bizhub 25e

FIELD ENGINEERING MANUAL

version 1

May 2013

NOTE
- Contents of this manual can be changed without prior notice.
- There can be errors in this manual even though we have made best efforts to create the accurate manual. We are not liable for any loss and/or damage that 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. We recommend strongly that maintenance of MFP should be made by the maintenance engineers who are the authorize service engineers.
- Before starting any work, remove static electricity beforehand.

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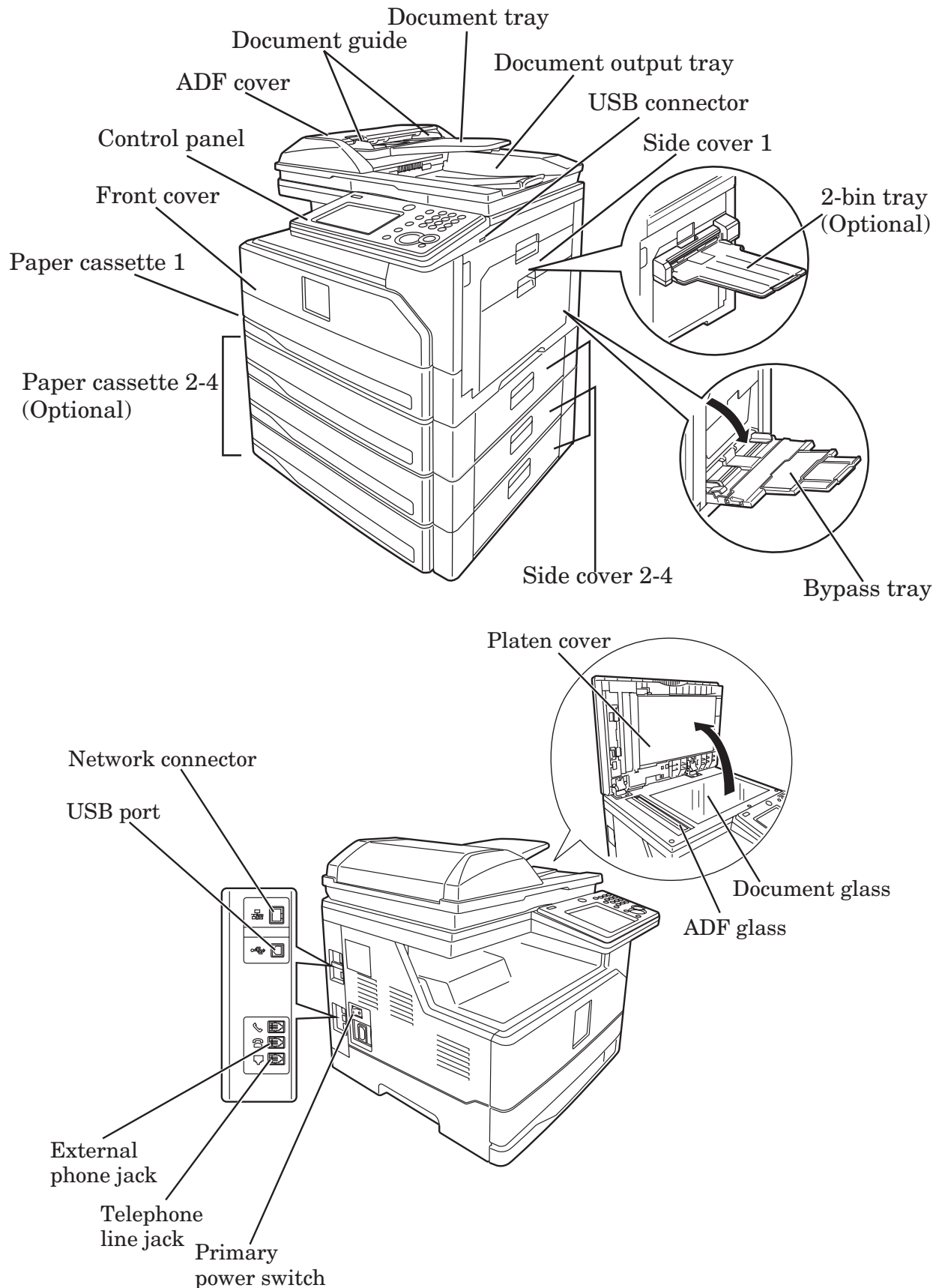
1.2 Specifications

Item	Product Official Specification
Copy	
type	Desktop type / Console type
Original table	Fixed table
Scanning method	Color CIS
Acceptable copy paper type	Sheets and books *No Three-dimensional objects
Acceptable document size	Max:FBS:Legal, URADF:Legal
Auto document feeder (sheets)	N/A
>Doc. Thickness	N/A
>Doc. Weight (g/m^2)	N/A
Reversing Auto document feeder (sheets)	Max:80 sheets (80g/m2 documents)
>Doc. Thickness	0.05 - 0.15mm (Single Sheet) 0.07 - 0.12mm (Multi Sheets)
>Doc. Weight (g/m^2)	35.0 - 128.0g/m2 (Single Sheet) 52.0 - 105.0 g/m2 (Multi Sheets)
Manual duplex scan	no
Sensitive drum type	OPC drum
Printing method	Dry & Electrophotographic method
Exposure method	LED
Developing method	Mono component non-magnetic development method
Fusing method	Heating-roll fixing method
Recording paper size	
>1st-4th cassette	Letter(SEF), HalfLetter(LEF), Legal(SEF)
>Bypass Tray	Letter (SEF), Half-Letter (LEF), Legal (SEF), Executive (SEF), A6 (SEF), A5 (SEF/LEF), A4 (SEF), F4 (SEF), DL (SEF), COM#10 (SEF), Monarch (SEF), Postcard (SEF), Custom Size(width:90-216mm, length:140-356mm) *Custom size paper use for PC printing only.
>Large Capacity Cassette	N/A
Paper Media (for MP/Bypass)	Plain Paper, OHP*, Envelope/Postcard/PasteBoard *does not guarantee all environments or all OHP films (suggested OHP film: 3M PP2500)
Resolution (Max)	Scanner 600dpi / Printer 600dpi
Continuous copy speed (Max.) >LTR SEF	25 ppm (Letter SEF, print from 1st casette)
>B4 SEF	N/A
>A3 SEF	N/A
>Small size paper / Paste Board	A6 18ppm/Postcard 12ppm
Warm up time	approx.12 sec. (WUT1)
First copy out time (FCOT)	approx. 5sec
# of copies	1-99
Enlargement/Reduction	yes/yes:(FBS/URADF)
>Setting range	FBS: 25 - 400% (1% step) URADF:25 - 100% (1% step)
>Preset (A4 Setting) >Preset (LTR Setting)	LTR: 50% ,64%, 78%, 100%, 121%, 129%, 154% A4: 70%, 81%, 86%, 100%, 115%, 122%, 141%
Recording paper capacity (Std.)	500 sheets(Cassette) + 100 sheets (Bypass Tray)
(Max.)	500 sheets x 4(Cassette) + 100 sheets (Bypass Tray)
Fax Specifications	
Type	Tx & Rx
Compatibility	G3 & Super G3
Resolution (Scanning/Tx/Rx)	(horizontal x vertical)
>Super Fine	
	16 dots/mm×15.4 lines/mm (initial setting)
	(406 dpi × 392 lpi)
	not supported 600dpi × 600lpi
>Fine	8 dots/mm×7.7 lines/mm

Item	Product Official Specification
	(203 dpi × 196 lpi)
>Normal	8 dots/mm×3.85 lines/mm
	(203 dpi × 98 lpi)
>Grayscale	8 dots/mm×7.7 lines/mm
	(203 dpi × 196 lpi)
Telephone network	PSTN
Transmission speed	2sec. level (Super G3)
	6sec. (G3)
Coding method	MH, MR, MMR, JBIG
Modem	
>G3:	14400, 12000, 9600, 7200, 4800, 2400 bps
	Control signal speed: 300 bps
>SuperG3:	33600, 31200, 28800, 26400, 24000,
	21600, 19200, 16800, 14400, 12000,
	9600, 7200, 4800, 2400 bps
	Control signal speed: 2400, 1200 bps
Other Information	
Image data memory capacity (Std.)	512 MB(Total Memory)
	Image data memory 16MB(Fax), 50MB(Copy)
(Max.)	N/A
Memory Backup (Standard)	No limit
	*The user data clear is necessary at the time of the
	disposal.
Backup data	Tx document(included PC Fax Tx), Rx document, List
	document as auto print, Auto Forwarding document
MB CF card capacity (Std.)	N/A
(Max.)	N/A
Interface	Hi-Speed USB 2.0(Std.)
	Hi-Speed USB 2.0 Host(Std.)
	Ethernet 10 BASE-T/ 100 BASE-TX(Std.)
Appearance : URADF model	
>Dimensions (W x D x H)	20.5×20.2×20.0 in. = 520×513×509 mm
	(Std. 2Way/1cassette)
>Dimensions (Max) (W x D x H)	20.5×20.2×34.2 in. = 520×513×869 mm
	(Max.: 5 Way/4 cassette)
>Weight (w/o consumables)	53.1 lb. = 24.1 kg (Std. 2 Way/1 cassette)
	80.7 lb. = 36.6 kg (Max.5 Way/4 cassette)
Consumables Weight	
>Toner Cartridge	2.65 lb. = 1.2 kg(Approx.) include toner
>Developer Unit	N/A
>Drum Cartridge	12.65 lb. = 1.2 kg(Approx.) include toner
>Handset (includes Holder)	N/A
>Hopper tray	included in the main unit weight
Required Space for Installation *Standard Configuration	
>from ceiling	- from ceiling: more than 400 mm
>from back wall	- from back wall: more than 200 mm
>from right wall	- from right wall: more than 400 mm
>from left wall	- from left wall: more than 100 mm
>from front wall	- from front wall: more than 450 mm
Control panel language	English/French/Spanish
LCD mono	
>LCD language	Multi languages (see each model)
>LCD size	5.7 inch
>LCD resolution	320 dots × 240 dots (QVGA)
>LCD fonts	Large fonts: 12 dots x 24 dots
	Small fonts: 7 dots x 14 dots
>Clock indicate on LCD	yes
>>4-digit display of year	yes
>>AM/PM display	yes (LCD clock, LCD Settings, TTI and List)
Standby Mode (Default)	MyMFP

Item	Product Official Specification
Input method	By QWERTY key on touch panel
Power requirements	AC 115 V±10 % 50 Hz/60 Hz
Power consumption	
>Sleep mode	1.3 W
>Stand by	41 Wh
>Max.	1000 W(Full Option)
>TEC	1397 Wh
Electrical Currency	8.4 A (Full Option Max)
EMI Class	Class B
Environmental conditions	
>Practical temperature	10 - 32 °C (when humidity is 68%)
>Practical humidity	20 - 80 % (when temperature is 30°C)
Machine Reliability	
>Scanning pages per day (Ave.)	70 sheets
>Scanning page per day (Max.)	125 sheets
>Printing pages per day (Ave.)	150 sheets
>Printing pages per day (Max.)	500 sheets
>Working days	20 days
>Monthly Print Volume (Ave.)	3,000 sheets/month
>Monthly Print Volume (Max.)	10,000 sheets/month
>Scanner Life (FBS)	100,000 sheets
>Scanner Life (ADF)	N/A
>Scanner Life (URADF)	150,000 sheets
>Machine Life	600,000 sheets print or 5 years
Scanner Unit	
Scanning method	
>Scanning method	Color CIS
>Lamp	LED (RGB)
>Optical resolution (Max.)	600dpi x 600dpi
Color scanning	
>Color	yes
>Black & White	yes
>>Multi Level	no
>>Bi Level	yes
>Grayscale	256 level
>Drop out color	no
Color Scanning Mode	
ACS (Auto Color Sensor)	no
Full Color	yes
Bicolor	no
Mono Color	no
Effective scanning width	
>Copy/Scan	
>>A4/Letter	A4:210 mm Letter:216 mm
>>B4	no
>>A3/Ledger	no
>>Leading Registration	0 mm
>>End Registration	0.0 mm(FBS), 2.0 mm(URADF)
>Fax	
>>A4/Letter	A4:208 mm Letter 214 mm
>>B4	N/A
>>A3/Ledger	N/A
>>Leading Registration	2.5 mm
>>End Registration	2.0 mm
Contrast adjustment (Copy/Scan/Fax)	
>Auto	no
>Manual (# of levels)	yes (5 levels)
>Modification for the original document back-ground	Automation(w/o photo mode)
Size of Flat Bed Scanner	
	216 mm x 356 mm

Item	Product Official Specification
Type of Cover Platen (ADF)	N/A
Type of Cover Platen (URADF)	Lift up type (Lift up to 32 mm)
Document setting position and Scanning Alignment (FBS)	Rear left corner
Acceptable document size (FBS)	
>Auto detection	no
>Max. W(mm)×D(mm)	216 x 356 mm (Legal: SEF)
>Min. W(mm)×D(mm)	no limit
>Doc. thickness	no limit
Document Size (URADF)	
>Auto detection	no *can detect the length after scanning
>Acceptable Doc. Size	
>>Single page Document Through Size	
>>>Max. Document Size	Simplex: 216 x 900 mm (600dpi: 216 x 400 mm) Duplex: 216 x 356 mm
>>>Min. Document Size	Simplex: 120 x 100 mm Duplex: 120 x 139.5 mm
>>>Doc. thickness	0.05 - 0.15 mm
>>>Doc. Weight (g/)	$35g/m^2$ - $128g/m^2$
>>Multi pages Document Through Size	
>>>Max. Document Size	Simplex: 216 x 356 mm Duplex: 216 x 356 mm
>>>Min. Document Size	216 x 139.5 mm(210 x 148.5 mm)
>>>Doc. thickness	0.07 - 0.12 mm
>>>Doc. Weight (g/m²)	52.0 - 105.0 g/m²
Scanning Alignment (ADF)	N/A
Scanning Alignment (URADF)	Center
Document setting (ADF/URADF)	Face up
Auto document feeder (sheets) (ADF)	N/A
Auto document feeder (sheets) (URADF)	80 sheets (A4(SEF), F4(SEF), A5(LEF)) 80 sheets (Letter(SEF), Legal(SEF), HalfLetter(LEF)) *80g/m², 20lb
Scanning resolution	
>Copy (B/W) (Auto,Text, Photo, Photo/Text, Background Off) →(Text,Text/Photo,Photo,Background Off)	Max : 600 dots/inch x 600 lines/inch
>Copy (Color)	N/A
>>Memory transmission	
>>>Super Fine	16 dots/mm×15.4 lines/mm (406 dpi × 392 lpi)
>>>Fine	8 dots/mm×7.7 lines/mm (203 dpi × 196 lpi)
>>>Normal	8 dots/mm×3.85 lines/mm (203 dpi × 98 lpi)
>>>Grayscale	8 dots/mm×7.7 lines/mm (203 dpi × 196 lpi)
>>>Background	8 dots/mm×7.7 lines/mm (203 dpi × 196 lpi)
>>Real-time transmission	
>>>Super Fine	16 dots/mm×15.4 lines/mm (406 dpi × 392 lpi)
>>>Fine	8 dots/mm×7.7 lines/mm (203 dpi × 196 lpi)
>>>Normal	8 dots/mm×3.85 lines/mm (203 dpi × 98 lpi)
>>>Grayscale	16 dots/mm× 15.4 lines/mm (406 dpi × 392 lpi)
>>>Background off	8 dots/mm×7.7 lines/mm (203 dpi × 196 lpi)

Item	Product Official Specification
>>PC-Scan (B/W) (Text,Text/Photo(UI Auto),photo)	Text,Auto(Text/Photo), photo: yes Background off: No
>>>Optical Resolution	600dpi × 600dpi
•Default	
>TWAIN / WIA Scan	300dpi × 300dpi (TWAIN only)
>Scan to Folder (SMB)	300dpi × 300dpi
>Scan to E-mail	300dpi × 300dpi
>Scan to FTP	300dpi × 300dpi
>Scan to CF/HDD	N/A
>Scan to USB	300dpi × 300dpi
>>PC-Scan (Color) (Auto,Text,Text/Photo,photo)	
>>>Optical Resolution	600dpi × 600dpi
•Default	
>TWAIN / WIA Scan	300dpi × 300dpi (TWAIN only)
>Scan to Folder (SMB)	300dpi × 300dpi
>Scan to E-mail	300dpi × 300dpi
>Scan to FTP	300dpi × 300dpi
>Scan to CF/HDD	N/A
>Scan to USB	300dpi × 300dpi
Grayscale (B/W)	
>Copy (B/W)	256 levels, Error diffusion
>Memory Tx	256 levels, DitherMatrix
>Real-time Tx	256 levels, Error diffusion
>PC-Scan (B/W)	
>>TWAIN / WIA Scan	256 levels, Error diffusion
>>Scan to Folder (SMB)	256 levels, Error diffusion
>>Scan to E-mail	256 levels, Error diffusion
>>Scan to FTP	256 levels, Error diffusion
>>Scan to CF	N/A
>>Scan to USB	256 levels, Error diffusion
# of pages for memory capacity (using the ADF) * measured by ITU-T No1Chart	
>600 dpi × 600 dpi (TWAIN)	No limit (Real Time Twain)
>300 dpi × 300 dpi (TWAIN)	No limit (Real Time Twain)
>200 dpi × 200 dpi (TWAIN)	No limit (Real Time Twain)
>200 dpi × 100 dpi (FAX)	1024 Sheets
Document scanning time (FBS)	
>Copy (B/W)	2.2 sec/page (Letter SEF)
(Color)	N/A
>Memory transmission	
>PC-Scan (B/W)	
>>400 dpi × 400 dpi	N/A
>PC-Scan (Color)	
>>400 dpi × 400 dpi	N/A
Document scanning time (URADF: A4/SEF)	
>Copy (B/W)	1.72 sec/page (Letter SEF)
(Color)	N/A
>PC-Scan (B/W)	
>>600 dpi × 600 dpi	1.5 sec/page (Letter SEF)
>>400 dpi × 400 dpi	N/A
>>300 dpi × 300 dpi	1.5 sec/page (Letter SEF)
>>200 dpi × 200 dpi	1.5 sec/page (Letter SEF)
>>100 dpi × 100 dpi	1.5 sec/page (Letter SEF)
Minimum scanning times per line (FBS)	
>Copy (B/W)	157.2 us/line
(Color)	N/A
>Memory transmission	157.2 us/line
>Real-time transmission	157.2 us/line
>PC-Scan (B/W)	157.2 us/line
(Color)	471.6 us/line

Item	Product Official Specification
Minimum scanning times per line (URADF)	
>Copy (B/W)	157.2 us/line
(Color)	N/A
>Memory transmission	157.2 us/line
>Real-time transmission	157.2 us/line
>PC-Scan (B/W)	157.2 us/line
(Color)	471.6 us/line
Mode selection	
>Resolution (Fax Tx)	yes, Normal/Fine/Super-Fine/Photo/Background off (default: Normal)
>Doc. Type (Copy)	yes, Text/Auto(Text&Photo)/Photo/Background off (default: Auto)
> Resolution/Doc. Type(Mono PC Scan)	yes, Text/Auto(Text&Photo)/Photo yes, 100dpi/200dpi/300dpi/600dpi (default: 300dpi/Auto)
> Resolution(Color PC Scan)	yes, Text/Auto(Text&Photo)/Photo yes, 100dpi/200dpi/300dpi/600dpi (default: 300dpi/Auto)
>Contrast (Fax Tx)	yes, 5 levels (default: Normal)
(Copy)	yes, Auto,5 levels (default: Auto)
(PC Scan B/W)	yes, 5 levels (default: Normal)
(PC Scan Color)	yes, 5 levels (default: Normal)
Scan Size setting	Yes Default: URADF: Auto / FBS : Letter
Verification stamp	yes
>Stamped Place	Center Bottom of Original , face side
>Stamp Color	pink(10,000 sheets)
Read Registration	URADF: Simplex ±1.5 mm / Duplex ±1.92 mm FBS: ±1.5 mm
Side Registration	URADF: Simplex ±1.5 mm / Duplex ±1.98 mm FBS: ±1.5 mm
Document Skew Rate (Lead/Side)	URADF: Simplex ±1.0% / Duplex ±1.28 % FBS: ±0.8 %
Horizontal stretch	URADF: ±1.0 % / FBS: ±0.8 %
Vertical stretch	URADF: ±1.0 % / FBS: ±0.8 %
Document Jam Rate	Error (Double Feed, No Feed): under 0.10%
	Damage (Jam, Wrinkle, Fold): under Simplex 0.10% / Duplex 0.20%
Printer Unit	
Color Printing	no
Sensitive drum type	OPC drum
Printing method	Dry & Electrophotographic method
Exposure method	LED
Charging Method	Corona charging method
Cleaning Method for Charger ~~Charge wire~~	Manual
Charger Cleaning Timing	Toner cartridge replacement timing
Charger cleaning warning timing	N/A
Developing method	Mono Component non-magnetic development method
Fusing method	Heat Fixing by the heat roller
Margin	
>Copy	
>>Top/Bottom	3 mm
>>Left/Right	3 mm
>FAX	
>>Top/Bottom	3 mm
>>Left/Right	3 mm
>Printer	
>>Top/Bottom	3 mm
>>Left/Right	3 mm
Resolution	600dpi

Item	Product Official Specification
Smoothing	
>Hyper Fine	
>>(600dpi×600lpi)	no
>>(16 dots/mm×15.4 lines/mm)	no
>Super Fine	no
>Fine	no
>Normal	yes
Print speed (Max.)	25 ppm (Letter SEF, print from 1st cassette) *A6 18 ppm/Postcard 12 ppm
Duplex Print speed (Max.)	More than 10.0 ppm(MAX/A4)
Alignment	Upper left
Warm up time	approx. 12 sec
Paper Supply	Cassettes + Bypass Tray
Recording paper capacity (Standard)	500 sheets (Cassette) + 100 sheets (Bypass Tray)
(Max.)	500 sheets (Cassette) x 4 + 100 sheets (Bypass Tray)
Recording paper	
>Cassette (1st-4th)	1st: (Standard) / 2nd-4th: (Option)
>>Cassette type	Universal type
>>Designate method for the paper size	Manual setting by user's operation
>>Recording paper quantity	500 sheets (80g/m^2, 20lb)
>>Paper Media	Plain Paper
>>Recording paper size	Letter(SEF), HalfLetter(LEF), Legal(SEF)
>Bypass Tray	Standard
>>Designate method for the paper size	Manual setting by user's operation
>>Recording paper quantity	100 sheets (80g/m^2, 20lb) Envelope: 20(10°C 20%, 20°C 50%), 10 sheets(30°C 80%)
>>Paper Media (for MP/Bypass)	Plain Paper, OHP*, Envelope/Postcard/PasteBoard *does not guarantee all environments or all OHP films (suggested OHP film: 3M PP2500)
>>Recording paper size	Letter (SEF), Half-Letter (LEF), Legal (SEF), Executive (SEF), A6 (SEF), A5 (SEF/LEF), A4 (SEF), F4 (SEF), DL (SEF), COM#10 (SEF), Monarch (SEF), Postcard (SEF), Custom Size(width:90-216mm, length:140-356mm) *Custom size paper use for PC printing only.
Weight of Recording paper	60-90 g/m^2, 20-24 lb(Casette) 60-160 g/m^2, 20-43 lb (Bypass tray)
Out put type of Recording paper	Face down
>Out put paper tray capacity	[Main unit] More than 250 sheets (A4/Letter) (N-N environment, 80g/m^2=20lb) [2-bin tray] 100 sheets (A4/Letter) (N-N environment, 80g/m^2=20lb)
Recording paper detection	
>Out of paper detection	yes: Photo Sensor Type
>Paper jam detection	yes: Photo Sensor Type
>Remaining paper quantity display on LCD	no
>Remaining paper quantity display on Cassette	no
Toner Cartridge	Cartridge type
>Toner Quantity	24,000 sheets (ISO/IEC 19752, equivalent value) cf. 20,000 sheets (6%, equivalent value)
>Low toner warning	yes:2.4K sheets (ISO/IEC 19752, equivalent value) Detected by Dot count Warning timing is adjustable.
>>Action after low toner warning indication	600-2400 sheets (ISO/IEC 19752, equivalent value) by dot count (default 1200 sheets)
>Action after Toner empty	Stop printing
>Toner Saving (New Function)	yes
>No toner cartridge detection	yes: EEPROM
Toner collection container	yes

Item	Product Official Specification
>Detection of remaining Waste Toner	no
>Detection of the container existence	no (included in Toner cartridge)
Drum Cartridge	Cartridge type (includes Developing unit and Initial toner 2,400 sheets ISO/IEC 19752, equivalent value, cf 2,000 sheets 6% equivalent value)
>Drum Life (1 page-cycle print)	42,000 sheets (number of sheets(Letter/A4) or driving time of 1 page-cycle print)
>Drum Near End warning	yes: Detected by motor cycle or by number of prints Indicate massage after printing 41500 sheets or 12600 sec
>>Action after drum near end warning indication	Can print 500 sheets or 1500 sec after near end warning
>Drum end detection	yes: Detected by motor cycle or by number of prints
>>Action after drum end detection	Stop printing
>New Drum detection	yes: EEPROM
>No Drum detection	yes: EEPROM
Others	
>2-bin (Plain Paper/Simplex, Duplex)	yes(option) [Simplex] A4(SEF), A5(LEF/SEF), A6(SEF), F4(SEF) Letter(SEF), HalfLetter(LEF), Legal(SEF), Executive(SEF) [Duplex] A4(SEF), A5(LEF/SEF), A6(SEF), F4(SEF) Letter(SEF), Legal(SEF)
>Shift tray (Plain Paper/Simplex, Duplex)	N/A
>Duplex Print (Plain Paper/Cassette 1-4, Bypass)	yes [Casette] A4(SEF), A5(LEF), F4(SEF) Letter(SEF), Legal(SEF) [Bypass] Letter(SEF), Legal(SEF), A4(SEF), F4(SEF), A5(SEF/LEF), A6(SEF)
>Mechanical Counter	yes(option)
>Finisher	no
>>Staple	no
>>Punch	no
>>Extension-bin	no
>>Mail-bin	no
>>Saddle stitch	no
>Off-Line Stapler	no
Lead Registration	±1.5mm(simplex) / ±1.9mm(duplex)
Side Registration (1st cassette)	±1.8mm(simplex) / ±2.3mm(duplex)
(Bypass tray)	Postcard(bypass Tray) : ±3.0 mm
(2nd-4th cassette, Bypass tray)	±2.0mm(simplex) / ±2.6mm(duplex)
Recording paper Skew Rate(Lead)	±1.0%(simplex) / ±1.3%(duplex)
	Postcard(bypass Tray) : ±1.5 %
Recording paper Skew Rate(Side)	±1.0%(simplex) / ±1.3%(duplex)
	Postcard(bypass Tray) : ±1.5 %
horizontal stretch	±0.5%(simplex) / ±1.0%(duplex)
vertical stretch	±0.5%(simplex) / ±1.0%(duplex)
Print Density	over 1.2 (20°C 50%), 1.0(10°C 20%/30°C 80%) (environment condition: normal temperature and normal humidity, average measured by X-Rite reflection densitometer)
Print Density Irregular	under 0.3 (environment condition: normal temperature and normal humidity, average measured by X-Rite reflection densitometer)

Item	Product Official Specification
Tx Function	
Transmission	
>Width of document	A4 width
>Length of document	900 mm(Normal, Fine, Super Fine)
	*Duplex Scan: 356 mm
	Ultra fine: N/A
TTI	22 characters
>＃ of TTI	3
>>Kanji programming	no
>>Special character(ex. Ë)	yes
>Subscriber ID	20 characters
>Kana ID	N/A
Real-time transmission	yes(URADF)
	*No realtime transmission when duplex scanning.
Memory transmission	
>ADF/URADF	yes
>FBS	yes
>Command ＃ display at the document store	yes
Quick memory transmission	yes
Error Correction / Re-transmit	yes
>ECM	yes
>Automatic redial and memory transmit	yes
>Data Holding function in Redialing Attempts Over	no
>Manual re-transmit function	no
＃ of transmit reservation	30 commands
Delayed transmission	Memory transmission : yes
	Real-time transmission : yes
	Delayed time (Max.) : 31 days
Broadcast Transmission	
>Broadcast	yes
>>Max. destinations	1030
	Speed Dial: 1000
	One touch dial-key: no
	(Group number initiate :yes)
	Direct dial: 30
>Broadcasting Destination Delete	
>>Blanket Delete	yes
>>Individual Delete	yes
>Delayed Broadcast	yes, Delayed time (Max.) : 31 days
Group transmission	100 groups
N in 1 transmission	no
90°rotate transmission	no
Enlarge Transmission (ADF/FBS)	no
Duplex Transmission	yes
Insert Destination's name (Programmed in One-touch/ Speed dials) into Letterhead	no
Cover page	yes
>＃ of characters	full size:20 characters x 3 Lines
	half size:40 characters x 3 Lines
>Kanji programming	N/A
>Hiragana programming	N/A
>＃ of templates	3 types
Verification stamp	yes
>Stamped Place	Center Bottom of Original , face side
>Stamp Color	pink(10,000 sheets)
Reception Size	
>Width of Recording paper	Max. A3
>Length of Recording paper	3 m
Printer reception	no
Memory reception	yes
Rx print reduction	yes

Item	Product Official Specification
>Fixed reduction rate	100%
>Auto reduction rate	50-100 (%)
>Reduction margin	A4 type:0-85(mm) (Default:24(mm)), Letter type: 0-3.3(inch) (Default:1.6(inch))
Out-of-Paper reception	yes(250 faxes)
Page Composite Reception	no
90°rotation reception	yes
Duplex Reception	yes
Separate Rx Page	no
>Separator Cassette	no
>Print on the First Page	no
>Separete by Shift Tray	N/A
Security reception	yes
Reception mode	FAX Ready, TEL/FAX Ready, FAX/TEL Ready, ANS/FAX Ready, TEL Ready
Rx Time stamp	yes(Only Fax Rx)
Special Function	
Polling communication	no
F-Code Transmission (ITU-T SubAddress)	no
F-Code box	no
Securemail reception	no
For Bulletin box	no
F-Code polling reception (ITU-T SubAddress)	no
Relay broadcast Tx function	no
Programmable one-touch	no
Macro Key "My Jobs"	yes
># of Jobs	6
># of characters	40
>Title	yes
	(displays the first 26 characters of registered characters)
># of job steps	N/A (no limit)
Favorites	yes
># of setting	10
Soft Key	yes
># of Setting	5(BW LCD)
>Set available functions(FAX)	Resolution,Contrast,Duplex Scan,Redial,Monitor,Speed-Dial,AutoDist. Group Tx,Auto Rx,SecurityRx,TTI,Cover Page,Tx Report,,Scan Size,Stamp,Next Doc.,Closed Tx.,ID Check, Memory Tx,Dialing Options,Boradcast,Delayed Tx, E Gateway
>Set available functions(COPY)	Zoom,Card Copy,Duplex Copy,Doc.Size,Doc.Type, Bypass ,Contrast,Sort,Combine,Next Doc.,DocIndex
>Set available functions(PRINT)	no
>Set available functions(SCAN to CF)	N/A
>Set available functions(SCAN to USB)	Doc.Type,Contrast,Resolution,Scan Size,Stamp,Next Doc., Color,DuplexScan,Broadcast,Batch Scan,FileFormat,Speed-Dial,File Name,Mail Address,e-mail Subject,Mail History,Color Adjust
>Set available functions(SCAN to Folder)	↑
>Set available functions(SCAN to Mail)	↑
>Set available functions(SCAN to FTP)	↑
>Set available functions(TWAIN)	N/A
>Set available functions(SCAN to Printer)	↑
>Default Setting	
>>Function 1	Copy Doc.Type/Contrast/DuplexCopy/Sort/Card Copy
>>Function 2	Scan Doc.Type/Contrast/Resolution/FileName/Color
>>Function 3	Fax Resolution/Contrast/Redial/Monitor/Broadcast
Paper Source Setting	
>Fax	yes (OFF, ON)
>List Print	yes (OFF, ON)

Item	Product Official Specification
>Copy	yes (OFF, ON)
>PC Print	no
Second phone line function	N/A
Protect function	yes
>Operation protect	yes
>Protect Passcode	yes
>>Protect Effective Functions	
Speed-Dial	yes
Direct Dial	yes
Group Tx	yes
Manual Transmission	yes
Redial	yes
Closed Tx	yes
ID Check Tx	yes
Mail History	yes
My Jobs Execution	yes
F-Code Tx	no
Address Book Reg	yes
Group Registration	yes
Auto Distribution	yes
Polling Document	no
F-Code Document	no
My Jobs Registration	yes
F-Code Box	no
Address Book List	yes
Group List	yes
My Jobs List	yes
Journal List	yes
Auto Distribution List	yes
Security Function	yes
>Closed network Transmission (Original proprietary)	yes
>Closed network Reception (Original proprietary)	yes
>>Closed network Passcode	yes
>ID Check Transmission (Original proprietary)	yes
>Confirmation of Broadcast Destinations	yes (Off,On,Broadcast Only)
>Twice Dialing	yes
>>Twice Dialing(speed dial)	yes
>> (Broadcast)	yes
>Security Reception	yes
Protect Setting	yes
>Copy Protect	yes
>Fax Protect	yes (Protect the operation from Control Panel, Excluding PC-Fax.)
>Scan Protect	yes
>Print Protect	yes
Fax/Copy Department code administration	no
Fax Department Administration	N/A
Copy Department Administration	N/A
User Access & Control	yes
Identification	
# of users	100
# of digits	32 bit
Communication Administration	yes (ON/OFF)
Time administration	yes
Transmission page administration	yes
Transmission cost administration	no
- charged by time zone	no
- charged by page	yes
- cost per page setting	yes
Copy Administration	yes (ON/OFF)
Copy page administration	yes

Item	Product Official Specification
Copy cost administration	no
- cost per page setting	no
Scan Administration	yes (ON/OFF)
Scan page administration	yes
Scan cost administration	no
- cost per page setting	no
Print Administration	yes (ON/OFF)
Print page administration	yes
Print cost administration	no
- cost per page setting	no
Viewing function via browser	
Admin authority	yes (only Admin(default))
Display by user	yes (Copy/Fax/Scan/Print)
Display by group	yes (Copy/Fax/Scan/Print)
Data Export	yes
Data Clear	yes (All clear)
List Print	
List by user	yes, manual (from Browser)
Total List	
- Sort by User index	yes, manual (from Browser/Main Unit)
- Sort by Group	yes, manual (from Browser)
Report Function	
E-mail Tx by User	no
E-mail Tx by Group	no
E-mail Tx of Total List	no
Lawyer Office Application (tentative)	no
Energy Saving	yes
>Special Key	yes
>Low power mode	no
>>Entering time setting range	no
>Sleep Mode	yes
>>Entering time setting range	1-240 min
>Auto Recover Time Set	yes
Job Confirm / Fax Cancel (on LCD screen)	yes
>Available function for control	Job Cancel / Delayed Job / History
>Available command	Job Cancel: Cancel Tx command Delayed Job: Delete delayed job History: Confirm details / Delete
Page counter (on LCD)	yes, PRINT: Total, Copy, Fax/List, PC print SCAN: Total, Copy, Fax, PC Scan
Display of Jobs waiting for print	yes(PC Print Only)
Silent operation	no
Sound Setting	
>Beeper sound adjustment	yes
>>Setting Range	7 steps
>Key-touch sound adjustment	yes
>>Available function	yes (1 setting for all mode)
>>Setting Range	7 steps+OFF
>Job complete sound adjustment	yes
>>Available event	CopyPrint/Transmit/Fax Receive/FAX Doc.Print/PC Print/ List Print/FBS Scan
>>Sound type	Type1/Type2/Type3/OFF
Fax Ringer Setting	yes
Paper Jam Alarm	yes
Doc. Left on Glass Alarm	no
Fax & Copy	no
Day light saving time	yes

>Default(Start Day&Time/End Day & Time)	USA:
	  Start: 2:00AM on 2nd Sunday of March
	  End : 2:00AM on 1st Sunday of November
	EUR:
	  Start: 1:00AM on the last Sunday of March
	  End : 1:00AM on the last Sunday of October

Item	Product Official Specification
>Start/End Timing Setting	yes (by memory switch), month and week
Service Call Error Notice	no
># of destinations to send notice (E-mail)	N/A
>Notice Timing	N/A
Service Report	
>Print	yes(by Service Mode)
>Auto Transmission	yes(ON/OFF)(default: OFF)
>#of destinations to send report(FAX)	2 location (1 of them is a prefixed number)
>#of destinations to send report(E-mail)	3
>>Brief Report text on the E-mail body	yes (# of Drum replacements, Print count of Drum, Life count of Drum, Drum rotation time, Drum life rotation time, Print count total, Print count after toner replacement, ROM Version)
>Report type selection	Selectable, Detail (Full) or 1 page
>Reporting timing	
>>Setting of interval	yes, 1-12 months (default: 3 months)
>>Setting of transmission date	yes, by day and time every month
Remote Firmware Update(via NETWORK)	yes (service mode)
Available Firmware type to update	Main Unit
Update Timing	
•Auto	no
•Manual	yes
Objective Firmware version Setting	
•Auto	yes
•Manual	yes
Personal Setting Function	yes
•Address Book	yes
•Group	yes
•Folder Shortcut	yes
•Default Display Select	yes (Personal or Shared) available for Address Book/Group/Folder Shortcut
•Soft Key	yes
•Copy Functions	yes
•Fax Functions	yes
•Scan Functions	yes
•Macro	no
•Mode Key	yes
•TCR	yes
•ON/OFF of Personal Setting	yes
•Available Actions	OFF/Print/E-mail
•Personal E-mail Tx destination setting	yes, 1 destination
•List Print	yes
	available for Address
Domain Name Extension	yes
Prefixed character string	yes(.com)
# of string settings	10
# of characters per string	20
Linking to Cloud service/Smart phone	
Evernote	Yes
PC-FAX Basic Function	
Support for Network	Yes
Communication Protocol	HTTP/HTTPS/RAW/LPD
Data Format	TIFF
# of User	100(fix)
# of User Group	100(fix)

Item	Product Official Specification
Communication Capability (PC-FAX)	
Document Size	A4, B4, A3
Coding Method	MH/MR/MMR/JBIG
Communication Standard	T.30(FAX)
Transmission Speed	Max. 33.6Kbps(FAX)
Resolution	
8 dpm x 3.85 lpm(200 x 100 dpi)	no
8 dpm x 7.7 lpm(200 x 200 dpi)	yes
16 dpm x 15.4 lpm (400 x 400 dpi)	yes
600 x 600 dpi	no
Halftone	256 levels (Dither Matrix)
Tx Function (PC-FAX)	
Direct Tx from Applications	yes(by FAX Driver)
Tx by Client User	no
Transmit reservation command	Exclusive command file
# of Transmit reservation command	30
Broadcast Transmission	

Max. # of Destinations	1030
	  address book(fax): 1000
	  direct input(fax): 30

Group Transmission	no
Max. # of Group	N/A
Fax/E-mail mixed Tx	no
PC-FAX Tx detail	
Tx Dialog	Windows Dialog
Select TX Location	
Direct address input/Tx	yes
by One-touch/Speed Dial	no
by Address Book	yes
by LDAP Server	no
Search TX Location	yes
Operation of the Tx document	no
Tx by Client User	no
Direct Tx From Shared Folder	no
Tx Document Preview	no
Edit Cover Page	no
Forward to user	no
Document elimination after Tx	no
Transmission Priority	no
Application communication setting	
Rx Function	
Received Fax Routing	yes
Routing Conditions	Routing Conditions
All received Fax	yes
Routing Conditions setting	yes
TSI	yes
Partial conditions match	yes (prefix match/exact match/suffix match/partial match)
Multiple conditions(OR)	no
Caller ID	Yes(USA)
Partial conditions match	Yes(USA)(prefix match/exact match/suffix match/partial match)
Multiple conditions(OR)	Yes(USA)
ITU-T Subaddress/Password	no
Subaddress Multiple conditions(OR)	no
From Address book	yes(according to fax/email address in the address book)
RX line	N/A
AND/OR	no ("AND" in a routing table, "OR" between the routing tables)
Routing Destination	
User	yes
# of User	100 (fixed)
# of User Group	100 (fixed)

Item	Product Official Specification
FAX	
by One-touch/Speed Dial	no
by Address Book	yes
by entering directly	no
by LDAP Server	no
Mail	
by Address Book on Panel	no
by Address Book on WEB	yes
by entering directly	no
by LDAP Server	no
The attachment file format	TIFF/PDF
Routing shared holder	
by Shortcut	yes
by Browse	no
Routing protocol	
- Photo	yes
NFS(Linux)	no
AppleTalk(Mac)	no
The attachment file format	TIFF/PDF/Encrypted PDF
FTP	no
by Panel	N/A
by Shortcut	N/A
	no
Expansion setting	
Shared inbox	yes
Delayed routing	
Running	yes
Day of the Month setting (Start/End)	yes
Day of the Week setting (Start/End, Every week)	yes (can not specify the day"s" of the week with specified time)
Time setting (Start/End)	yes
Forced print of routed docs ON/OFF	yes
Routing setting operation from op panel	
Forced print of routed docs.	no
Suspend of routing (by record)	yes
Suspend of routing (All records)	yes
Notice Function	
Communication Result	no
Reception notification	no
Tx reception notification	no
Receipt confirmation notification	no
Cover Page	
Cover Page	Simple version
Reports	
Tx Error Report	yes
Detailed Error Information (destination/time/result...)	yes
Attached Tx Doc	yes
Print PC-FAX Transmission Confirmation Report	yes
Detailed Tx job Information (destination/time/result...)	yes
Tx Doc(the 1st page/the reduction)	yes
Distribution Error Report	yes (Print Distributed document and Print Error Report)
Copier Function	
Continuous copy speed	
	25 cpm (Letter SEF, 1st cassette)
Warm up time	approx. 12 sec. (WUT1)
Cold Start Time (FCOT3)	approx. 23sec (copying using FBS and Letter SEF, printing paper from 1st cassette, after awaking sleep mode)
FCOT(First copy out time)	approx. 5sec (picking paper from 1st cassette)
# of copies	1-99
# of copying job	10 jobs

Item	Product Official Specification
Enlargement/Reduction	yes/yes (FBS), no/yes (ADF)
>Setting range	FBS:25-400%(1% step)
	URADF: 25-100%(1% step)
>Preset	FBS: 70%, 81%, 86%, 100%, 115%, 122%, 141%
	URADF:70%,81%,86%, 100%
Contrast adjustment	
>Auto	yes
>Manual (# of levels)	yes(5 levels)
>Modification for the original document back-ground	Automatic
Copy mode	Text, Auto(Text/Photo), Photo,Background
Copy Resolution	600 x 600 dpi
Half tone level	256 levels
Automatic Paper Selection	yes
Automatic Magnification Selection	yes
Mixed Originals Copy	no (in ADF, it is possible to print Letter/Legal documents in each sized paper)
Scan Compression Mode (JBIG Copy)	yes
Duplex copy	yes
>Single-sided ->Duplex	yes
>Book-type ->Duplex(page1&2, page3&4, ...)	no
>Book-type ->Duplex(page1, page2&3, ...)	no
>Two-sided ->Single-sided	yes
>Two-sided ->Duplex	yes
>Binding side	yes (Short Edge, Long Edge)
>Support Paper size for Duplex copy	A4(SEF), F4(SEF), A5(SEF/LEF), A6(SEF) Letter(SEF),Legal(SEF)
manual duplex scan	N/A
Imaging shift function for binding	no
Edge Erase	no
Center Erase	no
Top Up Copy	no
Scan Size Setting	A4(SEF), A5(LEF), F4(SEF), Letter(SEF), HalfLetter(LEF), Legal
Copy reservation	yes
># of jobs	10
Interrupt copy	no
Last Job	no
Copy protection	no
Irregular size copy	no
Electric sorting	yes
Independent zoom setting for the orientation(%)	no
Rotation copy	yes(Only reduction)
Rotation sort copy(Criss Cross Copy)	no
A6R->A6 rotation copy	yes (EUR only)
Booklet copy	no
Series copy	no
Formatted document output	no
White page insertion between OHP	no
Cover sheet insertion	no
Auto tray change (limitless paper supply)	yes (when Auto Cassette is selected and the same sized paper is inserted in 1st/2nd casettes or in the Bypass tray.)
Image edit	
>Area edit	no
>Repeat copy	no
>N in 1 copy	yes (2 / 4 in 1, rotation support)
>Black/White reverse copy	no
>Image composed output	no
>Water mark print	no
>Stamp function	no
>Enlargement continuous copy	no
>Gradation	no
>Fill-in	no
>Oblique Face	no

Item	Product Official Specification
>Shading	no
>Mirror	no
>Masking/Trimming	no
>Card Copy	yes
Document Size	Personal Check Size: 2.8 x 6.2inch(US), 106x210mm(EUR)
	Business Check Size: 3.5 x 8.5inch(US), 105x150mm(EUR)
	Credit Card Size: 2.2inch x 3.4inch(US), 86x56mm(EUR)
	2 Credit Card Size: 3.4 x 4.4inch(US), 102x86mm(EUR)
Custom Size Setting	yes
Supplement copy	no
Offset output	no
Sorting output (Setting excursive tray)	no
Lead Registration >1:1 (ADF/URADF/FBS) >1:2(ADF/URADF/FBS) >2:1(URADF) >2:2 (URADF)	URADF: ±2.2mm(1: 1) FBS: ±2.2mm(1: 1)
Side Registration >1:1 (ADF/URADF/FBS) >1:2(ADF/URADF/FBS) >2:1(URADF) >2:2 (URADF)	URADF: ±2.9mm(1: 1) FBS: ±2.6mm(1: 1) *1st Casette
Recording paper Skew Rate(Lead)	URADF: ±1.5%(1: 1) FBS: ±1.3%(1: 1)
Recording paper Skew Rate(Side)	URADF: ±1.5%(1: 1) FBS: ±1.3%(1: 1)
horizontal stretch	URADF: ±1.5%(1: 1) FBS: ±1.0%(1: 1)
vertical stretch	URADF: ±1.5%(1: 1) FBS: ±1.0%(1: 1)
Dialing Functions	
OneTouch Dial	N/A
SpeedDial	
># of locations	1,000
># of characters of the TEL no.	40
># of characters	24 characters
>Group	100
Auto dial registration name indication	yes(when pressing the indication button)
Telephone index function	yes
Phone line type	US: Pulse/Tone EUR: Tone
Chain dialing	no
Signal change	yes (Dialing Options key "/T")
Pause function	0-10 sec. Initial: 2 sec.(US/EUR: depends on the country)
On hook dial	yes
Monitor volume adjustment	yes(with Electronic Volume)
Redial (Auto)	yes
># of characters	40 characters
># of redial	0-14 times / Initial: 2 times
>Redial interval	0-5 min. / Initial: 1 min.
Redial (Manual)	yes
># of characters	40 characters
># of dial history	10
Redial again after the redial over	no
Communication time display on LCD	no
PIN access function	yes
># of characters for PIN access no.	yes (8 characters)
Panel Operation during TEL1/TEL2 off-hooked	yes: TEL2 Only(EUR)
Manual Tx/Rx during TEL2 off-hooked	yes(EUR)
Dialing Options	
•Hyphen (-) : Makes long numbers easier to read (doesn't change Fax machine operation)	yes

Item	Product Official Specification
>Slash+P (/P) : enters a pause	yes
>Slash+T (/T) : switches from pulse-dialing to tone-dialing	yes
>Slash+N (/N) : enters a dial prefix number	yes
>Slash+D (/D) : detects a dial tone	no (possible to activate by unique switch)
>Slash+S (/S) : detects second dial tone	no (possible to activate by unique switch)
>Slash+F (/F) : make a flash signal	no (possible to activate by unique switch)
>Slash+X (/X) : Dial to PSTN from PBX with the optional 2nd phone line	no
Caller ID	no(EUR)
DRD (USA)	no
Easy Call (AUS)	N/A
TEL Functions	
Dialing at power failure	yes (by external telephone)
Call catch at power failure	yes (by external telephone)
Call request	no
Handset	no
External telephone	yes
Phone line Cable	yes
Modular cover	
>TEL1	no
>TEL2	yes
>LINE	no
Auto Answering	
Auto Answer	yes
# of rings	1-10 times Initial: 2 times(US/EUR: depends on the country)
Distinctive Ring Detection(USA)	no
Automatic line connection for Double ring (HKG)	no
Non-call Rx	yes
ANS/FAX auto switching	no(EUR) yes(USA)
TEL/FAX auto switching	no(EUR) yes(USA)
Response message/Ring back tone	N/A(EUR) yes(Ring back Tone)(USA)
Fax ringer (Main unit)	yes
Ringing special ring (TEL1)	no
Call for external TEL(TEL2)	no
Lists	
List Language	Same as LCD language
Dial list	
>OneTouch	no (integrated with Speed Dial)
>SpeedDial	yes
>Group number list	yes
Program OneTouch list	no
Job Memory list	yes
Communication reservation	
>List	no
>Reserved documents print	no
Activity journal	yes
>Manual printing	yes, Latest 100 communications (Fax Tx & Rx, Scan to e-mail, Scan to folder, Scan to FTP / independently)
>Auto printing	yes, Latest 100 communications (Fax, Scan to e-mail and Scan to folder and Scan to FTP in total)
>Printing sorted by destinations	no
>Printing sorted by date and time	no
>Daily Printing	no
Function list	no (integrated with system setting list)
System settings list	yes
Fax settings list	no (integrated with system setting list)
Copy settings list	no (integrated with system setting list)
Scanner settings list	no (integrated with system setting list)

Item	Product Official Specification
Confirmation report	
>Transmitted confirmation report	yes
>>Description of Tx start date (Year/Month/Date)	yes
>>Attach Original	yes (ON/OFF setting by Soft Switch: initial ON)
>>>Auto reduction of attached image	yes
Cover page print	yes
T,30 monitor list	yes (Service Function)
Department tracking list	no
>Manual printing	N/A
>Auto printing	N/A
User Access & Control List	yes (Total List, ordered by user index)
Communication Cost list by department basis	no
Copy Cost list by department basis	no
Batch transmission	no
F-code	no
Caller ID list	no
Print Basic Function	
Configuration	GDI/PCL(Standard) ,PS3/PDF Direct(Option)
Support for Local	yes, USB2.0 (High Speed)
Support for Network	yes, 10/100Mbps(Auto Negotiation or fixed)
Support for Print Server	yes
Data Format	MMR(GDI) , JBIG(PCL/PS3/PDF)
# of User	100 (GDI: yes / PCL: yes / PS3: yes)
# of User Group	N/A
Data Transfer Protocol	
>Salutation	no
>HTTP	no
>Standard TCP/IP	
>>LPR	yes (IPv4)
>>Port9100	yes
>>>Port9100 SNMP	yes (Windows XP or later except Windows 2000)
>>>Port9100 PJL	yes
>SMB	no
>IPP	yes (IPv4/IPv6) IPP version1.0
>IPDS	yes (with PCL) (with AXIS Print Server) (for IBM AS400)
>AppleTalk	no
Print Language	
GDI	yes (Standard)
PCL5e	yes (Standard)
PCLxL	yes (Standard)
Emulation	HP LaserJet 4250n
PJL Command	yes
Font	yes
>Latin	80 fonts
>Japanese	no
>Barcode/OCR	32 fonts (Option) (PCL5e Only)
>Cyrillic	15 fonts (PCL5e Only)
PS2	no
PS3	yes
Emulation	yes (Xerox Phaser 5500)
Font	yes
>Latin	136 fonts
>Japanese	no
PDF	yes, PDF1.7 Compatibility
Emulation	yes (Xerox Phaser 5500)
Font	yes
>Latin	136 fonts
>Japanese	no
XPS	no

Item	Product Official Specification
Print Job Operation(Control Panel)	
Online Key	yes
Job Display/Management Method	Control Panel(GDI: yes, PDL: yes)
Job Monitoring	yes (GDI: yes, PDL: yes)
>Document Name	yes
>Status	no
>User Name	yes (Message Board user name)
>User Group Name	no
>	no
>Page	yes
>Print Date	yes
Job Cancel	yes (by job)
Job Order Change	no
Print counter tabulation by user group	yes
Print counter tabulation by user	yes
Notice Function to Client PC	
Print Complete Notice	
>Notice to the Client PC (IP Address)	no
>Notice to the User (User ID)	no
Printer Controller (PCL5e/XL)	
Text Print	Yes(Only Network Connection, Local Connection is not supported.)
Printer Setting	yes(Panel/WebUI User Operation)
Paper	
>Paper Size	Letter, Half-Letter, Legal, Executive, A6, A5, A4, F4, DL, COM#10, Monarch, Postcard
>Paper Type (Media)	no
>Paper Source	yes Auto / Cassette1-4 / Bypass Tray (Default: Auto)
>Output Tray	yes Machine / 2-bin
>Orientation	yes Portrait / Landscape (Default: Portrait)
>Copies	yes 1-999 (Default: 1)
>Duplex	yes On / Off (Default: Off)
>Binding	yes Long edge / Short edge (Default: Long edge)
>Punch	no
>Staple	no
>Shift	no
Printer Setting	
>Page Protection	no
>Auto Continue	no
>>Time-out setting	no
>I/O Time-Out setting	yes (Default: 300 sec.)
>Form Setting[Line/Pages]	yes 5 -128 (Default: Auto)
>Resolution	yes 600 / 300 (Default: 600dpi)
>CR/LF	yes CR only, LF only/CR=CR+LF, LF=LF/CR=CR, LF=CR+LF/CR=CR+LF, LF=CR+LF (Default: CR only, LF only)
PCL Font	
>Font Type	Yes (Default: Courier)

Item	Product Official Specification
>Font Pitch	yes 0.44-99.99 (Default: 10.0)
>Font Size	yes 4.00-999.75 (Default: 12.0)
>Symbol Set	Yes (Default:PC-8 Code Page 437)
Test Print	
>Demo Page	no
>Printer Configuration	no
>Font List	no
	yes (indicate at "Life Monitor" menu,etc.)
Scan Function	
Scanner type	
Local Scanner(via USB)	yes (TWAIN: real time only)
Network Scanner(via LAN)	yes (TWAIN: real time only)
Setting method	Embedded in MFP body
Scanning Color	
>Color	yes
>Black & White	yes
>>Multi Level	no
>>Bi Level	yes
>Grayscale	Max. 256 levels
Resolution	
>Scanning Resolution	600 dpi x 600 dpi
	300 dpi x 300 dpi (default)
	200 dpi x 200 dpi
>Data Transfer Resolution	600 dpi x 600 dpi
	300 dpi x 300 dpi
	200 dpi x 200 dpi
	100 dpi x 100 dpi
Interface	USB/LAN
Specification of client PC	
>Support PC, WorkStation	PC/AT compatible machine
>Support OS	
>>Windows95 (English)	no
>>Windows 98	no
>>Windows 98 Second Edition	no
>>Windows Millennium Edition	no
>>Windows NT 4.0 Workstation (SP6a or later)	no
>>Windows 2000 Professional	no
>>Windows XP Home Edition	yes
>>Windows XP Professional	yes
>>Windows XP Professional x64 Edition	yes
>>Windows Vista Home Basic (x86/x64)	yes
>>Windows Vista Home Premium (x86/x64)	yes
>>Windows Vista Ultimate (x86/x64)	yes
>>Windows Vista Business (x86/x64)	yes
>>Windows Vista Enterprise	yes
>>Windows Server 2003 Standard Edition	yes
>>Windows Server 2003 Standard x64 Edition	yes
>>Windows Server 2003 Enterprise Edition	yes
>>Windows Server 2003 Enterprise x64 Edition	yes
>>Windows Server 2003 Datacenter Edition	yes
>>Windows Server 2003 Datacenter x64 Edition	yes
>>Windows Server 2008 Standard (x86/x64)	yes (network only)
>>Windows Server 2008 Enterprise (x86/x64)	yes (network only)
>>Windows Server 2008 Datacenter (x86/x64)	yes (network only)
>>Windows Server 2008 R2 Datacenter(x64)	yes (network only)

Item	Product Official Specification
>>Windows Server 2008 R2 Enterprise(×64)	yes (network only)
>>Windows Server 2008 R2 Standard(×64)	yes (network only)
>>Windows Server 2012 Datacenter	yes (network only)
>>Windows Server 2012 Standard	yes (network only)
>>Windows Server 2012 Essentials	yes (network only)
>>Windows Server 2012 Foundation	yes (network only)
>>Windows 7 Home Premium (x86/x64)	yes
>>Windows 7 Ultimate (x86/x64)	yes
>>Windows 7 Professional (x86/x64)	yes
>>Windows 7 Enterprise (x86/x64)	yes
>>Windows 8 (x86/x64)	yes
>>Windows 8 Pro (x86/x64)	yes
>>Windows 8 Enterprise (x86/x64)	yes
>>MacOS	no
>>Linux	no
>>UNIX	no
Scanner Driver	yes (TWAIN driver, version 1.9)
>Scanning System	TWAIN: Real Time
>Document Size setting	yes
	EUR: A4(SEF), A5(LEF), F4(SEF) USA: Letter(SEF), Legal(SEF), H-Letter(LEF)
>Document Type setting	Text/Auto(Text&Photo)/Photo
>Enlargement/Reduction	N/A
>Contrast	yes (5 levels)
>Resolution setting	600/300/200/100dpi (default: 300dpi)
>Image Preview	no
>Scanning area setting	no
>Scan Box	no
>Driver Open Control	yes
Scan Capability (depends on the main unit)	
Preset Enlarge/Reduction	yes
1% zoom 300dpi/600dpi	no(100% fix)
1% zoom 200dpi/100dpi	no(100% fix)
Document Type	Text/Auto(Text&Photo)/Photo
Scan Size	A4(SEF), A5(LEF), F4(SEF), Letter(SEF), Legal(SEF), H-Letter(LEF)
Contrast	
>Auto	no
>Manual	yes (5 levels)
>Background color correction	yes
Data Transfer Method	
Color Scan	yes
>TWAIN	yes(JPEG)
>HTTP Download (of User Document)	no
>Scan to Folder	yes(TIFF, PDF) *Mac Os is not supported
>Scan to FTP	yes(PDF, JPEG)
>Scan to E-mail	yes(PDF, JPEG)
>Scan to User	no
>Scan to USB Memory	yes(PDF, JPEG)
>WIA (Windows Image Acquisition) WinMe/XP	no
B/W Scan	yes
>TWAIN	yes(TIFF)
>HTTP Download (of User Document)	no
>Scan to Folder	yes(TIFF, PDF) *Mac Os is not supported
>Scan to FTP	yes(TIFF, PDF)
>Scan to E-mail	yes(TIFF, PDF)
>Scan to User	no
>Scan to USB Memory	yes(TIFF, PDF)
>WIA (Windows Image Acquisition) WinMe/XP	no
Scan Advanced Functions	
Scan specified area	yes (can not set custom size)
Scan Document Preview	no

Item	Product Official Specification
Duplex Scan	yes
Manual Duplex Scan	N/A
Batch Scan	
>ON (1 stuck -> 1 file)	yes (default)
>OFF(1 page -> 1 file)	no
>Sheet Mode (1 sheet -> 1 file)	yes
Destinations	
>Scan to E-mail	Select from AddressBook Direct address input Select from E-mail history LDAP search User Mail Address
>Scan to Folder	Select from Folder Shortcut Browse (max. 5 destinations at 1 job)
>Scan to FTP	Select from FTP Shortcut Direct link input (max. 5 destinations at 1 job)
>Scan to MB User	no
>Scan to USB Memory	yes(USB)
>Scan to Shared Box	no
>Scan to Bulletin Board	no
>Scan to Circulation	no
>Scan to Processing	no
Broadcast	yes
	(not available to broadcast to USB Memory destinations with other destination)
Fax&Copy&Scan	no
E-mail Edit (Scan to E-mail)	yes
>Subject	yes, up to 80 characters
>Text	yes, up to 1024 characters
>Select from Templates	yes (# of templates: 10)
File Name Setting (Scan to E-mail/Folder/FTP)	yes
>Auto	yes, YYYYMMDDHHMMSS
>Manual	yes, up to 80 characters
>Select	yes (# of prefixed name: 20)
Attachment Files (Scan to E-mail/Folder/FTP)	no
Category Setting (Scan to Shared Box)	no
>Manual	N/A
>Select	N/A
Scan counter tabulation by user group	yes
Scan counter tabulation by user	yes
Scan to Print Function	yes
>Method	
>>Agent S/W	yes (Scan to Print Monitor)
>>DPS(PictBridge)	no
>>PCL/PS	no
>Recommended Printer	
>>Printer Shortcut Registration	5
>Scan Settings	
>># of copies	yes
>>Resolution	yes
>>Scan Size	yes
>>Zoom	no
>>Sort	yes
DocIndex Function	yes

Item	Product Official Specification
Create PDF file with Password lock	yes Encryption algorithm: RC4 40bit/128bit, AES(default: RC4 40bit) Authority: print, edit, copy
Notice Function to Client PC	
Scan to User Complete Notice	no
Scanned Doc. to User Auto Download Notice	no
I-FAX Basic Function	
Support for Network	yes (IFAX RX only)
Data Format	MH/MR/MMR/JBIG
User	no
User Group	no
Transmission protocol	N/A
Reception protocol	POP/SMTP
Communication speed	Max100Mbps
Encoding	MIME/Base64
Document Size	N/A
Communication standard	ITU-T T.37
Simple mode	yes
Full mode	yes
Resolution	(IFAX RX only) 8dpm×3.85lpm(200×100dpi) 8dpm×7.7lpm(200×200dpi) 16dpm×15.4lpm(400×400dpi) 600×600dpi
Coding method	
•MH	yes
•MR	yes
•MMR	yes
•JBIG	yes
•JPEG	no
Coding method	
TIFF-FX	
•Profile-S(A4/MH/200dpi)	yes
•Profile-F(A3/MMR/600dpi)	yes
•Profile-J(A3/JBIG/600dpi)	yes
•Profile-C(A3/JPEG/600dpi)	no
PDF	
•Image(BW MMR)	yes
•Image(C JPEG)	no
•characters	no
I-FAX Rx	
Text E-mail Reception	yes
Japanese	no
English	yes
Other Language	EFIGS
Font	Bitmap font 1 style
Mail Rx with the attachment file	
TIFF-FX	yes
•Profile-S	yes
•Profile-F	yes
•Profile-J	yes
•Profile-C	no
PDF	
•CCITT	yes (PDF made by the machine only)
# of Memory Reception	250 (include G3 Fax)
Rx by using POP3	yes
Auto Reception/Auto Print	yes
Auto Reception/Manual Print	yes (by Received Mail Routing)
Manual Reception	yes
APOP Authentication	yes
Rx by using SMTP	yes

Item	Product Official Specification
ESMTP Support	no
Access Limitation (Filter)	yes
Multiplex communication	yes (default 1 session)
Received Mail Routing	
Routing Conditions	yes
All received Mail	yes
Routing Conditions setting	yes
Mail address	yes
by User name (exp: XXXX@)	yes
by Domain Name(exp:@XXXX)	yes (Backward match *abccompany.co.jp)
by Mail Address(exp: XXXX@XXXX)	yes (Full match)
OR	no
Subject	
Designated letter line searching	80 characters(half size) (Same as Subject)
Letter line plural designated (AND/OR)	no
AND/OR of Routing Conditions	yes (AND only)
Printer Driver	
Paper Size Setting	yes
>(Simplex Printing)	[Cassette] A4(SEF), A5(LEF), F4(SEF) Letter(SEF), Half-Letter(LEF), Legal(SEF) [Bypass Tray] Letter(SEF), HalfLetter(LEF), Legal(SEF), Executive(SEF), A6(SEF), A5(LEF/SEF), A4(SEF), F4(SEF), DL(SEF), COM#10(SEF), Monarch(SEF), Postcard(SEF), Custom Size (width:90-216mm, length:140-356mm)
>(Duplex Printing)	[Cassette] A4(SEF), A5(LEF), F4(SEF) Letter(SEF), Legal(SEF) [Bypass] Letter(SEF), Legal(SEF), A4(SEF), F4(SEF), A5(SEF/LEF), A6(SEF)
	default: A4/Letter(SEF)
Custom Paper Setting	yes
>Size Edit	yes, 50 patterns
>Name	20 characters
>Short Edge	3.54-8.5 inches 90-216mm
>Long Edge	5.51-14.01 inches 140-356mm
>Unit	mm / inch
Paper Supply Setting	yes, Auto/Cassette1-4/Bypass Tray
Paper Media Setting	Yes Plain,OHP, Envelope/Postcard/ Pasteboard (Default: Plain)
Cover sheet	yes
Inserting Paper	no
Print Orientation (Portrait/Landscape)	yes, (default: Portrait)
# of Prints setting	yes (1-999 copies, Default: 1 copy)
Prior Print Setting	no
Sort Print	
>Electric Sort	yes, (Default: Off)
>Offset Sort	N/A
>Criss Cross	N/A
Resolution	
>600x600 dpi	yes (default)
>400x400 dpi	no
>300x300 dpi	yes
>200x200 dpi	no
Toner Density	yes (-50 to 50, Default : 0)
Toner Saving	yes, On/Off (Default: Off)

Item	Product Official Specification
Preset Enlarge/Reduction	yes
>1% zoom	yes, 25% - 400% (1% step)
Fit to Paper	yes
Jammed Page re-print	yes (control by the main unit)
Combine Print	yes(2-up/4-up/8-up)
>Print Separator Line	yes
>Page Location	yes 2up: Left to Right/Right to Left/Up to Down 4up/8up : Right, then Down/Left, then Down/Down, then Right/Down, then Left
Repeat Print	no
Duplex Print	yes
>Binding Position	yes, Upper/Down/Left/Right)
>Binding Margin	Front : 0.00-1.18 inch / Back : 0.00-1.18 inch
>Booklet Print	yes
>Booklet Binding Position	Upper/Left/Right/Lower
2-bin Tray Setting	yes
Offset	no
Staple	no
Punch	no
Forced Print (Ignore paper size error)	no
Watermarks	GDI: no / PCL&PS: yes (default: OFF)
>Preset message	yes
>># of messages	11 messages
>Page initiate function	yes
	1st page only/All pages (Default: All pages)
Watermarks Edit	GDI: no / PCL&PS: yes (default: OFF)
>Watermarks List	yes
>># of programming message in Watermarks List	20 types (including 11 preset messages)
>>Add Watermarks to List	yes
>>Delete Watermarks from List	yes
>Watermarks Edit function	yes
>># of characters for Title	30 characters
>># of characters of String	30 characters
>>Shading	10%/25%/50%/75%/100% (Default: 25%)
>>Style	Italic / Bold
>>Font setting	yes
>>>Font type	Printer Resident Fonts + Download Fonts [Printer Resident Fonts] PCL5e: Roman 80 fonts, CP-866 PCLXL: Roman 80 fonts, CP-866 PS3: Roman 136 fonts
>>>Font Size	10 - 144 points (default : 72 points)
>>Angle	Horizontal/Vertical/Diagonal/User set
	Default: Diagonal
	from -180°to 180° (Default: 55°)
>>Position of Watermarks	Center / User Set
	Horizontal: from -10 to 10
	Vertical: from -10 to 10
Security Print	yes
># of Users	100
># of stored jobs per user	unlimited (due to memory capacity)
>Box Name	N/A
>I.D.Code	User Password
>Document Hold Period	24 hours (deleted after 24 hours without notice)
>Print Job Select	no (all stored job will be printed together)
>Print Job Delete	yes (all jobs will be deleted together)
Attached option setting	yes (manual: Cassette, 2-bin)
TrueType Mode	GDI: no / PCL&PS: yes
	Automatic
	Download as Outline
	Download as Bitmap

Item	Product Official Specification
	N/A
	Default : Automatic
Graphics Mode	no
Print Driver Installation Setting	
>IP address direct setting	yes
>SMB	no
>EtherTalk	no
>UPnP	no
>Bonjule	no
>SLP	no
>Proprietary search (within same segment)	yes
>Proprietary search (Outside segment)	no
Print Driver Display Language	English/French/Spanish
Specification of client PC	
>Support PC, WorkStation	PC/AT compatible machine
>Support OS	
>>Windows95 (English)	no
>>Windows 98	no
>>Windows 98 Second Edition	no
>>Windows Millennium Edition	no
>>Windows NT 4.0 Workstation (SP6a or later)	no
>>Windows 2000 Professional	no
>>Windows XP Home Edition	yes
>>Windows XP Professional	yes
>>Windows XP Professional x64 Edition	yes
>>Windows Vista Home Basic (x86/x64)	yes
>>Windows Vista Home Premium (x86/x64)	yes
>>Windows Vista Ultimate (x86/x64)	yes
>>Windows Vista Business (x86/x64)	yes
>>Windows Vista Enterprise (x86/x64)	yes
>>Windows Server 2003 Standard Edition	yes
>>Windows Server 2003 Standard x64 Edition	yes
>>Windows Server 2003 Enterprise Edition	yes
>>Windows Server 2003 Enterprise x64 Edition	yes
>>Windows Server 2003 Datacenter Edition	yes
>>Windows Server 2003 Datacenter x64 Edition	yes
>>Windows Server 2008 Standard (x86/x64)	yes
>>Windows Server 2008 Enterprise (x86/x64)	yes
>>Windows Server 2008 Datacenter (x86/x64)	yes
>>Windows Server 2008 R2 Datacenter(x64)	yes
>>Windows Server 2008 R2 Enterprise(x64)	yes
>>Windows Server 2008 R2 Standard(x64)	yes
>>Windows Server 2012 Datacenter	yes
>>Windows Server 2012 Standard	yes
>>Windows Server 2012 Essentials	yes
>>Windows Server 2012 Foundation	yes
>>Windows 7 Home Premium (x86/x64)	yes
>>Windows 7 Ultimate (x86/x64)	yes
>>Windows 7 Professional (x86/x64)	yes
>>Windows 7 Enterprise (x86/x64)	yes
>>Windows 8 (x86/x64)	yes
>>Windows 8 Pro (x86/x64)	yes
>>Windows 8 Enterprise (x86/x64)	yes
>>Mac (10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8)	yes (PS3 w/ PPD only)
>>Linux	yes (PS3 w/ PPD only) (RedHat 9, 3, 4, 5/ SUSE 10.1, 10.2, 10.3, 11/ Fedora 4, 5, 6, 7, 8, 9, 10/ /Tunbo LinuxFUJI 11/ Debian 4)
>>Unix	
>>>Sun Solaris	yes (PCL 5e, PS3) Version: 9 / 10

Item	Product Official Specification
>>>Others	
>>AS400	yes (PCL 5e only) Version: V5R1 / V5R2 / V5R3 / V5R4 / V6R1
>CPU	Depends on the Operation System
>Required Memory quantity	Depends on the Operation System
>Required Disk Space for Driver Installation	10MB and more
>HP PJL Support	GDI: no / PCL: yes
>Citrix	yes Citrix XenApp 5.0 w/ Windows Server 2003 R2 settings) Citrix XenApp 6.5 w/ Windows Server 2008 R2
>Shared Print(Microsoft Point and Print)	yes (Only STD-TCP/IP) *XPS does not supports the following combinations. **Client: Windows Vista x64 / Server Windows 2008 x64 **Client: Windows 2008 x64 / Server Windows 2008 x64
>WHQL Logo certified(XP/2003/Vista/2008)	GDI:yes, PCL:yes, PS3: yes(Only Vista, 2008, Win7)
>Oracle	no
>SAP	yes (PCL 5e, PS3) *The available functions are different on the version of SAP.
Fax Driver	
Paper Size Setting	A3, B4, A4, A5, B5, A6, F4, PostCard, Letter, H-Letter, Legal, Ledger, Executive, DL, COM10, Monarch
Print Direction	yes (Portrait/Landscape)
Zoom	yes (25-400%)
Paper Setting	yes
Paper Size Setting	A3, B4, A4, A5, B5, A6, F4, PostCard, Letter, H-Letter, Legal, Ledger, Executive, DL, COM10, Monarch
Fit to Page	yes
Coding Method	MMR
Resolution	
8 dpm×3.85 lpm(200×100 dpi)	no
•8 dpm×7.7 lpm(200×200 dpi)	yes
•16 dpm×15.4 lpm (400×400 dpi)	yes
•24 dpm×23.1 lpm (600×600 dpi)	no
Halftone	256 levels (Dither Matrix) 8 dpm×7.7 lpm(200×200 dpi)
Log-in Skip Setting	no
Jump to the View after Job	yes, ON/OFF (when using web ui only)
File output to a local folder	N/A
Support for OS	
>Support OS	
>>Windows95 (English)	no
>>Windows 98	no
>>Windows 98 Second Edition	no
>>Windows Millennium Edition	no
>>Windows NT 4.0 Workstation (SP6a or later)	no
>>Windows 2000 Professional	no
>>Windows XP Home Edition	yes
>>Windows XP Professional	yes
>>Windows XP Professional x64 Edition	yes
>>Windows Vista Home Basic (x86/x64)	yes
>>Windows Vista Home Premium (x86/x64)	yes
>>Windows Vista Ultimate (x86/x64)	yes
>>Windows Vista Business (x86/x64)	yes
>>Windows Vista Enterprise (x86/x64)	yes
>>Windows Server 2003 Standard Edition	yes
>>Windows Server 2003 Standard x64 Edition	yes
>>Windows Server 2003 Enterprise Edition	yes
>>Windows Server 2003 Enterprise x64 Edition	yes

Item	Product Official Specification
>>Windows Server 2003 Datacenter Edition	yes
>>Windows Server 2003 Datacenter x64 Edition	yes
>>Windows Server 2008 Standard (x86/x64)	yes
>>Windows Server 2008 Enterprise (x86/x64)	yes
>>Windows Server 2008 Datacenter (x86/x64)	yes
>>Windows Server 2008 R2 Datacenter(×64)	yes
>>Windows Server 2008 R2 Enterprise(×64)	yes
>>Windows Server 2008 R2 Standard(×64)	yes
>>Windows Server 2012 Datacenter	yes
>>Windows Server 2012 Standard	yes
>>Windows Server 2012 Essentials	yes
>>Windows Server 2012 Foundation	yes
>>Windows 7 Home Premium (x86/x64)	yes
>>Windows 7 Ultimate (x86/x64)	yes
>>Windows 7 Professional (x86/x64)	yes
>>Windows 7 Enterprise (x86/x64)	yes
>>Windows 8 (x86/x64)	yes
>>Windows 8 Pro (x86/x64)	yes
>>Windows 8 Enterprise (x86/x64)	yes
>>Mac	no
>>Linux	no
>>Unix	no
>>>Sun Solaris	no
>>>HP-UX	no
>>>AIX	no
>>>Others	no
>>AS400	no
>>Citrix	yes Citrix XenApp 5.0 w/ Windows Server 2003 R2 settings) Citrix XenApp 6.5 w/ Windows Server 2008 R2 settings)
Shared Print(Microsoft Point and Print)	yes (Only STD-TCP/IP) (Only Simple Mode) (Windows OS except Windows 2000(Client/Server))
PC Utility	
TIFF Maker	no
Cover Page Editor	no
Info Monitor	no
Download Utility	N/A
Backup Utility	N/A
Address Book Setting	
Address Book	yes
Stored Location	Main board
# of Address	1000
Reference/Edit Method	yes (Control Panel/Browser)
Personal Address Book	yes
Shared Address Book	yes
Items for registration	
•Destination Name	yes
•Kana readings of destination name	no
•Title of destination name	no
•Company Name	no
•Kana readings of company name	no
•Title of company name	no
•Department Name	no
•Department Name pre-fix/post-fix	no
•ZIP Code	no
•Address	no

Item	Product Official Specification
•TEL	no
•Fax	yes
•PIN	yes
•Sub-Address	no
•Password	no
•Re-Routing (alternative routing setting)	no
•File Format	no
•E-mail Address	yes
•SuperG3	yes
Address Book Import/Export	
•CSV	yes
•vCard	yes
•LDAP	no
•RDS	yes
Address Book List Print	yes, LCD only
Group	
•# of Groups	100
•Group Name Registration	yes
•Personal Group	yes
•Shared Group	yes
Group List Print	yes, LCD only
MB User Information Setting	
Display/Setting Method	Browser
User Information Operation	
•New Registration	yes(Authorized user)
•Edit	yes(Authorized user)
•Delete	yes(Authorized user)
•Forced Delete	yes(Authorized user)
•Import/Export	yes(Authorized user)
•CSV Format	no
•vCard format	yes (Name/E-mail)
Registered User List Display	
•User Log-in Status Display	no
•User's Unread Document Display	no
User Information Item	
•User Name	64 characters
•User ID	yes 64 characters
•Password	28 characters
•Type (Gateway User)	no
•Company	N/A
•Department Name (User Group Name)	N/A
•Group Name	yes
•TEL	N/A
•Fax	N/A
•E-mail Address	50 characters
Set to the Reply-To address or not	no
•LDAP Server Login (account / password)	yes
•Personal Available Address	no
•Shared/Personal Default Settings	no
•IP Address of Client PC	no
•PC Name	no
•Administrator Authority	N/A
•List Print	no
•Home Directory	no
Others	•User Policy •Theme •Language •Tx Report
Device Setting(for MB Browser)	
Display/Operation Method	Machine status on the top page
Machine Information (R/W)	

Item	Product Official Specification
•Machine Name	yes
•Installation Location	yes
•Option Configuration	yes
Machine Status	
•Network Connection	yes
•Network Connection speed change	yes (Auto/10Mbps/100Mbps)
•Line	yes
•Scanner	yes
•Printer	yes
•Paper Supply (Each Cassette)	yes
•Output Device (Duplex/2-bin/Shift)	yes (duplex, 2-bin)
•Finisher (Shift/Staple/Punch)	N/A
Counter Confirmation	yes (only Admin.)
•Print Total Count	yes
•Copy	yes
•Fax/List	yes
•PC Print / List	yes
•Scan Total Count	yes
•Copy	yes
•Fax	yes
•PC Scan	yes
Initialize	yes, for Machine Information (only Admin.)
Print Job(for Browser)	
Job Display/Operation Method	yes (Browser)
Job Details Display	yes
•Document Name	yes
•Status	no
•User Name	yes (Message Board user name)
•User Group Name	no
•Progress	no
•# of pages	yes
•Print Time	yes
Job Cancel	yes (by job)
Job order change	no
Communication Log	
Display Log	yes (Control Panel/Browser)
>Contents of Log	
>>Sender's/Receiver's E-mail Address	yes
>># of Pages	yes
>>Comm. Mode	yes
>>Comm. Time	yes
>>Date and Time	yes
>>Department	no
>>Comm. Result	yes
>>Details	
>>>Detailed Error Message	yes
>>>>Mail Tx Log	Tx Completed/Tx Error/Tx Canceled
>>>>Mail Rx Log	yes
>>>>Fax Tx Log	OK/*OK/#OK/T.X.X/*T.X.X/#T.X.X/D.X.X
>>>>Folder Tx Log	Error Code
>>>>FTP Tx Log	Error Code
>>>Server Response Message	yes
>>>All of Broadcasting Location	yes (# of destinations: max. 400 characters)
>>>Detailed Information Of DSN	no
Auto Print	yes
Manual Print	yes (Control Panel/Browser)
Totaled for Every department	no
Totaled for Every Individual	no
Save past log	no
File download	yes (CSV format only)
E-mail(automatic)	no

Item	Product Official Specification
Fax Communication Log(for Browser)	
Fax Communication Log Display	yes (Control panel/Browser)
# of Log	max. 500
Items on the Communication Log	
•Destination	yes
•# of Pages	yes
•Comm. Mode	yes
•Comm. Time	yes
•Date&Time	yes
•Result	yes
•Details	
Error Code	yes
Broadcast Locations	no
Tabulation of Comm. Log by user group	no
Tabulation of Comm. Log by user	no
Storage of communications	yes yes, by Archiving Settings (to folder). (Note) Comm. Result cannot be stored in the Archiving Function.
E-mail Communication Log(for Browser)	
Fax Communication Log Display	yes
# of Log	max. 500
Items on the Communication Log	
•Destination Address	yes
•# of Pages	no
•Comm. Mode	no
•Comm. Time	yes
•Date&Time	yes
•Result	yes
•Subject	yes
•Details	yes
Error Details	yes
Server Response	yes
Broadcast Locations	yes(max. 400 characters)
Detailed TX confirmation	yes
Tabulation of Comm. Log by user group	no
Tabulation of Comm. Log by user	no
Storage of past communications	yes yes, by Archiving Settings (to folder). (Note) Comm. Result cannot be stored in the Archiving Function.
Scan to Folder/FTP Communication Log(for Browser)	
Communication Log Display	yes
# of Log	max. 500
Communication History Item	
- Opponent Machine	yes
- Start time	yes
- Result	yes
- Sender	yes
- Date	no
- Detail	yes
- File Name	yes
- Communication Ability	no
User Access/Cost Accounting (only Admin.)	
Display Method	Browser (only by the authorized user)
•Sort by User Index	yes
•Sort by Group	yes
Items on the list	
•Index	N/A
•Group	yes
•User Name	yes
•Fax Transmission Time	N/A
•Fax Tx # of Pages	yes

Item	Product Official Specification
•Fax Charge	no
•Copy # of Pages	yes
•Copy Charge	no
•Scan # of Pages	yes
•Scan Charge	no
•PC Print # of Pages	yes
•PC Print Charge	no
List Print	
•Total	yes (Control panel/Browser)
•Group Unit	yes (Browser only)
•User Unit	yes (Browser only)
Data Download	yes (Browser only)
Data Clear	yes
Report Function	N/A
TCP/IP Settings	
Setting Method	yes (Control panel/Browser)
TCP/IP Setting	
IP Address	yes
Subnet Mask	yes
Gateway Address	yes (max. 1 addresses)
DNS Server Address	yes (max. 2 addresses)
•DNS Suffix	yes
DHCP Setting (ON/OFF)	yes, renew command is supported
Network Environment Initialize	yes
MAC Address Display	yes
PING	yes (Control panel only)
SMB Setting	yes
NetBIOS	yes
Workgroup	yes
WINS	yes (max. 1 address)
HTTP Port No. Change	yes
HTTPS Port No. Change	yes
Client Port No. Change	no
InfoMonitor Port No. Change	N/A
MB Port No. for searching Change	yes
RAW port No. Change	yes
Admin. Password Settings	
Read/Write Code	yes
Read Only Code	no
Backdoor Password	no
SMTP/POP Settings (only Admin.)	
Setting Method	Browser
Machine E-mail Address	yes
Machine Name	yes
Reply-to Address	yes
SMTP Server Setting	
- Mail Server Address/Domain Name	50 characters
- Substitute Tx Mail Server	no
- SMTP Port Number	0-65535
- SSL connection	yes, SSL/STARTTLS (default: off)
- Main Retrieve before Tx	yes
- SMTP Authentication	yes, LOGIN / PLAIN / CRAM-MD5
- SMTP Auth Account	yes
- SMTP Auth Password	yes
POP3 Server Setting	yes
- POP Server Address/Domain Name	yes
- E-mail Account	yes
- Password	yes
- POP3 Port Number	0-65535
- SSL connection	yes (default: off)
- APOP Authentication	yes

Item	Product Official Specification
- Auto Rx Interval	1min.- 99 hrs 59min. 59sec, (default: off) (IFAX RX)
Direct SMTP Rx Setting	yes(IFAX RX)
- Rx Domain Name	50 characters
- Domain name check for reception	yes
- Rx Port Number	0-65535
- E-mail Address/Domain Name/IP Address to allow Rx	50 characters x 5
E-mail Settings (only Admin.)	
Attachment File Format	N/A (only from Control Panel)
Coding Method of TIFF-FX (Profile-F)	N/A (MMR)
Insert Body Text in Tx	
•yes/no	yes
•Language	refer LCD display language
•Sender's Information	yes (switchable)
# of Body Text Template	10
Items for Body Text Template	
•Templates Name	yes, 40 characters
•Subject	yes, 80 characters
•Body Text	yes, 1024 characters
Show recipients on Tx e-mail	yes (show all recipients)
	no (show no recipients)
Insert Signature	
•yes/no	no
•Signature Setting (text area)	no
Request for Reception Confirmation	no
Reply to MDN	no
Handle of undecipherable E-mail reception	no
Handle of Rx E-mail with Forwarding Request	no
Archive Settings (only Admin.)	
Auto Archiving ON/OFF	yes
Documents for Archiving	
•Memory Tx Fax	yes
•PC-Fax Tx	yes
•Tx I-Fax	no
•Memory Rx Fax	yes
•Rx I-Fax	yes(IFAX Rx)
•Fax Forward Tx	no
•Realtime Tx Fax	no
•Manual Tx Fax	no
•F-code Secure Box Rx Fax	no
•F-code Bulletin Box Rx Fax	no
•Polling Rx Fax	no
•F-code Polling Rx Fax	no
•Polling Tx Fax	no
•F-code Polling Tx Fax	no
•Scanned Document	no
•Print Document	no
•Copy Document	no
•Report Tx	no
•Canceled Jobs	no
Archiving Destinations	
•E-mail Address	yes
•Fax Number	yes
•Folder	yes
•FTP Address	no
•User	no
File Format of archived document	PDF / TIFF (default: TIFF)
Index file of archived documents	yes, when the network folder is selected as destination (CSV format, up to 1000 logs in 1 file)
•Data Type	yes
•Communication Executed Time	yes
•File Name	yes

Item	Product Official Specification
•File Path	yes
•# of pages	yes
•Sender	yes
•Destination	yes
•Communication Result	no
Archiving setting by user	no
Network Scan Setting (only Admin.)	
Batch Scan Setting	
•ON (1 stuck -> 1 file)	yes (default)
•OFF(1 page -> 1 file)	no
•Sheet Mode (1 sheet -> 1 file)	yes
Storage Period of scanned Document	N/A
Shortcut Settings	
Create Folder Short-cut	yes (max. 300 short-cuts) *Control panel / Web browser
Setting Items	
•Shortcut Name	yes
•Folder Path	yes
•User Name	yes
•Password	yes
•Automatic Network Login	yes (default: ON)
Create FTP URL Short-cut	yes (max. 20 short-cuts) *Control panel / Web browser
The # of shortcut increase by CF quantity increase	no
Setting Items	
•Shortcut Name	yes
•Host Name	yes
•Folder Name	yes
•User Name	yes
•Password	yes
•Automatic Network Login	no
•PASV Mode	yes (default: ON)
•Port No.	0-65535
File Name Settings	
File Name Setting	
•Auto	yes, YYYYMMDDHHMMSS
•Manual	yes, up to 80 characters
•Select	yes (# of prefixed name: Max. 20)
Category Setting (Scan to MB)	no
•Manual	N/A
•Select	N/A
Personal Outbox Setting (only Admin.)	
Tx Document Delete/Leave after Tx completion	no
CoverPage	no
Check Message Print ON/OFF when PC-Fax Tx Error	no
Received Fax Forward Setting (only Admin.)	
Auto Routing Function	yes
•Routing Method	IS type(Message Board type)
•# of Routing Conditions	200
•Setting Method	Browser/Control Panel *Forwarding destination is fax number only from panel
•Routing Table Display	yes
•Routing Table Edit	yes
•Routing Table Details	
•Name	yes
•Conditions (refer to PC-Fax sheet)	yes
•Destinations (refer to PC-Fax sheet)	yes
•Active/Inactive	yes
•Routing Setting Import/Export	yes (by AdminTool / Mirror function)
•Routing Table Print	no
•Share Routing Condition	no

Item	Product Official Specification
SNMP Agent Setting	
Setting Method	Browser
Service Activate ON/OFF	yes
Agent Recognition Setting	yes
•Contact Destination	yes
•Name	yes
•Location	yes
Security Setting	yes
Request All Host	N/A
IP Address	N/A
Community Name	yes - Write: "private" - Read: "public"
Trap sending destination	no
# of destination	no
Notice event	no
Consumable Order Information	no
SNMP Agent Initialize	yes
SNMP Version	Version 1, Version 3
MIB (Management Information Base)	
MIB support version	MIB-2
•Standard MIB Information	see the exhibit, "MIB Data Definition"
•Private MIB Information	see the exhibit, "MIB Data Definition"
•Supported SNMP Manager Software	•PageScopeNetCare (see the MIB Data Sheet in detail)
Network Filtering Setting (only Admin.)	
	Browser
MAC Address	yes, Accept or Refuse
•Available # of settings	50
IP Address	yes, Accept or Refuse
•Available # of settings	50
•Range specification	yes, within the 4th octet
Unacceptable Service Name	yes (select from the service name list)
Initialize	yes (Browser/Control Panel)
Machine Setting (only Admin is allowed)	
Setting Method	Browser/Control Panel
Items to request Admin Password	
- Management	yes
Machine Settings Mirroring	yes(Machine Settings Only and All data)
LDAP Basic Specification	
LDAP Supported Version Version.2	no
Version.3	yes
LDAP Operation	
Search	yes
Compare	no
Delete	no
Add	no
Modify	no
Programmable LDAP Server	
# of LDAP Server	5
LDAP Setting Parameters	
Name	yes, 23 characters
LDAP Server Name	yes, 99 characters
IP Address	yes
LDAP Port #	yes
Search Base	yes, 99 characters
Auto Search Point detect	yes
# of max. results setting	yes, 001-100 (default 50)
Time Limit	yes, 0000-9999 (default: 0000 = Unlimited)
Authentication	
anonymous	yes
name	yes
name+password	yes

Item	Product Official Specification
SASL	no
Description	yes, 49 characters
Search Method	Any, Initial, Final, Equal, Not Use
LDAP Search Operation	
Search Method	
Name	yes
Default Name Description1	cn
Default Name Description2	commonname
# of characters	49 characters
E-Mail	yes
Default E-Mail Description1	mail
Default E-Mail Description2	-
# of characters	49 characters
Fax #	yes
Default Fax Description1	facsimileTelephoneNumber
Default Fax Description2	-
# of characters	49 characters
TEL#	no
Default TEL Description1	no
Default TEL Description1	no
# of characters	no
Organization	no
Company Name	yes
Company Name attribution 1	company
Company Name attribution 2	o
Characters	49 characters
Search Rule Setting	yes
	Default setting
Search Key Rule Setting	
Equal	yes
Initial	yes
Final	yes
Any	yes (default)
Not Equal	no
Not Any	no
Exist	no
Not Use	yes
Operation Interface	
MFP Control Panel	yes
Browser via network	yes(Multi Clients)
LDAP Search Result Operation	
Continue to search with referer	yes
# of referers	3
# of continuous referers	10
Display detailed information	yes
Use search results as	
Fax destination	yes
E-Mail destination	yes
Address Book Registration	yes
Multiple-destination	yes
Supported character codes	
US ASCII	yes
UTF-8	yes(Shift JIS, Latin1)
Supported directory servers	
Active directory on Microsoft Windows 2000 server(ENG)	no
Active directory on Microsoft Windows 2003 server(ENG)	yes
Active directory on Microsoft Windows 2008 server(ENG)	yes
Novell e-Directory on Windows 2000 server(ENG)	no
OpenLDAP on LINUX(ENG)	yes
Windows NT 4.0 Server SP4 later	no

Item	Product Official Specification
Windows 2000 Server(Active Directory)	yes
Windows Server 2003(Active Directory)	yes
Windows Server 2008(Active Directory)	yes
Supported Protocol for Authentication	
Windows NT 4.0 Server	N/A
Windows 2000 Server/Windows Server 2003/Windows Server 2008	Kerberos v5
Kerberos Basic Functions	
Encryption Type	RC4 HMAC
Renewal of Tickets	no
Cache of Tickets	no
Clock Synchronization Method	SNTP version1
LDAP Basic Functions for MFP Auth	
SASL Support	no
Search Filter	no
Search Attributes	no
Search Start Point	no
Auto Search Point detect	no
Search Method of Authentication Server	
Windows NT 4.0 Server	N/A
Windows Server 2003, 2008	DNS
Authentication of Domain with Mutual Trust	
Windows NT 4.0 Server	no
Windows Server 2003, 2008	yes
Mail Address Relation	
Acquisition of User Mail Address	
Windows NT 4.0 Server	no
Windows Server 2003, 2008	yes
Use of Mail Address of Equipment	When the user mail address was not able to be acquired.
From Format	displayName<mail> or cn<mail>
Network Authentication Settings	
Read/Write Protect	no
Default Authentication Server	None
Automatic Logout Function Support	yes
Range of Automatic Logout Time	1-10 (minutes)
Default Automatic Logout Time	3 (minutes)
Authentication Setting of Each Function	no
Number of characters that can be input	
User Name	64
Password	28
Domain Name	64
Windows NT Server	N/A
Active Directory	64
Others	
Single Sign-on with MB login	yes
Supplied with Main Unit	
Toner cartridge	No
Drum cartridge	no (within a machine)
Waste Toner Box	no (within a machine)
AC Power Cord	no
Phone line connect cord	yes
Tray, Hopper	
>Document hopper	yes
Manual kit	yes
>Recording paper size label	yes
>Cassette number label	no
Warranty	no
Caution sheet	no
Ferrite Core	EUR : yes(4pcs)
	USA : yes(2pcs)
Documents CD	no

Item	Product Official Specification
Driver installation CD	yes
Consumables	
Toner cartridge	yes
># of print pages	24,000 sheets (ISO/IEC 19752, equivalent value) cf. 20,000 sheets (6%, equivalent value)
>Preservative/Transportation temperature	(-20) - 35 °C (2 years) (-20) - 40 °C (2 months)
>Preservative/Transportation humidity	10 - 90 % (2 years)
Drum Cartridge	yes
>Drum Life(1 page-cycle print)	42,000 sheets (number of sheets(Letter/A4) or driving time of 1 page-cycle print)
>Guaranteed Temperature during Preservation/	5 -35 °C (2 years) 5 - 40 °C (2 months)
> Preservative humidity	35 - 85 % (2 years) 10 - 90 % (2 months)
Maintenance Parts	
Document (ADF)	N/A
Document (URADF)	
>Pick up roller	60,000 sheets/A4 or 2 years (Pick up Roller & Separator Roller are unified with Separator Pad)
>Separator roller	
>Separator pad	
Cassette	
>Separator roller	100,000 sheets/A4 or 2 years
>Separator pad	100,000 sheets/A4 or 2 years
Printing Unit -Resister	
>Resister roller	100,000 sheets/A4
>Press roller	N/A
Printing Unit -Exit	
>Exit roller	100,000 sheets/A4
>Press roller	N/A
Printing Unit -Bypass	
>Separator roller	100,000 sheets/A4 or 2 years
>Separator pad	100,000 sheets/A4 or 2 years
Printing Unit Roller	
>Feed roller (Cassette 2-4)	100,000 sheets/A4
>Press roller (Cassette 2-4)	N/A
Recording Paper (Duplex)	
>Feed roller	300,000 sheets/A4
>Press roller	N/A
Recording Paper (2BIN)	
>Feed roller	300,000 sheets/A4
>Press roller	N/A
Fuser Unit	100,000 sheets/A4
Transfer unit	
>Transfer roller	100,000 sheets/A4
>Transfer guide	100,000 sheets/A4
VOC Filter	150,000 sheets/A4
Lamp/CIS	N/A (more than machine life)
Option Kits	
Paper supply unit	yes, Universal type
>Recording paper quantity	500 sheets (80g/2, 20lb)
># of drawers	1 drawer
>Recording paper size	EUR: A4(SEF), A5(LEF), F4(SEF) USA: Letter(SEF), HalfLetter(LEF), Legal(SEF)
>Install manual	yes
Handset	no
Printer controller kit	no (standard)
PostScript3 Kit	yes
>Driver CD	no

Item	Product Official Specification
>Install manual	yes
Barcode/OCR Font	yes
>Install manual	yes
PS3 & Barcode/OCR Font	yes
>Driver CD	no
>Install manual	yes
Mechanical counter	yes
>Install manual	yes
Upgrade CF Memory (Security Support)	no
>Install manual	
Upgrade CF Max. Memory	no
Upgrade SD Memory for PCL PDF Direct Print Expandable SD Memory	yes(SD capacity up)
>Install manual	yes

2 Machine Composition

2.1 Document scanning section

2.1.1 Auto Document Feeder (ADF) Section

ADF (Auto Document Feeder) is a device that feeds the document continuously one page by one to the scanning section automatically. It consists mainly of document tray, Tx cover, inner guide, and platen cover. When the device is categorized by its functions, it consists of separator section that picks up each page of documents, register section that detects the leading edge of the document and controls the timing so that the document does not skew, and scan section that scans the document.

No.	Part name	No.	Part name
1	DS1 sensor	2	Pickup roller
3	Separate pad	4	Separate roller
5	DRS sensor	6	Resist roller
7	Press roller	8	Feed roller (Reverse roller)
9	DS2 sensor	10	Home sensor
11	CIS (Contact Image Sensor)	12	Feed roller
13	DS3 sensor	14	DEXIT sensor
15	Exit roller		
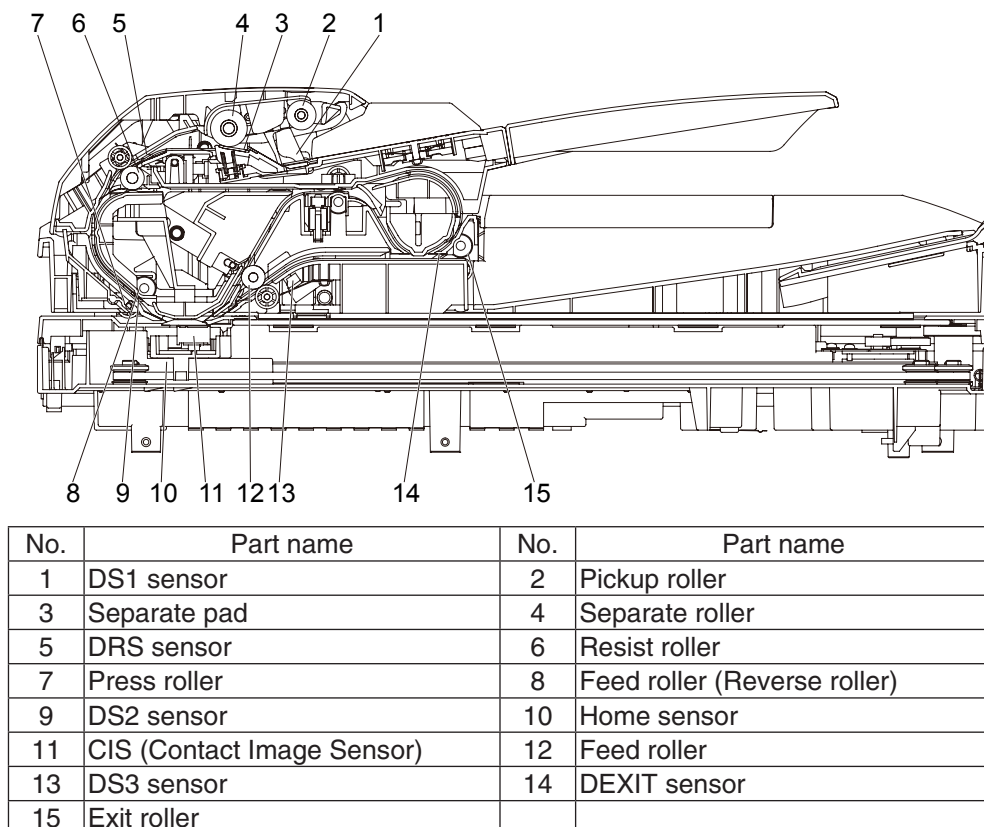
Document insert section / separator section

The machine scans up to letter paper size document width. Place the document to the center of the document tray and align the document guide.
By pressing the start key through copy or transmission commands, the motor starts driving, and the driving force is transferred to the pick up roller through gears, and the document will be fed.
Document separator section consists mainly of separate roller and separate pad.
The document will be fed from the upper pages. Remaining documents are separated by the friction of the separate pad and only the top page will fed by the separate roller.

Register section

Following the document separation, the separate roller transfers the document to register section.
During this transfer, clutch 2 (CL2) which drives the register roller is turned off and the document leading edge stops at the register roller. The separate roller feeds the document forward, and that prevents the document to skew.
The document sensor (DRS) is placed between the separator section and the register roller to detect the leading edge of the document.
When the document leading edge passes the sensor and the loop is made, clutch 1 (CL1) runs idle (turns off) and clutch 2 runs (turns on) and the register roller transfers the document to the scan position

Document detection

The sizes of the documents are detected by the following sensors;

Detection	Sensor
Document presence	DS1
Leading and trailing edge detection	DS2 DS3 (Back side) DRS DEXIT

Scanning section for simplex document

The document sensor (DS2) is placed at scanning position to detect the leading edge and trailing edge of the document.
When the leading edge is detected, the feed roller transfers the document a certain steps where the scanning begins. When the trailing edge is detected, the feed roller transfers the document a certain steps where the scanning ends.

If the document has two or more pages, feeding of the next page begins when the former page scanning ends, and the page is scanned in the same way.
The steps where scanning begins can be adjusted with machine parameter.

Scanning section for duplex document

The front side of the document will be scanned with the same mechanism as simplex document.

A few steps after DS2 turns on (detects the leading edge of document), feed roller switching solenoid (SL2) turns on to switch the document guide into backside scanning pass.
A few steps after DS2 turns off (detects the trailing edge of document), discharge path / U-turn path switching solenoid (SL1) turns on to switch the feed roller rolling in the reverse direction.
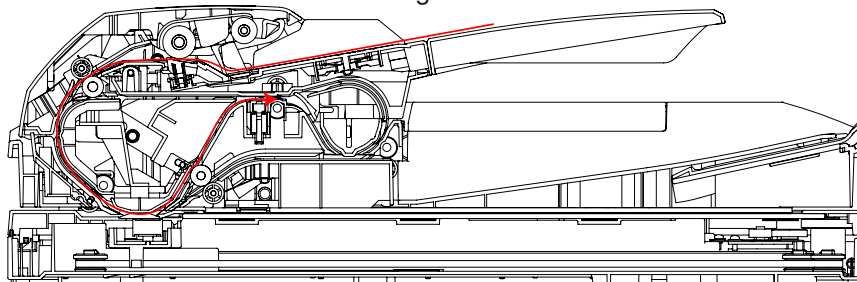
A few steps after DS3 turns on (detects the leading edge of document), scanning of the backside begins.
A few steps after DS3 turns off (detects the trailing edge of document), scanning of the backside ends.

A few steps after DS2 turns on (detects the leading edge of document), feed roller switching solenoid (SL2) turns off to switch the document guide to discharge pass.
When DS2 turns off (detects the trailing edge of document), discharge path / U-turn path switching solenoid (SL1) turns off to switch the feed roller rolling in the original direction.
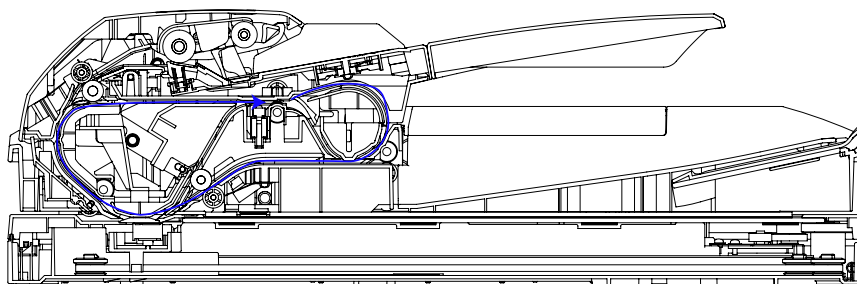
When the backside of the document is scanned, the document will be discharged.

Scanner	ON / OFF				
DS2	ON / OFF				
DS3	ON / OFF				
SL1 (Reversible)	ON / OFF				
SL2 (Switching)	ON / OFF				
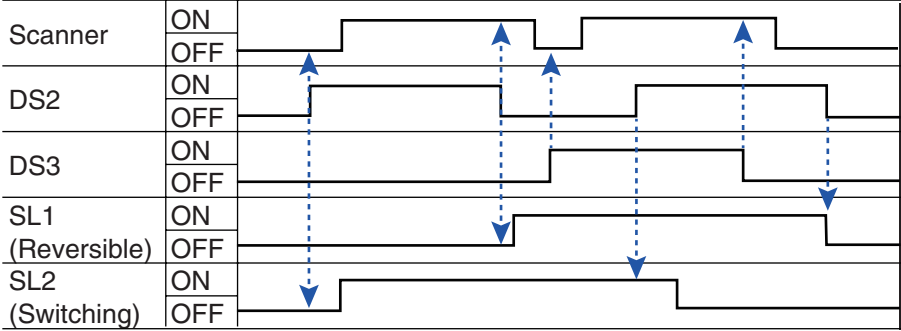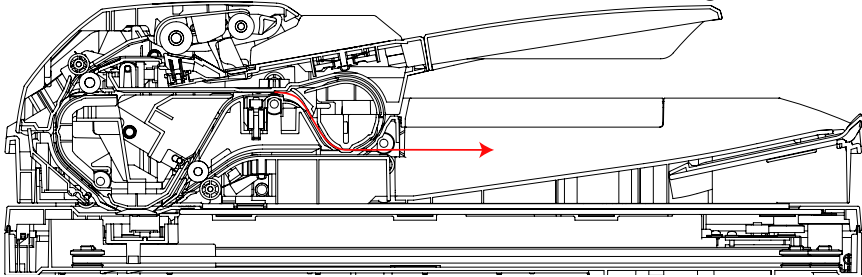
2.1.2 Flat Bed Scanner (FBS) section

The FBS (Flat Bed Scanner) section consists of document glass (pane) and optical reading section (CIS).
The CIS (Contact Image Sensor) carried on CIS holder keeps the focal length by moving along the pane.
CIS moves and thereby exposes the lamp light uniformly to the document. The FBS motor drives the timing
belt on which the CIS holder is mounted. It drives the CIS holder at a speed adjusted by copy, scan or fax
mode and resolution.
The original position of the CIS holder is where the home sensor is. This position is also the home position
for scanning operation.
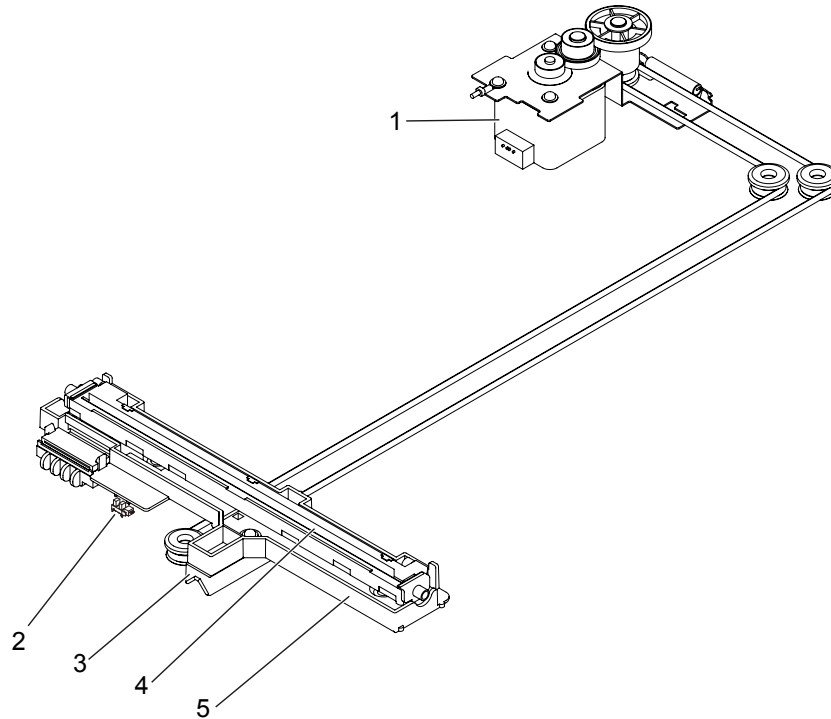
No.	Part name	No.	Part name
1	FBS motor	2	Home sensor
3	Guide bar	4	CIS (Contact Image Sensor)
5	CIS holder		

2.2 Recording section

Recording paper feed path

The recording paper is separated from the remaining paper by friction of the pickup roller. The paper is transferred along the paper guide until it reaches the register roller. Then it is transferred to the exit tray by the register roller.
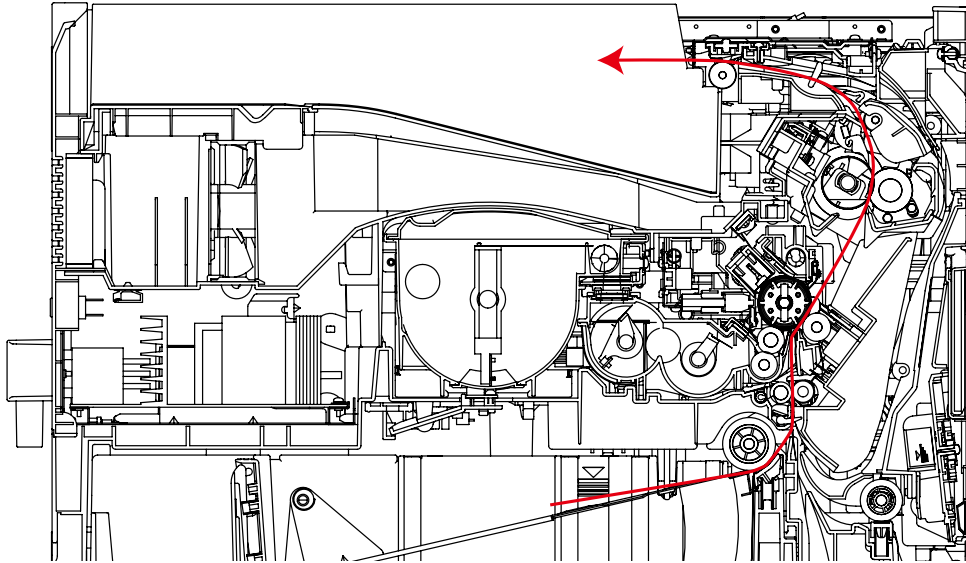
At duplex printing, the paper is transferred to the exit tray when the first side of paper is printed. A few steps after the switch back sensor (SWBS) has detected the paper trailing edge, the exit roller rolls in reverse and the paper is transferred to the image processing area by the duplex roller.
The paper reaches to the image transfer area inside out, and the back side of the paper is printed.
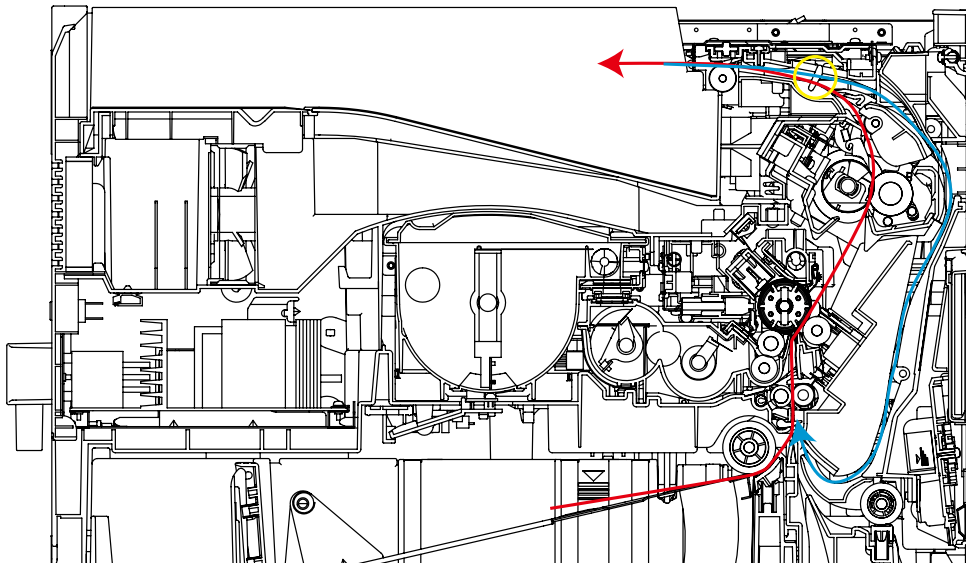
Paper feed timing chart
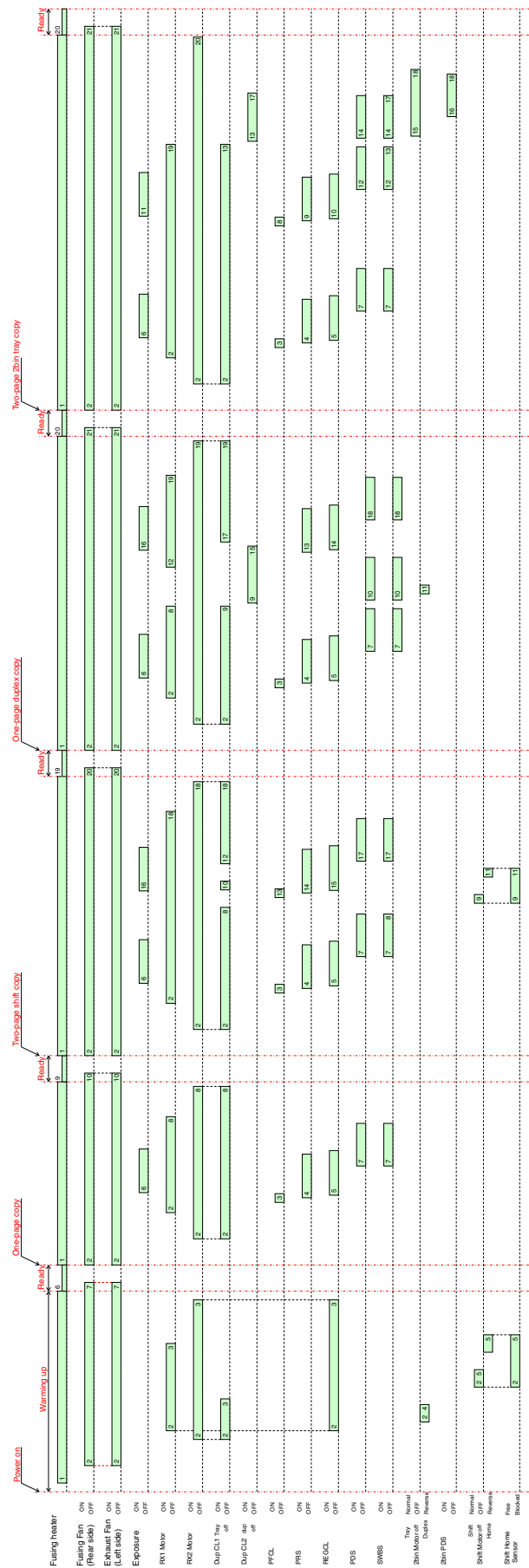
Warming-up
1   When the power is turned on, or the side or front cover is closed, the machine controls the warming-up temperature of the fuser.
2   Devices start working in the following order: Fan, RX2 motor, Dup CL1, RX1 motor, REGCL, and 2bin motor.
3   Dup CL1, RX1 motor, REGCL, and RX2 Motor stop after a predetermined time in that order.
4   2bin motor stops after an predetermined time.
5   The machine controls the ready temperature of the fuser.
6   The fun stops.

One-page copy
1   The machine starts to control the printing temperature of the fuser when the start key is pressed at copy mode.
2   Devices start working in the following order: Fan, RX2 motor, Dup CL1, and RX1 motor.
3   In a predetermined condition, the paper feed clutch turns on, and the pick up roller feeds a paper.
4   The paper reaches the PRS, and loops at the resist roller.
5   The REGCL turns on, and the resist roller feeds the paper.
6   LED print head exposes the drum, and an image is developed then transferred to the paper. The image is fixed to the paper at the fuser.
7   The paper is fed by the fuser roller pairs to SWBS, PDS, and then dropped on the exit tray by the exit roller.
8   Devices stop working in the following order: RX1 motor, Dup CL1, and RX2 motor.
9   The machine controls the ready temperature of the fuser.
10 The fun stops.

One-page duplex copy
1   The machine starts to control the printing temperature of the fuser when the start key is pressed at copy mode.
2   Devices start working in the following order: Fan, RX2 motor, Dup CL1, and RX1 motor.
3   In a predetermined condition, the paper feed clutch turns on, and the pick up roller feeds a paper.
4   The paper reaches the PRS, and loops at the resist roller.
5   The REGCL turns on, and the resist roller feeds the paper.
6   LED print head exposes the drum, and an image is developed then transferred to the paper. The image is fixed to the paper at the fuser.
7   The paper is fed by the fuser roller pairs to SWBS, and reaches the PDS.
8   The PDS turns on for a predetermine time, and RX1 motor stops.
9   The SWBS turns off, and the Dup CL1 turns off. Then Dup CL2 turns on.
10 The exit roller rotates in reverse direction, and the paper is fed from PDS to SWBS and then to return paper path direction.
11 The Dup CL2 turns on, and 2bin motor rotates in reverse direction and switches the paper from 2bin tray paper path in return paper path.
12 The SWBS turns on, RX1 motor starts again.
13 The paper reaches the PRS again, and loops at the resist roller.
14 The REGCL turns on, and the resist roller feeds the paper.
15 The REGCL turns, and Dup CL2 stops.
16 LED print head exposes the drum, and an image is developed then transferred to the paper. The image is fixed to the paper at the fuser.
17 The Dup CL2 turns off, and the Dup CL1 starts.
18 The paper is fed by the fuser roller pairs to SWBS, PDS, and then dropped to the exit tray by the exit roller.
19 Devices stop working in the following order: RX1 motor, Dup CL1, and RX2 motor.
20 The machine controls the ready temperature of the fuser.
21 The fun stops.

Two-page copy with 2bin tray
1   The machine starts to control the printing temperature of the fuser when the start key is pressed at copy mode.
2   Devices start working in the following order: Fan, RX2 motor, Dup CL1, and RX1 motor.
3   In a predetermined condition, the paper feed clutch turns on, and the pick up roller feeds a paper.
4   The paper reaches the PRS, and loops at the resist roller.
5   The REGCL turns on, and the resist roller feeds the paper.
6   LED print head exposes the drum, and an image is developed then transferred to the first paper. The image is fixed to the paper at the fuser.
7   The paper is fed by the fuser roller pairs to SWBS, PDS, and then dropped to the exit tray by the exit roller.

8　When a predetermined time passes after REGCL is turned on in step 5, PFCL turns on, and the pick up roller feeds a paper.

9　The paper reaches the PRS, and loops at the resist roller.

10　The REGCL turns on, and the resist roller feeds the paper.

11　LED print head exposes the drum, and an image is developed then transferred to the second paper. The image is fixed to the paper at the fuser.

12　The paper is fed by the fuser roller pairs to SWBS, and reaches PDS.

13　The SWBS turns off, Dup CL1 turns off, and then Dup CL2 turns on.

14　The Dup CL2 turns on, and exit roller runs in reverse direction. The paper is fed to PDS, SWBS and then to the return paper path direction.

15　Dup CL2 is turns on, and 2bin motor runs in its normal direction and switches the paper path to the 2bin tray.

16　The paper is fed to 2bin PDS and then dropped on the 2bin tray.

17　SWBS is turns off, and the Dup CL2 turns off.

18　2bin PDS is turned off, and the 2bin motor stops.

19　Devices stop working in the following order: RX1 motor and RX2 motor.

20　The machine controls the ready temperature of the fuser.

21　The fun stops.

2.3 Image prosessing section

The image processing is roughly divided into the following steps:

1. Charging
   This step charges the drum negatively using the scorotron charger working on corona discharge system.

2. Exposure
   This step creates an electrostatic latent image on the drum surface by lighting the LED head (print head) according to the image data.

3. Development
   This step creates a visible image on the drum surface by adhering negatively charged toner on the drum.

4. Image transfer
   This step transfers the visible image on the drum surface onto the paper using a positive charged transfer roller.

5. Separation
   This step eliminates charge from paper and then separate it from the drum. The drum separation scraper works to separate the paper from the drum.

6. Cleaning
   This step cleans the residual toner and paper dust on the drum surface by scraping them off with a cleaning blade.

7. Discharging
   This step exposes light on the drum to neutralize remaining charge.

8. Fusing
   This step fuses the toner transferred on the paper using heat and pressure.
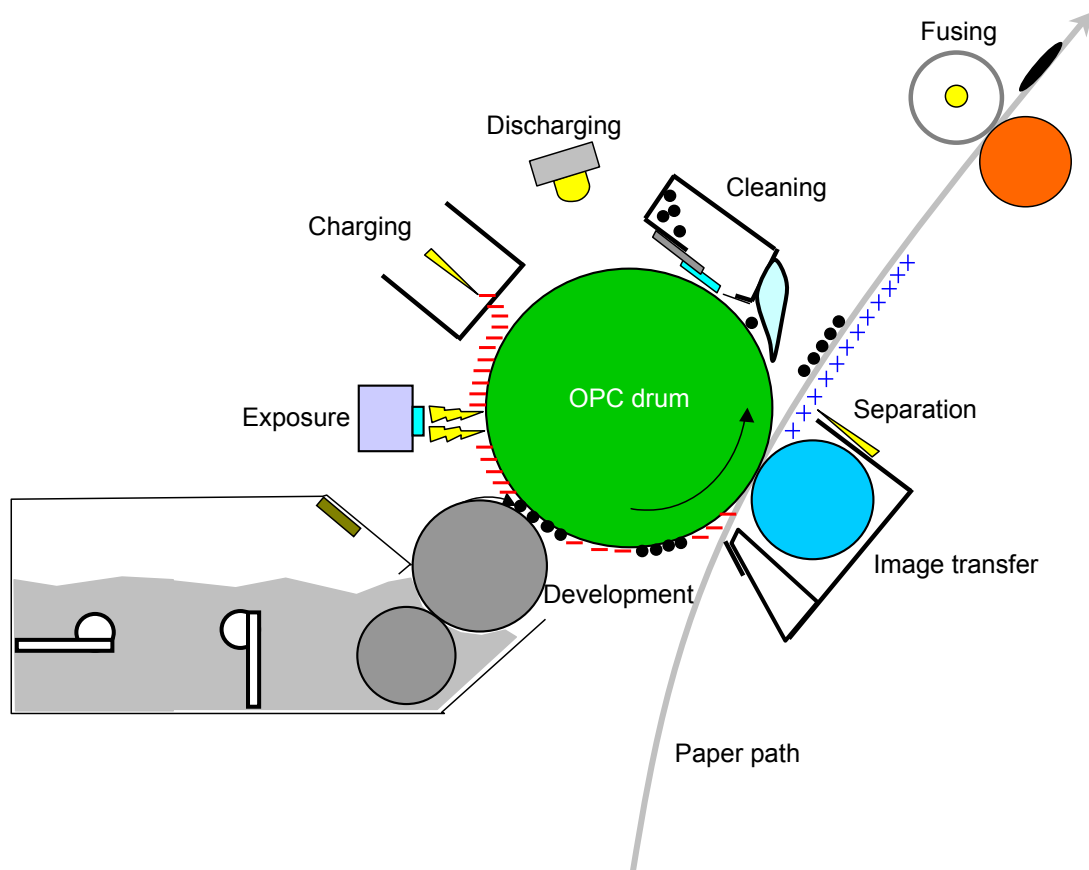
2.3.1 Developing unit

The machine uses an one-component nonmagnetic toner (negative). The toner is charged by friction between developing roller and toner supply roller, and between developing roller and blade, and adheres to the developing roller.
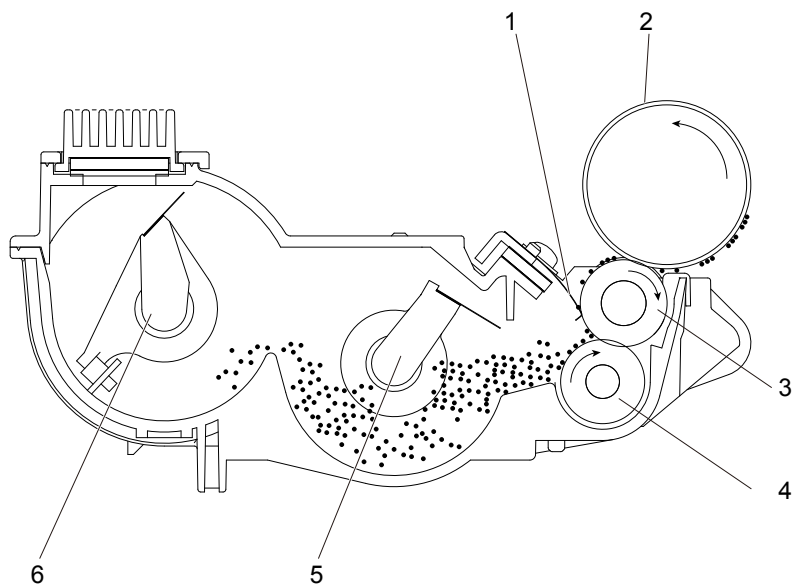
No.	Part name	No.	Part name
1	Blade	2	OPC drum
3	Developing roller	4	Toner supply roller
5	Toner agitator A	6	Toner agitator B

2.3.2 Drum structure

Photoconductive drum is a drum that has an organic material consisted UCL (Under Coat Layers) coated the surface with OPC (Organic Photo Conductor).
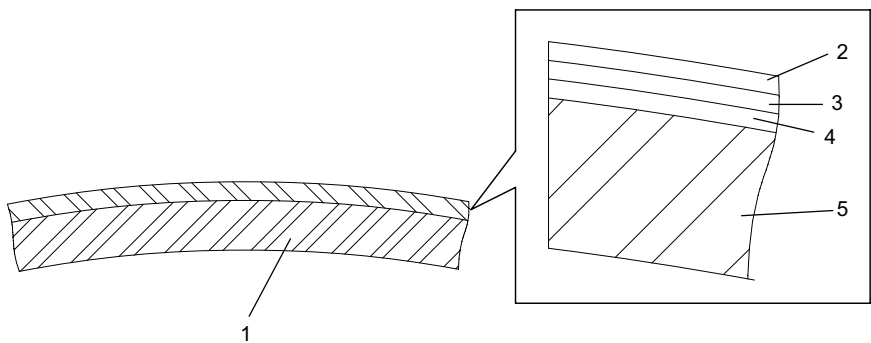
No.	Part name	No.	Part name
1	OPC drum	2	CTL: Charge Transport Layer
3	CGL: Charge Generation Layer	4	UCL: Under Coat Layer
5	Base		

2.3.3 Charging mechanism

The drum is charged evenly through a grid mesh by corona discharging of a multi-stylus electrode. The stylus type charger concentrates discharging to the grid mesh side, which generates less ozone than wire-electrical discharging. The generated ozone is removed by the ozone filter while emission.
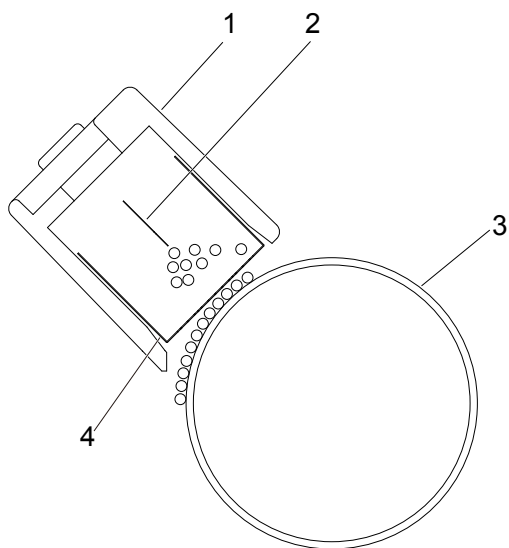
No.	Part name	No.	Part name
1	Charger case	2	Multi-stylus electrode
3	OPC drum	4	Grid mesh

2.3.4 Exposure mechanism

The LED print head lights according to the image data transferred from the print controller, and exposes the drum surface. The exposed surface loses the energy of charge, and an invisible static image is created on the drum surface.
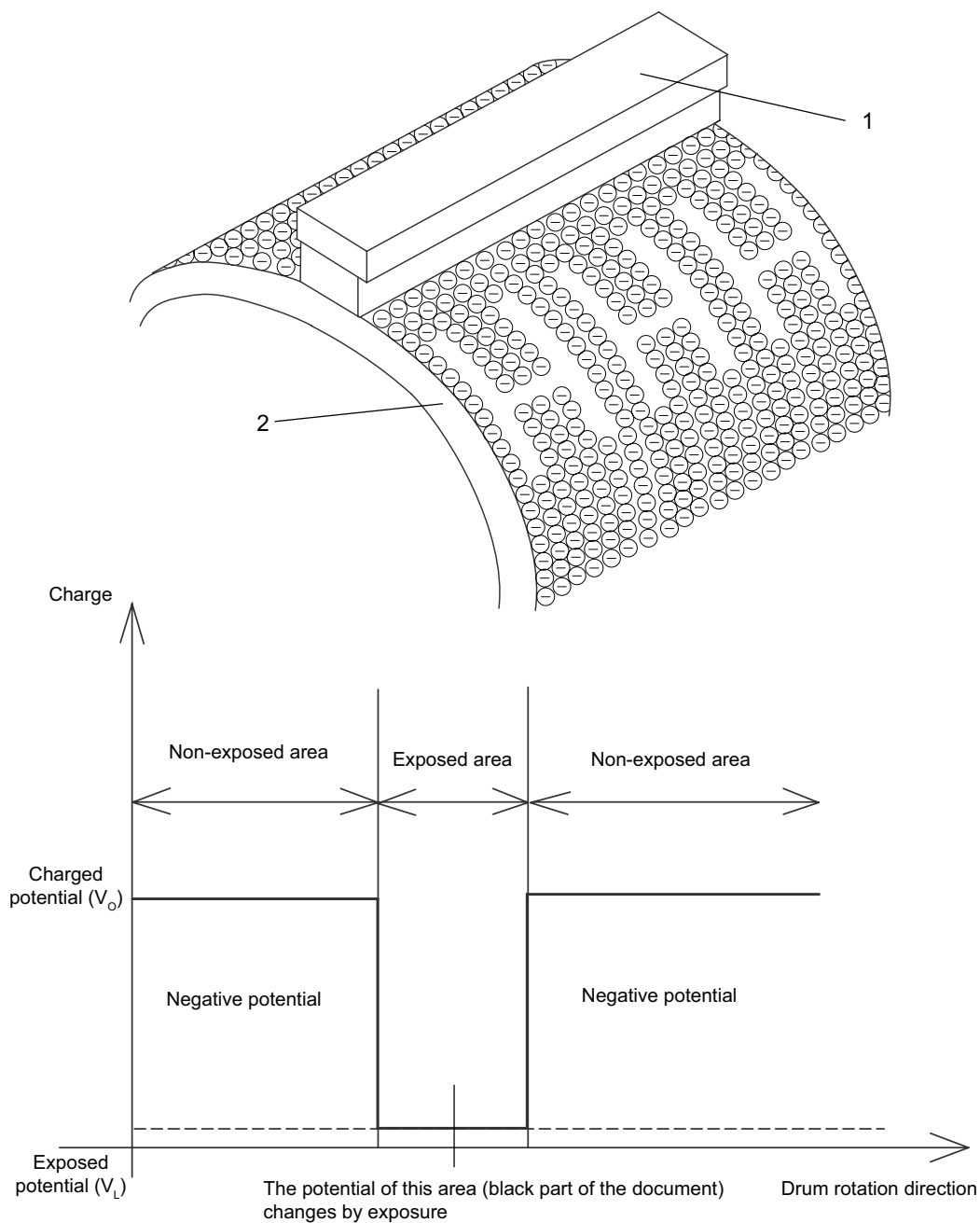
No.	Part name	No.	Part name
1	LED print head	2	OPC drum

2.3.5 Development mechanism

The static image created in exposure step is developed through toner adherence. The toner is transferred using the potential difference between the drum potential and developing bias charged on transfer roller. The exposed area on the drum surface has higher potential (VL) than the developing bias (Vb) that makes the toner transfer from the developing roller to the drum surface. The potential of the non-exposed area keeps the exposing potential (Vo) that is lower than the developing bias (Vb), so the toner does not transfer to the drum surface.
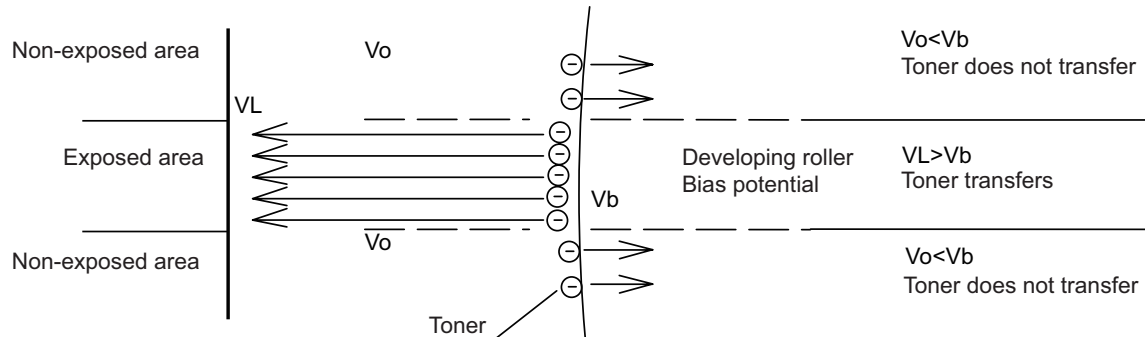
2.3.6 Transfer mechanism

A specific amount of electric is applied to the transfer roller by a constant current control, and negatively charged toner on the drum surface is transferred to the paper by electrostatic force. The transfer voltage is controlled by paper size, paper type, simplex/duplex printing, temperature and humidity. The residual toner on the transfer roller is cleared by applying negative transfer voltage.
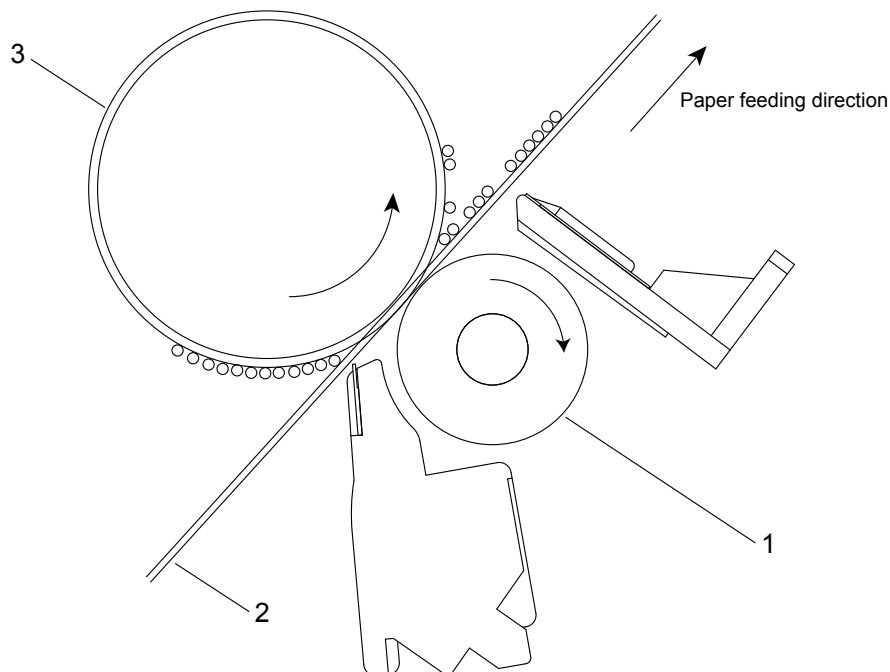
No.	Part name	No.	Part name
1	Transfer roller	2	Paper
3	OPC drum		

2.3.7 Separation mechanism

The electrostatic force on the paper is removed by a separator stylus, and the paper separates from the drum. The drum separation scraper also helps the paper separate from the drum.
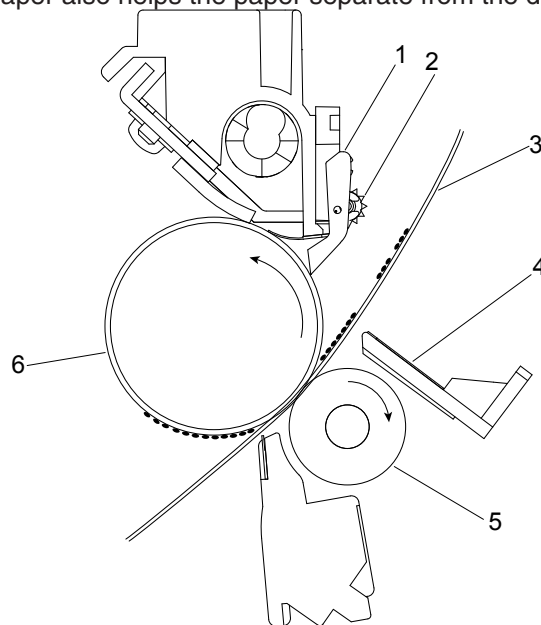
No.	Part name	No.	Part name
1	Separation scraper	2	Star roller
3	Paper	4	Separation stylus
5	Transfer roller	6	OPC drum

2.3.8 Cleaning mechanism

The residual toner and paper dust on the drum is scraped off by a cleaning blade that is pressed against the drum surface.
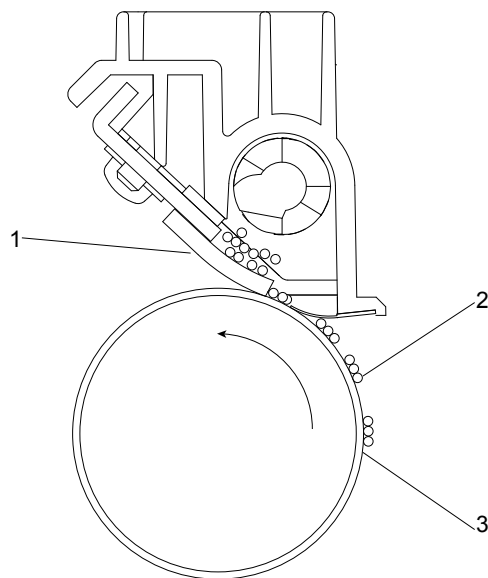
No.	Part name	No.	Part name
1	Cleaning blade	2	Residual toner / Paper dust
3	OPC drum		

2.3.9 Toner transfer mechanism
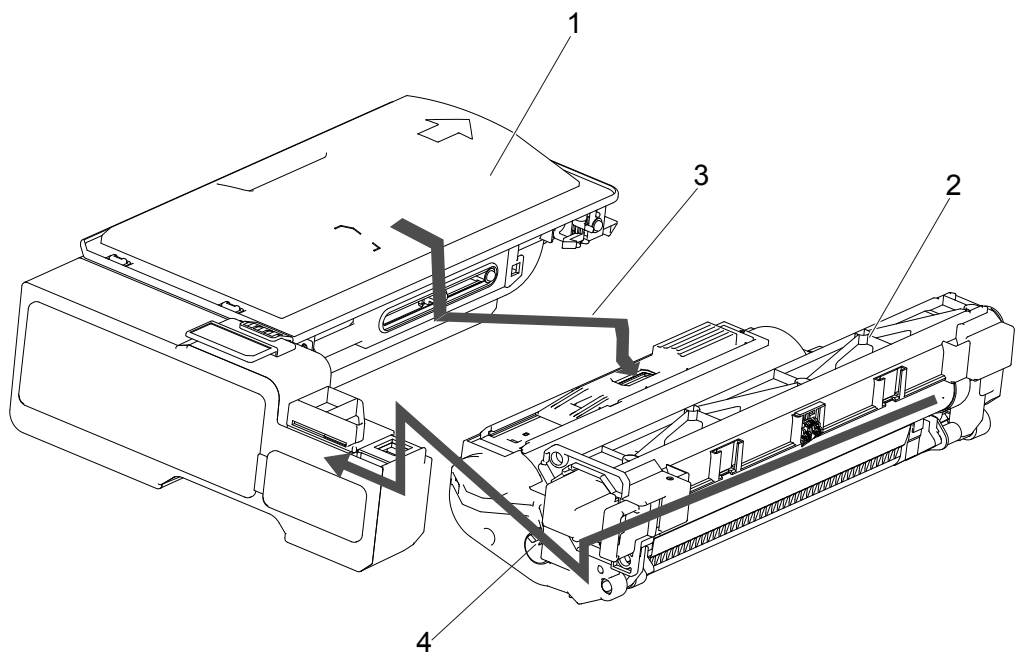
No.	Part name	No.	Part name
1	Toner cartridge	2	Drum cartridge
3	Toner supply route	4	Toner collection route

Cross section
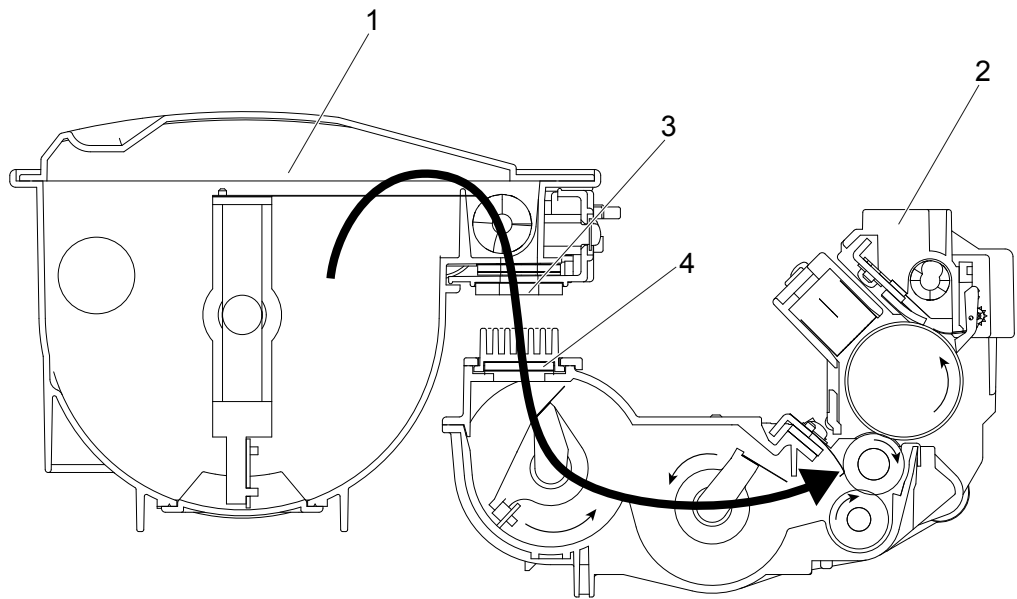
No.	Part name	No.	Part name
1	Toner cartridge	2	Drum cartridge
3	Toner discharge opening	4	Toner supply opening

2.3.10 Discharge mechanism

After transfer step, erase light is exposed on the drum to neutralize remaining charge and to provide for the next charging.
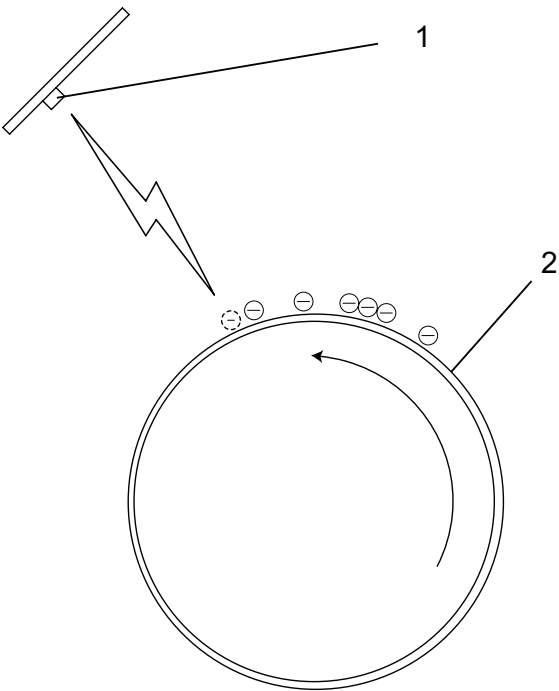
No.	Part name	No.	Part name
1	Eraser lamp	2	OPC drum

2.3.11 Fusing mechanism

The toner image transferred on to the paper is securely fixed.
A heat roller system is used as the fusing system. The toner image is fused by heater roller heated by the heater lamp, and securely fixed by the pressure between the heater roller and press rollers.
A thermistor detects and controls the heater roller temperature.
The thermostat functions when the heater lamp is not turned OFF even if the thermistor detects a high temperature malfunction.
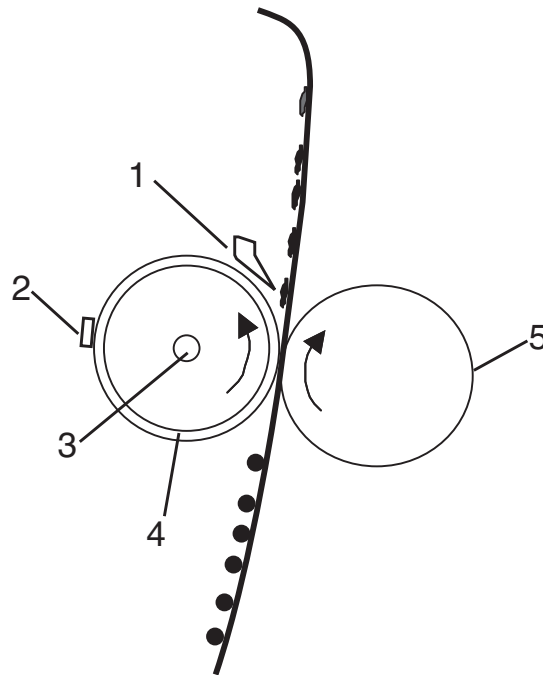
No.	Part name	No.	Part name
1	Scraper	2	Thermistor
3	Heater lamp	4	Heater roller
5	Press roller		

Fusing temperature control circuit

The thermistor detects the surface temperature of the heater roller and inputs that analog voltage into the main control board. Corresponding to this data, the heater lamp ON/OFF signal is output to the heater ON/OFF switch of the power supply unit, causing the heater lamp to turn ON or OFF to control the fusing temperature.

When the heater lamp is not turned OFF even if the thermistor detects a high temperature malfunction, the first thermostat shuts down the power to the heater lamp. When the first thermostat is malfunction, the second thermostat shuts down the power to the heater lamp.
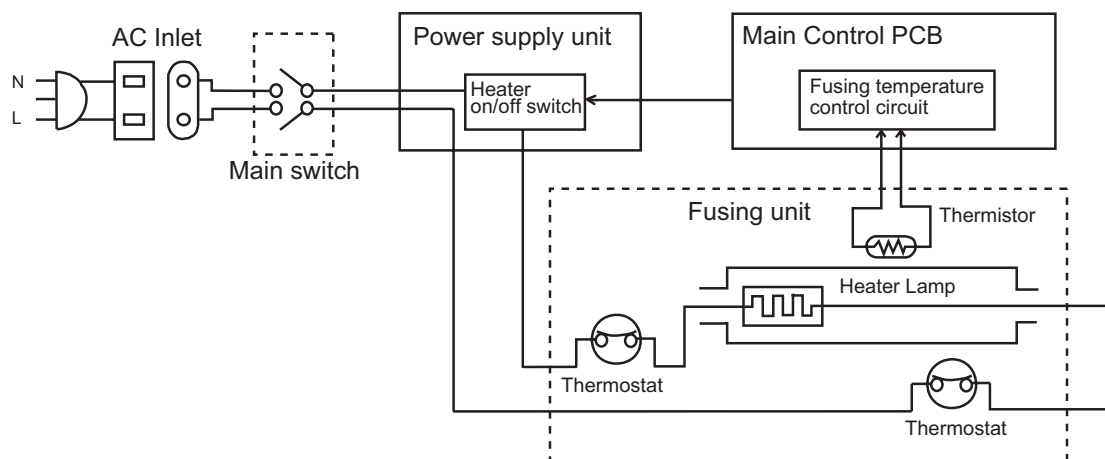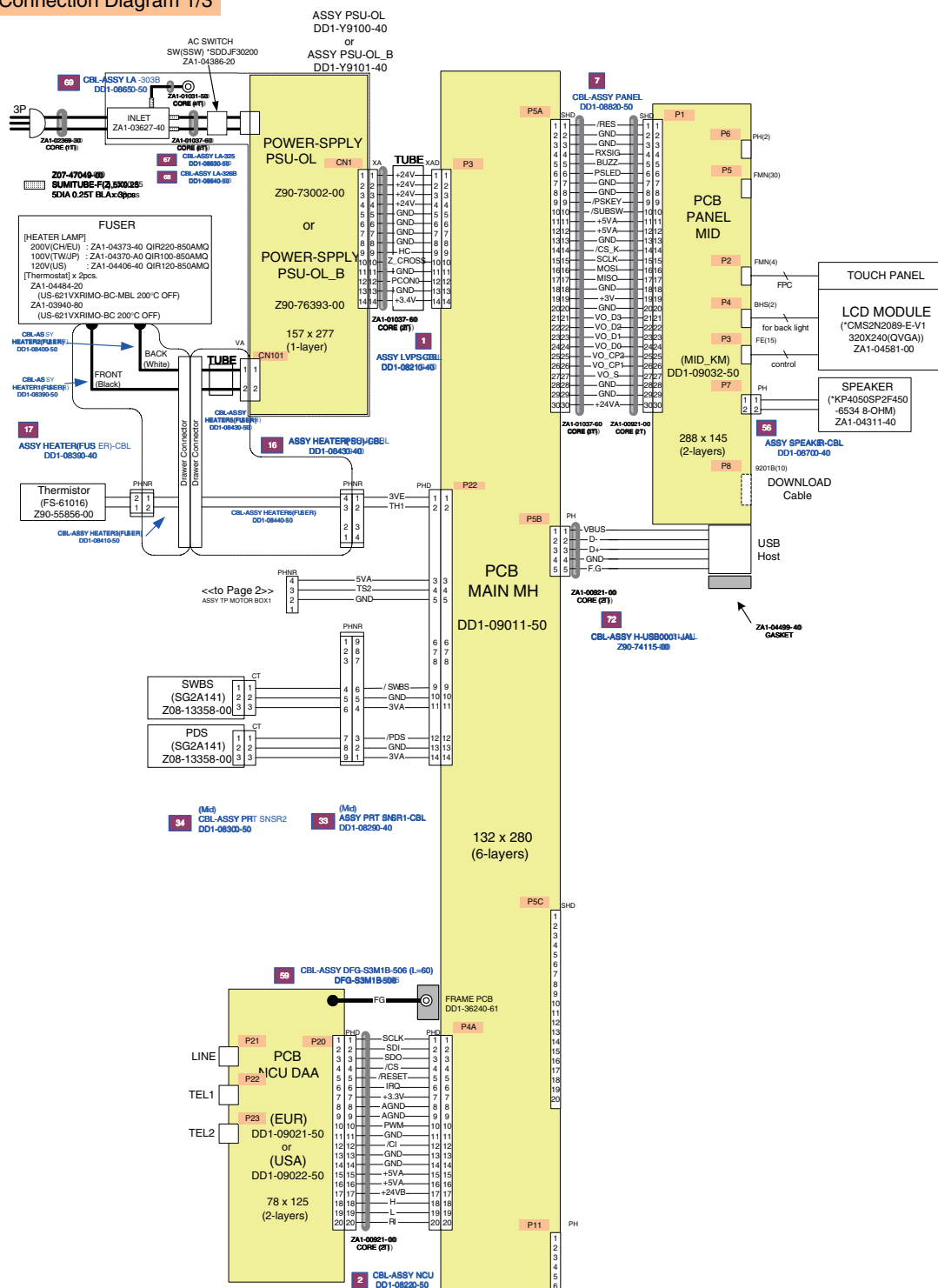
Fusing temperature

1) Warming Up After the initialization of the printer, warming up of the printer starts and the Heater Lamp turns ON until the temperature of the Heater Roller reaches approx. 170 °C.

2) Printing When the printer obtains the printing command from its controller, the Heater Roller is maintained at 180 °C.
After printing, the printer turns to ready mode. The fuser kept at low temperature.

3) Ready The Heater Roller maintained at approx. 80 °C.

4) Energy save mode In this mode, saving the power.

Temperature

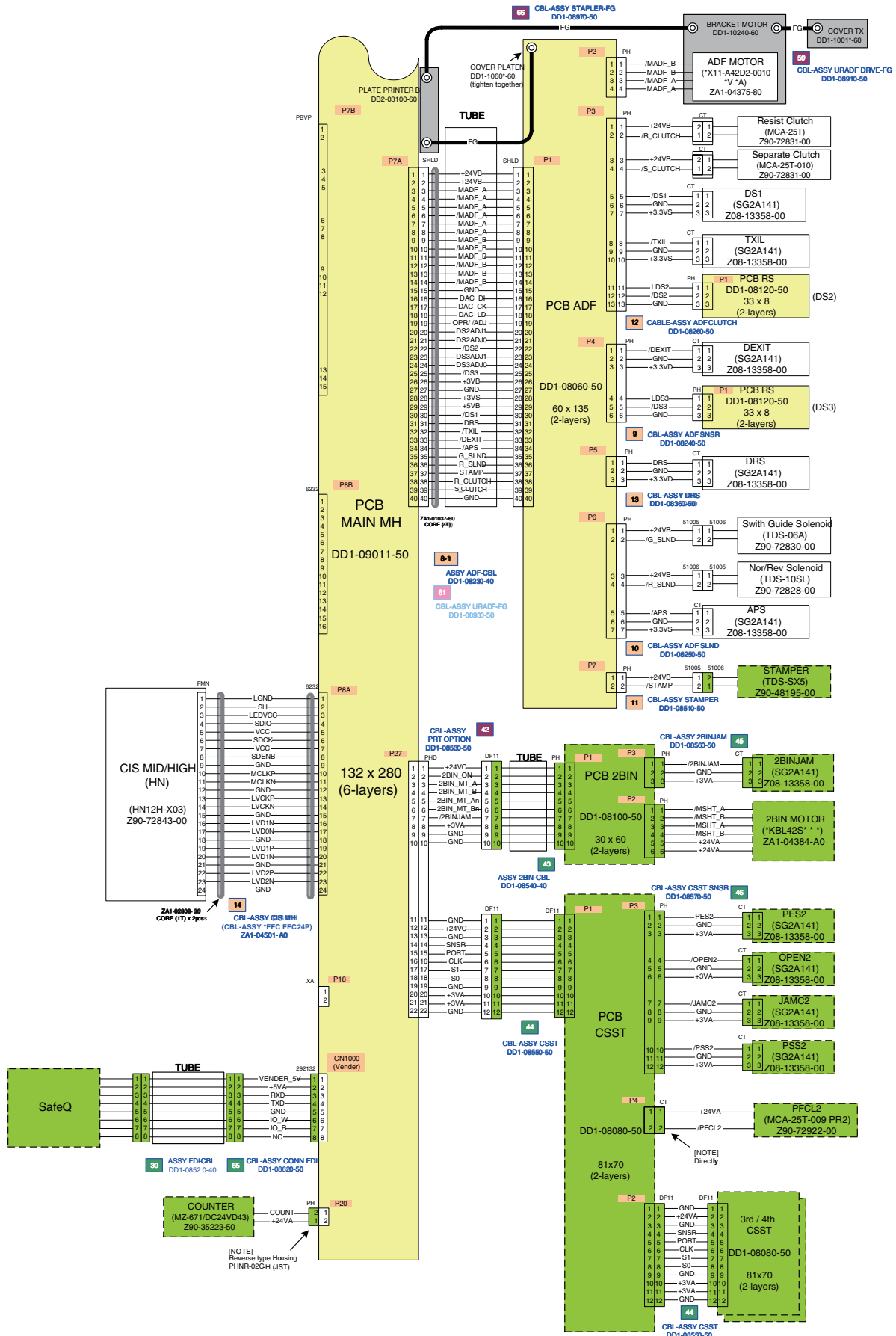| (°F)	(°C)
365	180
176	80

Warming up | Printing | Ready mode | Energy save mode | Time

Power ON

2-18

2.4 Interconnect Block Diagram

2013/05/11

66 CBL-ASSY STAPLER-FG
DD1-08970-50

BRACKET MOTOR
DD1-10240-60   FG   COVER TX
DD1-1001*-60

ADF MOTOR
(*X11-A42D2-0010
*V *A)
ZA1-04375-80

50 CBL-ASSY URADF DRVE-FG
DD1-08910-50

COVER PLATEN
DD1-1060*-60
(tighten together)

PLATE PRINTER B
DB2-03100-60

PBVP   P7B

TUBE

P7A   SHLD   SHLD   P1

P2   PH
MADF_B
/MADF_B
/MADF_A
MADF_A

P3   PH
+24VB   Resist Clutch
/R_CLUTCH   (MCA-25T)
Z90-72831-00
+24VB   Separate Clutch
/S_CLUTCH   (MCA-25T-010)
Z90-72831-00

DS1
(SG2A141)
Z08-13358-00

TXIL
(SG2A141)
Z08-13358-00

PCB ADF

P1 PCB RS
DD1-08120-50
33 x 8
(2-layers)   (DS2)

12 CABLE-ASSY ADFCLUTCH
DD1-08260-50

P4   PH
/DEXIT   DEXIT
GND   (SG2A141)
+3.3VD   Z08-13358-00

DD1-08060-50
60 x 135
(2-layers)

LDS3   **P1** PCB RS
/DS3   DD1-08120-50
GND   33 x 8
(2-layers)   (DS3)

9 CBL-ASSY ADF SNSR
DD1-08240-50

P5   PH
DRS   DRS
GND   (SG2A141)
+3.3VD   Z08-13358-00

13 CBL-ASSY DRS
DD1-08360-50

P6   PH
+24VB   Swith Guide Solenoid
/G_SLND   (TDS-06A)
Z90-72830-00
+24VB   Nor/Rev Solenoid
/R_SLND   (TDS-10SL)
Z90-72828-00
/APS   APS
GND   (SG2A141)
+3.3VS   Z08-13358-00

10 CBL-ASSY ADF SLND
DD1-08250-50

P7   PH
+24VB   STAMPER
/STAMP   (TDS-SX5)
Z90-48195-00

11 CBL-ASSY STAMPER
DD1-08510-50

PCB
MAIN MH

DD1-09011-50

P8B

6232

ZA1-01037-60
CORE (ET)

8-1 ASSY ADF-CBL
DD1-08230-40

61 CBL-ASSY URADF-FG
DD1-08930-50

FMN   6232   P8A

CIS MID/HIGH
(HN)

(HN12H-X03)
Z90-72843-00

LGND
SH
LEDVCC
SDIO
VCC
SDCK
VCC
SDENB
GND
MCLKP
MCLKN
LVCKP
LVCKN
GND
LVD1N
LVD0N
GND
LVD1P
LVD0P
GND
LVD2P
LVD2N
GND

ZA1-02808-30
CORE (1T) x 2pcss.

14 CBL-ASSY CIS MHi
(CBL-ASSY *FFC FFC24P)
ZA1-04501-A0

132 x 280
(6-layers)

P27   CBL-ASSY
PRT OPTION
DD1-08530-50

PHD
+24VC
2BIN_ON
2BIN_MT_A
2BIN_MT_B
2BIN_MT_An
2BIN_MT_Bn
/2BINJAM
+3VA
GND
GND

TUBE   DF11   P1   P3   PH
/2BINJAM   2BINJAM
GND   (SG2A141)
+3VA   Z08-13358-00

45 CBL-ASSY 2BINJAM
DD1-08560-50

PCB 2BIN   P2   PH
/MSHT_A   2BIN MOTOR
/MSHT_B   (*KBL42S* * *)
MSHT_A   ZA1-04384-A0
DD1-08100-50   MSHT_B
30 x 60   +24VA
(2-layers)   +24VA

43 ASSY 2BIN-CBL
DD1-08540-40

DF11   DF11   P1   P3   PH
GND   PES2   PES2
+24VC   GND   (SG2A141)
GND   +3VA   Z08-13358-00
SNSR
PORT
CLK   /OPEN2   OPEN2
S1   GND   (SG2A141)
S0   +3VA   Z08-13358-00
+3VA
+3VA   /JAMC2   JAMC2
GND   GND   (SG2A141)
+3VA   Z08-13358-00

46 CBL-ASSY CSST SNSR
DD1-08570-50

PCB
CSST   /PSS2   PSS2
GND   (SG2A141)
+3VA   Z08-13358-00

44 CBL-ASSY CSST
DD1-08550-50

P18   XA

P4   CT
+24VA   PFCL2
/PFCL2   (MCA-25T-009 PR2)
Z90-72922-00

DD1-08080-50
81x70
(2-layers)

[NOTE]
Directly

CN1000
(Vender)

TUBE

SafeQ

VENDER_5V
+5VA
RXD
TXD
GND
IO_W
IO_R
NC

30 ASSY FDI-CBL
DD1-0852 0-40

65 CBL-ASSY CONN FDI
DD1-08620-50

P2   DF11   DF11
GND   3rd / 4th
+24VA   CSST
GND
SNSR
PORT   DD1-08080-50
CLK
S1   81x70
S0   (2-layers)
GND
+3VA
+3VA
GND

44 CBL-ASSY CSST
DD1-08550-50

COUNTER
(MZ-671/DC24VD43)
Z90-35223-50

P20   PH
COUNT
+24VA

[NOTE]
Reverse type Housing
PHNR-02C-H (JST)

2-21

2.5 Circuit board constructions

Main control board

This board controls the MFP system. By inserting the USB memory stick, firmware can be updated.
The main devices mounted on the main control board and their functions are as follows:

Devices	Details
SoC	Controls the following operation: • DDR2 memory controller • USB controller (USB Host/Function) • Image processing (Pixel input/output) • I2C I/F (Billing data, consumables Tag: toner and drum) • Motor controller (FBS and ADF) • Synchronous serial I/F (SPI), (Panel FPGA/MPU) • USART(SPI) (NCU, printer/scanner FPGA, BootROM) • Real Time Clock (Backup by an electric double-layer capacitor) • Ethernet MAC • General I/O (Printer and scanner sensors, printer clutches, fans) • SD card I/F
FPGA	Controls the following operation: • Converts and transfers the output data to LED print head at its format. • High-voltage power board (Charging, grid, developing, toner supply, transfer) • General I/O (Printer and scanner sensors, printer clutches, fans) • Eraser lamp • Print motor • Toner motor • Mechanical counter (option) • Cassette board (sensor and clutch) (option) • 2bin tray board (sensor and motor) (option)
MD0033	This is the FPGA for image processing of scanned image. Offsets or gains the analogue signal from CIS, performs analog to digital (A/D) conversion, and inputs the signal to image processing section of the fax engine.
Motor driver	Drives the motors in the scanner section (FBS and ADF).
MD0035 (Flash)	Stores the Boot ROM (program) data. This is a non-volatile memory, and the data will not be erased when the machine is shut down.
DDR2-SDRAM	Stores image data. This is a volatile memory with no-backup, and the data will be erased when the machine is shut down.
SD card	This stores the firmware. This is a non-volatile memory, and the data will not be erased when the machine is shut down.
I2C EEPROM	This stores the billing data. This is a non-volatile memory, and the data will not be erased when the machine is shut down.

Panel board

This board consists of keys, touch panel, LCD, FPGA/MPU controlling the LED, and their peripheral circuits.

Scanner connection board

This board relays signals from ADF to motors, clutches, solenoids, and sensors.
It is controlled by SoC and printer FPGA on the main control board.
Power is not supplied during energy save setting.

Cassette board

This board controls clutches and sensors of the optional cassettes.
It is controlled by printer FPGA on the main control board.
Power is not supplied during energy save mode.

Consumables TAG board

This board mounts a memory to record and control information of the consumables (toner and drum). It is controlled by SoC (I2C I/F) on the main control board.
Power is not supplied during energy save mode, but the data will not be erased since the memory is non-volatile.

2bin board

This board relays signals of 2bin motor drive circuit and 2bin paper discharge sensor.
It is controlled by printer FPGA on the main control board.
Power is not supplied during energy save mode.

High-voltate power board

This board generates high-voltage power required for electrophotographic system ; charge, developing, transfer, and cleaning sections
Power is not supplied during energy save mode.

Network Control Unit (NCU) board

The NCU board provides the connection to the telephone line. It consists of the interface circuit, ring signal detector and telephone control circuit.
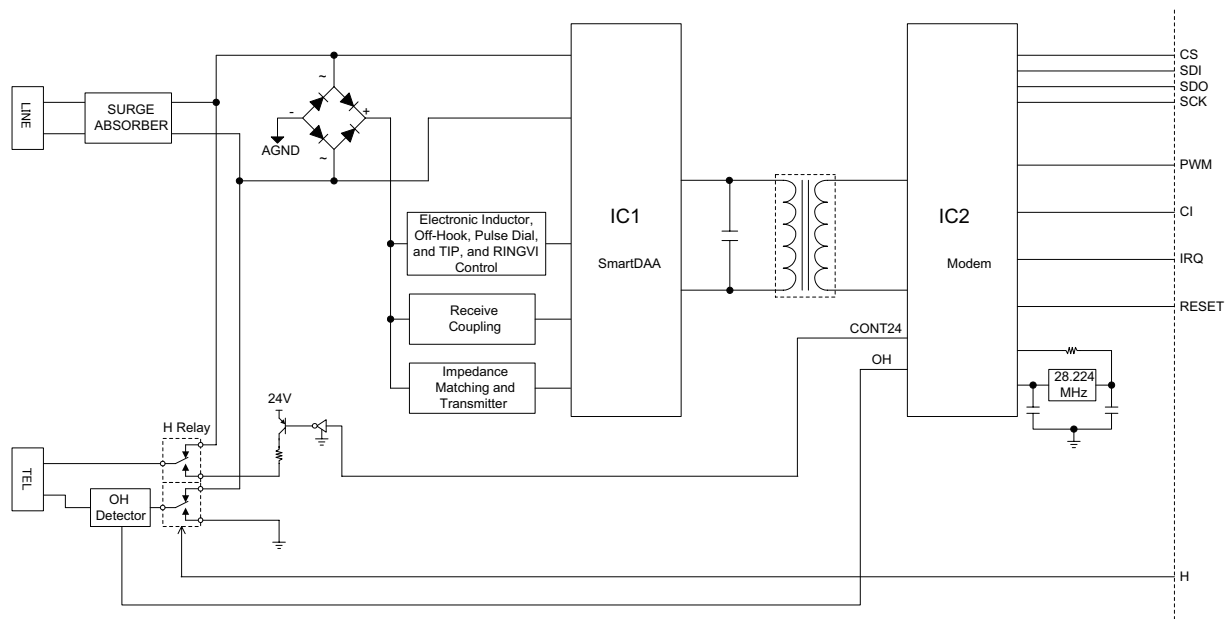
2.6 Sensors

2.6.1 Sensor Locations

The following illustration shows the relative positions of the machine's sensors.
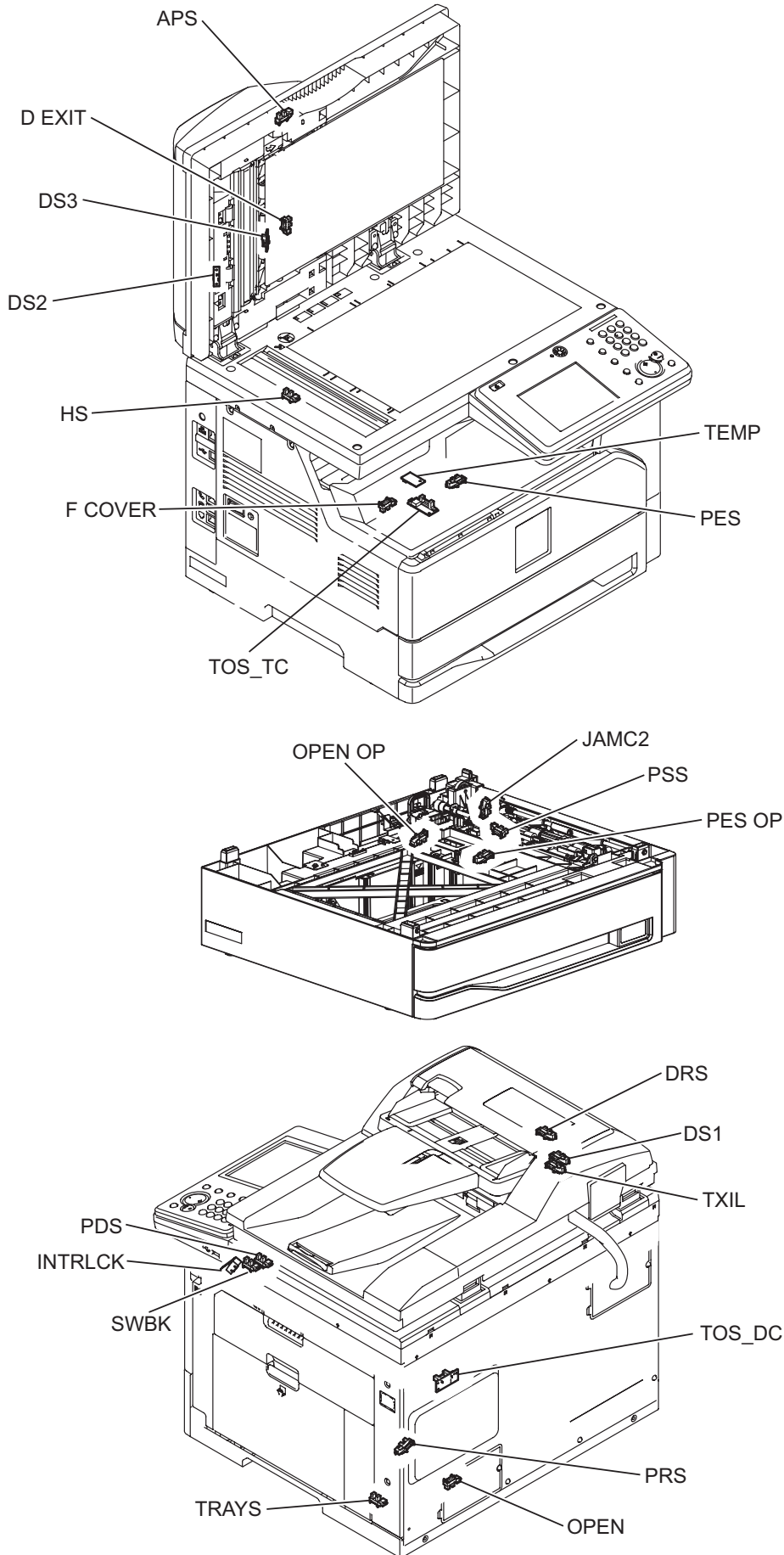
2.6.2 Sensor Descriptions

The following table gives a brief description of each sensor and its function.

Code	Name	Detects	Sensor Type
DS1	Document sensor 1	Presence of document in feeder	Photo interrupter
DS2	Document sensor 2	Leading and trailing edge of document	Photo reflector
DS3	Document sensor 3	Leading and trailing edge of document backside	Photo reflector
DRS	Document resist sensor	Detect timing for document resist ration	Photo interrupter
DEXIT	Document exit sensor	Detect document discharge	Photo interrupter
HS	Mirror carriage home position sensor	CIS position	Photo interrupter
APS	ADF permission sensor	ADF ready	Photo interrupter
TXIL	Interlock switch	Scanner cover open or close	Photo interrupter
FCOVER (FRNT_OP)	Front cover switch	Detects front cover is open or close	Photo interrupter
PES (PES1)	Paper empty sensor	Detects presence of recording paper in the first paper cassette	Photo interrupter
PDS	Paper discharge sensor	Detects paper pass at paper exit	Photo interrupter
PRS	Paper resist sensor	Detects paper registrant timing	Photo interrupter
SWBK	Switchback sensor	Detects paper switching back at paper exit area at duplex printing	Photo interrupter
OPEN (CAS1)	Paper cassette open sensor	Detects the first paper cassette open or close	Photo interrupter
TOS_TC	Toner sensor	Detects toner empty at toner cartridge	Photo interrupter
TOS_DC	Toner sensor	Detects toner empty at drum cartridge	Photo interrupter
TRAYS (PESM)	Tray sensor	Detects presence of recording paper in the bypass tray	Photo interrupter
JAMC (SIDE_OP)	Jam access cover sensor	Detects the side cover open or close	Photo interrupter
TEMP	Temperature	Detects temperature and humidity	
TH1 (TH_F)	Thermistor 1	Fuser thermistor	
INTRLCK	Inter lock	Interlock switch for printers	Mechanical Switch

PES OP (PES2)	Paper empty sensor	Detects presence of recording paper in the 2nd paper cassette	Photo interrupter
OPEN OP (CAS2)	Paper cassette open sensor	Detects the 2nd paper cassette open or close	Photo interrupter
JAMC2 (JAM2_OP)	Jam access cover sensor	Detects the 2nd paper cassette side cover open or close	Photo interrupter

3 Adjustment Procedures

3.1 Field service program modes

The fax machine feature maintenance modes for machine adjustment. Each mode is listed below along with the command used to activate the mode and a brief functional description.

Press <Mode> about two seconds until you hear the beep twice.
When you press " * ", you will hear short beeps. However continue the operation, as there is no problem.

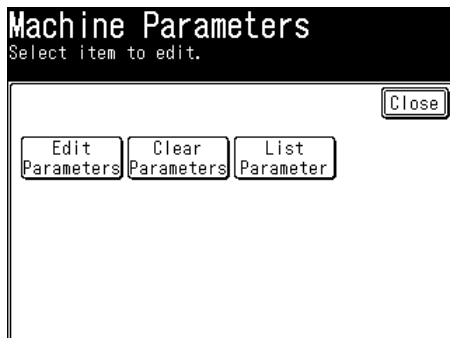| Service Program	Explanation	Operation	Page
Machine parameters	Used to set or clear machine parameters.	<Mode>, <*>, <0>, <0>	3-3
Memory switch	Used to set or clear memory switches	<Mode>, <*>, <0>, <1>	3-17
User data clear	This mode clears user programmed information.	<Mode>, <*>, <0>, <2>	3-70
All RAM clear	This mode clears all backup data to initialize the machine.	<Mode>, <*>, <0>, <3>	3-70
Unique switches	These switches are used to program internal machine parameters.	<Mode>, <*>, <0>, <4>	3-47
T30 Monitor	The communications on the journal list are able to print.	<Mode>, <*>, <0>, <5>	3-71
Printer maintenance mode	Shows the error code for "Checkout error" errors.	<Mode>, <*>, <0>, <6>	3-74
Service report printing	You can print out a report that contains machine's usage and error history.	<Mode>, <*>, <0>, <7>	3-75
Monitor speaker	If you need to monitor the signal of fax communication, turn this mode on.	<Mode>, <*>, <0>, <8>	3-81
Test Modes	This mode offers the ability to print a test pattern and monitor certain unit output functions.	<Mode>, <*>, <0>, <9>	3-81
Print parameter settings	This function instructs the unit to print a list of the machine parameter, memory switch and unique switch settings.	<Mode>, <*>, <1>, <0>	3-86
Factory functions	This function provides several machine machina test.	<Mode>, <*>, <1>, <1>	3-86
Line tests	This mode offers several internal tests and ability to monitor certain unit output functions. 1. Relay test 2. Tonal signal test 3. DTMF output test	<Mode>, <*>, <1>, <2>	3-91
Mirror carriage transfer mode	This mode moves the mirror carriage to the transport position.	<Mode>, <*>, <1>, <4>	3-92
Consumable order sheet	Used to set or clear the consumable order sheet.	<Mode>, <*>, <1>, <5>	3-93
DRAM clear	This clears the image storage memory.	<Mode>, <*>, <1>, <6>	3-95
Life monitor maintenance	Use this mode to clear the resettable counter or reenter the life monitor.	<Mode>, <*>, <2>, <0>	3-96
Sensor input test	This mode enables to confirm the sensor status.	<Mode>, <*>, <2>, <2>	3-97
Printer diagnostic mode	This mode enables to confirm the operation of the printer parts.	<Mode>, <*>, <2>, <3>	3-99
Network service mode	Used to clear administrator's password and initialize authentication method.	<Mode>, <*>, <2>, <4>	3-100
Flash ROM sum check	This mode enables to check Sum after the Flash ROM version is updated.	<Mode>, <*>, <2>, <9>	3-100
Set service report	Used to enter location where to send the service report.	<Mode>, <*>, <4>, <2>	3-101
Printer registration adjustment	This mode adjusts the print position.	<Mode>, <*>, <4>, <3>	5-88
Reset printer trouble	This mode clears the service call. Clear the warning when the trouble is settled.	<Mode>, <*>, <4>, <5>	3-102
Cleaning mode	This mode rotate the Pickup roller and registration roller automatically so that you can clean the surface of them.	<Mode>, <*>, <4>, <6>	3-102

Service Program	Explanation	Operation	Page
Network switch mode	Adjust the network parameter.	<Mode>, <*>, <5>, <1>	3-102
Coverage measurement	You can scan and check the black ratio of a document.	<Mode>, <*>, <5>, <4>	3-105
Touch panel adjustment	Correct the X, Y on the touch panel.	<Mode>, <*>, <5>, <6>	3-106
Printer control parameter mode	Adjust functions of print controller.	<Mode>, <*>, <5>, <7>	3-107
Network capture	You can capture the packet data the machine has sent and received.	<Mode>, <*>, <5>, <8>	3-111
Storage maintenance	This mode is used to erase data the SD memory card on the main control board.	<Mode>, <*>, <5>, <9>	3-112
Initialize protection	Use this function to initialize protect passcode and administrator's password.	<Mode>, <*>, <6>, <1>	3-113
Color fine adjustments	Adjust the scan color. You can adjust RGB mode for front side of document, and make fine difference for back side of document.	<Mode>, <*>, <6>, <2>	3-114
AS400 batch settings	All AS400 related settings will turn on using this function.	<Mode>, <*>, <6>, <3>	3-114
Certification terminal	Enable this setting to use the certification terminal.	<Mode>, <*>, <6>, <5>	3-115
Service function menu	All the field service program modes are available from the menu.	<Mode>, <*>, <7>, <7>	3-115
Counter information maintenance	The machine has the counter data saved on both the EEPROM and SD card with its serial number connected. If for some reasons these two serial numbers do not match, maintenance the data manually.	<Mode>, <*>, <9>, <3>	3-115
RDS data copy	This mode enables you to import and export binary data including machine settings.	<Mode>, <*>, <9>, <4>	3-116
Asset number	This mode is used to input the asset number.	<Mode>, <*>, <9>, <5>	3-116
Update the firmware	Update main ROM, optional print controller ROM and network board ROM using this mode.	<Mode>, <*>, <9>, <8>	3-117
Quick Initial settings	You can do the following setting with continuously: 1. Initial settings 2. Consumable order sheet	<Mode>, <*>, <9>, <9>	3-116

3.2 Machine parameter adjustment

3.2.1 Setting the machine parameters

These switches are used to program internal machine parameters.

1. From standby, press <Mode>, <*>, <0>, <0>.
2. Press [Edit Parameters].

```
Machine Parameters
Select item to edit.
                                    Close
      Edit       Clear       List
   Parameters Parameters  Parameter
```

3. Call up the desired switch by pressing [Prev] or [Next] , or by pressing the numeric keys.

```
Edit Parameters

         Prev  ◄  1of150►  Next    Enter
  000:00000000
  001:00000000
  002:00000000
  003:00000000
  004:00000000
  005:00000000
```

4. Select the desired parameter by pressing the box.

```
Edit Parameters
Enter machine parameter

  002:00000000           Back  Enter

  (Dec:0)
                          ▲
            00000000    ◄   ►
                          ▼
```

5. To navigate through the machine parameter settings:
   - The bits are ranged from 7 (left) to 0 (right).
   - Press [◄] or [►] of the cursor key to move the cursor.
   - Press <0> or <1> on the numeric keys, or [▼] or [▲], to change the bit value.
   - Press [Enter] to save the setting of the displayed parameter and return to the machine parameter edit screen.
   - Press [Back] *not* to save the setting of the displayed parameter.
6. If you want to set other machine parameters, repeat step 3-5. Otherwise, proceed to step 7.
7. Press <Reset> to return the machine to ready screen.

   You can confirm the setting on a list. The machine parameters list will be printed by pressing [List Parameter] in step 2.

3.2.2 Clearing the machine parameters

Resets the machine parameters to factory defaults.
1. From standby, press <Mode>, <*>, <0>, <0>.
2. Press [Clear Parameters].
3. Press [Yes]. The machine parameters will reset to factory defaults.

3.2.3 List

Adjustment	Parameter
• Image data output level (Data attenuation)	001
• URADF, Scanning start position adjustment (Horizontal) /Back	030
• URADF, Elastic rate adjustment (Horizontal) /Back	031
• URADF, Scanning start position adjustment (Vertical) /Back	033
• URADF, Scanning end position adjustment (Vertical) /Back	034
• URADF, Scanning start position adjustment (Horizontal) /Front	035
• URADF, Elastic rate adjustment (Horizontal) /Front	036
• URADF, Elastic rate adjustment (Vertical) /Front	037
• URADF, Scanning start position adjustment (Vertical) /Front	038
• URADF, Scanning end position adjustment (Vertical) /Front	039
• FBS, Scanning start position adjustment (Horizontal)	040
• FBS, Elastic rate adjustment (Horizontal)	041
• FBS, Elastic rate adjustment (Vertical)	042
• FBS, Scanning start position adjustment (Vertical)	043
• Duplex scan length adjustment	056
• Mirror carriage standby position adjustment	060
• Background level adjustment starting position	064
• Loop volume adjustment at DRS sensor	066
• Paper loop volume adjustment	260
• Density adjustment	301 ~ 357

3.2.4 Details

Machine Parameter 000 — **Factory use only**

Machine Parameter 001

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	-
6	0	Factory use only	-
5	0	Factory use only	-
4	0	Factory use only	-
3	0	Image data output level (Data attenuation)	Adjust the attenuation level for image data signal output.
2	0		
1	0		
0	0		bit 3 2 1 0 0 0 0 0 Memory switch 11 is active 0 0 0 1 -1.0 dB : 0 1 1 1 -7.0 dB 1 0 0 0 -8.0 dB 1 0 0 1 -9.0 dB 1 0 1 0 -10.0 dB 1 0 1 1 -11.0 dB 1 1 0 0 -12.0 dB 1 1 0 1 -13.0 dB 1 1 1 0 -14.0 dB 1 1 1 1 -15.0 dB

Machine Parameter 002 ~ 029 — **Factory use only**

Machine Parameter 030

Switch	Initial Setting	Adjust	Usage/Comments		
7	0	Back side of document	bit	76543210	
6	0		25 steps	00011001	+5.29 mm
5	0	URADF scanner registration		:	
4	0	adjustment (Horizontal)		00010000	+3.39 mm
3	0			:	
2	0	Adjusts the start point to scan the document.		00001000	+1.69 mm
1	1	The plus setting increases		:	
0	0	the left margin and the minus		00000000	0 mm
		setting decreases it.		:	
				10001000	-1.69 mm
				:	
		1 step = 5 / 600 dpi		10010000	-3.39 mm
		(0.2117 mm)		:	
			-25 steps	10011001	-5.29 mm

Machine Parameter 031

Switch	Initial Setting	Adjust	Usage/Comments		
7	0	Back side of document			
6	0		bit	76543210	
5	0	Adjustment of the scanning		01111111	+1.27%
4	0	stretching and squeezing for URADF.		:	
3	0	(Horizontal)		00010000	+0.16%
2	0			:	
1	0			00000100	+0.04%
0	0	The plus setting stretches the image data and the		:	
		minus setting squeezes it.		00000000	0%
				:	
		Each setting changes by		10000100	-0.04%
		0.01%.		:	
				10010000	-0.16%
				:	
				11111111	-1.27%

Machine Parameter 032— Factory use only

Machine Parameter 033

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Back side of document	Switch 76543210 Settings
6	0		
5	0	Leading edge document margin adjustment (URADF)	127 steps 01111111 +10.67 mm
4	0		:
3	1		00100000 +2.69 mm
2	1	Adjusts the leading edge margin from Document Sensor 2 (DS2) to the start of scanning the position.	:
1	1		00010000 +1.34 mm
0	1		:
			00001000 +0.67 mm
			:
			00000000 0 mm
		1 step = 2 / 600 dpi	:
		(0.084 mm)	10001000 -0.67 mm
			:
			10010000 -1.34 mm
			:
			10100000 -2.69 mm
			:
			-127steps 11111111 -10.67 mm
			For fax mode, add the value of machine parameter 413 to this adjustment.

Machine Parameter 034

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Back side of document	Switch 76543210 Settings
6	0		
5	0	Trailing edge document margin adjustment (URADF)	127 steps 01111111 +10.67 mm
4	1		:
3	0		00100000 +2.69 mm
2	0	Adjusts document feed after the trailing edge of a document passes Document Sensor 2 (DS2).	:
1	0		00010000 +1.34 mm
0	0		:
			00001000 +0.67 mm
			:
			00000000 0 mm
		1 step = 2 / 600 dpi	:
		(0.084 mm)	10001000 -0.67 mm
			:
			10010000 -1.34 mm
			:
			10100000 -2.69 mm
			:
			-127steps 11111111 -10.67 mm
			For fax mode, add the value of machine parameter 414 to this adjustment.

Machine Parameter 035

Switch	Initial Setting	Adjust	Usage/Comments		
7	0	Front side of document	bit	76543210	
6	0		25 steps	00011001	+5.29 mm
5	0	URADF scanner registration		:	
4	0	adjustment (Horizontal)		00010000	+3.39 mm
3	0			:	
2	1	Adjusts the start point to scan the document.		00001000	+1.69 mm
1	0	The plus setting increases		:	
0	0	the left margin and the minus		00000000	0 mm
		setting decreases it.		:	
				10001000	-1.69 mm
		1 step = 5 / 600 dpi		:	
		(0.2117 mm)		10010000	-3.39 mm
				:	
			-25 steps	10011001	-5.29 mm

Machine Parameter 036

Switch	Initial Setting	Adjust	Usage/Comments		
7	0	Front side of document			
6	0		bit	76543210	
5	0	Adjustment of the scanning		01111111	+1.27%
4	0	stretching and squeezing for URADF.		:	
3	0	(Horizontal)		00010000	+0.16%
2	0			:	
1	0			00000100	+0.04%
0	0	The plus setting stretches the		:	
		image data and the minus		00000000	0%
		setting squeezes it.		:	
				10000100	-0.04%
		Each setting changes by		:	
		0.01%		10010000	-0.16%
				:	
				11111111	-1.27%

Machine Parameter 037

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Adjustment of the scanning stretching and squeezing for URADF. (Vertical) The plus setting stretches the image data and the minus setting squeezes it. Each setting changes by 0.01%	Switch 76543210 Settings bit 76543210 01111111 +1.27% : 00010000 +0.16% : 00000100 +0.04% : <u>00000000 0%</u> : 10000100 -0.04% : 10010000 -0.16% : 11111111 -1.27%
6	0		
5	0		
4	0		
3	0		
2	0		
1	0		
0	0		

Machine Parameter 038

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Front side of document Leading edge document margin adjustment (URADF) Adjusts the leading edge margin from Document Sensor 2 (DS2) to the start of scanning the position. 1 step = 2 / 600 dpi (0.084 mm)	Switch 76543210 Settings 127 steps 01111111 +10.67 mm : 00100000 +2.69 mm : 00010000 +1.34 mm : 00001000 +0.67 mm : 00000000 0 mm : 10001000 -0.67 mm : 10010000 -1.34 mm : 10100000 -2.69 mm : -127 steps 11111111 -10.67 mm For fax mode, add the value of machine parameter 418 to this adjustment.
6	0		
5	0		
4	0		
3	1		
2	1		
1	0		
0	0		

Machine Parameter 039

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Front side of document	Switch 76543210 Settings
6	0		
5	0	Trailing edge document	127 steps 01111111 +10.76 mm
4	0	margin adjustment (URADF)	:
3	1		00100000 +2.71 mm
2	1	Adjusts document feed after the trailing edge of a document passes Document Sensor 2 (DS2).	:
1	1		00010000 +1.36 mm
0	1		:
			00010011 +0.93 mm
			:
			00001000 +0.68mm
		1 step = 2 / 600 dpi	:
		(0.084 mm)	00000000
			:
			10001000 -0.68 mm
			:
			10010000 -1.36 mm
			:
			10100000 -2.71 mm
			:
			-127steps 11111111 -10.76 mm
			For fax mode, add the value of machine parameter 419 to this adjustment.

Machine Parameter 040

Switch	Initial Setting	Adjust	Usage/Comments
7	1	FBS scanner registration adjustment (Horizontal)	Switch 76543210 Settings
6	0		
5	0		25 steps 00011001 +5.2925 mm
4	0	Adjusts the start point to scan the document.	:
3	0	The plus setting increases	20 steps 00010100 +4.234 mm
2	0	the left margin and the minus setting decreases it.	:
1	0		10 steps 00001010 +2.117 mm
0	1		:
			5 steps 00000101 +1.0585 mm
		1 step = 5 / 600 dpi	:
		(0.2117 mm)	00000000 0 mm
			:
			-5 steps 10000101 -1.0585 mm
			:
			-10 steps 10001010 -2.117 mm
			:
			-20 steps 10010100 -4.234 mm
			:
			-25 steps 10011001 -5.2925 mm

Machine Parameter 041

Switch	Initial Setting	Adjust	Usage/Comments	
7	0	Adjustment of the scanning stretching and squeezing for FBS. (Horizontal) The plus setting stretches the image data and the minus setting squeezes it. Each setting changes by 0.01%	Switch 76543210 Settings bit 76543210	
6	0		01111111	+1.27%
5	0		:	
4	0		00010000	+0.16%
3	0		:	
2	0		00000100	+0.04%
1	0		:	
0	0		00000000	0%
			:	
			10000100	-0.04%
			:	
			10010000	-0.16%
			:	
			11111111	-1.27%

Machine Parameter 042

Switch	Initial Setting	Adjust	Usage/Comments	
7	0	Adjustment of the scanning stretching and squeezing for FBS. (Vertical) The plus setting stretches the image data and the minus setting squeezes it. Each setting changes by 0.01%	Switch 76543210 Settings bit 76543210	
6	0		01111111	+1.27%
5	1		:	
4	0		00010000	+0.16%
3	0		:	
2	1		00000100	+0.04%
1	0		:	
0	0		00000000	0%
			:	
			10000100	-0.04%
			:	
			10010000	-0.16%
			:	
			11111111	-1.27%

Machine Parameter 043

Switch	Initial Setting	Adjust	Usage/Comments

7	0	Leading edge document margin adjustment for FBS
		
		Adjusts the leading edge margin after Home Sensor OFF to the start of scanning the position.
		
		1 step = 2 / 600 dpi
		(0.084 mm)
			When the shadow of document leading edge is scanned, increase the value.
			When the image or document leading edge is lacking, decrease the value.
			
			Switch 76543210 Settings
			
			127 steps 01111111 +10.67 mm
			         :
			       00100000 +2.69 mm
			         :
			       00010000 +1.34 mm
			         :
			       00001000 +0.67 mm
			         :
			       00000000 0 mm
			         :
			       10001000 -0.67 mm
			         :
			       10010000 -1.34 mm
			         :
			       10100000 -2.69 mm
			         :
			-127steps 11111111 -10.67 mm
			
			For fax mode, add the value of machine parameter 408 to this adjustment.

6	0		
5	0		
4	0		
3	0		
2	0		
1	1		
0	1		

Machine Parameter 044 ~ 055 — Factory use only

Machine Parameter 056

Switch	Initial Setting	Adjust	Usage/Comments

7	0	Duplex scan length adjustment
		
		1 step = 0.01 mm
			Adjust this when document jams at duplex scan.
			
			Switch 76543210 Settings
			
			255 steps 11111111 2.55 mm
			         :
			200 steps 11001000 2.00 mm
			         :
			150 steps 10010110 1.50 mm
			         :
			100 steps 01100100 1.00 mm
			         :
			 50 steps 00110010 0.50 mm
			         :
			 25 steps 00011 00 0.25 mm
			         :
			0 step 00000000 0 mm

6	0		
5	0		
4	0		
3	0		
2	0		
1	0		
0	0		

Machine Parameter 057 ~ 059 — Factory use only

Machine Parameter 060

Switch	Initial Setting	Adjust	Usage/Comments

7	0	Mirror carriage standby position adjustment
		
		Adjusts the number of steps from home sensor ON to standby position
		
		1 step = 2 / 600 dpi
		(0.084 mm)
			Switch 76543210 Settings
			
			127 steps 01111111 +10.67 mm
			           :
			           00100000 +2.69 mm
			           :
			           00010000 +1.34 mm
			           :
			           00001000 +0.67 mm
			           :
			           00000000 0 mm
			           :
			           10001000 -0.67 mm
			           :
			           10010000 -1.34 mm
			           :
			           10100000 -2.69 mm
			           :
			-127steps 11111111 -10.67 mm
			
			After the adjustment, please adjust machine parameter 033, 034, 038, and 039.

6	0		
5	0		
4	0		
3	0		
2	0		
1	0		
0	0		

Machine Parameter 061 ~ 063 — Factory use only

Machine Parameter 064

Switch	Initial Setting	Adjust	Usage/Comments

7	0	Background level adjustment starting position
		
		Adjusts the number of steps from the home sensor OFF to background level adjustment starting position
		
		1 step = 2 / 600 dpi
		(0.084 mm)
			Switch 76543210 Settings
			
			127 steps 01111111 +10.67 mm
			           :
			           00100000 +2.69 mm
			           :
			           00010000 +1.34 mm
			           :
			           00001000 +0.67 mm
			           :
			           00000000 0 mm
			           :
			           10001000 -0.67 mm
			           :
			           10010000 -1.34 mm
			           :
			           10100000 -2.69 mm
			           :
			-127steps 11111111 -10.67 mm

6	0		
5	0		
4	0		
3	0		
2	0		
1	0		
0	0		

Machine Parameter 065 — Factory use only

Machine Parameter 066

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Loop volume adjustment at DRS sensor	Increasing this value may improve document skew but lead to noise or damage to document. Decreasing this value may improve noise or damage to document but document may not be fed normally.
6	0		
5	0		
4	0	To improve screw in URADF, adjust this parameter.	
3	0		
2	0		Switch 76543210 Settings
1	0	1 step = 2 / 600 dpi	127 steps 01111111 +10.67 mm
0	0	(0.084 mm)	:
			00100000 +2.69 mm
			:
			00010000 +1.34 mm
			:
			00001000 +0.67 mm
			:
			00000000 0 mm
			:
			10001000 -0.67 mm
			:
			10010000 -1.34 mm
			:
			10100000 -2.69 mm
			:
			-127steps 11111111 -10.67 mm

Machine Parameter 067 ~ 259 — Factory use only

Machine Parameter 260

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	0		Adjust the loop at the synchronizing roller. More loop will correct paper skew, but thin paper may jam easily.
2	0		
1	0		Switch 3210 Settings
0	0	Paper loop volume	1111 150 ms 0101 50 ms 0100 40 ms 0011 30 ms 0010 20 ms 0001 10 ms 0000 No adjustment

Machine Parameter 261 ~ 300 — Factory use only

Machine Parameter 301 ~ 357 — Density adjustment

Switch	Initial Setting	Adjust	Usage/Comments

7		Density adjustment at scanning
		
		See table below for parameter numbers
			Switch 76543210 Settings
			
			127 steps 11111111 Light
			           :
			126 steps 11111110
			           :
			2 steps 00000010
			           :
			1 step 00000001
			           :
			0 step 00000000 Standard
			           :
			-1 step 00000001
			           :
			-2 steps 000000010
			           :
			-126 steps 011111110
			           :
			-127 steps 01111111 Dark

6			
5			
4			
3			
2			
1			
0			

	Mode	All (Initial setting)	Front side URADF [1] (Initial setting)	Back side URADF [1] (Initial setting)
Copy	All document type	301 (0000 0000)	303 (1000 0101)	316 (0000 1010)
	Text	304 (0000 0000)	306 (0000 0000)	317 (0000 0000)
	Text / Photo	307 (0000 0000)	309 (0000 0000)	318 (1000 0010)
	Photo	310 (0000 0000)	312 (0000 0000)	319 (0000 0000)
	Background adjustment	313 (0000 0000)	315 (0000 0000)	320 (0000 0000)
Scan	All document type	321 (0000 0000)	—	—
	Text	322 (0000 0000)	324 (1001 0000)	325 (0001 0000)
	Text / Photo	326 (0000 0000)	328 (1000 0100)	329 (0000 1000)
	Photo	330 (0000 0000)	332 (1000 0100)	333 (0000 1000)
Fax	Normal	334 (0000 0000)	336 (1000 1010)	337 (0000 0010)
	Fine	338 (0000 0000)	340 (1000 0011)	341 (0000 0100)
	Super Fine	342 (0000 0000)	344 (1000 0100)	345 (0000 0100)
	Background adjustment	350 (0000 0000)	352 (1000 0010)	353 (0000 0100)
	Photo	354 (0000 0000)	356 (1000 0101)	357 (0000 1100)

[1] URADF scan parameter will be added to the setting in "All" when documents are scanned using the URADF.

Machine Parameter 358 ~ 404 — Factory use only

3.3 Memory switch adjustment

3.3.1 Setting the memory switches

These switches are used to program internal machine parameters.

1. From standby, press <Mode>, <*>, <0>, <1>.
2. Press [Mem Switch Edit].
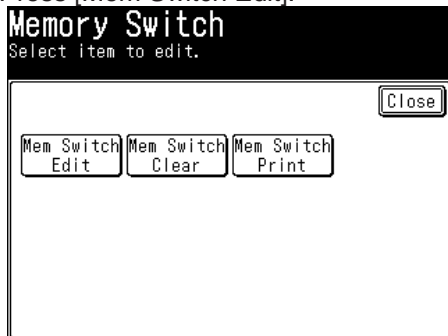
```
Memory Switch
Select item to edit.

                              [Close]

[Mem Switch] [Mem Switch] [Mem Switch]
[  Edit   ] [  Clear   ] [  Print   ]
```

3. Call up the desired switch by pressing [Prev] or [Next], or by pressing the numeric keys.

```
Mem Switch Edit

      [Prev] ◄ 1of 17► [Next]  [Enter]
000:00000110
001:00000100
002:00000000
003:00000101
004:00000111
005:01100001
```

4. Select the desired switch by pressing the box.

```
Mem Switch Edit
Select memory switch

000:00000110         [Back] [Enter]

(Dec:6)
                 [▲]
   00000110    [◄] [►]
                 [▼]
```
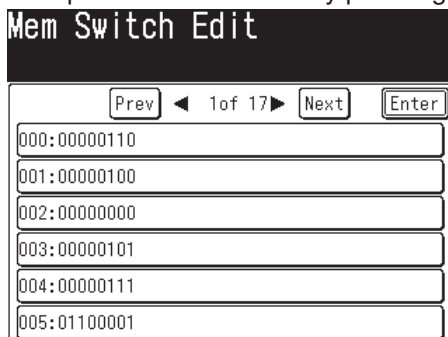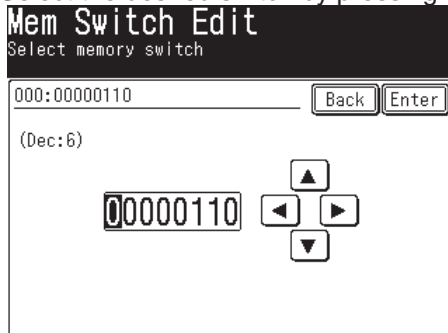
5. To navigate through the memory switch settings:
   - The bits are ranged from 7 (left) to 0 (right).
   - Press ◄ or ► of the cursor key to move the cursor.
   - Press <0> or <1> on the numeric keys, or [▼] or [▲] to change the bit value.
   - Press [Enter] to save the setting of the displayed memory switch and return to the memory switch edit screen.
   - Press [Back] not to save the setting of the displayed memory switch.
6. If you want to set other memory switches, repeat step 3-5. Otherwise, proceed to step 7.
7. Press <Reset> to return the machine to ready screen.

   You can confirm the setting on a list. The switch list will be printed by pressing [Mem Switch Print] in step 2.

3.3.2 Clearing the memory switches

Resets the memory switches to factory defaults.
1. Press <Mode>, <*>, <0>, <1>.
2. Press [Mem Switch Clear].
3. Press [Yes]. The memory switches will reset to factory defaults.

3.3.3 List

001	• DIS detection condition • PBX mode dial pause
002	• Redial in D.0.7 error
004	•DTMF attenuation
005	• Ring signal detect time • Number of CI signal detection • Dual ring detection • Long ring detection • Frequency of the CI signal
010	• Busy tone detection • Fallback pattern • Overseas mode • V. 29 Echo Protect tone • Maximum transmit speed
011	• Time between reception of CFR and transmission of data • Interval between DCS and TCF • Output attenuation
012	• TTI clock type • TTI calendar type • TTI transmit • ECM response time • ECM error retransmit time • Interval between DIS and DCS
013	• ANSam detection • V. 34 transmission • CSI / TSI / CIG transmit • ECM mode • Retransmit automatically when receiving RTN / PIN signals
015	• Program individual autodialer attributes • Sending RTC signal when transmission is canceled • Cancel redial if T.4.1 or T.4.4 error occurs • Action after EOR signal
016	• Disable DCS -bit 44 at Fine and Normal transmission • Additional data on TTI transmit • Subscriber ID transmit • TTI (name) transmit
017	• Time between ANSam output and CM output • Check only manually entered fax numbers in ID check transmission
020	• Data error rate • Pause one second after sending CED • Time between ANSam output and DIS output • Receive speed
021	• T1 timer • Print image data when post message is not received after receiving RTC signal • DIS / DTC Extend field Transmit • G3 echo receive
023	• Enable fax reception at printer trouble • V .34 reception
030	• Number of HDLC end flags • Digital cable equalizer • Tone detection level

031	• EYE-Q check level at 7200 bps • EYE-Q check level at 9600 bps • EYE-Q check level at 12000 bps • EYE-Q check level at 14400 bps
032	• EYE-Q slice level • Check EYE-Q • EYE-Q check level at 2400 bps • EYE-Q check level at 4800 bps
033	• Delete receive echo of CFR at the receiver side • Expand FSK receive time after detecting flag
050	• Toner near empty detection point
051	• Error line replacement
052	• Add remote fax mark to the journal report • Name printing priority on journal report
060	• CML relay off time after dialing • DTMF tones heard through handset
061	• Off-hook / on-hook detect time
062	• Start manual reception from an external phone with three-digit • CNG detect in Ans / Fax ready • Switch-hook time
064	• CNG detect period after TAD begins recording ICM • CNG detect period after TAD answers
065	• Adjustment of CI detect time • Beep if fax handset is hanged up
070	• Display error line • Tonal line monitor • Print check message if power is lost • Print page if error occurs during memory transmission • Print check message
071	• Print TCR with the original page during memory transmission when the result is NG • Print TCR with the original page during memory transmission when the result is OK • Print T.30 monitor at communication error • Print T.30 monitor • Display modem speed
072	• Erase polled document
076	• Timing to turn off the S-Relay at fax reception • Display when there is no TTI
097	• Day light saving time (Summer time) start month • Day light saving time (Summer time) start week
098	• Day light saving time (Summer time) end month • Day light saving time (Summer time) end week

3.3.4 Details

Memory switch 00x : Dialer

Memory switch 000 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	CED detection condition	Sets whether the detection should be strict not.
4	0		Normal ← → Strict 350 ms 500 ms 700 ms 1000 ms Switch 5 0 0 1 1 4 0 1 0 1
3	0	DIS detect time after dialing 0 : 55 sec 1 : 70 sec	Sets the DIS signal is detected after dialing a number.
2	1	CED detection 0 : No 1 : Yes	Can be use to ignore CED detection if noise on the telephone line is mistaken as a 2100 Hz CED signal.
1	0	Factory use only	—
0	0	Phone line type for the first phone line 0 : PSTN 1 : PBX	When set to PSTN, the machine checks for dial tone and acts according to the setting of memory switch 000, bit "1" . When set to PBX, the machine always dials a given number of seconds after going off-hook. Memory switch 001 sets the number of seconds.

Memory switch 00x : Dialer

Memory switch 001 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—

5	0	DIS detection condition	Sets whether the detection should be strict or not.
			
			                 Normal ← → Strict
			           200 ms 300 ms 400 ms 500 ms
			Switch 5 0 0 1 1
			          4 0 1 0 1

4	0		

3	0	PBX mode dial pause	Sets the number of seconds the machine waits before dialing when memory switch 000, bit "0" is set to PBX mode.
			
			Switch 3210 Pause time
			         0000 0 sec
			         0001 1 sec
			         0010 2 sec
			         0011 3 sec
			         <u>0100 4 sec Initial setting</u>
			         0101 5 sec
			         0110 6 sec
			         0111 7 sec
			         1000 8 sec
			         1001 9 sec
			         1010 10 sec
			         1011 11 sec
			         1100 12 sec
			         1101 13 sec
			         1110 14 sec
			         1111 15 sec

2	1		
1	0		
0	0		

Memory switch 002 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	0	Factory use only	—
2	0	Factory use only	—
1	0	Factory use only	—
0	1	Redial in D.0.7 error 0 : Yes 1 : No	When set to "1" , the machine does not redial in D.0.7 error (Incoming detection time over).

Memory switch 003 : Factory use only

Memory switch 00x : Dialer

Memory switch 004 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	1	DTMF attenuation	See table below. The setting of this switch is available only when setting other than 0.
2	0		
1	0		
0	0		

Memory Switch 004 : DTMF attenuation

Switch	-15 dB	-14 dB	-13 dB	-12 dB	-11 dB	-10 dB	-9 dB	-8 dB	-7 dB	-6 dB	-5 dB	-4 dB	-3 dB	-2 dB	-1 dB	-0 dB
3	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
2	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
1	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0
0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Memory switch 00x : Dialer

Memory switch 005 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	1	Ring signal detect time	Set the time that an incoming ring will not be detected after hanging up.
5	1		
4	0		Switch 654 000 100 ms 001 200 ms 010 300 ms 011 400 ms 100 500 ms 101 600 ms 110 700 ms 111 800 ms
3	0	Number of CI signal detection 0 : Detect 1 time 1 : Detect 2 times	Select the number of detection time of CI signal in the ringer silent mode. Incoming calls are answered according to this setting regardless of the number of rings chosen in the user settings.
2	0	Dual ring detection	When enabled, the machine is able to auto answer an incoming ring with an off time of 120-60 ms.
1	0	Long ring detection 0 : No 1 : Yes	Allows the machine to respond to an incoming ring if the ring on time is longer than two seconds.
0	1	Frequency of the CI signal 0 : No 1 : Yes	When disabled, the unit will not check the frequency of the incoming CI signal.

Memory switch 006~ 009 : Factory use only

Memory switch 01x : Transmission

Memory switch 010 :

bit	Initial Setting	Adjust	Usage / Comments
7	1	Busy tone detection 0 : No 1 : Yes	Set this switch to "0" if the ring tone of remote unit is mistaken for a busy signal.
6	0	Fallback pattern (bps) 2400 4800 7200 9600 12000 14400 Set at 0 : 2 times 2 times 2 times 2 times 2 times 2 times Set at 1 : 4 times 1 time 1 time 1 time 1 time 1 time	
5	0	Overseas mode 0 : No 1 : Yes	Re-enables echo suppression that is disabled by the CED signal (2100 Hz). Also ignores the first DIS signal and transmits the DCS signal in response to the second DIS signal.
4	0	V. 29 Echo Protect tone 0 : No 1 : Yes	International telephone lines equipped with echo suppression will cut the beginning portion of the transmitted information which may cause the receiver not to receive the training and data. To protect the received image from degrading, a 0.5 second Echo Protect tone is placed prior to the training using G3 high-speed modem training (V. 29).
3	1	Maximum transmit speed (kbps)	
2	1		
1	0	2.4 4.8 7.2 9.6 12 14.4 16.8 19.2 21.6 24 26.4 28.8 31.2 33.6	
0	1	0 0 0 0 0 0 0 0 1 1 1 1 1 1 0 0 0 0 1 1 1 1 0 0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1	

Memory switch 011 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	The time between reception of CFR and transmission of data	
6	1	When CFR and data overlap due to line echo, increase the interval between CFR and data transmission using this switch. 250 ms 500 ms 750 ms 1000 ms Switch 7 0 0 1 1 Switch 6 0 1 0 1	
5	0	Interval between DCS and TCF	
4	0	When FTT is received after DCS and TCF signals due to line echo, increase the interval between DCS and TCF signals using this switch. 75 ms 300 ms 450 ms 600 ms Switch 5 0 0 1 1 Switch 4 0 1 0 1	
3	1	Output attenuation	See table below
2	0		
1	1		
0	1		

Memory Switch 011 : Output attenuation

Switch	-15 dB	-14 dB	-13 dB	-12 dB	-11 dB	-10 dB	-9 dB	-8 dB	-7 dB	-6 dB	-5 dB	-4 dB	-3 dB	-2 dB	-1 dB	-0 dB
3	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
2	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
1	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0
0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Memory switch 01x : Transmission

Memory switch 012 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	TTI clock type 0 : AM PM clock 1 : 24 hour clock	
6	1	TTI calendar type	bit 6 5

5	0		1 1 dd mm yyyy
			    1 0 mm dd yyyy (default)
			    0 1 yyyy/mm/dd

4	1	TTI transmit 0 : No 1 : Yes **NOTE** Turning TTI transmission off may violate local or federal regulations.)	When set at "0", transmission of the TTI is disabled. The TTI includes the followings: • Sender name • Sender's fax number • Data & time, and number of pages To set the individually transmission of them, see Memory SW 016.
3	0	ECM response time 0 : 3 sec. 1 : 4.8 sec.	The time limit to receive the response signal for the ECM post message.
2	0	ECM error retransmit time 0 : 200 ms 1 : 400 ms	The time limit before the ECM error is retransmitted.
1	0	Interval between DIS and DCS	
0	0	0 ms 500 ms 1000 ms 1500 ms Switch 1 0 0 1 1 Switch 0 0 1 0 1	

Memory switch 013 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	ANSam detection 0 : Yes 1 : No	During the V8 handshake, if some noise disturbs the handshake and an error occurs, set to "1".
6	0	V. 34 transmission 0 : Yes 1 : No	Individual setting for V.34 transmission.
5	0	CSI / TSI / CIG transmit 0 : Yes 1 : No	When set at "1", transmission of the CSI, TSI and CIG signals are disabled.
4	0	ECM mode 0 : On 1 : Off	Determines ECM mode. ECM mode reduces document memory and may lengthen transmission and reception times.
3	0	Retransmit automatically when receiving RTN / PIN signals 0 : Yes 1 : No	When set to "1", retransmission disables automatically if receiving RTN / PIN signals.
2	1	Factory use only	—
1	0	Factory use only	—
0	0	Factory use only	—

Memory switch 014 : Factory use only

Memory switch 01x : Transmission

Memory switch 015 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Program individual autodialer attributes 0 : No 1 : Yes	Allows individual setting of memory switches 010 as attribute 1, 011 as attribute 2, 012 as attribute 3 and 013 as attribute 4 when fax destination are programmed. (Refer to page 3-54 for settings.)
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	0	Factory use only	—
2	0	Sending RTC signal when transmission is canceled 0 : Yes 1 : No	RTC signal is sent at the end of the transmission. When set at "0", the machine will send the RTC if the transmission is canceled. No error will occur. When set at "1", an error will occur because RTC will not be sent at the end of a canceled transmission.
1	1	Cancel redial if T.4.1 or T.4.4 error occurs 0 : Yes 1 : No	When set at "0", if a T.4.1 or T.4.4 error occurs, the machine will not retry the transmission.
0	1	Action after EOR signal 0 : Continue 1 : Discontinue	Sets action after receiving PPR four times at 2400 bps.

Memory switch 016 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Disable DCS -bit 44 at Fine and Normal transmission 0: Enable 1: Disable	This avoid a trouble that a PC-FAX stretches to the vertical direction when the other party has received it. Use only when trouble has occurred.
3	1	Additional data on TTI transmit 0 : No 1 : Yes	When set at "0", the transmission of the additional data (time, the number of pages, file number, etc) is disabled. **NOTE** This switch is available only when Memory switch 012, bit 4 and/or Memory switch 013, bit 5 is available.
2	1	Subscriber ID transmit 0 : No 1 : Yes	When set at "0", the transmission of the subscriber ID is disabled. **NOTE** This switch is available only when Memory switch 012, bit 4 and/or Memory switch 013, bit 5 is available.
1	1	TTI (name) transmit 0 : No 1 : Yes	When set at "0", the transmission of the name which was stored in the unit is disabled. **NOTE** This switch is available only when Memory switch 012, bit 4 and/or Memory switch 013, bit 5 is available.
0	0	Factory use only	—

Memory switch 01x : Transmission

Memory switch 017 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	0	Time between ANSam output and CM output	When using optical communication line, wait to make sure that the terminal adopter has turned the echo-canceler off. Waiting too long may fail the receiver to catch the CM and go to V 17 procedures. This setting is needed only for optical communication line. bit 321 111 1750 msec 110 1500 msec 101 1250 msec 100 1000 msec 011 750 msec 010 500 msec 001 250 msec 000 Refers the time set on the modem
2	0		
1	0		
0	0	Check only manually entered fax numbers in ID check transmission 0 : No 1 : Yes	When set at "1" , the ID check transmission will check only the manually entered fax numbers and not check the number entered using the address book.

Memory switch 018 ~ 019 : Factory use only

Memory switch 02x : Reception

Memory switch 020 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Data error rate 0 : 10% 1 : 20%	Determines the allowable number of erred lines out of total lines received in a document.
6	0	Pause one second after sending CED 0 : No (75 ms) 1 : Yes (1 sec.)	A 2100 Hz CED signal disables echo suppression in some telephone equipment. When set to "1", the machine pauses one second after sending CED, which allows echo suppression to restart. This may help with problematic overseas reception.
5	1	Time between ANSam output and DIS output 0 : 75 msec 1 : 450 msec	This setting is for optical communication line. Adjust the time between ANSam output completion and DIS output start. (When V.8 procedure dose not start by output ANSam, it moves to V.8 procedure by output DIS) Terminal adopter turns the echo-canceler off and then on within 400 ms during the silent time. Use this adjustment to make sure that the echo-canceler is turned on again, when the communication procedure has moved from V.34 to T.30.
4	0	Factory use only	—
3	1	Receive speed (kbps)	
2	1	Maximum receive speed may be slowed to compensate for poor phone lines.	
1	0		
0	1		

2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6	24	26.4	28.8	31.2	33.6
0	0	0	0	0	0	0	0	1	1	1	1	1	1
0	0	0	0	1	1	1	1	0	0	0	0	1	1
0	0	1	1	0	0	1	1	0	0	1	1	0	0
0	1	0	1	0	1	0	1	0	1	0	1	0	1

Memory switch 02x : Reception

Memory switch 021 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	1	Factory use only	—
4	0	T1 timer 0 : 35 sec. 1 : 20 sec.	Adjusts the T1 time-out. After the machine dials the remote machine's phone number, it begins sending CNG and waits this amount of time before disconnecting the line.
3	1	Print image data when post message is not received after receiving RTC signal 0 : No 1 : Yes	If the received document includes the RTC, the machine prints the data even though the following protocol is not succeeded.
2	0	DIS / DTC Extend field Transmit 0 : Yes 1 : No (Tx until Bit No.24 of DIS / DTC)	Setting this switch to "1" will disable ITU-T superfine mode.
1	0	G3 echo receive	
0	1	Adjusts the delay between detection of training / TCF and sending of CFR. 100 ms 500 ms 800 ms 1200 ms Switch 1 0 0 1 1 Switch 0 0 1 0 1	

Memory switch 022 : Factory use only

Memory switch 023 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Enable fax reception at printer trouble 0: Yes 1: No (Disable reception)	This disables fax reception when the printer is printing or printer error has occurred and the machine cannot print the received document.
6	0	V .34 reception 0 : Yes 1 : No	Individual setting for V.34 reception.
5	0	Factory use only	—
4	0	Factory use only	—
3	1	Factory use only	—
2	0	Factory use only	—
1	0	Factory use only	—
0	0	Factory use only	—

Memory switch 024~029 : Factory use only

Memory switch 03x : Modem

Memory switch 030 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Number of HDLC end flags	Defines the number of HDLC end flags.
6	0		
5	1		Switch 7654
4	0		0000　1
			0001　2
			0010　3　　　Initial setting
			0011　4
			0100　5
			0101　6
			0110　7
			0111　8
			1000　9
			1001　10
			1010　11
			1011　12
			1100　13
			1101　14
			1110　15
			1111　16
3	0	Factory use only	—
2	0	Factory use only	—
1	0	Digital cable equalizer 0 : Free 1 : Hold	When set to "1", become efficient for the line short break, but become weak for the line noise. It's available only for communication at 14,400 or 12,000 bit/s.
0	0	Tone detection level 0 : -43 dBm 1 : -48 dBm	When set to "1", detection level goes up but it becomes noise-sensitive. Adjust CED (2100 Hz) detection level in Unique switch 035.

Memory switch 031 :

bit	Initial Setting	Adjust	Usage / Comments
7	1	EYE-Q check level at	0　0　1　1
6	0	7200 bps	Strict-- - - - - - - - - - - -Lenient
			0　1　0　1
5	1	EYE-Q check level at	0　0　1　1
4	0	9600 bps	Strict-- - - - - - - - - - - -Lenient
			0　1　0　1
3	1	EYE-Q check level at	0　0　1　1
2	0	12000 bps	Strict-- - - - - - - - - - - -Lenient
			0　1　0　1
1	1	EYE-Q check level at	0　0　1　1
0	0	14400 bps	Strict-- - - - - - - - - - - -Lenient
			0　1　0　1

Memory switch 03x : Modem

Memory switch 032 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	EYE-Q slice level 0 : Disable 1 : Enable	Setting this bit to "1" enables memory switch 032, bits 0-3 and memory switch 031, bits 0-7 and enables EYE-Q check adjustment.
6	1	Check EYE-Q 0 : No 1 : Yes	Set at 0 : Line condition status (EYE-Q) is not checked after checking TCF. Set at 1 : Line condition status (EYE-Q) is checked after checking TCF.
5	0	Factory use only	—
4	0	Factory use only	—
3	1	EYE-Q check level at	0 0 1 1
2	0	2400 bps	Strict-- - - - - - - - - - -Lenient 0 1 0 1
1	1	EYE-Q check level at	0 0 1 1
0	0	4800 bps	Strict-- - - - - - - - - - -Lenient 0 1 0 1

Memory switch 033 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	0	Factory use only	—
2	0	Factory use only	—
1	0	Delete receive echo of CFR at the receiver side 0 : No 1 : Yes	Modem will be opened only in high-speed mode. Sets this switch to "1" to resolve the problem caused of the echo of CFR.
0	0	Expand FSK receive time after detecting flag 0 : 3.3 seconds 1 : 10 seconds	Setting this switch to "1" extend HDLC frame receive timer in FSK from 3.3 seconds to 10 seconds after detecting preamble.

Memory switch 034~ 049 : Factory use only

Memory switch 05x : Printer

Memory switch 050 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Toner near empty detection point	Set the number of pages the machine can print until it detects "Toner near empty" (ISO/IEC 19752, equivalent value).
6	0		
5	0		
4	0	1 step = 120 pages	Switch 76543210 Settings
3	1		
2	0		00010100 2400 pages
1	1		:
0	0		00001111 1500 pages
			:
			00001010 1200 pages
			:
			00000110 720 pages
			:
			00000101 600 pages
			: ↓
			00000000 600 pages

Memory switch 051 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	0	Factory use only	—
2	0	Factory use only	—
1	0	Factory use only	—
0	0	Error line replacement 0 : Replace to the former line 1 : Replace to a white line	When an error line is caused, the line will be replaced to the designated line.

Memory switch 05x : Printer

Memory switch 052

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Add remote fax mark to the journal report 0 : No 1 : Yes	Set this function to "1" to print an "R" on the journal report when the location name is acquired from the remote fax machine.
4	0	Name printing priority on journal report	Select name printing priority. Refer table below.
3	0		
2	0		
1	0		
0	0		

Bit 43210	First priority	Second priority	Third priority
00000	Address Book Entry	Address Book Number	Subscriber ID
00001	Subscriber ID	Address Book Number	
00100	Address Book Entry	Subscriber ID	Address Book Number
00111	Address Book Number	Address Book Entry	Subscriber ID
01010	Address Book Number	Subscriber ID	Address Book Entry
10011	Subscriber ID	Address Book Entry	Address Book Number
10101	Subscriber ID	Address Book Number	Address Book Entry

Memory switch 053 ~ 059 : Factory use only

Memory switch 06x : Remote reception

Memory switch 060 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	1	CML relay off time after dialing 0 : 1 sec. 1 : 200 msec.	When dialing from the keypad, phone line noise may occur as the CML relay switches on and off. Set this switch to "0" to avoid this.
5	0	DTMF tones heard through handset 0 : No 1 : Yes	Determines if DTMF tones are produced through the handset in off-hook dialing.
4	1	Factory use only	—
3	0	Factory use only	—
2	0	Factory use only	—
1	0	Factory use only	—
0	0	Factory use only	—

Memory switch 061 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	1	Factory use only	—
4	1	Factory use only	—
3	0	Off-hook / on-hook detect time	Sets the time interval between the on-hook and off-hook (or off-hook/on-hook) condition.
2	1		Switch 3210 Time
1	0		0000 0 ms
0	0		0001 100 ms
			0010 200 ms
			0011 300 ms
			0100 400 ms Initial setting
			0101 500 ms
			0110 600 ms
			0111 700 ms
			1000 800 ms
			1001 900 ms
			1010 1000 ms
			1011 1100 ms
			1100 1200 ms
			1101 1300 ms
			1110 1400 ms
			1111 1500 ms

Memory switch 06x : Remote reception

Memory switch 062 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	1	Factory use only	—
4	1	CNG detect in Ans / Fax ready 0 : No 1 : Yes	When set to "1", the machine detects the CNG signal in Ans / Fax ready.

3
2
1
0
	0
	0
	1
	1
		Switch-hook time	If the switch hook is quickly depressed and released, switch-to-fax will occur. This setting adjusts how quickly the switch hook activation must be.
			
			Switch 3210 Time
			          0000 0 ms
			          0001 100 ms
			          0010 200 ms
			          0011 300 ms Initial setting
			          0100 400 ms
			          0101 500 ms
			          0110 600 ms
			          0111 700 ms
			          1000 800 ms
			          1001 900 ms
			          1010 1000 ms
			          1011 1100 ms
			          1100 1200 ms
			          1101 1300 ms
			          1110 1400 ms
			          1111 1500 ms

Memory switch 063-: Factory use only

Memory switch 06x : Remote reception

Memory switch 064 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	CNG detect period after TAD begins recording ICM	Sets the period during which CNG is detected after the TAD begins recording incoming message.
6	0		
5	1		

4	1		Switch 7654 Time
			        0000 0 sec
			        0001 10 sec
			        0010 20 sec
			        0011 30 sec Initial setting
			        0100 40 sec
			        0101 50 sec
			        0110 60 sec
			        0111 70 sec
			        1000 80 sec
			        1001 90 sec
			        1010 100 sec
			        1011 110 sec
			        1100 120 sec
			        1101 130 sec
			        1110 140 sec
			        1111 150 sec

3	0	CNG detect period after TAD answers	Sets the period during which CNG is detected after the TAD answers an incoming call.
2	0		
1	0		

0	1		Switch 3210 Time
			        0000 0 sec
			        0001 10 sec Initial setting
			        0010 20 sec
			        0011 30 sec
			        0100 40 sec
			        0101 50 sec
			        0110 60 sec
			        0111 70 sec
			        1000 80 sec
			        1001 90 sec
			        1010 100 sec
			        1011 110 sec
			        1100 120 sec
			        1101 130 sec
			        1110 140 sec
			        1111 150 sec

Incoming rings | TAD plays Outgoing message | TAD records Incoming message

CNG detection is active
(Adjusted by Memory switch 64, bit 0-3)

CNG detection is active
(Adjusted by Memory switch 64, bit 4-7)

Memory switch 06x : Remote reception

Memory switch 065 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Adjustment of CI detect time	Sets the time added to or reduced from the CI detect time.
6	0		
5	0		Switch 76543 Time
4	0		11111 150 msec 11101 140 msec : : 01001 40 msec 00111 30 msec 00101 20 msec 00011 10 msec 00000 0 msec Initial setting 00010 -10 msec 00100 -20 msec 00110 -30 msec 01000 -40 msec : : 11100 -140 msec 11110 -150 msec
3	0		
2	0	Factory use only	—
1	0	Factory use only	—
0	0	Beep if fax handset is hanged up 0 : Yes 1 : No	Determines if your machine beeps when having left the fax's handset hanging up after communication.

Memory switch 066 ~069 : Factory use only

Memory switch 07x : Operation

Memory switch 070 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Display error line 0 : No 1 : Yes	The number of error lines contained in the received data will be shown in the LCD.

6
 	
5
	0	Tonal line monitor	Allows fax communication to be heard through the monitor speaker.
			
			bit 6 5
			        1 0 ON
			        0 1 Monitor until DIS outputs
			        0 0 OFF

4	0	Factory use only	—
3	1	Print check message if power is lost 0 : No 1 : Yes	If the machine could not hold the memory in an event of power losses, documents will be lost. When power is restored, a check message will print.
2	1	Print page if error occurs during memory transmission 0 : No 1 : Yes	For easy identification, the first page of a document stored for memory transmission will print along a check message if an error occurs during memory transmission.
1	1	Print check message 0 : No 1 : Yes	To notify the user of an error, a check message can be printed if a communication error occurs.
0	0	Factory use only	—

Memory switch 07x : Operation

Memory switch 071 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	1	Print TCR with the original page during memory transmission when the result is error 0 : No 1 : Yes	For easy identification, the first page of a document stored for memory transmission will print along a TCR when the transmission result is error.
4	0	Factory use only	—
3	1	Print TCR with the original page during memory transmission when the result is OK 0 : No 1 : Yes	For easy identification, the first page of a document stored for memory transmission will print along a TCR when the transmission result is OK.
2	0	Print T.30 monitor at communication error 0 : No 1 : Yes	Set this switch to "1" to print out T.30 monitor automatically at communication error.
1	0	Print T.30 monitor	Set this switch to "1" to print out T.30 monitor by each communication.
0	0	Display modem speed 0 : No 1 : Yes	The transmit/receive speed is displayed in the LCD.

Memory switch 071 — Print TCR with the original page

Switch 3	0		1	
Switch 5	0	1	0	1
When Memory transmission was OK, …	No	No	Yes	Yes
When Memory transmission was error, …	No	Yes	No	Yes
When all broadcast transmissions were OK, …	No	No	Yes	Yes
When some broadcast transmissions were error, …	No	Yes	No	Yes

Memory switch 072 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Factory use only	—
6	0	Factory use only	—
5	0	Factory use only	—
4	0	Factory use only	—
3	0	Factory use only	—
2	0	Factory use only	—
1	1	Erase polled document 0 : No 1 : Yes	Determines if a document stored for polling is erased after being polled.
0	0	Factory use only	—

Memory switch 073 ~ 075 : Factory use only

Memory switch 07x : Operation

Memory switch 076 :

bit	Initial Setting	Adjust	Usage / Comments
7	0	Timing to turn off the S-Relay at fax reception.	Adjust this setting when a private exchanger disconnects the line when S-Relay is turned off.
6	0		Bit 7654 time
5	0		1111 1500 seconds
4	0		1110 1400 seconds
			: :
			1010 1000 seconds
			1001 900 seconds
			0100 800 seconds
			: :
			0100 500 seconds
			0100 400 seconds
			0011 300 seconds
			0010 200 seconds
			0001 100 seconds
			0000 10 seconds (default)
3	1	Display when there is no TTI 0 : No 1 : Yes	
2	0	Factory use only	—
1	1	Factory use only	—
0	0	Factory use only	—

Memory switch 077 ~ 079 : Factory use only

Memory switch 08x : Not used

Memory switch 09x : Miscellaneous

Memory switch 090 ~ 096 : Factory use only

Memory switch 097 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Day light saving time (Summer time) start month	This switch sets the month when the day light saving time (summer time) begins.
6	0		Switch 7 6 5 4 Month
5	1		0 0 0 0 March
4	1		0 0 0 1 January
			0 0 1 0 February
			<u>0 0 1 1 March (default)</u>
			0 1 0 0 April
			0 1 0 1 May
			0 1 1 0 June
			0 1 1 1 July
			1 0 0 0 August
			1 0 0 1 September
			1 0 1 0 October
			1 0 1 1 November
			1 1 0 0 December
3	0	Day light saving time (Summer time) start week	This switch sets on which week when the day light saving time (summer time) begins.
			Start daylight saving from Sunday 1:00
2	1		Switch 3 2 1 0 Week of the month
1	0		0 0 0 1 first week
0	0		<u>0 0 1 0 second week (default)</u>
			0 0 1 1 third week
			0 1 0 90 fourth week
			0 1 0 1 last week of the month

Memory switch 09x : Miscellaneous

Memory switch 098 :

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Day light saving time (Summer time) end month	This switch sets the month when the day light saving time (summer time) ends.
6	0		Switch 7 6 5 4 Month
5	1		0 0 0 0 October
4	1		0 0 0 1 January
			0 0 1 0 February
			0 0 1 1 March
			0 1 0 0 April
			0 1 0 1 May
			0 1 1 0 June
			0 1 1 1 July
			1 0 0 0 August
			1 0 0 1 September
			1 0 1 0 October
			1 0 1 1 November (default)
			1 1 0 0 December
3	0	Day light saving time (Summer time) end week	This switch sets the week when the day light saving time (summer time) ends.
			End day light saving from Sunday 1:00
2	0		
1	0		Switch 3 2 1 0 Week of the month
0	0		0 0 0 1 first week (default)
			0 0 1 0 second week
			0 0 1 1 of the third week
			0 1 0 0 of the fourth week
			0 1 0 1 of the last week

Memory switch 099 : Factory use only

3.4 Setting individual autodialer attributes

This function allows the user to configure an individual address book entry with the settings shown in Memory Switches 010, 011, 012, 013 and 014.

To set the individual attributes:

1. Change memory switch 15, bit 7 to "1". (See "3.3.1 Setting the Memory Switches" for more information on changing memory switch 015.)
2. When the function is enabled, an "Attribute" option is added to the address book destination registration steps. As an address book destination is programmed, an extra step showing Attribute 1, Attribute 2, Attribute 3, Attribute 4, and Attribute 5 are added as the last step.

```
☞0001:SpeedDial_C001
Select the address book item to enter/edit.

                          [Back][Enter]
  Search No.:0001              [▲]
  Name    :SpeedDial_C001
  Fax No.:001-5678901234567890      1
  e-mail:MailAddress_C001          of
                                    2
  Super G3  :ON
  Attribute1:10001101          [▼]
```

```
☞0001:SpeedDial_C001-6789
Select the address book item to enter/edit.

                          [Back][Enter]
  Attribute2:01000000          [▲]
  Attribute3:11110000
  Attribute4:00000100              2
  Attribute5:00000000             of
                                   2
                              [▼]
```

3. Set the individual bit positions as shown in the following table. To change a setting, press ◄ or ►until the cursor is below the desired bit position; then press "1" or "0" to make the change.

```
☞0001:
Select Attribute.

  Attribute 1          [Back][Enter]
  (DEC:141)
                       [▲]
      10001101    [◄] [►]
                       [▼]
```

4. Press [Enter] to save the setting of the displayed attribute and advance to the next attribute.
5. To set the other attribute, repeat steps 3-4.
6. When the last attribute is set, the fax will advance to the next autodialer programming steps.
7. When all the desired individual attributes are set, reset memory switch 15, bit 7 to "0". (See "3.3.1 Setting the Memory Switches" for more information on changing memory switch 015.)

Attribute 1 - Individual Autodialer Setting (Equivalent to Memory Switch 010)

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Busy tone detection 0: No 1: Yes	Sets this switch to "0" if the ring tone of remote unit is mistaken for a busy signal.
6	0	Fallback pattern (bps) 　　　　2400　　4800　　7200　　9600　　14400 Set at 0: 2 times　2 times　2 times　2 times　2 times Set at 1: 4 times　1 times　1 times　1 times　1 times	
5	0	Overseas mode 0: No 1: Yes	Re-enables echo suppression that is disabled by the CED signal (2100 Hz). Also ignores the first DIS signal and transmits the DCS signal in response to the second DIS signal.
4	0	V.29 Echo Protect tone 0: No 1: Yes	International telephone lines equipped with echo suppression will cut the beginning portion of the transmitted information which may cause the receiver not to receive the training and data. To protect the received image from degrading, a 0.5 second Echo Protect tone is placed prior to the training using G3 high-speed modem training (V.29).

Maximum transmit speed (kbps)

Switch	Initial Setting	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6	24	26.4	28.8	31.2	33.6
3	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1
2	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1
1	0	0	0	1	1	0	0	1	1	0	0	1	1	0	0
0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1

Attribute 2 - Individual Autodialer Setting (Equivalent to Memory Switch 011)

Switch	Initial Setting	Adjust	Usage/Comments
7	0	The time between reception of CFR and transmission of data When CFR and data overlap due to line echo, increase the interval between CFR and data transmission using this switch.	
6	1	250 ms 500 ms 750 ms 1000 ms Switch 7 0 0 1 1 Switch 6 0 1 0 1	
5	0	Interval between DCS and TCF When FTT is received after DCS and TCF signals due to line echo, increase the interval between DCS and TCF signals using this switch.	
4	0	75 ms 300 ms 450 ms 600 ms Switch 5 0 0 1 1 Switch 4 0 1 0 1	
3	*	Output attenuation	See table below.
2	*		
1	*		
0	*		

Output attenuation when individual autodialer attributes are set.

Switch	-15 dB	-14 dB	-13 dB	-12 dB	-11 dB	-10 dB	-9 dB	-8 dB	-7 dB	-6 dB	-5 dB	-4 dB	-3 dB	-2 dB	-1 dB	-0 dB
3	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
2	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
1	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0
0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

Attribute 3 - Individual Autodialer Setting (Equivalent to Memory Switch 012)

Switch	Initial Setting	Adjust	Usage/Comments
7	1	TTI clock type 0 : AM PM clock 1 : 24 hour clock	
6	1	TTI calendar type	bit 6 5
5	0		<u>1 1</u> dd mm yyyy (default) 1 0 mm dd yyyy 0 1 yyyy/mm/dd
4	1	TTI transmit 0: No 1: Yes **NOTE** Turning TTI transmission off may violate local or federal regulations.)	When set at "0", transmission of the TTI is disabled. The TTI includes the followings: • Sender name • Sender's fax number • Data & time, and number of pages To set the individually transmission of them, see Memory SW 016.
3	0	ECM response time 0: 3 sec 1: 4.8 sec	The time limit to receive the response signal for the ECM post message.
2	0	ECM error retransmit time 0: 200 ms 1: 400 ms	The time limit before the ECM error is retransmitted.
1	0	Interval between DIS and DCS	
0	0	0 ms 500 ms 1000 ms 1500 ms Switch 1 0 0 1 1 Switch 0 0 1 0 1	

Attribute 4 - Individual Autodialer Setting (Equivalent to Memory Switch 013)

Switch	Initial Setting	Adjust	Usage/Comments
7	0	ANSam detection 0 : Yes 1 : No	During the V8 handshake, if some noise disturbs the handshake and an error occurs, set to "1".
6	0	V. 34 transmission 0 : Yes 1 : No	Individual setting for V.34 transmission.
5	0	CSI / TSI / CIG transmit 0 : Yes 1 : No	When set at "1", transmission of the CSI, TSI and CIG signals are disabled.
4	0	ECM mode 0 : On 1 : Off	Determines ECM mode. ECM mode reduces document memory and may lengthen transmission and reception times.
3	0	Retransmit automatically when receiving RTN / PIN signals 0 : Yes 1 : No	When set to "1", retransmission disables automatically if receiving RTN / PIN signals.
2	1	Factory use only	—
1	0	Factory use only	—
0	0	Factory use only	—

Attribute 5 - Individual Autodialer Setting (Equivalent to Memory Switch 014)

3.5 Unique switch adjustment

3.5.1 Setting the Unique Switches

These switches are used to program internal machine parameters.

1. From standby, press <Mode>, <*>, <0>, <4>.
2. Press [Switch Edit].
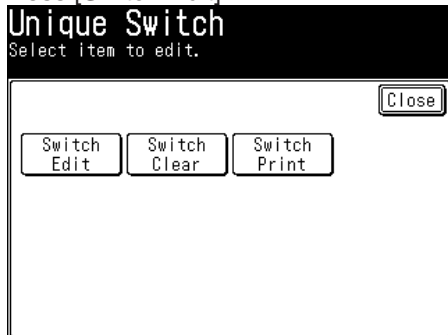
```
Unique Switch
Select item to edit.
                                    ┌─────┐
                                    │Close│
                                    └─────┘
   ┌────────┐  ┌────────┐  ┌────────┐
   │ Switch │  │ Switch │  │ Switch │
   │  Edit  │  │ Clear  │  │ Print  │
   └────────┘  └────────┘  └────────┘
```

3. Call up the desired switch by pressing [Prev] or [Next] , or by pressing the numeric keys.

```
Switch Edit

        ┌────┐        ┌────┐  ┌─────┐
        │Prev│ ◄ 1of 17► │Next│  │Enter│
        └────┘        └────┘  └─────┘
   ┌─────────────────────────────────┐
   │000:01010000                     │
   └─────────────────────────────────┘
   ┌─────────────────────────────────┐
   │001:00000010                     │
   └─────────────────────────────────┘
   ┌─────────────────────────────────┐
   │002:00000001                     │
   └─────────────────────────────────┘
   ┌─────────────────────────────────┐
   │003:00000000                     │
   └─────────────────────────────────┘
   ┌─────────────────────────────────┐
   │004:00000000                     │
   └─────────────────────────────────┘
   ┌─────────────────────────────────┐
   │005:00000000                     │
   └─────────────────────────────────┘
```

4. Select the desired switch by pressing the box.

```
Switch Edit
Select unique switch
   ┌────────────────────      ┌────┐┌─────┐
   │000:01010000              │Back││Enter│
   └────────────────────      └────┘└─────┘
   (Dec:80)
                         ┌───┐
                         │ ▲ │
   ┌────────┐            └───┘
   │01010000│     ┌───┐       ┌───┐
   └────────┘     │ ◄ │       │ ► │
                  └───┘ ┌───┐ └───┘
                       │ ▼ │
                       └───┘
```
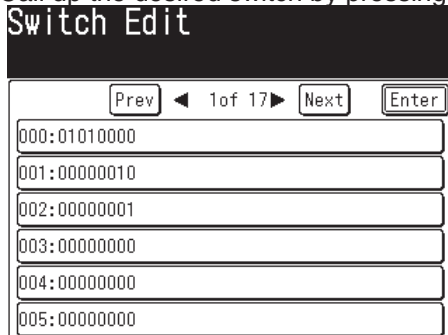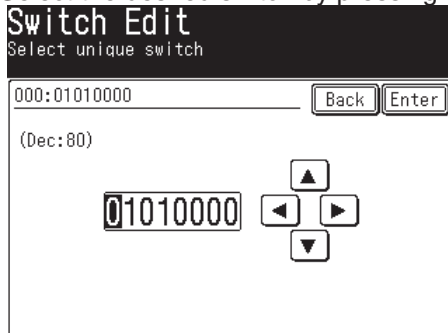
5. To navigate through the unique switch settings:
   - The bits are ranged from 7 (left) to 0 (right).
   - Press [◄] or [►] of the cursor key to move the cursor.
   - Press <0> or <1> on the numeric keys, or **[▼]** or [▲], to change the bit value.
   - Press [Enter] to save the setting of the displayed parameter and return to the machine parameter edit screen.
   - Press [Back] *not* to save the setting of the displayed parameter.
6. If you want to set other unique switches, repeat step 3-5. Otherwise, proceed to step 7.
7. Press <Reset> to return the machine to ready screen.

   You can confirm the setting on a list. The unique switch list will be printed by pressing [Switch Print] in step 2**.**

3.5.2 Clearing the unique switches

Resets the unique switches to factory defaults.

1. From standby, press <Mode>, <*>, <0>, <4>.
2. Press [Switch Clear].
3. Press [Yes]. The unique switches will reset to factory defaults.

```
UniqSwitch
Select item to edit.

 ┌─────────────────────────┐
 │ Switch Clear            │
 │ Would you like to delete? │
 │                         │
 │                         │
 │                         │
 │          ┌─────┐  ┌─────┐ │
 │          │ Yes │  │ No  │ │
 │          └─────┘  └─────┘ │
 └─────────────────────────┘
```

4. Press <Reset> to return the machine to standby.

3.5.3 List

000	• Congestion tone detection
001	• Enable the first tone key • Enable the second tone key • Enable the dial prefix key
003	• Display only direct input number on redial list • The period before detecting busytone after dialing
010	•Including TTI inside the document •The number of times PPR is detected during ECM transmission
013	• Encoding method for transmission
015	• Returns from V28 to V8 • V.8 handshake in real time Tx
017	• JBIG transmission
018	• Disconnect the line when the transmission speed falls down under 7200 bps • Disconnect the line when the transmission speed falls down under 4800 bps • Transmission when disable to detect first NSF in real time transmission
019	• Number of redial times for archive transmission
020	• Transmit CED signal • Printout the pages completed to receive during receiving into memory
021	• TCF check time (in 100 ms units)
022	• Document storage method • MMR reception • JBIG reception
023	• Encoding method for reception
029	• Displays the message "No Network Connection."
030	• 3429 baud symbol rate when communicating at V.34 • 3200 baud symbol rate when communicating at V.34 • 3000 baud symbol rate when communicating at V.34 • 2800 baud symbol rate when communicating at V.34 • 2400 baud symbol rate when communicating at V.34
032	• ANSam output time
035	• Reception level at CED 2100 Hz
037	• The timing between V.34 handshake signals
050	• Smooth printing for printing normal document
051	• Give priority to "fit to paper"
052	• Printing margin adjustment

053	• Printer density adjustment
056	• Reduce received fax in letter size
057	• Enable toner saving mode • Paper selection priority
071	• Line monitor in Quick memory transmission • Rx document to polling document
072	• Start copying even if no suitable paper size is set
075	• Journal list printing order
077	• Print time-out on PCL text printing (at local printing)
078	• Print time out on GDI (at local printing)
079	• Print time out on PCL (at local printing)
080	• Default tab on scan read screen
081	• Put dial error on journal
082	• Import / Export all data at mirroring • Check market information at mirroring
085	• Print/Send the consumable order sheet when the drum is near end • Print/Send the consumable order sheet when toner is near empty • Receive time stamp position
086	• Enable sleep mode • Prepare for printing when coming back from energy save mode
091	• Priority of fusing on pasteboard
095	• F4 paper length
096	• Warn that fuser switches are in envelope-printing position • How long to display the warning of envelope-printing position • Displays warning at fuser life
098	• Respond warm-up condition as ready on SNMP • Respond Sleep condition as ready on SNMP

3.5.4 Details

Unique Switch 00x : Dialer

Unique Switch 000 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	1	Factory use only	
4	1	Factory use only	
3	0	Factory use only	
2	1	Congestion tone detection 0: No 1: Yes	Setting this switch to "0" ignores telephone line congestion tones.
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 001 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	0	Enable the first tone key 0: No 1: Yes	
2	0	Enable the second tone key 0: No 1: Yes	
1	1	Enable the dial prefix key 0: No 1: Yes	
0	0	Factory use only	

Unique Switch 002 — Factory use only

Unique Switch 00x : Dialer

Unique Switch 003 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	1	Display only direct input number on redial list 0: No 1: Yes	Set this switch to "0" to display all dial history on the redial list. Set this switch to "1" to display only direct input number on the list.
5	0	Factory use only	
4	0	Factory use only	

3	0	The period before detecting busytone after dialing	Switch 3 2 1 0 Time
			    1 1 1 1 1500 ms
			    1 1 1 0 1400 ms
			        :
			    1 0 0 0 800 ms
			    0 1 1 1 700 ms
			    0 1 1 0 600 ms
			    0 1 0 1 500 ms
			    0 1 0 0 400 ms
			    0 0 1 1 300 ms
			    0 0 1 0 200 ms
			    0 0 0 1 100 ms
			    0 0 0 0 0 ms (Initial setting)

2	0		
1	0		
0	0		

Unique Switch 004 ~ 009 — Factory use only

Unique Switch 01x : Transmission

Unique Switch 010 :

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	1	Including TTI inside the document 0: No 1: Yes	Setting this bit to "0" transmit the document length added with the TTI. Setting it to "1" transmit the length including TTI inside the document. However in this case, the image at the top of the document might be overlapped with TTI. (TTI length: 4.2mm)
2	0	Factory use only	
1	1	The number of times PPR is detected during ECM transmission	
		1 time 2 times 3 times 4 times	
0	1	0 0 1 1 0 1 0 1	

Unique Switch 011 ~ 012 — Factory use only

Unique Switch 013 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	1	Factory use only	
5	0	Factory use only	
4	1	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Encoding method for transmission	Specify the encoding method.

0	0		bit 1 0
			           1 1 MMR
			           1 0 MR
			           0 1 MH
			           0 0 Machine capability (default)

Unique Switch 014 — Factory use only

Unique Switch 01x : Transmission

Unique Switch 015 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	1	Factory use only	
4	0	Factory use only	
3	0	Factory use only	
2	1	Factory use only	
1	1	Returns from V21 to V8 0: No 1: Yes	
0	1	V.8 handshake in manual transmission 0: No 1: Yes	Determine I the handshaking will be done with V.8 recommendation if manual transmission.

Unique Switch 016 — Factory use only

Unique Switch 017 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	1	Factory use only	
4	0	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	1	JBIG transmission 0: No 1: Yes	Determines if the JBIG transmission is available.
0	0	Factory use only	

Unique Switch 01x : Transmission

Unique Switch 018 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	1	Factory use only	
4	0	Disconnect the line when the transmission speed falls down under 7200 bps 0: No 1: Yes	Determine if the machine disconnect the phone line when the transmission speed fall down under 7200 bps.
3	0	Disconnect the line when the transmission speed falls down under 4800 bps 0: No 1: Yes	Determine if the machine disconnect the phone line when the transmission speed fall down under 4800 bps.
2	0	Factory use only	
1	0	Factory use only	
0	0	Transmission when disable to detect first NSF in real time transmission. 0: Retry to detect NSF 1: Transmit with the standard protocol	Determines the action when disable to detect first NSF in real time transmission.

Unique Switch 019 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	1	Number of redial times for archive transmission	Switch 4 3 2 1 0 Settings
2	1		0 0 0 0 0 time
1	1		0 0 0 1 1 time
0	1		0 0 1 0 2 times
			0 0 1 1 3 times
			0 1 0 0 4 times
			0 1 0 1 5 times
			0 1 1 0 6 times
			0 1 1 1 7 times
			1 0 0 0 8 times
			1 0 0 1 9 times
			1 0 1 0 10 times
			1 0 1 1 11 times
			1 1 0 0 12 times
			1 1 0 1 13 times
			1 1 1 0 14 times
			1 1 1 1 15 times (default)

Unique Switch 02x : Reception

Unique Switch 020 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	1	Transmit CED signal 0: No 1: Yes	Determines if sending CED signal.
3	1	Factory use only	
2	0	Factory use only	
1	1	Printout the pages completed to receive during receiving into memory 0: No 1: Yes	Determines if whether to printout the page which data is completed to receive during receiving it into fax's memory.
0	1	Factory use only	

Unique Switch 021 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	1	Factory use only	
5	1	Factory use only	
4	0	Factory use only	
3	1	TCF check time (in 100 ms units)	If the TCF time is such that poor image quality is the result, lengthen the TCF check time. Switch 3 2 1 0　　Time 　　 0 0 0 0　　　0 ms 　　 0 0 0 1　　 100 ms 　　 0 0 1 0　　 200 ms 　　 0 0 1 1　　 300 ms 　　 0 1 0 0　　 400 ms 　　 0 1 0 1　　 500 ms
2	0		0 1 1 0　　 600 ms 　　 0 1 1 1　　 700 ms 　　 <u>1 0 0 0　　 800 ms</u>　← Initial setting 　　 1 0 0 1　　 900 ms 　　 1 0 1 0　 1000 ms 　　 1 0 1 1　 1100 ms
1	0		
0	0		1 1 0 0　 1200 ms 　　 1 1 0 1　 1300 ms 　　 1 1 1 0　 1400 ms 　　 1 1 1 1　 1500 ms

Unique Switch 02x : Reception

Unique Switch 022 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Document storage method	bit 7 6 5
6	1		1 0 1 JBIG
5	1		1 0 0 MG3
			0 1 1 MMR Initial setting
			0 1 0 MR
			0 0 1 MH
			0 0 0 IMAGE
4	1	MMR reception 0: No 1: Yes	Used to determine the encoding method at DIS declaration.
3	1	JBIG reception 0: No 1: Yes	Used to determine the encoding method at DIS declaration.
2	0	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 023 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	1	Factory use only	
4	1	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Encoding method for reception	Used to determine the encoding method at DIS declaration. Specify the encoding method. bit 1 0 1 1 MMR 1 0 MR 0 1 MH 0 0 Machine capability (default)
0	0		

Unique Switch 024 ~ 028 — Factory use only

Unique Switch 02x : Reception

Unique Switch 029 :

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Factory use only	
6	0	Displays the message "No Network Connection." 0 : Yes 1 : No	Set this switch to "1" will delete the message "No Network Connection." Use this switch if the machine is not used in a network.
5	0	Factory use only	
4	0	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 03x : Modem

Unique Switch 030 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	1	3429 baud symbol rate when communicating at V.34 0: No 1: Yes	If the error frame often occurs because of the symbol rate is too high, setting this switch to "1" mask that symbol rate and keep down the occurrence of error frame.
4	1	3200 baud symbol rate when communicating at V.34 0: No 1: Yes	
3	1	3000 baud symbol rate when communicating at V.34 0: No 1: Yes	
2	1	2800 baud symbol rate when communicating at V.34 0: No 1: Yes	
1	0	Factory use only	
0	1	2400 baud symbol rate when communicating at V.34 0: No 1: Yes	See above (switch 5 to 2).

Unique Switch 031 — Factory use only

Unique Switch 03x : Modem

Unique Switch 032 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	1	Factory use only	
3	0	Factory use only	
2	1	ANSam output time 0: 3 seconds 1: 4 seconds	The time limit to output the ANSam (A sinewave signal at 2100 Hz amplitude-modulated). Sets to "1" when the V.8 handshake is hard to achieve.
1	0	Factory use only	
0	1	Factory use only	

Unique Switch 033 ~034 — Factory use only

Unique Switch 035 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	

3	0	Reception level at CED 2100 Hz	Measure for false detection caused by noise. Adjust this switch when CED is falsely detected and T.1.1 error occurs.
			
			bit 3 2
			       1 1 -51 dBm
			       1 0 -48 dBm
			       0 1 -41 dBm
			       0 0 -45 dBm (default)

2	0		
1	1	Factory use only	
0	0	Factory use only	

Unique Switch 036 — Factory use only

Unique Switch 03x : Modem

Unique Switch 037 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	The delay before post-message is transmitted	If retraining occurs due to the low reception signal level and few delay of the telephone line, it may overlap the second post-message. In this case, increase the delay before the post-message is transmitted.
3	0		0 ms 100 ms 200 ms 300 ms Switch 4: 0 0 1 1 Switch 3: 0 1 0 1
2	0	Factory use only	
1	0	Factory use only	
0	1	Factory use only	

Unique Switch 038 ~ 039 --- Factory use only

Unique Switch 04x :Scanner--- Factory use only

Unique Switch 05x : Printer

Unique Switch 050 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Factory use only	
0	1	Smooth printing for printing normal document 0: No 1: Yes	

Unique Switch 051 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	0	Factory use only	
2	1	Factory use only	
1	1	Factory use only	
0	0	Give priority to "fit to paper" 0: No 1: Yes	When the received fax is larger than paper in cassette, "0" will print them on suitable size while "1" will reduce to the size to fit then on one paper.

Unique Switch 052 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	0	Factory use only	
2	1	Factory use only	
1	0	Factory use only	
0	0	Printing margin adjustment 0: Normal 1: No margin	

Unique Switch 05x : Printer

Unique Switch 053 :

Switch	Initial Setting	Adjust	Usage/Comments		
7	0	Printer density adjustment.	Switch	76543210	Settings
6	0				
5	0			00000000	Not available
4	0			00000001	Lightest
3	1			00000010	
2	0			:	:
1	0			00000101	Standard (default)
0	0			:	:
				00001001	Darkest
				00001010	Adopt "Standard"
				:	↓

Unique Switch 054 ~ 055 — Factory use only

Unique Switch 056 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	1	Factory use only	
2	0	Factory use only	
1	0	Reduce received fax in letter size 0: No 1: Yes	Set this switch to "1" when you use A4 paper and always receive letter size faxes.
0	1	Factory use only	

Unique Switch 057 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Enable toner saving mode 0: Yes (enabled) 1: No (disabled)	
5	0	Paper selection priority 0: Less margin 1: Same paper width	
4	0	Factory use only	
3	0	Factory use only	
2	1	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 058 ~ 059 — Factory use only

Unique Switch 06x — Factory use only

Unique Switch 07x : Operation

Unique Switch 070 — Factory use only

Unique Switch 071 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Line monitor in Quick memory transmission 0: Off 1: On	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Rx document to polling document 0: No 1: Yes	Retrieve the document received in the memory by polling transmission.
0	0	Factory use only	

Unique Switch 072 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	1	Factory use only	
3	0	Start copying even if no suitable paper size is set 0: No 1: Yes	Set this switch to "1" to start copying even if the set paper size does not fit the document size.
2	1	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 073 ~ 074 — Factory use only

Unique Switch 07x : Operation

Unique Switch 075 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	
3	1	Journal list printing order 0: From old history 1: From new history	
2	0	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 076 :— Factory use only

Unique Switch 077 :

Switch	Initial Setting	Adjust	Usage/Comments

7	0	Print time out on PCL text printing (at local printing)
		
		1 minute/step
		Adjustable range: 1~15 minutes
			bit 7 6 5 4
			       1 1 1 1 15 minutes
			       1 1 1 0 14
			       1 1 0 1 13
			       1 1 0 0 12
			       1 0 1 1 11
			       1 0 1 0 10
			           :
			       0 1 0 1 5
			       0 1 0 0 4
			       0 0 1 1 3
			       0 0 1 0 2
			       0 0 0 1 1 minute (default)
			       0 0 0 0 30 seconds
			
			Adjust image printing time out by unique switch 079 bit 7~4.

6	0		
5	0		
4	1		
3	0	Factory use only	
2	0	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 07x : Operation

Unique Switch 078 :

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	0	Factory use only	

3	0	Print time out on GDI (at local printing)
		
		1 minute/step
		Adjustable range: 1~15 minutes
			bit 3 2 1 0
			       1 1 1 1 15 minutes
			       1 1 1 0 14
			       1 1 0 1 13
			       1 1 0 0 12
			       1 0 1 1 11
			       1 0 1 0 10
			           :
			       0 1 0 1 5 (default)
			       0 1 0 0 4
			       0 0 1 1 3
			       0 0 1 0 2
			       0 0 0 1 1 minute
			       0 0 0 0 30 seconds

2	1		
1	0		
0	1		

Unique Switch 079 :

Switch	Initial Setting	Adjust	Usage/Comments

7	0	Print time out on PCL (at local printing)
		
		1 minute/step
		Adjustable range: 1~15 minutes
			bit 7 6 5 4
			       1 1 1 1 15 minutes
			       1 1 1 0 14
			       1 1 0 1 13
			       1 1 0 0 12
			       1 0 1 1 11
			       1 0 1 0 10
			           :
			       0 1 0 1 5 (default)
			       0 1 0 0 4
			       0 0 1 1 3
			       0 0 1 0 2
			       0 0 0 1 1 minute
			       0 0 0 0 30 seconds
			
			Adjust text printing time out by unique switch 077 bit 7~4.

6	1		
5	0		
4	1		
3	0	Factory use only	
2	1	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 08x : Miscellaneous

Unique Switch 080 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Default tab on scan read screen	Set the tab which should be displayed when you switch to scan read screen.
4	0		Switch 5 4
			1 1 [Apps]
			1 0 [PC/USB]
			0 1 [e-mail]
			0 0 [Faves] (default)
3	0	Factory use only	
2	0	Factory use only	
1	1	Factory use only	
0	1	Factory use only	

Unique Switch 081 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Put dial error on journal 0: No 1: Yes	Set this switch to "1" to add dial error to journal.
4	0	Factory use only	
3	1	Factory use only	
2	0	Factory use only	
1	1	Factory use only	
0	0	Factory use only	

Unique Switch 082 :

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Factory use only	
6	0	Import / Export all data at mirroring 0: No 1: Yes	Import / Export all data at mirroring Use this switch only when the main control board is replaced. You can import / export the whole machine information to the new board.
5	0	Factory use only	
4	0	Factory use only	
3	1	Factory use only	
2	0	Factory use only	
1	1	Factory use only	
0	0	Check market information at mirroring 0: Yes 1: No	Use this switch only to import machine data from a different ROM version name. When you set this switch to "1", you can import a machine data form a different ROM version name at mirroring.

Unique Switch 083 ~ 084 — Factory use only

Unique Switch 08x : Miscellaneous

Unique Switch 085 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Print/Send the consumable order sheet when the drum is near end 0: Yes 1: No	**NOTE** For this feature to work correctly, you must register several items. See "3.17 Consumable order sheet" on page 3-94.
5	0	Print/Send the consumable order sheet when toner is near empty 0: Yes 1: No	**NOTE** For this feature to work correctly, you must register several items. See "3.17 Consumable order sheet" on page 3-94.
4	0	Receive time stamp position 0: Outside the print area 1: Inside the print area	Set where to print the time stamp.
3	0	Factory use only	
2	0	Factory use only	
1	0	Factory use only	
0	1	Factory use only	

Unique Switch 086 :

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Factory use only	
6	1	Enable sleep mode 0: No (disable) 1: Yes (enable)	When you set this switch to "0", the machine does not reach the standard sleep mode but to an energy-save mode which does not stop the machine system.
5	0	Prepare for printing when coming back from energy save mode 0: No 1: Yes	
4	0	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Factory use only	
0	1	Factory use only	

Unique Switch 087 ~ 089— Factory use only

Unique Switch 09x : Miscellaneous

Unique Switch 090 — Factory use only

Unique Switch 091 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Priority of fusing on pasteboard 0: No priority 1: Give priority	When you set this switch to "1", fusing on pasteboard improves but paper may curl.
4	0	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 092 ~094 — Factory use only

Unique Switch 095 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Factory use only	
5	0	Factory use only	
4	1	Factory use only	
3	1	Factory use only	
2	0	Factory use only	
1	0	F4 paper length	Switch 1 0 1 1 Not available 1 0 353 mm 0 1 342 mm 0 0 330 mm (default)
0	0		

Unique Switch 09x : Miscellaneous

Unique Switch 096 :

Switch	Initial Setting	Adjust	Usage/Comments
7	1	Warn that fuser switches are in envelope-printing position 0: No 1: Yes	When this switch is "Yes" (1), the machine displays a warning message that the fuser switches are in envelope-printing position when copying or printing envelopes is finished.
6	0	Factory use only	
5	0	How long to display the warning of envelope-printing position	Switch 6 5 4 (minutes) 1 1 1 240 1 1 0 120 1 0 1 60 1 0 0 30 0 1 1 20 0 1 0 10 0 0 1 5 0 0 0 no limit
4	0		
3	0		
2	0	Factory use only	
1	1	Displays warning at fuser life 0: Yes 1: No	When this switch is "Yes" (0), the machine displays a warning message that the fuser has come to its quality life.
0	0	Factory use only	

Unique Switch 097— Factory use only

Unique Switch 098 :

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Factory use only	
6	0	Respond warm-up condition as ready on SNMP 0 : Respond as warm-up 1 : Respond as ready	To print on Row port correctly by AS400, set this switch to "1". When this switch is "1", SNMP manager such as WebJetAdmin displays "Ready" even if the printer is in warm-up condition. When the printer warms up while it is receiving information on Row port, the job will be divided. The latter divided job will be printed with initial font as it has no font information. This setting will avoid this font issue.
5	0	Respond Sleep condition as ready on SNMP 0 : Respond as sleep 1 : Respond as ready	To print on Row port correctly by AS400, set this switch to "1". When this switch is "1", SNMP manager such as WebJetAdmin displays "Ready" even if the printer is in sleep condition. When the printer sleeps while it is receiving information on Row port, printing will be disabled. To enable printing again, this error should be recovered with administrator authority, and this setting will avoid this issue.
4	0	Factory use only	
3	0	Factory use only	
2	0	Factory use only	
1	0	Factory use only	
0	0	Factory use only	

Unique Switch 099— Factory use only

3.6 Clear programmed data / user Settings

User programmed information such as address book entries, date, time, Transmit Terminal Identifier (TTI), Subscriber ID, etc., are stored in the unit's SD card.
This function does not clear the machine parameters, memory switches and unique switches.

1. Press <Mode>, <*>, <0>, <2>.

```
Setting
Select item to edit.

User Data Clear
Do you want to delete the data?
After deletion the machine
will restart automatically.

              Yes      No
```
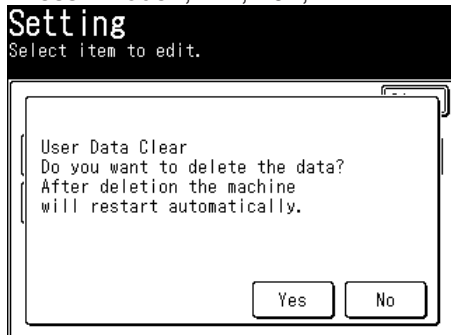
2. Press [Yes].

3.7 All RAM clear

The All RAM clear setting will erase all user-programmed information, all documents in memory, and reset the memory switches and unique switches to factory defaults.
This feature may also be used to try and clear a machine malfunction or lock up. If possible, when the All RAM clear is used to reset a malfunction or lock up, it is advisable to print the machine settings, address book entries to help in reprogramming this information.

1. Press <Mode>, <*>, <0>, <3>.

```
Setting
Select item to edit.

All Ram Clear
Do you want to delete the data?
After deletion the machine
will restart automatically.

              Yes      No
```
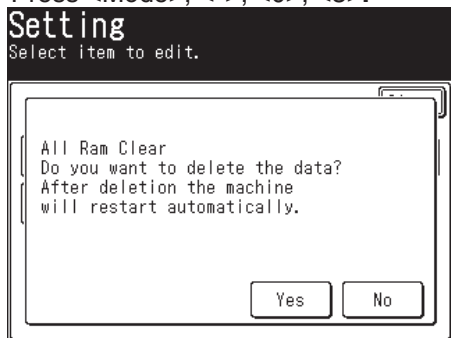
2. Press [Yes].
3. The machine reboots automatically.

The clear modes initialize the following data :

	All RAM clear	User data clear
Machine parameter		
Memory switch	✓	
Unique switch	✓	
Consumable order sheet		
Life monitor		
Journal	✓	✓
Stored images	✓	✓

✓: Cleared
Blank : Not cleared

3.8 T.30 monitor

In all binary coded facsimile control procedures the HDLC frame structure is utilized. The basic HDLC structure is shown below.

Preamble	Binary coded information

Non-standard facilities frame(NSF)	Called subscriber identification frame (CSI)	Digital identification frame (DIS)

Flag	Flag	Address	Control	Facsimili control field	Facsimili information field	Frame checking sequence (FCS)

The information in this portion is printed in the T.30 monitor.
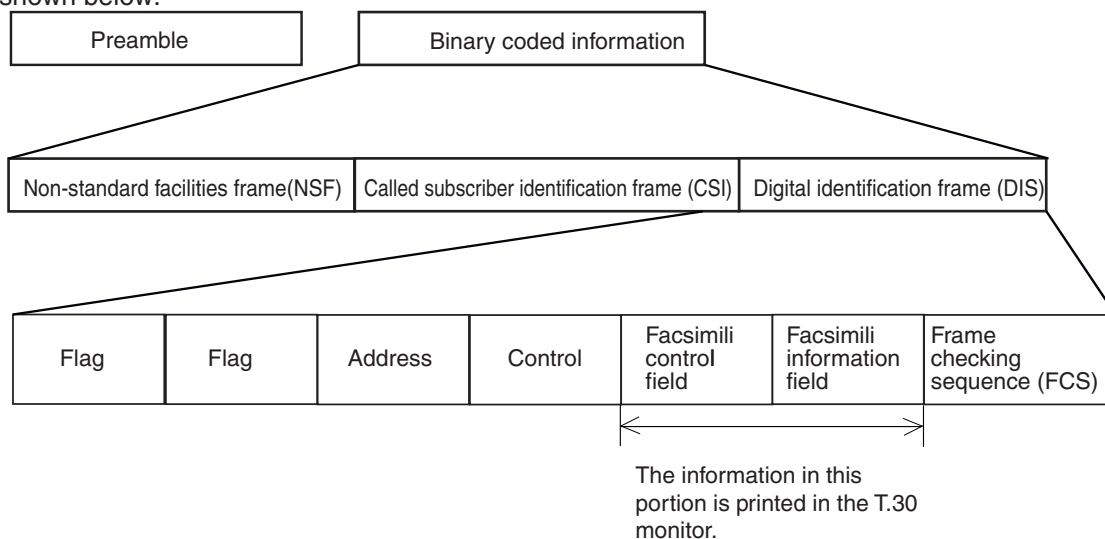
The control signal is identified by FCF (Facsimile Control Field). Additional 8-bit octet information follows FIF (Facsimile Information Field) and FC (Facsimile Control Field) to further clarify facsimile procedures. This is added to DIS, DCS, DTC, CIS, CIG, TSI, NSC, NSF, and NSS signals.

3.8.1 Print T.30 monitor

This mode causes the unit to print a G3 procedural summary of the last fax communication.
1. From standby, press <Mode>, <*>, <0>, <5>.

```
My MFP Menu                    Shared

    T.30 Monitor
    Do you want to print the data?

    Duplex    OFF        ON




                       Yes     No
```
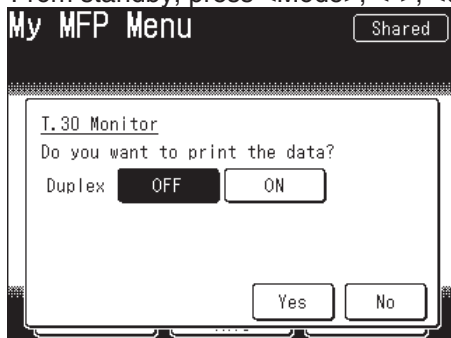
2. Select [ON] or [OFF] for duplex printing, and press [Yes].

3.8.2 Multi T.30 monitor

The communications on the journal list are able to print.
1. Press <Job Confirm. / Fax Cancel>.
2. Press [History] tab and select [Fax Tx] or [Fax Rx].
3. Select the desired communication.
4. Press <*>, <0>, <5>.
5. Select [ON] or [OFF] for duplex printing, and press [Yes].

3.8.3 How to see the print out

(Example for fax transmission)

```
TxFrame     RxFrame     D A T A
─────────────────────────────────────────────────────────────────────────────────────────
            ANS
CM                      E0 81 85 D4 90
            JM          E1 81 85 D4 90
CJ
------ 04"26 -------
            NSF         20 00 00 45 81 D3 DD C4 20 20 20 20 20 20 20 20 20 20 20 20 20 C0 C0 10 30 30 30 30
            CSI         40 32 31 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
            DIS         80 20 EF FA C4 80 D5 83 80 80 A0 80 80 80 01
                                                                                    [V17 JBG A3  0 U E]
------ 00"00 -------
DCS                     83 00 02 F8 84 80 80 80 80 80 20
                                                                                    [    JBG A4  0 N E]
------ 00"13 -------
            CFR         84
------ 00"00 -------
PIX                     04 16                                                       [3200 288]
PPS.EOP                 BF 2F 00 00 CF
------ 00"13 -------
            MCF         8C
------ 00"01 -------
DCN                     FB
─────────────────────────────────────────────────────────────────────────────────────────
```

(Example for fax reception)

```
TxFrame     RxFrame     D A T A
─────────────────────────────────────────────────────────────────────────────────────────
ANS
            CM          E0 81 85 D4 90
JM                      E1 81 85 D4 90
            CJ
------ 03"79 -------
NSF                     20 00 00 45 81 61 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 C0 C0 10 30 30 30 30
CSI                     40 32 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
DIS                     80 20 EE FA C4 80 9D 80 80 80 A0 80 80 80 01
                                                                                    [V17 JBG A3  0 U E]
------ 00"01 -------
            NSS         23 00 00 45 80 40 30 30 30 30
            DCS         83 00 02 F8 84 80 80 80 80 80 20
                                                                                    [    JBG A4  0 N E]
------ 00"00 -------
CFR                     84
------ 00"08 -------
            PIX         04 17 1C 00 26                                              [3200 312]
            PPS.EOP     BF 2F 00 00 2D
------ 00"00 -------
MCF                     8C
------ 00"16 -------
            DCN         FB
─────────────────────────────────────────────────────────────────────────────────────────

[01] 00000/01124
```

TxFrame :   Signals sent by machine printing T.30 report
RxFrame :   Signals received from remote machine
DATA: Additional 8-bit octet information to clarify facsimile procedures. In the list, the data are in hexa-
            decimal digits. At the top of each data shows the type of the signal.
TCF :   TCF check sequence
PIX :   Image data

[V17 MMR A3 0 F E]

Error Correction Mode (E=ECM on, blank=ECM off)
Mode (S=8dot/mm x 15.4l/mm F=Fine N=Normal)
Receiver's minimum scan line time capability
Recording width document size
Compressing method
Data signalling rate

NSF, NSC, NSS:

NSF, NSC, NSS are nonstandard unit frames. The first three bytes of the FIF are specified by T.30. The subsequent digits are individually determined by the manufacturers. The first byte refers to the country code. The second byte is a spare; it is 00 (hex) presently. The third byte is the manufacturer code.

TxFrame	RxFrame	D A T A
	NSF	20 00 00 45 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

The third byte is the manufactures code
The second byte is spare; currently set at 00H
The first byte indicates the country code
Indicates the NSF code
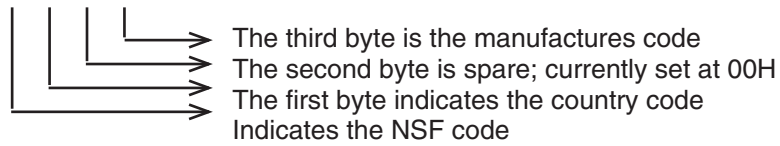
CSI, CIG, TSI:

CSI, CIG, TSI is composed of a maximum 20-digit number comprising the country code, area code, and subscriber's telephone number. In the printed results, printing starts from the least significant digit of the telephone number. The following code table lists the codes used to make the 20-digit number and their value. Below the code table is a CSI example.

Code	Value	Code	Value	Code	Value	Code	Value
20	Space	32	2	35	5	38	8
30	0	33	3	36	6	39	9
31	1	34	4	37	7	2B	+

An example telephone number of 123-456-7890 is represented as:

TxFrame	RxFrame	D A T A
CIS		30 39 38 37 36 35 34 33 32 31 20 20 20 20 20 20 20 20 20 20 20

DIS, DTC, DCS:

DIS, DTC, DCS frames define the standard CCITT capabilities of the two units such as transmit and receive speeds, coding methods, printer speed, etc.

TxFrame	RxFrame	D A T A
DIS		00 EF F9 C4 80 81 80 00

The bits are in the following order:
(8 7 6 5 4 3 2 1) (16 15 14 13 12 11 10 9) (24 23 22 21 20 19 18 17)
(32 31 30 29 28 27 26 25) (40 39 38 37 36 35 34 33) (48 47 46 45 44 43 42 41)
(56 55 54 53 52 51 50 49) (64 63 62 61 60 59 58 57)

Table for hexadecimal digit to binary number:

Hex	Binary	Hex	Binary	Hex	Binary	Hex	Binary
0	0000	4	0100	8	1000	C	1100
1	0001	5	0101	9	1001	D	1101
2	0010	6	0110	A	1010	E	1110
3	0011	7	0111	B	1011	F	1111

So in the above list the first "EF" is "11101111"(bit order 8 7 6 5 4 3 2 1)

A transmission with PPR signal:

The error frame in fax reception is identified using the post-message signal and PPR signal.

TxFrame	RxFrame	D A T A
PPS MPS		BF 4F 00 00 0F
	PPR	BC F0 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
		FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

In PPS signal FIF, the pages, blocks and frames are displayed one value less than the real value.
So in the above case:
Pages: 00 means one page
Blocks: 00 means one block
Frames: 0F means 16 frames

In PPR signal FIF, the error frame will be displayed with "1". In the above case the fist frame is "F0" and it means there was an error from frame 4 to 7.

3.9 Printer maintenance mode

In case of followings, use this mode.
- When you have replaced the Fuser unit and/or Transfer roller.
- When "Checkout error : XX" message appear on the screen, access this mode to see the details.

3.9.1 When you replace the fuser unit or transfer roller

To access the printer maintenance mode:
1. Press <Mode>, <*>, <0>, <6>.
2. Press [Set Replace Counter].

```
Printer Maintnance

                              Enter
  Set Replace Counter
  Service Call

```
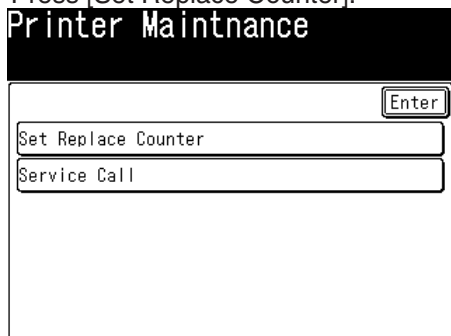
3. Select the item you have replaced.

```
Set Replace Counter

                              Close
  Replace Fuser
  Replace Transfer Belt

```
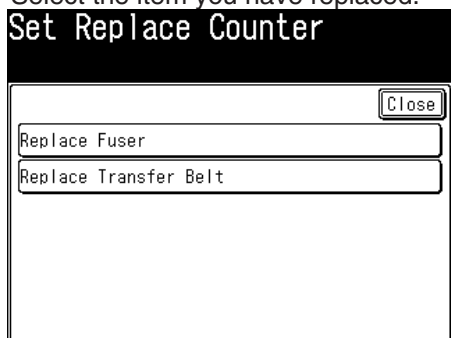
4. Press [Yes].

3.9.2 When "Checkout error : XX" message is displayed

1. Press <Mode>, <*>, <0>, <6>.
2. Press [Service Call].
3. Detail of printer error will be displayed.
   See "4.3 Checkout error" on page 4-3 for the printer error messages and an explanation of each are outlined.

3.10 Service report printing

You can print out a report that contains machine's usage and error history.

3.10.1 Printing the service report

1. From standby, press <Mode>, <*>, <0>, <7>.
2. Select the page you want to print.

```
My MFP Menu                    Shared
Please select the page to be printed.

Service Report           Back  Print

      Page1      Page2      Page3

      Page4     All Page  Consumable
```
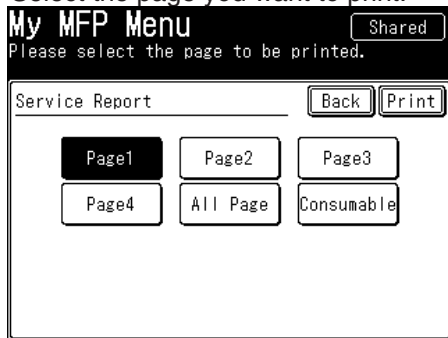
When you select [Consumable], you can print out the report without counting up toner and drum consumptions used to print this report.

3. Press [Print].
4. Replace the consumables to others.
   This step is required only when "Consumable" is selected at step 2.
5. Select [ON] or [OFF] for duplex printing, and press [Yes].
6. When you have replaced the consumables in step 4, replace them to the originals.

3. Select [ON] or [OFF] for duplex printing, and press [Yes].

NOTE
Do not press [Consumable] while the printer is operating.

3.10.2 Contents of the service report

NOTE
Some device on the service report may not be equipped on your machine.

Contents of the header

```
                              * * Service Report * *

            P1                                              Jan  1 2013 12:00am
    Unit Serial Number[DD1***********  ]   Print Page/Total Page [          1/         4]
    Fax Number        [                ]   Cust Name             [                       ]
    Cust Tel          [                ]
    Installation Date [                ]   Days Used/Work Days   [          0/         0]
    ROM Version       [                ]
```

Line	Item	Detail
1	Date	Current date
2	Unit Serial Number	The machine serial number
3	Fax Number	The fax number registered in User Install
	Cust Name	The registered TTI or the "Customer's name" registered in Consumable Order Sheet
4	Cust Tel	The telephone number registered in Consumable Order Sheet
5	Installation Date	The date the machine was installed (The date set at User install)
	Days Used / Work Days	Days since the machine is installed / Days the machine has worked
6 / 7	ROM Version	The ROM version of machine

First page of the report.

```
Paper Cassette Status
                    PresentSetting           Print Pages
Paper Supply Device                          Total          Every I/C      (00/00/0000)
Cassette1           [A4                  ] [        1000] [         10] [              0]
Cassette2           [A4                  ] [        1000] [         10] [              0]
Cassette3           [A4                  ] [        1000] [         10] [              0]
Cassette4           [A4                  ] [        1000] [         10] [              0]
BypassTray          [                    ] [        1000] [         10] [              0]
Total                                       [        5000] [         50] [              0]

Print Accounting     [          0]  Copy          Fax           PC Print       List
                                    [          0] [          0] [          0] [          0]

Printer Jam Info                 (00/00/0000)                              (00/00/0000)
Print end.           [        5000][          0] JAM Total              [     0][          0]
Paper jam (1st cassette) [        0][          0] Paper jam (2nd cassette) [   0][          0]
Paper jam (3rd cassette) [        0][          0] Paper jam (4th cassette) [   0][          0]
Paper jam (Bypass)       [        0][          0] Paper jam (Duplex unit)  [   0][          0]
Paper jam (paper feed)   [        0][          0] Paper jam (Fuser)        [   0][          0]
Paper jam (Dplx reverse) [        0][          0] Paper jam (Dplx Control) [   0][          0]
Shift/2BIN transfer jam  [        0][          0] Shift/2BIN release jam   [   0][          0]

Scan Accounting      [          0]  Copy          Fax           Scan
                                    [          0] [          0] [          0]

Life Counter
Number of pages after toner replaced  [              0] Number of pages after toner caution  [          0]
Number of toner replacements          [              0] Number of drum replacements          [          1]
Number of pages after drum warning    [              0] Fuser Replaced Count                 [          0]
Transfer Replaced Count               [              0] Number pages after fuser replacement [          0]
Number pages after Xsfer replacement  [              0]
Drum Rotation Time                    [  1000/  10000] Number of pages after drum replaced  [  1000/   5000]

Toner Cartridge Info       Toner Serial Number   [6J1061012340000Z    ]   [02/12/2011            ]
Drum Cartridge Info        Drum Serial Number    [SJ1061100010000Z    ]   [02/12/2011            ]

Toner History
1   Page Count   [      2000] Toner Serial Number [6J1061012340003Z    ]   [01/12/2011            ]
2   Page Count   [      3000] Toner Serial Number [6J1061012340002Z    ]   [01/11/2011            ]
3   Page Count   [      2000] Toner Serial Number [6J1061012340001Z    ]   [02/10/2011            ]
Drum History
1   Page Count   [      1300] Drum Serial Number  [SJ1061100010003Z    ]   [01/12/2011            ]
2   Page Count   [      1400] Drum Serial Number  [SJ1061100010002Z    ]   [02/10/2011            ]
3   Page Count   [         0] Drum Serial Number  [SJ1061100010002Z    ] [                      ]

Toner Cartridge History
1   Page Count   [     10000] Unit Serial Number  [1111111111111111    ]   [03/10/2011            ]
2   Page Count   [     20000] Unit Serial Number  [1111111111111111    ]   [04/08/2011            ]
3   Page Count   [     30000] Unit Serial Number  [2222222222222222    ]   [07/03/2011            ]
Drum Cartridge History
1   Page Count   [     10000] Unit Serial Number  [1111111111111111    ]   [03/10/2011            ]
2   Page Count   [     20000] Unit Serial Number  [1111111111111111    ]   [04/08/2011            ]
3   Page Count   [     30000] Unit Serial Number  [2222222222222222    ]   [07/03/2011            ]
Scanner Jam Info                 (00/00/0000)                              (00/00/0000)
DRS(OFF)->DRS(ON)     [          0] [          0] DRS(ON)->DRS(OFF)     [          0] [          0]
DS2(OFF)->DS2(ON)     [          0] [          0] DS2(ON)->DS2(OFF)     [          0] [          0]
DS3(OFF)->DS3(ON)     [          0] [          0] DS3(ON)->DS3(OFF)     [          0] [          0]
Dexit(OFF)->Dexit(ON) [          0] [          0] Dexit(ON)->Dexit(OFF) [          0] [          0]
                                                  TOTAL                 [          0] [          0]
```

The resettable counter cleared date is printed with six figure of date / month / year.

Second page of the report

```
Document blocked history                              Paper error history
1  [                ] [                ]              1  [                  ] [                              ]
2  [                ] [                ]              2  [                  ] [                              ]
3  [                ] [                ]              3  [                  ] [                              ]
4  [                ] [                ]              4  [                  ] [                              ]
5  [                ] [                ]              5  [                  ] [                              ]
6  [                ] [                ]              6  [                  ] [                              ]
7  [                ] [                ]              7  [                  ] [                              ]
8  [                ] [                ]              8  [                  ] [                              ]
9  [                ] [                ]              9  [                  ] [                              ]
10 [                ] [                ]              10 [                  ] [                              ]
11 [                ] [                ]              11 [                  ] [                              ]
12 [                ] [                ]              12 [                  ] [                              ]
13 [                ] [                ]              13 [                  ] [                              ]
14 [                ] [                ]              14 [                  ] [                              ]
15 [                ] [                ]              15 [                  ] [                              ]
16 [                ] [                ]              16 [                  ] [                              ]
17 [                ] [                ]              17 [                  ] [                              ]
18 [                ] [                ]              18 [                  ] [                              ]
19 [                ] [                ]              19 [                  ] [                              ]
20 [                ] [                ]              20 [                  ] [                              ]

Scan Error History                                    Print Error History
1  [                ] [                ]              1  [                  ] [                              ]
2  [                ] [                ]              2  [                  ] [                              ]
3  [                ] [                ]              3  [                  ] [                              ]
4  [                ] [                ]              4  [                  ] [                              ]
5  [                ] [                ]              5  [                  ] [                              ]
6  [                ] [                ]              6  [                  ] [                              ]
7  [                ] [                ]              7  [                  ] [                              ]
8  [                ] [                ]              8  [                  ] [                              ]
9  [                ] [                ]              9  [                  ] [                              ]
10 [                ] [                ]              10 [                  ] [                              ]
11 [                ] [                ]              11 [                  ] [                              ]
12 [                ] [                ]              12 [                  ] [                              ]
13 [                ] [                ]              13 [                  ] [                              ]
14 [                ] [                ]              14 [                  ] [                              ]
15 [                ] [                ]              15 [                  ] [                              ]
16 [                ] [                ]              16 [                  ] [                              ]
17 [                ] [                ]              17 [                  ] [                              ]
18 [                ] [                ]              18 [                  ] [                              ]
19 [                ] [                ]              19 [                  ] [                              ]
20 [                ] [                ]              20 [                  ] [                              ]

Scanner Info   Scan Pages/Rate
ADF            Total                                 (00/00/0000)
Copy           [          0] / [          0]         [          0] / [          0]
Fax            [          0] / [          0]         [          0] / [          0]
Scan           [          0] / [          0]         [          0] / [          0]
TOTAL          [          0] / [          0]         [          0] / [          0]

DADF/RADF      Total                                 (00/00/0000)
Copy           [          0] / [          0]         [          0] / [          0]
Fax            [          0] / [          0]         [          0] / [          0]
Scan           [          0] / [          0]         [          0] / [          0]
TOTAL          [          0] / [          0]         [          0] / [          0]

FBS            Total                                 (00/00/0000)
Copy           [          0] / [          0]         [          0] / [          0]
Fax            [          0] / [          0]         [          0] / [          0]
Scan           [          0] / [          0]         [          0] / [          0]
TOTAL          [          0] / [          0]         [          0] / [          0]
```

Third page of the report

```
Paper Size and Printed Pages
              Copy      (Every I/C) Fax       (Every I/C) PC Print   (Every I/C) List      (Every I/C)
A3         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
B4         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
A4         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
A4D        [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
B5         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
B5D        [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
A5         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
A5D        [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
A6         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
11x17      [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
Legal      [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
Letter     [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
LetterD    [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
H.LTRD     [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
Executive  [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
F4         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
COM10      [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
DL         [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
Monarch    [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
Postcard   [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
Custom     [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
Sub Total  [        0][        0] [        0] [        0] [        0] [        0] [        0] [        0]
TOTAL      [                0]    [                0]

Media and Pages Printed
              Copy           Fax           PC Print        List
Plain      [        0]   [        0]   [        0]    [        0]
Env./Post/PstBrd [  0]   [        0]   [        0]    [        0]
OHP        [        0]   [        0]   [        0]    [        0]

PaperRelease Device      Copy       (Every I/C) PC Print    (Every I/C)
Duplex Copy [Available  ] [        0] [        0] [        0] [        0]
2 Bin Tray  [Available  ] [        0] [        0] [        0] [        0]
Shift       [Not available] [      0] [        0] [        0] [        0]

Scanner Info
              Copy             Fax             Scan
A3         [        0]    [        0]    [        0]
B4         [        0]    [        0]    [        0]
A4         [        0]    [        0]    [        0]
A4D        [        0]    [        0]    [        0]
B5         [        0]    [        0]    [        0]
B5D        [        0]    [        0]    [        0]
A5         [        0]    [        0]    [        0]
A5D        [        0]    [        0]    [        0]
A6         [        0]    [        0]    [        0]
11x17      [        0]    [        0]    [        0]
Legal      [        0]    [        0]    [        0]
Letter     [        0]    [        0]    [        0]
LetterD    [        0]    [        0]    [        0]
H.LTR      [        0]    [        0]    [        0]
H.LTRD     [        0]    [        0]    [        0]
F4         [        0]    [        0]    [        0]
Sub Total  [        0]    [        0]    [        0]
TOTAL      [                0]

Communication Info
           G3/SG3       (PC-FAX)
Tx Times [        0] [        0]
Tx Pages [        0] [        0]
Rx Times [        0]
Rx Pages [        0]

PC-SCAN Info
Scan Method        [                0]

# of application function
Stamp          [          0] Duplex Copy      [          0] Duplex PC-SCAN   [          0]

Various registration numbers
FTP Shortcut     [    0]  Folder Shortcut       [    0]  Job Memory              [    0]
User numbers     [    0]  Common Tel book       [    0]  Personal Tel book       [    0]
```

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```
Communication Info
# of Errors
D.0.1   [        0]      T.1.1   [        0]      R.1.1   [        0]
D.0.2   [        0]      T.1.2   [        0]      R.1.2   [        0]
D.0.3   [        0]      T.1.4   [        0]      R.1.4   [        0]
D.0.6   [        0]      T.2.1   [        0]      R.2.3   [        0]
D.0.7   [        0]      T.2.2   [        0]      R.3.1   [        0]
D.0.8   [        0]      T.2.3   [        0]      R.3.3   [        0]
D.0.10  [        0]      T.3.1   [        0]      R.3.4   [        0]
D.0.12  [        0]      T.4.1   [        0]      R.3.6   [        0]
D.0.13  [        0]      T.4.2   [        0]      R.4.1   [        0]
                        T.4.4   [        0]      R.4.2   [        0]
                        T.5.1   [        0]      R.4.4   [        0]
                        T.5.2   [        0]      R.4.5   [        0]
                        T.5.3   [        0]      R.5.1   [        0]
                        T.8.1   [        0]      R.5.2   [        0]
                        T.8.10  [        0]      R.8.1   [        0]
                        T.8.11  [        0]      R.8.10  [        0]
                                                R.8.11  [        0]

Setting Info
Order Sheet Setting     [OFF]       DHCP                [OFF]       Dealer Service Report      [OFF]
e-mail Gateway          [OFF]       Network Conection   [No]

Memory[256MB]       SD Card[0MB]        [PCL/PS/BC]

Internal Printer Info
Temperature         [        0c]     Humidity            [        0%]
Area                [        0]      Drum Remain         [      100%]
Toner Remain        [      100%]

Internal System Info
    MR(L/ercd):0
  1

  2

  3

  4

  5

  6

  7

  8

  9

 10

    MI(L/ercd)
  1

  2

  3

  4

  5

  6

  7

  8

  9

 10
```

3.11 Monitor speaker

If you need to monitor the signal of fax communication, turn this mode to on. You can hear the signal sound with machine's speaker during fax transaction.

1. Press <Mode>, <*>, <0>, <8>.
2. Select the monitor type from [ON until DIS] or [ON].

```
My MFP Menu                    Shared

Monitor                   Back  Enter

 Line                ON until
Monitor    OFF         DIS       ON

             1         2         3
Volume
             4         5         6

             7
```
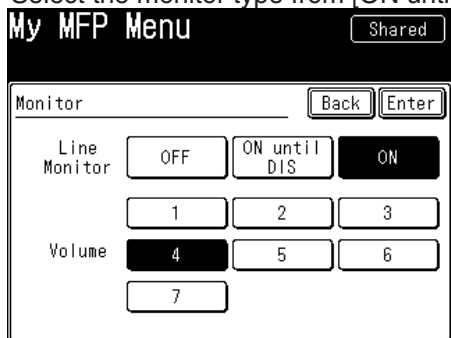
3. Select the speaker volume.
    To turn this mode off, perform steps 1 and 2 and select [OFF].

3.12 Test modes

This mode offers the ability to print a test pattern and monitor certain unit output functions. Included are followings.
*   Life monitor
*   Test pattern print
*   Stamp test mode
*   Document feeding test
*   Set background level
*   Make color Gamma
*   Select color Gamma

3.12.1 Life monitor

This function displays the machine status.
1. Press <Mode>, <*>, <0>, <9>, then select [Life Monitor].
2. Press [Detail] to see the options.

```
Test Function

Life Monitor              Detail  Close

ROM Vers  0:KM25e EUR 120710
```

ROM Ver = displays main control board firmware version

Display	Item	Detail
1	Installation Date	
	Scan Count	Cumulative total pages
	Page Count	
	Tx (Transmission) Count	
2	Drum Replaced	Number of times drum is replaced
	Drum Life	Current drum working time (x 10 seconds)
	After Replaced	Total printed pages on current drum
	Drum Start Date	Date when current drum is started to user
	Drum Serial No.	Serial number of drum cartridge

Display	Item	Detail
3	Drum Cartridge Usage 1	History of used drum cartridge 1 (Drum star day, printed pages, and serial number)
4	Drum Cartridge Usage 2	History of used drum cartridge 2 (Drum star day, printed pages, and serial number)
5	Drum Cartridge Usage 3	History of used drum cartridge 3 (Drum star day, printed pages, and serial number)
6	Toner Replaced	Number of times toner cartridge is replaced
	After Replaced	Total printed pages on current toner cartridge
	Toner Start Date	Date when current toner cartridge is started to user
	Toner Serial No.	Serial number of toner cartridge
7	Toner Cartridge Usage 1	History of used toner cartridge 1 (Toner star day, printed pages, and serial number)
8	Toner Cartridge Usage 2	History of used toner cartridge 2 (Toner star day, printed pages, and serial number)
9	Toner Cartridge Usage 3	History of used toner cartridge 3 (Toner star day, printed pages, and serial number)
10	Fuser Replaced	Number of times fuser is replaced
	Fuser Life	Total printed pages
	Xsfer Replaced	Number of times transfer roller is replaced
	Xsfer Life	Total printed pages
11	Word Count (In Use)	The number of words used on display. If this words are less than the "Word Count (default)", some words may not be able to display. Translation is needed for the missing wording.
	Word Count (default)	The number of words the firmware uses.
12	PCL	Optional items status (Yes: Available, No: Not available)
	PS3 (PS3 option)	
	PDF (PDF direct print option)	
	BC (Barcode font option)	
	PPM	Print pages per minute.

3.12.2 Printer Test

The printer test mode offers ten different test patterns as shown below.

Checkered

Squares

Paper scum

Halftone

Halftone2

White

Black

Ladder

LED Head Test
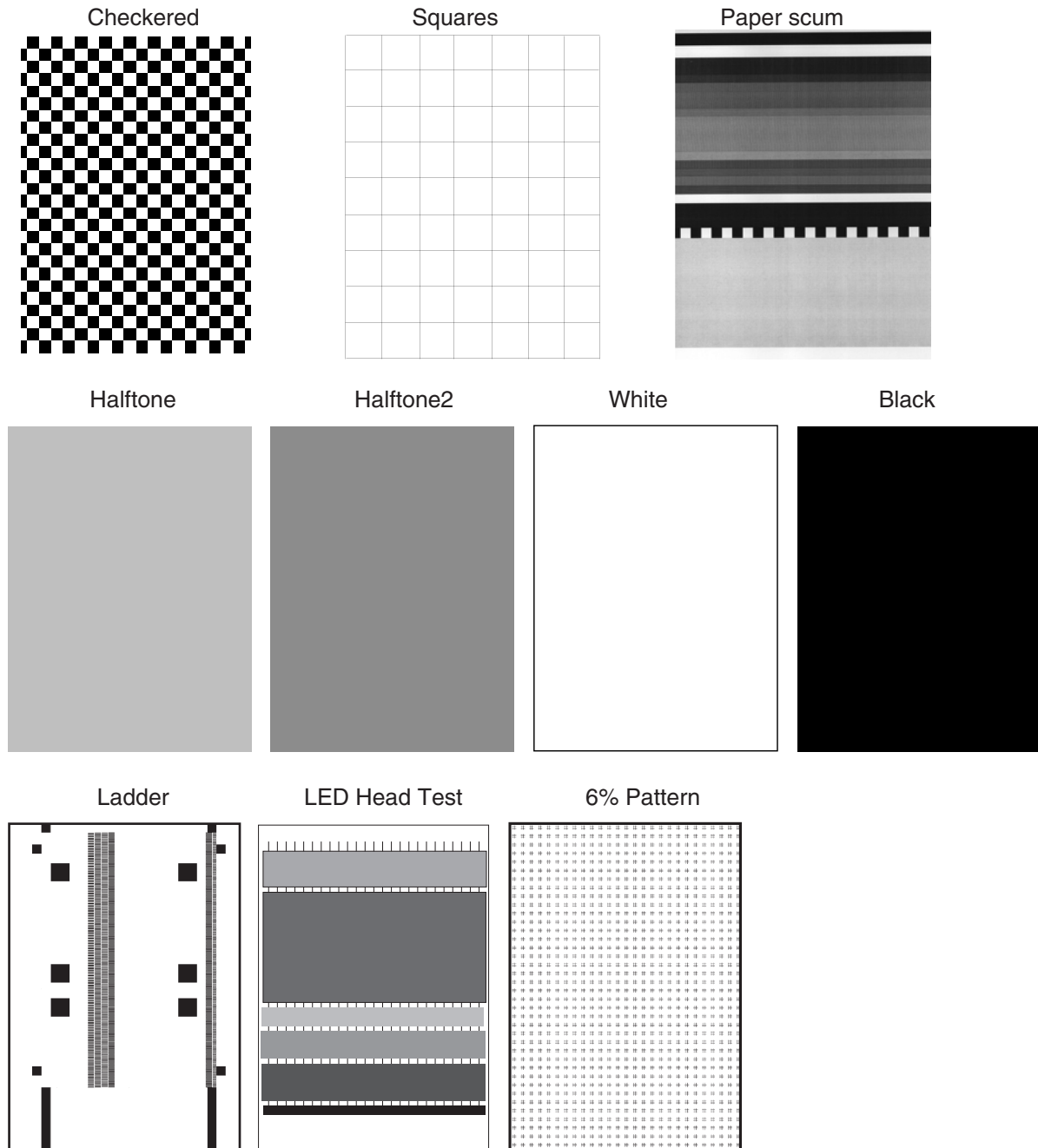
6% Pattern

1. Press <Mode>, <*>, <0>, <9>, then select [Test Pattern Print].
2. Select the desired pattern is displayed.
3. Select a cassette or tray that holds your desired paper size to test, and press [Enter].
4. Enter the numbers of pages to print and press [Enter].
5. Press [Yes].

3.12.3 Stamp test mode

This mode tests the optional stamp. The stamp will be stamped on the document at a regular interval.

1. Load test documents into the automatic document feeder (ADF).
2. Press <Mode>, <*>, <0>, <9>, then select [Stamp Test Mode].
3. Press [Start] to start the feeder test.
4. Press [End] to exit the test mode.

3.12.4 Document feeding test

The feeder test discharges all documents in the automatic document feeder (ADF) at a constant speed and displays the document total on the display.

1. Load test documents into the automatic document feeder (ADF).
2. Press <Mode>, <*>, <0>, <9>, then select [Feeder Test].
3. Select the feeder speed from four steps.
4. Select wether to scan the document face only (1-sided) or both side of the document (2-sided).
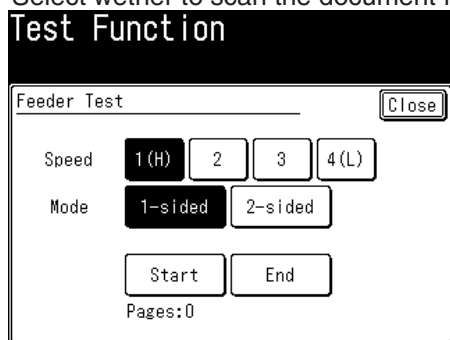
5. Press [Start] to start the feeder test.
6. Press [End] to exit the test mode.

3.12.5 Set background level

The background level is an established threshold used to help measure the reflective ability of a scanned document. This threshold can change when CIS is replaced; therefore this mode should be used to reset the threshold when the item is changed.
This mode allows the level to be set without erasing memory contents.

1. Press <Mode>, <*>, <0>, <9>, then select [Background level].
2. Press [Front].
3. Press [Start].
   After the background level is set, the machine goes back to ready screen.

3.12.6 Make color gamma

The machine has a color gamma data table as color scanning correction data. The color gamma table adjusts RGB color balance, and is unique per machine because of the optical variation. Both the flash memory on main control board and SD card keep the color gamma table, and the same data will be saved on both parts when you make a color data though below operation.

Perform this operation to remake the color gamma table when the following parts is replaced:
• Main control board and SD card are replaced at the same time

The following chart is required to make the color Gamma:
2011-01

NOTE

Use a clean chart that is not tanned or folder.

1. Press <Mode>, <*>, <0>, <9>, then select [Make Color Gamma].
2. Set the color gamma chart on FBS (Flat Bed Scanner), and press [Make for FBS].
    (Set the chart so that scanning starts from the chart top.)

```
Make Color Gamma
                                    [Close]

   Main FBS     Main ADF/F
   [  No  ]     [  No  ]
   Sub FBS      Sub ADF/F
   [  No  ]     [  No  ]

   [Make FBS]   [Make ADF/F]

   [Main Clear] [Sub Clear] [All Clear]
```
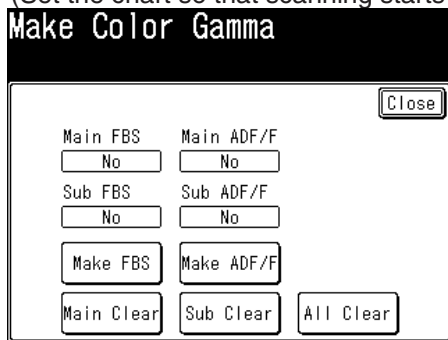
3. Set the color gamma chart on ADF, and press [Make ADF/F].
    (Set the chart so that scanning starts from the chart top.)
4. Press [Close] to go back to test function menu.

3.12.7 Select color gamma

The machine has a color gamma data table as color scanning correction data. The same color gamma table is kept on the flash memory on main control board (Sub) and SD card (Main). When one of the board is replaced, perform the following operation to remake the table on the other.

1. Press <Mode>, <*>, <0>, <9>, then select [Select Color Gamma].
2. Select the source to be copied.
    Select [Sub] when the main control board is replaced, and [Main] when the SD card is replaced.

```
Select Color Gamma
                                    [Close]

   Main FBS     Main ADF/F
   [  No  ]     [  No  ]
   Sub FBS      Sub ADF/F
   [  No  ]     [  No  ]

      [Main]        [Sub]
```
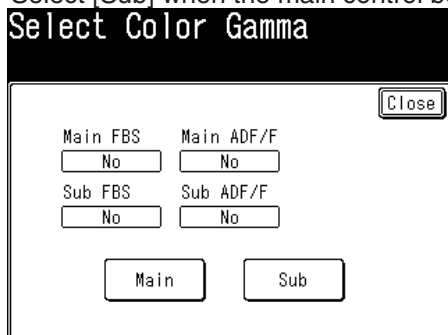
3. Check the display that "Yes" is displayed for all items.

3.13 Print machine parameters, memory switch and unique switch settings

This function instructs the unit to print a list of the machine parameter, memory switch and unique switch settings. The list shows the default and current settings for each.

1. Press <Mode>, <*>, <1>, <0>.
2. Select [ON] to enable duplex printing, or [OFF] to disable it.

```
My MFP Menu          Shared

    Switch List
    Do you want to print the data?

    Duplex    OFF       ON




                    Yes      No
```
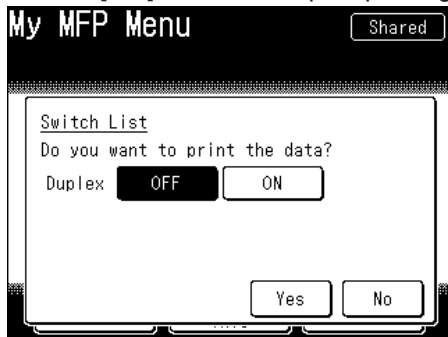
3.14 Factory functions

This function provides several machine machina test.

Test list

Test	Contents
LED test	Light on all the LED lamps to check that the lamps are working.
LCD test	Display test patterns on the LCD to check for dead pixel.
Panel test	Display the key name on the LCD when the key is pressed. You can check that the keys are working.
DRAM check	Check that the DRAM is working correctly. Check also when the memory is expanded.
RTC test	Factory use only.
Pseudo ring test	Check the bell of external telephone and the pseudo ring.
Forced toner supply mode	Factory use only.
Serial number writing	Factory use only.
USB test pattern print	Factory use only.
MAC address writing	Factory use only.

3.14.1 LED Test

1. Press <Mode>, <*>, <1>, <1>, then select [LED Test].
2. Press <Start>.

```
Factory Function

  LED Test                  Close
```
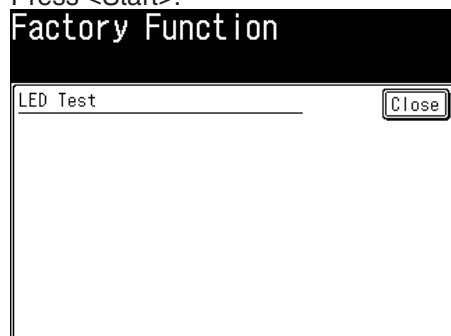
When you press <Start>, the LED illuminates in the following order:
All LEDs OFF → Green ON → Orange ON → All LEDs ON → All LEDs OFF.

3.14.2 LCD Test

This mode displays three test patterns in LCD.
1. Press <Mode>, <*>, <1>, <1>, then select [LCD Test].
2. Press <Start> to turn all dots off.

3. Press <Start> to turn all dots on.

4. Press <Start> to complete the test.

3.14.3 Key panel test

1. Press <Mode>, <*>, <1>, <1>, then select [Panel Test].
2. As each button on the keypad is pressed, a representative name as show in the following table will be displayed.
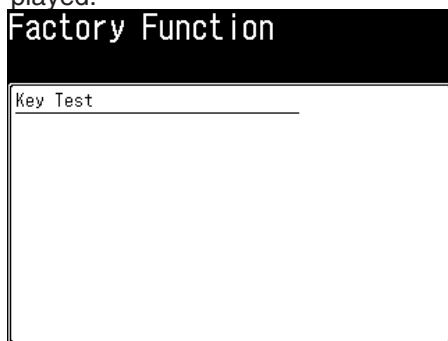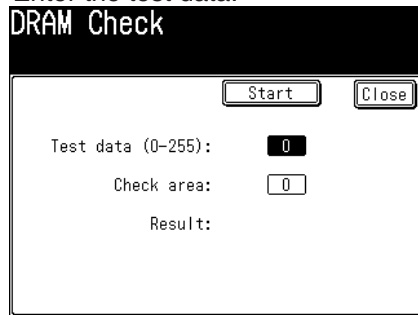
Key	Indication in LCD	Key	Indication in LCD
Mode	Mode	Login	Login
Personal Mode	Personal	Job Confirm /Fax Cancel	Job Confirm /Fax Cancel
Reset	Reset	Numeric keys 1 to 10, *, #	Tenkey 1 to 0, *, #
Start	Start	Stop	Stop
Energy Save	Energy Save		

3. Press <Stop> twice to complete the key panel test.

3.14.4 DRAM Check

This mode is used to test the DRAM memory, or document memory.

1. Press <Mode>, <*>, <1>, <1>, then select [DRAM Check].
2. Enter the test data.

```
DRAM Check

                    [ Start ]   [Close]

   Test data (0-255):    [ 0 ]
        Check area:     [ 0 ]
            Result:
```

3. Depending on the amount of DRAM in the unit, press <0>.
4. Press [Start].
   The machine starts checking and the result (OK/NG) will be shown in the display.
5. Press [Close] to complete the test.

3.14.5 Pseudo ring test

1. Press <Mode>, <*>, <1>, <1>, then select [Pseudo ring test].
2. Press [Start], to ring the bell.

```
Pseudo ring test

                              [Close]

   [ Start ]   [ End ]
```

3. Press [End] to stop.
4. Press [Close] to complete the test.

3.15 Line tests

This mode offers several internal tests and ability to monitor certain unit output functions. Included are relay tests, modem signal output monitoring, and DTMF output monitoring.

NOTE

To monitor the tones, an external monitoring device must be connected to the telephone line jack.

3.15.1 Relay Test

This mode tests the on/off operation of various relays and switches.
1. Press <Mode>, <*>, <1>, <2>.
2. Select [Relay].

```
Line Test
                                    [Close]

    [ Relay ]  [ Tonal ]  [ DTMF ]
```
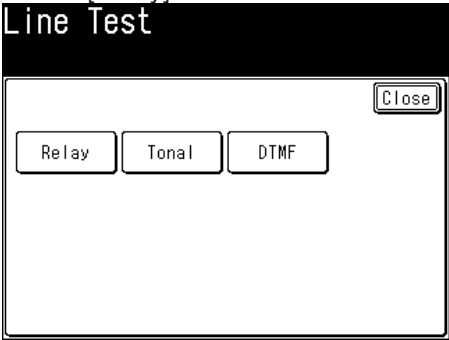
3. Select the relay you want to test. When it is selected, it will be highlighted.

```
Relay
        [Prev] ◄  1of 2 ►  [Next]   [Close]
 H_ON
 H_OFF
 L_ON
 L_OFF
 CONT24_ON
 CONT24_OFF
```
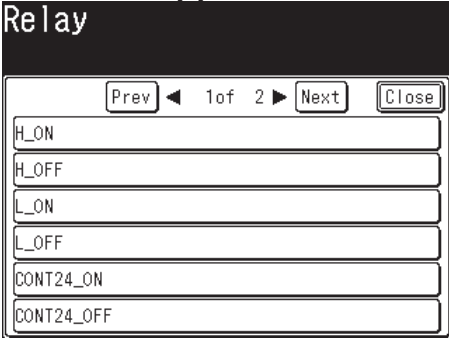
H relay – on	H relay –off	L relay – on	L relay –off
CONT24V relay – on	CONT24V relay – off	RI relay – on	RI relay – off
Hook key			

4. Press [Close] to exit the test.

3.15.2 Tonal signal test

The tonal signal test permits the unit's output tones to be monitored.
1. Press <Mode>, <*>, <1>, <2>.
2. Press [Tonal].
3. Select your desired tonal signal test. When it is selected, it will be highlighted.

```
Tonal

        Prev ◄  1of 15 ►  Next    Close
 NONE
 400HZ
 600HZ
 1100HZ
 1300HZ
 2100HZ
```
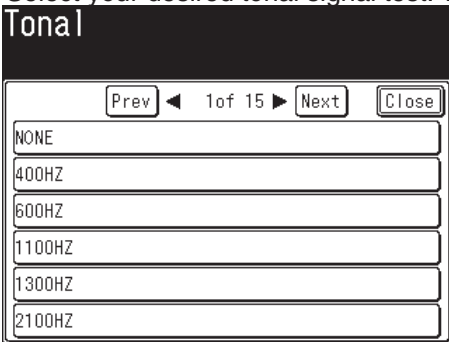
Refer to the table below.

Signal	Signal
None (stop signal)	400 Hz tone
600 Hz tone	1100 Hz tone
1300 Hz tone	2100 Hz tone
FSK _W1_B1	FSK BLACK
V27_1600_4800 picture date	V27_1200_2400 picture date
V29_2400_9600 picture date	V29_2400_7200 picture date
V17_2400_7200_W1_B0 picture date	V17_2400_7200_W1_B1 picture date
V17_2400_7200_W1_B4 picture date	V17_2400_7200_W0_B1 picture date
V17_2400_7200_W4_B1 picture date	V17_2400_9600_W1_B0 picture date
V17_2400_9600_W1_B1 picture date	V17_2400_9600_W1_B4 picture date
V17_2400_9600_W0_B1 picture date	V17_2400_9600_W4_B1 picture date
V17_2400_12000_W1_B0 picture date	V17_2400_12000_W1_B1 picture date
V17_2400_12000_W1_B4 picture date	V17_2400_12000_W0_B1 picture date
V17_2400_12000_W4_B1 picture date	V17_2400_14400_W1_B0 picture date
V17_2400_7200_W1_B1 picture date	V17_2400_14400_W1_B4 picture date
V17_2400_14400_W0_B1 picture date	V17_2400_14400_W4_B1 picture date

Signal
V34_2400_2400 ~ 21600
V34_2800_4800 ~ 26400
V34_3000_4800 ~ 28800
V34_3200_4800 ~ 31200
V34_34290_4800 ~ 33600

4. Press [Close] to exit the test.

NOTE
It may take several moments for output signal to change.

3.15.3 DTMF output test

The DTMF output test permits the unit's DTMF tones to be monitored.
1. Press <Mode>, <*>, <1>, <2>.
2. Select [DTMF].
3. Select your desired tonal DTMF tone. When it is selected, it will be highlighted.

```
DTMF

              Prev  ◀  1of  4▶  Next    Enter
 0
 1
 2
 3
 4
 5
```

Display	Signal	Display	Signal
0	DTMF0 (941 Hz + 1336 Hz)	ROW1	ROW1 (697 Hz)
1	DTMF1 (697 Hz + 1209 Hz)	ROW2	ROW2 (770 Hz)
2	DTMF2 (697 Hz + 1336 Hz)	ROW3	ROW3 (852 Hz)
3	DTMF3 (697 Hz + 1477 Hz)	ROW4	ROW4 (941 Hz)
4	DTMF4 (770 Hz + 1209 Hz)	COL1	COL1 (1209 Hz)
5	DTMF5 (770 Hz + 1336 Hz)	COL2	COL2 (1336 Hz)
6	DTMF6 (770 Hz + 1477 Hz)	COL3	COL3 (1447 Hz)
7	DTMF7 (852 Hz + 1209 Hz)	COL4	COL4 (1633 Hz)
8	DTMF8 (852 Hz + 1336 Hz)		
9	DTMF9 (852 Hz + 1477 Hz)		
AST	DTMF6* (941 Hz + 1209 Hz)		
SHARP	DTMF# (941 Hz + 1477 Hz)		

4. To stop outputting the DTMF tone, press <Stop>.
5. To select another DTMF tone, repeat steps 3-4.
   Otherwise, proceed to step 6.
6. To exit the DTMF output test, press [Close] under not tests.

NOTE

It may take several moments for output signal to change.

3.16 Mirror carriage transfer mode

IMPORTANT

The machine is shipped with mirror carriage locked to protect the machine's mirror carriage during shipping. When installing the machine, turn the power on and perform the following:

1. Press <Mode>, <*>, <1>, <4> .
2. Select [OFF], and press [Enter].

```
┌────────────────────────────────────┐
│ ❶Mirror Lock                        │
│                                     │
│ Mirror Lock          ┌────┐┌─────┐  │
│ ─────────────────    │Back││Enter│  │
│                      └────┘└─────┘  │
│   ┌──────────┐ ┌──────────┐         │
│   │   OFF    │ │    ON    │         │
│   └──────────┘ └──────────┘         │
│                                     │
│                                     │
│                                     │
└────────────────────────────────────┘
```

IMPORTANT

If reshipping, turn on this mode to move the mirror carriage to the transport position.

3.17 Consumable order sheet

When the drum cartridge is near end of its design life or the toner cartridge is near empty, the machine prints (or transmit) the consumable sheet.

```
                            * * Order Sheet * *

         P1                                          Jan  1 2013 12:00am

1 ──────  # 7 7 7 #          ── FAX TO:

2 ──────  Cust Name                          Section                   ── 3

4 ──────  Address

5 ──────  Cust Account #

6 ──────  Cust Tel

7 ──────  Cust Fax

8 ──────  Cust e-mail

9 ──────  Unit.Serial    D D 1 * * * * * * * * * * *

10 ─────  Order Item #

11 ─────  Item Description

12 ─────  *Quantity            *Price                              ── 13

14 ─────  *Pay method    Cash      Check   Check ether way to pay.

15 ─────  Dealer Name

16 ─────  Dealer Code

17 ─────  Dealer Tel No

18 ─────  Dealer Fax No

19 ─────  Dealer e-mail

20 ─────  Note
21 ─────
                               Cust Signature ──────────────── 22

         1/  1000/  5000/  1000/  10000/  8000/  80/ 3530  USA 130111
         |    |      |      |      |       |      |         |
        23   24     25     26     27      28     29        30
```

1	Dealer's fax number	2	Customer's name
3	Customer's department	4	Customer's address 1, 2
5	Customer's account number	6	Customer's telephone number
7	Customer's fax number registered by Initial setting mode (Setting, User Install).	8	Customer's e-mail address
9	Serial number of the unit	10	Order item
11	Description of the order item	12	Number of ordered consumable
13	Price of ordered consumable per unit	14	Payment options [1]
15	Date of payment [1]	16	Dealer's name
17	Dealer's code	18	Dealer's telephone number
19	Dealer's fax number	20	Dealer's e-mail address
21	Comment [1]	22	Place of the customer write his/her signature [1]
23	Number of drum replacement	24	Number of printed pages after drum replaced
25	Drum life (page)	26	Drum rotate time (x 10 seconds)
27	Drum life time	28	Total print pages
29	Number of print pages after toner cartridge was replaced.	30	ROM version

*1 These items should be entered manually.

3.17.1 Set consumable order sheet

Follow the instructions on the display and enter following items:

Items	Descriptions
Dealer code	Enter dealer code.
Dealer name	Enter dealer name.
Dealer Tel No	Enter dealer's telephone number. Up to 20 characters can be entered.
Dealer Fax No	Enter dealer's fax number. Up to 40 characters can be entered.
Dealer e-mail	Enter dealer's e-mail address.
Cust Account #	Enter customer's account number.
Cust Name	Enter customer's name.
Client department	Enter customer's department.
Address 1	Enter customer's address.
Address 2	Enter customer's address.
Cust Tel	Enter customer's telephone number.
Order sheet settings	Select the way to deal with the consumable order sheet when the printer consumable is near end of its designed life. OFF — Machine does not print or transmit the consumable order sheet even though the printer consumable is near end of its designed life. Print — Machine prints the consumable order sheet when the printer consumable is near end of its designed life. Fax Transmit — Machine transmits the consumable order sheet to the dealer's fax number when the printer consumable is near end of its designed life. e-mail — Machine sends an e-mail to the dealer's e-mail address when the printer consumable is near end of its designed life.
E-mail subject	Modify the e-mail subject if necessary. This item can be modified when you set "Order sheet setting" to "e-mail".

1. Clear the junk data, if necessary. (See "Clear consumable order sheet" below.)
2. Press <Mode>, <*>, <1>, <5>.
3. Press [Order Sheet].
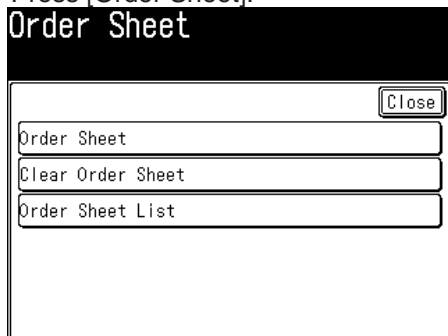
4. Follow the instructions on the display and enter necessary items.

3.17.2 Clear consumable order sheet

1. Press <Mode>, <*>, <1>, <5>.
2. Select [Clear Order Sheet].
3. Press [Yes].

3.17.3 Print consumable order sheet

To check the information has been registered correctly, print the consumable order sheet.
1. Press <Mode>, <*>, <1>, <5>.
2. Select [Order Sheet List].
3. Select settings, and press [Yes].

```
Order Sheet

   Order Sheet List
   Do you want to print the data?
   Duplex   [  OFF  ]  [   ON   ]

   item #   [  No  ]  [ Toner ]  [ Drum ]
                      [  Yes  ]  [  No  ]
```
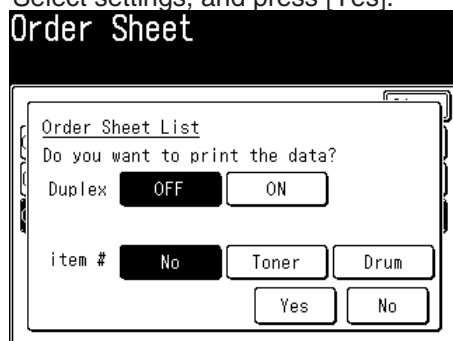
3.18 DRAM clear

This clears the image storage memory.
1. Press <Mode>, <*>, <1>, <6>.
2. Press [Yes].

3.19 Life monitor maintenance

3.19.1 Resettable counter clearing

Clear the counter of the machine. The following counter will be cleared:
• Scanned pages per mode (copy/scan/fax/print)
• Scanned times per mode (copy/scan/fax)
• Pages per scanner part (ADF/FBS)
• Times per scanner part (ADF/FBS)
• Scanner jam information
• Print pages per cassette
• Jammed pages per cassette
• Jammed pages per print part

1. Press <Mode>, <*>, <2>, <0>.
2. Select [Initialize resettable counter].

```
Life Monitor Data

       Prev ◄  1of  3 ► Next    Close

 Initialize resettable counter

 Number of drum replacements        :0

 Drum Rotation Time                 :0

 Number of pages after drum replaced :0

 Number of pages after drum caution  :0

 Number of toner replacements       :0
```
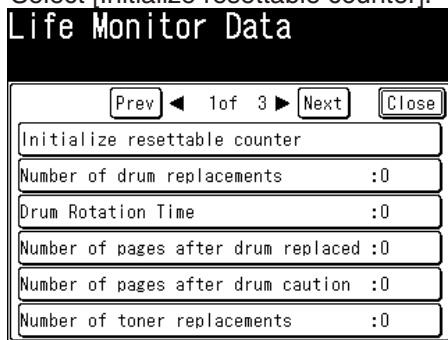
3. Press [Yes].

3.19.2 Reentering the life monitor

Follow the instructions on the display and reenter following items if needed:

Items	Descriptions
Number of toner replacements	Number of times toner cartridge is replaced
Number of drum replacement	Number of times drum cartridge is replaced
Fuser Replaced Count	Number of times fuser is replaced
# pages after fuser replacement	Number of printed pages after fuser is replaced
Transfer Replaced Count	Number of times transfer roller is replaced
# pages after transfer replacement	Number of printed pages after transfer roller replaced

1. Press <Mode>, <*>, <2>, <0>.
2. Select the desired item and reenter the coutner value.

3.20 Sensor input test

You can check the sensor status. When the sensor operates, the value next to sensor name changes from OFF to ON or from ON to OFF. For example, when open the paper cassette 1, the CAS1:OFF change to CAS1: ON.

1. Press <Mode>, <*>, <2>, <2>.
2. Press your desired button, and check the sensor status.

```
Sensor Status

                                    [Close]

 Scanner Sensor Status
 Printer Sensor Status
 Cassette Sensor Status

```

Scanner sensor list:

Name	Status	Name	Status
TXIL	OFF: ADF cover is open ON: ADF cover is close	HS	OFF: Mirror at size detecting position ON: Mirror at home position
DS1	OFF: No document ON: Detect document	DEXIT	OFF: No document ON: Detect document
DS2	OFF: No document ON: Detect document		
DS3	OFF: No document ON: Detect document		
APS	OFF: Platen cover is open ON: Platen cover is closed		
DRS	OFF: No document ON: Detect document		

Printer sensor list:

Name	Status	Name	Status
PRS	Paper resist senor OFF: No paper ON: Paper detected	PDS	Paper discharge sensor OFF: No paper ON: Paper jam detected
SWBK	Switchback sensor OFF: No paper ON: Paper detected		
BINPDS	2 bin-tray paper discharge sensor OFF: No paper ON: Paper detected	OP_BIN	2 bin-tray sensor OFF: No unit ON: Unit detected
HP	No sensor on this machine		
LOCK_P	Fan lock sensor at power unit OFF: Unlocked (driving) ON: Locked (stop)	LOCK_F	Fan lock sensor for fuser unit OFF: Unlocked (driving) ON: Locked (stop)
LCK1M	Motor lock sensor for process motor OFF: Unlocked (driving) ON: Locked (stop)		
LCK2M	Motor lock sensor for paper feed OFF: Unlocked (driving) ON: Locked (stop)	TH_F (TH1)	Fuser temperature sensor
HYDRO	External humidity sensor		
TH_E	External temperature sensor	TOS_TC	Toner empty sensor for toner cartridge
TOS_DC	Toner empty sensor for drum cartridge		

Cassette sensor list:

Name	Status	Name	Status
CAS1 (OPEN)	Casette 1 open/closed OFF: Closed ON: Open	PES1 (PES)	Paper empty sensor for cassette 1 OFF: No paper ON: Paper detected
SIDE_OP (JAMC)	Interlock sensor (side cover open/closed) OFF: Closed ON: Open		
CAS2 (OPEN OP)	Casette 2 open/closed OFF: Closed ON: Open	PES2 (PES OP)	Paper empty sensor for cassette 2 OFF: No paper ON: Paper detected
JAM2_OP (JAMC2)	Cassette 2 side cover open/closed OFF: Closed ON: Open		
CAS3 (OPEN OP)	Casette 3 open/closed OFF: Closed ON: Open	PES3 (PES OP)	Paper empty sensor for cassette 3 OFF: No paper ON: Paper detected
JAM3_OP (JAMC2)	Cassette 3 side cover open/closed OFF: Closed ON: Open		
CAS4 (OPEN OP)	Casette 4 open/closed OFF: Closed ON: Open	PES4 (PES OP)	Paper empty sensor for cassette 4 OFF: No paper ON: Paper detected
JAM4_OP (JAMC2)	Cassette 4 side cover open/closed OFF: Closed ON: Open		
PESM (TRAYS)	Paper empty sensor for bypass tray OFF: No paper ON: Paper detected	FRNT_OP (FCOVER)	Front cover open/closed OFF: Closed ON: Open
CSST2	Cassette 2 sensor OFF: No unit ON: Unit detected	CSST3	Cassette 3 sensor OFF: No unit ON: Unit detected
CSST4	Cassette 4 sensor OFF: No unit ON: Unit detected		

Sensor for cassette 2 to 4 are displayed only when they are installed to the machine.

3.21 Printer diagnostic mode

This mode can confirm the operation of each part of the printer section.

1. Press <Mode>, <*>, <2>, <3>.

```
Printer Port Test
                                  ┌─────┐
                                  │Close│
                                  └─────┘
┌────────┬─────────┬─────────┬─────────┐
│Fan Full│Rx Motor │Rx Motor2│Shift Dir│
│  OFF   │   OFF   │   OFF   │   CW    │
├────────┼─────────┼─────────┼─────────┤
│Shift Mtr│Clutch1 │Clutch2  │Clutch3  │
│  OFF   │   OFF   │   OFF   │   OFF   │
├────────┼─────────┼─────────┼─────────┤
│Clutch4 │Reg Clutch│Man Clutch│Exit Fwd│
│  OFF   │   OFF   │   OFF   │   OFF   │
├────────┼─────────┼─────────┼─────────┤
│Exit Rev│ TP Mtr  │2BIN Dir │2BIN Mtr │
│  OFF   │   OFF   │   CW    │   OFF   │
└────────┴─────────┴─────────┴─────────┘
```
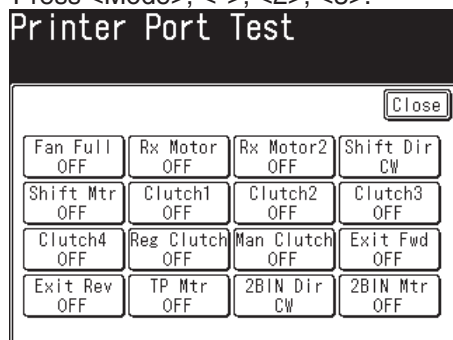
2. Select the device you want to set to ON.

Fan Full :	Rotate the fan motor with full power
Rx Motor :	Rotate the Rx motor
Rx Motor 2:	Rotate the Rx motor 2
Shift Dir :	(This function is not available on your machine)
Shift Mtr :	(This function is not available on your machine)
Clutch 1 :	Turn on clutch of cassette 1
Clutch 2 :	Turn on clutch of cassette 2
Clutch 3 :	Turn on clutch of cassette 3
Clutch 4 :	Turn on clutch of cassette 4
Reg Clutch:	Turn on resister roller clutch
Man Clutch:	Rotate bypass tray feed clutch
Exit Fwd :	Rotate the paper exit roller to paper discharge direction (forward)
Exit Rev :	Rotate the paper exit roller to reveres direction (reverse)
TP Mtr :	Rotate the toner motor
2BIN Dir :	Shows the 2-bin motor rotate direction
2BIN Mtr :	2-bin motor rotates and stops every time pressed

3.22 Network service mode

This mode provides the following two items:
- Delete administrator password
- Initialize authentication method

3.22.1 Delete administrator password

You can clear the administrator password.
1. Press <Mode>, <*>, <2>, <4>.
2. Press [Delete Manager].

```
Network Serv.Mode

                                    [Close]
Delete Manager
Initialize Authentication Method
```
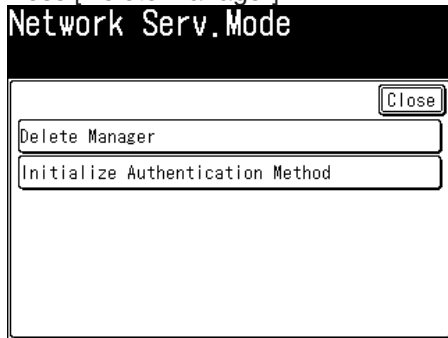
3. Press [Yes].

3.22.2 Initialize authentication method

You can initialize the authentication mode, and return it to its factory default (Stand-alone).
If you cannot log in to machine in following cares, use this operation.
- Authentication method is set to single sign on
- Guest account cannot log in
- Cannot access to authentication server
- Cannot access to machine via web browser due to HTTP(S) service problem

1. Press <Mode>, <*>, <2>, <4>.
2. Press [Initialize Authentication Method].
3. Press [Yes].

3.23 Flash Rom sum check

This mode allows you to check Sum after the Flash ROM version is updated.

1. Press <Mode>, <*>, <2>, <9> .

```
Sumcheck

                                    [Close]
     MFP:dfef
```
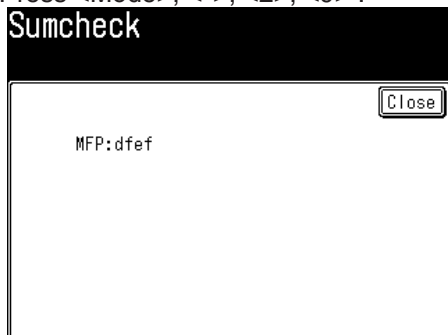
3.24 Set service report

3.24.1 Set the service report

If using this feature, you should be enter following items:

Items	Descriptions
Send Service Report	OFF Machine does not send the service report. Fax Machine transmits service report according to this setting. E-mail Machine send the service report via e-mail according to this setting.
Fax Number 1	Set the destination fax number. This item can be modified when you set "Send Service Report" to "Fax".
Fax Number 2	Set the destination fax number 2, if needed. This item can be modified when you set "Send Service Report" to "Fax".
E-mail Address 1	Set the destination e-mail address. This item can be modified when you set "Send Service Report" to "E-mail".
E-mail Address 2	Set the destination e-mail address 2, if needed. This item can be modified when you set "Send Service Report" to "E-mail".
E-mail Address 3	Set the destination e-mail address 3, if needed. This item can be modified when you set "Send Service Report" to "E-mail".
Report Format	Select between one page (first page) or detailed report (full pages).
Period	The report can be send either once in a determined month(s) or once in a month on a determined date and time
E-mail subject	Modify the e-mail subject if necessary. This item can be modified when you set "Send Service Report" to "E-mail".

1. Press <Mode>, <4>, <2>.
2. Press [Setting].

3. Follow the instructions on the display and enter necessary items.

3.24.2 Print the service report

1. Press <Mode>, <4>, <2>.
2. Press [Service Report].
3. Select [ON] or [OFF] for each settings, and press [Yes].

3.25 Reset printer trouble
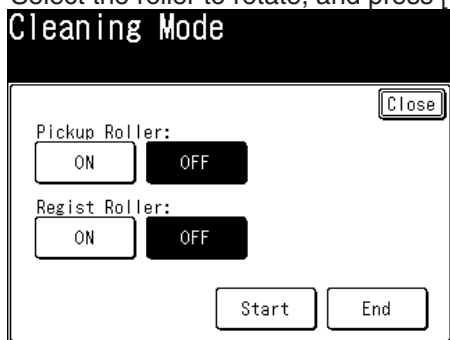
This mode clears the service call. Clear the warning when the trouble is settled. If fuser warming up error is settled, turn the machine OFF and ON following this operation.

1. Press <Mode>, <*>, <4>, <5>.
2. Press [Yes].
3. Turn the power OFF and then ON.

3.26 Cleaning mode

This mode rotate the feed roller and registration roller automatically so that you can clean the surface of them.

1. Press <Mode>, <*>, <4>, <6>.
2. Select the roller to rotate, and press [ON].
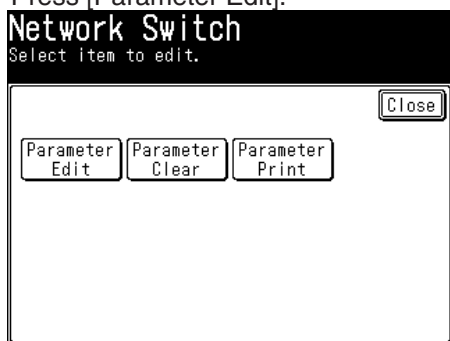
```
Cleaning Mode

                              Close
   Pickup Roller:
     ON        OFF

   Regist Roller:
     ON        OFF

                  Start    End
```

3. Press [Start] to rotate the roller.
4. Press [End] to stop rotating.

3.27 Network switch mode
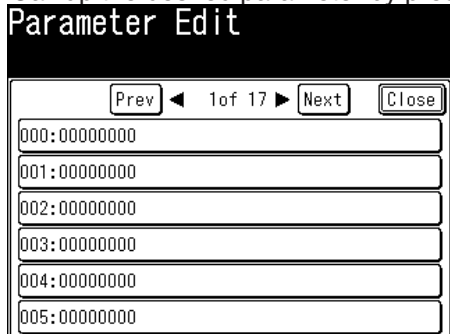
1. Press <Mode>, <*>, <5>, <1>.
2. Press [Parameter Edit].

```
Network Switch
Select item to edit.

                              Close

  Parameter  Parameter  Parameter
    Edit       Clear      Print
```

When you press [Parameter Clear] and then [Yes], all the parameters return to their default value.

3. Call up the desired parameter by pressing [Prev] or [Next] , or by pressing the numeric keys.

```
Parameter Edit

      Prev ◄  1of 17 ► Next   Close
  000:00000000
  001:00000000
  002:00000000
  003:00000000
  004:00000000
  005:00000000
```

4. Select the desired parameter by pressing the box.

5. To navigate through the machine parameter settings:
   - The bits are ranged from 7 (left) to 0 (right).
   - Press [◄] or [►] of the cursor key to move the cursor.
   - Press <0> or <1> on the numeric keys, or [▼] or [▲], to change the bit value.
   - Press [Enter] to save the setting of the displayed parameter and return to the machine parameter edit screen.
   - Press [Back] *not* to save the setting of the displayed parameter.
6. If you want to set other parameters, repeat step 3-5. Otherwise, proceed to step 7.
7. Press <Reset> to return the machine to ready screen.

   You can confirm the initial setting of each parameter by the network switch list.
   The network switch list will be printed by pressing [Parameter Print] in step 2.

Network switch 000~001: Factory use only

Network switch 002:

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Maximum session times of SMTP	Set up the maximum session times.
6	0		The number between 1 to 32 are available.
5	0		
4	0		00011111 32 times
3	0		:
2	0		00001001 10 times
1	0		:
0	0		00000001 2 times
			00000000 1 time (default)

Network switch 003:

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Number of retry times for archive transmission	Set up the retry times for archive transmission.
6	0		This setting is adopted for the following transmission when an available destination is set.
5	0		• Transmission to a shared folder
4	0		• E-mail transmission
3	1		
2	1		11111111 255 times
1	1		:
0	1		00001111 15 times (default)
			:
			00000001 1 time
			00000000 No retry

Network switch 004:

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Scan to e-mail retry interval	11111111 255 seconds
6	0		:
5	0		00111100 60 seconds
4	0		:
3	0		00000010 2 seconds
2	0		00000001 1 second
1	0		00000000 3 seconds (default)
0	0		

Network switch 005 ~ 006: Factory use only

Network switch 007:

Switch	Initial Setting	Adjust	Usage/Comments
7	0		
6	0		
5	0		
4	0		
3	0		
2	0		
1	0		
0	0	Print banner page on LPD protocol 0: Yes 1: No	When you set this switch to "1", the banner page is not printed on LPD protocol even when the printer receives the print command.

Network switch 008:

Switch	Initial Setting	Adjust	Usage/Comments
7			
6			
5			
4			
3			
2			
1	0	Send Host name (Option 12) to DHCP server 0: Yes 1: No	Send Host name (Option 12) to DHCP server when acquiring IP address. If DHCP server is configured on dynamic updates, it registers the host name to the DNS server.
0	0	Send FQDN (Option 81) to DHCP server 0: Yes 1: No	Send FQDN (Option 81) to DHCP server when acquiring IP address. If DHCP server is configured on dynamic updates, it registers the FQDN to the DNS server.

Network switch 009 ~ 010: Factory use only

Network switch 011:

Switch	Initial Setting	Adjust	Usage/Comments	
7	0	Synchronizing interval of internet time between machine and SNTP server	11111111 : 00111100 : 00000010 00000001 00000000	255 minutes 60 minutes 2 minutes 1 minute 15 minutes (default)
6	0			
5	0			
4	0			
3	0			
2	0			
1	0			
0	0			

Network switch 012:

Switch	Initial Setting	Adjust	Usage/Comments	
7	0	Maximum permissible hours of difference in machine and SNTP server	When the difference in machine and SNTP server is smaller than the set value, the machine does not refresh the time. 00011000 : 00000010 00000001 00000000	24 hours 2 hours 1 hour Always refreshes time (default)
6	0			
5	0			
4	0			
3	0			
2	0			
1	0			
0	0			

Network switch 013:

Switch	Initial Setting	Adjust	Usage/Comments
7	0	Protocol version for SSL/TLS	00000100: 0x303(TLS1.2) 00000011:0x302(TLS1.1) 00000010: 0x301(TLS1.0) 00000001: 0x300(SSLv3) 00000000 : 0x303(SSLv2/SSLv3/TLS1.0)
6	0		
5	0		
4	0		
3	0		
2	0		
1	0		
0	0		

Network switch 014 ~ 099: Factory use only

3.28 Coverage measurement

You can scan and check the black ratio of a document.
1. Press <Mode>, <*>, <5>, <4>.
2. Set the document, and press [Yes].
3. The document will be scanned, and you see the black ratio of that document on the display.

3.29 Touch panel adjustment

Correct the X, Y on the touch panel.
1. Press <Mode>, <*>, <5>, <6>.
2. Touch the left upper corner of the display, and press <Start>.

```
Touch Panel Adjust

Touch the left
upper corner,
then press <Start>.
  A = (20 , 20)
```

3. Touch the right bottom corner of the display, and press <Start>.

```
Touch Panel Adjust

Touch the right
bottom corner,
then press <Start>.
  A = (265 , 265)
  B = (605 , 605)
```

3.30 Printer control parameter mode

The following settings are available for the PDL :

Adjustment	Parameter
• Enable PS3 tray setting • Cassette designation command • Paper size designation command	027
Change barcode font width	028
Tray number command for PCL 5	044 ~ 048
Tray number command for PCL XL	050 ~ 054
Cerner certification setting	060
Tray number command for PS3	064 ~ 068

1. Press <Mode>, <*>, <5>, <7>.
2. Select [Parameter Edit], and press [Enter].
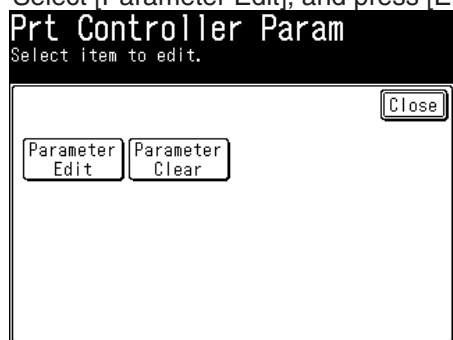
```
Prt Controller Param
Select item to edit.

                              Close

  Parameter  Parameter
    Edit       Clear
```

When you press [Parameter Clear] and then [Yes], all the parameters return to their default value.
3. Call up the desired switch by pressing [Prev] or [Next],or by pressing the numeric keys.
4. Select the desired parameter by pressing the box.
5. Adjust the parameter, and press [Enter].
To navigate through the machine parameter settings:
   • The bits are ranged from 7 (left) to 0 (right).
   • Press [◄] or [►] of the cursor key to move the cursor.
   • Press <0> or <1> on the numeric keys, or [▼] or [▲], to change the bit value.
   • Press [Cancel] not to save the setting of the displayed parameter.
6. If you want to set other parameter, repeat step 3-5.

Printer control parameter 000 ~ 026 : Factory use only

Printer control parameter 027 :

bit	Initial Setting	Adjust	Usage/Comments
7	-	Factory use only	
6	-	Factory use only	
5	-	Factory use only	
4	0	Enable PS3 tray setting 0: No 1: Yes	Set this bit to "1" to customize tray number command on PS3. For detail setting, see page 3-111, Printer control parameter 064 ~ 068.
3	-	Factory use only	
2	-	Factory use only	
1	0	Cassette designation command 0: Default 1: HP	Some default cassette designation commands differ from those of HP. To use HP command, set this bit to "1". The default settings are on the table below. To customize the tray number command, see page 3-110.
0	0	Paper size designation command 0: Default 1: HP	Some default paper size designation commands differ from those of HP. (See table below.) To use HP command, set this bit to "1".

Cassette	PCL5		PCL XL	
	Default	HP	Default	HP
Auto	7	7	1	1
Bypass tray	2	2	2	2
Cassette 1	1	4	4	3
Cassette 2	4	1	5	4
Cassette 3	5	5	6	5
Cassette 4	8	8	7	7

Paper size	PCL5		PCL XL	
	Default	HP	Default	HP
Letter	2	2	0	0
Ledger	6	6	4	4
Legal	3	3	1	1
Executive	1	1	3	3
A3	27	27	5	5
A4	26	26	2	2
A5	25	25	16	16
A6	24	24	17	17
F4	114	114	19	-
B4(JIS)	46	46	10	10
B5(JIS)	45	45	11	11
B5	100	100	12	12
B6(JIS)	44	44	18	18
Half Letter	102	102	20	-
COM10	81	81	6	6
Monarch	80	80	7	7
DL	90	90	9	9
Postcard	71	71	14	14
D. Postcard	72	72	15	15
C5	91	91	8	8
Custom	101	101	-	-
8K	115	115	21	19
16K	116	116	22	20
Chyou4	117	117	23	-
Kaku2	118	118	24	-

-: No corresponding command

Printer control parameter 028 :

bit	Initial Setting	Adjust	Usage/Comments
7	0	Change barcode font width	Change barcode fonts wider or narrower by step.
6	0		The steps are from 7 to -7, but some fonts are limited in
5	0		available steps. And some fonts cannot be changed. For
4	0		details, see table below.
3	0		
2	0		10000111 Narrower
1	0		:
			10000100
			:
			00000000 Selected font
			:
			00000100
0	0		:
			00000111 Wider

Code 128		
1	Code 128 Condensed	Narrow
2	Code 128 Condensed Bold	↑
3	Code 128	|
4	Code 128 Bold	|
5	Code 128 Expanded	↓
6	Code 128 Expanded Bold	Wide

Code 39		
1	BC 3of9 Thin	Narrow
2	BC 3of9 Light	↑
3	BC 3of9	|
4	BC 3of9 Semi	↓
5	BC 3of9 Heavy	Wide

Codabar		
1	Codabar Condensed	Narrow
2	Codabar	↑
3	Codabar Expanded	↓
		Wide

I2of5		
1	Interleaved 2of5 Narrow Light	Narrow
2	Interleaved 2of5 Light	↑
3	Interleaved 2of5 Narrow	|
4	Interleaved 2of5	|
5	Interleaved 2of5 Narrow Semi	|
6	Interleaved 2of5 Semi	|
7	Interleaved 2of5 Narrow Bold	↓
8	Interleaved 2of5 Bold	Wide

Upc		
1	UPC/EAN Condensed	Narrow
2	UPC/EAN	↑
3	UPC/EAN Condensed Bold	|
4	UPC/EAN Bold	|
5	UPC/EAN Expanded	↓
6	UPC/EAN Expanded Bold	Wide

Printer control parameter 029 ~ 043 : Factory use only

Printer control parameter 044 ~ 048 :

bit	Initial Setting	Adjust	Usage/Comments
7	0		
6	0		
5	0		
4	*	Tray number command for PCL 5	Set the tray number command for PCL 5. 0 to 23 are available. To enable this setting, turn printer parameter 27 bit 1 to "1". Printer control parameter 044: Bypass tray (default 2) Printer control parameter 045: Cassette 1 (default 4) Printer control parameter 046: Cassette 2 (default 1) Printer control parameter 047: Cassette 3 (default 5) Printer control parameter 048: Cassette 4 (default 8)
3	*		
2	*		
1	*		
0	*		

Printer control parameter 050 ~ 054 :

bit	Initial Setting	Adjust	Usage/Comments
7	0		
6	0		
5	0		
4	*	Tray number command for PCL XL	Set the tray number command for PCL XL. 0 to 23 are available. Other values have no operation guarantee. To enable this setting, turn printer parameter 27 bit 1 to "1". Printer control parameter 050: Bypass tray (default 2) Printer control parameter 051: Cassette 1 (default 3) Printer control parameter 052: Cassette 2 (default 4) Printer control parameter 053: Cassette 3 (default 5) Printer control parameter 054: Cassette 4 (default 7)
3	*		
2	*		
1	*		
0	*		

Printer control parameter 060 :

bit	Initial Setting	Adjust	Usage/Comments
7	0		
6	0		
5	0		
4	0		
3	0		
2	0		
1	0		
0	0	Cerner certification setting 0: Disable 1 :Enable	Turn this bit to "1" to use the machine on cerner certification environment. This will adjust the print area. This setting will be active after restarting the machine. When you have changed the setting, restart the machine.

Printer control parameter 064 ~ 068 :

bit	Initial Setting	Adjust	Usage/Comments
7	0		
6	0		
5	0		
4	*	Tray number command for PS3	Set the tray number command for PS3.
3	*		0 to 23 are available. Other values have no operation
2	*		guarantee.
1	*		
0	*		To enable this setting, turn printer parameter 27 bit 4 to "1". Printer control parameter 064: Bypass tray (default 0) Printer control parameter 065: Cassette 1 (default 1) Printer control parameter 066: Cassette 2 (default 2) Printer control parameter 067: Cassette 3 (default 3) Printer control parameter 068: Cassette 4 (default 4)

3.31 Network capture (Packet capture)

You can capture the packet data the machine has sent and received. When you read the data using a packet analyzing tool such "tcpdump" or "Wireshark" , you can use it as a subsidiary tool to detect the cause of transmission problem.

There are two ways to capture the packet data: capturing from web browser (see "3.42.6 Network capture" on page 3-130) and from the machine control panel. When you operate it from the machine, the captured data will be stored in the USB memory. You can output data captured on the panel from the panel only to the panel, and from web output to web only.

3.31.1 Setup

Set up the following items to use this function. This step is required only for the first time when you use this function.

Host	All : To capture the packets between the machine and all hosts, select [ON]. IP Address : To capture the packets between the machine and specific host, select [OFF] at "All". Then, enter the host name in the "Host" field". You can enter only IP address when you enter it from the machine control panel.
Protocol	Select the protocol to capture. You can select multiple protocols.
Port	Enter the port number to capture.
Count	Enter the number of packets to capture. Capturing stops automatically when it reaches this number. When you enter 0, you can capture the packets using the USB memory device until you press [Stop].
Size	Enter how many bites to store for each packet. You can enter number from 64 to 1514 bites.

1. Press <Mode>, <*>, <5>, <8>.
2. Press [Capture Settings].
3. Set up the detailed capture setting.

3.31.2 Capturing packet data from machine control panel

When you capture packets using USB memory device, a file named "tcpdump.cap" will be created on the root. If there already exists a file with the same file name, that file will be overwritten with the new data.
1. Connect a USB memory to the machine.
2. Press <Mode>, <*>, <5>, <8>.
3. Press [Capture], and then [Yes].
4. To stop capturing, press [Stop] and then [Yes].

⚠CAUTION

Disconnect the USB memory device after capturing has finished.

3.32 Storage maintenance

The storage on the Message Board is an SD card. The following operations are available with this function:

Storage Export :   Export the machine data to a storage device.

Disable SD Storage : Permanently disables the SD card from being read to prevent data from being accessed when the unit is disposed.

3.32.1 Storage export

Important

Use this feature in following cases:
• To replace the SD card from a standard card to an optional card
• When the SD card has become not-write-able.

1. Insert the new SD card to a card reader, and connect the card reader to the machine.
2. Press <Mode>, <*>, <5>, <9>.
3. Press [Storage Export].
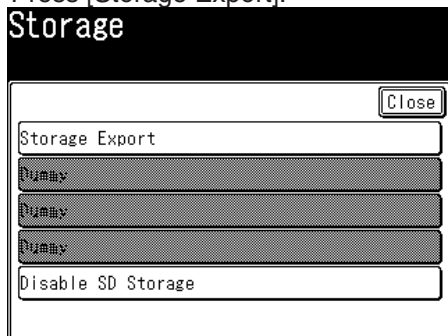
4. Press [Yes].

3.32.2 Erasing storage

⚠CAUTION

When you perform this operation, the SD memory card cannot be recovered through "Resetting Storage" or any other operations.

1. Press <Mode>, <*>, <5>, <9>.
2. Press [Disable SD Storage].
3. Press [Yes].

```
Storage

  !!WARNING!! The data storage will be
  completely erased. After performing the
  Storage Erase function, the compact
  flash card will be unusable.
  It will have to be replaced for the
  unit to operate correctly.
  Is it OK to proceed?

                        Yes      No
```
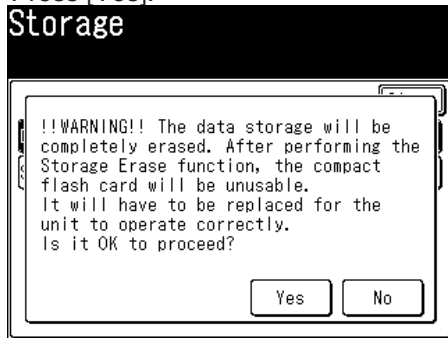
3.33 Initialize protection

Use this function to initialize protect passcode and administrator's password.
1. Press <Mode>, <*>, <6>, <1>.
2. Press either [Initialize Protect Code] or [Initialize Admin Password].

```
Initialize Protect

                                Close
  Initialize Protect Code
  Initialize Admin Password
```
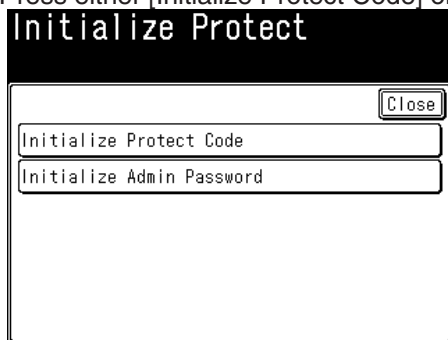
3. Press [Yes].

3.34 Color fine adjustment

Adjust the scan color. You can adjust RGB mode for front side of document, and make fine difference for back side of document.

1. Press <Mode>, <*>, <6>, <2>.
2. Press either [Register / Change].
   When you press [Initialize] and then [Yes], all the parameters return to their default value.
3. Call up the desired parameter by pressing [Prev] or [Next] , or by pressing the numeric keys.
4. Select the desired parameter by pressing the box.
5. To navigate through the machine parameter settings:
   - The bits are ranged from 7 (left) to 0 (right).
   - Press [◄] or [►] of the cursor key to move the cursor.
   - Press <0> or <1> on the numeric keys, or **[▼]** or [▲], to change the bit value.
   - Press [Enter] to save the setting of the displayed parameter and return to the machine parameter edit screen.
   - Press [Back] *not* to save the setting of the displayed parameter.
6. If you want to set other parameters, repeat step 3-5. Otherwise, proceed to step 7.
7. Press <Reset> to return the machine to ready screen.

Adjustment items	Step	Parameter number	Factory default (7654 3210)
R (Offsets) / Front side	R 0	000	0000 0000
	R +1	003	0000 0000
	R +2	002	0000 0000
	R +3	001	0000 0000
	R -1	004	0000 0000
	R -2	005	0000 0000
	R -3	006	0000 0000
	R all steps	009	0000 0000
G (Offsets) / Front side	G 0	010	0000 0000
	G +1	013	0000 0000
	G +2	012	0000 0000
	G +3	011	0000 0000
	G -1	014	0000 0000
	G -2	015	0000 0000
	G -3	016	0000 0000
	G all steps	019	0000 0000
B (Offsets) / Front side	B 0	020	0000 0000
	B +1	023	0000 0000
	B +2	022	0000 0000
	B +3	021	0000 0000
	B -1	024	0000 0000
	B -2	025	0000 0000
	B -3	026	0000 0000
	B all steps	029	0000 0000
R (Offsets) / Back side	R all steps	100	0000 1000
G (Offsets) / Back side	G all steps	101	0000 1000
B (Offsets) / Back side	B all steps	102	0000 1000

3.35 AS400 batch settings

All AS400 related settings will turn on using this function.

1. Press <Mode>, <*>, <6>, <3>.
2. Select [ON], and press [Enter].

3.36 Certification terminal

Enable this setting to use the certification terminal.
1. Press <Mode>, <*>, <6>, <5>.
2. Select the terminal type, and press [Enter].

3.37 Service function menu

All the field service modes are available from the menu.
1. Press <Mode>, <*>, <7>, <7>.
2. Select the desired service function to use.

```
Service Function Menu

        Prev ◄  1of  3 ► Next    Close

   Machine  | Memory | User Data| All Ram
 Parameters |  Switch |  Clear   |  Clear
   Unique   |  T.30   | Printer  | Service
   Switch   | Monitor |  Mainte  | Report
   Monitor  |  Test   | Switch   | Factory
   Speaker  | Function |  List   | Function
   Line     | Mirror  | Order    | DRAM
   Test     |  Lock   | Sheet    | Clear
```
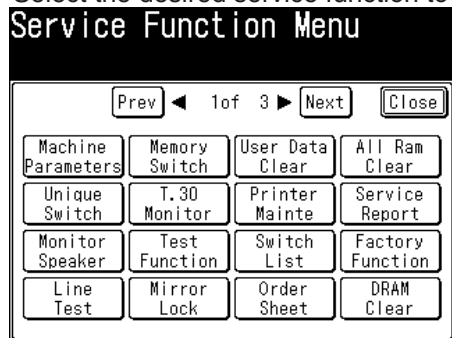
3.38 Counter information maintenance

The machine has the counter data saved on both the EEPROM and SD card with its serial number connected. If for some reasons these two serial numbers do not match, maintenance the data manually.

> ## NOTE
>
> The maintenance screen is normally displayed when the machine is turned on. Follow step 2. To maintenance the data manually, start operation from step 1.

1. Press <Mode>, <*>, <9>, <3>.
2. Check both counter data on EEPROM and SD card.
   To copy the counter data from SD card to EEPROM, press [from SD].
   To copy the counter data from EEPROM to SD card, press [from EEPROM].

```
CounterInfoMainte.
Update Counter Information

                            Close

  [SD]              [EEPROM]

  Page Count:00000000  Page Count:00000000

  Scan Count:00000000  Scan Count:00000000

     from SD         fromEEPROM
```
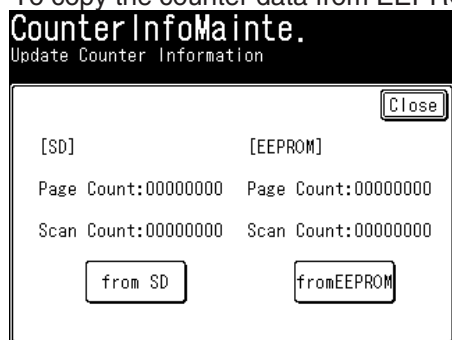
3. Restart the machine when copying the data has finished.

3.39 RDS data copy

This mode enables you to import and export binary data including machine settings.

Exporting RDS data

1. Connect a USB memory to the machine.
2. Press <Mode>, <*>, <9>, <4>.
3. Press [USB Export].
4. Select the location of where to save the data, and press [Next].
5. Enter the file name, and press [Export].
6. When export is finished, press [OK] and disconnect the USB cable.

Importing RDS data

1. Connect a USB memory to the machine.
2. Press <Mode>, <*>, <9>, <4>.
3. Press [USB Import].
4. Brows the file you want to import, select it and press [Next].
5. Enter the file name, and press [Import].
6. When export is finished, press [OK]. The machine restarts from itself.

3.40 Asset number

This mode is used to input the asset number. You can also input the asset number from the web screen (see "Asset Number" on page 3-131).
1. Press <Mode>, <*>, <9>, <5>.
2. Input asset number, and press [Enter].

3.41 Quick Initial settings

At installation of this machine, you should set some parameters according to the following procedures.
You can do the following setting with continuously.
1. Initial settings
2. Consumable order sheet settings

1. Press <Mode>, <*>, <9>, <9>.

See following pages, how to set-up each mode:
Initial setting : See "Scanner and Fax Guide".
Consumable order sheet : See "3.17.1 Set consumable order sheet" on page 3-94.

3.42 Update the firmware

There are three choices to update the ROM:
• Using the USB memory
• Using the Network (operating through control panel)
• Using the Network (operating through web browser). (See "3.42.4 Firmware Update" on page 3-128.)

In following cases, firmware cannot be updated. Check the machine in advance:
• The machine is in operation (scanning, printing, or sending fax etc.)
• The memory is in use by delayed transmission or for other reasons.

⚠CAUTION

Do not turn the power off while updating the firmware. Doing so may damage the main control board.

3.42.1 Updating the firmware using an USB memory

Update the machine firmware using an ROM data prepared in an USB memory. You can either update it automatically to the latest version : "Auto Update", or to the desired version by selecting the ROM version manually : "Manual Update".

Auto Update

To update the ROM automatically, create a "Boot" folder on the root directory of USB memory, then create a folder in it, and save the firmware in it.

```
USB flash memory
        |
      Boot
        |
        |___ KM25eUSA
                |___ KM25e_USA_xxxxxx.bin
```
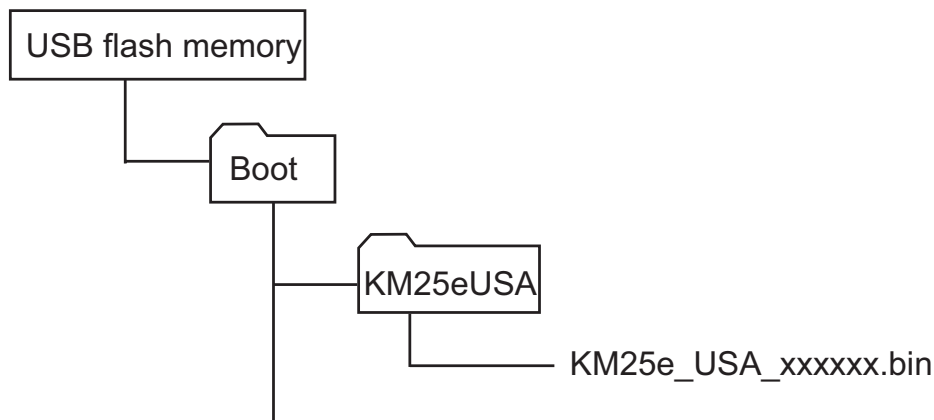
• "xxxxxx" indicates the ROM version.

NOTE

Save only one firmware in the folder. Auto Update is not available when two or more firmware are stored.

1. Press the power button on the control panel, and turn off the machine.
2. Connect the USB memory in which the firmware is stored.
3. Turn the machine on.
   Update starts automatically.
4. When the display shows "Firmware Updating OK", turn the machine OFF and remove the USB memory.
5. Press [Machine Info] on My MFP Menu screen, and check the ROM version is updated.

Manual update

Updating the ROM manually either by selecting the latest ROM version or by selecting the desired version.
Two or more ROM data can be saved on an USB memory.
Create a folder, and save the firmware in it.

```
┌─────────────────┐
│ USB flash memory │
└─────────────────┘
        │
        │    ┌──────────┐
        ├────│ KM25eUSA │
        │    └──────────┘
        │         │
        │         ├──────── KM25e_USA_Ver.txt
        │         │
        │         ├──────── KM25e_USA_xxxxxx.bin
        │         │
        │         ├──────── KM25e_USA_xxxxxx.bin
        │         │
        │         └──────── KM25e_USA_xxxxxx.bin
```
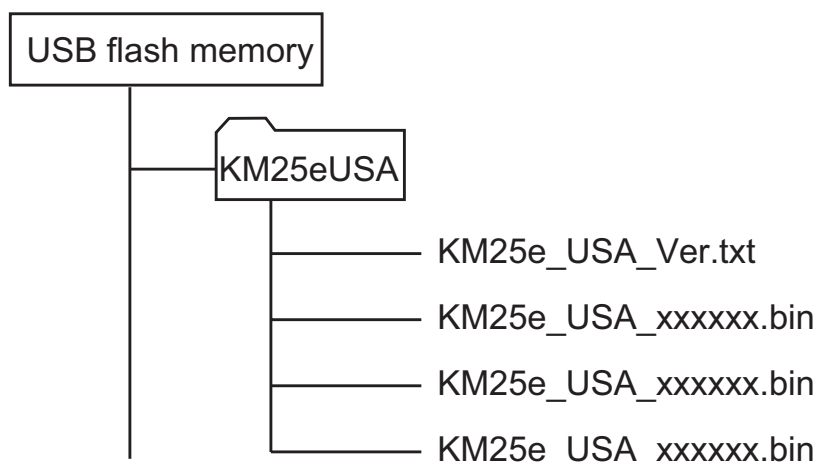
• "xxxxxx" indicates the ROM version.

1. Connect the USB memory in which the firmware is stored.
2. Press <Mode>, <*>, <9>, <8>
3. Press [Update from the USB].
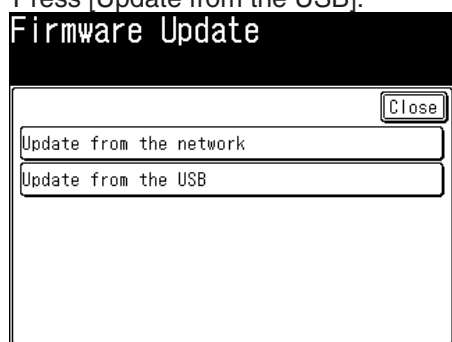
```
Firmware Update
                                    [Close]
  Update from the network
  Update from the USB
```

4. Press either [Update to the latest version] or [Specify with specified version].

```
Update from the USB
                                    [Close]
  Update to the latest version
  Specify from list to update
```
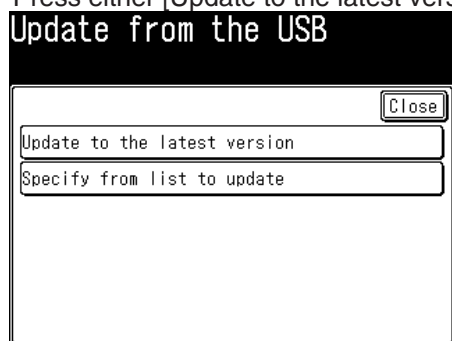
5. When you have selected [Update to the latest version], go to step 8.
   When you have selected [Specify from list to update], press [File selection (Main):].
6. Select the ROM version to update, and press [Close].
7. Press [Update].
8. Press [Yes] and the updating starts.
9. When the display shows "Firmware Updating OK", turn the machine OFF and remove the USB memory.
10. Press [Machine Info] on My MFP Menu screen, and check the ROM version is updated.

NOTE

When you have selected [Update to the latest version] in step 5 while the machine is already the latest version, the display shows "Already up-to-date" and updating does not start.

3.42.2 Updating the firmware using the network

Update the machine firmware using an ROM data prepared on a network location.
Store the ROM data on a network location in advance. See how to name the folder in which you store the firmware on the former page.

Setup

Set up the following items to use this function. This step is required only for the first time when you use this function.

Protocol	Select the protocol from http, FTP, or SMB.
Path	Enter the path to the firmware.
Account	Enter the account to access the location where the firmware is stored.
Password	Enter the password to access the location where the firmware is stored.
Proxy Server	Enter the proxy server.
Proxy Port	Enter the proxy server port number.

1. Press <Mode>, <*>, <9>, <8>.
2. Press [Update from the network].
3. Press [Specifying Server].
4. Enter the items as necessary.

Update

1. Press <Mode>, <*>, <9>, <8>.
2. Press [Update from the network].
3. Press either [Update to the latest version] or [Specify with specified version].
4. When you have selected [Update to the latest version], and go to step 7.
    When you have selected [Specify from list to update], press [Main Unit Version:].
5. Enter the ROM version to update, and press [Enter].
6. Press [Update].
7. Press [Yes] and the updating starts.
8. When the display shows "Firmware Updating OK", turn the machine OFF and ON.

3.42.3 About error

If an error occurred during updating, a five-digit error code will be displayed.

Code	Cause / Countermeasure
11000	General error.
11020	Start error detected.
11030	Could not find the ROM file. Check the specified file.
11040	USB memory read error. Check the USB memory is working correctly.
11050	Network board read error. Check the network boar is working correctly.
11060	File read error. Check that the ROM file are stored correctly.
11070	
11080	
11200	The machine is in use. Update when the machine and the memory are free.
11400	Could not find the ROM file. Check the specified file.
12030	Unable to update. Check the main control board is working correctly.

Start error (1020)

The detailed error code will be displayed when you press <Mode>, <*>, <9>, <8>. The four-digit numbers in the parenthesis is the detailed errors for start error.

```
❶Firmware Updating NG
  00000 (0000)

  Please turn the power off.
```
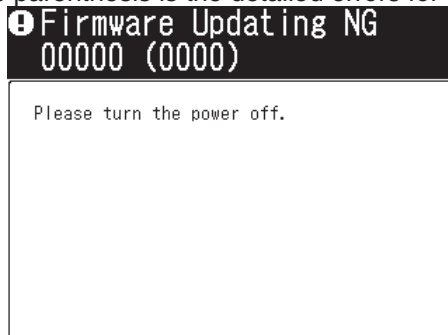
Third digit error code

Code	Cause / Countermeasure
0020	Fax is in use. (Reserved communications are existing.)
0080	Memory is in use.
00A0	Fax and memory are in use.

Last digit error code

Code	Cause / Countermeasure
0000	No information
0001	Machine is operating.
0002	Machine is printing.
0003	Machine is operating and printing.
0004	Machine is scanning.
0005	Machine is printing and scanning.
0006	Machine is operating and scanning.
0007	Machine is operating, printing, and scanning.
0008	Machine is communicating.
0009	Machine is operating and communicating.
000A	Machine is printing and communicating.
000B	Machine is operating, printing, and communicating.
000C	Machine is scanning and communicating.
000D	Machine is operating, scanning and communicating.
000E	Machine is printing, scanning and communicating.
000F	Machine is operating, printing, scanning and communicating.

For example

When the display shows 1020(008A), the update did not start because the memory is in use, and the machine was printing and communicating.

3.42.4 The indication while updating

While the firmware is being updated, you can be checked the status through LED lamps on the panel.

Status

Lighting LED		Status
1	<Login>	Initializing step
2	<Personal Mode>	ROM data acquisition step
3	<Job Confirm.>	Updating step

4 <Energy Save> flashes during above steps.

Result

Lighting LED		ROM type
5	Information lamp	Orange : Update failed
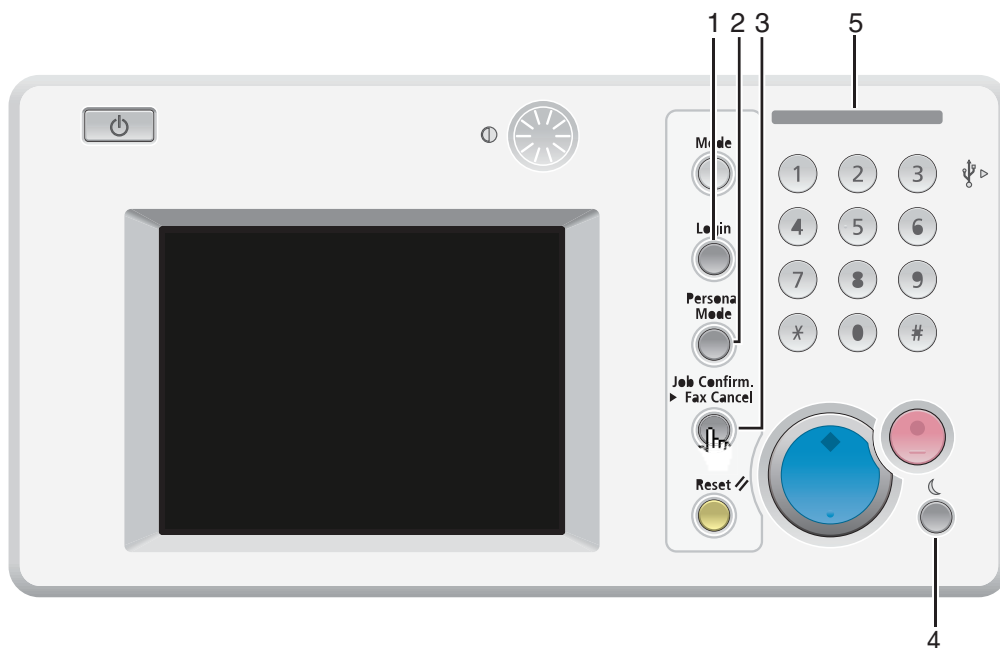
3.43 Network service functions

The following topics will be covered in this section:
- E-mail detail settings
- Dial option conversion settings
- Firmware Update via network
- Firmware Update
- Print Data Capture
- Network Capture
- Modifying the session control time
- Machine Settings

To open the network service screen

1. Start the web browser on computer.
2. Type the machine's IP address in the URL address field followed by "/service".
   e.g. http://192.168.1.10/service

3. Enter login ID and password.

   ID   : Administrator
   Password   : 12345678

4. Now the network service settings are available.
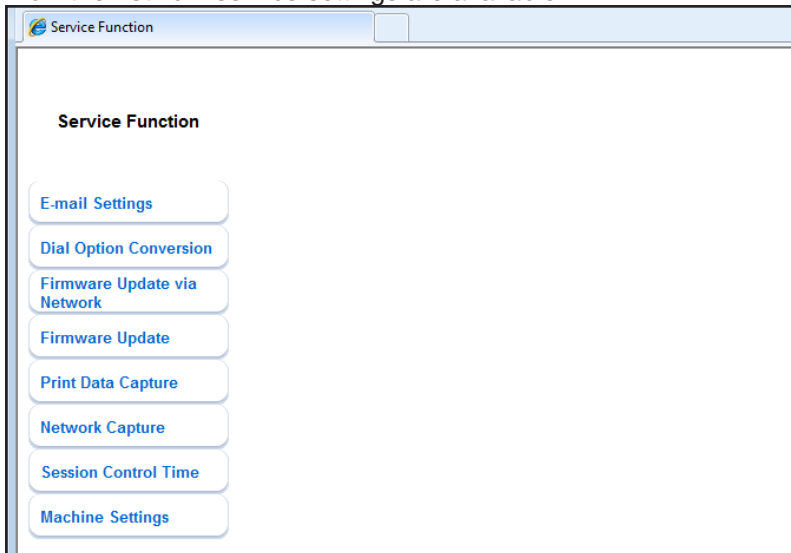
3.43.1 E-mail detailed status

1. Open the network service screen. (See page 3-122.)
2. Click [E-mail Settings].
3. Set each item, and click [Save].

Service Function

E-mail Settings	**E-mail Settings**
Dial Option Conversion	X-mailer
Firmware Update via Network	Tx E-Mail MIME char Setting ● Latin1 (ISO-8859-1)
Firmware Update	○ Latin9 (ISO-8859-15)
Print Data Capture	
Network Capture	
Session Control Time	
Machine Settings	

Save   Initialize

Items	Instructions
X-Mailer	Some SMTP servers do not send e-mail with no X-Mailer information (mailer name) in the e-mail header. In such case, input the X-Mailer information here.
Tx E-Mail MIME char setting	Select which code to use when transmitting characters other than ASCII code. Select "LATIN9 (ISO-8859-15)" only when the user wants to use this code. When only ASCII code is used, the message is transmitted with US-ASCII regardless of this setup. See the codes on the next page.

ISO-8859-15 (Latin9)

80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F
128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143

90	91	92	93	94	95	96	97	98	99	9A	9B	9C	9D	9E	9F
144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159

A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	AA	AB	AC	AD	AE	AF
160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
	¡	¢	£	€	¥	Š	§	š	©	ª	«	¬		®	‾

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	BA	BB	BC	BD	BE	BF
176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
°	±	²	³	Ž	µ	¶	·	ž	¹	º	»	Œ	œ	Ÿ	¿

C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	CA	CB	CC	CD	CE	CF
192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï

D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	DA	DB	DC	DD	DE	DF
208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß

E0	E1	E2	E3	E4	E5	E6	E7	E8	E9	EA	EB	EC	ED	EE	EF
224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï

F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	FA	FB	FC	FD	FE	FF
240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255
ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

ISO-8859-1 (Latin1)

80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F
128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143

90	91	92	93	94	95	96	97	98	99	9A	9B	9C	9D	9E	9F
144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159

A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	AA	AB	AC	AD	AE	AF
160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
	¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬		®	¯

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	BA	BB	BC	BD	BE	BF
176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿

C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	CA	CB	CC	CD	CE	CF
192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï

D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	DA	DB	DC	DD	DE	DF
208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß

E0	E1	E2	E3	E4	E5	E6	E7	E8	E9	EA	EB	EC	ED	EE	EF
224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï

F0	F1	F2	F3	F4	F5	F6	F7	F8	F9	FA	FB	FC	FD	FE	FF
240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255
ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

3.43.2 Convert dialling characters in e-mail gateway functions

The following dialling characters will be converted to certain characters specified here:
    Pause (/P)
    Tone (/T)
    Flash (/F)
For example, when you enter "&A" for "/P" (pause) and specify a fax number like "123/P456", the number will be converted to "123&A456" and transmitted at e-mail gateway transmission.

1. Open the network service screen. (See page 3-122.)
2. Click [Dial Option Conversion].
3. Enter the characters to which the machine should convert the dialling character.

Service Function		Save	Initialize
E-mail Settings	**Dial Option Conversion**		
Dial Option Conversion	Pause(/P)		
Firmware Update via Network	Tone(/T)		
Firmware Update	Flash(/F)		
Print Data Capture			
Network Capture			
Session Control Time			
Machine Settings			

4. Click [Save].

NOTE

- The Flash character (/F) is not available for USA.
- Up to two characters are able to enter for each dialling character.
- For available characters, see table below.
- If the box is blank, the dialling characters will be overwritten when transmitting over the e-mail gateway.

	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	{			}	~	

3.43.3 Firmware Update Via Network

To update the machine via network, set the items.
1. Open the network service screen. (See page 3-122.)
2. Click [Firmware Update via Network].
3. Enter the necessary information.
4. Click [Update] to start updating the machine.

5. When updating has finished, the machine restarts automatically.
   Check the ROM version to see the update has succeeded. The ROM version is displayed at "Machine Status" on the Message Board.

3.43.4 Firmware Update

1. Open the network service screen. (See page 3-122.)
2. Click [Firmware Update].
3. Click [Browse] to browse the location where the firmware is located.

eg.
  Machine: KM25e_USA_A0A0A0.bin

4. Click [Update].
5. When updating is finished, the machine restarts from itself.
6. Check the ROM version to see the update has succeeded. The ROM version is displayed at "Machine Status" on the Message Board.

3.43.5 Print data capture

User can capture and store print commands (PCL/GDI/PS/FAX) as a ".PRN File". This feature supports concurrent processing to printing and capture print commands.

1. Open the network service screen. (See page 3-122.)
2. Click [Print Data Capture].
3. Enter the necessary information.

Service Function

		Save	Capture Start	Capture Stop	File Delete	Initialize

	Print Data Capture
E-mail Settings	
Dial Option Conversion	**Capture Parameter**
Firmware Update via Network	**Target** ⦿ All PC, Host
Firmware Update	○ Specific PC, Host
Print Data Capture	IP Address :
Network Capture	**Download**
Session Control Time	RAW HTTP Download Size 0KB Date
Machine Settings	LPD HTTP Download Size 0KB Date
	IPP HTTP Download Size 0KB Date

4. Click [Capture Start] to start capturing the data.
5. Click [Capture Stop] to end capturing.
6. Click "HTTP Download", follow the instruction displayed, and download the captured file.

HTTP Download

7. Click [File Delete] to delete the captured file.

3.43.6 Network capture

For details of this future, refer to "3.31 Network capture (Packet capture)".

1. Open the network service screen. (See page 3-122.)
2. Click [Network Capture].
3. Enter the necessary information.

Service Function

Save   Capture Start   Capture Stop   File Delete   Initialize

E-mail Settings

Dial Option Conversion

Firmware Update via Network

Firmware Update

Print Data Capture

Network Capture

Session Control Time

Machine Settings

Network Capture

Capture Parameter

Target	● All Host	
	○ Specific Host	
Host Name / IP Address		
Protocol	☑ TCP ☑ UDP ☑ ICMP	
Port / Service Name	80	(Option)
# of Packet	10000 (Option)	
Packet Size	1514 byte (Option)	
Download	HTTP Download Size 0KB Date	

4. Click [Capture Start] to start capturing the data.
5. Click [Capture Stop] to end capturing.
6. Click "HTTP Download", follow the instruction displayed, and download the captured file.

<u>HTTP Download</u>

7. Click [File Delete] to delete the captured file.

3.43.7 Modifying the session control time

Modify the session time between the machine and the Message Board users here. The factory default is 30 minutes.
When there is no communication between the machine and the Message Board user during this time, the user will forcibly be log out.
The time can be set between 10 to 1440 minutes (24 hours).

1. Open the network service screen. (See page 3-122.)
2. Click [Session Control time].
3. Input the desired value and click [Save].

3.43.8 Machine Settings

Asset Number

This mode is used to input the asset number. You can also input the asset number from the machine control panel. (See page 3-117.)

1. Open the network service screen. (See page 3-122.)
2. Click [Machine Settings].
3. Input the asset number to "Asset Number" box and click [Save].
    The asset number should be within 13 characters.

Guest User Name

This mode is used to edit the guest user name "GUEST".

1. Open the network service screen. (See page 3-122.)
2. Click [Machine Settings].
3. Input the new name for guest user to the "Guest User Name" box and click [Save].
    The asset number should be within 64 characters.

4 Troubleshooting procedures

4.1 Troubleshooting flow chart

```
┌─────────────────────────────┐
│ Check the detail of the trou-│
│ ble.                         │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐   No    ┌─────────────────────────────┐
│ Is the user operating the ma-│ ──────▶ │ Does the problem still occurs│
│ chine correctly?             │         │ with correct operation?      │
└─────────────────────────────┘         └─────────────────────────────┘
              │                                          │
              ▼                                    Yes   │
┌─────────────────────────────┐                          │
│ Is the problem solved by     │ ◀────────────────────────┘
│ "Initial checks" operation?  │
│ → See page 4-2.              │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│ Solve the problem accord-    │
│ ing to the following menu.   │
└─────────────────────────────┘
```

Checkout error	Communication error	Image failure	Document trouble	Recording jam trouble	Machine malfunction
See page : 4-3	See page : 4-6	See page : 4-19	See page : 4-33	See page : 4-36	See page : 4-37

4.2 Initial checks

Check all items:

	Check items	Remedy
Machine	Is the power on?	Turn the power on.
	Are the covers closed correctly?	Close all covers correctly.
	Is the recording paper set?	Set the recording paper.
	Are the toner and drum set correctly?	Set the toner and drum correctly.
Toner	Is the recommended toner used?	Advice customers to use recommended toner otherwise image failure may occur easily.
Paper	Do customers use paper conform to the specification designed for use in the machine?	Advice customers to use suitable paper otherwise image failure or paper jam may occur easily.
	Does folded or wrinkled paper set in the paper cassette?	Reload new paper.
	Is the paper set correctly?	Refer the user's guide to set the paper correctly. If paper size dial adjustment or other operation such as paper size registration is needed, follow the instruction.
Paper path	Are the inner part such as fuser, transfer roller, or transfer guide dirty with paper waste or toner?	Clean the parts with paper cleaner or etc.
	Are all cassette parts working smoothly?	Replace the part not working smoothly.
	Are foreign objects on the paper path?	Remove the objects.
	Are the feed rollers worn out?	Replace the roller.
Scanning area / Document	Do customers use document conform to the specification designed for use in the machine?	Instruct customers to scan document on document glass when the document is not suitable for ADF. Using unsuitable document on ADF may cause document skew, separation problem or document jam easily.
	Are foreign objects on scanning path?	Remove the object.
	Is the scanner dirty?	Clean the scanner as dirty scanner may cause image failure.
	Are the separator roller and separator pad worn out?	Replace the roller or the pad
Communication	Is the machine connected to a line jack with a line cable?	Reconnect it.
	Are there advanced fax functions such as closed transmission or block junk fax set?	In some functions, free communication is not possible.
Printer environment	Is the machine connected to a network hub (or printer) with LAN cable (or USB cable)?	Reconnect it.
	Is the print driver or TWAIN driver installed correctly?	Reinstall the driver following the user's guide.
	If the machine is on network, is the network setting correct?	Refer to the user's guide and set up the network setting.
Others	When the machine is turned on in a warm place while the machine is cool (in winter, especially at machine installation), condensation occurs inside the printer that causes various problem. Trouble examples: • Low image density or uneven density due to recording part condensation. • Image trouble due to toner moisture absorption • Blur image due to condensation on drum surface. • Paper discharge problem due to condensation in paper supply path.	Wipe the parts with dry soft cloths, or wait for ten to twenty minutes after power on. Instruct customers to open toner or drum bag after it becomes to room temperature.

4.3 Checkout error

4.3.1 Checking the error message

When" Checkout error" message is displayed, follow the steps below to check the service call number.
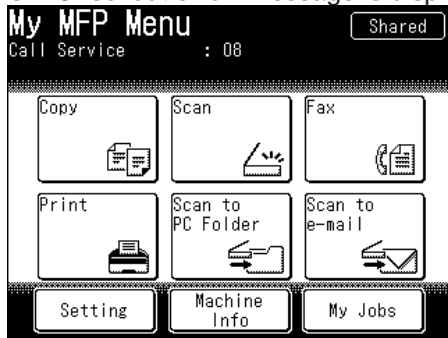
1. Press <Mode>, <*>, <0>, <6>.
2. Press [Service Call].
3. Check the service error code on the display.
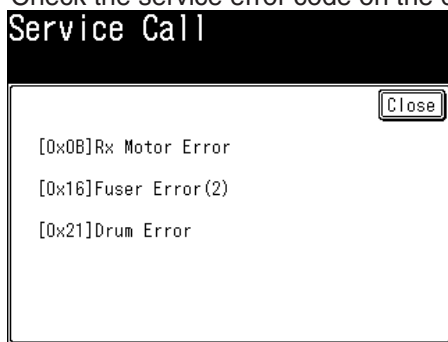
Details code for the errors are displayed in parentheses.

4.3.2 Error code list

Code   Error Message
  04:   RX motor 2 error
  08:   RX motor 1 error
  0B: Fan error
  0D: Temperature / humidity sensor error
  18:   Fuser error
  51:   EEPROM error (Drum cartridge)
  52:   EEPROM error (Toner cartridge)
  53:   TP motor error
  A0:   Printer device error
  A1:   Print head connection error

4.3.2 Troubleshooting

04: RX motor 2 error

08: RX motor error

Causes:

The machine has detected motor-lock signal while the motor is driving.

Suggested corrective action:

1. Check the connection of harness between the motor and main control board.
2. Replace the motor.
3. Replace the main control board.
4. Replace the harness between the motor and main control board.

0B: Fan Error

Detail code:
1: Fan 1 error (Fan for fuser; located on the back side of machine)
2: Fan 2 error (Fan for exhausting ozone; located on the left side of machine)
Causes:

The machine has detected fan error signal while the fan is driving.

Suggested corrective action:

1. Check the connection of harness between the fan and main control board.
2. Replace the motor.
3. Replace the main control board.
4. Replace the harness between the fan and main control board.

0D: Temperature / humidity sensor error

Causes:

The sensor showed an abnormal value.

Suggested corrective action:

1. Check the connection of the thermistor.
2. Replace the thermistor.

18: Fuser Error

Detail code:
1: Fuser started warming up but could not reach the warm-up starting temperature within specified time
2: Fuser could not reach the warm-up completion temperature within specified time
3: Printing started but could not reach the print motor driving temperature within specified time
4: Printing started but could not reach the paper feeding temperature within specified time
6: Printing started but could not reach the printing temperature within specified time
8: The fuser temperature does not rise when the heater is turned on
9: Fuser thermistor showed an abnormally high value
10: Fuser thermistor showed an abnormally low value
11: The fuser temperature does not drop after warming-up or printing has finished and a specified time has passed

Suggested corrective action:

1. Check the connection between the fuser and main control board.
2. Replace the fuser.
3. Replace the main control board.
4. Replace the power supply unit.

51: EEPROM error (Drum cartridge)

Causes:
The machine could not write or read the EEPROM of drum cartridge.

Suggested corrective action:

1. Pull out the drum cartridge and check that springs touching the EEPROM of drum cartridge is not deformed.
2. Take the drum cartridge out the machine, and then restore it.
3. Check the connection between PCB TAG toner and the main control board.
4. Replace the drum cartridge.
5. Replace the main control board.

52: EEPROM error (Toner cartridge)

Causes:
The machine could not write or read the EEPROM of toner cartridge.

Suggested corrective action:

1. Pull out the toner cartridge and check that springs touching the EEPROM of toner cartridge is not deformed.
2. Take the toner cartridge out the machine, and then restore it.
3. Check the connection between PCB TAG toner and the main control board.
4. Replace the toner cartridge.
5. Replace the main control board.
6. Replace the TP Assy.

53: TP motor error

Causes:
Toner is not supplied when TP motor is driving.

Suggested corrective action:

1. Turn the power off and leave the machine for about ten minutes.
2. Shake the toner cartridge.
3. Check the connection between TP Assy and the main control board.
4. Replace the toner cartridge.
5. Replace the TP Assy.
6. Replace the main control board.

A0: Printer device error

Causes:
Printer register FPGA.

Suggested corrective action:

1. Turn the power off and on.
2. Replace the main control board.

A1: Print head connection error

Detail code:
1: No LED-print head connection while machine returns from power saving mode
2: No LED-print head connection while machine starts a print job

Suggested corrective action:

1. Turn the power off and on.
2. Check the connection between the LED-print head and main control board.

4.4 Communication tourble

4.4.1 Fax communication error

Deatail error code are printed on T.30 monitor.

Phase	Error code	Detail Error code	Description	Journal	Redial	Message	Note
Tx Phase A	D.0.1	0001	Local busy detection.	No	Yes	The sending was stopped. Please try again.	
	D.0.2	0002	Busy Tone detected			The line was busy. Please try again.	
	D.0.3	0003	Canceled transmission while dialing		No	Fax job was cancelled by user.	Occurs at broadcast with TCR.
	D.0.7	0007	Receiver does not answer		Yes	Check condition of remote fax.	
	D.0.8	0008	Can not detect dial tone			No dial tone detection. Check line connection.	
Tx Phase B	T.1.1	1011	T1 time-out error	Yes	Only when one or more pages are received	Confirm the remote fax.	
	T.2.1	1021	Can not detect CFR or FTT		No	Confirm the remote fax.	
	T.2.2	1022	Compatibility error			Confirm the remote fax.	
		1100	Password transmission failed			ID check Tx error. ID was not matched.	
		1101	Cannot obtain password at password transmission from receiving party			ID check Tx error. No fax number stored in remote fax.	
		1102	The obtained password from receiver at password transmission is blank				
		1103	The receiver is a product of other maker at closed communication			Close Tx error. Remote fax is not compatible.	
		1104	The receiver has no pass code field at closed transmission			Close Tx error. No pass -code stored in remote fax.	
		1105	The pass code did not match at closed transmission			Close Tx error. Passcode unmatched.	
		1109	Cannot adjust communication data rate			Confirm the remote fax.	Normally, this error does not occur.
		110A	Cannot adjust the communication mode (Normal, fine, super fine)				
		110B	Cannot receive standard frame			Confirm the remote fax.	
		110C	DIS T4 bit did not turn ON			Confirm the remote fax.	Normally, this error does not occur.
		110D	DIS or DTC that FIF is 00 00 00 has been received. DTS requires hang up. German models only.				

Phase	Error code	Detail Error code	Description	Journal	Redial	Message	Note
Tx Phase B	T.2.2	110E	The receiver has no box with matching sub-address	Yes	No	F-Code Tx Error. No F-Code information in the remote machine.	
		1115	Cannot fast remote diagnose	Yes	No	No High-speed RDS. Cannot send a data.	This error occurs at manual reception.
		1116	Trouble report was sent, but the receiver was not a diagnose host			Cannot send a trouble report. Remote machine is not RDS host.	
	T.2.3	1023	FTT returned at 2400 bps			Cannot receive with minimum speed.	
Tx Phase C	T.3.1	1031	Document feeding error Document length was over 1m Lamp error Scanner cover open error	Yes	No	Scanning error. Please send again.	
Tx Phase D	T.4.1	1041	Cannot receive MCF/RTN/RTP/ PIP/PIN	Yes	Only at memory Tx	Confirm the remote fax.	
	T.4.2	1042	RTN was received		No	The remote machine could not receive document.	
	T.5.1	1051	No response to RR		No	Confirm the remote fax.	
	T.5.2	1052	No response to CTC		No		
	T.5.3	1053	EOR output			Cannot receive with minimum speed.	
Tx V34 start up	T.8.1	1081	V8 process did not finished normally	Yes	No	Cannot send a fax in SuperG3 mode.	
		1800	Primary channel instruction did not match at V8 mode				
		1801	Primary channel instruction did not match at V8 mode (TX FAX)				
		1802	Primary channel instruction did not match at V8 mode (RX FAX)				
		1803	Cannot adjust modulation				
	T.8.10	108A	Cannot finish line probing normally	No	Yes		
	T.8.11	108B	Cannot finish equalizer training normally				
Transmission canceled	T.1.4	1014	Operator canceled the transmission	Yes	No	Fax job was cancelled by user.	

Phase	Error code	Detail Error code	Description	Journal	Redial	Message	Note
Rx Phase B	R.1.1	2011	T1 time-out error	No, if no page is received at auto reception	No	Confirm the remote fax.	Occurs at manual reception.
	R.1.2	2012	Compatibility error	Yes	No	Confirm the remote fax.	
		2100	The receiver is a product of other maker at closed communication			Closed Tx Err. Remote fax is not compatible.	
		2101	No pass code received at closed communication			Close Rx error. No passcode stored in remote fax.	
		2102	The receiver has no pass code field at closed communication			Close Rx error. Passcode unmatched.	
		2107	Cannot adjust communication data rate			Confirm the remote fax.	Normally, this error does not occur.
		2108	Cannot adjust communication code (MH, MR, MMR)				
		2109	Cannot adjust communication code (Normal, fine, super fine)				
		210A	Cannot adjust ECM mode				
		210B	Cannot adjust document width				
		210C	Cannot adjust minimum communication time				
		210D	Cannot adjust document length				
		210E	Cannot receive standard frame			Confirm the remote fax.	
		210F	Out-of -paper reception buffer error			Out of paper reception is full.	
		2118	Reception rejected while printing documents				
		2119	Cannot delete document for overwrite at overwrite mode			Machine error.	Normally, this error does not occur.
		211A	Cannot update Flash ROM through communication			Reception was stopped.	
		211B	Cannot fast remote diagnose			No High-speed RDS. Cannot receive data.	
	R.2.3	2023	No answer to FTT			Confirm the remote fax.	
Rx Phase C	R.3.1	2031	No answer to CFR DCN received	Yes	No	Confirm the remote fax.	
	R.3.3	2033	Hang up Continuous error line detected			Reception was stopped.	
	R.3.4	2034	DCN received to TT			Cannot receive with minimum speed.	
	R.3.6	2036	FRTN output			Some pages are not received correctly.	
	R.4.4	2044	Memory overflow			Memory over.	
	R.4.1	2041	Too long document received			Received doc. is not able to receive.	Document over 3m

Phase	Error code	Detail Error code	Description	Journal	Redial	Message	Note
Rx Phase D	R.4.2	2042	Cannot receive MPS/EOM/EOP	Yes	No	Confirm the remote fax.	
	R.5.1	2051	Cannot receive RR DNC received				
	R.5.2	2052	Error occurred while ECM data mode				
Rx V34 start up	R.8.1	2081	V8 process did not finished normally	Yes	No	Cannot send a fax in SuperG3 mode.	
		2800	Primary channel instruction did not match at V8 mode				
		2801	Primary channel instruction did not match at V8 mode (TX FAX)				
		2802	Primary channel instruction did not match at V8 mode (RX FAX)				
		2803	Cannot adjust modulation				
	R.8.10	208A	Cannot finish line probing normally	No	Yes at polling reception		
	R.8.11	208B	Cannot finish equalizer training normally		Yes at polling reception		

4.4.2 Network communication error

Scan to e-mail transmission results

Error code	Display	Message	Description	Countermeasure
995	Transmission error	Not able to transmit. Mail server is not found.	DNS server name resolution failed.	Check the DNS setting.
988		Not able to transmit. Please confirm setting.	Authentication method in SMTP is different.	Check the SMTP/POP setting is correct.
987			User authentication failed.	
990			MAIL command in SMTP failed.	
997			Mail setting is not correct.	
989		Not able to transmit. Please confirm e-mail address.	RCPT command in SMTP failed.	Check the e-mail address set as destination is correct.
993		Not able to transmit. Please transmit a message once again.	Socket error.	Try transmission again. Check the network connections.
992			Response time out error.	
991			SMTP command failed.	
999			Memory error.	
996			Transmission job parameter error.	
986			File generating error.	
984			Code converter error.	
985			File not existing.	
980			Unknown error.	
994		Not a reply from e-mail server.	Connection error.	
1002	Transmission canceled	Not able to transmit. Stopped.	Stop error.	—

Internet FAX reception result

Error code	Descrpition	Countermeasure
2	The MFP is not compatible with the e-mail attached image.	Ask the sender to send an internet fax in a compatible file format.
3	The MFP refused to forward the received e-mail.	•To respond to the forward request, set "Response to Fax Forwarding Request" in E-mail Settings > Optional E-mail Settings. •Check "E-mail address or domain name that will accept forwarded transmission" at "Response to Fax Forwarding Request" in E-mail Settings > Optional E-mail Settings.
4	Cannot access to POP3 server.	Check that POP3 Server Address, POP3 Port Number, SSL, and POP3S Port Number is set correctly in E-mail Settings > SMTP/POP Settings.
5	No response from POP3 server.	Check the DNS server address in TCP/IP setting. Check the following items are set correct in E-mail Settings > SMTP/POP Settings: POP3 server address, POP 3 port number, SSL usage, and POP 3 S port number.
6	POP3 server authentication failed.	Check the following items are set correct in E-mail Settings > SMTP/POP Settings: Authentication method, POP3 user name, and POP 3 user password.

Result of the reception error

Code	Display and history	Description
1	(No message)	The mail was received, and processed successfully.
2	Fax forwarding	FAX forwarded.
4	Error E-mail (MDN)	An error occurred, and replied to the MDN.
5	Error E-mail (Forwarding)	An error occurred, and e-mail is forwarded.
6	Error E-mail (Reply)	An error occurred, and an e-mail is replied
7	Error E-mail (Notice)	An error occurred, and an notification is sent.
8	Error E-mail (Size over)	An error occurred, and oversize notification is sent.
9	Erase	The e-mail was deleted.

Scan to folder, Scan to Printer, and DocIndex transmission result

Error Code	Description	Check message	Countermeasure	NTSTATUS values	Details
10002	\<Stop\> was pressed during scanning with non-batch scan function	—	Wait for a while, and try to send again	—	
9999	System error	System error occurred	Wait for a while, and try to send again		
1001	Connection error	Not able to be connect	• Check that host name on the network. • Check DNS server address, DNS suffix, and WINS server address are set correct at "TCP/IP settings". • Check that the destination computer name is registered on DNS server. • Check that the destination computer registers WINS setting correctly.	STATUS_NOT_IMPLEMENTED 0xC0000002 STATUS_INVALID_DEVICE_REQUEST 0xC0000010 STATUS_ILLEGAL_FUNCTION 0xC00000AF	Invalid function. The server did not recognize or could not perform a system call generated by the server, e.g. set the DIRECTORY attribute on a data file, invalid seek mode.
1003				STATUS_OBJECT_PATH_INVALID 0xC0000039 STATUS_OBJECT_PATH_NOT_FOUND 0xC000003A STATUS_OBJECT_PATH_SYNTAX_BAD 0xC000003B STATUS_DFS_EXIT_PATH_FOUND 0xC000009B STATUS_REDIRECTOR_NOT_STARTED 0xC00000FB STATUS_BAD_NETWORK_PATH 0xc00000BE	Directory invalid. A directory component in a path name could not be found.
1008				STATUS_SECTION_TOO_BIG 0xC0000040 STATUS_TOO_MANY_PAGING_FILES 0xC0000097 STATUS_INSUFF_SERVER_RESOURCES 0xC0000205 STATUS_NO_MEMORY 0xc0000017	Insufficient server memory to perform the requested function
1013				STATUS_DATA_ERROR 0xC000009C	Invalid data (generated only by IOCTL calls within the server)
1016				STATUS_DIRECTORY_NOT_EMPTY 0xC0000101	A Delete Directory request attempted remove the server's current directory
1017				STATUS_NOT_SAME_DEVICE 0xC00000D4	Not the same device (e.g. a cross volume rename was attempted)
1032				STATUS_SHARING_VIOLATION 0xC0000043	The sharing mode specified for Open conflicts with existing FIDs on the file.

Error Code	Description	Check message	Countermeasure	NTSTATUS values	Details
1033	Connection error	Not able to be connect	• Check that host name on the network. • Check DNS server address, DNS suffix, and WINS server address are set correct at "TCP/IP settings". • Check that the destination computer name is registered on DNS server. • Check that the destination computer registers WINS setting correctly.	STATUS_FILE_LOCK_CONFLICT 0xC0000054 STATUS_LOCK_NOT_GRANTED 0xC0000055 STATUS_NOT_LOCKED 0xC000002A	A Lock request conflicted with an existing lock or specified an invalid mode, or an Unlock requested attempted to remove a lock held by another process.
1080				STATUS_OBJECT_NAME_COLLISION 0xC0000035	The file named in the request already exists.
1087				STATUS_INVALID_PARAMETER 0xC000000D STATUS_CTL_FILE_NOT_SUPPORTED 0xc0000057	Invalid directory name in a path.
1123				STATUS_OBJECT_NAME_INVALID 0xc0000033	Invalid name.
1230				STATUS_INVALID_INFO_CLASS 0xC0000003 STATUS_INVALID_PIPE_STATE 0xC00000AD STATUS_INVALID_READ_MODE 0xC00000B4	Pipe invalid
1231				STATUS_INSTANCE_NOT_AVAILABLE 0xC00000AB STATUS_PIPE_NOT_AVAILABLE 0xC00000AC STATUS_PIPE_BUSY 0xC00000AE	All instances of the requested pipe are busy.
1232				STATUS_PIPE_CLOSING 0xC00000B1 STATUS_PIPE_EMPTY 0xC00000D9	Pipe close in progress.
1233				STATUS_PIPE_DISCONNECTED 0xC00000B0	No process on other end of pipe.
1234				STATUS_BUFFER_OVERFLOW 0x80000005 STATUS_MORE_PROCESSING_REQUIRED 0xC0000016 STATUS_MORE_ENTRIES 0x00000105	There is more date to be returned.

Error Code	Description	Check message	Countermeasure	NTSTATUS values	Details
2001	Connection error	Not able to be connect	• Check that host name on the network. • Check DNS server address, DNS suffix, and WINS server address are set correct at "TCP/IP settings". • Check that the destination computer name is registered on DNS server. • Check that the destination computer registers WINS setting correctly.	STATUS_INVALID_SMB 0x00010002	Non-specific error code, returned under the following conditions: resource other than disk space exhausted (e.g. TIDs), first SMB command was not negotiate, multiple negotiates attempted, and internal server error.
1002	File read and write error	Not come by the file reading and writing.	Check that the destination shared folder is not read/write protected.	STATUS_NO_SUCH_FILE 0xC000000F STATUS_NO_SUCH_DEVICE 0xC000000E STATUS_OBJECT_NAME_NOT_FOUND 0xC0000034	File not found. The last component of file's path name could not be found.
1004				STATUS_TOO_MANY_OPENED_FILES 0xc000011F	Too many open files. The server has file handles available.
1006				STATUS_SMB_BAD_FID 0x00060001 STATUS_INVALID_HANDLE 0xC0000008 STATUS_OBJECT_TYPE_MISMATCH 0xC0000024 STATUS_PORT_DISCONNECTED 0xC0000037 STATUS_INVALID_PORT_HANDLE 0xC0000042 STATUS_FILE_CLOSED 0xC0000128 STATUS_HANDLE_NOT_CLOSABLE 0xC0000235	Invalid file handle. The file handle specified was not recognized by the server.
3019				STATUS_MEDIA_WRITE_PROTECTED 0xC00000A2	Attempt to write on write-protected media
3021				STATUS_NO_MEDIA_IN_DEVICE 0xC0000013 STATUS_DEVICE_NOT_READY 0xc00000a3	Drive not ready
3022				STATUS_INVALID_DEVICE_STATE 0xC0000184	Unknown command

Error Code	Description	Check message	Countermeasure	NTSTATUS values	Details
3023	File read and write error	Not come by the file reading and writing.	Check that the destination shared folder is not read/ write protected.	STATUS_DATA_ERROR 0xC000003E STATUS_CRC_ERROR 0xC000003F	Data error (CRC)
3024				STATUS_INFO_LENGTH_MISMATCH 0xc0000004	Bad request structure length
3026				STATUS_DISK_CORRUPT_ERROR 0xC0000032 STATUS_DISK_CORRUPT_ERROR 0xc000009e	Unknown media type
3027				STATUS_NONEXISTENT_SECTOR 0xC0000015	Sector not found
3031				STATUS_FILE_INVALID 0xc0000098	General failure
3034				STATUS_WRONG_VOLUME 0xC0000012	The wrong disk was found in a drive
3039				STATUS_DISK_FULL 0xC000007F	The disk is full

Error Code	Description	Check message	Countermeasure	NTSTATUS values	Details
1005	Login error	Not able to log in.	• Check that the entered user name and password are correct. • Check that the entered user name and password have authority to write.	STATUS_ACCESS_DENIED 0xC0000022 STATUS_INVALID_LOCK_SEQUENCE 0xC000001E STATUS_INVALID_VIEW_SIZE 0xC000001F STATUS_ALREADY_COMMITTED 0xC0000021 STATUS_PORT_CONNECTION_REFUSED 0xC0000041 STATUS_THREAD_IS_TERMINATING 0xC000004B STATUS_DELETE_PENDING 0xC0000056 STATUS_PRIVILEGE_NOT_HELD 0xC0000061 STATUS_LOGON_FAILURE 0xC000006D STATUS_FILE_IS_A_DIRECTORY 0xC00000BA STATUS_FILE_RENAMED 0xC00000D5 STATUS_PROCESS_IS_TERMINATING 0xC000010A STATUS_CANNOT_DELETE 0xC0000121 STATUS_FILE_DELETED 0xC0000123 STATUS_LOGON_TYPE_NOT_GRANTED 0xc000015B	Access denied, the client's context does not permit the requested function. This includes the following conditions: invalid rename command, write to Fid open for read only, read on Fid open for write only, attempt to delete a non-empty directory.
1012				STATUS_OS2_INVALID_ACCESS 0x000C0001 STATUS_ACCESS_DENIED 0xC00000CA STATUS_DEVICE_DATA_ERROR 0xc000009c STATUS_ACCOUNT_DISABLED 0xC0000072 STATUS_ACCOUNT_EXPIRED 0xC0000193	Invalid open mode
2002				STATUS_WRONG_PASSWORD 0xC000006A	Invalid password - name/password pair in a Tree Connect or Session Setup is invalid.

Error Code	Description	Check message	Countermeasure	NTSTATUS values	Details
2004	Login error	Not able to log in.	• Check that the entered user name and password are correct. • Check that the entered user name and password have authority to write.	—	The client does not have the necessary access rights within the specified context for the requested function.
2006				STATUS_BAD_NETWORK_NAME 0xC00000CC	Invalid network name in tree connect
2007				STATUS_BAD_DEVICE_TYPE 0xC00000CB	Invalid device - printer request made to non-printer connection or non-printer request made to printer connection.
2049				STATUS_PRINT_QUEUE_FULL 0xC00000C6	Print queue full (files) -- returned by open print file
2050				STATUS_NO_SPOOL_SPACE 0xC00000C7 STATUS_PRINT_CANCELLED 0xC00000C8 STATUS_ADDRESS_ALREADY_EXISTS 0xc000020a	Print queue full -- no space
2051				—	EOF on print queue dump
2052				STATUS_PRINT_CANCELLED 0xC00000C8	The server encountered an internal error, e.g. system file unavailable.
2065				STATUS_UNEXPECTED_NETWORK_ERROR 0xC00000C4	The server encountered an internal error, e.g. system file unavailable.
2067				—	The FID and path name parameters contained an invalid combination of values.
2069				STATUS_NETWORK_ACCESS_DENIED 0xC00000C4	The access permissions specified for a file or directory are not a valid combination. The server cannot set the requested attribute.
2088				STATUS_IO_TIMEOUT 0xC00000B5	Operation timed out
2089				STATUS_REQUEST_NOT_ACCEPTED 0xC00000D0	No resources currently available for request
2090				STATUS_TOO_MANY_SESSIONS 0xC00000CE	Too many UIDs active on this session
1018	Cannot find the file in the shared folder	Not a file to a shared folder.	Check that the file is in the folder.	STATUS_NO_MORE_FILES 0x80000006	A File Search command can find no more files matching the specified criteria.

Scan to FTP server and DocIndex transmission result

Error Code	Description	Check message	Detail	Countermeasure	Description
10002					
9999	System error	System error occurred.	An error occurred because there was a temporary system memory shortage.	Retry later.	
9000					
17	Connection error	Not able to be connected	Name resolution failed	•Check DNS server address is set correct at "TCP/IP settings". •Check that the destination FTP server name is registered on DNS server.	Invalid service call
33					Invalid IP address
56					TCP access error
210					Network error
211					No connection to FTP server
212					Connected to FTP server
213					Cannot open by FTP client
214					Open by FTP client
219					Received replay other than 22x from server
10	File read and write error	Not come by the file reading and writing.	Cannot send a file when the destination FTP server is write protected.	Check that the destination FTP server is not write protected.	Open type invalid
217					Replay including 1xx from server
218					Replay including 2xx from server
221					Replay including 3xx from server
7	Login error	Not able to log in.	Cannot login with the entered user name and password.	Check that the entered user name and password are correct.	Pointer of invalid FTP, user name or password
220					Replay including 23x from server
222					Replay including 33x from server

4.5 Image quality problems

Go through the following steps to solve the problem:
1. Check the machine parameters for image quality adjustments and see if the problems solves.
2. Adjust the background level and see if the problem solves. (See "3.12.5 Set background level" on page 3-85.) Clean the document glass and document pad in advance.
3. Determine if the failure is attributable to the input system (scanner section) or the output system (printer section):

1. Make copy full size copy of a document

$$\boxed{A}\text{(Original)} \blacktriangleright \boxed{A}\text{(Copy)}$$

2. Make a reduction copy of the document.

$$\boxed{A}\text{(Original)} \blacktriangleright \boxed{A}\text{(Copy)}\;-\;\text{Input system cause : scanner}$$

$$\boxed{A}\text{(Original)} \blacktriangleright \boxed{A}\text{(Copy) - Output system cause: printer}$$
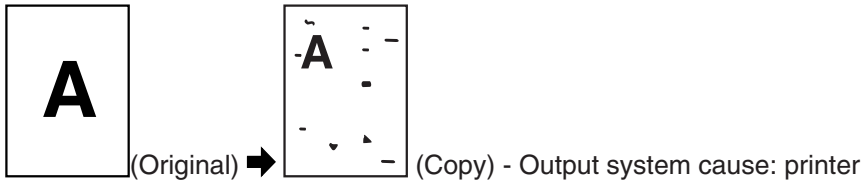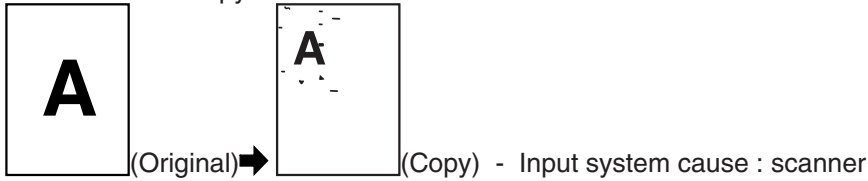
4.5.1 Typical fault images

1. Blank image
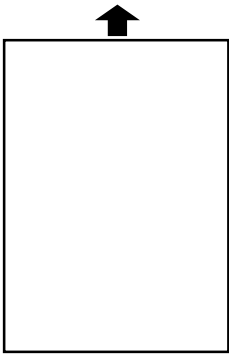
2. Black image

3. Low image density / rough image

ABCDE
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ABCDE

4. Dark image density

ABCDE
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ABCDE
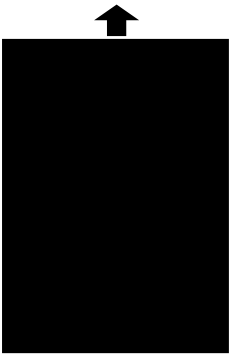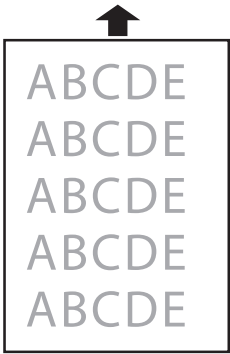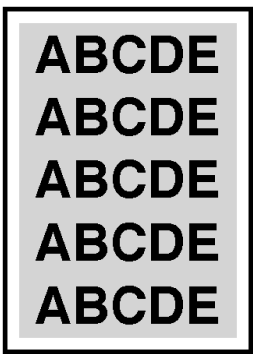
5. Blank lines/ Blank spots
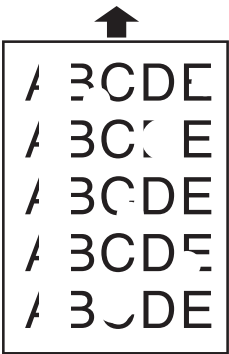
6. Void areas
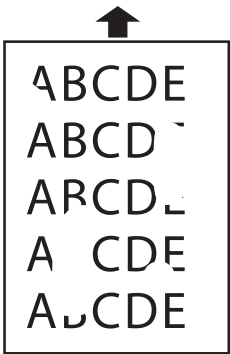
7. Black lines

8. Black spots

ABCDE
ABCDE
ABCDE
ABCDE
ABCDE

9. Smear on back

ABCDE
ABCDE
ABCDE
ABCDE
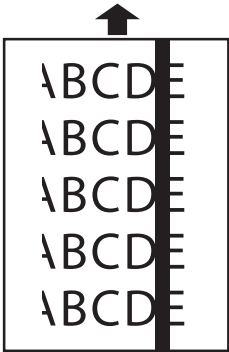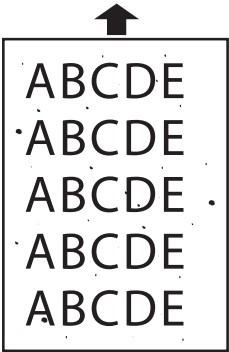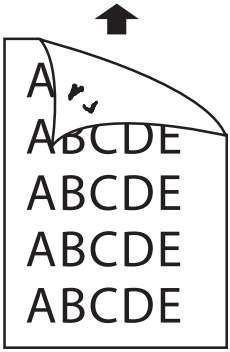
10. Uneven image density

11. Periodically uneven image
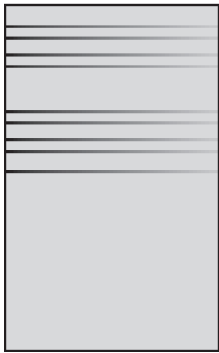
12. Gradation reproduction failure
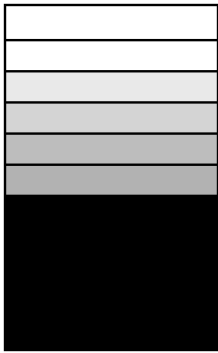
4.5.2 Blank image
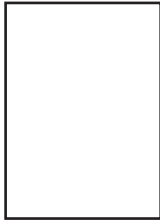
Scanner section

Section	Step	Check items	Result	Remedy
Scanner section	1	Is the scanner drive transmission mechanism in good condition?	No	Check and replace as necessary.
	2	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	3	Is the trouble settled with above steps?	No	1. Replace CIS. 2. Replace main control board.

Printer section

Section	Step	Check items	Result	Remedy
Drum cartridge	1	Is the drum cartridge driven properly?	No	Correct / Replace drive coupling mechanism of drum cartridge and machine. Replace the drum cartridge.
	2	Are the developing bias, supply bias and blade bias contact terminal dirty or deformed?	Yes	Clean / Repair
	3	Are the grid bias, charge bias and drum ground contact terminal dirty or deformed?	Yes	Clean / Repair
Circuit boards	4	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
Transfer section	5	Is the transfer bias contact terminal dirty or deformed?	Yes	Clean / Replace
	6	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace LED print head. 3. Replace main control board. 4. Replace high-voltage power board. 5. Replace transfer roller unit.

4.5.3 Black image

Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Does lamp turn ON when making copy with open platen cover?	Yes	Check step 4 and onward
			No	Reconnect / Replace harness
	2	Do step 1 again. Does the voltage level of pin1-3 of P8A on the main control panel change to +3.3V?	No	Replace main control board.
	3	Is the CIS installed properly?	No	Install it properly
	4	Is the CIS lens dirty?	Yes	Clean, or replace the part and adjust the background level
	5	Is the trouble settled with above steps?	No	1. Adjust the background level. 2. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
Drum cartridge	1	Are the grid bias, charge bias and drum ground contact terminal dirty or deformed?	Yes	Clean / Repair
Circuit boards	2	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
	3	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace LED print head. 3. Replace main control board. 4. Replace high-voltage power board.

4.5.4 Low image density / rough image

ABCDE
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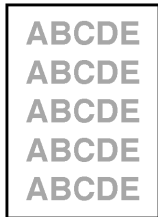
Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	2	Are the document glass, document pad and ADF glass dirty?	Yes	Clean
	3	Is the CIS lens dirty?	Yes	Clean, or replace the part and adjust the background level
	4	Is the trouble settled with above steps?	No	1. Adjust the background level. 2. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
Paper	1	Is the paper damp?	Yes	Replace the paper.
LED print head	2	Is the lens dirty?	Yes	Clean
Drum cartridge	3	Are the developing bias, supply bias and blade bias contact terminal dirty or deformed?	Yes	Clean / Repair
	4	Are the grid bias, charge bias and drum ground contact terminal dirty or deformed?	Yes	Clean / Repair
Transfer section	5	Is the transfer bias contact terminal dirty or deformed?	Yes	Clean / Replace
	6	Is the transfer roller gap dirty?	Yes	Clean / Replace
Circuit boards	7	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
Toner sensor error	8	Is the toner sensor working? (Use "3.20 Sensor input test" on page 3-98 and check that the sensor is working.)	No	Reconnect / Replace sensor
	9	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace LED print head. 3. Replace main control board. 4. Replace high-voltage power board. 5. Replace transfer roller unit.

4.5.5 Dark image density
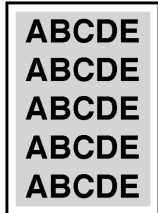
```
ABCDE
ABCDE
ABCDE
ABCDE
ABCDE
```

Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Are the ADF glass and document glass dirty?	Yes	Clean
	2	Are the CIS (lens and lamp) and document glass dirty?	Yes	Clean
	3	Is the CIS installed properly?	No	Install it properly
	4	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	5	Is the trouble settled with above steps?	No	1. Adjust the background level. 2. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
Drum cartridge	1	Are the developing bias, supply bias and blade bias contact terminal dirty or deformed?	Yes	Clean / Repair
	2	Are the grid bias, charge bias and drum ground contact terminal dirty or deformed?	Yes	Clean / Repair
Circuit boards	3	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
	4	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace LED print head. 3. Replace main control board. 4. Replace high-voltage power board.

4.5.6 Blank lines

```
A BCDE
A BCDE
A BCDE
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A BCDE
```
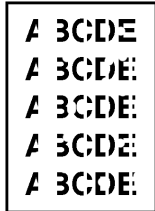
Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Are the document glass and document pad dirty?	Yes	Clean
	2	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	3	Is the trouble settled with above steps?	No	1. Adjust the background level. 2. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
LED print head	1	Is the lens dirty?	Yes	Clean
Drum cartridge	2	Are the separation scrapers dirty or damaged?	Yes	Clean / Replace
Fuser unit	3	Are the fusing rollers or separate blade dirty or damaged?	Yes	Replace fuser unit
Circuit boards	4	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
Transfer section	5	Is the transfer roller dented or damaged?	Yes	Replace
Discharge plate	6	Is the discharge plate deformed?	Yes	Replace
	7	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace fuser unit. 3. Replace LED print head. 4. Replace main control board. 5. Replace high-voltage power board.

4.5.7 Void areas

Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Is the document glass dirty?	Yes	Clean
	2	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	3	Is the trouble settled with above steps?	No	1. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
Paper	1	Is the paper damp?	Yes	Replace the paper.
LED print head	2	Is the lens dirty?	Yes	Clean
Drum cartridge	3	Are the separation scrapers dirty or damaged?	Yes	Clean / Replace
Fuser unit	4	Are the fusing rollers or separation scraper dirty or damaged?	Yes	Clean / Replace
Circuit boards	5	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
Transfer section	6	Is the transfer roller dented or damaged?	Yes	Replace
	7	Is the transfer roller gap dirty?	Yes	Clean / Replace
Discharge plate	8	Is the discharge plate deformed?	Yes	Replace
	9	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace fuser unit. 3. Replace LED print head. 4. Replace main control board. 5. Replace high-voltage power board.

4.5.8 Black lines

ABCDE
ABCDE
ABCDE
ABCDE
ABCDE
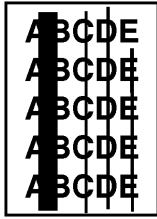
Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Are the CIS (lens and lamp) and document glass dirty?	Yes	Clean
	2	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	3	Is the trouble settled with above steps?	No	1. Adjust the background level. 2. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
LED print head	1	Is the lens dirty?	Yes	Clean
Paper path	2	Is paper path dirty with toner?	YES	Clean
Drum cartridge	3	Is the multi-stylus electrode dirty?	Yes	Clean
	4	Are the grid bias, charge bias and drum ground contact terminal dirty or deformed?	Yes	Clean / Repair
	5	Is the OPC drum dirty or damaged?	Yes	Replace OPC drum
Fuser unit	6	Are the fusing rollers or separation scraper dirty or damaged?	Yes	Clean / Replace
Circuit boards	7	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
	8	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace fuser unit. 3. Replace LED print head. 4. Replace main control board. 5. Replace high-voltage power board.

4.5.9 Black spots

Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Is the document glass dirty?	Yes	Clean
	2	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	3	Is the trouble settled with above steps?	No	1. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
Paper path	1	Is paper path dirty with toner?	YES	Clean
Drum cartridge	2	Is the OPC drum dirty or damaged?	Yes	Replace OPC drum
	3	Is there any cleaning trouble?	Yes	Replace drum cartridge
Fuser unit	4	Are the fusing rollers or separation scraper dirty or damaged?	Yes	Clean / Replace
Circuit boards	5	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
	6	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace fuser unit. 3. Replace LED print head. 4. Replace main control board. 5. Replace high-voltage power board.

4.5.10 Smear on back

Printer section

Section	Step	Check item	Result	Remedy
Paper path	1	Is paper path dirty with toner?	YES	Clean
Fuser unit	2	Are the fusing rollers or separation scraper dirty or damaged?	Yes	Clean / Replace
Transfer section	3	Is the transfer roller dented or damaged?	Yes	Replace
Circuit boards	4	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
	5	Is the trouble settled with above steps?	NO	1. Replace drum cartridge. 2. Replace fuser unit. 3. Replace high-voltage power board. 4. Replace main control board.

4.5.11 Uneven image density

Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Are the ADF glass and document glass dirty?	Yes	Clean
	2	Is the shading-sheet located under the size cover dirty?	Yes	Clean or replace CIS, and adjust the background level
	3	Is the CIS (lens and lamp) dirty or deteriorated?	Yes	Clean or replace CIS, and adjust the background level
	4	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	5	Is the trouble settled with above steps?	No	1. Adjust the background level. 2. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
Drum cartridge	1	Is the drum cartridge driven properly?	No	Correct / Replace drive coupling mechanism of drum cartridge and machine. Replace the drum cartridge.
	2	Is the OPC drum dirty or damaged?	Yes	Replace OPC drum
	3	Are the developing bias, supply bias and blade bias contact terminal dirty or deformed?	Yes	Clean / Repair
	4	Are the grid bias, charge bias and drum ground contact terminal dirty or deformed?	Yes	Clean / Repair
Fuser unit	5	Are the fusing rollers or separation scraper dirty or damaged?	Yes	Clean / Replace
Transfer section	6	Is the transfer bias contact terminal dirty or deformed?	Yes	Clean / Repair
	7	Is the transfer roller dented or damaged?	Yes	Replace
Discharge plate	8	Is the discharge plate deformed?	Yes	Replace
Circuit boards	9	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
	10	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace fuser unit. 3. Replace LED print head. 4. Replace main control board. 5. Replace high-voltage power board. 6. Replace transfer roller unit.

4.5.12 Periodically uneven image
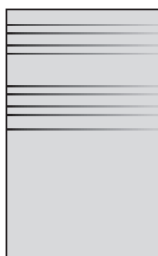
Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Is the FBS motor drive gear cracked or dirty with foreign object?	Yes	Clean / Replace
	2	Is the scanner motor secured properly?	No	Secure properly
	3	Is the CIS secured properly?	No	Secure properly
	4	Are the CIS belt attached loosely?	Yes	Adjust the belt tension. Reattach the motor bracket assy.
	5	Are the scanner rails damaged or dirty with foreign object?	Yes	Clean / Replace

Printer section

Section	Step	Check item	Result	Remedy
Drum cartridge	1	Is the drum cartridge driven properly?	No	Check and replace drive coupling mechanism Replace the drum cartridge.
Transfer section	2	Is the transfer roller driven properly?	No	Check and replace drive gearing mechanism
	3	Is the transfer roller gap dirty?	Yes	Clean / Replace
Paper path	4	Is the resist roller driven properly?	No	Check and replace drive coupling mechanism
Fuser unit	5	Is the fuser unit driven properly?	No	Check and replace drive gearing mechanism
	6	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace fuser unit. 3. Replace transfer roller unit.

4.5.13 Gradation reproduction failure
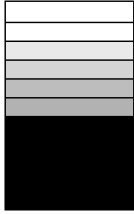
Scanner section

Section	Step	Check item	Result	Remedy
Scanner section	1	Is the shading-sheet located under the size cover dirty?	Yes	Clean or replace CIS, and adjust the background level
	2	Are the ADF glass and document glass dirty?	Yes	Clean
	3	Do the connection from CIS to main control board remain intact?	No	Reconnect / Replace harness.
	4	Is the trouble settled with above steps?	No	1. Adjust the background level. 2. Replace CIS. 3. Replace main control board.

Printer section

Section	Step	Check item	Result	Remedy
Drum cartridge	1	Are the developing bias, supply bias and blade bias contact terminal dirty or deformed?	Yes	Clean / Repair
	2	Are the grid bias, charge bias and drum ground contact terminal dirty or deformed?	Yes	Clean / Repair
Circuit boards	3	Are the connections from LED print head and from high-voltage board to main control board in good condition? (Check plugs firmly plugged and snapped harness.)	No	Reconnect / Replace harness
	4	Is the trouble settled with above steps?	No	1. Replace drum cartridge. 2. Replace LED print head. 3. Replace main control board. 4. Replace high-voltage power board.

4.6 Scanner related trouble

Mechanical Errors

	Symptom	Possible Cause	Countermeasure
While feeding a document	ADF does not feed the document.	The pickup roller is dirty or worn out.	Clean the roller. Replace the roller.
		The power of the separation roller is getting decrease. The separation pad pressure does not match the paper quality.	Adjust the separation pressure. Clean the roller.
		The motor is not rotating.	Replace the motor. Replace the ADF board.
While scanning document	The feeder stops the feeding job while the document is taken into the feeder.	The malfunction of the sensor.	Replace the sensor.
		The motor power is not working properly.	Replace the motor. Replace the ADF board.
		The roller is dirty.	Clean the roller.
		The roller is worn out.	Replace the roller.
	The document is stuck and gets damaged while taken into the feeder.	Foreign objects entered the feed area.	Remove the objects.
		The paper quality is not acceptable. The paper shape is not acceptable.	Recommend the customer to use the document glass.

Sensor Malfunctions

	Symptom	Possible Cause	Countermeasure
While feeding a document	No beep sound when you place the document. (The beep sound volume setting could be OFF.)	DS1 sensor defect	0 Press <Mode>, <*>, <2>, <2> to display the sensor input test mode. 1 Confirm the LCD indication changes by moving the DS1 sensor. 　OFF: No document / ON: Document 2 Check the sensor harness is firmly connected. 3 If the LCD indication does not change, replace the DS1 sensor. 4 Replace the sensor harness. 5 Replace ADF board. 6 Replace the harness between ADF board and main control board. 7 Replace the main control board.
		APS sensor defect	0 Press <Mode>, <*>, <2>, <2> to display the sensor input test mode. 1 Confirm that the LCD indication changes by opening and closing the platen cover. 　OFF: Cover Open / ON: Document 2 Check the sensor harness is firmly connected. 3 If the LCD indication does not change, replace the APS sensor. 4 Replace the sensor harness. 5 Replace ADF board. 6 Replace the harness between ADF board and main control board. 7 Replace the main control board.
	The machine feeds the document through the ADF without scanning.	DS1 or APS sensor defect	Check "DS1 sensor defect" and "APS sensor defect".

	Symptom	Possible Cause	Countermeasure
While scanning a document	The scan starting and ending area are not correct.	DS2 sensor defect	0 Press <Mode>, <*>, <2>, <2> to display the sensor input test mode. 1 Confirm that the LCD indication changes by opening the ADF cover and inserting a paper. OFF: No document / ON: Document 2 Check the sensor harness is firmly connected. 3 If the LCD indication does not change, replace the DS2 sensor. 4 Replace the sensor harness. 5 Replace the main control board.
		DS3 sensor defect	0 Press <Mode>, <*>, <2>, <2> to display the sensor input test mode. 1 Confirm that the LCD indication changes by opening the ADF cover and inserting a paper. 2 Check the sensor harness is firmly connected. 3 If the LCD indication does not change, replace the DS3 sensor. 4 Replace the sensor harness. 5 Replace ADF board. 6 Replace the harness between ADF board and main control board. 7 Replace the main control board.
While a document exits	The LCD shows a warning while a document exits after scanning.	DS1, DS2, DS3, DRS or DEXIT sensor defect	Check "DS1 sensor defect", "DS2 sensor defect" and "DS3 sensor defect" in that order. Perform <Mode>, <*>, <2>, <2> to display the sensor input test mode and confirm that DRS and DEXIT are working.
	The LCD shows a warning after a document exits.		
Others	The message, "Please close the flashing cover." is displayed on the LCD. The flashing cover: The ADF cover	TXIL sensor defect	0 Press <Mode>, <*>, <2>, <2> to display the sensor input test mode. 1 Confirm that the LCD indication changes by opening and closing the ADF cover. OFF : Cover open / ON: Cover close 2 Check the sensor harness is firmly connected. 3 If the LCD indication does not change, replace the TXIL sensor. 4 Replace the sensor harness. 5 Replace ADF board. 6 Replace the harness between ADF board and main control board. 7 Replace the main control board.

Scanning trouble

Symptom		Possible Cause	Countermeasure
An unusual noise occurs.		The belt has not been firmly inserted into the belt holder.	Check the belt.
While scanning	The lamp does not turn on	Harness is not firmly inserted to the connector.	Check the connectors.
		CIS defect.	Replace.
	CIS is touching the home side (on the left toward the front)	HS sensor defect.	0 Press <Mode>, <*>, <2>, <2> to display the sensor input test mode. 1 Remove the document glass and move the carriage by hand, and confirm that the LCD indication changes. 　OFF: Not home position 　ON : Home position 2 Check the sensor harness is firmly connected. 3 If the LCD indication does not change, replace the HS sensor. 4 Replace the sensor harness. 5 Replace the scanner board. 6 Replace the harness between scanner board and main control board.
	The carriage does not move.	FBS motor defect.	1 Check the motor harness is firmly connected. 2 Replace the FBS motor.
		Scanner board defect.	1 Check the connectors are firmly connected to the scanner board. 2 Replace the harness between scanner board and main control board. 3 Replace the scanner board. 4 Replace the main control board.

4.7 Recording paper jam

After removing the jammed paper, please open and close the side cover.

Mechanical errors

Symptom	Possible cause	Countermeasure
Jam in the paper supply area	Faulty movement of some cassette parts.	Check each movement of a cassette part. Replace the faulty part.
	Paper is stuck in the recording area.	Remove the stuck paper.
	The paper feed roller is worn out.	Replace the roller.
Jam in the feed area	Paper is stuck in the feed area.	Remove the jammed paper.
Jam in the fuser or the paper exit area	Paper is stuck in the fuser or paper exit area.	Remove the jammed paper.
	The fuser roller is not clean.	Clean the fuser roller. Replace the fuser roller.

Electrical errors

Symptom	Possible cause	Countermeasure
Jam in the feed area "Please close the flashing cover."	The paper supply electromagnetic clutch does not work.	• Check the wiring. • Replace the paper supply electromagnetic clutch. • Replace the main control board.
	The paper supply sensor (PSS) does not work.	Check that the wiring and actuator are working properly. If confirmed OK, then replace the PSS, or Main control board.
Jam in the feed area "Please close the flashing cover."	The malfunction of the PPS.	Check that the wiring and actuator are working properly. If confirmed OK, then replace the PSS, or the main control board.
Jam in the feed area "Check paper size....."	The paper size is not correct.	Check the paper, size setting.
Jam in the fuser or paper exit area	The paper discharge sensor (PDS) does not work.	Check that the wiring and actuators are working properly. If confirmed OK, then replace the PDS, or LPH board.

4.8 Machine malfunction

No.	Symptom	What to confirm		Countermeasure
1	The LCD shows nothing.	1. Is the machine in energy save mode?	Yes No	Press the energy save key, and release the mode. Check No.2.
		2. Is the power cable plugged correctly?	Yes No	Check No.3. Plug the cable correctly.
		3. Is the power switch On?	Yes No	Check No.4. Power on.
		4. Does the DC output voltages from the power supply unit to connector P3 on the main control boar have the following output? Pin 1, 2, 3, 4 — +24V Pin 14 — +3.4V Pin 5, 6, 7, 8, 11, 13 — GND	Yes No	Check No.5. Replace the power supply.
		5. Is the following connection OK? • LCD assembly to the Panel PCB. (P3) • Panel PCB (P1) to the harness to the main control board. (P5A)	Yes No	Check No.6. Reconnect the connection or replace the harness.
		6. If you replace the panel board, the symptom will be fixed.	Yes No	Replace the panel board. Check No.7.
		7. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
2	The LCD shows "Please close the flashing cover."	1. If you close the flashing cover, the symptom will be fixed.	Yes No	Solved. Check No.2.
		2. Is the cover secured firmly by screws?	Yes No	Check No.3. Secure the cover properly.
		3. Is the message shown after energy save mode is released?	Yes No	Check No.4. Check No.5.
		4. Does the main control board P21-1 have +24V output?	Yes No	Check No.5. Check No.6.
		5. Press the sensor in the message and check the output changes to +3.3V through GND. (The interlock and JAMC +24V through GND.)	No	Replace the sensor or the harness.
		ADF cover : ADF control board P3-8	Yes	Check No.6.
		Interlock and JAMC : Main control board P21-2	Yes	Check No.7.
		6. If you replace ADF board or the connecting harness, the message will disappear.	Yes No	Replace the circuit board or the harness. Check No.7.
		7. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.

No	Symptom	What to confirm		Countermeasure
3	Documents jam frequently. The LCD shows "Please reset the document."	1. Did you feed a single document?	Yes No	Check No. 2. Check No. 3
		2. Did you use thin paper or converted paper?	Yes No	Recommend the customer to use the document glass. Check No. 8.
		3. Did you set documents more than the capacity?	Yes No	Check No. 4. Check No. 5.
		4. If you set documents within the capacity, the symptom be fixed.	Yes No	Solved. Check No. 5.
		5. Did you use wrinkled or curled documents?	Yes No	Recommend the customer to use the document glass. Check No. 6.
		6. Does the machine still feed documents?	Yes No	Check No. 7. Check No. 8.
		7. Does the machine still discharge documents?	Yes No	Check No. 23. Check No. 24.
		8. Does the clutch rotate properly?	Yes No	Check No. 9. Replace the clutch.
		9. Does the separate roller work properly?	Yes No	Check No. 11. Check No. 10.
		10. Does the transfer gear work properly?	Yes No	Check No. 11. Adjust the gear.
		11. Does the ADF motor rotate properly?	Yes No	Check No. 12. Replace the ADF motor.
		12. Is the separation pad pressure appropriate?	Yes No	Check No. 13. Adjust the separation pad pressure.
		13. Do CN1-1, 2, 3 and 4 of the power supply have +24V output?	Yes No	Check No. 14. Replace the power supply.
		14. If you replace the harness between the power supply and main control board, the message will disappear.	Yes No	Replace the harness between the power supply and main control board. Check No. 15.
		15. Do P3-1, 2, 3, and 4 on the main control board have +24V output ?	Yes No	Check No. 16. Replace the main control board.
		16. Has the DS1 sensor been installed properly?	Yes No	Check No. 17. Re-install it properly.
		17. Does the feeler for the DS1 sensor work properly?	Yes No	Check No. 18. Replace the DS1 sensor feeler.
		18. Are there any foreign objects stuck around paper guides?	Yes No	Remove the objects. Check No. 19.
		19. Does the voltage level of P3-5 on the main control panel change to +0V when the DS1 is ON, and to +3.3V when the DS1 is OFF?	Yes No	Check No. 21. Check No. 20.
		20. If you replace the DS1 sensor, the symptom will be fixed.	Yes No	Replace the DS1. Replace the main control board.

No.	Symptom	What to confirm		Countermeasure
3	Documents jam frequently. The LCD shows "Please reset the document."	21. Does the voltage level of P3-12 on the main control panel change to +0V when the DS2 is ON, and to +3.3V when the DS2 is OFF?	Yes No	Check No. 22. Check No. 25.
		22. If you replace the DS2 sensor, the symptom will be fixed.	Yes No	Replace the DS2. Replace the main control board.
		23. Does the voltage level of P4-5 on the main control panel change to +0V when the DS3 is ON, and to +3.3V when the DS3 is OFF?	Yes No	Check No. 24. Check No. 25.
		24. If you replace the DS3 sensor, the symptom will be fixed.	Yes No	Replace the DS3. Replace the main control board.
		25. Is the separation roller dirty?	Yes No	Replace the separation roller. Check No. 26.
		26. Is the separation pad dirty?	Yes No	Replace the separation pad. Replace the machine.
4	Documents skew	1. Have the document guides been adjusted properly?	Yes No	Check No. 2. Re-adjust the guides properly.
		2. Did you place different size documents at the same time?	Yes No	Set only the same size documents. Check No. 3.
		3. Are there any foreign objects on the paper pass?	Yes No	Remove the objects. Check No. 4.
		4. Have the separator roller and the pad separator been worn out?	Yes No	Replace them. Check No. 5.
		5. Are there any problems with on the installations and operations of the separator roller and the pad separator?	Yes No	Check their operations. Check No. 6.
		6. Is the guide outer deformed?	Yes No	Fix or replace it. Replace the machine.
5	Documents get wrinkled or torn frequently.	1. Are they thin documents?	Yes No	Recommend customer to use the document glass. Check No. 2.
		2. Are there any foreign objects on the document tray?	Yes No	Remove the objects. Check No. 3.
		3. Do the documents get wrinkled or torn around the feeding entry area?	Yes No	Check No. 4. Check No. 6.
		4. Has the entry area of the guide outer been deformed?	Yes No	Repair or replace it. Check No. 7.
		5. Is the separation pad dirty?	Yes No	Replace the separation pad. Replace the machine.

No.	Symptom	What to confirm		Countermeasure
6	The warning message "Lamp error. Call for service." is displayed.	1. Has the lamp been illuminated?	Yes No	Check No. 2. Check No. 7.
		2. Is the CIS harness connecting correctly?	Yes No	Check No. 3. Connect the harness.
		3. Are the sheet document press or back ground level plate dirty?	Yes No	Clean, or replace them. Check No. 4.
		4. Is the document glass dirty?	Yes No	Clean, or replace them. Check No. 5.
		5. Are the carriage belts or the home sensor attached correctly?	Yes No	Check No. 4. Reattach them.
		6. If you replace the home sensor or the connecting harness, the symptom will be fixed.	Yes No	Replace the sensor or the harness. Check No. 7.
		7. If you replace the CIS or the connecting harness, the symptom will be fixed.	Yes No	Replace the carriage or the harness. Check No. 8.
		8. If you replace the carriage or the connecting harness, the symptom will be fixed.	Yes No	Replace the circuit board or the harness. Check No. 9.
		9. If you replace the main control board or the connecting harness, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
7	The message "No Paper" is displayed.	1. Did you load paper in the cassette properly?	Yes No	Check No.2. Re-load paper.
		2. Press the paper detection feeler when the machine is in ready mode, and check the sensor output changes to +3.3V through GND.		
		Cassette 1 : Main control board P23-7	Yes No	Replace the sensor or the harness. Check No. 3.
		Cassette 2 : 2nd CSST board P3-1	Yes No	Replace the sensor or the harness. Check No. 3.
		Cassette 3 : 3rd CSST board P3-1	Yes No	Replace the sensor or the harness. Check No. 3.
		Cassette 2 : 4th CSST board P3-1	Yes No	Replace the sensor or the harness. Check No. 3.
		3. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
8	Paper jams or the message "Open the flashing cover and check......" is displayed.	1. Is there any paper jam on the paper pass?	Yes No	Remove the paper. Check No. 2.
		2. Is there electrical continuity in the harness between the PSS sensor and the main control board?	Yes No	Check No. 3. Replace the PSS sensor or the connecting harness.
		3. Is there electrical continuity in the harness between the PDS sensor and the main control board?	YES NO	Check No. 4. Replace the connecting harness.
		4. If you replace the PSS sensor or the PDS sensor, the message will disappear.	Yes No	Replace the sensor. Check No. 5.
		5. If you replace the main control board, the message will disappear.	Yes No	Replace the main control board. Replace the machine.

No.	Symptom	What to confirm		Countermeasure
9	Paper skew.	1. If you re-load the document and make more than 10 copies, paper skew still occurs.	Yes No	Check No. 2. Solved.
		2. Has the paper cassette been installed properly?	Yes No	Check No. 3. Re-install it properly.
		3. Does the cassette have any malfunctions?	Yes No	Replace the cassette. Replace the machine.
10	When using the auto feeder, the reception image expanded.	1. If you print "Checkered Pattern", the image will expands more vertically than horizontally. Note: The following causes are also possible. The sender sent the document data using unsuitable documents like excessively thick paper, no carbon paper, rear carbon paper, and so on.	Yes No	Check No. 2. The sender's problem. (It might be caused by using unsuitable documents, or sender transmission problems.)
		2. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
11	When using the auto feeder, the reception image compressed.	1. If you print "Checkered Pattern", the image is more compressed vertically than horizontally.	Yes No	Check No. 2. The sender's problem. (It might be caused by sender transmission problems.)
		2. If you pull out a paper from resist roller and the fuser, the friction is normal.	Yes No	Check No. 3. Clean resist roller. Replace resist roller or the fuser.
		3. The electromagnetic clutch is normal.	Yes No	Check No. 4. Replace the electromagnetic clutch.
		4. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
12	The printouts are too light.	1. Are copied and test print images too light, or uneven density? Note: The following causes are also possible. The contrast setting might be not appropriate. Contrast irregularities are likely on printouts of documents containing thin lines or small blue lettering.	Yes No	Check No. 2. The sender's problem. (Possible causes are inappropriate contrast setting, using colored documents, poor line connection, using unsuitable documents, or sender transmission problems.)
		2. If you replace the toner or the drum cartridge, the symptom will be fixed.	Yes No	Replace the toner or the drum cartridge. Refer to the "Image Quality Problems".
13	Clock malfunction	1. Are there any errors in the clock setting process?	Yes No	Follow the instruction manual. Check No. 2.
		2. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.

No.	Symptom	What to confirm		Countermeasure
14	The machine does not receive or send a FAX.	1. Is the machine verifying the password?	Yes No	Check No. 2. Check No. 3.
		2. Is the password correct?	Yes No	Stop using the password verification, then check No. 3. Enter the correct password.
		3. Does the machine communicate with a right working machine?	Yes No	The operation might wrong, or counter machine might have problem. Check No. 4.
		4. If you replace the NCU board or the connecting harness, the symptom will be fixed.	Yes No	Replace the NCU board or the harness. Check No. 5.
		5. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
15	The auto memory reception does not work.	1. Has the auto reception been set?	Yes No	Check No. 2. Set auto reception mode.
		2. If you replace the NCU board or the connecting harness, the symptom will be fixed.	Yes No	Replace the NCU board or the harness. Check No. 3.
		3. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
16	A dial signal output fails after entering the number from the numeric keys.	1. Has the line type setting been set correctly ?	Yes No	Check No. 2. Set the correct line type.
		2. If you replace the NCU board or the connecting harness, the symptom will be fixed.	Yes No	Replace the NCU board or the harness. Check No. 3.
		3. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
17	The line monitor does not work.	1. Has the volume setting been set to OFF?	Yes No	Set the volume except OFF. Check No. 2.
		2. Has the setting for the line monitor been set up?	Yes No	Check No. 3. Set up the setting.
		3. If you replace the speaker or the connecting harness, the symptom will be fixed.	Yes No	Replace the speaker or the harness. Check No. 3.
		4. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.

No.	Symptom	What to confirm		Countermeasure
18	An unusual sound occurs.	1. Does the sound occur during scanning?	Yes No	Check No. 2. Check No. 10.
		2. Does the sound occur during scanning using the ADF or document glass ?	Yes No	Check No. 3. Check No. 6.
		3. Are there any objects interfering with the roller or roller shaft?	Yes No	Remove the objects. Check No. 4.
		4. Has the ADF motor sounded abnormal?	Yes No	Clean the roller. Check the harness. Check No. 5.
		5. Are there any objects interfering with the ADF gear?	Yes No	Remove the objects. Check No. 6.
		6. Has the FBS motor sounded abnormal?	Yes No	Check the harness. Check No. 7.
		7. Are there any objects interfering with the FBS gear?	Yes No	Remove the objects. Check No. 8.
		8. Are there any objects interfering with the FBS pulley?	Yes No	Remove the objects. Check No. 9.
		9. Are there any objects interfering with the carriage traveling surface?	Yes No	Remove the objects using lint free waste. Check No. 10.
		10. Does the sound occur while recording?	Yes No	Check No. 11. Check No. 17.
		11. If you remove the drum or toner cartridge, the sound still occurs.	Yes No	Check No. 12. Replace the toner or drum cartridge.
		12. Are there any objects interfering with the drum gear, developing gear, or transfer gear?	Yes No	Remove the objects. Check No. 13.
		13. If you replace the toner or drum cartridge, the symptom will be fixed.	Yes No	Replace the toner or drum cartridge. Check No. 14.
		14. If you replace the transfer roller or fuser, the symptom will be fixed.	Yes No	Replace the transfer roller or fuser. Check No. 15.
		15. Are there any objects interfering with the driving mechanism?	Yes No	Remove the objects. Check No. 16.
		16. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.
19	The document memory can not be backed up.	1. Have the main control board and the capacitor been mounted to C42?	Yes No	Check No. 2. Connect it.
		2. Is the capacitor voltage above +0.7V when the machine in shut down?	Yes No	Check No. 4. Check No. 3.
		3. Did you charge the capacitor for more than 10 minutes?	Yes No	Check No. 4. Charge the battery.
		4. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.

No.	Symptom	What to confirm		Countermeasure
20	Unit will not power up.	1. Is the power cord connected correct and power switch is turned on.	Yes No	Check No.2. Connect the power cord and turn the power on.
		2. Is the electrical outlet is on?	Yes No	Check No.3. Connect the machine to a proper outlet.
		3. Does the DC output voltages from the power supply unit to connector P3 on the main control boar have the following output? <table><tr><td>Pin 1, 2, 3, 4</td><td>+24V</td></tr><tr><td>Pin 14</td><td>+3.4V</td></tr><tr><td>Pin 5, 6, 7, 8, 11, 13</td><td>GND</td></tr></table>	Yes No	Check No.4. Replace the power supply.
		4. Is the connection between the power supply unit and the main control board OK?	Yes No	Check No.5. Reconnect the connection or replace the harness.
		5. If you replace the main control board, the symptom will be fixed.	Yes No	Replace the main control board. Replace the machine.

5 Maintenance & Adjustment

5.1 Maintenance schedule

Scanning Section

Parts Name	Maintenance Cycle (pages)		Reference Page
	Clean	Replace	
Covers	Wipe it with a soft cloth dampened with water. If that does not clean the part, wipe it first with a soft cloth dampened with natural detergent, then wipe it with a soft cloth dampened with water.	—	—
Touch panel display		—	—
ADF document pad		—	—
Document pad		—	—
ADF glass	Wipe it with a soft cloth dampened with water.	—	—
Document glass		—	—
Assy Piece Separator [2]	Wipe it with a soft cloth dampened with alcohol.	60,000 sheets/A4 or 2 years	5-15
Roller Separate [2]		60,000 sheets/A4 or 2 years	5-18
Roller Pickup [2]		60,000 sheets/letter or 2 years	5-18
Roller Feed / Roller Press		—	—
Roller Exit / Roller Press		—	—
CIS	Wipe it with a dry soft cloth.	—	5-27

[1] Replace these parts at the same time.

Printer Section

Parts Name	Maintenance Cycle (pages)		Reference Page
	Clean	Replace	
Print head	Wipe it with a soft cloth dampened with alcohol.	—	5-56
Roller Pickup [2]		100,000 sheets/A4 or 2 years	5-77
Pad Pressure CST [2]		100,000 sheets/A4 or 2 years	5-78
Roller Feed OP		100,000 sheets/A4	5-84
Roller Duplex		300,000 sheets/A4	5-44
Roller Pickup MP		100,000 sheets/A4 or 2 years	
Pad Pressure MP		100,000 sheets/A4 or 2 years	5-45
Roller Resist		100,000 sheets/A4	5-46
Roller Exit		100,000 sheets/A4	5-63
Inter roller		—	
2-bin roller	—	300,000 sheets/A4	—
Fuser	—	100,000 sheets/A4	5-55
Roller Transfer	—	100,000 sheets/A4	5-42
Guide Transfer	—	100,000 sheets/A4	
Filter Ozone	—	150,000 sheets/A4	5-38

[2] Replace these parts at the same time.

Note

The maintenance cycle (pages or years) may be shorter than the above value according to the environment or usage of the machine, and the documents and paper that are used. The maintenance cycle (pages or years) are not insured and early replacement of the parts may be needed to maintain the machine quality.

5.2 Disassembly procedures

Before assembling,

- Disconnect the power cable
- Press the power button on the pannel after you have remoed the power cable
- Disconnect the line cable and other cables
- Pull out the toner cartridge from the machine
- Pull out the drum cartridge from the machine, and cover it with a black clothe

5.2.1 URADF

TRAY DOCUMENT

1. Pull and remove the TRAY DOCUMENT [2] from the Guide outer B up [1].
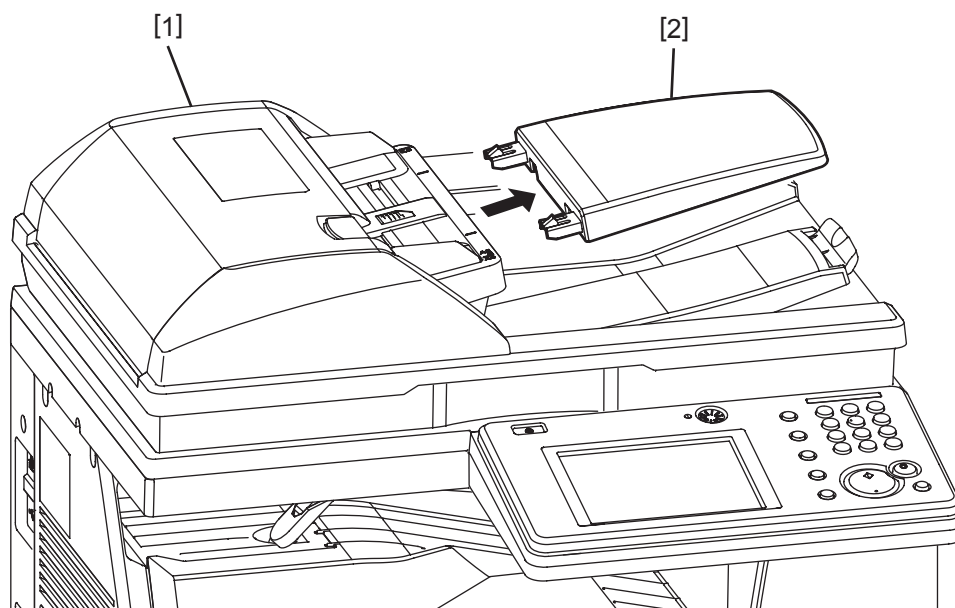
COVER TX SIDE B

1. Open the Cover platen [1].
2. Remove one screw [2].
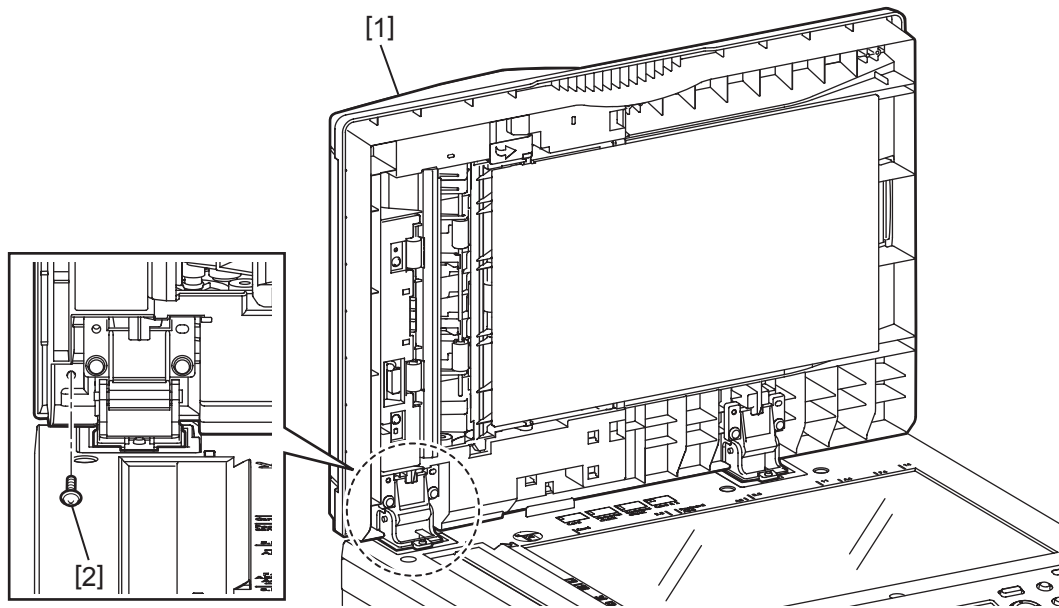
3. Close the Cover platen [1].
4. Open the Cover Tx [3].
5. Release one hook [4], then remove the COVER TX SIDE B [5].
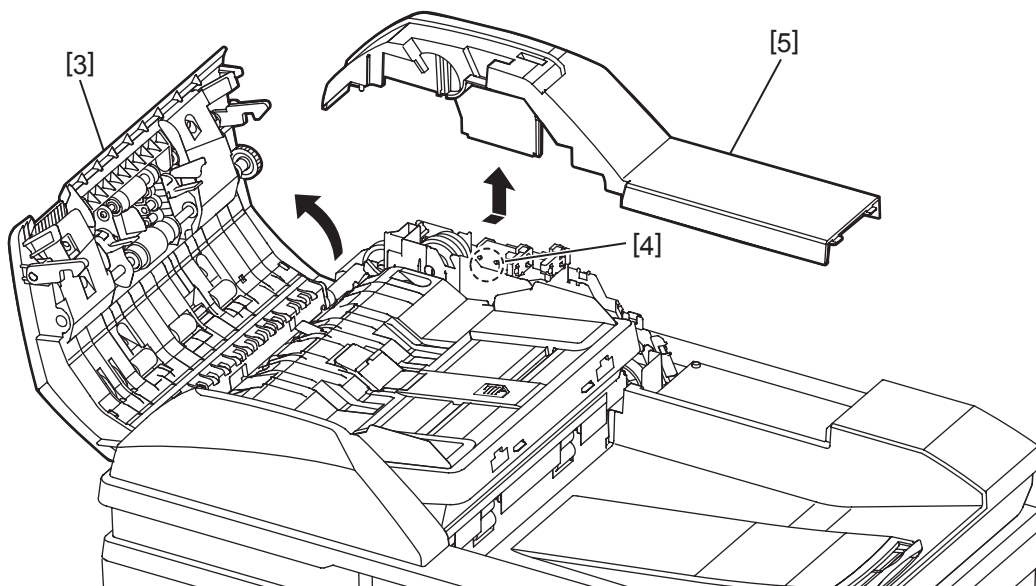
SENSOR TXIL / DS1

1. Remove the Cover Tx side B. (See "COVER TX SIDE B" on page 5-5.)
2. Disconnect each connector for the SENSOR TxIL [1] and the Sensor DS1 [2].
3. Remove the SENSOR TxIL [1] and the Sensor DS1 [2].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     Remove the long side first.
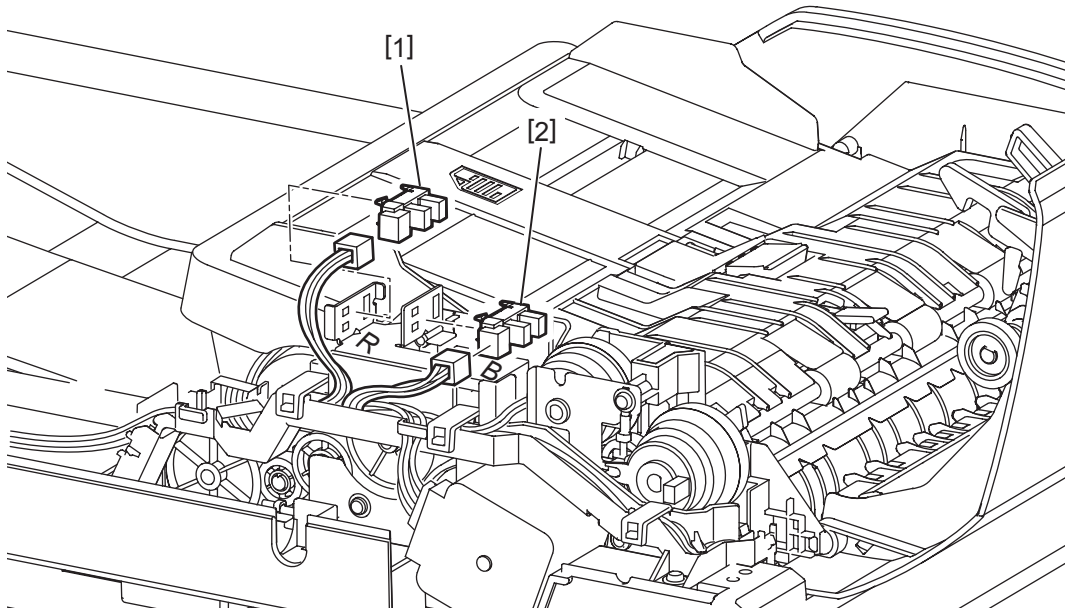
⚠CAUTION

When assembling, please be careful to plug in the connectors correctly.
Sensor TxIL··· Harness color: Red (marked R)
Sensor DS1··· Harness color: Blue (marked B)

PCB ADF

1. Remove the Cover Tx side B. (See "COVER TX SIDE B" on page 5-5.)
2. Disconnect all the PCB ADF connectors.
3. Remove two screws [1].
   * One screw place is jointed with ground wire.
5. Remove the PCB ADF [2].
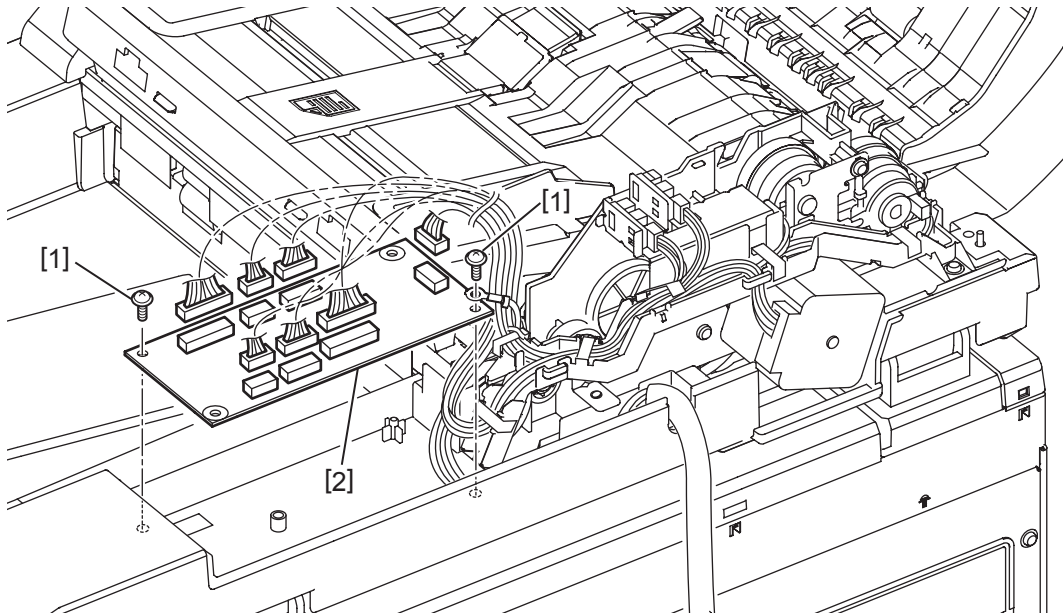
COVER TX SIDE F

1. Open the Cover platen [1].
2. Remove one screw [1].
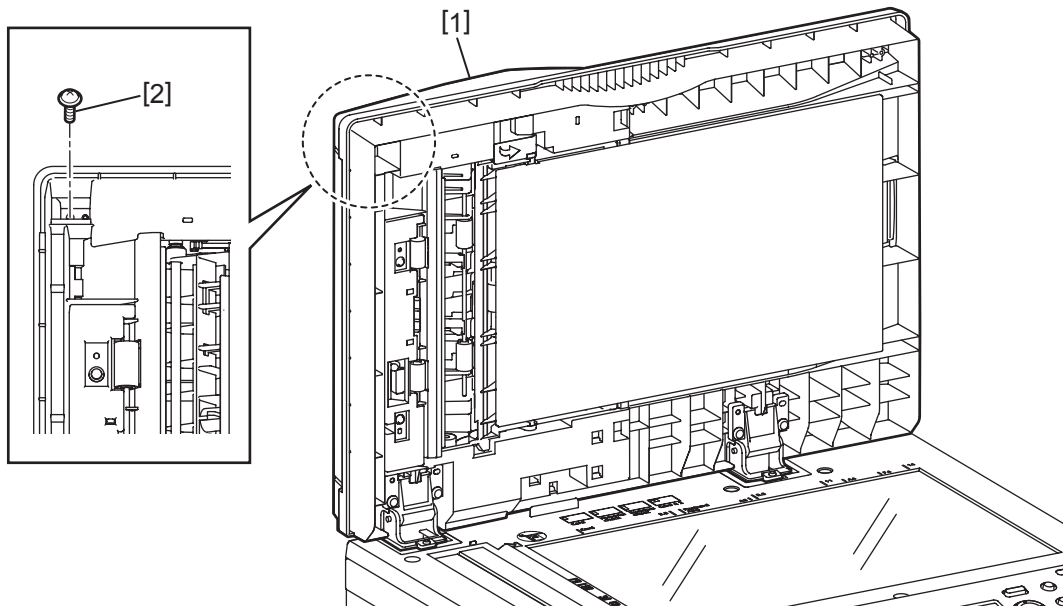
3. Close the Cover platen [1].
4. Open the Cover Tx [3].
5. Release one hook [4], then remove the COVER TX SIDE F [5].
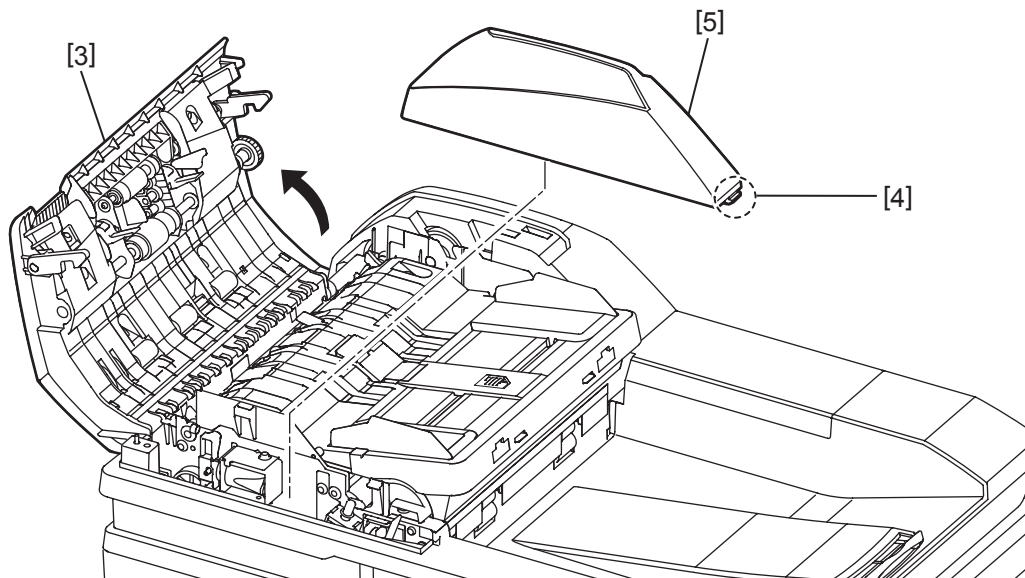
SENSOR APS

1. Remove the Cover Tx side F. (See "COVER TX SIDE F" on page 5-8.)
2. Remove the APS bracket. (See "GUIDE INNER" on page 5-24.)
3. Remove the Solenoid guide. (See "SOLENOID GUIDE" on page 5-11.)
4. Disconnect the connector [1].
5. Remove the SENSOR APS [2].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After removing the hook on the short side, slide the sensor to the short side and remove it.
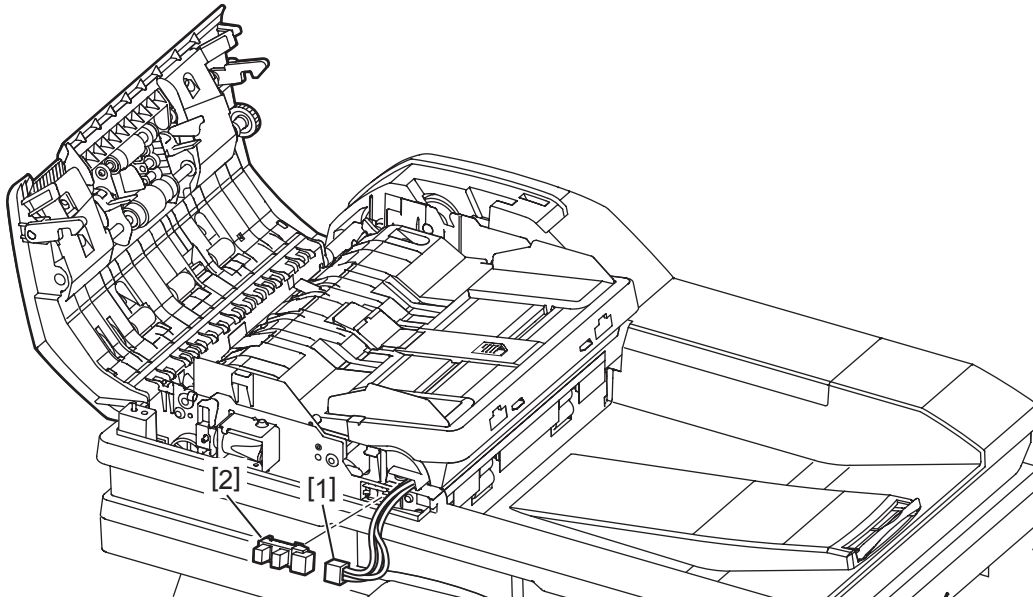
SOLENOID ROLLER

1. Remove the Cover TX side F. (See "COVER TX SIDE F" on page 5-8.)
2. Remove the harness from the hook [1].
3. Disconnect the junction connector [2].
4. Remove one screw [3].
5. Remove the SOLENOID ROLLER [4].
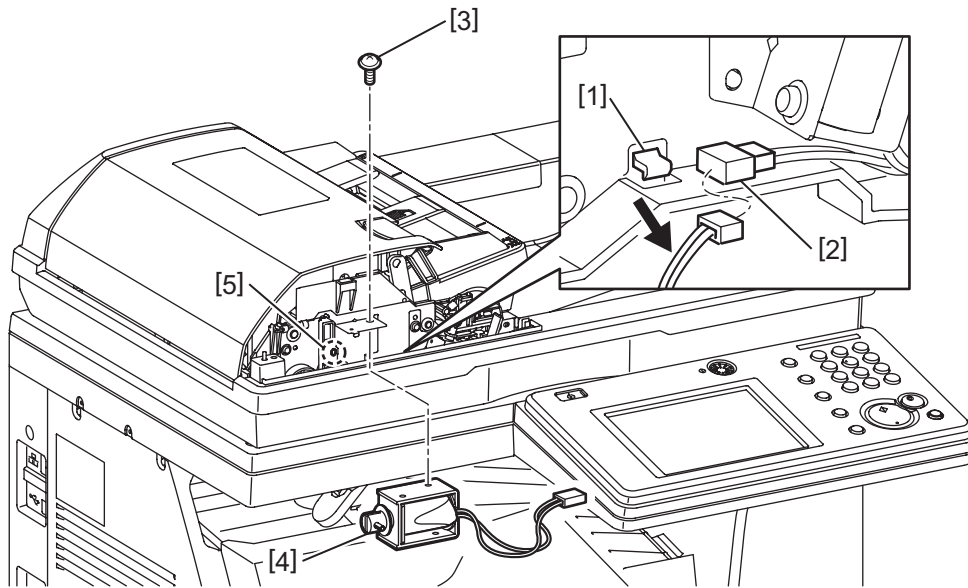
⚠ CAUTION

When assembling, pass the Pin PK 3×16 of Solenoid roller through the Bracket gear reverse hole [5].

SOLENOID GUIDE

1. Remove the Cover TX side F. (See "COVER TX SIDE F" on page 5-8.)
2. Remove the APS Bracket. (See "GUIDE INNER" on page 5-24.)
3. Remove the harness from the hook [1].
4. Disconnect the junction connector [2].
5. Remove one screw [3] then remove the Bracket solenoid A [4].
6. Remove one screw [5] then remove the Bracket solenoid A [6].
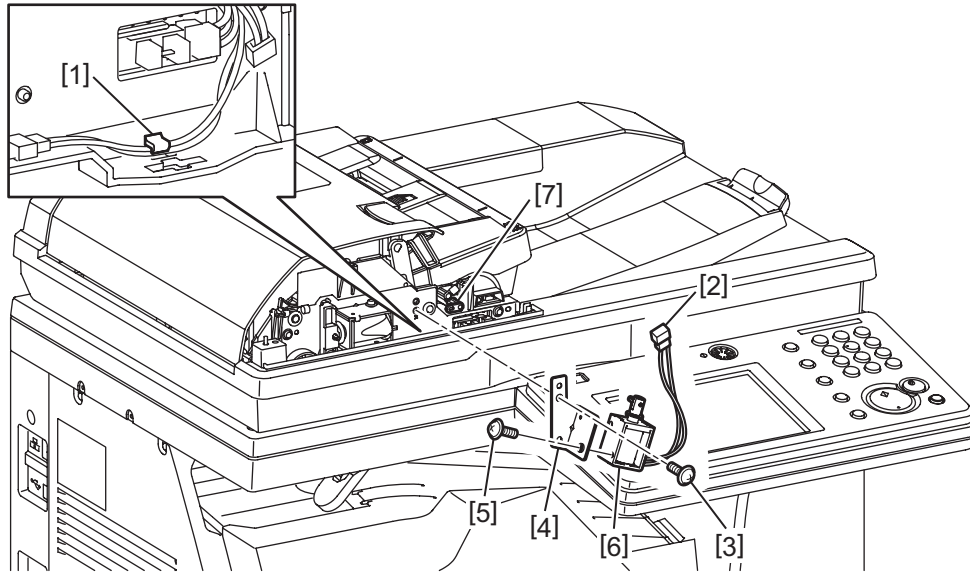
⚠CAUTION

When assembling, pass the Pin PK 2×12 of Solenoid guide through the Guide switch hole [7].

SENSOR DS2

1. Open the Cover platen [1].
2. Remove two screws [2] then remove the Stay platen [3].
3. Disconnect the connector of the SENSOR DS2 [4] then remove the harness from the hook.
4. Remove one screw [5], then remove the SENSOR DS2 [4].
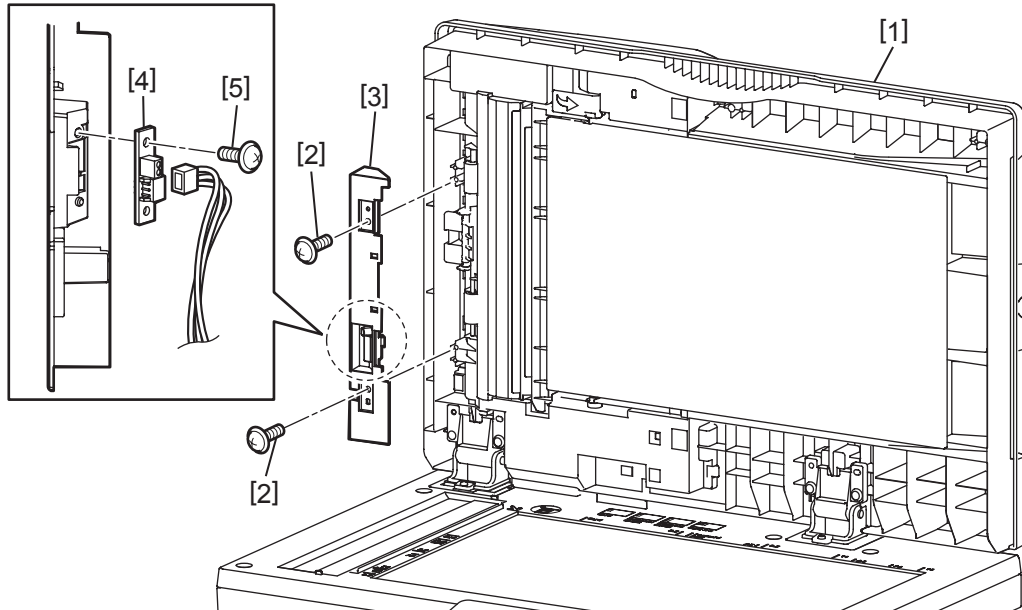
SENSOR DS3

1. Open the Cover platen [1].
2. Peel off the Sheet document press [2].
   * Sheet document press is secured with the Velcro tape.
3. Remove one screw [3] of the Bracket press sheet.
4. Remove one screw [5] of the Bracket DS3 [4].
5. Remove the harness from the hook [6] then remove the Bracket DS3 [4].
6. Disconnect the connector from the SENSOR DS3 [7].
7. Remove one screw [8], then remove the SENSOR DS3 [7].
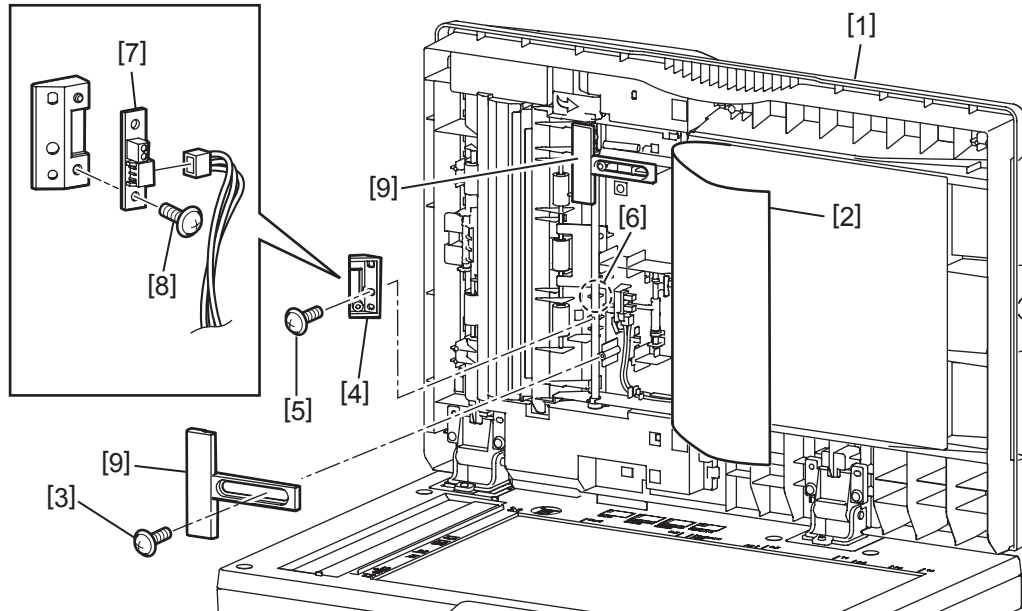
⚠ CAUTION

When securing the Sheet document press, slide two Brackets press sheet [9] to the right side.

SENSOR DEXIT

1. Open the Cover platen [1].
2. Peel off the Sheet document press [2].
     * Sheet document press is secured with the Velcro tape.
3. Remove the harness from the hook [3].
4. Disconnect the connector of the SENSOR DEXIT [4].
5. Remove the SENSOR DEXIT [4].
     * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
       After releasing the hook on the short side, slide the sensor to the short side and remove it.
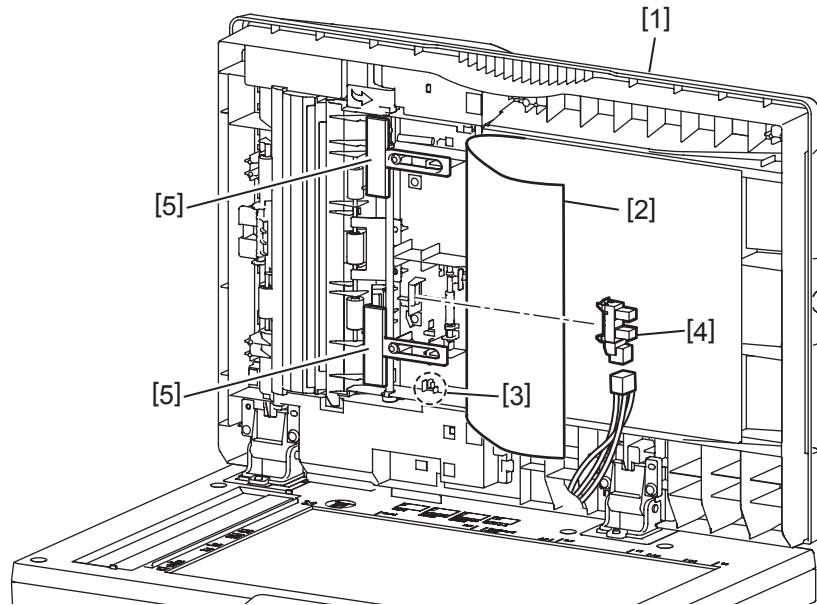
⚠**CAUTION**

When securing the Sheet document press, slide two Brackets press sheet [5] to the right side.

PIECE SEPARATOR

1. Open the Cover Tx [1].
2. Remove two shafts [2].
3. Remove the PIECE SEPARATOR [4] while releasing two hooks [3].
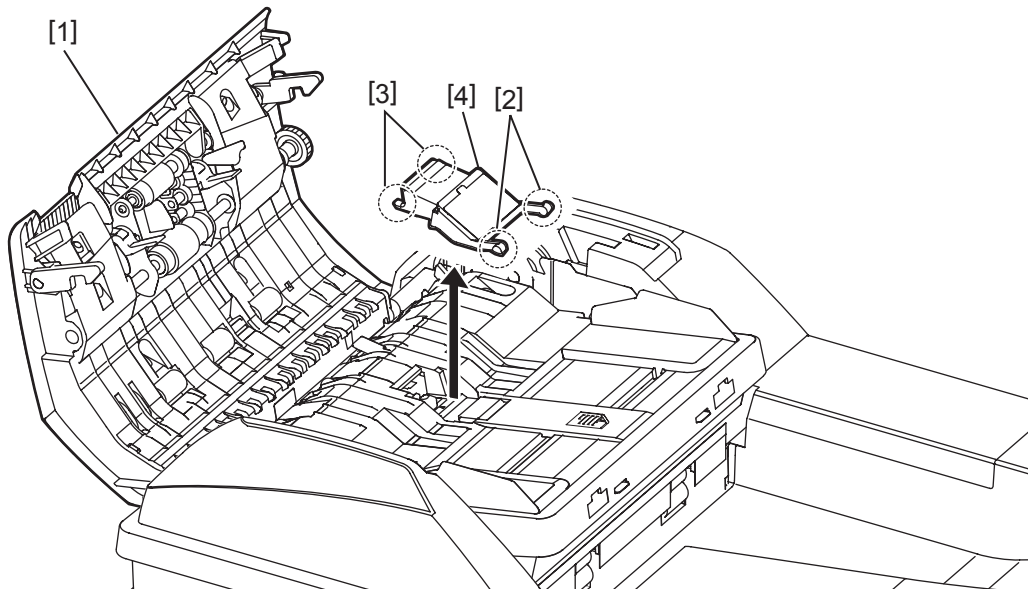
SENSOR DRS

1. Open the Cover Tx [1].
2. Remove two screws [2].
3. Remove the Guide outer B up [4] while releasing two hooks [3].
4. Disconnect the connector and remove the SENSOR DRS [5].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
   After releasing the hook on the short side, slide the sensor to the short side and remove it.
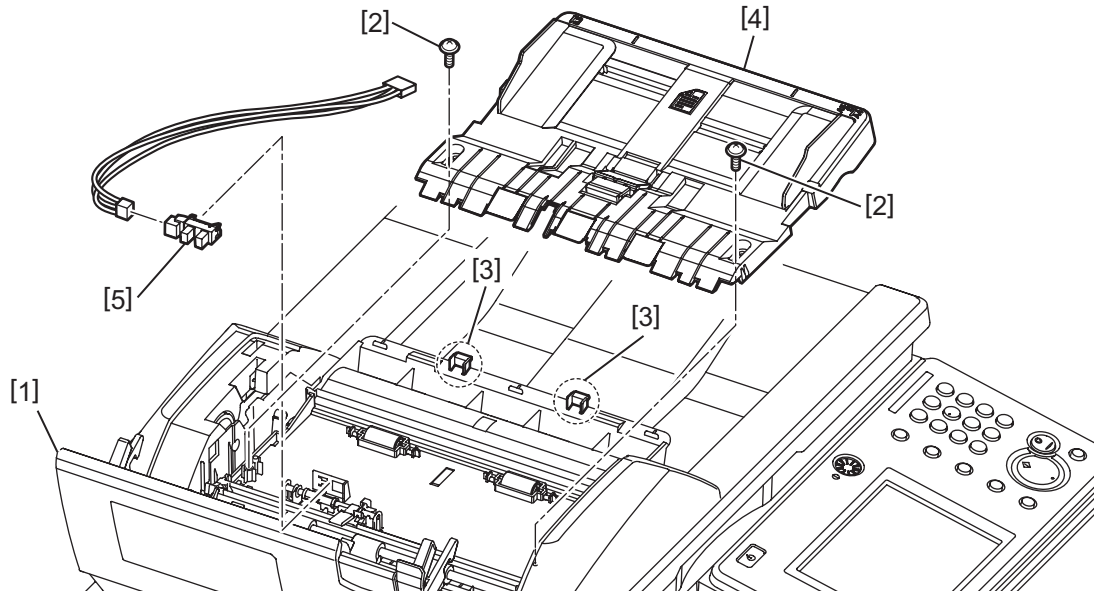
COVER TX

1. Remove the Cover Tx side B. (See "COVER TX SIDE B" on page 5-5.)
2. Remove the Cover Tx side F. (See "COVER TX SIDE F" on page 5-8.)
3. Remove one screw [1] on the back side.
    * The screw is jointed with the ground wire.
4. Remove two harness locks [2].
5. Remove two shafts [3], then remove the COVER TX [4].
    * When removing, raise the Cover Tx slightly and remove it from the shaft on the front side.
    * Remove the ground wire through the Guide inner hole.
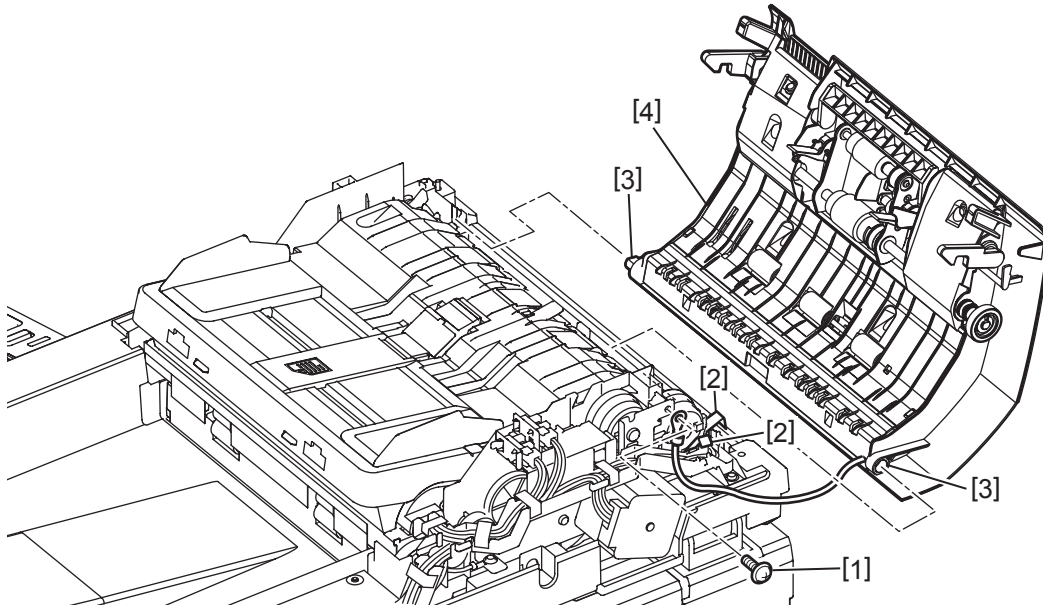
ASSY ROLLER SEPARATOR

1. Remove the Cover Tx. (See "COVER TX" on page 5-17.)
2. Remove two screws [1].
3. Release two hooks [2] using a tool such as a driver, and remove the Guide outer A [3].
4. Remove one E-ring [4], then slide the Bearing D6 8 [5] and the Gear 26 [6] to the inner part.
5. Remove one E-ring [7], then remove the Bearing D6 8 [5] and the Gear 26 [6].
6. Remove three E-rings [8] and slide two Bearings D6 [9] and one Bearing D6 8 [10] toward the center.
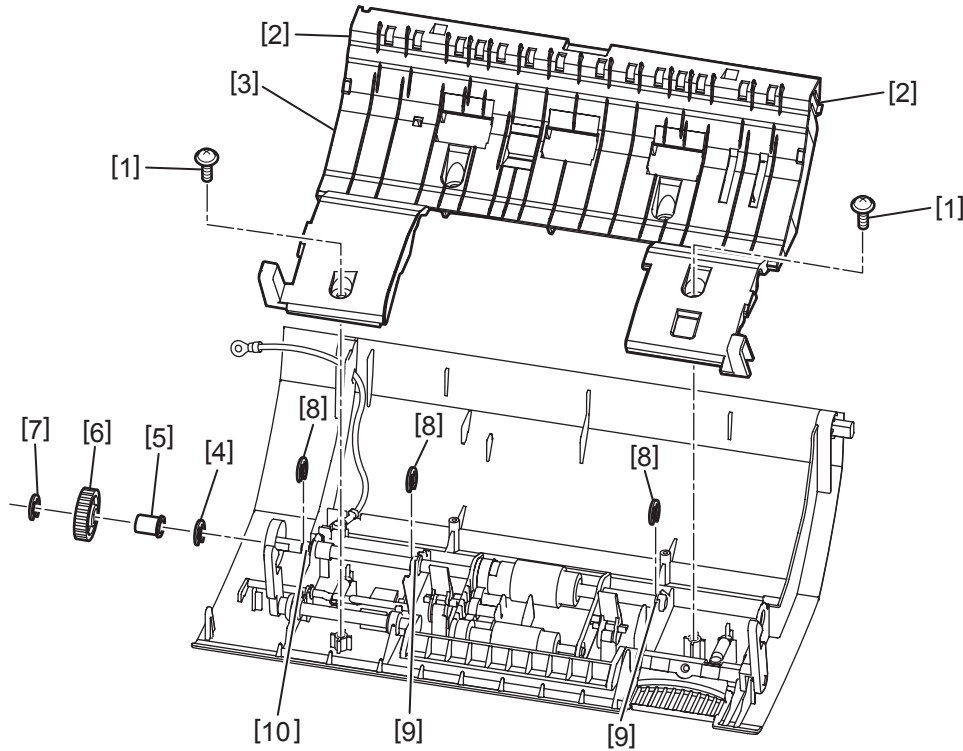
7. Remove the ASSY ROLLER SEPARATOR [11].
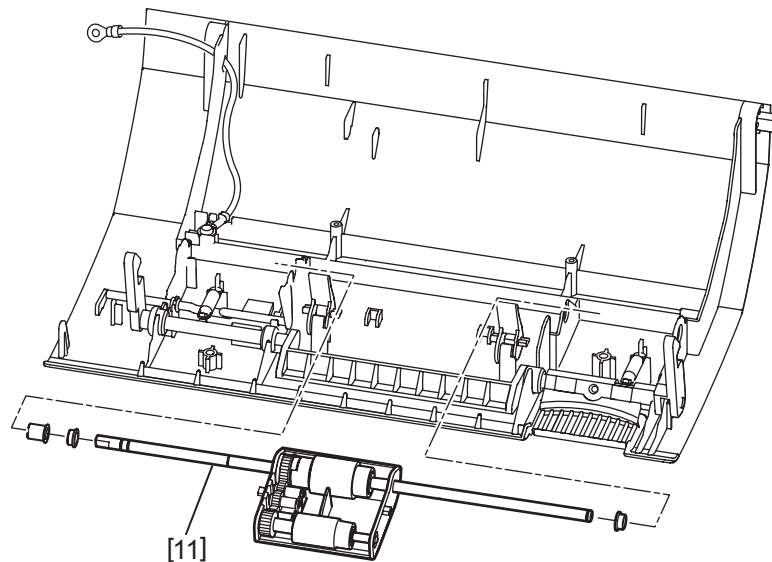
PRESS ROLLER A

1. Remove the Cover Tx. (See "COVER TX" on page 5-17.)
2. Remove the Guide outer A. (See "ASSY ROLLER SEPARATOR" on page 5-18.)
3. Remove two screws [1] and then remove two Springs P regist [2].
4. Remove one screw [3], then remove the Holder regist shaft [4].
5. Lift up the Shaft press roller regist [5] and remove the Press roller A [6].
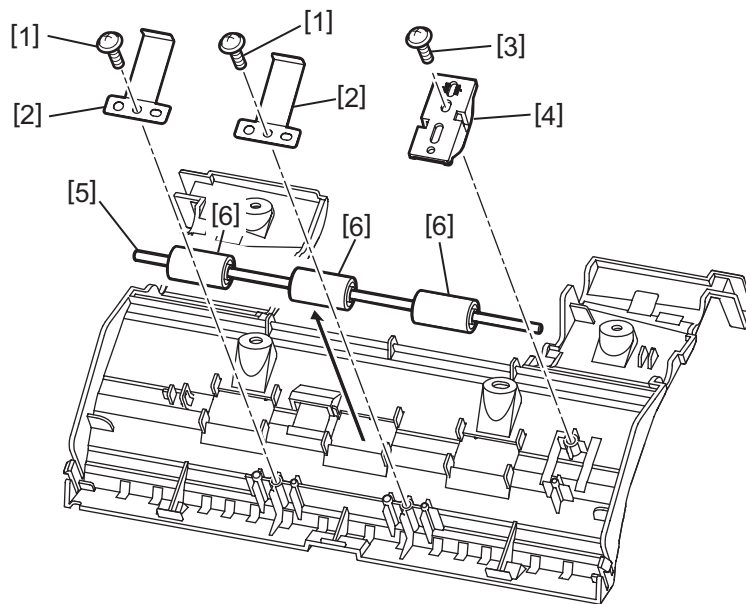
GUIDE HARNESS

1. Remove the Cover Tx side B. (See "COVER TX SIDE B" on page 5-5.)
2. Remove seven harness locks [1].
3. Remove one screw [2] and remove the secured Cover Tx ground wire.
4. Disconnect all the PCB ADF [3] connectors.
5. Remove the harness from the GUIDE HARNESS [4].
6. Remove the harness from three hooks [5].
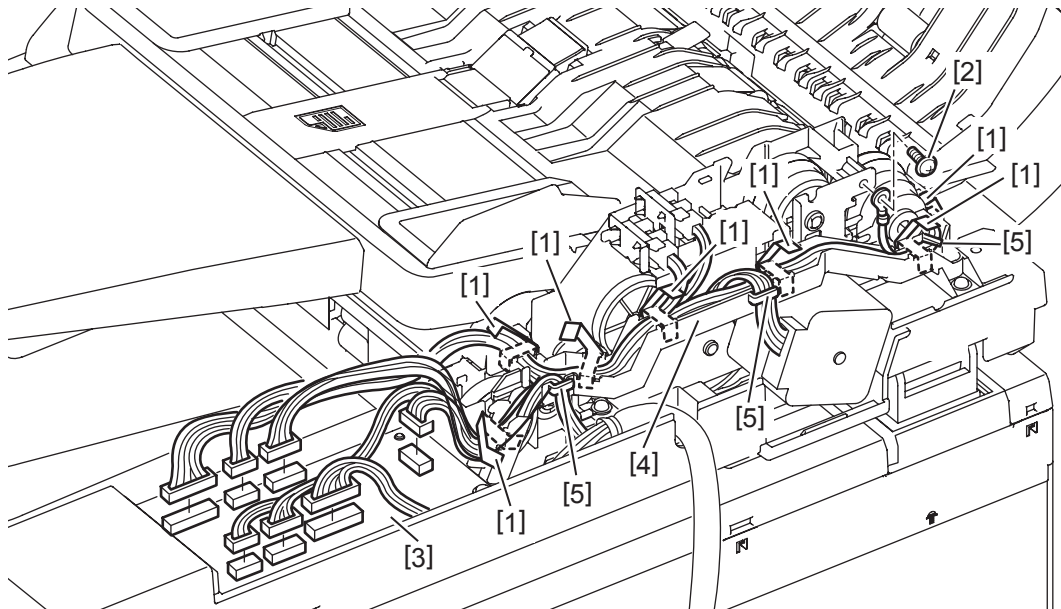
7. Remove one screw [6].
8. Release the hook [7] and remove the GUIDE HARNESS [4] while pulling two insertions [8].
   * Release the hook by slightly pressing down the GUIDE HARNESS [4].
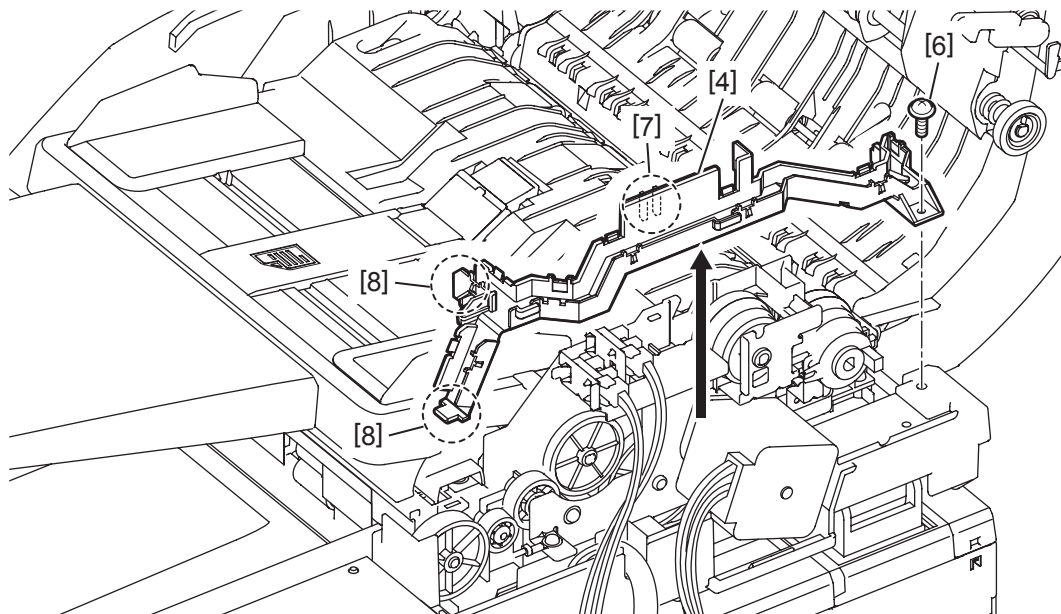
MOTOR URADF

1. Remove the Guide harness. (See "GUIDE HARNESS" on page 5-20.)
2. Remove three screws [1], then remove the Bracket motor [2].
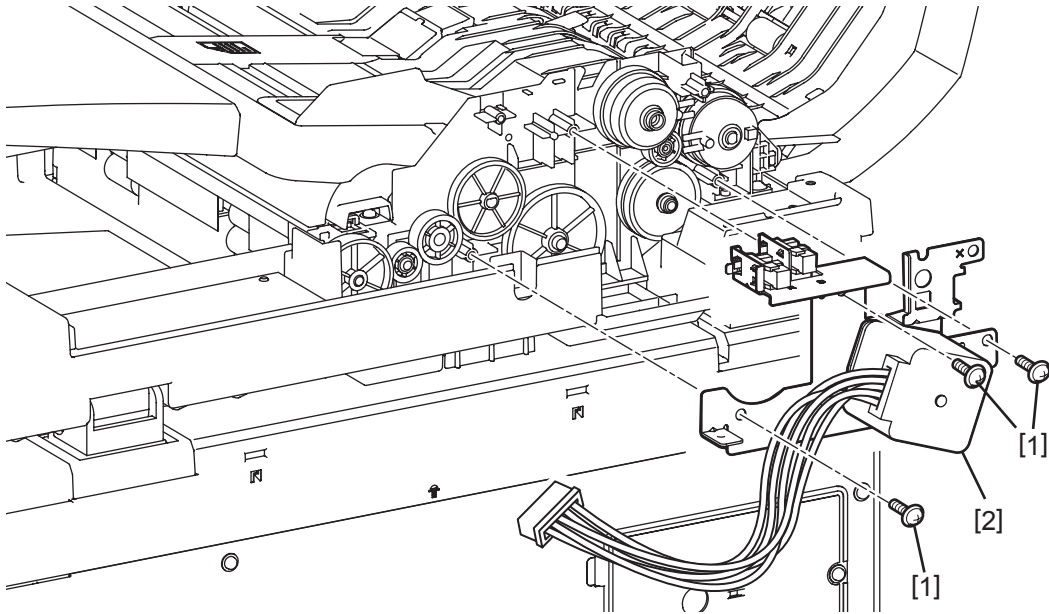
3. Remove two screws [3], then remove the MOTOR URADF [4].
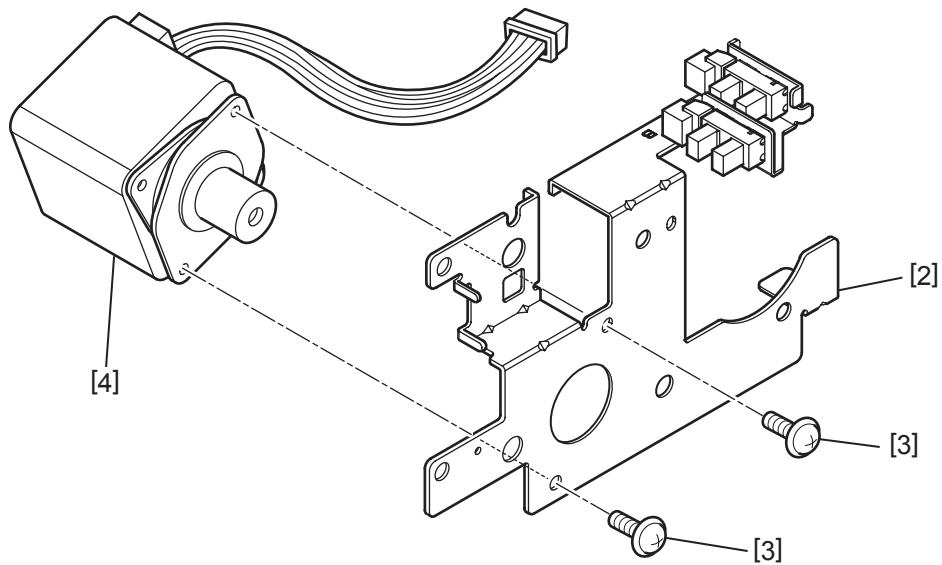
PLATE PRINTER B

1. Remove one screw [1] (jointed with ground wire) and remove the PLATE PRINTER B [2].
2. Disconnect one connector [3].
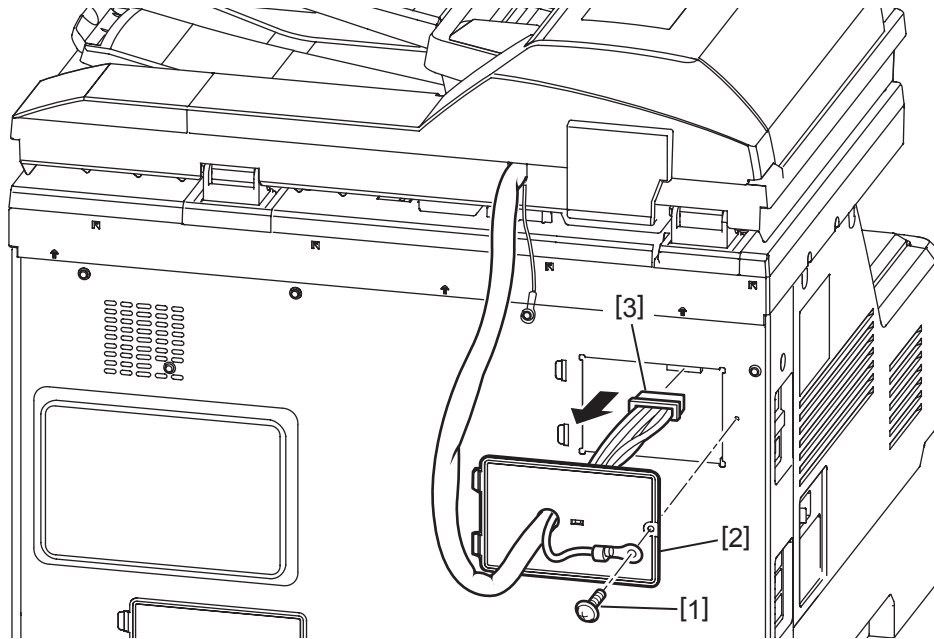
Important

When attaching the Plate printer B, be careful not to pinch the harness.

COVER PLATEN

1. Remove the Plate printer B. (See "PLATE PRINTER B" on page 5-22.)
2. Remove one screw which fastens the ground wire to cover back. (See "PLATE PRINTER B" on page 5-22.)
3. Lift up the COVER PLATEN [1] and remove it.
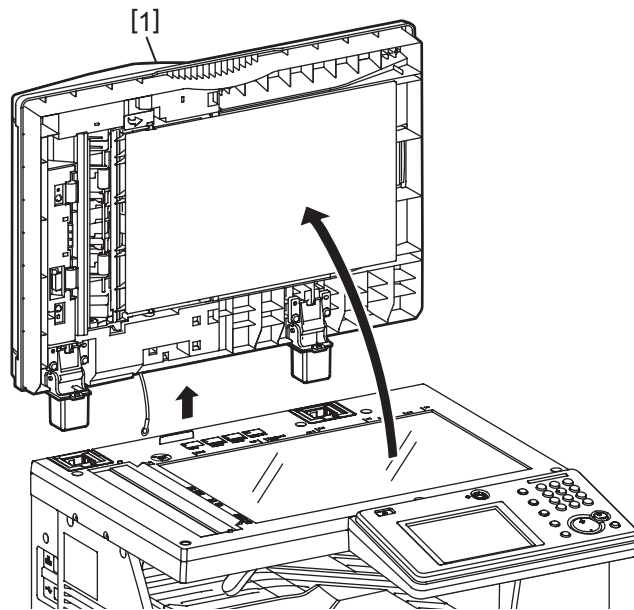
GUIDE INNER

1. Remove the Cover Tx side B. (See "COVER TX SIDE B" on page 5-5.)
2. Remove the Cover Tx side F. (See "COVER TX SIDE F" on page 5-8.)
3. Remove the Cover Tx. (See "COVER TX" on page 5-17.)
4. Disconnect the connector for the Sensor TxIL [1] and the Sensor DS1 [2].
5. Leave the Clutch URADF (separate clutch) [3] (regist clutch) [4] junction connector towards the Clutch URADF and disconnect the connector on the harness side.
6. Pull out the harness from the GUIDE INNER [5] hole [6].
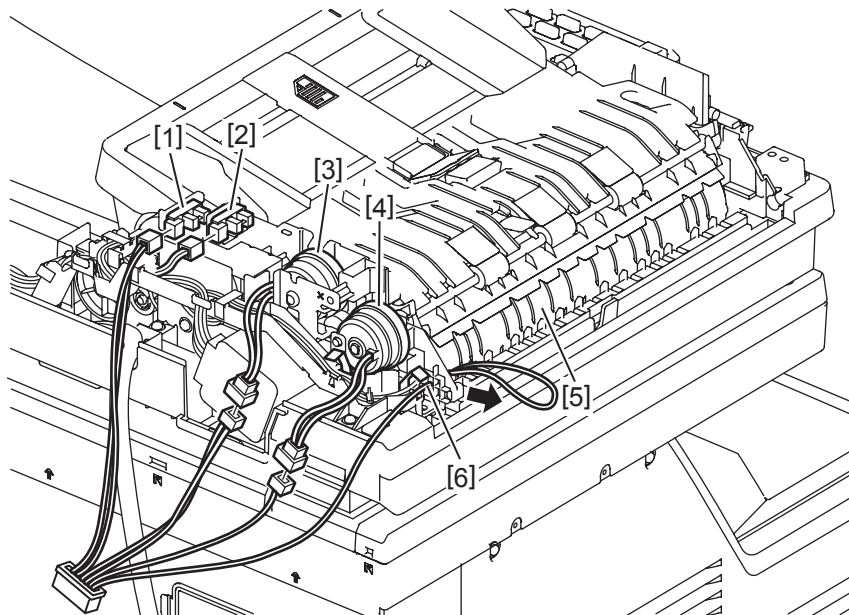
7. Push down the handle of the Bracket APS [7] and remove it.
8. Remove two screws [8].
9. Lift up the GUIDE INNER [5] a little and release two hooks [9].
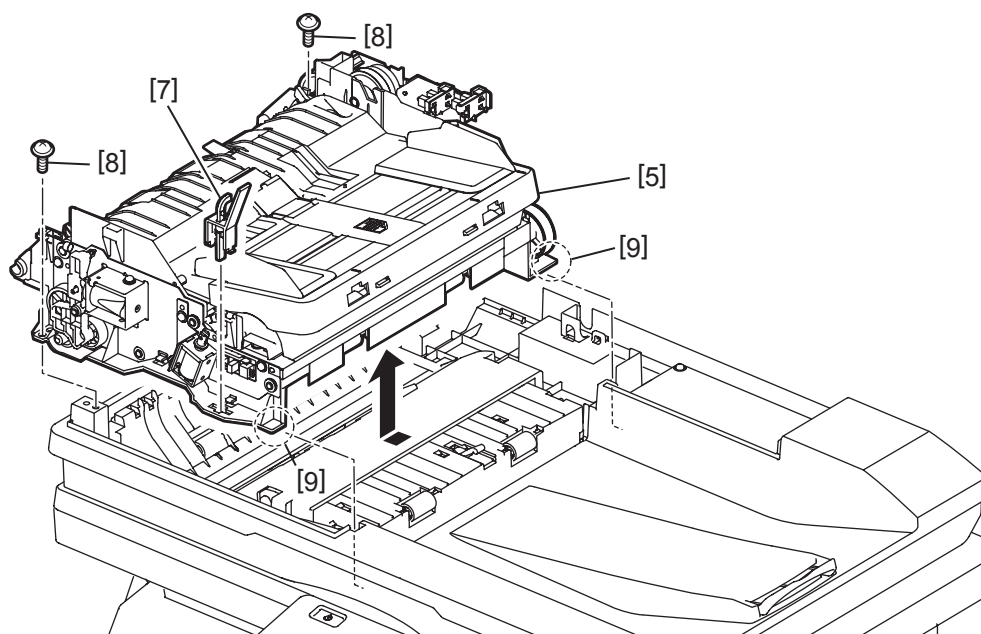
NOTE

When reassembling the unite, note that two hooks [9] are not on the platen cover but under the hooks of the cover.

GUIDE OUTER B ASSY

1. Remove the Guide inner. (See "GUIDE INNER" on page 5-24.)
2. Remove one E-ring [1] then remove the Clutch URADF [2].
3. Remove the Spring C reverse bracket [3].
4. Remove two E-rings [4], then remove two Bearings D6 8 [5].
5. Lift up the GUIDE OUTER B ASSY [6] and remove it.
   * Remove the harness through the Guide inner hole [7].
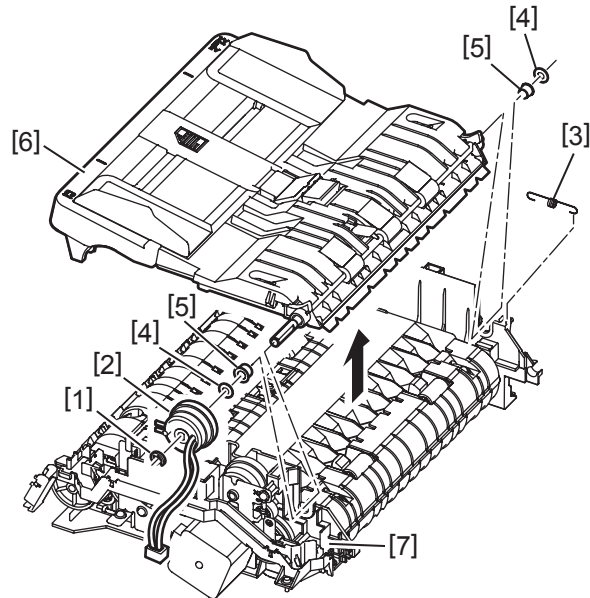
GUIDE COVER PL

1. Remove the Guide inner. (See "GUIDE INNER" on page 5-24.)
2. Remove the Guide outer B assy. (See "GUIDE OUTER B ASSY" on page 5-25.)
3. Remove two screws [1].
4. Remove the GUIDE COVER PL[2].
   * Rotate towards the clockwise direction by looking from the front side and remove it.
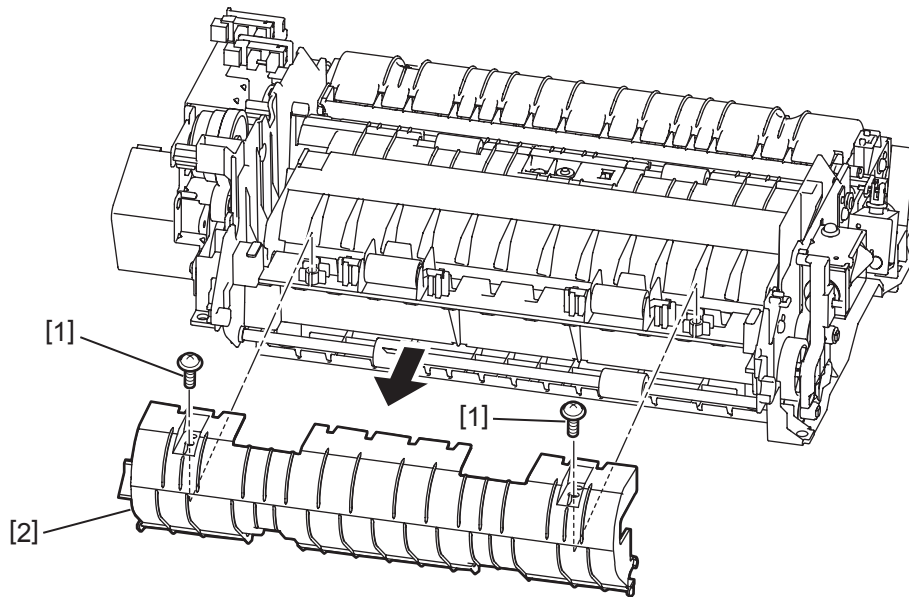
5.2.2 Scanner section

CIS

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove three screws [1].
3. Remove the Cover top FBS [3] while releasing four hooks [2].
4. Remove two Spacers CIS [4].
5. Remove the CIS [5] 90 degrees by sliding towards the lengthwise direction.
6. Remove the flat cable [6].
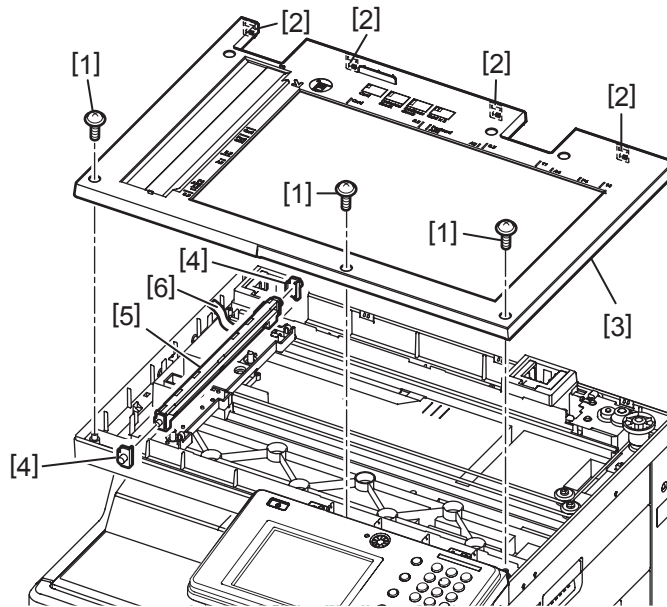
⚠CAUTION

When removing the Cover top FBS, be careful not to break the Pane.

FBS MOTOR

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove the Cover top FBS. (See "CIS" on page 5-27.)
3. Remove the Spring C tension [1].
4. Remove one screw [2].
5. Move the Bracket motor [3] towards the center, then lift up and remove it.
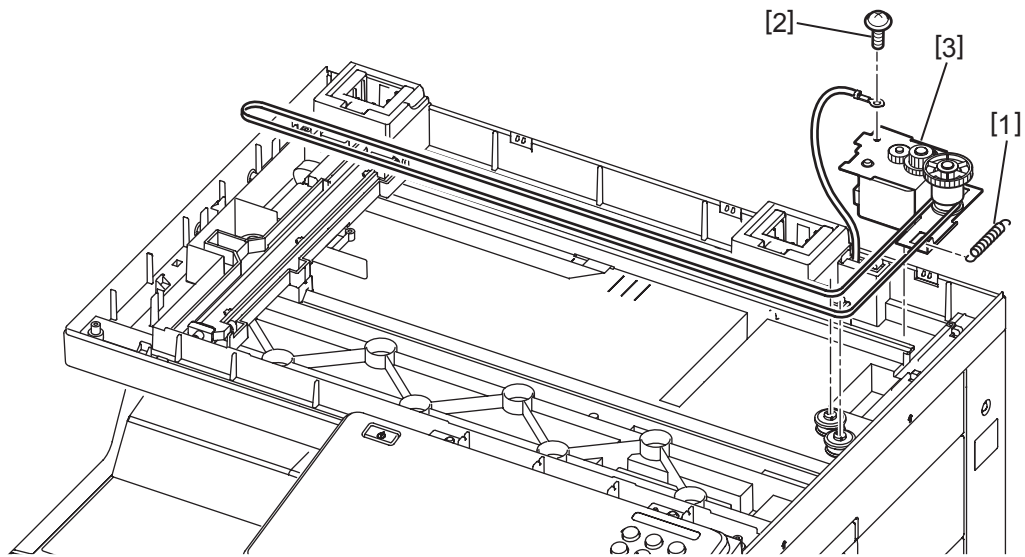
6. Remove two screws [4] and remove the FBS MOTOR [5].
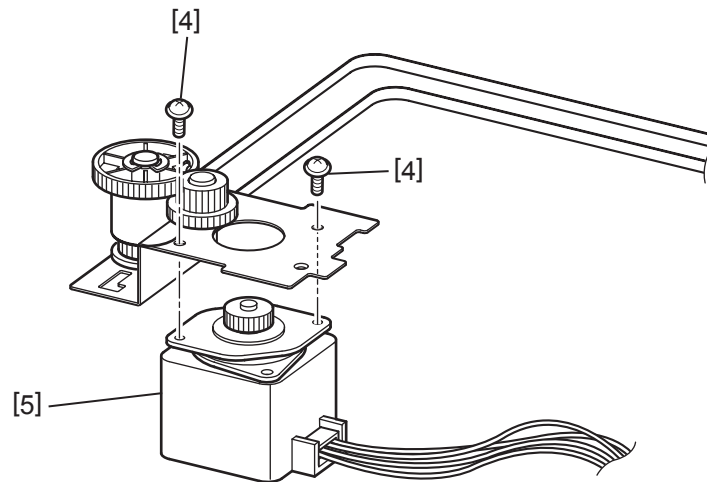
SENSOR HS

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove three screws. (See "CIS" on page 5-27.)
3. Remove the Cover top FBS while releasing four hooks. (See "CIS" on page 5-27.)
4. Remove the Space sensor [1].
5. Release the hooks under the Chassis FBS, then remove the SENSOR HS [2].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After releasing the hook on the short side, slide the sensor to the short side and remove it.
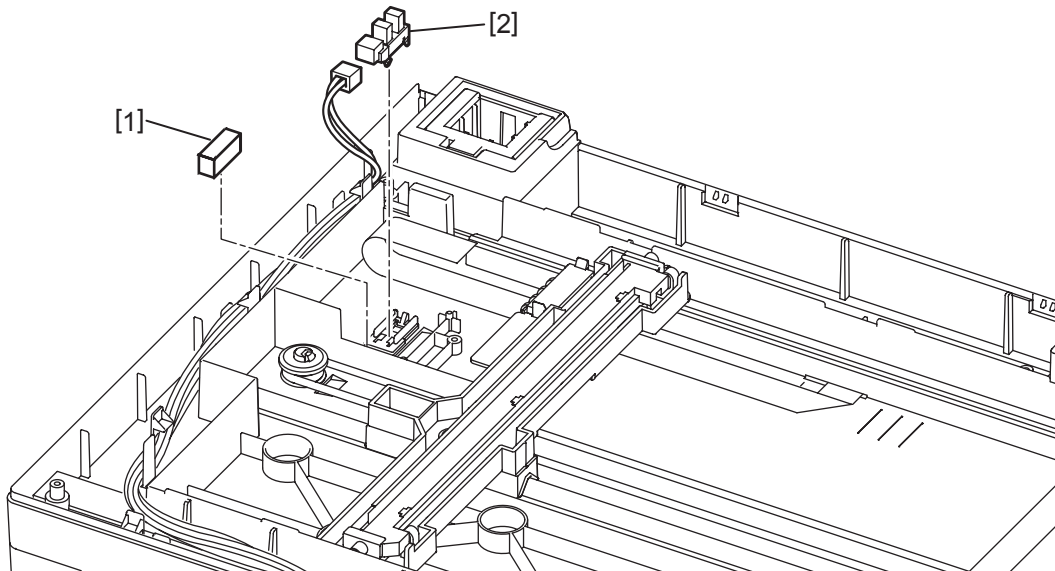
5.2.3 Panel section

PCB PANEL ASSY

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove the Cover top FBS. (See "CIS" on page 5-27.)
3. Remove two screws [1].
4. Lift up the PCB PANEL ASSY [2].
5. Disconnect two connectors [3].
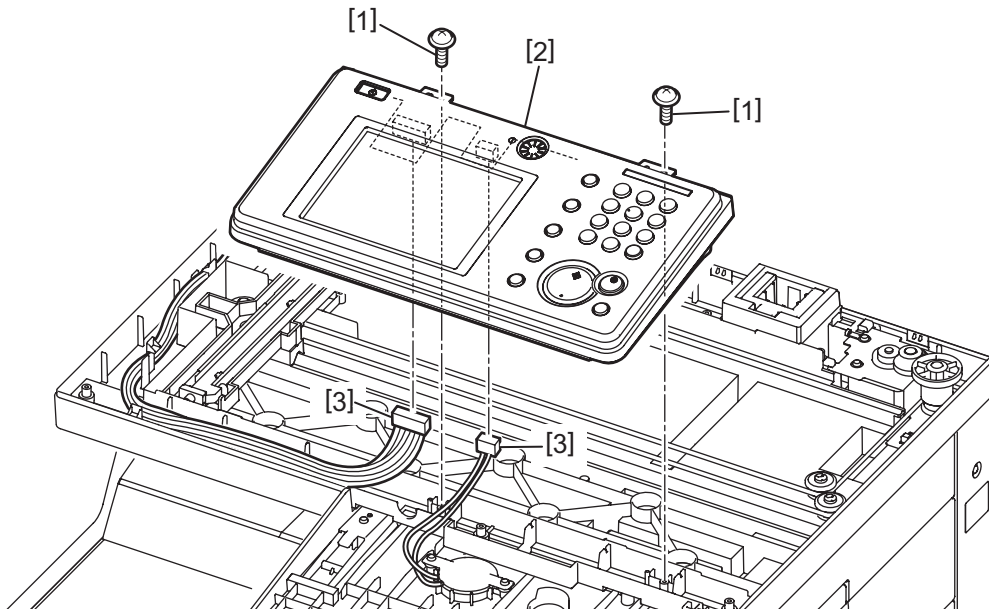
PCB PANEL

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove the Cover top FBS. (See "CIS" on page 5-27.)
3. Remove the PCB panel assy. (See "PCB PANEL ASSY" on page 5-30.)
4. Remove four screws [1], then remove the Cover PCB panel [2].
5. Remove five screws [3], then remove the PCB PANEL [4].
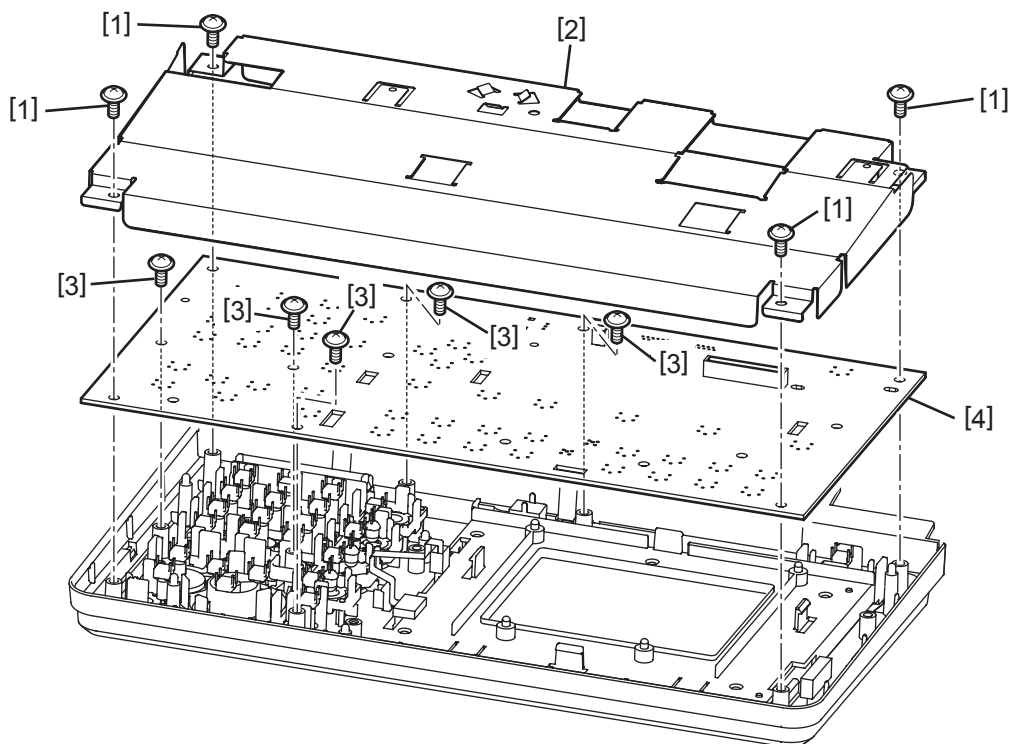
DISPLAY LCD B/W

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove the Cover top FBS. (See "CIS" on page 5-27.)
3. Remove the PCB panel assy. (See "PCB PANEL ASSY" on page 5-30.)
4. Remove the PCB PANEL. (See "PCB PANEL" on page 5-31.)
5. Remove the Knob volume [1].
6. Remove the film harness [2].
7. Disconnect the connector [3] and the film harness [4] on the back side.
8. Remove four hooks [5] then remove the Bracket LCD MID [6].
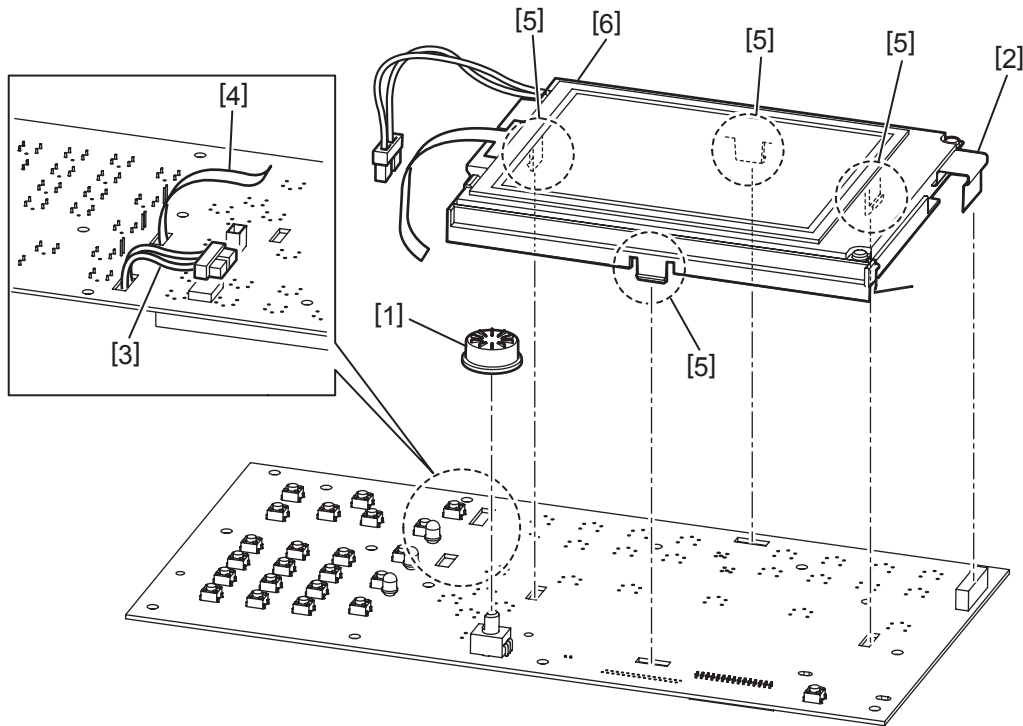
9. Remove two screws [7].
10. Remove the DISPLAY LCD B/W [9] while releasing two hooks [8].
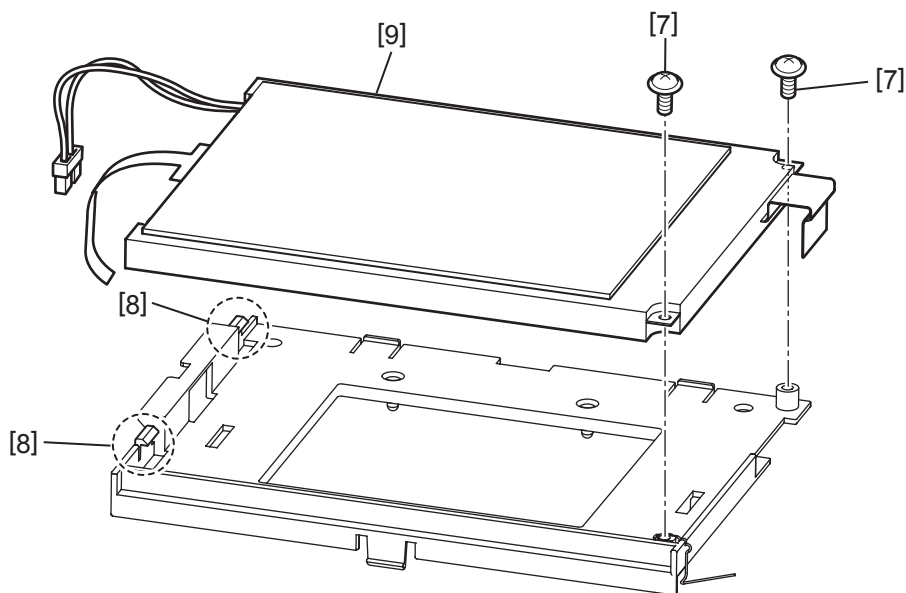
⚠CAUTION

- Handle the LCD gently to avoid from breaking it.
- If the LCD breaks and the liquid comes into contact with your hands, rinse with water. If you have contact with your eyes or mouth, rinse with water and consult a physician.

CABLE-ASSY SPEAKER

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove the Cover top FBS. (See "CIS" on page 5-27.)
3. Remove the PCB panel assy. (See PCB PANEL ASSY.)
4. Remove the PCB PANEL. (See "PCB PANEL" on page 5-31.)
5. Remove two screws [1].
6. Remove the CABLE-ASSY SPEAKER [2].
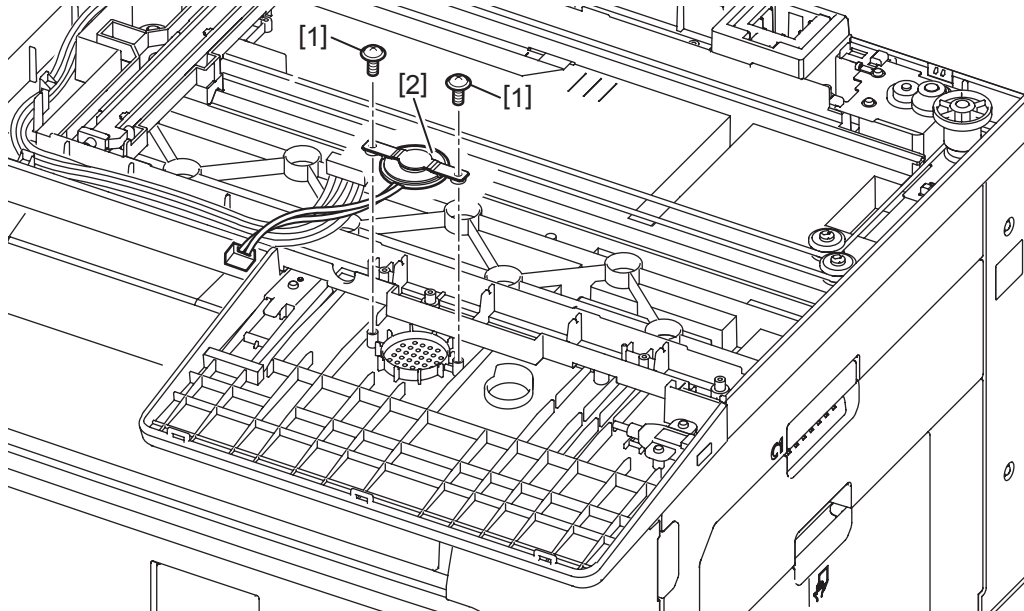
Important

When you reattach the speaker, be sure that a "△" inscription is at the direction where the harness is.

5.2.4 PCB section

PCB MAIN

1. Remove the Plate printer B. (See "PLATE PRINTER B" on page 5-22.)
2. Remove eight screws [1].
3. Remove the Cover back [2].
   * Remove the insertion on the left side.
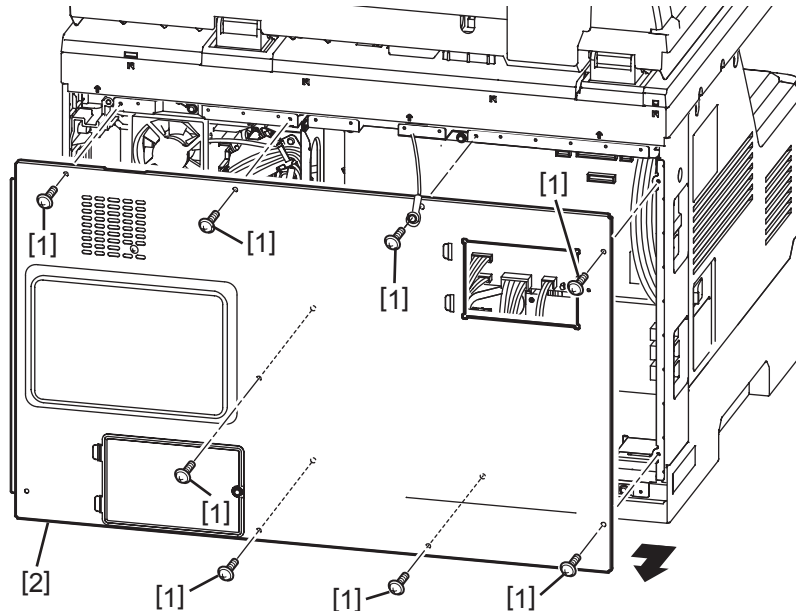
4. Disconnect all the PCB MAIN [3] connectors.
5. Remove six screws [4].
6. Remove the spacer [5].
7. Remove the PCB MAIN [3] while disconnecting two connectors [6] on the right side from the frame.
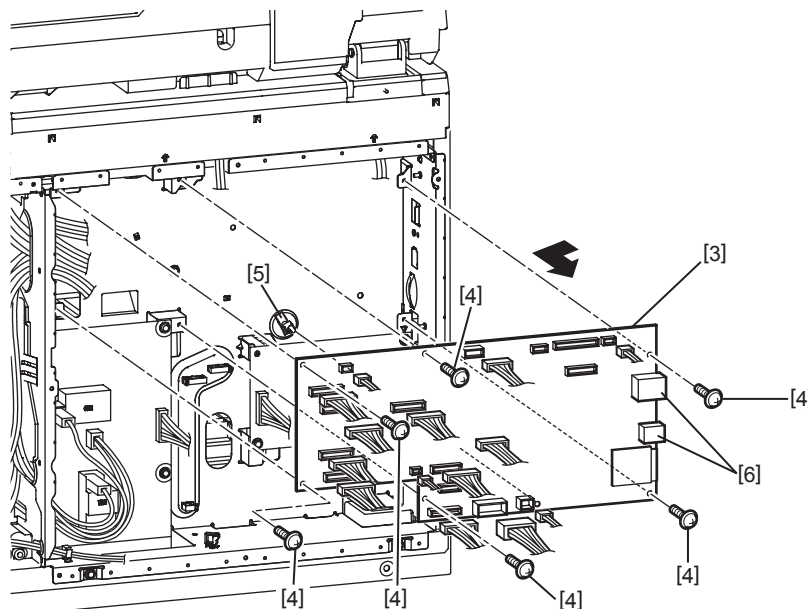
⚠CAUTION

Do not browse or edit the data in the SD card by connecting it to a computer. This might the machine not to boot correctly, of the data might be all erased when the machine has booted.

PCB HV

1. Remove the Plate printer B. (See "PLATE PRINTER B" on page 5-22.)
2. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
3. Disconnect all the PCB HV [1] connectors.
4. Remove four screws [2].
5. Remove the PCB HV [1].
   * There is a lug [3] on the left and the bottom which holds the PCB HV.
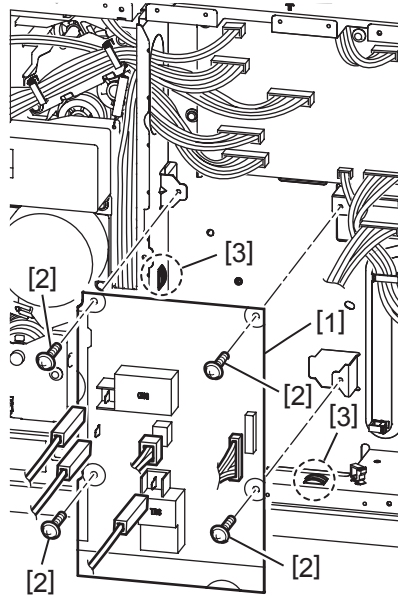
PCB NCU

1. Remove the Plate printer B. (See "PLATE PRINTER B" on page 5-22.)
2. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
3. Remove one screw [1], and remove the Cover L B [2].
4. Remove one screw [3].
    * The screw is jointed with the ground wire [4].
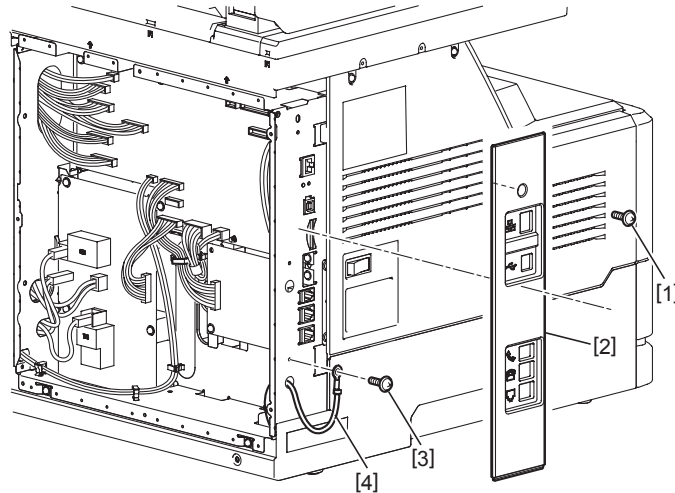
5. Disconnect one PCB NCU connector [5].
6. Remove four screws [6].
7. Remove the PCB NCU [8] while disconnecting the connector part [7] from the frame.
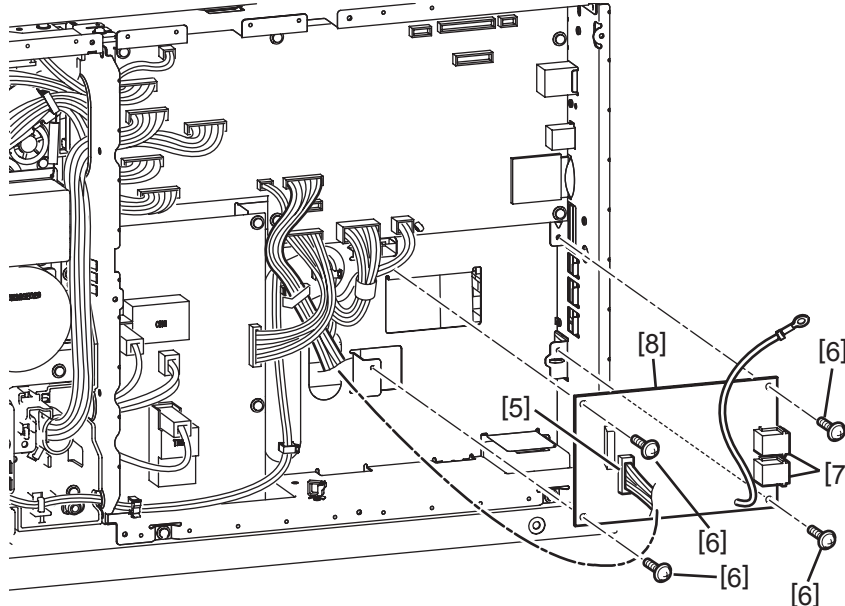
PCB PSU

⚠CAUTION

- When you dsiassemble this unit, first press the power button on the pannel after you have remoed the power cable.
- Do not touch the components mounded on the PSU PCB and the heat sinks to avoid the risk of electrical shock.

1. Remove the power cord [3].
2. Remove two screws [4].
3. Open the Cover front [5].
4. Remove the upper part of the Cover left [7] while releasing the hook [6] and remove the Cover left [7].
5. Remove two screws [10].
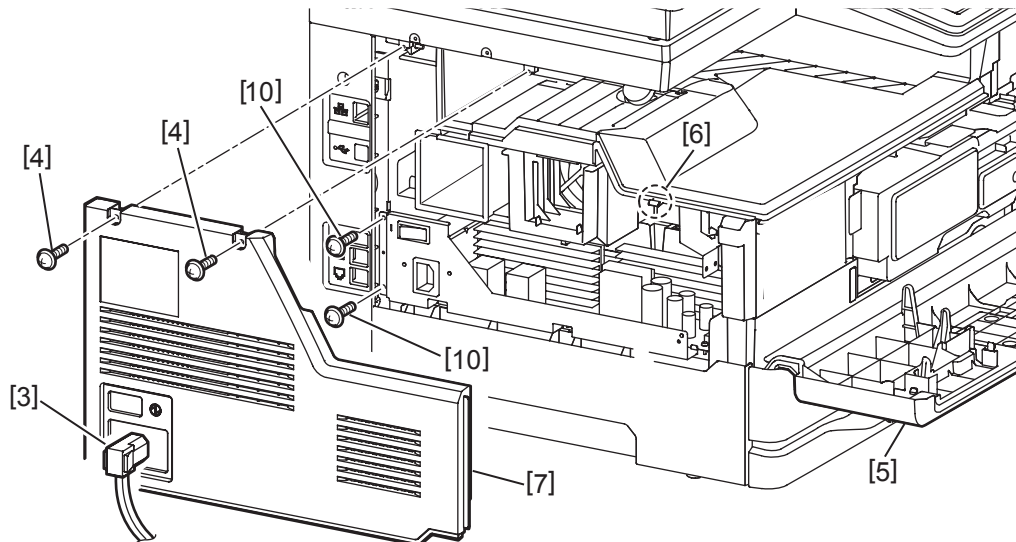
6. Pull out the PCB PSU [11] a little.
7. Disconnect two connectors [12], then remove the PCB PSU [11].
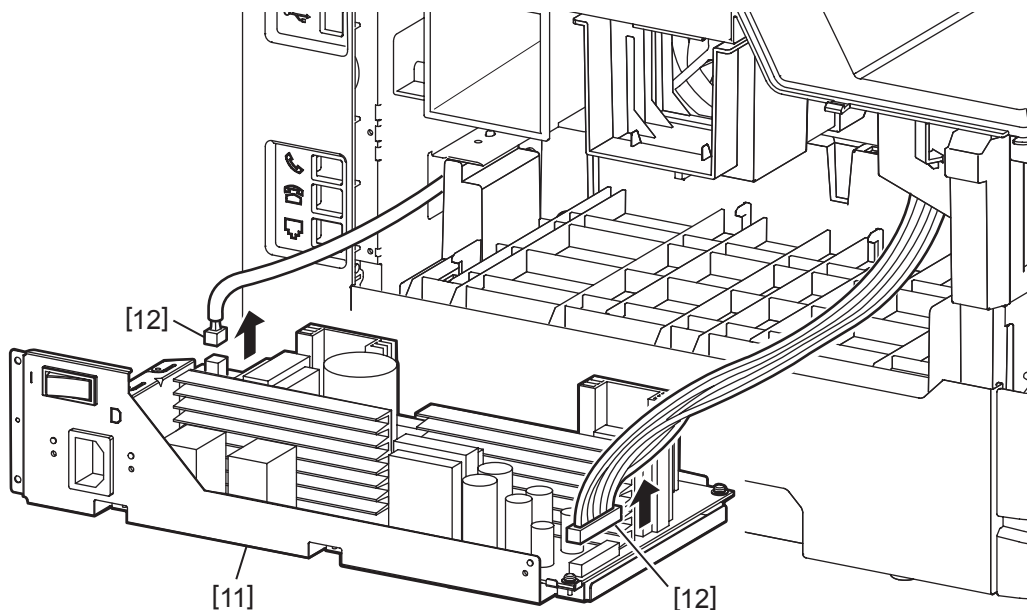
Important

When assembling the Cover left, insert in the lower part hook first.

5.2.5 Printer section

FILTER OZONE 60

1. Remove the Cover left. (See "PCB PSU" on page 5-37.)
2. Remove the FILTER OZONE 60 [2] from the Cover left [1].
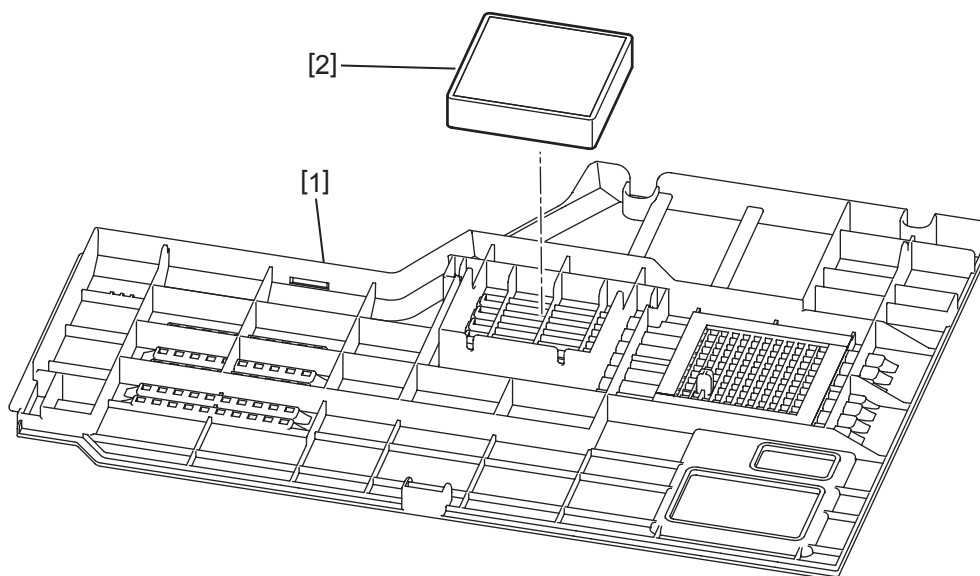
FAN L

1. Remove the Cover left. (See "PCB PSU" on page 5-37.)
2. Remove the Cover tray window [1].
3. Disconnect the junction connector [2].
4. Lift up the FAN L [3] and remove it.
   * The bottom of the FAN L is secured with hook. To release the hook, push back and rotate the bottom side.
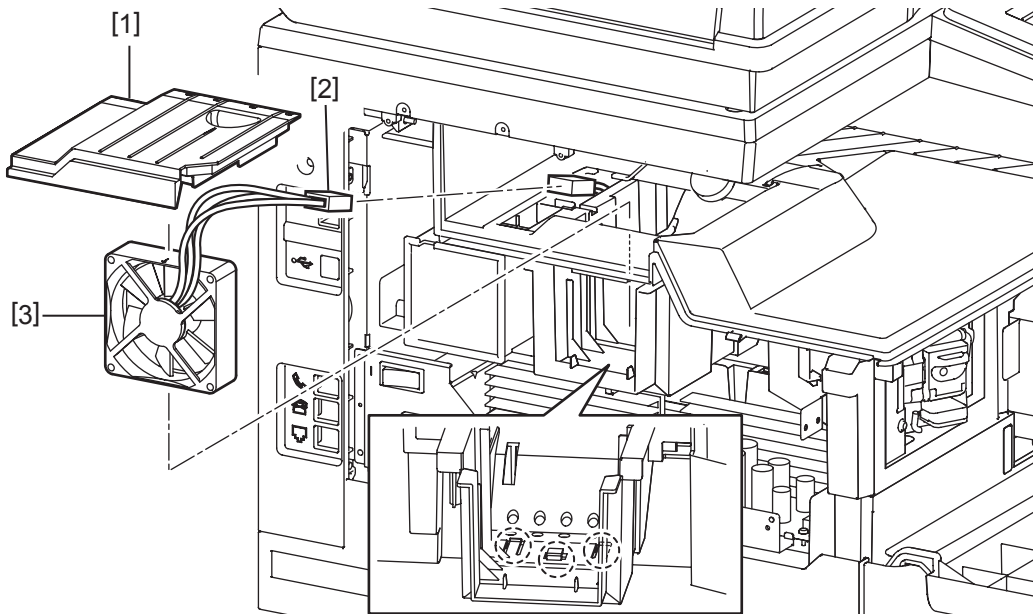
SENSOR SG2A 141

1. Remove two screws [1].
2. Disconnect the connector of the SENSOR SG2A 141 [2].
3. Remove the Guide lower exit 2 bins [4] while releasing three hooks [3].
4. Remove the Spring C feeler [5], then remove the Feeler sensor 2 bins [6].
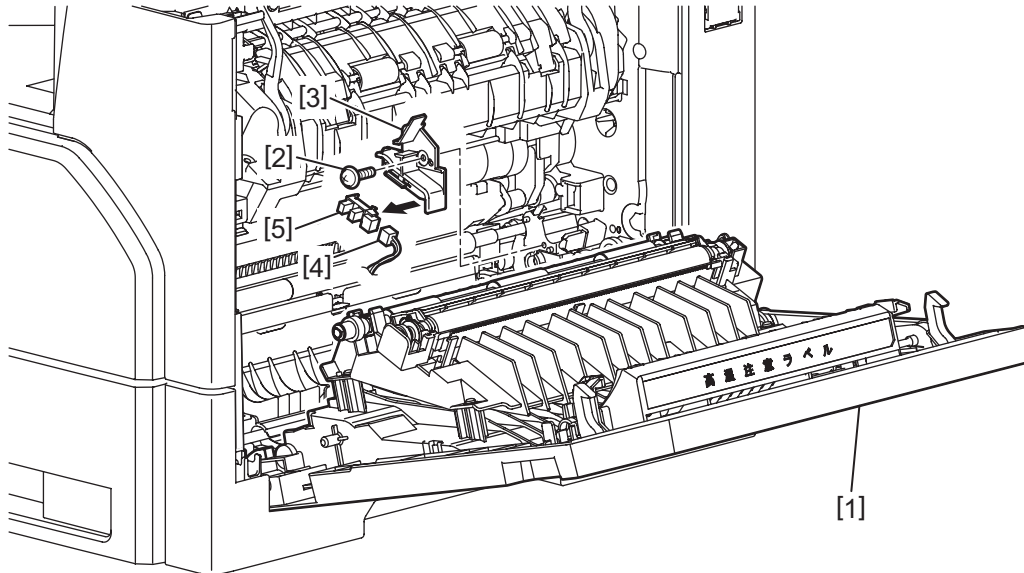5. Remove the SENSOR SG2A 141 [2].
    * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
   After releasing the hook on the short side, slide the sensor to the short side and remove it.
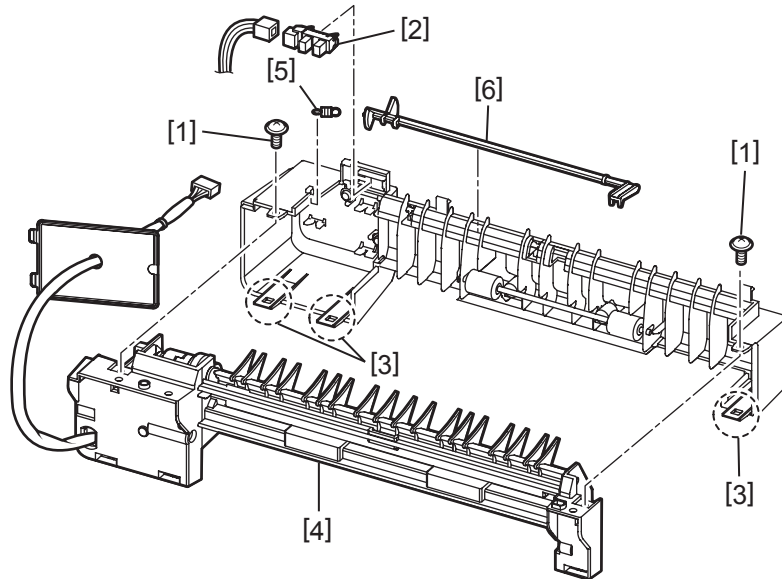
ROLLER REGISTER

1. Open the Cover jam access [1].
2. Remove the SR4 [2] and remove the Gear 16H 0.8 [3].
3. Remove the Bearing roller register [4] and the Spring C register [5].
4. Remove the SR5 [6] then remove the Bearing roller register [7] and the Spring C register [8].
5. Remove the ROLLER REGISTER [9].
6. Remove the Bearing D6 8 [10] and the SR5 [11].
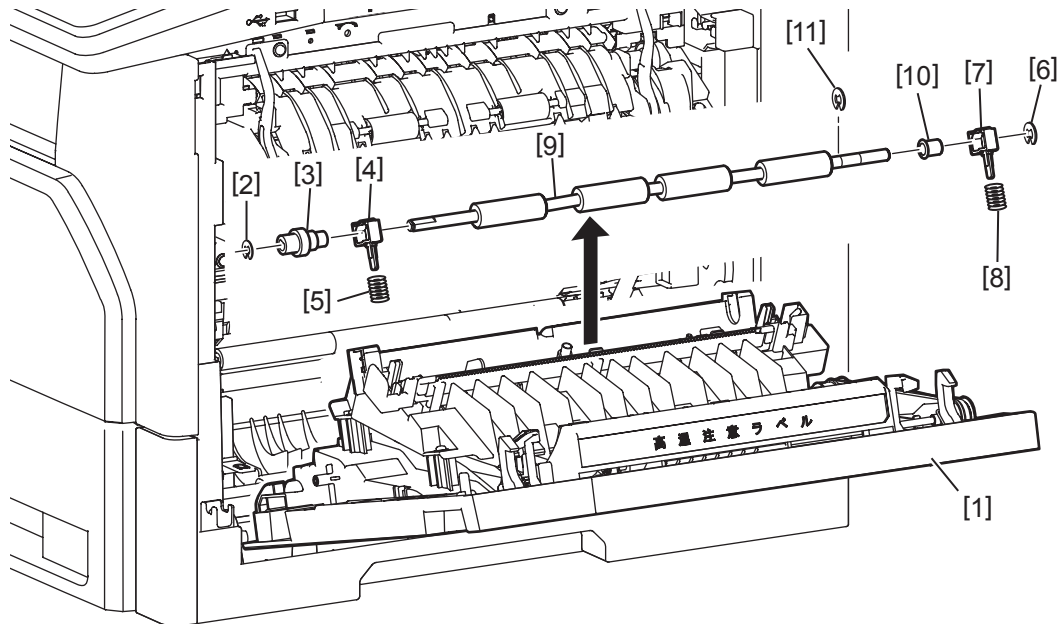
ROLLER TRANSFER ASSY/GUIDE TRANSFER

1. Open the Cover jam access [1].
2. Insert a thin driver and lift up the right and left shaft of the Roller transfer assy [2].
3. Remove the Roller transfer assy [2].
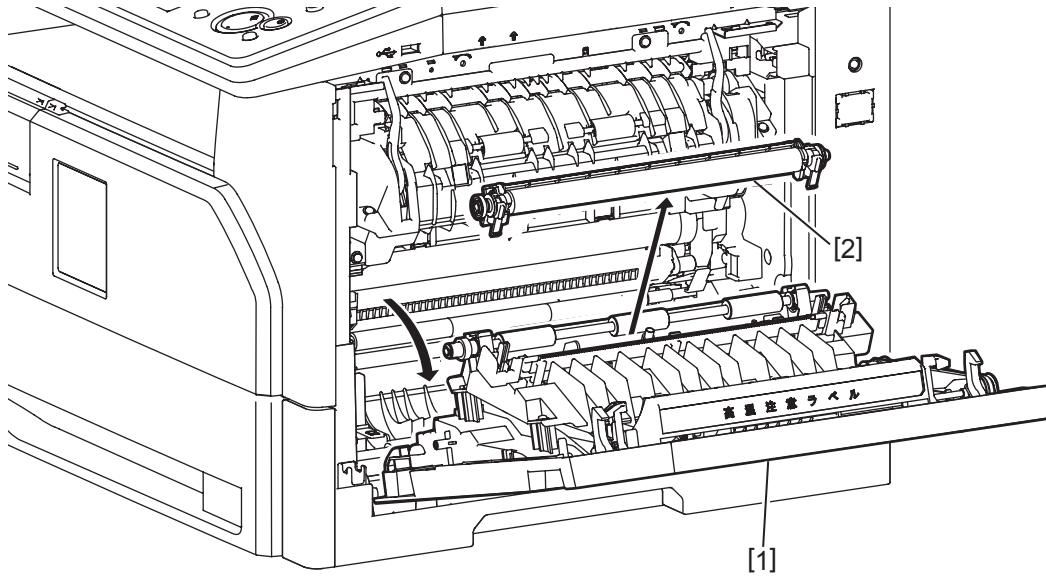
4. Remove two Rollers gap [4] and one Gear 25H 0.6 [5] from the Roller transfer ASSY [3], then remove two Brackets transfer F [6].
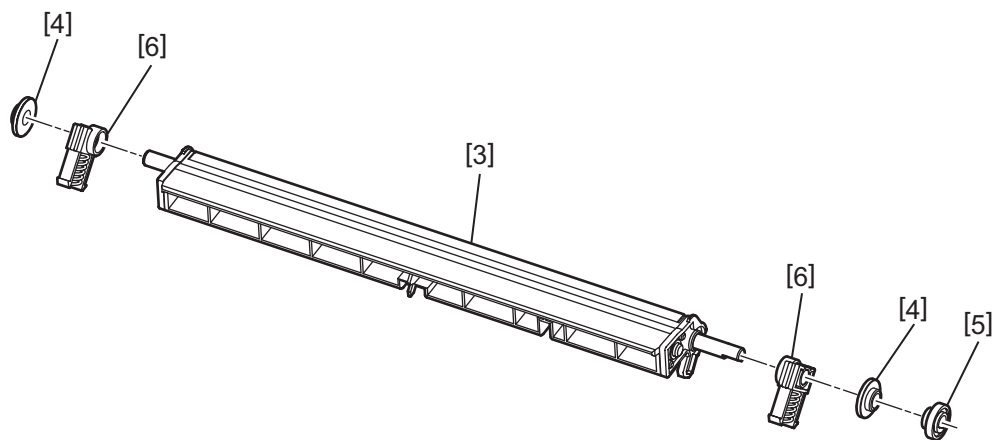
5. Remove the Roller transfer [8] from the Guide transfer [7].
6. Remove one SR5 [9].
7. Remove two screws [10] from the Guide transfer [7] and remove the Bracket guide TR F [11] and the Bracket guide TR B [12].
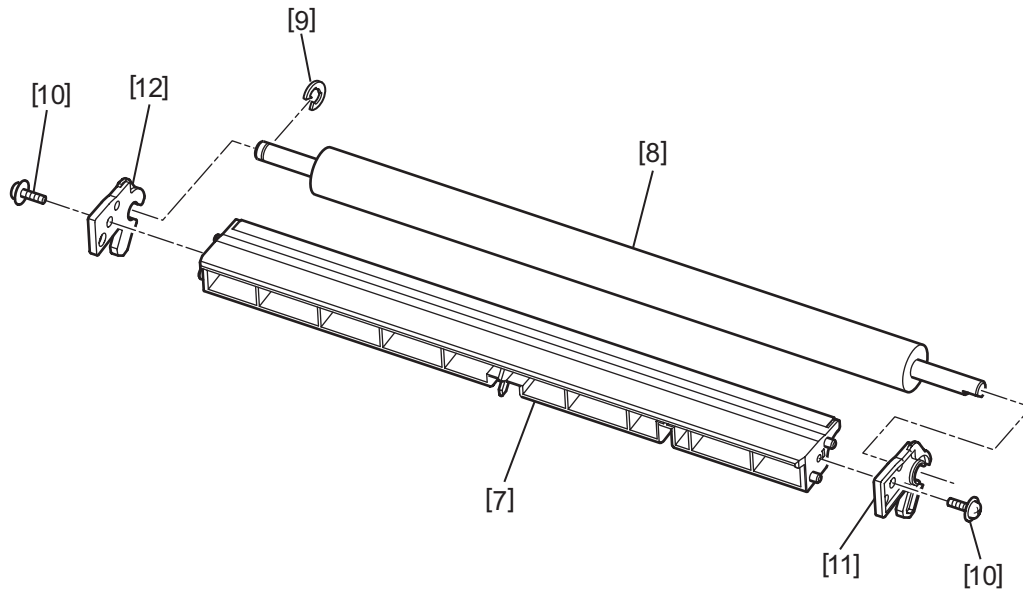
NOTE
When you have replaced the Roller Transfer, be sure to reset the counter. See "3.9.2 When "Checkout error : XX" message is displayed" on page 3-75 how to reset it.

ROLLER DUPLEX

1. Open the Cover jam access. (See "ROLLER REGISTER" on page 5-41.)
2. Remove the Spring C stopper JAC [1].
3. Remove one screw [2] and remove the Stopper JAC [3] from the lug.
4. Remove four screws [4] and remove the Guide inner JAC [5].
5. Remove two screws [6] and remove the Guide duplex [7].
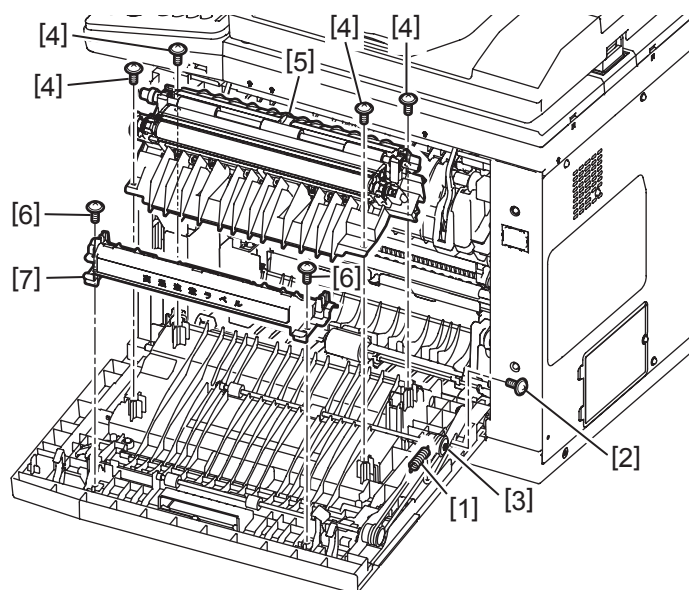
6. Remove two E-rings [8] and remove two Flange pulleys [9].
7. Remove the BLT (TMG) 30S2M330GB 165T 3W [10].
8. Remove two Gears 20/25P [11].
9. Remove two Bearings D4 6 [12].
10. Slide two Bearings D4 6 [13] to the outer side and remove two ROLLER DUPLEXs [14].
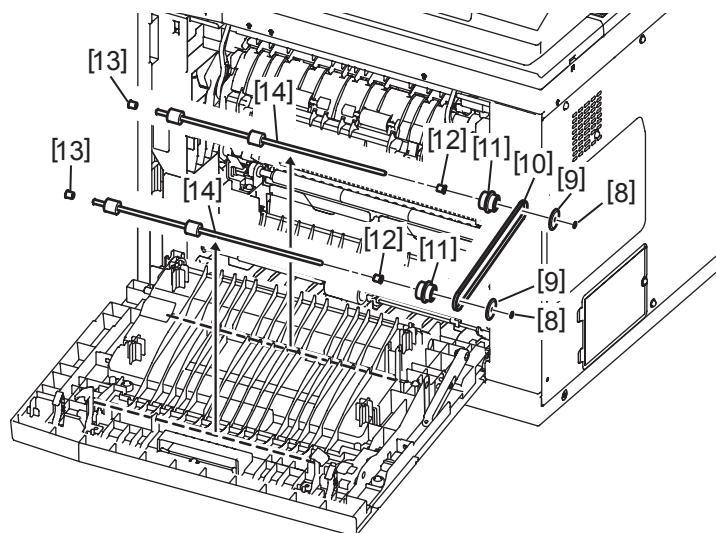
ROLLER PICKUP MP

1. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
2. Open the Cover jam access.
3. Pull out the cassette a little.
4. Remove the Guide DUP MP [1] by bending the shaft.
5. Remove SR5 [2] and SR4[3].
6. Remove the Clutch [4].
7. Slide the Shaft pickup MP [5] towards the front and remove it.
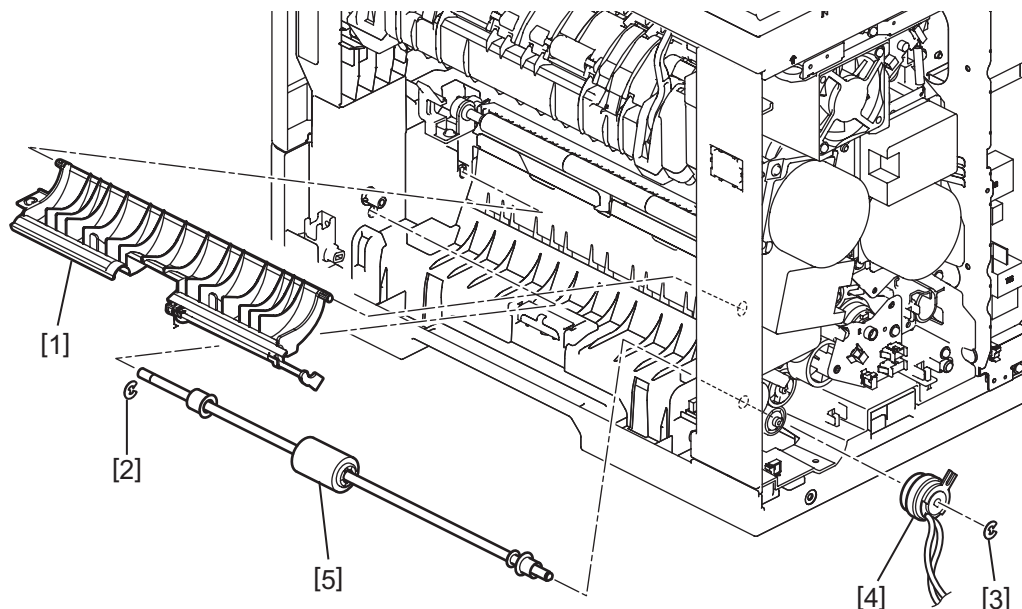
8. Remove the Bearing D6 8 [6] on the front side.
9. Slide the ROLLER PICKUP MP [7] by pressing the hook [8] and remove it.
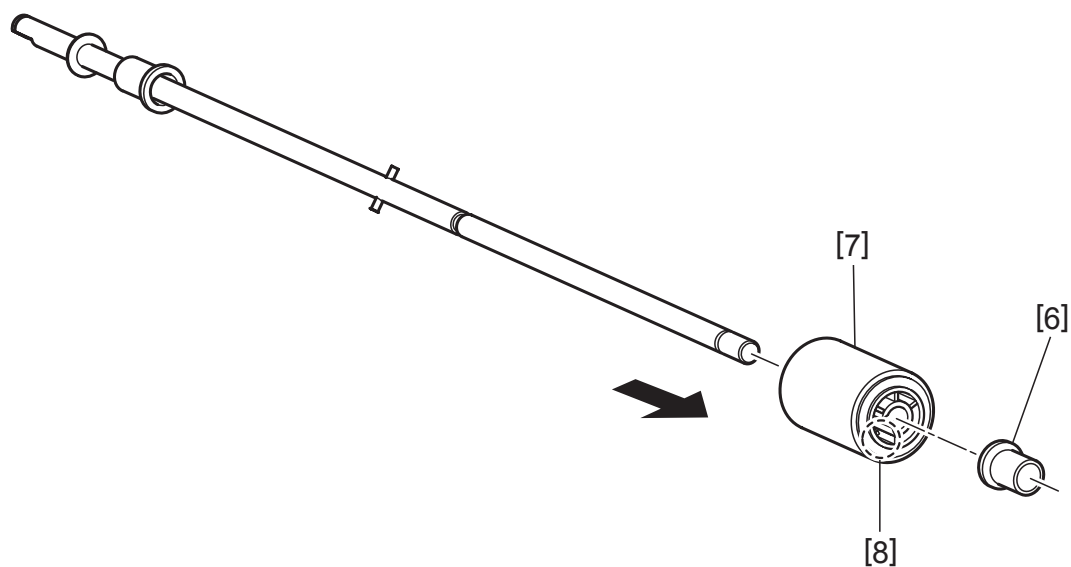
PAD PRESSURE MP

1. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
2. Open the Cover jam access. (See "ROLLER REGISTER" on page 5-41.)
3. Remove the Guide DUP MP [1] by bending the shaft. (See "ROLLER PICKUP MP" on page 5-45.)
4. Remove the Shaft pickup MP. (See "ROLLER PICKUP MP" on page 5-45.)
5. Remove the PAD PRESSURE MP [1].
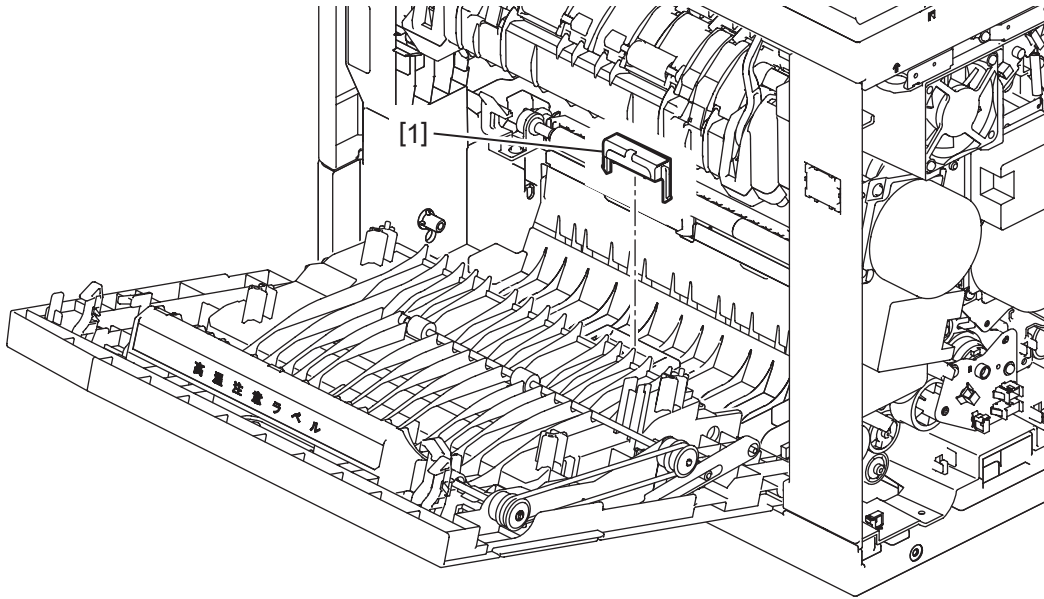
PRT MOTOR

1. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
2. Disconnect the connector for the PRT MOTOR [1].
3. Remove each of three screws [2].
4. Remove the PRT MOTOR [1].
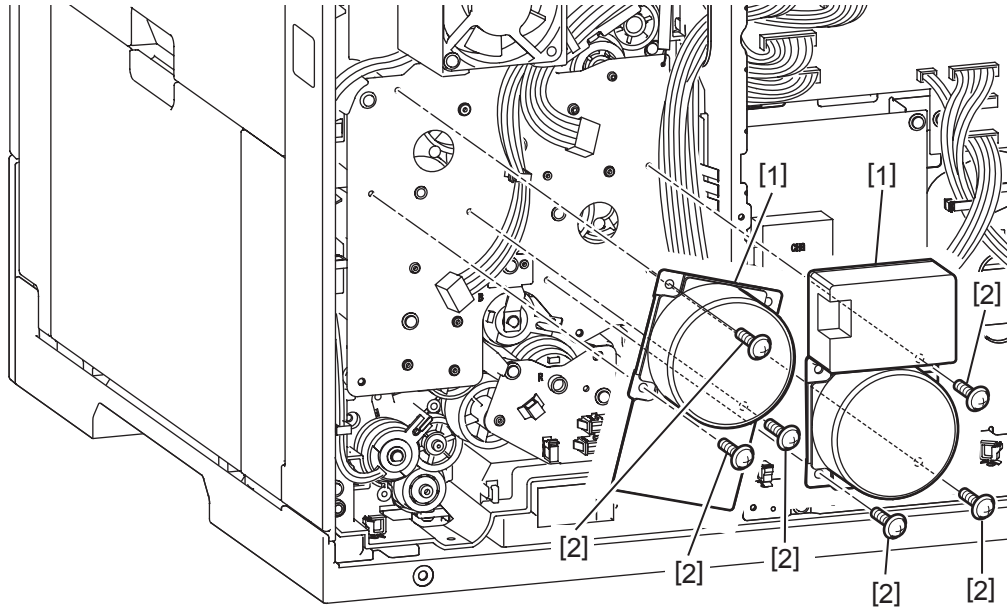
CLUTCH

1. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
2. Disconnect the junction connector [1].
3. Remove one screw [2], then remove the Plate FG regist [3].
4. Remove the harness from the clamp [4].
5. Remove the E-ring [5] and remove the CLUTCH PRTR (RES) [6].
6. Disconnect the junction connector [7].
7. Remove two screws [8], then remove the Frame drive B [9].
8. Remove the CLUTCH PRTR (PF) [10].
9. Disconnect the junction connector [11].
10. Remove the harness from the clamp [12].
11. Remove the SR [13] and remove the CLUTCH [14].
12. Remove the harness from two clamps [15].
13. Remove the Spring C exit FG [16].
14. Remove two screws [17], then remove the Frame drive C [18].
15. Disconnect two junction connectors [19] and remove two CLUTCHs [20].
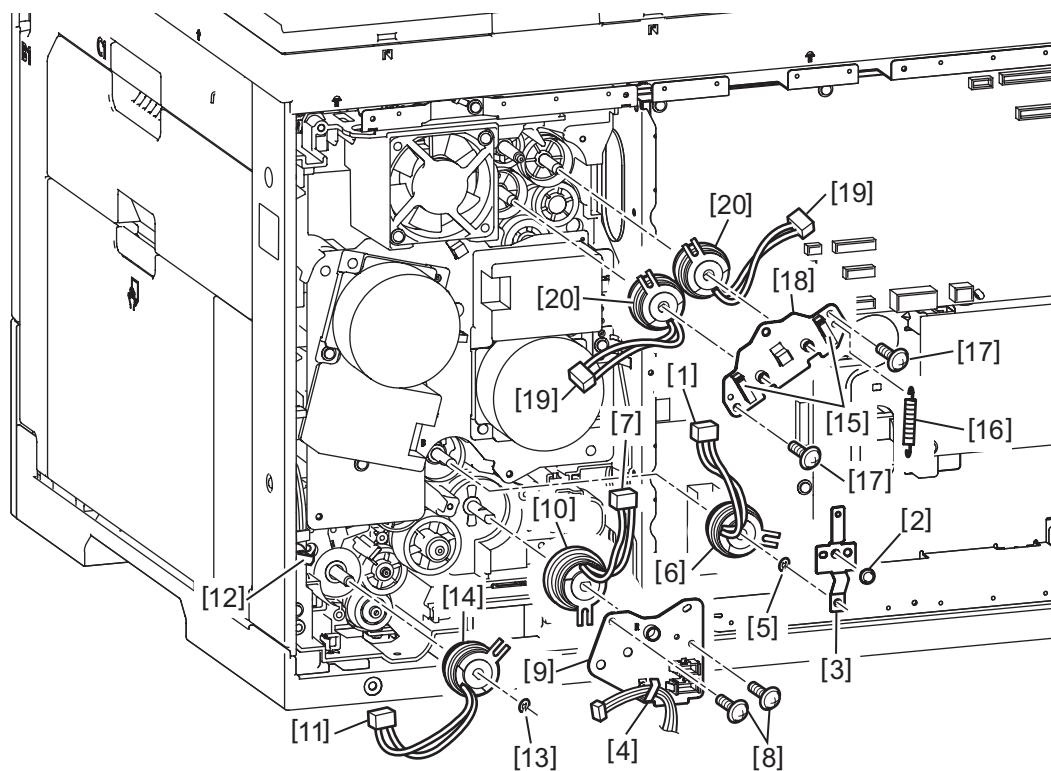
FRAME DRIVE A

1. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
2. Remove the PRT motor. (See "PRT MOTOR" on page 5-47.)
3. Remove the Plate FG regist. (See "CLUTCH" on page 5-48.)
4. Cut the cable tie [1], then remove the harness.
5. Remove the Spring C exit FG [2].
6. Remove the SR [3], then remove the Feed bearing [4].
7. Remove five screws [5], then remove the FRAME DRIVE A [6].
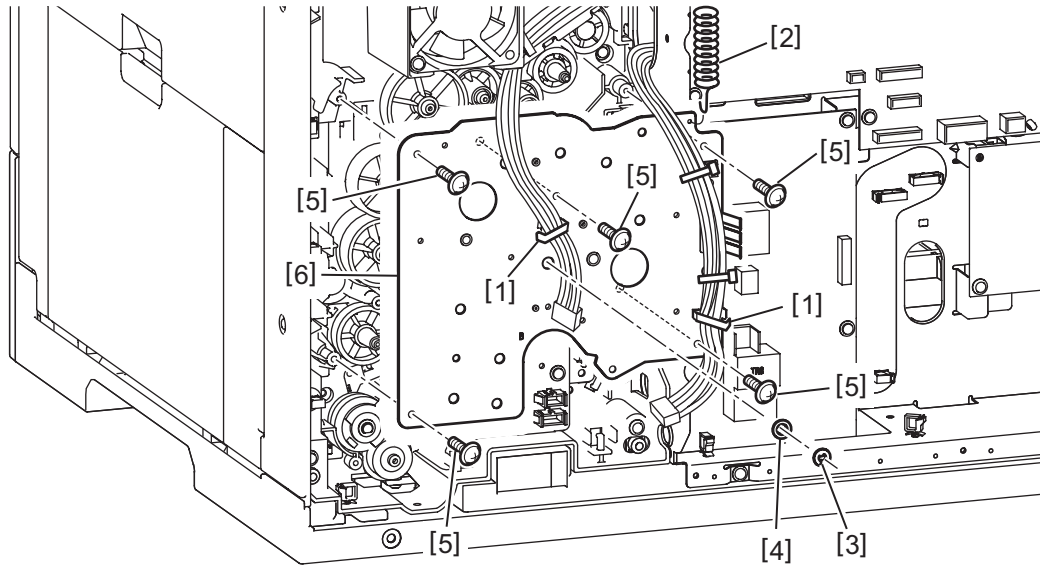
GEARS

1. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
2. Remove the Clutch. (See "CLUTCH" on page 5-48.)
3. Remove the Frame drive A. (See "FRAME DRIVE A" on page 5-49.)
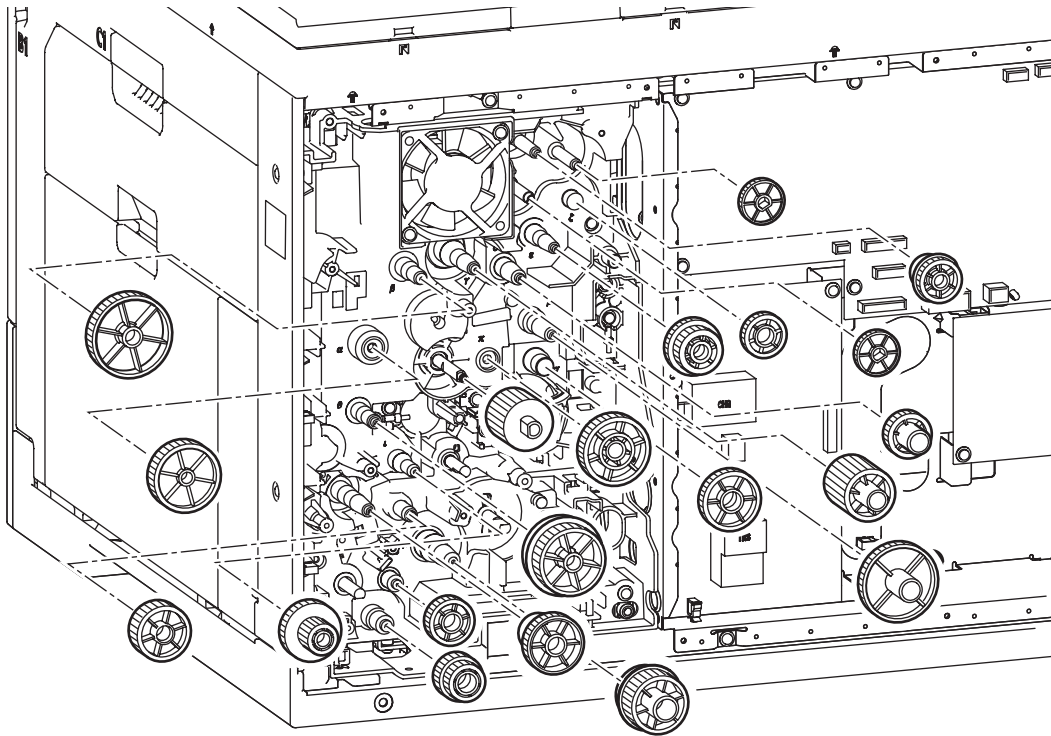
CASE TC

1. Open the Cover front.
2. Pull out the toner and drum cartridge.
3. Disconnect the connector [1].
4. Remove two screws [2].
5. Remove the CASE TC [3].
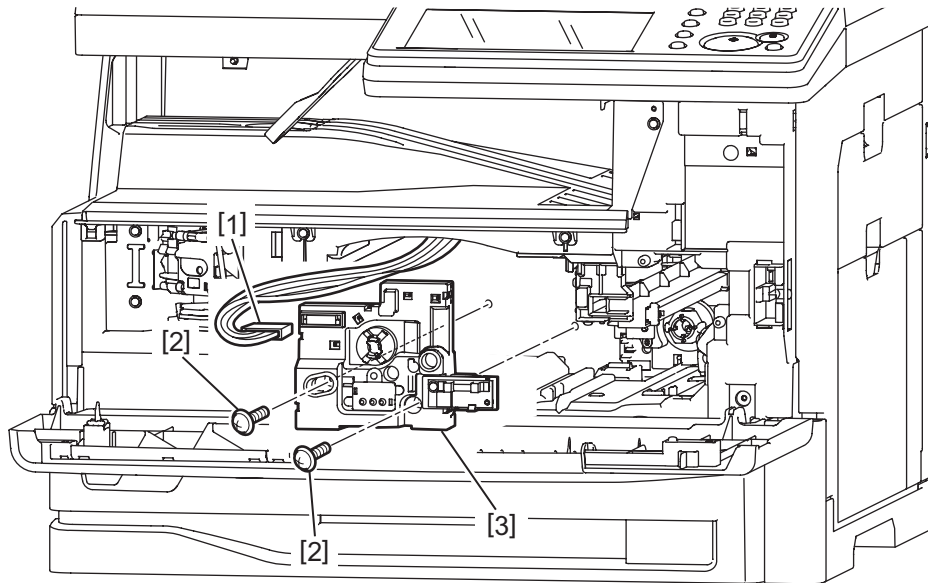
PCB TAG

1. Open the Cover front.
2. Pull out the toner and drum cartridge.
3. Remove the Case TC. (See "CASE TC" on page 5-51.)
4. Remove one screw [1], then remove the Holder chip [2].
5. Disconnect the connector [3] and remove the PCB TAG [4].
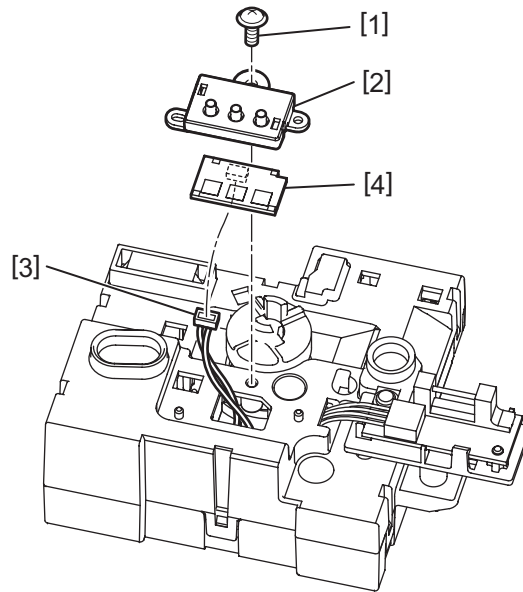
PCB TOS (TOS_DC)

1. Open the Cover front.
2. Pull out the toner and drum cartridge.
3. Remove the Case TC. (See "CASE TC" on page 5-51.)
4. Disconnect the connector [1].
5. Remove one screw [2], then remove the PCB TOS [3].
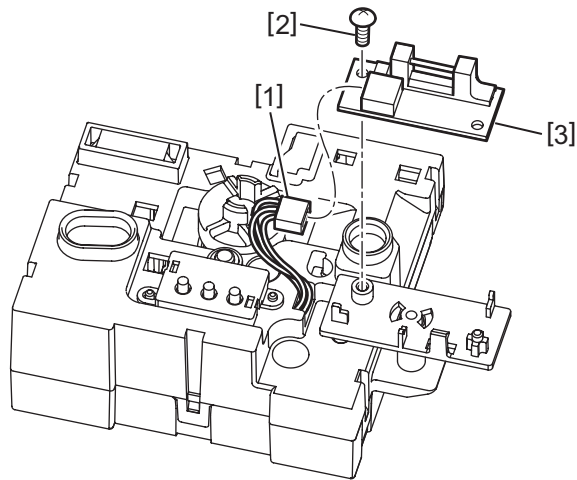
MOTOR TONER

1. Open the Cover front.
2. Remove the Case TC. (See "CASE TC" on page 5-51.)
3. Remove six hooks [1] and remove the Case TC A [2].
4. Remove the Gear 41/13 0.6/0.6 [3] and the Gear 17W/11 0.5/0.6 [4].
5. Disconnect the connector [5] and remove the MOTOR TONER [6].
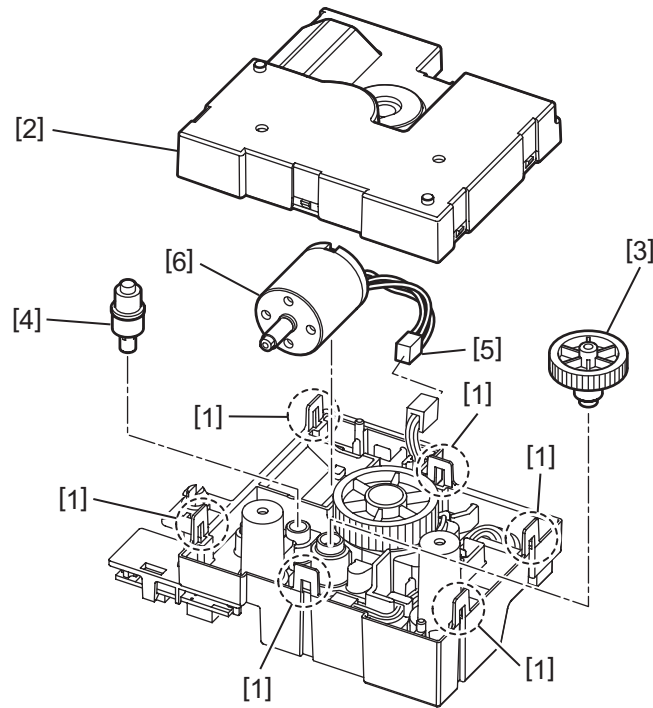
PRINTER FUSER

1. Open the Cover jam access [1].
2. Remove two screws [2].
3. Remove the PRINTER FUSER [3].
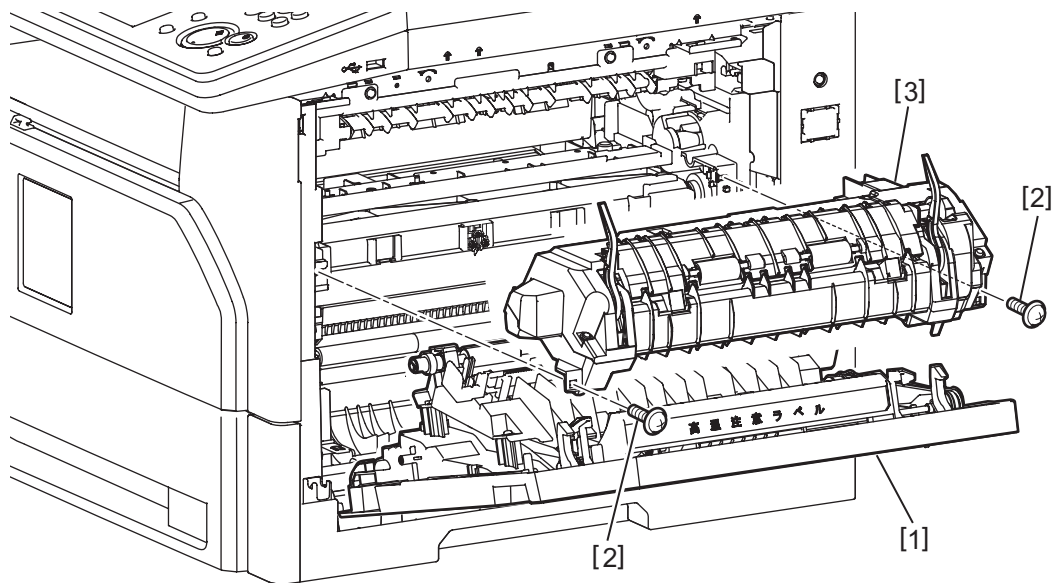
⚠CAUTION

- Before removing the Printer fuser, make sure the power cord is unplugged. There is a possibility of electric shock.
- Make sure the Printer fuser becomes cool before removing it. The Roller heat is very hot immediately after the operation which may cause burns.

NOTE

When you have replaced the Roller Transfer, be sure to reset the counter. See "3.9.1 When you replace the fuser unit or transfer roller" on page 3-74 how to reset it.

PRINTER HEAD

1. Open the Cover front and remove the consumable supply.
2. Remove the Printer fuser. (See "PRINTER FUSER" on page 5-55.)
3. Remove one screw [1], then remove the Holder LPH B [2].
4. Release the PRINTER HEAD [3] lock by pressing in and pull out the FFC LPH [5].
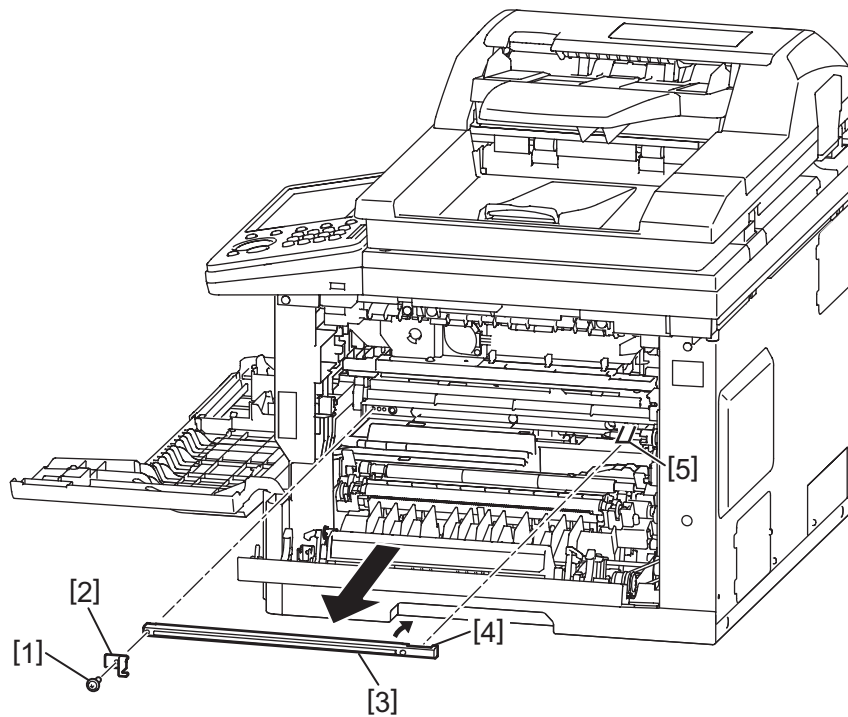
ASSY INTERLOCKSW-CBL

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove the Cover back. (See "PCB MAIN" on page 5-34.)
3. Open the Cover jam access. (See "PRINTER FUSER" on page 5-55.)
4. Remove ten screws [1].
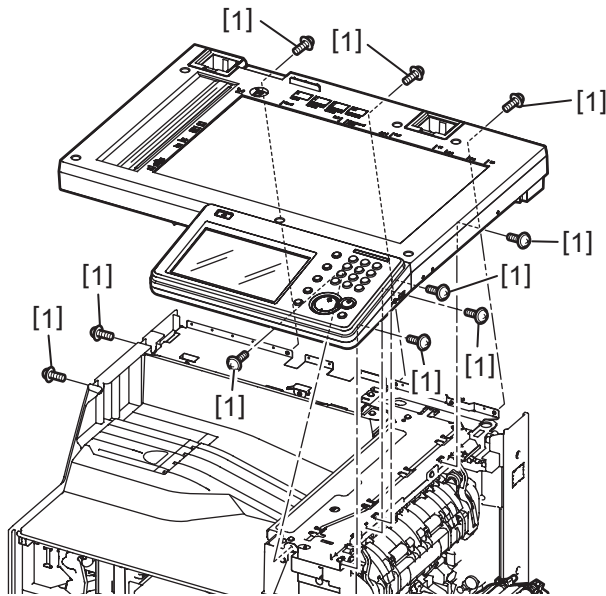
5. Remove one screw [2].
6. Disconnect five connectors [3], and remeve the cores from the harness.
7. Remove the Chassis FBS [4].
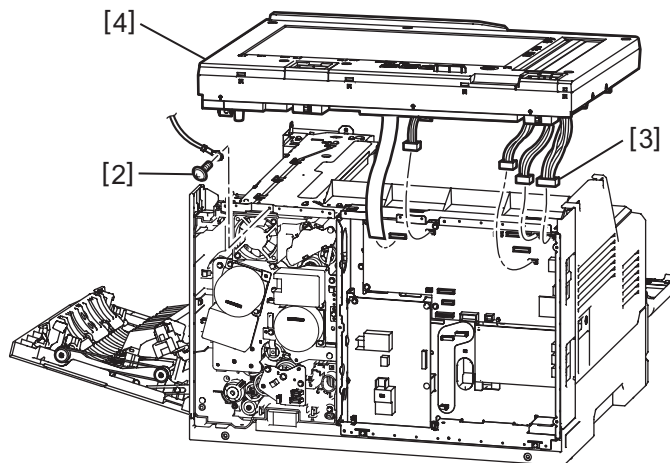
8. Remove five screws [5], and gently suspend the Stay top R [6].
   (Use caution not to damage the harness on the Chassis drive side.)
9. Pull out the ASSY INTERLOCKSW-CBL [7] upwards.
10. Disconnect the junction connector [8].
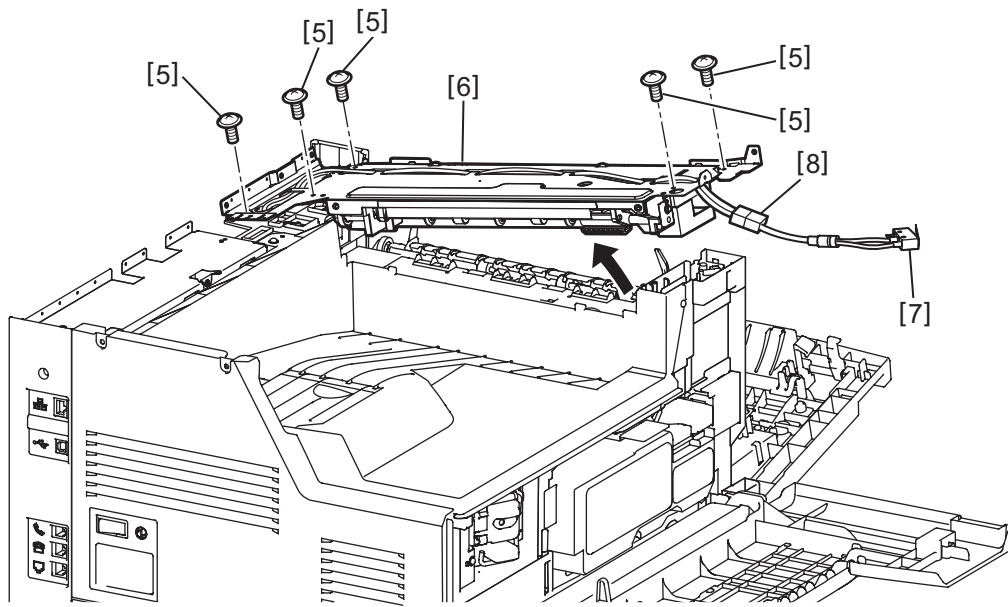
COVER TRAY

1. Remove the Chassis FBS. (See "ASSY INTERLOCKSW-CBL" on page 5-57.)
2. Remove four screws [1].
3. Remove the COVER TRAY [2].
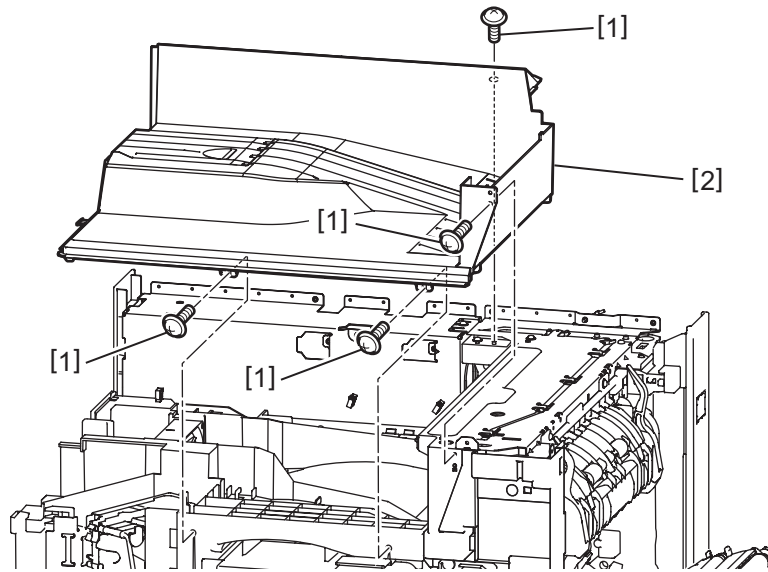
EXIT ASSY

1. Remove the Printer fuser. (See "PRINTER FUSER" on page 5-55.)
2. Remove two screws [1] and remove the Cover right [2].
3. Disconnect one connector [3] and remove the harness from the hook [4].
4. Remove two screws [5].
5. Remove the EXIT ASSY [6].
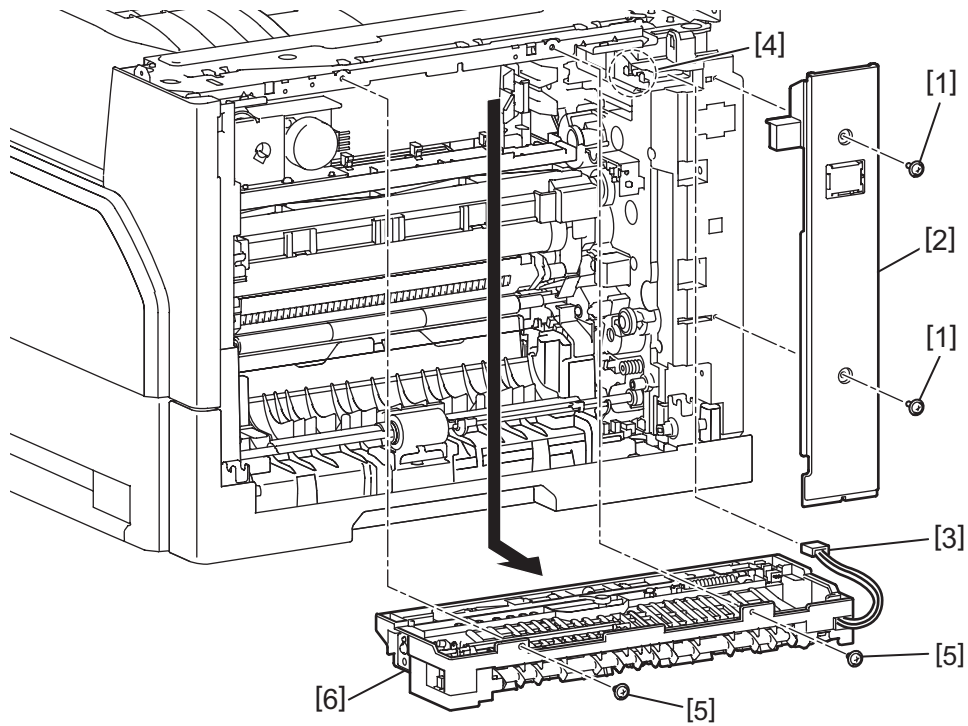
SENSOR PDS/SWBS

1. Remove the Exit assy. (See "EXIT ASSY" on page 5-60.)
2. Remove one screw [1], then remove the Spring C FG exit [2].
3. Remove three screws [3], lift up the Guide upper exit [4] from the front and remove the Guide lower exit [5].
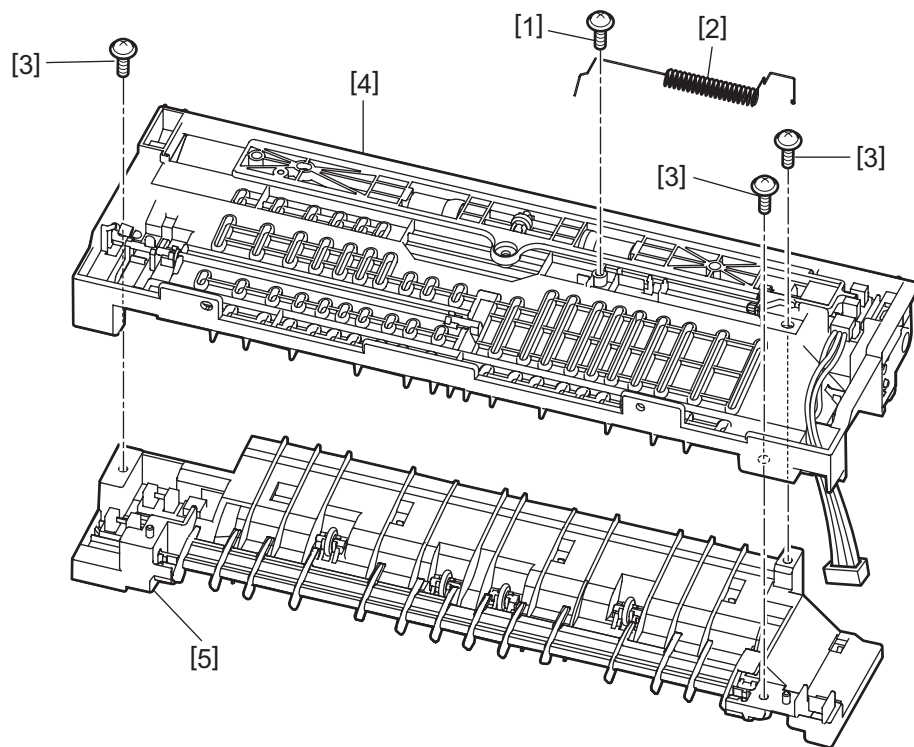
3. Remove the Guide change exit [7] from the Guide lower exit [6].
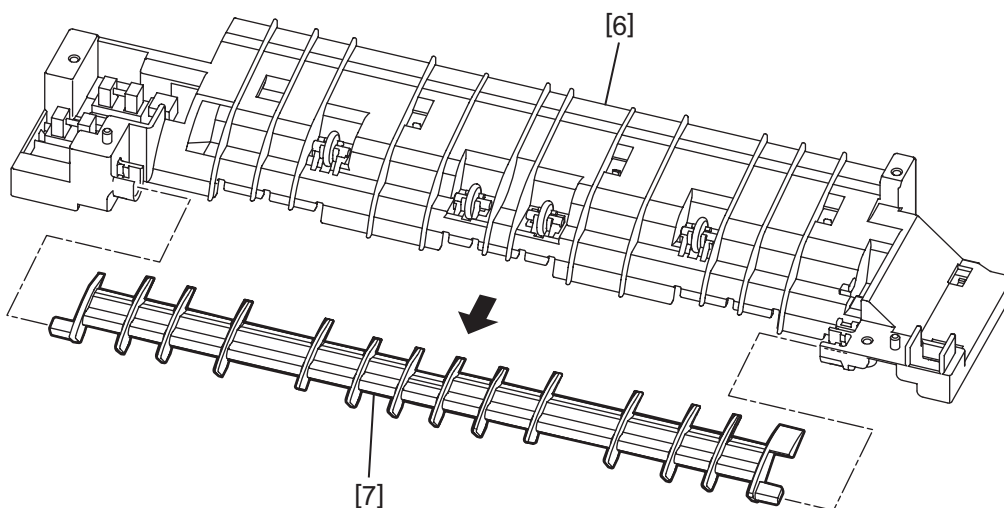
4. Flip over the Guide lower exit [8] and disconnect two connectors [9].
5. Remove the SENSOR PDS [10] and the SENSOR SWBS [11].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After releasing the hook on the short side, slide the sensor to the short side and remove it.
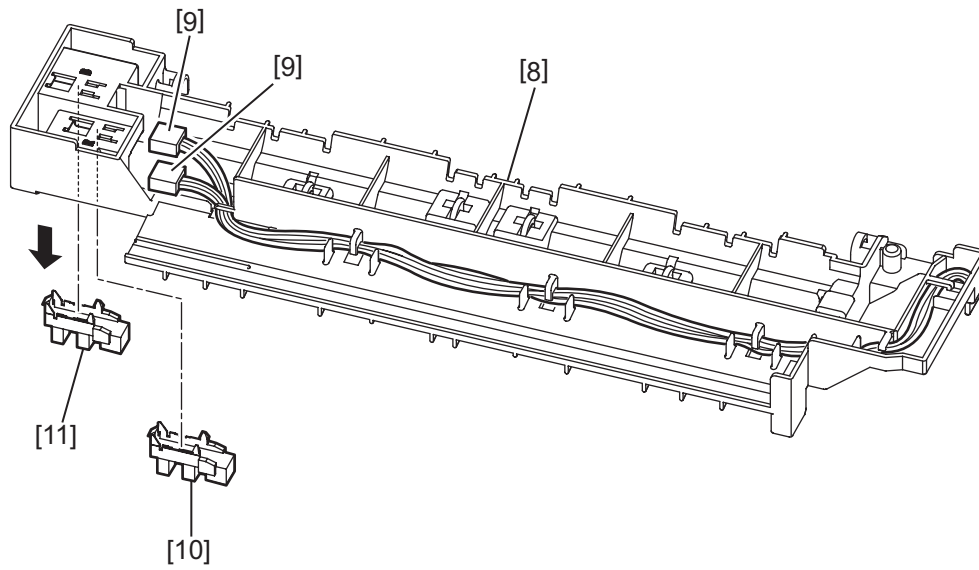
ROLLER EXIT

1. Remove the Exit assy. (See "EXIT ASSY" on page 5-60.)
2. Remove the Guide lower exit. (See "SENSOR PDS/SWBS" on page 5-61.)
3. Disconnect the connector [1] and remove the harness from the hook.
4. Release two hooks [2], then remove the Bracket gear [3].
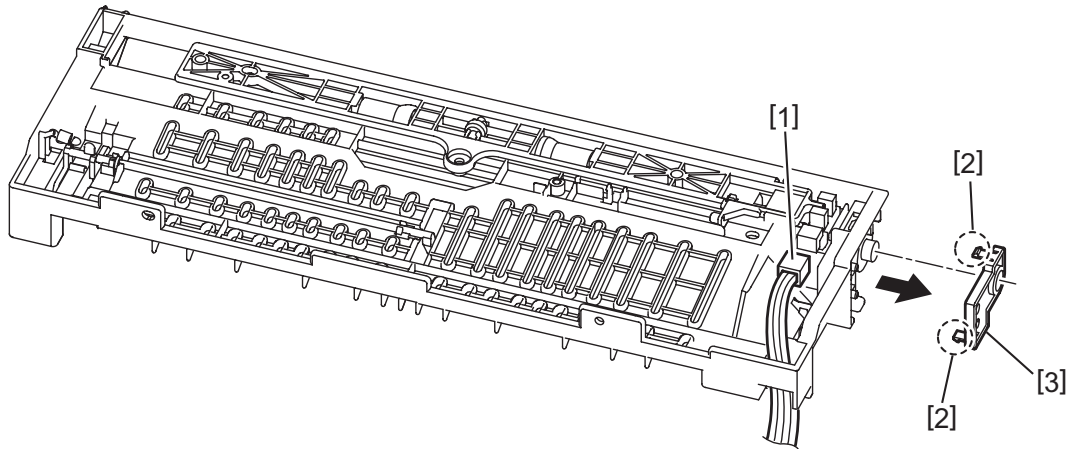
5. Remove the Gear 20 0.8 [4] on the back side.
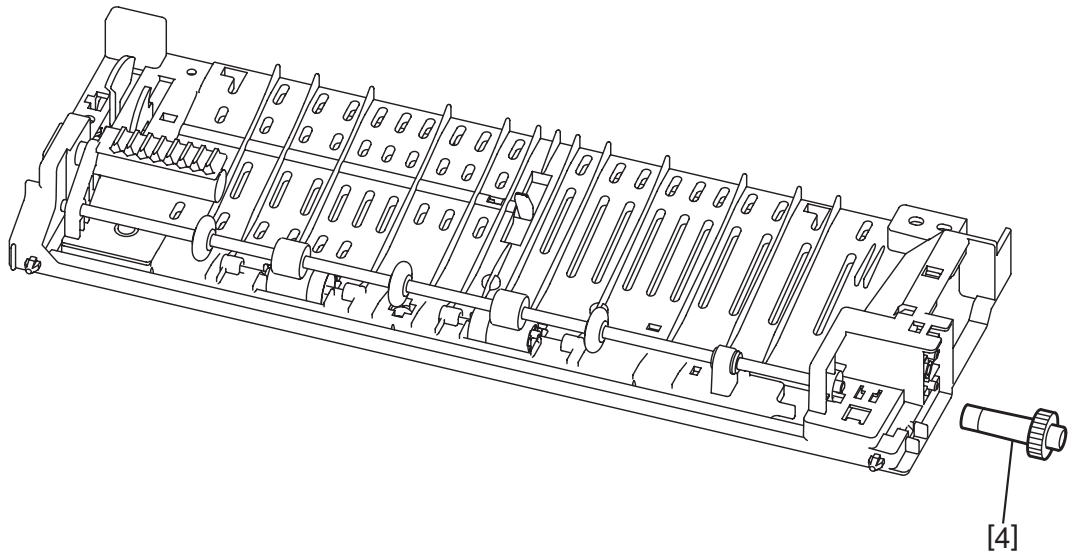
6. Remove one screw [5] then remove the Bracket shaft guide [6].
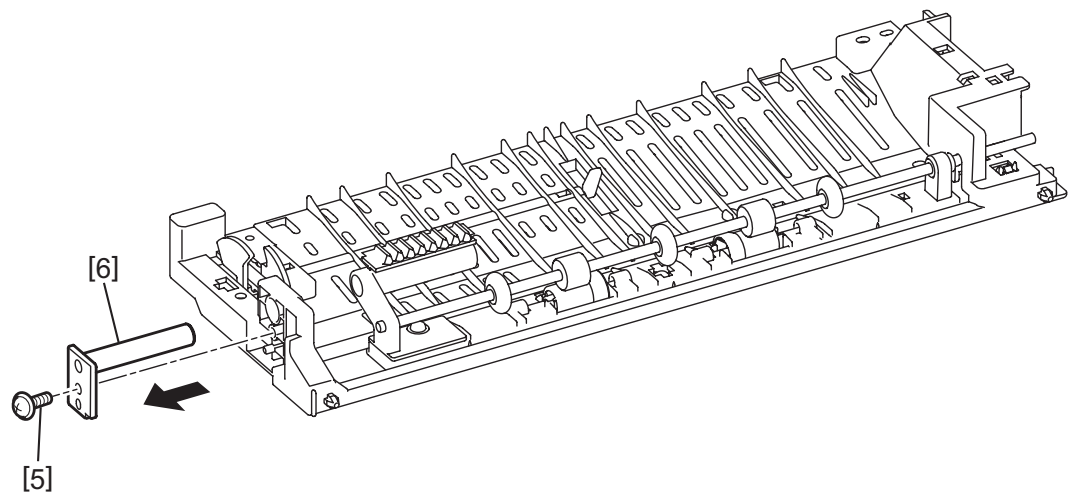
7. Flip over the Guide upper exit [7] and remove the Guide roller exit [8] by rotating.
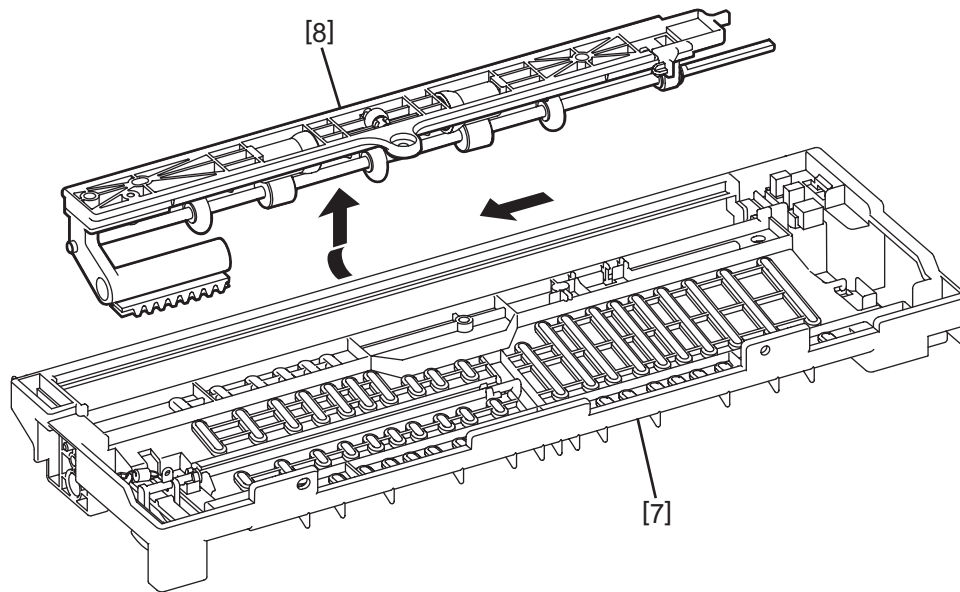
8. Remove two SR3s [9].
9. Remove the Bearing D4 6 [10].
10. Remove the ROLLER EXIT [11].
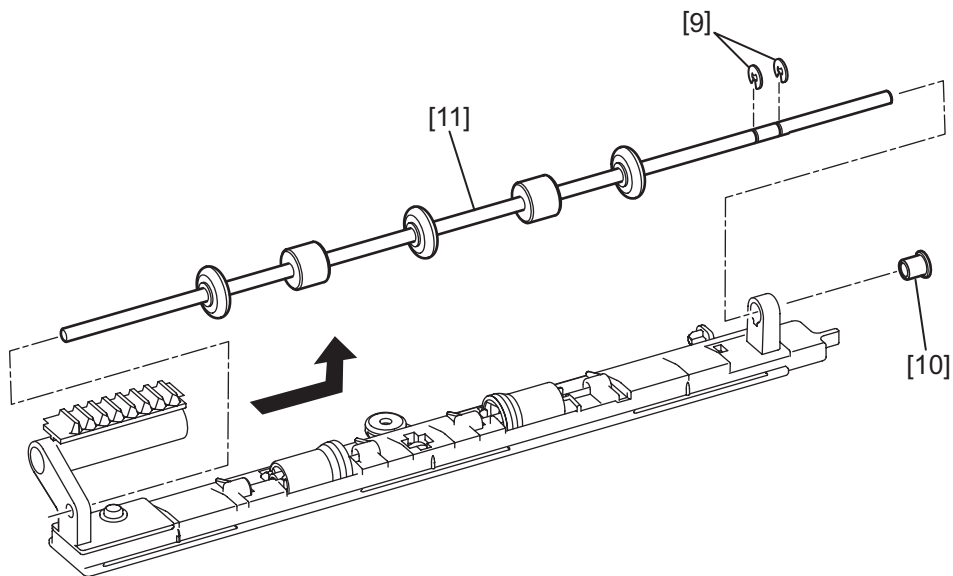
PCB TOS (TOC_TC)

1. Remove the Cassette [1].
2. Disconnect the connector [2].
3. Remove the shaft [3] and take out the Bracket TOS TC.
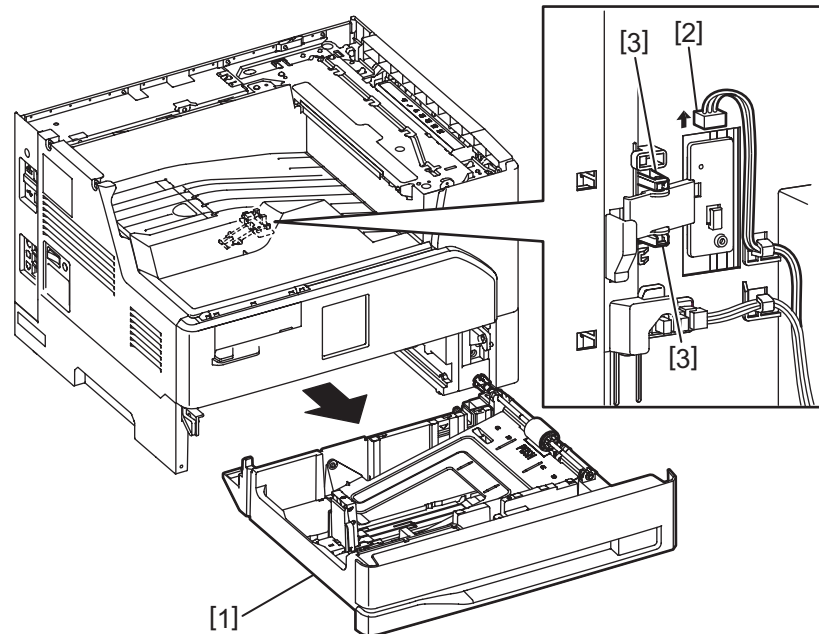
4. Remove one screw [4], then remove the PCB TOS [5].
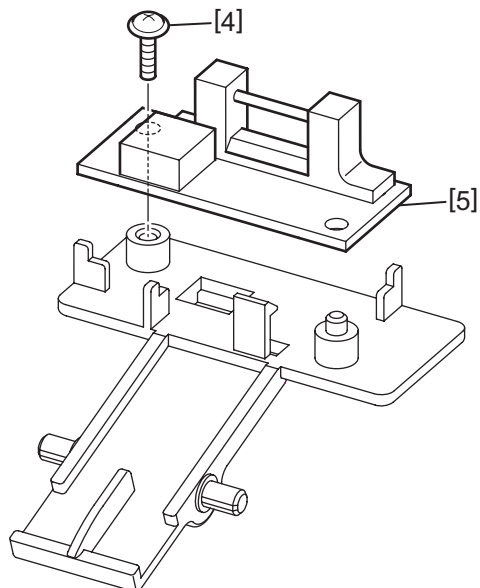
SENSOR TEMP

1. Remove the Cassette [1].
2. Remove one screw [2], then remove the SENSOR TEMP [3].
3. Disconnect the connector [4].
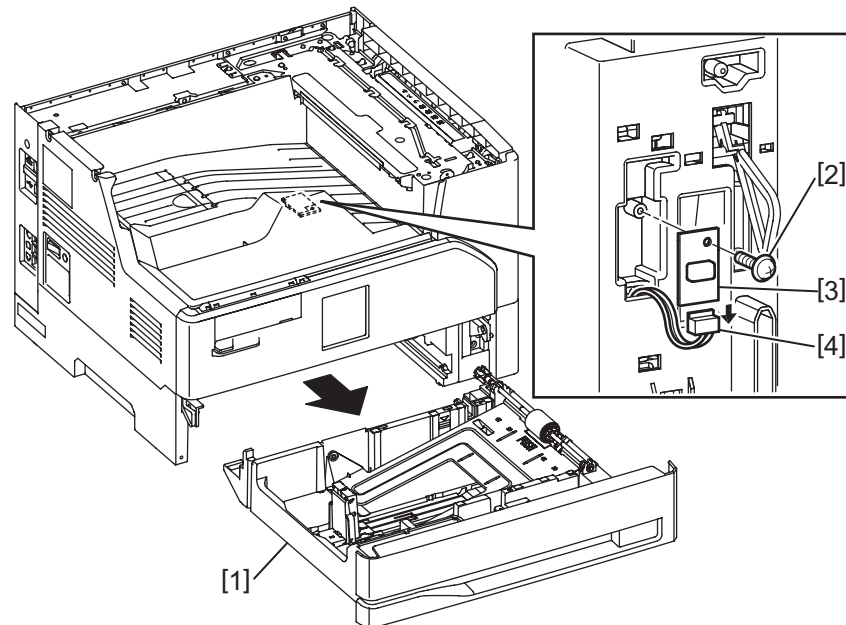
SENSOR PES

1. Open the Cover front and the Cover jam access.
2. Pull out the toner and drum cartridge.
3. Remove one screw [1].
4. Remove the Bracket sensor [2] and then disconnect the connector [3].
5. Remove the SENSOR PES [4].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After releasing the hook on the short side, slide the sensor to the short side and remove it.
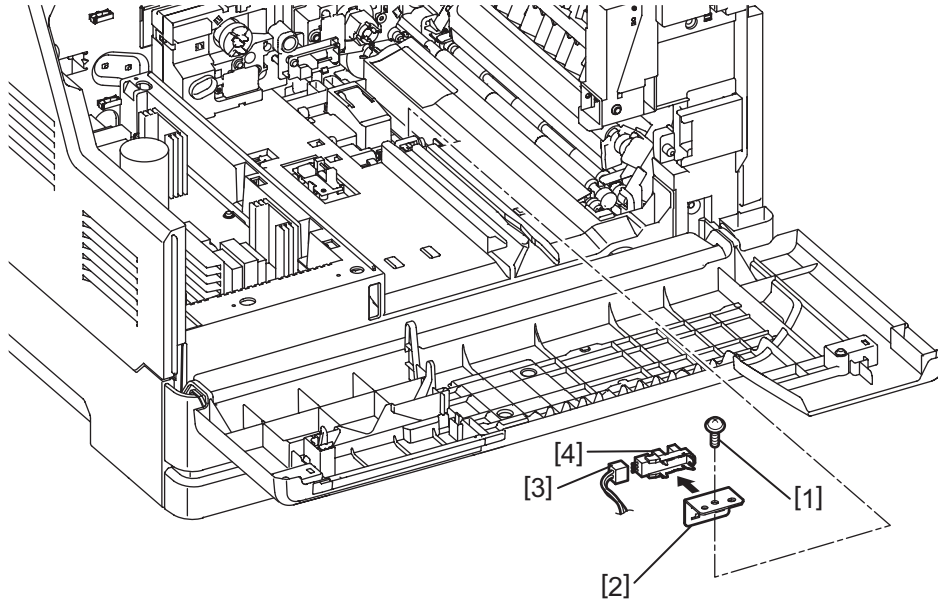
SENSOR PRS

1. Open the Cover jam access [1].
2. Remove one screw [2].
3. Remove the Guide roller regist B [3], then disconnect the connector [4].
4. Remove the SENSOR PRS [5].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
   After releasing the hook on the short side, slide the sensor to the short side and remove it.

SENSOR TRAYS

1. Open the Cover jam access [1].
2. Release the hooks from the bottom, then remove the SENSOR TRAYS [2].
3. Disconnect the connector [3].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
   After releasing the hook on the short side, slide the sensor to the short side and remove it.
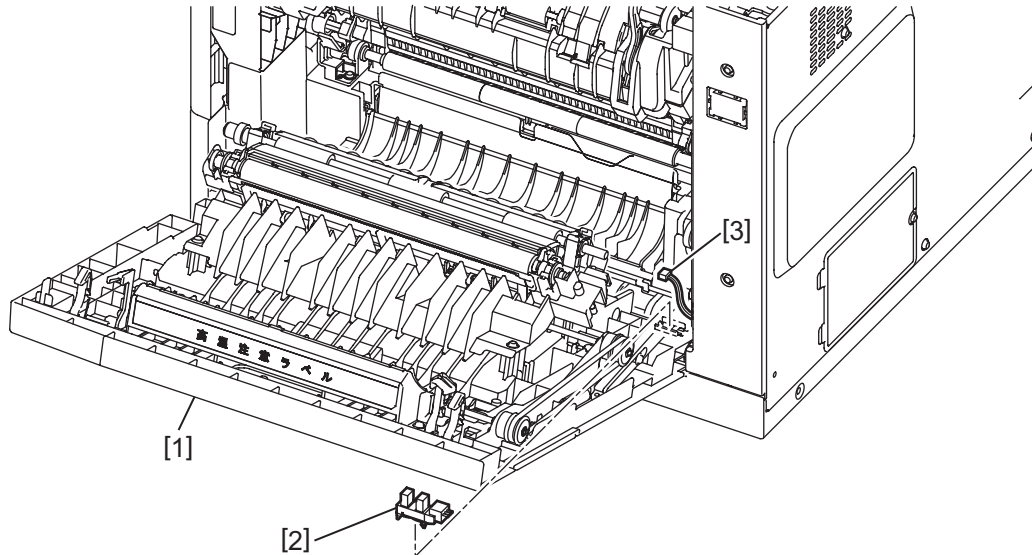
PCB ERS LAMP

1. Open the Cover jam access. (See "ROLLER TRANSFER ASSY/GUIDE TRANSFER" on page 5-42.)
2. Remove the Printer fuser. (See "PRINTER FUSER" on page 5-55.)
3. Remove one screw [1].
4. Remove the Spring C stopper JAC [2], then remove the Cover jam access [3].
5. Disconnect the connector [4].
6. Remove one screw [5], then remove the Bracket PCB LED [6].
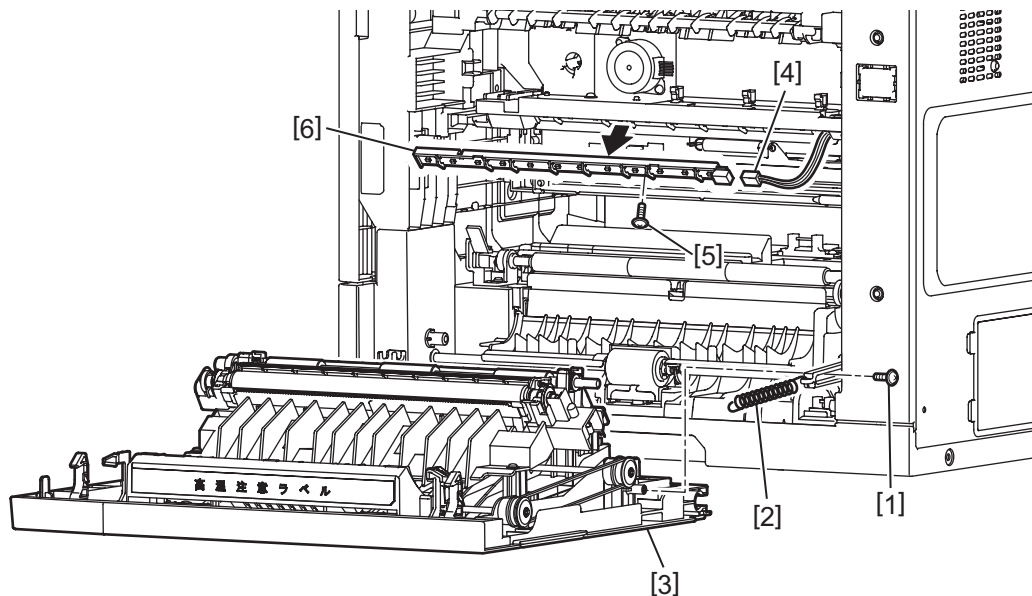
7. Pull out the PCB ERS LAMP [7] from the Bracket PCB LED [6].
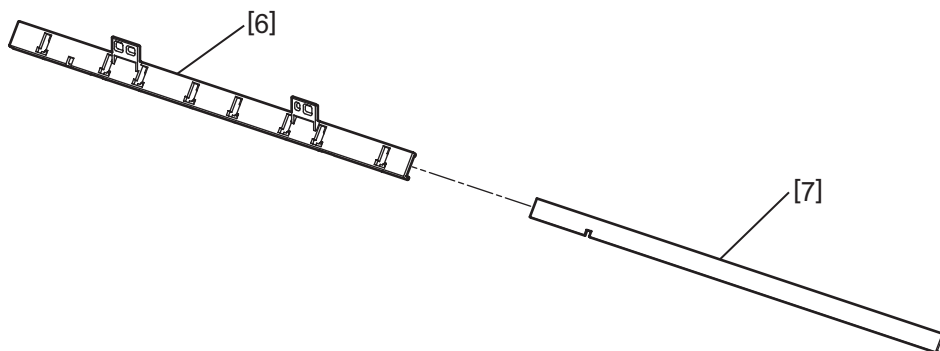
DRUM CARTRIDGE

1. Open the Cover front and remove the DRUM CARTRIDGE.
2. Remove two screws [1], and remove the Cover dev F [2].
3. Remove two screws [3], and remove the Cover dev B [4].
4. Remove two Springs C lock [5].
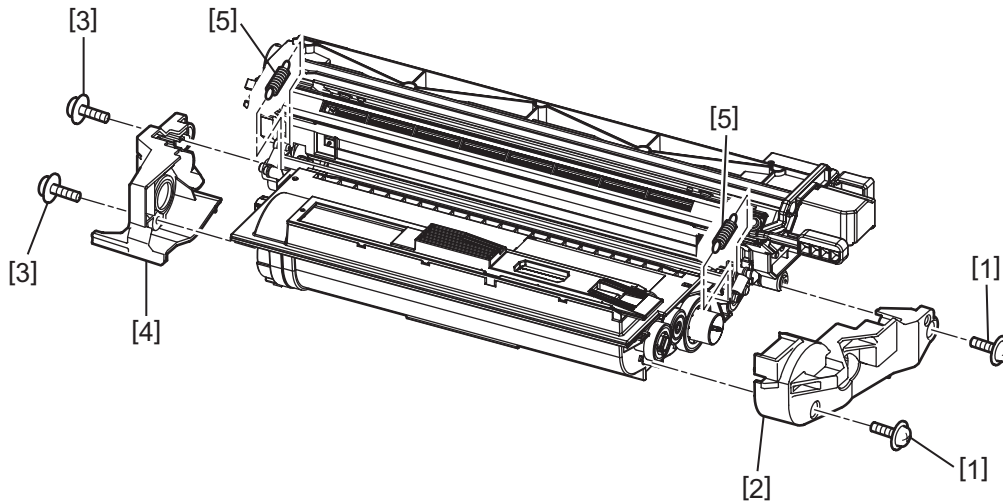
5. Remove the Developing unit [7] shaft from the Drum unit [6].
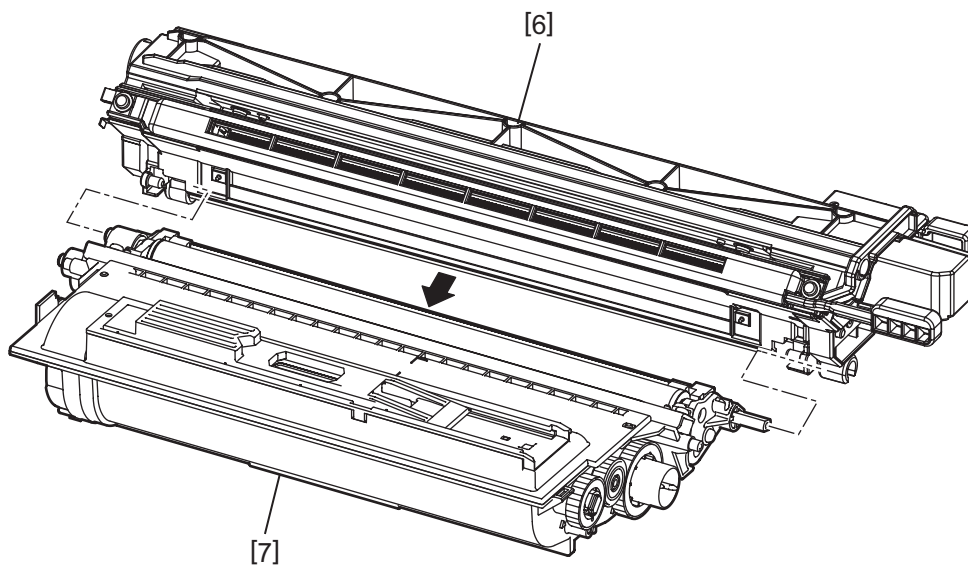
OPC DRUM

1. Remove the Drum unit from the Drum cartridge. (See "DRUM CARTRIDGE" on page 5-71.)
2. Remove two screws [1], then remove the Assy charger [2].
    *   Two pieces of PIECE LPH B [3] are in between the Assy charger and can easily fall off. Make sure you do not lose the Piece LPH B and take note not to mistake when assembling.
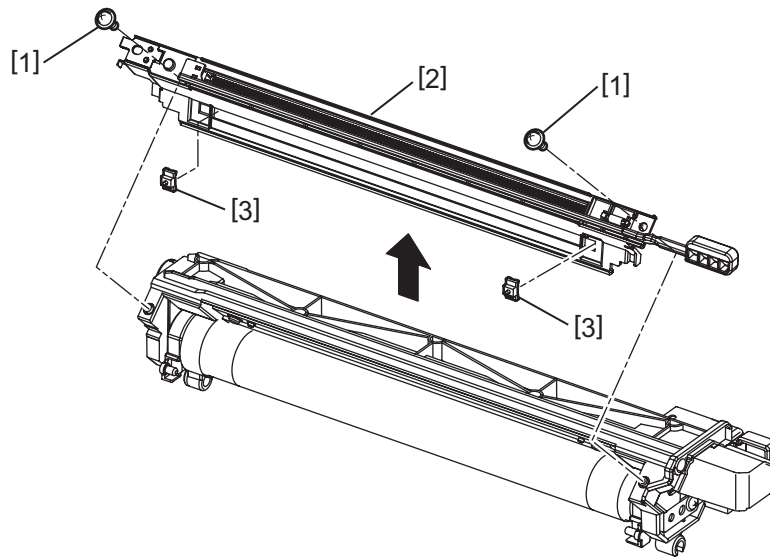
3. Remove one screw [4] then remove the Bracket shaft OPC assy [5].
4. Supporting the OPC DRUM [6] with hands keep it from dropping out, then slide and lift it to remove.
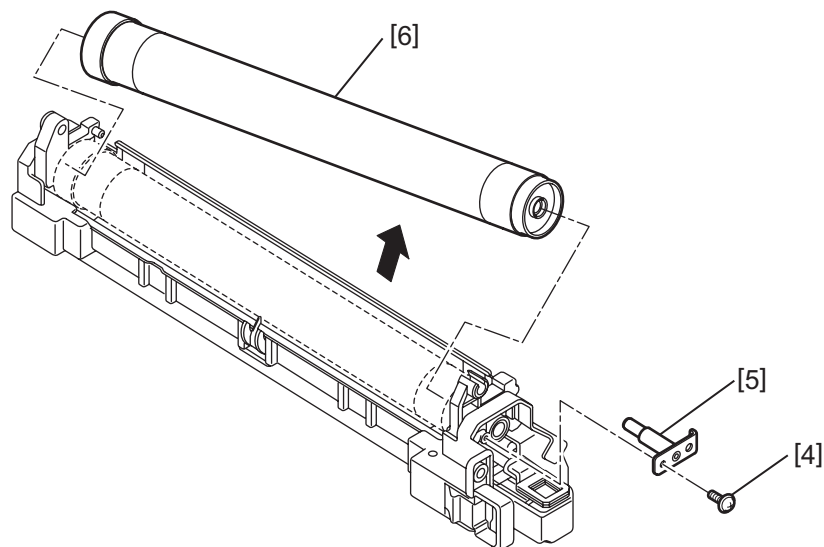
⚠CAUTION

*   Make sure there are no mistakes when assembling the Piece LPH B.
*   Do not touch the OPC drum with your bare hands.
*   If the OPC drum is removed, cover it with a black cloth.
*   Do not touch or damage the OPC drum surface.

Important

*   Manually turn the OPC drum towards the rotation direction after replacing the OPC drum. If the resistance is strong, disassemble it again and apply a small amount of toner as lubricant to the edge of the Blade Cleaner.
*   When the OPC drum is removed, Piece LPH B can easily fall off. Please be careful not to lose it.

ASSY SCRAPER

1. Remove the ASSY SCRAPER [2] from the Drum unit [1].
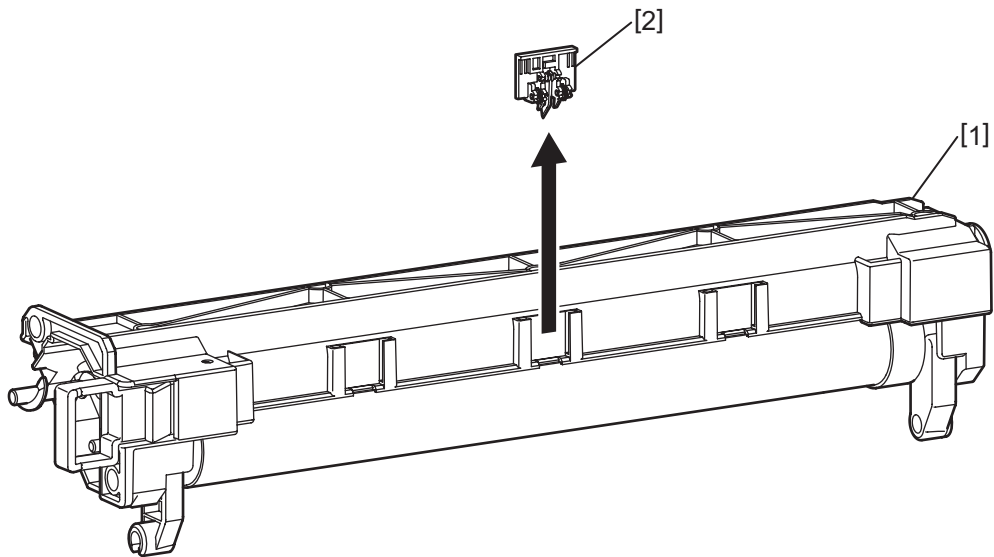
2. Remove the Scraper [4], the Spring T scraper [5], two Rollers star [6] from the Holder scraper [3].
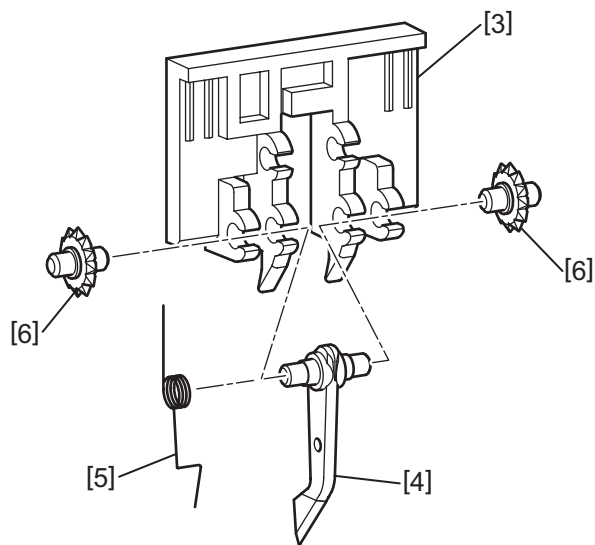
Assembling the ASSY SCRAPER

1. Attach the Spring T scraper [1] by passing through the Scraper hole [2].
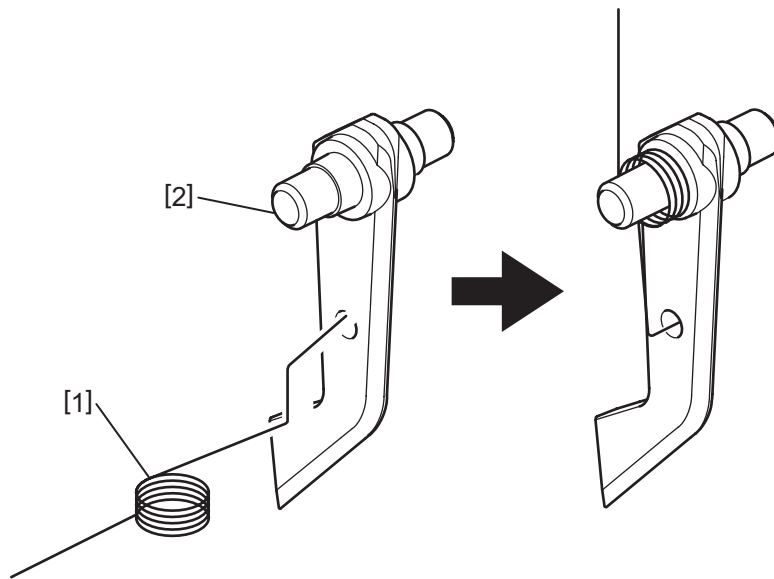
2. Install the Scraper [2] to the Holder scraper [3].
3. Install two Rollers star [4] to the Holder scraper [3].
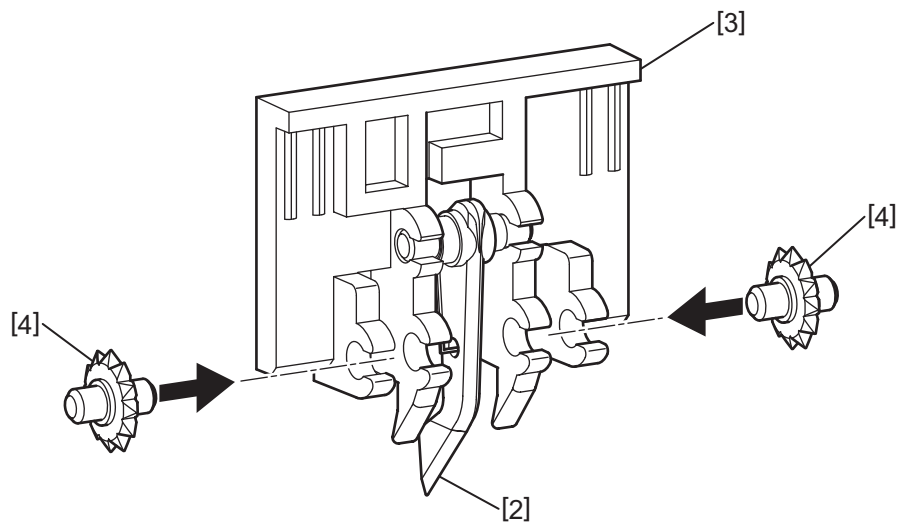
4. Install the ASSY SCRAPER [5] to the Drum unit [6].
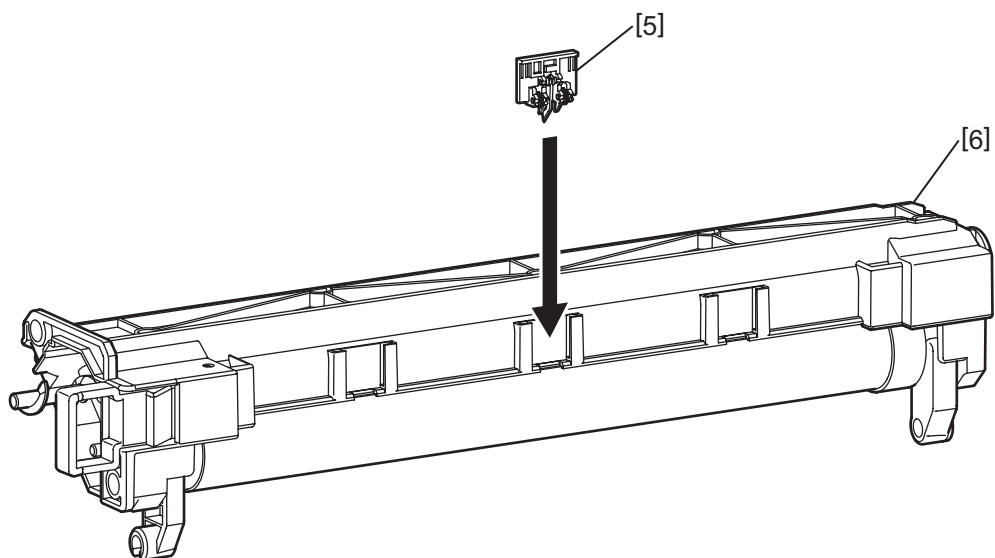
WASTE TONER BOX

1. Remove one screw [2] from the toner cartridge [1].
2. Press two hooks [3], then remove the WASTE TONER BOX [4].
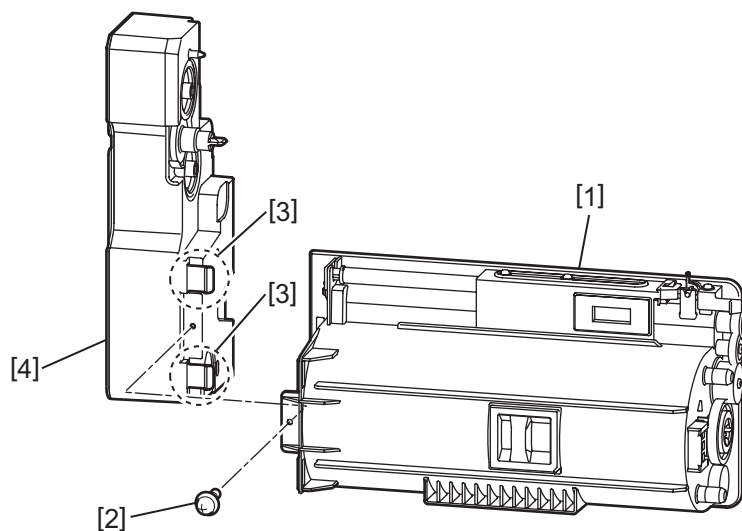
5.2.6 Paper feeding section

ROLLER PICKUP

1. Remove the Cassette [1].
2. Remove one SR5 [2], remove the Bearing D6 8 [3], and then remove the Shaft pickup CST [4].
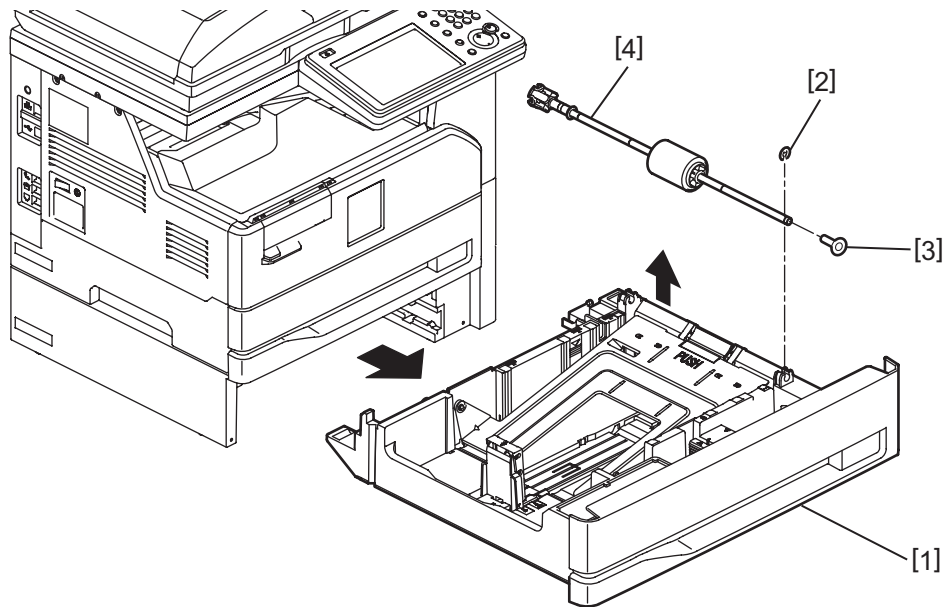
3. Remove one SR5 [5], then remove the Roller pickup [6].
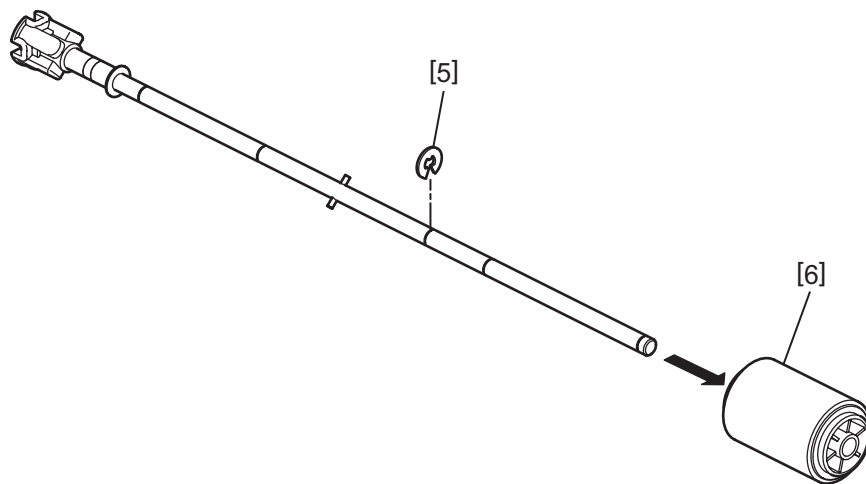
PAD PRESSURE CST

1. Remove the Cassette.
2. Remove the Shaft pickup CST. (See "ROLLER PICKUP" on page 5-77.)
3. Release two hooks [1], then remove the PAD PRESSURE CST [2].
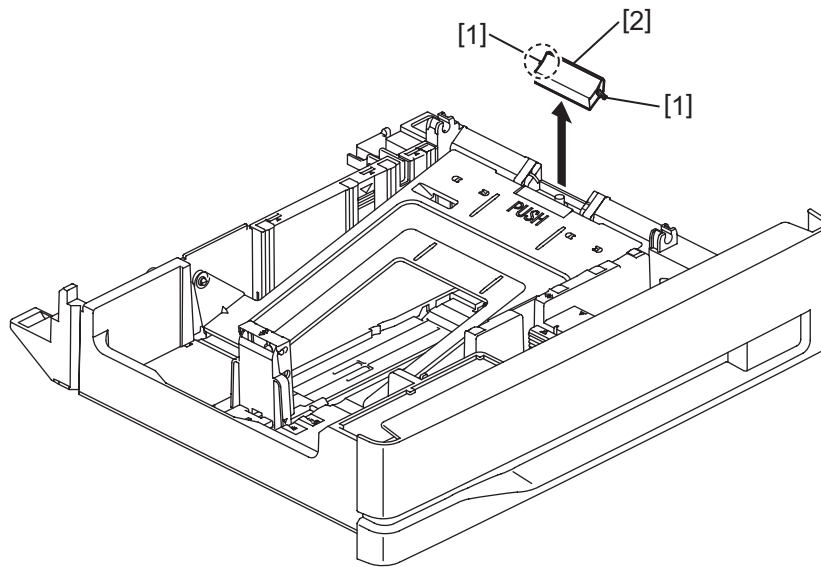
Replacement of CLUTCH CST

1. Remove one screw [1] then remove the Cover back OP [2].
2. Disconnect the junction connector [3].
3. Remove the SR4 [4], then remove the CLUTCH CST [5].
4. Reverse the procedure to assemble.
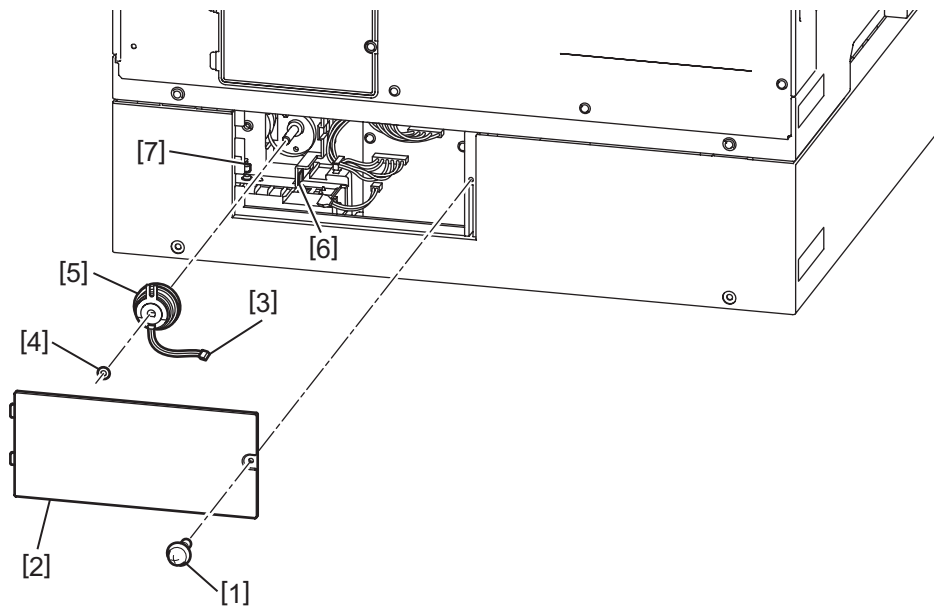
Important

When attaching the Clutch CST, pass through the harness hole [6] and hook it onto the hook [7].

PCB CST

1. Remove the Cover back OP. (See "Replacement of CLUTCH CST" on page 5-79.)
2. Disconnect all the PCB CST [1] connectors.
3. Remove two screws [2] and remove the PCB CST [1].
4. Reverse the procedure to assemble.
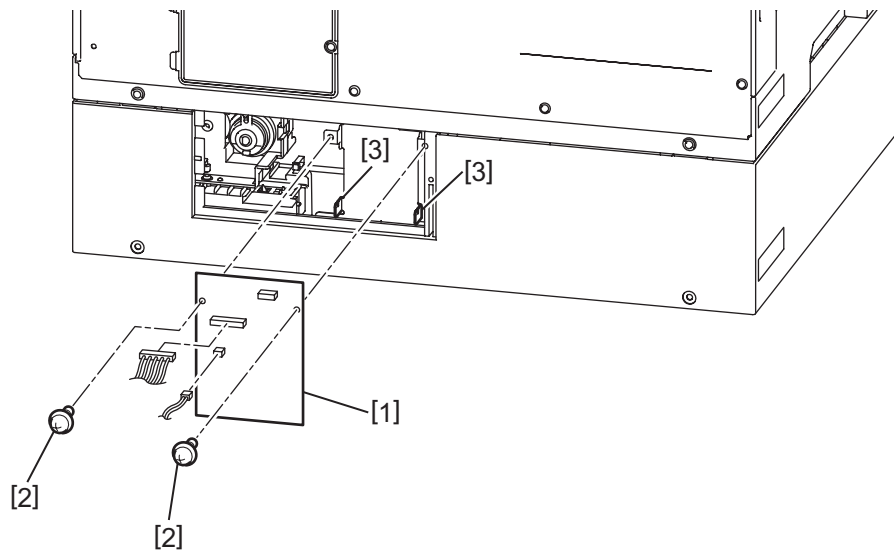
Important

When assembling the PCB CST, insert it in the Frame PCB OP notch [3].

OP CASSETTE

1. Remove the Cassette [1].
2. Remove two screws [2].
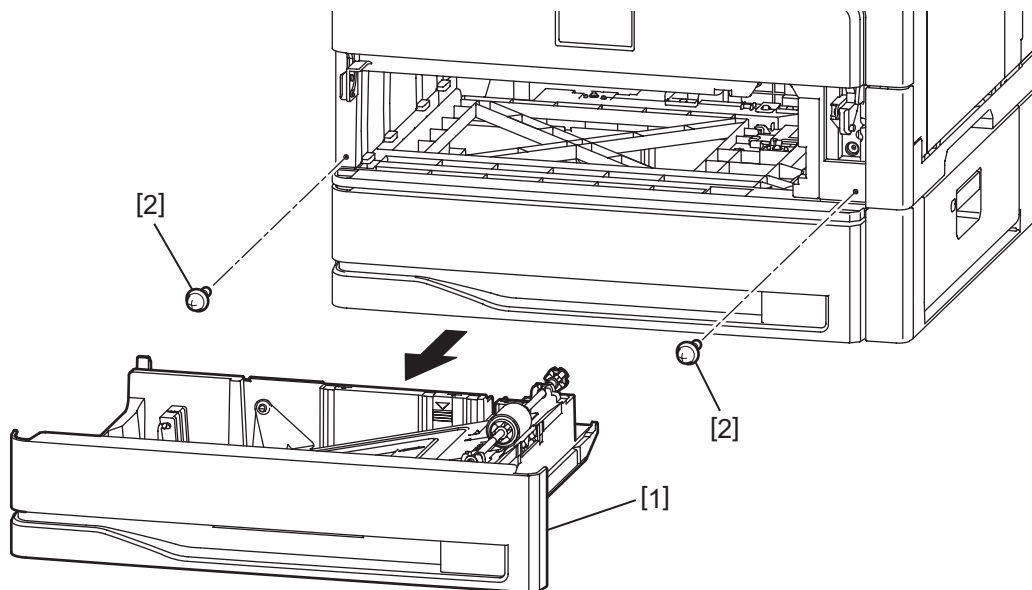
3. Remove two screws [3] on the back side.
4. Remove two screws [4], and remove the Cover back window [5] and the Cover back OP [6].
5. Disconnect one connector [7]. Move the harness towards the OP CASSETTE.
6. Lift up the body [8], and remove the OP CASSETTE [9].
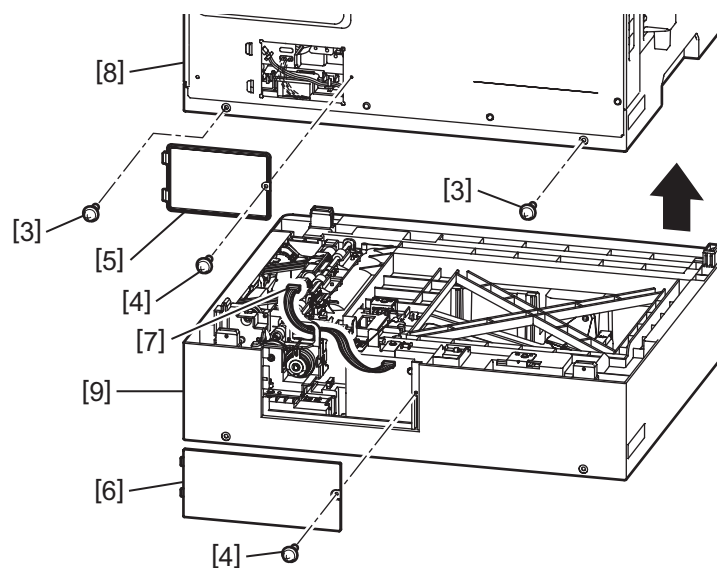
SENSOR OPEN OP

1. If there is a second tier OP Cassette extension, remove the lower cassette beforehand.
2. Pull out the cassette [1] a little.
3. Disconnect the connector [2].
4. Remove the SENSOR OPEN OP [3].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After releasing the hook on the short side, slide the sensor to the short side and remove it.
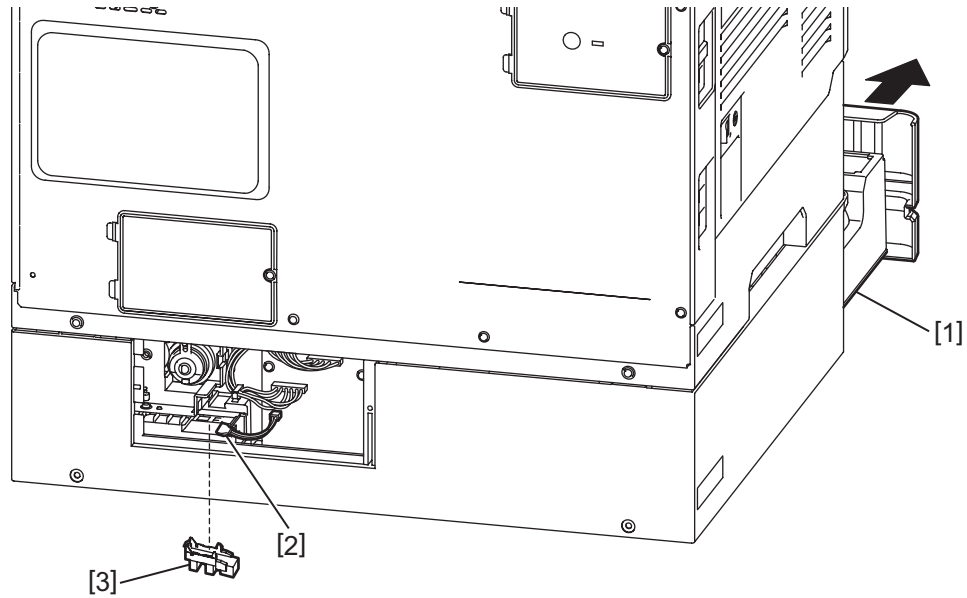
SENSOR PES OP

1. Remove the OP Cassette. (See "OP CASSETTE" on page 5-81.)
2. Remove one screw [1] then remove the Bracket sensor [2].
3. Disconnect the connector [3].
4. Remove the SENSOR PES [4].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After releasing the hook on the short side, slide the sensor to the short side and remove it.
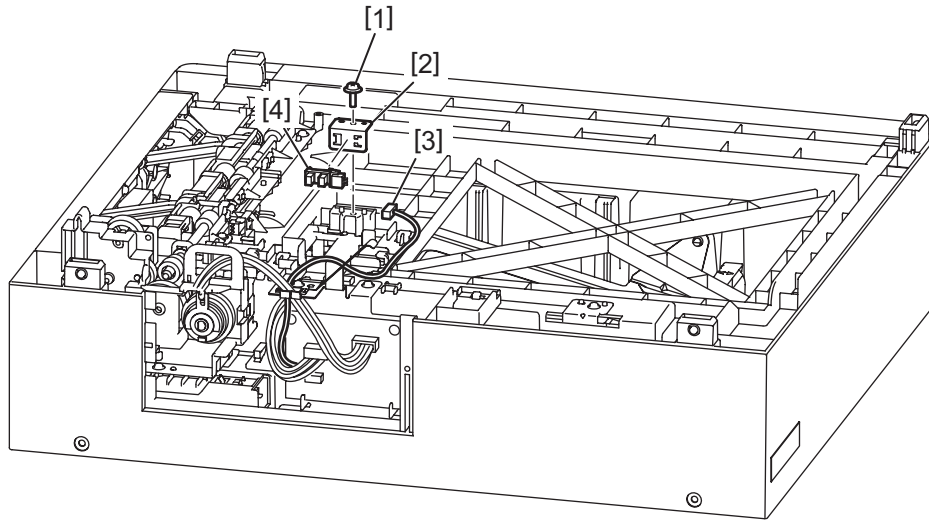
ROLLER FEED OP

1. Remove the OP Cassette. (See "OP CASSETTE" on page 5-81.)
2. Remove two SR5s [1].
3. Remove one SR3 [2].
4. Slide two Bearings D6 8 [3] to the outer side.
4. Lift up the ROLLER FEED OP [4] and remove the Gear 17 oneway OP [5].
5. Remove two Bearings D6 8 [3].
6. Remove the ROLLER FEED OP [4].
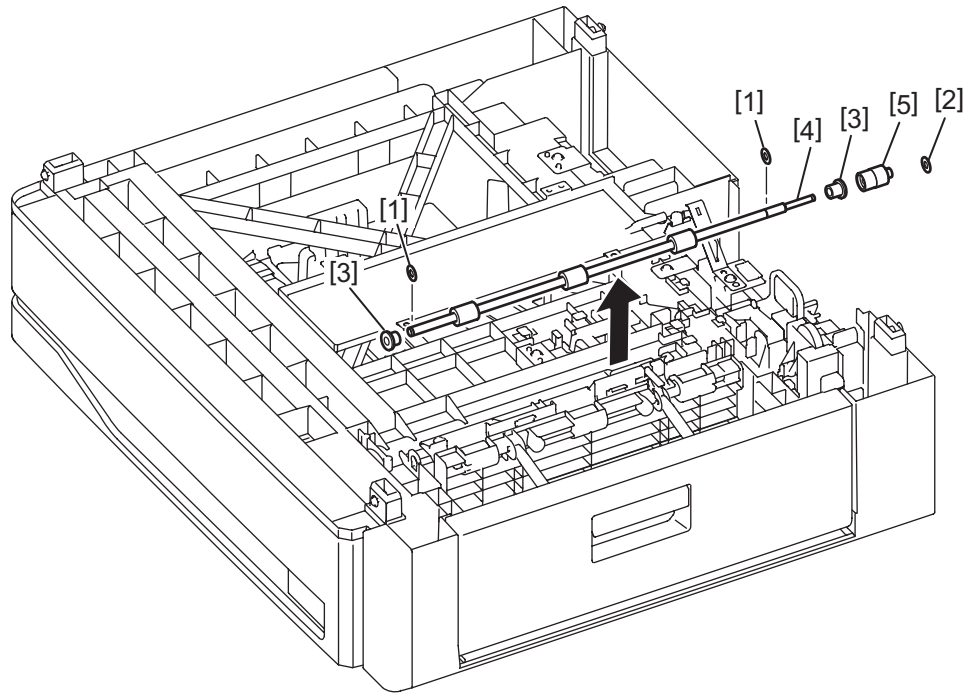
SENSOR PSS

1. Remove the OP Cassette. (See "OP CASSETTE" on page 5-81.)
2. Remove the Roller feed OP. (See "ROLLER FEED OP" on page 5-84.)
3. Remove two screws [1] then remove the Guide paper OP [2].
4. Disconnect the connector [3].
5. Remove the SENSOR PSS [4].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After releasing the hook on the short side, slide the sensor to the short side and remove it.
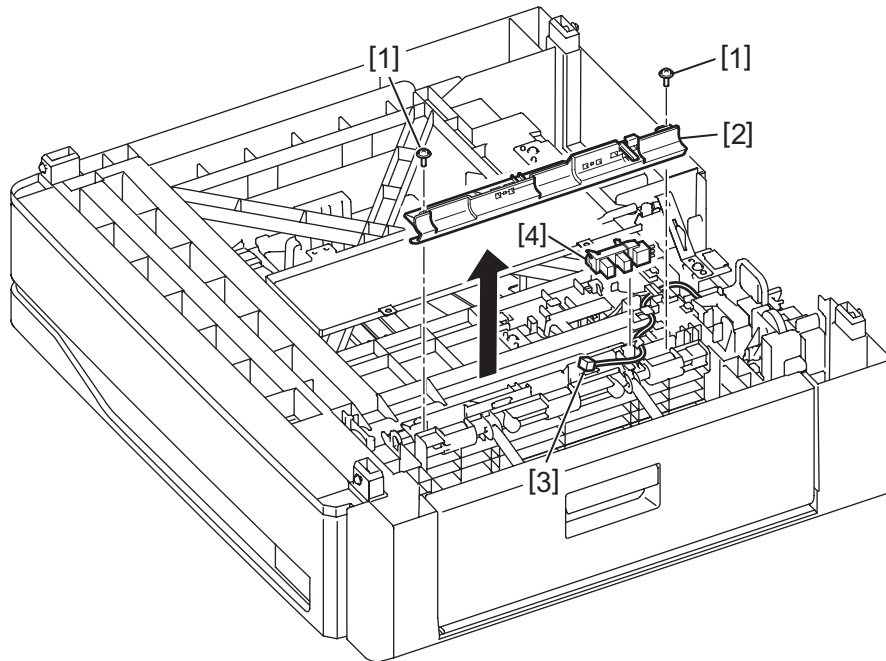
SENSOR JAMC2

1. Remove the OP Cassette. (See "OP CASSETTE" on page 5-81.
2. Remove the Roller feed OP. (See "ROLLER FEED OP" on page 5-84.)
3. Remove the harness [1] from the Frame drive B OP hole [2].
4. Release two hooks [3] and remove the Spring T pickup OP [4].
5. Remove three screws [5], and remove the Frame drive ASSY OP [6].
6. Disconnect the connector [7].
7. Remove the SENSOR JAMC [8].
   * There are hooks on the short side (1 place) and the long side (2 places) on the sensor.
     After releasing the hook on the short side, slide the sensor to the short side and remove it.
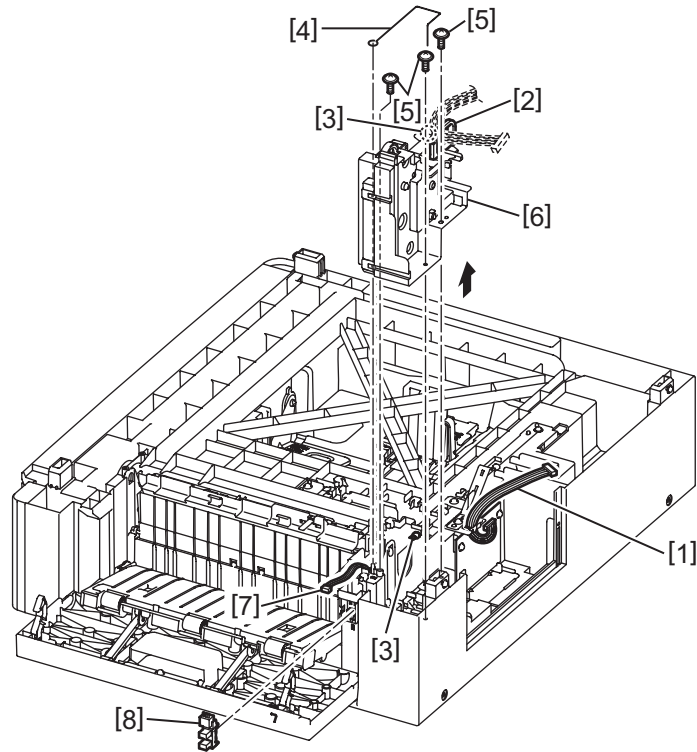
5.3 Adjustment

5.3.1 Outline of printer registration adjustment

1. Adjust the printer registration of the first cassette. (See "5.3.2 Printer registration adjustment" below.)
2. Adjust the scan position and zoom for ADF and FBS.
3. After step 1 and 2, adjust print position for each cassette.

5.3.2 Printer registration adjustment

Adjuting printer registration (Vertical)

1. Load letter paper to the cassette or tray you want to adjust.
2. Use the Unique Switch 52 to adjust the printing margin to 0 mm. (bit 0, 1 → 0)
3. Printout the test pattern "Ladder". (See "3.12.2 Printer Test" on page 3-84.)
4. Check width A on the test pattern Ladder meets the specifications.
5. If width A falls outside the specified range, see "Printer registration mode" on page 5-89 and adjust so that it falls within the range.
6. After you have finished the adjustment, you must reenter the setting of Unique Switch 52, you changed in step 2.

Adjust so that width A on the test pattern Checkered output falls within the following range.

Standard	Setting range
10 ± 1.5 (mm)	-12.8 to 12.7 (mm) (0.1 mm step)
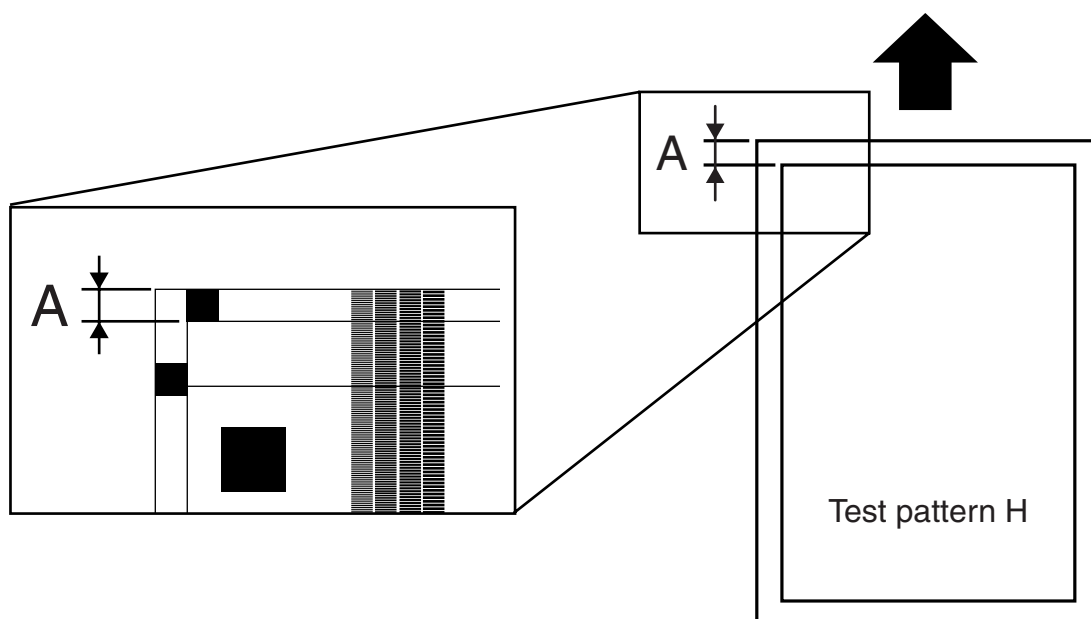
Test pattern H

Printer registration (Horizontal)

1. Load letter paper to the cassette or tray you want to adjust.
2. Use the Unique Switch 52 to adjust the printing margin to 0 mm. (bit 0, 1 → 0)
3. Printout the test pattern "Ladder". (See "3.12.2 Printer Test" on page 3-84.)
4. Check width A on the test pattern Ladder meets the specifications.
5. If width A falls outside the specified range, see "Printer registration mode" on page 5-89 and adjust so that it falls within the range.
6. After you have finished the adjustment, you must reenter the setting of Unique Switch 52, you changed in step 2.

Adjust so that width A on the test pattern Checkered output falls within the following range.

Standard	Setting range
10 ± 1.8 (mm)	−12.8 to 12.7 (mm) (0.6773 mm step)

Test pattern H
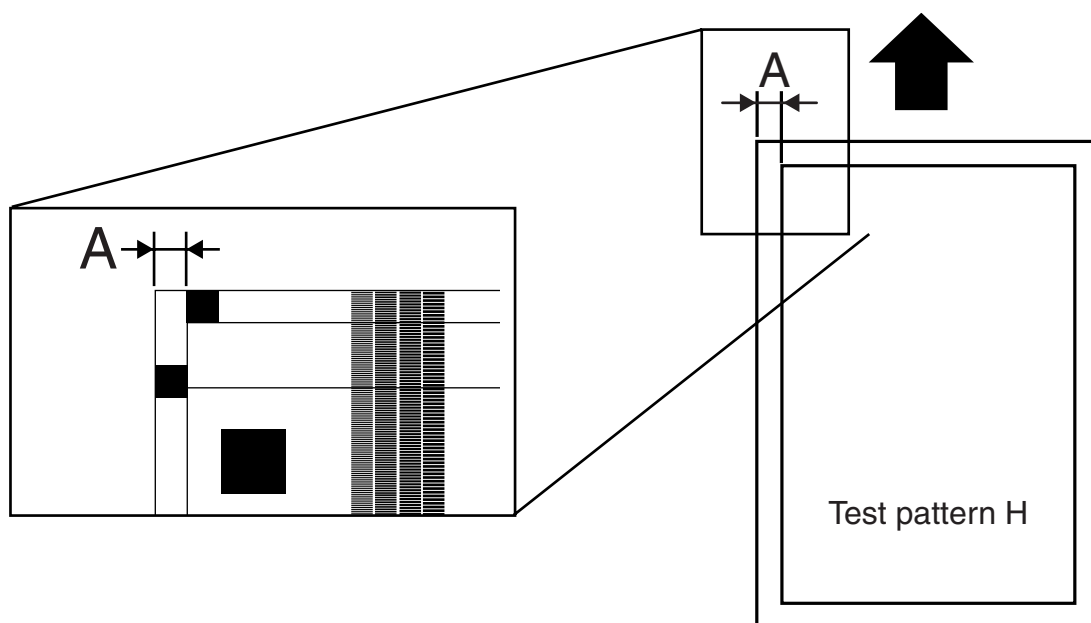
Printer registration mode

This mode adjusts the print registration for each paper source.

1. Press <Mode>, <*>, <4>, <3>.
2. Select the direction to adjust, and press [Enter].

```
My MFP Menu                    [ Shared ]

Printer Registration      [ Back ][ Enter ]
      Vertical  :+0(1/10mm)
      Horizontal
```

When you have selected vertical, skip to step 4.

3. Select the paper source you want to adjust, and press [Enter].
4. Adjust the printer registration:

```
My MFP Menu                    [ Shared ]

Vertical                  [ Back ][ Enter ]
 Input range:000-127

       +000  (1/10mm)  +
                       −
```
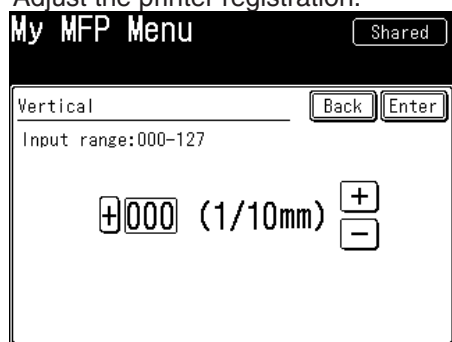
- Press [+] or [-] at the head of the figures, and switch the adjustment direction between + or -.
- Press [+] or [-] at the end of the figures, and enter the adjustment range.
  When you set "+12.3" for Vertical registration, the printing image moves 12.3 mm downward. If you set "–12.3", the printing image moves 12.3 mm upward.
  When you set "+12.3" for Horizontal registration, the printing image moves 12.3 mm rightward. If you set ""–12.3", the printing image moves 12.3 mm leftward. You can adjust between "–12.7 mm" and "+12.7 mm".

5. Press [Enter].

5.3.3 Zoom adjustment

FBS zoom adjustment (Vertical)
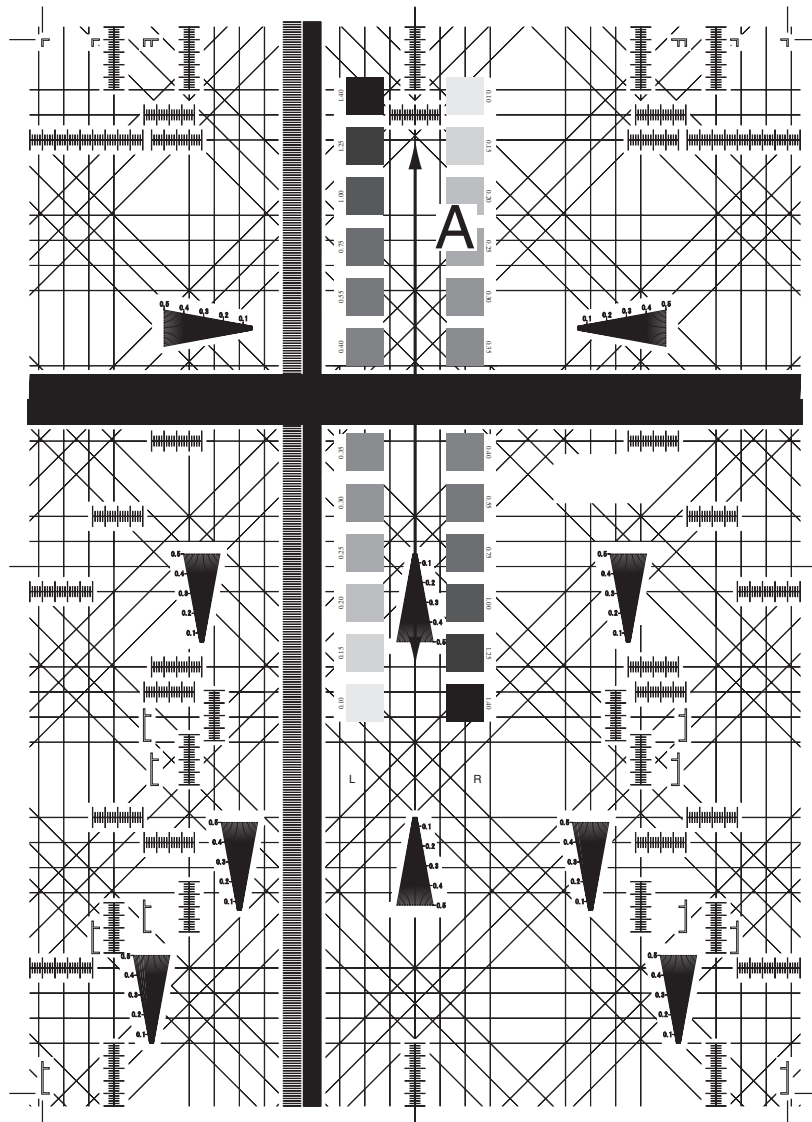
Zoom ratio	Standard	Adjustment Tool	Setting Range
100 %	± 1.0 %	Machine parameter:042	− 1.27 to 1.27 % (0.01 % step)

1. Load letter size paper to the first cassette.
2. Place a Test Chart on the document glass.
3. Make two copies on paper in the first cassette with 100 % magnification.
4. Measure the length of A on the second copy to find the difference.
   If length A falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust so that the setting of Machine Parameter 042 meets the specification.

If length A is shorter than the standard, increase value.

If length A is longer than the standard, decrease value.

FBS zoom adjustment (Horizontal)
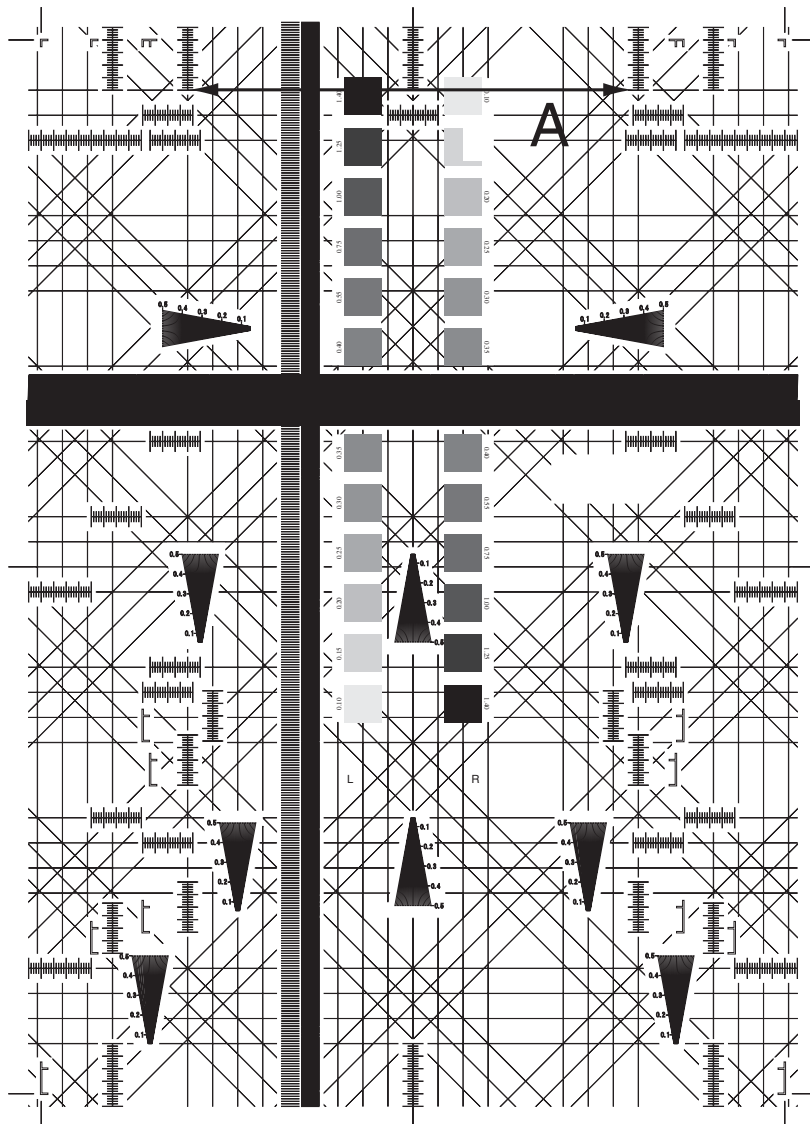
Zoom ratio	Standard	Adjustment Tool	Setting Range
100 %	± 1.0 %	Machine parameter:041	− 1.27 to 1.27 % (0.01 % step)

1. Load letter size paper to the first cassette.
2. Place a Test Chart on the document glass.
3. Make two copies on paper in the first cassette with 100 % magnification.
4. Measure the length of A on the second copy to find the difference.
   If length A falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust the setting of Machine Parameter 041 to meet the specification.
   If the length A is shorter than the standard, increase value.
   If the length A is longer than the standard, decrease value.

ADF zoom adjustment (Vertical)
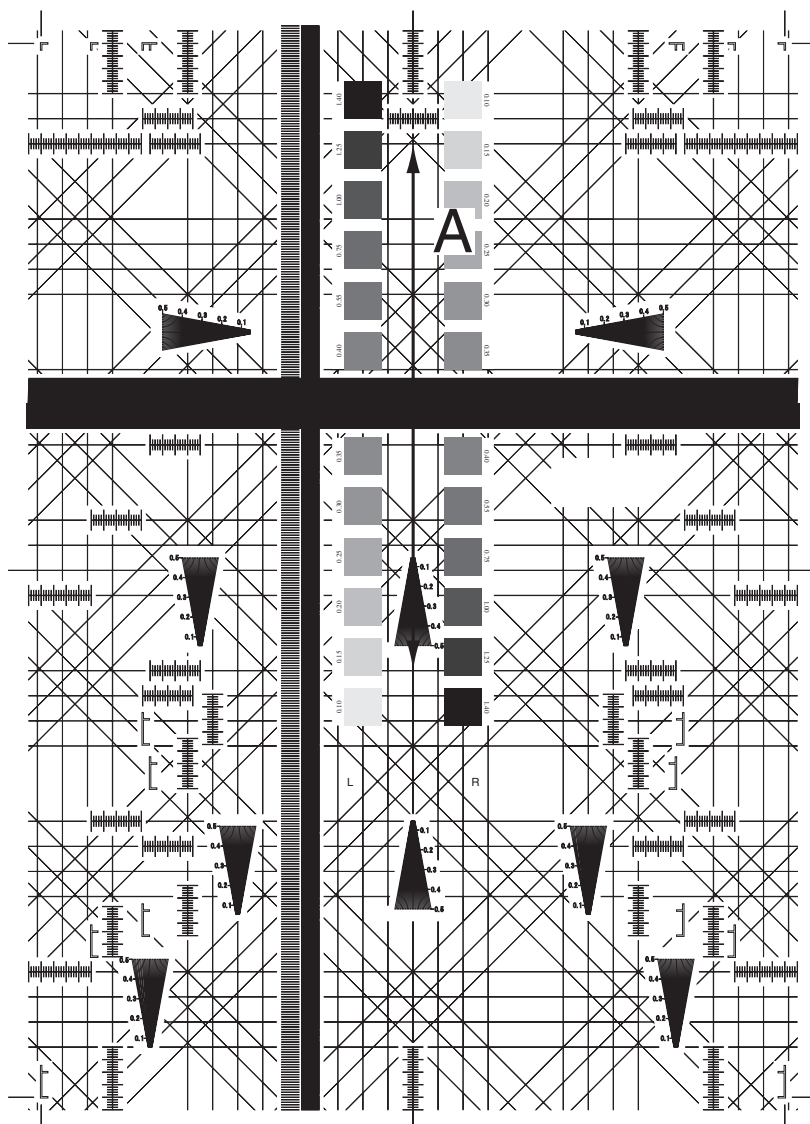
Zoom ratio	Standard	Adjustment Tool	Setting Range
100 %	± 1.0 %	Machine parameter:037	− 1.27 to 1.27 % (0.01 % step)

1. Load letter size paper to the first cassette.
2. Place a Test Chart on the ADF.
3. Make two copies on paper in the first cassette with 100 % magnification.
4. Measure the length of A on the second copy to find the difference.
   If length A falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust so that the setting of Machine Parameter 037 meets the specification.
   If the length A is shorter than the standard, increase value.
   If the length A is longer than the standard, decrease value.

ADF zoom adjustment (Horizontal)
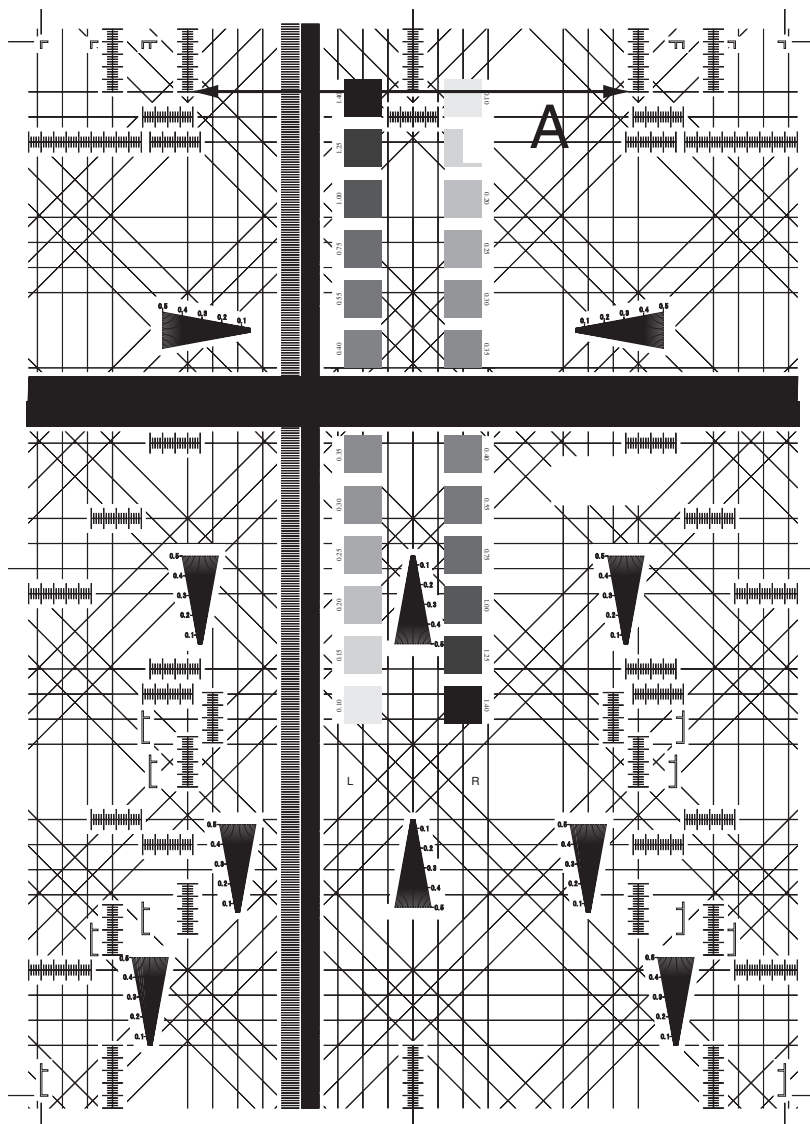
Zoom ratio	Standard	Adjustment Tool	Setting Range
100 %	± 1.0 %	Machine parameter:036	− 1.27 to 1.27 % (0.01 % step)

1. Load letter size paper to the first cassette.
2. Place a Test Chart in the ADF.
3. Make two copies on paper in the first cassette with 100 % magnification.
4. Measure the length of A on the second copy to find the difference.
   If length A falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust the setting of Machine Parameter 036 to meet the specification.
   If the length A is shorter than the standard, increase value.
   If the length A is longer than the standard, decrease value.

5.3.4 Registration adjustment
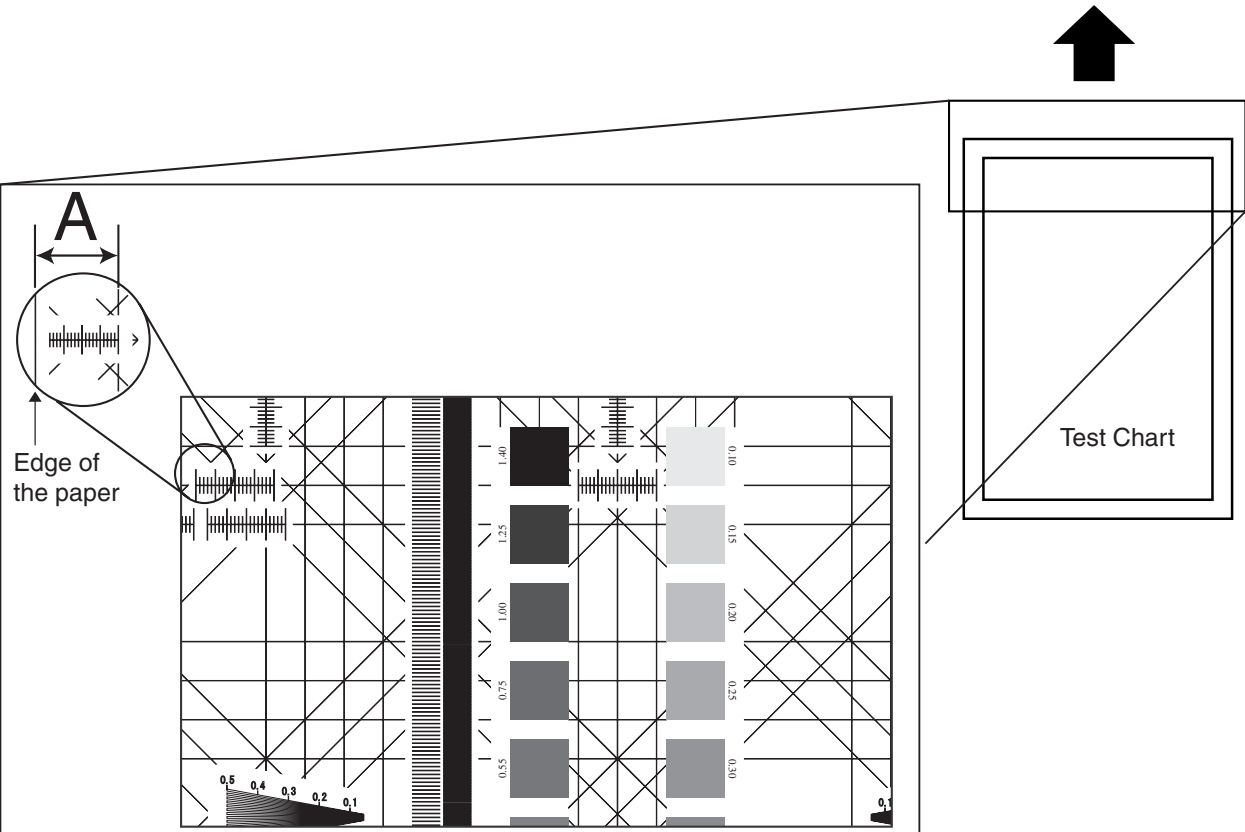
FBS registration (top)
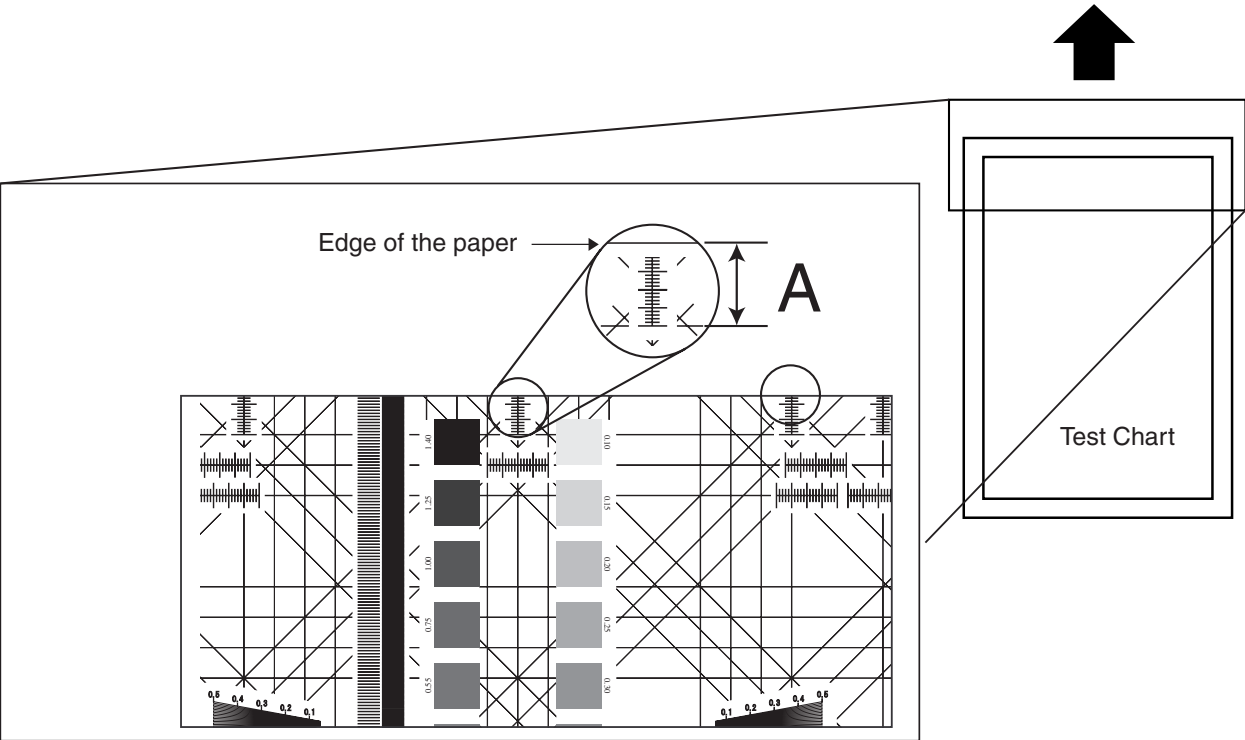
Note: This adjustment must be made after the adjustments of printer registration (top and side) of the first cassette and FBS zoom adjustments (vertical and horizontal) have been made.

Standard	Adjustment Tool	Setting Range
0 ± 2.2 (mm)	Machine parameter:043	− 10.67 ~ -10.67 (mm) (0.084 mm step)

1. Load letter paper to the first cassette.
2. Place a Test Chart on the document glass.
3. Make a copy of it in the 1st cassette with 100 % magnification.
4. Check that the difference of width A and the copy of A (A') meets the specifications.
   If the difference falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust the setting of Machine Parameter 043 to meet the specification.
   If the width A is shorter than the standard, decrease value.
   If the width A is longer than the standard, increase value.

FBS registration (side)
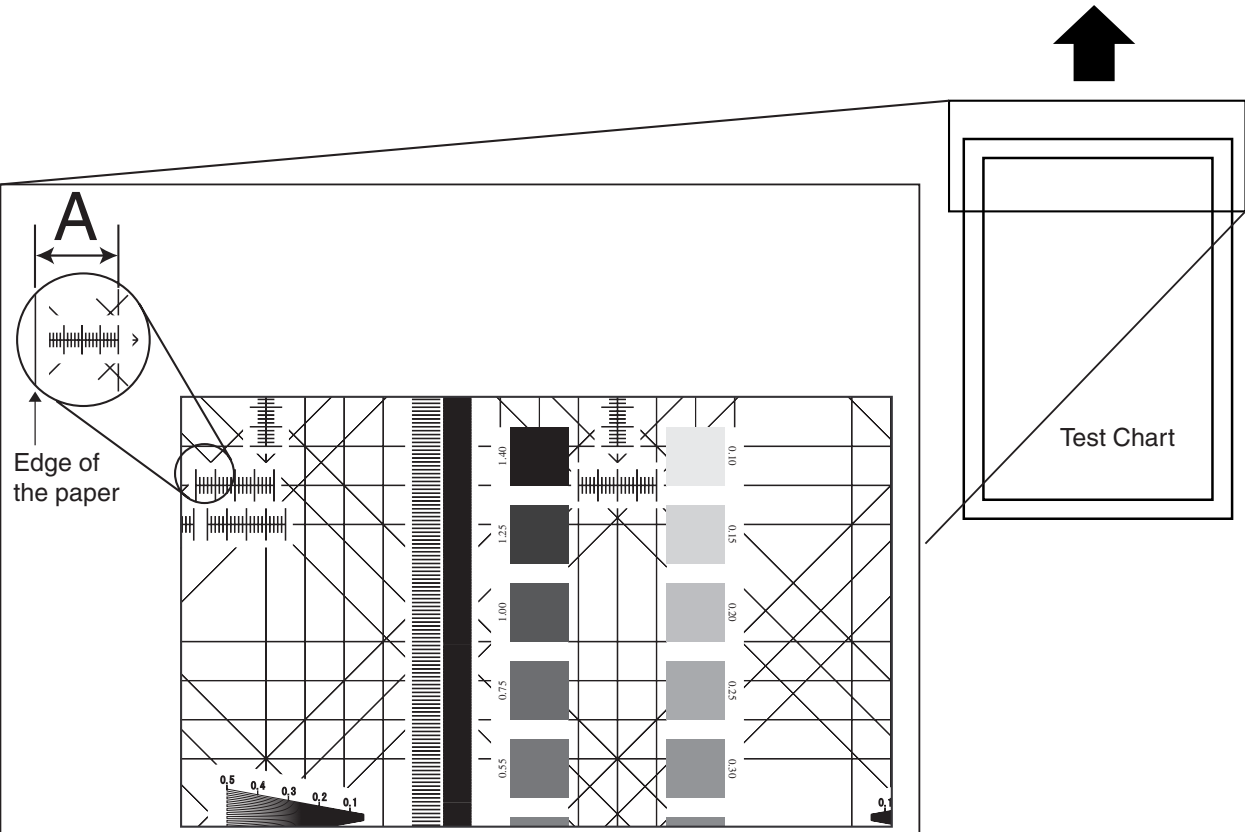
Note: This adjustment must be made after the adjustments of printer registration (top and side) of the first cassette and FBS zoom adjustments (vertical and horizontal) have been made.

Standard	Adjustment Tool	Setting Range
0 ± 2.6 (mm)	Machine parameter:040	− 5.2925 ~ 5.2925 (mm) (0.2112 mm step)

1. Load letter paper to the 1st cassette.
2. Place a Test Chart on the document glass.
3. Make a copy of it in the first cassette with 100 % magnification.
4. Check that the difference of width A and the copy of A (A') meets the specifications.
   If the difference falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3"3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust the setting of Machine Parameter 040 to meet the specification.
   If the width A is shorter than the standard, increase value.
   If the width A is longer than the standard, decrease value.

ADF registration (top)
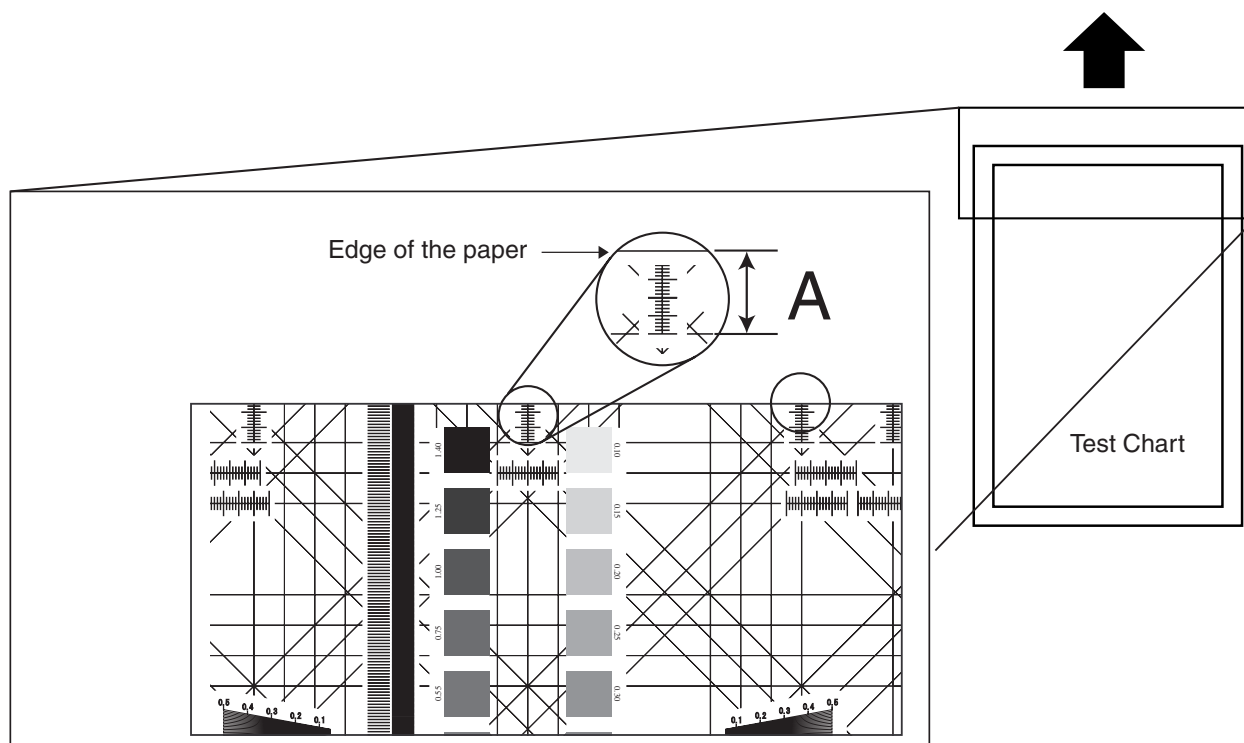
Note: This adjustment must be made after the adjustments of printer registration (top and side) of the first cassette and ADF zoom adjustments (vertical and horizontal) have been made.

Standard	Adjustment Tool	Setting Range
0 ± 2.2 (mm)	Machine parameter:038	−10.67 ~ 10.67 (mm) (0.0847 mm step)

1. Load letter paper to the 1st cassette.
2. Place a Test Chart on the ADF.
3. Make a copy of it in the first cassette with 100 % magnification.
4. Check that the difference of width A and the copy of A (A') meets the specifications.
   If the difference falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust the setting of Machine Parameter 038 to meet the specification.
   If the width A is shorter than the standard, decrease value.
   If the width A is longer than the standard, increase value.

ADF registration (side)

Note: This adjustment must be made after the adjustments of printer registration (top and side) of the first cassette and ADF zoom adjustments (vertical and horizontal) have been made.

Standard	Adjustment Tool	Setting Range
0 ± 2.9 (mm)	Machine parameter:035	− 5.29 ~ 5.29 (mm) (0.2112 mm step)

1. Load letter paper to the 1st cassette.
2. Place a Test Chart on the ADF.
3. Make a copy of it in the 1st cassette with 100 % magnification.
4. Check that the difference of width A and the copy of A (A') meets the specifications.
   If the difference falls outside the specified range, perform the following steps to make the adjustment.
5. Enter Machine Parameter mode. (See "3.2.1 Setting the machine parameters" on page 3-3.)
6. Adjust the setting of Machine Parameter 035 to meet the specification.
   If the width A is shorter than the standard, decrease value.
   If the width A is longer than the standard, increase value.

5.3.5 Separation pressure adjustment

You can adjust within the -1 to +2 range.
1. Remove the Piece separator. (See "PIECE SEPARATOR" on page 5-15.)
2. Remove the Holder separator spring [1] and reattach it so that the pressure suits to documents.
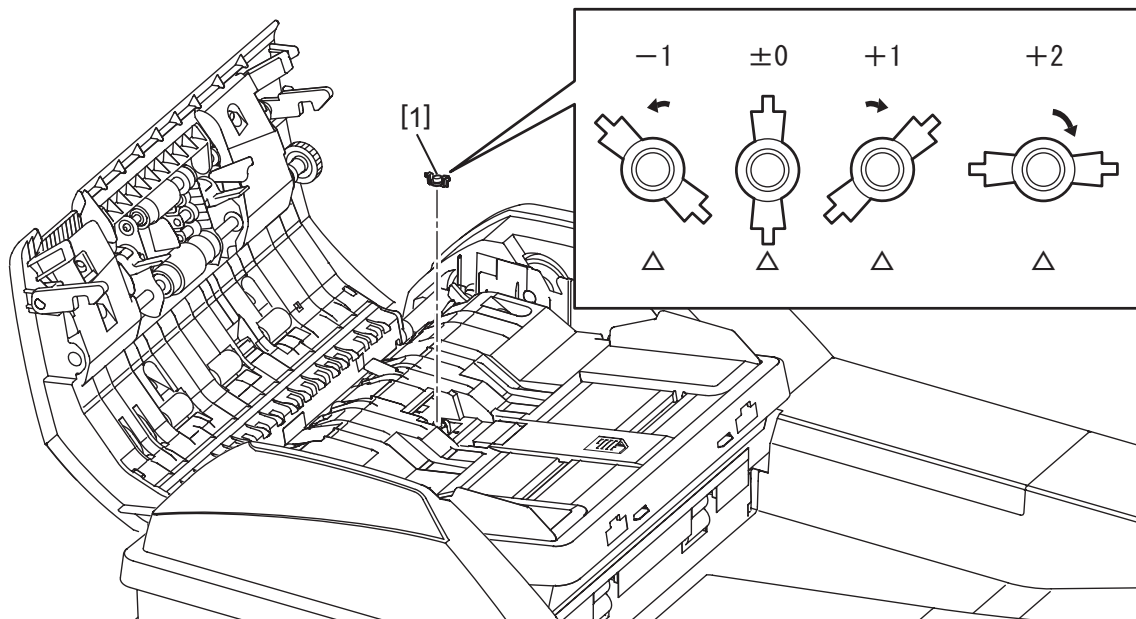
5.3.6 FBS skew adjustment

When the image scanned with the document glass is skewed, you can adjust it by shifting a part.
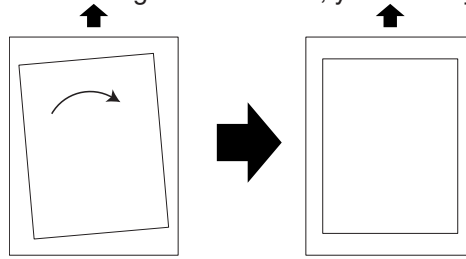

1. Remove the Cover platen. (See "COVER PLATEN" on page 5-23.)
2. Remove the Cover top FBS. (See "CIS" on page 5-27.)
3. Remove one screw [1], lift up the Holder CIS [2] a little and remove the Guide bar [3].
   * Make sure the Holder CIS [2] does not come off from the belt and remove the Guide bar [3].
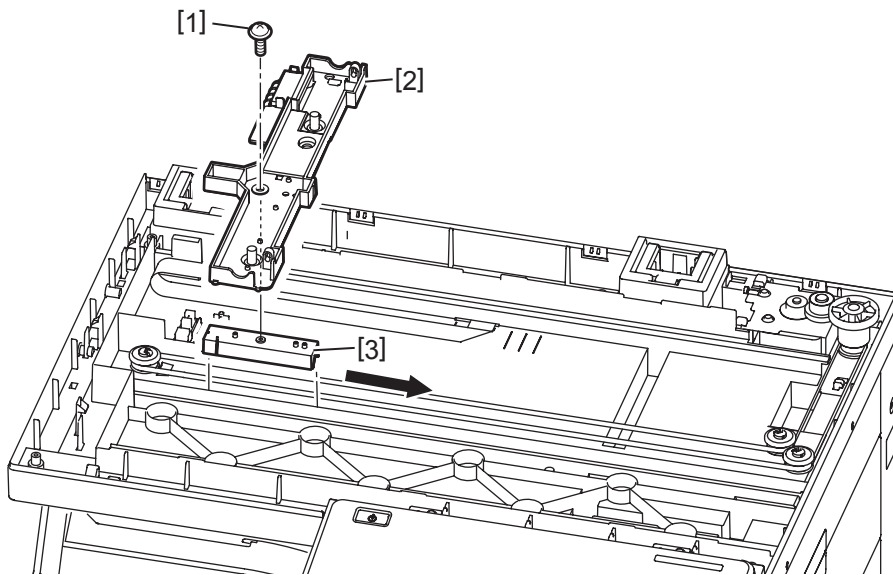
4. Cut the Guide bar [3] pin from the root using nippers or a cutter.
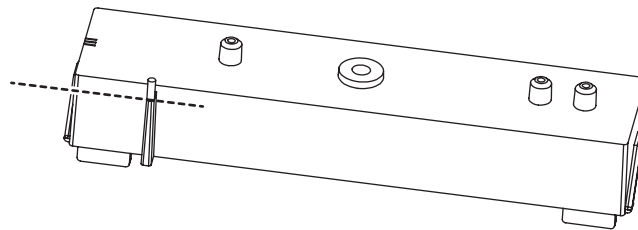
5. Rotate the Guide bar [3] 180 degrees and install it.
6. Move the Holder CIS [2] to two Chassis FBS ribs [4].
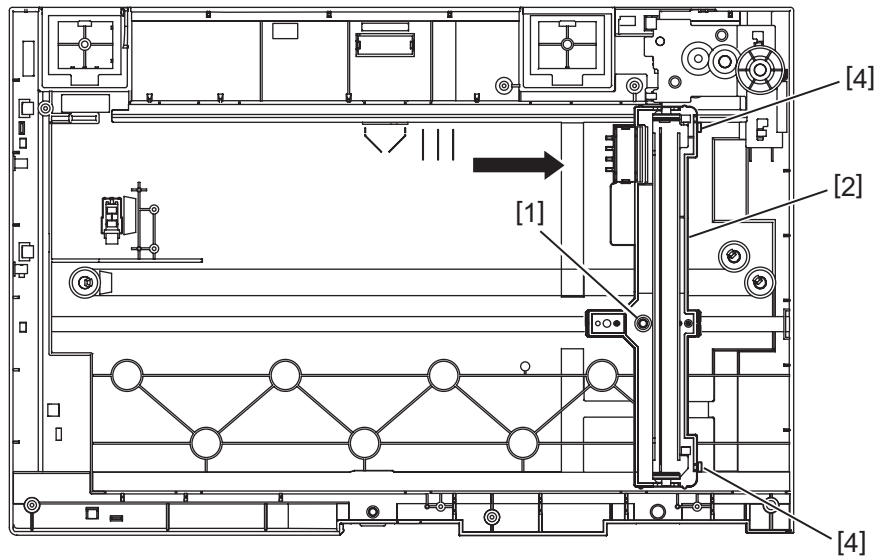
7. Check to see the Holder CIS [2] is parallel to the rib [4], then install the screw [1].
   Check again to see if it is parallel after installing the screw.

   When the skew is not improved after following the above instructions, continue to the following steps:
   • After looking at the image, if the right upper is lacking than the left upper, tilt the Holder CIS [2] to clockwise direction.
   • After looking at the image, if the left upper is chipped than the right upper, tilt to counter clockwise direction. (Skew adjustment of ± 1% can be made)

8. There is a possibility of the tip resist or the back end resist of the FBS or the ADF slipped out of place. Check and adjust the resist.

5.3.7 ADF skew adjustment

1. Remove the Cover Tx. (See "COVER TX" on page 5-17.)
2. Remove the Guide outer A. (See "ASSY ROLLER SEPARATOR" on page 5-18.)
3. Remove two screws [1] and remove two Springs P regist [2].
4. Remove one screw [3] then remove the Holder regist shaft [4].
5. Rotate the Holder regist shaft [4] 180 degrees and reinstall it.
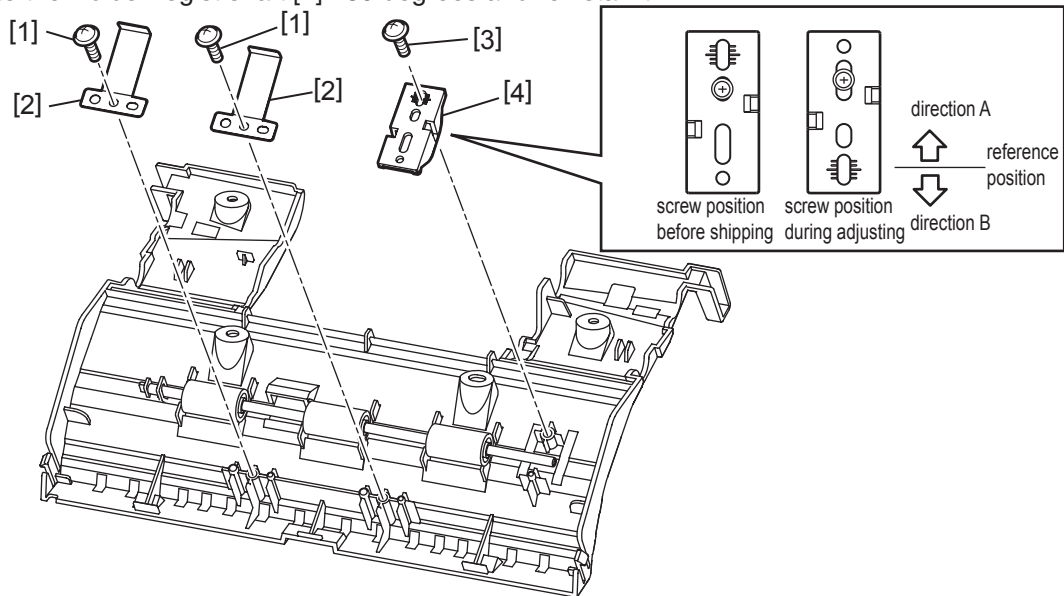
6. If the adjustment is made in direction A: the copied image will be rotated counterclockwise in relation to the recording paper.
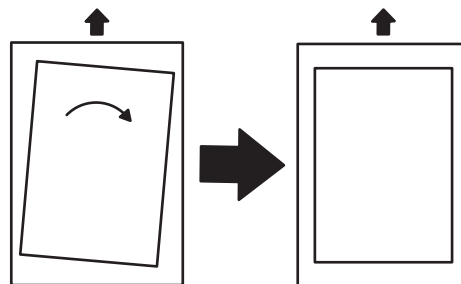

7. If the adjustment is made in direction B: the copied image will be rotated clockwise in relation to the recording paper.
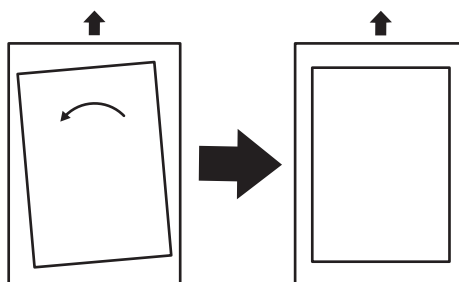
5.3.8 HINGE height adjustment

1. Close the Cover platen and check the height of the Cover platen and the left side body.
   Looking from the left side, check to see if the lug [1] on the backside of the Cover platen and the lug [2] on the front side is in contact with the Cover top FBS [3]. If not in contact, adjust with the following method.
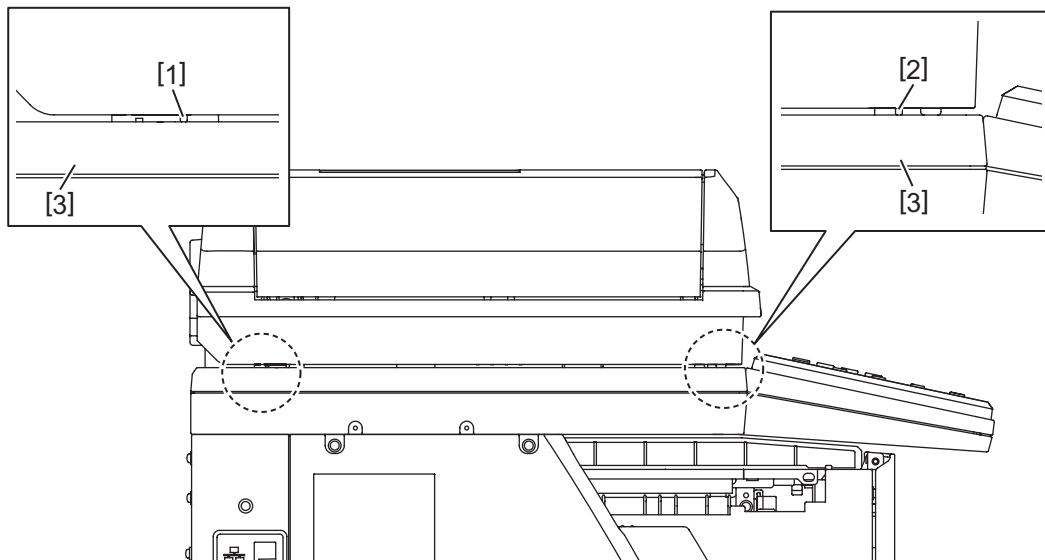
2. Open the Cover platen and adjust the Hinge screw.
   If the lug [1] on the backside is not in contact, turn the Hinge L screw [4] counterclockwise. (Loosen)
   If the lug [2] on the front side is not in contact, first turn the Hinge L screw [4] clockwise within the range the lug on the backside [1] comes in contact. (Enclose)
   Next, turn the Hinge R screw [5] clockwise. (Enclose)