scanned data in a local PC connected by USB cable.
Network PC	Stores scanned data in PC or server connected via network.
Remote PC	Sends instruction from PC to MFP to scan document.

When E-mail is selected

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	Reply to		Return address for the E-mail can be set to different address from that of “From” address. It can be selected from address book and from LDAP by calling destination.
	E-mail Subject	Subject	Enter subject. Maximum 80 characters with half-sized character, or 40 characters with full size can be registered.
		Text (fixed phrase)	Enter body text. Maximum 256 characters with half-sized character, or 128 characters with full size can be registered.
		New Subject	Enter new subject.
		Select Subject	Select it from the already registered list. As many as five subjects can be registered.
		Select Text	Select it from the already registered list. As many as five body texts can be registered.
	File Name		Enter name of image file. Maximum 64 characters with half-sized character, or 32 characters with full size can be entered.
	Duplex Scan	OFF Right & Left Top	Set binding position of document.
	Cont. Scan	OFF ON	Select to inquire or not to inquire if next page of document is ready.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
others	Direction		Left Edge Top Edge	Set orientation of document that is set on glass, and set orientation of image. Left end Starting origin of horizontal scanning is set to the left end of image. Top end Starting origin of horizontal scanning is set to the top end (90-degree rotation) of image.
	Grayscale		OFF ON	ON Document is scanned in B/W 255 gradations. OFF Document is scanned in B/W 2 gradations.
	FileFormat	Color	PDF TIFF JPEG XPS	Set file format when scanning in color.
		Mono (Grayscale)	PDF TIFF JPEG XPS	Set file format when scanning in grayscale.
		Mono (Binary)	PDF TIFF	Set file format when scanning in monochrome.
	CompresRT	Color	High Medium Low	Set the compression rate when scanning in color.
		Mono (Grayscale)	High Medium Low	Set compression rate when scanning in B/W with grayscale being set to ON.
		Mono (Binary)	High (G4) Medium (G3) Raw	Set compression rate when scanning in B/W with grayscale being set to OFF.
	Edge Erase	Edge Erase	OFF ON	Set default setup of selection whether to erase or not shade that is created in the surrounding of two-page spread document.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
others	Edge Erase	Width	5~50mm (1mm/Step) 0.2~2.0inch (0.1inch/Step)	Set erasing width when erasing frame. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Erase Center	Erase Center	OFF ON	Set default setup of selection whether to erase or not shade that is created in the center of two-page spread document.
		Erase Width	1~50mm (1mm/Step) 0.1~2.0inch (0.1inch/Step)	Set erasing width when erasing center. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Contrast		-3 -2 -1 0 +1 +2 +3	Set Contrast.
	Hue		-3 -2 -1 0 +1 +2 +3	Set Color phase.
	Saturation		-3 -2 -1 0 +1 +2 +3	Set color saturation

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	RGB	-3 -2 -1 0 +1 +2 +3	Set relative amount of red, green and blue.
Destination	Address Book	001 ⌇ 500	Select destination E-mail address from address book. Only a single E-mail address can be specified at one time
	Enter Address	Mail Address	Enter destination E-mail address. 80 half-size character (2-byte character is not acceptable) can be entered.
	E-mail history		Shows E-mail transmission history.
	Group Tx	01 ⌇ 32	Select group of destination. 32 groups can be specified at one time.
	LDAP		The address search screen from the LDAP server is displayed. Search is to be made by use name on this screen. When the Detail button is pressed, the detail search can be used in which search is made by specifying the search method (AND, OR), user name and E-mail address for searching . The addresses that are selected as destination can be imported to local address book. 100 search results can be displayed.
Doc. Type	Doc. Type	Text Text & Photo Photo	Select image quality when scanning document.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Doc. Type	Removal for Background & Show-Through(sTHR)	Auto OFF 1 2 3 4 5 sTHR	Set the background color of document less significant.
Density		-3 -2 -1 0 +1 +2 +3	Set density when scanning document.
Resolution		75 dpi 100 dpi 150 dpi 200 dpi 300 dpi 400 dpi 600 dpi	Select resolution when scanning document.
Scan Size		Auto Letter ⬭ Letter ⬯ Tabloid Legal 14 H. LTR ⬯ A3 B4 A4 ⬭ A4 ⬯ B5 ⬭ B5 ⬯ A5 ⬭ A5 ⬯	Set document scanning area.

When USB memory is selected

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
others	Duplex Scan		OFF Right & Left Top	Set binding position of document.
	Cont. Scan		OFF ON	Select to inquire or not to inquire if next page of document is ready.
	Direction		Left Edge Top Edge	Set orientation of document that is set on glass, and set orientation of image. Left end Starting origin of horizontal scanning is set to the left end of image. Top end Starting origin of horizontal scanning is set to the top end (90-degree rotation) of image.
	Grayscale		OFF ON	ON Document is scanned in B/W 255 gradations. OFF Document is scanned in B/W 2 gradations.
	FileFormat	Color	PDF TIFF JPEG XPS	Set file format for scanning.
		Mono (Grayscale)	PDF TIFF JPEG XPS	Set file format for scanning.
		Mono (Binary)	PDF TIFF	Set file format for scanning.
	ComprsRt	Color	High Medium Low	Set compression rate for scanning.
		Mono (Grayscale)	High Medium Low	Set compression rate when scanning in B/W with grayscale being set to ON.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
others	ComprsRt	Mono (Binary)	High (G4) Medium (G3) Raw	Set compression rate when scanning in B/W with grayscale being set to OFF.
	Edge Erase	Edge Erase	OFF ON	Set default setup of selection whether to erase or not shade that is created in the surrounding of two-page spread document.
		Width	5~50mm (1mm/Step) 0.2~2.0inch (0.1inch/Step)	Set erasing width when erasing frame.. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	EraseCenter	Erase Center	OFF ON	Set default setup of selection whether to erase or not shade that is created in the center of two-page spread document.
		Erase Width	1~50mm (1mm/Step) 0.1~2.0inch (0.1inch/Step)	Set erasing width when erasing center.. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Contrast		-3 -2 -1 0 +1 +2 +3	Set Contrast.
	Hue		-3 -2 -1 0 +1 +2 +3	Set Color phase.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
others	Saturation	-3 -2 -1 0 +1 +2 +3	Set color saturation.
	RGB	-3 -2 -1 0 +1 +2 +3	Set relative amount of red, green and blue.
Doc. Type	Doc. Type	Text Text & Photo Photo	Select image quality when scanning document.
	Removal for Background & Show-Th	Auto OFF 1 2 3 4 5 sTHR	Set default setup of selection whether the background color of document and offset phenomenon becomes less significant or not.
Density		-3 -2 -1 0 +1 +2 +3	Set density when scanning document.

The shaded portion shows the default setup value when shipped from the factory.

Item		Contents
Resolution	75 dpi 100 dpi 150 dpi 200 dpi 300 dpi 400 dpi 600 dpi	Select resolution when scanning document.
Scan Size	Auto Letter ⬭ Letter ⬯ Tabloid Legal 14 H. LTR ⬯ A3 B4 A4 ⬭ A4 ⬯ B5 ⬭ B5 ⬯ A5 ⬭ A5 ⬯	Set document scanning area.
File Name		Enter name of image file on the character entry screen. Maximum 64 characters with half-sized character, or 32 characters with full size can be entered.

When selecting Local PC

Item	Contents
Application	Scanned data is opened by the specified application.
Folder	Saves the scanned data in the specified folder.
E-mail	Scanned data is used as the attachment file to E-mail.
PC-FAX	Scanned data is used as the PC-FAX send transmission image.

When selecting Network PC

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
List of profiles				Select profile.
other	SubFolder			Set the sub folder name before pressing the start key, in the case when creating sub folder.
	Duplex Scan		OFF Right & Left Top	Set binding position of document
	Cont. Scan		OFF ON	Select to inquire or not to inquire if next page of document is ready.
	Direction		Left Edge Top Edge	Set orientation of document that is set on glass, and set orientation of image. Left end Starting origin of horizontal scanning is set to the left end of image. Top end Starting origin of horizontal scanning is set to the top end (90-degree rotation) of image.
	Grayscale		OFF ON	ON Document is scanned in B/W 255 gradations. OFF Document is scanned in B/W 2 gradations.
	File Format	Color	PDF TIFF JPEG XPS	Set file format when scanning in color.
		Mono (Grayscale)	PDF TIFF JPEG XPS	Set file format when scanning in grayscale.
		Mono (Binary)	PDF TIFF	Set file format when scanning in monochrome.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
other	ComprsRt	Color	High Medium Low	Set the compression rate when scanning in color.
		Mono (Grayscale)	High Medium Low	Set compression rate when scanning in B/W with grayscale being set to ON.
		Mono (Binary)	High (G4) Medium (G3) Raw	Set compression rate when scanning in B/W with grayscale being set to OFF.
	EdgeErase	Edge Erase	OFF ON	Set default setup of selection whether to erase or not shade that is created in the surrounding of two-page spread document.
		Width	5~50mm (1mm/Step) 0.2~2.0inch (0.1inch/Step)	Set erasing width when erasing frame. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	EraseCenter	Erase Center	OFF ON	Set default setup of selection whether to erase or not shade that is created in the center of two-page spread document.
		Erase Width	1~50mm (1mm/Step) 0.1~2.0inch (0.1inch/Step)	Set erasing width when erasing center. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Contrast		-3 -2 -1 0 +1 +2 +3	Set Contrast.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
other	Hue	-3 -2 -1 0 +1 +2 +3	Set Color phase.
	Saturation	-3 -2 -1 0 +1 +2 +3	Set color saturation.
	RGB	-3 -2 -1 0 +1 +2 +3	Set relative amount of red, green and blue.
Doc. Type	Doc. Type	Text Text & Photo Photo	Select image quality when scanning document.
	Removal for Background & Show-Through(sTHR)	Auto OFF 1 2 3 4 5 sTHR	Set default setup of selection whether the background color of document and offset phenomenon becomes less significant or not.

The shaded portion shows the default setup value when shipped from the factory.

Item		Contents
Density	-3 -2 -1 0 +1 +2 +3	Set density when scanning document.
Resolution	75 dpi 100 dpi 150 dpi 200 dpi 300 dpi 400 dpi 600 dpi	Select resolution when scanning document.
Scan Size	Auto Letter ⬭ Letter ⎙ Tabloid Legal 14 H.LTR ⎙ A3 B4 A4 ⬭ A4 ⎙ B5 ⬭ B5 ⎙ A5 ⬭ A5 ⎙	Set document scanning area.
File Name		Enter name of image file on the character entry screen. Maximum 64 characters with half-sized character, or 32 characters with full size can be entered.

Printer standby screen

Item			Contents
Off LINE			Switch between online and offline.
Print Job	Stored Job * Password is required to enter this menu.	Print	Used to print the certificate print job (Secure Job) stored in HDD.
		Delete	Delete the stored job.
	Encrypted Job * Password is required to enter this menu.	Print	Used to print the encrypted certificate print job (Encrypted Job) stored in HDD.
		Delete	Delete the encryption job.
Job Lists			100 jobs are displayed in the order of priority. A job can be aborted by selecting a job.

When the SETUP key is pressed

MFP Setup screen

Item	Contents
Address Book	Create and edit an address book.
Paper Setup	Set paper setting of tray.
Store Doc Settings	Set storage of scanned data.
Profile	Create and edit profile.
View information	Check the MFP information.
Admin Setup	Set administrator setup.
Job Programs Setting	Set job memory setup.
Shutdown	Execute shut-down.

When [Address book] is pressed

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
E-mail Address	Register/Edit	Name	Enter name of destination.. Maximum 16 characters with half-sized character, or 8 characters with full size can be registered.
		E-mail address	Enter E-mail address. 80 characters in half size alphanumeric characters can be registered.
		Group number	Select group.
	Delete		Delete the address.
	Delete and Sort		Delete address and roll up in order.
	Insert		Input the address.
	Group	Name	Set name of group. Maximum 16 characters with half-sized character, or 8 characters with full size can be registered.
		Address number	Select address number. 256 address numbers can be registered for a group.
Speed Dial * If communication reservation is being made, abbr. dial cannot be changed or deleted.	Register/Edit	FAX No.	Enter destination number. . Maximum 40 digits
		Name	Enter name of destination.. Maximum 24 characters with half-sized character, or 12 characters with full size can be entered.
		Group No.	Select group.
	Delete		Delete the address.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Speed Dial * If communication reservation is being made, abbr. dial cannot be changed or deleted.	Delete snd Sort		Delete address and roll up in order.
	Insert		Input the address.
	Group	Name	Set name of group. Maximum 16 characters with half-sized character, or 8 characters with full size can be registered.
		Speed Dial	Select Speed Dial. 500 address numbers can be registered for a group.

When [Paper Setup] is pressed

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Tray 1	Paper Size		Cassette size Custom	Select a paper size.
	Custom	Width	105 mm ⌇ 210 mm ⌇ 297 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
			4.1 inch ⌇ 8.3 inch ⌇ 11.7 inch	
		Length	148 mm ⌇ 297 mm ⌇ 431 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
			5.8 inch ⌇ 11.0 inch ⌇ 17.0 inch	

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Tray 1	Media Type	Plain Letter Head Bond Recycled Rough Glossy	Select type of paper.
	Media Weight	Light Medium Heavy	Select weight of paper. Ultra heavy paper cannot be set.
Tray 2	Paper Size	Cassette size Custom	Select a paper size.
	Custom Size	Width 148 mm ⌇ 210 mm ⌇ 297 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
		5.8 inch ⌇ 11.0 inch ⌇ 17.0 inch	

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Tray 2	Custom	Length	182 mm ⌇ 297 mm ⌇ 431 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
			7.2 inch ⌇ 11.0 inch ⌇ 17.0 inch	
	Media Type		Plain Letter Head Bond Recycled Card Stock Rough Glossy	Select type of paper.
	Media Weight		Light Medium Heavy Ultra Heavy	Select weight of paper.
Tray 3	Paper Size		Cassette Size Custom	Select a paper size.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Tray 3	Custom	Width	148 mm ⌇ 210 mm ⌇ 297 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
			5.8 inch ⌇ 11.0 inch ⌇ 17.0 inch	
		Length	182 mm ⌇ 297 mm ⌇ 431 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
			7.2 inch ⌇ 11.0 inch ⌇ 17.0 inch	
	Media Type		Plain Letter Head Bond Recycled Card Stock Rough Glossy	Select type of paper. For USER TYPE 1 to 5, only the registered type is displayed.
	Media Weight		Light Medium Heavy Ultra Heavy	Select weight of paper.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
MP tray	Paper size	A3	
		A4 ▯	
		A4 ▭	
		A5 ▯	
		A6 ▯	
		B4	
		B5 ▯	
		B5 ▭	
		Legal 14	
		Legal 13.5	
		Legal 13	
		Tabloid	
		Letter ▯	
		Letter ▭	
		Executive	
		Custom	
		COM-10	
		DL	
		C5	
		C4	
		Index Card	

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
MP tray	Custom	Width	64 mm 〜 210 mm 〜 297 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
			2.5 inch 〜 8.3 inch 〜 11.7 inch	
		Length	105 mm 〜 297 mm 〜 1200 mm	It can be set only when Custom is selected as paper size. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
			4.1 inch 〜 11 inch 〜 47.2 inch	
	Media Type		Plain Letter Head OHP Labels Bond Recycled Card Stock Rough Glossy	Select type of paper.
	Media Weight		Light Medium Heavy Ultra Heavy	Select weight of paper.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Select Tray	FAX	Tray 1	OFF ON(*) ON	Select a tray to be used to print the received document.
		Tray 2	OFF ON(*) ON	
		Tray 3	OFF ON(*) ON	
		MP Tray	OFF ON(*) ON	
	Copy	Tray 1	OFF ON(*) ON	Select a tray to be used to print during the automatic tray selection mode.
		Tray 2	OFF ON(*) ON	
		Tray 3	OFF ON(*) ON	
		MP Tray	OFF ON(*) ON	

When [Store Doc Settings] is pressed

Item	Contents
Store	Store document in bulletin box.
Delete	Delete accumulated documents.
Print	Print accumulated documents.

When [Profile] is pressed

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Register/ Edit	Profile Name		Enter name of profile. Maximum 16 characters with half-sized character, or 8 characters with full size can be registered.
	Protocol	CIFS FTP HTTP	Select protocol to be used for storing file.
	Target URL		Specify server address and directory to store the scanned data. Maximum 144 characters with half-sized character, or 72 characters with full size can be registered. (file:)
	Port No.	1 〜 445 (CIFS) 〜 65535	Set port number.
	PASV Mode	OFF ON	Select Enable/Disable of the FTP Passive mode . It is displayed only when FTP is selected by protocol.
	User Name		Enter user name to be used for logging on server. 32 characters in half size alphanumeric characters can be registered.
	Password		Enter password to be used for logging on server. 32 characters in half size alphanumeric characters can be registered.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Register/ Edit	Encorde Communication	(FTP) None Implicit Explicit (HTTP) None HTTPS STARTTLS	Select encryption method for communication. Choices are different depending on the protocol being selected. For CIFS, encryption cannot be set.
	File Name		Enter name of image file. Maximum 64 characters with half-sized character, or 32 characters with full size can be entered.
	Doc. Type — Doc. Type	Text Text/Photo Photo	Set image quality of document. The default value is what is specified by the “Administrator setting” menu.
	Doc. Type — Removal for Background & Show-Through (sTHR)	Auto OFF 1 2 3 4 5 sTHR	Set the background color and offset phenomenon of document less significant. The default value is what is specified by the “Administrator setting” menu.
	Density	-3 -2 -1 0 +1 +2 +3	Set density when scanning document.. The default value is what is specified by the “Administrator setting” menu.
	Resolution	75 dpi 100 dpi 150 dpi 200 dpi 300 dpi 400 dpi 600 dpi	Select resolution when scanning document. The default value is what is specified by the “Administrator setting” menu. The shaded portion shows the default setup value when shipped from the factory.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Register/ Edit	Scan Size	Auto Letter ⬭ Letter ⬯ Tabloid Legal 14 H. LTR ⬯ A3 B4 A4 ⬭ A4 ⬯ B5 ⬭ B5 ⬯ A5 ⬭ A5 ⬯	Set document scanning area. The default value is what is specified by the “Administrator setting” menu.
	Grayscale	OFF ON	ON Document is scanned in B/W 255 gradations. OFF Document is scanned in B/W 2 gradations.
	FileFormat — Color	PDF TIFF JPEG XPS	Set file format for scanning.
	FileFormat — Mono (Grayscale)	PDF TIFF JPEG XPS	Set file format for scanning. When grayscale is set to OFF, JPEG and XPS images are not displayed.
	FileFormat — Mono (Binary)	PDF TIFF	Set file format for scanning.
	Compression Rate — Color	High Medium Low	Set compression rate for scanning.
	Compression Rate — Mono (Grayscale)	High Medium Low	Set compression rate when scanning in B/W with grayscale being set to ON.
	Compression Rate — Mono (Binary)	High (G4) Medium (G3) Raw	Set compression rate when scanning in B/W with grayscale being set to OFF.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Register/ Edit	Edge Erase	Edge Erase	OFF ON	Set default setup of selection whether to erase or not shade that is created in the surrounding of two-page spread document.. The default value is what is specified by the “Administrator setting” menu.
		Width	5~50mm (1mm/Step) 0.2~2.0inch (0.1inch/Step)	Set erasing width when erasing frame. The default value is what is specified by the “Administrator setting” menu. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Erase Center	Erase Center	OFF ON	Set default setup of selection whether to erase or not shade that is created in the center of two-page spread document.. The default value is what is specified by the “Administrator setting” menu.
		Erase Width	1~50mm (1mm/Step) 0.1~2.0inch (0.1inch/Step)	Set erasing width when erasing center. The default value is what is specified by the “Administrator setting” menu. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Contrast		-3 -2 -1 0 +1 +2 +3	Set contrast of document The default value is what is specified by the “Administrator setting” menu. The default value is what is specified by the “Administrator setting” menu.
	Hue		-3 -2 -1 0 +1 +2 +3	Set color phase of color image. The default value is what is specified by the “Administrator setting” menu.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Register/ Edit	Saturation	-3 -2 -1 0 +1 +2 +3	Set color saturation of color document. The default value is what is specified by the “Administrator setting” menu.
	RGB	-3 -2 -1 0 +1 +2 +3	Set relative amount of red, green and blue. The default value is what is specified by the “Administrator setting” menu.
Delete			Delete profile.

When [View Information] is pressed

Item				Contents
Print Count	Tray 1		nnnnnnnn	Indicates accumulated number of printing of tray 1.
	Tray 2		nnnnnnnn	Indicates accumulated number of printing of tray 2.
	Tray 3		nnnnnnnn	Indicates accumulated number of printing of tray 3.
	MP tray		nnnnnnnn	Indicates accumulated number of printing of manual feed tray.
	A4/Letter Impressions Count	Color	nnnnnnnn	Indicates accumulated number of color printings after converted to the equivalent amount of A4/Letter.
		Mono	nnnnnnnn	Indicates accumulated number of monochrome printings after converted to the equivalent amount of A4/Letter.

Item			Contents
Scan	Total Scanned Pages	nnnnnnnn	Indicates accumulated amount of scanned documents.
	Scanned Pages	nnnnnnnn	Indicate amount of scanned documents.
	Totalf Scanned Pages (ADF)	nnnnnnnn	Indicates accumulated amount of scanned documents supplied from automatic document feeder.
	Scanned Pages (ADF)	nnnnnnnn	Indicates amount of scanned documents supplied from automatic document feeder.
Supplies Statas	Black Drum	Remain xxx%	Indicates residual life of black drum.
	Cyan Drum	Remain xxx%	Indicates residual life of cyan drum.
	Magenta Drum	Remain xxx%	Indicates residual life of magenta drum.
	Yellow Drum	Remain xxx%	Indicates residual life of yellow drum.
	Belt	Remain xxx%	Indicates residual life of belt unit.
	Fuser	Remain xxx%	Indicates residual life of fuser unit.
	Black Toner(n.nK)*	Remain xxx%	Indicates residual amount of toner in % *: It changes depending on the type of the installed toner cartridge. (7.0K) : Starter toner cartridge (2.3K) : Toner cartridge (2.5K) : Toner cartridge S type
	Cyan Toner (n.nK)*	Remain xxx%	
	Magenta Toner (n.nK)*	Remain xxx%	
	Yellow Toner (n.nK)*	Remain xxx%	

Item			Contents
System	Serial No.	xxxxxxxxxxxx xxxxxxxxxxxx	Indicates serial number (26 alphanumeric character at a maximum)
	Asset No.	xxxxxxxx	Indicates asset number (8 alphanumeric character at a maximum)
	Lot No.	xxxxxxxxxxxx xxxxxxxxxxxx	Indicates production lot number (26 alphanumeric character at a maximum)
	CU Version	xx.xx	Indicates version number of CU (Control Unit) firmware.
	PU Version	xx.xx.xx	Indicates version number of PU (Print Unit) firmware.
	SIP Version	xx.xx	Indicates version number of SIP (Scanner Imaging Processor) firmware.
	Scanner Version	xx.xx	It indicates version number of scanner firmware.
	Total Memory	xx MB	Indicates total capacity of all RAMs installed.
	Flash Memory	xx MB [Fxx]	Indicates total capacity of all flash memories installed.
Network	IPv4 Address	xxx.xxx.xxx.xxx	This menu is not indicated when [Administrator Setup] – [Network control] – [Network Setup] – [TCP/IP] is invalid, or if [IP version] is “IPv6”.
	Sub Net Mask	xxx.xxx.xxx.xxx	This menu is not indicated when [Administrator Setup] – [Network control] – [Network Setup] – [TCP/IP] is invalid, or if [IP version] is “IPv6”.
	Gateway Address	xxx.xxx.xxx.xxx	This menu is not indicated when [Administrator Setup] – [Network control] – [Network Setup] – [TCP/IP] is invalid, or if [IP version] is “IPv6”.
	MAC Address	xx:xx:xx:xx:xx:xx	Indicates MAC address.
	NIC Program Version	xx.xx	Indicates network F/W version number.

Item			Contents
Network	IPv6 Address (local)	xxxx:xxxx: xxxx:xxxx: xxxx:xxxx	This menu is not indicated when [Administrator Setup] - [Network control] - [Network Setup] - [TCP/IP] is invalid, or if [IP version] is “IPv4”.
	IPv6 Address (global)	xxxx:xxxx: xxxx:xxxx: xxxx:xxxx	This menu is not indicated when [Administrator Setup] - [Network control] - [Network Setup] - [TCP/IP] is invalid, or if [IP version] is “IPv4”.

When [Admin Setup] is pressed

Note! The [Admin password] is required to enter this menu.
By default, Administrator password is not set.

Copy Setup

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Default Settings	Doc.Type	Doc.Type	Text Text/Photo Photo Extra Fine	Set default setup of image quality.
		Removal for Background & Show-Through (sTHR)	Auto OFF 1 2 3 4 5 sTHR	Set default setup of background/offset phenomenon removal.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Default Settings	Density		-3 -2 -1 0 +1 +2 +3	Set default setup of density.
	Zoom		100% Automatic	Set default setup of Enlarge/Reduce.
	Sort		OFF ON	Set default setup to sort copied sheets in the order of page number. Select the default setup whether documents of different sizes are copied to the papers of different sizes or not.
	Margin	Margin	OFF ON	Set default setup of Enable/Disable binding margin.
		Left (Front)	0~±25mm (1mm step) 0 0~±1.0inch (0.1inch step)	Set default setup of distance of movement of copied output image toward right on the front side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
		Top (Front)	0~±25mm (1mm step) 0 0~±1.0inch (0.1inch step)	Set default setup of distance of movement of copied output image toward bottom on the front side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
		Left (Back)	0~±25mm (1mm step) 0 0~±1.0inch (0.1inch step)	Set default setup of distance of movement of copied output image toward right on the back side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
		Top (Back)	0~±25mm (1mm step) 0 0~±1.0inch (0.1inch step)	Set default setup of distance of movement of copied output image toward bottom on the rear side of copy paper. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Default Settings	Edge Erase	Edge Erase	OFF ON	Set default setup whether or not to erase shade that is created in the surrounding area of two-page spread document.
		Width	5~50mm (1mm step) 0.2~2.0inch (0.1inch step)	Set default setup of erasing width when erasing frame.. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Erase Center	Erase Center	OFF ON	Set default setup of selection whether to erase or not shade that is created in the center of two-page spread document. The default value is what is specified by the “Administrator setting” menu.
		Erase Width	1~50mm (1mm step) 0.1~2.0inch (0.1inch step)	Set default setup of erasing width when erasing center. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Duplex Copy	CopyMethod	OFF 1→2 sides 2→2 sides 2→1 side	Set default setup of selecting type of both-sided copying.
		Binding	Right & Left Top	Set the default setup of binding position of document.
	Mixed Size		OFF ON	Set default setup of the document scanning area.
	Scan Size		Auto Letter ⬭ Letter ⬯ Tabloid Legal 14 H. LTR ⬯ A3 B4 A4 ⬭ A4 ⬯ B5 ⬭ B5 ⬯ A5 ⬭ A5 ⬯	

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Default Settings	Cont. Scan	OFF ON	Select default setup to inquire or not to inquire if next page of document is ready.
	Contrast	-3 -2 -1 0 +1 +2 +3	Set default setup of contrast.
	Hue	-3 -2 -1 0 +1 +2 +3	Set default setup of image quality.
	Saturation	-3 -2 -1 0 +1 +2 +3	Set default setup of color saturation adjustment.
	RGB	-3 -2 -1 0 +1 +2 +3	Set default setup of the relative amount of red, green and blue.

Fax Setup

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Default Settings	Doc. Type	Normal Fine Ext-Fine Photo Background	Set default setup of selecting image quality when scanning document.
	Density	Lightest Lighter Normal Darker Darkest	Set default setup of density when scanning document.
	Scan Size	Auto Letter ⬐ Letter ⬏ Tabloid Legal 14 H. LTR ⬏ A3 B4 A4 ⬐ A4 ⬏ B5 ⬏ A5 ⬏	Set default setup of the document scanning area.
	Cont. Scan	OFF ON	Select default setup to inquire or not to inquire if next page of document is ready.
	TTI	OFF ON	Set whether or not to print sender's name on document when it is printed at destination.
	MCF Report	OFF ON	Set whether or not to print result of transmission automatically.
	Memory Tx	OFF ON	Set default setup of memory transmission. When it is set to OFF, real-time transmission takes place.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents	
F-code Box	Register/ Edit	Secure Box	Name of box	Enter name of confidential document box.	
			Sub-Address	Enter name of confidential document box. More than 1 character and maximum 20 characters, 0 to 9 (Numeral only)	
			Password	Enter name of confidential document box. More than 1 character and maximum 20 characters, '0'-'9', '#', '*' (Numeral only)	
			Retention period	00 to -31 days	
			Security identification number	Enter password of confidential document box. 4 characters fixed, 0 to 9 (Numeral only)	
		Bulletin Box	Name of box	Enter name of bulletin board box. Maximum 16 half-sized characters, maximum 8 full size characters (Number of characters is same to confidential.)	
			Sub-Address	Enter sub address of bulletin board box. More than 1 character and maximum 20 characters, 0 to 9 (Numeral only)	
			Password	Enter password of bulletin board box. More than 1 character and maximum 20 characters, '0'-'9', '#', '*' (Numeral only)	
			Rx Protect	OFF / ON	When set to ON, F code bulletin board reception is prohibited. Bulletin board polling transmission only is permitted.
			Auto Print	OFF / ON	When set to ON, received image data is printed automatically when F code bulletin board reception is completed.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents	
F-code Box	Register/ Edit	Bulletin Box	OverWrite	OFF / ON	When set to ON, the new image data is saved while all of the image data that have been saved during bulletin board reception are deleted. It works as overwrite system .
			Erase Tx Doc	OFF / ON	When set to ON, the saved image data that is already sent destination by the F code bulletin board polling transmission, is deleted.
			I.D.Code	Enter password of bulletin board box.	
	Delete			Deletes the F-code box.	
Security function	ID check Tx		OFF ON	Set the ID check transmission.	
	Checking broadcast dest		OFF ON	Set whether or not to indicate destination number before starting transmission.	
	Confirm Dial		OFF ON	Set double-pressing of dial.	
Auto Print Journal Report	Setting		OFF ON	Set automatic printing of communication result report.	
	Print time		OFF ON	Enter day and time to specify.	

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Other Settings	Redial Trise		0 Times ~ 3 Times ~ 14 Times	Set number of times of redialing.
	Redial Interval		0 Min ~ 1 Min ~ 5 Min	Set interval between redialing.
	Block Junk Fax	Setting	OFF Mode 1 Mode 2 Mode 3	Set up the setting of protection from direct E-mail.
		Register/Edit		Advances to the registration of Mode 2, then Mode 3.
		Delete		Deletes the registration data of Mode 2 and Mode 3.
	Ring Response		0 Times ~ 2 Times ~ 10 Times	Set number of times of ringing the calling bell.
	Dialing Pause Duration		0 second ~ 3 second ~ 10 second	Set the dial pause time.
	High Resolution		400 dpi 600 dpi	Set resolution of super fine quality resolution.
	Rx Reduc. Rate		Auto 100%	Set the reception reduction rate.
	Reduc. Margin		0 mm ~ 24 mm ~ 85 mm	Set the threshold level of reception reduction.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Other Settings	Rotate Tx	OFF ON	Set the rotary transmission.
	ECM Mode	OFF ON	Set ECM mode.
	PreFix	0000	Set prefix.
	Received Time Stamp	OFF ON	Set reception time stamp.
	Print Check message	OFF ON	Set check message print.

Scanner Setup

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Default Settings (Common to Scan To E-mail and Scan To USB memory)	Doc. Type	Doc. Type	Text Text/Photo Photo	Set default setup of selecting image quality when scanning document.
		Removal for Background & Show-Through (sTHR)	Auto OFF 1 2 3 4 5 sTHR	Set default setup of background/offset phenomenon removal.
	Density		-3 -2 -1 0 +1 +2 +3	Set default setup of density.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Default Settings (Common to Scan To E-mail and Scan To USB memory)	Resolution	75 dpi 100 dpi 150 dpi 200 dpi 300 dpi 400 dpi 600 dpi	Set default setup of resolution.
	Scan Size	Auto Letter ⏍ Letter ⏍ Tabloid Legal 14 H.LTR ⏍ A3 B4 A4 ⏍ A4 ⏍ B5 ⏍ B5 ⏍ A5 ⏍ A5 ⏍	Set default setup of document scanning size.
	Cont. Scan	OFF ON	Select default setup to inquire or not to inquire if next page of document is ready.
	Direction	Left Edit Top Edit	Set default setting of orientation of document that is set on glass, and set orientation of image. Left end It is defined at the top end of image that has loaded the scanning start position. Top end It is defined at the left end of image that has loaded the scanning start position.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Default Settings (Common to Scan To E-mail and Scan To USB memory)	Grayscale		OFF ON	Set default setup of grayscale. ON Document is scanned in B/W 255 gradations. OFF Document is scanned in B/W 2 gradations.
	FileFormat	Color	PDF TIFF JPEG XPS	Set default setup of the file format when scanning in color.
		Mono (Grayscale)	PDF TIFF JPEG XPS	Set default setup of the file format when scanning in grayscale. When grayscale is set to OFF, JPEG and XPS images are not displayed.
		Mono (Binary)	PDF TIFF	Set default setup of the file format when scanning in monochrome.
	ComprsRT (compression Rate)	Color	High Medium Low	Set default setup of the compression ratio when scanning in color.
		Mono (Grayscale)	High Medium Low	Set default setup of the compression rate when scanning in B/W with grayscale being set to ON.
		Mono (Binary)	High Medium Raw format	Set default setup of the compression rate when scanning in B/W with grayscale being set to OFF
	EdgeErase	Edge Erase	OFF ON	Set default setup whether or not to erase shade that is created in the surrounding area of two-page spread document.
		Width	5~50mm (1mm step) 0.2~2.0inch (0.1inch step)	Set default setup of erasing width when erasing frame. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Default Settings (Common to Scan To E-mail and Scan To USB memory)	EraseCenter	Erase Center	OFF ON	Set default setup whether or not to erase shade that is created in the center of two-page spread document.
		EraseWidth	1~50mm (1mm step) 0.1~2.0inch (0.1inch step)	Set default setup of erasing width when erasing center. (Display in units of mm or display in units of inch can be switched by changing the unit of display on the system setup).
	Contrast		-3 -2 -1 0 +1 +2 +3	Set default setup of contrast.
	Hue		-3 -2 -1 0 +1 +2 +3	Set default setup of color phase.
	Saturation		-3 -2 -1 0 +1 +2 +3	Set default setup of color saturation.
	RGB		-3 -2 -1 0 +1 +2 +3	Set default setup of the relative amount of red, green and blue.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
E-mail Setup	File Name	File Name	Set default setup of image file name.
	Template	EditSubject	Register/Edit name of subject.
		Edit Body	Register/Edit body text.
	From/Reply To	From	Registers the E-mail address that is given to the “From” column.
		Reply To	Registers the E-mail address that is given to the “Reply to” column.
	Check Broadcast dest.	OFF ON	Set to display or not the screen that confirms the input E-mail address, before starting the broadcast send.
USB Memory Setup	File Name	File Name	Set default setup of filename.. Following options can be specified as filename. Adding serial number in the range of #n: 00000 to 99999 #d: Adding date of file creation (yymmddhhmmss)

Printer Setup

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Print Menu	Tray Configuration	Paper Feed	Tray 1 Tray 2 Tray 3 MP Tray	Select a paper feeding tray. Tray 2/3 are indicated only when it is installed.
		Auto Tray Switch	OFF ON	Set the automatic switching of trays.
		Tray Sequence	Down Up Paper Feed Tray	Specify priority when selecting order at the automatic tray selection/automatic tray switching.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Print Menu	Tray Configuration	MP Tray Usagc	When Mismatch Do Not Use	Set the default setup of using the MP tray.
		Media Check	Disable Emable	Set the default setup whether to check or note the un-matching between the paper size of document data and the paper size of the tray.
	Print Setup	Copies	1 ~ 999	Set number of copies. For local print, this setup is invalid except for demo data.
		Duplex	OFF ON	Specify both-side print.
		Binding	Long Edit Short Edit	Set binding method of both-side print.
		Resolution	600dpi 600x1200dpi 600dpi M-LEVEL	Set default setup of resolution.
		Toner Save Mode	OFF ON	Switching between ON/OFF of toner save mode.
		Mono-Print Speed	Auto Speed Mono 33PPM Mixed Speed Color Speed	Set B/W print speed..
		Orientation	Portrait Landscape	Set print orientation.
		Lines Per Page	5 Row ~ 64 Row ~ 128 Row	Set printable number of lines per page.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Print Menu	Print Setup	Edit Size	CassetteSize A3 A4 A4 A5 A6 B4 B5 B5 Legal 14 Legal 13.5 Legal 13 Tabloid Letter Letter Executive Custom COM-10 DL C5 C4 Index Card	Set the edit size of paper when paper size is not specified from PC. If [Cassette Size] is selected, paper size of the currently selected tray becomes the edit size.
		Width	64~210~297 mm 2.5~8.3~11.7 inch	Set default setup of paper width of custom paper.
		Length	105~297~1200 mm 4.1~11.7~47.2 inch	et default setup of paper length of custom paper.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Print Menu	Print Adjust	Manual Timeout	Disable 30 seconds 60 seconds	Set the time to wait before paper is set during the manual feeding mode.
		Wait Timeout	Disable 5 seconds 10 seconds 20 seconds 30 seconds 40 seconds 50 seconds 60 seconds 90 seconds 120 seconds 150 seconds 180 seconds 210 seconds 240 seconds 270 seconds 300 seconds	Set the time before starting the forced printing after data is no more received. PS cancels the job.
		Low Toner	Stop Continue	Set whether printing continues or not if [Toner short] is indicated for the first time. Print will be stopped in the case when the message [*** toner is short] (*** is toner color) is displayed as MFP enters offline.
		Jam Recovery	Disable Emable	Set whether printing is continued from the jammed page after paper jam is removed and MFP is recovered.
		Paper Black Setting	-2 -1 0 +1 +2	Compensates variation of printing due to temperature difference. If printed character becomes thin, change the setup.
		Paper Color Setting	-2 -1 0 +1 +2	Compensates variation of printing due to temperature difference. If printed character becomes thin, change the setup.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Print Menu	Print Adjust	Trnspr Black Setting	-2 -1 0 +1 +2	Compensates variation of printing due to temperature difference. Change the setup when printing becomes thin on the OHP sheet.
		Trnspr Color Setting	-2 -1 0 +1 +2	Compensates variation of printing due to temperature difference. Change the setup when printing becomes thin on the OHP sheet.
		SMR Setting	-3 -2 -1 0 +1 +2 +3	Compensates variation of printing due to difference of environmental temperature/humidity and difference in print density/print frequency. If printed character varies heavily, change the setup.
		BG Setting	-3 -2 -1 0 +1 +2 +3	Compensates variation of printing due to difference of environmental temperature/humidity and difference in print density/print frequency. Change the setup if background is dark.
	Print Position Adjust	Front X Adjust	0~±2.00 mm (0.25mm Step)	Corrects position of the entire print image in the direction vertical (horizontal direction) against the paper running direction.
		Front Y Adjust	0~±2.00 mm (0.25mm Step)	Corrects position of the entire print image in the direction of running (vertical direction) along with the paper running direction.
		Back X Adjust	0~±2.00 mm (0.25mm Step)	Corrects position of the entire print image in the direction of running (vertical direction) along with the paper running direction during rear side printing of both-side print.
		Back Y Adjust	0~±2.00 mm (0.25mm Step)	Corrects position of the entire print image in the direction of running (vertical direction) along with the paper running direction during rear side printing of both-side print.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Print Menu	Drum Cleaning	OFF ON	Executes cleaning of image drum before stating printing. It can provide picture quality improvement effect on printing.
	Hex Dump	OFF ON	Executes printing with hexadecimal dump. Turn OFF the power to the MFP to stop printing of hexadecimal dump.
Color Menu	Density Control	Manual Automatic	Setting up from MFP is necessary, or MFP setup has priority.
	Adjust Density	Execute	Executes the density correction.
	Color Tuning/Print Pattern	Execute	Executes printing of color pattern.
	Cyan HIGHLIGHT	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at thin (Highlight) portion of cyan. Pressing toward plus (+) changes printing to darker, and pressing toward minus (-) changes printing to thinner.
	Cyan MID-TONE	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at mid-tone portion of cyan.
	Cyan DARK	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at dark portion of cyan.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Color Menu	Magenta HIGHLIGHT	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at thin (Highlight) portion of magenta. Pressing toward plus (+) changes printing to darker, and pressing toward minus (-) changes printing to thinner.
	Magenta MID-TONE	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at mid-tone portion of magenta.
	Magenta DARK	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at dark portion of magenta.
	Yellow HIGHLIGHT	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at thin (highlight) portion of yellow. Pressing toward plus (+) changes printing to darker, and pressing toward minus (-) changes printing to thinner.
	Yellow MID-TONE	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at mid-tone portion of yellow.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Color Menu	Yellow DARK	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at dark portion of yellow.
	Black HIGHLIGHT	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at thin (Highlight) portion of black. Pressing toward plus (+) changes printing to darker, and pressing toward minus (-) changes printing to thinner.
	Black MID-TONE	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at mid-tone portion of black.
	Black DARK	-3 -2 -1 0 +1 +2 +3	Adjusts color tone at dark portion of black.
	Cyan Darkness	-3 -2 -1 0 +1 +2 +3	Adjusts density of cyan. Do not use this setup normally. This setup becomes valid from the next printing upon completion of density correction.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Color Menu	Magenta Darkness	-3 -2 -1 0 +1 +2 +3	Adjusts density of magenta. Do not use this setup normally. This setup becomes valid from the next printing upon completion of density correction.
	Yellow Darkness	-3 -2 -1 0 +1 +2 +3	Adjusts density of yellow. Do not use this setup normally. This setup becomes valid from the next printing upon completion of density correction.
	Black Darkness	-3 -2 -1 0 +1 +2 +3	Adjusts density of black. Do not use this setup normally. This setup becomes valid from the next printing upon completion of density correction.
	Adjust Registration	Execute	Executing this menu activates the automatic color registration error correction function. Execute this function while MFP is in idling state.
	Cyan Reg Fine Adj	-3 -2 -1 0 +1 +2 +3	Finely adjusts the image position error of cyan.
	Magenta Reg Fine Adj	-3 -2 -1 0 +1 +2 +3	Finely adjusts the image position error of magenta.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Color menu	Yellow Reg Fine Adj	-3 -2 -1 0 +1 +2 +3	Finely adjusts the image position error of yellow.
	Ink Simulation	OFF SWOP EUROSCALE JAPAN	Sets the ink simulation. This setup is valid only for the PS language job.
	UCR	Low Medium High	Enables selection of amount of black ink (Black) during color printing. Increasing amount of black ink economizes amount of toner of other three colors.
	CMY 100% Density	Disable Emable	Sets the selection whether to make valid or not to valid the 100% output against the CMY100% gradation setup.
	CMYK Conversion	OFF ON	If this setup is set to [OFF], printing time can be shortened when the CMYK data is used abundantly during the postscript printing. However, please note that color tone of printed image may change. Also, if the ink simulation function is used, this menu setup is made invalid.
Sys Config Menu	Personality	Auto Emulation PCL PS3 Emulation	Selects print language. When [Auto] is selected, the print languages are automatically switched.
	Alarm release	Manual Auto	PS Error is indicated only during job regardless of this setup. PCL PCL: Sets the timing to cancel the recoverable error indication. [Online] shows the error until the [Online] switch is pressed. . [Job] shows the error until the next job is received.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Sys Config Menu	Auto Continue	OFF ON	This setup determines if MFP recovers automatically when memory overflow occurs.
	Error Report	OFF ON	This setup determines if error report is printed or not when postscript error occurs.
PCL Setup	Font Source	Resident	Specify location of fonts to use.
	Font No.	I0 ~ I90	Select number of font to use. When [Internal fonts] is selected, a value in the range of I0 - I90 is selected.
	Font Pitch	0.44 CPI ~ 10.00 CPI ~ 99.99 CPI	Sets font width. It increments or decrements in units of 0.01 CPI. (Unit: character/inch). It is displayed when the font that is selected by [Font No.] is the outline font of fixed spacing.
	Font Height	4.00 Point ~ 12.00 Point ~ 999.75 Point	999.75 point Sets font height. It increments or decrements in units of 0.25 points. (unit: point) It is displayed when the font that is selected by [Font No.] is the outline font of proportional spacing.
	Symbol Set	PC-8 PC-8 Dan/Nor PC-8 TK PC-775 PC-850 PC-852 PC-855 PC-857 TK PC-858 PC-864 PC-866 PC-869	Select symbol set.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
PCL Setup	Symbol Set	PC-1004 Pi Font Plska Mazvia PS Math PS Text Roman Ext Roman-8 Roman-9 Serbo Croat1 Serbo Croat2 Spanish Ukrainian VN Int'l VN Math VN US Win 3.0 Win 3.1 Blt Win 3.1 Cyr Win 3.1 Grk Win 3.1 Heb Win 3.1 L1 Win 3.1 L2 Win 3.1 L5 Wingdings Dingbats MS Symbol OCR-A OCR-B OKIOCRB HP ZIP USPSFIM USPSSTP USPSZIP Bulgarian CWI Hung DeskTop German Greek-437 Greek-437 Cy Greek-737 Greek-928 Hebrew NC Hebrew OC	Select symbol set.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
PCL Setup	Symbol Set		IBM-437 IBM-850 IBM-860 IBM-863 IBM-865 ISO Dutch ISO L1 ISO L2 ISO L5 ISO L6 ISO L9 ISO Swedish1 ISO Swedish2 ISO Swedish3 ISO-2 IRV ISO-4 UK ISO-6 ASC ISO-10 S/F ISO-11 Swe ISO-14 JASC ISO-15 Ita ISO-16 Por ISO-17 Spa ISO-21 Ger ISO-25 Fre ISO-57 Chi ISO-60 Nor ISO-61 Nor ISO-69 Fre ISO-84 Por ISO-85 Spa Kamenicky Legal Math-8 MC Text MS Publish PC Ext D/N PC Ext US PC Set1 PC Set2 D/N PC Set2 US	Select symbol set.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
PCL Setup	A4 Print Width		78 digits 80 digits	It sets number of digits for automatic line feed on A4 paper.
	White Page Skip		OFF ON	It sets whether to print blank (white) page or not.
	CR Function		CR CR+LF	Set the MFP operation when receiving CR code.
	LF CR Function		LF LF+CR	Set the MFP operation when receiving LF code.
	Print Margin		Normal 1/5 inch 1/6 inch	Sets the unprintable area on paper. Make correction in the way so that thin green becomes visible.
	True Black		OFF ON	Sets whether black of image data is to be printed by mixing CMYK or by black toner only.
	Pen Width Adjust		OFF ON	Make correction in the way so that thin green becomes visible. It is invalid for PS.
	Tray ID#	Tray 2	1 ~ 5 ~ 59	Specify # that is set by tray 2 with the use of feeding tray selection command of the PCL command. *: Optional second tray unit.
		Tray 3	1 ~ 20 ~ 59	Specify # that is set by tray 3 with the use of feeding tray selection command of the PCL command. *: Optional third tray unit.
		MP tray	1 ~ 4 ~ 59	Specify # that is set by MP tray with the use of feeding tray selection command of the PCL command.

Network Menu

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Network Setup	TCP/IP	Disable Enable	It sets valid/invalid of TCP/IP protocol.
	IP Version	IPv4 IPv4 + IPv6	It sets IP version number to be used. It is not displayed when TCP/IP is invalid.
	NetBEUI	Disable Enable	It sets valid/invalid of NETBEUI protocol.
	NetBIOS over TCP	Disable Enable	It sets Enable/Disable of NetBIOS over TCP protocol. This menu is not displayed when TCP/IP is invalid, or if IP version number is IPv6.
	NetWare	Disable Enable	It sets Enable/Disable of NetWare protocol.
	EtherTalk	Disable Enable	It sets Enable/Disable of EtherTalk protocol.
	Frame type	Auto 802.2 802.3 ETHERNET II SNAP	It sets frame type. * It is not displayed when NetWare is Disable.
	IP Address Setting	Auto Manual	It sets method of setting up IP address.. This menu is not displayed when TCP/IP is invalid, or if IP version number is IPv6.
	IPv4 address	. . . 100	It sets IP address. This menu is not displayed when TCP/IP is invalid, or if IP version number is IPv6.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Network setup	Subnet Mask	. . .	It sets subnet mask. This menu is not displayed when TCP/IP is invalid, or if IP version number is IPv6.
	Gateway Address	. . .	Set gateway address. This menu is not displayed when TCP/IP is invalid, or if IP version number is IPv6.
	Web	Disable Enable	Set Enable/Disable of access from Web browser. This menu is not displayed when TCP/IP is invalid.
	Telnet	Disable Enable	Set Enable/Disable of access from TELNET. This menu is not displayed when TCP/IP is Disable.
	FTP	Disable Enable	Set Enable/Disable of access from FTP. This menu is not displayed when TCP/IP is Disable.
	IPSec	Disable Enable	It is displayed and change to Disable is possible only when IP Sec is set to valid. Implement setup from Web browser to make IPSec valid.
	SNMP	Disable Enable	Set valid/invalid of access from SNMP. This menu is not displayed when TCP/IP is invalid and NETWARE is invalid.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Network Setup	Network Scale	Small Normal	Normal This setting is normally. The MFP works effectively even when it is connected to HUB containing spanning tree function. However, if the MFP is connected to a small scale LAN containing a few units of PC, booting up time takes longer as demerit. Small scale It supports the small scale LAN containing a few units of PC, up to large scale LAN. However, there are cases that the MFP does not work effectively when it is connected to HUB containing spanning tree function.
	HUB Link Setting	Auto Negotiate 100BASE-TX FULL 100BASE-TX HALF 10BASE-T FULL 10BASE-T HALF	Set connection mode with HUB. Set “Auto Negotiate” normally.
	Network PS - Protocol	ASCII RAW	Set PS – protocol.
	Factory Default	Execute	Setup of network, mail server, LDAP server and secure protocol server are returned to the default setup.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Mail Server Setup	SMTP Server	IP address or name of server	Sets IP address of SMTP server or sets name of server.
	SMTP Port	1 ~ 25 ~ 65535	Set port number of SMTP server. Use the default setup normally.
	SMTP Encryption	None SMTPS STARTTLS	Set encryption of communication with mail server (SMTP).
	POP3 Server	IP address or name of server	Sets IP address of POP3 server or sets name of server. It is required for “POP before SMTP” certification or [Mail reception print].
	POP3 Port	1 ~ 110 ~ 65535	It sets the port number that is prepared by the POP3 of the POP3 server side. Use the default setup normally. . It is required for “POP before SMTP” certification or [Mail reception print].
	POP Encryption	None POP3S STARTTLS	Set encryption of communication with mail server (POP).
	Authenticaion method	None SMTP POP	Set certification method for E-mail transmission. SMTP performs the SMTP server certification. POP performs the POP before SMTP certification.
	SMTP User ID	User ID	It sets the log-in name that is used when logging on the sever used for SMTP certification
	SMTP Password	Password	It sets the password that is used when logging on the sever used for SMTP certification.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Mail Server Setup	POP User ID		User ID	It sets the log-in name that is used when logging on the sever used for SMTP certification or “E-mail reception print”.
	POP Password		Password	It sets the log-in name that is used when logging on the sever used for SMTP certification or “E-mail reception print”.
LDAP Server Setting	Server Setting	LDAP Server	IP address or name of server	Sets IP address of LDAP server or sets name of server.
		Port No.	1 ~ 389 ~ 65535	Set port number of LDAP server.
		Timeout	10 ~ 30 ~ 120	Set timeout value(seconds) for search response from LDAP server.
		Max. Entries	5 entries ~ 100 entries	The maximum number of the result of search to be acquired is set.
		Seach Root		Specifies position to start searching the LDAP directory.
	Attr	Name 1	Name search condition 1	Specify attribute that is used for searching name. Default setup is “cn”.
		Name 2	Name search condition 2	Specify attribute that is used for searching name. Default setup is “cn”.
		Name 3	Name search condition 3	Specify attribute that is used for searching name. Default setup is “givenName”.
		E-mail Address	E-mail address search condition	Specify attribute that is used for searching E-mail address. Default setup is “mail”.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
LDAP Server Setting	Attr	Addnl Filter	Additional setup	Specify addition attribute used for searching.
	Authentication	Method	Anonymous Simple Digest-MD5 Secure Protocol	Specify method of certification. DNS server setup is required for Digest-MD5 Secure protocol server setup is required for Secure Protocol.
		User ID	User ID	Sets the user ID for certification of the LDAP server. When certification of the LDAP server setup is “Anonymous”, this menu is not displayed.
		Password	Password	Set certification password of LDAP server. When certification of the LDAP server setup is “Anonymous”, this menu is not displayed.
	Encryption		None LDAPS STARTTLS	Set encryption of communication with LDAP server.
Secure PrtcSrv Setting	Domain		Domain name	Set realm name for Kelperos certification.

Management

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Standby Screen Setup	Copy screen	1. Doc. Type		Set the items that are displayed on the favorite switch items on the Copy standby screen. The following items can be set: N-in-1, Repeat, Book Copy, Margin, Erasing frame, Erase Center, Duplex, Mixed Size, Scan Size, Cont. Scan, Contrast, Hue, Saturation, RGB, Logout.
		2. Density		
		3. Tray		
		4. Zoom		
		5. Sort		
	Fax Screen	1. Speed Dial		Set the items that are displayed on the favorite switch items on the Fax standby screen. The following items can be set: Duplex Scan, Scan Size, Group Tx, Cont. Scan, TTI, TTI Select, MCF Report, Deleyed Tx, Polling, F Polling, F-Code Tx, Memory Tx, Dialing Options, Auto Rx, Logout.
		2. Doc. Type		
		3. Density		
		4. Redial		
		5. OffHook		
	Scanner Screen	Network PC	1. Doc. Type	Set the items that are displayed on the favorite switch items on the Scanner standby screen (Network PC). The following items can be set: SubFolder, Duplex Scan, Cont. Scan, Direction, Grayscale, FileFormat, ComprsRt, Frame erase, Erase Center, Contrast, Hue, Saturation, RGB, Logout.
			2. Density	
			3. Resolution	
			4. Scan Size	
			5. File Name	
		E-mail	1. Destination	Set the items that are displayed on the favorite switch items on the Scanner standby screen (E-mail). The following items can be set: Reply to, E-mail edit , File Name, Duplex Scan, Cont. Scan, Direction, Grayscale, File Format, Comprs Rt, Frame erase, Erase Center, Contrast, Hue, Saturation, RGB, Logout.
			2. Doc. Type	
			3. Density	
			4. Resolution	
			5. Scan Size	

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Standby Screen Setup	Scanner Screen	USB Memory	1. Doc. Type	Set the items that are displayed on the favorite switch items on the Scanner standby screen (USB memory). The following items can be set: . Duplex Scan Cont. Scan Direction Grayscale FileFormat ComprsRT Edge Erase Center Erase Contrast Hue Saturation RGB Logout.
			2. Density	
			3. Resolution	
			4. Scan Size	
			5. File Name	
	DefaultMod		Copy	Set the mode that is selected when the MFP power is turned ON or when the screen automatic reset time has elapsed.
			FAX	
			Scan	
			Print	
Address Book Tab Setting	Fax			In order of number, List, Group and others, Max. 3 destination tabs can be registered to show on standby screen.
	E-mail			In order of number, List, Group and others, Max. 3 destination tabs can be registered to show on standby screen.
Auto Reset Time	Copy Screen	Reset time	1 minute ~ 3 minute ~ 10 minute	Sets time of automatic reset.
		Reset After Scan	OFF	Set screen reset upon completion of scanning
			ON	
	Fax Screen	Reset time	1 minute ~ 3 minute ~ 10 minute	Sets time of automatic reset.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Auto Reset Time	Scanner Screen	Reset time	1 minute ~ 5 minute ~ 10 minute	Sets time of automatic reset.
		Reset After Scan	OFF ON	Set screen reset upon completion of scanning.
Sound Setup	Volume		OFF Low Middle High	Set buzzer sound volume.
	Key touch Volume		OFF Low Middle High	Set key-touch sound volume.
	Key Touch Tone	Fax	High Mid Low	Set key touch tone when operating fax.
		Copy	High Mid Low	Set key touch tone when operating copy.
		Scan	High Mid Low	Set key touch tone when operating scan.
	Fax Ringer		OFF ON	It sets that call bell sounds when fax arrives even when optional telephone set is not connected.
	OPCompleteSoundVolume		OFF Low Middle High	Set the sound volume upon completion of operation.
	OPComplete SoundVolume	Copy Completed	OFF Type 1 Type 2 Type 3	Set sound tone when copy is completed.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Sound Setup	OPComplete Sound	Transmission Completed	OFF Type 1 Type 2 Type 3	Set sound tone upon completion of fax transmission.
		Rx Completed	OFF Type 1 Type 2 Type 3	Set sound tone upon completion of fax reception.
		Rx Print Completed	OFF Type 1 Type 2 Type 3	Set sound tone upon completion of fax reception and printing.
		E-mail sent Completed	OFF Type 1 Type 2 Type 3	Set sound tone upon completion of E-mail transmission.
		Report Print completed	OFF Type 1 Type 2 Type 3	Set sound tone upon completion of Report print.
		PC Print Completed	OFF Type 1 Type 2 Type 3	Set tone when PC print is completed.
		Flatbed Scan Completed	OFF Type 1 Type 2 Type 3	Set tone when flatbed scanning is completed.
	Paper Jam Alert		OFF ON	Select ON to sound paper jam alarm.

The shaded portion shows the default setup value when shipped from the factory.

Item				Contents
Local Interface *1	USB Menu	USB	Disable Enable	Select Enable/Disable of USB interface.
		Soft Reset	Disable Enable	Set Enable/Disable of the initial command.
		SPEED	480Mbps 12Mbps	Set the maximum transfer speed of USB interface.
		USB PS - Protocol	ASCII RAW	Select USB PS - protocol.
		Offline Receive	Disable Enable	Set whether to receive data in offline state or in recoverable error state.
		Serial Number	Disable Enable	Set Enable/Disable of USB serial number. USB serial number is not used for identifying USB device to which PC is connected.
	Parallel Menu	Parallel	Disable Enable	Set Enable/Disable of CENTRONIX interface.
		BI-Direction	Disable Enable	Set Enable/Disable of bi-directional CENTRONIX interface.
		ECP	Disable Enable	Setting Enable/Disable of ECP mode.
		ACK Width	Narrow Midium Wide	Setting the ACK width when receiving the compatible data.
		ACK/BUSY Timing	ACK In Busy ACK While Busy	Setting order of outputting the BUSY signal and the ACK signal when receiving the compatible data
		I-PRIME	Disable 3 Micro Sec 50 Micro Sec	Setting Valid time/Disable of the I-PRIME signal.
		Parallel PS-Protocol	ASCII RAW	CENTRO USB PS – protocol.
		Offline Receive	Disable Enable	Set whether to receive data in offline state or in recoverable error state.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
System Setup	Access Control	PIN User/Password Disable	Set access control.
	User Auth. Method	Local LDAP SecureProtocol	It is displayed when User/Password is selected by access control.
	Unit of Measure	Inch millimeter	Units (inch/millimeter) used by MFP are switched.
	DateFormat	mm/dd/yyyy dd/mm/yyyy yyyy/mm/dd	Select a format of a date.
	Allow all report to print	Disable Enable	Set to permit or not to print report on personal information. When OFF is requested by this menu, the administrator password is required at startup of printing. • Scan To Log • E-mail address book • Fax telephone book • Destination group list • Communication confirmation report • Transmission control report • Reception control report • Transmission/reception control report • Communication control daily report
	Near life LED	Disable Enable	Set LED illumination control when near-life warning is issued on toner, drum, fuser, belt.
	Address info lock timeout	1 minute ~ 3 minute ~ 10 minute	Set time until lock is released by MFP when address book, telephone book, profile is kept locked by Utilities.
	USB Memory Interface	Disable Enable	When this setup is made invalid, the Scan To USB memory function cannot be used.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Power Save	Power Save Enable	OFF ON	Setting ON/OFF of Power Save mode.
	Power Save Time	5 minutes 15 minutes 30 minutes 60 minutes 240 minutes	Set the time to enter the Power Save mode.
Memory Setup	Receive Buffer Size	Auto 0.5 MB 1 MB 2 MB 4 MB 8 MB 16 MB 32MB	Set receive buffer size that the local interface secures.
	Resource save area	Auto OFF 0.5 MB 1 MB 2 MB 4 MB 8 MB 16 MB 32MB	Set the resource save area.
Flash Memory Setup	Initialization	Execute	Initialize the Flash memory Delete the registered Demo data.
HDD Setup	Initialization	Execute	Initialize hard disk. Demo data and print job are deleted
	Format	PCL Common PS	Format hard disk. Demo data and print job are deleted.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Storage Maint Setup	Check File System *1	Execute	Resolves the un-match between the actual (free) space and displayed free space of file system, and recovers the control data (FAT information.)
	Check All Sectors *1	Execute	Execute recovery of the HDD sector information defect and provide solution for un-match of the above file systems.
	HDD Erase *1	Execute	Execute: Erase all data of hard disk Demo data and print job are deleted.

*1. When exiting the menu after changing the setups by using the local interface menu, the confirmation screen telling “If change takes place, the MFP reboots automatically. Do you really want to do it?” is displayed. When Yes is selected, the MFP reboots automatically.
If No is selected, the setups are not changed and the MFP exits the menu.

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Storage Maint Setup	Initial Lock	Disable Enable	Set whether or not to give permission to the setup change accompanied by initialization of hard disk and flash memory.
Encryption Setup	Job Limitstion	Disable Encrypted Job	When “Encrypted Job” is selected, all requests for print except encryption certified printing are truncated.
Language Maint Setup	Initialize	Execute	Deletes the downloaded message file.
Admin Password		New password	Changes the Administrator password. 6 or more half size alphanumeric characters If it is forgotten, the password cannot be changed any more.
Reset Settings		Execute	Bulletin board document JOB MEMORY Fax send/receive data History information are deleted Various setups are returned to default setups.
Job Log Clear		Execute	Delete the encryption job.

User Install

The shaded portion shows the default setup value when shipped from the factory.

Item			Contents
Time Setup		Setting time	Set time.
Set Daylight Saving		OFF ON	Setting ON/OFF of Daylight save made.
Time Zone		0:00	Sets time difference from GMT.
Comm. Line		Push Dial 10 Dial 20	Select type of comm line.
Fax reception mode		Fax Ready Mode Tel/Fax Ready Mode Fax/Tel Ready Mode Ans/Fax Ready Mode Tel Ready Mode	Select fax reception mode.
Dial Tone Detection		OFF ON	Set to detect or not to detect dial tone.
Busy Tone Detection		OFF ON	Set to detect or not to detect busy tone.
Monitor Control		OFF Type 1 Type 2	Select any one from three choices: Not to monitor. Monitor up to DIS. Execute monitoring during communication.
TTI Register/ Edit	TTI 1		Register/Edit name of TTI.
	TTI 2		Register/Edit name of TTI.
	TTI 3		Register/Edit name of TTI.
Standard TTI		Sender name 1 Sender name 2 Sender name 3	Select default TTI.

The shaded portion shows the default setup value when shipped from the factory.

Item		Contents
TTI Number		Register sender number.
TTI Calendar Type	yyyy/mm/dd mm/dd/yyy dd/mm/yy	Select the calendar type of the TTI information. Display formats for each setting are shown below. Year, month, date : July 11, 2007 yyyy/mm/dd : (2007 Jul 11) yyyy/mm/dd : (11,200 Jul 7) dd/mm/yyyy : (11 Jul 2007)
Super G3	OFF ON	Set whether or not to use Super G3 (ultrahigh-speed communication mode) for transmission.
Mirror Carriage Mode	Execute	When “Yes” is selected, it moves the mirror carriage to the transfer mode position.
Erase Privacy Data	Execute	This setup deletes the registration data, job logs and logs such as E-mail address and abbr. dial, and returns these setups to the default setups. It takes 2 to 3 hours. Do not turn OFF the power during progress.

When [Job Programs Setting] is pressed

Item		Contents
Register		Job program function is registered.
Delete		Delete the job program function.
Key Speed	Fastest Fast Normal Slow	Set the execution speed of job program function
Edit Title		Edit title of job program function.

When [Shutdown] is pressed

Item		Contents
Shutdown	Execute	Shutting down of the MFP is executed.

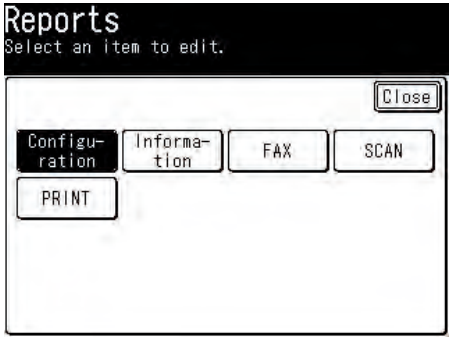
3.8 MFP information print

Confirm that the MFP works normally.

(1) Set A4 paper in the tray.

(2) Press "REPORTS" key.

(3) Press [Configuration].



(4) Press [Yes] .

(Sample)

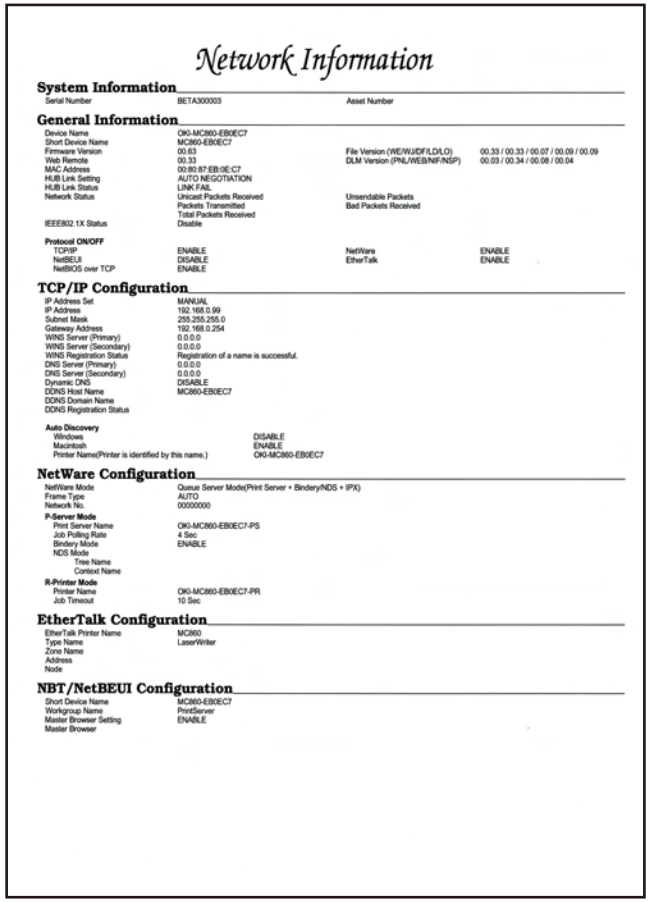
3.9 Network information print

Check the Network information print

(1) Press the TEST switch near the Network connector on the back of MFP, for 5 seconds and release hand from the switch.

Network information is printed.

(Sample)



Network Information

System Information

Serial Number	BETA300003	Asset Number	

General Information

Device Name	OKI-MC860-EB0EC7		
Short Device Name	MC860-EB0EC7		
Firmware Version	00.63	File Version (WE/WJ/DF/LD/LO)	00.33 / 00.33 / 00.07 / 00.09 / 00.09
Web Remote	00.33	DLM Version (PNL/WEB/NIF/NSP)	00.03 / 00.34 / 00.08 / 00.04
MAC Address	00:80:87:EB:0E:C7		
HUB Link Setting	AUTO NEGOTIATION		
HUB Link Status	LINK FAIL		
Network Status	Unicast Packets Received	Unsendable Packets	
	Packets Transmitted	Bad Packets Received	
	Total Packets Received		
IEEE802.1X Status	Disable		
Protocol ON/OFF			
TCP/IP	ENABLE	NetWare	ENABLE
NetBEUI	DISABLE	EtherTalk	ENABLE
NetBIOS over TCP	ENABLE		

TCP/IP Configuration

IP Address Set	MANUAL		
IP Address	192.168.0.99		
Subnet Mask	255.255.255.0		
Gateway Address	192.168.0.254		
WINS Server (Primary)	0.0.0.0		
WINS Server (Secondary)	0.0.0.0		
WINS Registration Status	Registration of a name is successful.		
DNS Server (Primary)	0.0.0.0		
DNS Server (Secondary)	0.0.0.0		
Dynamic DNS	DISABLE		
DDNS Host Name	MC860-EB0EC7		
DDNS Domain Name			
DDNS Registration Status			
Auto Discovery			
Windows		DISABLE	
Macintosh		ENABLE	
Printer Name(Printer is identified by this name.)		OKI-MC860-EB0EC7	

NetWare Configuration

NetWare Mode	Queue Server Mode(Print Server + Bindery/NDS + IPX)		
Frame Type	AUTO		
Network No.	00000000		
P-Server Mode			
Print Server Name	OKI-MC860-EB0EC7-PS		
Job Polling Rate	4 Sec		
Bindery Mode	ENABLE		
NDS Mode			
Tree Name			
Context Name			
R-Printer Mode			
Printer Name	OKI-MC860-EB0EC7-PR		
Job Timeout	10 Sec		

EtherTalk Configuration

EtherTalk Printer Name	MC860		
Type Name	LaserWriter		
Zone Name			
Address			
Node			

NBT/NetBEUI Configuration

Short Device Name	MC860-EB0EC7		
Workgroup Name	PrintServer		
Master Browser Setting	ENABLE		
Master Browser			

3.10 Connection method

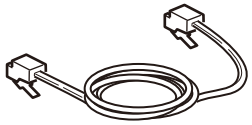
3.10.1 Connect the interface cable.

3.10.1.1 Connect the network cable.

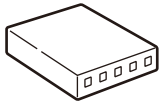
1. Prepare Ethernet cable and hub.

Note! Ethernet cable and hub are not supplied. Prepare Ethernet cable (category 5, twist-pair cable, straight) and hub separately.

Prepare Ethernet cable



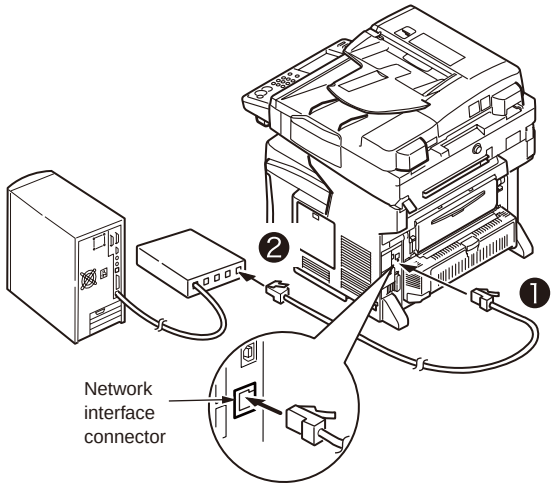
hub



2. Connect the MFP to network.

❶ Connect the Ethernet cable to the network interface connector of the MFP.

❷ Connect the Ethernet cable to the hub.



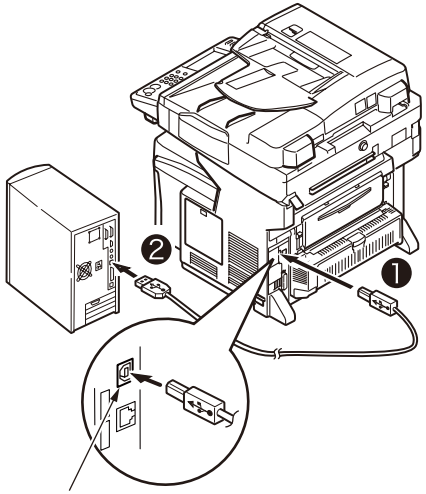
3.10.1.2 Connect the USB cable.

1. Prepare a USB cable.

Note! • USB cable is not supplied. Prepare cable of USB2.0 specification separately.

• When connecting with the USB 2.0 “Hi-Speed” mode, prepare a USB cable supporting Hi-Speed specifications.

2. Connect a USB cable.



❶ Insert a USB cable to the USB interface connector of the MFP.

Note! Be certain not to insert a USB cable into the network interface connector. Doing so may cause malfunction.

❷ Insert a USB cable to the USB interface connector of PC.

3.10.1.3 Connect the telephone line cable.

Connection of the telephone line cable is different in each country and location. Connect the MFP to suit to the environment of each installation location using the following diagram as reference.

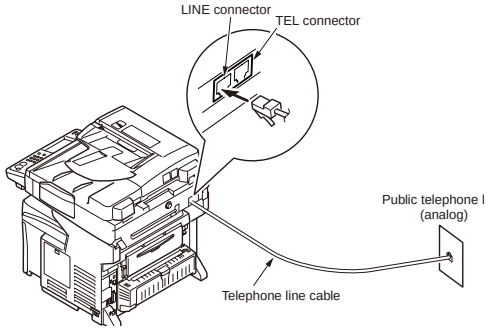
Note! • The MFP cannot be connected to the ISDN line. Terminal adapter is required for ISDN line connection.
• Be sure to use the supplied telephone line cable. Use of any telephone line cable other than what is supplied causes malfunction.

1. Connect the MFP to suit to the environment of each installation location.

To connect to public telephone line

(To use the MFP as the fax machine (without connecting telephone line to the MFP)

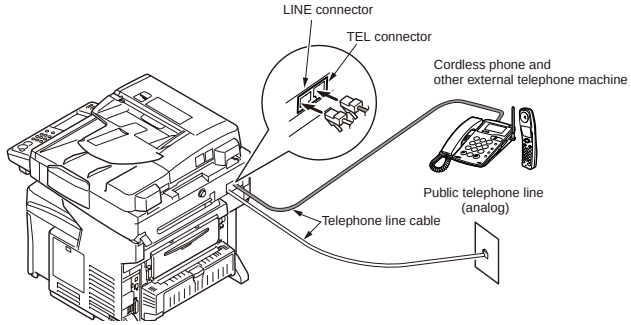
Connect the telephone line cable to [LINE connector] of the MFP.



To connect to public telephone line

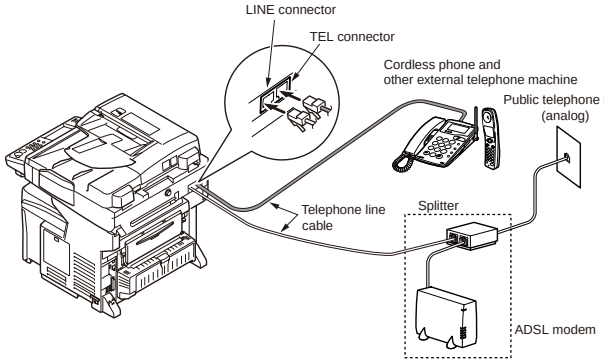
(To connect to the telephone of the MFP)

Connect the telephone cable that is connected to the public telephone line (analog) to the [LINE connector] of the MFP.



To connect to the ADSL environment

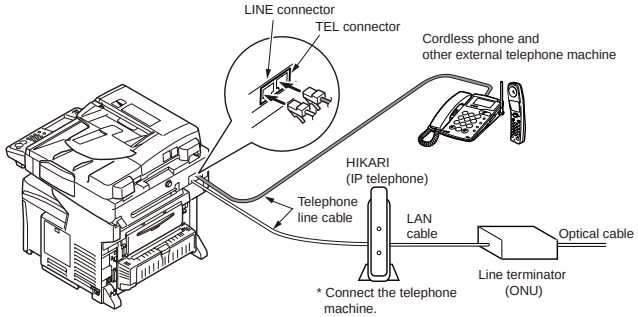
Connect the telephone cable that is connected to the ADSL modem to the [LINE connector] of the MFP. Connect the external telephone machine to the [TEL connector] of the MFP.



To connect to the HIKARI (IP telephone)

Connect the telephone cable that is connected to the HIKARI (IP telephone) to the [LINE connector] of the MFP. Connect the external telephone machine to the [TEL connector] of the MFP

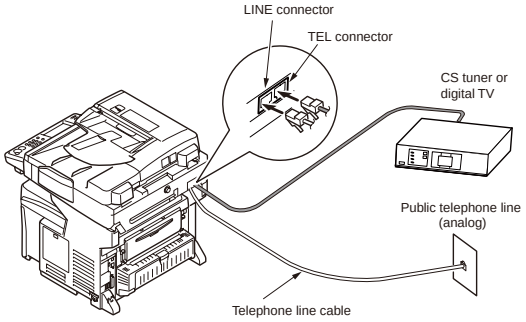
Note! When using the Super G3 communication, check that the communication quality of provider is guaranteed.



To connect the MFP to CS tuner or digital TV

Connect the telephone cable that is connected to the public telephone line (analog) to the [LINE selector] of the MFP.

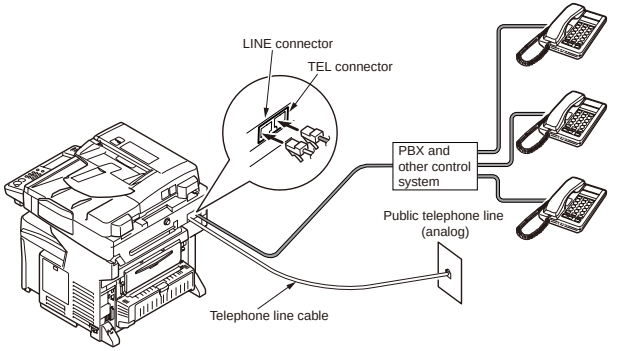
Connect the telephone cable that is connected to the CS tuner or digital TV to the [LINE connector] of the MFP.



To connect to the telephone switch board (PBX), home telephone, or business phone

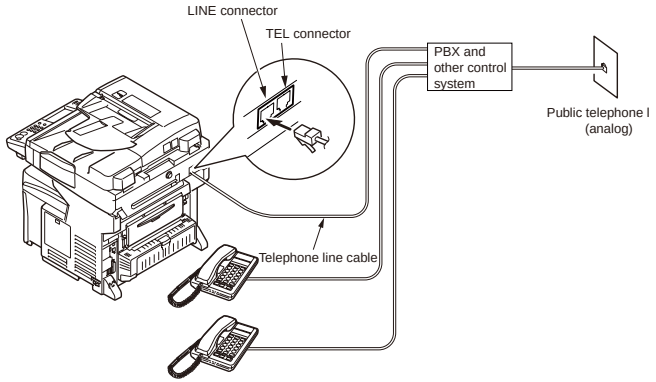
Connect the telephone cable that is connected to the public telephone line (analog) to the [LINE connector] of the MFP.

Connect the telephone cable that is connected to the PBX and other control system to the [TEL connector] .



To connect to the private phone system

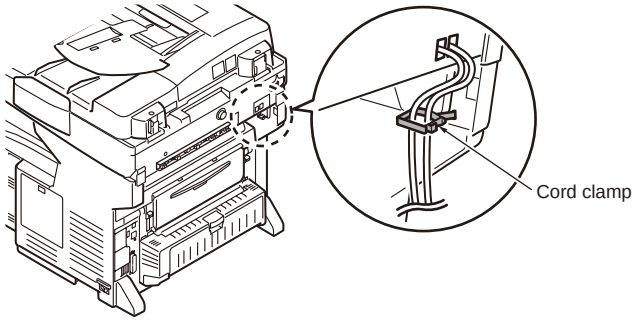
Connect the telephone cable that is connected to the PBX and other control system to the [LINE connector] .



2. Bind the cables.

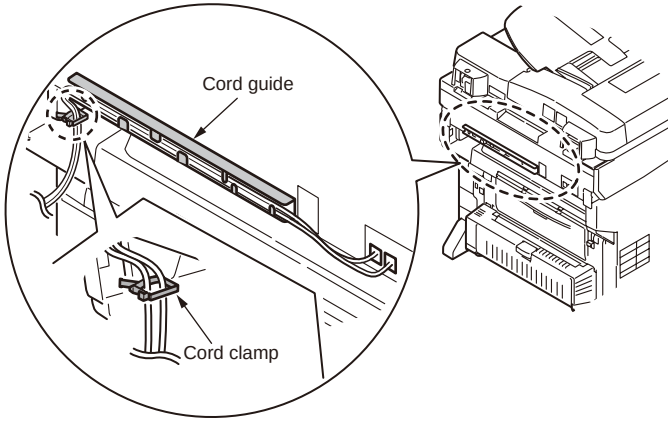
When binding cables to the right

Bind the cable to the cord clamp at the right.



When binding cables to the left

Route the cable to the cord guide and bind them by the cord clamp on the left.



3.10.2 Turn ON the power

3.10.2.1 Required conditions for power supply

- The following conditions should be satisfied.

  AC : 100V ± 10%

  Power frequency : 50 Hz or 60Hz ± 2Hz

- If the power supply is unstable, use the voltage regulator and equivalent.
- Maximum power consumption of this printer is 1,300 W Confirm that the power supply source has sufficient margin.
- When the UPS (Uninterruptible power supply) is used, operations are not guaranteed. Do not use the UPS (Uninterruptible power supply).

⚠ Warning	Failure to observe the warning may result in fire and electric shock.	

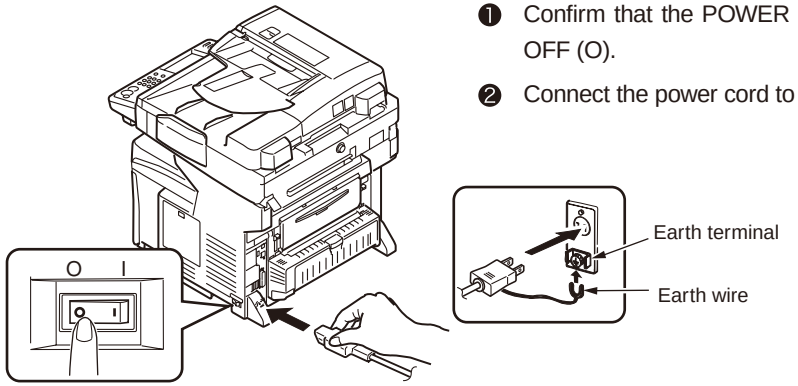
- Before connecting and disconnecting the power cord and earth wire, turn OFF the POWER switch.
- The earth wire should be connected to the dedicated earth terminal. .

  Never connect the earth wire to city water pipe, city gas pipe, earth terminal of telephone line or lightening rod.
- To disconnect and connect the power cord, be sure to hold the power plug.
- The power plug should be inserted to the deep end of power source connector without fail.
- Do not disconnect and connect the power plug with wet hand.
- Place the power cord to the location where people do not step on it. Do not place any object on top of the power cord.
- Do not bind nor tie the power cord while using it.
- Do not use the damaged power cord.
- Do not connect many loads on one electrical outlet.
- Do not share the same electrical outlet with other electric products. If air conditioner, copying machine, paper shredder are connected in parallel, the MFP may malfunction due to electric noise. If the MFP shares the same electrical outlet with other electric products, use the noise filter or noise-cut transformer that is available on commercial markets.
- Do not use the AC extension cord. If any extension cord is used by all means, use the extension cord having rating of 15 A or more.
- If extension cord is used, AC power voltage may drop so that the MFP will not operate normally.
- Do not turn OFF the power nor disconnect the power plug while printing is in progress.
- When the MFP is not gong to be used for long time due to vacation or trip, disconnect the power cord.

Note! If document has been set to the document table before turning ON the

3.10.2.2 Power switch

1. Connecting the power cord



❶ Confirm that the POWER switch is set to OFF (O).

❷ Connect the power cord to the MFP.

3.11 Checking papers used by user

Set the media that user is using to the MFP. Perform the media type/weight setting.

Media Type	Media weight	List of setups available on operator panel		Printer driver [Paper thickness] setting *2
		Media weight (Paper thickness	Media Type (Paper type)*1	
Plain	55~70kg (64~82g/m^2)	Light	Plain	Light
	71~90kg (83~105g/m^2)	Medium		Medium
	91~110kg (106~128g/m^2)	Heavy		Heavy
	111~172kg (129~200g/m^2)	Ultra heavy		Ultra heavy
Postcard *4 * * * *	–	–	–	–
Envelope *4 * * * *	–	–	–	–
Labels	0.1~0.17mm or less	Heavy	Labels	Label paper 1
	0.17~0.2mm	Ultra heavy		Label paper 2

*1 : Default setting of media type is [Plain].

*2 : Paper thickness and types can be set from Control Panel and printer drive. When it is set by printer driver, the setting by printer driver is prioritized. When printer driver [Paper feed method] - [Auto] is selected, or [Paper Weight] -[Printer setup] is selected, the setting by printer driver is prioritized.

*3 : Paper thickness for duplex print is real weight 55 *90kg (64 *105g/m^2).

*4 : Postcard and envelope do not need media type setting.

Note! Media weight [Ultra heavy], media type [Labels] is set, the print speed becomes slow.

4. Parts Replacement

This chapter describes the replacement procedures of the parts, assemblies and units in the field. The replacement procedure describes mainly the removal procedure. Re-installation should be performed by reversing the steps of removal.

The part reference numbers (such as ①, ②) that are used for description in this manual are difference from the Nos. that are given in the Disassembly for Maintenance Configuration Drawings (43967001TL) and RSPL (43967001TR).

4.1 Precautions when replacing part

(1) Before starting part replacement, be sure to disconnect the AC power cord and the interface cables.

(a) When disconnecting the AC power cord, follow the procedure shown below.

① Set the MFP POWER to the OFF “O” position.

② Disconnect the AC insertion plug of the AC power cord from the AC power source.

③ Disconnect the earth wire from the earth terminal of the AC power source outlet.

④ Disconnect the AC power cord and interface cables from the MFP.

⚠Warning	Electric shock can occur.	⚡

When replacing the low voltage power supply, there is a danger of electric shock.

Be sure to wear an insulation gloves or do not touch the electrically conduction areas or terminal directly by hand during the part replacement work.

It takes approx. 1 minute for capacitors to be completely discharged after the AC power cord is disconnected. Be careful not to receive electric shock because capacitors may not discharge in case if PCB is defective.

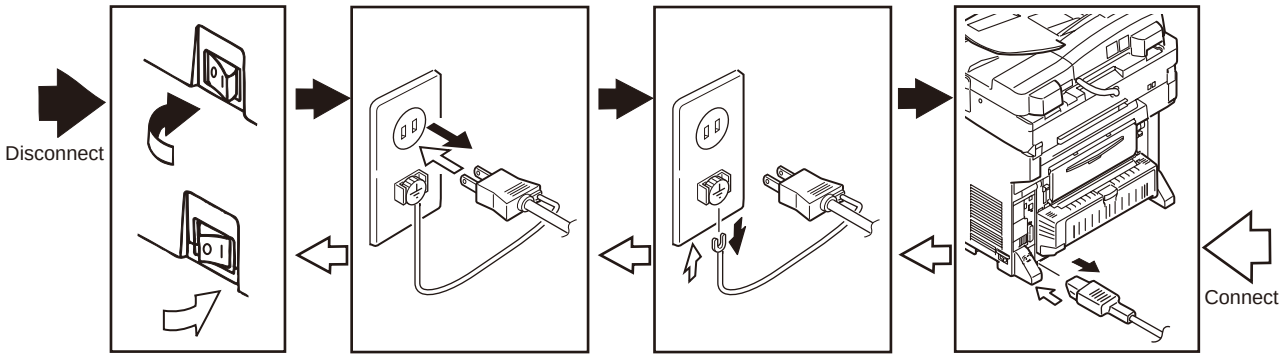
(b) When reconnecting the MFP, be sure to follow the procedure shown below.

① Connect the AC power cord and interface cables to the MFP.

② Connect the earth wire to the earth terminal of the AC power source outlet.

③ Connect the AC power cord insertion plug to the AC power source outlet.

④ Set the MFP POWER to the ON “I” position.



(2) Do not disassemble the MFP while the MFP is operating normally.

(3) Restrict the MFP disassembly as small as possible. Do not remove parts that are shown in the part replacement procedure.

(4) Use the specified maintenance tools.

(5) Disassembly should be performed in the specified order. If parts are removed in the specified order, part can be damaged.

(6) Small parts such as screw and collar can be easily lost. Attach them tentatively to their original positions.

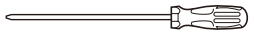
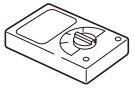
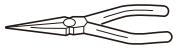
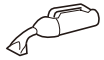
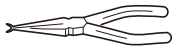
(7) When handing IC such as microprocessor, ROM and RAM, and when handling PCB board, do not use the glove that can easily generate static electricity.

(8) Do not place PCB directly on any equipment or on the floor.

[Maintenance tools]

The tools that are required for replacement of PCB and unit are shown in Fig. 4-1-1.

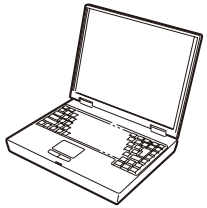
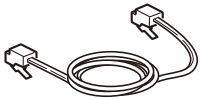
Fig. 4-1-1 Maintenance tools

No.	Maintenance tools		Quantity	Use	Description
1		No. 2-200 + Magnetic screwdriver	1	3-5 mm screw	
2		No.3 100 screwdriver	1		
3		No.3 -200 screwdriver	1		
4		Digital multi-meter	1		
5		Pliers	1		
6		Handy vacuum cleaner (Toner handling type)	1		Follow the precautions described below
7		E-ring pliers	1	For installation and removal of E-ring	

Note! Use a vacuum cleaner of the toner handling type. If general-purpose vacuum cleaner is used, it can cause fire.

Tools that are required when using the maintenance utilities are shown in Fig. 4-1-2.

Fig. 4-1-2 Maintenance tools

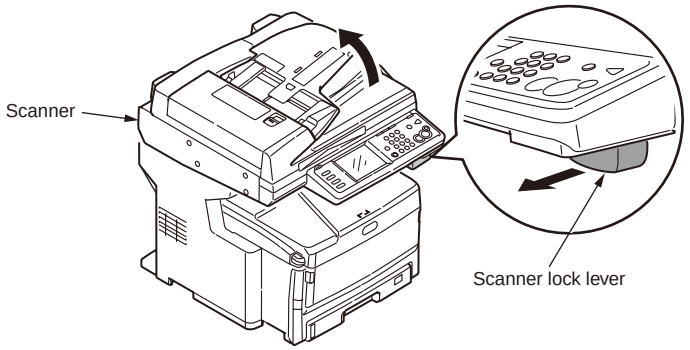
No.	Maintenance tools		Quantity	Use	Description
1		Notebook PC The Maintenance Utilities should have already been installed beforehand in this PC.	1		For the Maintenance Utilities, refer to chapter 5-13.
2		USB cable	1		
3		Ethernet cable (crossover cable)	1		

4.2 Part replacement method

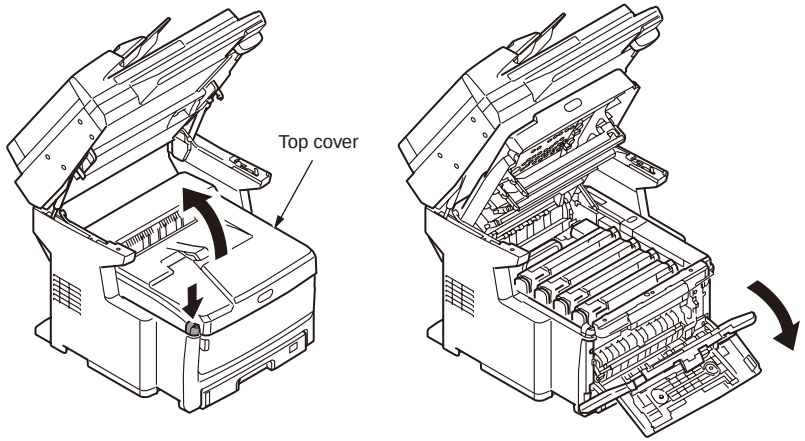
This chapter describes the replacement method of the parts and assemblies that are shown in the following drawings showing method of disassembling.

4.2.1 How to separate scanner and printer

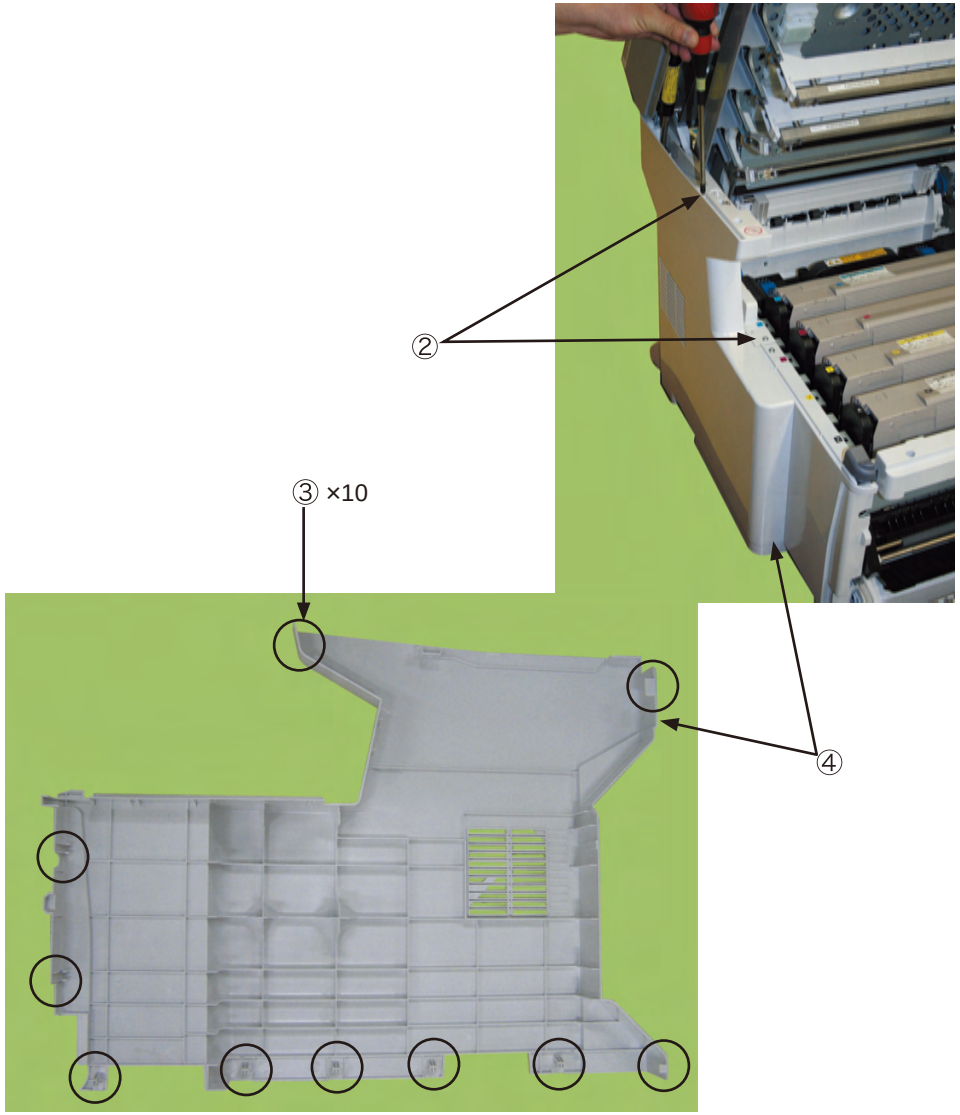
(1) Raise the scanner.



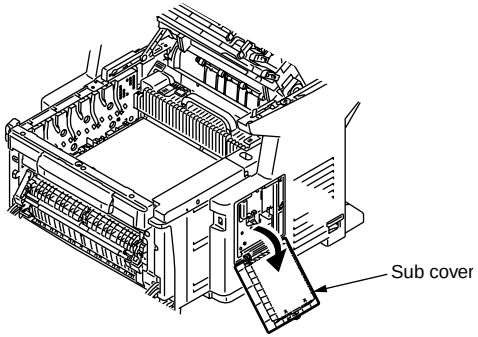
(2) Open the top cover and the front cover of the printer.



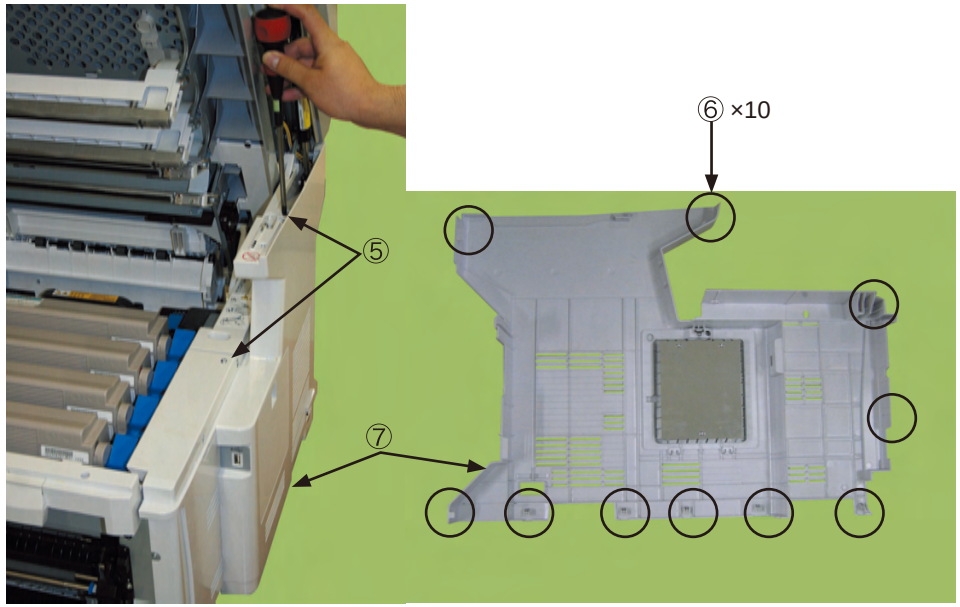
(3) Remove the two screws (M3 L=8) ②, release the latches ③ at 10 locations, and remove the Cover-Side-L ④.



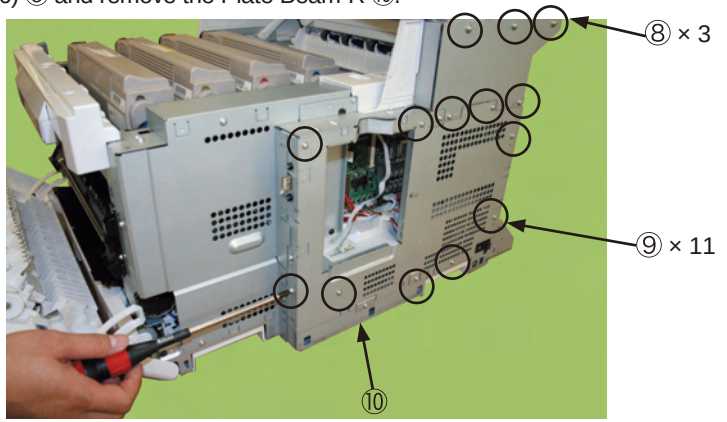
(4) Open the sub cover.



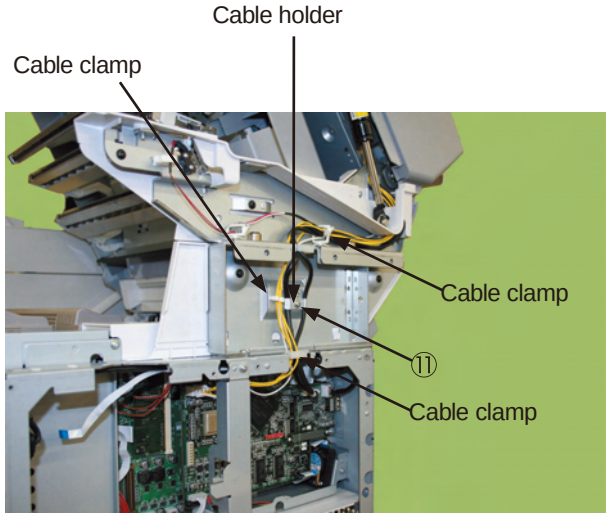
(5) Remove the two screws (M3 L=8) ⑤, release the hook that is visible through the sub cover window and the latches at 10 locations ⑥, and remove the Cover-Side-R ⑦.

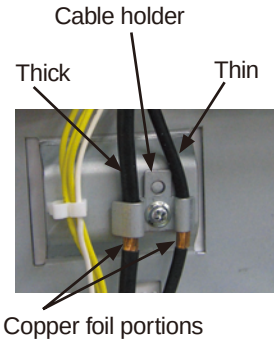


(6) Remove the three screws (M4 L=8) ⑧ of the R-side, remove the eleven screws (M3 L=6) ⑨ and remove the Plate Beam-R ⑩.

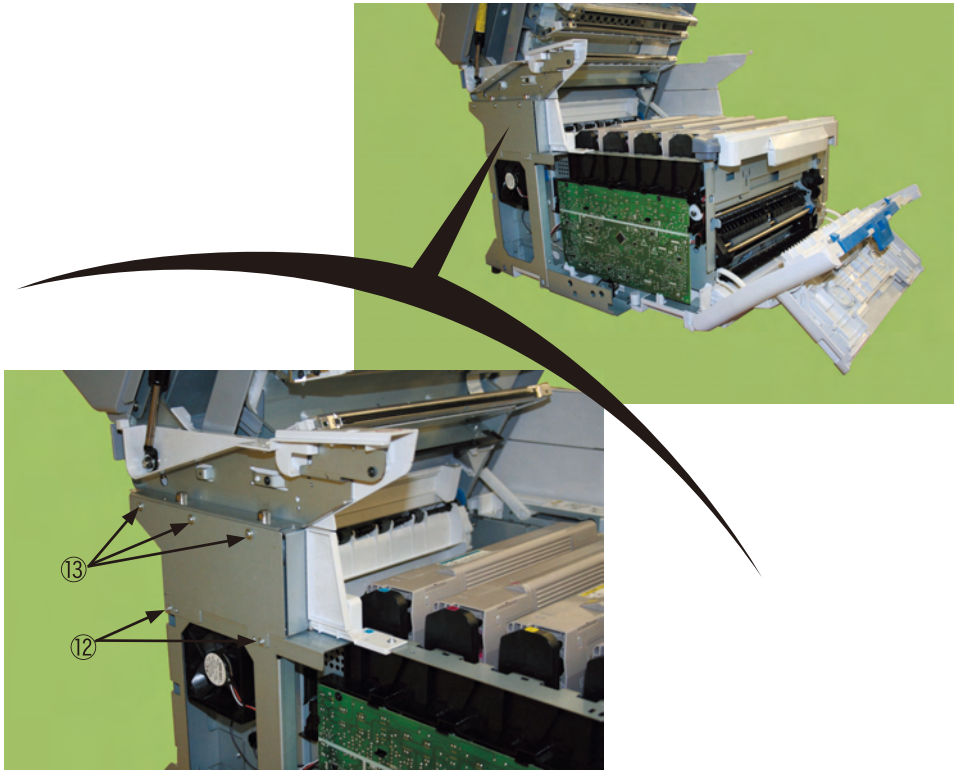


(7) Remove the screw ⑪, remove the cable holder and remove the cord from the cable clamps at the three locations.

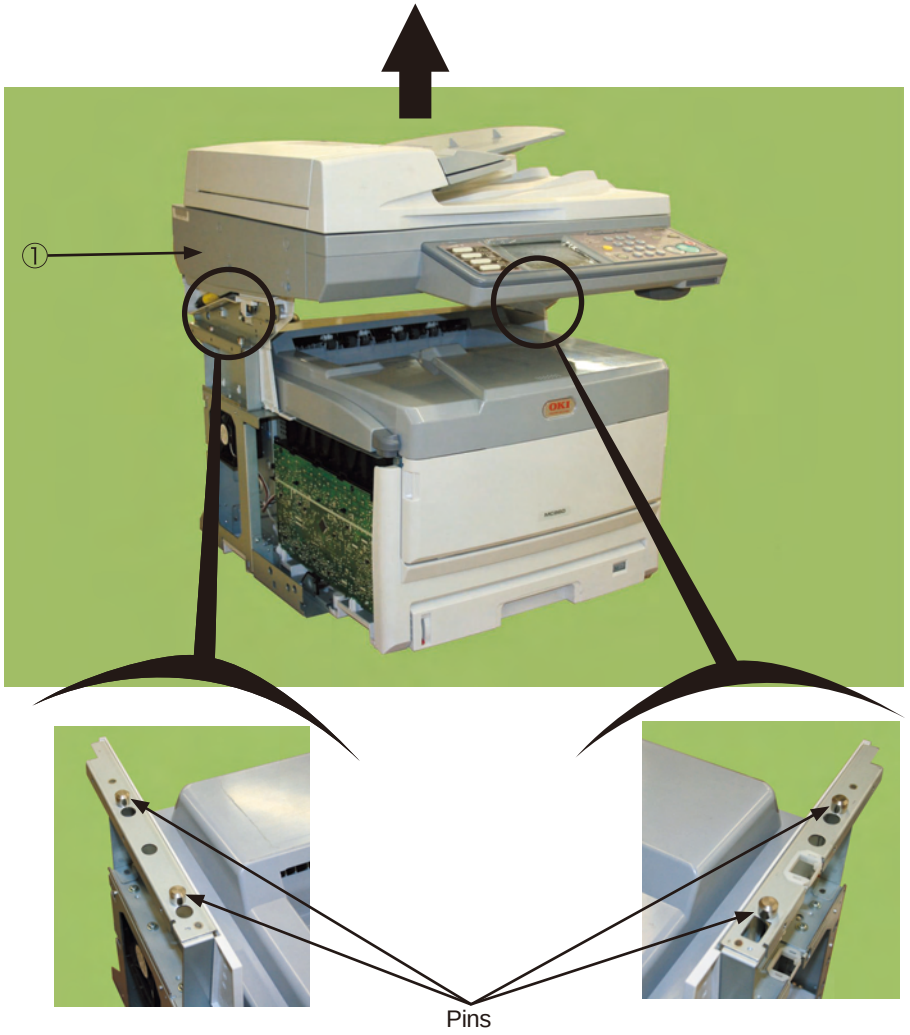




(8) Remove the three screws (M4 L=8) ⑫ and the two screws (M3 L=6) ⑬ from the L-side, and remove the Plate Beam-L ⑭.



(9) Hold the four corners of the scanner ① with two persons, and separate the scanner from the printer by raising it straight up.

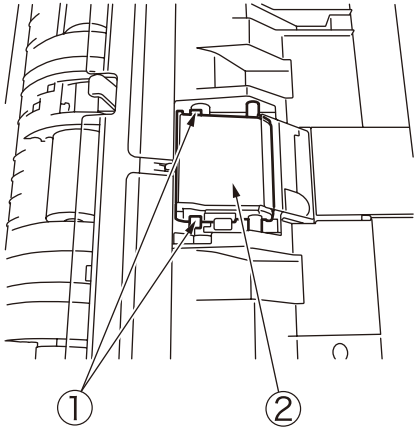


4.2.2 Scanner

4.2.2.1 Separation pad

(1) Open the feeder cover.

(2) Release the hooks ① at the two locations, and remove the separation pad ②.

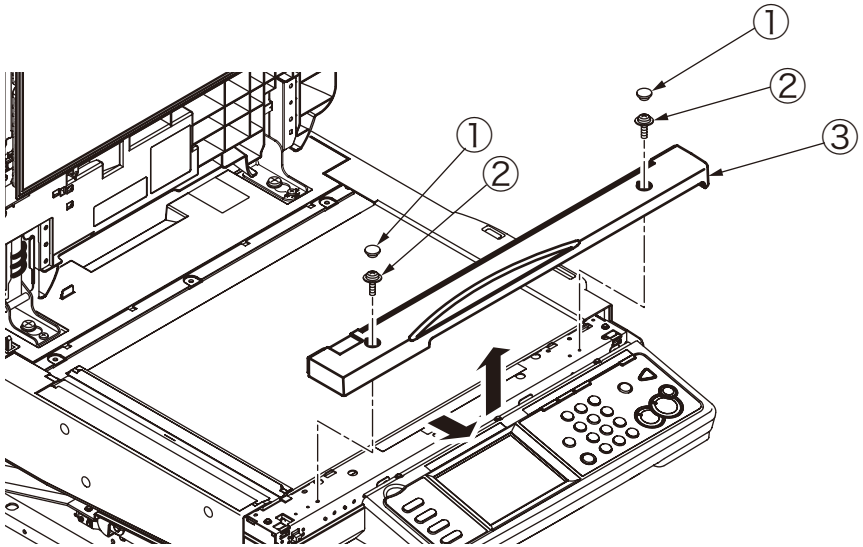


4.2.2.2 Operator panel Assy

(1) Open the RADF Assy.

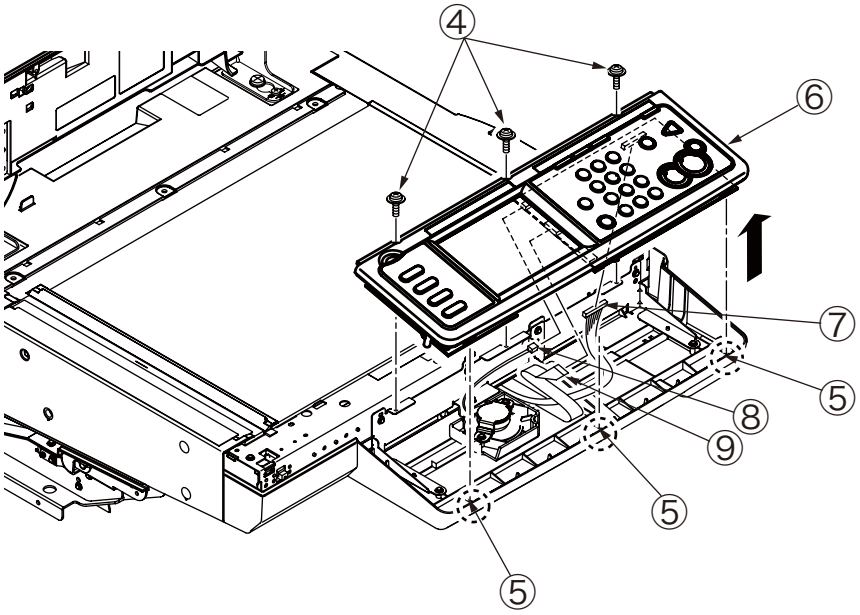
(2) Remove the two caps ①.

(3) Remove the two screws ② and remove the cover front top ③.



(4) Remove the two screws ④, release the claws ⑤ at the 3 locations, and remove the operator panel ③).

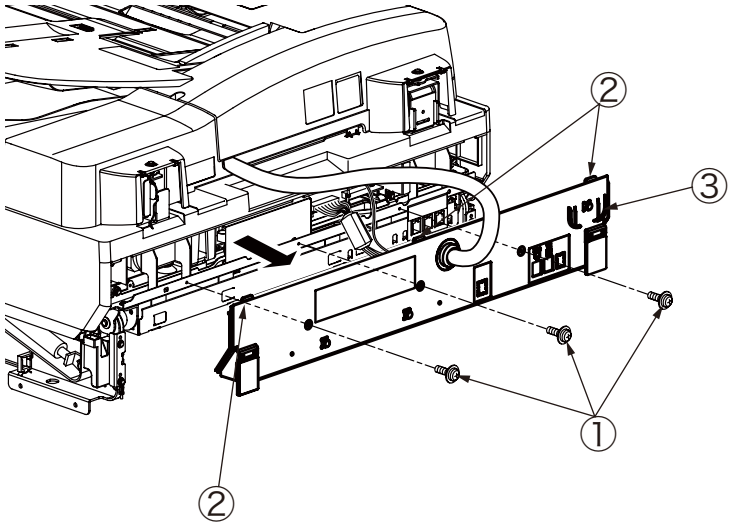
At the same time, remove the two connectors ⑦ and ⑧, and remove the FFC cable ⑨.



4.2.2.3 RADF Assy

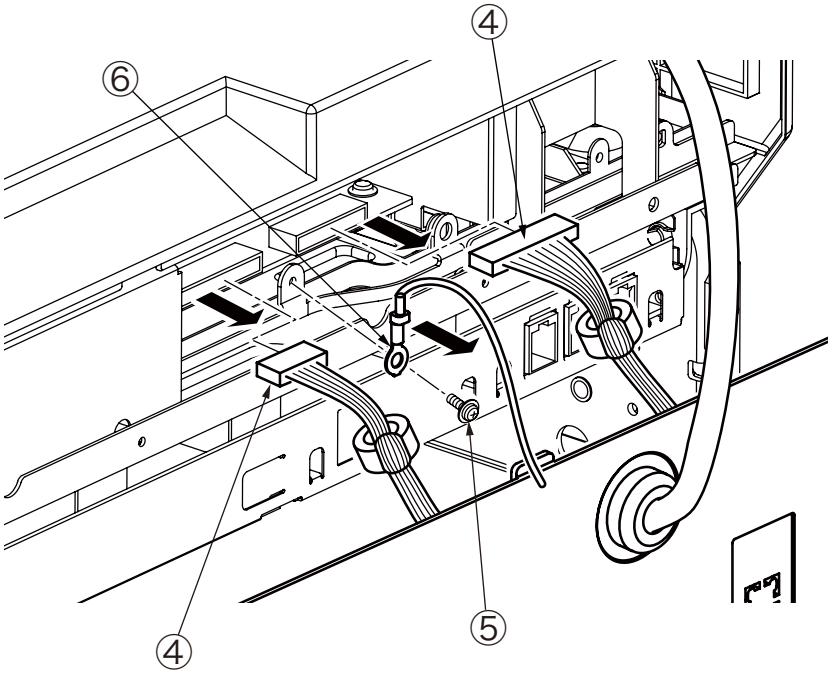
(1) Remove the three screws ① from the rear of the scanner.

(2) Release the hooks ② at the three locations, and remove the cover harness A ③.



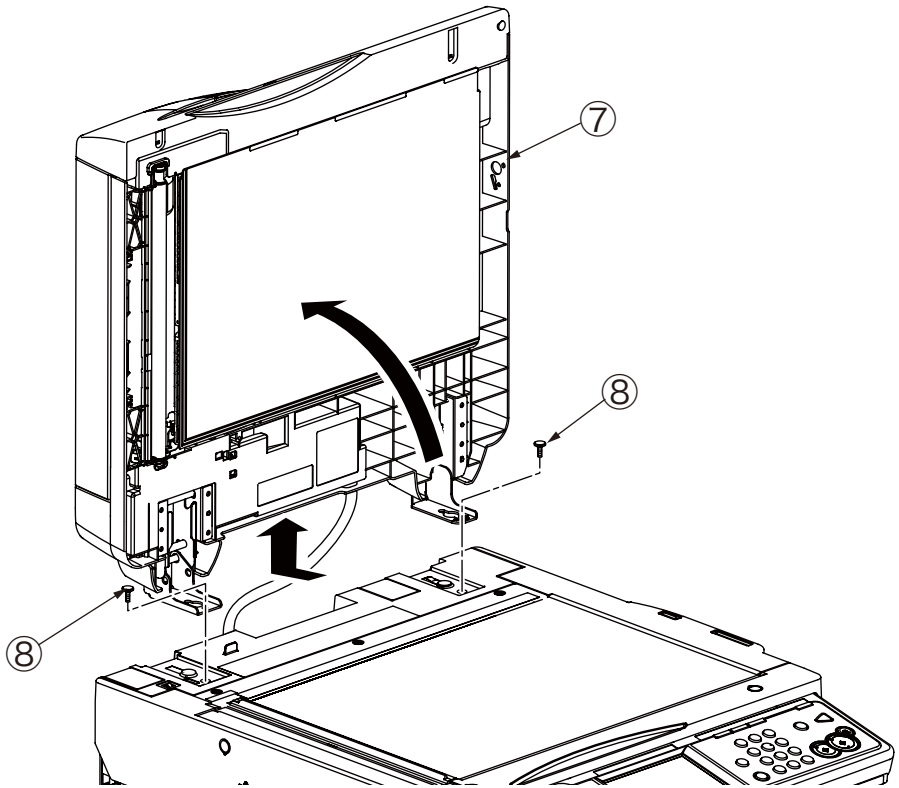
(3) Remove the two connectors ④.

(4) Remove the screw ⑤ and disconnect the FG wire ⑥.



(5) Open the RADF Assy ⑦ and remove the two screws ⑧.

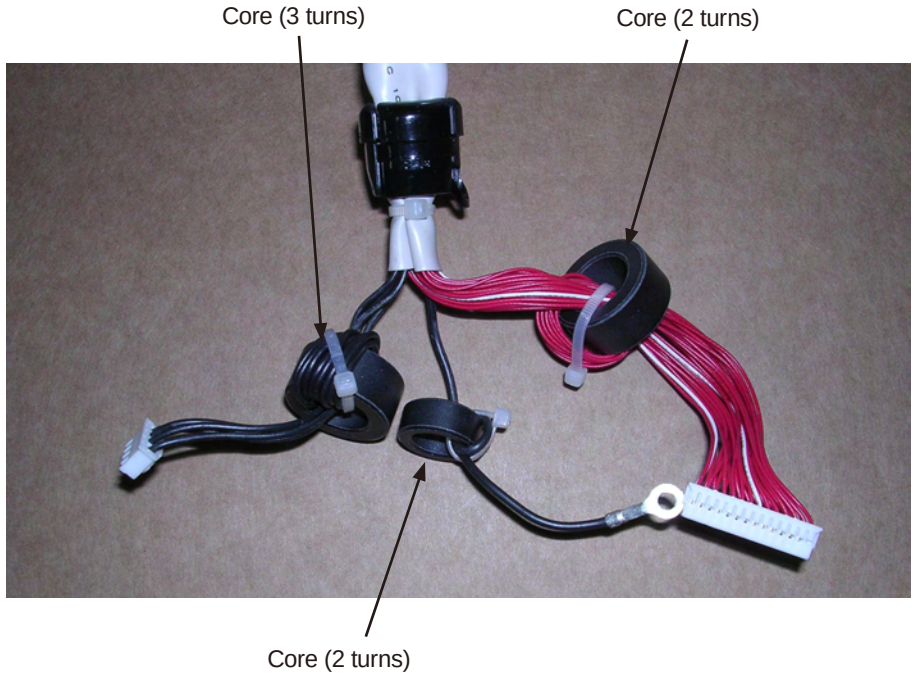
(6) Slide the two long holes L and R backward and remove them from the pins.



Note! The RADF Assy ⑦ is secured by the screw ⑧ only. Therefore, hold the RADF Assy with hands so that it does not fall when removing the screw ⑧.

<Caution when installing the platen>

When the platen is replaced, insert the harness into the core that is supplied with the MFP and wrap the harness around the core before connecting the harnesses to the cover harness A.

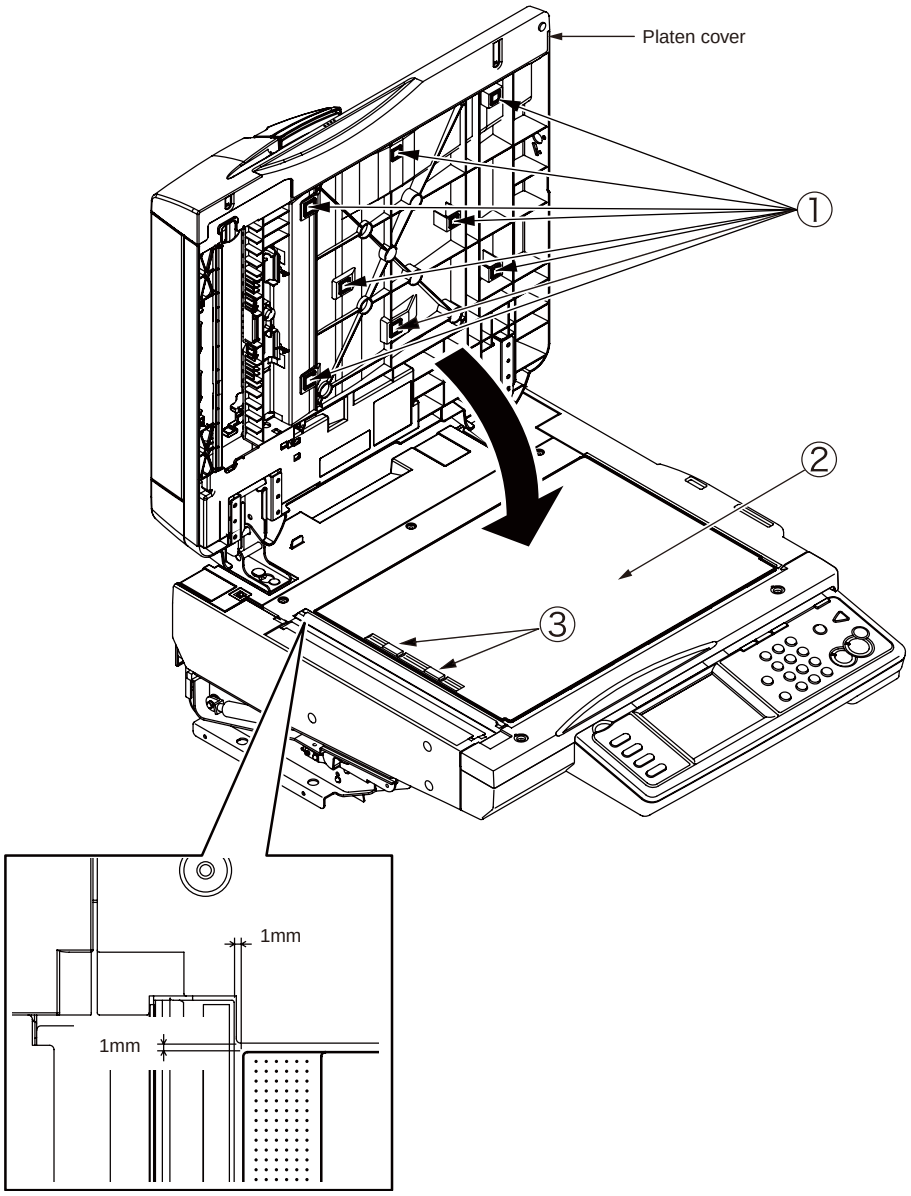


- Distance between the connector to the core should be 70 mm as a guideline.
- The core around which the FG wire is wrapped around is different from other cores in size.
- Wrap the FG wires around the respective cores by two turns.
- Wrap the black harness around the core by 3 turns.
- After the cores are installed, fix them by the tying bands.

Attaching the sheet platen after the RADF Assy is installed

1. Open the platen cover.
2. Peel off the seal from DMPR-F-PRESS ①, and attach it to the platen cover.
3. Place the PLT-F-PRESS-018 ② inside of the glass surface by 1 mm in the right and left sides respectively.
4. Attach the SHEET- PLATEN E ③ inside of the PLT-F-PTESS-018 ② by 1 mm. For the attaching position, refer to the illustration.
5. Open the platen cover slowly.
6. Open the platen cover, and attach the DMPR-F-PRESS ③ securely by pressing it strongly.

Note! Perform the captioned work while taking care that position of the PLT-F-PTESS-018 ② should be shifted.



7. When the replacement work is complete, perform the image scanning position adjustment. Refer to Chapter 5-7.

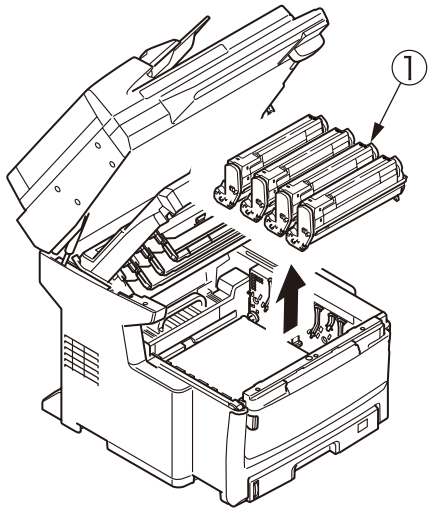
4.2.3 Printer

4.2.3.1 Belt unit

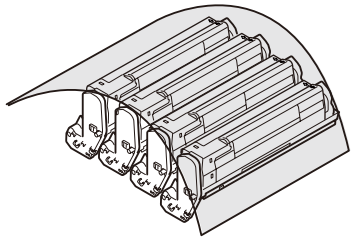
(1) Raise the scanner.

(2) Open the top cover of the printer.

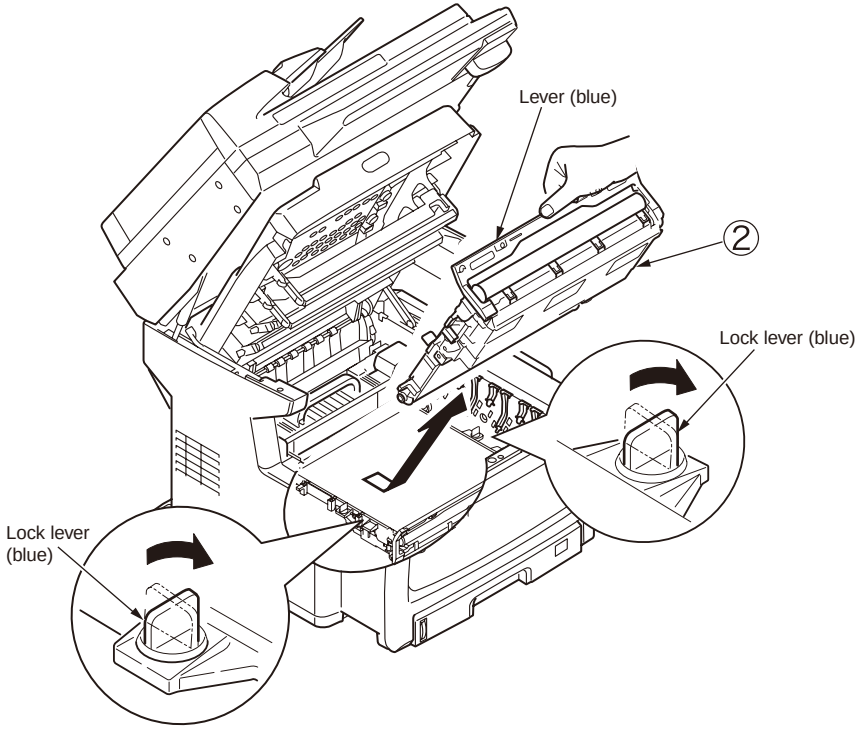
(3) Remove the ID unit ①.



Note! Cover the removed image drum cartridge with a black paper.



(4) Rotate the lock lever (blue, at two locations) of the belt unit ② in the arrow direction. Hold the lever (blue) and remove the Belt-Unit ②.

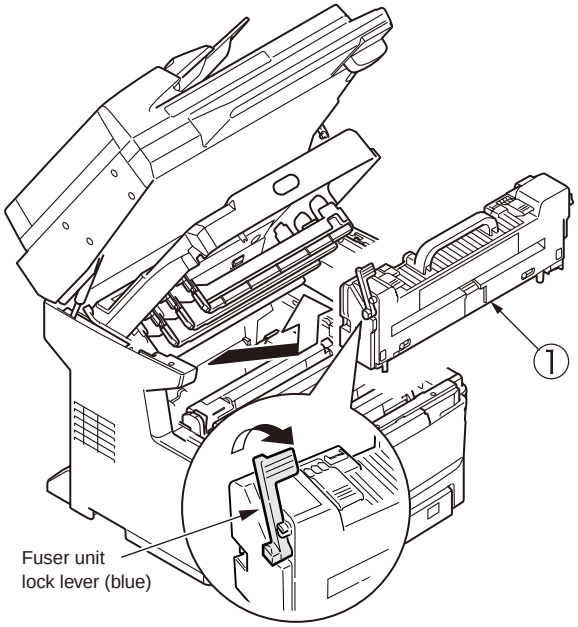


4.2.3.2 Fuser unit

(1) Raise the scanner.

(2) Open the top cover of the printer.

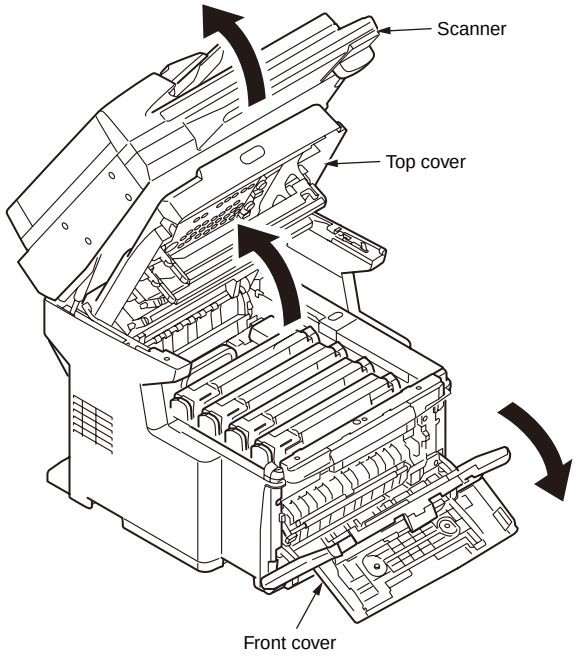
(3) Raise the fuser unit fixing lever (blue) in the direction of the arrow, and remove the fuser unit ①.



4.2.3.3 Cover-Side-L

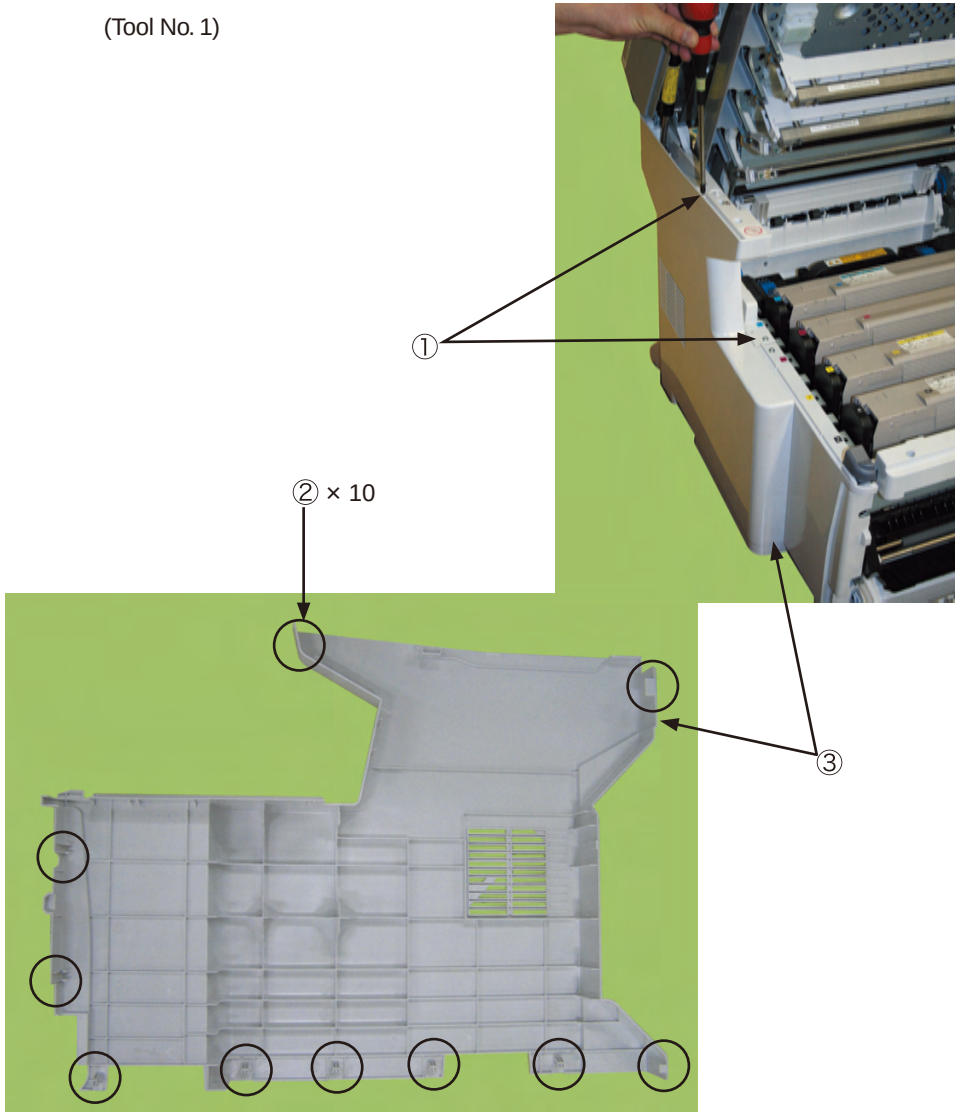
(1) Raise the scanner.

(2) Open the top cover and the front cover of the printer.



(3) Remove the two screws (M3 L=8) ①, release the latches at 10 locations ②, and remove the Cover-Side-L ③.

(Tool No. 1)

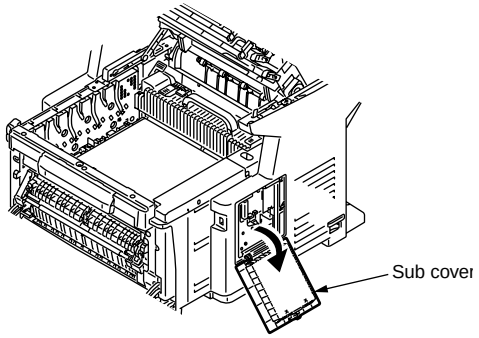


4.2.3.4 Cover-Side-R

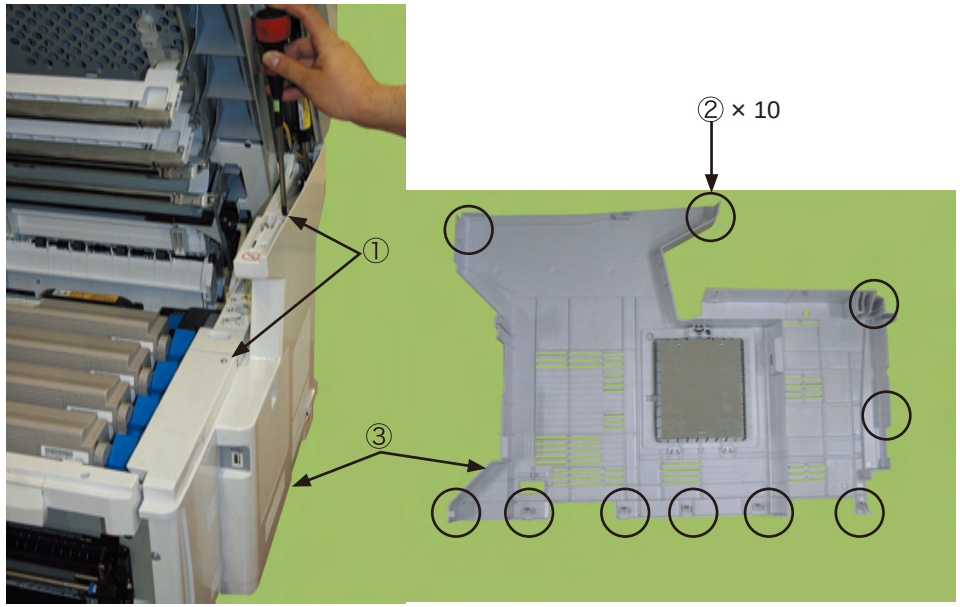
(1) Raise the scanner.

(2) Open the top cover and the front cover of the printer.

(3) Open the sub cover.

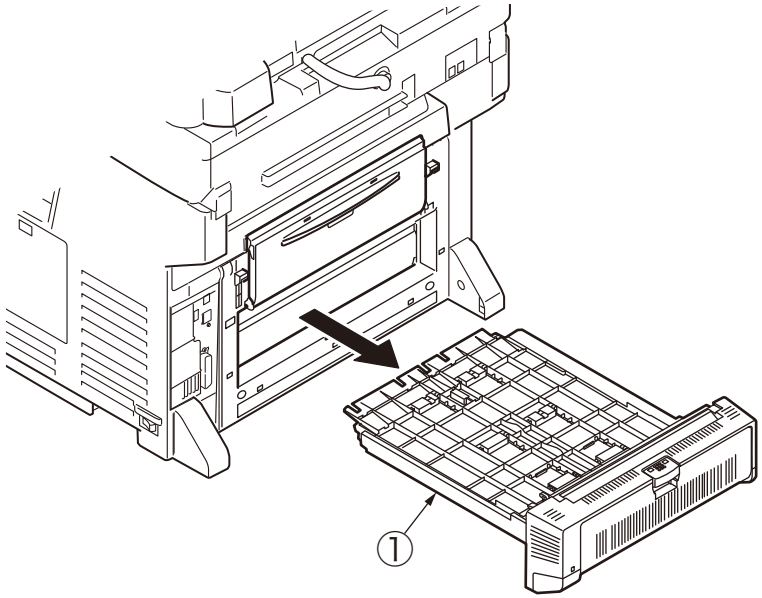


(4) Remove the two screws (M3 L=8) ①, release the hook that is visible through the sub cover window and the latches at 10 locations ②, and remove the Cover-Side-R ③. (Tool No. 1)

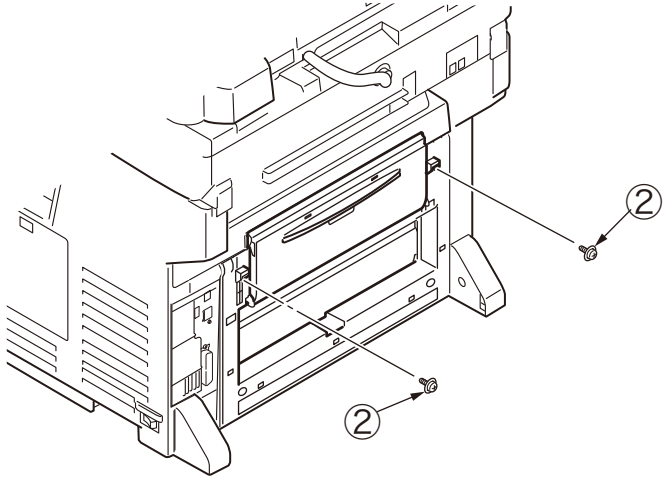


4.2.3.5 Rear cover

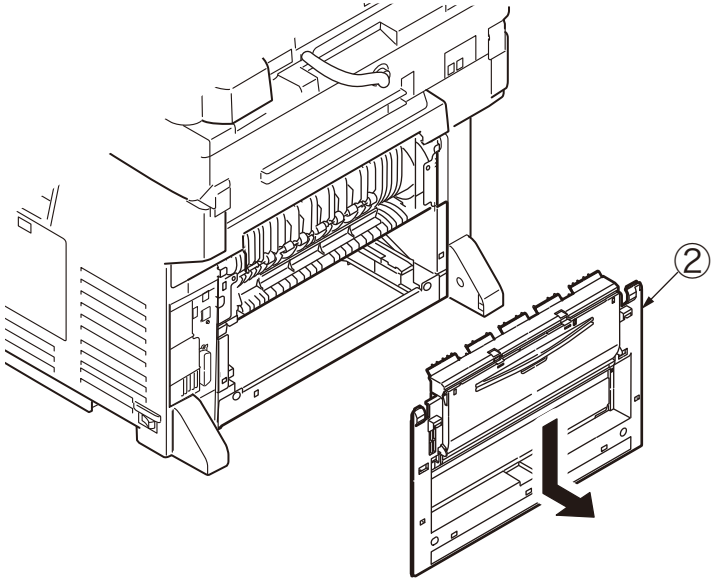
(1) Pull out the Duplex Unit ①.



(2) Remove the two screws ②. (Tool No. 1)



(3) Slide the rear cover ③ in the arrow direction and remove the rear cover ③.



4.2.3.6 LED Assy

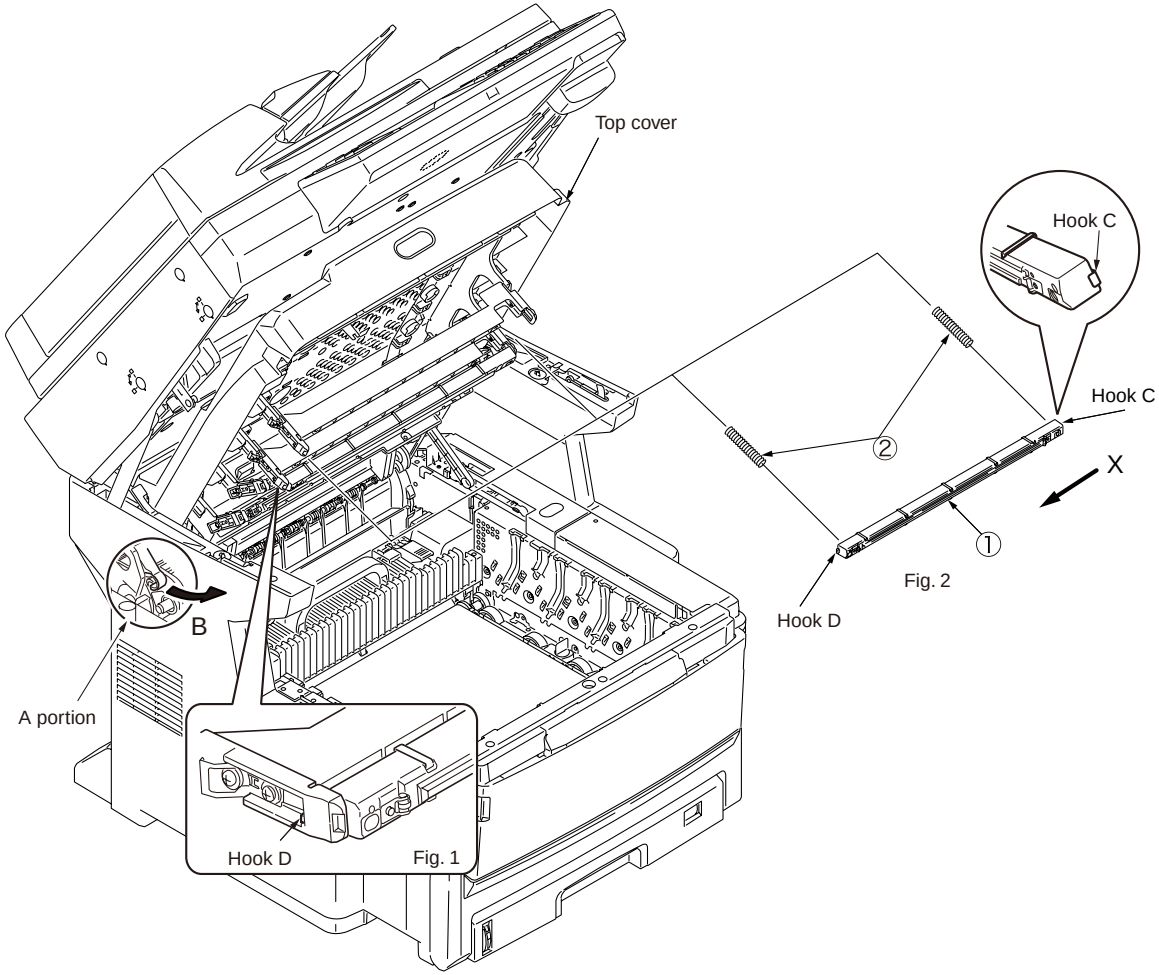
(1) Raise the scanner.

(2) Open the top cover.

(3) Release the hook of the link head in the direction (B) of the arrow. (A portion)

(4) After the head cable (FFC) is removed, apply the force in the X-direction as shown in Fig. 2. First, release the hook C. Then, release the hook D and remove the LED Assy ①.

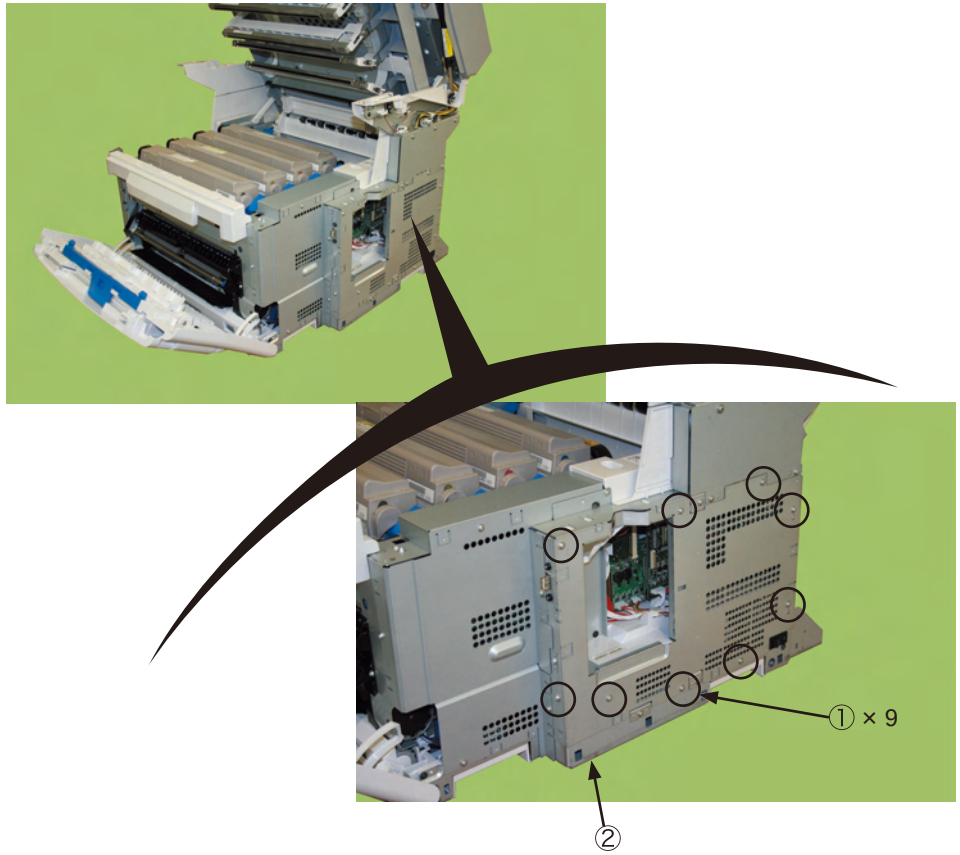
(5) Remove the spring ②.



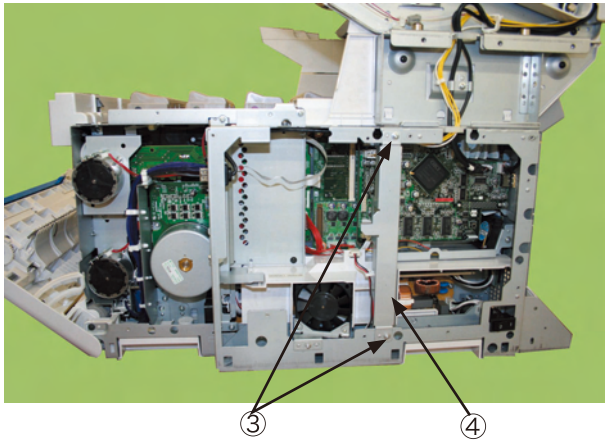
4.2.3.7 MZA PCB/CU PCB

(1) Remove the Cover-Side-R. (Refer to chapter 4.2.6.)

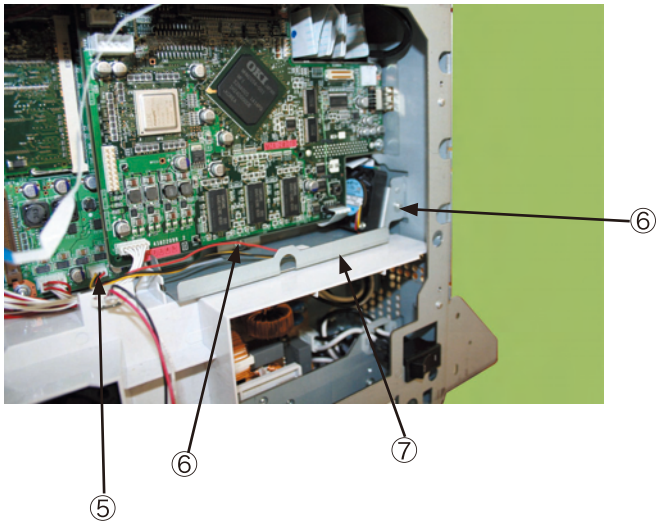
(2) Remove the nine screws ① and remove the plate shield R ②. (Tool No. 1)



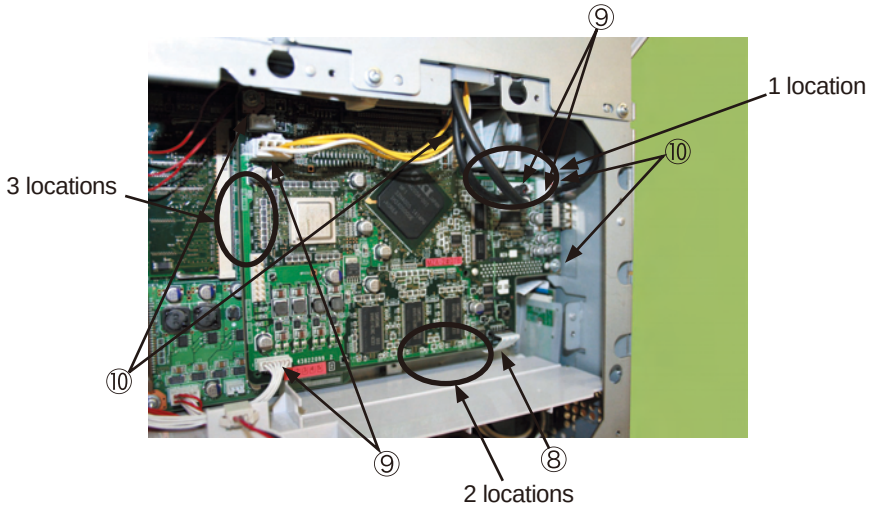
(3) Remove the two screws ③ and remove the stud ④.

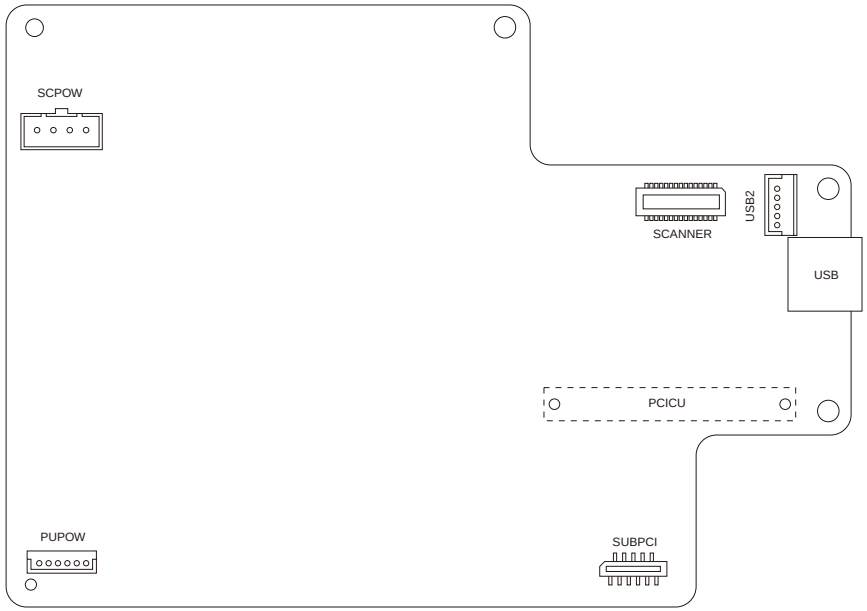


(4) Disconnect the connector ⑤ and remove the two screws ⑥, and the FAN Assy ⑦.



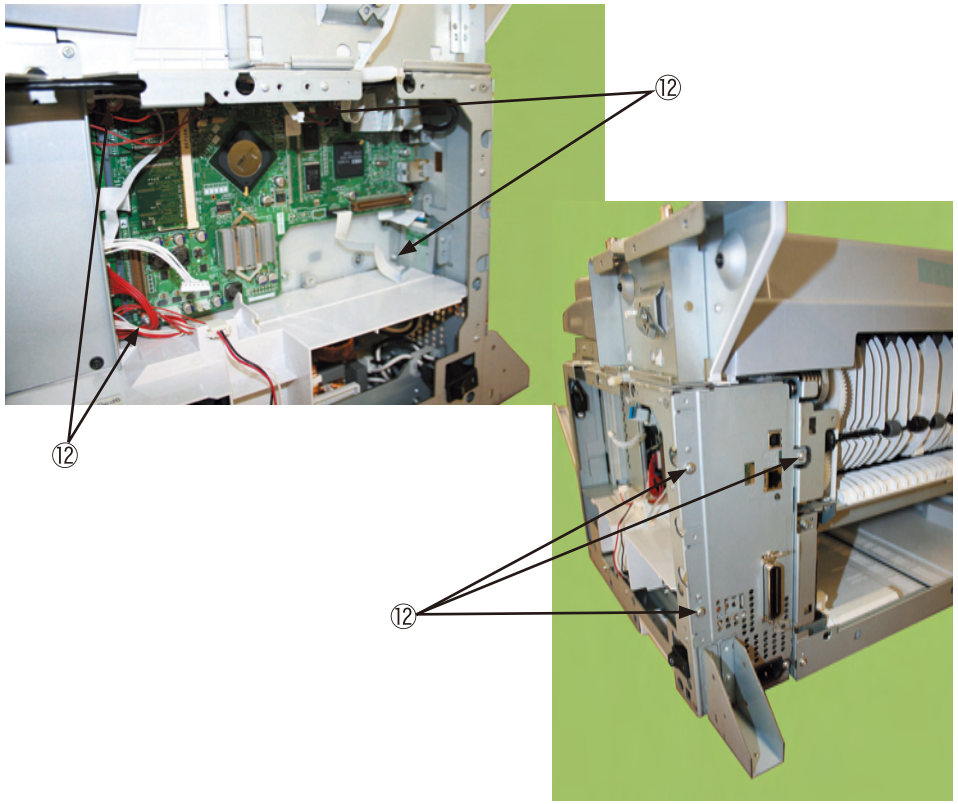
(5) Disconnect the FFC ⑧ and remove the connector ⑨. Remove the four screws (silver) ⑩. Hold the three positions and pull out the MAZ PCB ⑪ to the front.



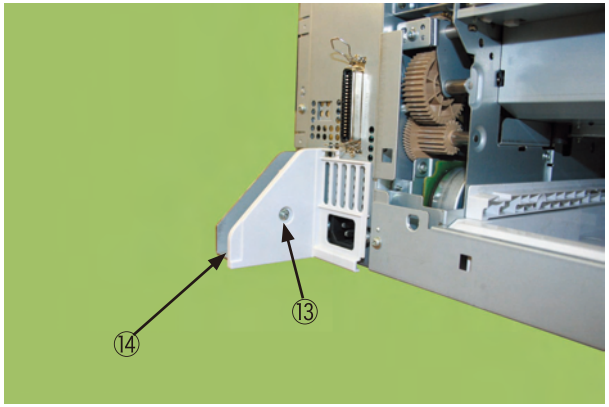


(6) Remove the Cover-Assy-Rear. (Refer to chapter 4.2.3.5.)

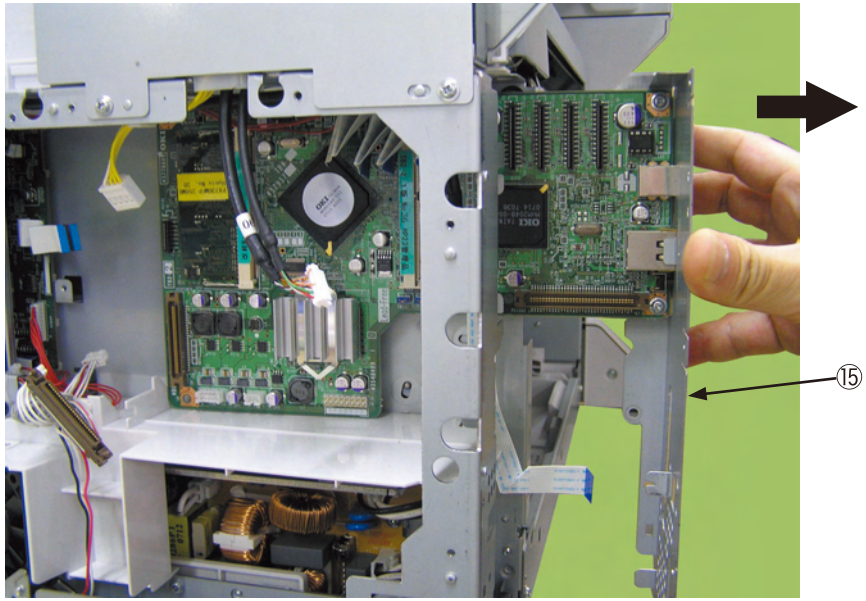
(7) Remove all of the seven screws ⑫ and disconnect all of the FFCs (CMYK).

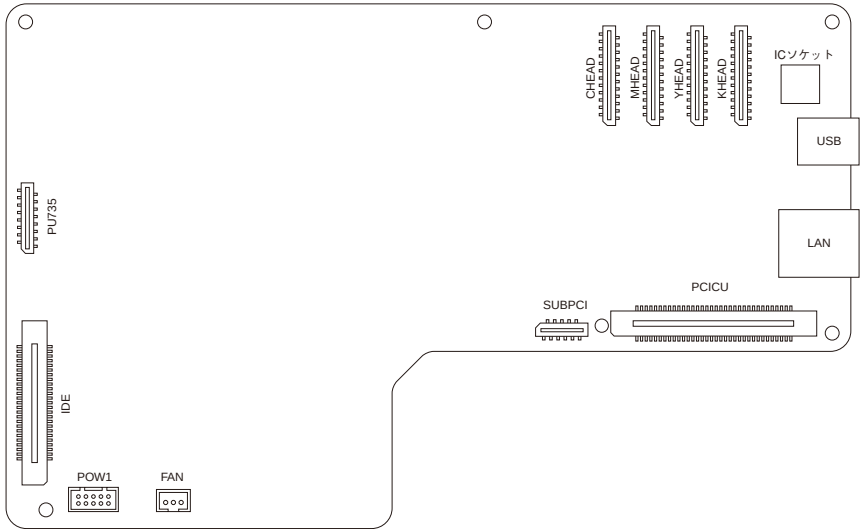


(8) Remove the screw ⑬ and remove the fall prevention foot cover ⑭.



(9) Close the top cover and pull out the CU PCB ⑮ in the direction of the arrow.



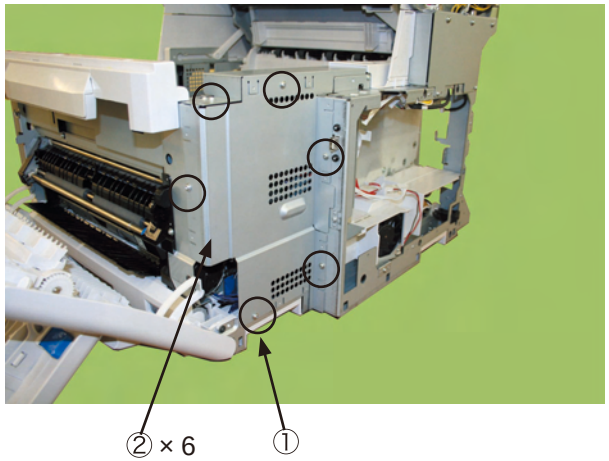


4.2.3.8 ID motor/paper feed motor/ID lift-up motor

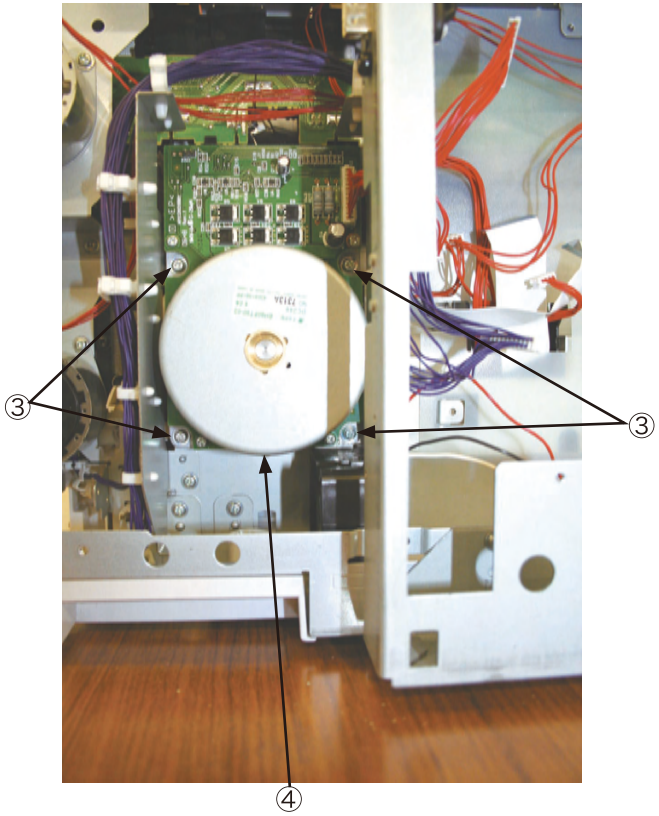
(1) Remove the Cover-Side-R. (Refer to chapter 4.2.3.4.)

(2) Remove the plate shield R. (Refer to chapter 4.2.3.7(1) and (2).)

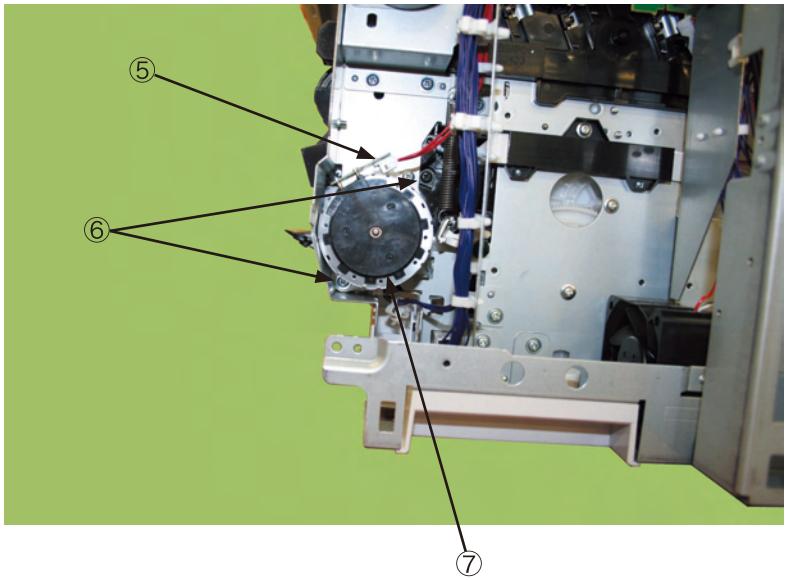
(3) Remove the six screws ① and remove the plate shield F ②.



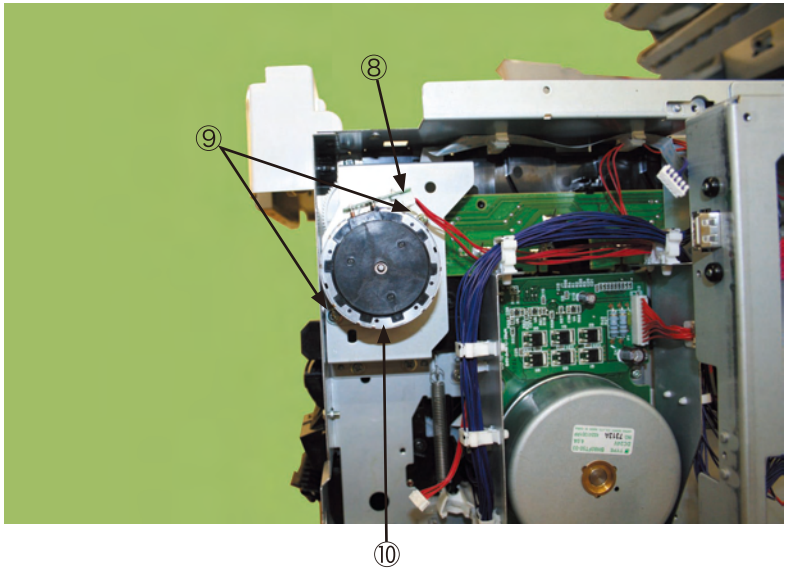
(4) Remove the four screws ③ and remove the ID motor ④.



(5) Disconnect the connector ⑤ and remove the two screws (silver) ⑥, and the paper feed motor ⑦.



(6) Disconnect the connector ⑧ and remove the two screws (silver) ⑨, and remove the ID lift-up motor ⑩.

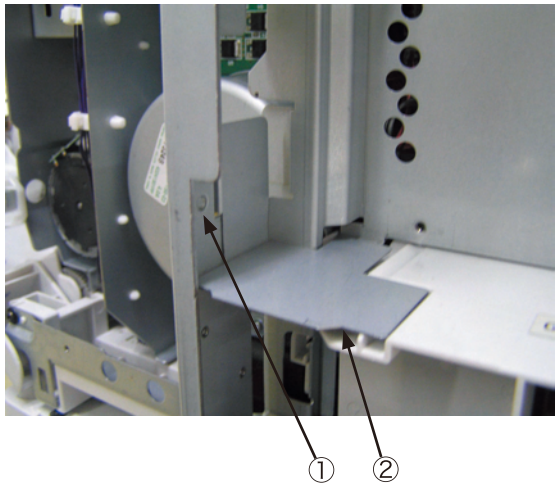


4.2.3.9 PU PCB

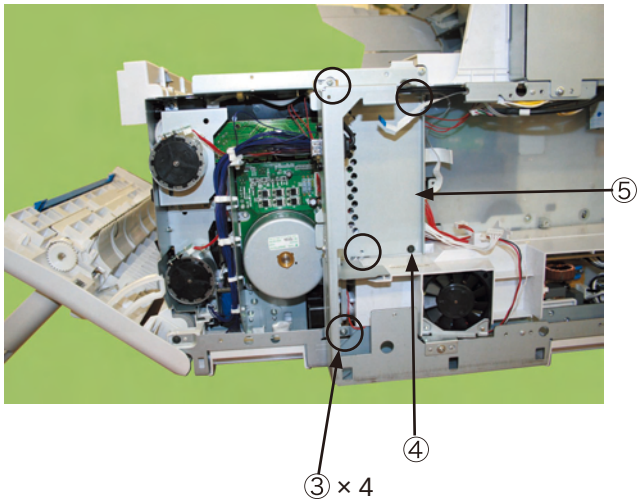
(1) Remove the plate shield R. (Refer to chapter 4.2.3.7 (1) and (2).)

(2) Remove the plate shield F. (Refer to chapter 4.2.3.8 (3).)

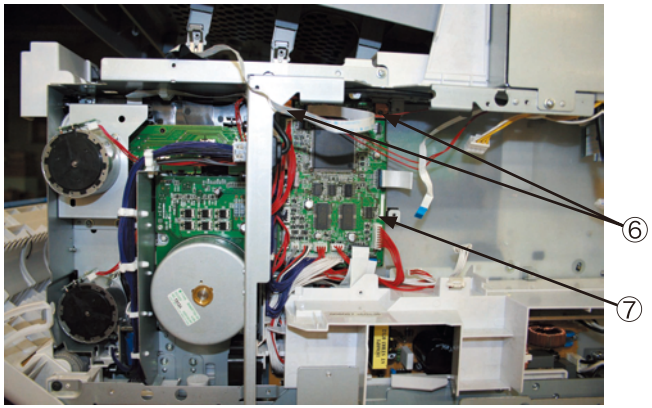
(3) Remove the screw ① and remove the L-shape metal plate ②.



(4) Remove the four screws ③ and the screw ④ (black), and remove the HDD bracket ⑤. At the same time, disconnect the cord from latch.



(5) Disconnect all connectors and the two screws (silver) ⑥. Remove the PU PCB ⑦. (Tool No. 1)



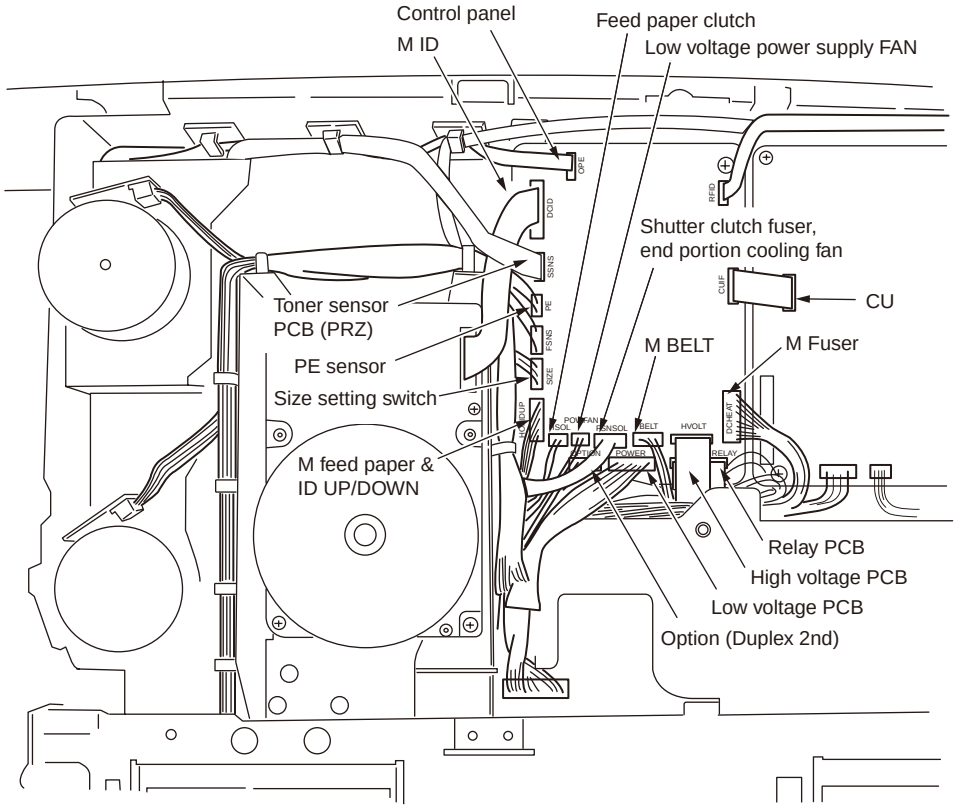


Fig. 4.2.9.3 PU PCB cable route diagram

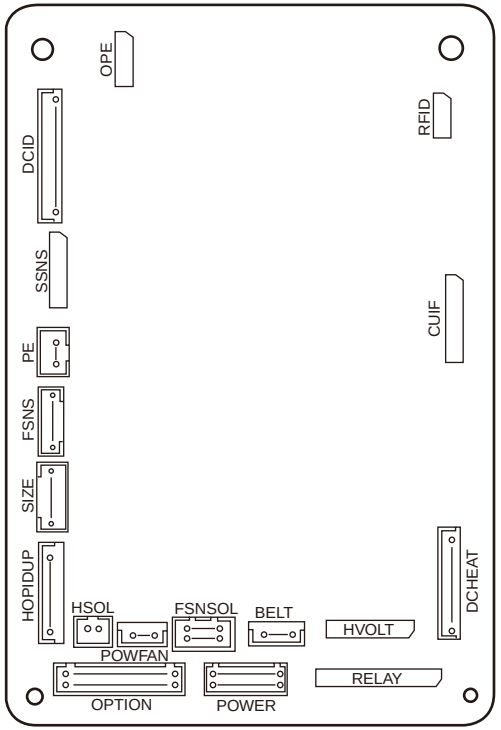


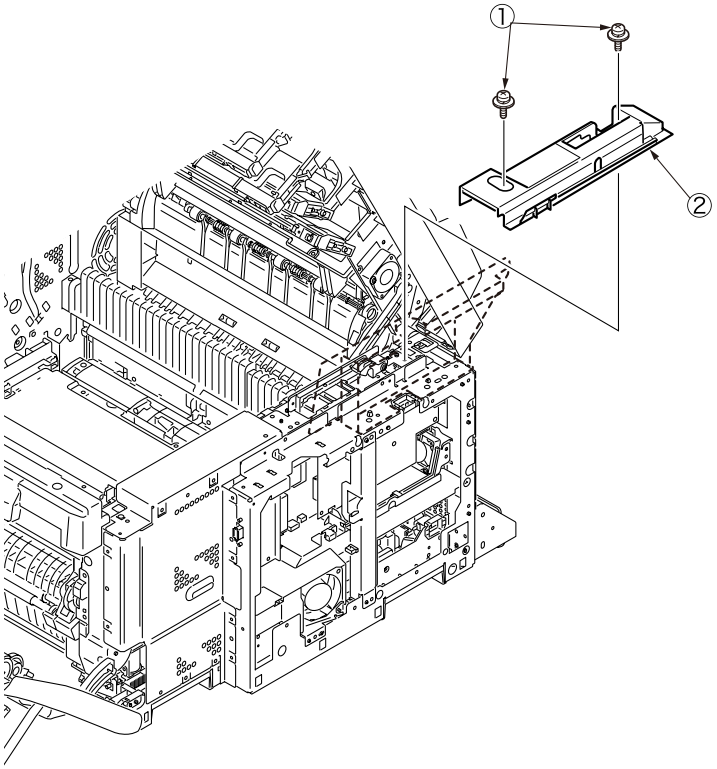
Fig. 4.2.9.4 PU PCB connector location diagram

4.2.3.10 Top cover Assy

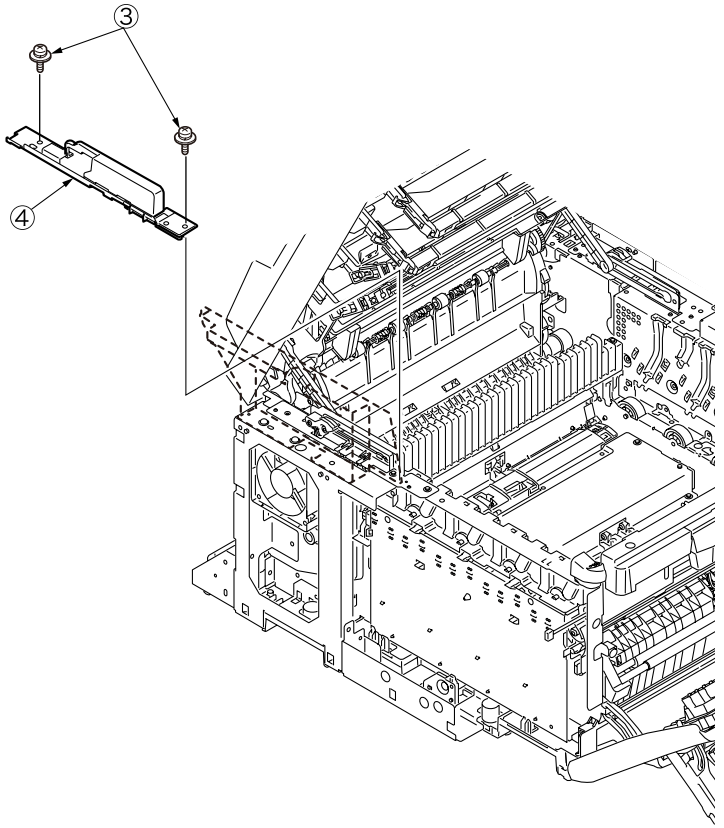
(1) Remove the scanner. (Refer to chapter 4.2.1.)

(2) Remove the rear cover Assy. (Refer to chapter 4.2.3.5.)

(3) Remove the two screws ① and remove the Cover-Stay-R ②.

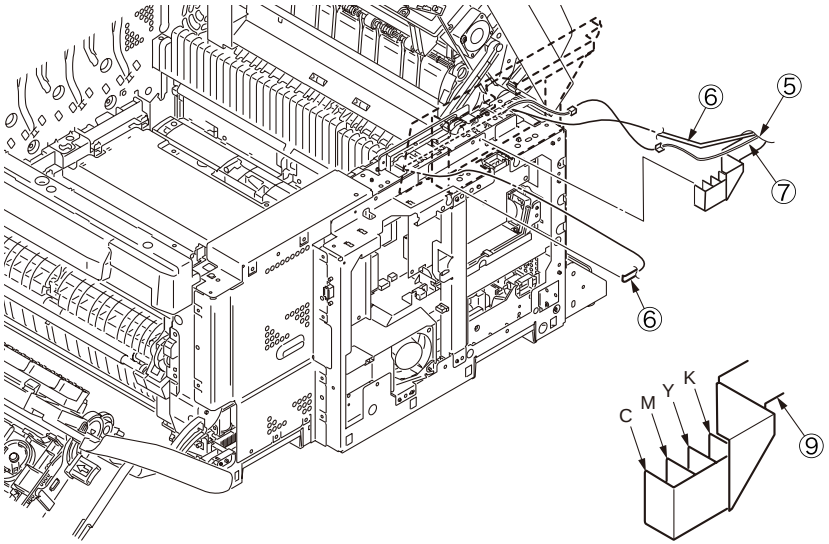


(4) Remove the two screws ③ and remove the Cover-Stay-L ④.

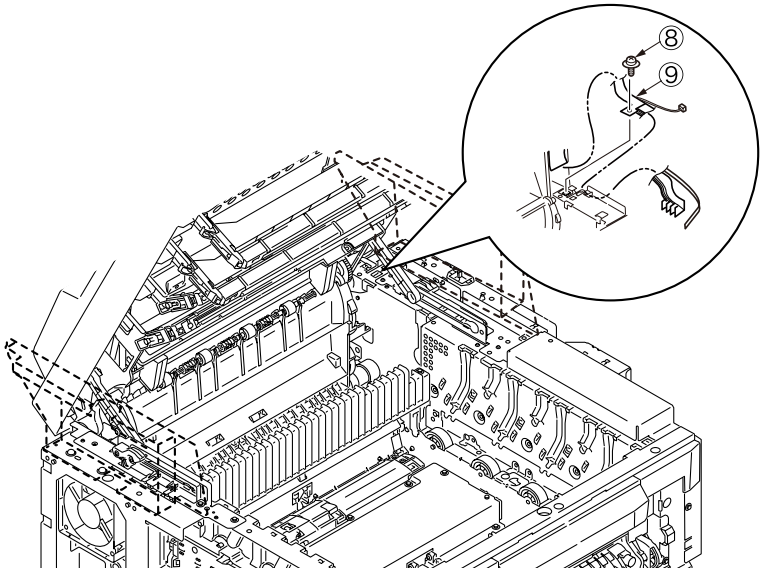


(5) Remove the plate Assy. (Refer to chapter 4.2.3.6.)

(6) Disconnect the four FFC cables ⑤, the RFID FFC cable ⑥ and the fan connector ⑦.

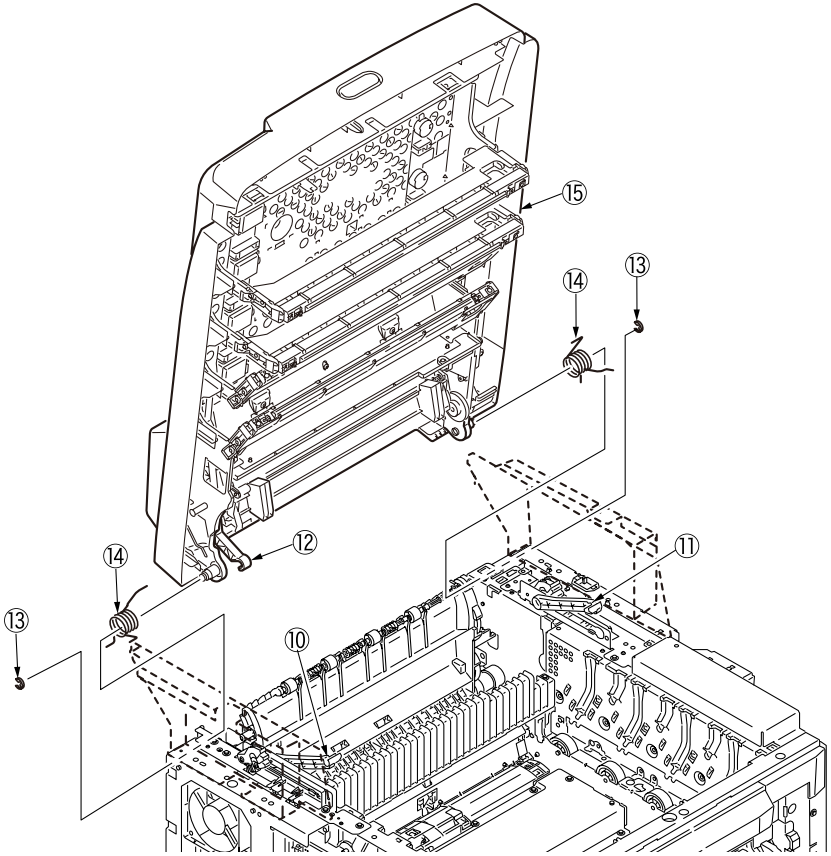


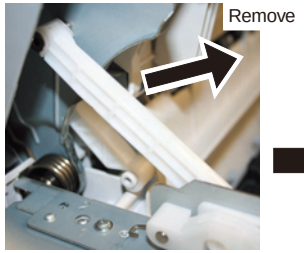
(7) Remove the screw (silver) ⑧ and disconnect the cable Assy Head ⑨. (Tool No. 1)



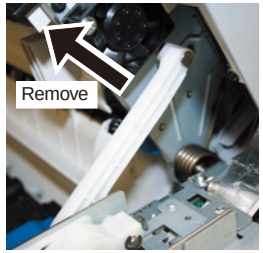
(8) Remove the stay arm L ⑩ and R ⑪. Release the hook of the link arm ⑫.

(9) Remove the two E-type stop rings ⑬ and the two spring torsions ⑭, and remove the top cover ⑮.

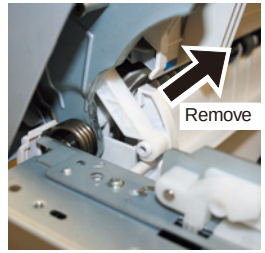




How to remove the stay arm R



How to remove the stay arm L

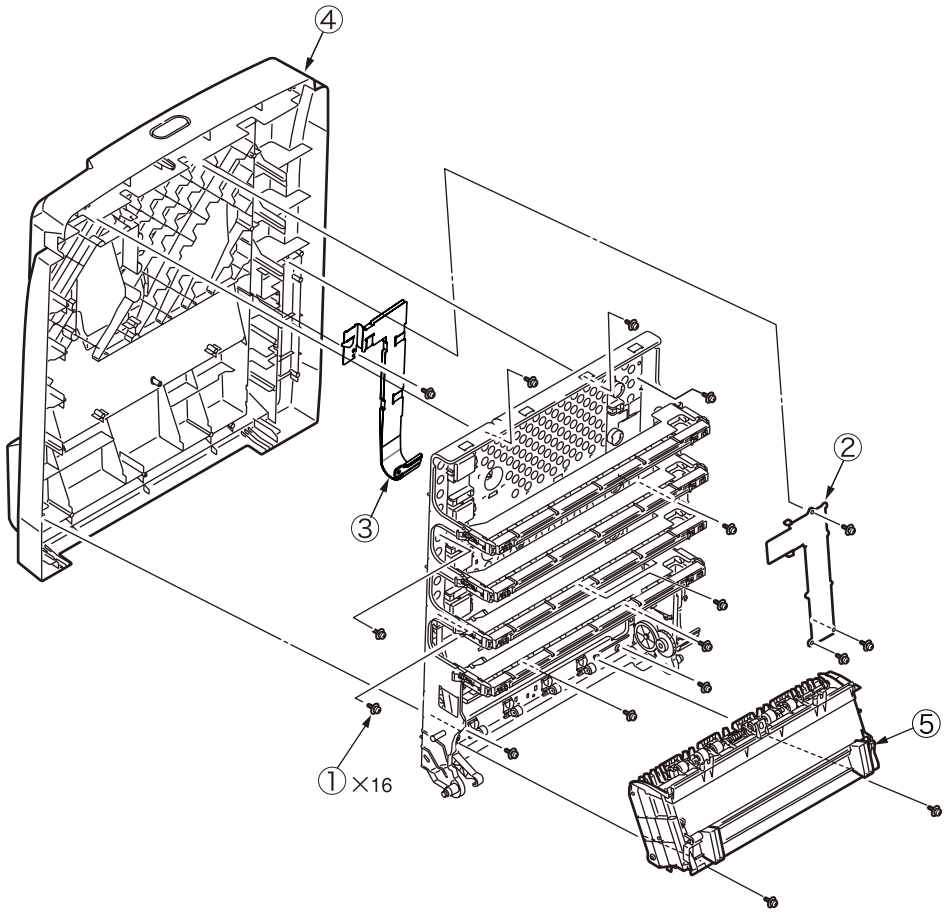


How to remove the link arm

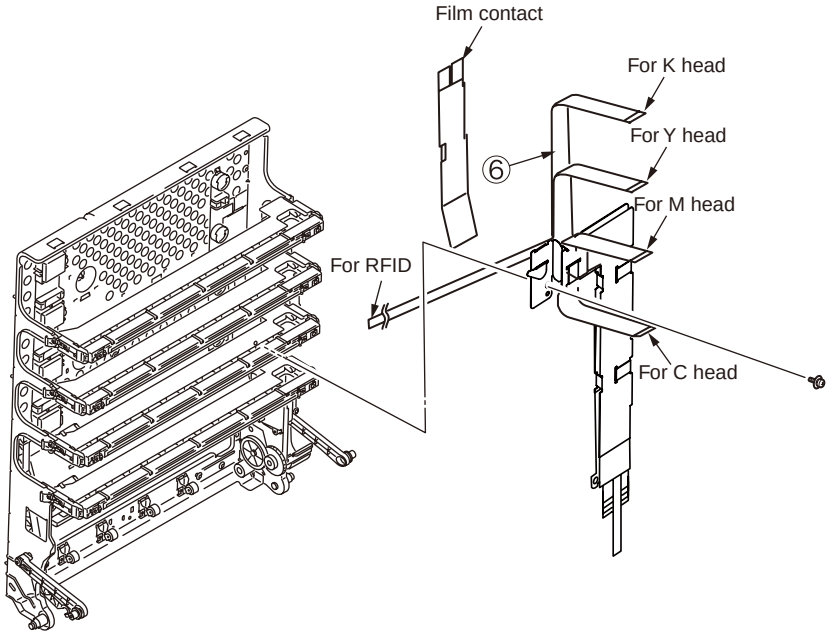
4.2.3.11 Top cover/Extension transport Assy

(1) Remove the top cover Assy. (Refer to chapter 4.2.3.10.)

(2) Remove the sixteen screws (black) and the screw (silver. Remove the cable cover ②, the cable cover base ③, the top cover ④ and the extension transport Assy ⑤. (Tool No. 1)



(3) Disconnect the connectors of the respective blocks and remove the cable Assy head ⑥.

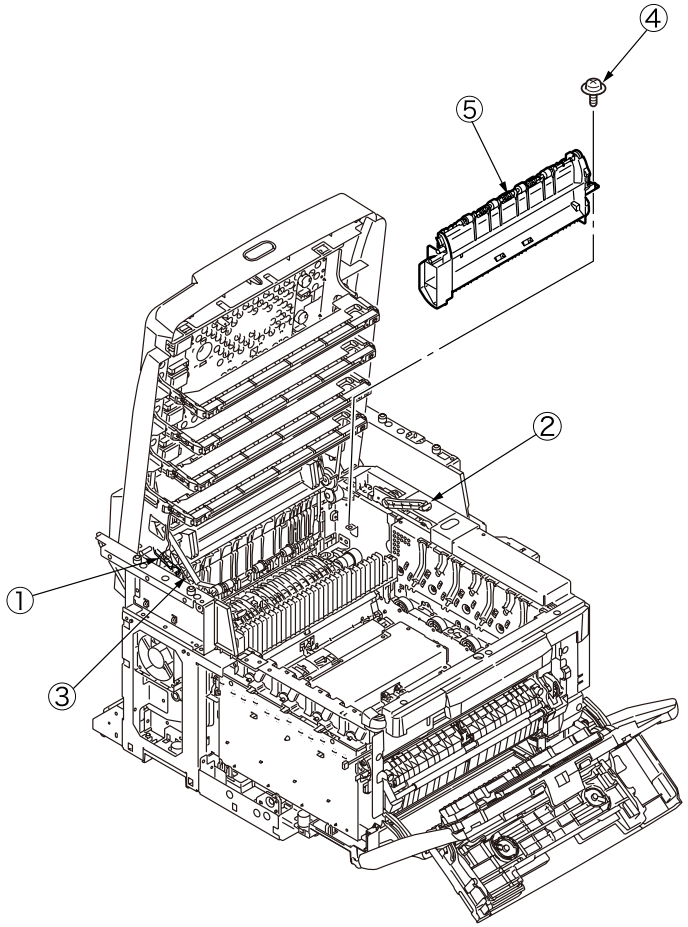


4.2.3.12 Shaft eject Assy (FU)/Shaft eject Assy (FD)

(1) Remove the scanner. (Refer to chapter 4.2.1.)

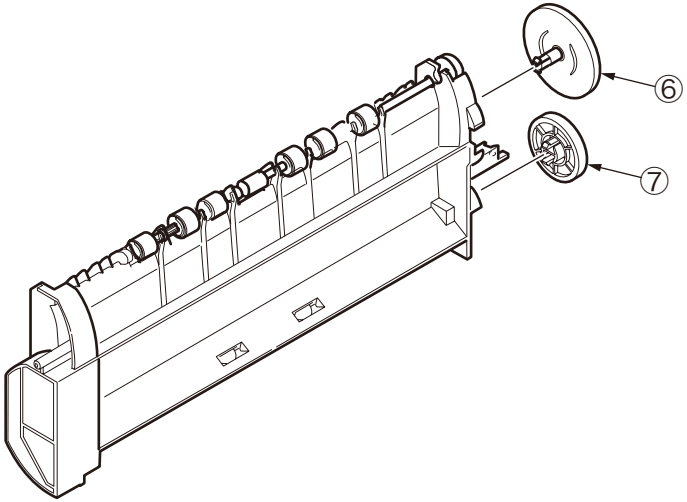
(2) Release the hook of the link arm ①, stay arm L ② and stay arm R ③.

(3) Remove the screw (silver) ④ and disconnect the guide eject Assy upper ⑤.

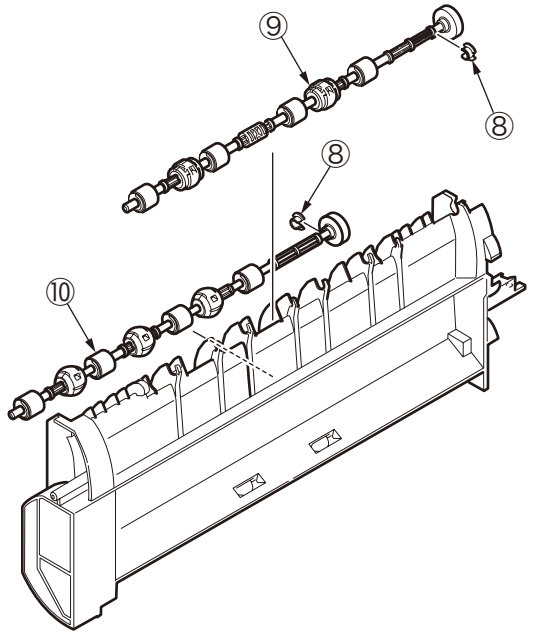


Note! If the top cover is closed while the hooks of the stay arm L and R, and the hooks of the link arm being released, the top cover can be damaged. Before closing the top cover, engage the hooks of the respective parts to their original positions. (Refer to Fig. XX.)

(4) Remove the gear idle ejects ⑥ and ⑦.



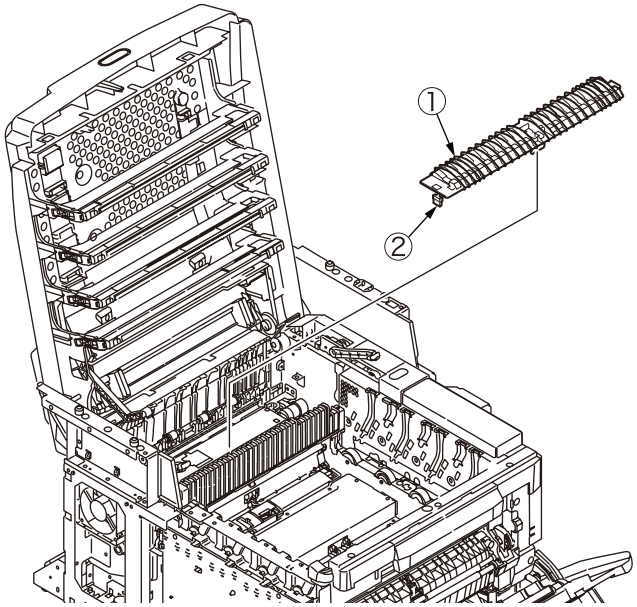
(5) Remove the two mold E-ring ⑧, and remove the shaft Assy eject (FU) ⑨ and the shaft Assy eject (FD) ⑩ by bending them.



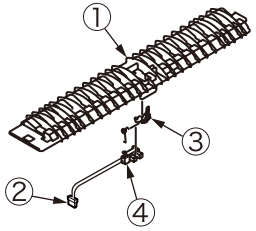
4.2.3.13 Guide eject Assy lower/Color regist Assy/Relay PCB (P6Y)

(1) Remove the scanner, and release the hooks of the link arm, stay arm L and stay arm R to open the top cover Assy.

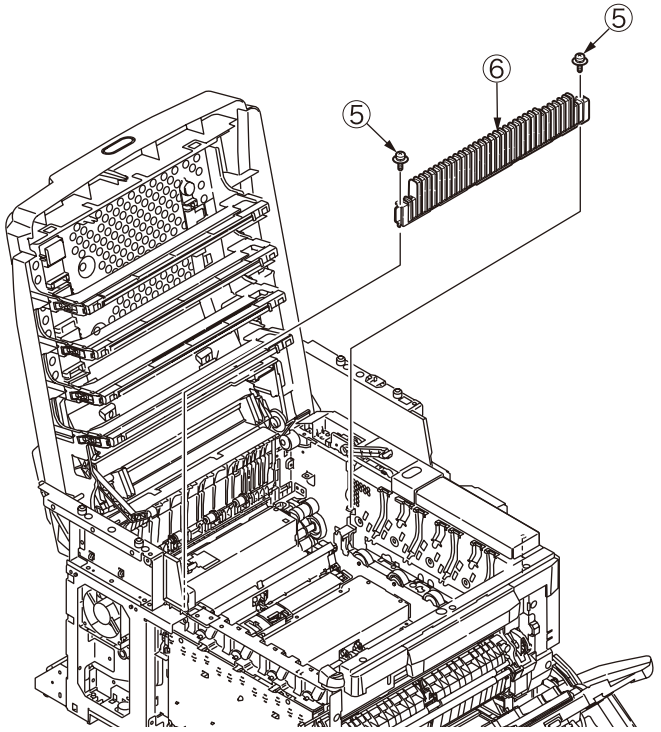
(2) Slide the guide eject lower ① to the left, and remove the guide eject lower ①. At the same time, disconnect the connector ②.



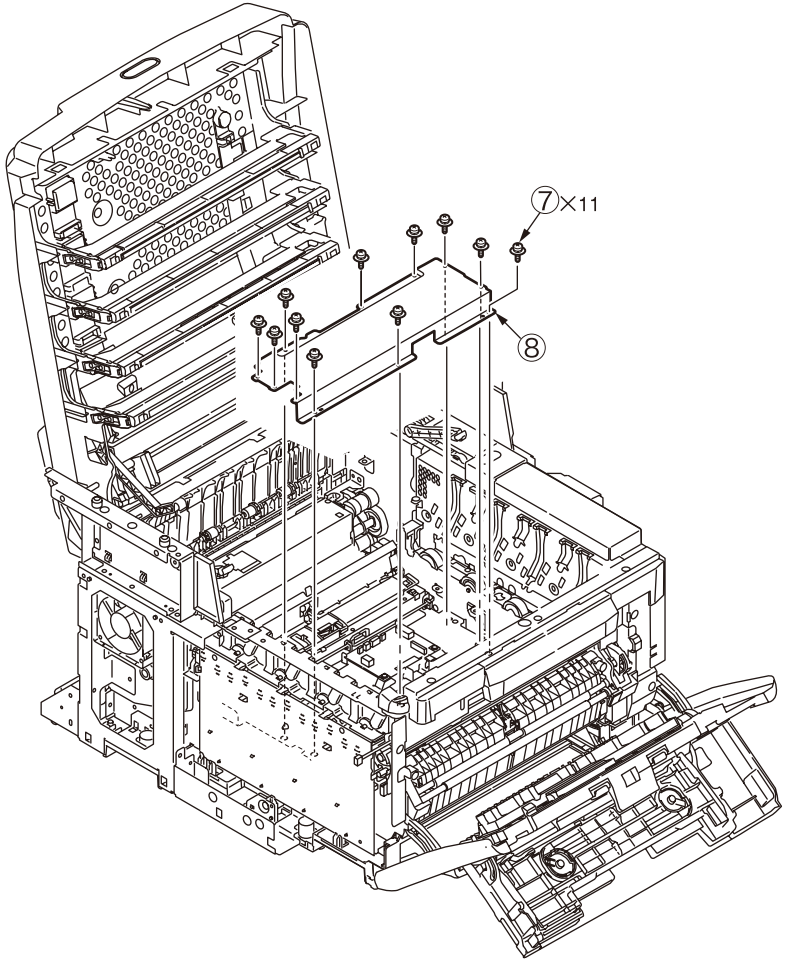
(3) Disconnect the lever eject sensor ③ and the eject sensor ④.



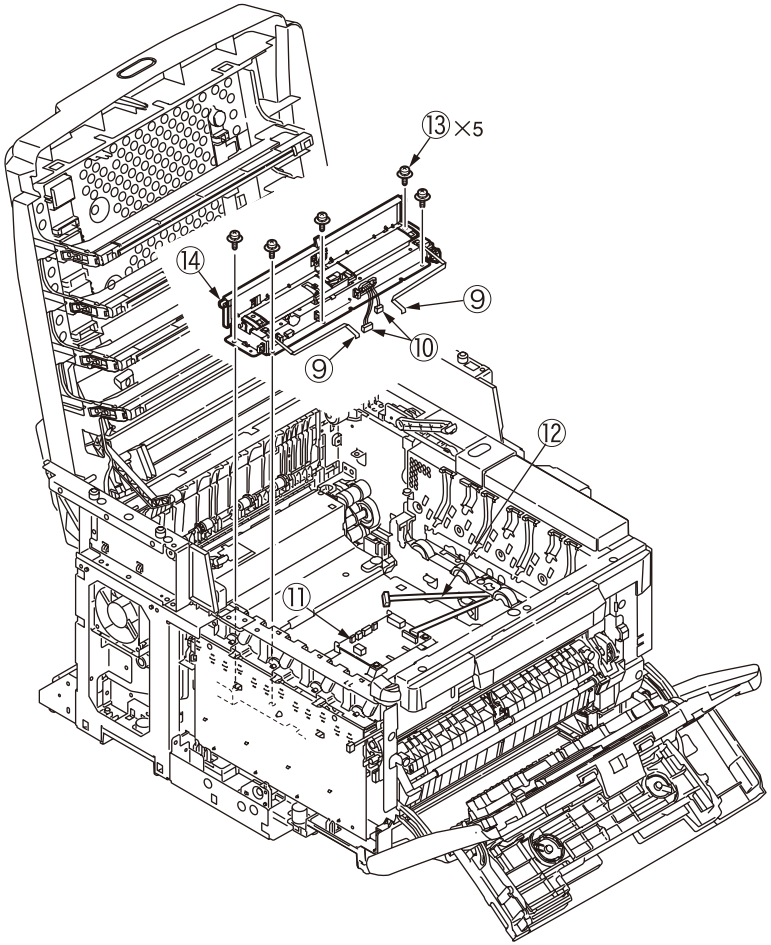
(4) Remove the two screws (silver) ⑤ and remove the reinforcement plate Assy ⑥.



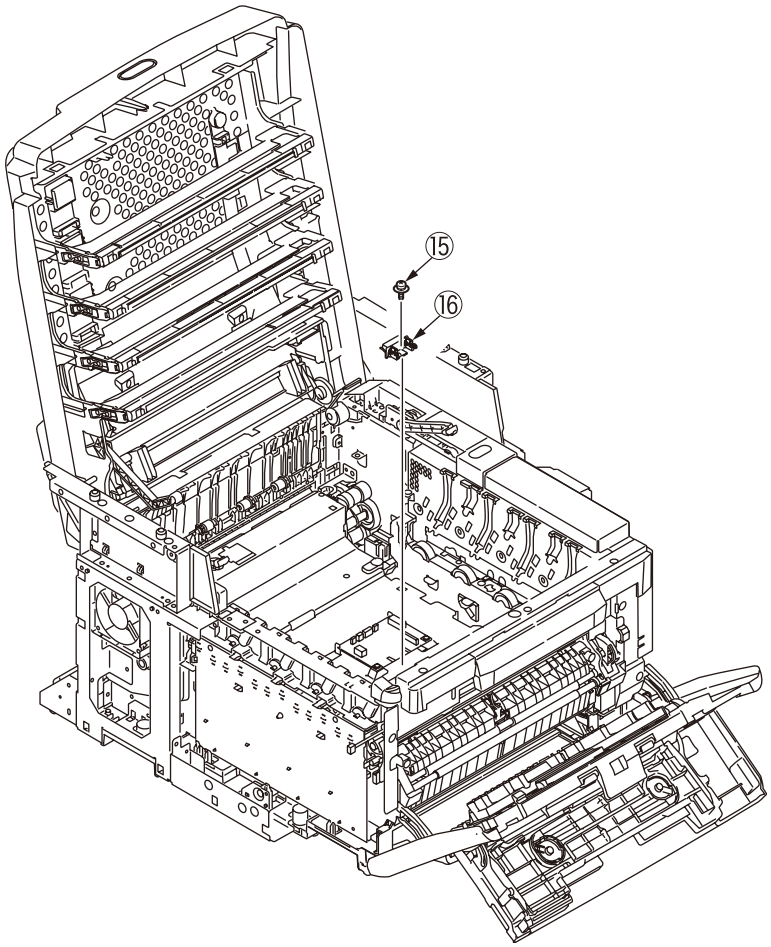
(5) Remove the eleven screws (silver) ⑦ and remove the cover plate ⑧.



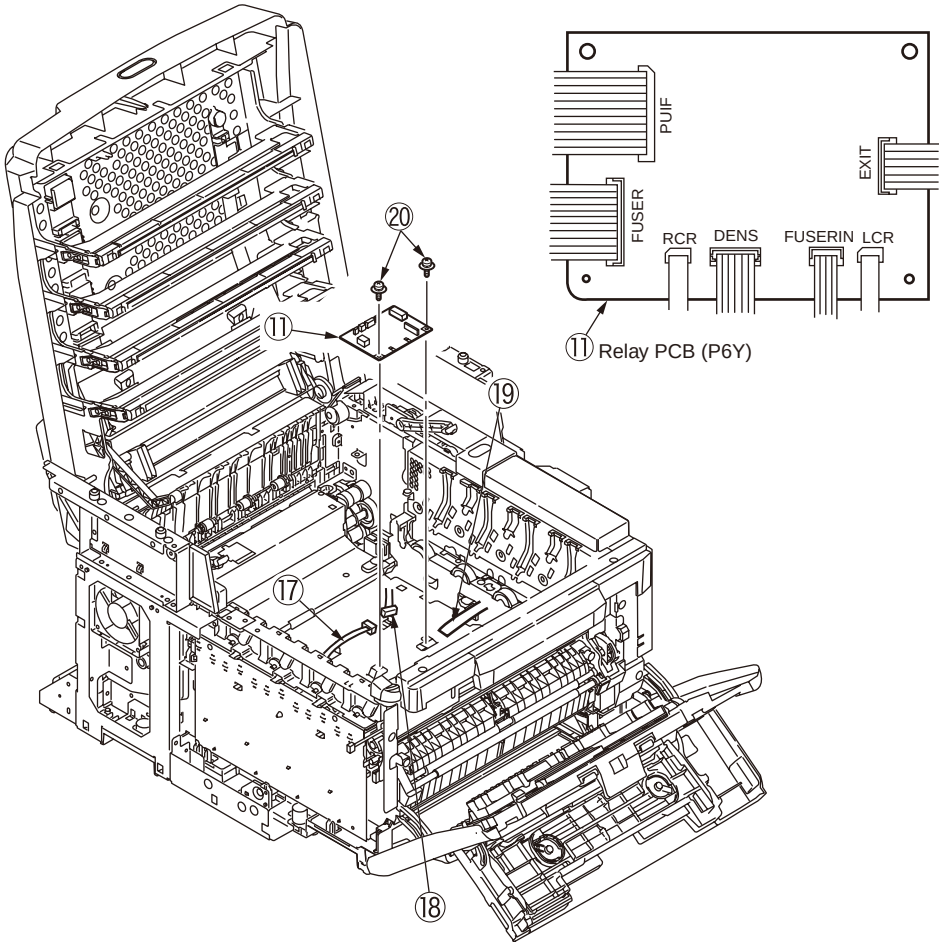
(6) Disconnect the two FFC connectors ⑨ in the right and left, and disconnect the two connectors ⑩ from the relay PCB (P6Y) ⑪. Remove the color regist Assy ⑭, the five screws (silver) ⑬ and the color regist Assy ⑭.



(7) Remove the screw (silver) ⑮ and disconnect the contact Assy Head ⑯. (Tool No. 1)



(8) Disconnect the two connectors ⑰ and ⑱, and the FFC connector ⑲. Then remove the two screws (silver) ⑳ and the relay PCB (P6Y) ⑪. (Tool No. 1)



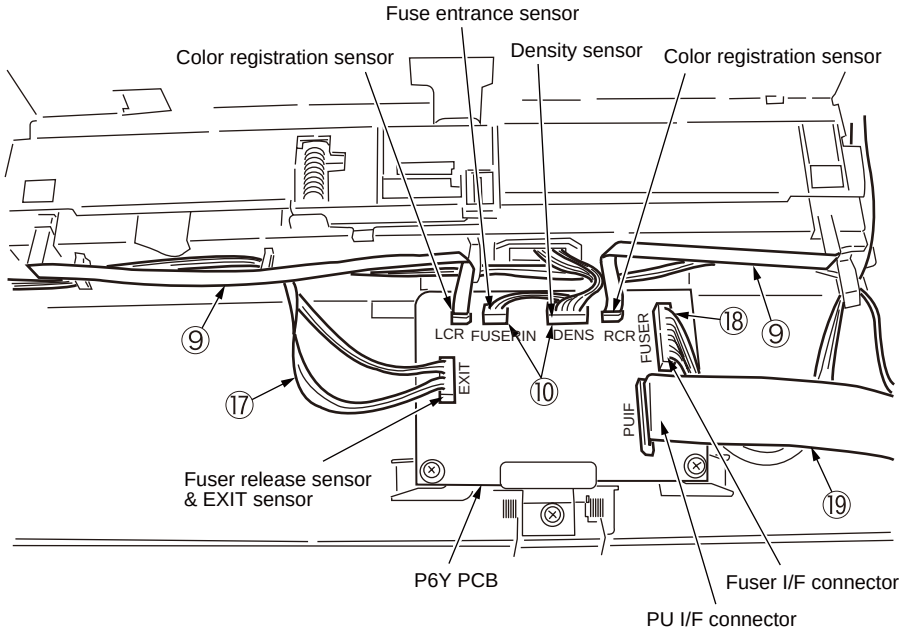


Fig. 4-2-3-12-1 Relay PCB (P6Y) cable route diagram

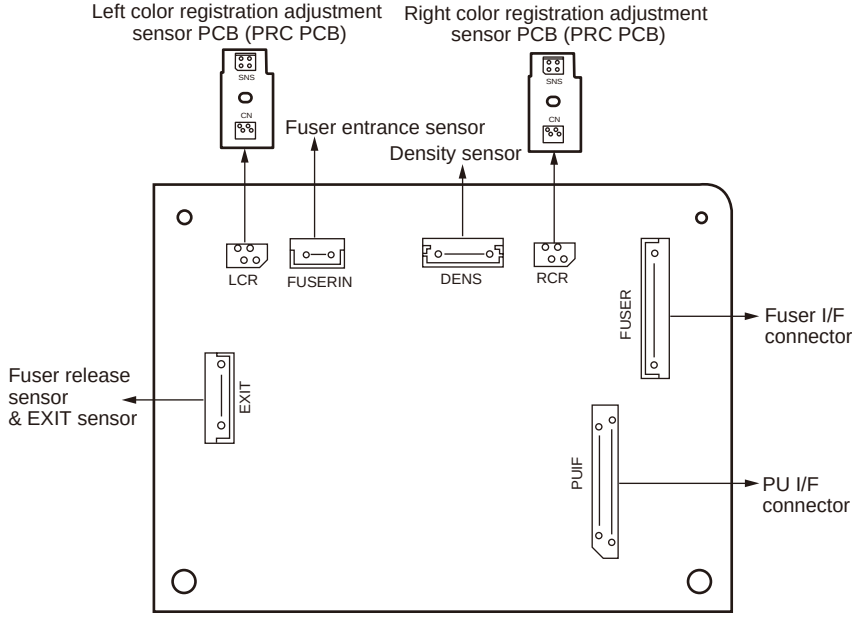
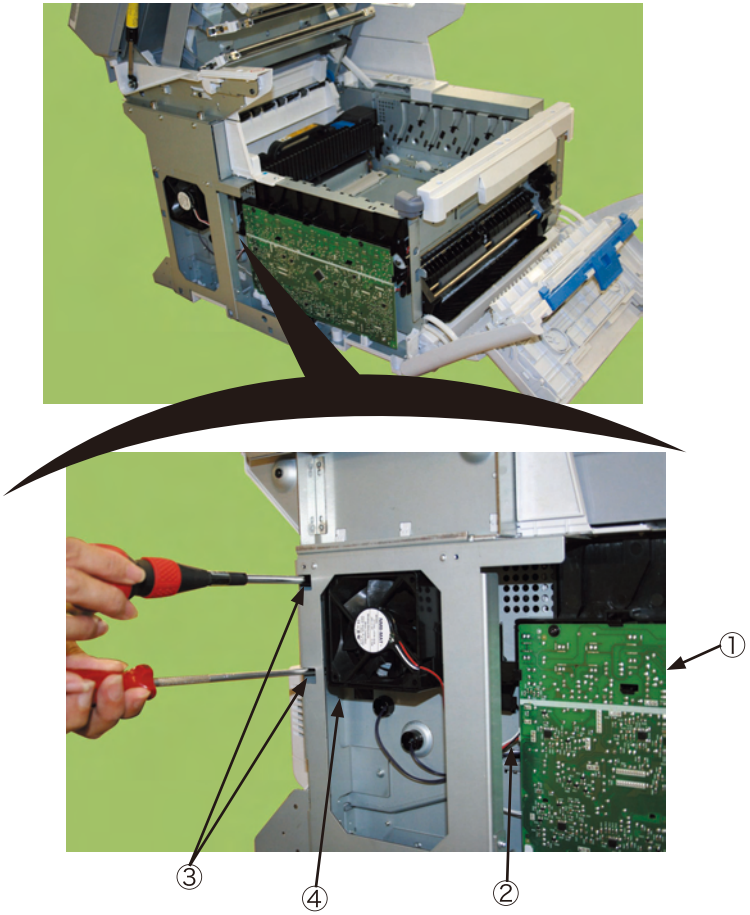


Fig. 4-2-3-12-2 Relay PCB (P6Y) connection diagram

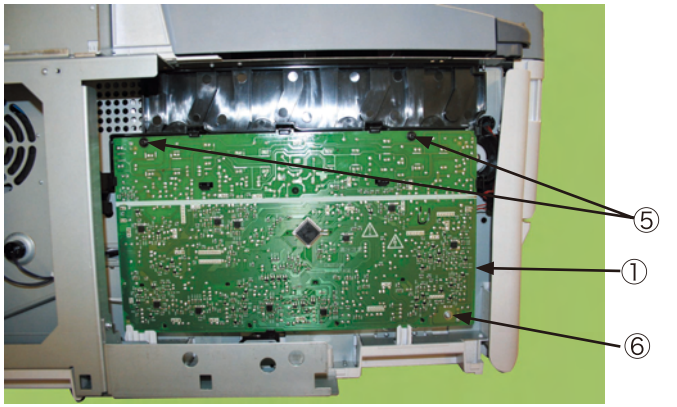
4.2.3.14 FAN (Fuser)/High voltage PCB/Contact Assy/Fuser sensor Assy

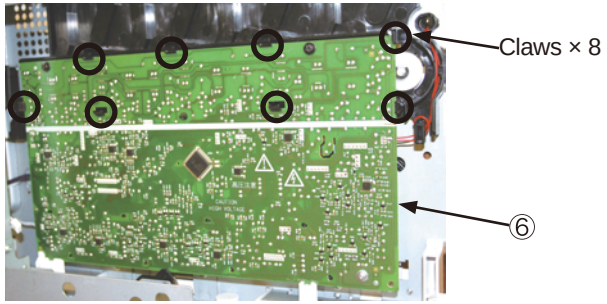
(1) Remove the left side cover. (Refer to chapter 4.2.3.3.)

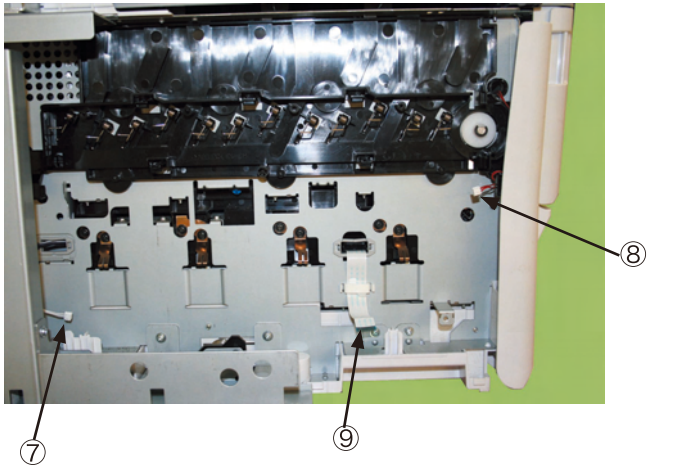
(2) Disconnect the connector ② from the high voltage power supply PCB ①. Remove the two screws (silver) ③ and remove the FAN ④. (Tool No. 1)



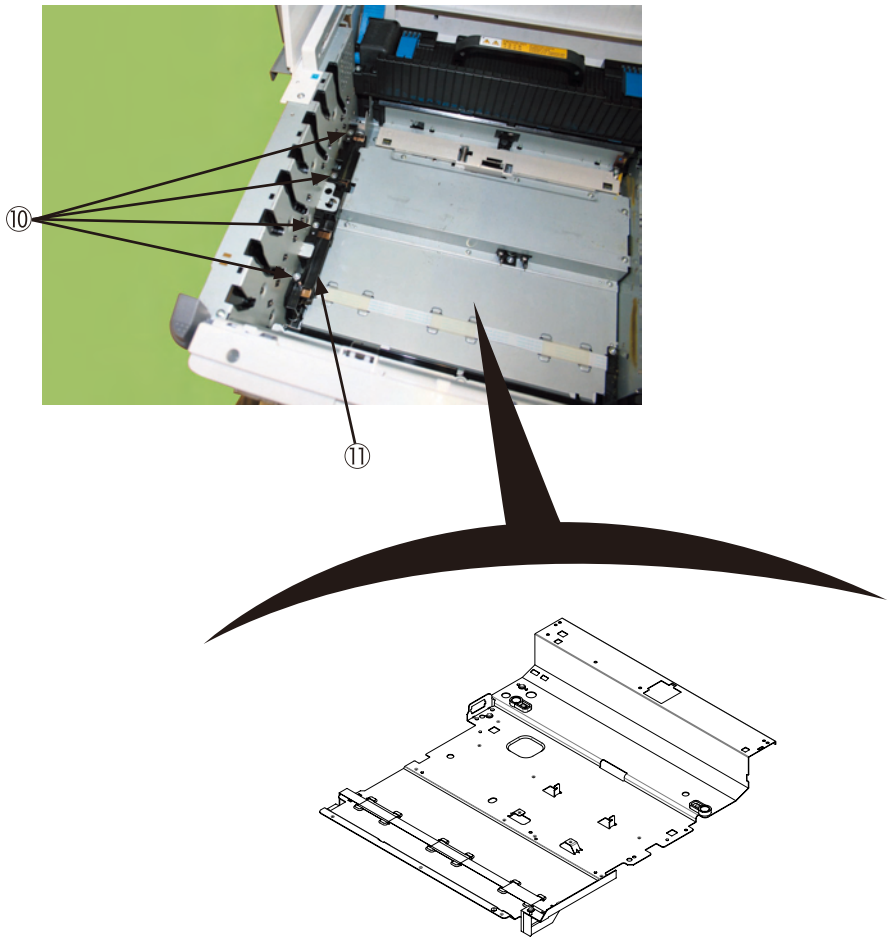
(3) Remove the two screws (black) ⑤ and the screw (silver) ⑤. Release the claws at the eight locations, and disconnect the belt thermistor connector ⑦, the cover open sensor connector ⑧ and the FFC connector ⑨ from the high voltage power supply PCB. Remove the high voltage power supply PCB ①. (Tool No. 1)



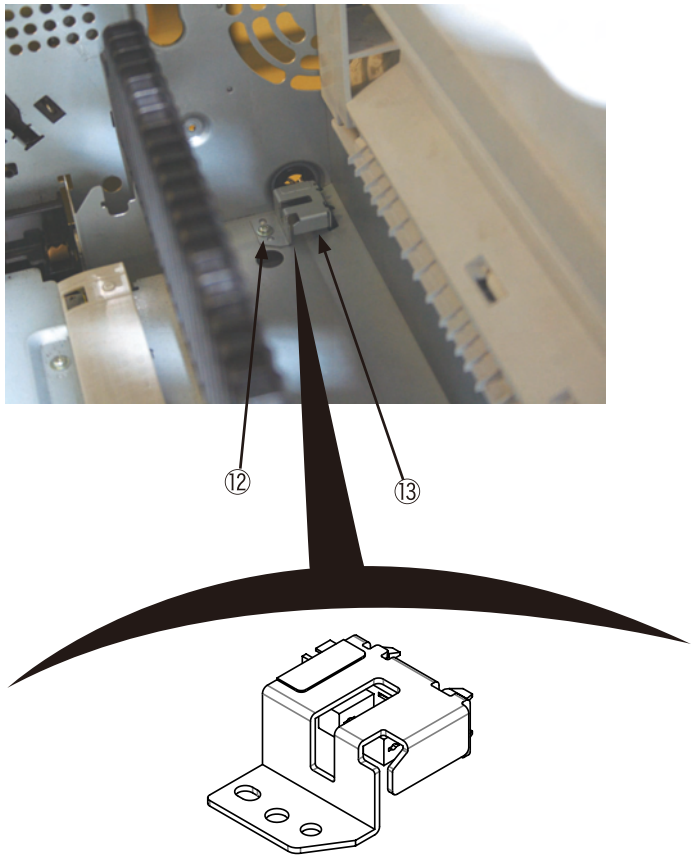




(4) Remove the four screws (silver) ⑩ and remove the contact Assy ⑪.



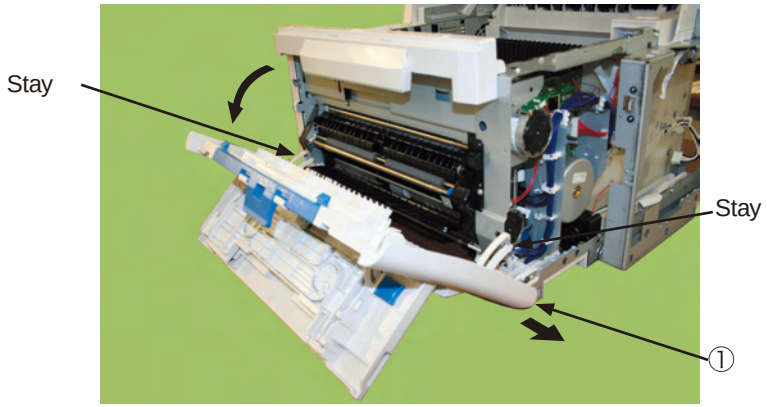
(5) Remove the screw (silver) ⑫, disconnect the connector and remove the fuser sensor Assy ⑬. (Tool No. 1)



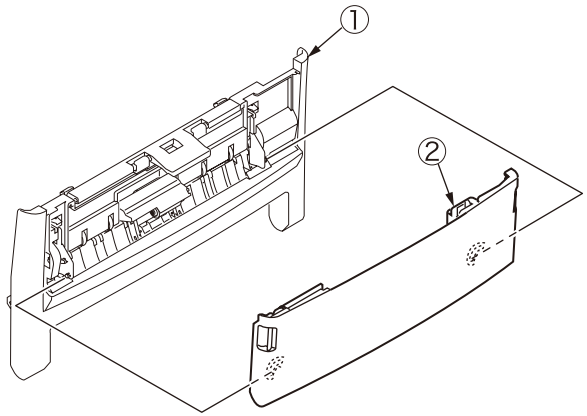
4.2.3.15 MPT Assy/MPT hopping roller/Separator/Pickup roller

(1) Remove the paper cassette.

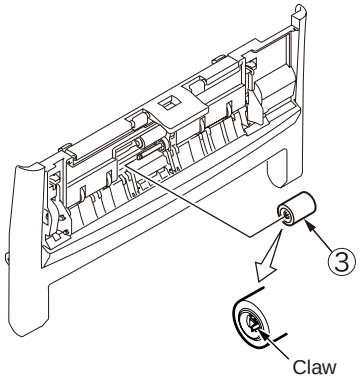
(2) Open the MPT Assy ① and remove the right and left stays by bending them outside, and remove the MPT Assy ① by sliding it to the right.



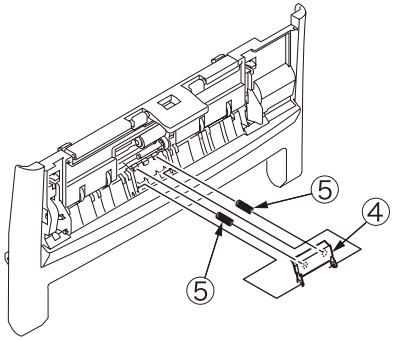
(3) Remove the MPT ② from the MPT Assy ①.



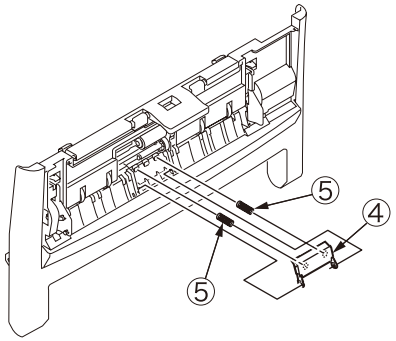
(4) Raise the pickup device upward and slide the feed paper roller ③ to the left and remove it by bending the claws.



(5) Rotate the separator ④ centering around its pivot and remove the pivots at the two locations. Remove the separator ④ and the two springs ⑤.



(6) Remove the pickup roller ⑥ by bending the side surface of the frame.



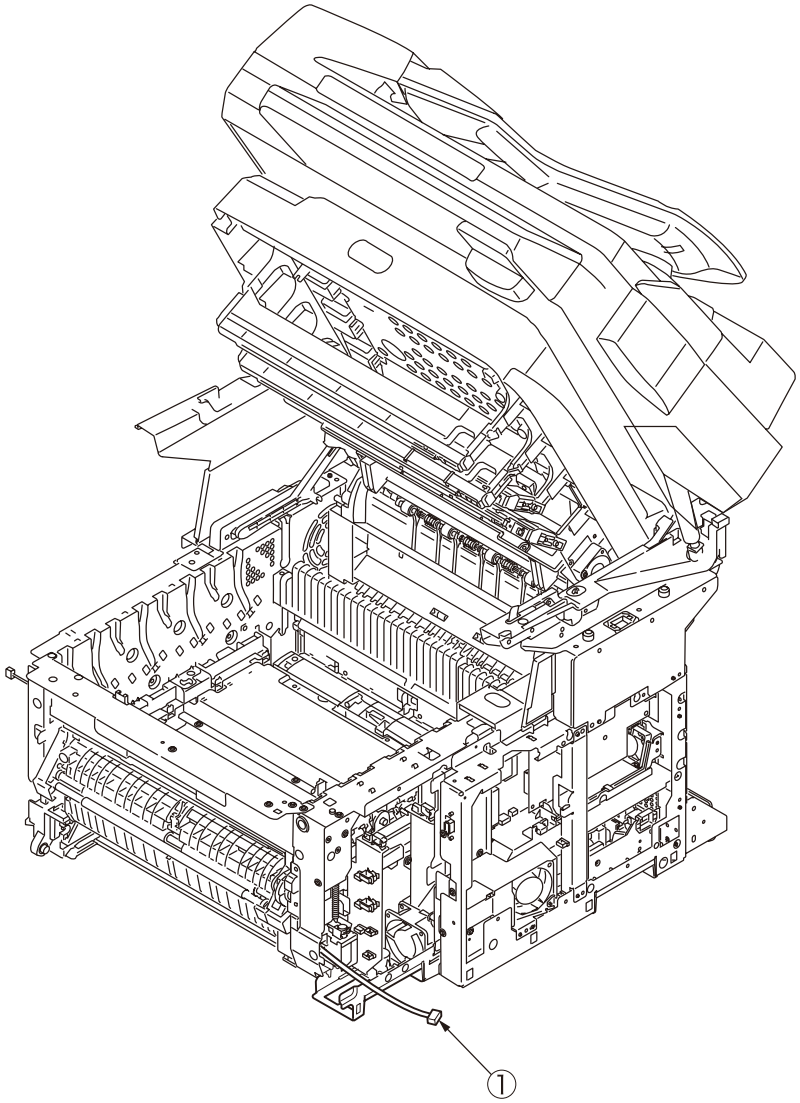
4.2.3.16 Regist roller Assy

(1) Open the scanner and the top cover.

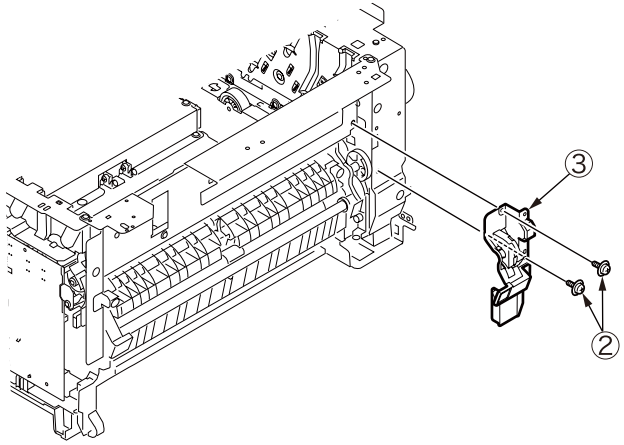
(2) Remove the side covers L and R. (Refer to chapters 4.2.3.3 and 4.2.3.4.)

(3) Remove the MPT Assy. (Refer to chapter 4.2.3.15 (2).)

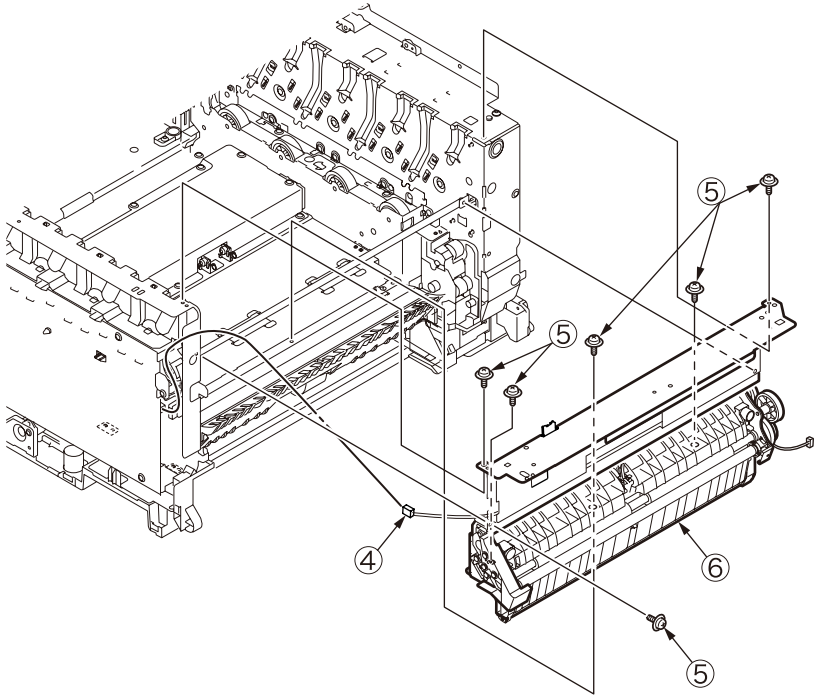
(4) Disconnect the cable ①.



(5) Remove the two screws (silver) ② and remove the gear cover ③.



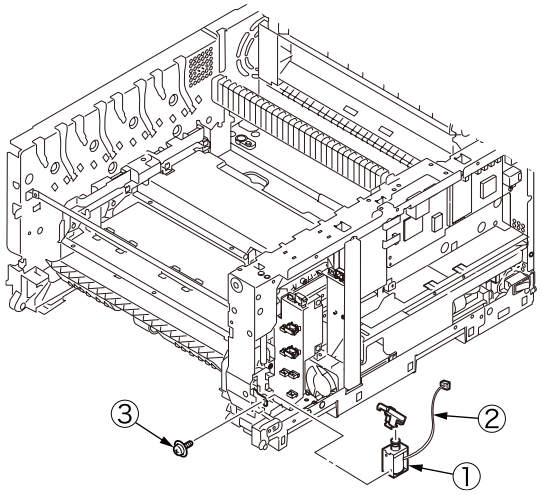
(6) Disconnect the connector ④ from the high voltage PCB. Remove the six screws (silver) ⑤ and remove the regist roller Assy ⑥ by pulling it as shown by the arrow.



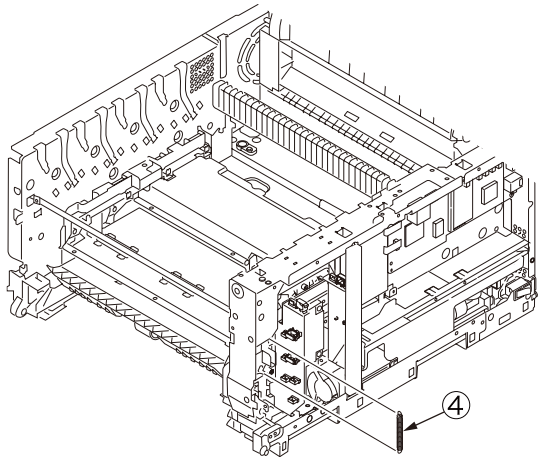
4.2.3.17 Gear box/Regist/Hopping roller Assy/Solenoid

(1) Remove the regist roller Assy. (Refer to chapter 4.2.17.)

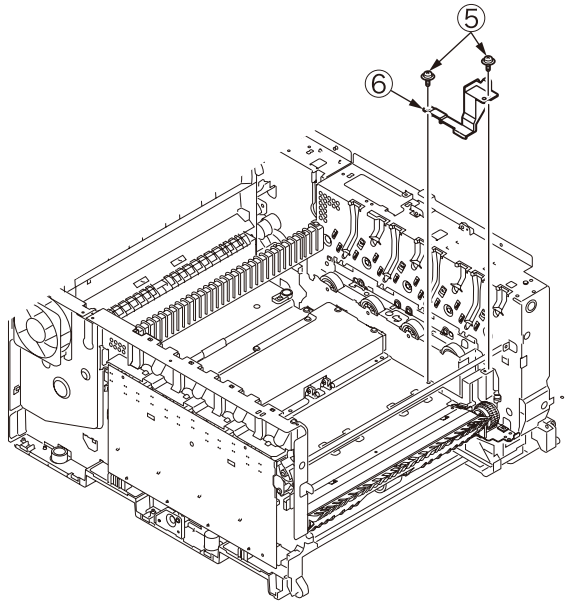
(2) Disconnect the cable ② from the solenoid ①. Remove the screw (silver) ③ and the solenoid ①.



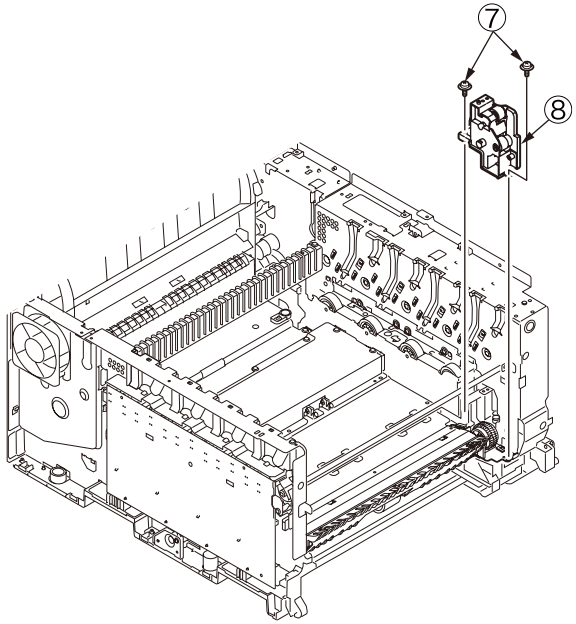
(3) Remove the spring ④.



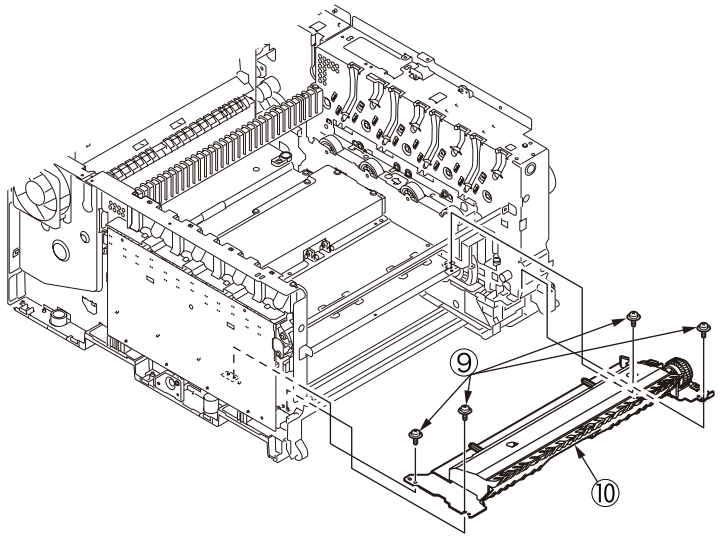
(4) Remove the two screws (silver) ⑤ and remove the cable cover ⑥.



(5) Remove the two screws (silver) ⑦ and remove the gear box ⑧ by raising it upward.



(6) Remove the four screws (silver) ⑨ and remove the hopping roller Assy ⑩ by raising it to the front. (Tool No. 1)



4.2.3.18 Holder switch Assy/Fan for low voltage power supply/Low voltage power supply

(1) Remove the plate shield F. (4.2.3.8(1)? (Refer to chapter 4.2.3.8 (1) to (3).)

(2) Remove the MPT Assy. (Refer to chapter 4.2.3.15.)

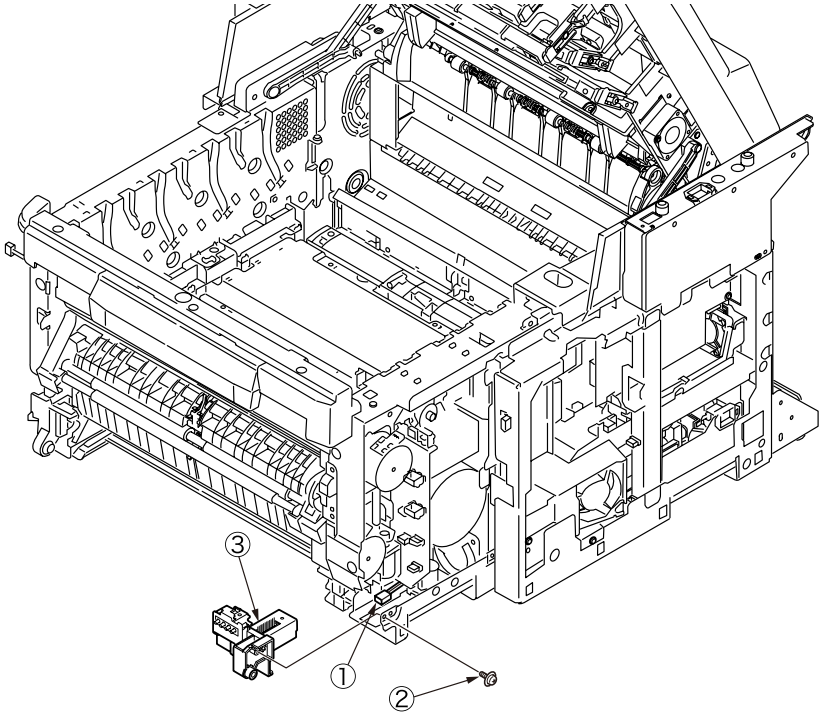
(3) Disconnect the connector ① and remove the screws (black). Remove the holder switch Assy ③.

⚠Warning	Electric shock can occur.	

When replacing the low voltage power supply, there is a danger of electric shock.

Be sure to wear an insulation gloves or do not touch the electrically conduction areas or terminal directly by hand during the part replacement work.

It takes approx. 1 minute for capacitors to be completely discharged after the AC power cord is disconnected. Be careful not to receive electric shock because capacitors may not discharge in case if PCB is defective.

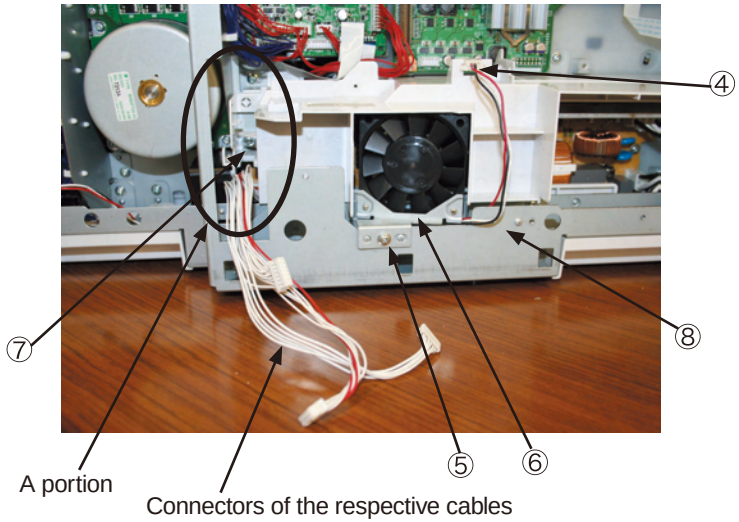


(4) Disconnect the connector ④ and the screw ⑤. Remove the low voltage power supply fan ⑥.

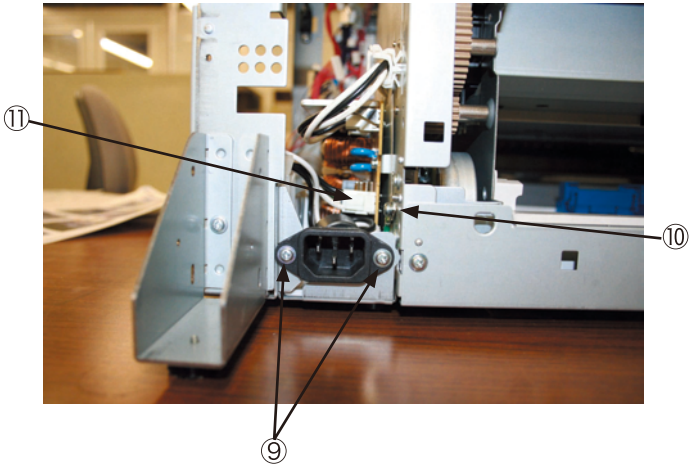
(5) Remove the MZA PCB. (Refer to chapter 4.2.3.7 (1) to (7).)

(6) Disconnect the connectors of the respective cables that pass through the A portion from the PC/CU PCB.

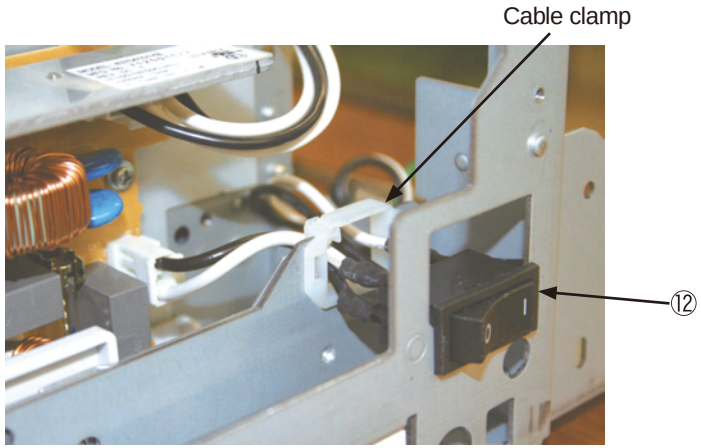
(7) Remove the screw ⑦ and the cover pow ⑧.



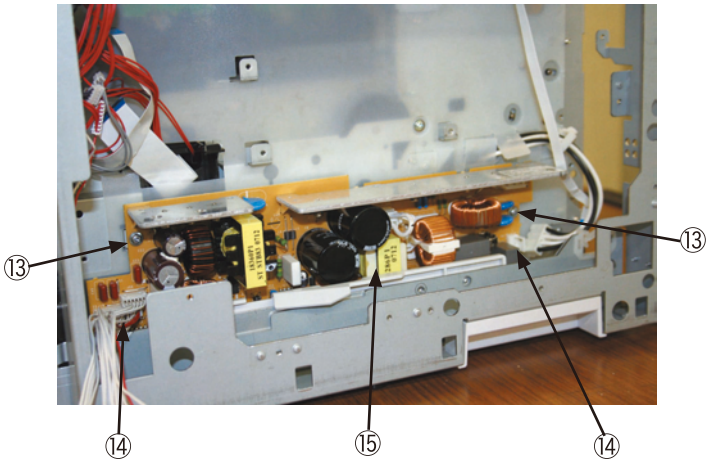
(8) Remove the two screws ⑨ and the earth screw ⑩. Disconnect the AC power supply connector ⑪.

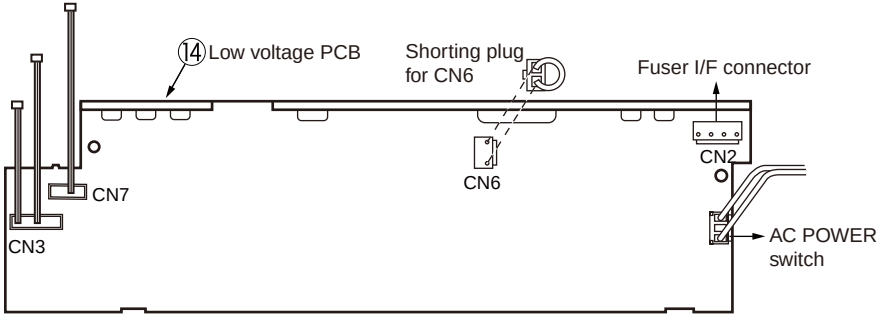


(9) Slide the AC POWER switch ⑫ upward and remove it from the cable clamp.



(10) Remove the two screws ⑬. Disconnect the connector ⑭ and remove the low voltage power supply PCB ⑮.



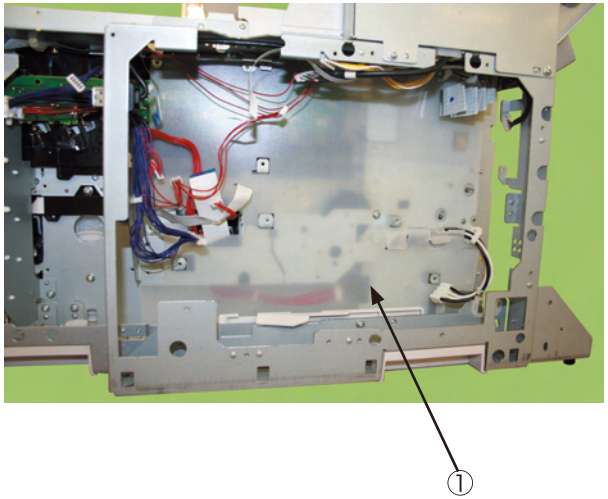


4.2.3.19 Belt motor Assy/Fuser motor Assy

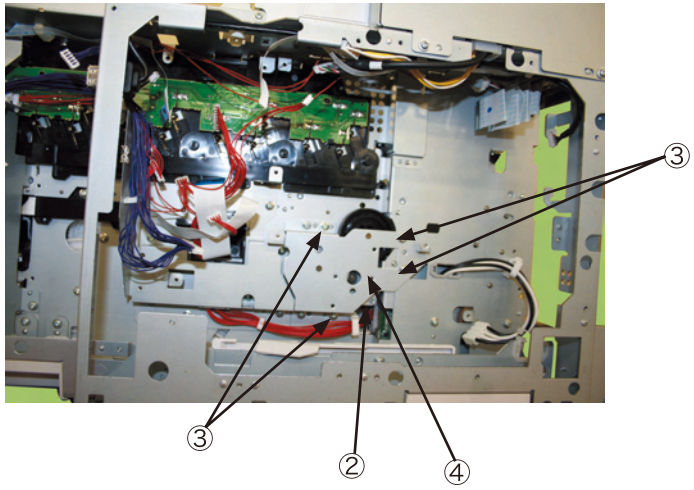
(1) Remove the main control PCB and the print engine roller PCB. (Refer to chapters 4.2.7 and 4.2.8.)

(2) Remove the low voltage power supply. (Refer to chapter 4.2.3.18.)

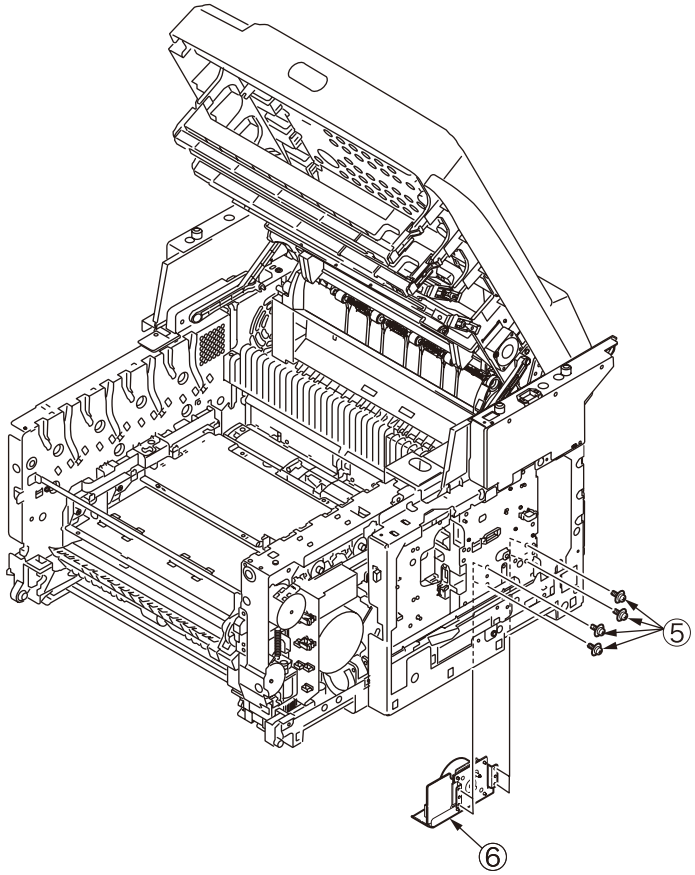
(3) Remove the insulator ①.



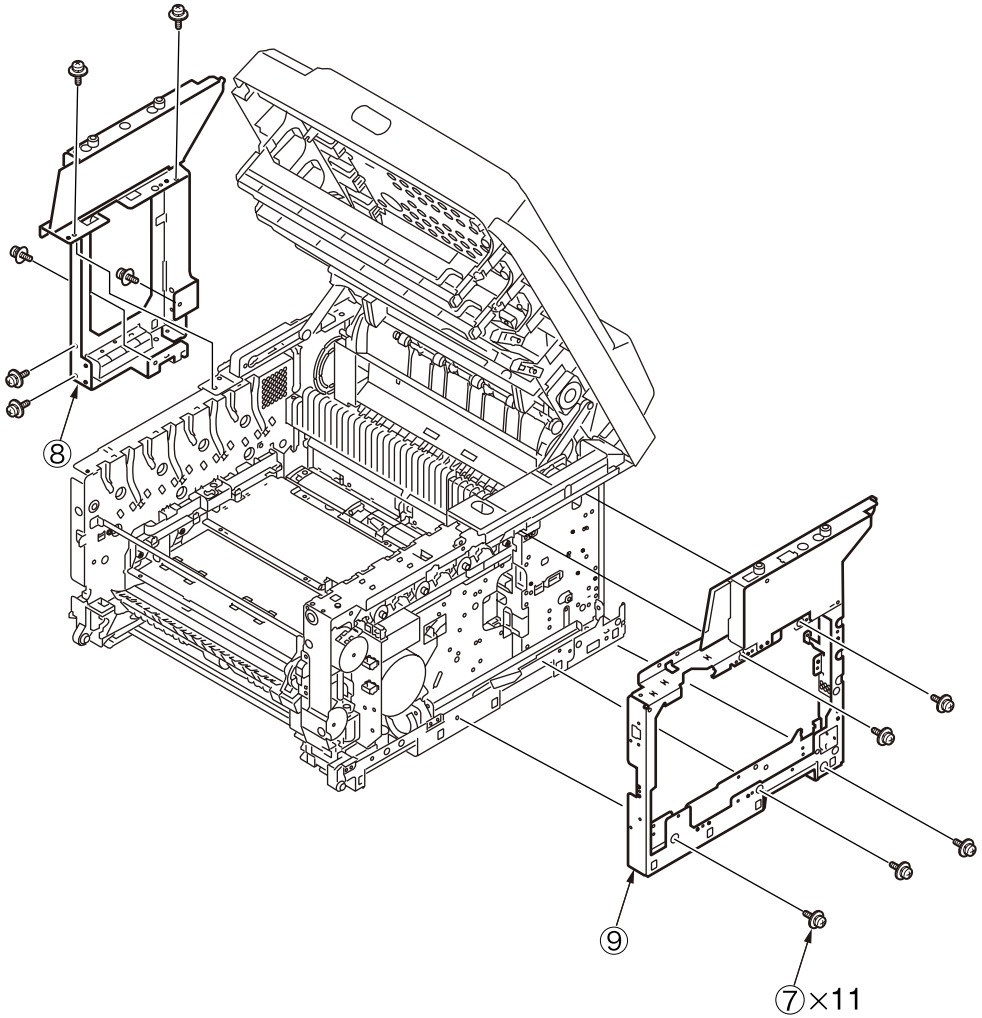
(4) Disconnect the two cables ② from the clamp, and remove the four screws (silver) ③ from the locations where the figure 2 is inscribed in the bracket Remove the belt motor Assy ④.



(5) Remove the four screws (silver) ⑤ and remove the fuser motor Assy ⑥.



(6) Remove the eleven screws ⑦ and remove the outer frame L ⑧ and R ③.

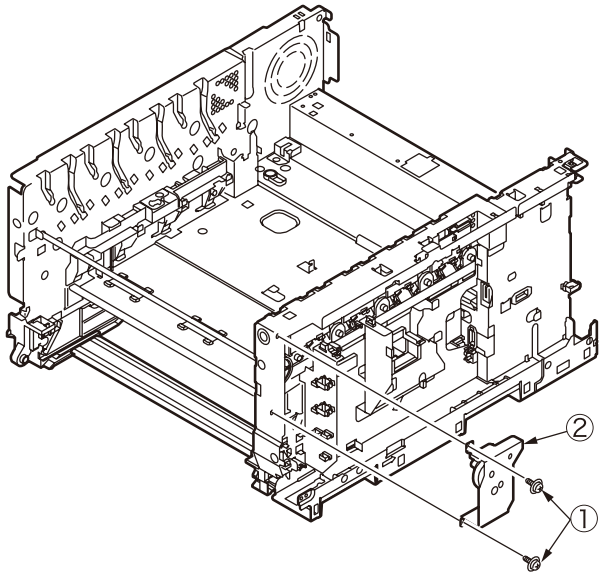


4.2.3.20 Side R Assy/Side L Assy

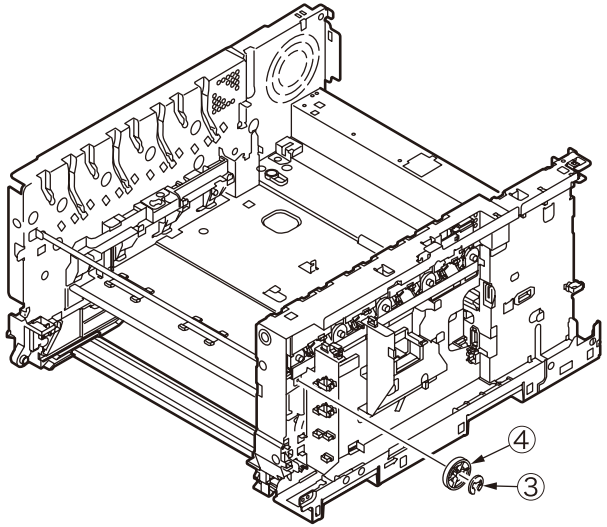
(1) Refer to chapters 4.2.1 to 4.2.3.

(2) Remove the outer frame L and R. (Refer to chapter 4.2.3.19.)

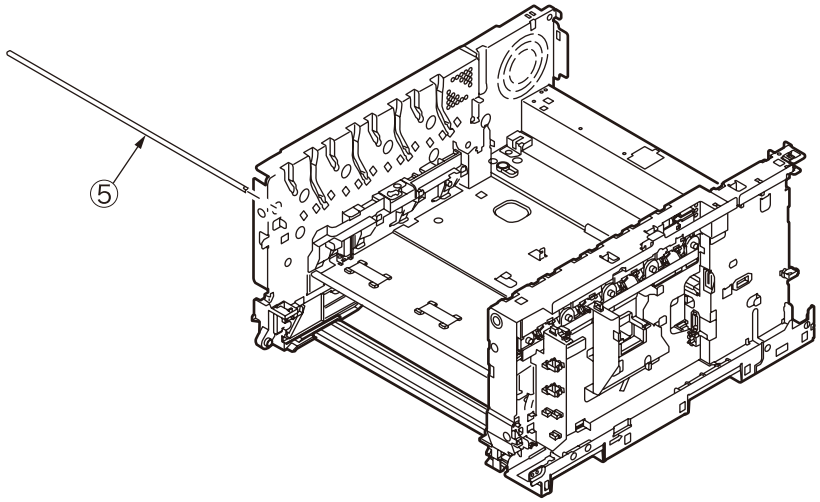
(3) Remove the two screws (silver) ① and remove the ID lift UP gear bracket ②.



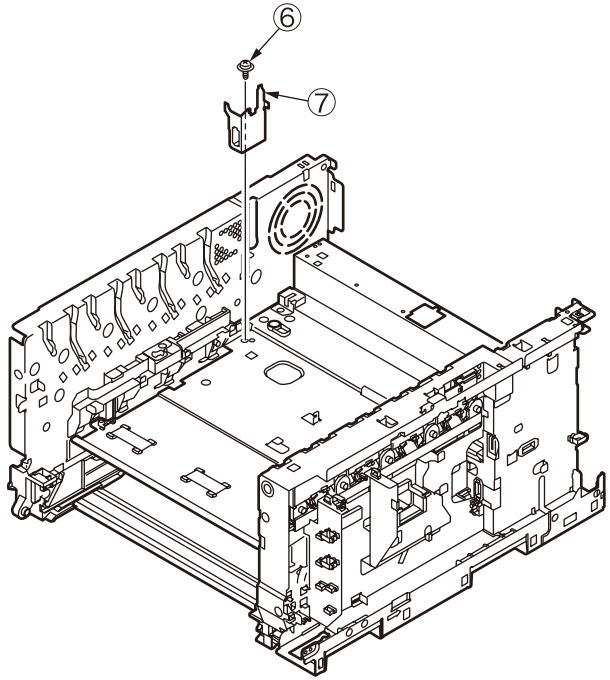
(4) Remove the E-ring ③ and remove the ID lift UP gear (R) ④. (Tool No. 8)



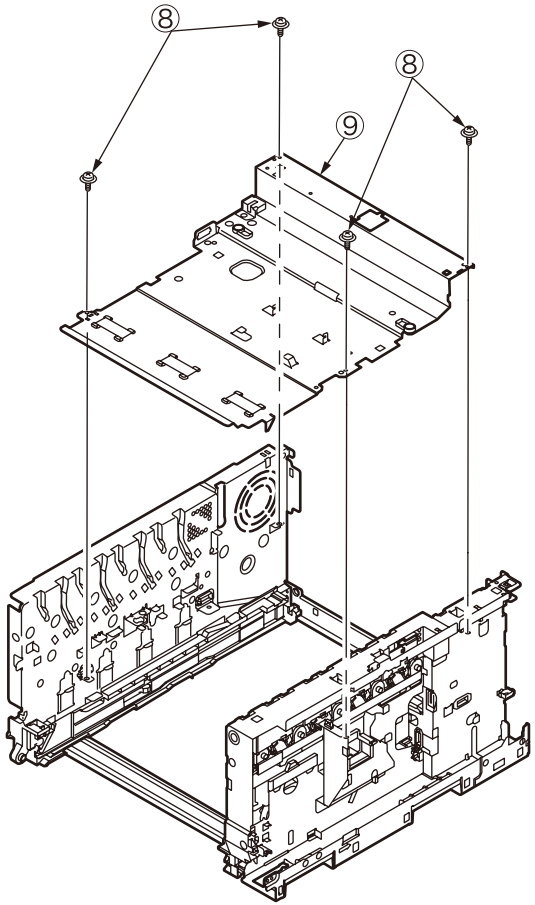
(5) Remove the shaft ⑤ by pulling it to the left.



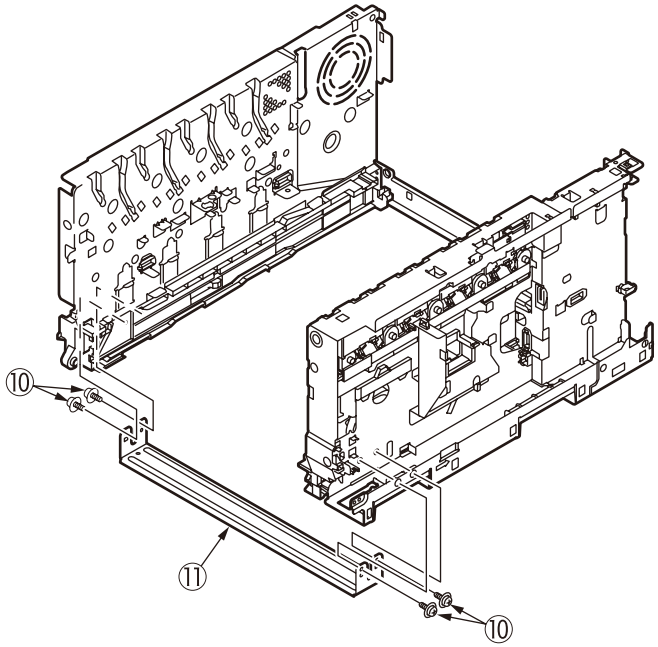
(6) Remove the screw (silver) ⑥ and the belt bracket ⑦.



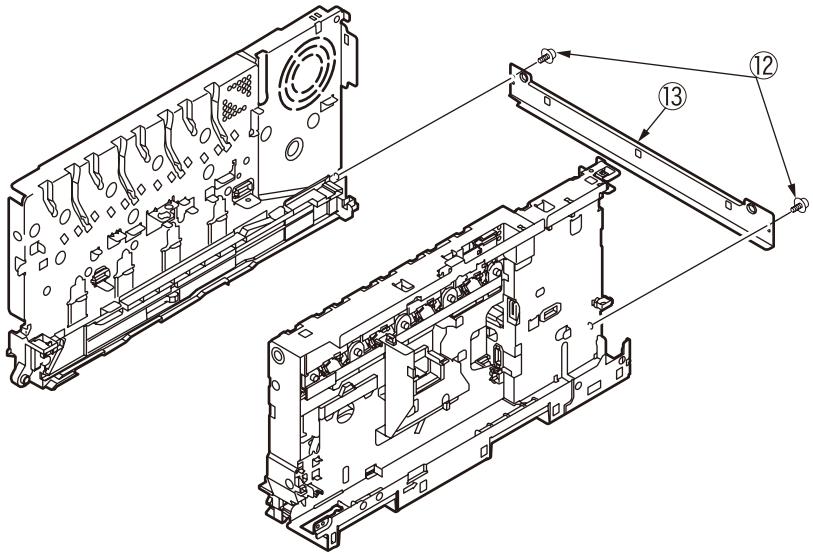
(7) Remove the four screws (silver) ⑧ and remove the base plate ⑨.



(8) Remove the four screws (silver) ⑩ and remove the plate beam ⑪.



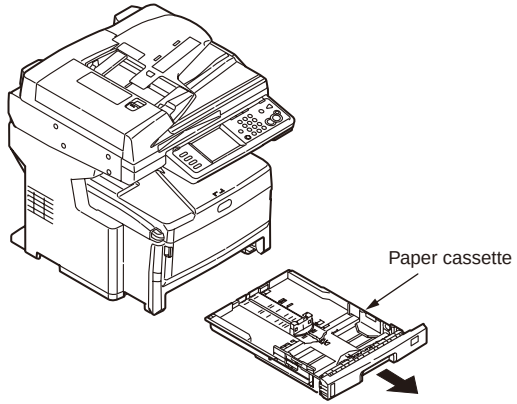
(9) Remove the two screws (silver) ⑫ and remove the plate beam rear ⑬. Then the side L Assy ⑭ and the side R Assy ⑮ can be removed.



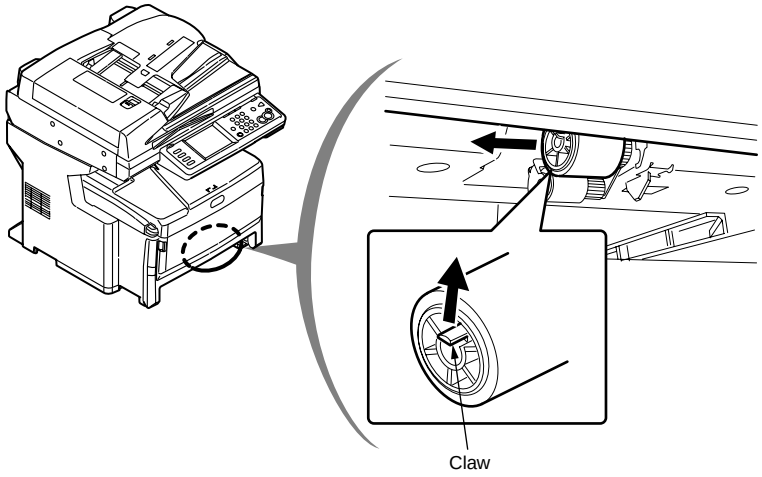
4.2.3.21 Paper feed roller (tray 1)

Note! The paper feed roller and the separator piece should be replaced together as a pair.

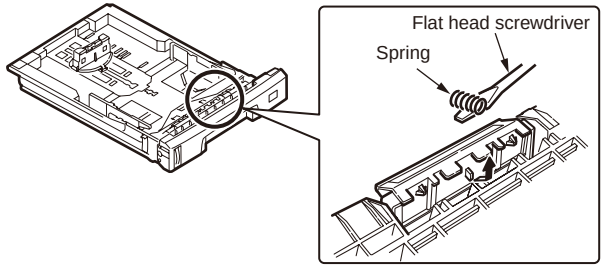
(1) Turn OFF the power of the MFP, and remove the paper cassette.



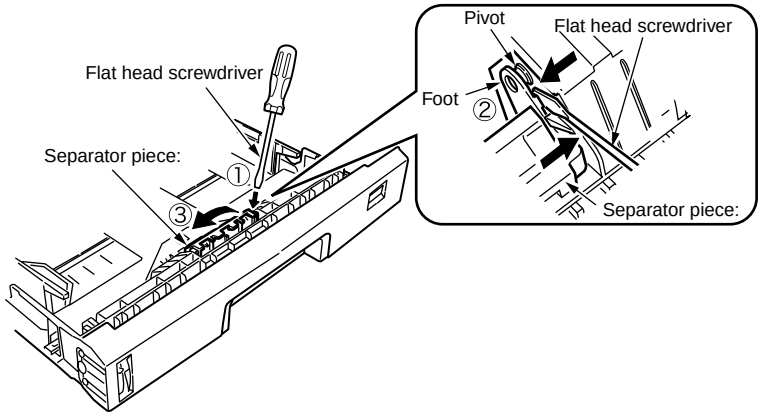
(2) While opening the feed paper roller (large) ① outside, remove it from the axis.



(3) Remove the spring ② from the paper cassette.



(4) Bend the separator piece ③ until one foot of the separator piece is removed from the pivot, and remove it in the manner of raising it up.



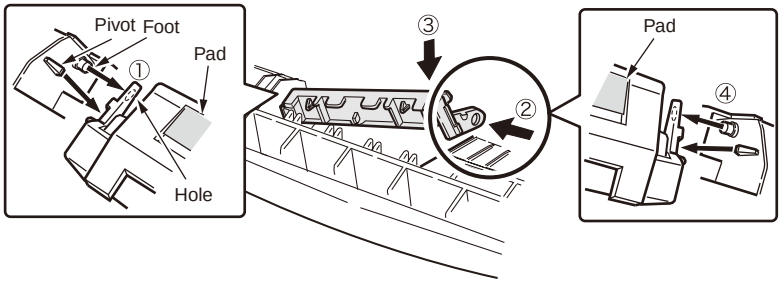
[Caution when installing the feed paper roller]

1. When installing the new feed paper roller, insert it into the axis, and insert it securely by rotating it until it reaches the deep end. At the same time, confirm that the roller does not come off.

[Caution when installing the separator piece]

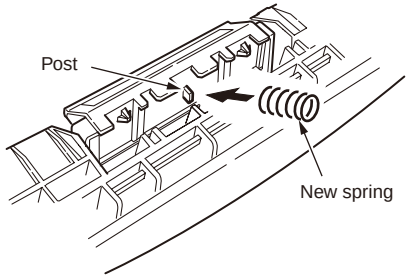
1. When installing the new separator piece, insert one foot into the hole, and insert another foot securely by bending it. Push the new separator piece from its top so that the pivot enters into the hole of the foot.

   At the same time, be careful not to touch the pad (rubber portion).



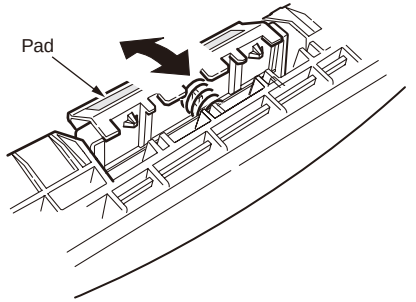
2. Confirm that pivots have entered into the holes of both feet.
3. Install the new spring by inserting it into the post of the separator piece.

Note! • Be careful not to lose the spring.
• The spring that has been removed before can also be used.



4. Confirm that the separator piece moves smoothly centering around the pivot.

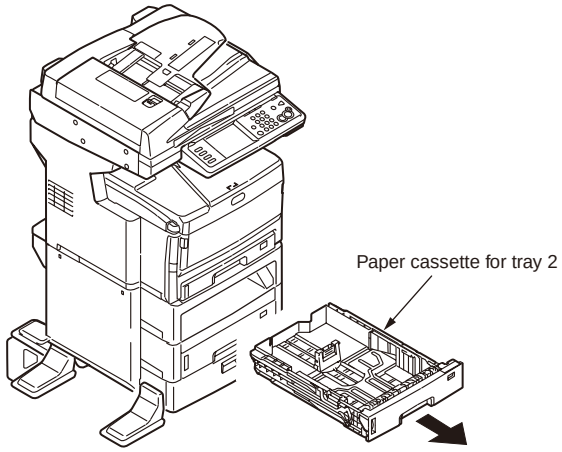
   At the same time, be careful not to touch the pad (rubber portion).



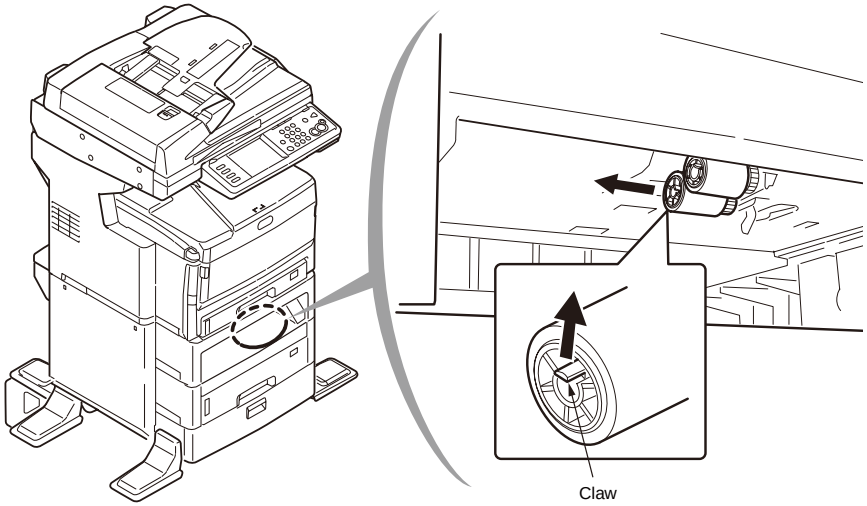
4.2.3.22 Feed paper roller (Tray 2 and 3 (option))

Note! Be sure to replace all of the three paper feed rollers.

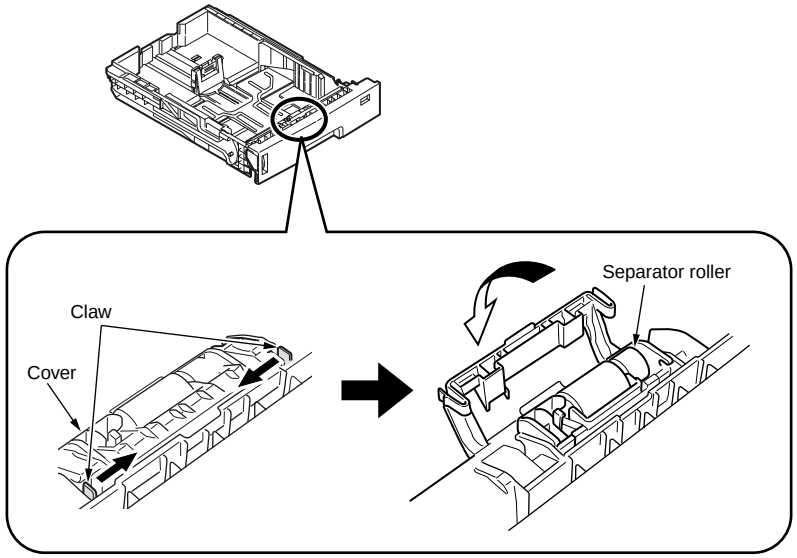
(1) Turn OFF the power of the MFP, and remove the paper cassette.



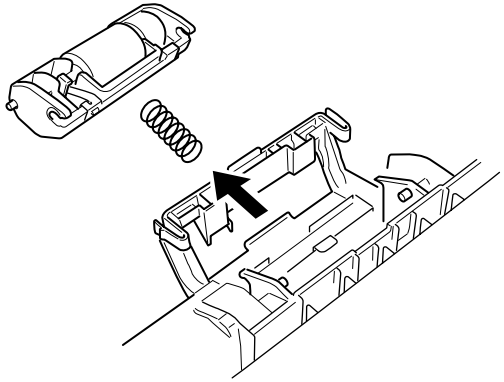
(2) While opening claws of the two feed paper rollers outside, remove it from the axis.



(3) Remove the paper cassette by bending the claws of both sides, rotate it to the front and remove the cover.

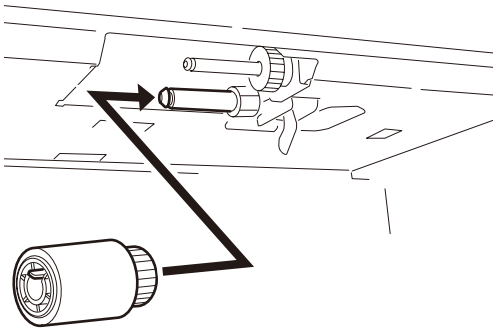


(4) Remove the retard roller Assy from the axis by pulling it in the direction of the arrow.



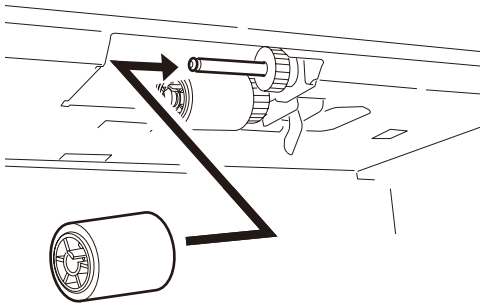
[Caution when installing the feed paper roller]

1. Insert the new paper feed roller (with gear) into the axis of the deep side and insert it securely into its deep end.



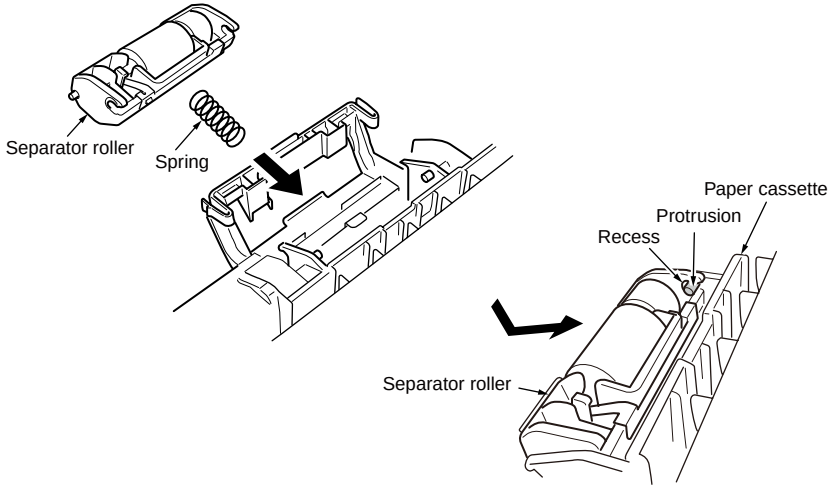
2. Insert the new paper feed roller (without gear) into the axis of the front side and insert it securely into its deep end by rotating it.

   At the same time, confirm that the roller does not come off.

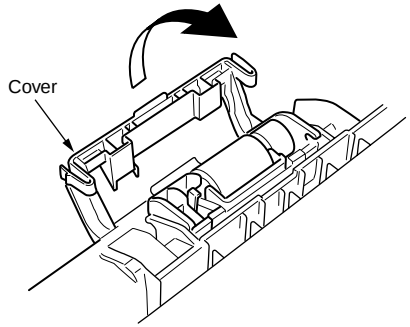


[Caution when installing the retard Assy]

1. Install the spring into the boss on the back of the retard roller Assy, and push the bearing of the retard roller Assy into the axis of the cassette side at an angle from the bottom.

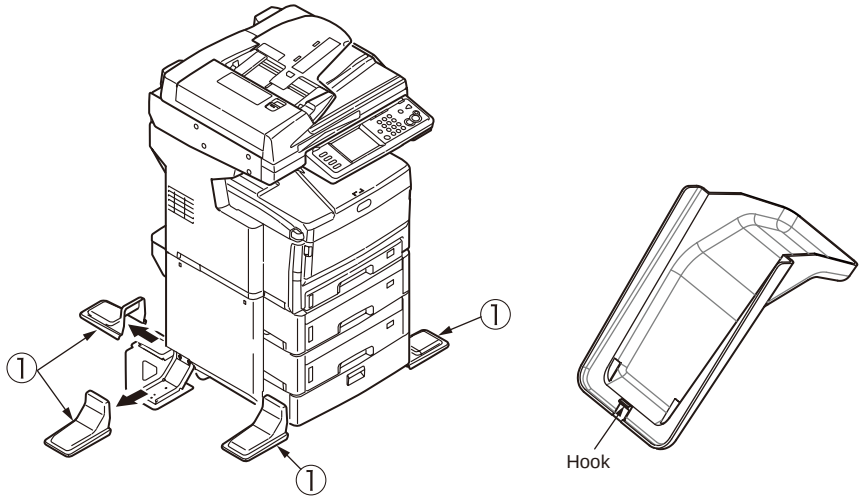


2. Confirm that the retard roller Assy operates smoothly centering around the axis. Confirm that the roller rotates smoothly.

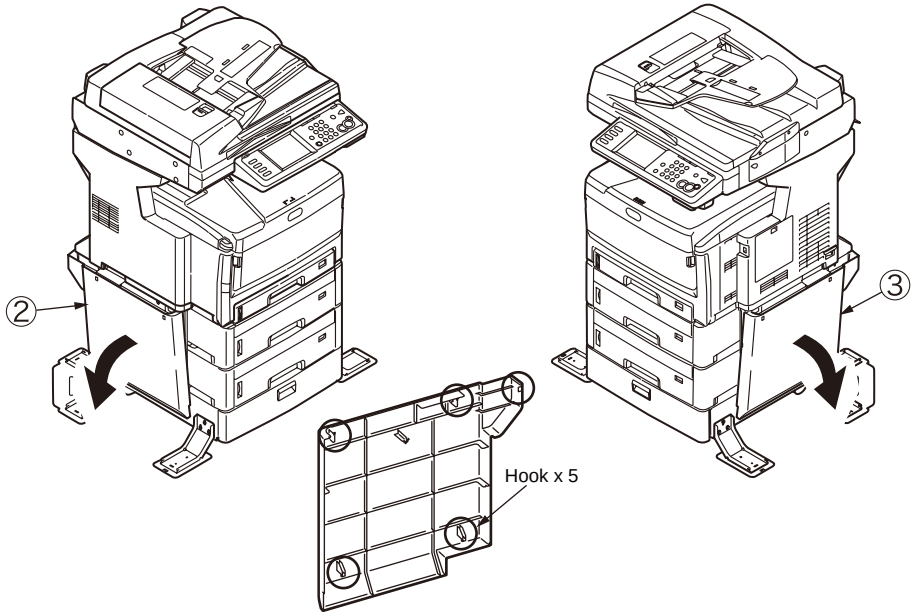


4.2.3.23 Add-on tray unit (option)

(1) Install the fall prevention foot covers ① (at the six locations) by sliding them in the direction of the arrow.

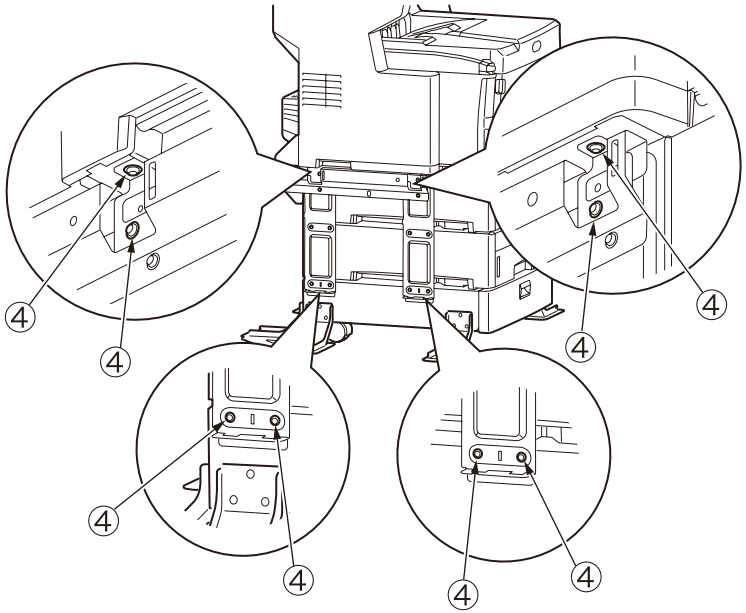


(2) Remove the side covers (L) ② and (R) ③ while tilting them in the direction of the arrow.

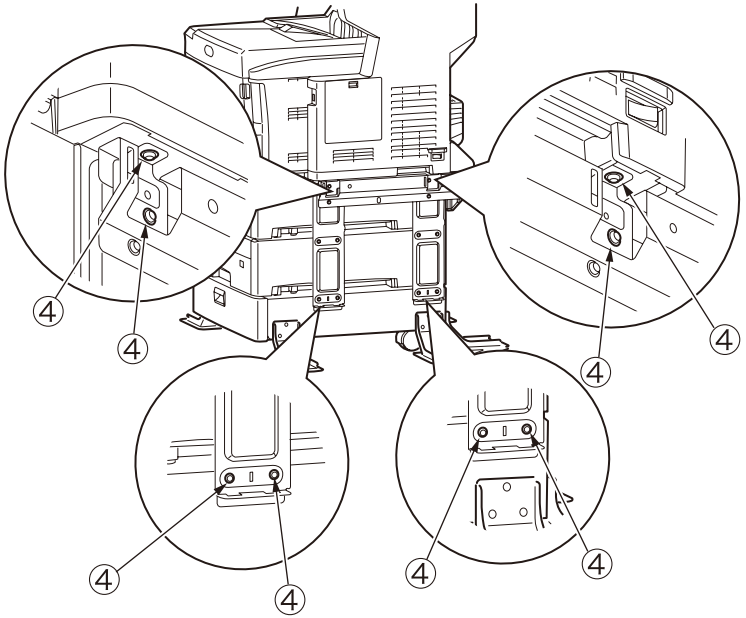


(3) Remove the sixteen screws ④ securely.

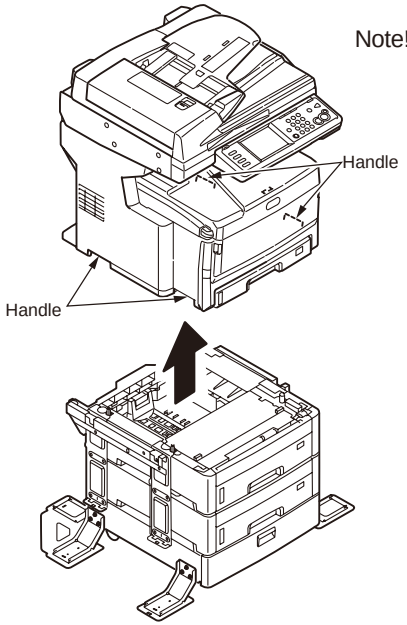
Left side



Right side

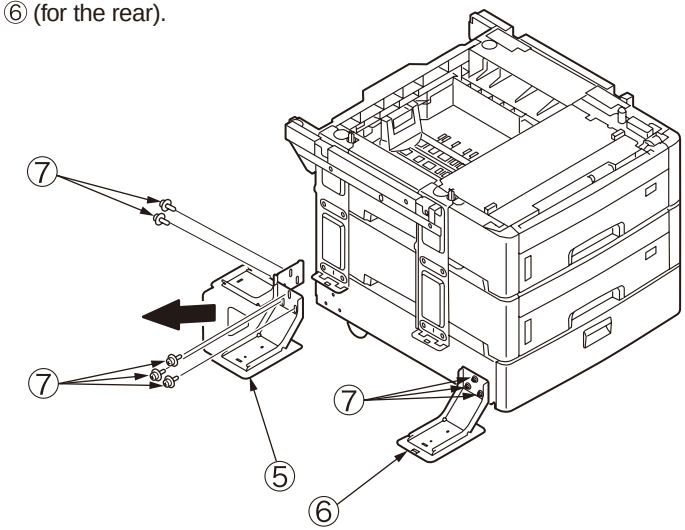


(4) Raise the MFP from the add-on tray unit by holding it horizontally.



Note!
- Be sure to hold the MFP by three or more people.
- Be sure to place the removed MFP on a flat and horizontal table without protrusion or recess.

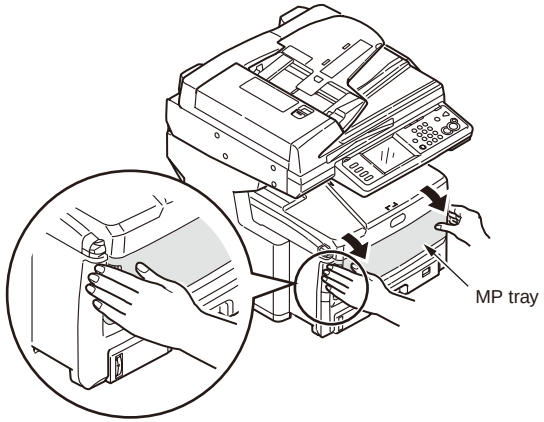
(5) Remove the eight screws of the fall prevention foot covers ⑤ (for the front) and ⑥ (for the rear) on the left side, and remove the fall prevention foot covers ⑤ (for the front) and ⑥ (for the rear).



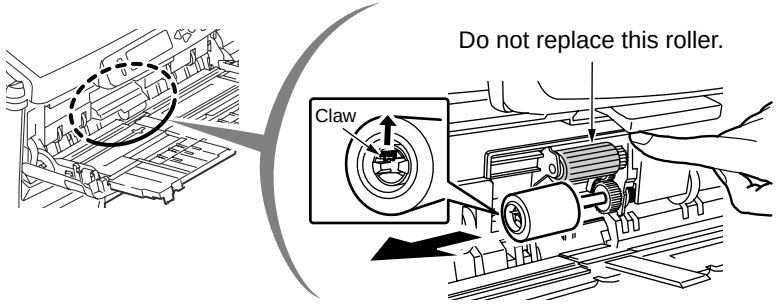
(6) In the same way, remove the eight screws of the fall prevention foot covers ⑧ (for the front) and ⑨ (for the rear) on the right side, and remove the fall prevention foot covers ⑧ (for the front) and ⑨ (for the rear).

4.2.3.24 Feed paper roller (Multipurpose tray)

(1) Turn OFF the printer power and open the multipurpose tray.

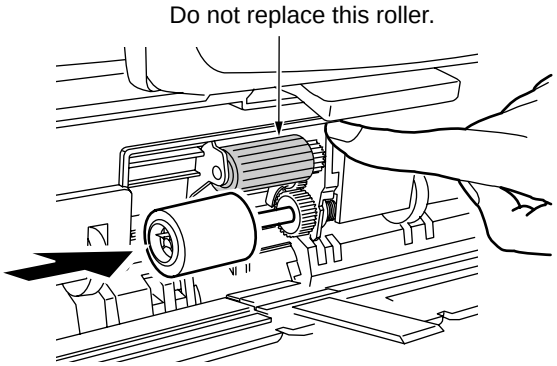


(2) While opening claws of the feed paper roller outside, raise the paper pickup section and remove feed roller from the axis.



[Caution when installing the feed paper roller]

1. When installing the new feed paper roller, insert it into the axis, and insert it securely by rotating it until it reaches the deep end. At the same time, confirm that the roller does not come off.



4.3 Lubricating points

This subsection indicates the lubricating points of the printer. Conversely, it means that any other parts than the specified lubricating points must not be lubricated.

There is no need to lubricate in the midst of a disassembling job. However, if lubricating oil has been wiped off, supply the specified oil.

Lubricating work

(1) Symbols and names of oils

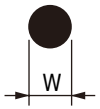
EM-30L: MOLYKOTE EM-30L

HP-300 : MOLYKOTE HP-300

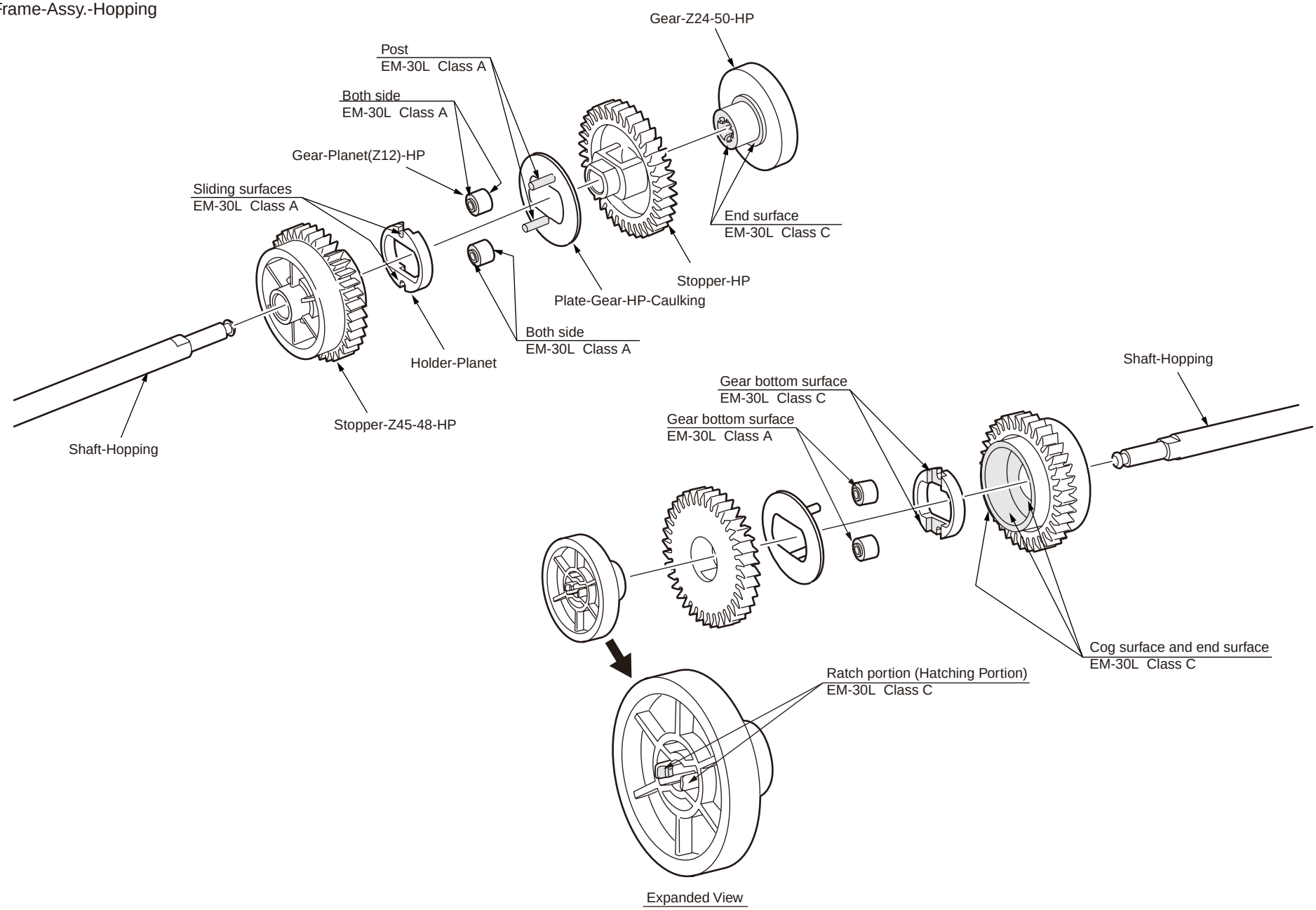
PM : Pan Motor Oil 10W-40 or ZOA 10W-30

(2) Boundary samples of grease

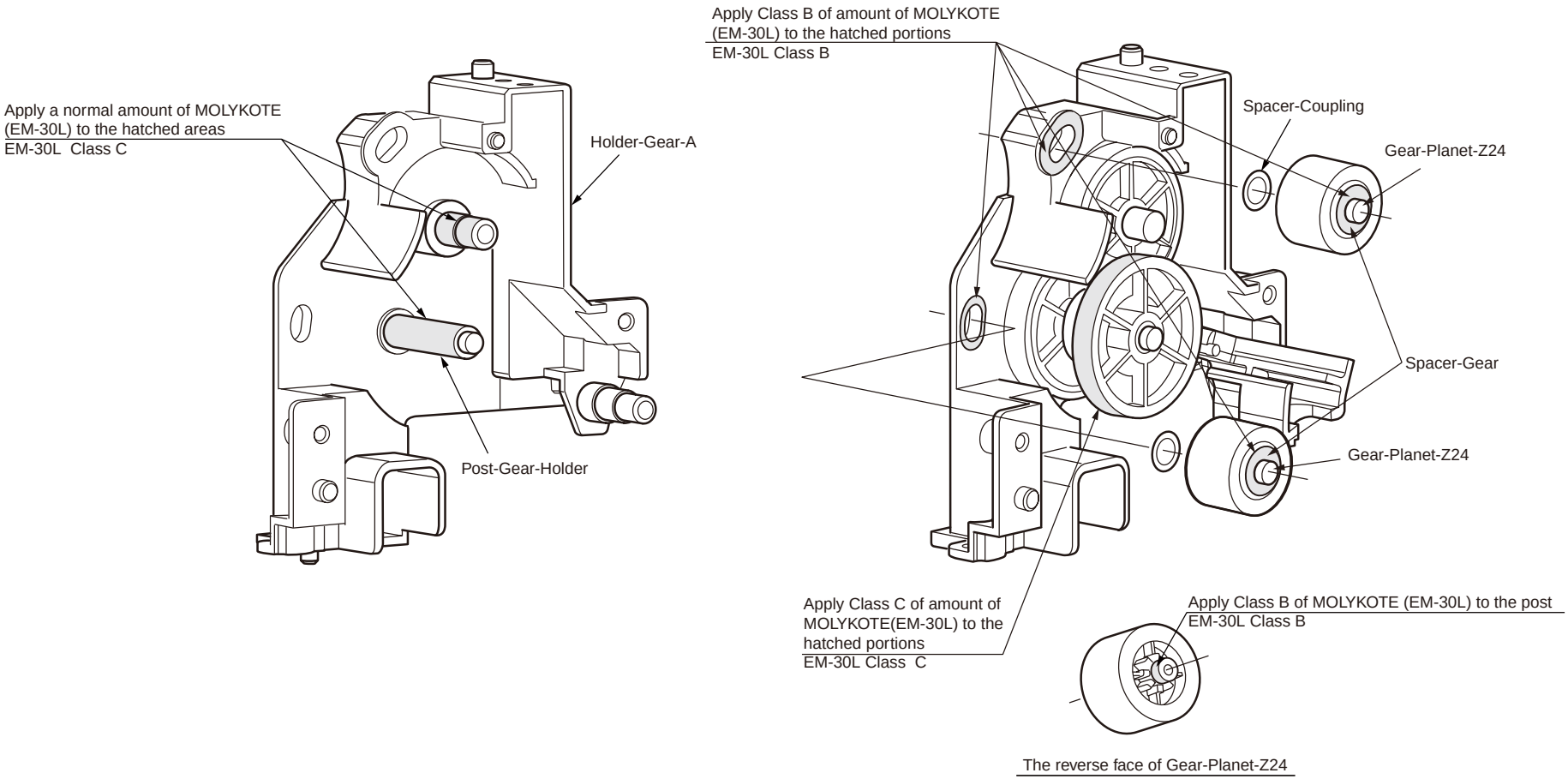
Class	S	A	B	C	D	E	F
Amount of grease(cc)	0.0005	0.003	0.005	0.01	0.03	0.05	0.1
W(mm)	1.24	2.25	2.67	3.37	4.86	5.76	7.26
Sample	•	●	●	●	●	●	●



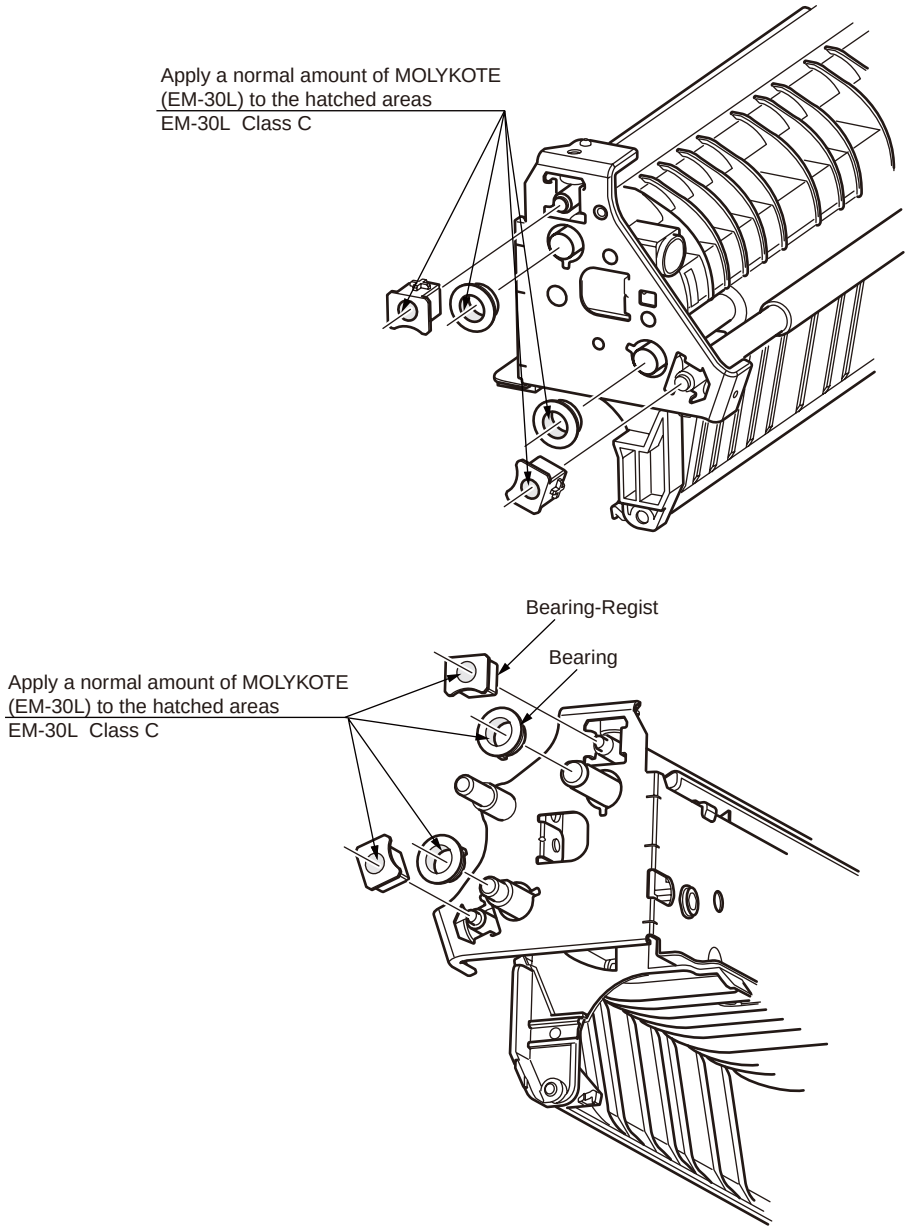
1. Frame-Assy.-Hopping



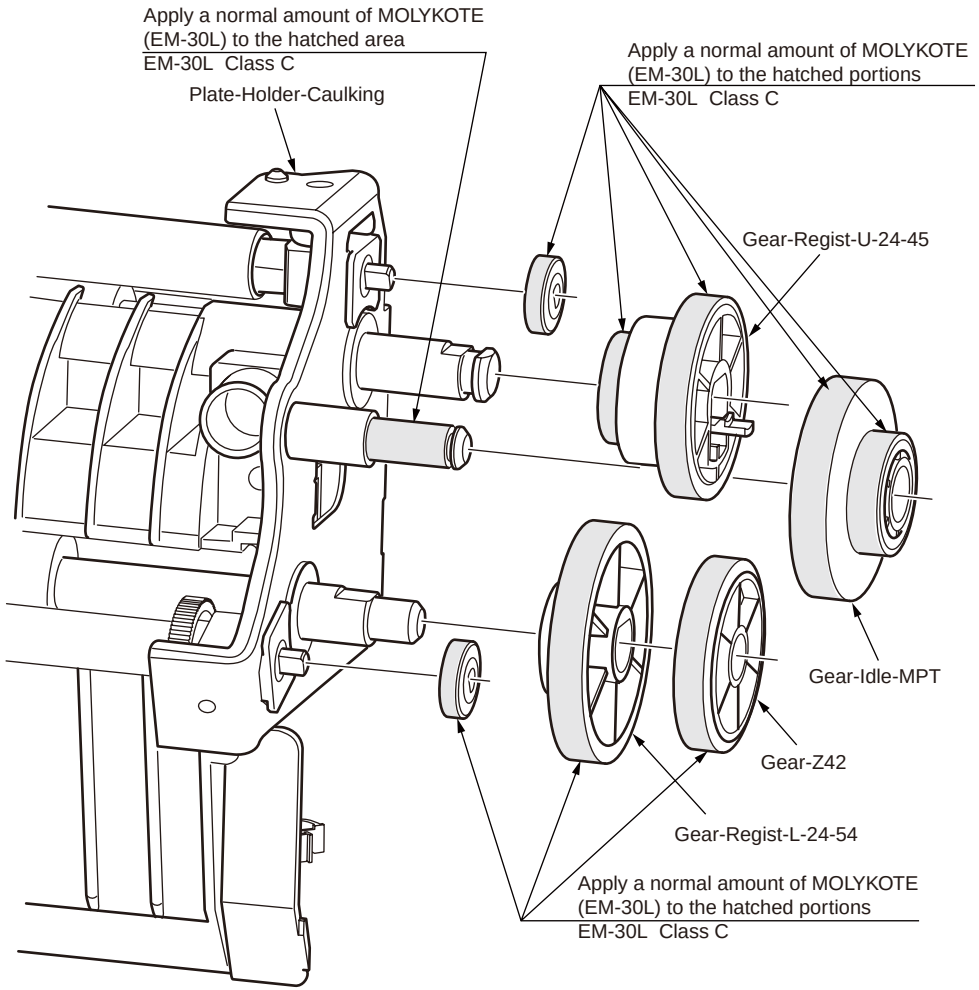
2. Gear-Holder-Assy.



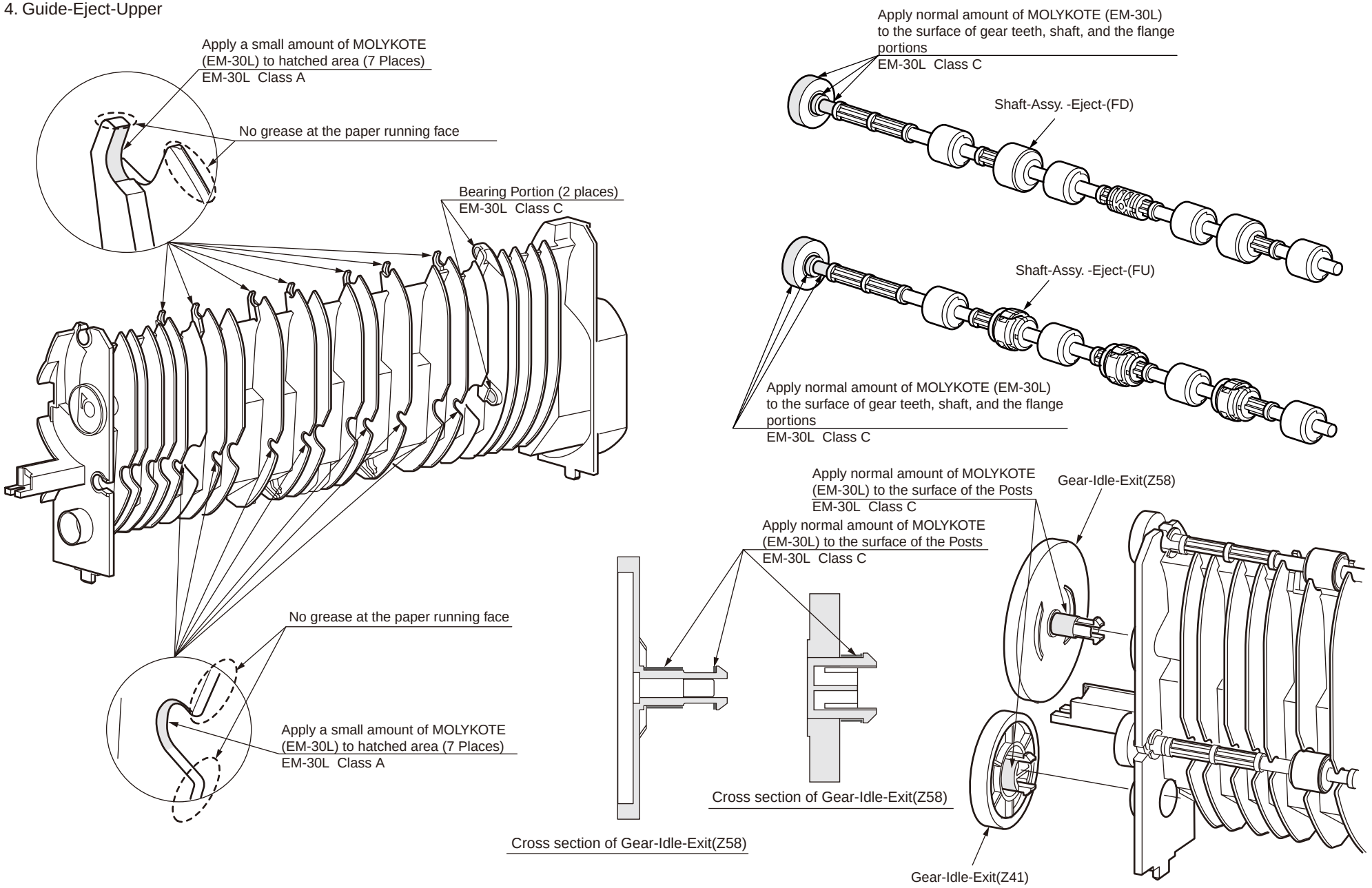
3-1 Roller-Assy.-Regist(Lower)



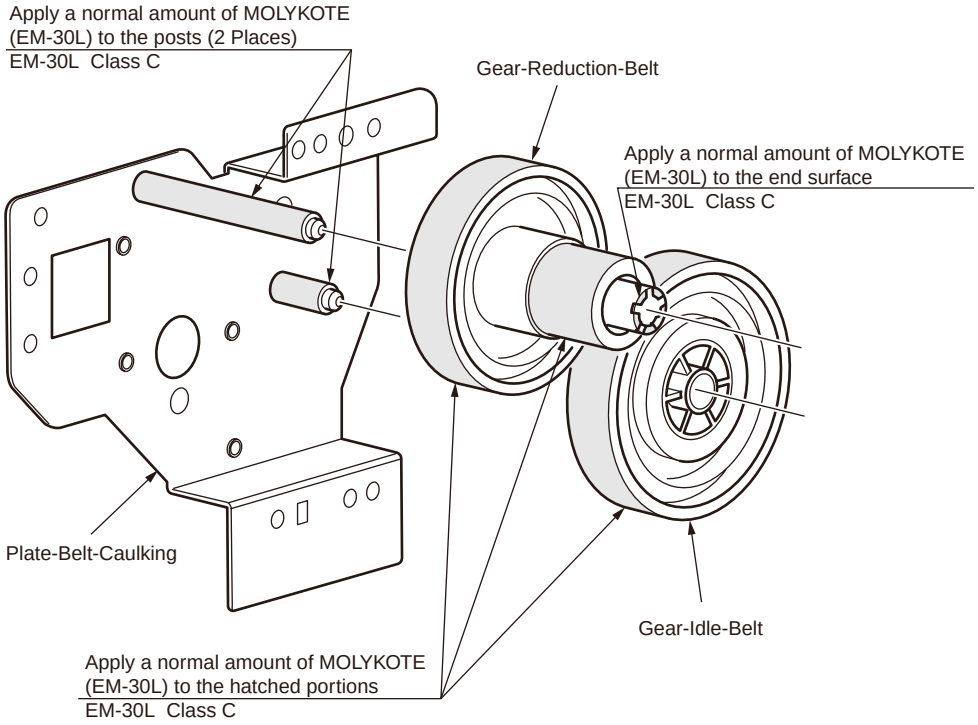
3-2 Roller-Assy.-Regist(Lower)



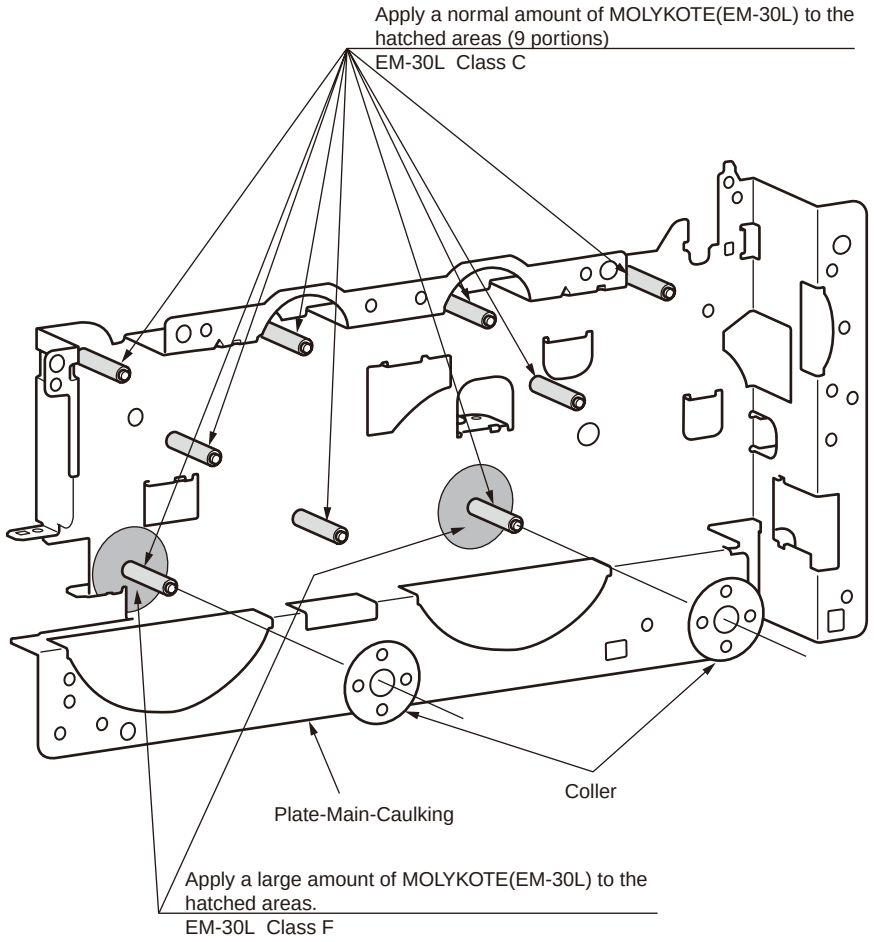
4. Guide-Eject-Upper



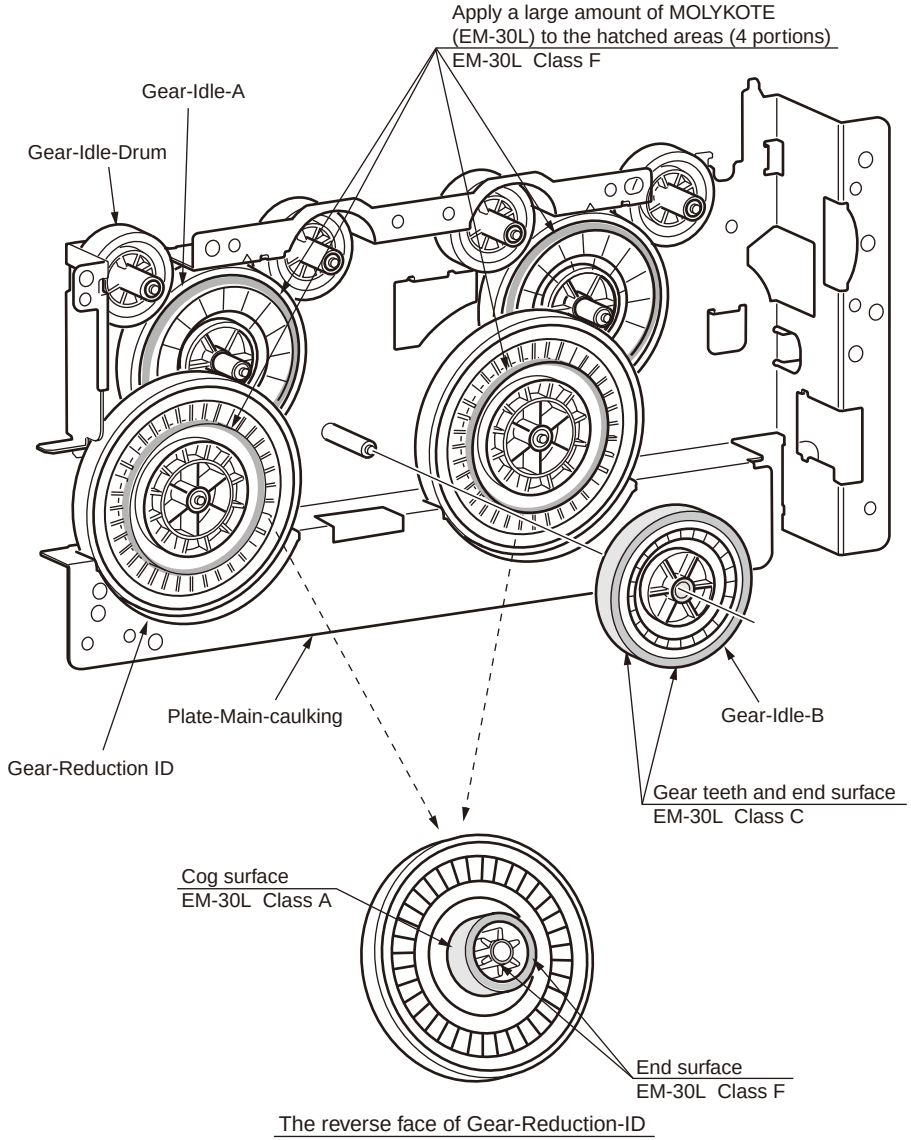
5. Motor-Assy.-Belt

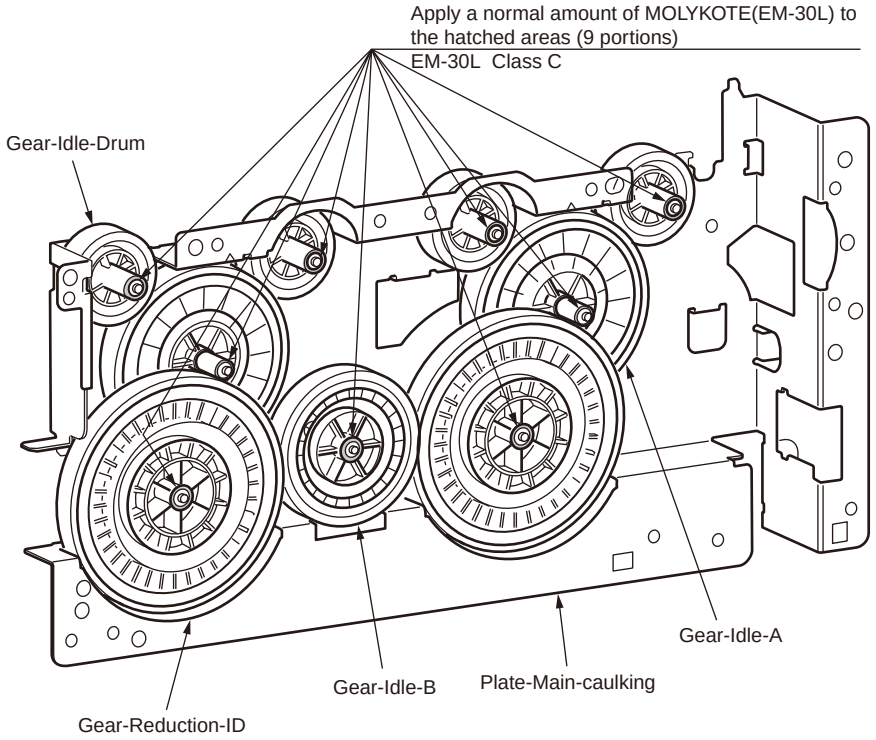


6-1 Plate-Main-Assy.

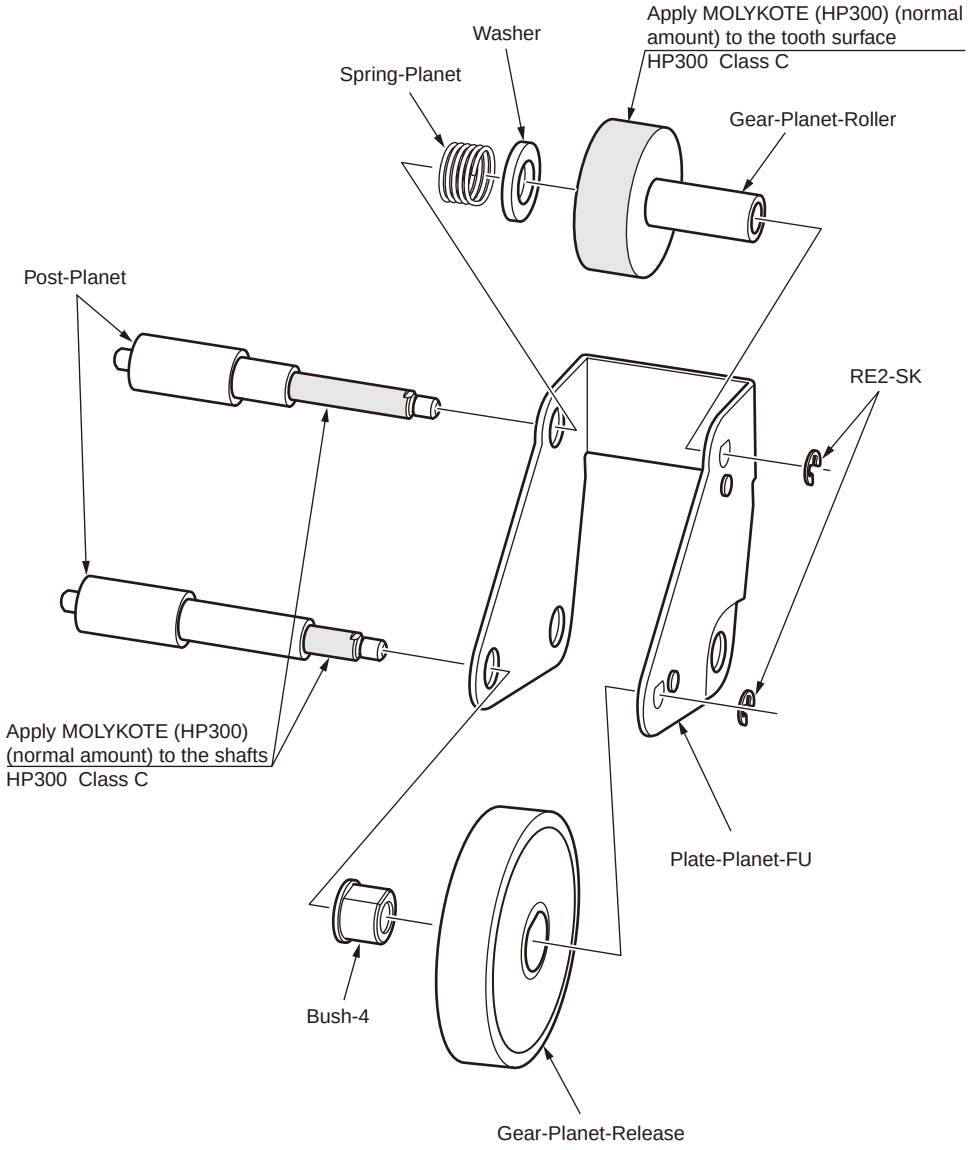


6-2 Plate-Main-Assy.

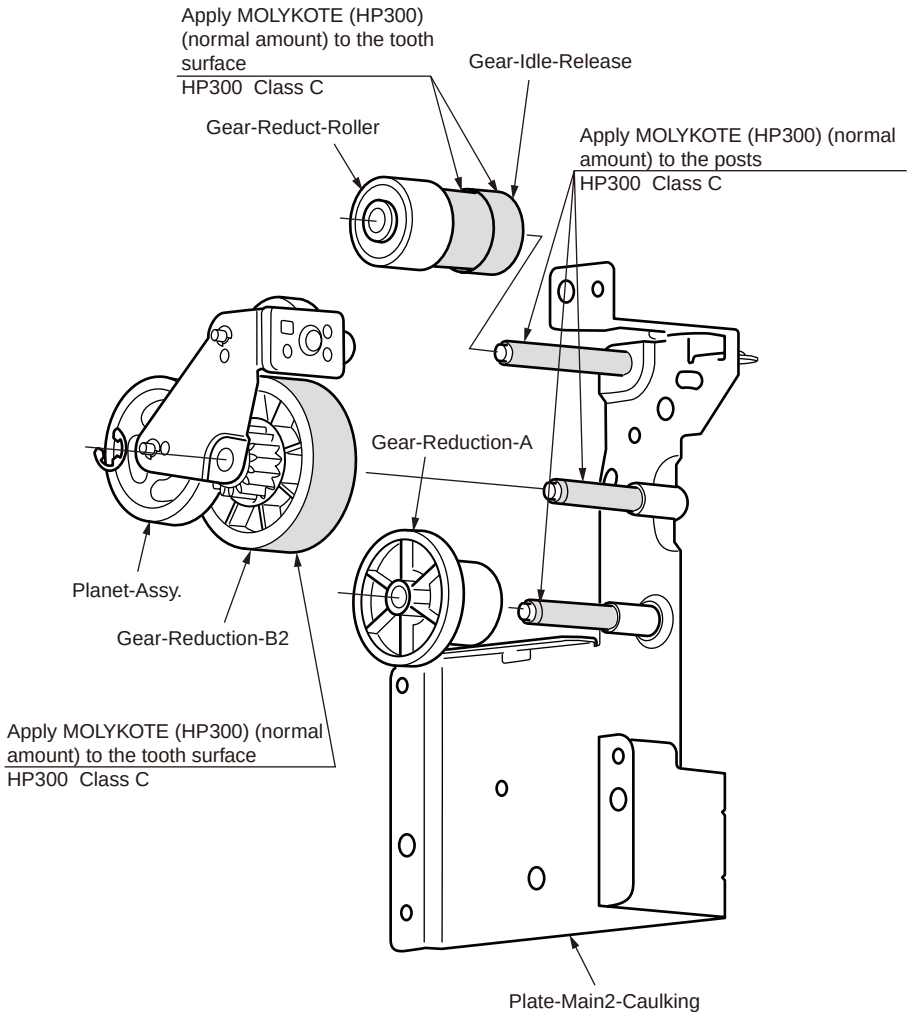




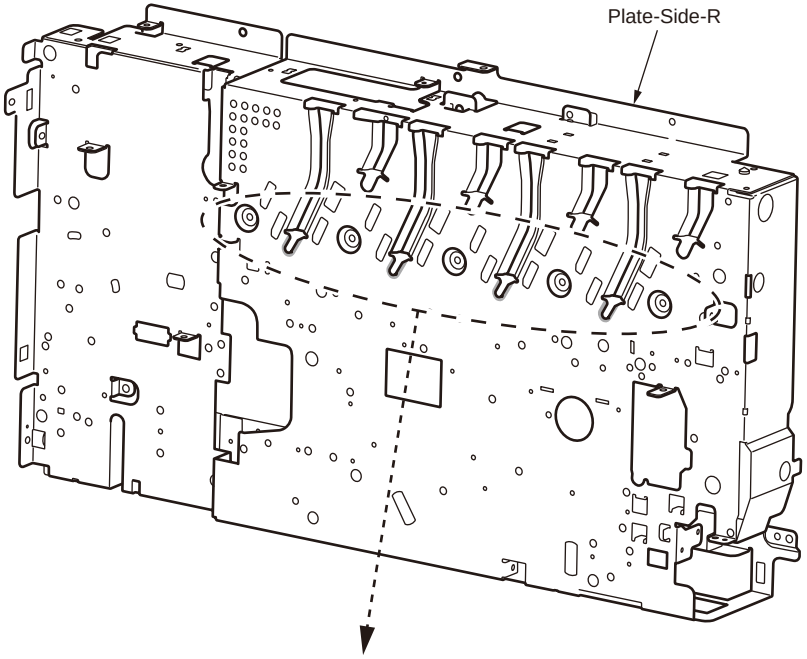
7. Planet-Assy.



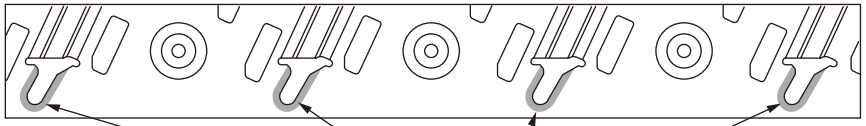
8. Plate-Main2-Assy.



9-1 Plate-Side-R-Assy.

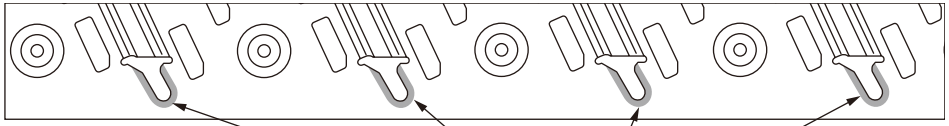


View A



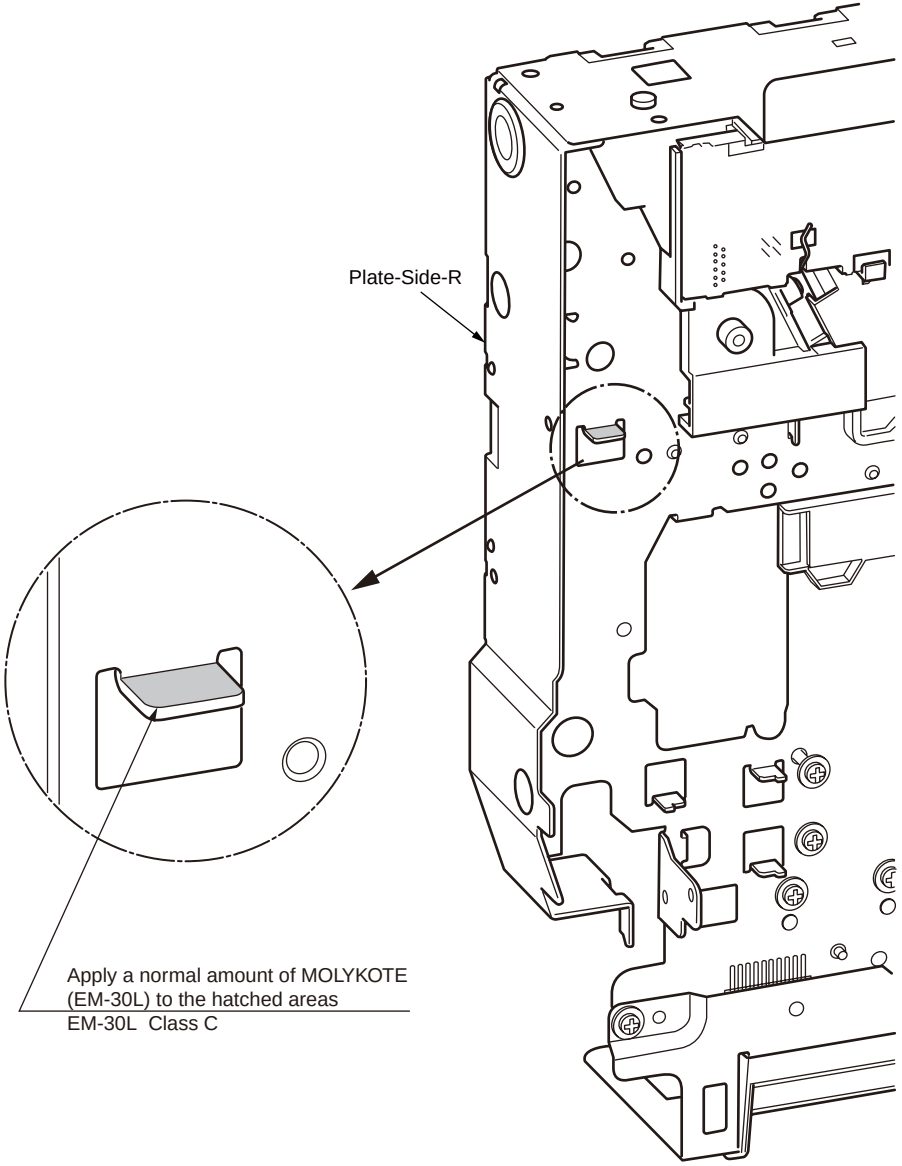
Apply a normal amount of MOLYKOTE
(EM-30L) to the hatched portions (4 Places)
EM-30L Class C

The reverse side of View A



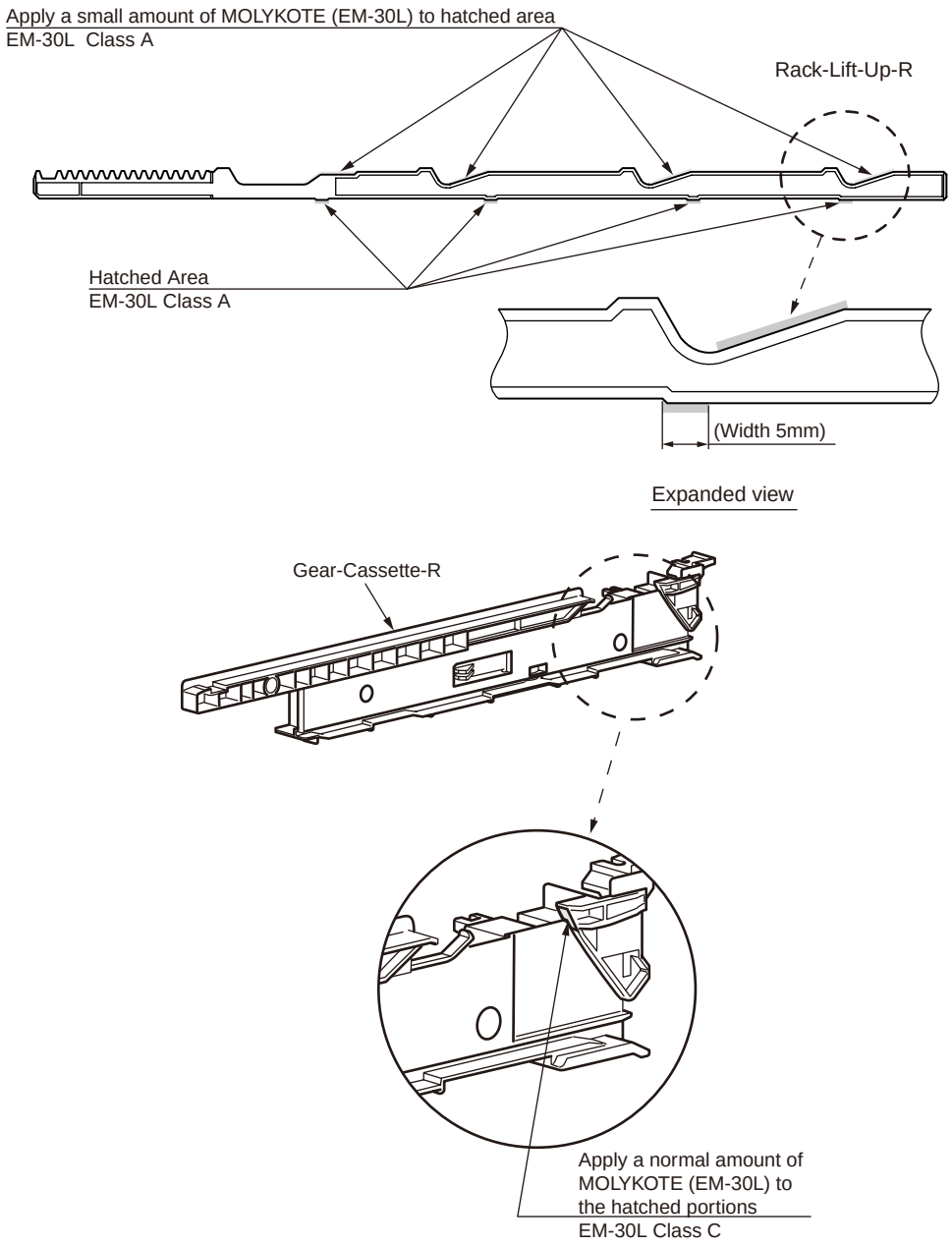
Apply a normal amount of MOLYKOTE
(EM-30L) to the hatched portions (4 Places)
EM-30L Class C

9-2 Plate-Side-R-Assy

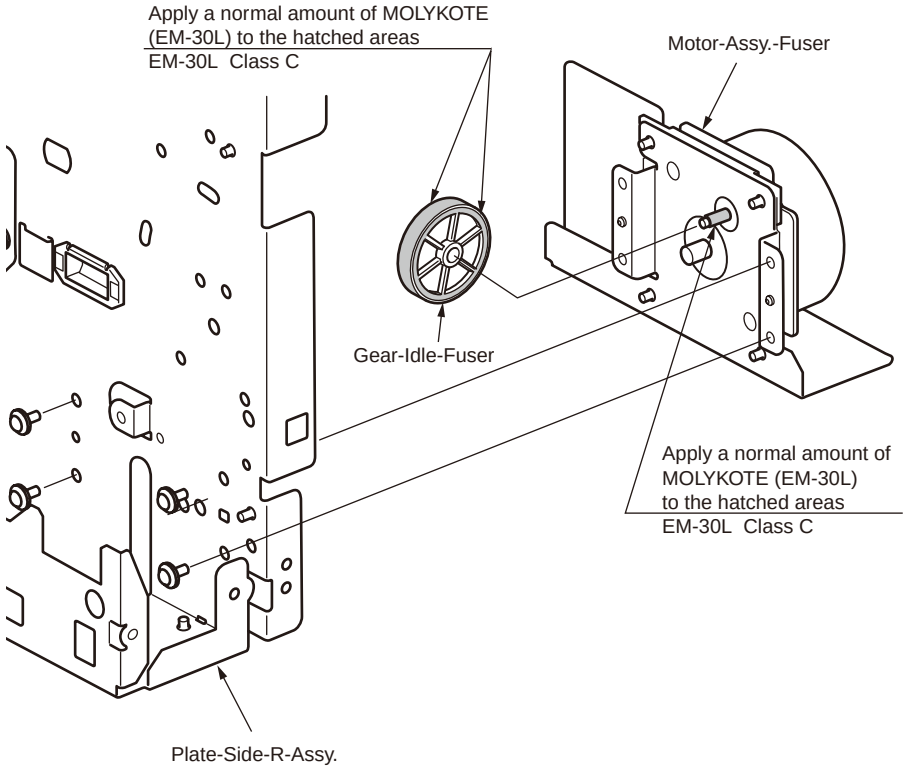


Apply a normal amount of MOLYKOTE
(EM-30L) to the hatched areas
EM-30L Class C

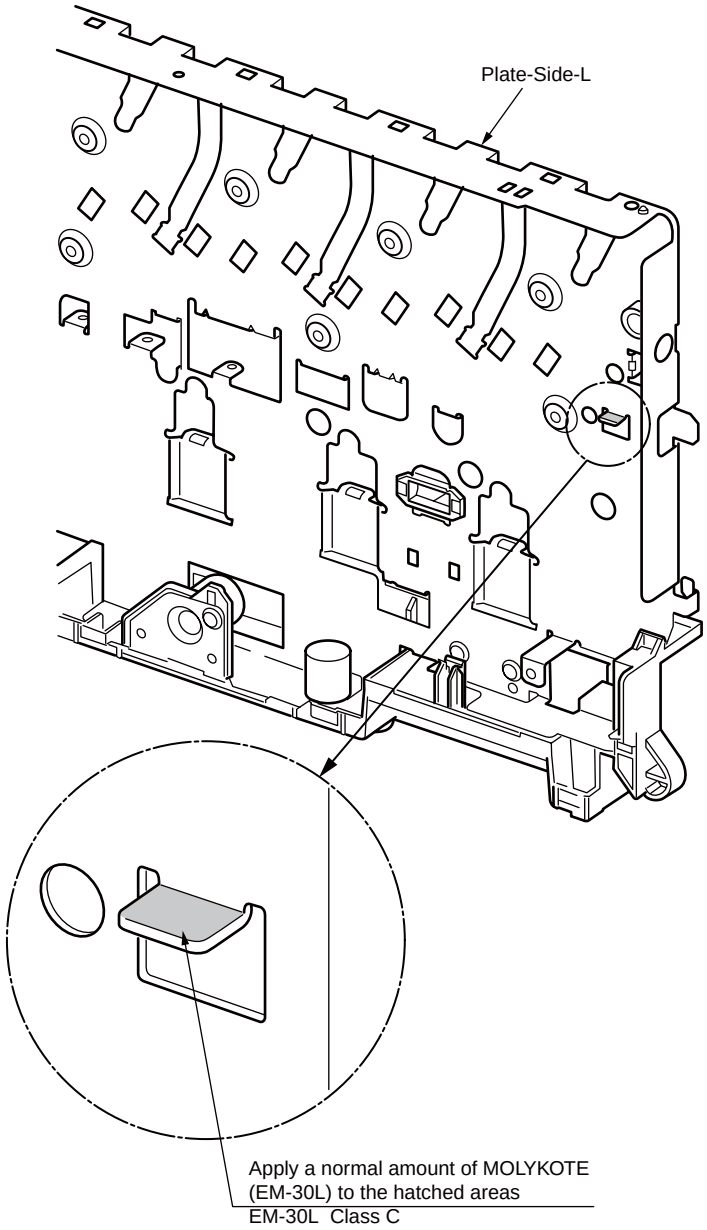
9-3 Plate-Side-R-Assy



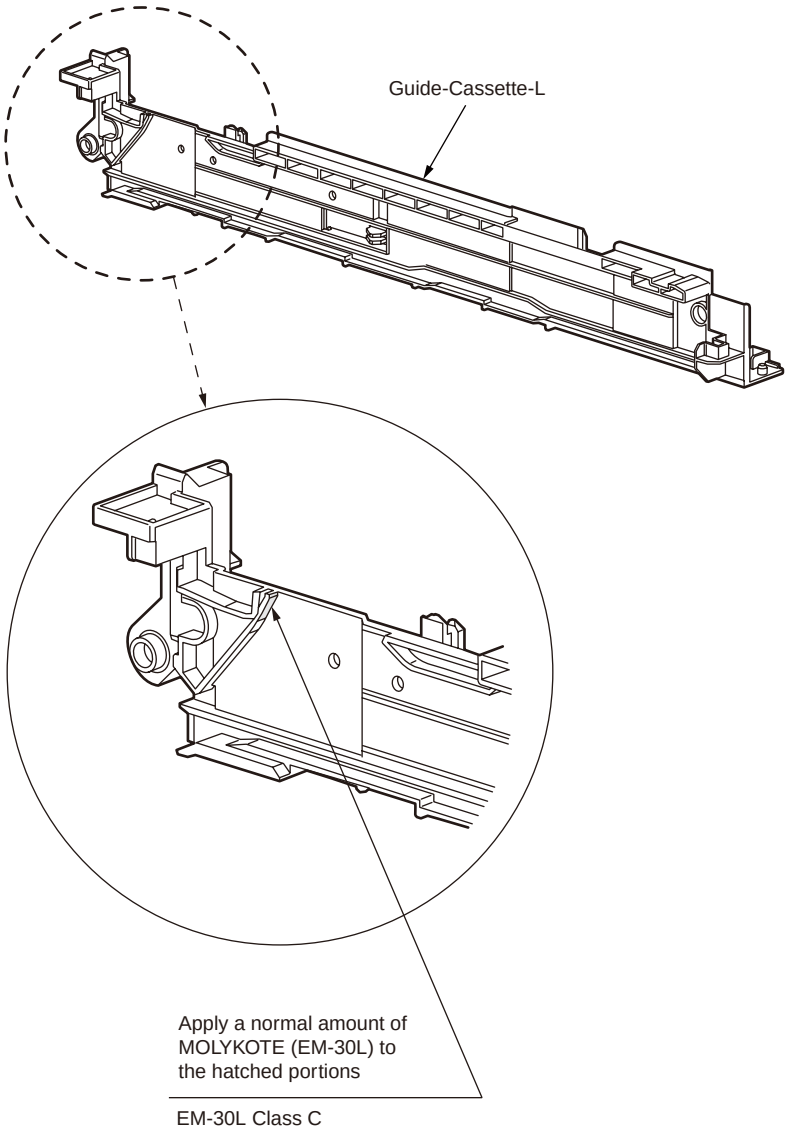
9-4 Plate-Side-R-Assy



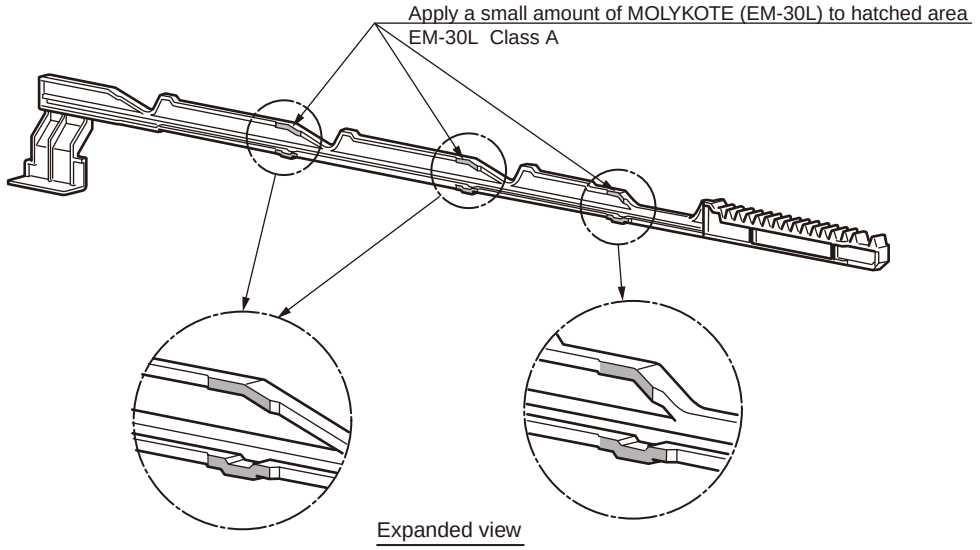
10-1 Plate-Side-L-Assy.

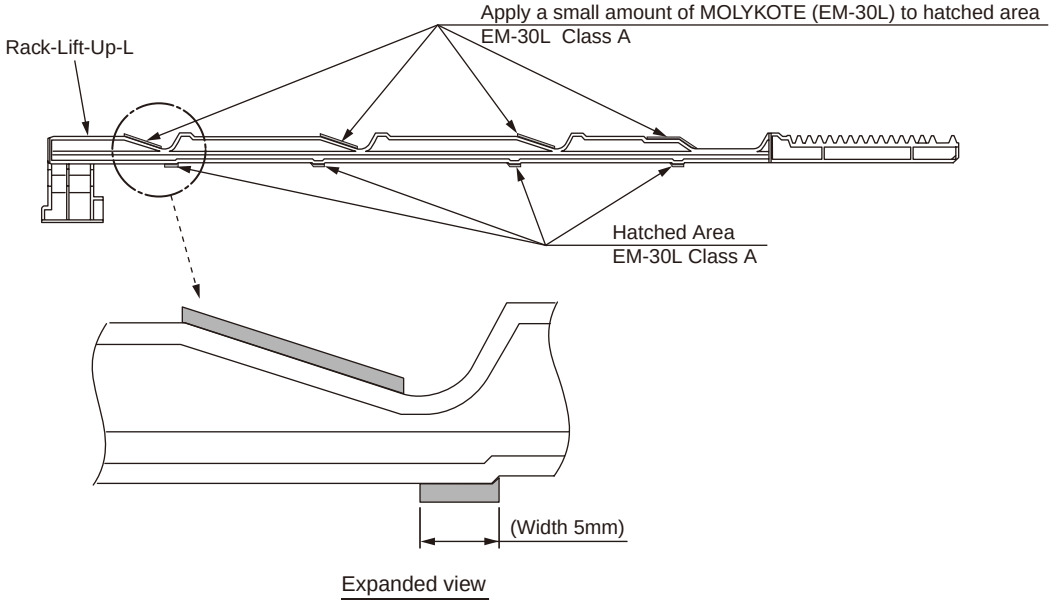


10-2 Plate-Side-L-Assy.

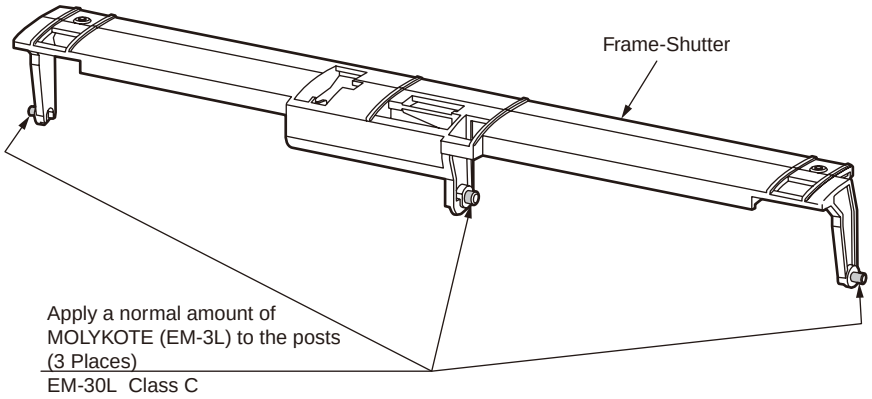


10-3 Plate-Side-L-Assy

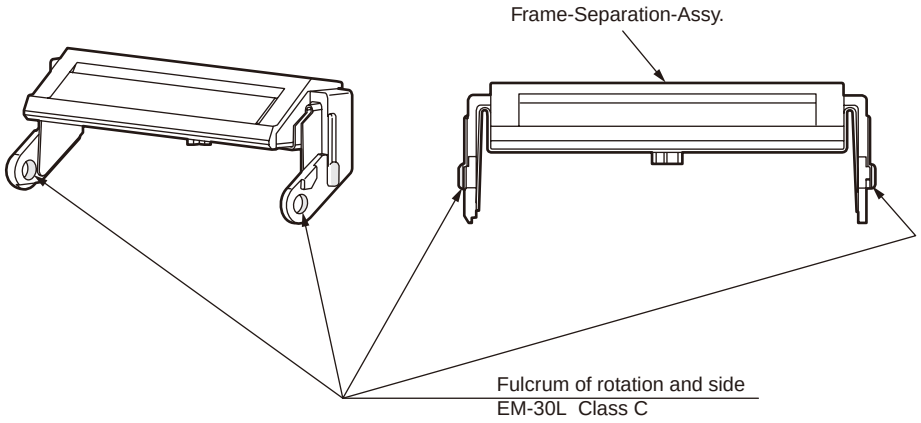




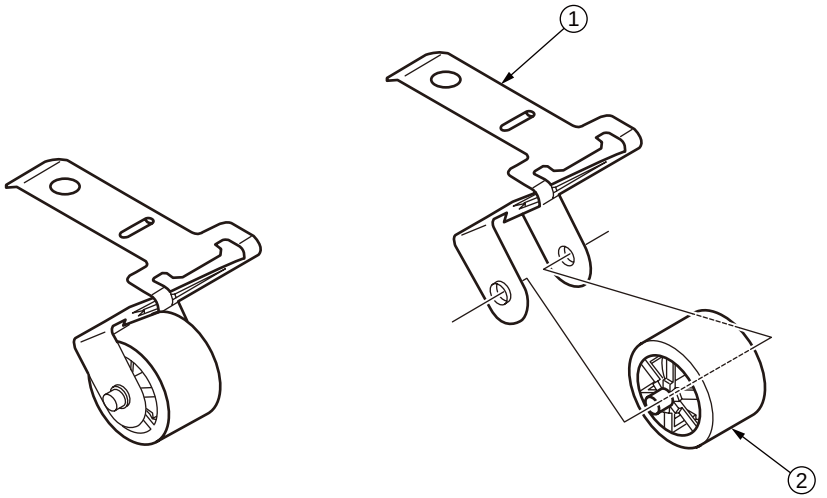
11. Sensor-Regist-Assy.

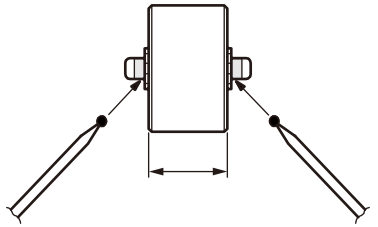


12. Cassette-Assy.



13. Roller-Assy.-Idle(FD)

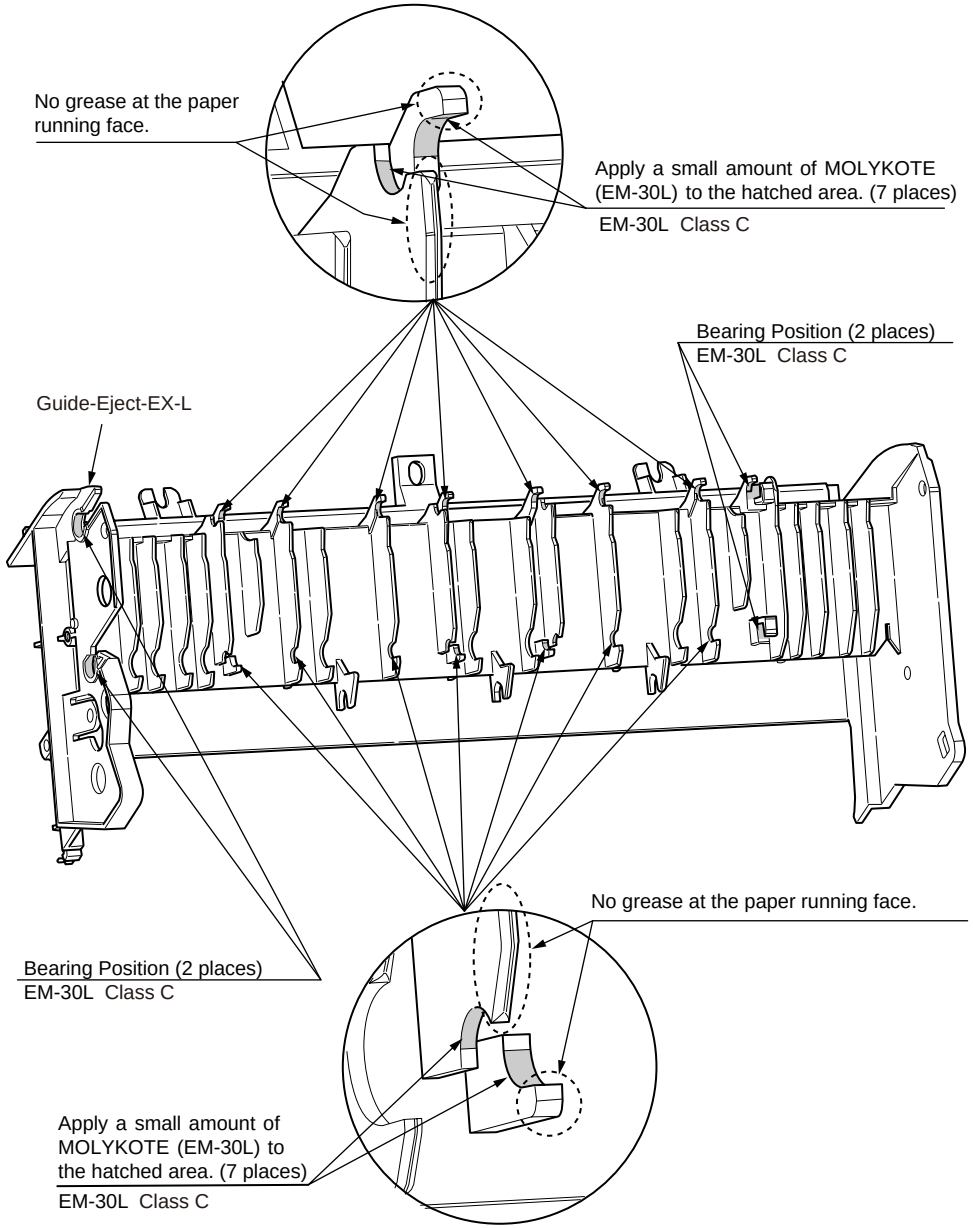




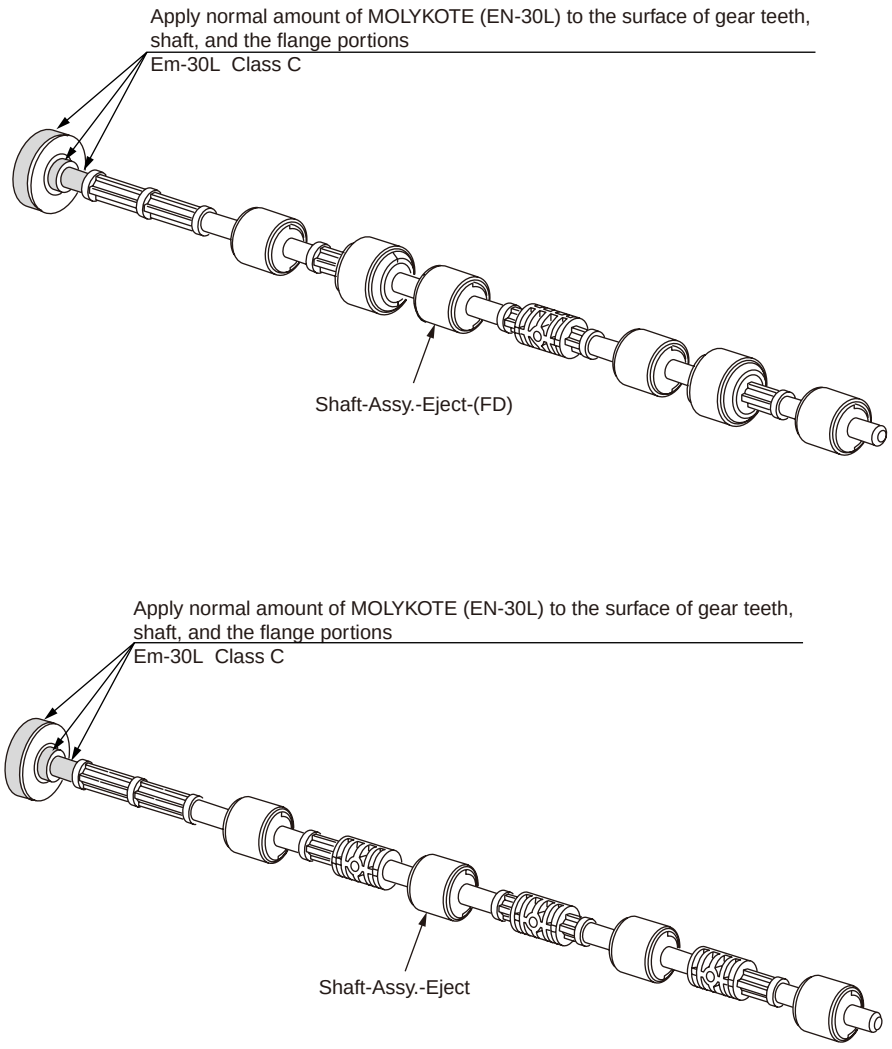
Method of amount of grease

Before ① assemble at ②, apply small amount of MOLYKOTE (EM-30L) to the sliding portions (hatching portions) of ① and ②. (Class S)

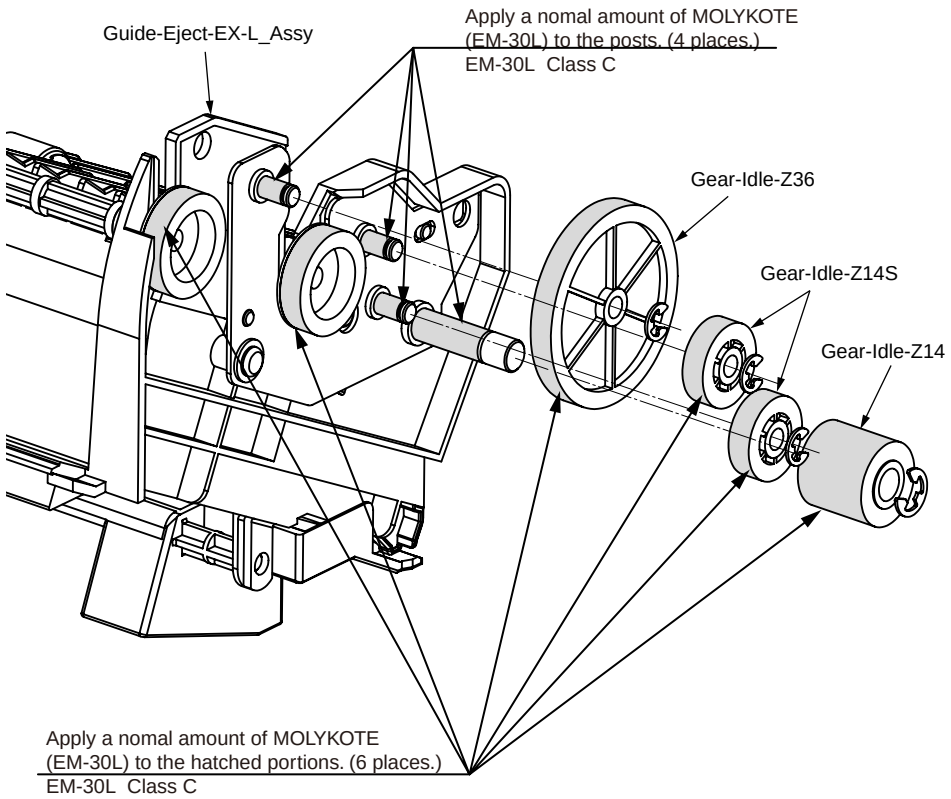
14-1 Guide-Eject-EX-L_Assy



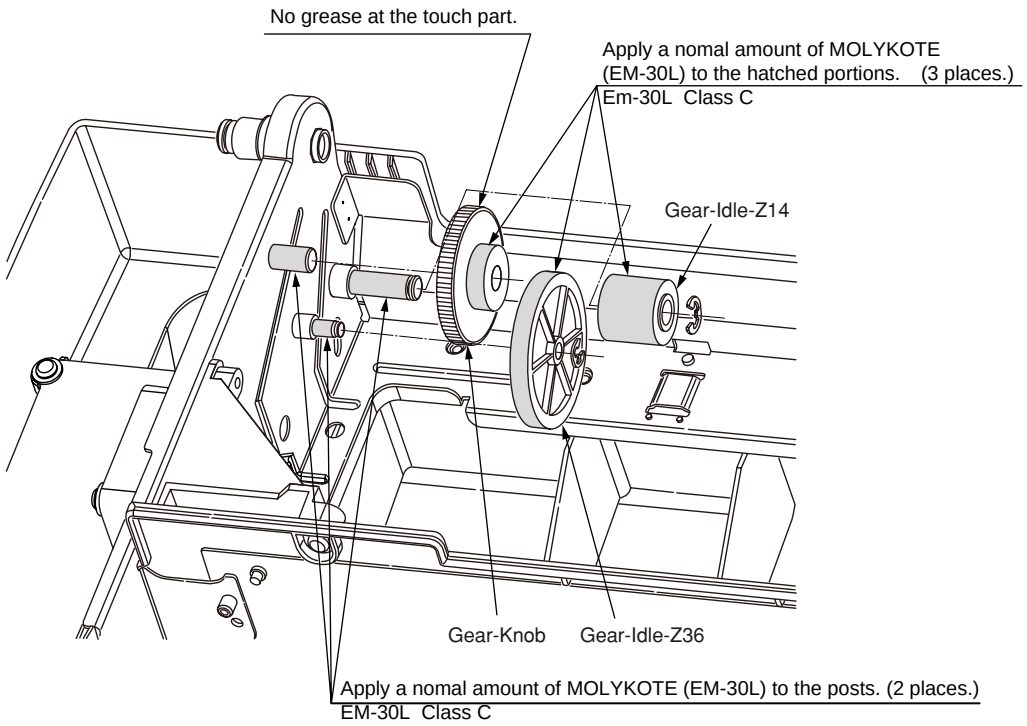
14-2 Guide-Eject-EX-L_Assy



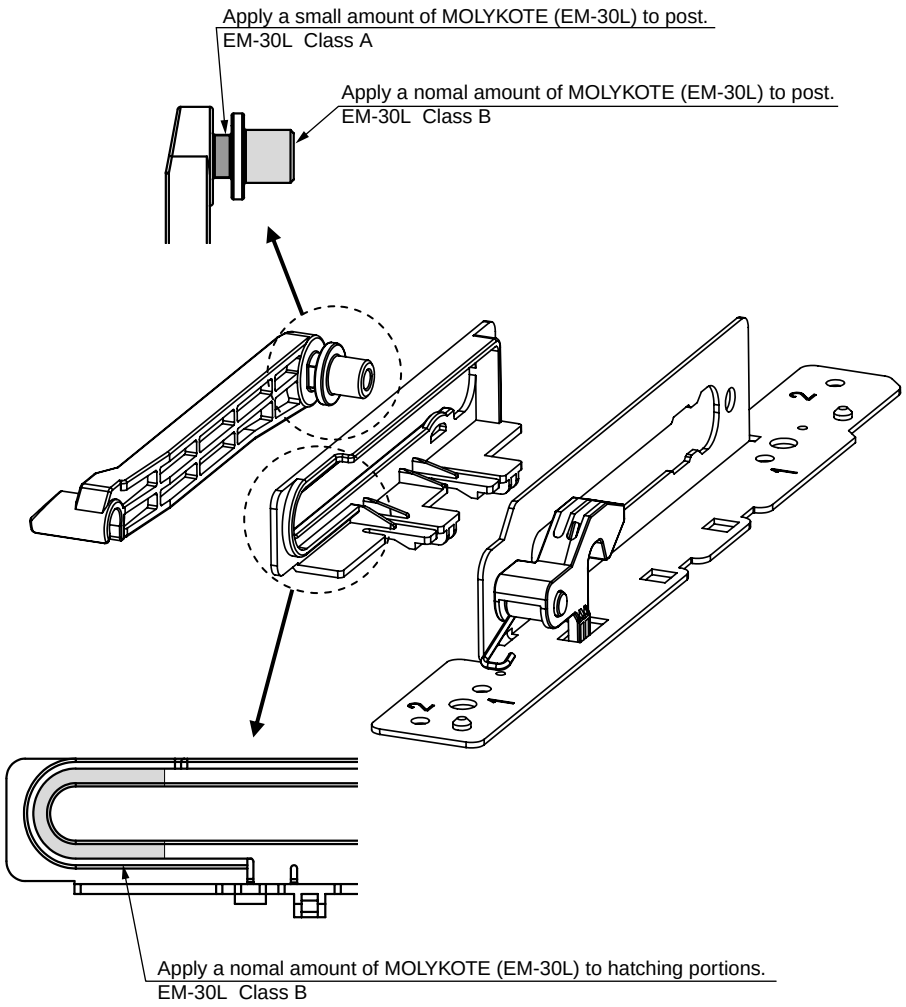
14-3 Guide-Eject-EX-L_Assy



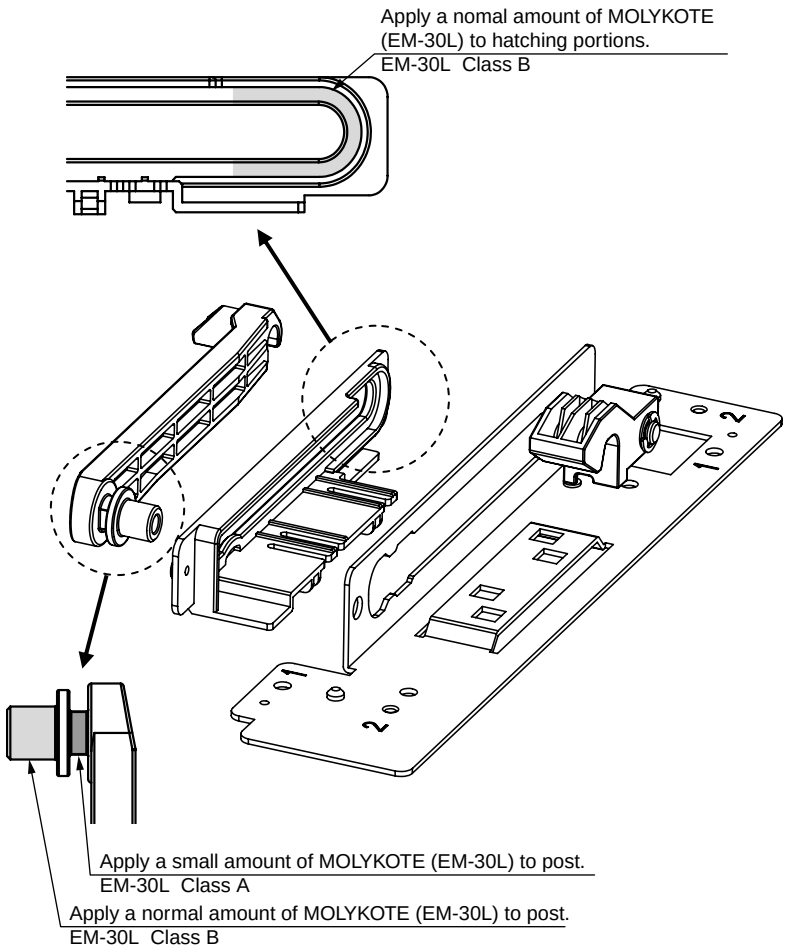
15. Cover-Assy-Top-MFP



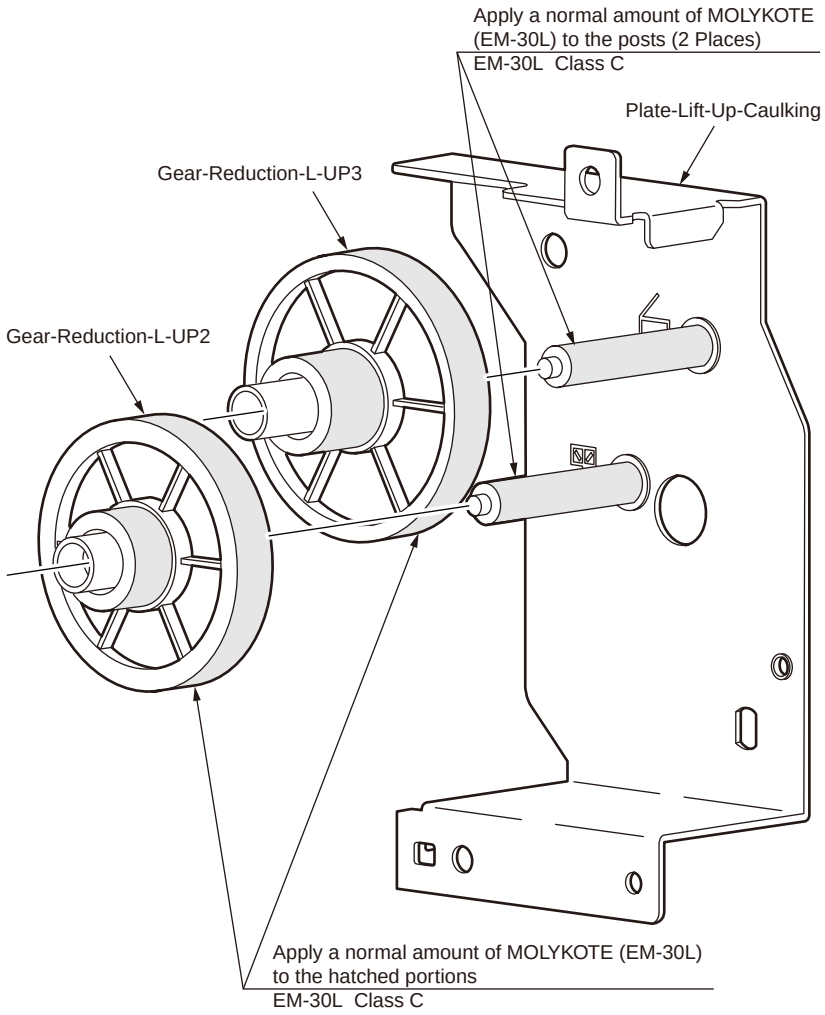
16. Stay-Guide-L-Assy

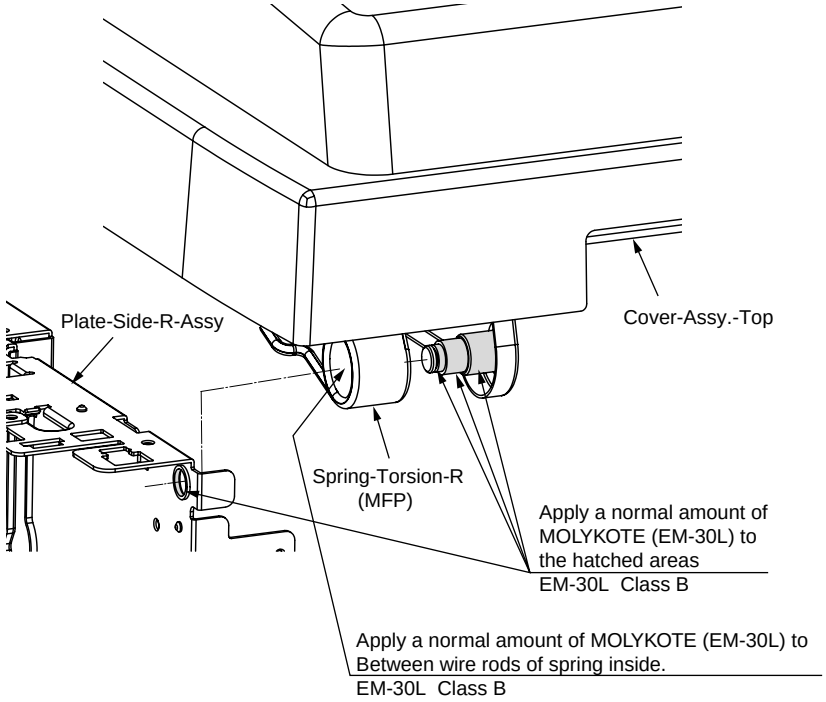


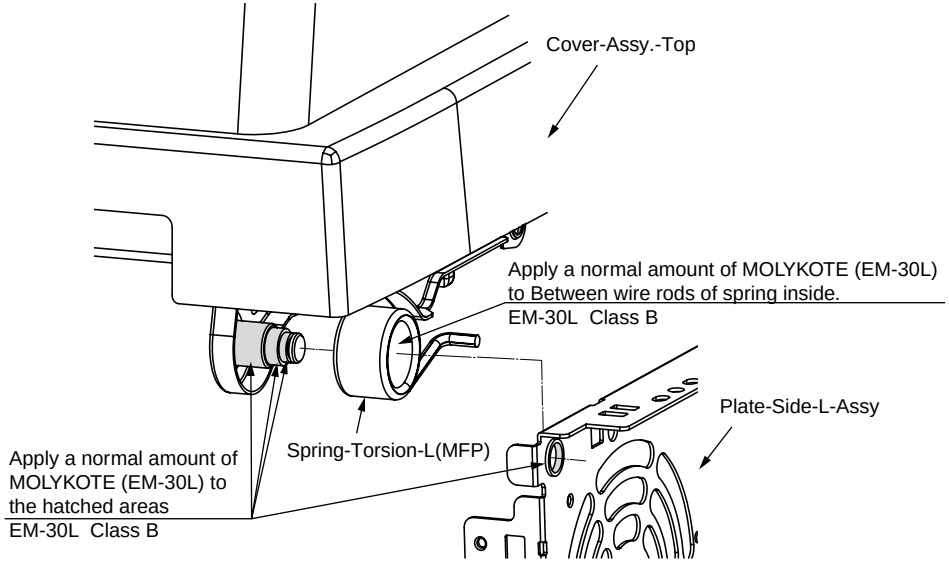
17. Stay-Guide-R-Assy



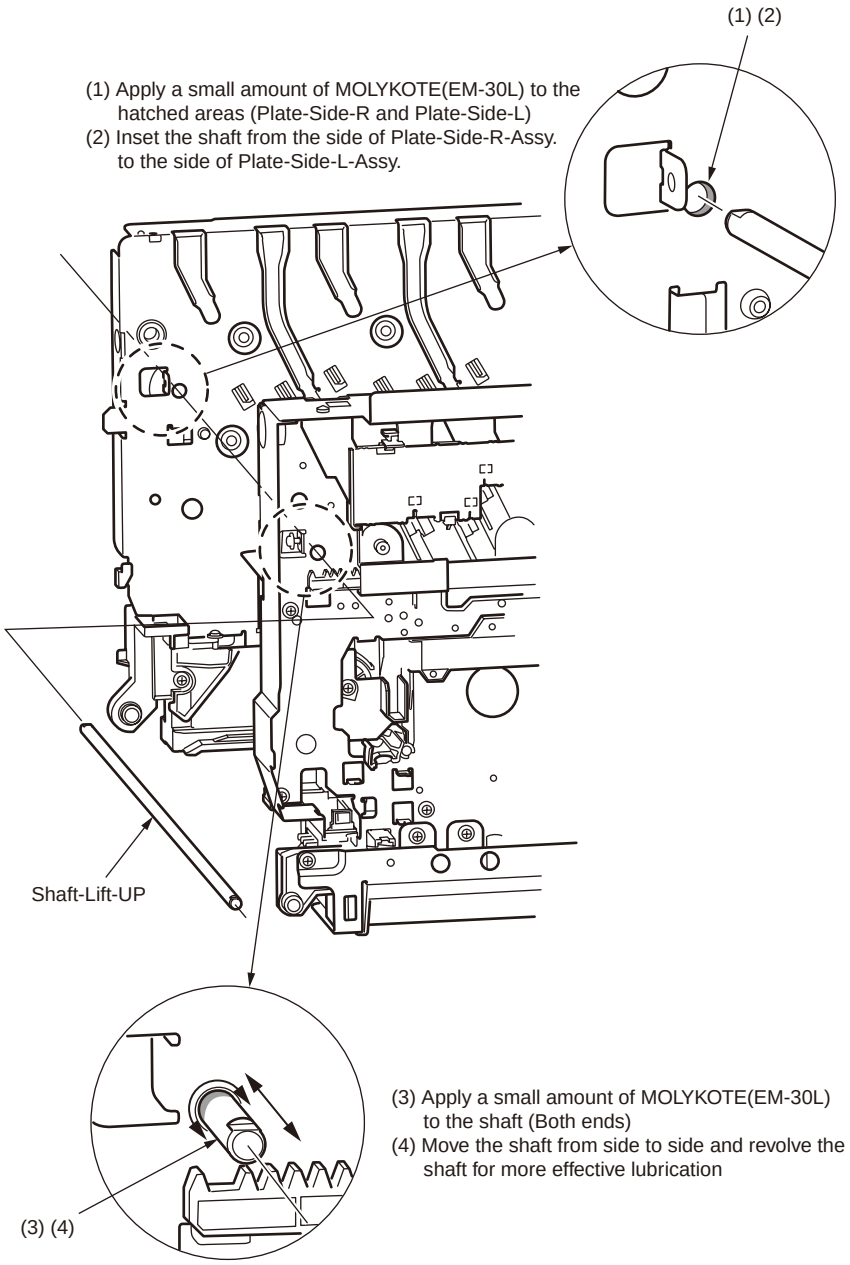
18-1 Printer-Unit (PX736)

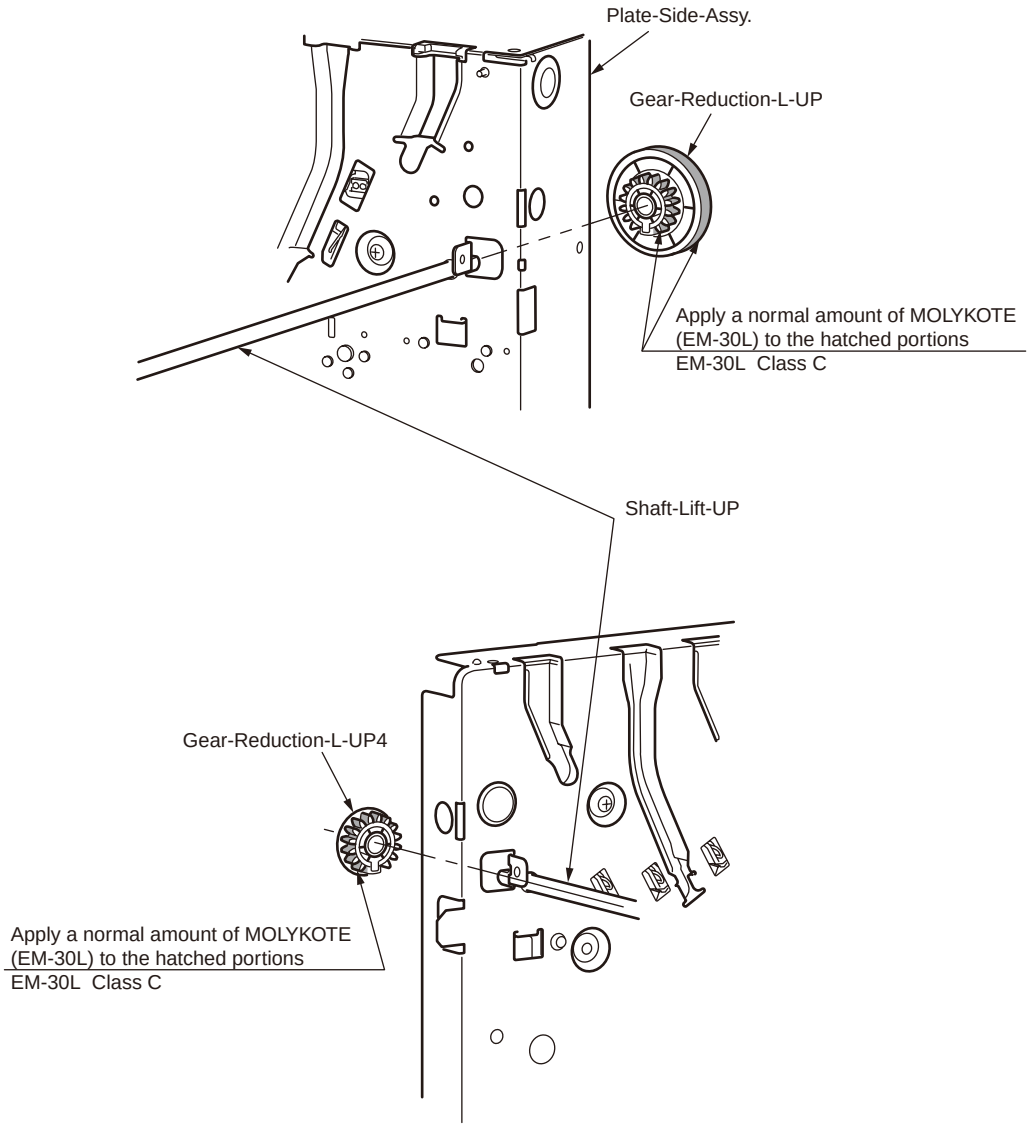




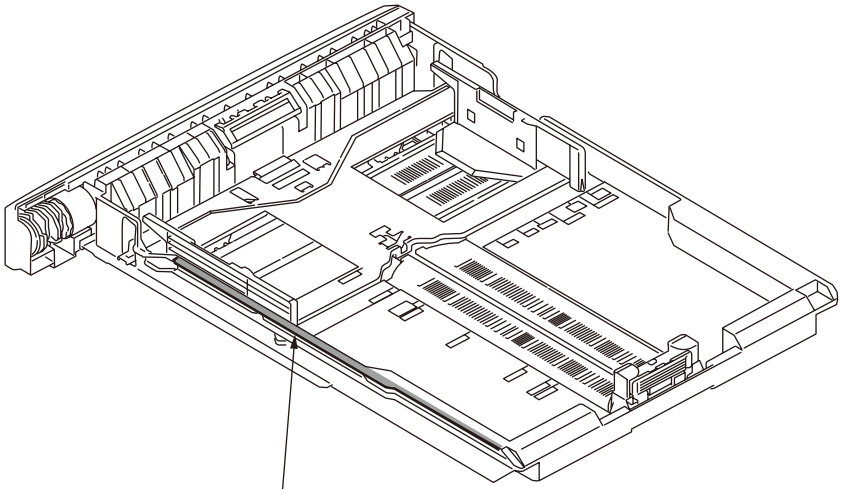


18-2 Printer-Unit (PX736)





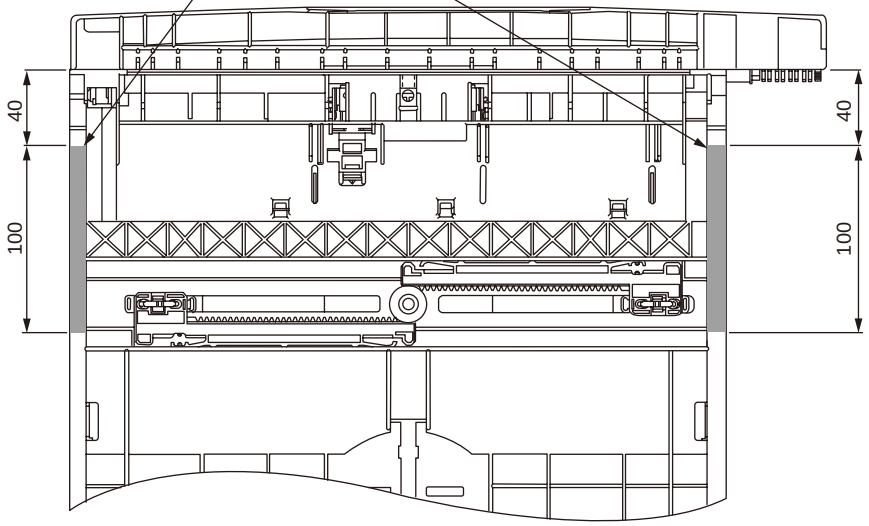
18-3 Printer-Unit (PX736)



Apply PM to the hatched portion in a small quantity.

(1) The application method : wipe with the cloth with which PM sank in a small quantity.

(2) After applying PM, check that there is no creaking noise when taking out and inserting a cassette several times.



5. Maintenance Menu

Adjustment of the MFP can be performed by running the Maintenance Utilities and also by entering keys from the operator panel. The MFP provides the Maintenance Menu in addition to the ordinary menus. Select the appropriate menu that suits the adjustment objective.

5.1 Service function

The service function shall be used for the purpose of MFP maintenance by the experienced maintenance/service engineer, and is not opened of its specifications to general users. The respective items of the service function are contained in the service menu.

5.1.1 How enter the service menu

Enter the service menu by the following operation.

1. The password entry screen is displayed when the special operation of the hardware keys is operated while an MFP is running. The MFP enters the condition waiting for password entry.
2. When the password that is entered by maintenance/service engineer matches the specified password, the service menu is displayed.

5.1.1.1 Special operation of the hardware keys

The operation procedure to display the password entry screen of the service menu is described as follows.

1. To display the “SETUP”, press the [SETUP] key while an MFP is running.
2. Press the ten-keys in the order of [#] → [1] → [9]→ [3] → [7].
3. The password entry screen is displayed.

5.1.1.2 Password entry screen

Value	Default	Display condition
Password within 6 to 12 digits	000000	None

Enter the password that is required to enter the service menu.

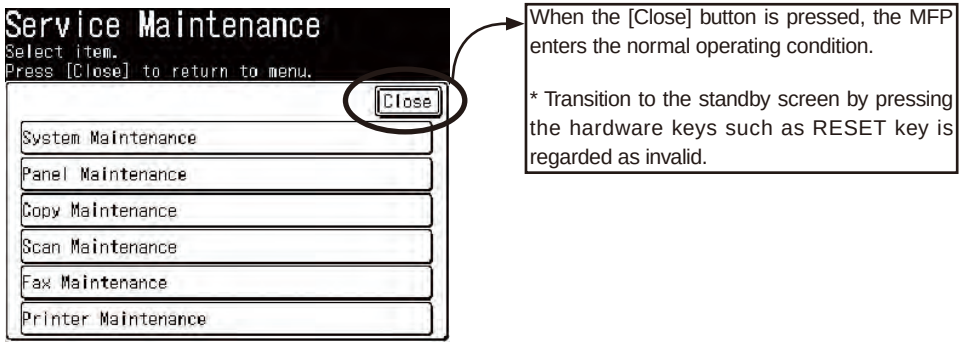
The password should be entered with the 6- to12-digit alphanumeric characters.

Password can be changed by the “Change Password” menu of the “System Maintenance” menu.

5.1.2 Operation required upon completion of the service menu operation

In order to complete operations of the service menu, the [Close] button that is displayed on the service menu top screen should be pressed. Transition to the normal operation by pressing the hardware keys such as RESET key is regarded as invalid.

If any change of setting that requires reboot of the MFP to reflect the changed setting is made and the [Close] button is pressed, an MFP enters the normal operating condition after the MFP reboots. Regarding the items that require reboot of MFP, refer to section 5.2.1.



5.2 Service Maintenance menu

5.2.1 Service Maintenance menu structure

Service Maintenance menu structure is shown below.

1st hierarchy	2nd hierarchy	3rd hierarchy	4th hierarchy	Reboot processing
System Maintenance	OKIUSER			When the [Close] button is pressed
	Format HDD			Reboot when executed
	Format Flash ROM			Reboot when executed
	Manu Reset			None
	All Reset			Reboot when executed
	Test Print Menu			When the [Close] button is pressed
	Change Password	New Password		When the [Close] button is pressed
		Verify Passwd		
Panel Maintenance	LED Test			None
	LCD Test			None
	OP Key Test			None
Copy Maintenance	Color copy			When the [Close] button is pressed
Scan Maintenance	Retrieve Shading Data			None
	Clean RADF Roller			None
	Adjust scan position	FBS	Side Reg.	None
			Front Edge	None
		ADF (Front)	Side Reg.	None
			Front Edge	None
			Back Edge	None
		ADF (Back)	Side Reg.	None
			Front Edge	None
			Back Edge	None

1st hierarchy	2nd hierarchy	3rd hierarchy	4th hierarchy	Reboot processing
Fax Maintenance	Country Code			When the [Close] button is pressed
	TX	Echo support		None
		Modem transmission speed		None
	RX	Echo support		None
		Modem transmission speed		None
	Pulse Make Ratio			None
	MF(Tone) Duration	ON period		None
		OFF period		None
	Colling Timer			None
	Attenuator			None
	MF Attenuator			None
	Line Test	Relay		None
		Tonal		None
		DTFM		None
Printer Maintenance	Personality	IBM 5577		When the [Close] button is pressed
		IBM PPR III XL		When the [Close] button is pressed
		EPSON FX		When the [Close] button is pressed
		HP-GL/2		When the [Close] button is pressed
	Peak Power Control			When the [Close] button is pressed
	Engine Diag Mode			

Supplementary description on “Reboot processing”

When the [Close] button is pressed	Reboot starts automatically when the [Close] button is press on the top screen of the service menu.
Reboot when executed	Reboot starts automatically when the function is executed.
None	Reboot is not executed and the screen moves into the normal operating condition when the [Close] button is pressed on the top screen of the service menu.

5.3 System maintenance

5.3.1 OKIUSER

Value	Default	Display condition
ODA	ODA:ODA	None
OEL	OEL:OEL	
APS		
JP1		
JPOEM1		
OEMA		
OEML		
OEMM1		
OEMM2		
OEMM3		

Destination of the MC860 is set.

Destinations are shown below.

- ✓ ODA: destinations outside Japan of ODC version with Letter default
- ✓ OEL: Overseas destinations outside Japan of ODC version with A4 default
- ✓ APS: Asia and Oceania destinations of ODC version
- ✓ JP1: Japan domestic destination of ODC version
- ✓ JPOEM1: Japan destination of OEM
- ✓ OEMA: Overseas destinations outside Japan of OEM with A4 default
- ✓ OEML: Overseas destinations outside Japan of OEM with Letter default
- ✓ OEMM1: Japan destination of MML version
- ✓ OEMM2: Overseas destinations outside Japan of MML version with Letter default
- ✓ OEMM3: Overseas destinations outside Japan of MML version with A4 default

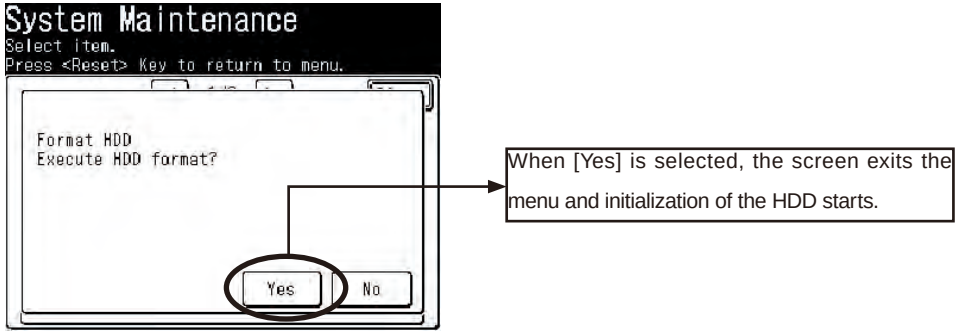
When the screen exits the service menu after this setting is changed, the MC860 reboots automatically.

5.3.2 Format HDD

Value	Default	Display condition
None	None	This menu is displayed when the menus are selected in the order of [Admin Setup] – [Management] – [Storage Maint Setup] – [Initial Lock], and [Enable] is set.

Initializes the HDD.

When [Format. HDD] is selected, the following confirmation screen is displayed. When [Yes] is selected, the screen exits the menu and initialization of the HDD starts.



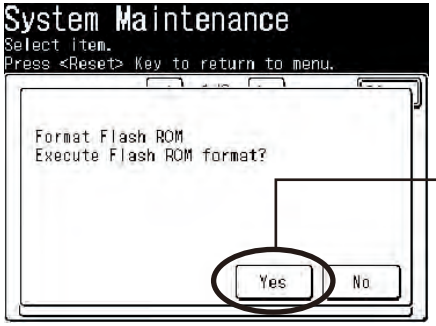
For details of the HDD initialization, refer to item 5.11.

5.3.3 Format Flash ROM

Value	Default	Display condition
None	None	None

Initializes the Flash ROM.

When [Format Flash ROM] is selected, the following confirmation screen is displayed. When [Yes] is selected, the screen exits the menu and initialization of the resident mounted (on-board) Flash device starts.



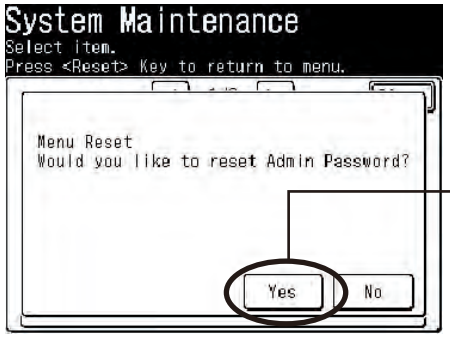
When [Yes] is selected, the screen exits the menu and initialization of the resident mounted (on-board) Flash device starts.

For details of the Flash ROM initialization, refer to item 5.11.

5.3.4 Menu Reset(Administrator password reset)

Value	Default	Display condition
None	None	None

Returns the administrator password to the factory shipment setting (factory default) value. When [Menu reset] is selected, the following confirmation screen is displayed. When [Yes] is selected, the administrator password is reset to the factory shipment setting (factory default) value.



When [Yes] is selected, the administrator password is reset to the factory shipment setting (factory default) value.

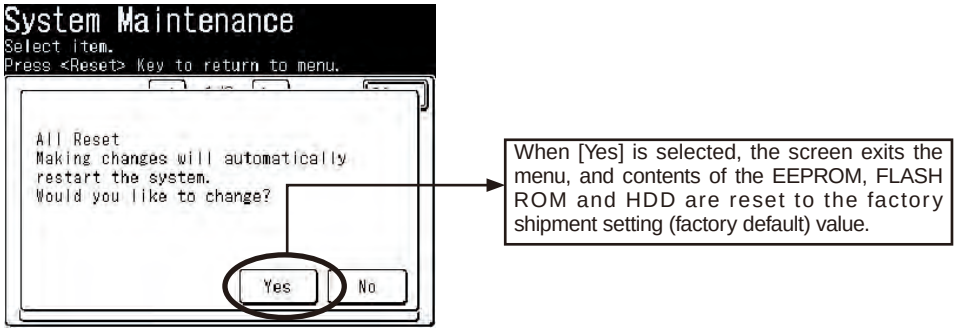
For details of the administrator password reset, refer to item 5.11.

5.3.5 All Reset

Value	Default	Display condition
None	None	None

Returns the contents of the EEPROM, FLASH ROM and HDD to the factory shipment setting (factory default) value.

When [All Reset] is selected, the following confirmation screen is displayed. When [Yes] is selected, the screen exits the menu, and contents of the EEPROM, FLASH ROM and HDD are reset to the factory shipment setting (factory default) value.



For details of the reset to the factory shipment setting, refer to item 5.11.

5.3.6 Test Print Menu

Value	Default	Display condition
Disable Enable	Disable	None

Selects to display or not to display the menu [REPORT] – [PRINT] – [ID Check Pattarn] item, and [Engine Status] item.

When [Disable] is selected in this setting, the [ID Check Pattarn] and [Engine Status] items are not displayed all the time.

When the screen exits the service menu after this setting is changed, the MC860 reboots automatically.

5.3.7 Change Password

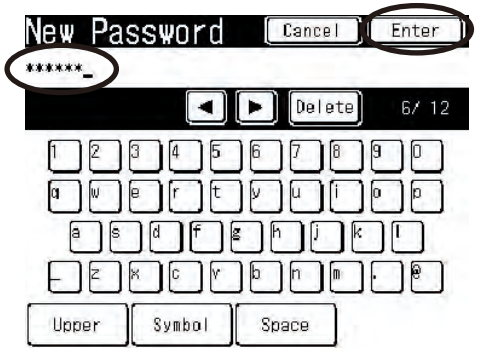
Value	Default	Display condition
Password within 6 to 12 digits	None	None

Enter the password that is required when entering the service menu.

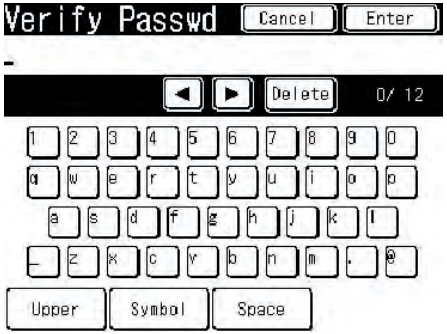
The password should be entered with the 6- to12-digit alphanumeric characters.

When a new password is entered (i.e., when the [Enter] button is pressed after a new password is entered), the screen is changed to the password entry confirmation screen automatically.

The new password is not registered until the new password that is entered first matches exactly the password that is entered on the password entry confirmation screen.



New password entry screen



Password entry confirmation screen

When the screen exits the service menu after this setting is changed, the MC860 reboots automatically.

5.4 Panel maintenance

5.4.1 LED test

All LED lamps are illuminated to check if any lamp is burned out or not.

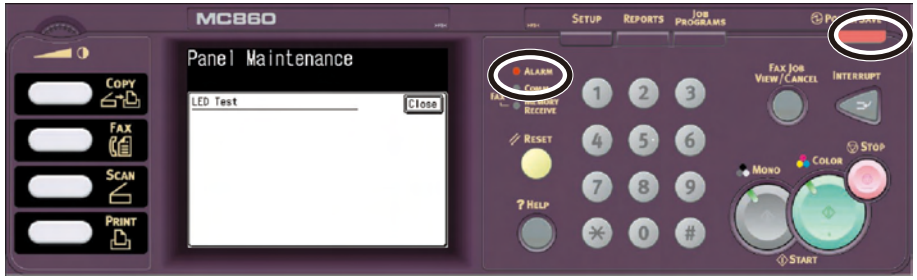
Every time when the [SETUP] key is pressed, all LED lamps are turned ON and OFF.

5.4.1.1 Operating procedure

LED lamp = OFF

Green LED lamp = ON

Red LED lamp = ON



All LED lamps = ON

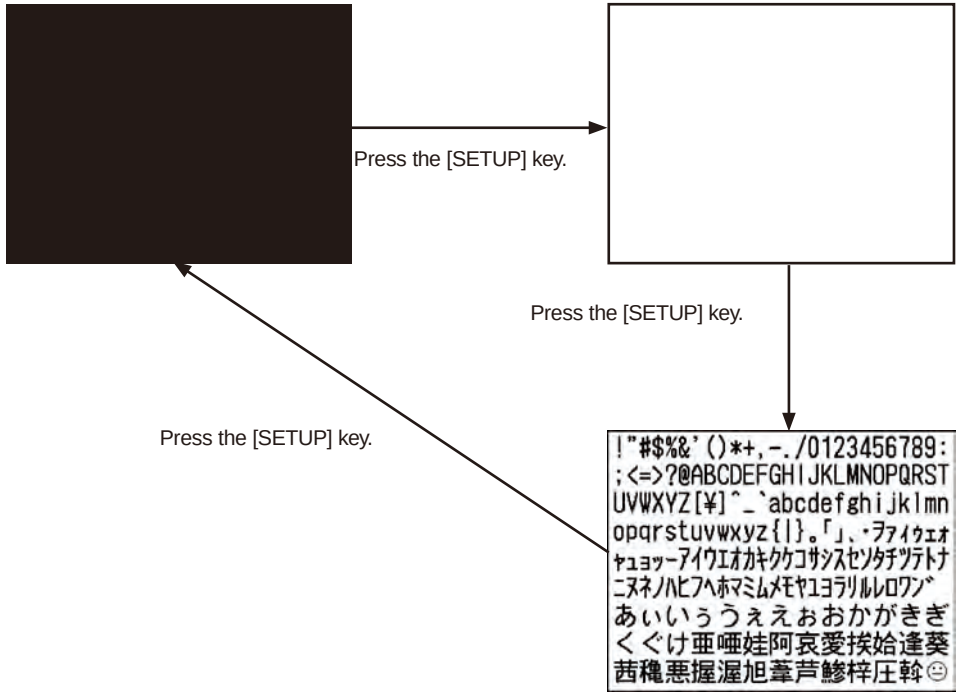
When the [Close] button is pressed, the screen returns to the panel maintenance menu.

5.4.2 LCD test

Displays the test pattern on the LCD in order to check if there is dead pixel on the LCD.

5.4.2.1 Operating procedure

The following three kinds of test pattern can be displayed. To select the test patterns, press the [SETUP] key.



To exit the LCD test, press the [Reset] key to return to the panel maintenance screen.

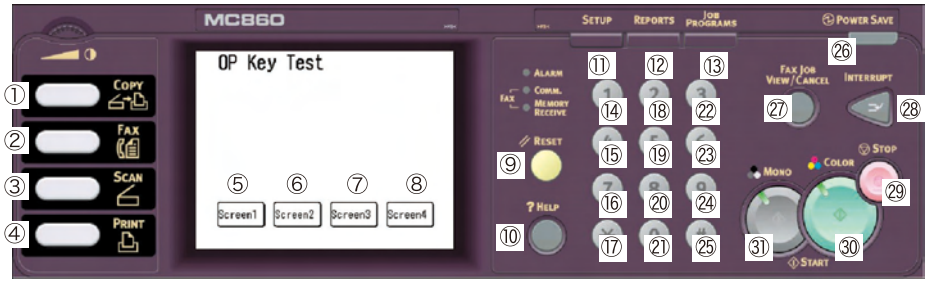
5.4.3 Control panel key test

Checks if the MFP responds normally when the hardware key and the software key on the control panel is pressed, by observing the LCD screen if the pressed key is displayed or not on the LCD screen.

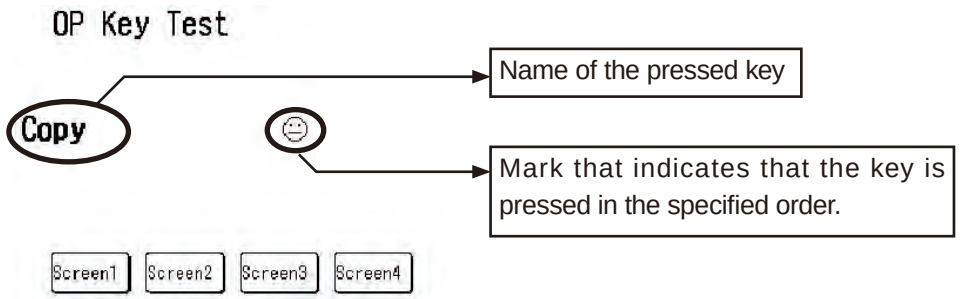
This test aims at checking of all keys. Therefore, all keys should be pressed in the specified order in order to check that all keys have been pressed.

5.4.3.1 Operating procedure

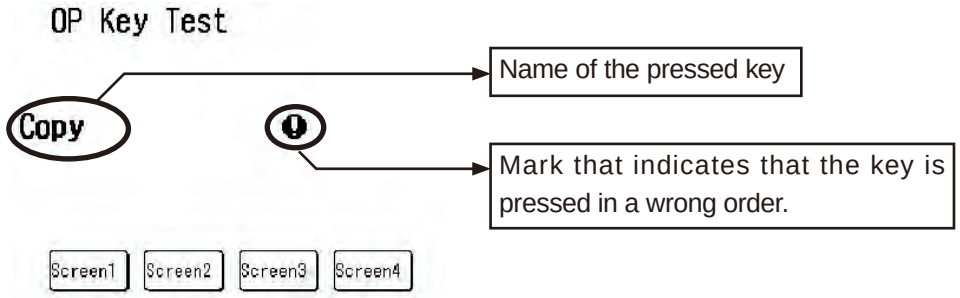
When this test is selected, the panel key test screen is displayed as shown below. Press all of the keys in the specified order as shown in the picture below.



When a key is pressed in the specified order, the following messages are displayed.



When a key is pressed in a wrong order, the following messages are displayed.



To exit the control panel key test, press the [Stop] key to display “Stop” on the panel and press the [Stop] key again to return to the maintenance menu.

5.5 Copy maintenance

5.5.1 Color copy

Value	Default	Display condition
Enable Disable	Enable	None

Every time when the [COLOR START] key is pressed during copy operation, Enable and Disable are switched. When [Disable] is selected in this setting, LED of the [COLOR START] key is turned OFF, pressing of the [COLOR START] key in the copy mode is ignored and the reject sound is issued.

When the screen exits the service menu after this setting is changed, the MFP reboots automatically.

5.6 Scanner maintenance

5.6.1 Shading data loading

Shading data of FBS and that of RADF (both-side copy model only) are loaded.

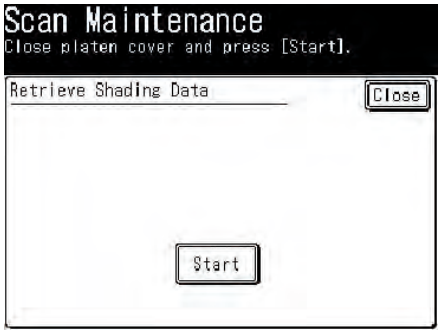
This item should be executed whenever any of the following item is performed.

- ✓ When the scanner lamp is replaced *
- ✓ When the mirror carriage adjustment is performed *
- ✓ When the scanner Main PCB is replaced

* This is TBD as the OKI data maintenance item.

5.6.2 Operating procedure

When this item is selected, the following screen is displayed.

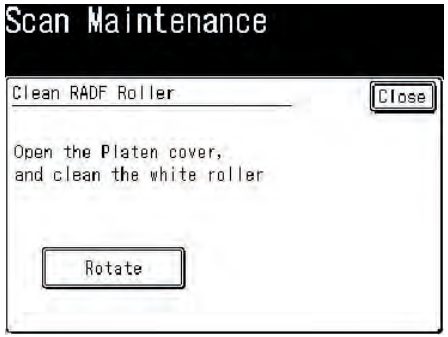


Confirm that the RADF unit is closed. Then press the [Start] button.

5.6.3 Scanning roller cleaning

5.6.3.1 Operating procedure

When this item is selected, the following screen is displayed.



5.6.4 Scan position adjustment

5.6.4.1 Side registration adjustment

The separate setting items are prepared for FBS, ADF (front side) and ADF (back side) independently.

Setting for FBS

Value	Default	Reference value	Display condition
+25 ～ 0 ～ -25 (+5.29mm ～ 0 ～ -5.29mm)	-10 (-2.117mm)	±1.2mm	None

Perform adjustment so that the scan start position in the horizontal scanning direction during FBS scanning stays within the reference value.

Adjustment in increment of 1 item (5/600 dpi = 0.2117 mm) is possible in this setting.

When a value is added in the negative (-) direction, the scan image on a PC moves to the right.

When a value is added in the positive (+) direction, the scan image on a PC moves to the left.

Setting for ADF (front side)

Value	Default	Reference value	Display condition
+25 ～ 0 ～ -25 (+5.29mm ～ 0 ～ -5.29mm)	+1 (+0.2117mm)	±1.8mm	None

Perform adjustment so that the scan start position in the horizontal scanning direction during ADF front side scanning stays within the reference value.

Adjustment in increment of 1 item (5/600 dpi = 0.2117 mm) is possible in this setting.

When a value is added in the negative (-) direction, the scan image on a PC moves to the left.

When a value is added in the positive (+) direction, the scan image on a PC moves to the right.

Setting for ADF (rear side)

Value	Default	Reference value	Display condition
+25 ～ 0 ～ -25 (+5.29mm ～ 0 ～ -5.29mm)	+18 (+3.8106mm)	±2.3mm	None

Perform adjustment so that the scan start position in the horizontal scanning direction during ADF rear side scanning stays within the reference value.

Adjustment in increment of 1 item (5/600 dpi = 0.2117 mm) is possible in this setting.

When a value is added in the negative (-) direction, the scan image on a PC moves to the left.

When a value is added in the positive (+) direction, the scan image on a PC moves to the right.

5.6.4.2 Top end position adjustment

The separate setting items are prepared for FBS, ADF (front side) and ADF (back side) independently.

Setting for FBS

Value	Default	Reference value	Display condition
+31 ～ 0 ～ -31 (+4.36mm ～ 0 ～ -4.36mm)	+8 (+1.1264mm)	±1.2mm	None

Perform adjustment so that the scan start position in the vertical scanning direction during FBS scanning stays within the reference value.

If shade is scanned at the top end of a document, make adjustment in the positive direction. If deficiency occurs at the top end of a document, make adjustment in the negative direction.

Adjustment in increment of 1 item (0.1408 mm) is possible in this setting.

When a value is added in the negative (-) direction, the scan image on a PC moves down. When a value is added in the positive (+) direction, the scan image on a PC moves up.

Setting for ADF (front side)

Value	Default	Reference value	Display condition
+127 ～ 0 ～ -127 (+7.86mm ～ 0 ～ -7.86mm)	+11 (+0.6809mm)	±1.8mm	None

Perform adjustment so that the scan start position in the vertical scanning direction during ADF front side scanning stays within the reference value.

If shade is scanned at the top end of a document, make adjustment in the positive direction. If deficiency occurs at the top end of a document, make adjustment in the negative direction.

Adjustment in increment of 1 item (0.0619 mm) is possible in this setting. When a value is added in the negative (-) direction, the scan image on a PC moves down.

When a value is added in the positive (+) direction, the scan image on a PC moves up.

Setting for ADF (back side)

Value	Default	Reference value	Display condition
+127 ～ 0 ～ -127 (+7.86mm ～ 0 ～ -7.86mm)	+11 (+0.6809mm)	±2.3mm	None

Perform adjustment so that the scan start position in the vertical scanning direction during ADF rear side scanning stays within the reference value.

If shade is scanned at the top end of a document, make adjustment in the positive direction. If deficiency occurs at the top end of a document, make adjustment in the negative direction.

Adjustment in increment of 1 item (0.0619 mm) is possible in this setting.

When a value is added in the negative (-) direction, the scan image on a PC moves down.

When a value is added in the positive (+) direction, the scan image on a PC moves up.

5.6.4.3 Back end position adjustment

The separate setting items are prepared for FBS, ADF (front side) and ADF (rear side) independently.

< Precaution >

The rear end position adjustment should be executed after the top end position adjustment is completed.

In addition, scanning is stopped before the rear end is reached if amount of the specified scanning lines are scanned in the copy mode and scan mode even though the rear end position adjustment is performed.

Setting for ADF (front side)

Value	Default	Reference value	Display condition
+127 ～ 0 ～ -127 (+7.86mm ～ 0 ～ 7.86mm)	-43 (-2.6617mm)	±1.8mm	None

Perform adjustment so that the rear end scan position in the vertical scanning direction during ADF front side scanning stays within the reference value.

If shade at the rear end of document is scanned, perform adjustment in the negative (-) direction. If deficiency occurs at the rear end of a document, make adjustment in the negative direction.

Adjustment in increment of 1 item (0.0619 mm) is possible in this setting. However, adjustment should be performed in increment of 16 items (1 mm) as a guide line due to document running at an angle.

Setting for ADF (back side)

Value	Default	Reference value	Display condition
+127 ～ 0 ～ -127 (+7.86mm ～ 0 ～ 7.86mm)	-43 (-2.6617mm)	±2.3mm	None

Perform adjustment so that the rear end scan position in the vertical scanning direction during ADF rear side scanning stays within the reference value.

If shade at the rear end of document is scanned, perform adjustment in the negative (-) direction. If deficiency occurs at the rear end of a document, make adjustment in the negative direction.

Adjustment in increment of 1 item (0.0619 mm) is possible in this setting. However, adjustment should be performed in increment of 16 items (1 mm) as a guide line due to document running at an angle.

5.7 Mirror carriage mode

This item sets Operable/Inoperable of the mirror carriage movement.

During transportation and installation of the MC860, this setting should be changed.

5.7.1 How to enter the mirror carriage communication mode

When the menus of [SETUP] – [Admin Setup] – [User Install] – [Mirror carriage mode] are selected, the following screen is displayed.

Before stating transportation of the MC860, select [Yes] to start movement of the mirror carriage to the specified position.

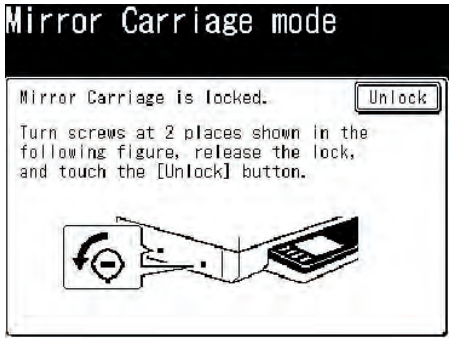
When movement of the mirror carriage is complete, the following screen is displayed.

Tighten the screws at the locations as specified in the illustration, and press the [Close] button.

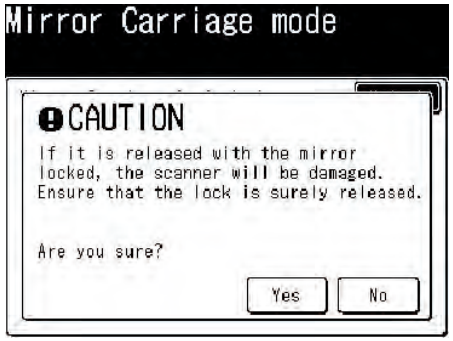
When the mirror carriage is locked in the specified position, select the menus [SETUP] – [Shutdown] to execute the shutdown operation. Then turn OFF the power.

5.7.2 How to release the mirror carriage mode

When the MC860 remains in the mirror carriage mode, the following standby screen is displayed.



Remove the screws at the locations specified in the illustration, and press the [Cancel] button. The following screen is displayed.



Confirm to see that the mirror carriage mixing screws are removed. Then select [Yes] to release the mirror carriage mode so that the mirror carriage is returned to the normal operating condition.

5.8 Fax maintenance

5.8.1 Country code

Value	Default	Display condition
U.S.A International United Kingdom Ireland Norway Sweden Finland Denmark Germany Hungary Czech/Slovakia Poland Switzerland Austria Belgium Netherlands France Portugal Spain Italy Greece Australia New Zealand Singapore Hong Kong Latin America Mexico China Russia	ODA: U.S.A OEL: International APS: Australia JP1: Japan JPOEM1: Japan OEMA: International OEML: U.S.A OEMM1: Japan OEMM2: U.S.A OEMM3: International	None
Taiwan Japan Korea Thailand Malaysia Jordan Argentina Brazil South Africa	ODA: U.S.A OEL: International APS: Australia JP1: Japan JPOEM1: Japan OEMA: International OEML: U.S.A OEMM1: Japan OEMM2: U.S.A OEMM3: International	None

Select the country in which the MC860 is going to be installed.

When the desired country code is selected by this setting, the PTT parameters that are suited to the target country are set.

In this setting, any country code can be selected regardless of the OKIUSER setting.

When the screen exits the service menu after this setting is changed, the MFP reboots automatically.

Note! If any country code that is not the country of the MC860 installation is selected, it can infringe regulations and laws of the respective countries. Be careful of this point.

5.8.2 Tone For Echo

5.8.2.1 TX(During send)

Value	Default	Display condition
Disable Enable	Disable	None

When set to Enable

DIS ignore once *1: Enable
EP tone addition during V29 send *2: Enable
Wait time between DIS – DCS *3: 1000 ms

When set to Disable

DIS ignore once *1: Disable
EP tone addition during V29 send *2: Disable
Wait time between DIS – DCS *3: 0 ms

This setting is effective during all communications of direct dialing and Abbr. dialing.

DIS ignore once *1:

During the overseas communication, the DIS signal can be ignored once in order to re-start the echo suppressor function that has been stopped by the CED signal. The MFP responds against the second DIS signal and sends out the DCS signal. With this setting, the MFP can send out the DCS signal under a good line condition with less echo.

This setting is used in the case when the communication error such as T.1.1 occurs due to adverse effect of echo during the overseas communication.

EP tone addition during V29 send *2:

During the overseas send, reception of the training signal by the destination machine can be ensured by adding the EP tone before the sending the training signal to avoid line delay.

The EP tone of 0.5 seconds is added to the training signal of 9600/7200 bits/s + TCF/training + image information.

The EP tone of 0.5 seconds at 1700 Hz can be destroyed by the group delay of communication line so that the head portion of the training signal is damaged. In such a case, reception of the training signal by the destination machine can be ensured by adding the EP tone before sending the training signal.

Note! Some types of fax machine cannot receive the training signal 9600/7200 bits/s + TCF with the EP tone. Be careful of the type of the fax machine.

Wait time between DIS – DCS *3:

Time before the DCS signal send start after the DIS signal reception end.

5.8.2.2 RX(During receive)

Value	Default	Display condition
Disable Enable	Disable	None

When set to Enable

Switching time between CED – DIS *4: 1000 ms

When set to Disable

Switching time between CED – DIS *4: 75 ms

Switching time between CED – DIS *4:

When the CED signal at 2100 Hz is sent out during reception of overseas communication, the echo suppress stops so that the line condition becomes inferior with much echoes. As the countermeasure against the trouble, an interval is inserted after the echo suppressor is re-started (echo suppressor re-starts after muting of 0.5 seconds) before sending out the DIS signal upon completion of the CED signal send-out by creating a muted period of time.

The international telephone line uses the four-wire system in which signals are sent to the destination machine via the two-wire system –> four-wire system –> two-wire system. The international telephone switchboard is equipped with the echo prevention system (special switch circuit that prevents echo) called echo suppressor. When it detects the tone signal of 2100 Hz, operation of the echo suppressor is stopped temporarily.

5.8.3 H/Modem Rate

5.8.3.1 TX(During send)

Value	Default	Display condition
33.6 Kbps 28.8 Kbps 14.4 Kbps 9.6 Kbps 4.8 Kbps	33.6 Kbps	None

Sets the initial value of the modem transmission speed during fax send.

This setting is effective during all communications of direct dialing and Abbr. dialing. Communication at 14.4 kbps (V.17) is performed when the menus [Admin Setup] – [User Install] – [Super G3] is set to OFF and this setting is set to “33.6 kbps”, “28.8 kbps”.

When this setting is “14.4 kbps (V.17)”, “9.6 kbps (V.29)”, “4.8 kbps (V.27ter)”, communication with this setting is performed regardless of the “Super G3” setting.

5.8.3.2 RX(During receive)

Value	Default	Display condition
33.6 Kbps 28.8 Kbps 14.4 Kbps 9.6 Kbps 4.8 Kbps	33.6 Kbps	None

Sets the initial value of the modem transmission speed during fax receive.

Communication at 14.4 kbps (V.17) is performed when the menus [Admin Setup] – [User Install] – [Super G3] is set to OFF and this setting is set to “33.6 kbps”, “28.8 kbps”. When this setting is “14.4 kbps (V.17)”, “9.6 kbps (V.29)”, “4.8 kbps (V.27ter)”, communication with this setting is performed regardless of the “Super G3” setting.

5.8.4 Pulse Make Ratio

Value	Default	Display condition
Default for countries 33% 39% 40%	For the value that is used when the setting value is “Country-wise initial value”, refer to item 5.8.9.	None

Sets the make ratio of DP (10 pps) during call.

5.8.5 MF(Tome) Duration

5.8.5.1 ON period

Value	Default	Display condition
0 1 ms ～ 255 ms	0 (Default for countries) For the value that is used when the setting value is 0, refer to item 5.8.9.	None

Sets the ON period of MF(Tone) Duration send.

When the setting value is “0”, the MC860 runs at the initial value of each country.

When the set value is except "0", the set value operates at 1 to 255m second.

5.8.5.2 OFF period

Value	Default	Display condition
0 1 ms ～ 255 ms	0(Default for countries) For the value that is used when the setting value is 0, refer to item 5.8.9.	None

Sets the OFF period of MF(Tone) Duration send.

When the setting value is “0”, the MFP runs at the initial value of each country.

When the set value is except "0", the set value operates at 1 to 255m second.

5.8.6 Colling Timer

Value	Default	Display condition
0 1 second ～ 255 seconds	0 (Default for countries) For the value that is used when the setting value is 0, refer to item 5.8.9.	None

Sets the Colling Timer. When the setting value is “0”, the MC860 runs at the initial value of each country. When any value other than “0” is set, the Colling Timer can be selected in the range of 1 to 255 mm.

5.8.7 Attenuator

Value	Default	Display condition
0 dB ～ -15 dB	Refer to item 5.8.9.	None

Sets the Attenuator. It can be set in units of 1 dB.

When the “Country code” is set to “Japan”, it can be set in the range of 8 to 15 dB.

5.8.8 MF Attenuator

Value	Default	Display condition
0 dB ～ -15 dB	Refer to item 5.8.9.	None

Sets the MF Attenuator.

It can be set in units of 1 dB.

5.8.9 Fax maintenance items – Default value list

List of default values of the fax maintenance items shown in item 5.8.2 to 5.8.5 is shown below.

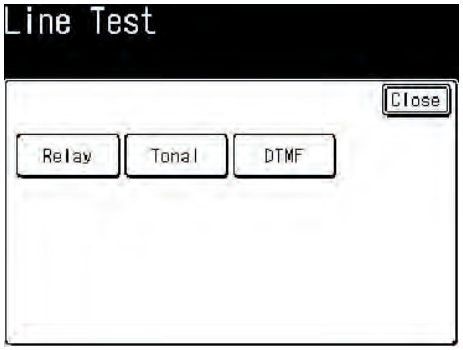
Country code	Send echo support	Send modem transmission speed (kbps)	Receive echo pport	Receive modem transmission speed (kbps)	Tonal signal send level	Pulse Make Ratio *5 (10 pps)	ON period *6	OFF period *6	Colling Timer *6	MF Attenuator
U.S.A	Invalid	33.6	Invalid	33.6	-8 dB	40 %	80 ms	70ms	55 seconds	-7 dB
International	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Unaited Kingdom	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Ireland	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Norway	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Sweden	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Finland	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Denmark	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Germany	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Hungary	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Czech/Slovakia	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Poland	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Swtzerland	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Austria	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Belgium	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Netherlands	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
France	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Portugal	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Spain	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Italy	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Greece	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Australia	Invalid	33.6	Invalid	33.6	-9 dB	33%	100ms	100ms	55 seconds	-7 dB
New Zealand	Invalid	33.6	Invalid	33.6	-9 dB	33%	100ms	100ms	55 seconds	-7 dB
Singapore	Invalid	33.6	Invalid	33.6	-8 dB	33%	80 ms	70ms	80 seconds	-5 dB
Hong Kong	Invalid	33.6	Invalid	33.6	-8 dB	33%	80 ms	70ms	80 seconds	-5 dB
Latin America	Invalid	33.6	Invalid	33.6	-8 dB	40%	80 ms	70ms	55 seconds	-7 dB
Mexico	Invalid	33.6	Invalid	33.6	-8 dB	40%	80 ms	70ms	55 seconds	-7 dB
China	Invalid	33.6	Invalid	33.6	-10dB	33%	100ms	100ms	40 seconds	-7 dB
Russia	Invalid	33.6	Invalid	33.6	-7 dB	40%	100ms	100ms	80 seconds	-5 dB
Taiwan	Invalid	33.6	Invalid	33.6	-11dB	33%	100ms	100ms	55 seconds	-8 dB
Japan	Invalid	33.6	Invalid	33.6	-8 dB	33 %	100ms	100ms	115 seconds	-9 dB
Korea	Invalid	33.6	Invalid	33.6	-9 dB	40%	80 ms	70ms	55 seconds	-8 dB
Thailand	Invalid	33.6	Invalid	33.6	-8 dB	33%	80 ms	70ms	80 seconds	-5 dB
Malaysia	Invalid	33.6	Invalid	33.6	-8 dB	33%	80 ms	70ms	80 seconds	-7 dB
Jordan	Invalid	33.6	Invalid	33.6	-8 dB	33%	100ms	100ms	80 seconds	-7 dB
Argentina	Invalid	33.6	Invalid	33.6	-8 dB	40%	80 ms	70ms	55 seconds	-7 dB
Brazil	Invalid	33.6	Invalid	33.6	-8 dB	40%	80 ms	70ms	55 seconds	-7 dB
South Africa	Invalid	33.6	Invalid	33.6	-8 dB	33%	100ms	100ms	80 seconds	-7 dB

* 5: The value when the setting value is “Default for countries”.

* 6: The value when the setting value is “0”.

5.8.10 Line Test

When “Line Test” is selected, the following screen is displayed. Select the desired test item to be implemented.

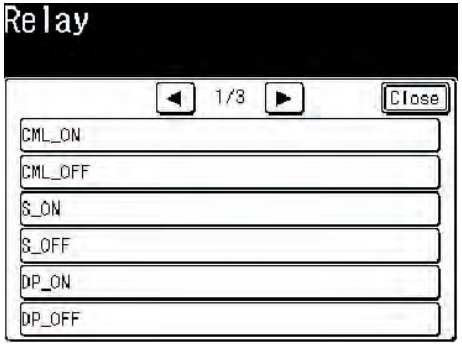


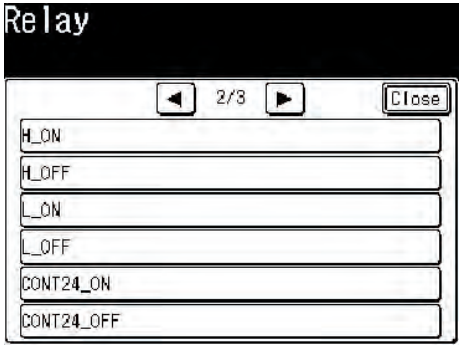
5.8.10.1 Relay test

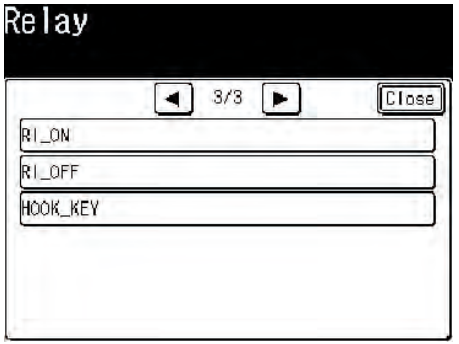
Implements the relay ON/OFF test.

5.8.10.1.1 Relay test procedure

Press the [Relay] button on the "Line Test” screen. The following screen is displayed







Select the desired relay that is going to receive the ON/OFF test.

When the [Close] button is pressed, the screen returns to the “Line Test” screen.

When the [Reset] key is pressed, screen returns to the top screen of the service menu.

5.8.10.2 Tonal send test

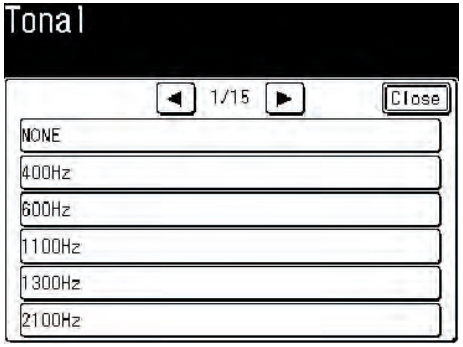
The tonal signal and image data as shown in the following table are sent for the test.

Contents	
NONE	V34_2800_7200
400HZ	V34_2800_9600
600HZ	V34_2800_12000
1100HZ	V34_2800_14400
1300HZ	V34_2800_16800
2100HZ	V34_2800_19200
3000HZ	V34_2800_21600
3400HZ	V34_2800_24000
FSK_WHITE	V34_2800_26400
FSK_BLACK	V34_3000_4800
FSK_W1_B1	V34_3000_7200
V27_1200_2400	V34_3000_9600
V27_1600_4800	V34_3000_12000
V29_2400_7200	V34_3000_14400
V29_2400_9600	V34_3000_16800
V17_2400_7200_W1_B0	V34_3000_19200
V17_2400_7200_W1_B1	V34_3000_21600
V17_2400_7200_W1_B4	V34_3000_24000
V17_2400_7200_W0_B1	V34_3000_26400
V17_2400_7200_W4_B1	V34_3000_28800
V17_2400_9600_W1_B0	V34_3200_4800
V17_2400_9600_W1_B1	V34_3200_7200
V17_2400_9600_W1_B4	V34_3200_9600
V17_2400_9600_W0_B1	V34_3200_12000
V17_2400_9600_W4_B1	V34_3200_14400
V17_2400_12000_W1_B0	V34_3200_16800
V17_2400_12000_W1_B1	V34_3200_19200
V17_2400_12000_W1_B4	V34_3200_21600
V17_2400_12000_W0_B1	V34_3200_24000
V17_2400_12000_W4_B1	V34_3200_26400

Contents	
V17_2400_14400_W1_B0	V34_3200_28800
V17_2400_14400_W1_B1	V34_3200_31200
V17_2400_14400_W1_B4	V34_3429_4800
V17_2400_14400_W0_B1	V34_3429_7200
V17_2400_14400_W4_B1	V34_3429_9600
V34_2400_2400	V34_3429_12000
V34_2400_4800	V34_3429_14400
V34_2400_7200	V34_3429_16800
V34_2400_9600	V34_3429_19200
V34_2400_12000	V34_3429_21600
V34_2400_14400	V34_3429_24000
V34_2400_16800	V34_3429_26400
V34_2400_19200	V34_3429_28800
V34_2400_21600	V34_3429_31200
V34_2800_4800	V34_3429_33600

5.8.10.2.1 Tonal test procedure

Press the [Tonal] button on the "Line Test" screen. The following screen is displayed.



Select a signal to test.

When the [Stop] key is pressed, signal send is interrupted.

When the [Close] button is pressed, the screen returns to the “Line test” screen.

When the [Reset] key is pressed, screen returns to the top screen of the service menu.

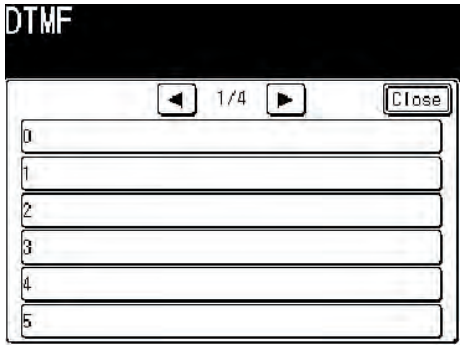
5.8.10.3 DTMF test

Signals of the frequencies that are used by the push-button telephone and shown in the following table can be selected for the send test.

Select	Contents
0	DTMF0 (941.Hz + 1336Hz) send
1	DTMF1 (697.Hz + 1209 Hz) send
2	DTMF2 (697 Hz + 1336 Hz) send
3	DTMF3 (697 Hz + 1477 Hz) send
4	DTMF4 (770 Hz + 1209 Hz) send
5	DTMF5 (770 Hz + 1336 Hz) send
6	DTMF6 (770 Hz + 1477 Hz) send
7	DTMF7 (852 Hz + 1209 Hz) send
8	DTMF8 (852 Hz + 1336 Hz) send
ROW1	ROW1(697 Hz) send
ROW2	ROW2(770 Hz) send
ROW3	ROW3 (852 Hz) send
ROW4	ROW4 (941 Hz) send
COL1	COL1 (1209 Hz) send
COL2	COL2 (1336 Hz) send
COL3	COL3 (1447 Hz) send
COL4	COL4 (1633 Hz) send

5.8.10.3.1 DTMF test procedure

Press the [DTMF] button on the "Line Test" screen. The following screen is displayed.



Select a frequency to send.

When the [Stop] key is pressed, signal send is interrupted.

When the [Close] button is pressed, the screen returns to the “Line test” screen.

When the [Reset] key is pressed, screen returns to the top screen of the service menu.

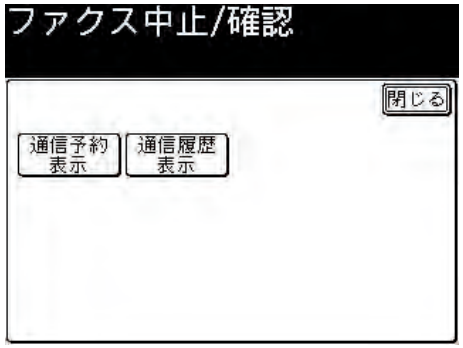
5.9 T30 monitor print

This is the function to print the communication protocol of fax communication .

Procedure of T30 monitor print is described below.

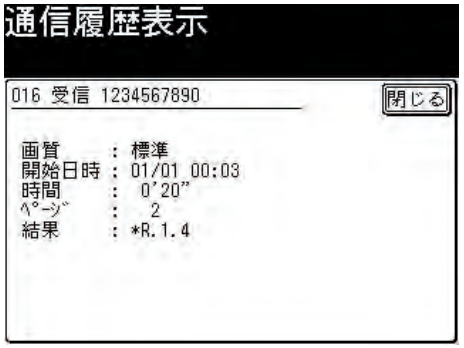
5.9.1 T30 monitor print procedure

When the [FAX Job VIEW/CANCEL] key is pressed on the standby screen, the “FAX JOB VIEW/CANCEL” screen is displayed.

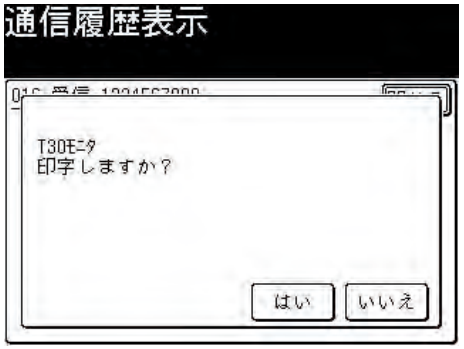


Press the [Show History] button to display the communication history

When a report (example: “016 receive 1234567890”) is selected to display the communication history, history of the selected communication is displayed.



When the ten keys are pressed in the order of [*] → [0] → [5] on the communication history display screen, the T30 print check screen is displayed.



When the [Yes] button is pressed, the fax communication protocol dump of the deselected communication control number (example: “016 receive 1234567890”) is printed.

5.10 Printer maintenance

5.10.1 Personality

Default setting of the PDL language that is supported by the respective destination specification can be changed.

The PDL language that has been set to" Disable" by the PDL setting item will not be displayed as the choices on the following menu: [SETUP]- [Admin Setup] - [Print Setup] .

At the same time, when the print data of the PDL language that has been set to "Disable" is received, a message ""Invalid data is received" is displayed and the received data is discarded.

5.10.1.1 IBM 5577

Value	Default	Display condition
Disable Enable	Disable	None

Set whether or not to support IBM 5577.

When the screen exits the service menu after this setting is changed, the MC860 reboots automatically.

5.10.1.2 IBM PPR III XL

Value	Default	Display condition
Disable Enable	Enable	None

Set whether or not to support IBM PPR III XL.

When the screen exits the service menu after this setting is changed, the MC860 reboots automatically.

5.10.1.3 EPSON FX

Value	Default	Display condition
Disable Enable	Enable	None

Set whether or not to support EPSON FX.

When the screen exits the service menu after this setting is changed, the MC860 reboots automatically.

5.10.1.4 HP-GL/2

Value	Default	Display condition
Disable Enable	Disable	None

Set whether or not to support HP-GL/2.

When the screen exits the service menu after this setting is changed, the MC860 reboots automatically.

5.10.2 Peak Power Control

Value	Default	Display condition
Normal Low	Normal	None

Set whether or not to support the low peak power control . When the screen exits the service menu after this setting is changed, the MFP reboots automatically.

5.10.3 Engine Diag Mode (Self-diagnostic)

Screen enters the engine maintenance mode of MFP.

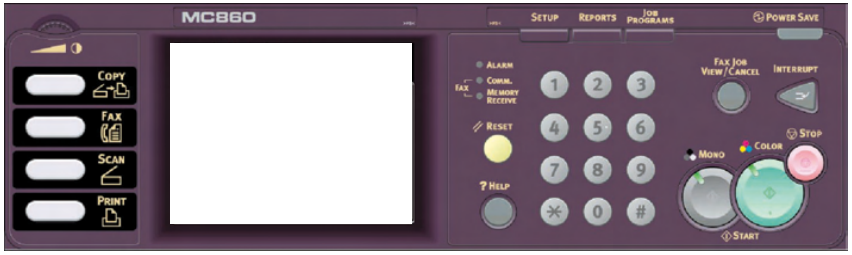
The information to be displayed on this screen after this item has been selected, is created by the CU side.

Key operation information on panel is notified from CU so that the display information is created based on the received information and is sent to the panel.

Panel displays the received display information

5.10.3.1 Operator panel

Operation description on the self-diagnostic is displayed on the premise that the control panel has been arranged as described below.



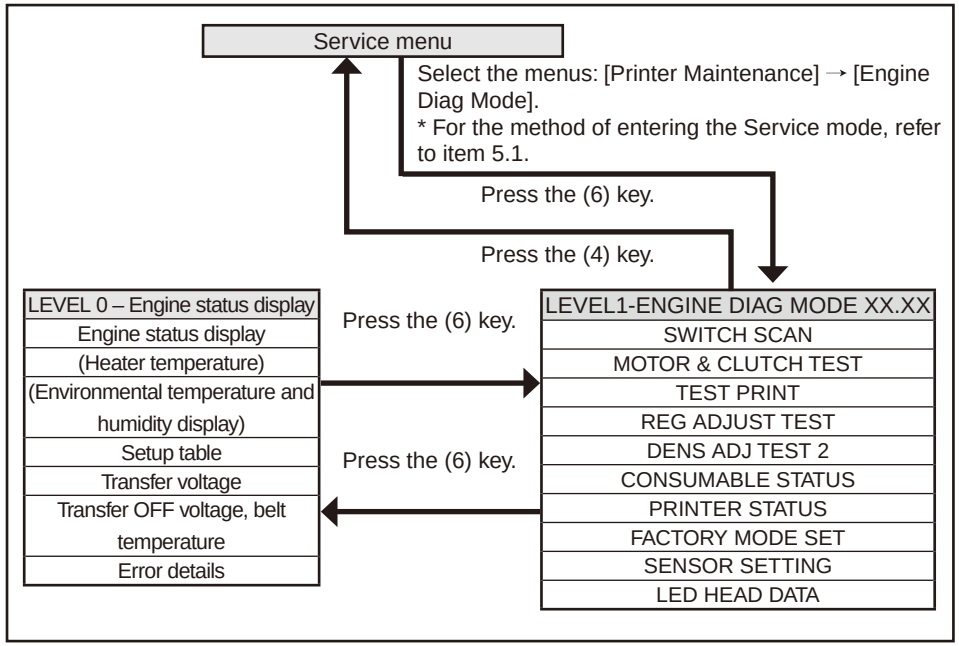
Self-diagnostic mode layout (entire)

(1) Entering into the menu item.

XXXXX
XXXXX

Moving to another level is possible only when the level is displaying the XXXXX message.

Moving to XXXXX is executed by pressing the (2) key or (8) key.

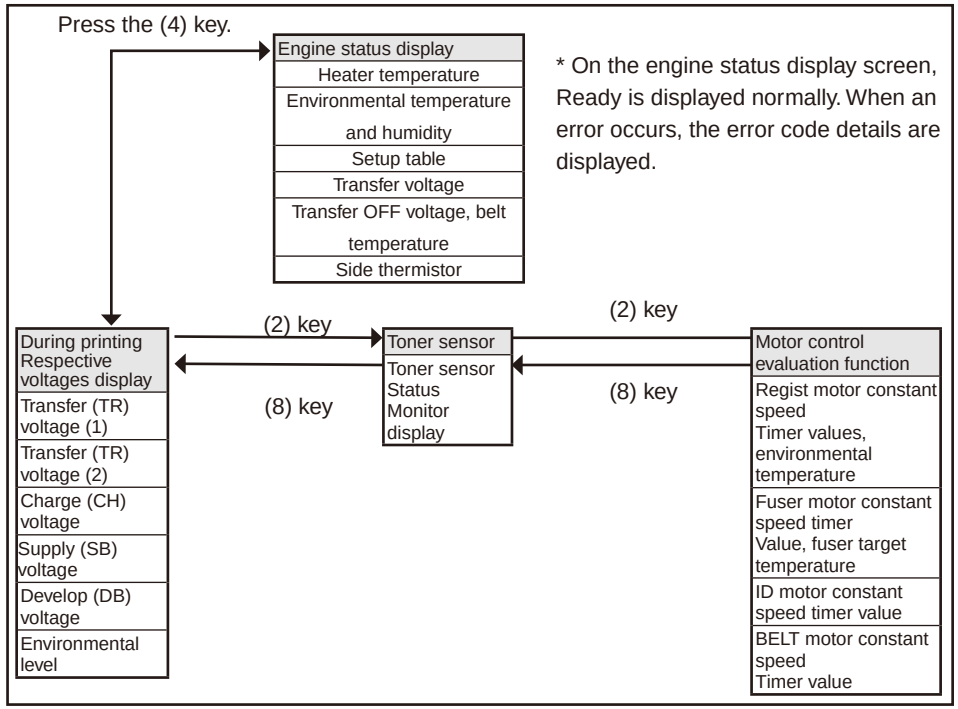


LEVEL0

(1) Entering into the menu item.

XXXX Moving to XXXXX is executed by pressing the (2) key or (8) key. Item selection is executed by (6) key.

XXXX Moving to XXXXX is executed by pressing the (6) key or (4) key. Item selection after movement is executed by the (2) key or (8) key.



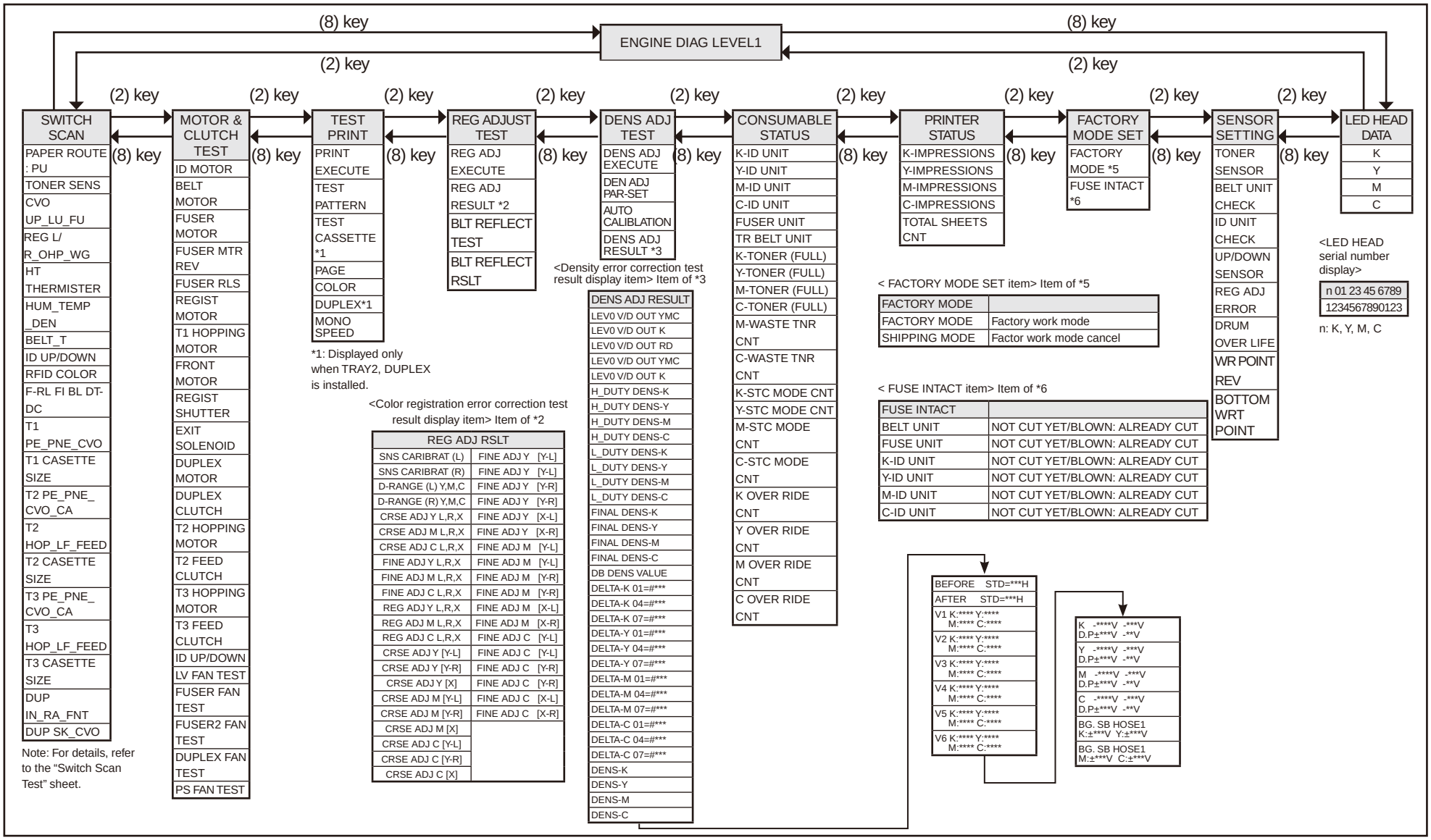
LEVEL1

(1) Entering into the menu item.

XXXXX Moving to XXXXX is executed by pressing the (2) key or (8) key.

XXXXX Moving to XXXXX is executed by pressing the (6) key or (4) key. Item selection after movement is executed by the (2) key or the (8) key.

Press the (6) key to execute test, and exit the test by pressing the (4) key.



5.10.3.2 Normal self-diagnostic mode (Level 1)

Menus that are contained in the normal self-diagnostic mode are shown below.

	Item	Self-diagnostic menu	Adjustment contents	Maintenance utilities
1	Switch scan test	SWITCH SCAN	Input sensor and switch check	No.23
2	Motor clutch test	MOTOR&CLTCH TEST	Motor and clutch operational test	No.24
3	Executing test print	TEST PRINT	PU internal test pattern print	Use of this menu item is prohibited.
4	Color registration correction test	REG ADJUST TEST	Color registration error correction system, normal or defective	No.25
5	Density correction test	DENS ADJ TEST	Density error correction system, normal or defective	Use of this menu item is prohibited.
6	Consumable item counter display	CONSUMABLE STATUS	Consumable items, consumption status display	No.28
7	Consumable item accumulative counter display	PRINTER STATUS	Consumable items, accumulative consumption status display	No.28
8	Factory/Shipping mode switching	FACTORY MODE SET	Factory mode or Shipping mode switching	No.29
9	FUSE status check		Status display of respective fuses	Use of this menu item is prohibited.
10	Engine parameter setting	SENSOR SETTING	Sets valid or invalid of error detection using various sensors	No.30
11	LED head serial number display	LED HEAD DATA	Display of LED head serial number	Use of this menu item is prohibited.

5.10.3.2.1 How to enter self-diagnostic mode (Level 1)

Note! To enter the system maintenance menu mode, entry of password is required. Refer to table 5-1.

1. From the service menu, select [Printer Maintenance] and [Engine Diag Mode] to enter the self-diagnostic mode.
2. When the screen enters the self-diagnostic mode (Level 1), the "DIAGNOSTIC MODE" is displayed.

```
DIAGNOSTICMODE
XX.XX.XX  S-MODE/F-MODE
```

3. The characters XX XX XX of “DIAGNOSTIC MODE XX XX XX” that are displayed on the display window means the PU firmware version. Setting value of the FACTORY WORKING MODE is displayed in the lower right of the screen. Normally, “SHIPPING” - S-MODE is displayed.
4. Press either (2) key or (8) key to move to the respective self-diagnostic items. (Menu item rotates when either (2) key or (8) key is pressed.)

5.10.3.2.2 How to exit self-diagnostic mode

1. While the [DIAGNOSTIC MODE] display is shown on the screen, press the (4) key to return to the service menu.

5.10.3.3 Switch scan test

This self-diagnostic menu is used to check the input sensor and switch.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key and (8) key until "SWITCH SCAN" is displayed in the top of the screen. Then, press the (6) key. (The (2) key increments the test item and (8) key decrements the test item.)

SWITCH SCAN

2. Press the (2) key or the (8) key until the item that corresponds to the unit which is going to be tested is displayed in the bottom of the screen. (The (2) key increments the item and (8) key decrements the item.)
3. When the (8) key is pressed, the test is started. The corresponding unit name and current status are displayed.

PAPER ROTE:PU
1=H 2=L 3=H 4=L

   Operate the respective units. (Fig. 5-1) The display is shown on the corresponding LCD screen. (Display is different depending on sensor. For details, refer to Table 5-3.)

4. When the (#) key is pressed, screen returns to the item 2 status.
5. Repeat items 2 to 4 as required.
6. To exit the test, press the (4) key. (Screen returns to the item 2 condition.)

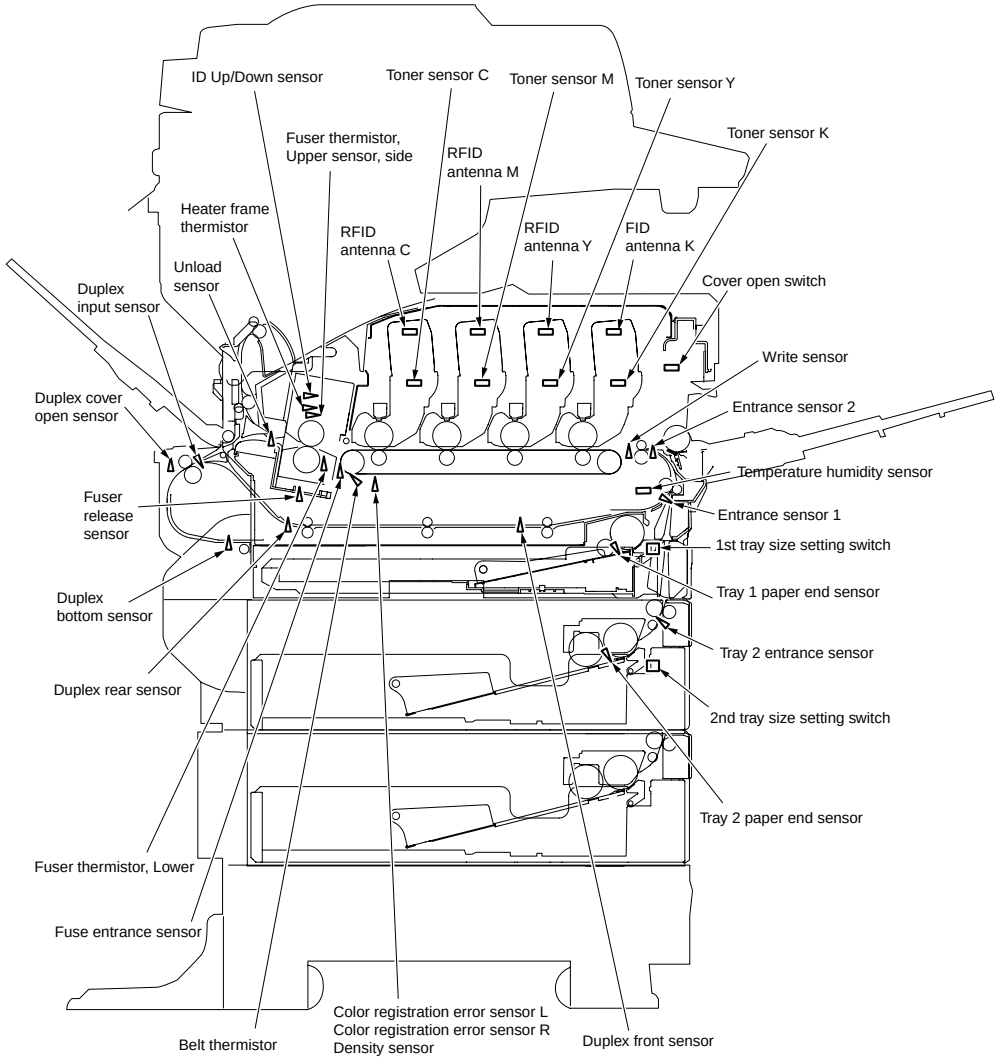


Fig. 5-1 Switches and sensors locations

Table 5-3 SWITCH SCAN details

<No function> Asterisk (*) is displayed in the lower column of display window.

*1 L is displayed as [RFID COLOR L] when the cover is opened. Asterisk (*) is displayed in the lower column of display window.

*2 Refer to 7.7 Paper cassette switches versus Paper size correspondence table. Switch numbers for each size starts from left-most end with 1.

Upper column of display window	1		2		3		4	
	Details	Lower column of display window	Details	Lower column of display window	Details	Lower column of display window	Details	Lower column of display window
PAPER ROUTE : PU	Entrance sensor 1	H: Paper absent L: Paper present	Entrance sensor 2	H: Paper absent L: Paper present	Write sensor	H: Paper absent L: Paper present	Unload sensor	H: Paper absent L: Paper present
TONER SENS	Toner sensor K	H: Light interrupt L: Reflect	Toner sensor Y	H: Light interrupt L: Reflect	Toner sensor M	H: Light interrupt L: Reflect	Toner sensor C	H: Light interrupt L: Reflect
CVO UP_LU_FU	Cover open switch	H: Close L: Open						
REG L/R_OHP_WG	Color registration error sensor L	AD value: ***H	Color registration error sensor R	AD value: ***H				
HT THERMISTER	Fuser thermistor, Upper sensor	AD value: ***H	Fuser thermistor, Lower	AD value: ***H	Fuser thermistor, Upper sensor, side	AD value: ***H	Heater frame thermistor	AD value: ***H
HUM_TEMP_DEN	Humidity sensor	AD value: ***H	Temperature sensor	AD value: ***H	Density sensor (K)	AD value: ***H	Density sensor (YMC)	AD value: ***H
BELT_T	Belt thermistor	AD value: ***H						
ID UP/DOWN							Up Down sensor	H: Up L: Down
RFID COLOR*1	FID antenna K	UID: ***H	RFID antenna Y	UID: ***H	RFID antenna M	UID: ***H	RFID antenna C	UID: ***H
F-RL FI BL DT-DC	Fuser release sensor	H: ON L: OFF	Fuse entrance sensor					
T1 PE_PNE_CVO	Tray 1 paper end sensor	H: Paper absent L: Paper present						
T1 CASETTE SIZE*2	Size setting switch 1	Port level H, L	Size setting switch 2	Port level H, L	Size setting switch 3	Port level H, L	Size setting switch 4	Port level H, L
T2 PE_PNE_CVO_CA	Tray 2 paper end sensor	H: Paper absent L: Paper present						
T2 HOP_LF_FED					Tray 2 entrance sensor	H: Paper absent L: Paper present		
T2 CASETTE SIZE*2	Size setting switch 1	Port level H, L	Size setting switch 2	Port level H, L	Size setting switch 3	Port level H, L	Size setting switch 4	Port level H, L
T3 PE_PNE_CVO_CA	Tray 3 paper end sensor	H: Paper absent L: Paper present						
T3 HOP_LF_FED					Tray 3 entrance sensor	H: Paper absent L: Paper present		
T3 CASETTE SIZE*2	Size setting switch 1	Port level H, L	Size setting switch 2	Port level H, L	Size setting switch 3	Port level H, L	Size setting switch 4	Port level H, L
DUP IN_RA_FNT	Duplex input sensor	H: Paper absent L: Paper present	Duplex rear sensor	H: Paper absent L: Paper present	Duplex front sensor	H: Paper absent L: Paper present		
DUP SK_CVO	Duplex bottom sensor	H: Paper absent L: Paper present	Duplex cover sensor	H: Close L: Open				

5.10.3.4 Motor, clutch test

This self-diagnostic menu is used to test the motor and clutch.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key or (8) key until [MOTOR & CLUTCH TEST] is displayed in the top of the screen. Then, press the (6) key. (The (2) key increments the test item and (8) key decrements the test item.)
2. Press the (2) key or the (8) key until the item that corresponds to the unit which is going to be tested is displayed in the bottom of the screen. (The (2) key increments the item and (8) key decrements the item.)

MOTOR & CLUTCH TEST
ID MOTOR

3. When the (6) key is pressed, the test is started. The unit name starts blinking and the corresponding unit runs for 10 seconds. (Refer to Fig. 5-2.)

Note ! After running for 10 seconds, screen returns to the item 2 state. When the corresponding switch is pressed, the test program re-starts.

- The clutch solenoid repeats ON and OFF during the normal print job. (For the model in which the independent drive is not possible due to mechanism structure, the motor runs at the same time.) *"ID UP/DOWN" continues running until the (#) key is pressed.
- When the desired motor is selected and the [ENTER] key is pressed for an extended time (2 seconds), it keeps running.

4. When the (#) key is pressed, the corresponding unit stops running. (The corresponding unit is kept displayed on the screen.)
5. Repeat items 2 to 4 as required.
6. When the (4) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

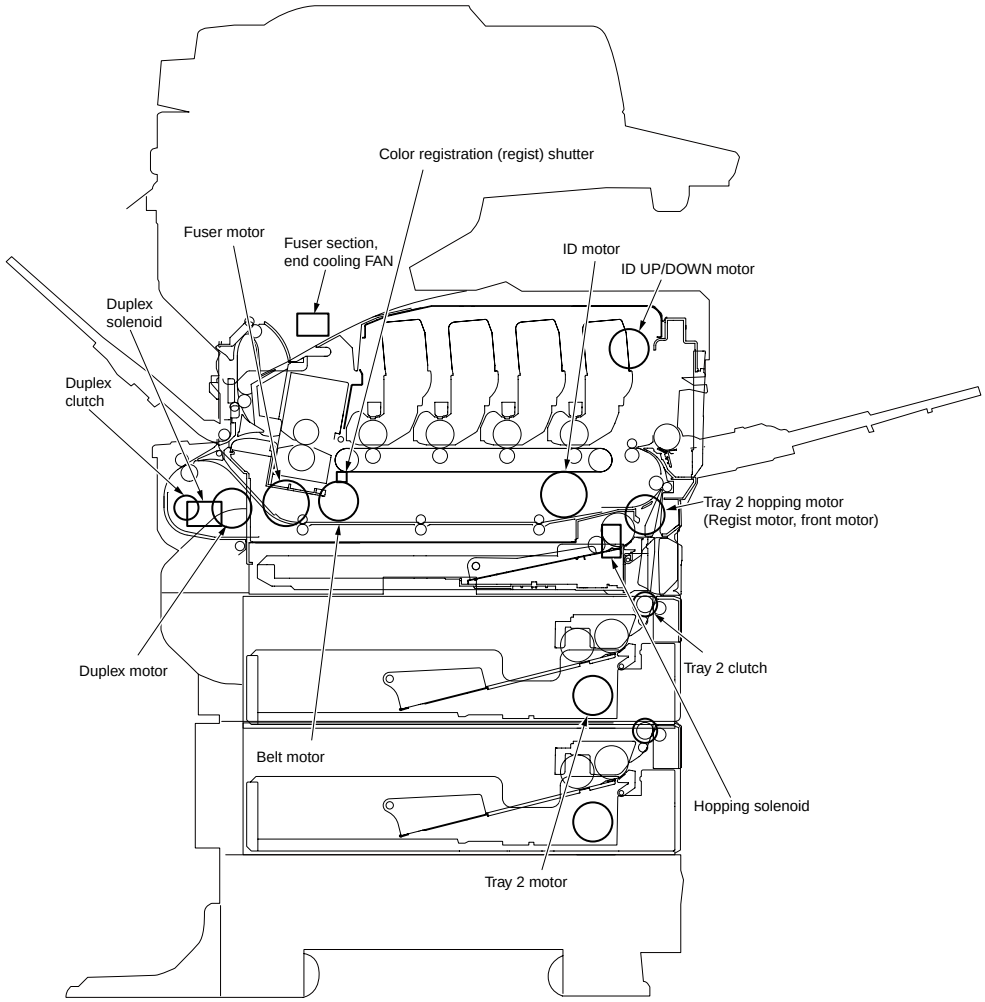


Fig. 5-2

Table 5-4

Unit name display	Drive restriction conditions	Remarks
ID MOTOR	Drives when all of the IDs (K/Y/M/C) are removed.	−
BELT MOTOR	Drives when all of the IDs (K/Y/M/C) are removed.	−
FUSER MOTOR	−	−
FUSER MTR REV	−	−
FUSER_RLS	−	−
REGIST MOTOR	−	−
T1 HOPPING MOTOR	−	−
FRONT MOTOR	−	−
REGIST SHUTTER	−	−
EXIT SOLENOID	−	−
DUPLEX MOTOR	−	−
DUPLEX CLUTCH	−	−
T2 HOPPING MOTOR	−	OPTION
T2 FEED CLUTCH	−	OPTION
T3 HOPPING MOTOR	−	OPTION
T3 FEED CLUTCH	−	OPTION
ID UP/DOWN	TOP/FRONT covers, closed condition	−
LV FAN TEST	−	−
FUSER FAN TEST	−	−
FUSER2 FAN TEST	−	−
DUPLEX FAN TEST	−	OPTION
PS FAN TEST	−	−

Note! Display while the ID UP/DOWN is in progress.

```
MOTOR & CLUTCH TEST
ID UP/DOWN      ***
```

***: Number of times of execution

5.10.3.5 Test print

This self-diagnostic menu is used to print the test pattern contained in the PU. Other test patterns are contained in the controller

This test print cannot be used to check the print quality.

To diagnose the abnormal image, refer to item 7.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key or (8) key until [TEST PRINT] is displayed in the top of the screen. Then, press the (6) key. (The (2) key increments the test item and (8) key decrements the test item.)

2. The setting items that are applicable to the test print only are displayed in the lower column of display window. Press the (2) key or the (8) key until the corresponding item is displayed. Then, press the (6) key. (The (2) key increments the item and (8) key decrements the item.) (When the setting value for each item is not required [Default setting], advance to item 2.)

3. Keep pressing the (2) key or the (8) key, and press the (6) key at the item that is set in item 2. The setup item is displayed in the upper column, and the setting value is displayed in the lower column of the display window. Pressing the (2) key increments the setting value. Pressing the (8) key decrements the setting value. (The setting value that is displayed last is applied.) Pressing the (4) key determines the setting value, and the screen returns to item 2.) Repeat item 3 as required.

TEST PATTERN
1

Display	Setup value	Function
PRINT EXECUTE	–	Pressing the (4) key starts printing/Pressing the (#) key ends printing (in page unit).
TEST PATTERN	0	0 White paper print 1 to 7 Refer to next page. (Pattern print) 8 to 15 White paper print
TEST CASSETTE	TRAY1	Select the paper feed source. If TRAY2 is not installed, TRAY2 is not displayed.
	TRAY2	
	MFP	
PAGE	0000	Setting the number of test prints.
COLOR	ON	Selecting color or monochrome print. * ON is specified, ON/OFF setting for each color appears.
	OFF	
DUPLEX	2 PAGES STACK	Duplex print is executed with two sheets stack. Duplex print OFF select Duplex print is executed with single sheet stack.
	OFF	
	1PAGES STACK	
MONO SPEED	LOW	Selecting monochrome print speed. LOW: 30ppm HIGH: 34ppm(A4),33ppm(Letter)
	HIGH	

- ☐ is the initial value. The set item is valid in this test mode only. (It is not saved in EEPROM.)

Note!

PAGE setting …… Pressing the (2) key or the (8) key shifts the digit. When the (✱) key is pressed, the setting value increments. Pressing the # key decrements the setting value. If test print is executed with the print number setting “0000”, print will continue infinitely. Be careful not to set “0000”.

COLOR setting …… When the (6) key is pressed while set to ON, the following contents are displayed on the panel screen.

Print setting of each color…… Pressing the (2) key or the (8) key shifts the value.
Pressing the (✱) key or the (#) key enables operator to switch between ON and OFF setting.
Pressing the (4) key returns the screen to operator panel display.

COLOR ON	→	Y:ON M:ON C:ON K:ON

4. When the (6) key is pressed while “PRINT EXECUTE” is being displayed in the lower column of display window, the test print is executed with the setting values that are set in items 2 and3.

   Pressing the (#) key stops the test print

   If any of the following alarms is detected while the test print is in progress or during test print startup, it is displayed on the panel and the test print is interrupted. (For error details, refer to item 5.12.1.14 Panel display details.) For the PU test print, different comment is displayed.)

Panel display	Details
PAPER END SELECTED TRAY	Paper absent
DUPLEX UNIT IS NOT INSTALLED	DUPLEX not installed.
SELECTED TRAY IS NOT INSTALLED	Selected tray installed.
REMOVE PAPER OUT OF DUPLEX	DUPLEX internal error

Print pattern. (It cannot be used for print quality check = PQ.)

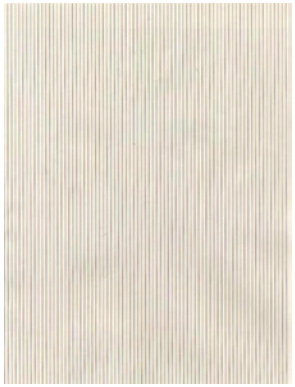
0, 8 to 15 ------ White paper print

Pattern 1

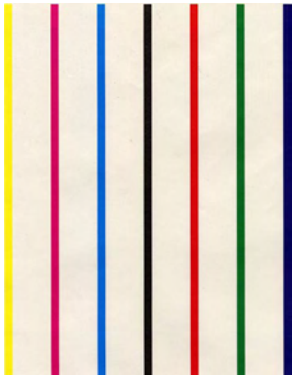
Pattern 2

Pattern 3

Pattern 4



Pattern 5



Pattern 6

Pattern 7

Note! If the solid print data (pattern 7) that is contained in the local print function is used for test print with 100% setting of each color, it causes offset. To prevent offset, select the print setting of each color so that the number of colors to be printed at the same time should be limited to 2 colors or less as specified in item 3 of item 5.3.2.5.

- The following messages are displayed during test print.

```
P=***
W=***
```

P Number of test prints (unit: sheet)
W Print wait time (unit: sheet)

- Pressing the (2) key switches the display.

```
T=*** U=***[###]
H=***%L=***[###]
```

U *** = Upper heater temperature measurement value. [unit: °C]
[###] = Print execute target temperature [unit: °C]
L: *** = Lower thermistor measurement value. [unit: °C]
[###] = Lower thermistor read-out AD value [unit: HEX]
T: Environment temperature measurement value [unit: °C] Environment humidity measurement value [unit: %]

- Pressing the (2) key switches the display.

```
KTR=*.** YTR=*.**
MTR=*.** CTR=*.**
```

YTR, MTR, CTR and KTR are the transfer voltage setting value for each color. (unit KV)

- Pressing the (2) key switches the display.

```
KR=*.** YR=*.**
MR=*.** CR=*.**
```

KR: BLACK transfer roller resistance value [unit: µA]

YR: YELLOW transfer roller resistance value [unit: µA]

MR: MAGENTA transfer roller resistance value [unit: µA]

CR: CYAN transfer roller resistance value [unit: µA]

- Pressing the (2) key switches the display.

```
ETMP=***UTMP=***
REG=****EXT=***
```

ETMP: Hopping motor standard speed correction parameter (Environment temperature) [unit: DEC]
UTMP: Fuser motor standard speed correction parameter (Fuser target temperature) [unit: DEC]
REG: Hopping motor standard speed timer value (I/O setting value) [unit: HEX]
EXT: Fuser motor standard speed timer value (I/O setting value) [unit: HEX]

- Pressing the (2) key switches the display.

```
ID=****
```

KID, YID, MID and CID are the standard speed timer value for each ID motor (I/O setting value) [unit: HEX]

- Pressing the (2) key switches the display.

```
BELT=****
FRM [***] ( xxx )
```

BELT: Belt motor standard speed timer value (I/O setting value) [unit: HEX]
FRM: [***] = Frame thermistor read-out AD value [unit: HEX]
(xxx) = Frame temperature [unit: °C]

- Pressing the (2) key switches the display.

```
DB:k**y**m**c**
```

DB: Develop voltage setup table ID number [unit: HEX]

- Pressing the (2) key switches the display.

TR1:k**y**m**c**
TR2:k**y**m**c**

TR1: Transfer voltage parameter VTR1 table ID number [unit: HEX]
TR2: Transfer voltage parameter VTR2 table ID number [unit: HEX]

- Pressing the (2) key switches the display.

TROFF:**
BELT xxx(***)

The message is displayed but does not function.

5. Repeat items 2 to 4 as required.
6. When the (#) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

5.10.3.6 Color registration error correction test

This self-diagnostic menu is used for adjustment and to investigate cause of the color registration error of the MFP.

If any error occurs during the course of the color registration error correction test, resume the normal state by referring to Chapter 2 “Overview of the color registration error correction method ”.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key or (8) key until [TEST PRINT] is displayed in the top of the screen.

REG ADJUST TEST

2. When the (6) key is pressed, the following message is displayed. Press the (2) key or (8) key until the desired item is displayed.

REG ADJUST TEST
REG ADJ EXECUTE

3. When the (6) key is pressed, test of the item that is being displayed on the panel is implemented.

<< When REG ADJ EXECUTE is executed >>

i. The color registration correction test is implemented. (The [ON LINE] lamp blinks.)

ii. When the test is complete, the test result (OK or error name) is displayed in the upper column of the display window and **** RESULT is displayed in the lower column of the display window.

OK
REG ADJ RESULT

When the (2) key is pressed, test results are incremented and displayed in order.

When the (8) key is pressed, test results are decremented and displayed in order.

When the (4) key is pressed, screen returns to the item 2 status.

iii. When the (#) key is pressed while the test in progress, the test is interrupted (the [ON LINE] lamp lights) and screen returns to the item 2 status.

<< REG ADJ RESULT is executed >>

The key operations when When REG ADJ EXECUTE is executed are the same as those of above item ii.

<< When BLT REFLECT TEST is executed >>

i. The color registration error correction belt reflection test is implemented. (The [ON LINE] lamp blinks.)

ii. When the test is complete, the test result (OK or error name) is displayed in the upper column of the display window and **** RESULT is displayed in the lower column of the display window.

OK
BLT REFLECT RSLT

When the (2) key is pressed, test results are incremented and displayed in order.

When the (8) key is pressed, test results are decremented and displayed in order.

When the (4) key is pressed, screen returns to the item 3 status.

iii. When the # key is pressed while the test in progress, the test is interrupted (the [ON LINE] lamp lights) and screen returns to the item 3 status.

<< When BLT REFLECT RSLT is executed >>

The key operations when BLT REFLECT RSLT is executed are the same as those of above item ii.

4. Repeat items 2 and 3 as required.
5. When the (4) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

Color registration correction test items

Display	Details
REG ADJ EXECUTE	Execution of color registration error correction
REG ADJ RESULT	Referring to the result of color registration error correction
BLT REFLECT TEST	Execution of color registration error correction belt reflectance Good/Bad judgment
BLT REFLECT RSLT	Referring to the result of color registration error correction belt reflectance Good/Bad judgment

5.10.3.7 Density error correction test

This self-diagnostic menu is used to test the density error correction function of the MFP.

At the same time, Good or Bad of the density error correction system is judged. If any error occurs during the course of this test, resume the normal state by referring to Chapter 2 “Overview of the density error correction method”.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key or (8) key until [TEST PRINT] is displayed in the top of the screen.

DENS ADJ TEST

2. When the (6) key is pressed, the following message is displayed. Press the (2) key or (8) key until the desired item is displayed.

DENS ADJ TEST
DENS ADJ EXECUTE

3. When the (6) key is pressed, test of the item that is being displayed on the panel is implemented.

<< When DENS ADJ EXECUTE is executed >>

i. The Density error correction test is executed. (The [ON LINE] lamp blinks.)

ii. When the test is complete, the test result (OK or error name) is displayed in the upper column of the display window and **** RESULT is displayed in the lower column of the display window.

OK
DENS ADJ RESULT

When the (2) key is pressed, test results are incremented and displayed in order.

When the (8) key is pressed, test results are decremented and displayed in order.

When the (4) key is pressed, screen returns to the item 2 status.

iii. When the (#) key is pressed while the test in progress, the test is interrupted (the [ON LINE] lamp lights) and screen returns to the item 2 status.

<< When DENS ADJ RESULT is executed >>

The key operations when DENS ADJ EXECUTE is executed are the same as those of above item ii.

<< When DENS ADJ PAR-SET is executed >>

The message is displayed but does not function.

<< AUTO CALIBRATION is executed >>

i. Automatic setting of the density sensor sensitivity correction value is executed. (The [ON LINE] lamp blinks.)

ii. When the test is complete, the test result (OK or error name) is displayed in the upper column of the display window and **** RESULT is displayed in the lower column of the display window.

OK
DENS ADJ RESULT

When the (2) key is pressed, test results are incremented and displayed in order.

When the (8) key is pressed, test results are decremented and displayed in order.

When the (4) key is pressed, screen returns to the item 2 status.

iii. When the (#) key is pressed while the test in progress, the test is interrupted (the [ON LINE] lamp lights) and screen returns to the item 2 status.

4. Repeat item 3 as required.

5. When the (4) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

Density correction test items

Display	Details
DENS ADJ EXECUTE	Execution of density correction
DENS ADJ PAR-SET	The message is displayed but does not function.
DENS ADJ RESULT	Referring to the result of density correction
AUTO CALIBRATION	Automatic setting of density sensor sensitivity correction value

5.10.3.8 Consumable item counter display

This self-diagnostic menu is used to display the consumption status of the consumable items.

1. Enter the self-diagnostic mode and press the (2) key or (8) key until [CONSUMABLE STATUS] is displayed on the screen. Then, press the (6) key. (The (2) key increments the test item and (8) key decrements the test item.)
2. When the (2) key or (8) key is pressed, consumption status of the consumable items are displayed in order. (Pressing the (*) key or the (#) key is invalid.)
3. When the (4) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

Upper column of display window	Lower column of display window	Format	Unit	Details
K-ID UNIT	********IMAGES	DEC	Images	Number of rotations up to the present time since the new ID UNIT for each color has been installed is displayed after the data is converted to the equivalent value of A4, 3Page/ Job.
Y-ID UNIT	********IMAGES	DEC	Images	
M-ID UNIT	********IMAGES	DEC	Images	
C-ID UNIT	********IMAGES	DEC	Images	
FUSER UNIT	********PRINTS	DEC	Prints	Number of sheets up to the present time since the new FUSER unit has been installed.
TR BELT UNIT	********IMAGES	DEC	Images	Number of sheets up to the present time since the new Belt UNIT has been installed.
K-TONER (FULL)	********%	DEC	%	Amount of consumption of the respective color toners are displayed.
Y-TONER (FULL)	********%	DEC	%	
M-TONER (FULL)	********%	DEC	%	
C-TONER (FULL)	********%	DEC	%	
M-WASTE TNR CNT	********TIMES	DEC	Times	Amount of waste toner is displayed. * When it reaches 32 times, the Waste toner FULL is issued.
C-WASTE TNR CNT	********TIMES	DEC	Times	
K-STC MODE CNT	********TIMES	DEC	Times	Number of printed character dot counts for the respective toners are displayed. (Accumulative value since the MFP has started running.)
Y-STC MODE CNT	********TIMES	DEC	Times	
M-STC MODE CNT	********TIMES	DEC	Times	
C-STC MODE CNT	********TIMES	DEC	Times	
K OVER RIDE CNT	********TIMES	DEC	Times	Accumulative number of times of the toner cartridges for respective colors are displayed.
Y OVER RIDE CNT	********TIMES	DEC	Times	
M OVER RIDE CNT	********TIMES	DEC	Times	
C OVER RIDE CNT	********TIMES	DEC	Times	

5.10.3.9 Printed sheets counter display

This self-diagnostic menu is used to display the number of printed sheets status of the MFP.

1. Enter the self-diagnostic mode and press the (2) key or (8) key until [PRINTER STATUS] is displayed on the screen. Then, press the (6) key. (The (2) key increments the item and (8) key decrements the item.)
2. When the (2) key or (8) key is pressed, number of printed sheets status are displayed in order. (Pressing the (*) key or the (#) key is invalid.)
3. When the (4) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

Upper column of display window	Lower column of display window	Format	Unit	Details
K-IMPRESSIONS	********IMAGES	DEC	Images	Number of printed sheets for each color are displayed.
Y-IMPRESSIONS	********IMAGES	DEC	Images	
M-IMPRESSIONS	********IMAGES	DEC	Images	
C-IMPRESSIONS	********IMAGES	DEC	Images	
TOTAL SHEET CNT	********COUNTS	DEC	Prints	Total number of printed sheets are displayed.

5.10.3.10 Factory/Shipping mode switching

This self-diagnostic menu is used to switch the PU PCB from the Factor mode to the Shipping mode.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key or (8) key until the following message is displayed.

```
FACTORY MODE SET
```

2. When the (6) key is pressed, the following message is displayed. Press the (2) key or (8) key until the desired item (refer to the table below) is displayed.

```
FACTORY MODE
SHIPPING MODE        *
```

3. While desired item to set is being displayed, press the (6) key to enable operator to select the setting value.
4. While desired item to set is being displayed, press the (6) key for an extended time (3 seconds) to register the display value in EEPROM. Screen returns to the item 2 condition.
5. Repeat items 2 and 3 as required.
6. When the (4) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

Upper column of display window	Lower column of display window	Function
FACTORY MODE	FACTORY MODE	Sets up the Factory work mode (fuse cut disabled mode).
	SHIPPING MODE	Cancels the Factory work mode and enables the fuse cut function.
FUSE INTACT Note: ****** indicates INTACT or BLOWN.	BELT UNIT ******	Checks the FUSE status of the transfer belt unit.
	FUSE UNIT ******	Checks the FUSE status of the fuser.
	K-ID UNIT ******	Checks the FUSE status of the K-ID unit.
	Y-ID UNIT ******	Checks the FUSE status of the Y-ID unit.
	M-ID UNIT ******	Checks the FUSE status of the M-ID unit.
	C-ID UNIT ******	Checks the FUSE status of the C-ID unit.

5.10.3.11 Self-diagnostic function setting

This self-diagnostic menu is used to set Enable or Disable of error detections using various sensors.

This menu enables operator to Disable or Enable the error detection temporarily. However, this setting requires the specialized knowledge among the handlings of the print engine operation, be very careful to disable the error detection.

When use of this menu comes to the end, be sure to return the setting values to the default values.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key or (8) key until the following message is displayed.

SENSOR SETTING

2. When the (6) key is pressed, the following message is displayed. Press the (2) key or (8) key until the desired item (refer to the table below) is displayed.

TONER SENSOR
ENABLE *

3. When the (6) key is pressed, the setting values that are shown in the lower column of the display window become selectable.

   Pressing the (2) key increments the setting value.

   Pressing the (8) key decrements the setting value.

4. While the desired item to set is being displayed, press the (6) key for an extended time (3 seconds) to register the displayed value in EEPROM. Screen returns to the item 2 condition.

5. Repeat items 2 and 3 as required.

6. Press the (4) key (excluding the condition of item 4) to exit the menu. (Screen returns to the item 1 condition.)

Display	Setting value	Operation	Function
TONER SENSOR	ENABLE	To detect	Sets Enable/Disable of the toner sensor operation
	DISABLE	Not to detect	
BELT UNIT CHECK	ENABLE	To check	Sets Enable/Disable of the belt installation check job.
	DISABLE	Not to check	
ID UNIT CHECK	ENABLE	To check	Sets Enable/Disable of the ID installation check job.
	DISABLE	Not to check	
UP/DOWN SENSOR	ENABLE	To detect	Sets Enable/Disable of the ID UP/DOWN sensor operation
	DISABLE	Not to detect	
REG ADJUST ERROR	ENABLE	To stop	Sets Enable/Disable of the error stop caused by the color registration error detected value.
	DISABLE	Not to stop	
DRUM OVER LIFE	STOP	To prolong life	To prolong or not to prolong the drum life when it reaches the lifetime.
	CONTINUANCE	Not to prolong life	

Hatched portion: Indicates the default setting.

5.10.3.12 LED head serial number display

This self-diagnostic menu is used to check whether or not the LED head downloaded data matches the serial number of the actual LED head.

1. Enter the self-diagnostic mode (Level 1) and press the (2) key or (8) key until [LED HEAD DATA] is displayed in the top of the screen. Then, press the (6) key. (The (2) key increments the test item and (8) key decrements the test item.)

2. When the (2) key or the (8) key is pressed serial numbers of the K/Y/M/C LED head data are displayed in order.

3. When the (4) key is pressed, the screen exits the test. (Screen returns to the item 1 condition.)

K ** ** ** ****
xxxxxxxxxxxxx

** ** ** **** : Revision number
xxxxxxxxxxxxx : Serial number

5.11 Initialization

Types of initialization that are supported by MC860 are described below.

5.11.1 Initialization by administrator

5.11.1.1 Initialization operation by administrator

The initialization operations that can be performed by administrator are shown below.

Initialization operation	Description
Network default setting	Initializes the setting values of the menu under the [Network Menu] to the default settings. This operation can be executed by selecting the menus: [Admin Setup] - [Network Menu]- [Network Setup]- [Factry Default]. Execute this item only when the network settings are needed to be returned to the default values once for resetting because the normal network connection cannot be established.
HDD initialization (All area formatting)	Divide partitions and initialize the respective partitions to return the HDD to the default condition when shipped from the factory. This item can be operated only when hard disk is connected. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [HDD Setup] - [Initialize]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the MC860 is rebooted automatically and the HDD is formatted. When [No] is selected, screen returns to the original menu.
HDD formatting (Common partition)	Formats the common partition. This item can be operated only when hard disk is connected. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [HDD Setup] - [Format Partition]- [Common]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the MC860 is rebooted automatically and the partition is formatted. When [No] is selected, screen returns to the original menu.
HDD formatting (PCL partition)	Formats the PCL partition. This item can be operated only when hard disk is connected. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [HDD Setup] - [Format Partition] - [PCL]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the MC860 is rebooted automatically and the partition is formatted. When [No] is selected, screen returns to the original menu.
HDD formatting (PS partition)	Formats the PS partition. This item can be operated only when hard disk is connected. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [HDD Setup] - [Format Partition] - [PS]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the MC860 is rebooted automatically and the partition is formatted. When [No] is selected, screen returns to the original menu.
HDD data complete erase	This is the function to erase completely (executed by the DOD 5220222-M sanitizing system) all data that are stored in a HDD in the manner that they cannot be recovered. This function aims at complete erasure of the print data and individual's data remaining in HDD before the equipment is discarded or returned. This item can be operated only when hard disk is connected. Also, this menu cannot be executed when the MC860 is operated on the chargeable basis. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [Storage Maint Setup] - [HDD Erase]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the screen exits this menu and the MC860 reboots immediately. After rebooting, the initialization process starts. When [No] is selected, screen returns to the original menu. This function is executed with the aim that leakage of information of individuals should be prevented before user discards the MC860. Execute this menu together with [Erasure Privacy Data]. Also, execute this menu before discarding HDD in the case when HDD is replaced.

Initialization operation	Description
FLASH initialization	Initializes the resident Flash memory. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [Flash Memory Setup] - [Initialize]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the MC860 reboots automatically and Flash memory formatting is executed. When [No] is selected, screen returns to the original menu.
Language initialization	Initializes the downloaded message file. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [Language Maint Setup] - [Initialize]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the screen exits this menu and the MC860 reboots immediately. After rebooting, the erase process starts. When [No] is selected, screen returns to the original menu. This menu is executed when user wants to delete the downloaded language data of various countries once to return the MC860 to the English language display.
Setup value initialization	Initializes the MC860 setups. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [Reset Settings]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the screen exits this menu and the MFP reboots immediately. After rebooting, the initialization process starts. When [No] is selected, screen returns to the original menu. This item is executed when an MC860 operation is unstable so that the MC860 settings (including the network setups) should be returned to the default setups once and should be re-set.

Initialization operation	Description
Private information deletion	This item erases private information stored in an MC860 in the case when compete erase of individual information is required, or when MC860 is going to be discarded, or when user of an MC860 is going to be changed. Also, this menu cannot be executed when the MC860 is operated on the chargeable basis. This operation can be executed by selecting the menus: [Admin Setup] - [User Install] - [Erase Privacy Data]. When this item is selected, a confirmation screen is displayed. When [Yes] is selected, the confirmation screen is displayed again, When [Yes] is selected, screen exits this menu and the MC860 reboots immediately. After rebooting, the initialization process starts. When [No] is selected, screen returns to the original menu. This function is executed with the aim that leakage of information of individuals should be prevented before user discards the MC860. Execute this menu together with [HDD Erase]. Note that the counter does not contain individual information, it is not initialized.
Group counter – Reset	Clears the group counter. This operation can be executed by selecting the menus: [SETUP] - [Print tabulation] - [Group counter reset]. This item is executed when an MC860 is operated on the lease basis, and when leasing company initializes the usage history of client. The execution password is set by leasing company. * This menu is kept confidential in FCS.
Job log deletion	Erases the job logs that have been accumulated inside an MFP. This operation can be executed by selecting the menus: [Admin Setup] - [Management] - [Job Log Clear]. When this menu is executed, the following confirmation screen is displayed. [Job Log Clear Continuing will clear Job Logs. Would you like to contine?] When [No] is selected, screen returns to the original menu. When [Yes] is selected, screen exits this menu and the MC860 starts full deletion of the system job logs. After deletion is completed, screen returns to the original menu display. This item is executed when user wants to delete only the operation history.

5.11.1.2 Items that can be initialized by administrator

Table on the next page shows the setup items that can be initialized by administrator. Descriptions regarding description in the table are added.

The gray colored items indicate that the data is stored in the CU side.

The white items indicate that the data is stored in the scanner unit side.

The items with the characters “CL” indicate that the registered data will be deleted when this function is executed.

The items with the characters “FR” indicate that the data will be returned to the default setting when this function is executed.

Setup item		Administrator setup											
		Network default setting	HDD initialization (All area formatting)	HDD formatting (Common partition)	HDD formatting (PCL partition)	HDD formatting (PS partition)	HDD data complete erase	FLASH initialization	Language initialization	Setup value initialization	Complete erasure of individual personal information	Group counter – Reset *1	Job log deletion
Registration data	E-mail address registration data										CL		
	Access control information registration data *4						CL				CL		
	Abbrev. dial registration data										CL		
	F-code bulletin board document									CL	CL		
	Profile list										CL		
	Job memory registration data									CL	CL		
	Arbitrary name – Demo data (HDD)		CL	CL			CL				CL		
	Arbitrary name – Demo data (FLASH)							CL			CL		
	Font (HDD common area)		CL	CL			CL				CL		
	Font (HDD PCL area)		CL		CL		CL				CL		
	Font (HDD PS area)		CL			CL	CL				CL		
	Download font (FLASH)							CL			CL		
	Certificate										CL		
	Language file								CL				
	Automatic distribution setup										CL		
	Communication data save setup										CL		

Setup item		Administrator setup											
		Network default setting	HDD initialization (All area formatting)	HDD formatting (Common partition)	HDD formatting (PCL partition)	HDD formatting (PS partition)	HDD data complete erase	FLASH initialization	Language initialization	Setup value initialization	Complete erasure of individual personal information	Group counter – Reset *1	Job log deletion
Setup data	Admin password									FR	FR		
	Service password												
	Paper/sort setup									FR	FR		
	Copy function setup									FR	FR		
	Fax function setup									FR	FR		
	F-Code Box									FR	FR		
	Scanner function setup									FR	FR		
	Print function setup									FR	FR		
	Network setup	FR								FR	FR		
	Mail server setup	FR								FR	FR		
	LDAP server setup	FR								FR	FR		
	Secure protocol server setup	FR								FR	FR		
	Management									FR	FR		
	Time									FR	FR		
	User Install									FR	FR		
	User Install (Fax related setup value)									FR	FR		
Job	Fax send data (waiting to be transmitted)									CL	CL		
	Fax receive data (Confidential document box)									CL	CL		
	Certificate print job (Secure Job)		CL	CL			CL				CL		
	Encrypted certificate print job (Encrypted Job)		CL	CL			CL				CL		

	Setup item	Administrator setup											
		Network default setting	HDD initialization (All area formatting)	HDD formatting (Common partition)	HDD formatting (PCL partition)	HDD formatting (PS partition)	HDD data complete erase	FLASH initialization	Language initialization	Setup value initialization	Complete erasure of individual personal information	Group counter – Reset *1	Job log deletion
Log	Billing log						CL				CL		
	Job log (HDD)						CL				CL		CL
	Debug log (HDD)						CL						
	Error log (HDD)						CL						
	Error log (FLASH)												
	Dial history									CL	CL		
	E-mail address history									CL	CL		
	Fax communication result information									CL	CL		
Counter	Group counter (Open to user)											CL	
	Maintenance counter (Life related)												
	Main counter (Dealer tabulation related)												
	Print tabulation password												
FW	Scanner unit F/W (including Fax)												
	NIC-F/W (including Web page)												
Others	Mirror carriage transport mode												
	Scanner factory adjustment												
	Stored image									CL	CL		
	Maintenance switch (Confidential)												

*1 The group counter – Reset is confidential and menu is not open in FCS.

*4 When HDD Disable is set, only administrator can log on.
(Because the access control mode setup values is stored in Flash, but the user information is not stored in HDD.)

5.11.2 Initialization by service engineer

5.11.2.1 Initialization operation by service engineer

The initialization operations that can be performed by service engineer are shown below.

Initialization operation	Description
Format HDD (Boot sector erase)	This operation can be executed by selecting the menus: [Service Maintenance] - [System Maintenance] - [Format HDD]. When this operation is executed, the screen exits the menu and initialization of the HDD starts.
Format Flash ROM (System area initialization)	This operation can be executed by selecting the menus: [Service Maintenance] - [System Maintenance] - [Format Flash ROM]. When this operation is executed, the screen exits the menu and formatting of the Flash device that is resident (on-board) installed in the MFP starts.
Administrator password reset	Returns the administrator password that has been set by user, to the default value. This operation can be executed by selecting the menus: [Service Maintenance] - [System Maintenance] - [Change Password] . This setting is executed for the propose of initializing the administrator password by service engineer in the case when user forgets the administrator password.
All Reset	Returns the contents of the EEPROM, FLASH ROM and HDD to the factory shipment setting (factory default) value. This operation can be executed by selecting the menus: [Service Maintenance] - [System Maintenance] - [All Reset]. This setting is executed for the propose of erasing by dealer for an example, the information of the previous user who has been using the MC860, in the case when dealer is going to lend the MC860 to other client.
OKIUSER change	Changes the destination of the MC860. This operation can be executed by selecting the menus: [Service Maintenance] - [System Maintenance] - [OKIUSER].
Country code change	Select the country in which the MC860 is going to be installed. This operation can be executed by selecting the menus: [Service Maintenance] - [Fax Maintenance] - [Country Code].

5.11.2.2 Items that can be initialized by service engineer

Table on the next page shows the setup items that can be initialized by service engineer. Descriptions regarding description in the table are added.

The gray colored items indicate that the data is stored in the CU side.

The white items indicate that the data is stored in the scanner unit side.

The items with “CL” indicate that the registered data will be deleted when this function is executed.

The items with the characters “FR” indicate that the data will be returned to the default setting when this function is executed.

Setup item		Service engineer setup					
		Format HDD (Boot sector erase)	Format Flash ROM (System area initialization)	Administrator password reset	All Reset	OKIUSER	Country code change
Registration data	E-mail address registration data		CL		CL		
	Access control information registration data *4	CL			CL		
	Abbrev. dial registration data		CL		CL		
	F-code bulletin board document				CL	CL	CL
	Profile list		CL		CL	CL*5	
	Job memory registration data				CL	CL	CL
	Arbitrary name – Demo data (HDD)	CL			CL		
	Arbitrary name – Demo data (FLASH)		CL		CL		
	Font (HDD common area)	CL			CL		
	Font (HDD PCL area)	CL			CL		
	Font (HDD PS area)	CL			CL		
	Download font (FLASH)		CL		CL		
	Certificate		CL		CL		
	Language file		CL		CL		
	Automatic distribution setup		CL		CL		
	Communication data save setup				CL	CL	
Setup data	Admin password			FR	FR	FR	
	Service password				FR	FR	
	Paper/sort setup				FR	FR	
	Copy function setup				FR	FR	
	Fax function setup		FR		FR	FR	FR
	F-Code Box				FR	FR	FR
	Scanner function setup		FR*3		FR	FR	
	Print function setup				FR	FR	
	Network setup		FR		FR	FR	
	Mail server setup		FR		FR	FR	
	LDAP server setup		FR		FR	FR	
	Secure protocol server setup		FR		FR	FR	
	Management				FR	FR	
	Time				FR	FR	FR
	User Install				FR	FR	
	User Install (Fax related setup value)		FR		FR	FR*2	FR*2
Job	Fax send data (waiting to be transmitted)				CL	CL	CL
	Fax receive data (Confidential document box)				CL	CL	CL
	Certificate print job (Secure Job)	CL			CL		
	Encrypted certificate print job (Encrypted Job)	CL			CL		

Setup item		Service engineer setup					
		Format HDD (Boot sector erase)	Format Flash ROM (System area initialization)	Administrator password reset	All Reset	OKIUSER	Country code change
Log	Billing log	CL			CL		
	Job log (HDD)	CL	CL		CL		
	Debug log (HDD)	CL			CL		
	Error log (HDD)	CL			CL		
	Error log (FLASH)		CL		CL		
	Dial history				CL	CL	CL
	E-mail address history				CL	CL	CL
	Fax communication result information				CL	CL	CL
Counter	Group counter (Open to user)				CL		
	Maintenance counter (Life related)						
	Main counter (Dealer tabulation related)				CL		
	Print tabulation password		CL		CL		
FW	Scanner unit F/W (including Fax)						
	NIC-F/W (including Web page)		CL				
Others	Mirror carriage transport mode						
	Scanner factory adjustment						
	Stored image				CL	CL	CL
	Maintenance switch (Confidential)				CL	CL	CL

*2 Only the setups that change their initial values depending on destination or counter code are initialized.

*3. [Filename (standard)] and [E-mail edit fixed phrase] under the menus [Scanner function] - [E-mail setting] are initialized.

*4 When HDD Disable is set, only administrator can log on.
(Because the access control mode setup values is stored in Flash, but the user information is not stored in HDD.)

*5 When destination is changed from Japan (such as "JP1","JPOEM") to overseas (such as “ODA”), the portions in which Japanese language has been input are cleared. When the profile name is Japanese language, the parameters excluding character string are initialized at the same time.

5.12 Special startup

5.12.1 Special startup operating procedure

Special startup operating procedure

1. While pressing the [INTERRUPT] key, turn ON the power of the MC860. The “0” mark is displayed in the bottom left of the screen first. Then the “00” is displayed.

2. Press the (*) key and the (#) key in this order. Then the code entry column of the special mode is displayed on the screen.

3. Input code of the desired special mode in the code entry column. 4.
When the code input is complete, press the * key to terminate the code input.

4. When input by codes is completed, input by codes is ended pressing the (*) key.

5. Press the (#) key to start the special startup processing.

5.12.2 Special startup

The special startups that are supported by MC860 are shown below.

Input code	Special mode
100	Flash ROM forced initialization Initializes all of the installed Flash ROM forcibly. Forced initialization is possible only when the Service call 042 to 043 is issued.
101	Parameter forced initialization Parameters are initialized forcibly in the case when the Service call 081 is issued if EEP-ROM and Flash cannot be written or read normally, or if any core-open parameter information is damaged.
102	Additional component ignore MFP can be started up without loading the additional component by using the DLM (Down Load Module) function even if additional component has been stored in Flash ROM.
103	Download mode startup MFP starts up in the download only mode of the additional component. At present, additional component can be downloaded via Soft NIC only. When the Soft NIC module is going to be newly added, the MFP should start up in this mode.
104	Debug mode Starts up the ROM debugger or the Target Shell.
105	ON LINE mode always The errors that moves the MFP into the OFF LINE state are ignored, and the “ON LINE mode always” condition is maintained.
106	FUSE KEEP MODE This is the mode enabling operator to replace the consumable items with new ones and checks the MFP operations while the power remains ON. While an MFP is in the FUSE KEEP MODE, the new consumable item fuse will not be cut, and the operation count is not added to the count value of old parts. When the power of the MFP is turned OFF, MFP exits this mode. When the power is turned ON next time, this mode becomes invalid.
110	Flash ROM initialization The resident Flash ROM is initialized in the same way as in the case when the following menus are selected: [Admin Setup] - [Management] – [Flash Memory Setup] – [Initialize].
111	Language initialization The downloaded message file is initialized in the same way as in the case when the following menus are selected: [Admin Setup] - [Management] – [Language Maint Setup] – [Initialize].
112	Setup value initialization MFP is initialized in the same way as in the case when the following menus are selected: [Admin Setup] - [Management] – [Reset Settings].
113	Erasure of individual personal information Individual information that is registered in the MFP is erased in the same way as in the case when the following menus are selected: [Admin Setup] -” [User Install] - [Erasure Privacy Data].
114	HDD sector check The HDD defective sector information is recovered and the HDD file system un-match is recovered in the same way as in the case when the following menus are selected: [Admin Setup] - [Management] – [Storage Maint Setup] - [Sector check]. Management
115	HDD file system check Resolves the un-match between the actual (free) space and displayed free space of file system, and recovers the control data (FAT information) in the same way as in the case when the following menus are selected: [Admin Setup] - [Management] - [Storage Maint Setup] - [File system check].
120	Format HDD HDD is initialized in the same way as in the case when the following menus are selected: [System maintenance] – [Format HDD]. Contents of HDD are all erased.
121	Format Flash ROM Flash ROM is initialized in the same way as in the case when the following menus are selected: [System maintenance] – [Format Flash ROM]. Contents of the resident installed Flash device are all erased.
122	Administrator password reset Administrator password is reset to default setup value in the same way as in the case when the following menus are selected: [System Maintenance] – [Change Password].
123	All Reset Contents of the EEPROM, Flash ROM and HDD are returned to the default values in the same way as in the case when the following menus are selected: [System Maintenance] – [All Reset].

5.13 Maintenance utilities

Adjustments shown in Table 5-2 can be performed by the maintenance utilities. Details of the maintenance utilities are described below.

(1) Maintenance utilities, Operation manual:
42678801FU01 Rev22 or higher (Japanese)
42678801FU02 Rev5 or higher (English)

(2) Maintenance utilities programs are shown below

Applicable OS	Filename	Model No.
For Win9xMe/NT/2000/XP/Vista (Japanese/English)	MuWin.zip	42678801FW01 Rev1 or higher

Table 5-2 Adjustment items of maintenance utilities

	Item	Adjustment contents	Maintenance utilities, Operation manual, Item number	Operation on Operator panel (Item numbers correspond to those of Maintenance manual.)
1	PU board replacement	Copying the EEPROM of PU PCB Adjustment purpose: Above data is copied to another PCB when the PU PCB is going to be replaced by other PU PCB due to maintenance replacement.	Item 2.4.1.1.1	Use of this menu item is prohibited.
2	PU serial number setting	Rewriting the MFP serial number saved in PU Adjustment purpose: If copying of EEPROM data of the PU PCB is impossible (due to I/F error, etc.,), above setting is made on the maintenance replacement PCB.	Item 2.4.1.1.2.2	Use of this menu item is prohibited.
3	Factory/ Shipping mode	Factory mode or Shipping mode switching Adjustment purpose: If copying of EEPROM data of the PU PCB is impossible (due to I/F error, etc.,), above setting is made on the maintenance replacement PCB. Default setup of the maintenance replacement PCB remains in the Factory mode in most cases, the Shipping mode should be set by using this function.	Item 2.4.1.1.2.3 Item 2.4.1.2.2	Item 5.3.2.10
4	CU PCB replacement	Rewriting EEPROM setup value of CU PCB Adjustment purpose: Above data is rewritten into another PCB when the CU PCB is going to be replaced by other CU PCB due to maintenance replacement.	Item 2.4.1.1.3	Use of this menu item is prohibited.
5	Serial number information setting	Selection of printer serial number and output mode recorded in CU, and rewriting MFP serial number	Item 2.4.1.1.4.3	Use of this menu item is prohibited.
6	Scanner PCB replacement	Copying the EEPROM of scan PCB Adjustment purpose: Above data is copied to another PCB when the scan PCB is going to be replaced by other scan PCB due to maintenance replacement.	Item 2.4.1.1.5	Use of this menu item is prohibited.
7	Setup information of PCB item	Serial number information and Factory/ Shipping mode check.	Item 2.4.1.1.7	Use of this menu item is prohibited.
8	USB software update	USB software update	Item 2.4.2.2.1	Use of this menu item is prohibited.
9	NIC software update	NIC software update	Item 2.4.2.2.2	Use of this menu item is prohibited.
10	NIC Web Page update	NIC Web Page update	Item 2.4.2.2.4	Use of this menu item is prohibited.
11	Mac address setting	Mac address setting	Item 2.4.2.2.5	Use of this menu item is prohibited.
12	Consumables item counter maintenance function	Consumable item counter display Drum counters (Y, M, C, K) Fuser counter Belt counter Toner counters (Y, M, C, K) Adjustment purpose: Values of the respective consumable item counters are copied when consumable item that is still in the midst of usage is going to be used by other MFP.	Item 2.4.1.2.1	Use of this menu item is prohibited.

	Item	Adjustment contents	Maintenance utilities, Operation manual, Item number	Operation on Operator panel (Item numbers correspond to those of Maintenance manual.)
17	Destination/ PnP information setting	Printer (CU) destination, device ID, USB ID setting/check	Item 2.4.1.2.9	Item 5.4.3
18	Send to File function	Send to the Specified file	Item 2.4.1.2.12	
19	Consumable item counter display	Consumable item counter current value check	Item 2.4.1.3.1	Item 5.1 ENG STATUS PRINT
20	Menu setup value check	Setup value of the respective menus that are set in printer (CU) is displayed.	Item 2.4.1.3.2	Menu map print (Refer to User's Manual.)
21	Printer information check	Printer Mac address and various F/W versions are checked.	Item 2.4.1.3.3	Menu map print (Refer to User's Manual.)
22	Installed CPU/memory value check	Information of CPU and memory that are installed in printer (CU) are checked.	Item 2.4.1.3.4	Menu map print (Refer to User's Manual.)
23	Test print	Local print function execution and specifying File send Adjustment purpose: Operation check of printer standalone and sending download file	Item 2.4.1.4.1	Each local print (Refer to System Specifications.)
24	Switch scan test function	Execution of switch scan test Adjustment objective: Operation check of the respective sensors	Item 2.4.1.5.1	Use of this menu item is prohibited.
25	Motor clutch test function	Execution of motor clutch test Adjustment objective: Operation check of the respective motors and clutches.	Item 2.4.1.5.2	Use of this menu item is prohibited.
26	Color registration correction test function	Execution of color registration error correction	Item 2.4.1.5.3	Use of this menu item is prohibited.
27	Density correction function test	Execution of density correction test	Item 2.4.1.5.4	Use of this menu item is prohibited.
28	Automatic density correction control parameter setting [Do not use]	Setting the automatic density correction control parameter	[Do not use]	[Do not use]
29	Counter display	Checking reading of the consumable items counter, consumables continue counter and waste toner counter.	Item 2.4.1.5.6	Use of this menu item is prohibited.
30	Local parameter setup/display function	Factory mode or Shipping mode switching FUSE status check	Item 2.4.1.5.7	Use of this menu item is prohibited.
31	Engine parameter setup function	Setting values of the engine parameter items	Item 2.4.1.5.8	Use of this menu item is prohibited.
32	Media transport parameter setup function	Media transport parameter setup value setting 2	Item 4.1.5.9	Use of this menu item is prohibited.

Note! [Do not use] Do not operate and do not set the item. There is danger of operating abnormally.

5.14 Setup after part replacement

Adjustments that are necessary after part replacement are described below.

Replacement part	Adjustment contents
LED head	Not required
Drum cartridges (Y, M, C, K)	Not required
Fuser unit	Not required
Belt unit	Not required
PU PCB	Copying the EEPROM information, Utilities is required.
CU (TB2 PCB)	Copying the EEPROM information, Utilities is required.

Note! For the compatibility and identification of new/old LED, refer to item 4.2.6 “LED Assy”.

5.14.1 Precautions when replacing the engine control PCB

1. In the case when access to the EEPROM of the PCB that is going to be removed is possible.

   (When SERVICE CALL 104 [Engine EEPROM Error] is not displayed.)

   (1) Obtain the information from the EEPROM of the PDB that is going to be replaced by using the PU PCB replacement function (Maintenance Utilities Operation Manual item 2.4.1.1.1, PU PCB Replacement Function) of the Utilities. Store the obtained information of EEPROM in the HDD of PC temporarily.

   (2) Copy the EEPROM information tat is obtained and stored by using the PU PCB replacement function (Maintenance Utilities Operation Manual item 2.4.1.1.1, PU PCB Replacement Function) of the Utilities in item (1), into the EEPROM of the new PCB

Note! In case when the EEPROM information is going to be obtained by using the Maintenance Utilities, and when it is going to be written, set the MFP into the [Forced ONLINE mode] by using the procedure described below, before accessing the EEPROM. If MFP is in any error condition, the error display is issued also in the Forced ONLINE mode.

1. When turning ON the power of MFP, execute item 5.12 Special Startup, and run the MFP by the key code 105 [ON LINE mode always].
2. If status of MFP remains normal, the “ONLINE” display appears. If an error occurs in the MFP, error display appears. However, inside of the MFP is in the ONLINE status, communication is possible in this status.

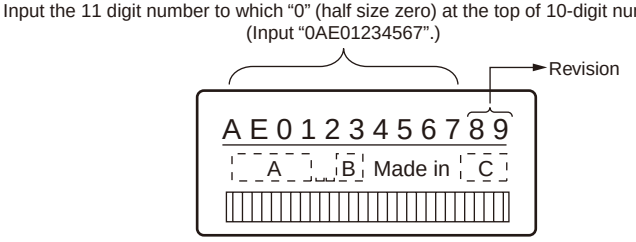
2. In the case if access to the EEPROM of the PCB that is going to be removed is impossible.

   If the SERVICE CALL 104 (Engine EEPROM Error) is displayed on the Operator Panel of the PCB that is going to be removed, or if the EEPROM data cannot be read out, execute the following work by using the Maintenance Utilities after replacement with new PCB is completed.

   (1) Setting the PU serial number (Refer to the Maintenance Utilities Operation Manual item 2.4.1.1.2, PU PCB setting.)

   The SAP serial number has been applied to the MFP. The SAP serial number is displayed in the top-most column of the serial number label, and consists of two digits of manufacture location, two digits of manufacture date, six digits of manufacturing number (sequential No) and two digits of revision totaling 12 digit number.

- The PU serial number is the 10-digit number of the SAP serial number excluding two digits of revision.
- Set the PU serial number by using the screen of item 2.4.1.1.2.2 [PU serial number setting] of item 2.4.1.1.2 [PU PCB setup function] of the Maintenance Utilities.
- When specifying the PU serial number, enter the 11 digit number to which “0” (half size zero) at the top of 10-digit number. (When the PU serial number is read, it is the 10-digit number.)
  Input the 11-digit number that is made up by excluding the two-digit revision, and by adding half-size before the 10-digit number.



Serial number label image chart

- The PU serial number is output to the Printer Serial Number column of the Menu Map header. Therefore, confirmation of the PU serial number after the PU serial number is re-written should be made by printing out the Menu Map.

(2) Switching to the Shipping mode

When the engine control PCB is replaced with the new one, the new engine control PCB remains in the Factory mode. It should be switched to the Shipping mode.

- Switch it by using item 2.4.1.1.2.3 “Factory/Shipping mode” screen of item 2.4.1.1.2 "PU PCB setup function” of the Maintenance Utilities.

Note! When the EEPROM (engine control PCB) is replaced, the life information of belt, toner and ID are cleared. As the result, life control will have an error until the unit is replaced with the new unit. Keep this point in mind. The counts that are cleared when RRPROM is replaced are shown below. All the counts other than Total Sheets Fed will be cleared when the respective units are replaced with the new one. Therefore, the error will be resolved at this timing.

Item	Contents	Contents of count
Fuser unit	Life count of fuser	Number of prints after the new fuser unit is installed. The value after converted to the equivalent number of A4 sheets.
Belt unit	Life count of belt unit	Number of prints after the new belt unit is installed. The value after converted to the equivalent number of A4 sheets.
ID unit, black ID unit, yellow ID unit, magenta ID unit, cyan	Life count of ID unit of respective colors	Number of prints after the new ID unit is installed. The value after converted to the equivalent number of A4 sheets.
Total number of sheets	MFP life count	Total number of feed papers
Printed characters in black Printed characters in yellow Printed characters in magenta Printed characters in cyan	Number of prints of each ID	Number of prints after the new ID unit is installed.

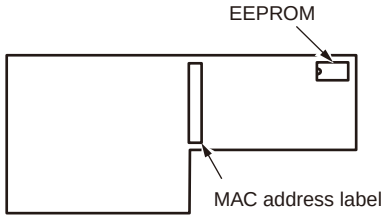
5.14.2 EEPROM setting after CU PCB is replaced

When replacing the CU board, the user setup data that the user has been using should be inherited to the new replacement CU board. Copy the EEPROM data using the Maintenance Utilities. However, if the Service Call 40 occurs and use of EEPROM is impossible, copying of the user setup contents is impossible. Check the destination setting of new PCB (by referring to item 5.4.3.) As the network information, [Network Information] should be obtained beforehand, and the network information should be set using “Web” or “Admin Manager”. In addition to it, the EEPROM itself can be replaced directly between the new and old TB2 PCBs

EEPROM replacement after TB2 PCB is replaced

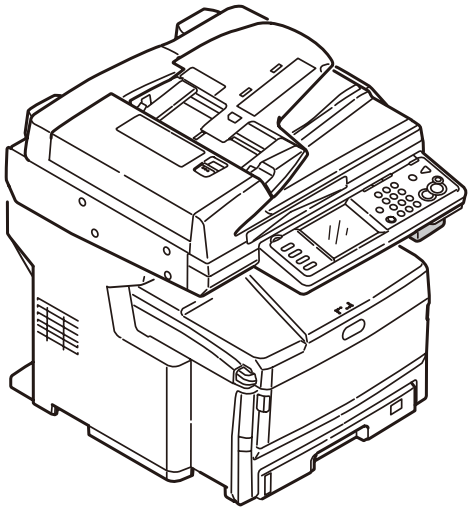
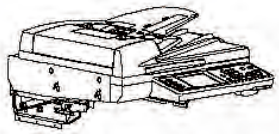
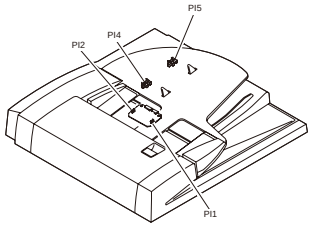
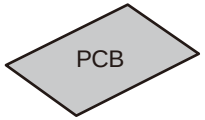
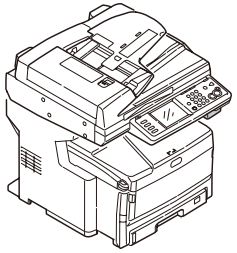
EEPROM is mounted on the TBM PCB using the IC socket. Replace the EEPROM as described below.

1. Remove the seals of the EEPROM and of the MAC address from the old PCB.
2. Insert a screwdriver tip between the EEPROM of old PCB and IC socket. Remove EEPROM carefully so that the EEPROM leads should not be bent.
3. Install the EEPROM to the new PCB. At this time, check that the silk-screen printings on the EEPROM and those on the PCB are aligned in the same direction.
4. Attach the MAC address seal that is removed from the old PCB, to the new PCB.



5.14.3 Maintenance of scanner PCB by using the Maintenance Utilities

The four types of maintenance are possible when maintaining the scanner PCB. The Maintenance Utilities are used only when replacing the scanner PCB.

	MFP image	Replacement unit image	Reason for replacement	Operations required for replacement
1 Replacement of each scanner unit			Scanner unit is defective. Trouble in panel/Fax/ scanner PCB is defective.	Most of the MFP setup information are maintained in the CU side. The information such as time setting is required by the MFP Setup. (Check the MFP Setup list.) 1. Time setting 2. Shading data loading
2 Replacement of RADF unit			Trouble or life of RADF unit (roller)	Because PCB is not replaced, the setup values are maintained. When RADF is installed, the ADF registration adjustment should be performed. 1. Shading data loading 2. ADF registration adjustment
3 Scanner main PCB replacement			Replacement of scanner main PCB only Scanner main PCB is defective	The data within the scanner PCB should be loaded using “Maintenance Utilities”. • Regarding the data that can be saved and re-written, refer to item “2. List of data stored in the scanner side.” • Precaution Refer to 3. “Precautions when writing scanner data using Maintenance Utilities”.
4 MFP replacement			MFP is defective.	Perform the cloning jobs such as abbrev. dial by using the MST where most of the MFP setup information is maintained in the CU side. MFP Setup is required such as time setting. (Check the MFP Setup list.)

5.14.4 List of data that are stored in the scanner side

Category	Details	Save and rewrite by using the Maintenance Utilities is available or not.
SETUP	JOB PROGRAMS registration data	Supported
Admin setup	F-Code Box setup Auto Print Journal Report Block Junk Fax Standby Screen Setup Address Book Tab Setting Auto Reset Time Sound Setup Mirror Carriage mode	Supported * Notes: Be sure to release the mirror lock because the mirror carriage transport setup is going to be written.
	Time Setup	Not supported (Time setting operation is executed after PCB is replaced.)
Maintenance data	Fax Maintenance setup (memory switch, model unique switch)	Supported
Factory adjustment value	Registration adjustment value (Machine parameter) Sample value for gamma creation	Supported
Shading correction data	Shading correction data Temperature compensation parameter	Not supported (Shading data loading is executed after PCB is replaced.)
Fax accumulated image	F-Code accumulated document Send reserved document Receive document	Not supported
Communication history information	Fax communication history	Supported
	Dial history, E-mail address history	Supported

5.14.5 Precautions when writing scanner data using Maintenance Utilities

- This item should be performed while the mirror carrier lock is released. (Statuses of writing and reading should be aligned.)
- When writing is complete, be sure to execute shut-down, and the following operations should be performed after the power is turned ON.

  (1). Time setting

  (2). Shading data loading
- Write the data into the PCBs that have the same destination. (If they have different destinations, audio and startup screen may be needed to be written down.)
- Do not operate the equipment such copy, scan, Fax send/receive and print. Be sure to disconnect the I/F cables except those required for connecting the Maintenance Utilities.

5.14.6 Restrictions when using Maintenance Utilities

Conditions where scanner data save/write is impossible	Operation of Utilities
1. Data acquisition is impossible during operation (during fax send/receive, document scanning, printing)	FAILED is displayed.
2. Data writing is impossible during operation (during fax send/receive, document scanning, printing)	FAILED is displayed.
3. Write file has abnormality. (Data size does not match. Model name does not match)	FAILED is displayed.

5.15 Scanner registration adjustment method

Adjustment method of MFP is described when it has scanner registration error.
Default value of registration data is the data as of May 2, 2008. It can be changed in future.

5.15.1 Overview of the registration adjustment work

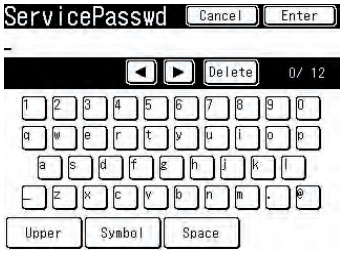
1. Perform the FBS scanning position adjustment.

2. Perform the ADF (front and rear) scanning position adjustment.

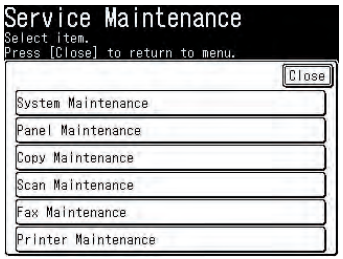
3. After items 1 and 2 are complete, check the registration error.

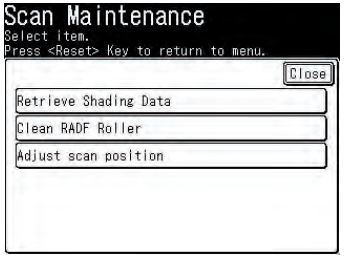
5.15.1.1 Operation method of the service function for registration adjustment

1) [SETUP], Press the dial keys in this order. [#], [1], [9], [3]. [7]

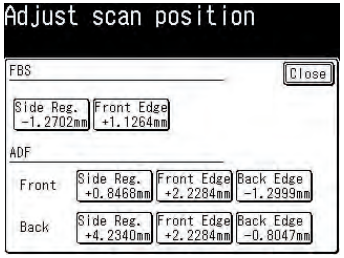


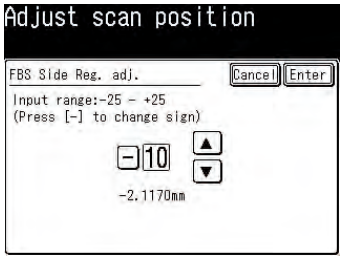
2) Input the service password (default value: 000000) and press [Enter].





3) [Scan Maintenance], Press [Adjust scan position]





4) Select the desired adjustment item.

Input the adjustment value using ten key. Select the adjustment position.

When + /- is pressed, position is switched. Input the setting value with ten-key.

5) When [Enter] is pressed, the setting job is complete and screen returns to the selection screen. When [Cancel] is pressed, the setup value is not reflected.

6) To terminate all of the adjustments, press the [Reset] key.

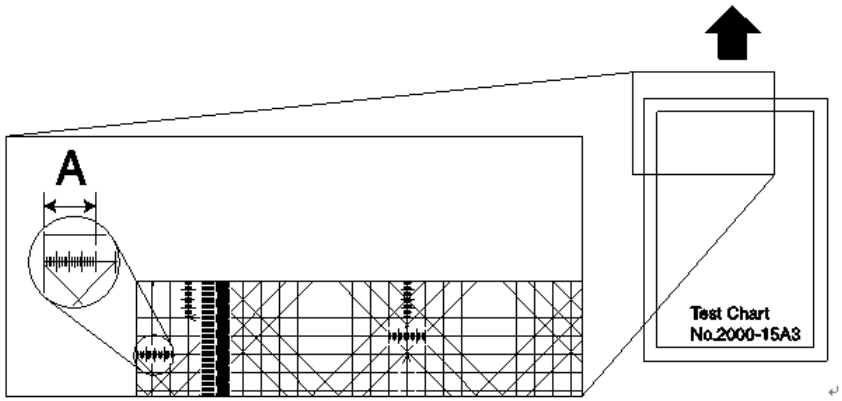
5.15.1.2 Adjustment item

Adjustment items are shown below. For the adjustment method, refer to the respective items.

	Side	Top end	Rear end
FBS	Item 5.15.1.3	Item 5.15.1.4	-
ADF (front)	Item 5.15.1.5	Item 5.15.1.6	Item 5.15.1.7
ADF (back)	Item 5.15.1.5	Item 5.15.1.6	Item 5.15.1.7

5.15.1.3 FBS scanning position adjustment (side registration)

Adjust the book scanner scanning position (horizontal scanning direction).



Reference value	Default value	Adjustment range Unit of adjustment	Unit of adjustment
± 1.2 (mm)	-10 (-2.117mm)	-25 ～ +25 (– 5.29 ～ 5.29mm)	0.2117mm/ step (=5/600dpi)

Measurement

1) Set the A3 document on FBS.
2) Scan the test chart with FBS at 300 dpi. (Such as Scan To USB Memory)
3) Measure length of the “A” portion as shown in the drawing. If it does not satisfy the reference value, perform adjustment as described below.
4) If length of “A” portion stays within the reference value, it is the end of measurement.

Adjustment

1) Set the FBS side registration
   - If the measurement data is short:

   => Adjust the setting value in the negative (-) direction. (Move the scanning start position of horizontal scanning to the left.)

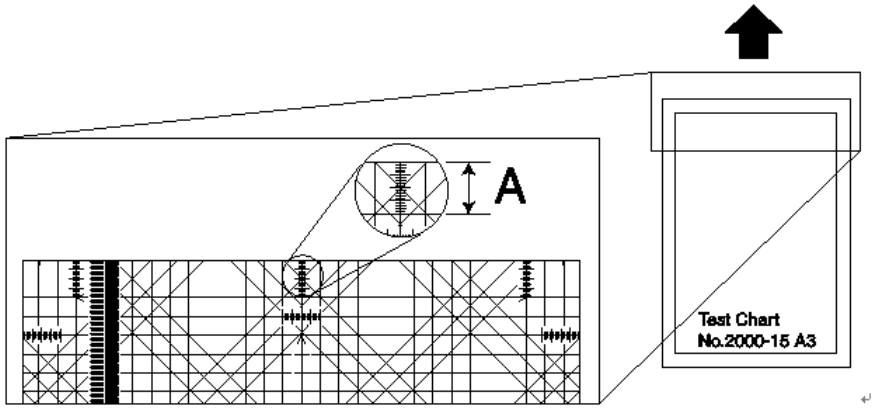
   - If the measurement data is long (If shade is present in the left of document)

   => Adjust the setting value in the positive (+) direction. (Move the scanning start position of horizontal scanning to the right.)

When a value is added in the negative (-) direction, the scan image on a PC moves to the right. (Because the scanning start position is moved to the left.) When a value is added in the positive (+) direction, the scan image on a PC moves to the left. (Because the scanning start position is moved to the right.)

5.15.1.4 FBS scanning position adjustment (top-end registration)

Adjust the top-end scanning position (vertical scanning direction).



Reference value	Default value	Adjustable range	Unit of adjustment
± 1.2 (mm)	+8 (+1.1264mm)	-31 ～ +31 (– 4.36 ～ 4.36mm)	0.1408mm/ step

Measurement

1) Set the A3 document on FBS.
2) Scan the test chart with FBS at 300 dpi. (Such as Scan To USB Memory)
3) Measure length of the “A” portion as shown in the drawing. If it does not satisfy the reference value, perform adjustment as described below.
4) If length of “A” portion stays within the reference value, it is the end of measurement.

Adjustment

1) Set the FBS top-end registration.
   - If the measurement data is short:

   => Adjust the setting value in the negative (-) direction. (Move the scanning top-end position to the front.)

   - If the measurement data is long (If shade is present in the top-end of document)

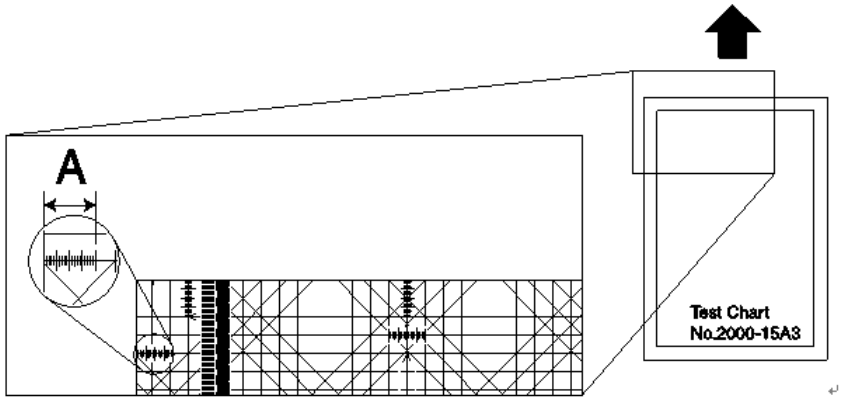
   => Adjust the setting value in the positive (+) direction. (Move the scanning top-end position to the rear end.)

When a value is added in the negative (-) direction, the scan image on a PC moves down. (Because the scanning start position is moved up.)

When a value is added in the positive (+) direction, the scan image on a PC moves up. (Because the scanning start position is moved down.)

5.15.1.5 ADF scanning position adjustment (side registration)

Adjust the ADF scanning position (horizontal scanning direction).



	Reference value	Default value	Adjustable range	Unit of adjustment
Front	± 1.8 (mm)	+1 (+0.2117mm)	-25 ～ +25 (– 5.29 ～ 5.29mm)	0.2117mm/ step (=5/600dpi)
Back	± 2.3 (mm)	+18 (+3.8106mm)	-25 ～ +25 (– 5.29 ～ 5.29mm)	0.2117mm/ step (=5/600dpi)

Measurement

1) Set the A3 document on ADF.
2) Scan the test chart with ADF. at 300 dpi. (Such as Scan To USB Memory)
3) Measure length of the “A” portion as shown in the drawing. If it does not satisfy the reference value, perform adjustment as described below.
4) If length of “A” portion stays within the reference value, it is the end of measurement.

Adjustment

Set the ADF side registration

- If the measurement data is short:

=> Adjust the setting value in the positive (+) direction.

- f the measurement data is long. (When document is scanned from the front of document (when shade is present in the left of document.))

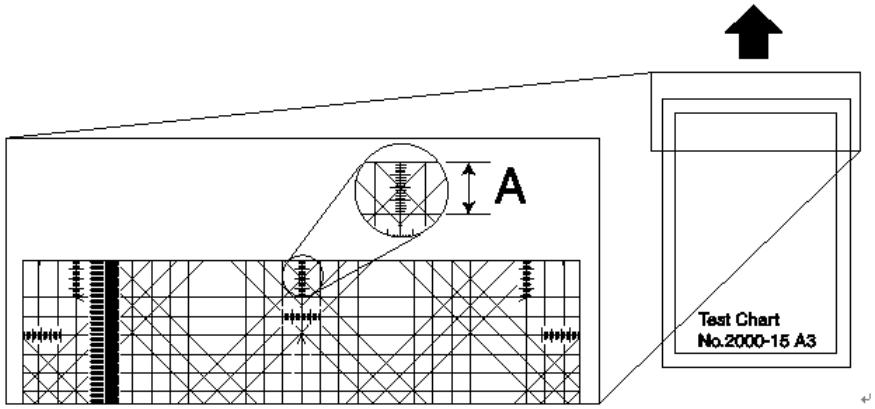
=> Adjust the setting value in the negative (-) direction.

When a value is added in the negative (-) direction, the scan image on a PC moves to the left. (Because the scanning start position is moved to the left.)
When a value is added in the positive (+) direction, the scan image on a PC moves to the right. (Because the scanning start position is moved to the right.)

Note! Be careful that direction of movement is opposite from FBS.

5.15.1.6 ADF scanning position adjustment (top-end registration)

Adjust the top-end scanning position (vertical scanning direction).



	Reference value	Default value	Adjustable range	Unit of adjustment
Front	± 1.8 (mm)	+11 (0.6809mm)	-127 ～ +127 (–7.86 ～ 7.86mm)	0.0619mm / step
Back	± 2.3 (mm)	+11 (0.6809mm)	-127 ～ +127 (–7.86 ～ 7.86mm)	0.0619mm / step

Measurement

1) Set the A3 document on ADF.
2) Scan both sides of the test chart with ADF at 300 dpi. (Such as Scan To USB Memory)
3) Measure length of the “A” portion as shown in the drawing. If it does not satisfy the reference value, perform adjustment as described below.
4) If length of “A” portion stays within the reference value, it is the end of measurement.

Adjustment

1) Set the ADF top-end registration.
   - If the measurement data is short:

   => Adjust the setting value in the negative (-) direction.

   - If the measurement data is long. (When document is scanned from the front of document (when shade is present in the top-end.))

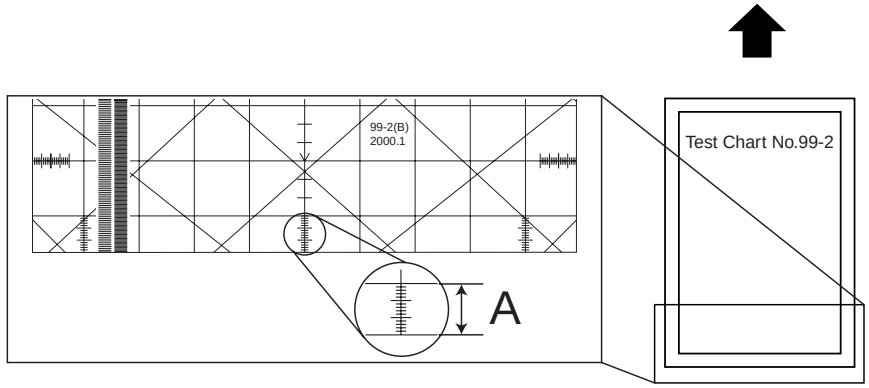
   => Adjust the setting value in the positive (+) direction.

When a value is added in the negative (-) direction, the scan image on a PC moves down. (Because the scanning start position is moved up.)

When a value is added in the positive (+) direction, the scan image on a PC moves up. (Because the scanning start position is moved down.)

5.15.1.7 ADF scanning position adjustment (rear-end registration)

Adjust the rear-end scanning position (vertical scanning direction).



	Reference value	Default value	Adjustable range	Unit of adjustment
Front	± 1.8 (mm)	-43 (2.6617mm)	-127 ～ +127 *1 (–7.86 ～ 7.86mm)	0.0619mm / step
Back	± 2.3 (mm)	-43 (2.6617mm)	-127 ～ +127 *1 (–7.86 ～ 7.86mm)	0.0619mm / step

* 1 Adjustment in increment of 1 item (0.0619 mm) is possible in this setting. However, adjustment should be performed in increment of 16 items (1 mm) as a guide line due to document running at an angle.

Measurement

1) Set the A3 document on ADF.
2) Scan both sides of the test chart with ADF at 300 dpi. (Such as Scan To USB Memory)
3) Measure length of the “A” portion as shown in the drawing. If it does not satisfy the reference value, perform adjustment as described below.
4) If length of “A” portion stays within the reference value, it is the end of measurement.

Adjustment

1) Set the ADF rear-end registration.
   - If the measurement data is short: (When the rear-end is missing.)

   => Adjust the setting value in the positive (+) direction.
   - f the measurement data is long (If shade is present in the rear-end of document)

   => Adjust the setting value in the negative (-) direction.

Note! The rear end position adjustment should be executed after the top end position adjustment is completed. In addition, scanning is stopped before the rear end is reached if amount of the scanning lines specified by the CU side are scanned in the copy mode and scan mode even though the rear-end position adjustment is increased in the positive (+) direction. Therefore, adjustment must be performed in the manner of increasing the setting value gradually after checking the registration in the negative direction.
(If an excessively large value is set, it can adversely affect the fax scanning at the rear-end.)

6. Cleaning

6.1 Cleaning

Clean inside and outside of the printer with clean dry cleaning cloth and small vacuum cleaner (hand cleaner) as required.

Note! Be careful not to touch the image drum terminals, the LED lens array and the LED head connectors.

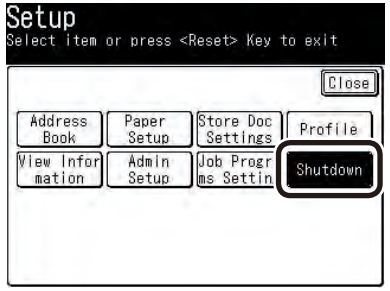
Clean surface of MC860

Note! Do not use benzine or paint thinner for cleaning because they can give damage to the plastic parts and coated paint.

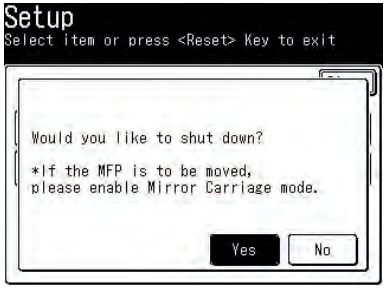
1. Turn OFF the power of the MC860.

Note! For the method of turning OFF the power, refer to “Turn OFF the power” of the User’s Manual (Basic Operation edition).

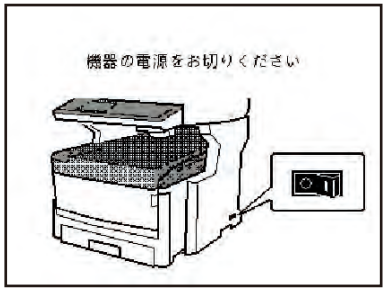
1. Press the < SETUP > key.



2. Press [Shutdown]



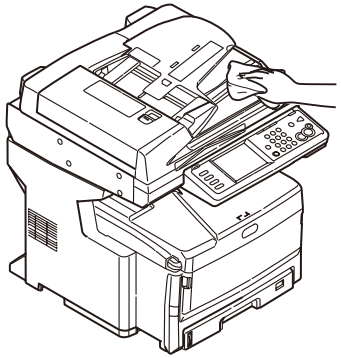
3. Press [Yes].



4. When the following screen is displayed, turn the POWER switch of the MFP to ON.

2. Clean surface of MFP.

Note! • Do not use any liquid other than water and neutral detergent.
• The MFP requires no lubrication. Do not lubricate the MC860.



1. Clean surface of MC860 with a clean cloth wrung out stringently of clean water or neutral detergent.
2. Clean surface of MC860 with soft clean cloth.

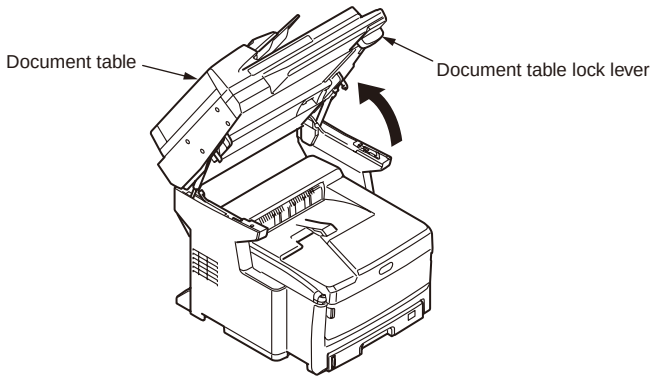
6.2 How to clean the LED lens array

If any light print or white banding is recognized or if print character becomes blurred, clean the LED lens array as descried below.

1. Turn OFF the power of the MC860.

   Note! For the method of turning OFF the power, refer to “Turn OFF the power” of the User’s Manual (Basic Operation edition).

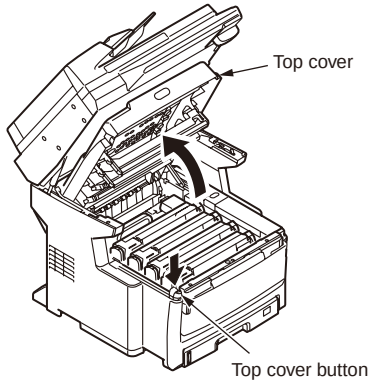
2. Pull the document table lock lever to the front to release the lock, and raise the document table.



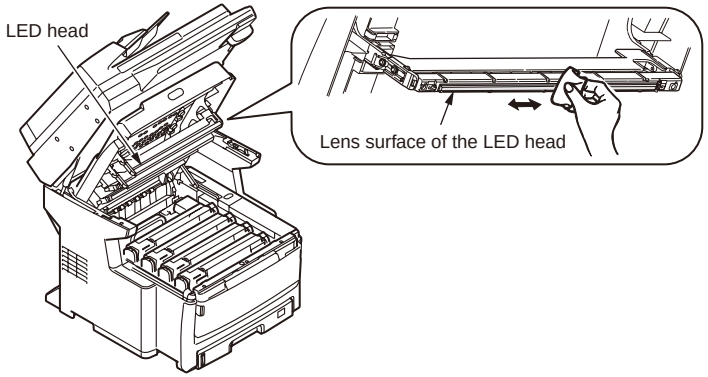
3. Press the top cover button and open the top cover.

⚠Caution	Failure to observe the caution may result in burn injury.	♨

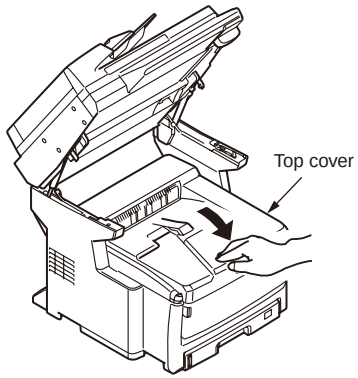
The fuser unit gets very hot. Do not touch the fuser unit.



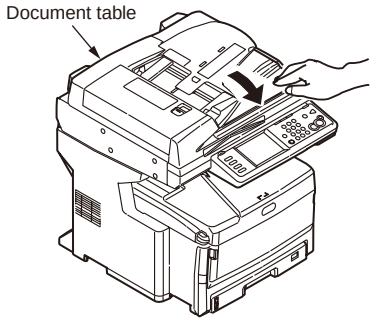
4. Wipe the lens surface (at the four positions) of the LED head with soft tissue paper gently and lightly.



5. Close the top cover.



6. Return the document table to the original position.



6.3 How to clean the pickup roller

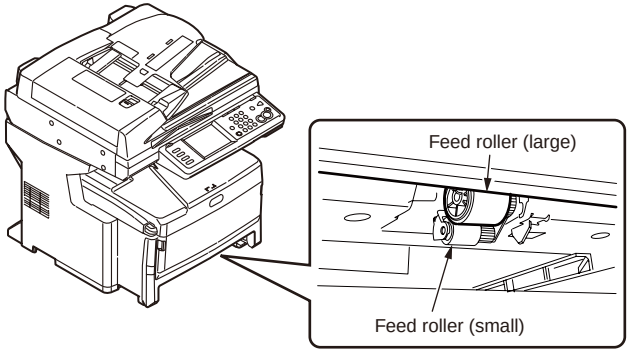
If paper jam occurs frequently, clean the pickup roller as descried below.

Clean the pickup roller for the tray 2 and tray 3 in the same procedure.

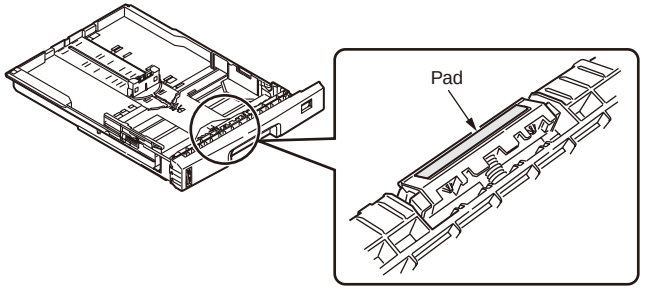
For the MP tray, clean the pickup roller in the same procedure for the feed roller only. (Pad is not used.)

1. Pull out the tray.

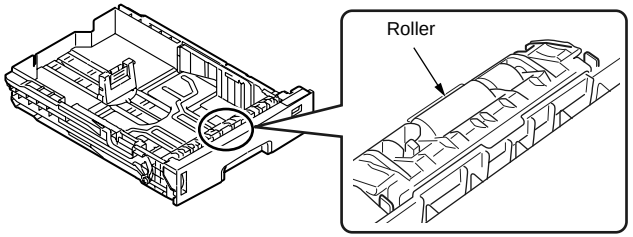
2. Clean the feeder roller (large) and the feeder roller (small) with a clean cloth wrung out stringently of clean water.



3. Clean the pad portion of the tray with a clean cloth wrung out stringently of clean water.



For tray 1



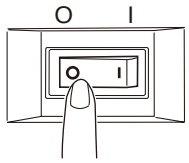
For tray 2 and tray 3

6.4 How to clean inside of MFP

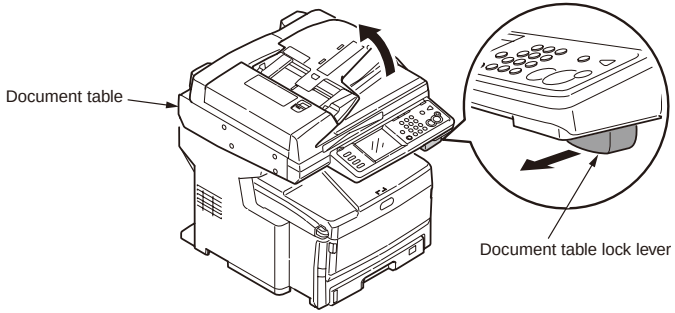
Clean inside of the MFP.

Toner can adhere to the metal shaft that is located in between the fuser and the cyan image drum cartridge depending on the print pattern. Perform cleaning of the inside of the MFP if toner has adhered to the metal shaft.

1. Turn OFF the power of the MFP.



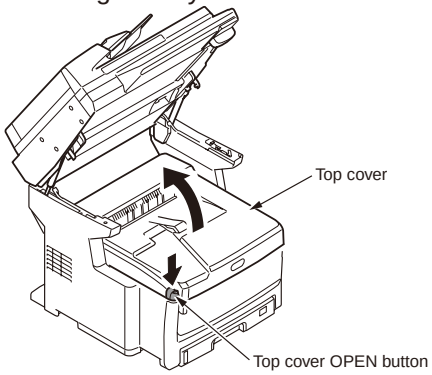
2. Pull the document table lock lever to the front to release the lock, and raise the document table.



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

⚠Caution	Failure to observe the caution may result in burn injury.	

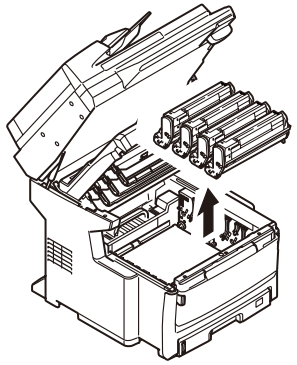
The fuser unit gets very hot. Do not touch the fuser unit.



4. Remove the image drum cartridge from the MFP.
   1. Remove the four image drum cartridges and place them on a flat workbench.
   2. Cover the removed image drum cartridge with a black paper.

Note! • The image drum (green tubular portion) is highly inherently-brittle. Be very careful when handling it.

• Be very careful not to expose the image drum to direct sun light or intense light (light of approx. 1500 lux or more). Do not leave it under the normal illumination even indoor for 5 minutes or longer.

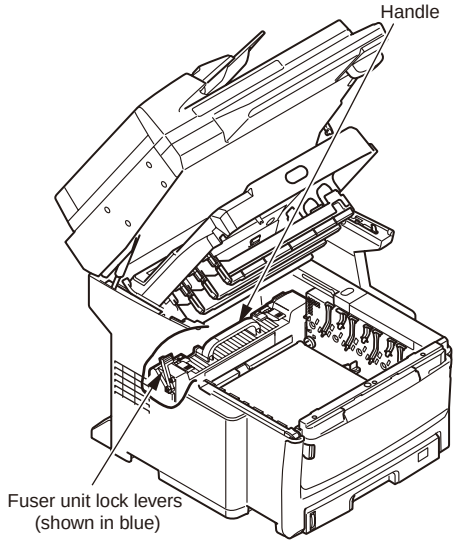


5. Remove the fuser unit from the MFP.

⚠Caution	Failure to observe the caution may result in burn injury.	

The fuser unit gets very hot. Be very careful not to touch the fuser unit with your hands.
If it got hot, stop the work and wait until it cools down. After it has cooled down, start the following steps.

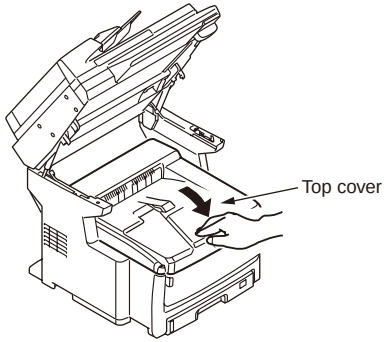
1. Raise the fuser unit lock levers (two levers shown in blue) in the direction shown by the arrow.
2. Hold the handle of the fuser unit and remove it.



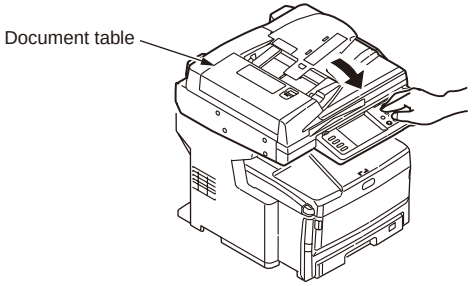
6. Install the fuser unit in the MFP.

For the detailed procedure, refer to the User's Manual – Setup Guide “Replacing fuser unit”.

7. Return the four image drum cartridges to the MFP gently and carefully.
8. Close the top cover.



9. Return the document table to the original position.



6.5 How to clean paper path of RADF

6.5.1 Clean the document transport roller and the document retainer roller.

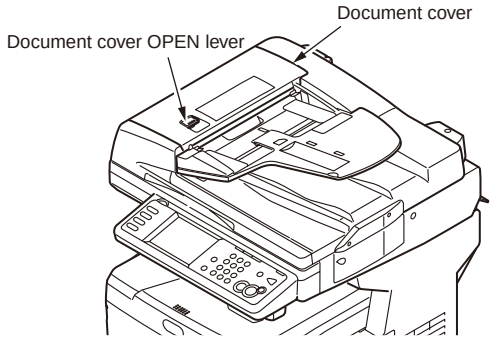
If the document transport roller is stained, it may not only stain the document but also cause the stained copy and stain on the document when it reaches destination. It can also cause document jam.

If the document retainer roller is stained, it causes black spot on the copy and stain on the document when it reaches destination.

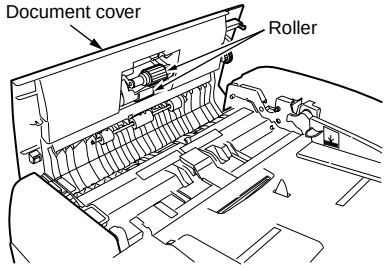
Clean the paper path of RADF once every month or more in order to maintain high print quality and to send document smoothly.

Note! Do not use benzine or paint thinner for cleaning because they can give damage to the plastic parts and coated paint.

1. Open the document cover OPEN lever and open the document cover.

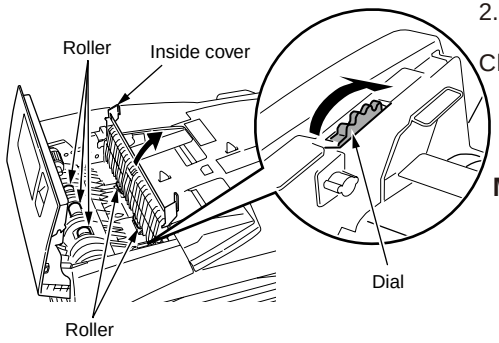


2. Clean the document transport roller.



1. Clean the roller with a clean cloth wrung out stringently of small amount of clean water.

Memo • Clean the entire surface of the roller by rotating the roller with hand. (Some type of roller can rotate in one direction only.)
• If it is heavily stained, clean it with a clean cloth wrung out stringently of clean water mixed with some neutral detergent first. Then clean it with a clean cloth wrung out stringently of clean water once again.



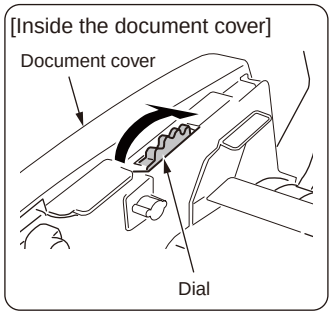
2. Open the inside cover.

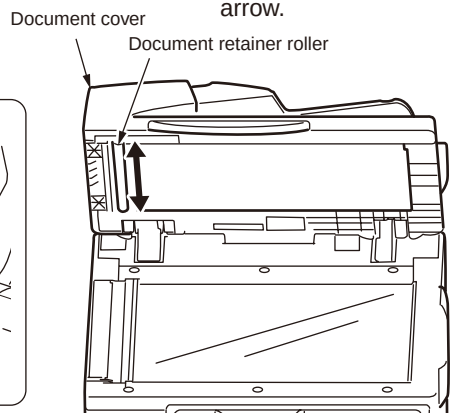
Clean the roller with a clean cloth wrung out stringently of small amount of clean water.

Memo • Clean the entire surface of the roller by rotating the dial.
• If it is heavily stained, clean it with a clean cloth wrung out stringently of clean water mixed with some neutral detergent first. Then clean it again with a clean cloth wrung out stringently of clean water once again.

3. Clean the document retainer roller.

1. Open the document table cover.
2. Clean the document retainer roller in the direction shown by the arrow by rotating the dial in the direction shown by the arrow.

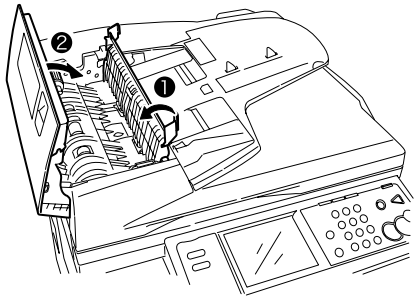




Memo • Clean the entire surface of the roller by rotating the dial.
• If it is heavily stained, clean it with a clean cloth wrung out stringently of clean water mixed with some neutral detergent first. Then clean it with a clean cloth wrung out stringently of clean water once again.

3. Close the document table cover.

4. Close the document cover.

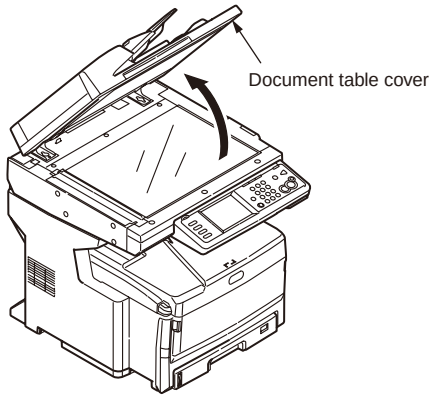


1. Close the inside cover.
2. Close the document cover.

6.6 How to clean under portion of RADF

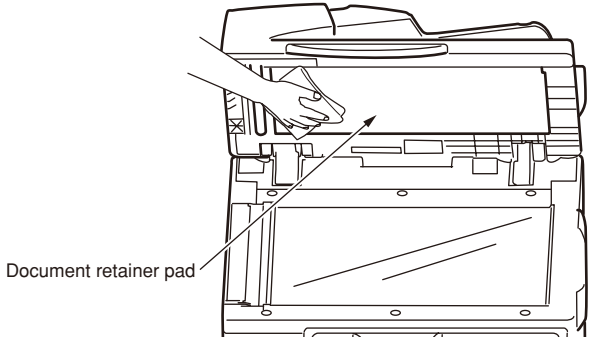
If the document retainer pad is stained, it causes black spot on the copy and stain on the document when it reaches destination. Clean the under portion of RADF once every month or more in order to maintain high print quality and to send document smoothly.

1. Open the document table cover.



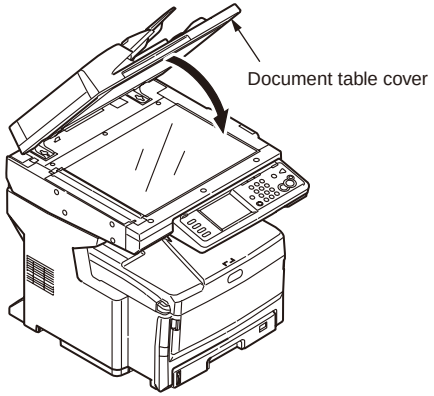
2. Clean the document retainer pad with a clean cloth wrung out stringently of small amount of clean water.

Memo If it is heavily stained, clean it with a clean cloth wrung out stringently



of clean water mixed with some neutral detergent first. Then clean it with a clean cloth wrung out stringently of clean water once again.

3. Close the document table cover.

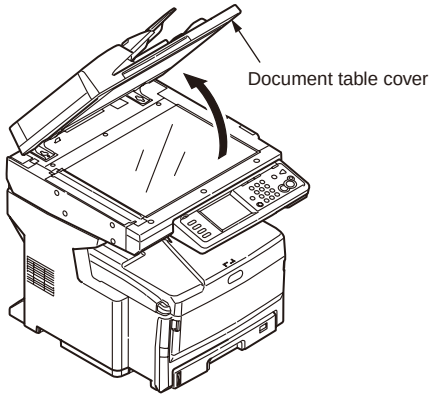


6.7 How to clean document glass and glass surface

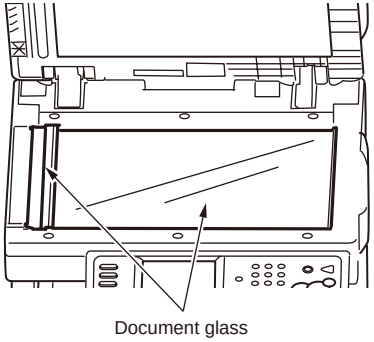
If the document glass or glass surface is stained, it causes black streaks on a printed copy and stains on the document when it reaches destination Clean the document glass and glass surface once every month or more in order to maintain high print quality.

Note! Do not use benzine or paint thinner for cleaning because they can give damage to the plastic parts and coated paint.

1. Open the document table cover.



2. Clean the glass surface of document glass with a clean cloth wrung out stringently of small amount of clean water.



3. Close the document table cover.

Memo If it is heavily stained, clean it with a clean cloth wrung out stringently of clean water mixed with some neutral detergent first. Then clean it with a clean cloth wrung out stringently of clean water once again.

7. Troubleshooting

7.1 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.

7.2 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.

7.3 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.

7.4 Preparations for troubleshooting

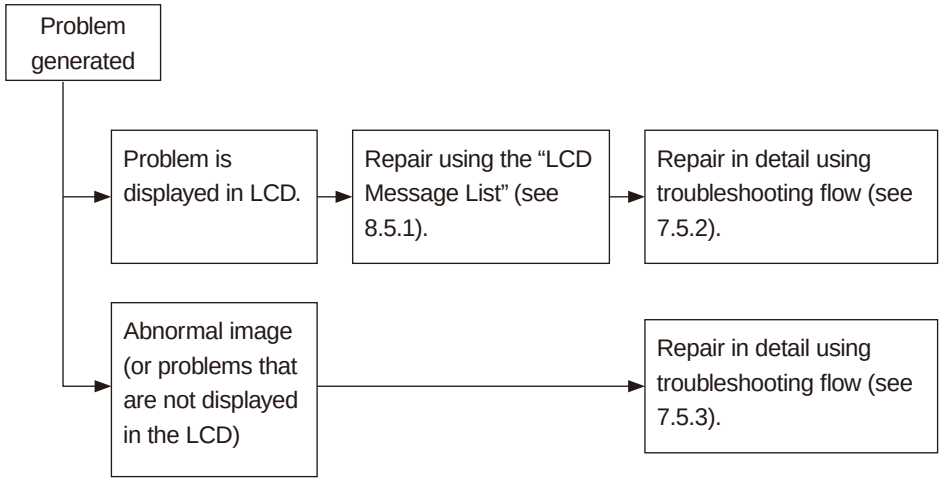
(1) Indications on the operator panel

A fault status of this printer is displayed in the LCD (liquid-crystal display) of the operator panel.

Conduct fault repair properly in accordance with the message displayed in the LCD.

7.5 Troubleshooting method

If a trouble occurs in the printer, search for it by the following procedure:



7.5.1 LCD Message List

Initializing

Displayed message	Descriptions
Bitmap Image 1	This message is displayed before the communication started between CU and Panel (CU initializing).
Menu Resetting	Indicates that EEPROM of the controller side is being reset. The condition that EEPROM is reset includes the followings. - Changes of CU ROM (when disagreement of CU F/W version is detected) - Changes of destination channel - Compulsive initialization of EEPROM ("Service Menu"-"System Maintenance"-"ALL RESET") - OEM set of PJL command
Wait a Moment Network Initializing	The network is in initializing. If this status occurred during the unit initialinzing the message is displayed by English.
Flash Memory Format	Displays that Flash memory is being formatted. It is displayed it when Resident/Option Flash memory not fomented are detected, or "Service Menu"-"System Maintenance"-"FLASH FORMAT" of a system maintenance menu is performed. The function mentioned above is secret to users. Therefore, this status does not occur in a user environment.
Checking File System	Displays that HDD file system is being checked. Process Check of File System is valid to start from "Management"-"Storage Maint Setup"-"Check File System" of Admin Setup Menu.
Erasing Disk nnn%	Indicates that the hard disk is being erased. Erase process of the hard disk is valid to start from "Management"-"Storage Maint Setup"-"HDD Erase" of Admin Setup Menu. nnn: Percentage of erased capacity

Displayed message	Descriptions
Checking Sectors nnn%	Displays that a sector of HDD is being checked. Check process of the sector is valid to start from "Management"-"Storage Maint Setup"-Check All Sectors" of Admin Setup Menu. nnn: Percentage of checked capacity
Program Update Mode	Displays that a unit is a special mode to conduct the update of the NIC program (Controller firmware).
Wait a Moment Program Data Receiving	Displays that the NIC program data to update is being received. This message is displayed in Program Update Mode. If this status occurred during the unit initialinzing the message is displayed by English.
Wait a Moment Program Data Received OK	Displays that the NIC program data to update has been received. This message is displayed in Program Update Mode. If this status occurred during the unit initialinzing the message is displayed by English.
Check Data Program Data Receive Error <%DLCODE%>	An error has happened while the printer is receive-processing the NIC download data.This message is displayed in Program Update Mode. %DLCODE% 1: File size error 2: Check-sum error 3: Invalid printer model number 4: Invalid module I/F version 5: Invalid FAT version If this status occurred during the unit initialinzing the message is displayed by English.
Wait a Moment Program Data Writing	The unit is writing the NIC download data. This message is displayed in Program Update Mode.
Power Off/On Program Data Written OK	The printer finished writing the NIC download data. This message is displayed in Program Update Mode.

Displayed message	Descriptions
Check Data Program Data Write Error <%DLCODE%>	An error has happened while the printer is writing the NIC download data. This message is displayed in Program Update Mode. %DLCODE% 1: Memory allocation error 2: Download file error 3: Device allocation error 4: No device space 5: File writing failure 6: CU-F/W mismatch If this status occurred during the unit initialinzing the message is displayed by English.
Inspection is required. PU Flash Error	It is shown that PU firmware has booted in Loader mode. If initialization is completed, it will change to the status of no. 20. This status may occur also in a user environment. When it occurs, the maintenance by a maintenance member is required (equivalent to S/C).
Inspection is required. PU Communication Error	Displays that communication to PU firmware failed. This status may occur also in a user environment. When it occurs, the maintenance by a maintenance member is required (equivalent to S/C). If this status occurred during the unit initialinzing the message is displayed by English.
Status Mode	Displays that normal Online mode starts. Data (Job) from an external portion is processed even though an error takes place after Online (ready) state once this mode starts. Displays Error or Warning on a panel. This function is secret to users. Therefore, this status does not occur in a user environment.
HDD Error To HDD format Select [Format] To shut down Select [Cancel]	Indicates that the unformated HDD is detected during the initializing. [Format] pressed, HDD format is started and the unit is rebooted automalically. [Cancel] pressed, the unit is shut down.

Displayed message	Descriptions
HDD Error: %ERRCODE% To HDD format Select [Format] To shut down Select [Cancel]	The MFP is detected that the encrypted authentication files in HDD is broken during the initializing. This prpblem is recovered to execute HDD format. [Format] pressed, HDD format is started and the unit is rebooted automalically. [Cancel] pressed, the unit is shut down. %ERRCODE%: 250

Normal

Displayed message	Descriptions
Scanning	Indicates that it is scanning in Push Scan, PC Scan.
On Line Mode Ready to Print	Shows on-line status. When the status is changed to on line, "On Line Mode" message is displayed almost at the same time "Printing became possible. " message poped up on screen.
<Print Stand-by Screen> Off Line Mode Press Online button to print. ---------- <Copy Stand-by Screen> <Fax Stand-by Screen> Off Line Mode	Shows off-line status. When the status is changed to off line, "Off Line Mode" message is displayed almost at the same time "Printing became impossible. " message poped up on screen. If the off line status that can be change to on line mode by "On Line" key pressed, "Off Line Mode" message is displayed in message area on Copy stand-by/ Fax stand-by screen.
File Accessing	The status showing FILE SYSTEM (HDD/FLASH) is being accessed.
Data Arrive	Data receiving, process not started yet. Displayed mainly during PJL process without text print data or during job spooling.
Processing...	Data receiving or output processing
Data Present	Un-printed data remains in Buffer. Waiting for data to follow.

Displayed message	Descriptions
Printing	Printing the following print job and reports. - PC Printing - Color Profile - Color Tuning Pattern - GL/2 Palette Sample - ID Check - Engine Status - Color Table - File System Error Report - T30 Monitor - Received Mail Data
Demo Page Printing	Printing Demo Pages. Indicates that the stored Demo Print data is printing, and the installed Demo Print data in Flash/ HDD is printing.
Font List Printing	Printing Font Lists. Indicates that printing sample data of the following fonts. - PCL Font List - PSE Font List - PPR Font List - FX Font List
Configuration Report Printing	Printing Configuration Report. Indicates that printing of menu items and the current settings.
File List Printing	Printing File Lists. Indicates that printing of the stored File (except hidden files) list in File system(FLASH/HDD).
Error Log Printing	Printing Error Logs.
Network Information Printing	It is shown that a network setup is printing. If chosen by menu "Reports"-"Device Information"-"Network Information", printing of a network setup will be started.
MFP Usage Printing	Printing MFP Usage Report.
Scan to Log Printing	Printing Scan to Log.

Displayed message	Descriptions
Print page ppp No. of Copies iii/jjj	Collate printing. "Print page" means the current number of printing page (ppp). "No of Copies" is displayed as "iii/jjj". iii: The number of copy in printing. jjj: the total number of printing. The unit of "Print page" is "Impression". In simplex printing, "Print page" counter is increased by 1 when the paper exited from fuser. In duplex printing, "Print page" counter is increased by 2 when the paper exited from fuser (after the back side printed out).
Print page ppp No. of Copies kkk/lll	Copy printing. "Print page" means the current number of printing page (ppp). "No of Copies" is displayed as "kkk/lll". kkk: The number of pages in printing. lll: The total number of printing. The unit of "Print page" is "Impression". In simplex printing, "Print page" counter is increased by 1 when the paper exited from fuser. In duplex printing, "Print page" counter is increased by 2 when the paper exited from fuser (after the back side printed out).
Verifying data.	Indicates that the integrity of print data for encrypted authentication is being verified (for corruption and tampering).
Deleting data.	Indicates that job cancellation has been instructed and data is being ignored until the job completion.
Deleting data.	Indicates if JAM occurs when Jam Recover is OFF, that job cancellation has been instructed and data is being ignored until the job completion.
Deleting data.	Indicates a job being cancelled due to no print permit. (Related to JobAccount) 1. A job received from a user who is denied printing. 2. A color job received from a user who is denied color printing.
Warming Up.	Shows cooling down status. It is cautious of a period following "Preparing".
Warming Up	Warming up.

Displayed message	Descriptions
Warming Up	Indicates that printing has been suspended for a while due to high temperature of the drum, or the printer is in a wait state to cope with heat at the time of switching narrow paper to wide paper.
Blank	A MC860 is in power save mode. LCD back light is turned off. Red LED is turned on.
Preparing	Executing Auto Color Adjusting
Preparing	Executing Auto Density Adjustment. Status code 10988 corresponds to density reading, thereto 10994 corresponds to density adjusting.
PU downloading	Downloading PU F/W (This is not user-level error) This function is secret to users. Therefore, this status does not occur in a user environment.
Disk Security Mode	Securty Kit is installed. This status message is always displayed in printer stand-by screen.
Updating ROM Please keep power ON.	Downloading scanner unit (Scanner, Fax, Panel) FW.
Please Log in	Requests to do user authentication.
Entry screen of Admin Password	Requests to enter administrator password for the moving to "Admin Setup" menu.
Access control became valid.	Indicates that PIN or User mode is enabled. This message isn't displayed when the setting is canged from Web page.
Access control became invalid.	Indicates that PIN or User mode is disabled. This message isn't displayed when the setting is canged from Web page.
Cancelling	Indicates that copy job is canceling. This message displayed when the copy is canceled by operator.

Displayed message	Descriptions
<Scan To Mail/ Network PC Screen> Scanning Press Stop Key to stop scannng. %LOCATION_INFO% Page :%SCAN_PAGE% Doc.Size:%DOC_SIZE% ---------- <Fax Sending Screen> Scanning Press Stop Key to stop scannng. Comm.No.:%COMM_NO% %LOCATION_INFO% Page :%SCAN_PAGE% Doc.Size:%DOC_SIZE%	Indicates that it is scanning of documents. The screen image in ScanTo: "Sample Screen" sheet - no.17 The screen image in Fax Sending: "Sample Screen" sheet - no.16 The unit of "Page" is "Impression". In duplex scanning, "Page" counter is increased by 1 when the front side of sheet scanning started, and the counter is increased by 1 when the back side scanning started. %LOCATION_INFO%: Location Information (Scan To Mail, Scan To Network PC, Fax sending only) %COMM_NO%: the number of communication(Fax Sending only) %SCAN_PAGE%: the number of current scanning page. %DOC_SIZE%: Document size Scan Size setting is "Auto": the detected document size. Scan Size setting isn't "Auto": the selected scan size.
Scan Pages sss PrintPages ppp Copy aa/bb	Indicates that it is copying. sss: the number of current scanning page. ppp: the number of current printing page. aa: the number of current printing. bb: the total number of printing. The unit of "Scanned pages" is "Impression". For example, in duplex scanning, "Scanned pages" counter is increased +1 at the front side of sheet scanning started, and the counter is increased +1 at the back side scanning started. The unit of "Print pages" is "Impression". In simplex printing, "Print page" counter is increased by 1 when the paper exited from fuser. In duplex printing, "Print page" counter is increased by 2 when the paper exited from fuser (after the back side printed out).

Displayed message	Descriptions
Scanning Press Stop Key to stop scannng. Page :%SCAN_PAGE% Doc.Size:%DOC_SIZE%	Indicates that it is scanning in ScanTo USB Memoy. The unit of "Page" is "Impression". For example, in duplex scanning, "Paget" counter is increased +1 at the front side of sheet scanning started, and the counter is increased +1 at the back side scanning started. %SCAN_PAGE%: the number of current scanning page. %DOC_SIZE%: Document size Scan Size setting is "Auto": the detected document size. Scan Size setting isn't "Auto": the selected scan size.
<Copy Screen> Set next document. ---------- <Scan To, Fax Sending Screen> Set next document. Set documents and press [Scan next page].	This screen is displayed at the time of the scanning completed in Job Build = ON. Copy: "Sample Screen" sheet - no.28 ScanTo: "Sample Screen" sheet - no.29 Fax Sending: "Sample Screen" sheet - no.30
Cancelling	Indicates that the scanning for Scan To USB memory is canceling by the pressing Stop key.
Data Writing to USB Memory	Indicates that it is wrighting the image file to USB memory after the scanning completed. The cancel operation by STOP key pressing is unsupported during the writing to USB memory.
Please set document and press Start Key.	Indicates that it is waiting Scan To Local PC started by user. The selected function will be started by start key pressed. This message is displayed when the application button ([Application], [Folder], [E-mail], [PC-FAX]) is selected in Scan To Local PC stand-by screen.
Connecting to PC	Indicates that it is connecting to PC. This message will be displayed at Start key pressed after the orignal document set.
Called	Indicates that tha fax receiving started.

Displayed message	Descriptions
Receiving SIZE MODE Prrr	Indicates that it is receiving fax date. SIZE: size of documents Mode: Resolution of the receiving fax data rrr: number of the current receiving page
x x x x x x x Transmitting	Indicates that it is calling. x x x x x x x x : fax number of the calling.
No destination information. Transmitting SIZE MODE Pppp/ttt	Indicates that it is sending fax date. SIZE: size of documents Mode: Resolution of the receiving fax data ppp: number of the current sending page ttt: number of the total pages scanned
Cancelling	Indicates that the scanning for fax senfing is canceling by pressing Stop key.
Canceled	Indicates that the scanning for fax senfing is canceled.
Deleted	Indicates that the calling is canceled. This message is displayed when the Stop key is pressed during the calling.
Deleted	Indicates that the fax sending is canceled.
%STATUS%	Indicates that the details of network communication. %STATUS% E-mail transmission in progress. Transmission in progress. POP reception in progress: indicates that receiving from Mail Server. SMTP reception in progress: indicates that receiving from Mail Server. Transmission in progress: indicates that data sending via network. The cancel operation by STOP key pressing is unsupported during Email and fail sending.
Authenticating	Indiates that it is authenticating via network. This message is dsplayed until the login completed.

Displayed message	Descriptions
Connecting to Server	Indicates that connecting to mail server. The cancel operation by STOP key pressing is unsupported during the connecting to mail server.
Cancelling transmission.	Indicates that Email sending is canceling. This massage is displayed when an error is occurred during Email sending. The key operation is disableed during this message displayed.
Searching	Indicates that connecting to LDAP server. nnnnnnnnn: LDAP server name or IP address of LDAP server.
Searching	Indicates that searcing addresses by LDAP server.
Searching was cancelled.	Indicates that address search is canceled by the pressing Stop key.
Connecting to Server	Indicates that connecting to file server. The cancel operation by STOP key pressing is unsupported during the connecting to file server.
Cancelling transmission.	Indicates that file sending is canceling. This message is displayed when an error is occurred during file sending. The key operation is disableed during this message displayed.
SIP update in progress.	Indicates that downloading the SIP firmware data.
Address Book Printing	Indicates that printing of E-mail address list and Group address list that they are registered in Address Book.
Speed Dial List Printing	Indicates that printing of fax location list that is registered in Speed dial.
Group List Printing	Indicates that printing of fax location list that is registered in Group dial.
Transmit Journal Printing	Indicates that printing of fax sending result list.
Receipt Journal Printing	Indicates that printing of fax receiving result list.

Displayed message	Descriptions
Transmit/Receipt Journal Printing	Indicates that printing of fax communication (sending and receiving) result list.
Daily Journal Printing	Indicates that printing of fax comunication (sending and receiving) result list that was executed within 24 hours.
MCF Report Printing	Indicates that printing of fax sending confirmation report.
Check Message Printing	Indicates that printing of fax communication error report.
FCODE Box Journal Printing	Indicates that printing of the message report that fax receiving data is sroted in F code box by F code receiving.
Erased Report Printing	Indicates that printing of the message report that the stored fax data in memory was eraced.
F-code Box List Printing	Indicates that printing of the enabled F code box list.
Block Junk Fax List Printing	Indicates that printing of the location list that is not permission to receive fax.
Stored Doc. List Printing	Indicates that printing of the stored fax image data list.
Insert USB Memory. USB Memory Disconnected	Indicates that Scan to USB memory is selected without USB memory connection.
There is no job.	Indicates that the printable stored job is not registered.
There is no job.	Indicates that the printable secure job is not registered.
Searching	Indicates that searching the printable encryption job.
Searching was cancelled.	Indicates that printable encryption job search is canceled by the pressing Stop key.
Data transmission in progress.	Indicates that scanned image data sending to PC.
Searching	Indicates that print waiting job searching.

Displayed message	Descriptions
Searching was cancelled.	Indicates that print waiting job is canceled by the pressing Stop key.
There is no job.	Indicates that print waiting job is not stored.
Cancelling	Indicates that print waiting job is canceling.
Preparing	Indicate that the unit is preparing to be able to use the replaced expendable supplies. This message is displayed at the time of toner cartriges replaced.
Unit data is being updated.	Indicates that the unit date is being updated by using PJL command.
<Processing is completed> PASSED ---------- <Processing is failed> FAILED	Indicates that the requested process is finished. "Passed" is displayed, if the process is completed correctly. "Failed" is displayed, if the process is finished with an error.
Cancelling	Indicates that the image data writing to USB memory is canceling. This massage is displayed when an error is occurred during the data writing to USB memory. The key operation is disableed during this message displayed.
Fax Rx Doc. Printing	Printing fax Received Data.
Fax Store Doc Printing	Printing Stored fax sending data.

Warning

Displayed message	Descriptions
Please install %COLOR% Toner.	Toner amount is low. Displayed in a combination of other message in the first line. In case of MENU "Admin Setup"-"Printer Setup"-"Print Menu"-"Printer Adjust"-"Low Toner"=Stop, Alarm LED blinks and the printer shifts to OFF Line. When an ONLINE switch is pushed, or when arbitrary errors occur and the error is canceled, an off-line state is canceled, and printing is continued until it is set to Toner Empty(no.143). Arbitrary errors are errors of no.114-173, 358 and 359. "TONER LOW" status occurs when the power is on, the LED of Alarm in a case of MENU "Admin Setup"-"Printer Setup"-"Print Menu"-"Printer Adjust"-"Low Toner"=Stop is blinked and go back to the off line after the initializing process. It is possible to operate untill "TONER EMPTY" by pressing "ONLINE switch". Moreover, when set as "Admin Setup"-"Management"-"System Setup"-"Near Life LED"=Disable, Alarm LED is switched off. %COLOR% Y M C K
Please install %COLOR% Toner.	This warning is displayed at Cover Open/Close or Power OFF/ON after a waste-toner full error (no.142) occurs. (Not occur for Black.) Displayed in a combination of other message in the first line. As long as this warning is being displayed, a waste toner full error occurs , the printer shifts to Offline and stops each time it has printed about 50 copies. %COLOR% Y M C

Displayed message	Descriptions
Please install %COLOR% Toner.	It shows the toner cartridge of authorized 3rd party. (RFID Licensed to 3rd party) %COLOR% Y M C K
%COLOR% Toner Regional Mismatch.	The Region ID of toner cartridge is not proper to the distribution channel. %COLOR% Y M C K
Non Genuine %COLOR% Toner.	The chip of RFID is not compatible. %COLOR% Y M C K
Error Postscript	Interpreter detects an error due to the following reason. Receive data after this is ignored until the job completion. When the job is completely received, this is automatically cleared. - The job has a grammatical error. - The page is complicated, and VM was used up.
%COLOR% Image Drum Near Life.	The life of the drum (warning). Displayed in a combination of other message in the first line. The printer stops at the point when it reaches the drum life (Shifts to error, OFF-LINE.) Moreover, when set as "Admin Setup"-"Management"-"System Setup"-"Near Life LED"=Disable, Alarm LED is switched off. %COLOR% Y M C K

Displayed message	Descriptions
Fuser Unit Near Life.	Notifies the fuser unit is near its life. Moreover, when set as "Admin Setup"-"Management"-"System Setup"-"Near Life LED"=Disable, Alarm LED is switched off.
Belt Unit Near Life.	Notifies the belt unit is near its life. This is a warning; thus, printing will not stop. Moreover, when set as "Admin Setup"-"Management"-"System Setup"-"Near Life LED"=Disable, Alarm LED is switched off.
Please change Fuser Unit.	Notifies the life of the fuser unit (warning). This appears when the cover was opened and closed just after the fuser life error occurred.
Please change Belt Unit.	Notifies the life of the belt unit (warning). This appears when the cover was opened and closed just after the belt life error occurred.
%COLOR% Toner Empty	Notifies the toner is empty. This is a warning only. This appears when the cover was opened and closed just after the toner empty error occurred. %COLOR% Yellow Magenta Cyan Black
%COLOR% Toner not installed.	Notifies the toner cartridge is not installed. This is a warning only. %COLOR% Y M C K

Displayed message	Descriptions
Please install New %COLOR% Image Drum.	Notifies the life of the drum. This is a warning only. This appears when the cover was opened and closed just after the drum life error occurred. %COLOR% Y M C K
Belt Reflex Error	Belt Reflex Check Error. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.
Density Shutter Error2	Density Adjustment Shutter Error 2. Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.
Density Shutter Error1	Density Adjustment Shutter Error 1. Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.
Density Color Calibration	Density Adjustment Color Calibration Error. Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.
Density Color Sensor Error	Density Adjustment Color Sensor Error. Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.
Density Black Calibration	Density Adjustment Black Calibration Error. Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.

Displayed message	Descriptions
Density Black Sensor Error	Density Adjustment Black Sensor Error. Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.
%COLOR% Image Drum Smear Error	Density Adjustment ID ERROR 2; smear due to ID failure. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. %COLOR% Y M C K
%COLOR% Low Density Error	Density Adjustment ID ERROR; LED out of focus is assumed. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. %COLOR% Y M C K
Sensor Calibration Error	When output of color registration sensor is below reference value. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.
Registration Error <n>	When a color registration error is detected with coarse adjustment, or with the main-scan line adjustment. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. n 2 = Yellow 3 = Magenta 4 = Cyan 5 =

Displayed message	Descriptions
Registration Sensor Error <n>	When a color registration error is detected with the fine control of registration adjustment, or with the sub-scan line adjustment. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. n 2 = Yellow 3 = Magenta 4 = Cyan 5 =
%COLOR% Head Data Error	The LED head calibration data is missing or invalid. Printing can be proceeded without calibrating light radiation. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. %COLOR% Y M C K
%TRAY% Empty	%TRAY%: The tray is empty. Treated as Warning until printing to the empty tray is designated. %TRAY% Tray1 Tray2 Tray3 The alarm buzzer is sounded when the all trays is empty.
File System is Full Press <Stop> key	Disk-full is occurring. Because this is a temporary warning, it remains until the end of the job and disappears.
File System is Write Protected	An attempt to write in a read-only file was done. Because this is a temporary warning, it remains until the end of the job and disappears.
Job Rejected	Indicates that PX736MFP received the limited PJL command to use. It remains until the end of the job and disappears.

Displayed message	Descriptions
Memory Overflow Memory Overflow.	Memory overflow was occurred in the collate print.
Access limitation error Deleted unauthorized user data.	Notifies users that jobs have been cancelled because they are not permitted for printing. (Related to JobAccount). Notifies users that jobs have been cancelled because they are not permitted for PC-Fax. (Related to JobAccount).
File Erasing	Indicates that a secret file is being erased.
Deleting encrypted job.	It indicates the deletion of encrypted authentication print job and saving of deletion request of file.
Erased Data Full	Indicates that a secret file waiting to be erased is full.
Expired Secure Job Press <Stop> key	Indicates that an applicable job has been automatically deleted as the retention period for authentication printing has expired.

Displayed message	Descriptions
Disk Use Failed %FS_ERR% Press <Stop> key	A disk error is occurred, which is other than the file system fill or the disk write protected. Operation that does not involve a disk is available. This message is cleared by stop key pressed. %FS_ERR% = 0 ... GENERAL ERROR = 1 ... VOLUME NOT AVAILABLE = 3 ... FILE NOT FOUND = 4 ... NO FREE FILE DESCRIPTORS = 5 ... INVALID NUMBER OF BYTES = 6 ... FILE ALREADY EXISTS = 7 ... ILLEGAL NAME = 8 ... CANT DEL ROOT = 9 ... NOT FILE = 10 ... NOT DIRECTORY = 11 ... NOT SAME VOLUME = 12 ... READ ONLY = 13 ... ROOT DIR FULL = 14 ... DIR NOT EMPTY = 15 ... BAD DISK = 16 ... NO LABEL = 17 ... INVALID PARAMETER = 18 ... NO CONTIG SPACE = 19 ... CANT CHANGE ROOT = 20 ... FD OBSOLETE = 21 ... DELETED = 22 ... NO BLOCK DEVICE = 23 ... BAD SEEK = 24 ... INTERNAL ERROR = 25 ... WRITE ONLY
%PUFLASH% Flash Error	PU flush error (Error occurs during the alteration of PU farm or it failed in the alteration in PU flush of such as LED Head information.) %PUFLASH% PU TRAY2 TRAY3 DUPLEX

Displayed message	Descriptions
Received invalid data. Press <Stop> key	Indicates that a job has been deleted because corruption of data has been detected by the integrity verification in authentication printing.
Received invalid data. Press <Stop> key	Invalid data was received. Press the On-line switch and eliminate the warning. Displayed when unsupported PDL command is received or a spool command is received without HDD.
Cannot store Fax job.	Indicates that the number of delayed fax sending registration was aleardy full.
Searching for Address Failed	Indicates that it does not find out the target addresses from LDAP Server.
Search Results Exceeded the Limit.	Indicates that search results of LDAP server exceeded the upper limit value.
%TRAY% missing.	Indicates that paper trays are not installed. %TRAY% Tray1 Tray2 Tray3
Access limitation error Monochrome printing was performed due to the color printing limitation.	Notifies users that color print jobs were printed by monochrome because they are not permitted for color printing. (Related to JobAccount Color Access Contorl.).
Access limitation error Monochrome printing was performed due to the color printing limitation.	Notifies users that color print jobs were cancelled because they are not permitted for color printing. (Related to JobAccount Color Access Contorl.).
Access limitation error Data was deleted due to the printing limitation.	Notifies users that jobs were cancelled because they are not permitted for printing. (Related to JobAccount Color Access Contorl.).
Remove the connected USB device. Unsupported USB device is connected.	Indicates that the unsupported USB device was connected. This message will be displayed until the unsupported USB device disconnected.

Displayed message	Descriptions
Remove the USB Hub. USBHub is connected.	Indicates that the unsupported USB Hub was connected. This message will be displayed until the unsupported USB Hub disconnected.
Accounting Log Buffer is Near Full	It indicates the Job Accounting log buffer is near full.
Accounting Log Writing Error Press <Stop> key	The Job Accounting log is not registered correctly because of thr disc access error is occurred during accounting log writing into HDD (Related to Logging). This message is displayed until STOP key pressed.
Job Log Writing Error Press <Stop> key	The log is not registered correctly because of thr disc access error is occurred during system job log writing into HDD. This message is displayed until STOP key pressed.
Accounting Log Buffer Full (Delete old logs)	The function isn't accepted because log buffer is full. (Related to JobAccount). This message is displayed, if the log buffer is full and "Operation at Log Full" in Job Accounting Server Software is set to "Delete old logs". The new jobs will be able to execute after the following operations. 1. The log in the unit must be got by Job Accounting Server Software. 2. The setting of "Operation at Log Full" must be changed to "Does not acquire logs".

Error

Error Code	Displayed message	Descriptions
–	Memory Overflow. Press <Stop> key	Display that memory overflow is occurred during PC Fax Job receiving. Return to Mode Selection screen by the pressing Stop button.
–	Login Failed	Displays that the entered PIN ID is incorrect.
–	Incorrect Password.	Displays that the entered password is incorrect.

Error Code	Displayed message	Descriptions
–	<The message for Copy> There is no authority to copy. There is no authority to copy in color. ---------- <The message for Fax Sending> There is no authority to fax. ---------- <The message for Scan To Mail> There is no authority to ScanToMail. ---------- <The message for Scan To USB Memory> There is no authority to ScanToUSB. ---------- <The message for Scan To Local PC> There is no authority to ScanToLocalPC. ---------- <The message for Scan To Network PC> There is no authority to ScanToNetworkPC.	The entered PIN ID isn't accepted to use the function. (Related to JobAccount.) When the users that aren't allowed to use color copy function display copy screen, - Color Start key's LED is turned off. - The operations of color copy settings can be used. Copy: "Sample Screen" sheet - no.55 Fax Sending: "Sample Screen" sheet - no.56 Scan To Mail: "Sample Screen" sheet - no.57 Scan To USB Memory: "Sample Screen" sheet - no.58 Scan To Local PC: "Sample Screen" sheet - no.59 Scan To Network PC: "Sample Screen" sheet - no.60
–	Wait a Moment Program Data Receiving	Indicates that receiving the NIC download data.
–	Wait a Moment Program Data Received OK	Indicates that finished receiving the NIC download data.

Error Code	Displayed message	Descriptions
–	Check Data Program Data Receive Error <%DLCODE%>	An error has happened while the printer is receive-processing the NIC download data. %DLCODE% 1: File size error 2: Check-sum error 3: Invalid printer model number 4: Invalid module I/F version 5: Invalid FAT version
–	Wait a Moment Program Data Writing	The printer is writing the NIC download data.
–	Power Off/On Program Data Written OK	The printer finished writing the NIC download data.
–	Check Data Program Data Write Error <%DLCODE%>	An error has happened while the printer is writing the NIC download data. %DLCODE% 1: Memory allocation error 2: Download file error 3: Device allocation error 4: No device space 5: File writing failure 6: CU-F/W mismatch
–	Shutdown screen & Initializing screen	Rebooting of the controller unit. %CODE% is a decimal value (one digit) and represents the reason to reboot. = 0 ... Reboot due to a reason other than the followings. = 1 ... Reboot due to PJLCommand. = 2 ... Reboot in accordance with a menu change. = 3 ... Reboot due to quit operator of PostScript Language. = 4 ... reboot by Network Utility (including Web).
–	Shutdown in progress	It is shown that a unit is shutting down.
–	Please turn off the Power.	Indicates that the printer has completed shutting down.

Error Code	Displayed message	Descriptions
–	Please turn off the Power.	It is shown that the printer completed shutdown processing.
–	Memory Overflow. Press <Stop> key	Indicates that memory overflow is occurred during the following functions executing. - Memory overflow is occurred during the executing of copy. - Memory overflow is occurred during the executing of Scan To mail. - Memory overflow is occurred during the executing of Scan To Network PC. - Memory overflow is occurred during the executing of Scan To USB memory. - Memory overflow is occurred during the executing of Fax sending.
–	Cover Open Close the blinking cover	Indicates that ADF cover of scanner unit is opened. Indicates that inter-lock cover of scanner unit is lifted up. Notes: If inter-lock cover is lifted up during scanning from document feeder, system will display document jam.
–	Document jam Open & check the blinking cover.	Indicates that the document jam occurred during the scanning.
–	Lamp Error. Please call service.	Indicates that the lamp error is occurred. This message is displayed because of the light intensity of lamp is weaker.
–	Carriage Error	Indicates that the mirror caridge error is occurred. This message is displayed because of the calidge of scanner doesn't work normally.
–	USB Memory Full Press <Stop> key	Indicates that the file saving is failed bacause of USB memory doesn't have enough free space. The file saving is aborted. Stand-by screen is displayed after the stop key pressed.
–	Writing Failed Press <Stop> key	Indicates that the file saving is failed for the reasons of being in a write-protected state. If the Stop key is pressed, it shift to stand-by screen.

Error Code	Displayed message	Descriptions
–	USB Memory Disconnected Press <Stop> key	Indicates that the USB memory was extracted. When a USB memory is extracted all over ScanToMemory execution, the file saving of image file is stopped. If the Stop key is pressed, it shift to stand-by screen.
–	Connect to PC Failed Press <Stop> key	Indicates that it is failed to connect to PC. If the Stop key is pressed, it shift to stand-by screen.
–	Mirror Caridge mode Mirror carriage is locked. Turn screws at 2 places shown in the following figure, release the lock, and touch the [Release] button.	Indicates that it is mirror caridge mode. The mirror caridge mode is set to ship used to move the
–	Memory Overflow Rx Press <Stop> key	Indicates that the fax memory overflow was occurred during fax receiving.
–	Communication Error Press <Stop> key	Indicates that the fax sending was failed. The details of the fax sending errors are not displayed. The detail information is diplayed by the pressing [Job Confirm./ Fax Cancel] key.
–	Communication Error Press <Stop> key	Indicates that the fax receiving was failed. The details of the fax receiving errors are not displayed. The detail information is diplayed by the pressing [Job Confirm./ Fax Cancel] key.
–	Telephone	The screen that specified talking by telephone is displayed, when [OffFook] button pressed or the handset hooked up.
–	Phone connection terminated	Indicates that the handset is fooking up. The message is displayed when the handset is fooked up for long times after manual fax sending.
–	File Transmission Error Press <Stop> key	Indicates that file sending was failed due to the file server problems, network cable discnnected or network trouble (Scan To Network PC). This message is cleared by the pressing Stop key.

Error Code	Displayed message	Descriptions
–	E-mail Transmission Error Press <Stop> key	Indicates that Email sending was failed due to the mail server problems, network cable discnnected or network trouble (Scan To Email). This message is cleared by the pressing Stop key.
–	Check SMTP Settings Press <Stop> key	Indicates that failed to connect with SMTP server.
–	Check POP3 Settings Press <Stop> key	Indicates that failed to connect with POP3 server.
–	SMTP Login Failed Press <Stop> key	Indicates that failed to login in SMTP server.
–	SMTP Auth. Unsupported Press <Stop> key	Indicates that authentification is unsupported by SMTP server.
–	POP3 Login Failed Press <Stop> key	Indicates that failed to login in POP3 server.
–	Check LDAP Settings.	Indicates that LDAP Server connection is failed.
–	LDAP Login Failed	Indicates that failed to login in LDAP Server.
–	LDAP Communication Error	Indicates that the communication with LDAP Server was disconnected by the unknown reasons.
–	Search Root Error	Indicates that the Serarch Root is not found out in LDAP Server.
–	Address Search Time-out.	Indicates that the address search is failed by time-out error.
–	Getting Target IP Failed Check DHCP Settings.	Indicates that DHCP server is not found out. Scan to Email, Scan to Network PC and Scan to Remote PC (WSD) are unusable during this status occurring. This message is displayed by the timing when "Mail", "Network PC" icons were pressed with a "Scan Menu" screen.
–	Check DNS Settings. Press <Stop> key	Indicates that failed to connect DNS Server. The same message is displayed, if name resoution is failed in DNS server.

Error Code	Displayed message	Descriptions
–	Check Server Setting Press <Stop> key	Indicates that failed to connect with file server.
–	Server Login Failed Press <Stop> key	Indicates that failed to login in CIFS or FTP server.
–	Entering Directory Failed Press <Stop> key	Indicates that failed to access in directory of FTP server.
–	Changing Data Transfer Type Failed Press <Stop> key	Indicates that the data transfer type of FTP server is not supported by this unit. The file sending will be success by the changing of data transfer type in FTP serve.
–	File Writing Failed Press <Stop> key	Indicates that failed to make image file in file server during Scan To Network PC executing.
–	Storage Space Full Press <Stop> key	Indicates that the file sending is failed because of FTP Server doesn't have enough free space in strage device. (FTP Server)
–	Change File Name Press <Stop> key	Indicates that the file sending is failed because of the file name is not permission. (FTP Server)
–	Unsupported Server Press <Stop> key	Indicates that the server does not support CIFS/ FTP.
–	Check Network Share Name Press <Stop> key	Indicates that the network folder name is wrong. (CIFS Server)
–	Check Data Program Data Write Error <%DLCODE%>	Indicates that an error has happened while writing the SIP download data. %DLCODE% 1: Data transfer error 2: No device space 3: Check sum error 4: Chip detection error 5: Chip erace error 6: Chip writing error 7: Chip verify error 8: Data error (Product code is wrong e.t.c.) 9: Data size error

Error Code	Displayed message	Descriptions
–	%TRAY% missing.. Please close %TRAY%. To cancel Select [Cancel]	Indicates that paper feed is unavailable in attempting to print from Tray 3 due to removal of the paper cassette of Tray 3. %TRAY% Tray3 ***Note!*** If the paper cassette of the tray is removed during displaying paper request (no.124, 125), system will display that tray is removed (this display)
–	Cancelling Copy job	Indicates that copy job is canceling. This message displayed when the copy is canceled by printer unit status (paper empty, Jam, printer cover opened).
–	Copy job Cancelled	Indicates that copy job is canceling. This message displayed when the copy is canceled by printer unit status (paper empty, Jam, printer cover opened). This message is displeayed until [Enter] button pressed.
–	Inspection is required. %ERRCODE%: SIP Error	Indicates that the processing of Scan Image Processing contller was failed. User must turn Off/ On the power supply, if this status occurred. %ERRCODE% =1: RAM Check Error =2: Illigal parameters =3: Memory Overflow =4: Scanner Receiving Time-out =5: Others (Fatal Error)
–	Please call service Scanner unit failed to detect printer unit.	Indicates that scanner and printer is not connected. This message is displayed, if the communication between scanner and printer units could not be started. User must turn Off/ On the power supply, if this status occurred.

Error Code	Displayed message	Descriptions
(ONLINE)	Install Paper On %TRAY% Please set paper (%MEDIA_SIZE%). To cancel Select [Cancel]	Manual paper feed is required. Manually insert the paper shown by %MEDIA_SIZE%. The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297mm 8.5x11.0inch %TRAY% MP Tray
(ONLINE)	Wait a Moment Message Data Processing	Indicates that message data to be updated is being processed.
(ONLINE)	Wait a Moment Message Data Writing	Indicates that message data to be updated is being written.
(ONLINE)	Power Off/On Message Data Written OK	Indicates that message data to be updated has been written successfully.
(ONLINE)	Check Data Message Data Write Error %CODE%	Indicates that writing of message data to be uploaded has been failed. %CODE% is a decimal value (one digit) and represents the cause of failure in writing. = 1 ... FAIL: Other errors. = 2 ... DATA_ERROR: Hash check error in data reading/writing, or abnormal FLASH = 3 ... OVERFLOW: Downloading failure due to FLASH memory full at starting or during writing in a language file = 4 ... MEMORYFULL: Memory reservation failure = 5 ... UNSUPPORTED_DATA: Downloading data unsupported on the MFP

Error Code	Displayed message	Descriptions
(ONLINE)	Wait a Moment Network Configuration Writing	This appears during the NIC configuration data is storing into the flash memory, as the setting was changed.
(ONLINE)	Wait a Moment Network Initializing	This appears when the NIC initialization is occurred, as the setting was changed.
(ONLINE)	SIP Firmware Missing.	Indicates that the firmware in MZA board can not be detected.
310 311	Cover Open Close the blinking cover	The cover is open. Error 310 : Top Cover Error 311 : Front Cover
316	Cover Open Close the blinking cover	The cover is open. Error 316 : Duplex Unit
320	Please check Fuser Unit.	The fuser unit is not correctly installed.
321	Power Off and Wait for a while	Motor Driver IC overheat is detected.
330	Please change Belt Unit.	The belt unit is not correctly installed.
340 341 342 343	Please check %COLOR% Image Drum.	The image drum is not correctly installed. Error 340 : Y Error 341 : M Error 342 : C Error 343 : K
348	Please check Fuser Unit: %ERRCODE%	The engine detects the fuser unit error. It recovers, when a value is able to be normally read by re-reading after cover closing. When not recovering, exchange of a fuser unit is needed. %ERRCODE% specifies 3 digits error code.
350 351 352 353	Please install New %COLOR% Image Drum.	The life of the image drum (Alarm) Error 350 : Y Error 351 : M Error 352 : C Error 353 : K Warning status takes effect at Cover Open/Close.

Error Code	Displayed message	Descriptions
354	Please change Fuser Unit: %ERRCODE%	Notifies the fuser has reached its life. This is the error displayed based on the counter to indicate that the fuser has reached its life, and printing will stop. Warning status takes effect at Cover Open/Close. This error will occur on some user setting mode. %ERRCODE% specifies 3 digits error code.
355	Please change Belt Unit: %ERRCODE%	Notifies the transfer belt has reached its life. This is the error displayed based on the counter to indicate that the belt has reached its life, and printing will stop. Warning status takes effect at Cover Open/Close. %ERRCODE% specifies 3 digits error code.
356	Please change Belt Unit: %ERRCODE%	Indicates waste toner full. Warning status takes effect only once at Cover Open/Close, and the error occurs again when about 500 copies have been printed. %ERRCODE% specifies 3 digits error code.
360	Install Duplex Unit	Duplex unit is open (removed). This message is displayed the duplex unit is removed under the error status (paper jam, cover opend e.t.c.) occurred. If the duplex unit is removed without error status, "Inspection is required. 181: Fatal Error" is displayed.
370 371 373	Paper jam! Open & check the blinking cover.	Jam has occurred nearby DUPLEX unit. Error 370 : Duplex Reversal Error 371 : Duplex Input Error 373 : Multifeed into Duplex (Duplex Remain Jam) Alarm Buzzer is sounded, when "Admin Setup" - "Management" - "Sound Setup" - "Paper Jam Alert" setting is "ON".
372	Paper jam! Open & check the blinking cover.	Jam has occurred nearby DUPLEX unit. Error 372 : Misfeed from Duplex Alarm Buzzer is sounded, when "Admin Setup" - "Management" - "Sound Setup" - "Paper Jam Alert" setting is "ON".

Error Code	Displayed message	Descriptions
380	Paper jam! Open & check the blinking cover.	Jam has occurred in paper path. Error 380 : Feed Alarm Buzzer is sounded, when "Admin Setup" - "Management" - "Sound Setup" - "Paper Jam Alert" setting is "ON".
381 382 383 385 389	Paper jam! Open & check the blinking cover.	Jam has occurred in paper path. Error 381 : Transport Error 382 : Exit Error 383 : Duplex Entry Error 385 : Around Fuser Unit Error 389 : Printing Page Lost Alarm Buzzer is sounded, when "Admin Setup" - "Management" - "Sound Setup" - "Paper Jam Alert" setting is "ON".
390	Paper jam! Open & check the blinking cover.	Paper jam occurred during paper feeding from tray. Error 390 : MP Tray Alarm Buzzer is sounded, when "Admin Setup" - "Management" - "Sound Setup" - "Paper Jam Alert" setting is "ON".
391 392 393	Paper jam! Open & check the blinking cover.	Paper jam occurred during paper feeding from tray. Error 391 : Tray1 Error 392 : Tray2 Error 393 : Tray3 Alarm Buzzer is sounded, when "Admin Setup" - "Management" - "Sound Setup" - "Paper Jam Alert" setting is "ON".
400	Paper size error Open & check the blinking cover.	Inappropriate size paper was fed from a tray. Check the paper in the tray or check for Multiple-feed. Open and close the cover to perform recovery printing, and continue.
401	Paper size error Open & check the blinking cover.	Warns that inappropriate long paper has been fed from the tray. Check whether Multi-feed has happened. Recovery Print takes place at Cover Open/Close, allowing the operation to continue.

Error Code	Displayed message	Descriptions
410 411 412 413	%COLOR% Toner Empty	Toner ends. Error 410 : Y Error 411 : M Error 412 : C Error 413 : K Warning status takes effect at Cover Open/Close.
414 415 416	Please install %COLOR% Toner	Indicates that a waste toner box represented by %COLOR% has become full and needs to be replaced. Error 414 : Y Error 415 : M Error 416 : C (Does not occur for K.) Warning status takes effect at Cover Open/Close and printing of about 50 copies becomes available.
420	Memory Overflow Memory Overflow.	Memory capacity overflows due to the following reason. Press ON-LINE switch so that it continues. Install expansion RAM or decrease the data amount. - Too much print data in a page. - Too much Macro data. - Too much DLL data. - After frame buffer compression, over flow occurred.
421	Protec Paper Error: Protec Paper Error: %ERRCODE%:	This error occurs if a received job does not meet the security level designated by a printer administrator. A printing operator is not using the printer driver that is specified by a security manager of the printer. Displays a warning on the operation panel as waiting for key press. Does not print the job that is being processed. (The same operation as job reset)
422	Protec Paper Error: Protec Paper Error: %ERRCODE%:	Density of the destination image for a woven pattern is greater than that of the woven pattern. A user must take measures such as increasing density of the woven pattern or decreasing density of the input image. Displays a warning on the operation panel as waiting for key press. Does not print the job that is being processed. (The same operation as job reset)

Error Code	Displayed message	Descriptions
423	Trust Paper Error Trust Paper Error: %ERRCODE%	This error occurs when capacity of specified information to be embedded exceeds the capacity that can be embedded in the woven pattern. A printing operator must reduce data to be embedded in the woven pattern. Displays a warning on the operation panel as waiting for key press. Does not print the job that is being processed. (The same operation as job reset)
424	Trust Paper Error Trust Paper Error: %ERRCODE%	Density of the destination image for woven pattern is greater than that of the woven pattern. A user must take measures such as increasing density of the woven pattern or decreasing density of the input image. Displays a warning on the operation panel as waiting for key press. Does not print the job that is being processed. (The same operation as job reset)
425	Trust Paper Error Trust Paper Error: %ERRCODE%	The area specified for tampering verification is incorrect. This error occurs when an image is pushed away or the unprintable area is specified.
426	Protec Paper Error: Protec Paper Error: %ERRCODE%:	Size of information to be embedded is greater than paper size. It is required to reduce information to be embedded or increase print paper size to make prints.
427	Protec Paper Error: Protec Paper Error: %ERRCODE%:	NTP server setting is not correct. Print JOB is canceled because it judged that the correct time is impossible to enter. Users need to change the setting of NT server.
430	%TRAY% missing. Please close %TRAY%. To cancel Select [Cancel]	Indicates that paper feed is unavailable in attempting to print from Tray 1 due to removal of the paper cassette of Tray 1. %TRAY% Tray1 ***Note!*** If the paper cassette of the tray is removed during displaying paper request (no.124, 125), system will display that tray is removed (this display)
431	%TRAY% missing. Please close %TRAY%. To cancel Select [Cancel]	Indicates that paper feed is unavailable in attempting to print from Tray 2 due to removal of the paper cassette of Tray 2. %TRAY% Tray2 ***Note!*** If the paper cassette of the tray is removed during displaying paper request (no.124, 125), system will display that tray is removed (this display)
440 441	%TRAY% missing. Please close %TRAY%. To cancel Select [Cancel]	Indicates removal of the paper cassette of Tray 1 that is a paper path in attempting to print from Tray 2. %TRAY% Tray1 Tray2
460	%TRAY% Media Mismatch. On %TRAY% Please set paper(%MEDIA_SIZE% %MEDIA_TYPE%). To cancel Select [Cancel]	The media type in the tray and the print data do not match. Load paper that was set in %MEDIA_SIZE% and %MEDIA_TYPE% in tray. %TRAY% MPTray Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display.

Error Code	Displayed message	Descriptions
460	%TRAY% Media Mismatch. On %TRAY% Please set paper(%MEDIA_SIZE% %MEDIA_TYPE%). To cancel Select [Cancel]	The size of paper or media type in the tray does not match the print data. Load paper that was set in %MEDIA_SIZE% and %MEDIA_TYPE% in tray. %TRAY% MPTray Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display.
461 462 463	%TRAY% Media Mismatch. On %TRAY% Please set paper(%MEDIA_SIZE% %MEDIA_TYPE%). To cancel Select [Cancel]	The media type in the tray and the print data do not match. Load paper that was set in %MEDIA_SIZE% and %MEDIA_TYPE% in tray. %TRAY% Tray1 Tray2 Tray3 Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display.

Error Code	Displayed message	Descriptions
461 462 463	%TRAY% Media Mismatch. On %TRAY% Please set paper(%MEDIA_SIZE% %MEDIA_TYPE%). To cancel Select [Cancel]	The size of paper or media type in the tray does not match the print data. Load paper that was set in %MEDIA_SIZE% and %MEDIA_TYPE% in tray. (It takes a while until the status disappears after you have closed the tray and the lever lifted.) %TRAY% Tray1 Tray2 Tray3 Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display.
490	No Paper On %TRAY% Please set paper (%MEDIA_SIZE%). To cancel Select [Cancel]	Printing request is issued to an empty MPTray. Load paper that was set in %MEDIA_SIZE%. %TRAY% MPTray The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display. This error is occurred, when the MPTray is in the home position and the sensor "PE SNS2" cannot detect papers.

Error Code	Displayed message	Descriptions
491 492 493	No Paper On %TRAY% Please set paper (%MEDIA_SIZE%). To cancel Select [Cancel]	Printing request is issued to an empty tray. Load paper that was set in %MEDIA_SIZE%. (It takes a while until the status disappears after you have closed the tray and the lever lifted.) %TRAY% Tray1 Tray2 Tray3 The unit of paper size in Custom: The unit specified for MPTray (menu setting) is used if no unit is specified by the driver. When the driver specifies a unit, the unit is used for display.
540 541 542 543	Please check %COLOR% Toner cartridge: %ERRCODE%	Something is wrong with the toner sensor. This status is indicated in Shipping Mode only. If the same error is detected in FACTORY Mode, it is indicated as service call of 163. Error 540 : Y Error 541 : M Error 542 : C Error 543 : K
544 545 546 547	Please check %COLOR% Toner cartridge: %ERRCODE%	Shows that the toner cartridge lever has not been locked. Error 544 : Y Error 545 : M Error 546 : C Error 547 : K

Error Code	Displayed message	Descriptions
550 551 552 553	%COLOR% Toner Regional Mismatch: %ERRCODE%	The signature ID of toner cartridge can not be recognized (Unauthorized third party). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Error 550 : Y Error 551 : M Error 552 : C Error 553 : K Four following behavior is carried out by mode of operation. 1. Only warning display .(This error is not displayed). 2. Warning status takes effect at Cover Open/Close. 3. With no automatic concentration compensation . 4. This error is displayed and it stops. When this error occurs in more than one color toners, the all tonners that have this error status and a high most priolity error code are displayed. Example) • When this error occurs in all toners: YMCK Toner Regional Mismatch: 550 • When this error occurs in MC toners: MC Toner Regional Mismatch: 551

Error Code	Displayed message	Descriptions
554 555 556 557	%COLOR% Toner Regional Mismatch: %ERRCODE%	The signature ID of toner cartridge is not proper to the distribution channel, but the group of signature ID is proper (OKI regional mismatch). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Error 554 : Y Error 555 : M Error 556 : C Error 557 : K When this error occurs in more than one color toners, the all tonners that have this error status and a high most priolity error code are displayed. Example) • When this error occurs in all toners: YMCK Toner Regional Mismatch: 554 • When this error occurs in MC toners: MC Toner Regional Mismatch: 555
560 561 562 563	Please install New %COLOR% Image Drum.	The toner empty error is occurred after the image drum reached its life. Error 560 : Y Error 561 : M Error 562 : C Error 563 : K This is displayed until a user exchanges the image drum.
610 611 612 613	%COLOR% Toner not installed.	The toner cartridge is not installed. Error 610 : Y Error 611 : M Error 612 : C Error 613 : K Four following behavior is carried out by mode of operation. 1. Only warning display. (This error is not displayed). 2. Warning status takes effect at Cover Open/Close. 3. With no automatic concentration compensation . 4. This error is displayed and it stops.

Error Code	Displayed message	Descriptions
614 615 616 617	%COLOR% Toner Regional Mismatch: %ERRCODE%	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is not proper (OEM channel mismatch). Error 614 : Y Error 615 : M Error 616 : C Error 617 : K When this error occurs in more than one color toners, the all tonners that have this error status and a high most priolity error code are displayed. Example) • When this error occurs in all toners: YMCK Toner Regional Mismatch: 614 • When this error occurs in MC toners: MC Toner Regional Mismatch: 615
620 621 622 623	%COLOR% Toner Regional Mismatch: %ERRCODE%	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is protected (OEM mismatch). Error 620 : Y Error 621 : M Error 622 : C Error 623 : K When this error occurs in more than one color toners, the all tonners that have this error status and a high most priolity error code are displayed. Example) • When this error occurs in all toners: YMCK Toner Regional Mismatch: 620 • When this error occurs in MC toners: MC Toner Regional Mismatch: 621
Fatal <nnn>	Power Off/On %ERRCODE% : Fatal Error	A fatal error occurred. For more information, see "Service Calls List". nnn: specifies 3 digits error code. The message of fatal error is specifiedby English only.
Fatal <nnn>	Inspection is required. %ERRCODE% : Fatal Error	A fatal error occurred. For more information, see "Service Calls List". nnn: specifies 3 digits error code. The message of fatal error is specifiedby English only.

Error Code	Displayed message	Descriptions
Fatal 002- 011 F0C F0D FFE FFF	Power Off/On %ERRCODE% : Fatal Error	A fatal error occurred. For more information, see "Service Calls List". The message of fatal error is specifiedby English only.
Fatal 070 073 075	Power Off/On %ERRCODE% : Fatal Error **	A fatal error occurred. For more information, see "Service Calls List". '**' specifies error code that is the detailed error cause. The message of fatal error is specifiedby English only.
Fatal 072 057 058	Power Off/On %ERRCODE% : Fatal Error *	A fatal error occurred. For more information, see "Service Calls List". '*' specifies error code that is the detailed error cause. The message of fatal error is specifiedby English only.
Fatal 096 231 128 168 169	Inspection is required. %ERRCODE% : Fatal Error *	A fatal error occurred. For more information, see "Service Calls List". '*' specifies 2 digits error code that is the detailed error cause. The message of fatal error is specifiedby English only.
Fatal 126	Power Off and Wait for a while %ERRCODE% : Condensing Error	A dew is formed. The message of fatal error is specifiedby English only.
Fatal 203 204	%ERRCODE% : Fatal Error ***	A fatal error occurred. For more information, see "Service Calls List". '***' specifies error code that is the detailed error cause. The message of fatal error is specifiedby English only.
Fatal 209	Power Off/On %ERRCODE% : Download Error	Downloading Media Table to PU has failed. (Related to CustomMediaType.) The message of fatal error is specifiedby English only. "Download Error" is specified by Japanease and English only.
Fatal 9xx	Power Off/On %ERRCODE% : Fatal Error	A fatal error occurred. For more information, see "Service Calls List". The message of fatal error is specifiedby English only.

Table 7-1-1 Service Call Error List

Display	Cause	Error details		Measure
Restart the MFP 002: Fatal Error : 005: Fatal Error	CPU Exception	Does the error display recur?	Yes No	If RAM DIMM is installed, remove and Power OFF/ON. CU PCB replacement. RAM DIMM reinstallation RAM DIMM replacement
Ask for inspection by Oki Data. 020: Fatal Error	CU ROM Hash Check Error	Does the error display recur?	Yes	Power OFF/ON. CU PCB replacement
Ask for inspection by Oki Data. 030: Fatal Error	CU RAM Check Error	Does the error display recur?	Yes	Power OFF/ON. CU PCB replacement
Ask for inspection by Oki Data. 031: Fatal Error	CU Optional RAM Check Error	Is installation of the RAM DIMM normal? Does the MFP recover from the error when the RAM DIMM is replaced?	No Yes No	RAM DIMM reinstallation RAM DIMM replacement CU PCB replacement
Ask for inspection by Oki Data. 040: Fatal Error	CU EEPROM Error	Does the error display recur?	Yes	Power OFF/ON. CU PCB replacement
Ask for inspection by Oki Data. 041: Fatal Error	CU Flash Error. Flash ROM error on the CU PCB	Does the error display recur?	Yes	Power OFF/ON. CU PCB replacement
Ask for inspection by Oki Data. 042: Fatal Error : 043: Fatal Error. 045: Fatal Error	Flash File System Error	Failed to access to the Flash ROM that is directly soldered to the CU PCB.		Power OFF/ON CU PCB replacement
Ask for inspection by Oki Data. 051: Fatal Error	CU Fan Error CPU cooling fan error on CU PCB.	Is the CU fan connector connected normally? Does the MFP recover from the error when the fan is replaced?	No Yes No	Re-connect it normally. FAN replacement TBM PCB replacement
Restart the MFP. 054: Fatal Error *	Communic-ation error between the Controller and the Scanner Unit is detected.	Communication error between the Controller and the Scanner Unit is detected.		After turning OFF the power, take note of the value shown in the bottom right of LCD. Then turn ON the power.
Restart the MFP. 055: Fatal Error	Scanner unit is not detected.	The CU FW has detected that the Scanner Unit cannot be recognized though it could have been recognized when the power is turned ON.		If the MFP does not recover from the trouble even when the power is turned OFF and back ON, device may require replacement by service engineer or connection between the Scanner and Printer must be checked.
Ask for inspection by Oki Data. 056: Fatal. Error	Hard disk is not installed.	Hard disk is not installed. ? Does the MFP recovers to normal operation after hard disk is installed and the power is turned OFF once and back ON?	Yes No	Turn OFF the power and install the hard disk. Then turn ON the power. Hard disk replacement or CU PCB replacement
Restart the MFP. 057: Fatal Error *	Scanner command communic-ation time-out	Command communication time-out is detected between Controller and Scanner Unit (Cause is displayed by sub number.) 01: ACK against the scan start command is not issued. 02: ACK against the scan cancel command is not issued. 03: ACK against the SIP cancel command is not issued.		Take note of the value that is displayed in bottom right of LCD. Power OFF/ON

Display	Cause	Error details		Measure
Restart the MFP. 058: Fatal Error *	Scanner controller error	Internal error is deteced in the scanner controller. (Cause of the error is indicated by the sub number.). 01: SIP internal error. 02: Scan Model internal error. 03: SPB internal error		Take note of the value that is displayed in bottom right of LCD. Power OFF/ON
Restart the MFP. 070: Fatal Error **	Postscript core error	Error is deteced inside the postscript core		Take note of the address that is displayed on LCD. Power OFF/ON
Restart the MFP. 072: Fatal Error *.	Engine I/F Error. I/F error between PU-CU	Is CU Assy installed correctly? Does the MFP recocover by the CU PCB replacement?	No Yes No	Re-install it correctly. CU PCB replacement PU PCB replacement
Restart the MFP. 073: Fatal Error **	Video Error. Error is detected when expanding the video data. (Illegal data is received.)	Is the CU Assy installed correctly? Does the error recur?	No Yes Yes	Re-install it correctly. Chage the PC to high performance machine, or decrease resolution, and execute printing again. CU PCB replacement
				Interface cable replacement or printer driver reinstallation
		Is the CU Assy installed normally? Does the error recur? Does the error depend on print data?	No Yes Yes No Yes	Re-install it correctly. Print once again. Print other data. CU PCB replacement Ask design division for analysis.
Restart the MFP 074: Fatal Error	Video Error. Error is detected during expanding the image data.	Is the CU Assy installed normally?	No Yes	Re-install it correctly. CU PCB replacement.

Display	Cause	Error details		Measure
Restart the MFP. 075: Fatal Error **				
Ask for inspection by Oki Data. 081: Fatal Error	Parameter matching check error	EEPROM or Flash cannot read/write normally.		Turn the power OFF/ ON. If symptom cannot be improved, replace CU PCB.
Ask for inspection by Oki Data. 104: Fatal Error	Engine EEPROM read/write error is deteced.	Does the error recurr?	Yes	Power OFF/ON. PU PCB replacement
Ask for inspection by Oki Data. 106: Fatal Error	Engine control logic error	Does the error recurr?	Yes	Power OFF/ON. PU PCB replacement
Ask for inspection by Oki Data. 111: Fatal Error	Duplex unit of another model is detected.	Is the Duplex unit installed?	No	Install the correct Duplex unit.
Ask for inspection by Oki Data. 112: Fatal Error	Is the 2nd tray of another model is detected.	Is the 2nd tray installed?	No	Install the correct 2nd tray.
Ask for inspection by Oki Data. 113: Fatal Error	The 3rdtray of another model is detected.	Is the 3rd tray installed?	No	Install the 3rd tray of this model.
Ask for inspection by Oki Data. 121: Fatal Error	High voltage power suply I/F error	Is the cable between PU PCB and High voltage power suply connected normally? Is there defective contact? Note)	No Yes No	Re-connect it. Check for defective contact in the high voltage system. High voltage power suply replacement

Display	Cause	Error details		Measure
Ask for inspection by Oki Data. 122: Fatal Error	Low voltage power supply fan error	Does the fan in the low voltage power supply (bottom right on the front) work normally? Is the fan connector connected normally?	No Yes No Yes	Confirm connection of the fan connector. PU PCB replacement. Fan motor replacement. PU PCB replacement.
Ask for inspection by Oki Data. 123: Fatal Error	Environment humidity abnormal/ Humidity sensor is not connected.	Does the error recurr?	Yes	Power OFF/ON. Control panel PCB replacement
Ask for inspection by Oki Data. 124: Fatal Error	Environment temperature abnormal	Does the error recurr?	Yes	Power OFF/ON. Control panel PCB replacement
Power OFF the power and wait for a while. 126: Dew condensation error	Dew condensa-tion is detected in MFP.	It can easily occur when the MFP is brought to indoor directly from old outdoor. Leave the MFP for two hours or half day under normal room temperature. Then, turn OFF the power once and back ON.Does the error recurr?	Yes	After leaving the MFP while, turn OFF the power once and back ON. Control panel PCB replacement
Ask for inspection by Oki Data. 127: Fatal Error	Fixing/ ventila-tion fan error	Is the fan connector connected normally? Does the error recur?	No Yes No	Re-connect it normally. Fan motor replacement. PU PCB replacement
Ask for inspection by Oki Data. 128: Fatal Error 05 128: Fatal Error 07	05: Fixing unit end cooling fan error. 07: Cooling fan on the side of the power supply block (side fan) error	Is the fan connector connected normally? Does the error recur?	No Yes No	Re-connect it normally. fan motor replacement. PU PCB replacement.

Display	Cause	Error details		Measure
Ask for inspection by Oki Data. 131: Fatal Error : 134: Fatal Error	LED head detection is abnormal. (131 =Y, 132 = M, 133 = C, 134= K)	Is the LED head installed normally ? Is the LED HEAD FUSE blown? Does the error recurr?	No Yes Yes No Yes	Install the LED head unit normally. Check the LED HEAD FUSE. Check the FUSE. Turn OFF the power once and back ON. LED head unit replacement. For the fuse check method, refer to item 7. 6.
Ask for inspection by Oki Data. 142: Fatal Error	ID Up/Down Position detection error	Can the ID unit installed/ removed smoothly without being caught by something? Does the error recurr?	Yes No Yes	Reinstallation of ID unit. Turn OFF the power once and back ON. Then, replace the ID UP/DOWN sensor.
Ask for inspection by Oki Data. 150: Fatal Error : 153: Fatal Error	ID unit fuse is blown. (150 = Y, 151 = M, 152= C, 153 = K)	Is the ID unit installed normally? Does the error recurr? Does the MFP recover after PU/PRZ PCB is replaced?	No Yes Yes No	Reinstallation of ID unit. Turn OFF the power once and back ON. Check the cable connection between ON.PRZ PCB and PU PCB. After that, replace the PRZ PCB. PU PCB replacement
Ask for inspection by Oki Data. 154: Fatal Error	Belt unit fuse is blown.	Is the belt unit installed normally? Does the error recurr?	No Yes Yes	Reinstallation of belt unit Turn OFF the power once and back ON. After checking the cable connection, replace the PU PCB.

Display	Cause	Error details		Measure
Ask for inspection by Oki Data. 155: Fatal Error	Fuser unit fuse is blown.	Is the fuser unit installed normally ? Does the error recurr?	No Yes Yes	After cleaning the connectors of the Fuser unit, re-install it. Turn OFF the power once and back ON. After checking the cable connection, replace the PU PCB.
Ask for inspection by Oki Data. 160: Fatal Error : 163: Fatal Error	Toner sensor detection is defective. (160= Y, 161 = M, 162 = C, 163= K). It does not occur with the default setup.	Is the toner cartridge installed? Is the toner lock lever set? Does the error recurr?	No No Yes	Rotate the toner lock lever that fixes the toner cartridge to the locking position. Turn OFF the power once and back ON. Replace the toner sensor Assy.
Ask for inspection by Oki Data. 167: Fatal Error	Thermistor Slope Error	Is the error message displayed? Does the error recurr?	 Yes	Turn OFF the power once and back ON. After leaving the MFP for 30 minutes, turn OFF the power once and back ON.
Ask for inspection by Oki Data. 168: Fatal Error *	Compensation Thermistor Error	Is the error message displayed?. Does the error recurr?	 Yes	Turn OFF the power once and back ON. After leaving the MFP for 30 minutes, turn OFF the power once and back ON.
Ask for inspection by Oki Data. 169: Fatal Error *	Upper Side Thermistor	 Does the error recurr?	 Yes	Turn OFF the power once and back ON. After leaving the MFP for 30 minutes, turn OFF the power once and back ON.

Display	Cause	Error details		Measure
Ask for inspection by Oki Data. 170: Fatal Error 171: Fatal Error	Short-circuit or open-circuit of the Fuser unit thermistor is detected.	Does the error recurr?	Yes	Turn OFF the power once and back ON. Fuser unit replacement
Ask for inspection by Oki Data. 172: Fatal Error 173: Fatal Error	Fuser unit thermistor detected abnormal temperature. (High or low temperature)	Does the error recurr? Does the error recurr?	Yes Yes	Turn OFF the power once and back ON. Replace the fuser unit. Low voltage power supply replacement
Ask for inspection by Oki Data. 174: Fatal Error	Short-circuit of backup roller thermistor is detected. (At high temperature)	Does the error recurr?	Yes	Turn OFF the power once and back ON. Replace the fuser unit.
Ask for inspection by Oki Data. 175: Fatal Error	Open-circuit of backup roller thermistor is detected. (At low temperature)	Does the error recurr?	Yes	Turn OFF the power once and back ON. Replace the fuser unit.
Ask for inspection by Oki Data. 176: Fatal Error 177: Fatal Error	Abnormal temperature of backup roller thermistor is detected. (High or low temperature)	Does the error recurr? Does the error recurr?	Yes Yes	Turn OFF the power once and back ON. Replace the fuser unit. Low voltage power supply replacement

Display	Cause	Error details		Measure
Ask for inspection by Oki Data. 181: Fatal Error 182: Fatal Error	Option unit I/F error (181 =Duplex Unit, 182 = Option Tray)	Does the error recurr? Does the error recurr?	Yes Yes	Turn OFF the power once and back ON. Check for sure connection of the connector. Replace the option unit.
Restart the MFP. 190: Fatal Error	System memory overflow.	Does the error recurr?	Yes	Turn OFF the power once and back ON. Install the add-on RAM DIMM
Ask for inspection by Oki Data. 200: Fatal Error : 202: Fatal Error	PU Firmware Download Error	Error has occurred during PU firmware re-writing.		Turn OFF the power once and back ON. Then, download it again. (This trouble does not occur during normal operation because this process is not used in the normal operation.)
Restart the MFP. 203: Fatal Error *** 204: Fatal Error *** 207: Fatal Error 208: Fatal Error 214: Fatal Error F0C: Fatal Error F0D: Fatal Error FFF: Fatal Error FFE: Fatal Error	CU program error. (Errors 203 to 214 does not occur during normal operation.)	CU program executed illegal process.		Turn the power OFF. Then, check connection between CU PCB and PU PCB. Turn OFF the power once and back ON.
Restart the MFP. 209: Download error	Custom Media Type table download has failed.	Custom Media Type downloading has failed.		Turn OFF the power once and back ON. Then, perform downloading again. (This trouble does not occur during normal operation because this process is not used in the normal operation.)

Display	Cause	Error details		Measure
Ask for inspection by Oki Data. 230: Fatal Error	RFID Reader not Installed	RFID read device error Does the error recurr?	Yes Yes	Check connections of the RFID R/W PCB. Replace the RFID R/W PCB and replace the P6X PCB.
Ask for inspection by Oki Data. 231: Fatal Error *	I/F error of RFID reader	I/F error between the RFID reader is detected. 01: Communication error between the RFID reader and Engine PCB 02: Wireless circuit error of RFID reader 03: Communication eeor btwenn RFID reader and tag chip 04: Error is detected in the RFID tag chip. (In 4 or more chips)		01: Same as the error 230 02: Replace the RFID R/W PCB. 03: Check for correct connection of antenna cable. 04: Check that number of the RFID tags is correct.
Restart the MFP. 901: Fatal Error : 904: Fatal Error	Belt temperature is abnormal. 901: Short-circuit. 902: Open-circuit. 903: High temperature. 904: Low temperature.	Is the cable between the belt thermistor and high voltage PCB connected normally? Does the error recurr?	No Yes No	Re-connect the cable normally. Turn OFF the power once and back ON. Belt thermistor replacement
Restart the MFP. 918: Fatal Error	Duplex FAN Alarm Dtekution	Duplex internal FAN error. Does the problem recur after turning OFF the power once and back ON? Does the problem recur after turning OFF the power once and back ON?	 Yes Yes	Check that the Duplex unit is installed normally. Check that the FAN is connected normally. Replace the FAN.

Display	Cause	Error details		Measure
Restart the MFP. 923: Fatal Error	Black image drum lock error	K ID does not rotate normally. Does the error display recur even after turning OFF the power once and back ON?	 Yes Yes	Check that the K ID is installed normally. Replace the K ID unit. Replace the K ID motor.
Restart the MFP. 928: Fatal Error	Fuser motor lock error	Fuser does not rotate normally. Does the error recurr?	 Yes Yes	Check that the Fuser is installed normally. Replace the fuser unit. Replace the fuser motor.
Restart the MFP. 980: Fatal Error	Media jamming error around fuser.	Media is jammed by entangling around the fuser.		Turn OFF the power. Replace the fuser unit.
SDRAM ERROR	CU PCB (CU) DCON access error	Does the error recurr?	Yes	Turn OFF the power once and back ON. CU PCB replacement
xxxxxxxxxxxxxx-xx. CRC CHECK NG ( )	PU down-loaded data CRC check error	After the PU data is downloaded (PU firmware, custom media data), CRC check error is detected.		After turning OFF the power once and back ON, download the data again. (This trouble does not occur during normal operation because this process is not used in the normal operation.)
LOADER VERSION. xx xx	PU PCB Flash ROM hash check error	Does the error recurr?	Yes	Turn OFF the power once and back ON. PU PCB replacement
WDT ERROR. R14= ×××××××	PU firmware runaway	Does the error recurr?	Yes	Turn OFF the power once and back ON. PU PCB replacement

Display	Cause	Error details		Measure
COMMUNICA-TION ERROR	I/F error between PU and CU.	Is the CU Assy installed normally? Does the error recurr? Does the error recurr even the options such RAM and HDD is removed? Note 2)	No Yes No Yes No	Re-install it correctly CU PCB replacement PU PCB replacement CU PCB replacement Replace the corresponding option

Note) Because the service call 168 error, 171 error, 175 error, 903 error, 904 error can occur when the MFP is placed in 0°C or below, store the MFP in a warm environment if the MFP has got cold. After the MFP is appropriately warmed, turn OFF the power once and back ON.

Note 2) However, for the Security Kit Type A1, refer to item 7. 8.

7.5.2 Troubleshooting

Note! When an attempt is going to be made to replace the PU PCB, be sure to read the data contents of the EEPROM chip from the old PU PCB beforehand, and copy the data contents into the new PCB after the new PU PCB is installed. (Refer to 5.4.1 Precautions when replacing the engine control PCB)

7.5.2.(1) LCD display error

Memo For the numbers from ① through ㉖ after name of the respective connectors, refer to 7.5.2.(19) “Wiring diagram”.

(1-1) LCD does not display anything.

Check item	Check work	Action to be taken at NG
(1-1-1) Check the fuse		
F2, F3 and F4 (fuses) on MZA PCB	Check if F2 or F3 or F4 has blown out or not.	Replacement of F2, F3, F4 or MZA PCB.
(1-1-2) Check the system connection		
Connection between the low voltage power supply unit and the MZA PCB	Check if the cable from the low voltage power supply to the POWER connector ㉚ of the MZA PCB is normally connected or not. 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.
Cable assembly connecting the low voltage power supply unit and the MZA PCB	Check if any open-circuit or peeling-off of sheath has occurred or not throughout the cable. Check if the cable assembly is defective such as internal wires are disconnected or not.	Replace the cable with the normal cable.
Power supply to MAZ PCB and scanner	Check that cable is connected normally to the SCPOW connector ㉛ of MZA PCB. Check for secure coupling of connectors.	Re-connect the cable normally.
FFC connecting the PU PCB and the CU PCB	Check that 12-conductor FFC is connected to the CUIF connector ⑨ of the P PCB. Check the CU PCB side in the same manner.	Replace the low voltage power supply.
(1-1-3) Check the peripherals of the power supplies		
Primary AC power source that is connected to the printer.	Check the supplied voltage of the AC power source.	Supply the AC power.
Voltage setting of the lower voltage power supply unit (100V system/230V system)	Measure the AC voltage supplied. Check the power voltage setting of the equipment in use. (Check the shorting plug that is used for selection of the voltage power supplies.) Shorting plug is Used/Not used = 100V system/230V system.	Set the low voltage power supply setting.
5V power that is supplied to the MZA PCB.	Check 5V power at pin-1 and 24V power at pin-6 of the POWER connector ㉞ of MZA PCB.	Replace the low voltage power supply.
5V power that is supplied to the scanner	Check 24V power at pin-1, and 5V power at pin-5 of the CN connector ㉛ of A PCB.	Replace F5 or the P6X PCB.
(1-1-4) Check that power supply circuit has no short-circuit.		
5V or 24V power supply that is supplied to the PU PCB	Check that power supply circuit has no short-circuit at the POWER connector pin ⑩ of the POWER PCB. Pin-4, -5, -6: 24V Pin-7: 5V Pin-8: 0VL Pin-1, -2, -3: 0VP If any voltage does not appear and short-circuit is detected, locate the source of the short-circuit as follows. Disconnect the cables that are connected to the PU PCB one cable after another until location of the short-circuit is found out.	Replace the part causing short-circuit.

(1-2) From the startup screen after power-on:

Check item	Check work	Action to be taken at NG
(1-2-1) Check the system connection		
Connection between the low voltage power supply unit and the MZA PCB	Check if the cable from the low voltage power supply to the POWER connector ㉚ of the MZA PCB is normally connected or not. 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.
Cable assembly connecting the low voltage power supply unit and the MZA PCB	Check if the cable has open circuit or not. Check if sheath of the cable has not peeled off or not. Check if the cable assembly is defective such as internal wires are disconnected or not.	Replace the cable with the normal cable.
Connection of the MZA scanner	Check that the scanner unit connector of the MZA PCB is normally connected.	Re-connect the cable normally.
FFC connecting the MZA PCB and the TB2 PCB	Check that the 11-conductor FFC is connected to the conector ㉝ CU PCB. Check that the connection with the MZA PCB is normal. 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.
Direct connection between the TB2 PCB and the MZA PCB	Check that the MZA PCB is not installed in the wrong position by the visual check.	Re-install the MZA PCB into the correct position.

(1-3) Error messages related to Operator Panel are displayed.

Check item	Check work	Action to be taken at NG
(1-3-1) Error message		
Error message	Check the error contents by referring to the Error Message List.	Follow the instruction.

7.5.2.(2) Abnormal operations of printer after the power is turned on

(2-1) Any operation does not start at all

Check item	Check work	Action to be taken at NG
(2-1-1) Check the peripherals of the power supplies		
Primary AC power source that is connected to the printer.	Check the supplied voltage of the AC power source.	Supply the AC power.
Voltage setting of the lower voltage power supply unit (100V system/230V system)	Measure the AC voltage supplied. Check the power voltage setting of the equipment in use. (Check the shorting plug that is used for selection of the voltage power supplies. [CN6]) Shorting plug is Used/Not used = 100V system/230V system.	Set the low voltage power supply setting.
5V power and 24V power that are supplied to the PU PCB.	Check that power supply circuit has no short-circuit at the POWER connector pin ⑩ of the POWER PCB. Pin-4, -5, -6: 24V Pin-7: 5V Pin-8: 0VL Pin-1, -2, -3: 0VP	Replace the low voltage power supply unit.

(2-2) Abnormal sound is heard

Check item	Check work	Action to be taken at NG
(2-2-1) Check loss of synchronization of motor (Driver error)		
Operating conditions of the respective motors	Check if operations of the respective motors are normal or not by using the self-diagnostic mode. Check if any extra load exists or not. “Buzz buzz” sound is generated when an error occurs.	PU PCB replacement
Condition of the motor cable	Check for normal wiring conditions of the respective motors. Perform the visual check and measure resistance at open circuit with VOM as follows. Remove the motor cable at the PCB end. Measure resistance between the respective pins of the removed cable and FG with VOM.	Replace the motor cables. Re-connect the cable for normal conditions.
(2-2-2) Check loss of synchronization of motor (Abnormal load of the consumable item)		
Operating conditions of the respective motors	Check if operations of the respective motors are normal or not by using the self-diagnostic mode. Check if any extra load exists or not. “Buzz buzz” sound is generated when an error occurs.	Replacement of the various consumable items. If any attempt of using new part as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(2-2-3) Check loss of synchronization of motor (Abnormal load of the consumable item)		
Operating conditions of the respective motors	Check if operations of the respective motors are normal or not by using the self-diagnostic mode. Check if any extra load exists or not. “Buzz buzz” sound is generated when an error occurs.	Replacement of the various consumable items. If any attempt of using new part as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
Installation condition of each consumable item	Check by visual inspection if the respective consumable items are installed in their normal positions in which gears of the consumable items engage accurately or not.	Replace an appropriate mechanical part as required, or adjust or repair.
(2-2-4) Check the wiring conditions of cables		
Wiring conditions of the cables in the vicinity of the respective cooling fans	Check if the cable contacts with the fan blade because wiring conditions of the cables near fan is poor or not. “Clap, clap” sound is generated when an error occurs.	Correct the wiring conditions of the cable.
(2-2-5) Check installation condition of mechanical parts		
Check the installation conditions of the partition plate under the CU and PU PCBs.	Remove the CU and PU PCB, and inspect the installation conditions of the partition plate by visual inspection.	If they are not hooked on the normal specified positions, correct them.

(2-3) Bad odors are generated.

Check item	Check work	Action to be taken at NG
(2-3-1) Locating the exact position of generating bad odor		
Fuser unit	Remove the fuser unit and check the odor.	Implement item (2-3-2).
Low voltage power supply unit	Remove the low voltage power supply unit and check the odor.	Replace the low voltage power supply unit.
(2-3-2) Check conditions of the fuser unit		
Life count of fuser unit	Check the life count of the fuser unit by using the self-diagnostic mode.	The fuser close to the new fuser unit smells some odors.
Check that no foreign material exists in fuser unit.	Check that no foreign materials such as paper are stuck inside of the fuser unit.	Remove the foreign material.

(2-4) Rise-up time is slow.

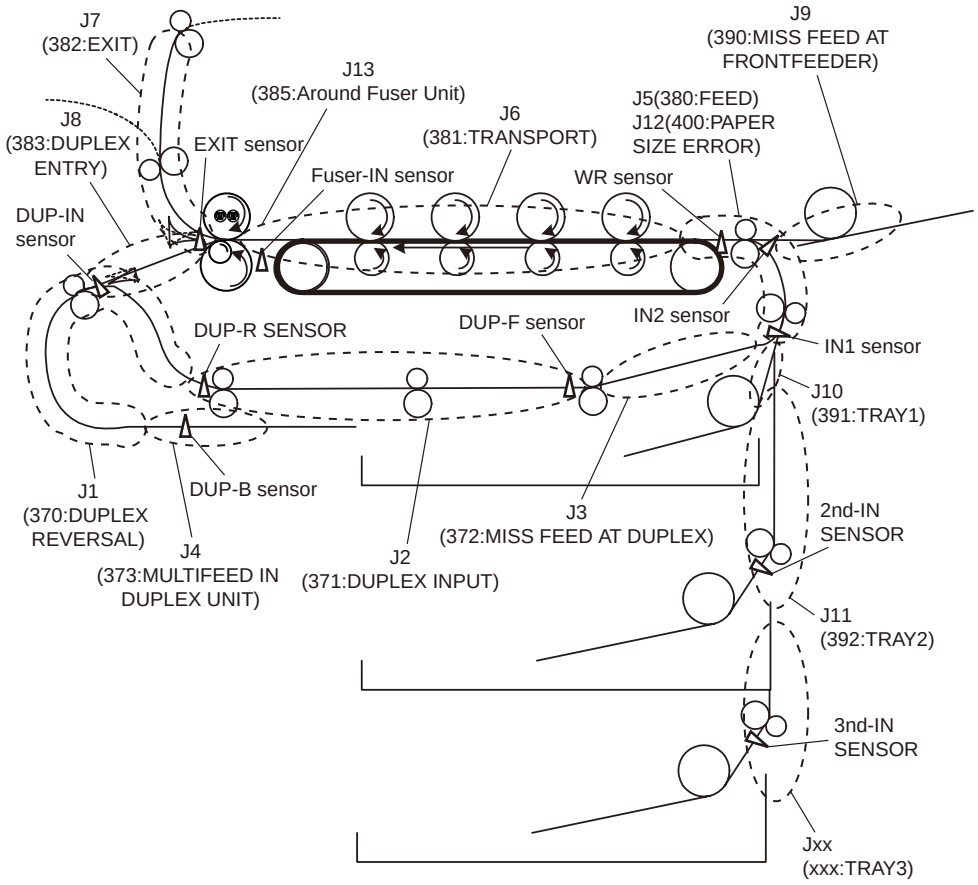
Check item	Check work	Action to be taken at NG
(2-4-1) Check the fuser unit		
Halogen lamp	Check that 100V is shown on the label on the rear of the fuser unit.	Replace the fuser unit.
(2-4-2) Check the optional parts Note)		
Add-on memory	Install the optional parts (add-on memory) again and re-check the operations.	Replace the optional part.
HDD	Install the optional part (HDD) again and re-check the operations.	Replace the optional part.
Security kit Type A1	Refer to 7.8.	

Note) If any troubles such as printer does not start up normally occurs, remove the CU options (RAM, HDD) and check if the trouble symptom changes or not.

(3) Error number and location of the cause of the error when jam occurs

Error No.	Jam contents	Location of the cause of the jam	Related sensors	Removal method when jam occurs
370	Duplex reversal	J1	DUP-IN, DUP-R	Jam removal method ③
371	Duplex input	J2	DUP-F, DUP-R	Jam removal method ③
372	Feed error at Duplex	J3	IN1	Jam removal method ①
373	Multi-feed in Duplex Unit	J4	DUP-B	Jam removal method ③
380	Feed	J5	IN2, WR	Jam removal method ①
381	Transport	J6	IN1, IN2, WR, Fuser-IN, EXIT	Jam removal method ②
382	Exit	J7	EXIT, Fuser-IN	Jam removal method ②
383	Duplex entry	J8	EXIT, DUP-IN, DUP-R	Jam removal method ②
385	Around Fuser Unit	J13	Fuser thermister	Jam removal method ②
390	Feed error at front feeder	J9	IN2, WR	Jam removal method ①
391	Tray1	J10	IN1	Jam removal method ①, ④
392	Tray2	J11	2nd-IN	Jam removal method ④
400	Paper size error	J12	IN1	Jam removal method ①

Diagram showing locations where jams occur



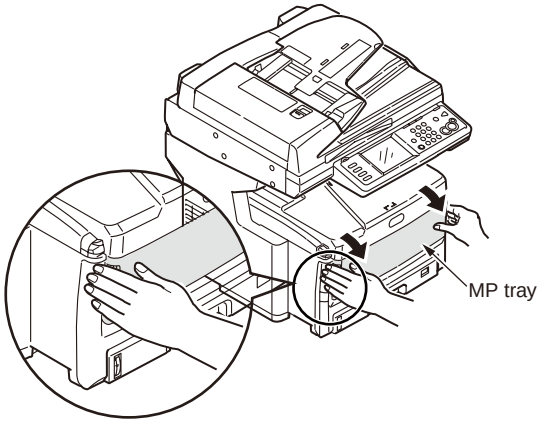
Jam recovery method ①

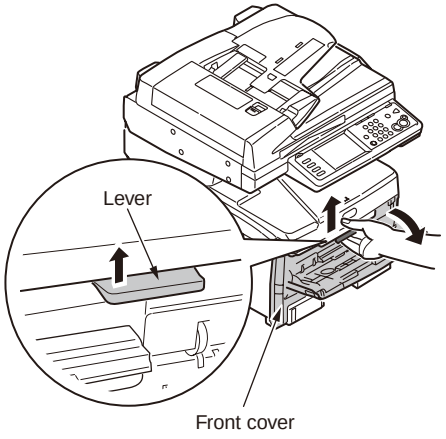
Remove the jammed paper.

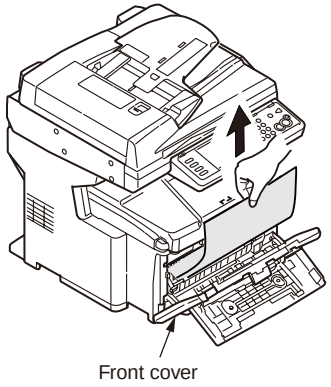
Front cover block (Code: 372, 380, 390, 391, 400)

Open the front cover. If either top end or rear of a jammed paper is visible, draw out the jammed paper gently with care. When code 400 occurs, jammed paper may be unloaded automatically sometime. In such a case, open and close the front cover. The MFP can be recovered from the error.

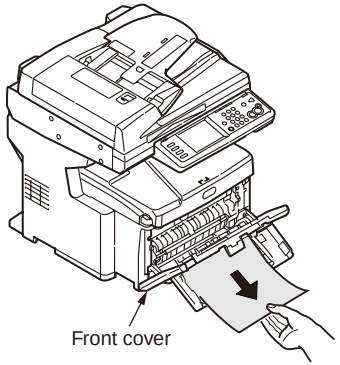
If top end of the jammed paper is visible:







If top end of the jammed paper is invisible 1.



Jam recovery method ②

Fuser unit (Code: 381, 382, 383, 385)

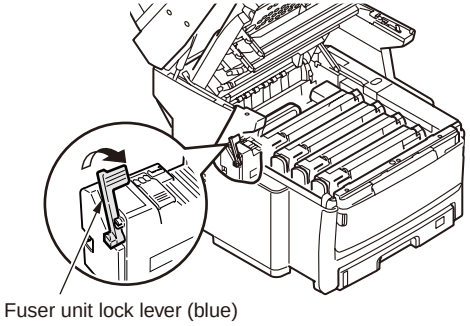
⚠Caution	Failure to observe the caution may result in burn injury.	

The fuser unit gets very hot. Be very careful not to touch the fuser unit with your hands. If it got hot, stop the work and wait until it cools down. After it has cooled down, start the following steps.

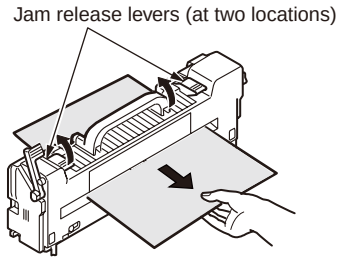
(1) Raise the scanner and open the top cover.

(2) Raise the fuser unit lock levers (two levers shown in blue) in the direction shown by the arrow.

(3) Hold the handle and remove the fuser unit and place it on a flat workbench.

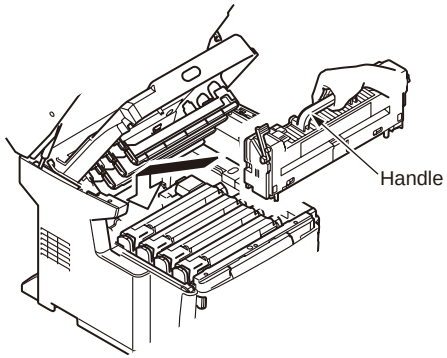


(4) Raise the jam release levers (at two locations) and draw out the jammed paper in the direction (direction is strictly specified) shown by the arrow (toward front of a printer) gently with care.



(5) Hold the hand and return the fuser unit back inside of a printer gently.

(6) Move the fuser unit lock levers (two levers shown in blue) toward deep end of a printer, and lock them.



Note! After the jammed paper has been removed from the fuser unit, the un-used toner (not used yet for fusing) may be left remained inside the fuser unit. Be sure to execute the Menu Map print (see item 3.6) or perform white paper print several times to remove the un-used toner.

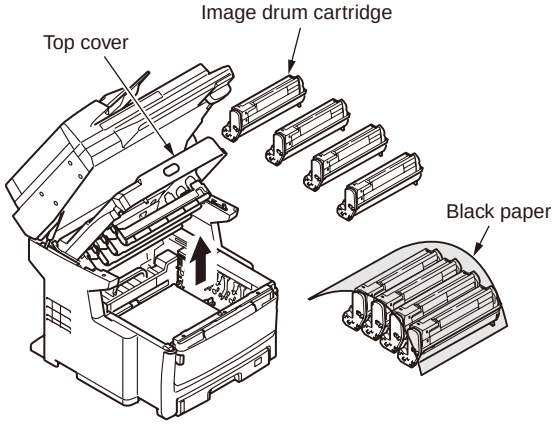
If the paper jam error cannot be released even after the jammed paper has been removed, remove the other remaining jammed paper by the following method.

(1) Remove the four image drum cartridges and place them on a flat workbench.

(2) Cover the removed image drum cartridge with a black paper.

Note! • The image drum (green tubular portion) is highly inherently-brittle. Be very careful when handling it.

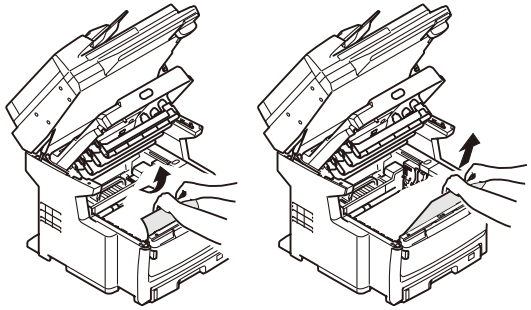
• Be very careful not to expose the image drum to direct sun light or intense light (light of approx. 1500 lux or more). Do not leave it under the normal illumination even indoor for 5 minutes or longer.



(3) Draw out the jammed paper gently with care.

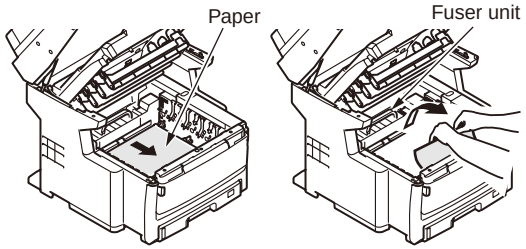
If top of the jammed paper is visible.

Draw out the jammed paper toward inside of a printer gently with care.



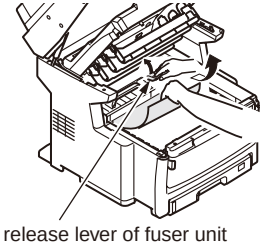
If both top end and rear end of the jammed paper are invisible.

Move the jammed paper in the direction shown by the arrow, and draw out the jammed paper gently with care.



If rear end of a jammed paper is visible

While pressing the lever of the fuser unit in the direction shown by the arrow, draw out the jammed paper gently with care.

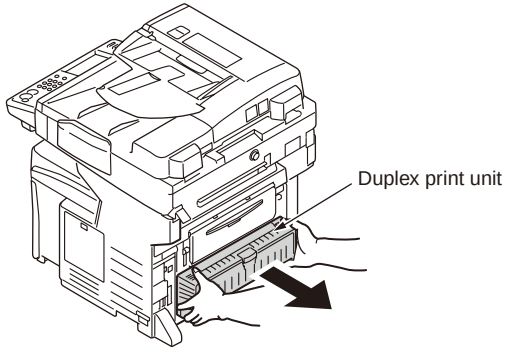


(4) Return the image drum cartridges back to the original positions.

Jam recovery method ③

Duplex unit (option) (Code: 370, 371, 373)

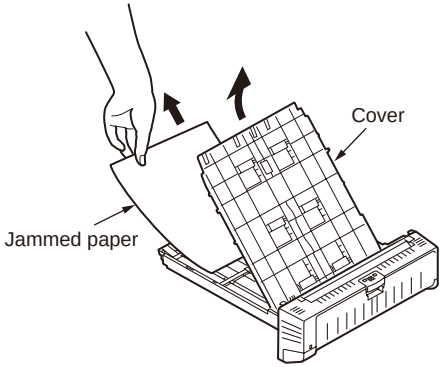
(1) Press the jam release lever of the duplex unit to open the duplex unit cover.



(2) Draw out the jammed paper gently with care.

If the jammed paper is invisible, close the duplex unit cover once. Then, the jammed paper will be ejected automatically.

Note! Before removing the duplex unit, be sure to turn OFF the power of the MFP.



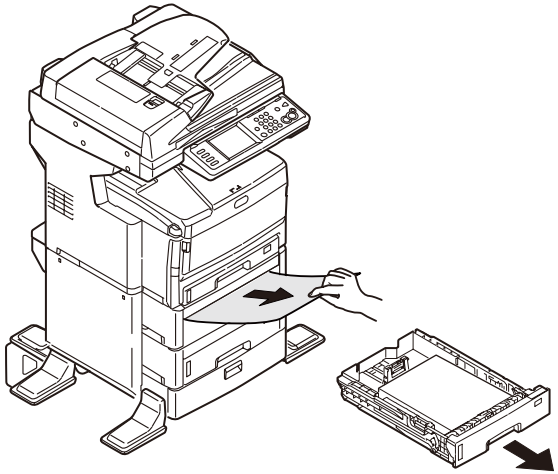
Jam recovery method ④

Second tray unit (Option) (Code: 391, 393)

This manual describes the jam clear method using the tray 2 as an example. Tray 3 can also be cleared of jam in the same method.

(1) Remove the paper tray from the second tray unit, and remove the paper.

(2) After the jammed paper is removed, open the MP tray, push up the center lever. Then the front cover can be opened or closed.

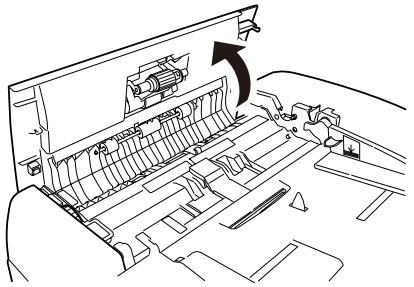


Jam recovery method ⑤

RADF unit (Code: xxx, xxx)

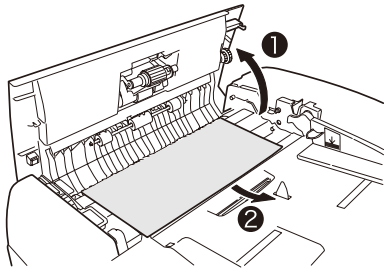
Note! If the jammed paper cannot be removed by all means, do not remove with excessive force. Instead, rotate the dial until the jammed document can be transported outside. If any attempt is made to pull out the jammed paper with force, the jammed document may be broken.

(1) Raise the document cover OPEN lever and open the document cover.



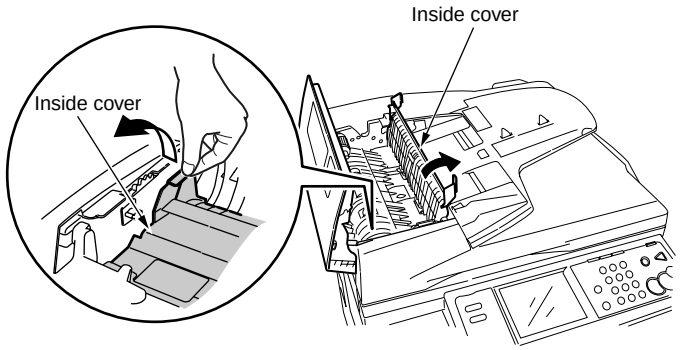
(2) Draw out the jammed paper gently with care. If the jammed paper cannot be removed, go to step (4).

Note! Do not pull the document out with excessive force.

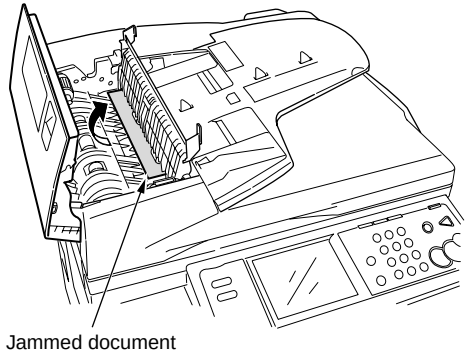


(3) When the jammed paper is removed, go to step (9).

(4) Open the inside cover.

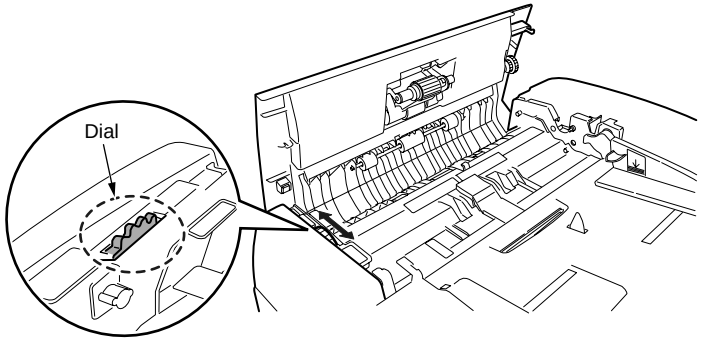


(5) If top end of the jammed paper is visible, pull it out gently.
If top end of the jammed paper is not visible, close the inside cover and go to step 3.

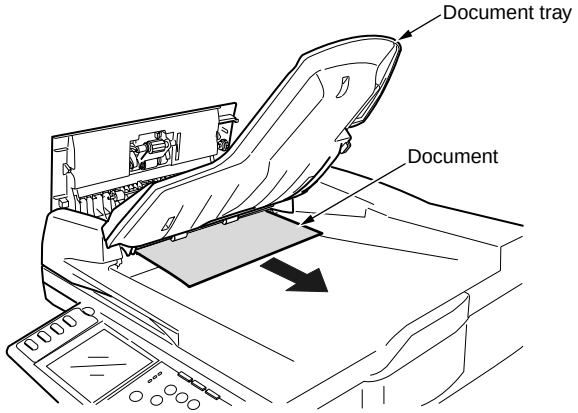


(6) When the jammed paper is removed, close the inside cover and go to step 9.

(7) Rotate the dial so that the jammed document is unloaded.



(8) Raise the document tray.
Remove the jammed document gently.



(9) Close the document cover.

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

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

Check item	Check work	Action to be taken at NG
(3-1-1) Check the 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		
Check the sensor levers of the paper entrance sensor 1 and the paper entrance sensor 2.	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.
(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 either the PU PCB or the front sensor PCB (RSF PCB) or connection cable.
Check output signal level of the paper entrance sensor 1 and that of the paper entrance sensor 2.	Check for the following signals at the FSNS connector number 16 of the PU PCB. Pin-4: Entrance sensor 1 Pin-3: Entrance sensor 2 Confirm that the above signal levels change when the sensor lever is operated.	Replace the front sensor PCB (RSF PCB)
Check the power voltages supplied to the front sensor PCB (RSF PCB)	Check the 5V power at the FSNS connector ⑯ of the front sensor PCB (RSF PCB). Pin-7: 5V Pin-5: 0VL	Replace the connection cable.

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

Check item	Check work	Action to be taken at NG
(3-2-1) Check the 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		
Check the sensor levers of the paper entrance sensor 1 and the paper entrance sensor 2.	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.
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 PU PCB or paper feed motor. 38. Paper feed motor driver
Paper feed motor driver	Remove the HOPSIZE connector no. 1 of the PU PCB and check the followings at the connector side. Several MΩ between pin1 – FG. Several MΩ between pin1 – FG. Several MΩ between pin1 – FG. Several MΩ between pin1 – FG.	PU PCB replacement

Check item	Check work	Action to be taken at NG
(3-2-4) Check the system connection		
Paper feed motor drive cable	Check the connection condition of the cables. 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.
Paper feed motor drive cable	Check that any cable is not pinched during assembling of the printer. Remove the HOPSIZE connector no. 1 of the PU PCB and check the followings at the cable side. Short circuit between pin1 – FG Short circuit between pin1 – FG Short circuit between pin3 – FG Short circuit between pin4 – FG	Replace the cable with the good one that normalizes the connection condition.
Paper feed motor	Remove the HOPSIZE connector ① of the PU PCB and check that approx. 3.4 ohms can be measured between pin1 -pin-2 at the cable end, and that approx. 5 ohms can be measured between pin3 -pin-4 respectively.	Replace the paper feed motor.
(3-2-5) Solenoid operation check		
Paper feed solenoid	Confirm that the paper feed solenoid works normally by using the Motor & Clutch Test of the self-diagnostic mode. Remove the metal plate from the right side of a printer so that the solenoid becomes visible. Then, check operation of the solenoid.	Replace the PU PCB or paper feed motor.
Paper feed solenoid	Check that any obstacle does not exist that hampers smooth operation of the movable portion of the solenoid. (Obstacles such as cable and others)	Normalize the assembled condition of a printer.

Check item	Check work	Action to be taken at NG
(3-2-6) Check the system connection		
Paper feed solenoid	Check the connection condition of the cables. 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.
Paper feed solenoid cable	Check that any cable is not pinched during assembling of the printer. Remove the HSOL connector no. 14 of the PU PCB and check the followings at the cable side. Short circuit between pin1 – FG Remove the HSOL connector no. 14 of the PU PCB and check that approx. 89 ohms can be measured between pin1 and pin-2.	Replace the solenoid assembly and re-assemble the printer correctly.

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

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

Check item	Check work	Action to be taken at NG
(4-1-1) Check the 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		
Check the sensor levers of the paper entrance sensor 1, that of the paper entrance sensor 2 and that 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.
(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 either the PU PCB or the front sensor PCB (RSF PCB) or connection cable.
Check the output signal levels of the paper entrance sensor 1, that of the paper entrance sensor 2 and that of the WR sensor.	Check for the following signals at the FSNS connector number 16 of the PU PCB. Pin-4: Entrance sensor 1 Pin-3: Entrance sensor 2 pin2: WR sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the front sensor PCB (RSF PCB)
Check the power voltages supplied to the front sensor PCB (RSF PCB)	Check the 5V power at the FSNS connector ⑯ of the front sensor PCB (RSF PCB). Pin-1: 5V power Pin-5: 0VL	Replace the connection cable.

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

Check item	Check work	Action to be taken at NG
(4-2-1) Check the 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		
Check the sensor levers of the paper entrance sensor 1, that of the paper entrance sensor 2 and that 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.
(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 PU PCB or paper feed motor.
Paper feed motor driver	Remove the HOPSIZE connector ① of the PU PCB and check the followings at the connector side. Several MΩ between pin1 – FG. Several MΩ between pin2 – FG. Several MΩ between pin3 – FG. Several MΩ between pin4 – FG.	PU PCB replacement

Check item	Check work	Action to be taken at NG
(4-2-4) Check the system connection		
Paper feed motor drive cable	Check the connection condition of the cables. 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.
Paper feed motor drive cable	Check that any cable is not pinched during assembling of the printer. Remove the HOPSIZE connector ① of the PU PCB and check the followings at the cable side. Short circuit between pin1 – FG Short circuit between pin2 – FG Short circuit between pin3 – FG Short circuit between pin4 – FG	Replace the cable with the good one that normalizes the connection condition.
Paper feed motor	Remove the HOPSIZE connector ① of the PU PCB and check that approx. 3.4 ohms can be measured between pin1 -pin-2 at the cable end, and that approx. 5 ohms can be measured between pin3 -pin-4 respectively.	Replace the paper feed motor.

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

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

Check item	Check work	Action to be taken at NG
(5-1-1) Check the 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.
(5-1-2) Check condition of the mechanical parts		
Check the sensor levers of the paper entrance sensor 2 and 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.
(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 self-diagnostic mode.	Replace either the PU PCB or the front sensor PCB (RSF PCB) or connection cable.
Check the sensor output signal level of the paper entrance sensor 2 and the WR sensor.	Check for the following signals at the FSNS connector ⑯ of the PU PCB. pin2: WR sensor pin3: Entrance sensor 2 Confirm that the above signal levels change when the sensor lever is operated.	Replace the front sensor PCB (RSF PCB)
Check the power voltages supplied to the front sensor PCB (RSF PCB)	Check the 5V power at the FSNS connector ㉕ of the front sensor PCB (RSF PCB). pin1: 5V power pin5: 0VL	Replace the connection cable.

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

Check item	Check work	Action to be taken at NG
(5-2-1) Check the 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		
Check the sensor levers of the paper entrance sensor 2 and 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.
Planetary gear for paper feed control	Rotate the paper feed motor (FRONT MOTOR) using the Motor & Clutch Test of the self-diagnostic mode, and confirm that both of the two planetary gears rotate at the bottom position. (The planetary gear box can be located because it is the white molded block that is located on the right side when the front cover is opened.)	Replace the planetary gear box.
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 paper 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 PU PCB or paper feed motor.
Paper feed motor driver	Remove the HOPSIZE connector ① of the PU PCB and check the followings at the connector side. Several MΩ between pin1 – FG. Several MΩ between pin2 – FG. Several MΩ between pin3 – FG. Several MΩ between pin4 – FG.	PU PCB replacement
(5-2-4) Check the system connection		
Paper feed motor drive cable	Check the connection condition of the cables. HOPIDUP connector ① of the PU PCB 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.
Paper feed motor drive cable	Check that any cable is not pinched during assembling of the printer. Remove the HOPSIZE connector ① of the PU PCB and check the followings at the cable side. Short circuit between pin1 – FG Short circuit between pin2 – FG Short circuit between pin3 – FG Short circuit between pin4 – FG	Replace the cable with the good one that normalizes the connection condition.
Paper feed motor	Remove the HOPSIZE connector ① of the PU PCB and check that approx. 3.4 ohms can be measured between pin1 -pin-2 at the cable end, and that approx. 5 ohms can be measured between pin3 -pin-4 respectively.	Replace the paper feed motor.

7.5.2.(6) Paper running jam (error code 381:

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

Check item	Check work	Action to be taken at NG
(6-1-1) Check the 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.
(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 self-diagnostic mode.	Replace either the PU PCB or the front sensor PCB (RSF PCB) or connection cable.
Check the sensor lever of the WR sensor.	Check for the following signals at the FSNS connector ⑯ of the PU PCB. pin2: WR sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the front sensor PCB (RSF PCB)
Check the power voltages supplied to the front sensor PCB (RSF PCB)	Check the 5V power at the FSNS connector ㉕ of the front sensor PCB (RSF PCB). pin1: 5V power pin5: 0VL	Replace the connection cable.

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

Check item	Check work	Action to be taken at NG
(6-2-1) Check the 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, belt motor, 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 extra load exists or not.	Replace the PU PCB, or replace the defective motor among paper feed motor, belt motor and ID motor, or replace the ID unit or belt unit. Replace the paper feed motor, belt motor, ID motor. Replace ID unit, belt unit If any attempt of using new ID unit or new belt unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
Paper feed motor driver, ID up motor driver, belt motor driver	Remove the HOPSIZE connector ① of the PU PCB and check the followings at the connector side. Several MΩ between pin1 – FG. Several MΩ between pin2 – FG. Several MΩ between pin3 – FG. Several MΩ between pin4 – FG. Remove the HOPSIZE connector ① of the PU PCB and check the followings at the cable side. Several MΩ between pin1 – FG. Several MΩ between pin2 – FG. Several MΩ between pin3 – FG. Several MΩ between pin4 – FG.	Replace the PU PCB, or replace the defective motor among paper feed motor, belt motor and ID motor, or replace the ID unit or belt unit.

Check item	Check work	Action to be taken at NG
(6-2-4) Check the system connection		
Paper feed motor drive cable, ID motor drive cable, belt motor drive cable, ID Up motor drive cable, fuser motor drive cable	Check the connection condition of the cables. PU PCB HOPIDUP connector ①, DC ID connector ②, DCHEAT connector ④, BELT connector ③, RELAY connector ⑧. 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.
Paper feed motor drive cable, ID motor drive cable, belt motor drive cable, ID Up motor drive cable, fuser motor drive cable	Check that any cable is not pinched during assembling of the printer. Remove the HOPIDUP connector ① of the PU PCB and check the followings at the cable side. Short circuit between pin1 – FG Short circuit between pin5 – FG Short circuit between pin2 – FG Short circuit between pin6 – FG Short circuit between pin3 – FG Short circuit between pin7 – FG Short circuit between pin4 – FG Short circuit between pin8 – FG Remove the BELT connector ③ of the PU PCB and check the followings at the cable side. Short circuit between pin1 – FG Short circuit between pin2 – FG Short circuit between pin3 – FG Short circuit between pin4 – FG	Replace the cable with the good one that normalizes the connection condition.
Paper feed motor, belt motor, ID motor	Remove the respective connectors from the PCB, and confirm that the following resistance exists between the corresponding pins, at the cable side. HOPIDUP connector ① of the PU PCB between pin-1 -pin-2: Approx. 3.4Ω or 5Ω between pin-3 -pin-4: Approx. 3.4Ω or 5Ω between pin-5 -pin-6: Approx. 3.4Ω or 5Ω between pin-7 -pin-8: Approx. 3.4Ω or 5Ω BELT connector ③ of the PU PCB between pin-1 -pin-2: Approx. 6.1Ω or 3.5Ω between pin-3 -pin-4: Approx. 6.1Ω or 3.5Ω	Replace paper feed motor, ID motor, belt motor

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

Check item	Check work	Action to be taken at NG
(6-3-1) Motor operation check		
Paper feed motor, belt motor, ID motor, ID up/down 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 extra load exists or not.	Replace the PU PCB, or replace the defective motor among paper feed motor, belt motor, ID motor and ID up motor, or replace the ID unit or belt unit. If any attempt of using new ID unit or new belt unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
Paper feed motor driver, belt motor driver, ID up motor driver	Remove the HOPSIZE connector ① of the PU PCB and check the followings at the connector side. Several MΩ between pin1 – FG Several MΩ between pin5 – FG Several MΩ between pin2 – FG Several MΩ between pin6 – FG Several MΩ between pin3 – FG Several MΩ between pin7 – FG Several MΩ between pin4 – FG Several MΩ between pin8 – FG Remove the BELT connector ③ of the PU PCB and check the followings at the connector side. Several MΩ between pin1 – FG. Several MΩ between pin2 – FG. Several MΩ between pin3 – FG. Several MΩ between pin4 – FG.	Replace the PU PCB, or replace the defective motor among paper feed motor, belt motor and ID motor.

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

Check item	Check work	Action to be taken at 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 extra load exists or not.	PU PCB replacement Replace the fuser motor. Replace the fuser unit. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(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 fuser unit, or relay PCB (PRY PCB) or the PU PCB. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(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.

7.5.2.(7) Paper running jam (error code 382)

(7-1) Jam occurs immediately after the power is turned on.

Check item	Check work	Action to be taken at NG
(7-1-1) Check the 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.
(7-1-2) 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.
(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 self-diagnostic mode.	Replace the PU PCB or EXIT sensor or its cable or its connection cable.
Check the output signal level of the EXIT sensor.	Check for the following signals at the RELAY connector ⑧ of the PU PCB. Pin9: EXIT sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the EXIT sensor.
Check the output level of Fuser IN.	Check for the following signals at the RELAY connector ⑧ of the PU PCB. pin20: Fuser-IN sensor Confirm that the above signal levels change when the sensor lever is operated.	Replace the Fuser-IN sensor
Check the power voltages supplied to the relay PCB.	Check the 5V power voltage at the EXIT connector ㉖ of the relay PCB (P6Y. PCB). pin1: 5V power 3pin, 6pin: 0VL	Replace the connection cable.

Check item	Check work	Action to be taken at NG
(7-1-4) Check the system connection		
Signal cable for motor driver PCB, EXIT sensor cable or Fuser IN sensor cable	Check that FFC is normally inserted at the RELAY connenctor ⑧ of PU PCB, and at the PUIF connector ㉒ of RELAY PCB (P6Y PCB). Check that cables are normally inserted at the RELAY PCB (P6Y. PCB) and EXIT sensor, Fuser IN sensor cable.	Normalize the connection condition.
Signal cable for motor driver PCB, EXIT sensor cable	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 unloading jam occurs after a paper is taken into printer.

Check item	Check work	Action to be taken at NG
(7-2-1) Check the condition of the paper running path		
Face Up Stacker Cove	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.
Duplex pull-in gate	Confirm that the Duplex pull-in gate works normally by using the Motor & Clutch Test of the self-diagnostic mode	Replace the Duplex pull-in gate or the Duplex solenoid.
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 unloading unit	Check that any mechanical load does not exist that hampers the smooth movement of paper in the paper running path of the paper unloading unit, by the visual inspection.	Correct the portion that becomes mechanical load.

Check item	Check work	Action to be taken at NG
(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 extra load exists or not.	Replace the PU PCB or fuser motor or fuser unit. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(7-2-4) Check the system connection		
Fuser motor drive cable	Check the connection condition of the cables. 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.
Fuser motor		Replace the fuser motor.

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

Check item	Check work	Action to be taken at 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 extra load exists or not.	Replace the PU PCB or fuser motor or fuser unit. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.

7.5.2.(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	Check work	Action to be taken at NG
(8-1-1) Check the 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 front cover and check if any paper remains in the Duplex feeder or not. Open the rear cover and check if any paper remains in the paper reversing path or not. Remove the Duplex unit. Check if any paper exists in the Duplex insertion slot or not. Open the cover of the Duplex paper running path and check if any paper remains inside of the Duplex unit.	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. For all sensors except the Dup-IN sensor, check the detection condition of the respective sensor in the two status: One is the status in which paper remains inside the Duplex unit. The other is the status in which paper is removed from the Duplex unit.	Replace the Duplex PCB (V7Y PCB), or replace the defective sensor or connection cable.

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

Check item	Check work	Action to be taken at NG
(8-2-1) Solenoid operation check		
Duplex solenoid	Confirm that the Duplex solenoid works normally by using the Motor & Clutch Test of the self-diagnostic mode.	V7Y PCB replacement or solid replacement
Separator DUP (Paper unloading/ DUP paper taking-in switching gate located immediately after the fuser unit)	Check visually movement of the gate by using the Motor & Clutch Test of the self-diagnostic mode. (EXIT SOLENOID) Check if movement is unsmooth or not, if amount of open/close is abnormal or not.	Replace the separator DUP.
ON/OFF timing of the Duplex solenoid	While the cover is in the opened state, perform the test print and confirm if the timing to open the separator DUP is correct or not.	Replace the WR sensor lever or solenoid.
(8-2-2) Sensor lever operation check		
Dup-IN sensor lever	Open the rear cover. Touch the Dup-IN sensor lever to check if its movement is unsmooth or not.	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 Duplex PCB (V7Y PCB), or replace the defective sensor or connection cable.
(8-2-3) 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.
(8-2-4) Motor operation check		
Duplex motor	Confirm that the Duplex solenoid works normally by using the Motor & Clutch Test of the self-diagnostic mode. Open the rear cover and check rotation of the roller.	V7Y PCB replacement or motor replacement.
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?	Rear cover replacement.

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

Check item	Check work	Action to be taken at NG
(8-3-1) Sensor lever operation check		
Dup-IN sensor lever	Open the rear cover. Touch the Dup-IN sensor lever to check if its movement is unsmooth or not.	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 Duplex PCB (V7Y PCB), or replace the defective sensor or connection cable.
(8-3-2) Motor operation check		
Duplex motor	Check if the paper reversing operation is started or not by visual inspection when viewing through slit of the rear cover. If the paper reversing operation is not started, check if movement of the planetary gear inside the Duplex unit is unsmooth or not.	Replace the planetary gear.

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

Check item	Check work	Action to be taken at NG
(8-4-1) Sensor lever operation check		
Dup-R, Dup-F sensor lever	Remove the Duplex unit and check movement of the sensor lever	Sensor lever replacement
(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. For all sensors except the Dup-IN sensor, check the detection condition of the respective sensor in the two status: One is the status in which paper remains inside the Duplex unit. The other is the status in which paper is removed from the Duplex unit.	Replace the Duplex PCB (V7Y PCB), or replace the defective sensor or connection cable.

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

Check item	Check work	Action to be taken at NG
(8-5-1) Sensor lever 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.	V7Y PCB replacement or clutch replacement.

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

(9-1) Jam occurs when paper end is located near the IN1 sensor.

Check item	Check work	Action to be taken at NG
(9-1-1) Check paper feed condition		
Multifeed of papers	Open the front cover and check if multifeed of papers occurs or not.	If the multifeed occurs again after the jammed paper is removed, replace the flap 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.
Paper entrance sensor 1	Check if shape and movement of the sensor levers have any abnormality or not.	Replace the sensor lever with the good sensor lever.

7.5.2.(10) ID unit Up/Down error (Service call 140 to 143)

(10-1) Error occurs when the ID unit moves down

Check item	Check work	Action to be taken at 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. If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
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 planetary 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.
(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.	High-voltage PCB replacement

(10-2) Error occurs when the ID unit moves down

Check item	Check work	Action to be taken at 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. (Obstacles such as cable and others)	Assemble them correctly.

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

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

Check item	Check work	Action to be taken at 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 item 8.1 Resistance check (fuser unit).)	Replace the fuser unit. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
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 degree C. Turn on the power again after the printer temperature has increased.

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

Check item	Check work	Action to be taken at NG
(11-2-1) Temperature increase of fuser unit		
Thermostat, halogen lamp	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 item 8.1 Resistance value (fuser unit).)	Replace the fuser unit. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(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. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
Installation position of the lower thermistor	The lower thermistor must be installed while contacting with the fuser unit. Check if the lower 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.	Replace the fuser unit. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(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 ㉔, between pin-1 and pin-2, and between pin-3 and pin-4.	Replace the low voltage power supply unit.
Heater ON signal that is output from 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. POWER connector ⑩ pins-11 and -12 of the PU PCB.	Replace the PU PCB.

7.5.2.(12) Motor fan error (error code 122, 127, 051)

(12-1) The low voltage power supply fan does not rotate immediately after the power is turned on.

Check item	Check work	Action to be taken at NG
(12-1-1) Wiring conditions of the cables		
Cable connection condition and wiring condition of the low voltage power supply fan and those of the fuser 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.	Reconnect the connectors. Correct the cable wiring route. Replace the fan.

(12-2) Duplex fan does not rotate during the Duplex printing.

Check item	Check work	Action to be taken at NG
(12-1-1) Wiring conditions of the cables		
Cable connection condition and wiring condition of the Duplex 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.	Reconnect the connectors. Correct the cable wiring route. Replace the fan.
24V fuse F501 of the Duplex PCB (V7Y PCB)	Check if the fuse F501 has blown out or not.	Replace the Duplex PCB (V7Y PCB).
24V power supplied to the Duplex PCB (V7Y PCB).	Check if the fuse F1 of the PU PCB has blown out or not.	Replace the PU PCB.

(12-3) All fans of the printer do not rotate.

Check item	Check work	Action to be taken at NG
(12-3-1) 24V power supply		
PU PCB fuses F2, F4	Check if the fuses F2 and F4 are not open-circuit or not.	Replace the PU PCB.
24V power that is supplied to the PU PCB.	Check that power supply circuit has no short-circuit at the POWER connector ⑩ of the POWER PCB. Pin-4, -5, -6: 24V Pin-8: 0VL Pin-1, -2, -3: 0VP	Replace the low voltage power supply unit.

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

(13-1) Print speed decreases.

Check item	Check work	Action to be taken at NG
(13-1-2) 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.

7.5.2. (14) Option unit cannot be recognized.

(14-1) Duplex unit cannot be recognized.

Check item	Check work	Action to be taken at NG
(14-1-1) Duplex PCB		
Duplex motor	Check if the Duplex unit of MC860 specification is being used or not	Replace the Duplex motor.
(14-1-2) Check the system connection		
Check the system connection from the PU PCB to the Duplex PCB (V7Y PCB).	Check that the cable between the PU PCB option connector ⑬ to the Duplex PCB is normally connected.	Correct the connections.
Square connector connecting the Duplex unit to the printer.	Check if any foreign material exists in the connecting portion of the square connector.	Remove the foreign material.
Square connector connecting the Duplex unit to the printer.	Is the terminals of the square connector damaged?	Replace the connector.
(14-1-3) Check the control signals.		
Check the control signal that is output from the PU PCB to the Duplex PCB (V7Y PCB).	Check the control signal that is output from the PU PCB option connector ⑬. pin-6: TXD (PU → DUP) pin-4: RXD (DUP → PU)	Replace the PU PCB.

(14-2) 2nd tray unit cannot be recognized.

Check item	Check work	Action to be taken at NG
(14-2-1) 2nd PCB		
2nd tray unit	Check if the 2nd tray unit of MC860dn specification is being used or not.	Replace 2nd tray unit.
(14-1-2) Check the system connection		
Check the system connection from the PU PCB to the 2nd tray unit (V7Y PCB).	Check that the cable between the PU PCB option connector ⑬ to the 2nd tray unit is normally connected.	Correct the connections.
Square connector connecting the 2nd tray unit to the printer.	Check if any foreign material exists in the connecting portion of the square connector.	Remove the foreign material.
Square connector connecting the 2nd tray unit to the printer.	Is the terminals of the square connector damaged?	Replace the connector.
(14-2-3) Check the control signals.		
Check the control signal that is output from the PU PCB to the 2nd tray unit (V7Y PCB).	Check the control signal that is output from the PU PCB option connector ⑬. pin-5: TXD (PU → 2nd) pin-3: RXD (2nd → PU)	Replace the PU PCB.

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

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

Check item	Check work	Action to be taken at NG
(15-1-1) Check the system connection		
Connecting condition at the CU PCB connector and at 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 the CU PCB.
Conduction of the fuse on the CU PCB	Check that 5V appears across the capacitors CP7 and CP8. (Refer to item 7.)	Replace F504, F506 or replace the CU PCB.

7.5.2.(16) Toner cartridge cannot be recognized. (Error code 540, 541, 542, 543)

(16-1) Error caused by the consumable items

Check item	Check work	Action to be taken at 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	Check work	Action to be taken at 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 PCB (PRZ. PCB), or the PU PCB, or the FFC between the PRZ and the PRX.

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 item 5.3.2.3 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 condition of the FFC cable at the PU main PCB (PU) and at the toner sensor PCB (PRZ).
- Perform the operation check again. If the situation is not improved and remains unchanged, replace the PU main PCB (PU) or the toner sensor PCB (PRZ).

(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 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	Check work	Action to be taken at 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.	Replace the ID unit. If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(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 PU PCB or ID motor

7.5.2.(17) Fuse cut error (error codes 150 to 155)

(17-1) Fuse cut error

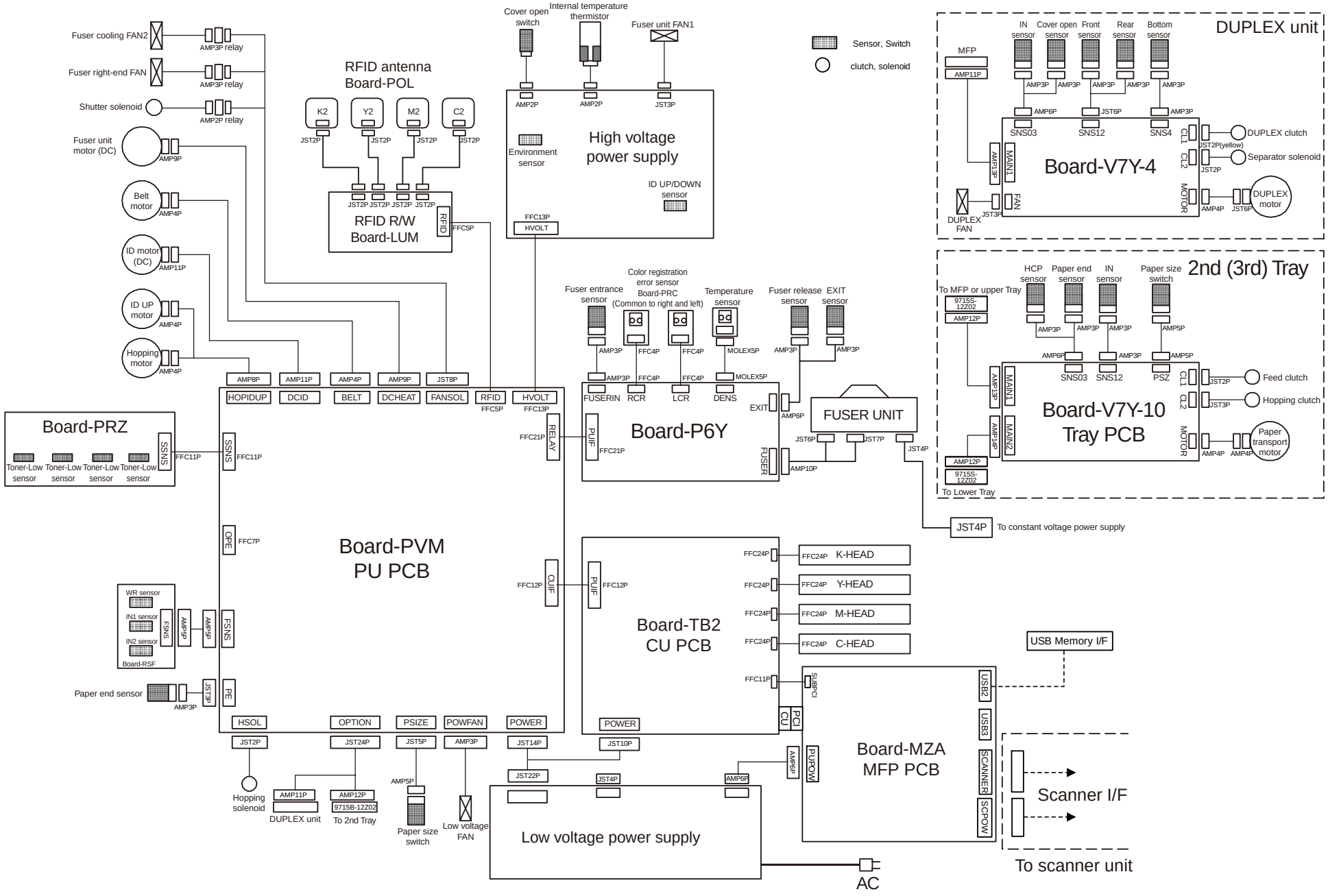
Check item	Check work	Action to be taken at NG
(17-1-1) Check the system connection		
FFC connecting the PU PCB and the toner sensor PCB (PRZ PCB)	Check if the connector is connected in the half-way only or not, and is inserted in a slanted angle or not at the SSNS connector ⑱ of the PU PCB, and at the SSNS connector ⑳ of the toner sensor PCB (PRZ PCB). Check if FFC has open-circuit of sheath of the FFC has not peeled off or not.	Connect the FFC normally. Alternately, replace the FFC.
(17-1-2) Fuse cut circuit		
PU PCB	Upon completion of the system connection check, turn off the power once and back on. The, check if the error occurs or not.	PU PCB replacement

7.5.2.(18) Dew condensation error (Error 123)

(18-1) Dew condensation error

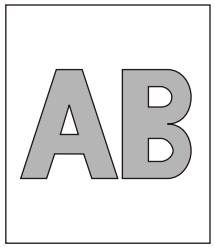
Check item	Check work	Action to be taken at NG
(18-1-1) Check the system connection		
Connection between the PU PCB and High-Voltage PCB	Check that the 13-conductor FFC is normally connected to the HVOLT connector ⑦ of PU PCB. Check if the 13-conductor FFC is connected to the CN1 connector ㉑ of the High-voltage PCB normally or not. 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.
FFC connecting the PU PCB and the High-voltage PCB	Check for open-circuit with VOM. Check that peeling off of sheath does not occur in any cables by visual inspection.	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.

7.5.2.(19) Connection diagram

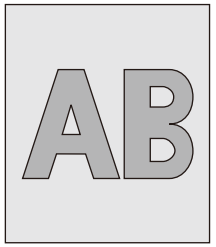


7.5.3 Troubleshooting the abnormal images

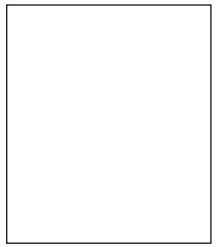
Note! When an attempt is going to be made to replace the PU PCB, be sure to read the data contents of the EEPROM chip from the old PU PCB beforehand, and copy the data contents into the new PCB after the new PU PCB is installed.



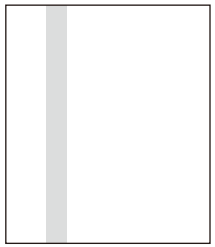
A Overall faded-out Blurred



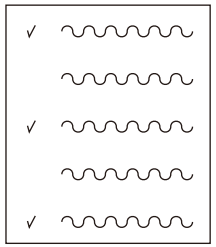
B Stain on white print



C Entirely white



D Black banding/black streaking in vertical direction



E Cyclic abnormality

F White banding/white streaking in vertical direction

Fig. 7-2

7.5.3.(1) Color has faded-out and blurred entirely. (Refer to Figure 7-2 **A**)

(1-1) Color are faded-out and blurred.

Check item	Check work	Action to be taken at NG
(1-1-1) Toner		
Residual amount of toner	Confirm that the message “Please Install Toner“ or “Toner Enpty” is not displayed on the Operator Panel screen.	Replace the toner cartridge with the new one.
Tape attached to the opening of toner cartridge	Check that the tape is not removed from the opening of the toner cartridge.	Move the toner cartridge lever to Close position, and peel off the tape from the opening of the toner cartridge.
(1-1-2) LED head		
Lens of LED head	Check to see that lens surface of the LED head is not stained by toner or paper dust.	Clean the lens with LED head lens cleaner.
LED head installed status	Confirm that the LED head is installed in the LED head holder normally. Confirm that the tension springs in the right and left are normally installed.	Return the MFP to the installed condition.
(1-1-3) Print media		
Types of media	Check that the specially heavy media is not used for printing.	Use the specified normal paper.
(1-1-4) High voltage terminal		
ID unit terminal	Confirm that the ID unit high voltage terminal keeps contacting with the high voltage terminal by visual check. (Refer to Fig. 7-3.)	ID unit replacement or high voltage terminal repair If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(1-1-5) ID unit installed condition		
ID unit down position (Transfer error)	Insert and remove the ID unit with hand to check that it can move down to the specified down position without any abnormal load. Make a test of inserting a paper in between the drum and belt. If paper top can easily pass, it is not good (NG).	Check the U groove of the side plate for any abnormality. If it cannot be repaired, replace it.

7.5.3.(2) Stain on white print (Refer to Fig. 7-2 **B**)

(2-1) Stain on white print (Partial stain)

Check item	Check work	Action to be taken at NG
(2-1-1) ID unit		
Exposure of drum to light	Has the drum been left in the locations where drum surface is exposed to light for a long time?	Replace the ID unit. If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
Toner leakage	Check if toner leaks out from the ID unit or from toner cartridge.	Replacement of ID unit or toner cartridge. If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(2-1-2) Fuser unit		
Offset toner of fuser unit	Check visually that the offset toner of previous printing is left adhered to the fuser unit or not.	Repeat blank printing using unwanted medial until offset toner is created on the print media. Alternately, replace the fuser unit. If any attempt of using new fuser unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.

(2-2) Stain on white print (Entire stain)

Check item	Check work	Action to be taken at NG
(2-2-1) Print media		
Types of media	Is a specially thin media being used for printing?	Use the specified normal paper.
(2-2-2) High voltage terminal		
ID unit terminal	Confirm that the ID unit high voltage terminal keeps contacting with the high voltage terminal by visual check. (Refer to Fig. 7-3.)	ID unit replacement or high voltage terminal repair If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.

7.5.3.(3) All white page print (Refer to Fig. 7-2 **C**)

(3-1) All white page print on paper

Check item		Check work	Action to be taken at NG
(3-1-1) Toner condition			
	Residual amount of toner	Check that sufficient amount toner remains inside the toner cartridge.	Replace the toner cartridge
(3-1-2) Exposure condition			
	LED head	Check that the LED head is located in the good position where the LED head faces against drum in the specified position. Check if there exists any obstacle that prevents irradiation on the irradiating surface of LED.	LED head installation condition should be corrected.
	LED head connecting condition	Check that the LED head is normally connected.	Replace the LED head
	Drum shaft	Check that the drum shaft is contacting with the right and left side plates normally.	Replace the ID unit. If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(3-1-3) High voltage terminal			
	ID unit terminal	Confirm that the ID unit high voltage terminal keeps contacting with the high voltage terminal by visual check. (Refer to Fig. 7-3.)	ID unit replacement or high voltage terminal repair If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.

7.5.3.(4) Vertical line is printed

(4-1) Thin vertical line (with color) (Refer to Fig. 7-2 **D**)

Check item		Check work	Action to be taken at NG
(4-1-1) ID unit condition			
	ID unit filming	Has the MFP made printing without toner?	Replace the toner cartridge with new one. If it does not correct the trouble, replace the ID unit. If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.

(4-2) Thin vertical line (with color)(Refer to Fig. 7-2 **F**)

Check item		Check work	Action to be taken at NG
(4-2-1) LED head condition			
	LED head	Is there any foreign material attached to the irradiating surface of the LED head?	Remove the foreign material.
(4-2-2) Paper running condition			
	Paper running path	Check there is no blur in the paper running path, that cause to scrape the non-fused toner.	Remove the blur.

7.5.3.(5) Cyclic abnormal print (Refer to Fig. 7-2 **E**)

(5-1) Cyclic abnormal print in vertical direction.

Check item	Check work	Action to be taken at NG
(5-1-1) Cycle		
Image drum	Check if the cycle is 94. 3mm.	Replace the ID unit.
Developer roller	Check if the cycle is 39. 7mm.	Replace the ID unit.
Toner feed roller	Check if the cycle is 58. 4mm.	Replace the ID unit.
Charge roller	Check if the cycle is 37. 7mm.	Replace the ID unit.
Fuser unit upper roller	Check if the cycle is 87. 7mm.	Replace the fuser unit.
Fuser unit belt	Check if the cycle is 125. 5mm.	Replace the fuser unit.
Transfer roller	Check if the cycle is 50. 3mm.	Replace the belt unit.
		If any attempt of using new part as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.

7.5.3.(6) Color registration error is heavy

(6-1) Message “Color adjustment in progress” at power on is display short time

Check item	Check work	Action to be taken at NG
(6-1-1) Color registration error correction result		
Color registration error correction time (Approx 40 seconds if normal)	Execute REG. ADJ. UST. TEST with the self-diagnostic mode and check the result. If the MFP is ON. LINE, error is not displayed even if error is issued inside.	Replace the sensor causing NG. Clean the sensor. Replace shutter. Replace PU PCB.
(6-1-2) Toner		
Residual amount of toner	Confirm that the message “Please Install Toner“ or “Toner Enpty” is not displayed on the Operator Panel screen.	Replace the toner cartridge with new one.
(6-1-3) Color registration error sensor		
Sensor is dirty.	Are toner and paper dust attracted to paper?	Wipe off stain.
(6-1-4) Color registration error sensor shutter		
Shutter operation is defective.	Check the shutter operation by the self-diagnostic function.	Replace shutter or repair mechanism.

(6-2) Color registration error even though the Engine Maintenance Function “REG. ADJUST TEST” shows OK

Check item	Check work	Action to be taken at NG
(6-2-1) Paper feed system		
Paper feeding condition of the paper running path.	Check if there is any foreign material that prevents smooth paper running during the course of paper running path.	Remove obstacle.

7.5.3.(7) All black page print

(7-1) All black page print on paper

Check item	Check work	Action to be taken at NG
(7-1-1) High voltage supply contacting condition		
CH terminal	Confirm that the terminal coming from the high voltage terminal keeps contacting with the high voltage terminal of the ID unit normally by visual check.	Replace the terminal of the MPF.
CH terminal	Check that the high voltage terminal is in the good contacting condition on the high voltage PCB. Open the left cover and remove the high voltage PCB. Check that the terminal is installed in the normal installation condition.	Re-install the terminal into the normal condition.
ID unit terminal	Confirm that the ID unit high voltage terminal keeps contacting with the high voltage terminal by visual check. (Refer to Fig. 7-3.)	ID unit replacement or high voltage terminal repair If any attempt of using new ID unit as a trial is going to be made, be sure to use the System Maintenance Menu FUSE KEEP MODE.
(7-1-2) High voltage supply contacting condition		
CH output	When the high voltage probe is available as a maintenance tool, open the left cover and check the CH output during printing from the soldering side of the high voltage PCB with a high voltage probe. (The high voltage probe is not a general maintenance tool.)	Replace the high voltage PCB.

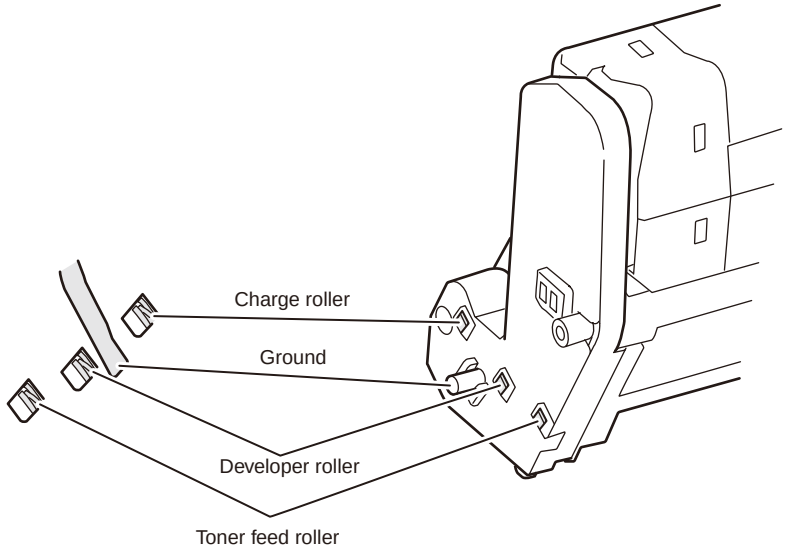


Fig. 7-3

7.5.4 Action after forced initialization of Flash

The following data are deleted or initialized by forced initialization (FLASH FORMAT) of Flash

(1) Data that are deleted by initialization

- E-mail address registration data
- Abbrev. dial registration data
- Profile list
- Arbitrary name Demo data (FLASH)
- Download font (FLASH)
- Certificate
- Language file
- Automatic distribution setup
- Error log
- Print tabulation password
- NIC-F/W (including Web page)

(2) Data that are returned to default by initialization

- Fax Setup
- Scanner Setup *1
- Network setup
- Mail server setup
- LDAP server Setting
- Secure protocol server Setting
- User Install (Fax related setup value)

*1 [File Name] and [Template] under the [Scanner Setup] - [E-mail Setup] only are initialized.
At the same time, because NIC-FW is deleted, use of network is disabled.

7.5.5 Network troubleshooting

(1) Print cannot be activated from Utilities.

Check item	Check work	Action to be taken at NG
(1) Check the LINK lamp		
Check if the LINK lamp (green) is illuminating or not.	Check that HUB and printer are connected normally. (Check that network cable is connected normally.)	Re-connect the network cable normally.
	Confirm that the straight network cable is being used.	Replace the cable with the straight cable.
	Make an attempt to change connection of the network cable to other port of a HUB.	Try to change the HUB.
(2) Check the network information		
Check if the network information can be printed normally or not.	Press the Push switch of the NIC card to print the network information.	Re-write the NIC-F/W by using Utilities.
(3) Check contents of the network information.		
Confirm the IP address, SUB net mask and gateway address.	Confirm the IP address, SUB net mask and gateway address that are printed on the network information.	Set the IP address, SUB net mask and gateway address.
(4) Check if communication is possible or not through network		
Confirm if the Ping command can be sent or not from a PC to a printer.	Confirm if correct reply is returned from a printer to a PC when the PC sends the Ping to a printer.	Set the IP address, SUB net mask and gateway address.
(5) Check the Utilities.		
Check setting of the OKILPR Utilities.	Check setting of the OKILPR Utilities.	Set correctly the setting of the OKILPR Utilities.
(6) Check the following from an OS standard port		
Confirm the standard LPR port of the WINDOWS standard (NT, 2000, XP).	Set the standard LPR port of the WINDOWS standard (NT, 2000, XP), and confirm if printing can be performed or not.	Set the standard LPR port of the WINDOWS standard (NT, 2000, XP) correctly.

7.5.5.1 Connection error occurs with the Web browser

If the printer setting page cannot be displayed by the web browser ”https://<printer IP address>”, check the followings.

Establish connection by ”https://<printer IP address>.

1) If the printer setting page is displayed, the followings are probable.

   Take an appropriate measure by referring to the following items.

   * Certificate is not created yet. (Or failed to create certificate.)
     → Refer to section “7.5.5.1.1 Is the certificate created?”.
   * Certificate has been created but the SSL/TLS setting is turned off.
     → Refer to section “7.5.5.1.2 Is the certificate created?”.

2) If the printer setting page is displayed, the followings are probable.

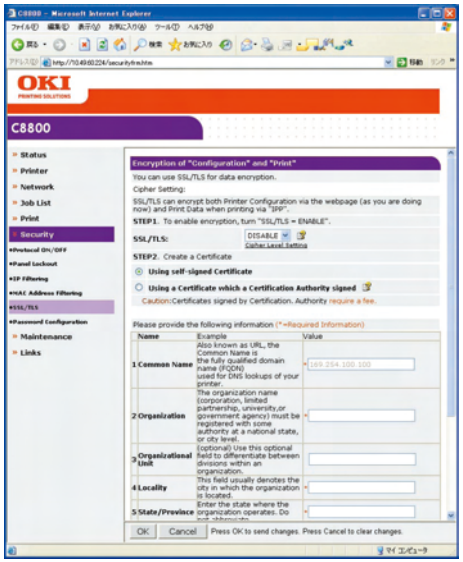
   * Version number of the browser is old.
     → Refer to section “7.5.5.1.3 Check version number of the Web browser”.
   * Encryption strength has been set to Strong.
     → Refer to section “7.5.5.1.4 Confirm encryption strength of a printer”.
   * The key exchange system of a printer is not supported by the browser. (Compatibility problem).
     → Refer to section “7.5.5.1.5 Check the key exchange type of the certificate”.

7.5.5.1.1 Is the certificate created?

Log-on in as the administrator, and select “Security” → “Encryption (SSL/TLS)”.

If the following screen is displayed, certificate of the printer is not created yet. (The same screen is displayed when failed to create certificate.)

Solution: Create certificate by referring to the User’s Manual (Advanced edition).

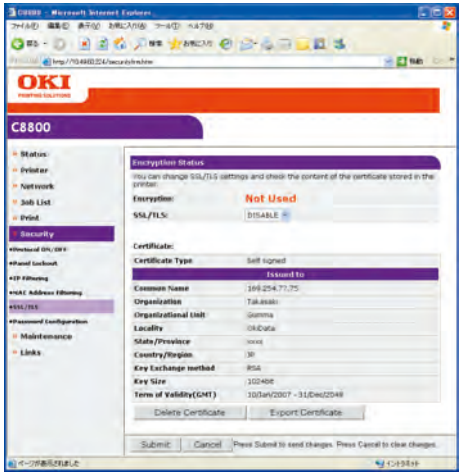


Before creating certificate (default state)

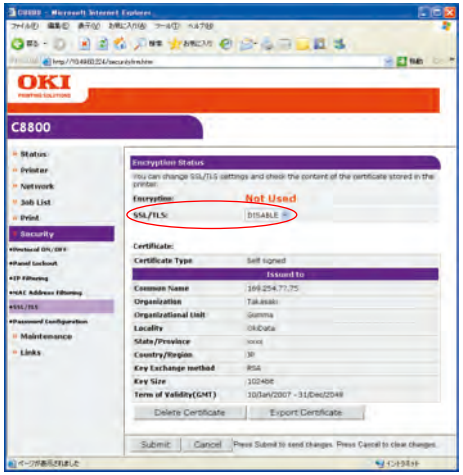
7.5.5.1.2 Is the certificate created?

Log-on in as the administrator, and select “Security” → “Encryption (SSL/TLS)”.

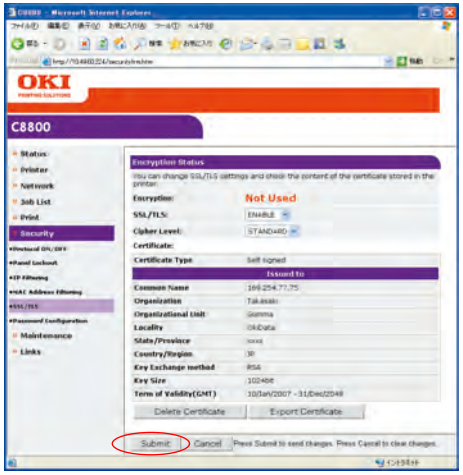
If the following screen is displayed, certificate has already been created, but the SSL/TLS setting is turned [OFF].



Solution: Set the SSL/TLS setting to [ON].



Press “Send”.



7.5.5.1.3 Check version number of the Web browser.”

Check version number of the Web browser in use.

How to check version number.

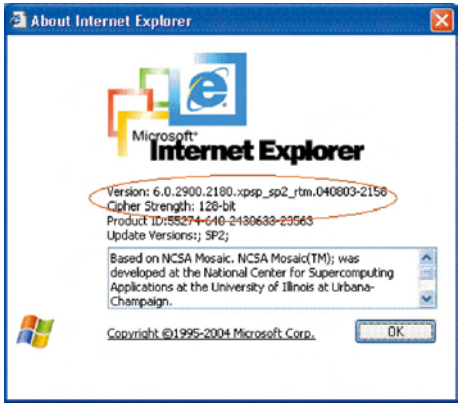
For Internet Explorer

Launch the browser and select “HELP” → “Version information”.

Recommended version is Internet Explorer 5.5 and higher.

Solution: Install the newest web browser. Alternately, install the high encryption pack.

If any version that is older than the recommended version is used, communication can become possible sometimes when the encryption strength is set to “Weak”. If the encryption strength is set to “Weak”, security level lowers. To change the encryption strength, refer to section “7.5.5.1.4 Confirm encryption strength of a printer.” . Refer to section “7.5.5.1.4 Confirm encryption strength of a printer” to change the encryption strength.



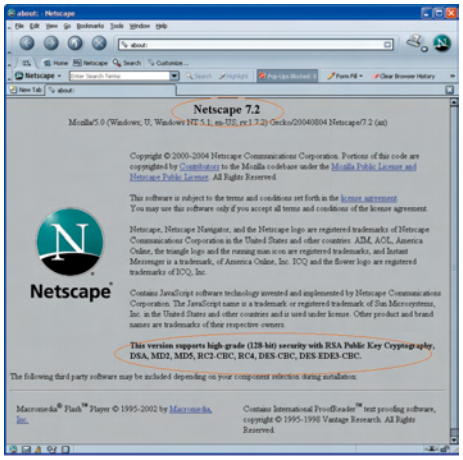
For Netscape

Launch the web browser and select “HELP” → “Netscape”.

Recommended version is Netscape 6 and higher.

Solution: Install the newest web browser.

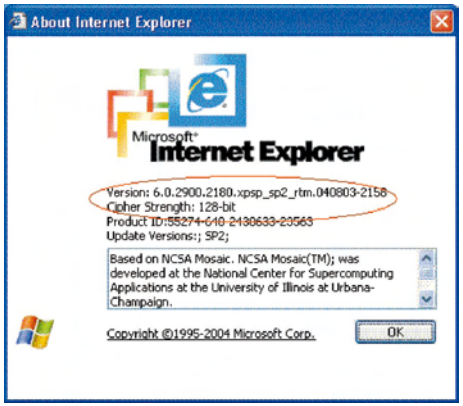
If any version that is older than the recommended version is used, communication can become possible sometimes when the encryption strength is set to “Weak”. If the encryption strength is set to “Weak”, security level lowers. To change the encryption strength, refer to section “7.5.5.1.4 Confirm encryption strength of a printer.” .. Refer to section “7.5.5.1.4 Confirm encryption strength of a printer” to change the encryption strength.

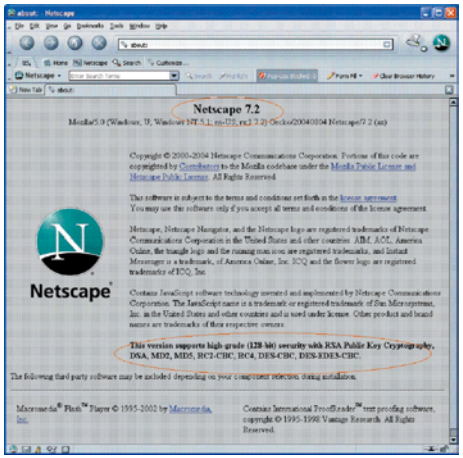


7.5.5.1.4 Confirm encryption strength of a printer

Version display of the browser that is confirmed by section “7.5.4.1.3 Check version number of the Web browser” has description on encryption strength of the browser. The browser in which the encryption strength is not set to 128 bits, the browser cannot establish communication with the printer in which the encryption strength is not set to “Standard”.

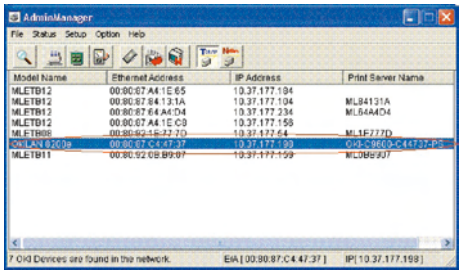
Either, upgrade the browser until it supports 128 bits (high encryption) or set the printer encryption strength to “Weak”.



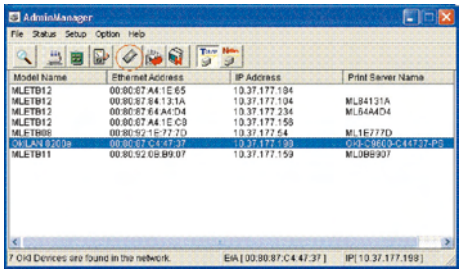


Change encryption strength with AdminManager

1. Launch AdminManager and select (by highlighting) a desired printer from the printer list.

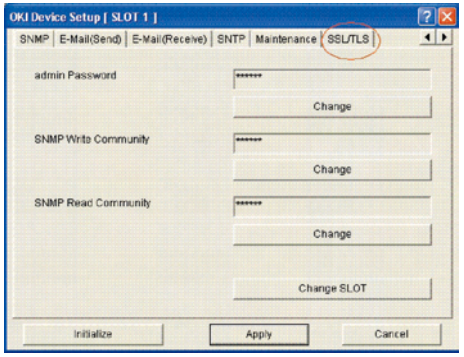


2. Press the “Oki Device Setup” button, or alternately select “Setup” → “Oki Device Setup”, and open the setup screen.

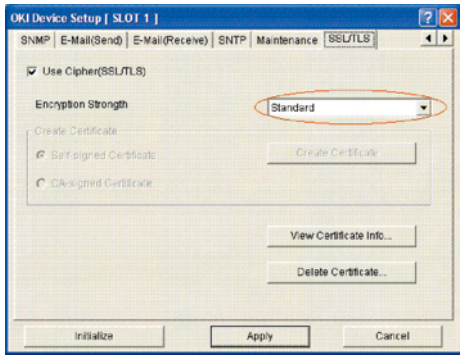


3. Input the administrator password and open the setup screen as an administrator.

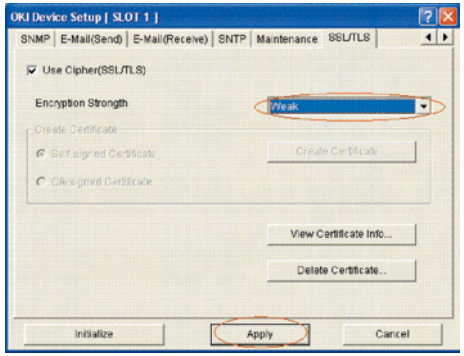
4. Select the “SSL/TLS” tab.



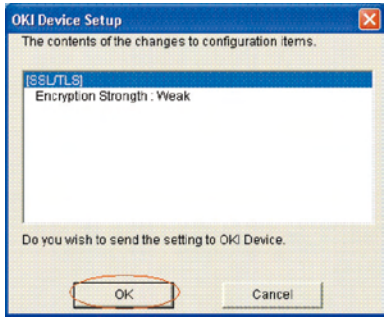
5. Check the “Encryption Strength”.



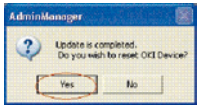
6. Set the “Encryption Strength” to “Weak” and press the “Apply” button.



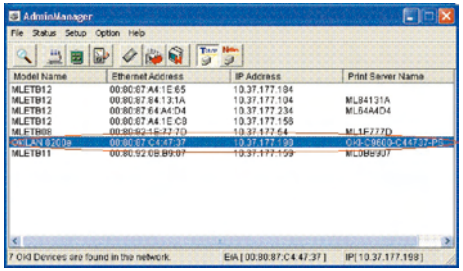
7. Check the setup contents, and press “OK”.



8. A message prompting your confirmation will be displayed. Click “Yes”. (NIC reboots to reflect the setting.)



9. If the printer is displayed in the printer list, the setup is complete with success.



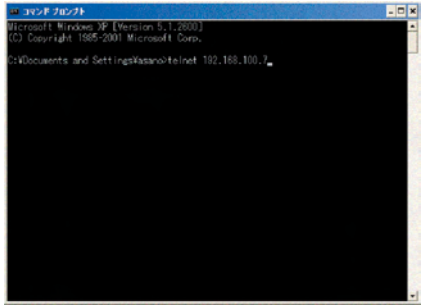
Solution: Set the printer encryption strength to “Weak”.

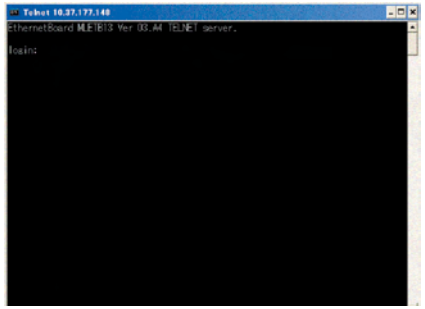
How to change encryption strength with Telnet

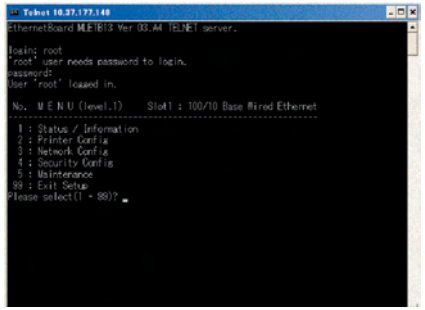
Note! Telnet cannot be used by default. To change the encryption strength, Telnet must be set to Enable.

Select the command prompt (DOS prompt) and enter ”Telnet <printer IP address>“, and press Return.

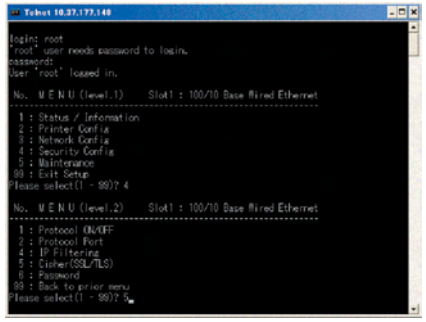
Establish connected using administrator user name and password.

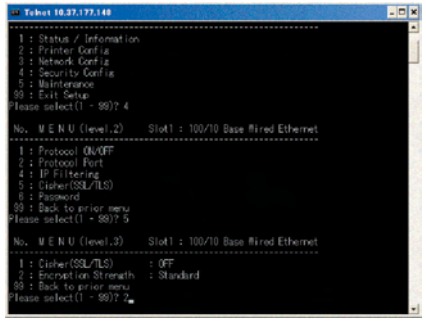


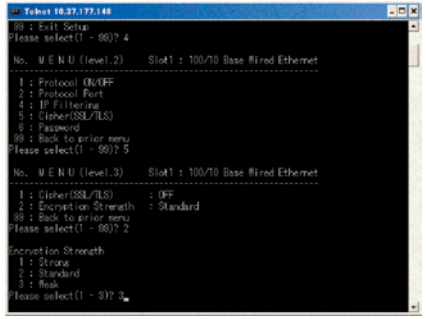




Select the menus in this order: [4: Security Config] → [5: Cipher (SSL/TLS)] → [2: Cipher Strength]. Then, change the cipher strength as desired (1: Strong, 2: Standard, 3: Weak).







7.5.5.2 Print operation is not possible

If print operation is not possible by using the encrypted IPP printer, check the followings.

Establish connection by ”https://<printer IP address>.

1) If the printer setting page is displayed, the followings are probable.

   Take an appropriate measure by referring to the following items.

   * Certificate is not created yet. (Or failed to create certificate.)
     → Refer to section “7.5.5.1.1 Is the certificate created?”.
   * Certificate has been created but the SSL/TLS setting is turned off.
     → Refer to section “7.5.5.1.2 Is the certificate created?”.

2) If the printer setting page is displayed, the followings are probable.

   Take an appropriate measure by referring to the following items.

   * Version number of the browser is old.
     → Refer to section “7.5.5.1.3 Check version number of the Web browser”.
   * Encryption strength has been set to Strong.
     → Refer to section “7.5.5.1.4 Confirm encryption strength of a printer”.
   * The key exchange system of a printer is not supported by the browser. (Compatibility problem).
   * The OS does not support the IPP (encrypted) printing.
     → Refer to section “7.5.5.2.1 Check OS (Operating System)”.
   * IPP (encrypted) printer is not created yet.
     → Refer to section “7.5.5.2.2 Is the Printer created?”
   * IPP setup of the Printer is not Enabled.
     → Refer to section “7.5.5.2.3 Is the IPP setting set to Enabled?”.

7.5.5.2.1 Check OS (Operating System)

The IPP print (encryption) function is supported by Windows 2000 and Windows XP only.

It is not supported by other operating systems.

7.5.5.2.2 Is the Printer created?

Printer may not be created normally.

To use the IPP print (encryption) function, the Printer must have been created by setting port to URL” printer IP address>/ipp” when creating the Printer.

For more details of Printer creation method, refer to the User’s Manual (Advanced edition).

7.5.5.2.3 Is the IPP setting set to Enabled?”

The IPP setup may not be set to Enable.

As the default setting of printer, IPP has been set to Disable.

To use the IPP print (encryption) function, the IPP setup must have been set to Enable.

For the method of changing the IPP setup, refer to the User’s Manual (Advanced edition).

7.5.5.3 Cannot create Certificate

When Certificate cannot be created, the following causes are probable.

Take an appropriate measure by referring to the following items.

* Required input items are not fully entered
  → Refer to section “7.5.5.3.1 Required input items are not fully entered.”
* The printer is printing.
  → Refer to section “7.5.5.3.2 The printer is printing.

7.5.5.3.1 Required input items are not fully entered.

Unless all of the required input items are fully entered, Certificate cannot be created.

When creating Certificate, entry into the items of Common Name, Organization, Locality, State/Province, Country/Region is the must item. (Entry into Organizational Unit can be omitted.)

Solution: Enter the appropriate value into all of the required input items, and execute creation of Certificate.
For more details of the input items, refer to the User’s Manual (Advanced edition).

7.5.5.3.2 The printer is printing.

Certificate cannot be created while printing is in progress. (Print operation has priority).

Solution: Create Certificate when all other operations are complete.
During creation of self-sign certification, during creation of CSR for Certificate of certification authority, and during installation of Certificate, the printer must not perform any other operations (such as printing) until the operation is complete (creation of self-sign certification is complete, creation of CSR is complete, and installation of Certificate is complete).

7.5.5.4 Installation of Certificate is not possible

When installation of Certificate fails, the following causes are probable.

Take an appropriate measure by referring to the following items.

* User has changed the IP address of a printer to other IP address than the “IP address during creation of CSR”.
  → Refer to section “7.5.5.4.1 IP address of the printer has been changed”.
* “Network card is initialized” while user is applying issuance of Certification to certification authority (i.e., in the state of Waiting for Installation of Certificate).
  → Refer to section “7.5.5.4.2 “Network card is initialized”.
* “Deletion of CSR” was executed while user is applying issuance of Certification to certification authority (i.e., in the state of Waiting for Installation of Certificate).
  → Refer to section “7.5.5.4.3 “Deletion of CSR” is executed”.
* Intermediate Certificate is installed.
  → Refer to section “7.5.5.4.4 “Installation of intermediate Certificate” is desired”.

7.5.5.4.1 User has changed the IP address of a printer

If IP address of a printer is changed to other IP address than the “IP address during creation of CSR”, error is issued and installation of Certificate become impossible.

If the changed setup is only the “IP address of printer”, error will not be issued if the IP address is returned to the original address.

Solution: Return the IP address of printer back to the “IP address during creation of CSR”, and then install Certificate.

Note! Do not change any setup of printer while creation of Certificate of certification authority is in progress (during the period starting from creation of CSR up until installation of Certificate). If changed, the already issued Certificates become invalid necessitating re-setup starting from the very beginning. If printer setup is changed after Certificate is obtained, the “Security warning” is displayed on the web browser.
If IP address of printer is changed, the Certificate becomes invalid. In the case of Certificate of certification authority requiring some charge for issuance, another charge may be required for creating Certificate once again. For details, contact certification authority.).

7.5.4.4.2 “Network card is initialized”

If network card is initialized (to default setup) while creation of Certificate of certification authority is in progress (during the period starting from creation of CSR up until installation of Certificate), the setup information of the Certificate is deleted. If information is deleted once, the information cannot be recovered by any means. (Even when the same information as before is entered, the same Certificate cannot be created.) .

Solution: Repeat all the steps from the very beginning. (Certificate under application is already invalid.)

7.5.5.4.3 “CSR is deleted”

If network card is initialized (to default setup) while creation of Certificate of certification authority is in progress (during the period starting from creation of CSR up until installation of Certificate), the setup information of the Certificate is deleted. If information is deleted once, the information cannot be recovered by any means. (Even when the same information as before is entered, the same Certificate cannot be created.) .If information is deleted once, the information cannot be recovered by any means. (Even when the same information as before is entered, the same Certificate cannot be created.) .

Solution: Repeat all the steps from the very beginning. (Certificate under application is already invalid.).

7.5.5.4.4 “Installation of intermediate Certificate” is desired

Some certification authorities use the procedure of installing the SSL server Certificate (printer Certificate) and the intermediate Certificate into printer as the same time.

However, printer of this model supports installation of only a single Certificate, intermediate Certificate cannot be installed in printer. Be sure to install the SSL server Certificate in printer.

When installation of intermediate Certificate is required, install the intermediate Certificate not in printer, but in client PC (browser).

For the method of installing the intermediate Certificate in client PC (browser), refer to the following.

Installing the intermediate Certificate (or CA certificate) in client PC (browser)

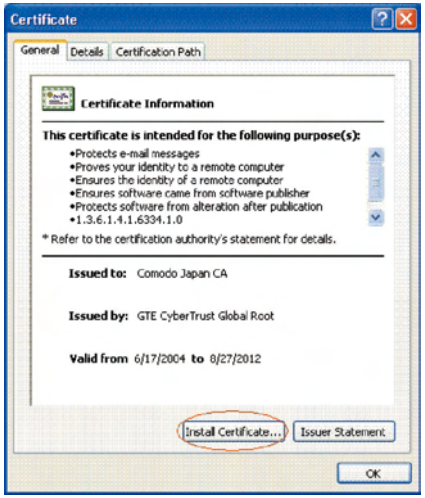
[Procedure]

1. Double-click the intermediate Certificate (or CA certificate) that is issued by certification authority, on a client PC to display the intermediate Certificate (or CA certificate).

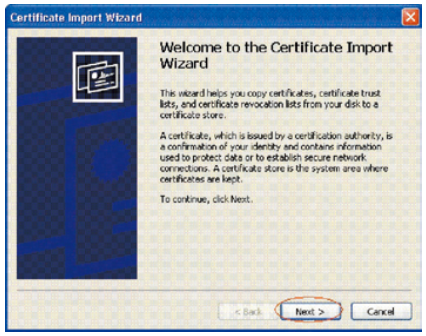
   Example: For an example, the intermediate Certificate of Comodo has the text (PEM) format: ComodoJapanCA.Crt, and the binary format: ComodoJapanCA.cer. Either one of these formats can be opened. (Same result can be obtained.)

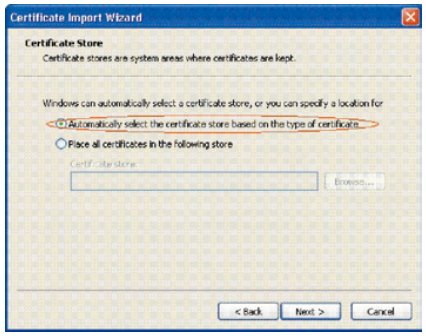
   Open either ComodoJapanCA.crt or ComodoJapanCA.cer.

2. Press the “General” tab of the displayed Certificate information, and press “Install Certificate” button.



3. The “Certificate Import Wizard” is displayed. Install Certificate in accordance with the displayed procedure. Select “Automatically select the certificate store based on the types of certificate”. Then, the Certificate will be installed automatically.





7.5.5.5 Other questionnaires

Other probable questionnaires are described below.

7.5.5.5.1 Time required for creation of Certificate

Time required for creation of Certificate Time is shown for each key size.

(It can change in the range of -30 to +30%.)

Table 7-5 Certificate creation time (For RSA) Unit is in second.

RSA		Open key size		
		512bits	1,024bits	2,048bits
Creation of self-sign certificate		6	8	25
Certificate of certifying authority	Creation of CSR *1	7	10	23
	Installation of certificate	6	6	6

*1: CSR (Certificate Signing Request)

7.5.5.5.2 Communication time when the encryption function is enabled

Result of comparison between the communication time using encryption and the normal communication is shown below.

Web top page browsing time is shown.

Web top page is the web screen for setting printer, and is displayed first.

Table 7-6 Creation time (For RSA) of web top page Unit is in second.

RSA		Open key size			Without encryption
		512bits	1,024bits	2,048bits	
Strength of encryption	Strong	5	5	7	3
	Standard	5	5	7	
	Weak	4	5	7	

Also, communication time for IPP print is shown below.

PCL NULL Data (31,464,978 bytes) is used as the print job.

(NULL Data is the data that receives process which enables measurement of maximum communication speed of network communication by minimizing the PCL processing.)

Table 7-7 IPP print (For RSA) Unit is in second.

RSA		Open key size			Without encryption
		512bits	1,024bits	2,048bits	
Strength of encryption	Strong	52	52	52	41
	Standard	53	52	52	
	Weak	51	52	53	

7.5.5.5.3 Can the encrypted printing be performed by any printer other than IPP?

Answer: Any printer other than IPP cannot encrypt printing.
Only the IPP printing can encrypt printing.

7.5.5.5.4 What will happen if SSL/TLS is turned OFF after Certificate has been created (or installed)?

Answer: Certificate will be kept saved as it is.
If SSL/TLS is turned ON again, the Certificate becomes usable.

7.5.5.5.5 Want to change the port number

Answer: The port number during the SSL/TLS communication is fixed to 443.
It cannot be changed.

7.5.5.5.6 The error message “The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority” is displayed.

If this error is indicated, it means that the certificate which is installed in a printer is self-sign certificate.

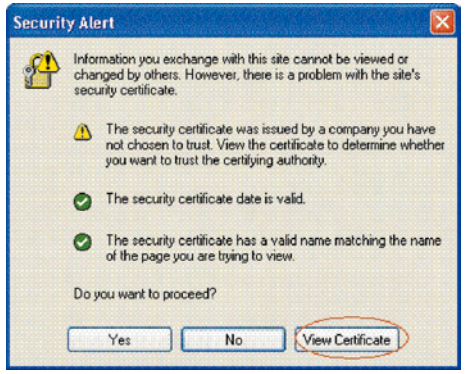
In the case of self-sign certificate, error (security warning) will not be displayed if the self-sign certificate of printer is installed in the client PC.

In the case of certificate of certifying authority, error (security warning) will not be displayed if the CA certificate of certifying authority is installed in the client PC.

Solution: Install certificate in the client PC (browser).

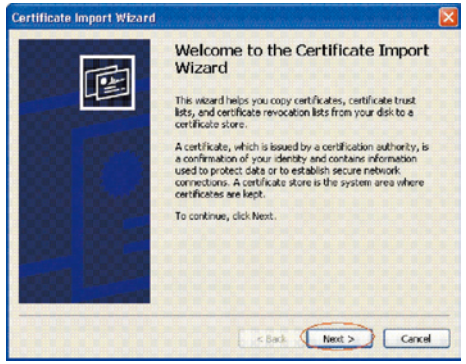
[Procedure]

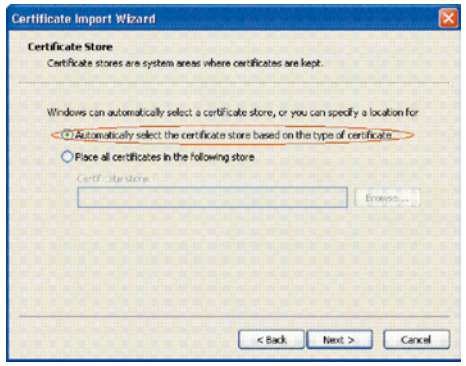
1. Click the “View Certificate” button on the error (security warning) screen.



2. Press the “General” tab of the displayed Certificate information, and press “Install Certificate” button.

3. The “Certificate Import Wizard” is displayed. Install Certificate in accordance with the displayed procedure. Select “Automatically select the certificate store based on the types of certificate”. Then, the Certificate will be installed automatically.





7.5.5.5.7 The error message “Name of security certificate is invalid or does not match the site name” is displayed.

It means that the IP address of printer is different from the IP address that is described on certificate, or from the IP address when the certificate is created.

Solution: Return the IP address of printer back to the address when self-sign certificate is created, or to the address when CSR is created.

7.5.5.6 Restrictions when using Internet Explore 7

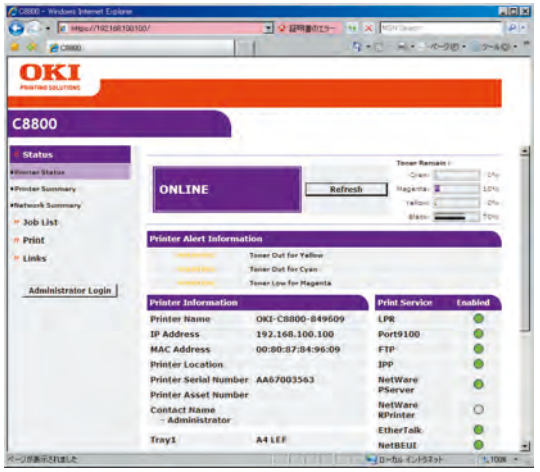
Several restrictions are imposed when using Internet Explore 7. This is because security restriction became more severe in IE7.

7.5.5.6.1 Warning indication when SSL is made valid by self-sign certificate

When SSL is made valid by self-sign certificate, the following picture is obtained when web page is accessed, and page will not be displayed.

Web display when SSL is made valid by self-sign certificate

Solution: When “Continue browsing this site (not recommended)” is clicked on the warning screen, the web page will be displayed.
However, it has no effect on the web page function. It can be used for browsing or to change setting of printer setup.



Web page display when “Continue browsing this site (not recommended)” is clicked.

7.5.5.6.2 E-mail send test function does not work

This is the function to perform the E-mail send test from the following page in the web page: [Administrator log-in] – [Network] – [Email] – [Send setup].

In the Internet Explore 7 default setup, this [Send test] cannot be made.

Solution: To execute [Send test], IE7 setup should be modified.
From the IE7 menu, select the menu: [Tool] – [Security level customize] – [Approving web site to request information input using the scripted window] and make it Enable.

7.6 Fuse check

If the following error is issued, check the corresponding fuse of the CU control board, PU control board and high voltage power supply board.

(Refer to Table 7-6.)

Table 7-6 Fuse error

Fuse Name		Error Description	Insert Point	Resistance
PU PCB (PVM PCB)	F1	Hopping error ID up/down motor	Paper feed motor, ID up/down motor 24V	1 Ω or less
	F2	Power supply FAN error Hopping error	Power supply FAN, paper feed solenoid 24V	
	F3	Duplex FAN error 2nd hopping error	Duplex, 2nd 24V	
	F4	Cover open	Belt motor, high voltage PCB 24V	
	F5	Power down	PU PCB 5V	
High voltage PCB	IP901	Cover open	High voltage 24V	
CU control PCB (TB2 PCB)	F504 F506	Service call 131 to 134 error	LED HEAD 5V	
	F505	F505 service call 131 to 134 error	LED HEAD 3.3V	
	F501	HDD error	HDD 5V	
	F503	CENTRONIX interface error	CENTRONIX interface error 5V	
	F502	CENTRONIX interface error	CENTRONIX interface error 3. 3V	
	F507	Cannot move to standby screen (OKI logo remains appearing)	PCI 5V	
MFP Control PCB (MZA PCB)	F1	SIP F/W missing	MFP PCB 5V	
	F2, F3	Operator Panel does not light.	Scanner unit 24V	
	F4	Operator Panel does not light.	Scanner unit 5V	

Table 7-7 Fuse specifications

CU PCB

Name of fuse	Manufacturer	Model number	Rating	Type of operation
F502, F503	Littelfuse	0494 001NR	32V/1A	Fast blow

MFP PCB

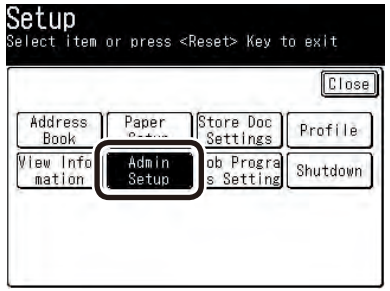
Name of fuse	Manufacturer	Model number	Rating	Type of operation
F2, F3, F4	Littelfuse	0494 005NR	32V/5A	Fast blow

7.7 Moving the MC860 and transportation method

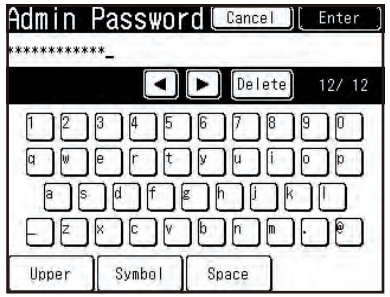
7.7.1 Moving the MC860

1. Set the [Mirror Carriage mode] to ON.

❶ Press the < SETUP > key.

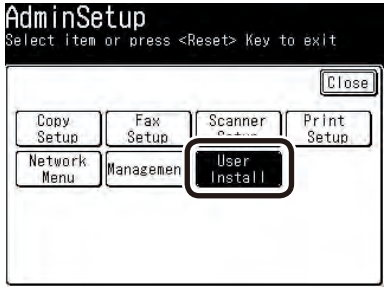


❷ Press [Admin Setup]

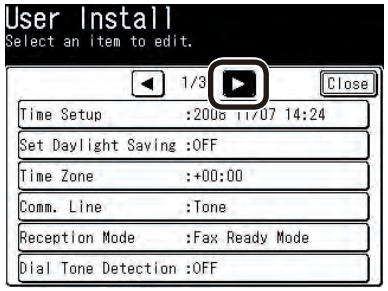


❸ Enter the administrator password and press [Enter].

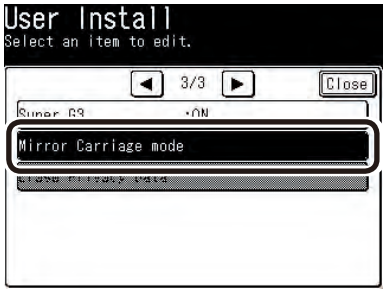
Memo By default, Administrator password is [aaaaaa].



❹ Press [User Install].

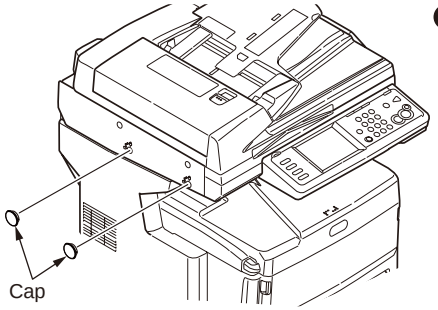


❺ Press [▶] two times and select [User Install] screen - [3/3].

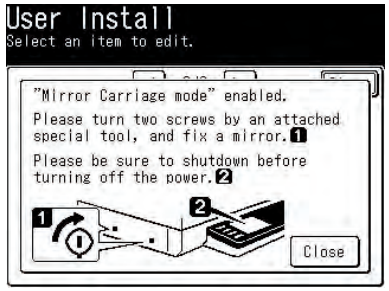


❻ Press the [Mirror Carriage mode]

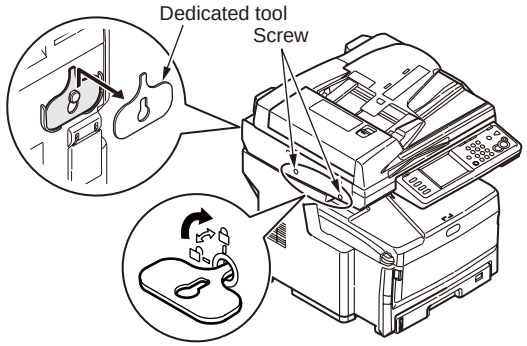
❼ Screen prompting your confirmation is displayed, Press [Yes].



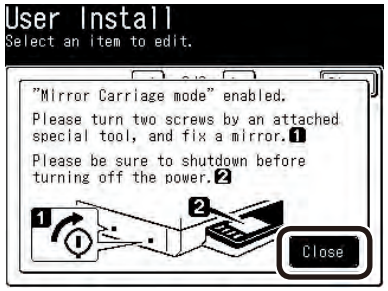
❽ Remove the two caps.



❾ Turn the two screws with the supplied dedicated tool in the direction of arrow to fix the mirror.



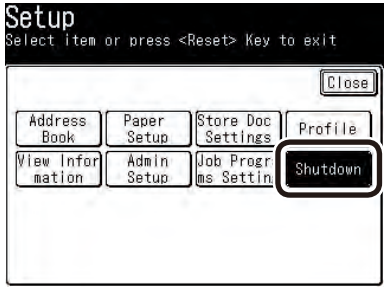
❿ Return the two caps that are removed in step ❽ to the original position.



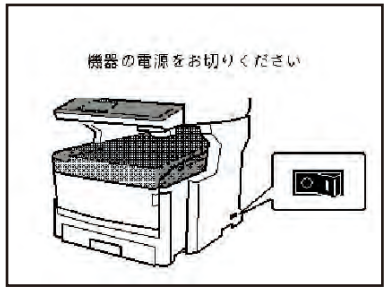
⓫ Return the document table to the original position.

⓬ Press [Close].

⓭ Press the < SETUP > key.



⓮ Press [Shutdown]



⓯ When the following screen is displayed, turn the POWER switch of the MC860 to ON.

2. Remove the followings.

- POWER cord, earth wire
- Cables
- Papers in the trays

3. Be sure to hold the MC860 with three persons or more to transport.

Note! After moving the MC860, be sure to release the mirror carriage lock before turning ON the power. Set the mirror carriage transport mode to OFF.

When the MC860dtn and add-on tray unit are installed:

Remove the fall prevention foot and release the caster lock (at two locations) before move.

After move, lock the casters and install the fall prevention foot to the original position.

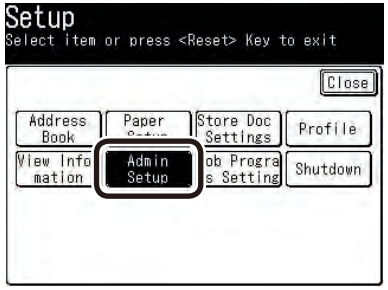
For details, refer to “Add-on tray unit” (Basic Operation edition).

7.7.2 Transporting the MC860

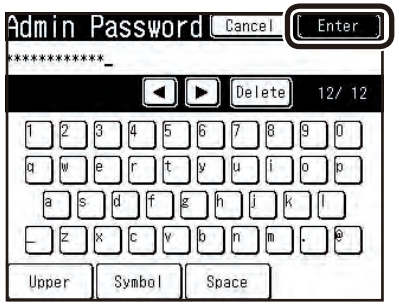
The MFP is the precision equipment that can be damaged during transportation if it is poorly packaged. Transport the MC860 by the following procedure.

1. Set the [Mirror carriage transport mode] to ON.

❶ Press the < SETUP > key.

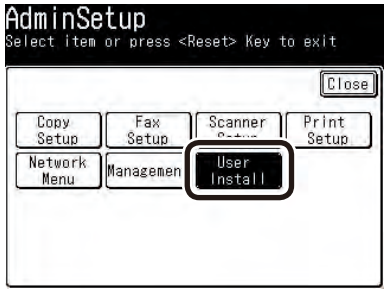


❷ Press [Admin Setup]

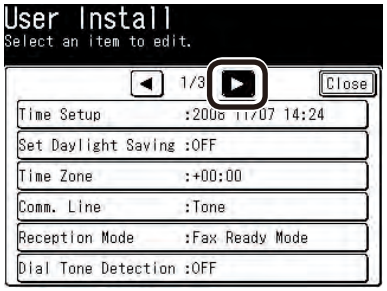


❸ Enter the administrator password and press [Enter].

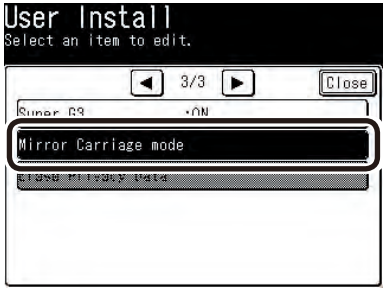
Memo By default, Administrator password is [aaaaaa].



❹ Press [User Install].

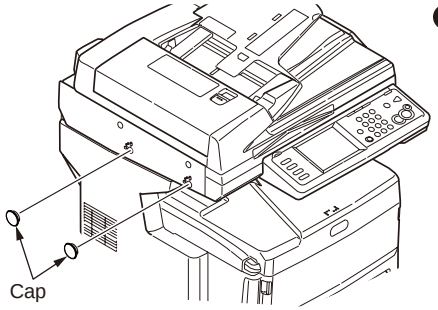


❺ Press [▶] two times and select [User Install] screen - [3/3].

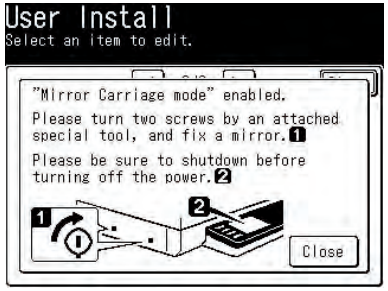


❻ Press the [Mirror Carriage mode]

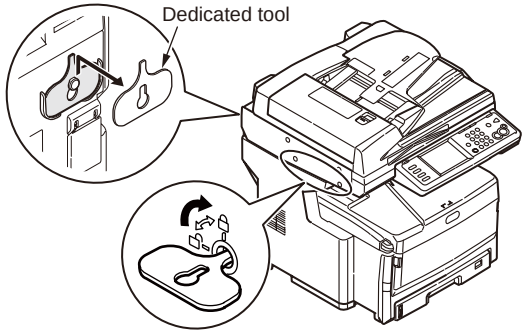
❼ Screen prompting your confirmation is displayed, Press [Yes].



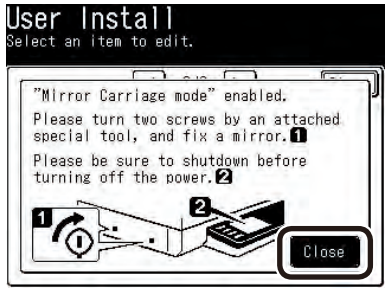
❽ Remove the two caps.



❾ Turn the two screws with the supplied dedicated tool in the direction of arrow to fix the mirror.



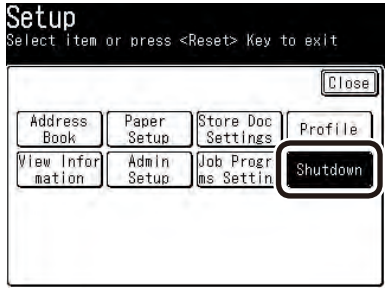
❿ Return the two caps that are removed in step ❽ to the original position.



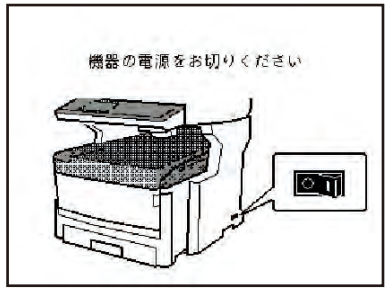
⓫ Press [Close].

⓬ Press [Close].

⓭ Press the < SETUP > key.



⓮ Press [Shutdown]

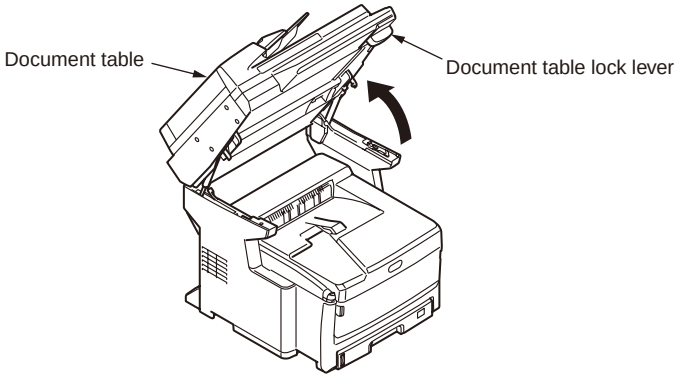


⓯ When the following screen is displayed, turn the POWER switch of the MC860 to ON.

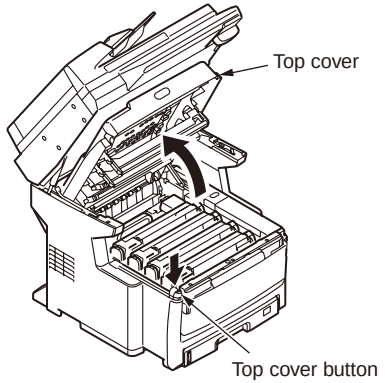
2. Remove the followings.

- POWER cord, earth wire
- Cables
- Papers in the trays

3. Pull the document table lock lever to the front to release the lock, and raise the document table.



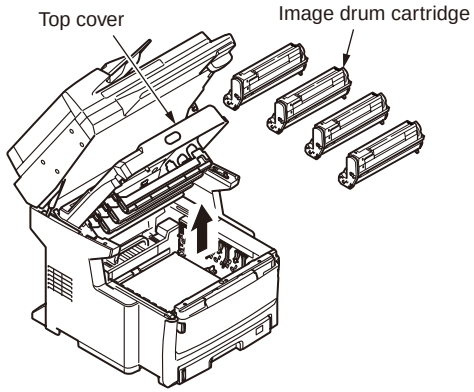
4. Press the top cover OPEN button and open the top cover.



5. Remove the four image drum cartridges and place them on a flat workbench.

⚠Caution	Failure to observe the caution may result in burn injury.	

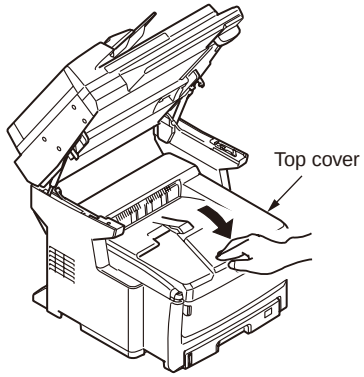
The fuser unit gets very hot. Do not touch the fuser unit.



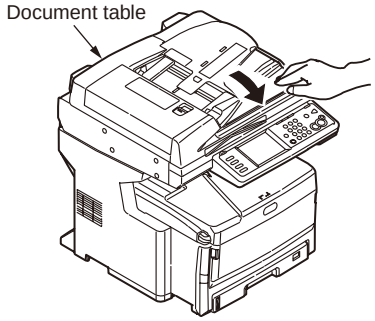
6. Fix the junction between the image drum cartridge and toner cartridge with vinyl adhesive tape.

Note! Pack the image drum cartridge with the MFP before transport. Securely seal the junction with vinyl tape so that toner never comes out.

7. Close the top cover.



8. Return the document table to the original position.



9. Separate the nit.

If add-on tray unit is not installed, go to step 10.

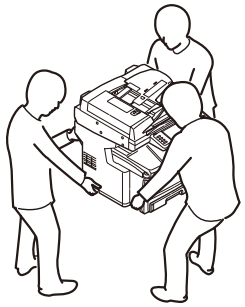
When separating the MC860, separate it by reversing the steps of installation. For details, refer to “Add-on tray unit” (Basic Operation edition).

10. Protect the MC860 with cushions.

Note! Use the packing cartons and cushions that have been used to deliver the MC860 to your location at the time of purchase.

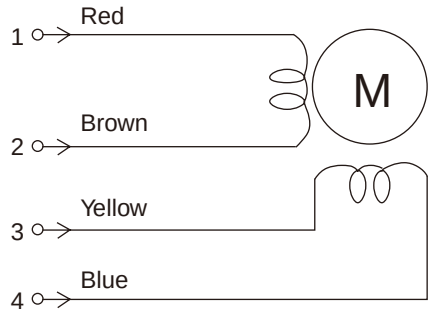
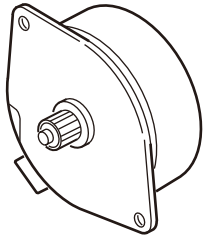
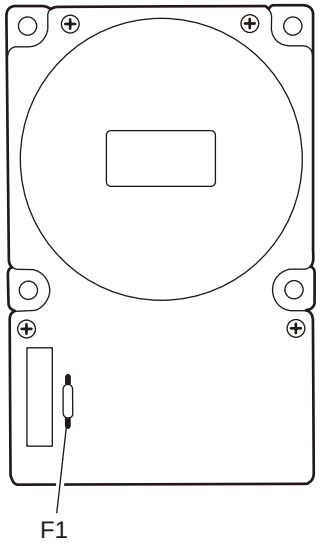
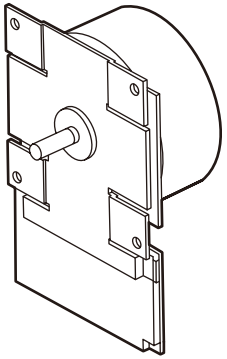
Memo When re-installing the MC860 after transport, peel off the tape that fixes the image drum cartridge and toner cartridge.
After transporting the MC860, be sure to release the mirror carriage lock before turning ON the power. Set the mirror carriage transport mode to OFF.

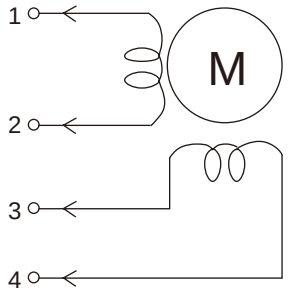
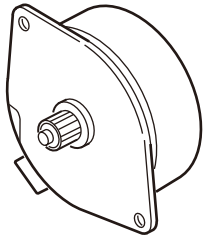
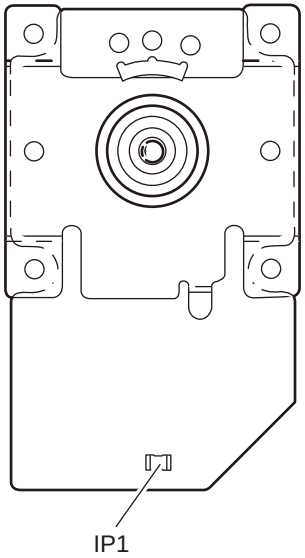
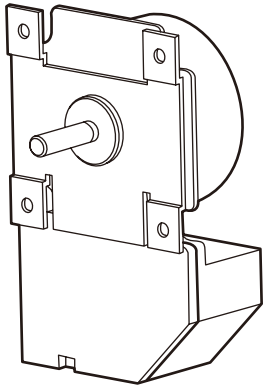
11. Be sure to hold the MC860 with three persons or more to transport.

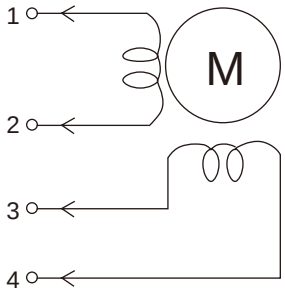
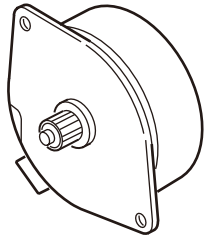
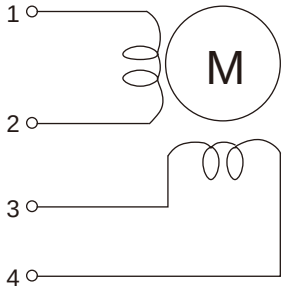
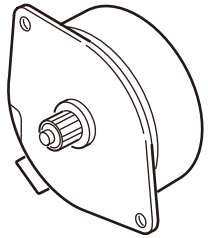
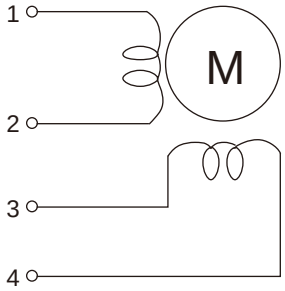
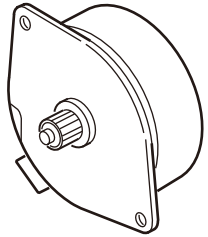


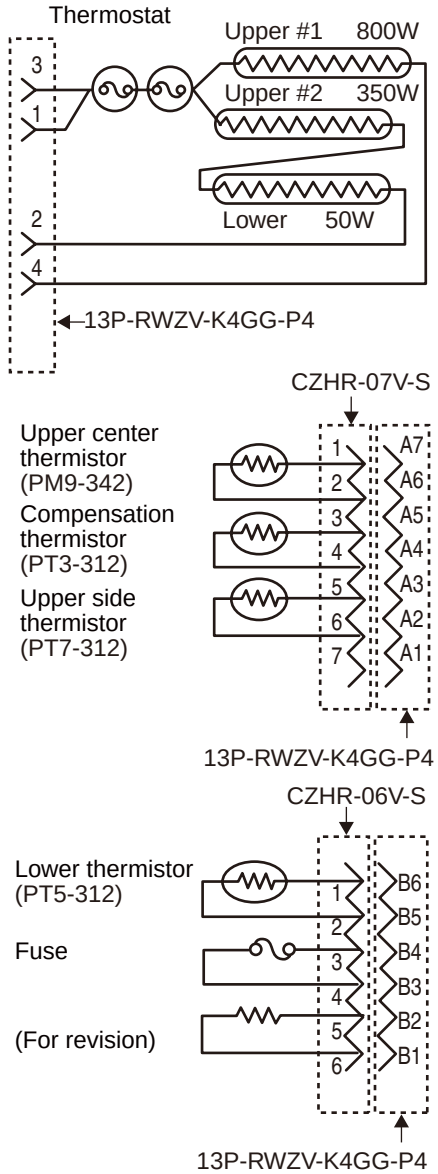
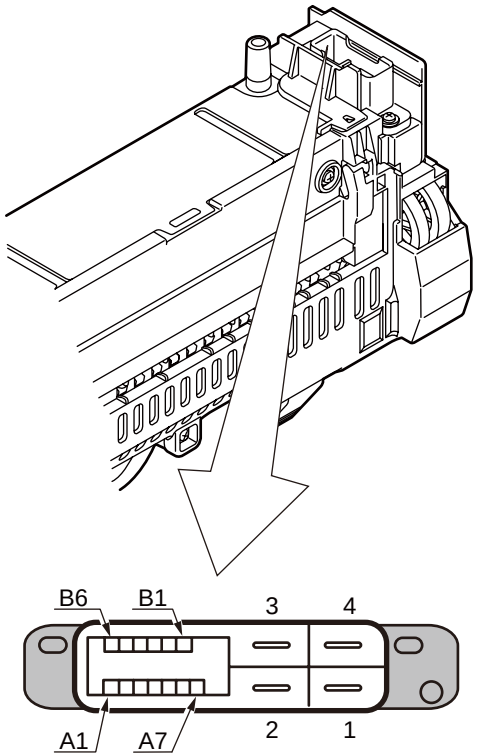
8. Connection Diagrams

8.1 Resistance value check

Unit	Circuit diagram and configuration	Part drawing	Resistance value
Transport belt motor			Between pin-1 and pin-2: 3.4 Ω Between pin-3 and pin-4: 3.4 Ω
ID motor			Across F1: Less than 1 Ω

Unit	Circuit diagram and configuration	Part drawing	Resistance value
ID up/down motor			Between pin-1 and pin-2: 6.1 Ω Between pin-3 and pin-4: 6.1 Ω
Fuser motor			Across IP1: Less than 1 Ω

Unit	Circuit diagram and configuration	Part drawing	Resistance value
Paper feed motor			Between pin-1 and pin-2: 3.4 Ω Between pin-3 and pin-4: 3.4 Ω
Both-side print motor			Between pin-1 and pin-2: 2.4 Ω Between pin-3 and pin-4: 2.4 Ω
2nd tray paper feed motor			Between pin-1 and pin-2: 3.4 Ω Between pin-3 and pin-4: 3.4 Ω

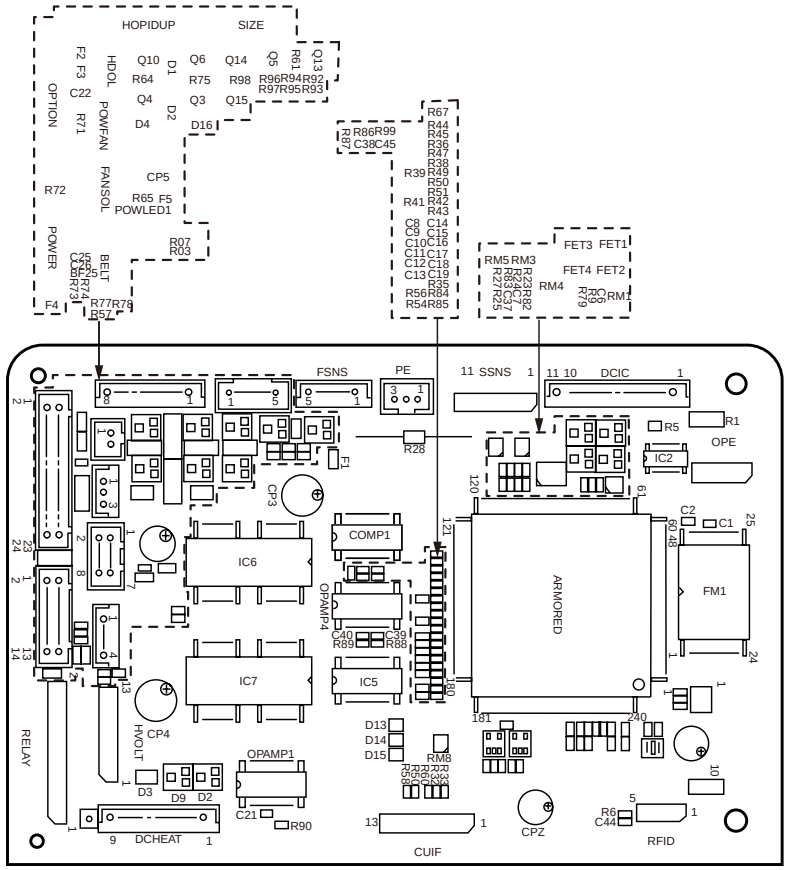
Unit	Circuit diagram and configuration	Part drawing	Resistance value
Fuser unit			Between pin A-6 and pin A-7: Approx. 8058 kΩ to 5338 kΩ ← Upper center thermistor (0~93˚C) Between pin A-2 and pin A-3: Approx. 104.5 kΩ to 806.5 kΩ ← Upper side thermistor (0~43˚C) Between pin B-5 and pin B-6: Approx. 104.5 kΩ to 806.5 kΩ ← Lower thermistor (0~43˚C) Between pin A-4 and pin A-5: Approx. 104.5 kΩ to 806.5 kΩ ← Compensation thermistor (0~43˚C)

8.2 Parts location

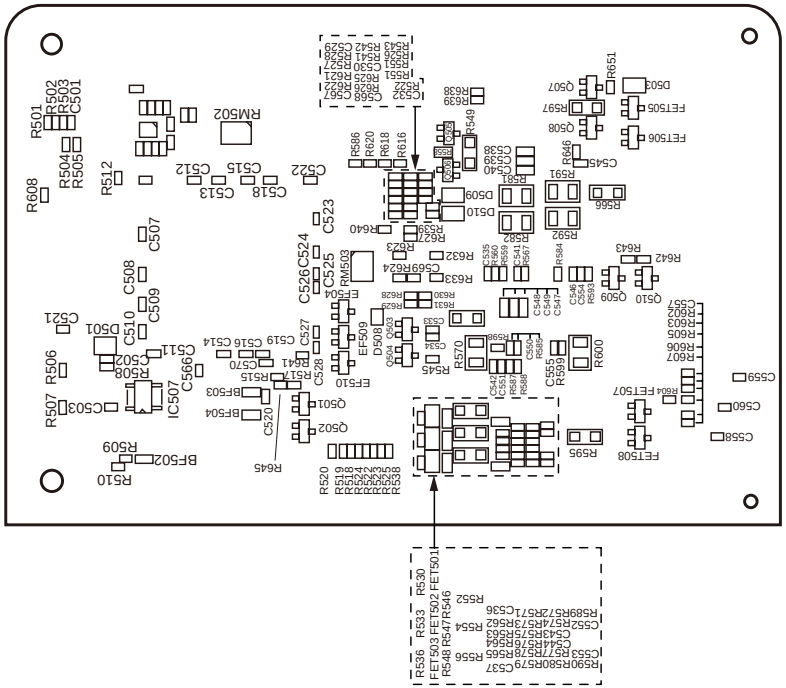
(1) Print Engine Controller PCB (PVM.PCB)

Component side

* The specified article numbers comply with the RSPL.

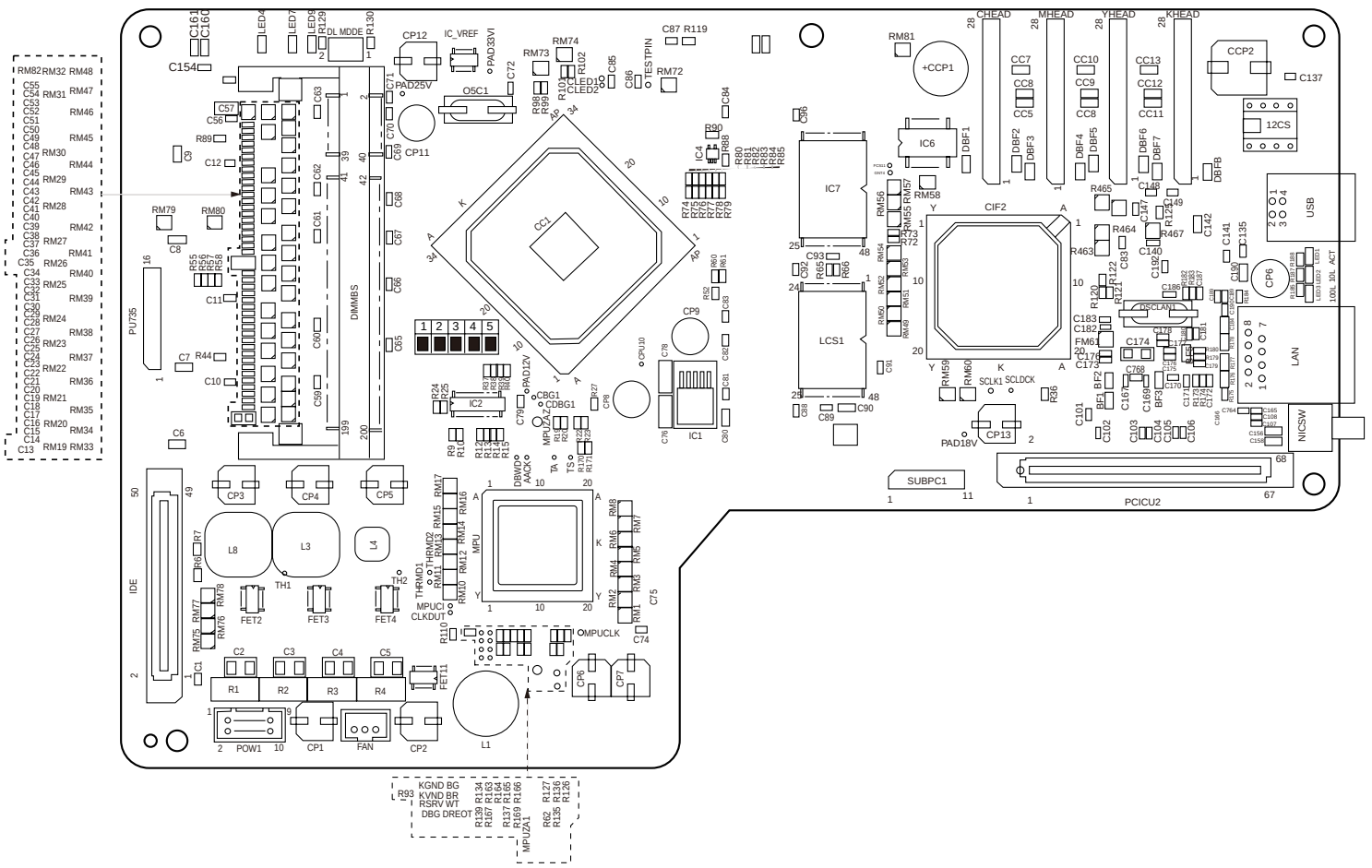


Soldering side

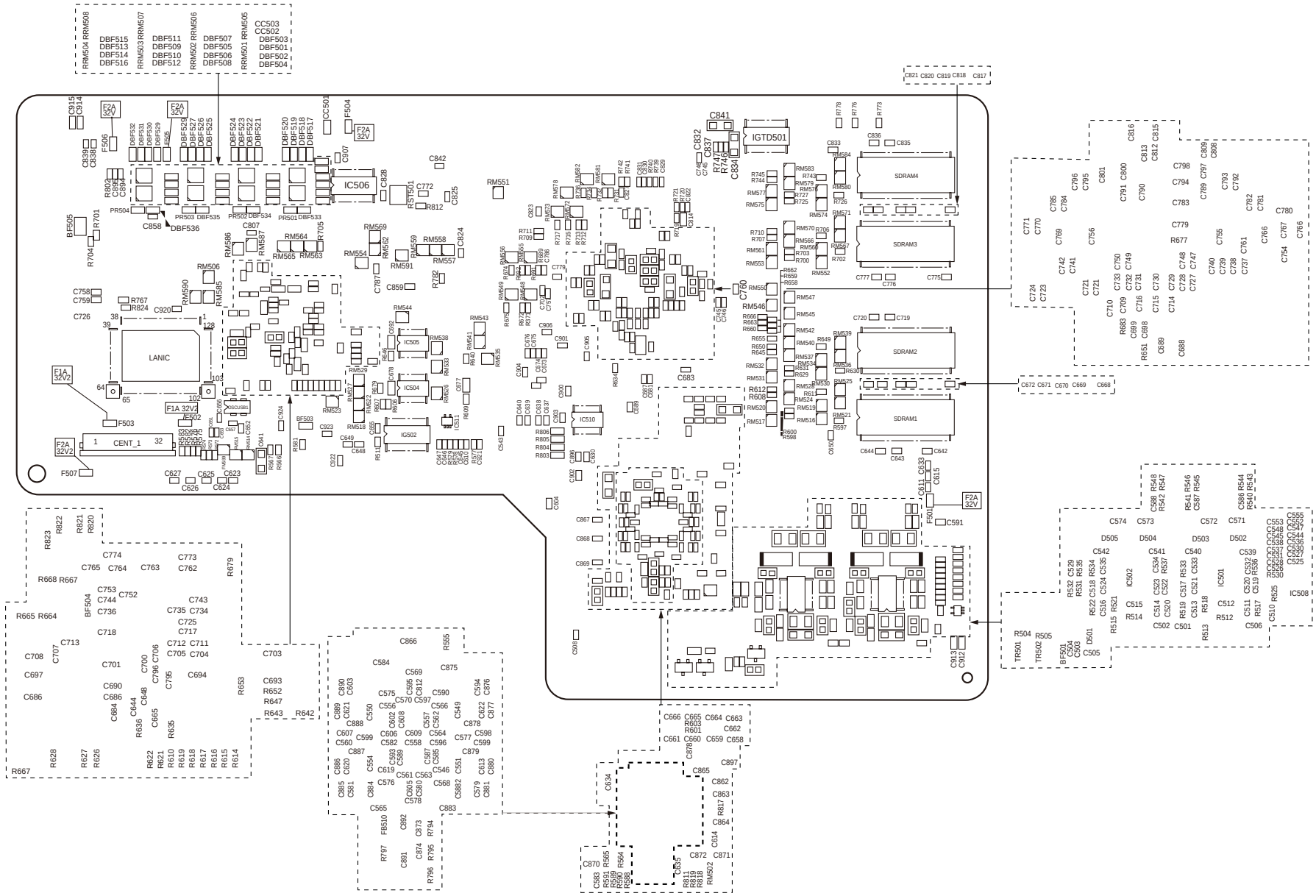


(2) Main Controller PCB (TB2.PCB)

Component side

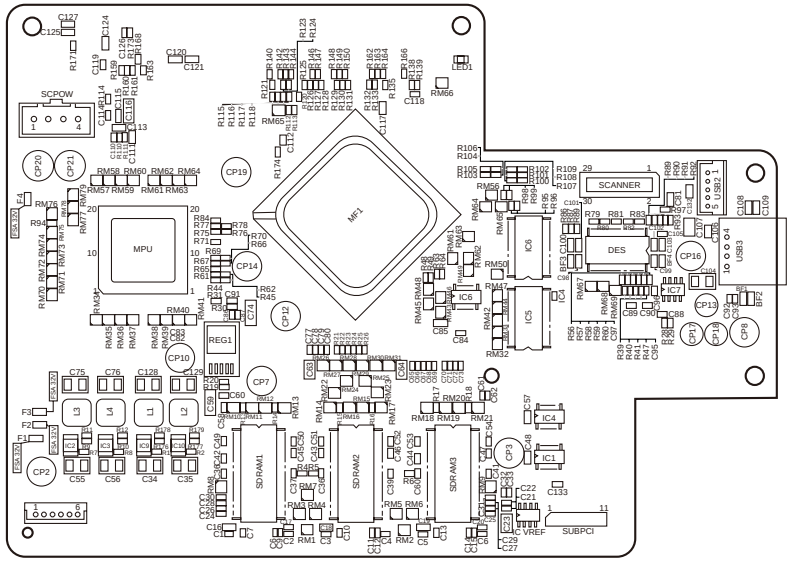


Soldering side

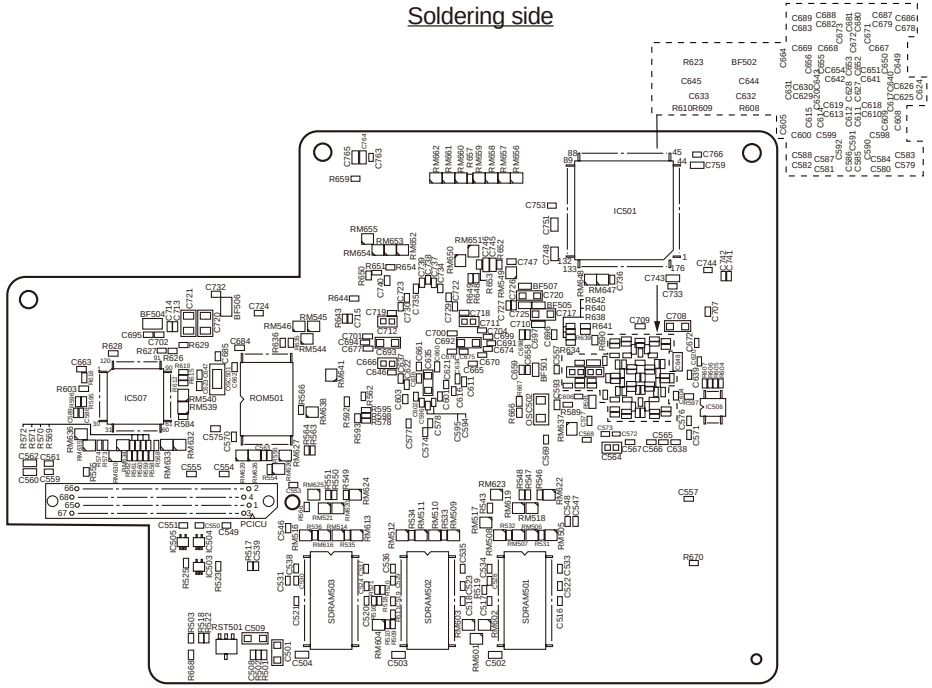


(3) Scanner I/F.PCB (MZA.PCB)

Component side

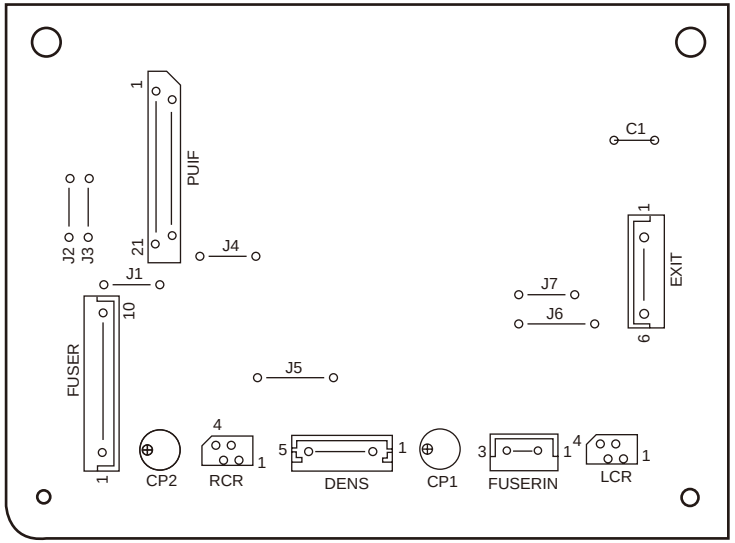


Soldering side

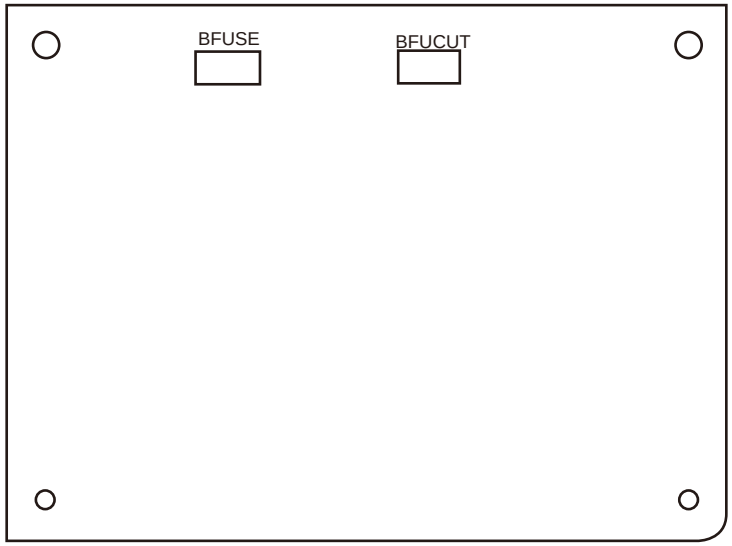


(4) Relay PCB (P6Y.PCB)

Component side

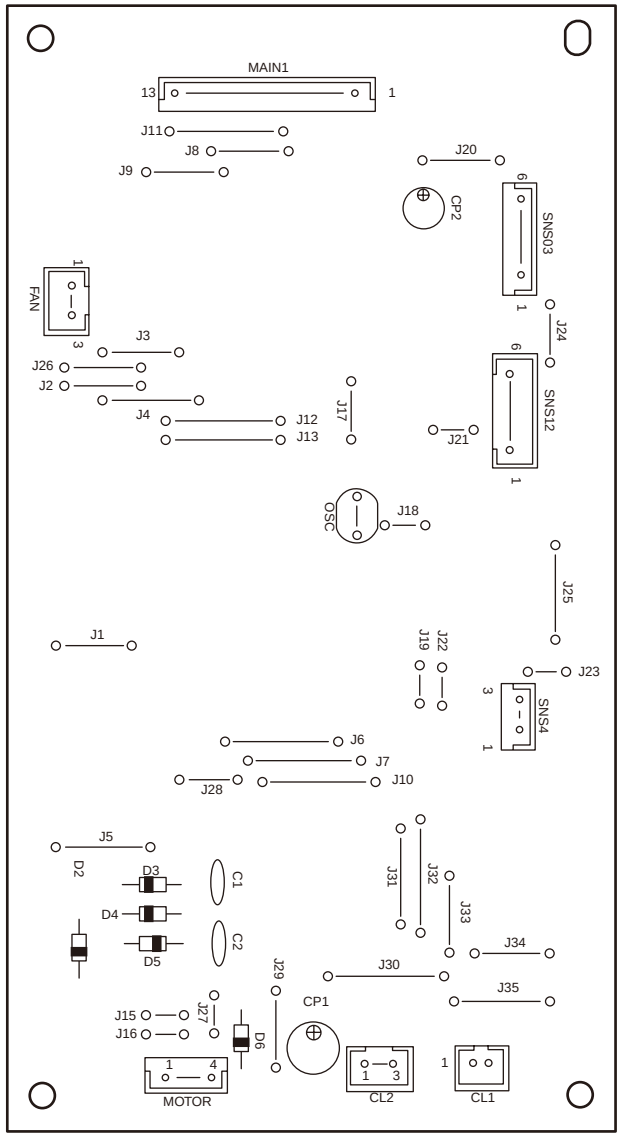


Soldering side

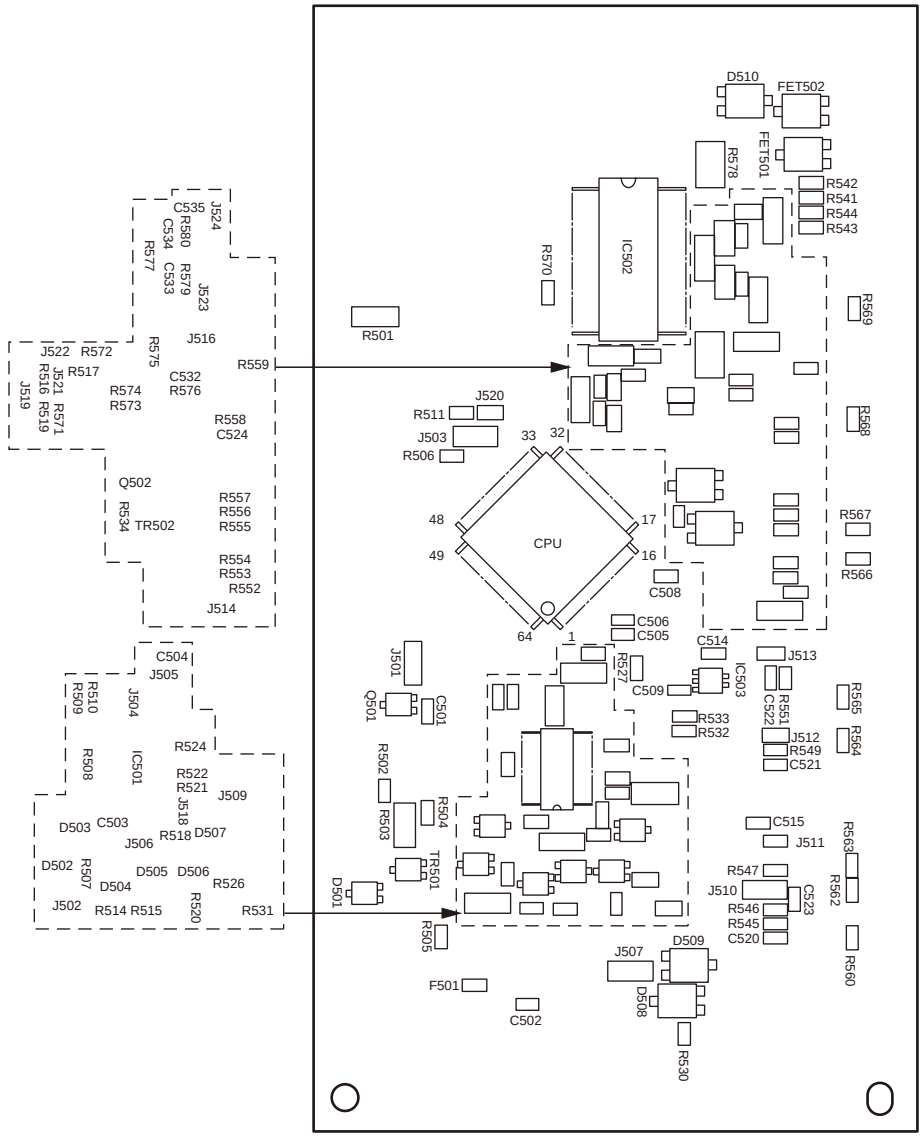


(5) Both-Side Print Control PCB (V7Y-4.PCB)

Component side

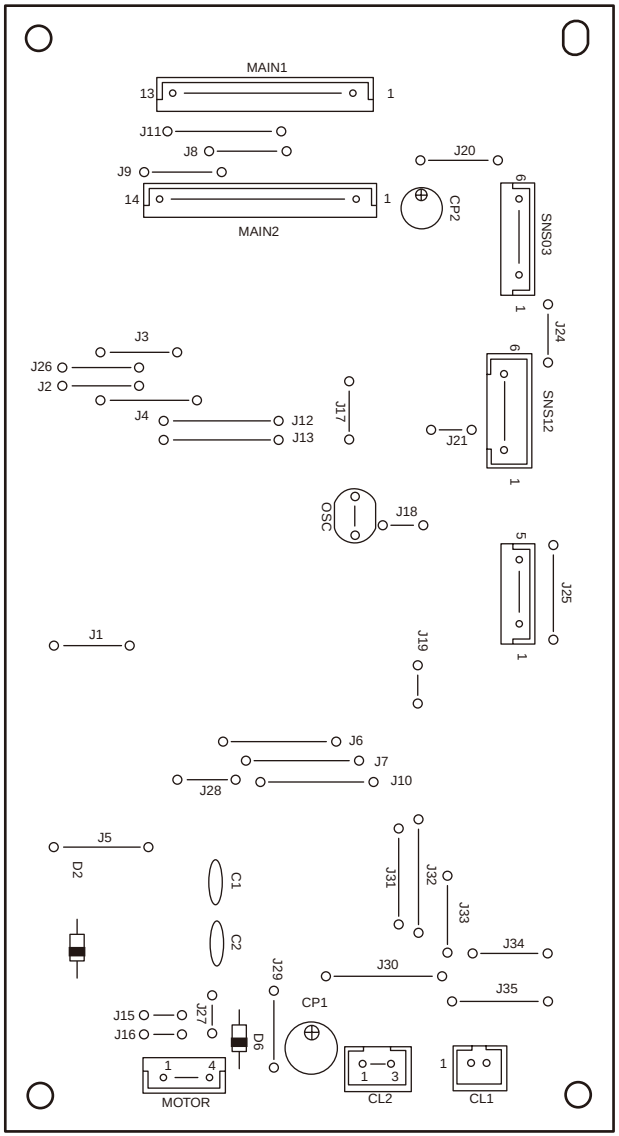


Soldering side

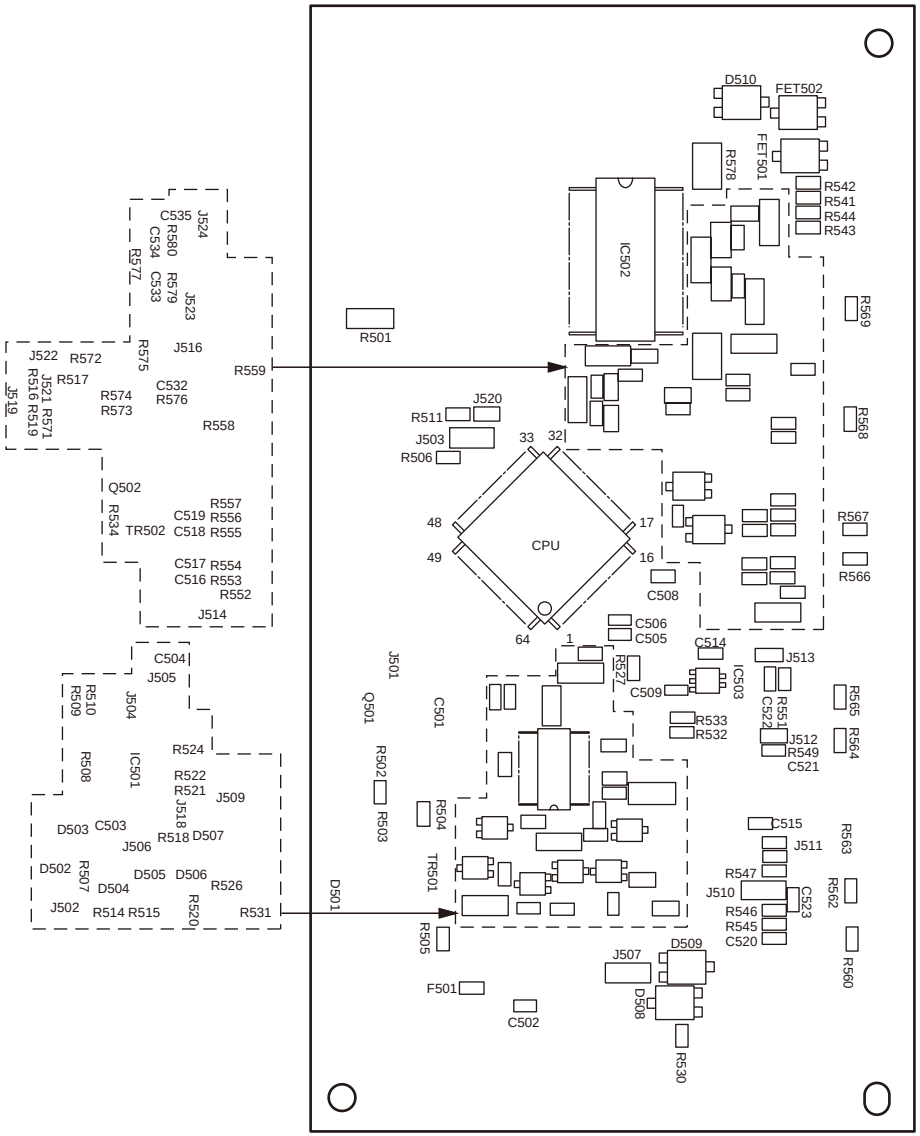


(6) Second Tray Control PCB (V7Y-3.PCB)

Component side

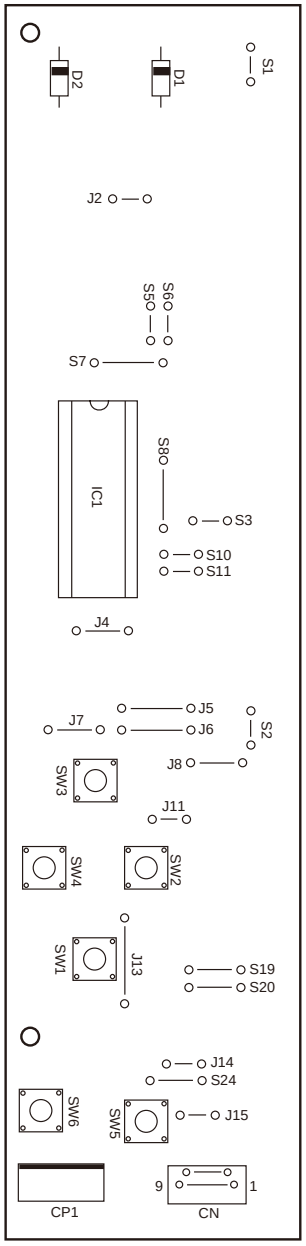


Soldering side

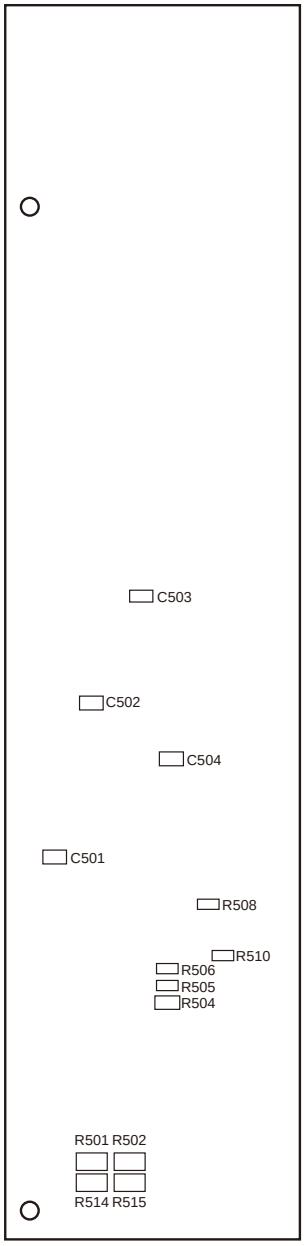


(7) Control Panel PCB (PRP.PCB)

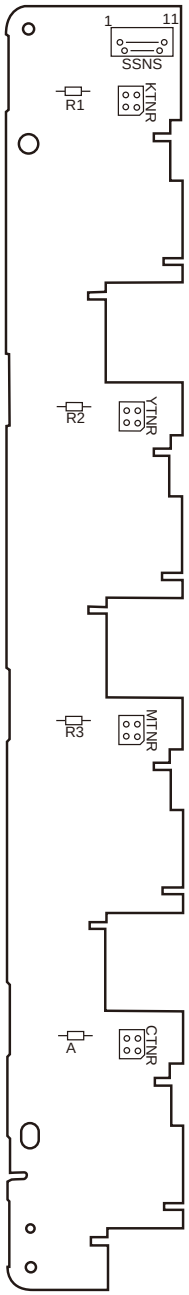
Component side



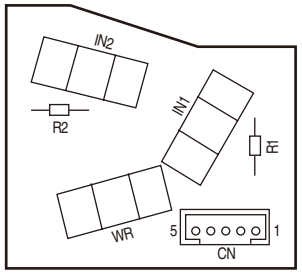
Soldering side



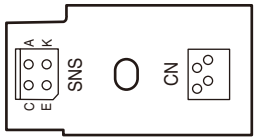
(8) Toner Low Sensor PCB (PRZ.PCB)



(9) Entrance Sensor PCB (RSF.PCB)

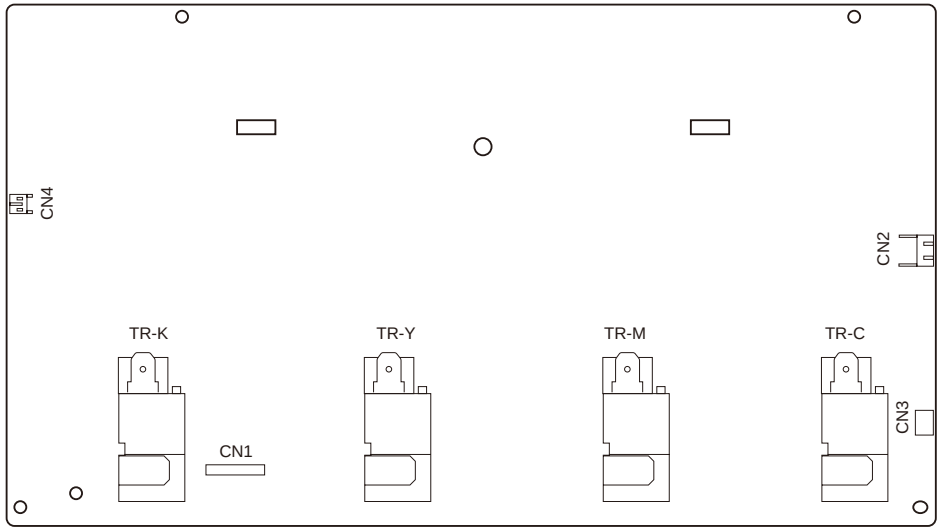


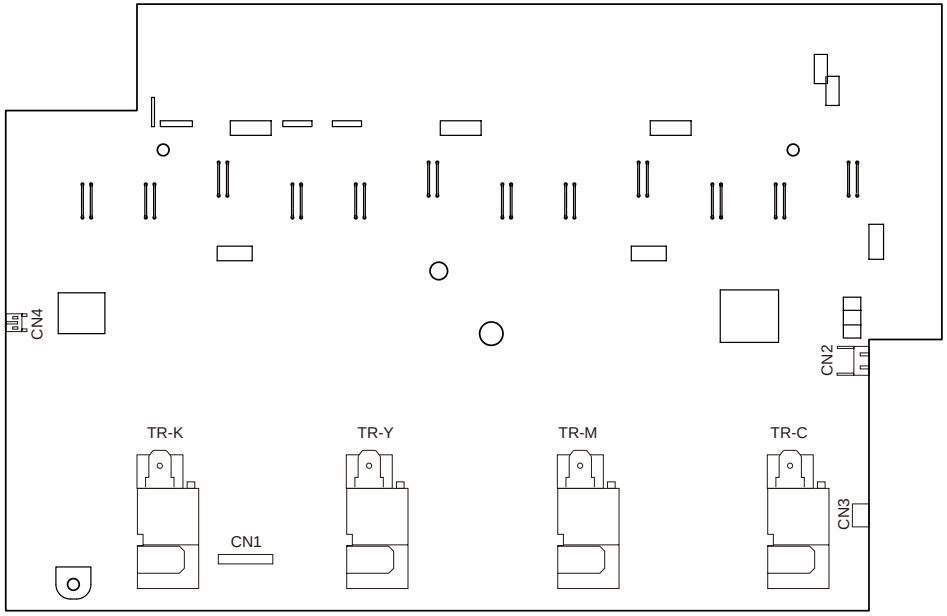
(10) Color Adjustment Sensor PCB (PRC.PCB)



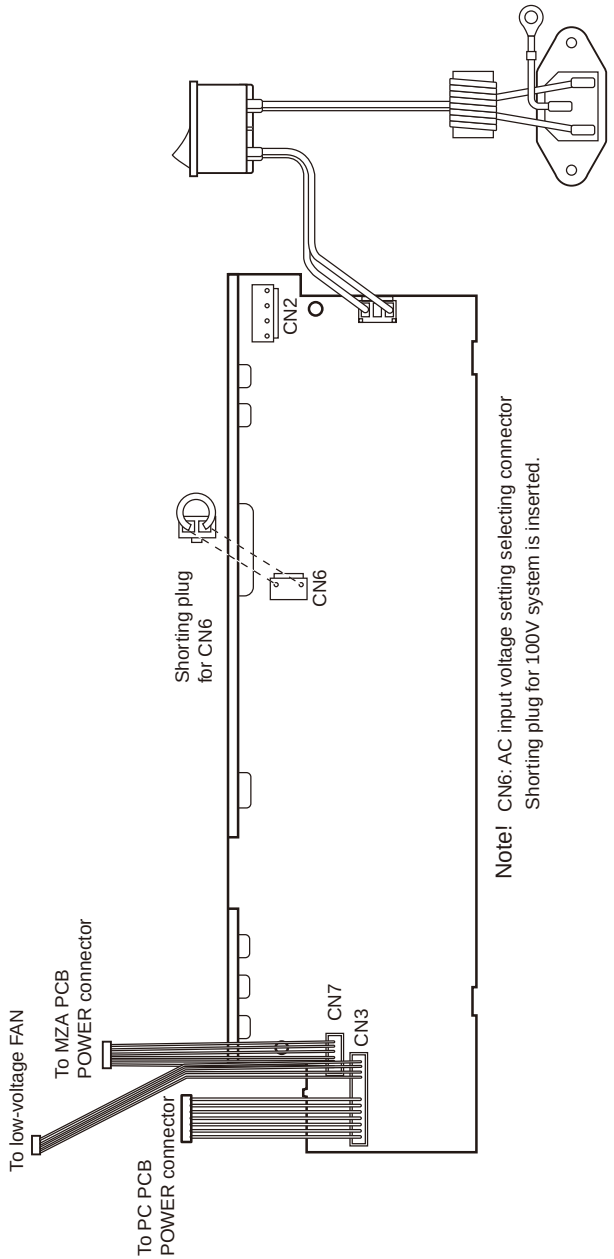
(11) High-Voltage Power Supply PCB

* The specified article numbers comply with the RSPL.

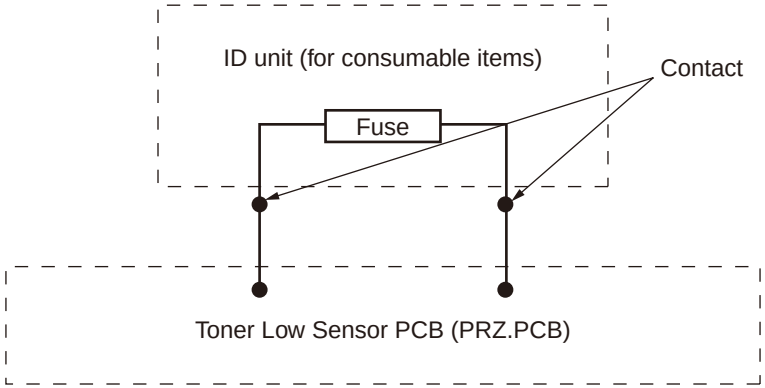


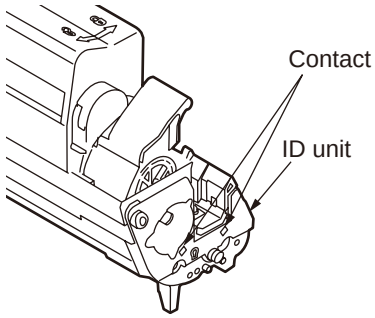


(12) Low-Voltage Power Supply PCB



(13) ID Unit





(14) Transfer Belt Unit