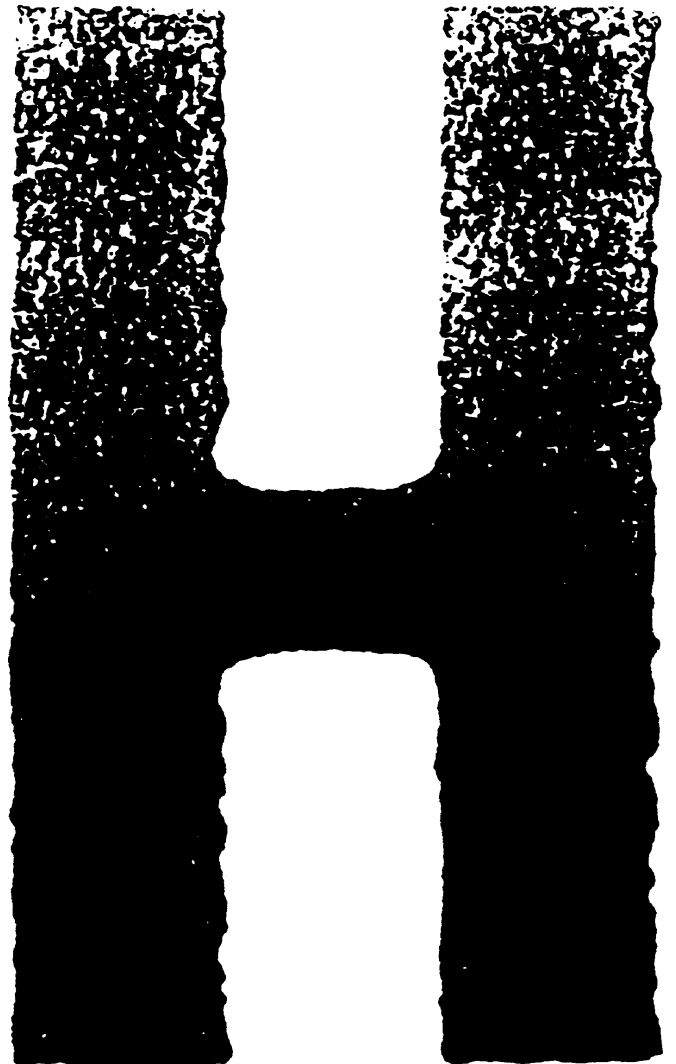


**TOSHIBA**

**SERVICE HANDBOOK**  
**MULTIFUNCTIONAL DIGITAL COLOR SYSTEMS**

**e-STUDIO03511/4511**



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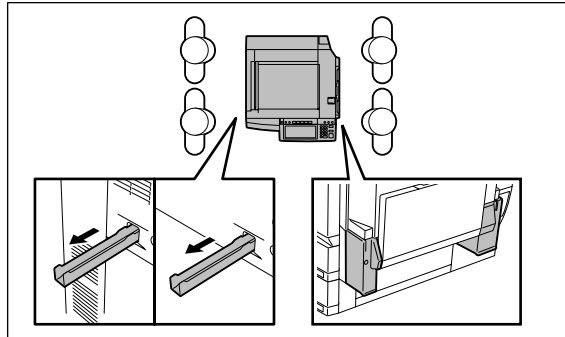
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# GENERAL PRECAUTIONS REGARDING THE INSTALLATION AND SERVICE FOR e-STUDIO3511/4511

The installation and service should be done by a qualified service technician.

## 1. Transportation/Installation

- When transporting/installing the equipment, employ four persons and be sure to use the positions as indicated below.  
The equipment is quite heavy and weighs approximately 112kg (246 lb.), therefore pay full attention when handling it.



- Be sure not to hold the movable parts or units (e.g. the control panel, ADU or RADF) when transporting the equipment.
- Be sure to use a dedicated outlet with AC 110/13.2A, 115V or 127V/12A, 220V-240V or 240V/8A) for its power source.
- The equipment must be grounded for safety.  
Never ground it to a gas pipe or a water pipe.
- Select a suitable place for installation.  
Avoid excessive heat, high humidity, dust, vibration and direct sunlight.
- Also provide proper ventilation as the equipment emits a slight amount of ozone.
- To insure adequate working space for the copying operation, keep a minimum clearance of 80 cm (32") on the left, 80 cm (32") on the right and 10 cm (4") in the rear.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

## 2. Service of Machines

- Basically, be sure to turn the main switch off and unplug the power cord during service.
- Be sure not to touch high-temperature sections such as the exposure lamp, the fuser unit, the damp heater and their periphery.
- Be sure not to touch high-voltage sections such as the chargers, transfer belt, 2nd transfer roller, developer, IH control circuit, high-voltage transformer, exposure lamp control inverter, inverter for the LCD backlight and power supply unit. Especially, the board of these components should not be touched since the electric charge may remain in the capacitors, etc. on them even after the power is turned OFF.
- Be sure not to touch rotating/operating sections such as gears, belts, pulleys, fan, etc.
- Be careful when removing the covers since there might be the parts with very sharp edges underneath.
- When servicing the machines with the main switch turned on, be sure not to touch live sections and rotating/operating sections. Avoid exposure to laser radiation.
- Use suitable measuring instruments and tools.
- Avoid exposure to laser radiation during servicing.
  - Avoid direct exposure to the beam.
  - Do not insert tools, parts, etc. that are reflective into the path of the laser beam.
  - Remove all watches, rings, bracelets, etc. that are reflective.
- Unplug the power cable and clean the area around the prongs of the plug once a year or more.  
A fire may occur when dust lies on this area.

### 3. Main Service Parts for Safety

- The breaker, door switch, fuse, thermostat, thermofuse, thermistor, etc. are particularly important for safety. Be sure to handle/install them properly. If these parts are shorted circuit and/or made their functions out, they may burn down, for instance, and may result in fatal accidents. Do not allow a short circuit to occur. Do not use the parts not recommended by Toshiba TEC Corporation.

### 4. Cautionary Labels

- During servicing, be sure to check the rating plate and the cautionary labels such as “Unplug the power cord during service”, “Hot area”, “Laser warning label” etc. to see if there is any dirt on their surface and whether they are properly stuck to the equipment.

### 5. Disposition of Consumable Parts, Packing Materials, Used batteries and RAM-ICs

- Regarding the recovery and disposal of the equipment, supplies, consumable parts, packing materials, used batteries and RAM-ICs including lithium batteries, follow the relevant local regulations or rules.

### 6. When parts are disassembled, reassembly is basically the reverse of disassembly unless otherwise noted in this manual or other related documents. Be careful not to reassemble small parts such as screws, washers, pins, E-rings, star washers in the wrong places.

### 7. Basically, the machine should not be operated with any parts removed or disassembled.

### 8. Precautions Against Static Electricity

- The PC board must be stored in an anti-electrostatic bag and handled carefully using a wristband, because the ICs on it may become damaged due to static electricity.

**Caution: Before using the wristband, pull out the power cord plug of the equipment and make sure that there are no uninsulated charged objects in the vicinity.**

**Caution :** Dispose of used batteries and RAM-ICs including lithium batteries according to this manual.

**Attention :** Se débarrasser de batteries et RAM-ICs usés y compris les batteries en lithium selon ce manuel.

**Vorsicht :** Entsorgung des gebrauchten Batterien und RAM-ICs (inklusive der Lithium-Batterie) nach diesem Handbuch.

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# 1. SPECIFICATIONS/ACCESSORIES/OPTIONS/SUPPLIES

## 1.1 Specifications

Values in [ ] are for e-STUDIO4511 in case that the specification is different between e-STUDIO3511 and e-STUDIO4511.

- Copy process Indirect electrophotographic process (dry)
- Type Desktop type (Console type: when optional Paper Feed Pedestal (PFP) or optional Large Capacity Feeder (LCF) is installed.)
- Original table Fixed type (the left rear corner used as guide to place originals)
- Accepted originals Sheet, book and 3-dimensional object  
 For single-sided originals – 50-127 g/m<sup>2</sup> (13-34 lb. Bond)  
 For double-sided originals – 50-105 g/m<sup>2</sup> (13-28 lb. Bond)  
 None of the carbon, bonded nor stapled sheet original is acceptable when using the optional Reversing Automatic Document Feeder.  
 Maximum size: A3/LD
- Copy speed (Copies/min.)

### e-STUDIO3511

Paper supply Paper size	Drawer	Bypass feed (Size specified)	PFP	LCF
A4, LT, B5	35 (11)	35 (11)	35 (11)	35 (11)
A4-R, B5-R, A5-R, LT-R, ST-R	28 ( 5 )	28 ( 5 )	28 ( 5 )	–
B4, LG	24 ( 5 )	24 ( 5 )	24 ( 5 )	–
A3, LD	21 ( 5 )	21 ( 5 )	21 ( 5 )	–

### e-STUDIO4511

Paper supply Paper size	Drawer	Bypass feed (Size specified)	PFP	LCF
A4, LT, B5	45 (11)	45 (11)	45 (11)	45 (11)
A4-R, B5-R, A5-R, LT-R, ST-R	32 ( 5 )	32 ( 5 )	32 ( 5 )	–
B4, LG	26 ( 5 )	26 ( 5 )	26 ( 5 )	–
A3, LD	22 ( 5 )	22 ( 5 )	22 ( 5 )	–

- \* “–” means “Not acceptable”.
- \* The copy speed in the above table are available when originals are manually placed for single side, continuous copying.
- \* When the Reversing Automatic Document Feeder is used, the copy speed of 35[45] sheets per minute is only available under the following conditions:
  - Original/Mode: Single-sided original/A4/LT size. APS/automatic density are not selected. /Plain paper.
  - Number of sheets: 35[45] or more at the black mode and 11 or more at the color mode.
  - Reproduction ratio: 100%
- \* The values in ( ) are available when printed at color mode.

\* System copy speed

Copy mode		Sec.	
		e-STUDIO3511	e-STUDIO4511
Single-sided originals ↓	1 set	22.9 (70.3)	19.8 (70.3)
	3 sets	60.9 (181.8)	49.9 (181.8)
	5 sets	94.8 (292.2)	76.3 (292.2)
Single-sided originals ↓	1 set	31.3 (95.1)	30.3 (95.1)
	3 sets	70.7 (201.8)	71.9 (201.8)
	5 sets	110.1 (311.2)	101.5 (311.2)
Double-sided originals ↓	1 set	59.6 (149.6)	59.5 (149.6)
	3 sets	138.7 (366.6)	130.4 (366.6)
	5 sets	217.3 (584.6)	201.5 (584.6)
Double-sided originals ↓	1 set	51.2 (124.6)	51.5 (124.6)
	3 sets	120.8 (346.5)	105.7 (346.5)
	5 sets	188.7 (565.7)	158.5 (565.7)

- The system copy speed is available when 10 sheets of A4/LT size original are set on the RADF and one of the copy modes in the above table is selected.
- The period of time from pressing [START] to displaying "READY" is the actually measured value.
- Setting: Automatic exposure OFF, APS/AMS OFF, Text/Photo Mode, feeding from the upper drawer and Sort Mode.
- The finisher with the saddle stitcher and hole punch unit are not installed.
- The values in ( ) are the speeds at the color modes.

• Copy paper

	Drawer	ADU	PFP	LCF	Bypass copy	Remarks
Size	A3 to A5-R LD to ST-R, 13" LG, 8.5" SQ			A4, LT	A3 to A6-R, LD to ST-R, 13" LG, 8.5" SQ, 305 x 457 mm (12" x 18") (Non-standard or user- specified sizes can be set.)	
Weight	64 to 105 g/m <sup>2</sup> 17 to 28 lb. Bond				64 to 209 g/m <sup>2</sup> , 17 lb. Bond to 110 lb. Index (Continuous feeding) 64 to 209 g/m <sup>2</sup> , 17 lb. Bond to 110 lb. Index (Single paper feeding)	
Special paper	-				Labels, OHP film (thickness: 80 µm or thicker)	Special paper recommended by Toshiba Tec

- First copy time ..... Approx. 6.8 sec. or less (black), approx. 16.2 sec. or less (color)  
(A4/LT, upper drawer, 100%, original placed manually)
- Warming-up time ..... Approx. 40 seconds (Stand-alone, temperature: 20°C)
- Multiple copying ..... Up to 999 copies; Key in set numbers



- Dimensions of the equipment ..... See the figure below (W660 x D718 x H739 mm)
- \* When the tilt angle of the control panel is 45 degrees.

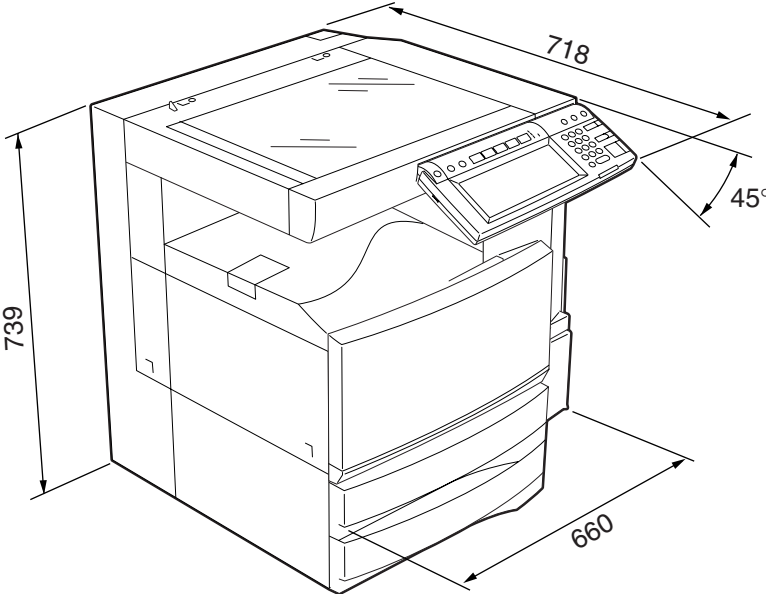


Fig. 1-101



## 1.2 Accessories

Unpacking/Setup instruction	1 set
Operator's manual	4 pcs. (except for MJD)
Operator's manual pocket	1 pc.
Power cable	1 pc.
Warranty sheet	1 pc. (for NAD)
Setup report	1 set (for NAD and MJD)
Customer satisfaction card	1 pc. (for MJD)
PM sticker	1 pc. (for MJD)
Drum (installed inside of the equipment)	1 pc.
Control panel stopper	1 pc.
Lever	1 pc.
Color developer holder	6 pcs.
Rubber plug	4 pcs.
Blind seal (small / large)	3 pcs. / 1pc.
CD-ROM	4 pcs.
Developer material (Y, M, C, K)	1 pc. each (for TWD)
Screw M3 x 8 / M4 x 8	1 pc. / 1pc.

\* Machine version

NAD: North America

MJD: Europe

AUD: Australia

ASD: Asia

TWD: Taiwan

SAD: Saudi Arabia

JPD: Japan

### 1.3 Options

Platen cover	KA-3511PC
Reversing Automatic Document Feeder (RADF)	MR-3015
Drawer module	MY-1021
Paper Feed Pedestal (PFP)	KD-1011
Large Capacity Feeder (LCF)	KD-1012 A4/LT
Finisher (Hanging type)	MJ-1022
Finisher (Console type)	MJ-1023, MJ-1024 (with saddle stitcher)
Hole punch unit	MJ-6004 N/E/F/S
Staple cartridge	STAPLE-1600 (for hanging type) STAPLE-2000 (for console type) STAPLE-600 (for saddle stitcher)
Bridge kit	KN-3511
Key copy counter, key copy counter socket	MU-8, MU-10
Work table	KK-3511
Damp heater kit	MF-3511
FAX board	GD-1150
FAX board 2nd line	GD-1160
Expansion memory	GC-1180
Wireless LAN adapter	GN-1010
PCI slot	GO-1030
Scrambler board	GP-1030

#### Notes:

1. The bridge kit (KN-3511) is necessary for installation of the finisher (MJ-1022, MJ-1023 or MJ-1024).
2. The finisher (MJ-1023 or MJ-1024) is necessary for installation of the hole punch unit (MJ-6004N/E/F/S).
3. The PCI slot (GO-1030) is necessary for installation of the scrambler board (GP-1030).

### 1.4 Supplies

Drum	PS-OD3511
Toner bag	PS-TB3511
Toner cartridge (K)	PS-ZT3511 *K, PS-ZT3511K
Toner cartridge (Y)	PS-ZT3511 *Y, PS-ZT3511Y
Toner cartridge (M)	PS-ZT3511 *M, PS-ZT3511M
Toner cartridge (C)	PS-ZT3511 *C, PS-ZT3511C

Marked \* : E, D, C and T

## 1.5 System List

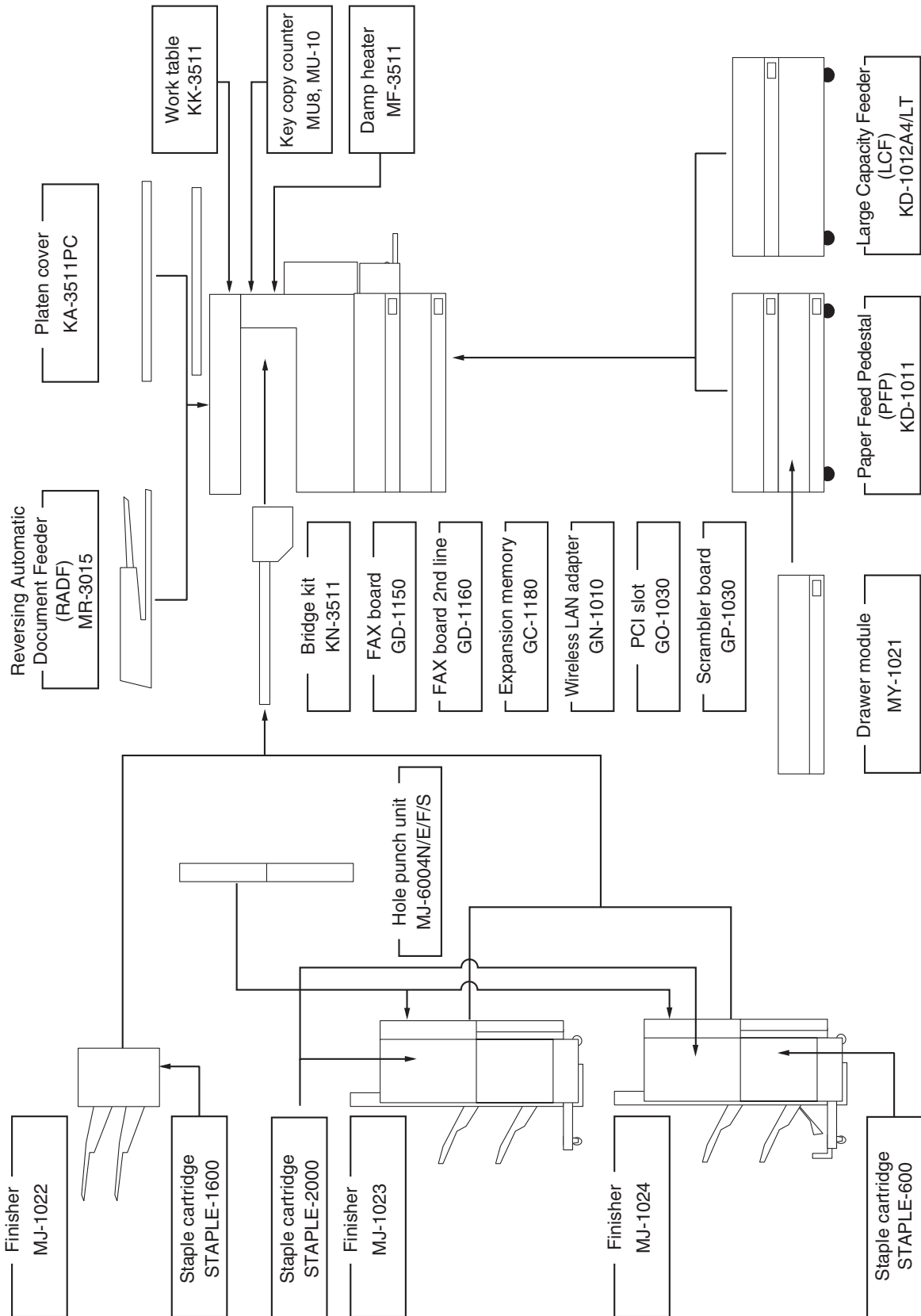


Fig. 1-501



## 2. ERROR CODE AND SELF-DIAGNOSTIC MODE

### 2.1 Error Code List

One of the following error codes is displayed at the upper right of the screen while pressing the [CLEAR] button and the digital key [8] simultaneously when the “CLEAR PAPER” or “CALL SERVICE” symbol is blinking.

#### 2.1.1 Jam

Error code	Classification	Contents	Trouble-shooting
E010	Paper exit jam	Jam not reaching the exit sensor : The paper which has passed through the fuser unit does not reach the exit sensor.	Ch. 5.1.1
E011	Other paper jam	Paper jam caused by clinging to the transfer belt: The paper after the 2nd transfer is clinging to the transfer belt and entering under the receiving tray.	Ch. 5.1.4
E020	Paper exit jam	Stop jam at the exit sensor: The trailing edge of the paper does not pass the exit sensor after its leading edge has reached this sensor.	Ch. 5.1.1
E030	Other paper jam	Power-ON jam: The paper is remaining on the paper transport path when power is turned ON.	Ch. 5.1.4
E090		HDD abnormality causes jam: Image data to be printed cannot be prepared.	Ch. 5.1.4
E110	Paper misfeeding	ADU misfeeding (Paper not reaching the registration sensor): The paper which has passed through ADU does not reach the registration sensor during duplex printing.	Ch. 5.1.2
E120		Bypass misfeeding (Paper not reaching the registration sensor): The paper fed from the bypass tray does not reach the registration sensor.	Ch. 5.1.2
E130		Upper drawer misfeeding (Paper not reaching the upper drawer feed sensor): The paper fed from the upper drawer does not reach the upper drawer feed sensor.	Ch. 5.1.2
E140		Lower drawer misfeeding (Paper not reaching the lower drawer feed sensor): The paper fed from the lower drawer does not reach the lower drawer feed sensor.	Ch. 5.1.2
E150		PFP upper drawer misfeeding (Paper not reaching the PFP upper drawer feed sensor): The paper fed from the PFP upper drawer does not reach the PFP upper drawer feed sensor.	Ch. 5.1.2
E160		PFP lower drawer misfeeding (Paper not reaching the PFP lower drawer feed sensor): The paper fed from the PFP lower drawer does not reach the PFP lower drawer feed sensor.	Ch. 5.1.2
E190		LCF misfeeding (Paper not reaching the LCF feed sensor): The paper fed from the LCF does not reach the LCF feed sensor.	Ch. 5.1.2
E200		Paper transport jam	Upper drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the upper drawer feed sensor.

Error code	Classification	Contents	Trouble-shooting
E210	Paper transport jam	Lower drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the upper drawer feed sensor.	Ch. 5.1.3
E220		Lower drawer transport jam (Paper not reaching the upper drawer feed sensor): The paper does not reach the upper drawer feed sensor after it has passed the lower drawer feed sensor.	Ch. 5.1.3
E300		PFP upper drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the upper drawer feed sensor.	Ch. 5.1.3
E310		PFP upper drawer transport jam (Paper not reaching the upper drawer feed sensor): The paper does not reach the upper drawer feed sensor after it has passed the lower drawer feed sensor.	Ch. 5.1.3
E320		PFP upper drawer transport jam (Paper not reaching the lower drawer feed sensor): The paper does not reach the lower drawer feed sensor after it has passed the PFP upper drawer feed sensor.	Ch. 5.1.3
E330		PFP lower drawer transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the upper drawer feed sensor.	Ch. 5.1.3
E340		PFP lower drawer transport jam (Paper not reaching the upper drawer feed sensor): The paper does not reach the upper drawer feed sensor after it has passed the lower drawer feed sensor.	Ch. 5.1.3
E350		PFP lower drawer transport jam (Paper not reaching the lower drawer feed sensor): The paper does not reach the lower drawer feed sensor after it has passed the PFP upper drawer feed sensor.	Ch. 5.1.3
E360		PFP lower drawer transport jam (Paper not reaching the PFP upper drawer feed sensor): The paper does not reach the PFP upper drawer feed sensor after it has passed the PFP lower drawer feed sensor.	Ch. 5.1.3
E3C0		LCF transport jam (Paper not reaching the registration sensor): The paper does not reach the registration sensor after it has passed the upper drawer feed sensor.	Ch. 5.1.3
E3D0		LCF transport jam (Paper not reaching the upper drawer feed sensor): The paper does not reach the upper drawer feed sensor after it has passed the lower drawer feed sensor.	Ch. 5.1.3
E3E0		LCF transport jam (Paper not reaching the lower drawer feed sensor): The paper does not reach the lower drawer feed sensor after it has passed the LCF feed sensor.	Ch. 5.1.3
E400		Cover open jam	Jam access cover open jam: The jam access cover has opened during printing.
E410	Front cover open jam: The front cover has opened during printing.		Ch. 5.1.5

Error code	Classification	Contents	Trouble-shooting
E420	Cover open jam	PFP side cover open jam: The PFP side cover has opened during printing.	Ch. 5.1.5
E430		ADU open jam: The ADU has opened during printing.	Ch. 5.1.5
E440		Side cover open jam: The side cover has opened during printing.	Ch. 5.1.5
E450		LCF side cover open jam: The LCF side cover has opened during printing.	Ch. 5.1.5
E480		Bridge unit open jam: The bridge unit has opened during printing.	Ch. 5.1.5
E510	Paper transport jam (ADU section)	Stop jam in the ADU: The paper does not reach the ADU exit sensor after it has passed the ADU entrance sensor.	Ch. 5.1.3
E520		Jam not reaching the ADU entrance sensor: The paper does not reach the ADU entrance sensor after it is switchbacked in the exit section.	Ch. 5.1.3
E550	Other paper jam	Paper remaining jam on the transport path: The paper is remaining on the transport path when printing is finished (caused by a multiple paper feeding).	Ch. 5.1.4
E711	RADF jam	Jam not reaching the original length sensor: The original fed from the original feeding tray does not reach the original length sensor.	Ch. 5.1.6
E712		Jam not reaching the registration sensor: The original fed from the original feeding tray does not reach the registration sensor.	Ch. 5.1.6
E713		Stop jam at the original length sensor: The trailing edge of the original does not pass the original length sensor after its leading edge has reached this sensor.	Ch. 5.1.6
E714		Feed signal reception jam: The feed signal is received even no original exists on the original feeding tray.	Ch. 5.1.6
E721		Jam not reaching the read sensor: The original does not reach the read sensor after it has passed the registration sensor (when scanning obverse side) or the reverse sensor (when scanning reverse side).	Ch. 5.1.6
E722		Jam not reaching the exit sensor (during scanning): The original which passed the read sensor does not reach the exit sensor when it is transported from the scanning section to exit section.	Ch. 5.1.6
E723		Jam not reaching the reverse sensor (during scanning): The original which passed the read sensor does not reach the reverse sensor when it is transported from the scanning section to reverse section.	Ch. 5.1.6
E724		Stop jam at the registration sensor: The trailing edge of the original does not pass the registration sensor after its leading edge has reached this sensor.	Ch. 5.1.6
E725		Stop jam at the read sensor: The trailing edge of the original does not pass the read sensor after its leading edge has reached this sensor.	Ch. 5.1.6
E726		Transport/exit signal reception jam: RADF receives the transport/exit reception signal from the equipment when no original is at the exposure waiting position.	Ch. 5.1.6

Error code	Classification	Contents	Trouble-shooting
E731	RADF jam	Stop jam at the exit sensor: The trailing edge of the original does not pass the exit sensor after its leading edge has reached this sensor.	Ch. 5.1.6
E741		Stop jam at the reverse sensor: The trailing edge of the original does not pass the reverse sensor after its leading edge has reached this sensor.	Ch. 5.1.6
E742		Jam not reaching the reverse sensor (during reverse feeding): The leading edge of the original does not reach the reverse sensor when original is fed from the reverse section.	Ch. 5.1.6
E743		Jam not reaching the exit sensor (during reverse feeding): The original does not reach the exit sensor after it has passed the reverse sensor when the original is exited from the reverse section.	Ch. 5.1.6
E860		Jam access cover open: The jam access cover has opened during RADF operation.	Ch. 5.1.6
E870		RADF open jam: RADF has opened during RADF operation.	Ch. 5.1.6
E910		Finisher jam (Bridge unit)	Jam at the bridge unit transport sensor 1: The paper does not reach the bridge unit transport sensor 1 after it has passed the exit sensor.
E920	Stop jam at the bridge unit transport sensor 1: The trailing edge of the paper does not pass the bridge unit transport sensor 1 after its leading edge has reached the sensor.		Ch. 5.1.7 (1)
E930	Jam at the bridge unit transport sensor 2: The trailing edge of the paper does not reach the bridge unit transport sensor 2 after its leading edge has reached the bridge unit transport sensor 1.		Ch. 5.1.7 (1)
E940	Stop jam at the bridge unit transport sensor 2: The trailing edge of the paper does not pass the bridge unit transport sensor 2 after its leading edge has reached the bridge unit transport sensor 2.		Ch. 5.1.7 (1)
E9F0	Finisher jam (Punch unit)	Punching jam: Punching is not performed properly. [MJ-1023/1024 (when MJ-6004 is installed)]	Ch. 5.1.7 (4)
EA10	Finisher jam (Finisher section)	Paper transport delay jam: The paper which has passed the bridge unit does not reach the inlet sensor. [MJ-1022/1023/1024]	Ch. 5.1.7 (2)
EA20		Paper transport stop jam: (1) The paper does not pass through the inlet sensor. [MJ-1022/1023/1024] (2) The paper has passed through the inlet sensor but does not reach or pass the feed path sensor or processing tray sensor. [MJ-1023/1024]	Ch. 5.1.7 (2)
EA30		Power-ON jam: (1) Paper exists at the inlet sensor when power is turned ON. [MJ-1022/1023/1024] (2) Paper exists at the feed path sensor or processing tray sensor when power is turned ON. [MJ-1023/1024]	Ch. 5.1.7 (2)



Error code	Classification	Contents	Trouble-shooting
EA40	Finisher jam (Finisher section)	Door open jam: (1) The finisher has been released from the equipment during printing. [MJ-1022] (2) The upper/front cover of the finisher section or the upper/front door of the puncher section has opened during printing. [MJ-1023/1024]	Ch. 5.1.7 (2)
EA50		Stapling jam: Stapling is not performed properly. [MJ-1022/1023/1024]	Ch. 5.1.7 (2)
EA60		Early arrival jam: The inlet sensor detects the paper earlier than a specified timing. [MJ-1022/1023/1024]	Ch. 5.1.7 (2)
EA70		Stack delivery jam: It cannot deliver the stack of paper on the intermediary process tray to the stack tray. [MJ-1022]	Ch. 5.1.7 (2)
EA80	Finisher jam (Saddle sticher section)	Stapling jam: Stapling is not performed properly. [MJ-1024]	Ch. 5.1.7 (3)
EA90		Door open jam: The delivery cover or inlet cover has opened during printing [MJ-1024].	Ch. 5.1.7 (3)
EAA0		Power-ON jam: Paper exists at No.1 paper sensor, No. 2 paper sensor, No.3 paper sensor, vertical path paper sensor or delivery sensor when power is turned ON. [MJ-1024]	Ch. 5.1.7 (3)
EAB0		Transport stop jam: The paper which passed through the inlet sensor does not reach or pass No.1 paper sensor, No. 2 paper sensor, No.3 paper sensor or delivery sensor. [MJ-1024]	Ch. 5.1.7 (3)
EAC0		Transport delay jam: The paper which has reached the inlet sensor does not pass through the inlet sensor. [MJ-1024]	Ch. 5.1.7 (3)
EAD0	Other paper jam	Print end command time-out jam: The printing has not finished normally because of the communication error between the SYS board and LGC board at the end of printing.	Ch. 5.1.4
EAE0	Finisher jam	Receiving time time-out jam: The printing has been interrupted because of the communication error between the equipment and finisher when the paper is transported from the equipment to the finisher.	Ch. 5.1.7 (5)
EAF0	Finisher jam (Finisher section)	Stack return jam: It cannot load the paper which passed through the delivery roller on the intermediary process tray. [MJ-1022]	Ch. 5.1.7 (2)
EB30	Finisher jam	Ready time time-out jam: The equipment judges that the paper transport to the finisher is disabled because of the communication error between the equipment and finisher at the start of printing.	Ch. 5.1.7 (5)
EB50	Paper transport jam	Paper remaining on the transport path: The multiple feeding of preceding paper caused the misfeeding of upcoming paper.	Ch. 5.1.3
EB60		Paper remaining on the transport path: The multiple feeding of preceding paper caused the misfeeding of upcoming paper (redetection after no jam is detected at [EB50]).	Ch. 5.1.3

## 2.1.2 Service call

Error code	Classification	Contents	Trouble-shooting
C010	Drive system related service call	Main motor abnormality: The main motor is not rotating normally.	Ch. 5.1.8
C020		Developer motor abnormality: The developer motor is not rotating normally.	Ch. 5.1.8
C030		Transport motor abnormality: The transport motor is not rotating normally.	Ch. 5.1.8
C040	Paper feeding system related service call	PFP motor abnormality: The PFP motor is not rotating normally. (the case that paper can be fed from any drawer except the PFP)	Ch. 5.1.9
C130		Upper drawer tray abnormality: The upper drawer tray motor is not rotating or the upper drawer tray is not moving normally. (the case that paper can be fed from any drawer except the upper drawer)	Ch. 5.1.9
C140		Lower drawer tray abnormality: The lower drawer tray motor is not rotating or the lower drawer tray is not moving normally. (the case that paper can be fed from any drawer except the lower drawer)	Ch. 5.1.9
C150		PFP upper drawer tray abnormality: The PFP upper drawer tray motor is not rotating or the PFP upper drawer tray is not moving normally. (the case that paper can be fed from any drawer except the PFP upper drawer)	Ch. 5.1.9
C160		PFP lower drawer tray abnormality: The PFP lower drawer tray motor is not rotating or the PFP lower drawer tray is not moving normally. (the case that paper can be fed from any drawer except the PFP lower drawer)	Ch. 5.1.9
C180		LCF tray motor abnormality: The LCF tray motor is not rotating or the LCF tray is not moving normally. (the case that paper can be fed from any drawer except the LCF)	Ch. 5.1.9
C1A0		LCF end fence motor abnormality: The LCF end fence motor is not rotating or the LCF end fence is not moving normally. (the case that paper can be fed from any drawer except the LCF)	Ch. 5.1.9
C1B0		LCF transport motor abnormality: The LCF transport motor is not rotating normally. (the case that paper can be fed from any drawer except the LCF)	Ch. 5.1.9
C260		Scanning system related service call	Peak detection error: Lighting of the exposure lamp (white reference) is not detected when power is turned ON.
C270	Carriage home position sensor not turning OFF within a specified period of time: The carriage does not shift from its home position in a specified time.		Ch. 5.1.10
C280	Carriage home position sensor not turning ON within a specified period of time: The carriage does not reach to its home position in a specified period of time.		Ch. 5.1.10
C360	Copy process related service call	Charger cleaner motor abnormality: Charger cleaner motor is not rotating or wire cleaner is not moving normally.	Ch. 5.1.18

Error code	Classification	Contents	Trouble-shooting
C410	Fuser unit related service call	Thermistor or heater abnormality at power-ON: Abnormality of the thermistor is detected when power is turned ON or the temperature of the fuser roller does not rise in a specified period of time after power is turned ON.	Ch. 5.1.11
C430		Thermistor abnormality after abnormality judgment: Abnormality of the thermistor is detected after a specified period of time has passed from power-ON (including ready time or energy saving mode).	Ch. 5.1.11
C440		Heater abnormality after abnormality judgment: The temperature of the fuser roller has exceeded the range of control (in this case, the main switch turns OFF automatically) or does not even reach the range.	Ch. 5.1.11
C450		Thermistor abnormality during printing: Abnormality of the thermistor is detected during printing.	Ch. 5.1.11
C470		IH initialization or IH power voltage abnormality: The AC input is not applied to the IH control circuit normally, or the input voltage is too high/low.	Ch. 5.1.11
C480		Overheating of IGBT: The temperature of the IGBT rises abnormally.	Ch. 5.1.11
C490		IH control circuit or IH coil abnormality: Abnormality is detected in IH control circuit or IH coil is broken/shorted.	Ch. 5.1.11
C550 (C780)	Optional communication related service call	RADF I/F error: Communication error has occurred between the RADF and the scanner.	Ch. 5.1.12
C570		Communication error between Engine-CPU and IPC board	Ch. 5.1.12
C580		Communication error between IPC board and finisher	Ch. 5.1.12
C730	RADF related service call	EEPROM initialization error: EEPROM is not initialized normally when performing the code 05-356.	Ch. 5.1.13
C810		Fan motor abnormality: The fan motor is not rotating normally.	Ch. 5.1.13
C820		Read sensor adjustment error: The read sensor cannot be adjusted normally when performing the code 05-356.	Ch. 5.1.13
C830		Original length sensor adjustment error: The original length sensor cannot be adjusted normally when performing the code 05-356.	Ch. 5.1.13
C900	Circuit related service call	Connection error between SYS board and LGC board	Ch. 5.1.14
C940		Engine-CPU abnormality	Ch. 5.1.14
C950		LGC board memory abnormality	Ch. 5.1.14
C960		Connection error between LGC board and DRV board, ID abnormality	Ch. 5.1.14
C970	Process related service call	High-voltage transformer abnormality: Leakage of the main charger is detected.	Ch. 5.1.18
C9E0	Circuit related service call	Connection error between SLG board and SYS board, ID abnormality	Ch. 5.1.14
CA10	Laser optical unit related service call	Polygonal motor abnormality: The polygonal motor is not rotating normally.	Ch. 5.1.15
CA20		H-Sync detection error: H-Sync signal detection PC board cannot detect laser beams.	Ch. 5.1.15

Error code	Classification	Contents	Trouble-shooting
CB20	Finisher related service call	Delivery motor abnormality: Delivery motor or delivery roller is not rotating normally. [MJ-1022]	Ch. 5.1.16
CB30		Tray 1/Tray 2 shift motor abnormality: Tray 1/Tray 2 shift motor is not rotating or delivery tray is not moving normally. [MJ-1023/1024]	Ch. 5.1.16
CB40		Rear aligning plate motor abnormality: Rear aligning plate motor is not rotating or aligning plate is not moving normally. [MJ-1023/1024]	Ch. 5.1.16
CB50		Staple motor abnormality: Staple motor is not rotating or stapler is not moving normally. [MJ-1022/1023/1024]	Ch. 5.1.16
CB60		Stapler shift motor abnormality: Stapler shift motor is not rotating or staple unit is not moving normally. [MJ-1023/1024]	Ch. 5.1.16
CB80		Backup RAM data abnormality: (1) Abnormality of checksum value on finisher controller PC board is detected when the power is turned ON. [MJ-1023/1024] (2) Abnormality of checksum value on punch controller PC board is detected when the power is turned ON. [MJ-1023/1024 (when MJ-6004 is installed)]	Ch. 5.1.16
CB90		Paper pushing plate motor abnormality: Paper pushing plate motor is not rotating or paper pushing plate is not moving normally. [MJ-1024]	Ch. 5.1.16
CBA0		Stitch motor (front) abnormality: Stitch motor (front) is not rotating or rotary cam is not moving normally. [MJ-1024]	Ch. 5.1.16
CBB0		Stitch motor (rear) abnormality: Stitch motor (rear) is not rotating or rotary cam is not moving normally. [MJ-1024]	Ch. 5.1.16
CBC0		Alignment motor abnormality: Alignment motor is not rotating or aligning plate is not moving normally. [MJ-1024]	Ch. 5.1.16
CBD0		Guide motor abnormality: Guide motor is not rotating or guide is not moving normally. [MJ-1024]	Ch. 5.1.16
CBE0		Paper folding motor abnormality: Paper folding motor or paper folding roller is not rotating normally. [MJ-1024]	Ch. 5.1.16
CBF0		Paper positioning plate motor abnormality: Paper positioning plate motor is not rotating or paper positioning plate is not moving normally. [MJ-1024]	Ch. 5.1.16
CC00		Sensor connector abnormality: Connector of guide home position sensor, paper pushing plate home position sensor or paper pushing plate top position sensor is disconnected. [MJ-1024]	Ch. 5.1.16
CC10		Micro switch abnormality: With all covers closed, inlet door switch, delivery door switch or front cover switch is open. [MJ-1024]	Ch. 5.1.16
CC20		Communication error between finisher and saddle stitcher: Communication error between finisher controller PC board and saddle stitcher controller board [MJ-1023/1024]	Ch. 5.1.16
CC30		Stack processing motor abnormality: The stack processing motor is not rotating or the stack delivery belt is not moving normally. [MJ-1022]	Ch. 5.1.16
CC40	Swing motor abnormality: Swing motor is not rotating or swing unit is not moving normally. [MJ-1023/1024]	Ch. 5.1.16	

Error code	Classification	Contents	Trouble-shooting
CC50	Finisher related service call	Horizontal registration motor abnormality: Horizontal registration motor is not rotating or puncher is not shifting normally. [MJ-1023/1024 (when MJ-6004 is installed)]	Ch. 5.1.16
CC60		Punch motor abnormality: Punch motor is not rotating or puncher is not shifting normally. [MJ-1023/1024 (when MJ-6004 is installed)]	Ch. 5.1.16
CC80		Front alignment motor abnormality: Front alignment motor is not rotating or front aligning plate is not moving normally. [MJ-1022] Front aligning plate motor abnormality: Front aligning plate motor is not rotating or aligning plate is not moving normally. [MJ-1023/1024]	Ch. 5.1.16
CC90		Upper stack tray lift motor abnormality: The upper stack tray lift motor is not rotating or the upper stack tray is not moving normally. [MJ-1022]	Ch. 5.1.16
CCA0		Lower stack tray lift motor abnormality: The lower stack tray lift motor is not rotating or the lower stack tray is not moving normally. [MJ-1022]	Ch. 5.1.16
CCB0		Rear jogging motor abnormality: The rear jogging motor is not rotating or the rear jogging plate is not moving normally. [MJ-1022]	Ch. 5.1.16
CCD0		Stack ejection motor abnormality: Stack ejection motor or stack ejection roller is not rotating normally. [MJ-1023/1024]	Ch. 5.1.16
CCE0		Paper trailing edge assist motor abnormality: Paper trailing edge assist motor is not rotating or paper trailing edge assist is not moving normally. [MJ-1023/1024]	Ch. 5.1.16
CCF0		Gear changing motor abnormality: Gear changing motor is not rotating normally. [MJ-1023/1024]	Ch. 5.1.16
CE00		Communication error between finisher and punch unit: Communication error between finisher controller PC board and punch controller PC board [MJ-1023/1024 (when MJ-6004 is installed)]	Ch. 5.1.16
CE10		Image control related service call	Image quality sensor abnormality (OFF level): The output value of this sensor is out of a specified range when sensor light source is OFF.
CE20	Image quality sensor abnormality (no pattern level): The output value of this sensor is out of a specified range when the image quality control test pattern is not formed.		Ch. 5.1.17
CE40	Image quality control test pattern abnormality: The test pattern is not formed normally.		Ch. 5.1.17
CE50	Temperature/humidity sensor abnormality: The output value of this sensor is out of a specified range.		Ch. 5.1.17
CE90	Drum thermistor abnormality: The output value of the drum thermistor is out of a specified range.		Ch. 5.1.17
CEA0	Copy process related service call		Revolver home position detection abnormality: It cannot detect that the revolver is at its home position.
CEB0		Black developer unit lifting movement abnormality: The black developer unit does not move up or down normally (lifting cam does not operate normally).	Ch. 5.1.18

Error code	Classification	Contents	Trouble-shooting
CEC0	Copy process related service call	2nd transfer roller position detection abnormality: The 2nd transfer roller does not contact/release normally.	Ch. 5.1.18
CEE0		Transfer belt position detection abnormality (normal speed): The home position of the transfer belt cannot be detected.	Ch. 5.1.18
CEE1		Transfer belt position detection abnormality (when decelerating): Reference position of the transfer belt cannot be detected.	Ch. 5.1.18
CEF0		Revolver motor abnormality: Revolver motor is not rotating or revolver is not moving normally.	Ch. 5.1.18
CF20	Toner density control related service call	Toner density detection voltage abnormality: The output value of the color auto-toner sensor in printing is out of a specified range.	Ch. 5.1.19
CF30		Reference plate detection voltage abnormality: The output value of the color auto-toner sensor against the reference plate is out of a specified range at the light amount correction during an auto-toner adjustment or when a print job has finished.	Ch. 5.1.19
CF40		Light amount correction voltage abnormality: The light amount correction is not finished normally during an auto-toner adjustment or when a print job has finished, or the output value of the sensor is out of a specified range when the light amount correction has finished.	Ch. 5.1.19
CF50		Color auto-toner sensor abnormality: The connection of the color auto-toner sensor cannot be detected at the initialization, or the output value of color auto-toner sensor when the revolver starts rotating for initialization is out of a specified range.	Ch. 5.1.19
F070	Communication related service call	Communication error between System-CPU and Engine-CPU	Ch. 5.1.12
F090	Circuit related service call	SRAM abnormality on the SYS board	Ch. 5.1.14
F091		NVRAM abnormality on the SYS board	Ch. 5.1.14
F092		SRAM and NVRAM abnormality on the SYS board	Ch. 5.1.14
F100	Other service call	HDD format error: HDD cannot be initialized normally.	Ch. 5.1.20
F101		HDD unmounted: Connection of HDD cannot be detected.	Ch. 5.1.20
F102		HDD start error: HDD cannot become 'Ready' state.	Ch. 5.1.20
F103		HDD transfer time-out: Reading/writing cannot be performed in the specified period of time.	Ch. 5.1.20
F104		HDD data error: Abnormality is detected in the data of HDD.	Ch. 5.1.20
F105		HDD other error	Ch. 5.1.20
F106		Point and Print partition damage	Ch. 5.1.20
F107		/SHR partition damage	Ch. 5.1.20
F108		/SHA partition damage	Ch. 5.1.20
F110	Communication related service call	Communication error between System-CPU and Scanner-CPU	Ch. 5.1.12
F111		Scanner response abnormality	Ch. 5.1.12
F120	Other service call	Database abnormality: Database is not operating normally.	Ch. 5.1.20
F350	Circuit related service call	SLG board abnormality	Ch. 5.1.14

### 2.1.3 Error in Internet FAX / Scanning Function

#### (1) Internet FAX related error

Error code	Contents	Trouble-shooting
1C10	System access abnormality	Ch. 5.1.21 (1)
1C11	Insufficient memory	Ch. 5.1.21 (1)
1C12	Message reception error	Ch. 5.1.21 (1)
1C13	Message transmission error	Ch. 5.1.21 (1)
1C14	Invalid parameter	Ch. 5.1.21 (1)
1C15	Exceeding file capacity	Ch. 5.1.21 (1)
1C20	System management module access abnormality	Ch. 5.1.21 (1)
1C21	Job control module access abnormality	Ch. 5.1.21 (1)
1C22	Job control module access abnormality	Ch. 5.1.21 (1)
1C30	Directory creation failure	Ch. 5.1.21 (1)
1C31	File creation failure	Ch. 5.1.21 (1)
1C32	File deletion failure	Ch. 5.1.21 (1)
1C33	File access failure	Ch. 5.1.21 (1)
1C40	Image conversion abnormality	Ch. 5.1.21 (1)
1C60	HDD full failure during processing	Ch. 5.1.21 (1)
1C61	Address Book reading failure	Ch. 5.1.21 (1)
1C62	Memory acquiring failure	Ch. 5.1.21 (1)
1C63	Terminal IP address unset	Ch. 5.1.21 (1)
1C64	Terminal mail address unset	Ch. 5.1.21 (1)
1C65	SMTP address unset	Ch. 5.1.21 (1)
1C66	Server time time-out error	Ch. 5.1.21 (1)
1C67	NIC time time-out error	Ch. 5.1.21 (1)
1C68	NIC access error	Ch. 5.1.21 (1)
1C69	SMTP server connection error	Ch. 5.1.21 (1)
1C6A	HOST NAME error	Ch. 5.1.21 (1)
1C6B	Terminal mail address error	Ch. 5.1.21 (1)
1C6C	Destination mail address error	Ch. 5.1.21 (1)
1C6D	System error	Ch. 5.1.21 (1)
1C70	SMTP client OFF	Ch. 5.1.21 (1)
1C80	Internet FAX transmission failure when processing E-mail job received	Ch. 5.1.21 (1)
1C81	Onramp Gateway transmission failure	Ch. 5.1.21 (1)
1C82	Internet FAX transmission failure when processing FAX job received	Ch. 5.1.21 (1)
1CC0	Job canceling	-
1CC1	Power failure	Ch. 5.1.21 (1)

(2) RFC related error

Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
2500	Syntax error, command unrecognized	HOST NAME error(RFC: 500) Destination mail address error (RFC: 500) Terminal mail address error (RFC: 500)	Ch. 5.1.21 (2)
2501	Syntax error in parameters or arguments	HOST NAME error(RFC: 501) Destination mail address error (RFC: 501) Terminal mail address error (RFC: 501)	Ch. 5.1.21 (2)
2503	Bad sequence of commands	Destination mail address error (RFC: 503)	Ch. 5.1.21 (2)
2504	Command parameter not implemented	HOST NAME error(RFC: 504)	Ch. 5.1.21 (2)
2550	Mailbox unavailable	Destination mail address error (RFC: 550)	Ch. 5.1.21 (2)
2551	User not local	Destination mail address error (RFC: 551)	Ch. 5.1.21 (2)
2552	Insufficient system storage	Terminal/Destination mail address error (RFC: 552)	Ch. 5.1.21 (2)
2553	Mailbox name not allowed	Destination mail address error (RFC: 553)	Ch. 5.1.21 (2)



Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
2B10	There was no applicable job.	No applicable job error in job control module	Ch. 5.1.21 (3)
2B11	Job status failed.	JOB status abnormality	Ch. 5.1.21 (3)
2B20	Failed to access file.	File library function error	Ch. 5.1.21 (3)
2B30	Insufficient disk space.	Insufficient disk space in /SHR partition	Ch. 5.1.21 (3)
2B31	Failed to access Electronic Filing.	Status of specified Electronic Filing or folder is undefined or being created/ deleted	Ch. 5.1.21 (3)
2B32	Failed to print Electronic Filing document.	Electronic Filing printing failure: Specified document can not be printed because of client's access (being edited, etc.).	Ch. 5.1.21 (3)
2B50	Failed to process image.	Image library error	Ch. 5.1.21 (3)
2B51	Failed to process print image.	List library error	Ch. 5.1.21 (3)
2B71	Document(s) expire(s) in a few days	Documents expiring in a few days exist	-
2B80	Hard Disk space for Electronic Filing nearly full.	Hard disk space in /SHR partition is nearly full (90%).	-
2B90	Insufficient Memory.	Insufficient memory capacity	Ch. 5.1.21 (3)
2BA0	Invalid Box password specified.	Invalid Box password	Ch. 5.1.21 (3)
2BB0	Job canceled	Job canceling	-
2BB1	Power failure occurred	Power failure	Ch. 5.1.21 (3)
2BC0	System fatal error.	Fatal failure occurred	Ch. 5.1.21 (3)
2BC1	Failed to acquire resource.	System management module resource acquiring failure	Ch. 5.1.21 (3)
2BD0	Power failure occurred during e-Filing restoring.	Power failure occurred during restoring of Electronic Filing	Ch. 5.1.21 (3)
2BE0	Failed to get machine parameter.	Machine parameter reading failure	Ch.5.1.21 (3)
2BF0	Maximum number of page range is reached.	Exceeding maximum number of pages	Ch.5.1.21 (3)
2BF1	Maximum number of document range is reached.	Exceeding maximum number of documents	Ch.5.1.21 (3)
2BF2	Maximum number of folder range is reached.	Exceeding maximum number of folders	Ch.5.1.21 (3)

## (4) E-mail related error

Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
2C10	Illegal Job status	System access abnormality	Ch. 5.1.21 (4)
2C11	Not enough memory	Insufficient memory	Ch. 5.1.21 (4)
2C12	Illegal Job status	Message reception error	Ch. 5.1.21 (4)
2C13	Illegal Job status	Message transmission error	Ch. 5.1.21 (4)
2C14	Invalid parameter specified	Invalid parameter	Ch. 5.1.21 (4)
2C15	Message size exceeded limit or maximum size	Exceeding file capacity	Ch. 5.1.21 (4)
2C20	Illegal Job status	System management module access abnormality	Ch. 5.1.21 (4)
2C21	Illegal Job status	Job control module access abnormality	Ch. 5.1.21 (4)
2C22	Illegal Job status	Job control module access abnormality	Ch. 5.1.21 (4)
2C30	Failed to create directory	Directory creation failure	Ch. 5.1.21 (4)
2C31	Failed to create file	File creation failure	Ch. 5.1.21 (4)
2C32	Failed to delete file	File deletion failure	Ch. 5.1.21 (4)
2C33	Failed to create file	File access failure	Ch. 5.1.21 (4)
2C40	Failed to convert image file format	Image conversion abnormality	Ch. 5.1.21 (4)
2C60	Failed to process your Job. Insufficient disk space.	HDD full failure during processing	Ch. 5.1.21 (4)
2C61	Failed to read AddressBook	Address Book reading failure	Ch. 5.1.21 (4)
2C62	Not enough memory	Memory acquiring failure	Ch. 5.1.21 (4)
2C63	Invalid Domain Address	Terminal IP address unset	Ch. 5.1.21 (4)
2C64	Invalid Domain Address	Terminal mail address unset	Ch. 5.1.21 (4)
2C65	Failed to connect to SMTP server	SMTP address unset	Ch. 5.1.21 (4)
2C66	Failed to connect to SMTP server	Server time time-out error	Ch. 5.1.21 (4)
2C67	Failed to send E-Mail message	NIC time time-out error	Ch. 5.1.21 (4)
2C68	Failed to send E-Mail message	NIC access error	Ch. 5.1.21 (4)
2C69	Failed to connect to SMTP server	SMTP server connection error	Ch. 5.1.21 (4)
2C6A	Failed to send E-Mail message	HOST NAME error (No RFC error)	Ch. 5.1.21 (4)
2C6B	Invalid address specified in From: field	Terminal mail address error	Ch. 5.1.21 (4)
2C6C	Invalid address specified in To: field	Destination mail address error (No RFC error)	Ch. 5.1.21 (4)
2C6D	NIC system error	System error	Ch. 5.1.21 (4)
2C70	SMTP service is not available	SMTP client OFF	Ch. 5.1.21 (4)
2C80	Failed to process received E-mail job	E-mail transmission failure when processing E-mail job received	Ch. 5.1.21 (4)
2C81	Failed to process received Fax job	Process failure of FAX job received	Ch. 5.1.21 (4)
2CC0	Job canceled	Job canceling	-
2CC1	Power failure occurred	Power failure	Ch. 5.1.21 (4)

## (5) File sharing related error

Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
2D10	Illegal Job status	System access abnormality	Ch. 5.1.21 (5)
2D11	Not enough memory	Insufficient memory	Ch. 5.1.21 (5)
2D12	Illegal Job status	Message reception error	Ch. 5.1.21 (5)
2D13	Illegal Job status	Message transmission error	Ch. 5.1.21 (5)
2D14	Invalid parameter specified	Invalid parameter	Ch. 5.1.21 (5)
2D15	There are too many documents in the folder. Failed in creating new document.	Exceeding document number	Ch. 5.1.21 (5)
2D20	Illegal Job status	System management module access abnormality	Ch. 5.1.21 (5)
2D21	Illegal Job status	Job control module access abnormality	Ch. 5.1.21 (5)
2D22	Illegal Job status	Job control module access abnormality	Ch. 5.1.21 (5)
2D30	Failed to create directory	Directory creation failure	Ch. 5.1.21 (5)
2D31	Failed to create file	File creation failure	Ch. 5.1.21 (5)
2D32	Failed to delete file	File deletion failure	Ch. 5.1.21 (5)
2D33	Failed to create file	File access failure	Ch. 5.1.21 (5)
2D40	Failed to convert image file format	Image conversion abnormality	Ch. 5.1.21 (5)
2D60	Failed to copy file	File library access abnormality	Ch. 5.1.21 (5)
2D61	Invalid parameter specified	Invalid parameter	Ch. 5.1.21 (5)
2D62	Failed to connect to network destination. Check destination path	File server connection error	Ch. 5.1.21 (5)
2D63	Specified network path is invalid. Check destination path	Invalid network path	Ch. 5.1.21 (5)
2D64	Logon to file server failed. Check username and password	Login failure	Ch. 5.1.21 (5)
2D65	There are too many documents in the folder. Failed in creating new document.	Exceeding documents in folder: Creating new document is failed.	Ch. 5.1.21 (5)
2D66	Failed to process your Job. Insufficient disk space.	HDD full failure during processing	Ch. 5.1.21 (5)
2D67	FTP service is not available	FTP service not available	Ch. 5.1.21 (5)
2D68	File Sharing service is not available	File sharing service not available	Ch. 5.1.21 (5)
2DA0	Expired scan documents deleted from share folder.	Periodical deletion of scanned documents completed properly.	-
2DA1	Expired Sent Fax documents deleted from shared folder.	Periodical deletion of transmitted FAX documents completed properly.	-
2DA2	Expired Received Fax documents deleted from shared folder.	Periodical deletion of received FAX documents completed properly.	-
2DA3	Scanned documents in shared folder deleted upon user's request.	Manual deletion of scanned documents completed properly.	-
2DA4	Sent Fax Documents in shared folder deleted upon user's request.	Manual deletion of transmitted FAX documents completed properly.	-
2DA5	Received Fax Documents in shared folder deleted upon user's request.	Manual deletion of received FAX documents completed properly.	-
2DA6	Failed to delete file.	File deletion failure	Ch. 5.1.21 (5)
2DA7	Failed to acquire resource.	Resource acquiring failure	Ch. 5.1.21 (5)
2DC0	Job canceled	Job canceling	-
2DC1	Power failure occurred	Power failure	Ch. 5.1.21 (5)

(6) E-mail reception related error

Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
3A10	MIME Error has been detected in the received mail.	E-mail MIME error	Ch. 5.1.21 (6)
3A11	MIME Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3A12	MIME Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3A20	Analyze Error has been detected in the received mail.	E-mail analysis error	Ch. 5.1.21 (6)
3A21	Analyze Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3A22	Analyze Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3A30	Whole partial mails were not reached by timeout.	Partial mail time-out error	Ch. 5.1.21 (6)
3A40	Partial Mail Error has been detected in the received mail.	Partial mail related error	Ch. 5.1.21 (6)
3A50	HDD Full Error has been occurred in this mail.	Insufficient HDD capacity error	Ch. 5.1.21 (6)
3A51	HDD Full Error has been occurred in this mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3A52	HDD Full Error has been occurred in this mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3A60	HDD Full Warning has been occurred in this mail.	Warning of insufficient HDD capacity	Ch. 5.1.21 (6)
3A61	HDD Full Warning has been occurred in this mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3A62	HDD Full Warning has been occurred in this mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3A70	Receiving partial mail was aborted since the partial mail setting has been changed to Disable.	Warning of partial mail interruption	Ch. 5.1.21 (6)
3A80	Partial mail was received during the partial mail setting is disabled.	Partial mail reception setting OFF	Ch. 5.1.21 (6)
3A81	Partial mail was received during the partial mail setting is disabled. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3A82	Partial mail was received during the partial mail setting is disabled. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)

Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
3B10	Format Error has been detected in the received mail.	E-mail format error	Ch. 5.1.21 (6)
3B11	Format Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3B12	Format Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3B20	Content-Type Error has been detected in the received mail.	Content-Type error	Ch. 5.1.21 (6)
3B21	Content-Type Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3B22	Content-Type Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3B30	Charset Error has been detected in the received mail.	Charset error	Ch. 5.1.21 (6)
3B31	Charset Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3B32	Charset Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3B40	Decode Error has been detected in the received mail.	E-mail decode error	Ch. 5.1.21 (6)
3B41	Decode Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3B42	Decode Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3C10	Tiff Analyze Error has been detected in the received mail.	TIFF analysis error	Ch. 5.1.21 (6)
3C11	Tiff Analyze Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3C12	Tiff Analyze Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3C13	Tiff Analyze Error has been detected in the received mail.		Ch. 5.1.21 (6)

Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
3C20	Tiff Compression Error has been detected in the received mail.	TIFF compression error	Ch. 5.1.21 (6)
3C21	Tiff Compression Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3C22	Tiff Compression Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3C30	Tiff Resolution Error has been detected in the received mail.	TIFF resolution error	Ch. 5.1.21 (6)
3C31	Tiff Resolution Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3C32	Tiff Resolution Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3C40	Tiff Paper Size Error has been detected in the received mail.	TIFF paper size error	Ch. 5.1.21 (6)
3C41	Tiff Paper Size Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3C42	Tiff Paper Size Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3C50	Offramp Destination Error has been detected in the received mail.	Offramp destination error	Ch. 5.1.21 (6)
3C51	Offramp Destination Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3C52	Offramp Destination Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)
3C60	Offramp Security Error has been detected in the received mail.	Offramp security error	Ch. 5.1.21 (6)
3C61	Offramp Security Error has been detected in the received mail. This mail has been transferred to the administrator.		Ch. 5.1.21 (6)
3C62	Offramp Security Error has been detected in the received mail. This mail could not be transferred to the administrator.		Ch. 5.1.21 (6)

Error code	Message displayed in the TopAccess screen	Contents	Trouble-shooting
3C70	Power Failure has been occurred in Email receiving.	Power failure error	Ch. 5.1.21 (6)
3D10	SMTP Destination Error has been detected in the received mail. This mail was deleted.	Destination address error	Ch. 5.1.21 (6)
3D20	Offramp Destination limitation Error has been detected in the received mail.	Offramp destination limitation error	Ch. 5.1.21 (6)
3D30	Fax Board Error has been occurred in the received mail.	FAX board error	Ch. 5.1.21 (6)
3E10	POP3 Connection Error has been occurred in the received mail.	POP3 server connection error	Ch. 5.1.21 (6)
3E20	POP3 Connection Timeout Error has been occurred in the received mail.	POP3 server connection time-out error	Ch. 5.1.21 (6)
3E30	POP3 Login Error has been occurred in the received mail.	POP3 login error	Ch. 5.1.21 (6)
3F00	File I/O Error has been occurred in this mail. The mail could not be received until File I/O is recovered.	File I/O error	Ch. 5.1.21 (6)
3F10			Ch. 5.1.21 (6)
3F20			Ch. 5.1.21 (6)
3F30			Ch. 5.1.21 (6)
3F40			Ch. 5.1.21 (6)

#### 2.1.4 Printer function error

Following codes are displayed at the end of the user name on the print job log screen.

Error code	Contents	Trouble-shooting
402F	Page memory size error - 1200 dpi network print is performed by the equipment with 128 MB (standard) memory.	Ch. 5.1.21 (6)
4031	HDD full during print - Large quantity image data by private print or invalid network print are saved in HDD.	Ch. 5.1.21 (6)
4032	Private-print-only error: Jobs other than Private print jobs cannot be performed.	Ch. 5.1.21 (6)
A221	Print job cancellation - Print job (copy, list print, network print) is deleted from the print job screen.	Ch. 5.1.21 (6)
A222	Print job power failure - The power of the equipment is turned OFF during print job (copy, list print, network print).	Ch. 5.1.21 (6)

<<Error history>>

In the setting mode (08-253), the latest twenty groups of error data will be displayed.

Display example

<u>EA10</u>	<u>03 07 26 17 57 32</u>	<u>064</u>	<u>064</u>	<u>23621000000</u>
Error code	YY MM DD HH MM SS	MMM	NNN	ABCDEFGHIJLO
4 digits	12 digits (Year is indicated with its last two digits.)	3 digits	3 digits	11 digits

A	Paper source
	0: Not selected 1: Bypass feed 2: LCF 3: PFP upper drawer 4: Unused 5: PFP lower drawer 6: Unused 7: Upper drawer 8: Lower drawer
B	Paper size code
	0: A5/ST 1: A5-R 2: ST-R 3: LT 4: A4 5: B5-R 6: LT-R 7: A4-R 8: OTHER/UNIV 9: B5 A: FOLIO/COMP B: LG C: B4 D: LD E: A3 F: 13"LG G: Unused H: A6-R I: Post card J: 8.5"SQ K: A3-wide L: 305x457 mm M: 8K N: 16K-R O: 16K Z: Not selected
C	Sort mode/staple mode
	0: Non-sort/Non-staple 1: Group 2: Sort 7: Front staple 8: Double staple 9: Rear staple A: Saddle stitch
D	ADF mode
	0: Unused 1: AUTO FEED (SADF) 2: STACK FEED
E	APS/AMS mode
	0: Not selected 1: APS 2: AMS
F	Duplex mode
	0: Not selected 1: Book 2: Double-sided/Single-sided 4: Double-sided/Duplex copying 8: Single-sided/Duplex copying
G	Unused
H	Image shift
	0: Unused 1: Book 2: Left 4: Right
I	Editing
	0: Unused 1: Masking 2: Trimming 3: Mirror image 4: Unused
J	Edge erase/Dual-page
	0: Unused 1: Edge erase 2: Dual-page 3: Edge erase & Dual-page
K	Unused
L	Function
	0: Unused 1: Copying 2: FAX/Internet FAX transmission 3: FAX/Internet FAX/E-mail reception printing 4: Unused 5: Printing/List print 6: Scan/E-mail transmission
MMM	Primary scanning reproduction ratio (Display in hexadecimal)
	(Mx256)+(Mx16)+M
NNN	Secondary scanning reproduction ratio (Display in hexadecimal)
	(Nx256)+(Nx16)+N
O	Color mode
	0: Auto color 1: Full color 2: Black 3: Unused 4: Twin color copy 5: Gray scale 6: Unused 7: Image smoothing



## 2.2 Self-diagnosis Modes

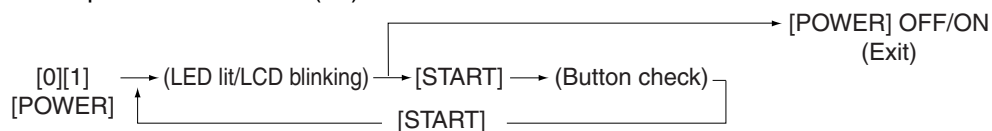
Mode	For start	Contents	For exit	Display
Control panel check mode	[0]+[1]+ [POWER]	All LEDs on the control panel are lit, and all the LCD pixels blink.	[POWER] OFF/ON	—
Test mode	[0]+[3]+ [POWER]	Checks the status of input/output signals.	[POWER] OFF/ON	100% C A4 TEST MODE
Test print mode	[0]+[4]+ [POWER]	Outputs the test patterns.	[POWER] OFF/ON	100% P A4 TEST PRINT
Adjustment mode	[0]+[5]+ [POWER]	Adjusts various items.	[POWER] OFF/ON	100% A A4 TEST MODE
Setting mode	[0]+[8]+ [POWER]	Sets various items.	[POWER] OFF/ON	100% D TEST MODE
List print mode	[9]+[START]+ [POWER]	Prints out the data lists of the codes 05 and 08, PM support mode and pixel counter.	[POWER] OFF/ON	100% UA A4 LIST PRINT
PM support mode	[6]+[START]+ [POWER]	Clears each counter.	[POWER] OFF/ON	100% K TEST MODE
Firmware update mode	[8]+[9]+ [POWER]	Performs updating of the system firmware.	[POWER] OFF/ON	—

### Note:

To enter the desired mode, turn ON the power while two digital keys designated to each mode (e.g. [0] and [5]) are pressed simultaneously.

<Operation procedure>

- Control panel check mode (01):

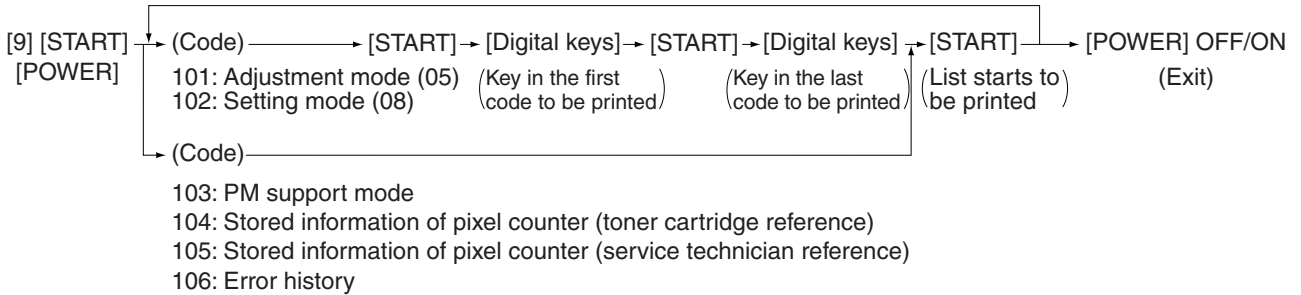


### Notes:

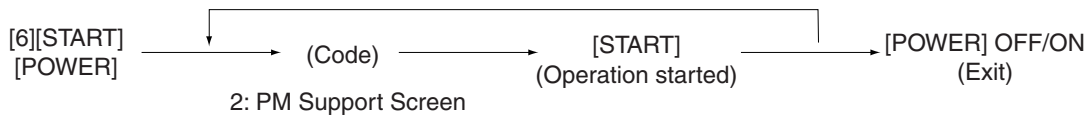
- A mode can be canceled by [POWER] OFF/ON when the LED is lit and the LCD is blinking.
- Button Check
 

Buttons with LED	(Press to turn OFF the LED.)
Buttons without LED	(Press to display the message on the control panel.)
Button on touch panel	(Press to display the screen on the control panel at power-ON.)

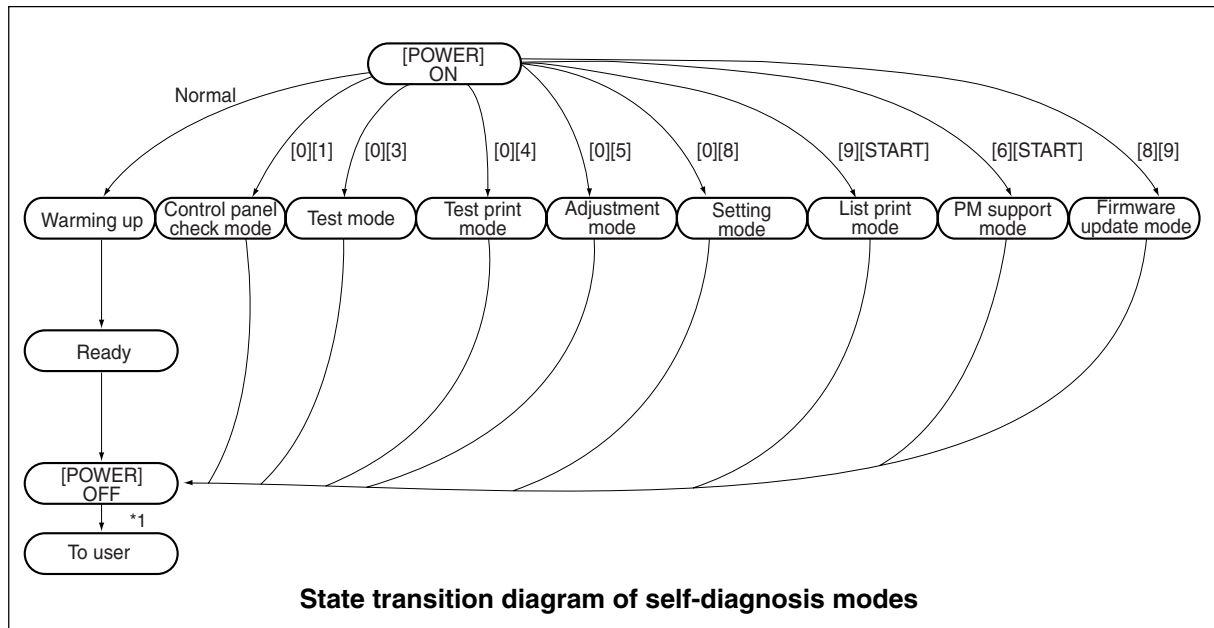
- Test mode (03): Refer to “2.2.1. Input check (test mode 03)” and “2.2.2. Output check (test mode 03)”.
- Test print mode (04): Refer to “2.2.3. Test print mode (04)”.
- Adjustment mode (05): Refer to “2.2.4. Adjustment mode (05)”.
- Setting mode (08): Refer to “2.2.5. Setting mode (08)”.
- List print mode (9S): The procedure varies depending on the code.



- PM support mode (6S):



- Firmware update mode (89): Refer to “6. FIRMWARE UPDATING”.

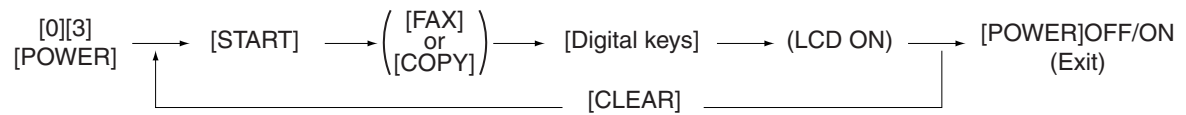


\*1 Turn OFF the power after using the self-diagnosis mode, and leave the equipment to the user.

## 2.2.1 Input check (Test mode 03)

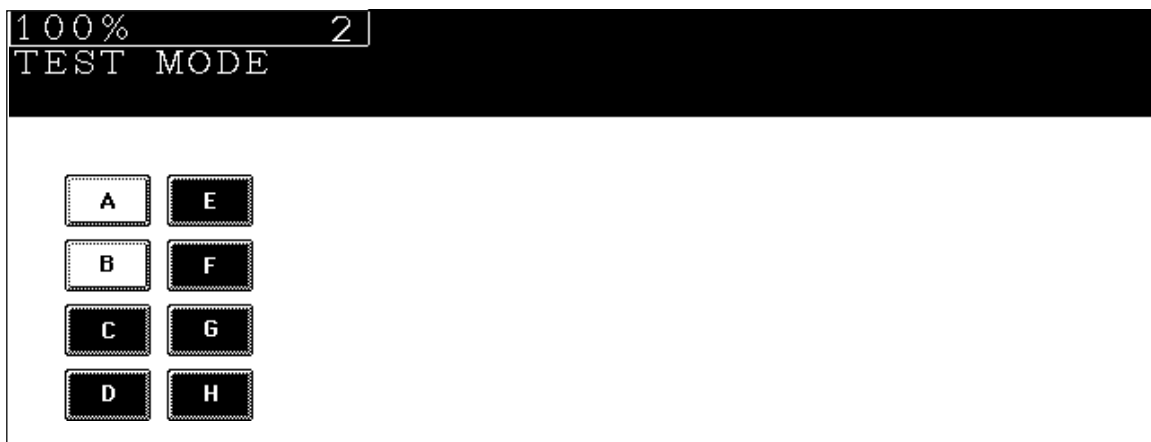
The status of each input signal can be checked by pressing the [FAX] button, [COPY] button and the digital keys in the test mode (03).

<Operation procedure>



### Note:

Initialization is performed before the equipment enters the test mode.



[Example of display during input check]

Items to be checked and the condition of the equipment when the buttons [A] to [H] are highlighted are listed in the following pages.

[FAX] button: OFF/[COPY] button: OFF ( [FAX] LED: OFF/[COPY] LED: OFF)

Digital key	Button	Items to check	Condition with highlighted button
[1]	A	Bypass unit connection	Not connected
	B	ADU connection	Not connected
	C	—	
	D	LCF connection	Not connected
	E	—	
	F	—	
	G	—	
	H	LCF drawer detection switch	Drawer not installed
[2]	A	PFP upper drawer detection switch	Drawer not installed
	B	—	
	C	PFP upper drawer paper stock sensor	Paper almost empty
	D	PFP upper drawer feed sensor	Paper present
	E	PFP connection	Not connected
	F	PFP side cover open/close switch	Cover opened
	G	PFP upper drawer empty sensor	No paper
	H	PFP upper drawer tray-up sensor	Tray at upper limit position
[3]	A	LCF tray bottom sensor	Tray at bottom position
	B	LCF standby side paper misload detection sensor	Properly loaded
	C	—	
	D	—	
	E	—	
	F	—	
	G	—	
	H	Paper stock sensor at LCF feed side	Paper present
[4]	A	PFP lower drawer detection switch	Drawer not installed
	B	—	
	C	PFP lower drawer paper stock sensor	Paper almost empty
	D	PFP lower drawer feed sensor	Paper present
	E	PFP motor rotation status (Motor is rotating at output mode (03))	Abnormal rotation
	F	—	
	G	PFP lower drawer empty sensor	No paper
	H	PFP lower drawer tray-up sensor	Tray at upper limit position
[5]	A	LCF end fence home position sensor	Fence home position
	B	LCF end fence stop position sensor	Fence stop position
	C	Empty sensor at LCF standby side	No paper
	D	LCF side cover open/close switch	Cover closed
	E	LCF motor rotation status (Motor is rotating at output mode (03))	Abnormal rotation
	F	LCF tray-up sensor	Tray at upper limit position
	G	LCF feed sensor	No paper
	H	Empty sensor at LCF feed side	No paper
[6]	A	Lower drawer detection switch	Drawer not installed
	B	Upper drawer detection switch	Drawer not installed
	C	Lower drawer paper stock sensor	Paper almost empty
	D	Upper drawer paper stock sensor	Paper almost empty
	E	Lower drawer empty sensor	No paper
	F	Upper drawer empty sensor	No paper
	G	Lower drawer tray-up sensor	Tray at upper limit position
	H	Upper drawer tray-up sensor	Tray at upper limit position

Digital key	Button	Items to check	Condition with highlighted button
[7]	A	—	
	B	—	
	C	—	
	D	—	
	E	Side cover open/close switch	Cover opened
	F	Front cover opening/closing switch	Cover opened
	G	—	
	H	Exit sensor	Paper present
[8]	A	Bypass feed paper width sensor 3	Refer to table 1
	B	Bypass feed paper width sensor 2	Refer to table 1
	C	Bypass feed paper width sensor 1	Refer to table 1
	D	Bypass feed paper width sensor 0	Refer to table 1
	E	Bypass sensor	No paper
	F	ADU opening/closing switch	ADU opened
	G	ADU exit sensor	Paper present
	H	ADU entrance sensor	Paper present
[9]	A	—	
	B	—	
	C	—	
	D	—	
	E	—	
	F	Key copy counter connection	Not connected
	G	—	
	H	Paper clinging detection sensor	No paper
[0]	A	—	
	B	—	
	C	—	
	D	—	
	E	—	
	F	—	
	G	—	
	H	—	

Table 1. Relation between the status of the bypass paper width sensor and paper size (width).

Bypass paper width sensor				Paper width size
3	2	1	0	
0	1	1	1	A3/LD
1	0	1	1	A4-R/LT-R
1	1	0	1	A5-R/ST-R
1	1	1	0	Card size
0	0	1	1	B4-R/LG
1	0	0	1	B5-R

[FAX] button: ON/[COPY] button: OFF ([FAX] LED: ON/[COPY] LED: OFF)

Digital key	Button	Items to check	Condition with highlighted button
[1]	A	2nd transfer roller position detection sensor	Released
	B	Black developer contact timing detection sensor	Releasing movement
	C	Black developer contact position detection sensor	Released position
	D	Main motor rotation status (Motor is rotating at Output Mode (03))	Abnormal rotation
	E	Developer motor rotation status (Motor is rotating at Output Mode (03))	Abnormal rotation
	F	Transport motor rotation status (Motor is rotating at Output Mode (03))	Abnormal rotation
	G	Polygonal motor rotation status (Motor is rotating at Output Mode (03))	Abnormal rotation
	H	24V Power supply	Power OFF
[2]	A	IPC board connection	Not connected
	B	Color toner cartridge sensor	Normally
	C	Revolver home position sensor	Home position
	D	—	
	E	—	
	F	Toner bag full detection sensor	Toner bag full
	G	Black auto-toner sensor connection	Not connected
	H	—	
[3]	A	—	
	B	—	
	C	—	
	D	—	
	E	—	
	F	—	
	G	Lower drawer feed sensor	No paper
	H	Upper drawer feed sensor	Paper present
[4]	A	—	
	B	—	
	C	—	
	D	—	
	E	Bridge unit connection	Not connected
	F	Color auto-toner sensor connection	Not connected
	G	—	
	H	—	
[5]	A	—	
	B	—	
	C	—	
	D	—	
	E	—	
	F	RADF connection	RADF connected
	G	Platen sensor	Platen cover opened
	H	Carriage home position sensor	Home position

Digital key	Button	Items to check	Condition with highlighted button
[6]	A	—	
	B	—	
	C	—	
	D	APS sensor (APS-R)	No original
	E	APS sensor (APS-C)	No original
	F	APS sensor (APS-3)	No original
	G	APS sensor (APS-2)	No original
	H	APS sensor (APS-1)	No original
[7]	A	RADF tray sensor	Original present
	B	RADF empty sensor	Original present
	C	RADF jam access cover switch	Cover opened
	D	RADF open/close sensor	RADF opened
	E	RADF exit sensor	Original present
	F	RADF reverse sensor	Original present
	G	RADF read sensor	Original present
	H	RADF registration sensor	Original present
[8]	A	—	
	B	—	
	C	—	
	D	—	
	E	RADF original length sensor	Original present
	F	RADF original width sensor 1	Original present
	G	RADF original width sensor 2	Original present
	H	RADF original width sensor 3	Original present
[9]	A	Black toner cartridge switch	Cartridge not installed
	B	—	
	C	—	
	D	Bypass feed sensor	No paper
	E	Registration sensor	Paper present
	F	—	
	G	—	
	H	Transfer belt home position sensor	Home position
[0]	A	Bridge unit transport sensor 2	Paper present
	B	Bridge unit cover open/close detection switch	Cover opened
	C	Bridge unit transport sensor 1	Paper present
	D	Bridge unit paper full detection sensor	Paper not full
	E	—	
	F	Charger cleaner front position detection switch	Cleaner home position
	G	Charger cleaner rear position detection switch	Cleaner rear position
	H	—	

[FAX] button: OFF/[COPY] button: ON ([FAX] LED: OFF/[COPY] LED: ON)

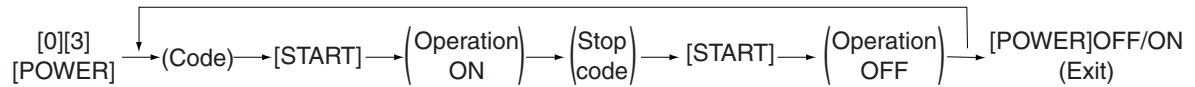
Digital key	Items to check	Display on the touch panel
[1]	Temperature/humidity sensor	Displays the temperature inside the equipment. (Unit: °C)
[2]	Temperature/humidity sensor	Displays the humidity inside the equipment. (Unit: %RH)
[3]	Drum thermistor	Displays the temperature near the drum surface. (Unit: °C)

## 2.2.2 Output check (test mode 03)

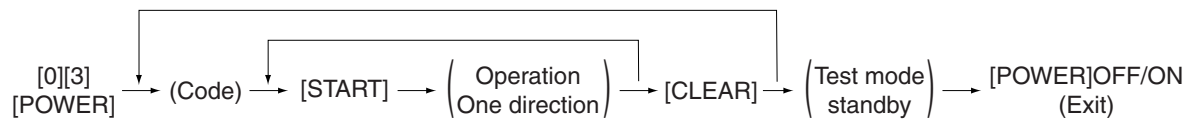
Status of the output signals can be checked by entering the following codes in the test mode 03.

<Operation procedure>

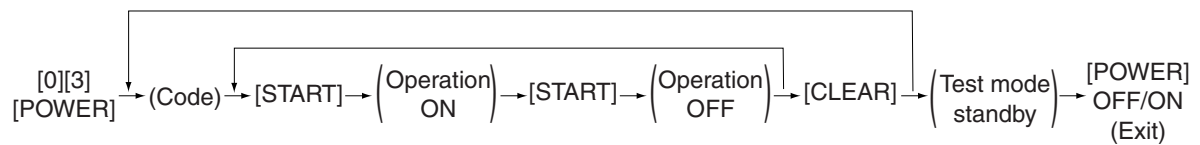
Procedure 1



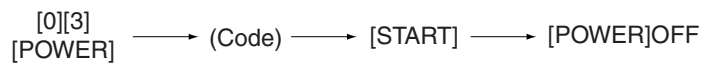
Procedure 2



Procedure 3



Procedure 4





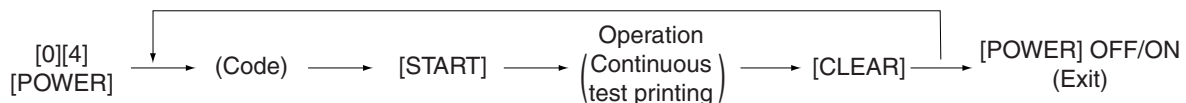
Code	Function	Code	Function	Procedure
101	Main motor ON (Operational without black developer unit)	151	Code No.101 function OFF	1
102	Toner motor K (normal rotation) ON	152	Code No.102 function OFF	1
103	Polygonal motor (600dpi) ON	153	Code No.103 function OFF	1
108	Registration clutch ON	158	Code No.108 function OFF	1
109	PFP motor ON	159	Code No.109 function OFF	1
110	ADU motor ON	160	Code No.110 function OFF	1
112	Developer motor ON (Operational with black developer unit)	162	Code No.112 function OFF	1
115	Drum cleaning brush motor ON	165	Code No.115 function OFF	1
116	Transfer belt cleaner auger motor ON	166	Code No.116 function OFF	1
118	Laser ON	168	Code No.118 function OFF	1
120	Exit motor (normal rotation) ON	170	Code No.120 function OFF	1
121	Exit motor (reversal rotation) ON	171	Code No.121 function OFF	1
122	LCF motor ON	172	Code No.122 function OFF	1
123	Transport motor ON	173	Code No.123 function OFF	1
124	Toner motor K (reversal rotation) ON	174	Code No.124 function OFF	1
125	Color auto-toner sensor shutter solenoid ON (open)	175	Code No.125 function OFF	1
126	Color auto-toner sensor LED ON	176	Code No.126 function OFF	1
201	Upper drawer feed clutch ON/OFF			3
202	Lower drawer feed clutch ON/OFF			3
203	Lower transport clutch (high speed) ON/OFF			3
204	Bypass feed clutch ON/OFF			3
205	Lower transport clutch (low speed) ON/OFF			3
206	LCF pickup solenoid ON/OFF			3
207	LCF end fence reciprocating movement			2
208	LCF end fence motor ON/OFF			3
209	LCF feed clutch ON/OFF			3
210	LCF transport clutch ON/OFF			3
218	Key copy counter count up			2
222	ADU clutch ON/OFF			3
225	PFP transport clutch ON/OFF			3
226	PFP upper drawer feed clutch ON/OFF			3
228	PFP lower drawer feed clutch ON/OFF			3
232	Bridge unit gate solenoid ON/OFF			3
235	Discharge LED ON/OFF			3
241	IH board cooling fan (low speed) ON/OFF			3
242	Upper drawer tray-up motor ON (tray up)			2
243	Lower drawer tray-up motor ON (tray up)			2
248	Developer bias (Black) [+DC] ON/OFF			3
249	Developer bias (Black) [-DC] ON/OFF			3
252	Main charger ON/OFF			3
261	Scan motor ON (Automatically stops at limit position, speed can be changed by using ZOOM button)			2
264	SLG board cooling fan / Scanner unit cooling fan ON (high/low speed)			1
265	SLG board cooling fan / Scanner unit cooling fan OFF			1
267	Scanner exposure lamp ON/OFF			3
268	Laser unit cooling fan (high speed) ON/OFF			3
271	LCF tray-up motor UP/DOWN			2
278	PFP upper drawer tray-up motor ON (tray up)			2

Code	Function	Procedure
280	PFP lower drawer tray-up motor ON (tray up)	2
281	RADF feed motor ON/OFF (normal rotation)	3
282	RADF feed motor ON/OFF (reverse rotation)	3
283	RADF read motor ON/OFF (normal rotation)	3
284	RADF reverse motor ON/OFF (normal rotation)	3
285	RADF reverse motor ON/OFF (reverse rotation)	3
294	RADF reverse solenoid ON/OFF	3
295	Power OFF mode (for 200V series)	4
297	RADF fan motor ON/OFF	3
410	Power supply cooling fan (low speed) ON/OFF	3
411	Power supply cooling fan (high speed) ON/OFF	3
412	Internal cooling fan ON/OFF (low speed)	3
413	Internal cooling fan ON/OFF (high speed)	3
416	IH board cooling fan (high speed) ON/OFF	3
417	Ozone exhaust fan (low speed) ON/OFF	3
418	Ozone exhaust fan (high speed) ON/OFF	3
419	Developer bias (Black) [AC] ON/OFF	3
420	Developer bias (Color) [+DC] ON/OFF	3
421	Developer bias (Color) [-DC1] ON/OFF	3
422	Developer bias (Color) [AC] ON/OFF	3
424	1st transfer roller bias [+] ON/OFF	3
425	1st transfer roller bias [-] ON/OFF	3
426	2nd transfer roller bias [+] ON/OFF	3
427	2nd transfer roller bias [-] ON/OFF	3
428	Drum cleaning blade bias ON/OFF	3
430	Image quality sensor shutter solenoid ON/OFF	3
431	Color developer drive clutch ON/OFF	3
432	Black developer drive clutch ON/OFF	3
433	Black developer lifting clutch ON/OFF	3
435	2nd transfer roller contact clutch ON/OFF	3
437	Transfer belt cleaner clutch ON/OFF	3
439	Upper transport clutch (high speed) ON/OFF	3
440	Upper transport clutch (low speed) ON/OFF	3
442	Color developer toner supply clutch ON/OFF	3
450	Revolver motor ON/OFF (printing operation)	3
451	Revolver motor operation (at standby position)	2
452	Revolver motor operation (at toner cartridge Y access position)	2
453	Revolver motor operation (at toner cartridge M access position)	2
454	Revolver motor operation (at toner cartridge C access position)	2
455	Revolver motor operation (at developer unit Y access position)	2
456	Revolver motor operation (at developer unit M access position)	2
457	Revolver motor operation (at developer unit C access position)	2
458	Revolver motor operation (at home position)	2
459	Revolver motor operation (at developing position)	2
460	Black developer unit lifting movement ON/OFF (continuous lifting movement)	3
461	Charger cleaner motor movement (one reciprocating movement)	2

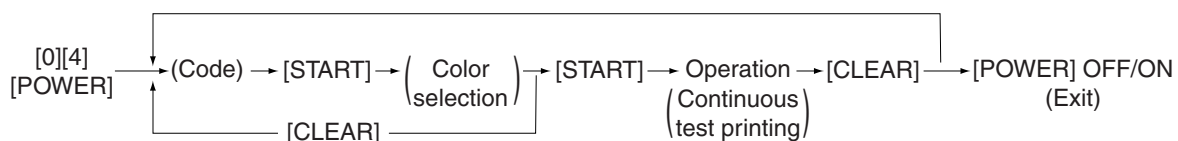
### 2.2.3 Test print mode (test mode 04)

The embedded test pattern can be printed out by keying in the following codes in the test print mode (04).

#### <Procedure 1>



#### <Procedure 2>



#### Notes:

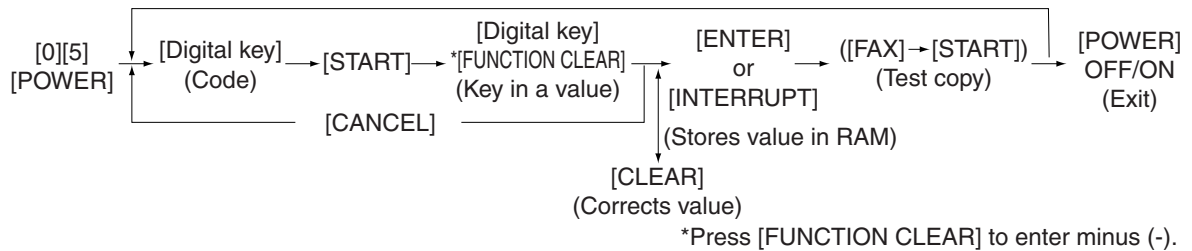
1. When an error occurs, it is indicated on the panel, but the recovery operation is not performed. Turn OFF the power and then back ON to clear the error.
2. During test printing, the [CLEAR] button is disabled when “Wait adding toner” is displayed.

Code	Types of test pattern	Remarks	Remarks
142	Grid pattern (black)	Pattern width: 2 dots, Pitch: 10 mm	1
204	Grid pattern (color)	Pattern width: 1 dot, Pitch: 10 mm	2
219	6% test pattern		2
220	8% test pattern		2
231	Secondary scanning direction 33 gradation steps	3 pixels standard, Width: 10 mm	2
237	Halftone		2
262	Pattern for jitter evaluation (4 lines ON / 4 lines OFF)	1 pixel standard, for color deviation correction	2
270	Image quality control test pattern	For checking the image quality control	2

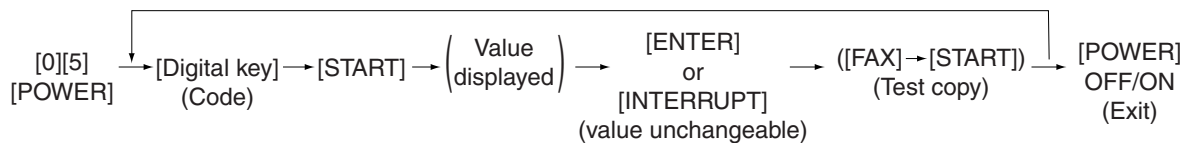
## 2.2.4 Adjustment mode (05)

Items in the adjustment mode list in the following pages can be corrected or changed in this adjustment mode (05). Turn ON the power with pressing the digital keys [0] and [5] simultaneously in order to enter this mode.

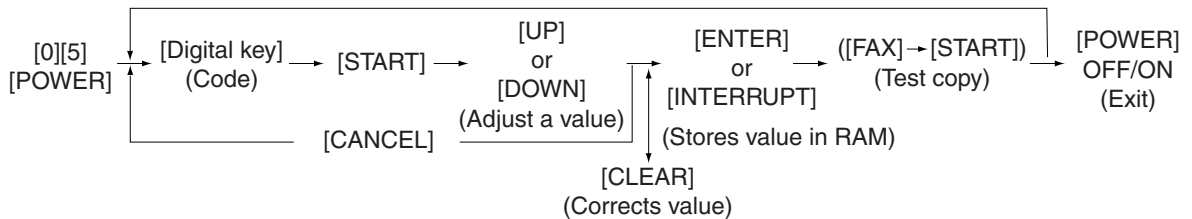
### Procedure 1



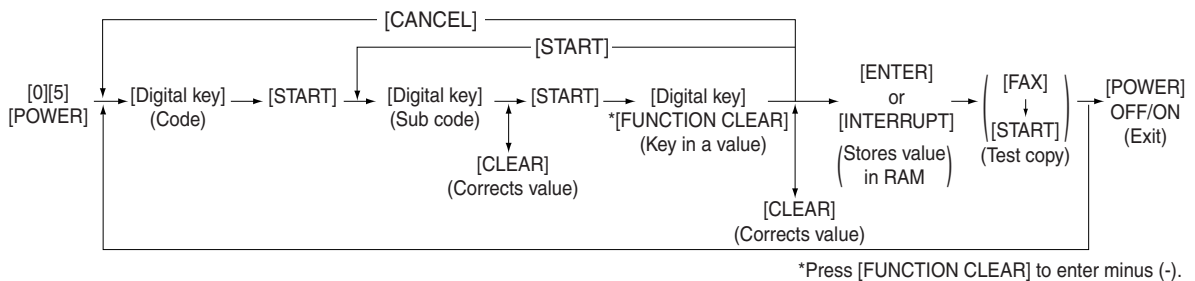
### Procedure 2



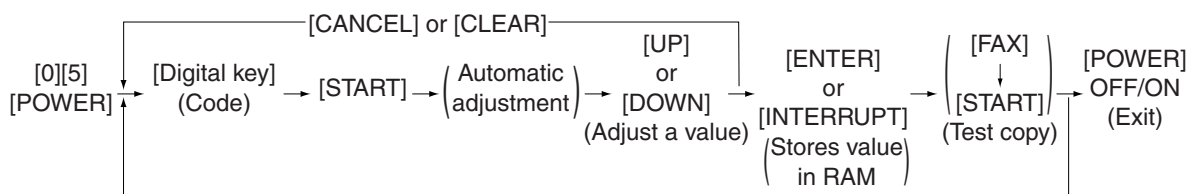
### Procedure 3



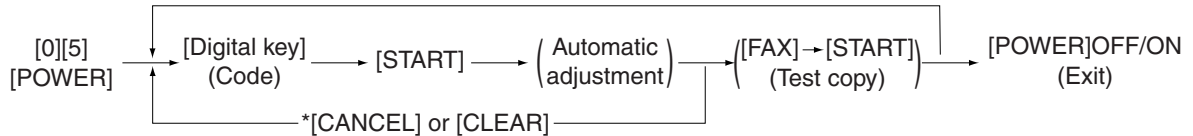
### Procedure 4



### Procedure 5

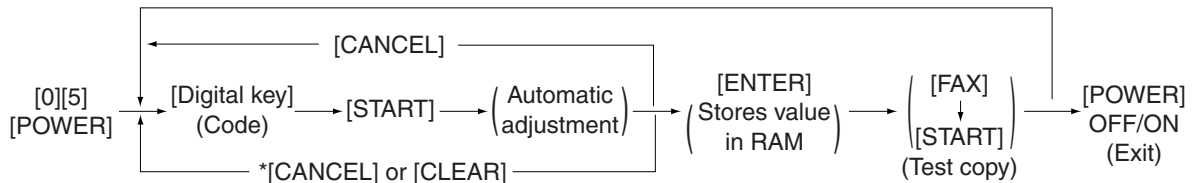


Procedure 6



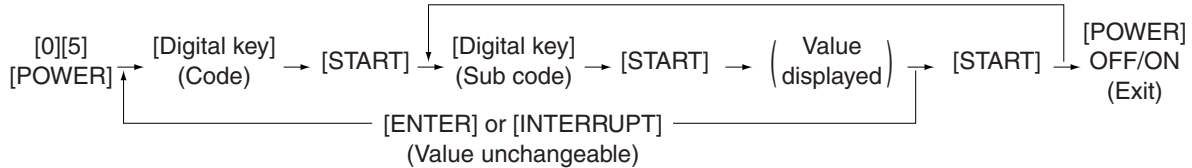
- \* When the automatic adjustment ends abnormally, an error message is displayed.
- \* Return to standby screen by pressing the [CANCEL] or [CLEAR] button.

Procedure 7

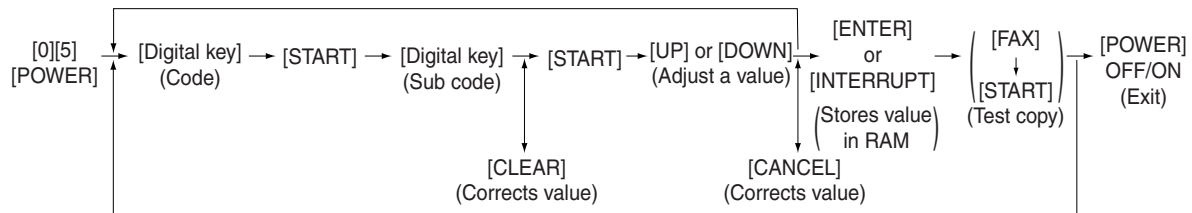


- \* When the automatic adjustment ends abnormally, an error message is displayed.
- \* Return to standby screen by pressing the [CANCEL] or [CLEAR] button.

Procedure 10



Procedure 14



**Note:**

The fuser roller temperature control at the adjustment mode is different from that at the normal state. Therefore, the problem of fusing efficiency may be occurred in the test copy at the adjustment mode. In that case, turn ON the power normally, leave the equipment for approx. 3 minutes after it has become ready state and then start up the adjustment mode again.

## Test print pattern in Adjustment Mode (05)

Operation: One test print is printed out when the [FAX] button is pressed after the code is keyed in at Standby Screen.

Code	Types of test pattern	Remarks
1	Grid pattern (Black)	Refer to 3.4.3 Printer related adjustment
3	Grid pattern (Black/Duplex printing)	Refer to 3.4.3 Printer related adjustment
4	For gamma adjustment (Color/Black integrated pattern)	Refer to 3.5.1 Automatic gamma adjustment
5	For gamma adjustment (Color)	Refer to 3.5.1 Automatic gamma adjustment
6	For gamma adjustment (Black)	For checking the gradation reproduction
7	For gamma adjustment (Color)	For checking the gradation reproduction
10	For gamma adjustment (Black)	Refer to 3.5.1 Automatic gamma adjustment
12	Secondary scanning direction 33 gradation steps (Y)	For checking the image of printer section
13	Secondary scanning direction 33 gradation steps (M)	For checking the image of printer section
14	Secondary scanning direction 33 gradation steps (C)	For checking the image of printer section
15	Secondary scanning direction 33 gradation steps (K)	For checking the image of printer section
47	Gamma adjustment for printer (PS/ 600 x 600 dpi)	Refer to 3.6.1 Automatic gamma adjustment
48	Gamma adjustment for printer (PS/ 1,200 x 600 dpi)	Refer to 3.6.1 Automatic gamma adjustment
49	Gamma adjustment for printer (PCL/ 600 x 600 dpi)	Refer to 3.6.1 Automatic gamma adjustment
50	Gamma adjustment for printer (PCL/ 1,200 x 600 dpi)	Refer to 3.6.1 Automatic gamma adjustment
51	Gamma checking for printer (PS/ 600 x 600 dpi)	For checking the gradation reproduction
52	Gamma checking for printer (PS/ 1,200 x 600 dpi)	For checking the gradation reproduction
55	Grid pattern (Full Color / Thick paper 2)	Refer to 3.4.2 Paper alignment at the registration roller
56	Grid pattern (Full Color / Thick paper 3)	Refer to 3.4.2 Paper alignment at the registration roller
57	Grid pattern (Full Color / OHP)	Refer to 3.4.2 Paper alignment at the registration roller
58	Grid pattern (Black / Thick paper 2)	Refer to 3.4.2 Paper alignment at the registration roller
59	Grid pattern (Black / Thick paper 3)	Refer to 3.4.2 Paper alignment at the registration roller
60	Grid pattern (Black / OHP)	Refer to 3.4.2 Paper alignment at the registration roller
62	For color deviation correction (Full Color)	Only for A3/LD size
63	For color deviation correction (Full Color)	Only for A3/LD size
64	For color deviation correction (Full Color)	Only for A3/LD size

**Notes:**

1. The digit after the hyphen in “Code” of the following table is a sub code.
2. In “RAM”, the NVRAM of the board in which the data of each code is stored is indicated. “M” stands for the LGC board and “SYS” stands for the SYS board.

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
200	Development	Initialization of color auto-toner sensor light amount correction target value	All (Y,M,C,K)	ALL	- <0-255>	M	The value starts changing approx. 3 minutes after this adjustment started. The value is automatically set during this adjustment (approx. 2 minutes).  (As the value increases, the sensor output increases correspondingly.) (▶ Chapter 3.2)	5
201			Y	ALL	- <0-255>	M		5
202			M	ALL	- <0-255>	M		5
203			C	ALL	- <0-255>	M		5
204			K	ALL	- <0-255>	M		5
206			YMC	ALL	- <0-255>	M		5
207	Development	Initialization of color auto-toner sensor light amount correction target value	ALL (color)	-	M	Initializes the color auto-toner sensor light amount correction target value.	6	
208	Development	Enforced correction of color auto-toner sensor light amount	ALL (color)	-	M	Performs the color auto-toner sensor light amount correction forcibly.	6	
210	Transfer	1st transfer roller bias output adjustment (When not transferred)	ALL	225 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	3	
211-0	Transfer	1st transfer roller bias output adjustment (Image quality control test pattern)	Y	ALL (color)	140 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	14
211-1			M	ALL (color)	140 <0-225>	M		14
211-2			C	ALL (color)	140 <0-225>	M		14
211-3			K	ALL (color)	148 <0-225>	M		14
212	Transfer	1st transfer roller bias output adjustment	Plain paper	ALL (black)	135 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	3
214			Thick paper 1	ALL (black)	135 <0-225>	M		3
215			Thick paper 2	ALL (black)	135 <0-225>	M		3
216			Thick paper 3	ALL (black)	135 <0-225>	M		3
217			OHP film	ALL (black)	135 <0-225>	M		3

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
218-0	Transfer	1st transfer roller bias output adjustment (Plain paper)	Y	ALL (color)	135 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	14
218-1			M	ALL (color)	140 <0-225>	M		14
218-2			C	ALL (color)	145 <0-225>	M		14
218-3			K	ALL (color)	150 <0-225>	M		14
220-0	Transfer	1st transfer roller bias output adjustment (Thick paper 1)	Y	ALL (color)	135 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	14
220-1			M	ALL (color)	140 <0-225>	M		14
220-2			C	ALL (color)	145 <0-225>	M		14
220-3			K	ALL (color)	150 <0-225>	M		14
221-0	Transfer	1st transfer roller bias output adjustment (Thick paper 2)	Y	ALL (color)	135 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	14
221-1			M	ALL (color)	140 <0-225>	M		14
221-2			C	ALL (color)	145 <0-225>	M		14
221-3			K	ALL (color)	150 <0-225>	M		14
222-0	Transfer	1st transfer roller bias output adjustment (Thick paper 3)	Y	ALL (color)	135 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	14
222-1			M	ALL (color)	140 <0-225>	M		14
222-2			C	ALL (color)	145 <0-225>	M		14
222-3			K	ALL (color)	150 <0-225>	M		14
223-0	Transfer	1st transfer roller bias output adjustment (OHP film)	Y	ALL (color)	135 <0-225>	M	When the value decreases, the 1st transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	14
223-1			M	ALL (color)	140 <0-225>	M		14
223-2			C	ALL (color)	145 <0-225>	M		14
223-3			K	ALL (color)	150 <0-225>	M		14
224	Transfer	2nd transfer roller bias output adjustment (When cleaning the roller [+])		ALL	137 <0-158>	M	When the value decreases, the 2nd transfer roller bias output increases.	3
225	Transfer	2nd transfer roller bias output adjustment (When cleaning the roller [-])		ALL	196 <159-255>	M	When the value decreases, the 2nd transfer roller bias output increases.	3
226	Transfer	2nd transfer roller bias output adjustment (Paper interval/When not transferred)		ALL	169 <159-255>	M	When the value decreases, the 2nd transfer roller bias output increases.	3



Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
227-0	Transfer	2nd transfer roller bias output adjustment (Plain paper)	Single side	ALL (black)	143 <0-158>	M	When the value decreases, the 2nd transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-544, 549 and 551) is 0 (invalid).	14
227-1			Reverse side at duplexing	ALL (black)	116 <0-158>	M		14
227-2			Single side	ALL (color)	137 <0-158>	M		14
227-3			Reverse side at duplexing	ALL (color)	113 <0-158>	M		14
229-0	Transfer	2nd transfer roller bias output adjustment (Thick paper 1)	Single side	ALL (black)	137 <0-158>	M	When the value decreases, the 2nd transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-544, 549 and 551) is 0 (invalid).	14
229-1			Reverse side at duplexing	ALL (black)	107 <0-158>	M		14
229-2			Single side	ALL (color)	119 <0-158>	M		14
229-3			Reverse side at duplexing	ALL (color)	107 <0-158>	M		14
230-0	Transfer	2nd transfer roller bias output (Thick paper 2)		ALL (black)	143 <0-158>	M	When the value decreases, the 2nd transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-544, 549 and 551) is 0 (invalid).	14
230-1				ALL (color)	137 <0-158>	M		14
231-0	Transfer	2nd transfer roller bias output (Thick paper 3)		ALL (black)	143 <0-158>	M	When the value decreases, the 2nd transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-544, 549 and 551) is 0 (invalid).	14
231-1				ALL (color)	137 <0-158>	M		14
232-0	Transfer	2nd transfer roller bias output (OHP film)		ALL (black)	113 <0-158>	M	When the value decreases, the 2nd transfer roller bias output increases. The adjustment value becomes effective when the Setting Mode (08-544, 549 and 551) is 0 (invalid).	14
232-1				ALL (color)	107 <0-158>	M		14
233	Transfer	1st transfer roller bias offsetting		ALL (color)	5 <0-10>	M	Sets the offset amount of 1st transfer roller bias. 0: -500V 1: -400V 2: -300V 3: -200V 4: -100V 5: 0V 6: +100V 7: +200V 8: +300V 9: +400V 10: +500V	1
234-0	Transfer	2nd transfer roller bias offsetting adjustment (Plain paper)	Single side	ALL (black)	5 <0-10>	M	Sets the offset amount of 2nd transfer roller bias. 0: -500V 1: -400V 2: -300V 3: -200V 4: -100V 5: 0V 6: +100V 7: +200V 8: +300V 9: +400V 10: +500V	4
234-1			Reverse side at duplexing	ALL (black)	5 <0-10>	M		4
234-2			Single side	ALL (color)	5 <0-10>	M		4
234-3			Reverse side at duplexing	ALL (color)	5 <0-10>	M		4

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
236-0	Transfer	2nd transfer roller bias offsetting adjustment (Thick paper 1)	Single side	ALL (black)	5 <0-10>	M	Sets the offset amount of 2nd transfer roller bias. 0: -500V 1: -400V 2: -300V 3: -200V 4: -100V 5: 0V 6: +100V 7: +200V 8: +300V 9: +400V 10: +500V	4
236-1			Reverse side at duplexing	ALL (black)	5 <0-10>	M		4
236-2			Single side	ALL (color)	5 <0-10>	M		4
236-3			Reverse side at duplexing	ALL (color)	5 <0-10>	M		4
237-0	Transfer	2nd transfer roller bias offsetting adjustment (Thick paper 2)		ALL (black)	5 <0-10>	M	Sets the offsetting amount of 2nd transfer roller bias. 0: -1,000 V 1: -800 V 2: -600 V 3: -400 V 4: -200 V 5: 0 V 6: +200 V 7: +400 V 8: +600 V 9: +800 V 10: +1,000 V	4
237-1				ALL (color)	5 <0-10>	M		4
238-0	Transfer	2nd transfer roller bias offsetting adjustment (Thick paper 3)		ALL (black)	5 <0-10>	M		4
238-1				ALL (color)	5 <0-10>	M		4
239-0	Transfer	2nd transfer roller bias offsetting adjustment (OHP film)		ALL (black)	5 <0-10>	M		4
239-1				ALL (color)	5 <0-10>	M		4
241	Main charger	Main charger grid bias adjustment	Y	ALL	78 <0-255>	M	As the value increases, the transformer output increases. The adjustment value becomes effective only when the setting mode (08-549, 551, 556, 557) is 0 (invalid).	3
242			M	ALL	84 <0-255>	M		3
243			C	ALL	87 <0-255>	M		3
244			K	ALL	94 <0-255>	M		3
245	Transfer	1st transfer roller bias offsetting		ALL (black)	5 <0-10>	M	Sets the offsetting amount of 1st transfer roller bias. 0: -500 V 1: -400 V 2: -300 V 3: -200 V 4: -100 V 5: 0 V 6: +100 V 7: +200 V 8: +300 V 9: +400 V 10: +500 V	1
250	Transfer	1st transfer roller bias output voltage	+Low	ALL	4000 <1800-4400>	M	Transformer output setting of the 1st transfer roller bias. When replacing the high-voltage transformer, the values listed in attached data sheet are entered. (Unit: V)	1
251			+High	ALL	400 <0-500>	M		1
252	Transfer	2nd transfer roller bias output voltage	+Low	ALL	4800 <4320-5280>	M	Transformer output setting of the 2nd transfer roller bias (plus output). When replacing the high-voltage transformer, the values listed in attached data sheet are entered. (Unit: V)	1
253			+High	ALL	516 <366-666>	M		1

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
254	Transfer	2nd transfer roller bias output voltage	-Low	ALL	-110 <-9999-0>	M	Transformer output setting of the 2nd transfer roller bias (minus output). When replacing the high-voltage transformer, the values listed in attached data sheet are entered. (Unit: V)	1
255			-High	ALL	-2000 <-9999-0>	M		1
262-0	Transfer	1st transfer roller bias actual value display (Image quality control test pattern)	Y	ALL (color)	140 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	10
262-1			M	ALL (color)	140 <0-225>	M		10
262-2			C	ALL (color)	140 <0-225>	M		10
262-3			K	ALL (color)	148 <0-225>	M		10
263	Transfer	1st transfer roller bias actual value display	Plain paper	ALL (black)	135 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	2
265			Thick paper 1	ALL (black)	135 <0-225>	M		2
266			Thick paper 2	ALL (black)	135 <0-225>	M		2
267			Thick paper 3	ALL (black)	135 <0-225>	M		2
268			OHP film	ALL (black)	135 <0-225>	M		2
269-0	Transfer	1st transfer roller bias actual value display (Plain paper)	Y	ALL (color)	135 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	10
269-1			M	ALL (color)	140 <0-225>	M		10
269-2			C	ALL (color)	145 <0-225>	M		10
269-3			K	ALL (color)	150 <0-225>	M		10
271-0	Transfer	1st transfer roller bias actual value display (Thick paper 1)	Y	ALL (color)	135 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	10
271-1			M	ALL (color)	140 <0-225>	M		10
271-2			C	ALL (color)	145 <0-225>	M		10
271-3			K	ALL (color)	150 <0-225>	M		10
272-0	Transfer	1st transfer roller bias actual value display (Thick paper 2)	Y	ALL (color)	135 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	10
272-1			M	ALL (color)	140 <0-225>	M		10
272-2			C	ALL (color)	145 <0-225>	M		10
272-3			K	ALL (color)	150 <0-225>	M		10

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
273-0	Transfer	1st transfer roller bias actual value display (Thick paper 3)	Y	ALL (color)	135 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	10
273-1			M	ALL (color)	140 <0-225>	M		10
273-2			C	ALL (color)	145 <0-225>	M		10
273-3			K	ALL (color)	150 <0-225>	M		10
274-0	Transfer	1st transfer roller bias actual value display (OHP film)	Y	ALL (color)	135 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	10
274-1			M	ALL (color)	140 <0-225>	M		10
274-2			C	ALL (color)	145 <0-225>	M		10
274-3			K	ALL (color)	150 <0-225>	M		10
275	Transfer	2nd transfer roller bias actual value (When cleaning the roller)	(+)	ALL	137 <0-255>	M	Displays the value of 2nd transfer roller bias when printing is operated.	2
276			(-)	ALL	196 <0-255>	M		2
277-0	Transfer	2nd transfer roller bias actual value display (Plain paper)	Single side	ALL (black)	143 <0-158>	M	Displays the value of 2nd transfer roller bias when printing is operated.	10
277-1			Reverse side at duplexing	ALL (black)	116 <0-158>	M		10
277-2			Single side	ALL (color)	137 <0-158>	M		10
277-3			Reverse side at duplexing	ALL (color)	113 <0-158>	M		10
279-0	Transfer	2nd transfer roller bias actual value display (Thick paper 1)	Single side	ALL (black)	137 <0-158>	M	Displays the value of 2nd transfer roller bias when printing is operated.	10
279-1			Reverse side at duplexing	ALL (black)	107 <0-158>	M		10
279-2			Single side	ALL (color)	119 <0-158>	M		10
279-3			Reverse side at duplexing	ALL (color)	107 <0-158>	M		10
284	Transfer	Transfer belt cleaning unit contact timing adjustment		ALL	141 <88-168>	M	When the value increases, the contact timing of transfer belt cleaning unit is delayed.	1
285	Transfer	Transfer belt cleaning unit release timing adjustment		ALL	141 <88-168>	M	When the value increases, the release timing of transfer belt cleaning unit is delayed.	1
290-0	Transfer	2nd transfer roller bias offsetting adjustment		ALL (black)	143 <0-158>	M	Displays the value of 2nd transfer roller bias when printing is operated.	10
290-1		(Thick paper 2)		ALL (color)	137 <0-158>	M		10

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
291-0	Transfer	2nd transfer roller bias offsetting adjustment (Thick paper 3)	ALL (black)	143 <0-158>	M	Displays the value of 2nd transfer roller bias when printing is operated.	10	
291-1			ALL (color)	137 <0-158>	M		10	
292-0	Transfer	2nd transfer roller bias offsetting adjustment (OHP film)	ALL (black)	113 <0-158>	M	Displays the value of 2nd transfer roller bias when printing is operated.	10	
292-1			ALL (color)	107 <0-158>	M		10	
293-0	Transfer	2nd transfer roller bias correction of leading/trailing edge of paper	Plain paper	ALL	95 <0-255>	Corrects the 2nd transfer roller bias output of leading/trailing edge of paper (05-227, 229, 230, 231 and 232). Correcting factor: %	14	
293-1			Thick paper 1	ALL	75 <0-255>		M	14
293-2			Thick paper 2	ALL	80 <0-255>		M	14
293-3			Thick paper 3	ALL	80 <0-255>		M	14
293-4			OHP film	ALL	80 <0-255>		M	14
294-0	Transfer	Actual value display of 2nd transfer roller bias of leading/trailing edge of paper (Plain paper)	Single side	ALL (black)	146 <0-255>	Displays the value of 2nd transfer roller bias on the leading/trailing edge of paper when printing is performed. (The value corrected in 05-293 is displayed.)	10	
294-1			Reverse side at duplex printing	ALL (black)	124 <0-255>		M	10
294-2			Single side	ALL (color)	141 <0-255>		M	10
294-3			Reverse side at duplex printing	ALL (color)	121 <0-255>		M	10
296-0	Transfer	Actual value display of 2nd transfer roller bias of leading/trailing edge of paper (Thick paper 1)	Single side	ALL (black)	144 <0-255>		10	
296-1			Reverse side at duplex printing	ALL (black)	122 <0-255>		M	10
296-2			Single side	ALL (color)	131 <0-255>		M	10
296-3			Reverse side at duplex printing	ALL (color)	122 <0-255>		M	10
297-0	Transfer	Actual value display of 2nd transfer roller bias of leading/trailing edge of paper (Thick paper 2)	ALL (black)	146 <0-255>	M		10	
297-1			ALL (color)	141 <0-255>			M	10
298-0	Transfer	Actual value display of 2nd transfer roller bias of leading/trailing edge of paper (Thick paper 3)	ALL (black)	146 <0-255>	M		10	
298-1			ALL (color)	141 <0-255>			M	10

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
299-0	Transfer	Actual value display of 2nd transfer roller bias of leading/trailing edge of paper (OHP film)	ALL (black)	121 <0-255>	M	Displays the value of 2nd transfer roller bias on the leading/trailing edge of paper when printing is performed. (The value corrected in 05-293 is displayed.)	10	
299-1			ALL (color)	116 <0-255>	M		10	
305	Scanner	Image location adjustment of secondary scanning direction (scanner section)	ALL	124 <92-164>	SYS	When the value increases by "1", the image shifts by approx. 0.137mm toward the trailing edge of the paper.	1	
306	Scanner	Image location adjustment of secondary scanning direction (scanner section)	ALL	113 <0-255>	SYS	When the value increases by "1", the image shifts by approx. 0.0423mm toward the front side of the paper.	1	
308	Scanner	Distortion mode	ALL	-	-	Moves carriages to the adjusting position. (▶ Chapter 3. 4. 4.)	6	
330-0	Image control	Image quality closed-loop control contrast voltage correction/ Mode 2 maximum number of time corrected	Y	ALL	3 <0-255>	M	Sets the maximum correction number of time of the contrast voltage in the closed-loop control mode 2.	4
330-1			M	ALL	3 <0-255>	M		4
330-2			C	ALL	3 <0-255>	M		4
330-3			K	ALL	3 <0-255>	M		4
331-0	Image control	Image quality closed-loop control laser power correction/ Mode 2 maximum number of time corrected	Y	ALL	2 <0-255>	M	Sets the maximum correction number of time of the laser power in the closed-loop control mode 2.	4
331-1			M	ALL	2 <0-255>	M		4
331-2			C	ALL	2 <0-255>	M		4
331-3			K	ALL	2 <0-255>	M		4
332-0	Image control	Image quality closed-loop control contrast voltage correction/ Mode 1 maximum number of time corrected	Y	ALL	1 <0-255>	M	Sets the maximum correction number of time of the contrast voltage in the closed-loop control mode 1.	4
332-1			M	ALL	1 <0-255>	M		4
332-2			C	ALL	1 <0-255>	M		4
332-3			K	ALL	1 <0-255>	M		4
333-0	Image control	Image quality closed-loop control laser power correction/ Mode 1 maximum number of time corrected	Y	ALL	1 <0-255>	M	Sets the maximum correction number of time of the laser power in the closed-loop control mode 1.	4
333-1			M	ALL	1 <0-255>	M		4
333-2			C	ALL	1 <0-255>	M		4
333-3			K	ALL	1 <0-255>	M		4
334	Image control	Main charger grid calibration voltage 1 (low)	ALL	300 <270-330>	M	Transformer output calibration of the main charger grid bias. When replacing the high-voltage transformer, the values listed in attached data sheet are entered. (Unit: V)	1	
335	Image control	Main charger grid calibration voltage 2 (high)	ALL	1200 <1080-1320>	M		1	

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
338	Image control	Color developer bias DC (-) calibration voltage 1 (low)	ALL	100 <85-115>	M	Transformer output calibration of the color developer bias. When replacing the high-voltage transformer, the values listed in attached data sheet are entered. (Unit: V)	1	
339	Image control	Color developer bias DC (-) calibration voltage 2 (high)	ALL	900 <810-990>	M		1	
340	Scanner	Reproduction ratio adjustment of secondary scanning direction (scanner section)	ALL	127 <0-255>	SYS	When the value increases by "1", the reproduction ratio in the secondary scanning direction (vertical to paper feeding direction) increases by approx. 0.223%.	1	
354	RADF	Adjustment of RADF paper alignment	for single-sided original	ALL	10 <0-20>	SYS	When the value increases by "1", the aligning amount increases by approx. 0.5mm.	1
355			for double-sided original	ALL	10 <0-20>	SYS		1
356	RADF	Automatic adjustment of RADF sensor and EEPROM initialization	ALL	-	SYS	Performs the adjustment and initialization when the RADF board or RADF sensor is replaced.	6	
357	RADF	Fine adjustment of RADF transport speed	ALL	50 <0-100>	SYS	When the value increases by "1", the reproduction ratio of the secondary scanning direction on original (fed from the RADF) increases by approx. 0.1%.	1	
358	RADF	RADF sideways deviation adjustment	ALL	128 <0-255>	SYS	When the value increases by "1", the image of original fed from the RADF shifts toward the rear side of paper by approx. 0.0423mm.	1	
359	Scanner	Carriage position adjustment during scanning from RADF	ALL (black)	128 <0-255>	SYS	When the value increases by "1", the carriage position shifts by approx. 0.1 mm toward the exit side when using the RADF.	1	
360			ALL (color)	128 <0-255>	SYS		1	
363	Scanner	Data transfer of characteristic value of scanner / SYS board -> SLG board	SCN	-	SYS	Transfers the characteristic values of the scanner (shading correction factor / RGB color correction / reproduction ratio color aberration correction) from the NVRAM of the SYS board to the NVRAM of the SLG board.	6	
364	Scanner	Data transfer of characteristic value of scanner / SLG board -> SYS board	SCN	-	SYS	Transfers the characteristic values of the scanner (shading correction factor / RGB color correction / reproduction ratio color aberration correction) from the NVRAM of the SLG board to the NVRAM of the SYS board.	6	
365	RADF	RADF leading edge position adjustment	for single-sided original	ALL	50 <0-100>	SYS	When the value increases by "1", the copied image of original fed from the RADF shifts toward the trailing edge of paper by approx. 0.1mm.	1
366			for double-sided original	ALL	50 <0-100>	SYS		1

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
367	RADF	RADF original guide width adjustment (Minimum)	ALL	-	-	Stores the current width of RADF original guide by keying in this code with the guide set at the minimum width. Perform this adjustment when the RADF board or volume is replaced, or when the code (05-356) is performed.	6	
368	RADF	RADF original guide width adjustment (Maximum)	ALL	-	-	Stores the current width of RADF original guide by keying in this code with the guide set at the maximum width. Perform this adjustment when the RADF board or volume is replaced, or when the code (05-356) is performed.	6	
372	Image control	Black developer bias DC (-) calibration voltage 1 (low)	ALL	100 <85-115>	M	Transformer output calibration of the black developer bias. When replacing the high-voltage transformer, the values listed in attached data sheet are entered. (Unit: V)	1	
373	Image control	Black developer bias DC (-) calibration voltage 2 (high)	ALL	900 <810-990>	M		1	
380-0	Image control	Image quality open-loop control/contrast voltage initial value display	Y	ALL	320 <0-999>	M	Displays the contrast voltage initial value set by the open-loop control. (Unit: V)	10
380-1			M	ALL	330 <0-999>	M		10
380-2			C	ALL	340 <0-999>	M		10
380-3			K	ALL	375 <0-999>	M		10
381-0	Image control	Contrast voltage actual value display	Y	ALL	320 <0-999>	M	Displays the contrast voltage when printing is operated. (Unit: V)	10
381-1			M	ALL	330 <0-999>	M		10
381-2			C	ALL	340 <0-999>	M		10
381-3			K	ALL	375 <0-999>	M		10
382-0	Image control	Image quality open-loop control/laser power initial value display	Y	ALL	408 <0-999>	M	Displays the laser power initial value set by the open-loop control. (Unit: μW)	10
382-1			M	ALL	408 <0-999>	M		10
382-2			C	ALL	408 <0-999>	M		10
382-3			K	ALL	408 <0-999>	M		10
383-0	Image control	Laser power actual value display	Y	ALL	92 <0-255>	M	Displays the laser power when printing is operated. (bit value)	10
383-1			M	ALL	92 <0-255>	M		10
383-2			C	ALL	92 <0-255>	M		10
383-3			K	ALL	92 <0-255>	M		10



Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
384-0	Image control	Laser power actual value display	Y	ALL	408 <0-999>	M	Displays the laser power when printing is operated. (Unit: $\mu$ W)	10
384-1			M	ALL	408 <0-999>	M		10
384-2			C	ALL	408 <0-999>	M		10
384-3			K	ALL	408 <0-999>	M		10
385-0	Image control	Main charger grid bias actual value display	Y	ALL	78 <0-255>	M	Displays the main charger grid bias when printing is operated. (bit value)	10
385-1			M	ALL	84 <0-255>	M		10
385-2			C	ALL	87 <0-255>	M		10
385-3			K	ALL	94 <0-255>	M		10
386-0	Image control	Developer bias DC (-) actual value display	Y	ALL	135 <0-255>	M	Displays the developer bias when printing is operated. (bit value)	10
386-1			M	ALL	137 <0-255>	M		10
386-2			C	ALL	139 <0-255>	M		10
386-3			K	ALL	146 <0-255>	M		10
388	Image control	Output value display of image quality sensor	When the light source is OFF	ALL	0 <0-1023>	M	Displays the output value of image quality sensor when the sensor light source is OFF.	2
389			Transfer belt surface	ALL	0 <0-1023>	M		2
390-0			High-density pattern Y	ALL	0 <0-1023>	M		10
390-1			High-density pattern M	ALL	0 <0-1023>	M		10
390-2			High-density pattern C	ALL	0 <0-1023>	M		10
390-3			High-density pattern K	ALL	0 <0-1023>	M		10

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
391-0	Image control	Output value display of image quality sensor	Low-density pattern Y	ALL	0 <0-1023>	M	Displays the output value of image quality sensor when a low-density test pattern is written. The larger the value is, the smaller the toner amount adhered becomes.	10
391-1			Low-density pattern M	ALL	0 <0-1023>	M		10
391-2			Low-density pattern C	ALL	0 <0-1023>	M		10
391-3			Low-density pattern K	ALL	0 <0-1023>	M		10
392	Image control	Light amount adjustment result of image quality sensor		ALL	0 <0-255>	M	The LED light amount adjustment value of this sensor is the reference value to set the reflected light from the belt surface.	2
393	Image control	Relative humidity display during latest closed-loop control		ALL	0 <0-100>	M	Displays the relative humidity at the latest performing of the closed-loop control.	2
394	Image control	Enforced performing of image quality open-loop control		ALL	-	M	Performs the image quality open-loop control.	6
395	Image control	Enforced performing of image quality closed-loop control		ALL	-	M	Performs the image quality closed-loop control.	6
396	Image control	Image quality control initialization		ALL	-	M	Performs the image quality control, initialize each control value.	6
398-0	Image control	Target value of the high image density control	Y	ALL	255 <220-330>	M	Sets the target value of high image density control at the time of the image quality control.	4
398-1			M	ALL	280 <220-330>	M		4
398-2			C	ALL	295 <220-330>	M		4
398-3			K	ALL	370 <300-420>	M		4
401	Laser	Fine adjustment of polygonal motor rotation speed (reproduction ratio adjustment)		PRT	134 <0-255>	M	When the value increases by "1", the reproduction ratio of primary scanning direction increases by approx. 0.07%. (approx. 0.1mm/step)	1
405				PPC	135 <0-255>	M		1
410	Laser	Adjustment of primary scanning laser writing start position		PPC	128 <0-255>	M	When the value increases by "1", the writing start position shifts to the front side by approx. 0.0423mm.	1
411				PRT	120 <0-255>	M		1
417-0	Image	Color deviation correction 1	K	ALL	127 <118-138>	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by 0.0423 mm (effective for all pages of continuous printing).	4
417-1			C	ALL	127 <118-138>	M		4
417-2			M	ALL	128 <118-138>	M		4
417-3			Y	ALL	129 <118-138>	M		4

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
418-0	Image	Color deviation correction 2	K	ALL	130 <118-138>	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by 0.0423 mm (effective for the 2nd and following pages on the continuous printing).	4
418-1			C	ALL	128 <118-138>	M		4
418-2			M	ALL	128 <118-138>	M		4
418-3			Y	ALL	128 <118-138>	M		4
421	Drive	Adjustment of secondary scanning direction reproduction ratio (fine adjustment of main motor speed)	PPC /PRT	127 <0-255>	M	When the value increases by "1", the reproduction ratio of secondary scanning direction increases by approx. 0.04%.	1	
422			FAX	128 <0-255>	M		1	
424	Drive	Fine adjustment of exit motor speed	PPC /PRT	107 <0-255>	M	When the value increases by "1", the rotation becomes faster by approx. 0.05%.	1	
425			FAX	EUR: 140 UC: 140 JPN: 128 Others: 140 <0-255>	M		1	
426	Drive	Adjustment of secondary scanning direction reproduction ratio (fine adjustment of transport motor speed)	PPC /PRT	153 <0-255>	M	When the value increases by "1", the reproduction ratio of secondary scanning direction increases by approx. 0.04%.	1	
427			FAX	139 <0-255>	M		1	
430	Image	Top margin adjustment (blank area at the leading edge of the paper)	PPC	26 <0-255>	M	When the value increases by "1", the blank area becomes wider by approx. 0.0423mm.	1	
431	Image	Left margin adjustment (blank area at the left of the paper along the paper feeding direction)	PPC	0 <0-255>	M		1	
432	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction)	PPC	15 <0-255>	M		1	
433	Image	Bottom margin adjustment (blank area at the trailing edge of the paper)	PPC	43 <0-255>	M		1	
434-0	Image	Bottom margin adjustment (blank area at the trailing edge of the paper) /Reverse side at duplexing	PPC /PRT	EUR: 45 UC: 28 JPN: 28 Others: 45 <0-255>	M		4	
434-1	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction) /Reverse side at duplexing	PPC /PRT	18 <0-255>	M		4	
435	Image	Top margin adjustment (blank area at the leading edge of the paper)	PRT	24 <0-255>	M		1	

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
436	Image	Left margin adjustment (blank area at the left of the paper along the paper feeding direction)		PRT	0 <0-255>	M	When the value increases by "1", the blank area becomes wider by approx. 0.0423mm.	1
437	Image	Right margin adjustment (blank area at the right of the paper along the paper feeding direction)		PRT	0 <0-255>	M		1
438	Image	Bottom margin adjustment (blank area at the trailing edge of the paper)		PRT	0 <0-255>	M		1
439	Image	Bottom margin adjustment (blank area at the trailing edge of the paper along the paper feeding direction) when paper size is not specified at bypass feed		ALL	128 <0-255>	M	When the value increases by "1", the margin increases by approx. 0.2 mm.	1
440	Laser	Secondary scanning laser writing start position	Upper drawer	ALL	21 <0-40>	M	When the value increases by "1", the image shifts toward the trailing edge of the paper by approx. 0.2 mm.	1
441			Lower drawer	ALL	47 <0-80>	M		1
442			Bypass feeding	ALL	22 <0-40>	M		1
443			LCF	ALL	20 <0-40>	M		1
444			PFP	ALL	20 <0-40>	M		1
445			Duplex feeding	ALL	21 <0-40>	M		1
448-0	Paper feeding	Paper aligning amount adjustment at the registration section (PFP upper drawer / Plain paper)	Long size	ALL	15 <0-63>	M	When the value increases by "1", the aligning amount increases by approx. 0.8mm. <Paper length> Long size: 330mm or longer Middle size: 220mm to 329mm Short size 1: 205mm to 219mm Short size 2: 204mm or shorter	4
448-1			Middle size	ALL	15 <0-63>	M		4
448-2			Short size 1	ALL	15 <0-63>	M		4
448-3			Short size 2	ALL	15 <0-63>	M		4
449-0	Paper feeding	Paper aligning amount adjustment at the registration section (PFP lower drawer / Plain paper)	Long size	ALL	15 <0-63>	M		4
449-1			Middle size	ALL	15 <0-63>	M		4
449-2			Short size 1	ALL	15 <0-63>	M		4
449-3			Short size 2	ALL	15 <0-63>	M		4
450-0	Paper feeding	Paper aligning amount adjustment at the registration section (Upper drawer / Plain paper)	Long size	ALL	18 <0-63>	M		4
450-1			Middle size	ALL	18 <0-63>	M		4
450-2			Short size 1	ALL	18 <0-63>	M		4
450-3			Short size 2	ALL	15 <0-63>	M		4

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
452-0	Paper feeding	Paper aligning amount adjustment at the registration section (Lower drawer / Plain paper)	Long size	ALL	15 <0-63>	M	When the value increases by "1", the aligning amount increases by approx. 0.8mm. <Paper length> Long size: 330mm or longer Middle size: 220mm to 329mm Short size 1: 205mm to 219mm Short size 2: 204mm or shorter	4
452-1			Middle size	ALL	15 <0-63>	M		4
452-2			Short size 1	ALL	15 <0-63>	M		4
452-3			Short size 2	ALL	15 <0-63>	M		4
455-0	Paper feeding	Paper aligning amount adjustment at the registration section (Duplex feeding / Plain paper)	Long size	ALL	23 <0-63>	M	When the value increases by "1", the aligning amount increases by approx. 0.8mm. <Paper length> Long size: 330mm or longer Middle size: 220mm to 329mm Short size: 219mm or shorter	4
455-1			Middle size	ALL	23 <0-63>	M		4
455-2			Short size	ALL	33 <0-63>	M		4
457	Paper feeding	Paper aligning amount adjustment at the registration section (LCF / Plain paper)		ALL	15 <0-63>	M	* Postcard is supported only for JPN model.	1
458-0	Paper feeding	Paper aligning amount adjustment at the registration section (Bypass feeding/Plain paper)	Long size	ALL	20 <0-63>	M		4
458-1			Middle size	ALL	20 <0-63>	M		4
458-2			Short size	ALL	20 <0-63>	M		4
460-0	Paper feeding	Paper aligning amount adjustment at the registration section (Bypass feeding/Thick paper 1)	Long size	ALL	20 <0-63>	M		4
460-1			Middle size	ALL	20 <0-63>	M		4
460-2			Short size	ALL	17 <0-63>	M		4
461-0	Paper feeding	Paper aligning amount adjustment at the registration section (Bypass feeding/Thick paper 2)	Long size	ALL	20 <0-63>	M		4
461-1			Middle size	ALL	20 <0-63>	M		4
461-2			Short size	ALL	17 <0-63>	M		4
462-0	Paper feeding	Paper aligning amount adjustment at the registration section (Bypass feeding/Thick paper 3)	Long size	ALL	20 <0-63>	M		4
462-1			Middle size	ALL	20 <0-63>	M		4
462-2			Short size	ALL	20 <0-63>	M		4
462-3			Post card	ALL	16 <0-63>	M		4
463-0	Paper feeding	Paper aligning amount adjustment at the registration section (Bypass feeding/OHP film)	Long size	ALL	20 <0-63>	M		4
463-1			Middle size	ALL	20 <0-63>	M		4
463-2			Short size	ALL	20 <0-63>	M		4

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
466-0	Paper feeding	Adjustment of paper pushing amount / Bypass feeding	Plain paper	ALL	143 <0-255>	M	When the value increases by "1", the driving speed of bypass feed roller increases by approx. 0.2 ms when the paper transport is started from the registration section. * Post card is supported only for JPN model.	4
466-1			Post card	ALL	198 <0-255>	M		4
466-4			Thick paper 1	ALL	143 <0-255>	M		4
466-5			Thick paper 2	ALL	143 <0-255>	M		4
466-6			Thick paper 3	ALL	143 <0-255>	M		4
466-7			OHP film	ALL	143 <0-255>	M		4
467			Paper feeding	Adjustment of paper pushing amount/Duplex feeding (short size)		ALL		128 <0-255>
468-0	Finisher	Fine adjustment of binding position /folding position	A4-R /LT-R	ALL	0 <-14-14>	M	When the value increases by "1", the binding/folding position shifts toward the right page by 0.25mm.	4
468-1			B4	ALL	0 <-14-14>	M		4
468-2			A3/LD	ALL	0 <-14-14>	M		4
469-0	Paper feeding	Paper aligning amount adjustment at the registration section (Upper drawer / Thick paper 1)	Long size	ALL	18 <0-63>	M	When the value increases by "1", the aligning amount increases by approx. 0.8mm. <Paper length> Long size: 330mm or longer Middle size: 220mm to 329mm Short size 1: 205mm to 219mm Short size 2: 204mm or shorter	4
469-1			Middle size	ALL	18 <0-63>	M		4
469-2			Short size 1	ALL	18 <0-63>	M		4
469-3			Short size 2	ALL	18 <0-63>	M		4
470-0	Paper feeding	Paper aligning amount adjustment at the registration section (Lower drawer / Thick paper 1)	Long size	ALL	15 <0-63>	M		4
470-1			Middle size	ALL	15 <0-63>	M		4
470-2			Short size 1	ALL	15 <0-63>	M		4
470-3			Short size 2	ALL	15 <0-63>	M		4
471-0	Paper feeding	Paper aligning amount adjustment at the registration section (PFP upper drawer / Thick paper 1)	Long size	ALL	15 <0-63>	M		4
471-1			Middle size	ALL	15 <0-63>	M		4
471-2			Short size 1	ALL	15 <0-63>	M		4
471-3			Short size 2	ALL	15 <0-63>	M		4

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
472-0	Paper feeding	Paper aligning amount adjustment at the registration section (PFP lower drawer / Thick paper 1)	Long size	ALL	15 <0-63>	M	When the value increases by "1", the aligning amount increases by approx. 0.8mm. <Paper length> Long size: 330mm or longer Middle size: 220mm to 329mm Short size: 219mm or shorter Short size 1: 205mm to 219mm Short size 2: 204mm or shorter * Post card is supported only for JPN model.	4
472-1			Middle size	ALL	15 <0-63>	M		4
472-2			Short size 1	ALL	15 <0-63>	M		4
472-3			Short size 2	ALL	15 <0-63>	M		4
473	Paper feeding	Paper aligning amount adjustment at the registration section (LCF / Thick paper 1)		ALL	15 <0-63>	M		1
474-0	Paper feeding	Paper aligning amount adjustment at the registration section (ADU / Thick paper 1)	Long size	ALL	25 <0-63>	M		4
474-1			Middle size	ALL	25 <0-63>	M	4	
474-2			Short size	ALL	33 <0-63>	M	4	
475-0	Paper feeding	Paper aligning amount adjustment at the registration section (Bypass feeding)	Thick paper 2 Long size	ALL	28 <0-63>	M		4
475-1			Thick paper 2 Middle size	ALL	28 <0-63>	M	4	
475-2			Thick paper 2 Short size	ALL	28 <0-63>	M	4	
475-3			Thick paper 3 Long size	ALL	28 <0-63>	M	4	
475-4			Thick paper 3 Middle size	ALL	28 <0-63>	M	4	
475-5			Thick paper 3 Short size	ALL	28 <0-63>	M	4	
475-6			OHP film Long size	ALL	24 <0-63>	M	4	
475-7			OHP film Middle size	ALL	24 <0-63>	M	4	
475-8			OHP film Short size	ALL	24 <0-63>	M	4	
475-9			Post card	ALL	28 <0-63>	M	4	

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
494	Laser	Secondary scanning data laser writing start position	When decelerating to 1/2	ALL	135 <0-255>	M	When the value increases by "1", the image shifts by approx. 0.2 mm toward the trailing edge of the paper.	1
495			When decelerating to 1/3	ALL	135 <0-255>	M		1
496			When decelerating to 1/4	ALL	128 <0-255>	M		1
497-0	Laser	Adjustment of drawer sideways deviation	Upper drawer	ALL	128 <0-255>	M	When the value increases by "1", the image shifts toward the front side by 0.0423mm.	4
497-1			Lower drawer	ALL	128 <0-255>	M		4
497-2			PFP upper drawer	ALL	128 <0-255>	M		4
497-3			PFP lower drawer	ALL	128 <0-255>	M		4
497-4			LCF	ALL	128 <0-255>	M		4
497-5			Bypass feeding	ALL	128 <0-255>	M		4
498-0	Laser	Adjustment of duplex feeding sideways deviation	Long size	ALL	131 <0-255>	M	When the value increases by "1", the image shifts toward the front side by 0.0423mm.	4
498-1			Short size (A4/LT or smaller)	ALL	131 <0-255>	M		4
501	Image	Density adjustment of "manual density" /Center value	Photo	PPC (black)	128 <0-255>	SYS	When the value increases, the image of the center step density becomes darker.	1
503			Text /Photo	PPC (black)	128 <0-255>	SYS		1
504			Text	PPC (black)	128 <0-255>	SYS		1
505	Image	Density adjustment of "manual density" /Light step value	Text	PPC (black)	20 <0-255>	SYS	Sets the changing amount by 1 step at the density adjustment.	1
506			Photo	PPC (black)	20 <0-255>	SYS		1
507			Text	PPC (black)	20 <0-255>	SYS		1
508	Image	Density adjustment of "manual density" /Dark step value	Text	PPC (black)	20 <0-255>	SYS	Sets the changing amount by 1 step at the density adjustment.	1
509			Photo	PPC (black)	20 <0-255>	SYS		1
510			Text	PPC (black)	20 <0-255>	SYS		1
512	Image	Density adjustment of "automatic density"	Photo	PPC (black)	128 <0-255>	SYS	When the value increases, the image becomes darker.	1
514			Text /Photo	PPC (black)	128 <0-255>	SYS		1
515			Text	PPC (black)	128 <0-255>	SYS		1



Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
532	Image	Range correction Background peak adjustment	Text	PPC (black)	40 <0-255>	SYS	When the value increases, the background of the image (low density area) becomes harder to be printed out.	1
533			Photo	PPC (black)	16 <0-255>	SYS		1
534			Text	PPC (black)	40 <0-255>	SYS		1
570	Image	Range correction on original manually set on the original glass	Text	PPC (black)	22 <11-14, 21-24, 31-34, 41-44>	SYS	Sets whether the values of the background peak and text peak are fixed or not. One's place is an adjustment for "automatic density" and ten's place is for "manual density". Once they are fixed, the range correction is performed with standard values. The values of the background peak and text peak affect the reproduction of the background density and text density respectively.  Background peak      Text peak 1:                      fixed                      fixed 2:                      varied                      fixed 3:                      fixed                      varied 4:                      varied                      varied	1
571			Photo	PPC (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS		1
572			Text	PPC (black)	22 <11-14, 21-24, 31-34, 41-44>	SYS		1
580	Image	Automatic gamma adjustment		PPC (black)	-	-	Adjusts the gradation reproduction automatically.	7
590-0	Image	Adjustment of gamma balance (Text/Photo)	L	PPC (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher.  L : Low density area M : Medium density area H : High density area	4
590-1			M	PPC (black)	128 <0-255>	SYS		4
590-2			H	PPC (black)	128 <0-255>	SYS		4
591-0	Image	Adjustment of gamma balance (Text)	L	PPC (black)	128 <0-255>	SYS		4
591-1			M	PPC (black)	128 <0-255>	SYS		4
591-2			H	PPC (black)	128 <0-255>	SYS		4
592-0	Image	Adjustment of gamma balance (Photo)	L	PPC (black)	128 <0-255>	SYS		4
592-1			M	PPC (black)	128 <0-255>	SYS		4
592-2			H	PPC (black)	128 <0-255>	SYS		4
596-0	Image	Adjustment of gamma balance (PS/Smooth)	L	PRT (black)	128 <0-255>	SYS		4
596-1			M	PRT (black)	128 <0-255>	SYS		4
596-2			H	PRT (black)	128 <0-255>	SYS		4

Adjustment mode (05)									
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure		
597-0	Image	Adjustment of gamma balance (PS/Detail)	L	PRT (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L : Low density area M : Medium density area H : High density area	4	
597-1			M	PRT (black)	128 <0-255>			SYS	4
597-2			H	PRT (black)	128 <0-255>			SYS	4
598-0	Image	Adjustment of gamma balance (PCL/Smooth)	L	PRT (black)	128 <0-255>	SYS		4	
598-1			M	PRT (black)	128 <0-255>			SYS	4
598-2			H	PRT (black)	128 <0-255>			SYS	4
599-0	Image	Adjustment of gamma balance (PCL/Detail)	L	PRT (black)	128 <0-255>	SYS		4	
599-1			M	PRT (black)	128 <0-255>			SYS	4
599-2			H	PRT (black)	128 <0-255>			SYS	4
604	Image	Sharpness adjustment	Text /Photo	PPC (black)	0 <0-31>	SYS	When the value increases, the image becomes sharper. When the value de- creases, the image becomes softer. The smaller the value is, the less the moire becomes. * The default value 0 is equivalent to 16 (center value).	1	
605			Text	PPC (black)	0 <0-31>			SYS	1
606			Photo	PPC (black)	0 <0-31>			SYS	1
648	Image	Adjustment of smudged/faint text	Text /Photo	PPC (black)	30 <0-255>	SYS	Adjustment of the smudged/faint text. With increasing the value, the faint text is suppressed, and with decreasing it, the smudged text is suppressed.	1	
654	Image	Adjustment of smudged/faint text	PS	PRT (black)	5 <0-9>	SYS	When the value decreases, the width of text becomes wider.	1	
655			PCL	PRT (black)	5 <0-9>			SYS	1
663	Image	Dot size adjustment in black printing		PRT (black)	255 <0-255>	SYS	Adjusts the dot size of primary scanning direction in black printing. The smaller the value is, the dot becomes smaller.	1	
664	Image	Upper limit in toner saving mode	PS	PRT (black)	176 <0-255>	SYS	When the value decreases, the printing density becomes lighter.	1	
665			PCL	PRT (black)	176 <0-255>			SYS	1

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
667-0	Image	Setting beam level conversion	Beam level 0/4	PPC (black)	0 <0-255>	M	Sets the beam level for 4 divided smoothing. The primary scanning direction is divided into 4 and the dot width is set at the 5 levels (incl. level "0"). The smaller the value is, the smaller the primary scanning direction of the dot becomes.	4
667-1			Beam level 1/4	PPC (black)	63 <0-255>	M		4
667-2			Beam level 2/4	PPC (black)	127 <0-255>	M		4
667-3			Beam level 3/4	PPC (black)	191 <0-255>	M		4
667-4			Beam level 4/4	PPC (black)	255 <0-255>	M		4
693	Image	Range correction on original set on the RADF	Text /Photo	PPC (black)	22 <11-14, 21-24, 31-34, 41-44>	SYS	Sets whether the values of the background peak and text peak are fixed or not. One's place is an adjustment for "automatic density" and ten's place is for "manual density". Once they are fixed, the range correction is performed with standard values. The values of the background peak and text peak affect the reproduction of the background density and text density respectively. Background peak      Text peak 1:                      fixed                      fixed 2:                      varied                      fixed 3:                      fixed                      varied 4:                      varied                      varied	1
694			Photo	PPC (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS		1
695			Text	PPC (black)	22 <11-14, 21-24, 31-34, 41-44>	SYS		1
700	Image	Adjustment of binarized threshold (Text)	Center value	FAX (black)	125 <0-255>	SYS	When the value increases, the image of center value density becomes darker.	1
701			Light step value	FAX (black)	20 <0-255>	SYS		1
702			Dark step value	FAX (black)	20 <0-255>	SYS		1
710	Image	Density adjustment "manual density" fine adjustment/Center value	Photo	FAX (black)	128 <0-255>	SYS	When the value increases, the image of the center step density becomes darker.	1
714			Text /Photo	FAX (black)	128 <0-255>	SYS		1
715	Image	Density adjustment "manual density" fine adjustment/Light step value	Photo	FAX (black)	20 <0-255>	SYS	Sets the changing amount by 1 step at the density adjustment. When the value increases, the image of the "light" steps becomes lighter.	1
719			Text /Photo	FAX (black)	20 <0-255>	SYS		1

Adjustment mode (05)																							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure																
720	Image	Density adjustment "manual density" fine	Photo	FAX (black)	20 <0-255>	SYS	Sets the changing amount by 1 step at the density adjustment. When the value increases, the image of the "dark" steps becomes darker.	1															
724		adjustment/Dark step value	Text /Photo	FAX (black)	20 <0-255>	SYS		1															
725	Image	Density adjustment "automatic density" fine	Photo	FAX (black)	128 <0-255>	SYS	When the value increases, the image becomes darker.	1															
729		adjustment	Text /Photo	FAX (black)	128 <0-255>	SYS		1															
825	Image	Range correction on original manually set on the original glass	Text /Photo	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	Sets whether the values of the background peak and text peak are fixed or not. One's place is an adjustment for "automatic density" and ten's place is for "manual density". Once they are fixed, the range correction is performed with standard values. The values of the background peak and text peak affect the reproduction of the background density and text density respectively. <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td style="text-align: center;">Background peak</td> <td style="text-align: center;">Text peak</td> </tr> <tr> <td>1:</td> <td style="text-align: center;">fixed</td> <td style="text-align: center;">fixed</td> </tr> <tr> <td>2:</td> <td style="text-align: center;">varied</td> <td style="text-align: center;">fixed</td> </tr> <tr> <td>3:</td> <td style="text-align: center;">fixed</td> <td style="text-align: center;">varied</td> </tr> <tr> <td>4:</td> <td style="text-align: center;">varied</td> <td style="text-align: center;">varied</td> </tr> </table>		Background peak	Text peak	1:	fixed	fixed	2:	varied	fixed	3:	fixed	varied	4:	varied	varied	1
			Background peak	Text peak																			
1:			fixed	fixed																			
2:			varied	fixed																			
3:	fixed	varied																					
4:	varied	varied																					
826	Text	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	1																		
827	Photo	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	1																		
828	Gray scale	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	1																		
830	Image	Range correction on original set on the RADF	Text /Photo	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	Sets whether the values of the background peak and text peak are fixed or not. One's place is an adjustment for "automatic density" and ten's place is for "manual density". Once they are fixed, the range correction is performed with standard values. The values of the background peak and text peak affect the reproduction of the background density and text density respectively. <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td style="text-align: center;">Background peak</td> <td style="text-align: center;">Text peak</td> </tr> <tr> <td>1:</td> <td style="text-align: center;">fixed</td> <td style="text-align: center;">fixed</td> </tr> <tr> <td>2:</td> <td style="text-align: center;">varied</td> <td style="text-align: center;">fixed</td> </tr> <tr> <td>3:</td> <td style="text-align: center;">fixed</td> <td style="text-align: center;">varied</td> </tr> <tr> <td>4:</td> <td style="text-align: center;">varied</td> <td style="text-align: center;">varied</td> </tr> </table>		Background peak	Text peak	1:	fixed	fixed	2:	varied	fixed	3:	fixed	varied	4:	varied	varied	1
			Background peak	Text peak																			
1:			fixed	fixed																			
2:			varied	fixed																			
3:	fixed	varied																					
4:	varied	varied																					
831	Text	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	1																		
832	Photo	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	1																		
833	Gray scale	SCN (black)	12 <11-14, 21-24, 31-34, 41-44>	SYS	1																		

Adjustment mode (05)									
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure		
835	Image	Range correction Background peak adjustment	Text	SCN	56	SYS	When the value increases, the background of the image (low density area) becomes harder to be printed out.	1	
836			/Photo	(black)	<0-255>			SYS	1
837			Text	SCN	64			SYS	1
838			(black)	<0-255>	SYS			1	
839	Photo	SCN	48	SYS		1			
840	Image	Sharpness adjustment	Gray scale	SCN	48	SYS	When the value increases, the image becomes sharper. When the value decreases, the image becomes softer.  The smaller the value is, the less the moire becomes.  * The default value 0 is equivalent to 16 (center value).	1	
841			(black)	<0-255>	SYS			1	
842			Text	SCN	0			SYS	1
843			(black)	<0-31>	SYS			1	
844	Photo	SCN	0	SYS		1			
845	Image	Density adjust- ment "manual density" fine adjustment/Center value	Gray scale	SCN	0	SYS	When the value increases, the image becomes darker.	1	
846			(black)	<0-31>	SYS			1	
847			Text	SCN	128			SYS	1
848	/Photo	(black)	<0-255>	SYS		1			
849	Photo	SCN	128	SYS		1			
850	Image	Fine adjustment of back- ground / Center value	Text	SCN	128	SYS	When the value increases, the image becomes darker.	1	
851			(black)	<0-255>	SYS			1	
852			Text	SCN	20			SYS	1
853	/Photo	(black)	<0-255>	SYS		1			
854	Photo	SCN	20	SYS		1			
855	Image	Density adjust- ment "manual density" fine adjustment/Light step value	Text	SCN	20	SYS	When the value increases, the image of the "light" steps becomes lighter.	1	
856			(black)	<0-255>	SYS			1	
857			Text	SCN	20			SYS	1
858	/Photo	(black)	<0-255>	SYS		1			
859	Photo	SCN	20	SYS		1			
860	Image	Fine adjustment of back- ground / Light step value (Image smoothing)	Text	SCN	35	SYS	Sets the changing amount by 1 step at background adjustment. When the value increases, the background of the "light" steps becomes lighter.	1	
861			(black)	<0-255>	SYS			1	
862			Text	SCN	20			SYS	1
863	/Photo	(black)	<0-255>	SYS		1			
864	Photo	SCN	20	SYS		1			
865	Image	Density adjust- ment "manual density" fine adjustment/Dark step value	Text	SCN	20	SYS	When the value increases, the image of the "dark" steps becomes darker.	1	
866			(black)	<0-255>	SYS			1	
867			Text	SCN	20			SYS	1
868	/Photo	(black)	<0-255>	SYS		1			
869	Photo	SCN	20	SYS		1			
870	Image	Fine adjustment of back- ground / Dark step value (Image smoothing)	Text	SCN	20	SYS	Sets the changing amount by 1 step at background adjustment. When the value increases, the background of the "dark" steps becomes darker.	1	
871			(black)	<0-255>	SYS			1	
872			Text	SCN	128			SYS	1
873	/Photo	(black)	<0-255>	SYS		1			
874	Photo	SCN	128	SYS		1			
875	Image	Density adjust- ment "automatic density" fine adjustment	Text	SCN	128	SYS	When the value increases, the image becomes darker.	1	
876			(black)	<0-255>	SYS			1	
877			Text	SCN	128			SYS	1
878	/Photo	(black)	<0-255>	SYS		1			
879	Photo	SCN	128	SYS		1			

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
880-0	Image	Adjustment of gamma balance (Text/Photo)	L	SCN (black)	128 <0-255>	SYS	When the value increases, the density in the target area becomes higher. L : Low density area M : Medium density area H : High density area	4
880-1			M	SCN (black)	128 <0-255>			4
880-2			H	SCN (black)	128 <0-255>			4
881-0	Image	Adjustment of gamma balance (Text)	L	SCN (black)	128 <0-255>	SYS		4
881-1			M	SCN (black)	128 <0-255>			4
881-2			H	SCN (black)	128 <0-255>			4
882-0	Image	Adjustment of gamma balance (Photo)	L	SCN (black)	128 <0-255>	SYS		4
882-1			M	SCN (black)	128 <0-255>			4
882-2			H	SCN (black)	128 <0-255>			4
883-0	Image	Adjustment of gamma balance (Gray scale)	L	SCN (black)	128 <0-255>	SYS		4
883-1			M	SCN (black)	128 <0-255>			4
883-2			H	SCN (black)	128 <0-255>			4
884	Image	Reproduction ratio fine adjustment of primary scanning direction		SCN (black)	128 <0-255>	SYS	When the value increases by "1", the reproduction ratio of primary scanning direction increases by approx. 0.1%. Effective with the resolution other than 600 dpi.	1
976	Maintenance	Equipment number (serial number) display	ALL	-	-	SYS	When this adjustment is performed with this code, the setting code (08- 995) is also performed automatically. (10 digits)	1
1000	Image	Automatic gamma adjustment	PS /600x600dpi	PRT (color)	-	SYS	Adjusts the gradation reproduction for each color, Y, M, C and K.	7
1001			PS /1200x600dpi	PRT (color)	-	SYS		7
1002			PCL /600x600dpi	PRT (color)	-	SYS		7
1003			PCL /1200x600dpi	PRT (color)	-	SYS		7
1010-0	Image	Color balance adjustment for "Y" (PS/600x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4
1010-1			M	PRT (color)	128 <0-255>			4
1010-2			H	PRT (color)	128 <0-255>			4

Adjustment mode (05)									
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure		
1011-0	Image	Color balance adjustment for "M" (PS/600x600dpi/Smooth)	L	PRT (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4	
1011-1			M	PRT (color)	128 <0-255>			SYS	4
1011-2			H	PRT (color)	128 <0-255>			SYS	4
1012-0	Image	Color balance adjustment for "C" (PS/600x600dpi/Smooth)	L	PRT (color)	128 <0-255>	SYS		4	
1012-1			M	PRT (color)	128 <0-255>			SYS	4
1012-2			H	PRT (color)	128 <0-255>			SYS	4
1013-0	Image	Color balance adjustment for "K" (PS/600x600dpi/Smooth)	L	PRT (color)	128 <0-255>	SYS		4	
1013-1			M	PRT (color)	128 <0-255>			SYS	4
1013-2			H	PRT (color)	128 <0-255>			SYS	4
1014-0	Image	Color balance adjustment for "Y" (PS/600x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1014-1			M	PRT (color)	128 <0-255>		SYS	4	
1014-2			H	PRT (color)	128 <0-255>		SYS	4	
1015-0	Image	Color balance adjustment for "M" (PS/600x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1015-1			M	PRT (color)	128 <0-255>		SYS	4	
1015-2			H	PRT (color)	128 <0-255>		SYS	4	
1016-0	Image	Color balance adjustment for "C" (PS/600x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1016-1			M	PRT (color)	128 <0-255>		SYS	4	
1016-2			H	PRT (color)	128 <0-255>		SYS	4	
1017-0	Image	Color balance adjustment for "K" (PS/600x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1017-1			M	PRT (color)	128 <0-255>		SYS	4	
1017-2			H	PRT (color)	128 <0-255>		SYS	4	
1018-0	Image	Color balance adjustment for "Y" (PS/1200x600dpi/Smooth)	L	PRT (color)	128 <0-255>	SYS	4		
1018-1			M	PRT (color)	128 <0-255>		SYS	4	
1018-2			H	PRT (color)	128 <0-255>		SYS	4	

Adjustment mode (05)									
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure		
1019-0	Image	Color balance adjustment for "M" (PS/1200x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4	
1019-1			M	PRT (color)	128 <0-255>			SYS	4
1019-2			H	PRT (color)	128 <0-255>			SYS	4
1020-0	Image	Color balance adjustment for "C" (PS/1200x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS		4	
1020-1			M	PRT (color)	128 <0-255>	SYS		4	
1020-2			H	PRT (color)	128 <0-255>	SYS		4	
1021-0	Image	Color balance adjustment for "K" (PS/1200x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS		4	
1021-1			M	PRT (color)	128 <0-255>	SYS		4	
1021-2			H	PRT (color)	128 <0-255>	SYS		4	
1022-0	Image	Color balance adjustment for "Y" (PS/1200x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1022-1			M	PRT (color)	128 <0-255>	SYS	4		
1022-2			H	PRT (color)	128 <0-255>	SYS	4		
1023-0	Image	Color balance adjustment for "M" (PS/1200x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1023-1			M	PRT (color)	128 <0-255>	SYS	4		
1023-2			H	PRT (color)	128 <0-255>	SYS	4		
1024-0	Image	Color balance adjustment for "C" (PS/1200x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1024-1			M	PRT (color)	128 <0-255>	SYS	4		
1024-2			H	PRT (color)	128 <0-255>	SYS	4		
1025-0	Image	Color balance adjustment for "K" (PS/1200x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1025-1			M	PRT (color)	128 <0-255>	SYS	4		
1025-2			H	PRT (color)	128 <0-255>	SYS	4		
1026-0	Image	Color balance adjustment for "Y" (PCL/600x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS	4		
1026-1			M	PRT (color)	128 <0-255>	SYS	4		
1026-2			H	PRT (color)	128 <0-255>	SYS	4		



Adjustment mode (05)									
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure		
1027-0	Image	Color balance adjustment for "M" (PCL/600x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4	
1027-1			M	PRT (color)	128 <0-255>			SYS	4
1027-2			H	PRT (color)	128 <0-255>			SYS	4
1028-0	Image	Color balance adjustment for "C" (PCL/600x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS		4	
1028-1			M	PRT (color)	128 <0-255>			SYS	4
1028-2			H	PRT (color)	128 <0-255>			SYS	4
1029-0	Image	Color balance adjustment for "K" (PCL/600x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS		4	
1029-1			M	PRT (color)	128 <0-255>			SYS	4
1029-2			H	PRT (color)	128 <0-255>			SYS	4
1030-0	Image	Color balance adjustment for "Y" (PCL/600x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1030-1			M	PRT (color)	128 <0-255>		SYS	4	
1030-2			H	PRT (color)	128 <0-255>		SYS	4	
1031-0	Image	Color balance adjustment for "M" (PCL/600x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1031-1			M	PRT (color)	128 <0-255>		SYS	4	
1031-2			H	PRT (color)	128 <0-255>		SYS	4	
1032-0	Image	Color balance adjustment for "C" (PCL/600x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1032-1			M	PRT (color)	128 <0-255>		SYS	4	
1032-2			H	PRT (color)	128 <0-255>		SYS	4	
1033-0	Image	Color balance adjustment for "K" (PCL/600x600dpi/ Detail)	L	PRT (color)	128 <0-255>	SYS	4		
1033-1			M	PRT (color)	128 <0-255>		SYS	4	
1033-2			H	PRT (color)	128 <0-255>		SYS	4	
1034-0	Image	Color balance adjustment for "Y" (PCL/ 1200x600dpi/ Smooth)	L	PRT (color)	128 <0-255>	SYS	4		
1034-1			M	PRT (color)	128 <0-255>		SYS	4	
1034-2			H	PRT (color)	128 <0-255>		SYS	4	

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1035-0	Image	Color balance adjustment for "M" (PCL/1200x600dpi/Smooth)	L	PRT (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4
1035-1			M	PRT (color)	128 <0-255>	SYS		4
1035-2			H	PRT (color)	128 <0-255>	SYS		4
1036-0	Image	Color balance adjustment for "C" (PCL/1200x600dpi/Smooth)	L	PRT (color)	128 <0-255>	SYS		4
1036-1			M	PRT (color)	128 <0-255>	SYS		4
1036-2			H	PRT (color)	128 <0-255>	SYS		4
1037-0	Image	Color balance adjustment for "K" (PCL/1200x600dpi/Smooth)	L	PRT (color)	128 <0-255>	SYS		4
1037-1			M	PRT (color)	128 <0-255>	SYS		4
1037-2			H	PRT (color)	128 <0-255>	SYS		4
1038-0	Image	Color balance adjustment for "Y" (PCL/1200x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4	
1038-1			M	PRT (color)	128 <0-255>	SYS	4	
1038-2			H	PRT (color)	128 <0-255>	SYS	4	
1039-0	Image	Color balance adjustment for "M" (PCL/1200x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4	
1039-1			M	PRT (color)	128 <0-255>	SYS	4	
1039-2			H	PRT (color)	128 <0-255>	SYS	4	
1040-0	Image	Color balance adjustment for "C" (PCL/1200x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4	
1040-1			M	PRT (color)	128 <0-255>	SYS	4	
1040-2			H	PRT (color)	128 <0-255>	SYS	4	
1041-0	Image	Color balance adjustment for "K" (PCL/1200x600dpi/Detail)	L	PRT (color)	128 <0-255>	SYS	4	
1041-1			M	PRT (color)	128 <0-255>	SYS	4	
1041-2			H	PRT (color)	128 <0-255>	SYS	4	
1046-0	Image	Adjustment of maximum toner amount (Plain paper)	PS	PRT (color)	255 <0-255>	SYS	When the value decreases, the image becomes lighter.	4
1046-1			PCL	PRT (color)	255 <0-255>	SYS	<b>Note:</b> When the value increases, the image offsetting may occur.	4
1047-0	Image	Adjustment of maximum toner amount (Thick paper 1)	PS	PRT (color)	255 <0-255>	SYS		4
1047-1			PCL	PRT (color)	255 <0-255>	SYS		4

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1048-0	Image	Adjustment of maximum toner amount (Thick paper 2)	PS	PRT (color)	255 <0-255>	SYS	When the value decreases, the image becomes lighter. <b>Note:</b> When the value increases, the image offsetting may occur.	4
1048-1			PCL	PRT (color)	255 <0-255>	SYS		4
1049-0	Image	Adjustment of maximum toner amount (Thick paper 3)	PS	PRT (color)	255 <0-255>	SYS		4
1049-1			PCL	PRT (color)	255 <0-255>	SYS		4
1050-0	Image	Adjustment of maximum toner amount (OHP film)	PS	PRT (color)	200 <0-255>	SYS		4
1050-1			PCL	PRT (color)	200 <0-255>	SYS		4
1055	Image	Upper limit in toner saving mode		PRT (color)	176 <0-255>	SYS	When the value decreases, the printing density becomes lighter.	1
1056				PRT (color)	176 <0-255>	SYS		1
1057				PRT (color)	176 <0-255>	SYS		1
1058				PRT (color)	176 <0-255>	SYS		1
1060	Image	Reproduction ratio fine adjustment of primary scanning direction		SCN (color)	128 <0-255>	SYS	When the value increases by "1", the reproduction ratio of primary scanning direction increases by approx. 0.1%. Effective with the resolution other than 600 dpi.	1
1065	Image	Judgment threshold for ACS		SCN (color)	70 <0-255>	SYS	When the value increases, originals tend to be judged as monochrome, and when the value decreases, they	1
1066	Image	Judgment threshold for ACS on original set on the RADF		SCN (color)	70 <0-255>	SYS	tend to be judged as color in auto-color mode.	1
1070	Image	Fine adjustment of background	Text	SCN (color)	0 <0-50>	SYS	Adjusts the level of background. When the value increases, the background becomes more brightened.	1
1071			Printed image	SCN (color)	0 <0-50>	SYS		1
1072			Photo	SCN (color)	0 <0-50>	SYS		1
1075	Image	Fine adjustment of black density	Text	SCN (color)	0 <0-4>	SYS	Adjusts the black density of the scanned image. When the value increases, the black density becomes darker.	1
1076			Printed image	SCN (color)	0 <0-4>	SYS		1
1077			Photo	SCN (color)	0 <0-4>	SYS		1
1080	Image	RGB conversion method selection	Text	SCN (color)	0 <0-3>	SYS	Sets the color space format of the output image.	1
1081			Printed image	SCN (color)	0 <0-3>	SYS	0: sRGB 1: AppleRGB	1
1082			Photo	SCN (color)	0 <0-3>	SYS	2: ROMMRGB 3: AdobeRGB	1

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1086	Image	Sharpness adjustment	Text	SCN (color)	0 <0-31>	SYS	When the value increases, the image becomes sharper. When the value decreases, the image becomes softer. The smaller the value is, the less the moire becomes. * The default value 0 is equivalent to 16 (center value).	1
1087			Printed image	SCN (color)	0 <0-31>			1
1088			Photo	SCN (color)	0 <0-31>			1
1550	Image	Density adjustment "manual density" fine adjustment/Center value	Text /Photo	PPC (color)	128 <0-255>	SYS	When the value increases, the image becomes darker.	1
1551			Text	PPC (color)	128 <0-255>			1
1552			Printed image	PPC (color)	128 <0-255>			1
1553			Photo	PPC (color)	128 <0-255>			1
1554			Map	PPC (color)	128 <0-255>			1
1560	Image	Density adjustment "manual density" fine adjustment/Dark step value	Text /Photo	PPC (color)	20 <0-255>	SYS	Sets the changing amount by 1 step at the density adjustment. When the value increases, the image of the "dark" steps becomes darker.	1
1561			Text	PPC (color)	20 <0-255>			1
1562			Printed image	PPC (color)	20 <0-255>			1
1563			Photo	PPC (color)	20 <0-255>			1
1564			Map	PPC (color)	20 <0-255>			1
1570	Image	Density adjustment "manual density" fine adjustment/Light step value	Text /Photo	PPC (color)	20 <0-255>	SYS	Sets the changing amount by 1 step at the density adjustment. When the value increases, the image of the "light" steps becomes lighter.	1
1571			Text	PPC (color)	20 <0-255>			1
1572			Printed image	PPC (color)	20 <0-255>			1
1573			Photo	PPC (color)	20 <0-255>			1
1574			Map	PPC (color)	20 <0-255>			1
1580	Image	Density adjustment "automatic density" fine adjustment	Text /Photo	PPC (color)	128 <0-255>	SYS	When the value increases, the image becomes darker.	1
1581			Text	PPC (color)	128 <0-255>			1
1582			Printed image	PPC (color)	128 <0-255>			1
1583			Photo	PPC (color)	128 <0-255>			1
1584			Map	PPC (color)	128 <0-255>			1

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1612	Image	Adjustment of maximum toner amount	Plain paper	PPC (color)	255 <0-255>	SYS	When the value decreases, the image becomes lighter.  <b>Note:</b> When the value increases, image offsetting may occur.	1
1613			Thick paper 1	PPC (color)	249 <0-255>	SYS		1
1614			Thick paper 2	PPC (color)	237 <0-255>	SYS		1
1615			Thick paper 3	PPC (color)	237 <0-255>	SYS		1
1616			OHP film	PPC (color)	249 <0-255>	SYS		1
1630	Image	Maximum text density adjustment	Y	PPC (color)	5 <0-10>	SYS	When the value increases by "1", the maximum text density of each color becomes darker.	1
1631			M	PPC (color)	5 <0-10>	SYS		1
1632			C	PPC (color)	5 <0-10>	SYS		1
1633			K	PPC (color)	5 <0-10>	SYS		1
1642	Image	Automatic gamma adjustment	Color/Black	PPC	-	SYS	Automatic adjustment of gradation reproduction in the Full Color Mode (each color of Y, M, C and K) and Black Mode.	7
1643			Color	PPC	-	SYS		Automatic adjustment of gradation reproduction in the Full Color Mode (each color of Y, M, C and K).
1675	Image	Judgment threshold for ACS		PPC (color)	70 <0-255>	SYS	When the value increases, originals tend to be judged as black, and when the value decreases, they tend to be judged as color in auto-color mode.	1
1676	Image	Judgment threshold for ACS on original set on the RADF		PPC (color)	70 <0-255>	SYS		1
1688	Image	Automatic offsetting adjustment for background processing (background density)	Text	PPC (color)	128 <0-255>	SYS	When the value increases, the background becomes darker.	1
1689			/Photo	PPC (color)	128 <0-255>	SYS		1
1690			Printed image	PPC (color)	128 <0-255>	SYS		1
1691			Photo	PPC (color)	128 <0-255>	SYS		1
1692			Map	PPC (color)	128 <0-255>	SYS		1
1693	Image	Automatic offsetting adjustment for background processing (text density)	Text	PPC (color)	128 <0-255>	SYS	When the value increases, the text becomes darker.	1
1694			/Photo	PPC (color)	128 <0-255>	SYS		1
1695			Printed image	PPC (color)	128 <0-255>	SYS		1
1696			Photo	PPC (color)	128 <0-255>	SYS		1
1697			Map	PPC (color)	128 <0-255>	SYS		1

Adjustment mode (05)									
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure		
1698	Image	Manual offsetting adjustment for background processing (background density)	Text	PPC	128	SYS	When the value increases, the background becomes darker.	1	
			/Photo	(color)	<0-255>				
1699			Text	PPC	128				SYS
			(color)	<0-255>					
1700			Printed image	PPC	128				SYS
	(color)	<0-255>							
1701		Photo	PPC	128	SYS				
	(color)	<0-255>							
1702		Map	PPC	128	SYS				
	(color)	<0-255>							
1708	Image	Manual offsetting adjustment for background processing (text density)	Text	PPC	128	SYS	When the value increases, the text becomes darker.	1	
			/Photo	(color)	<0-255>				
1709			Text	PPC	128				SYS
			(color)	<0-255>					
1710			Printed image	PPC	128				SYS
	(color)	<0-255>							
1711		Photo	PPC	128	SYS				
	(color)	<0-255>							
1712		Map	PPC	128	SYS				
	(color)	<0-255>							
1725	Image	Text/Photo reproduction level adjustment	PPC	0	SYS	0: Default 1: Photo oriented 2 (The printed image reproduction level higher than that of the Photo oriented 1) 2: Photo oriented 1 (The printed image reproduction level higher than that of the Default) 3: Equivalent to the Default 4: Text oriented 1 (The text reproduction level higher than that of the Default) 5: Text oriented 2 (The text reproduction level higher than that of the Text oriented 1)	1		
1737	Image	Sharpness adjustment / Full Color Mode	Text	PPC	0	SYS	When the value increases, the image becomes sharper. When the value decreases, the image becomes softer. The smaller the value is, the less the moire becomes.	1	
			/Photo	(color)	<0-31>				
1738			Text	PPC	0				SYS
			(color)	<0-31>					
1739			Printed image	PPC	0				SYS
	(color)	<0-31>							
1740		Photo	PPC	0	SYS	*The default value 0 is equivalent to 16 (center value).	1		
	(color)	<0-31>							
1741		Map	PPC	0	SYS		1		
	(color)	<0-31>							
1757	Image	Sharpness adjustment /Auto Color Mode (Text/Photo)	PPC	EUR: 0 UC: 0 JAPN: 22 <0-31>	SYS	When the value increases, the image becomes sharper. When the value decreases, the image becomes softer. The smaller the value is, the less the moire becomes. * The default value 0 is equivalent to 16(center value).	1		

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1761	Image	Black reproduction switching	PPC (color)	0 <0-1>	SYS	0: Default 1: Black reproduction oriented	1	
1769	Image	Setting for highlighter	Vivid	PPC (color)	0 <0-2>	SYS	Sets the reproduction mode for highlighter for four types of one touch adjustment. 0: Default 1: Highlighter 1 2: Highlighter 2	1
1770			Clear	PPC (color)	0 <0-2>	SYS		1
1771			Warm	PPC (color)	0 <0-2>	SYS		1
1772			Cool	PPC (color)	0 <0-2>	SYS		1
1779-0	Image	Color balance adjustment for "Y" (Text/Photo)	L	PPC (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4
1779-1			M	PPC (color)	128 <0-255>	SYS		4
1779-2			H	PPC (color)	128 <0-255>	SYS		4
1780-0	Image	Color balance adjustment for "Y" (Text)	L	PPC (color)	128 <0-255>	SYS		4
1780-1			M	PPC (color)	128 <0-255>	SYS		4
1780-2			H	PPC (color)	128 <0-255>	SYS		4
1781-0	Image	Color balance adjustment for "Y" (Printed image)	L	PPC (color)	128 <0-255>	SYS		4
1781-1			M	PPC (color)	128 <0-255>	SYS		4
1781-2			H	PPC (color)	128 <0-255>	SYS		4
1782-0	Image	Color balance adjustment for "Y" (Photo)	L	PPC (color)	128 <0-255>	SYS		4
1782-1			M	PPC (color)	128 <0-255>	SYS		4
1782-2			H	PPC (color)	128 <0-255>	SYS		4
1783-0	Image	Color balance adjustment for "Y" (Map)	L	PPC (color)	128 <0-255>	SYS		4
1783-1			M	PPC (color)	128 <0-255>	SYS		4
1783-2			H	PPC (color)	128 <0-255>	SYS		4
1784-0	Image	Color balance adjustment for "M" (Text/Photo)	L	PPC (color)	128 <0-255>	SYS		4
1784-1			M	PPC (color)	128 <0-255>	SYS		4
1784-2			H	PPC (color)	128 <0-255>	SYS		4
1785-0	Image	Color balance adjustment for "M" (Text)	L	PPC (color)	128 <0-255>	SYS		4
1785-1			M	PPC (color)	128 <0-255>	SYS		4
1785-2			H	PPC (color)	128 <0-255>	SYS		4

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1786-0	Image	Color balance adjustment for "M" (Printed image)	L	PPC (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4
1786-1			M	PPC (color)	128 <0-255>	SYS		4
1786-2			H	PPC (color)	128 <0-255>	SYS		4
1787-0	Image	Color balance adjustment for "M" (Photo)	L	PPC (color)	128 <0-255>	SYS		4
1787-1			M	PPC (color)	128 <0-255>	SYS		4
1787-2			H	PPC (color)	128 <0-255>	SYS		4
1788-0	Image	Color balance adjustment for "M" (Map)	L	PPC (color)	128 <0-255>	SYS		4
1788-1			M	PPC (color)	128 <0-255>	SYS		4
1788-2			H	PPC (color)	128 <0-255>	SYS		4
1789-0	Image	Color balance adjustment for "C" (Text/Photo)	L	PPC (color)	128 <0-255>	SYS	4	
1789-1			M	PPC (color)	128 <0-255>	SYS	4	
1789-2			H	PPC (color)	128 <0-255>	SYS	4	
1790-0	Image	Color balance adjustment for "C" (Text)	L	PPC (color)	128 <0-255>	SYS	4	
1790-1			M	PPC (color)	128 <0-255>	SYS	4	
1790-2			H	PPC (color)	128 <0-255>	SYS	4	
1791-0	Image	Color balance adjustment for "C" (Printed image)	L	PPC (color)	128 <0-255>	SYS	4	
1791-1			M	PPC (color)	128 <0-255>	SYS	4	
1791-2			H	PPC (color)	128 <0-255>	SYS	4	
1792-0	Image	Color balance adjustment for "C" (Photo)	L	PPC (color)	128 <0-255>	SYS	4	
1792-1			M	PPC (color)	128 <0-255>	SYS	4	
1792-2			H	PPC (color)	128 <0-255>	SYS	4	
1793-0	Image	Color balance adjustment for "C" (Map)	L	PPC (color)	128 <0-255>	SYS	4	
1793-1			M	PPC (color)	128 <0-255>	SYS	4	
1793-2			H	PPC (color)	128 <0-255>	SYS	4	



Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1794-0	Image	Color balance adjustment for "K" (Text/Photo)	L	PPC (color)	128 <0-255>	SYS	The target color, mode and density area become darker as the value increases. L : Low density area M : Medium density area H : High density area	4
1794-1			M	PPC (color)	128 <0-255>	SYS		4
1794-2			H	PPC (color)	128 <0-255>	SYS		4
1795-0	Image	Color balance adjustment for "K" (Text)	L	PPC (color)	128 <0-255>	SYS		4
1795-1			M	PPC (color)	128 <0-255>	SYS		4
1795-2			H	PPC (color)	128 <0-255>	SYS		4
1796-0	Image	Color balance adjustment for "K" (Printed image)	L	PPC (color)	128 <0-255>	SYS		4
1796-1			M	PPC (color)	128 <0-255>	SYS		4
1796-2			H	PPC (color)	128 <0-255>	SYS		4
1797-0	Image	Color balance adjustment for "K" (Photo)	L	PPC (color)	128 <0-255>	SYS	4	
1797-1			M	PPC (color)	128 <0-255>	SYS	4	
1797-2			H	PPC (color)	128 <0-255>	SYS	4	
1798-0	Image	Color balance adjustment for "K" (Map)	L	PPC (color)	128 <0-255>	SYS	4	
1798-1			M	PPC (color)	128 <0-255>	SYS	4	
1798-2			H	PPC (color)	128 <0-255>	SYS	4	
1800-0	Image control	Upper limit value of contrast voltage	Y	ALL	650 <0-999>	M	Sets the upper limit value of the contrast voltage at the image quality control. (Unit: V)	4
1800-1			M	ALL	650 <0-999>	M		4
1800-2			C	ALL	650 <0-999>	M		4
1800-3			K	ALL	600 <0-999>	M		4
1801-0	Image control	Lower limit value of contrast voltage	Y	ALL	120 <0-999>	M	Sets the lower limit value of the contrast voltage at the image quality control. (Unit: V)	4
1801-1			M	ALL	120 <0-999>	M		4
1801-2			C	ALL	120 <0-999>	M		4
1801-3			K	ALL	120 <0-999>	M		4

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1802-0	Image control	Upper limit value of laser power	Y	ALL	800 <0-999>	M	Sets the upper limit value of the laser power at the image quality control. (Unit: $\mu$ W)	4
1802-1			M	ALL	800 <0-999>	M		4
1802-2			C	ALL	800 <0-999>	M		4
1802-3			K	ALL	800 <0-999>	M		4
1803-0	Image control	Lower limit value of laser power	Y	ALL	350 <0-999>	M	Sets the lower limit value of the laser power at the image quality control. (Unit: $\mu$ W)	4
1803-1			M	ALL	350 <0-999>	M		4
1803-2			C	ALL	350 <0-999>	M		4
1803-3			K	ALL	350 <0-999>	M		4
1804-0	Image control	Background voltage actual value display	Y	ALL	125 <0-999>	M	Displays the background voltage when printing is operated. (Unit: V)	10
1804-1			M	ALL	125 <0-999>	M		10
1804-2			C	ALL	125 <0-999>	M		10
1804-3			K	ALL	125 <0-999>	M		10
1805-0	Image control	Drum surface potential characteristic/slope factor display	Y	ALL	979 <0-999>	M	Displays the slope factor of the approximate expression of the drum surface potential to the main charger grid voltage at the open-loop control.	10
1805-1			M	ALL	979 <0-999>	M		10
1805-2			C	ALL	979 <0-999>	M		10
1805-3			K	ALL	990 <0-999>	M		10
1806-0	Image control	Drum surface potential characteristic/offset factor display	Y	ALL	-6 <-999-999>	M	Displays the offset factor of the approximate expression of the drum surface potential to the main charger grid voltage at the open-loop control.	10
1806-1			M	ALL	-6 <-999-999>	M		10
1806-2			C	ALL	-6 <-999-999>	M		10
1806-3			K	ALL	-4 <-999-999>	M		10
1807-0	Image control	Drum exposure voltage characteristic/slope factor display (main charger grid low voltage area)	Y	ALL	58 <0-999>	M	Displays the slope factor of the approximate expression of the drum exposure voltage to the main charger grid voltage at the open-loop control.	10
1807-1			M	ALL	58 <0-999>	M		10
1807-2			C	ALL	58 <0-999>	M		10
1807-3			K	ALL	60 <0-999>	M		10

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1808-0	Image control	Drum exposure voltage characteristic/offset factor display (main charger grid low voltage area)	Y	ALL	35 <-999-999>	M	Displays the offset factor of the approximate expression of the drum exposure voltage to the main charger grid voltage at the open-loop control.	10
1808-1			M	ALL	35 <-999-999>	M		10
1808-2			C	ALL	35 <-999-999>	M		10
1808-3			K	ALL	42 <-999-999>	M		10
1809-0	Image control	Drum exposure voltage characteristic/slope factor display (main charger grid high voltage area)	Y	ALL	49 <0-999>	M	Displays the slope factor of the approximate expression of the drum exposure voltage to the main charger grid voltage at the open-loop control.	10
1809-1			M	ALL	49 <0-999>	M		10
1809-2			C	ALL	49 <0-999>	M		10
1809-3			K	ALL	53 <0-999>	M		10
1810-0	Image control	Drum exposure voltage characteristic/offset factor display (main charger grid high voltage area)	Y	ALL	41 <-999-999>	M	Displays the offset factor of the approximate expression of the drum exposure voltage to the main charger grid voltage at the open-loop control.	10
1810-1			M	ALL	41 <-999-999>	M		10
1810-2			C	ALL	41 <-999-999>	M		10
1810-3			K	ALL	47 <-999-999>	M		10
1811-0	Image control	Contrast voltage/upper limit actual value display	Y	ALL	500 <0-999>	M	Displays the upper limit value of the contrast voltage when printing is operated. (Unit: V)	10
1811-1			M	ALL	500 <0-999>	M		10
1811-2			C	ALL	500 <0-999>	M		10
1811-3			K	ALL	600 <0-999>	M		10
1812-0	Image control	Contrast voltage/lower limit actual value display	Y	ALL	120 <0-999>	M	Displays the lower limit value of the contrast voltage when printing is operated. (Unit: V)	10
1812-1			M	ALL	120 <0-999>	M		10
1812-2			C	ALL	120 <0-999>	M		10
1812-3			K	ALL	120 <0-999>	M		10
1813-0	Image control	Display of background voltage/upper limit actual value	Y	ALL	170 <0-999>	M	Displays the upper limit value of the background voltage when printing is operated. (Unit: V)	10
1813-1			M	ALL	170 <0-999>	M		10
1813-2			C	ALL	170 <0-999>	M		10
1813-3			K	ALL	170 <0-999>	M		10

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1814-0	Image control	Background voltage/lower limit actual value display	Y	ALL	80 <0-999>	M	Displays the lower limit value of the background voltage when printing is operated. (Unit: V)	10
1814-1			M	ALL	80 <0-999>	M		10
1814-2			C	ALL	80 <0-999>	M		10
1814-3			K	ALL	80 <0-999>	M		10
1815-0	Image control	Contrast voltage/correction number of time display	Y	ALL	0 <0-255>	M	Displays the actual number of time the contrast voltage has been corrected at the closed-loop control.	10
1815-1			M	ALL	0 <0-255>	M		10
1815-2			C	ALL	0 <0-255>	M		10
1815-3			K	ALL	0 <0-255>	M		10
1816-0	Image control	Laser power correction/number of time display	Y	ALL	0 <0-255>	M	Displays the actual number of time the laser power has been corrected at the closed-loop control.	10
1816-1			M	ALL	0 <0-255>	M		10
1816-2			C	ALL	0 <0-255>	M		10
1816-3			K	ALL	0 <0-255>	M		10
1817	Image control	Laser power actual value display		PPC (black)	92 <0-255>	M	Displays the laser power value when copying in the Black Mode. (Bit value)	2
1819	Image control	Laser power correcting factor		PPC (black)	100 <100-255>	M	Perform the correction of the setting 05-1817. (Unit: %)	1
1820	Image control	Laser power actual value display		PRT (black)	92 <0-255>	M	Displays the laser power value when printing in the Black Mode. (Bit value)	2
1821	Image control	Laser power correcting factor		PRT (black)	100 <100-255>	M	Perform the correction of the setting 05-1820. (Unit: %)	1
1822-0	Transfer	2nd transfer roller bias correction of trailing edge of paper	Plain paper	ALL	100 <0-255>	M	Corrects the 2nd transfer roller bias output of the trailing edge of paper (05-227, 229, 230, 231 and 232). Correction factor: %	14
1822-1			Thick paper 1	ALL	88 <0-255>	M		14
1822-2			Thick paper 2	ALL	90 <0-255>	M		14
1822-3			Thick paper 3	ALL	90 <0-255>	M		14
1822-4			OHP film	ALL	90 <0-255>	M		14

Adjustment mode (05)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
1823-0	Transfer	Display of intermediate level of 2nd transfer roller bias actual value of trailing edge of paper (Plain paper)	Single side	ALL (black)	145 <0-255>	M	Displays the value of 2nd transfer roller bias when the actual printing is operated. (The value corrected in 05-1822 is displayed.)	10
1823-1			Reverse side at duplexing	ALL (black)	120 <0-255>	M		10
1823-2			Single side	ALL (color)	139 <0-255>	M		10
1823-3			Reverse side at duplexing	ALL (color)	118 <0-255>	M		10
1825-0	Transfer	Display of intermediate level of 2nd transfer roller bias actual value of trailing edge of paper (Thick paper 1)	Single side	ALL (black)	138 <0-255>	M		10
1825-1			Reverse side at duplexing	ALL (black)	112 <0-255>	M		10
1825-2			Single side	ALL (color)	123 <0-255>	M		10
1825-3			Reverse side at duplexing	ALL (color)	112 <0-255>	M		10
1826-0	Transfer	Display of intermediate level of 2nd transfer roller bias actual value of trailing edge of paper (Thick paper 2)		ALL (black)	145 <0-255>	M	Displays the value of 2nd transfer roller bias when the actual printing is operated. (The value corrected in 05-1822 is displayed.)	10
1826-1				ALL (color)	139 <0-255>	M		10
1827-0	Transfer	Display of intermediate level of 2nd transfer roller bias actual value of trailing edge of paper (Thick paper 3)		ALL (black)	145 <0-255>	M		10
1827-1				ALL (color)	139 <0-255>	M		10
1828-0	Transfer	Display of intermediate level of 2nd transfer roller bias actual value of trailing edge of paper (OHP film)		ALL (black)	118 <0-255>	M		10
1828-1				ALL (color)	112 <0-255>	M		10
1829-0	Transfer	1st transfer roller bias correction at deceleration	Thick paper 2	ALL	40 <0-100>	M	Corrects the 1st transfer roller bias output. Correction factor: %	14
1829-1			Thick paper 3	ALL	60 <0-100>	M		14
1829-2			OHP film	ALL	40 <0-100>	M		14
1831	Transfer	1st transfer roller bias actual value display at deceleration (Thick paper 2)		ALL (black)	190 <0-255>	M	Displays the value of 1st transfer roller bias at deceleration when the actual printing is operated. (The value corrected in 05-1829 is displayed.)	2
1832	Transfer	1st transfer roller bias actual value display at deceleration (Thick paper 3)		ALL (black)	180 <0-255>	M		2
1833	Transfer	1st transfer roller bias actual value display at deceleration (OHP film)		ALL (black)	200 <0-255>	M		2

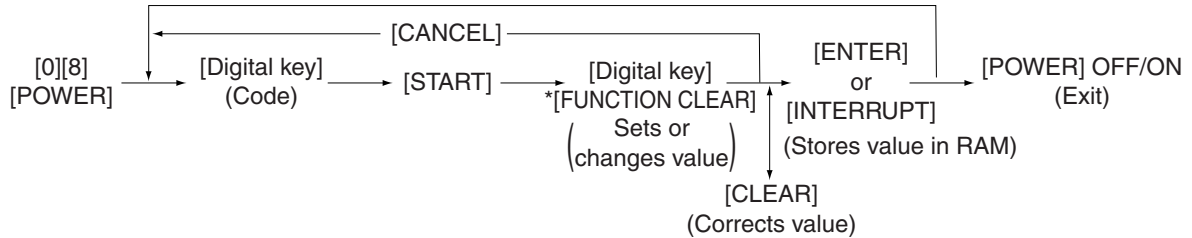
Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1834	Transfer	1st transfer roller bias output adjustment in low-speed color printing (Plain paper / Thick paper 1)	ALL (color)	175 <0-255>	M	Adjusts the output value of the 1st transfer roller bias when the transfers of all colors (Y, M, C and K) have finished. When the value decreases, the 1st transfer roller bias output increases.  This adjustment is valid only when the value of the code 08-497 is "1" (6 pages/minute).	1	
1835	Transfer	1st transfer roller bias offsetting in low-speed color printing (Plain paper / Thick paper 1)	ALL (color)	5 <0-10>	M	Sets the offset amount of the 1st transfer roller bias when the transfers of all colors (Y, M, C and K) have finished.  This adjustment is valid only when the value of the code 08-497 is "1" (6 pages/minute).  0: -500 V 1: -400 V 2: -300 V 3: -200 V 4: -100 V 5: 0 V 6: +100 V 7: +200 V 8: +300 V 9: +400 V 10: +500 V	1	
1836	Transfer	1st transfer roller bias actual value display in low-speed color printing (Plain paper / Thick paper 1)	ALL (color)	175 <0-255>	M	Displays the actual value of the 1st transfer roller bias when the transfers of all colors (Y, M, C and K) have finished.  This adjustment is valid only when the value of the code 08-497 is "1" (6 pages/minute).	2	
1837	Transfer	1st transfer roller bias output adjustment (Tab paper)	ALL (black)	135 <0-225>	M	As the value decreases, the 1st transfer roller bias output increases correspondingly.  The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	3	
1838-0	Transfer	1st transfer roller bias output adjustment (Tab paper)	Y	ALL (color)	135 <0-225>	M	As the value decreases, the 1st transfer roller bias output increases correspondingly.  The adjustment value becomes effective when the Setting Mode (08-541, 549 and 551) is 0 (invalid).	14
1838-1			M	ALL (color)	140 <0-225>	M		14
1838-2			C	ALL (color)	145 <0-225>	M		14
1838-3			K	ALL (color)	150 <0-225>	M		14
1839-0	Transfer	2nd transfer roller bias correction of leading/trailing edge of paper (Tab paper)	Intermediate level bias of trailing edge	ALL	100 <0-100>	M	Corrects the 2nd transfer roller bias output of leading/trailing edge of paper (05-1840). (Correcting factor: %)	14
1839-1			Bias of leading/trailing edge	ALL	90 <0-100>	M		14

Adjustment mode (05)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1840-0	Transfer	2nd transfer roller bias output adjustment (Tab paper)	ALL (black)	143 <0-158>	M	As the value decreases, the 2nd transfer roller bias output increases correspondingly.	14	
1840-1			ALL (color)	137 <0-158>	M		The adjustment value becomes effective when the Setting Mode (08-544, 549 and 551) is 0 (invalid).	14
1841-0	Transfer	2nd transfer roller bias offsetting adjustment (Tab paper)	ALL (black)	5 <0-10>	M	Sets the offset amount of 2nd transfer roller bias. 0: -500V 1: -400V 2: -300V 3: -200V 4: -100V 5: 0V 6: +100V 7: +200V 8: +300V 9: +400V 10: +500V	4	
1841-1			ALL (color)	5 <0-10>	M			4
1842-0	Transfer	Actual value display of 2nd transfer roller bias of leading/trailing edge of paper (Tab paper)	Intermediate level bias of trailing edge	ALL (black)	143 <0-225>	Displays the value of 2nd transfer roller bias on the leading/trailing edge of paper when printing is performed. (The value corrected in 05-1839 is displayed.)	10	
1842-1			Bias of leading/trailing edge	ALL (black)	145 <0-225>		M	10
1842-2			Intermediate level bias of trailing edge	ALL (color)	137 <0-225>		M	10
1842-3			Bias of leading/trailing edge	ALL (color)	140 <0-225>		M	10
1843	Transfer	1st transfer roller bias actual value display (Tab paper)	ALL (black)	135 <0-225>	M	Displays the value of 1st transfer roller bias when printing is operated.	2	
1844-0	Transfer	1st transfer roller bias actual value display (Tab paper)	Y	ALL (color)	135 <0-225>	Displays the value of 1st transfer roller bias when printing is operated.	10	
1844-1			M	ALL (color)	140 <0-225>		M	10
1844-2			C	ALL (color)	145 <0-225>		M	10
1844-3			K	ALL (color)	150 <0-225>		M	10
1845-0	Transfer	2nd transfer roller bias actual value display (Tab paper)	ALL (black)	143 <0-158>	M	Displays the value of 2nd transfer roller bias when printing is operated.	10	
1845-1			ALL (color)	137 <0-158>	M		10	

## 2.2.5 Setting mode (08)

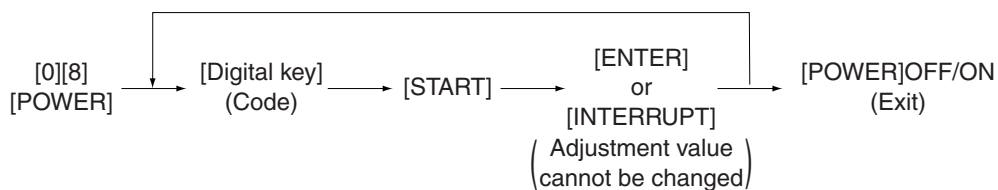
The items in the setting code list can be set or changed in this setting mode (08).

### Procedure 1

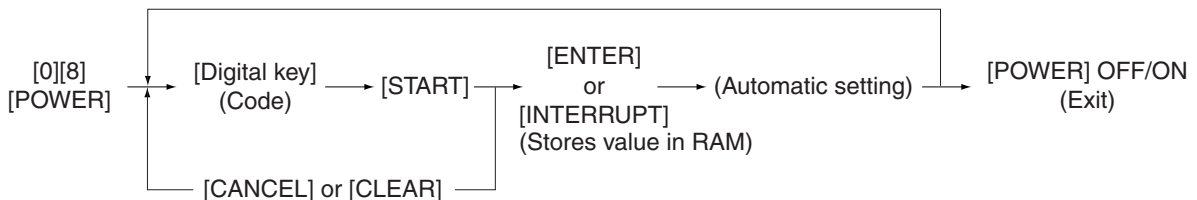


\*Press [FUNCTION CLEAR] to enter minus (-).

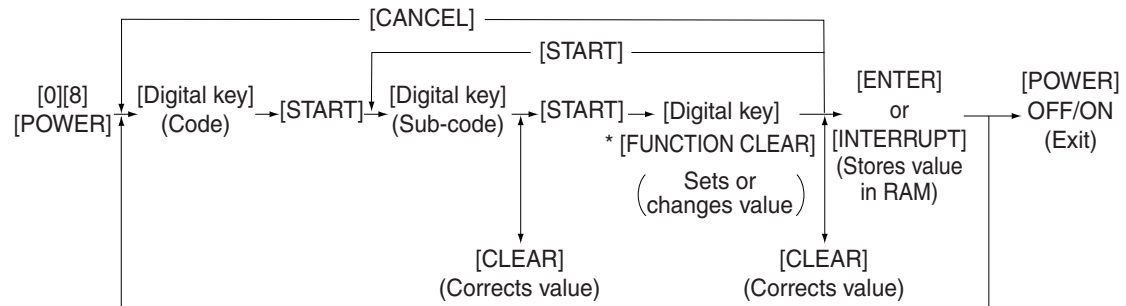
### Procedure 2



### Procedure 3

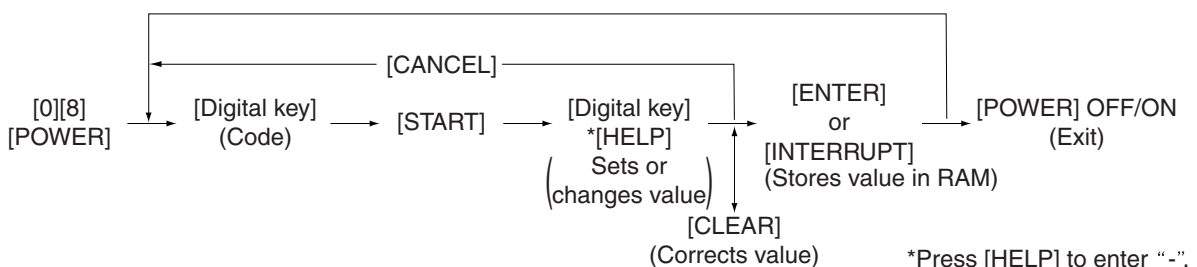


### Procedure 4



\* Press [FUNCTION CLEAR] to enter minus (-).

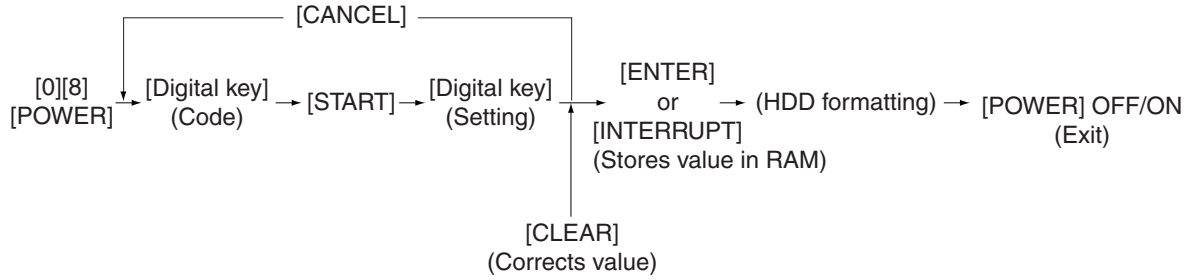
### Procedure 5



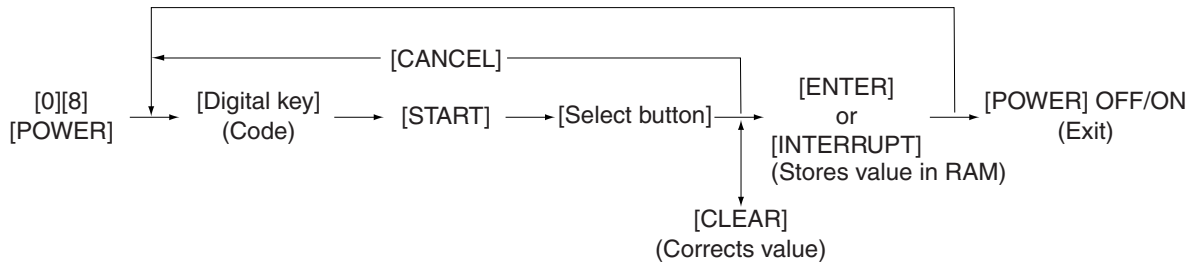
\*Press [HELP] to enter "-".



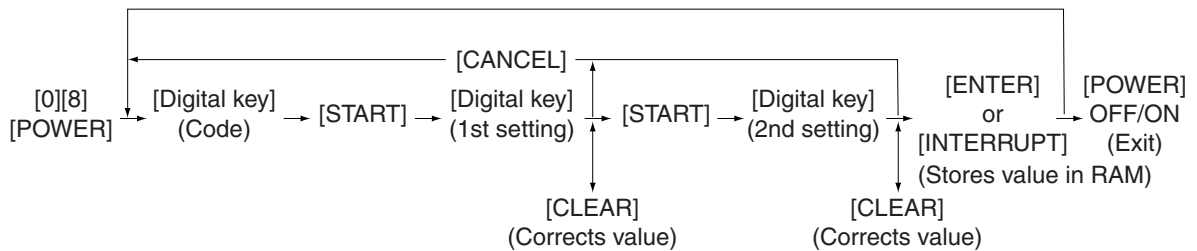
Procedure 7



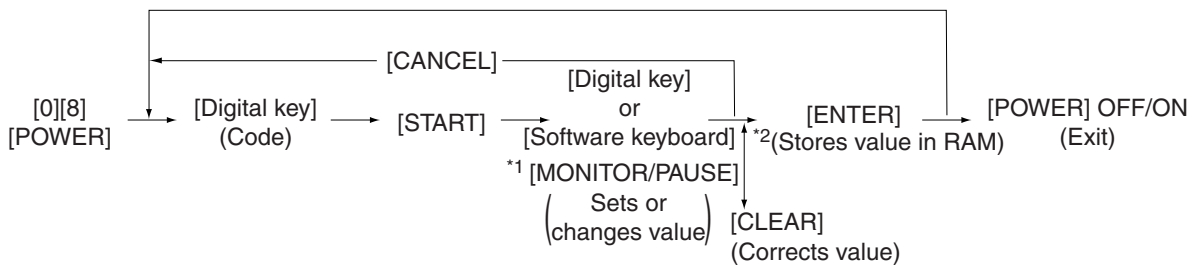
Procedure 9



Procedure 10

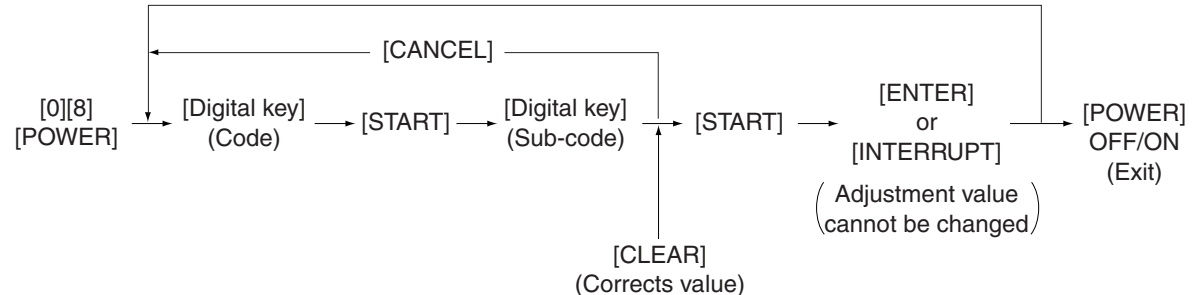


Procedure 11 and 12



- \*1. Press [MONITOR/PAUSE] to enter "-", when entering telephone number.
- \*2. The data are stored in SYS-RAM in procedure 11 and stored in NIC-RAM in procedure 12.

Procedure 14



**Notes:**

1. The digit after the hyphen in "Code" of the following table is a sub code.
2. In "RAM", the NVRAM of the board in which the data of each code is stored is indicated. "M" stands for the LGC board, "SYS" and "UTY" stands for the SYS board and "NIC" stands for the NIC board.

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
200	General	Date and time setting	ALL	- <13 digits>	-	Year/month/date/day/hour/minute/ second Example: 03 07 0 13 13 27 48 "Day" - "0" is for "Sunday". Proceeds Mon- day through Saturday from "1" to "6".	5
201	General	Destination selection	ALL	EUR: 0 UC: 1 JPN: 2 <0-3>	M	0: EUR 1: UC 2: JPN 3: Other	1
202	User interface	Counter installed externally	ALL	0 <0-4>	M	0: No external counter 1: Coin controller 2: Copy key card 3: Key copy counter 4: Key card for OEM1	1
203	General	Line adjustment mode	ALL	0 <0-1>	M	0: For factory shipment 1: For line *Field: "0" must be selected	1
204	User interface	Auto-clear timer setting	ALL	3 <0-10>	SYS	Timer to return the equipment to the default settings when the [START] button is not pressed after the function and the mode are set 0: Not cleared 1 to 10: Set number x 15 sec.	1
205	User interface	Auto power save mode timer setting	ALL	11 <0, 6-15>	SYS	Timer to automatically switch to the energy saving mode when the equipment has not been used 0: Invalid 6: 3min. 7: 4min. 8: 5min. 9: 7min. 10: 10min. 11: 15min. 12: 20min. 13: 30min. 14: 45min. 15: 60min.	1
206	User interface	Auto Shut Off Mode timer setting (Sleep Mode)	ALL	Refer to content <0-20>	SYS	Timer to enter the Sleep Mode automatically when the equipment has not been used 0: 3min. 1: 5min. 2: 10min. 3: 15min. 4: 20min. 5: 25min. 6: 30min. 7: 40min. 8: 50min. 9: 60min. 10: 70min. 11: 80min. 12: 90min. 13: 100min. 14: 110min. 15: 120min. 16: 150min. 17: 180min. 18: 210min. 19: 240min. 20: Not used <Default value> e-STUDIO3511: 9 e-STUDIO4511: 12	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
207	User interface	Highlighting display on LCD	ALL	0 <0-1>	SYS	0: Black letter on white background 1: White letter on black background	1
209	User interface	Default setting of filing format when E-mailing (common in all color modes)	ALL (color)	0 <0-1>	SYS	0:TIFF (Multi) 1:PDF	1
210	Paper feeding	Paper size (A6-R) feeding/widthwise direction	PRT	148/105 <148-432/ 105-297>	M		10
216	Paper feeding	Tab paper print Tab width setting (Bypass feeding)	ALL	130 <100-200>	SYS		1
217	Paper feeding	Tab paper print Shift width setting (Bypass feeding)	ALL	1300 <0-3000>	SYS		1
218	User interface	Default setting of filing format when storing files (at color/ACS modes)	SCN (color)	1 <0-3>	SYS	0: TIFF (Multi) 1: PDF 2: JPG 3:TIFF (Single)	1
219	User interface	Default setting of filing format when storing files (at black mode)	ALL (black)	0 <0-3>	SYS	0: TIFF (Multi) 1: PDF 2: JPG 3:TIFF (Single)	1
220	User interface	Language displayed at power-ON	ALL	EUR: 0 UC: 0 JPN: 5 <0-6>	SYS	0: Language 1 1: Language 2 2: Language 3 3: Language 4 4: Language 5 5: Language 6 6: Language 7	1
221	User interface	Language selection in UI data at Web power ON	ALL	EUR: 0 UC: 0 JPN: 5 <0-6>	SYS	0: Language 1 1: Language 2 2: Language 3 3: Language 4 4: Language 5 5: Language 6 6: Language 7	1
223	Maintenance	Switching of output pages/driving counts at PM	ALL	0 <0-1>	M	Selects the reference to notify the PM timing. (The message is displayed on the LCD screen.) 0: PM counter (The number of output pages is set at 08-251.) 1: PM time counter (The timing is set at 08-375.)	1
224	Paper feeding	Paper size for bypass feed	PPC	UNDEF	SYS	Press the button on the LCD to select the size.	9
225	Paper feeding	Paper size for upper drawer	ALL	EUR:A4 UC:LT JPN:A4	M	Press the button on the LCD to select the size.	9
226	Paper feeding	Paper size for lower drawer	ALL	EUR:A3 UC:LD JPN:A3	M	Press the button on the LCD to select the size.	9
227	Paper feeding	Paper size for PFP upper drawer	ALL	EUR: A4-R UC: LT-R JPN: A4-R	M	Press the button on the LCD to select the size.	9
228	Paper feeding	Paper size for PFP lower drawer	ALL	EUR:A4 UC:LG JPN:B4	M	Press the button on the LCD to select the size.	9
229	Paper feeding	Paper size (A3) feeding/widthwise direction	ALL	420/297 <182-432/ 140-297>	M		10

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
230	Paper feeding	Paper size (A4-R) feeding/widthwise direction	ALL	297/210 <182-432/ 140-297>	M		10
231	Paper feeding	Paper size (A5-R) feeding/widthwise direction	ALL	210/148 <182-432/ 140-297>	M		10
232	Paper feeding	Paper size (B4) feeding/widthwise direction	ALL	364/257 <182-432/ 140-297>	M		10
233	Paper feeding	Paper size (B5-R) feeding/widthwise direction	ALL	257/182 <182-432/ 140-297>	M		10
234	Paper feeding	Paper size (LT-R) feeding/widthwise direction	ALL	279/216 <182-432/ 140-297>	M		10
235	Paper feeding	Paper size (LD) feeding/widthwise direction	ALL	432/279 <182-432/ 140-297>	M		10
236	Paper feeding	Paper size (LG) feeding/widthwise direction	ALL	356/216 <182-432/ 140-297>	M		10
237	Paper feeding	Paper size (ST-R) feeding/widthwise direction	ALL	216/140 <182-432/ 140-297>	M		10
238	Paper feeding	Paper size (COMPUTER) feeding/widthwise direction	ALL	356/257 <182-432/ 140-297>	M		10
239	Paper feeding	Paper size (FOLIO) feeding/widthwise direction	ALL	330/210 <182-432/ 140-297>	M		10
240	Paper feeding	Paper size (13"LG) feeding/widthwise direction	ALL	330/216 <182-432/ 140-297>	M		10
241	Paper feeding	Paper size (8.5"X8.5") feeding/widthwise direction	ALL	216/216 <182-432/ 140-297>	M		10
242	Paper feeding	Paper size (Non-standard) feeding/widthwise direction	ALL	432/279 <148-432/ 105-297>	SYS		10
243	Paper feeding	Memory 1 Paper size (bypass feeding/ non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/ 100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 1].	10
244	Paper feeding	Paper size (8K) feeding/widthwise direction	ALL	390/270 <182-432/ 140-297>	M		10
245	Paper feeding	Paper size (16K-R) feeding/widthwise direction	ALL	270/195 <182-432/ 140-297>	M		10
246	Paper feeding	Paper size (A3-wide) feeding/widthwise direction	ALL	457/305 <182-457/ 140-305>	M		10

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
247	Paper feeding	Memory 2 Paper size (bypass feeding/ non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/ 100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 2].	10
248	Paper feeding	Memory 3 Paper size (bypass feeding/ non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/ 100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 3].	10
249	Paper feeding	Memory 4 Paper size (bypass feeding/ non-standard type) feeding/widthwise direction	ALL	148/100 <148-432/ 100-297>	SYS	Registers the paper size of bypass feed (non-standard type) into [MEMORY 4].	10
250	Maintenance	Service technician telephone number	ALL	0 <32 digits>	SYS	A telephone number can be entered up to 32 digits. Use the [MONITOR/PAUSE] button to enter a hyphen(-).	11
251	Maintenance	Setting value of PM counter	ALL	Refer to content <8 digits>	M	<Default> e-STUDIO3511 UC, EUR: 120000 JPN: 0 e-STUDIO4511 UC, EUR: 150000 JPN: 0	1
252	Maintenance	Current value of PM counter Display/0 clearing	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON.	1
253	Maintenance	Error history display	ALL	-	SYS	Displays the latest 20 errors data	2
254	Paper feeding	LT ↔ A4/LD ↔ A3	PRT	0 <0-1>	SYS	Sets whether the data is printed on the different but similar size paper or not when the paper of corresponding size is not available. 0: Valid (The data is printed on A4/A3 when LT/LD is selected or vice versa.) 1: Invalid (The message to use the selected paper size is displayed.)	1
255	Paper feeding	PFP/LCF installation	ALL	0 <0-4>	M	0: Automatic 1: PFP single-drawer type installed 2: PFP dual-drawer type installed 3: LCF installed 4: Not installed	1
256	Paper feeding	Paper size setting /LCF	ALL	EUR:A4 UC:LT JPN:A4	M	Press the icon on the LCD to select the size.	9
257	Counter	Counter copy	ALL	- <1-2>	-	1: Electrical counter -> Backup counter 2: Backup counter -> Electrical counter (▶ Page 2-153)	-
258	Maintenance	FSMS acceptance	ALL	1 <0-2>	SYS	Sets whether the FSMS connection is accepted or not. 0: Prohibited 1: Accepted (serial connection only) 2: Accepted (both serial and USB connections)	1
259	Network	Storage period at trail and private	PRT	14 <0-30>	SYS	0: No limits 1 to 30: 1 to 30 days	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
260	Network	Web data retention period	ALL	10 <3 digits>	SYS	When a certain period of time has passed without operation after accessing TopAccess, the data being registered is automatically reset. This period is set at this code. (Unit: Minute)	1
261	Network	Web data in Electronic Filing retention period	ALL	10 <3 digits>	SYS	When a certain period of time has passed without operation after accessing Electronic Filing, the data being registered is automatically reset. This period is set at this code. (Unit: Minute)	1
262	Network	TWAIN data retention period	ALL	10 <3 digits>	SYS	When a certain period of time has passed without operation after accessing TWAIN and File Downloader, the data being registered is automatically reset. This period is set at this code. (Unit: Minute)	1
263	User interface	Administrator's password (Maximum 10 digits)	ALL	123456 <10 digits>	-	The password can be entered in alphabets and figures (A-Z, a-z, 0-9) within 10 digits.	11
264	Network	File retention period	ALL	30 <0-999>	SYS	0: No limits 1 to 999: 1 to 999 days	1
265	Network	Maximum data capacity at E-mailing	ALL	30 <2-30>	SYS	2 to 30 M bytes	1
266	Network	Maximum data capacity at Internet FAX	ALL	30 <2-30>	SYS	2 to 30 M bytes	1
267	Electronic filing	Full guarantee of documents in Electronic Filing when HDD is full	ALL	0 <0-1>	SYS	Sets the file retention level when editing the files in the Electronic Filing (at CutDoc/SaveDoc command execution). 0: Not full retained 1: Fully retained - Retains the source file until CutDoc/SaveDoc command is completed. * The file is not deleted even if the HDD has become full during the execution of command when "1" is set.	1
268	User interface	Binarizing level selection (When judging as black in the ACS Mode)	ALL	3 <1-5>	SYS	0: Step -2 1: Step -1 2: Step 0 (center) 3: Step 1 4: Step 2 * The binarizing level of each step is set at 08-609.	1
270	Electronic filing	Default setting of user box retention period	ALL	0 <0-999>	SYS	Sets the data retention period when creating a user box. 0: Not deleted 1 to 999: Retention period (Unit: Day)	1
271	General	Warning display of the HDD capacity to be filled	ALL	90 <0-100>	SYS	Sets the percentage of the HDD capacity filled which warning is displayed 0 to 100: 0 to 100 %	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
272	Scanning	Notification setting of E-mail saving time limit	ALL	3 <0-99>	SYS	Sets the days left the notification of E-mail saving time limit appears 0 to 99: 0 to 99 days	1
273	Scanning	Default setting of partial size when transmitting E-mail	ALL	0 <0-6>	SYS	Sets the default value for the partial size of E-mail to be transmitted when creating a template. 0: Not divided 1: 64 2: 128 3: 256 4: 512 5: 1024 6: 2048 (Unit: KB)	1
274	FAX	Default setting of page by page when transmitting Internet FAX	ALL	0 <0-4>	SYS	Sets the default value for the page by page of Internet FAX to be transmitted when creating a template. 0: Not divided 1: 256 2: 512 3: 1024 4: 2048 (Unit: KB)	1
275	FAX	Default setting of encode method	FAX	0 <0-3>	SYS	0: MH 1: MR 2: MMR 3: JBIG	1
276	User interface	Default setting of density adjustment (Black)	SCN (black)	0 <0-11>	SYS	0: Automatic density 1: Step -5 2: Step -4 3: Step -3 4: Step -2 5: Step -1 6: Step 0 (center) 7: Step +1 8: Step +2 9: Step +3 10: Step +4 11: Step +5 (1 to 11: Manual density)	1
277	User interface	Default setting of background adjustment (Full Color)	SCN (color)	3 <1-5>	SYS	1: Step -2 2: Step -1 3: Step 0 (center) 4: Step +1 5: Step +2	1
278	User interface	Default setting of color mode	SCN	0 <0-4>	SYS	0: Black 1: Gray Scale 2: Unused 3: Full Color 4: Auto Color	1
279	User interface	Default setting of resolution (Full Color)	SCN (color)	2 <0-3>	SYS	0: 100 dpi 1: 150 dpi 2: 200 dpi 3: 300dpi	1
280	User interface	Default setting of resolution (Gray Scale)	SCN (black)	2 <0-4>	SYS	0: 100 dpi 1: 150 dpi 2: 200 dpi 3: 300dpi 4: 400 dpi	1
281	User interface	Default setting of resolution (Black)	SCN (black)	1 <0-4>	SYS	0: 150 dpi 1: 200 dpi 2: 300 dpi 3: 400dpi 4: 600 dpi	1
282	User interface	Default setting of original mode (Full Color)	SCN (color)	0 <0-2>	SYS	0: Text 1: Photo 2: Printed Image	1
283	User interface	Default setting of original mode (Black)	SCN (black)	0 <0-2>	SYS	0: Text 1: Text/Photo 2: Photo	1
284	User interface	Default setting of scanning mode	SCN	0 <0-2>	SYS	0: Single 1: Book 2: Tablet	1
285	User interface	Default setting of rotation mode	SCN	0 <0-3>	SYS	0: 0 degree 1: 90 degrees 2: 180 degrees 3: 270 degrees	1
286	User interface	Default setting of original paper size	ALL	0 <0-22>	SYS	0: Automatic 1: A3 2: A4 3: LD 4: LT 5: A4-R 6: A5-R 7: LT-R 8: LG 9: B4 10: B5 11: ST-R 12: COMP 13: B5-R 14: FOLIO 15: 13"LG 16: 8.5"x 8.5" 18: A6-R 19: Size mixed 20: 8K 21: 16K 22: 16K-R	1

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
288	General	Searching interval of deleting expired files	ALL	12 <1-24>	SYS	Sets the search interval of expired files. Deletes if expired file is found. (Unit: Hour)	1	
289	User interface	Default setting of background adjustment (Gray Scale)	ALL	3 <1-5>	SYS	1: Step -2      2: Step -1 3: Step 0 (center)    4: Step +1 5: Step +2	1	
290	Network	Raw printing job (Duplex)	PRT	1 <0-1>	SYS	0: Valid    1: Invalid	1	
291	Network	Raw printing job (Paper size)	PRT	EUR: 6 UC: 2 JPN: 6 <0 -13>	SYS	0: LD    1: LG    2: LT    3: COMP 4: ST    5: A3    6: A4    7: A5 8: A6    9: B4    10: B5    11: FOLIO 12: 13 "LG    13: 8.5" x 8.5"	1	
292	Network	Raw printing job (Paper type)	PRT	0 <0-4>	SYS	0: Plain paper    1: Thick paper 1 2: Thick paper 2    3: Thick paper 3 4: OHP film	1	
293	Network	Raw printing job (Paper direction)	PRT	0 <0-1>	SYS	0: Portrait    1: Landscape	1	
294	Network	Raw printing job (Staple)	PRT	1 <0-1>	SYS	0: Valid    1: Invalid	1	
295	Network	Raw printing job (Exit tray)	PRT	0 <0-2>	SYS	0: Inner tray 1: Finisher tray 1    2: Finisher tray 2	1	
296	Network	Raw printing job (Number of form lines)	PRT	1200 <500-12800>	SYS	Sets the number of form lines from 5 to 128. (A hundredfold of the number of form lines is defined as the setting value.)	1	
297	Network	Raw printing job (PCL font pitch)	PRT	1000 <44-9999>	SYS	Sets the font pitch from 0.44 to 99.99. (A hundredfold of the font pitch is defined as the setting value.)	1	
298	Network	Raw printing job (PCL font size)	PRT	1200 <400-99975>	SYS	Sets the font size from 4 to 999.75. (A hundredfold of the font size is defined as the setting value.)	1	
299	Network	Raw printing job (PCL font number)	PRT	0 <0-79>	SYS	Sets the PCL font number.	1	
300	User interface	Maximum number of copy volume (MAX9)	PPC	0 <0-2>	SYS	0: 999    1: 99    2: 9	1	
301-0	Counter	Number of output pages at Full Color Mode in Copier Function	A3	PPC (color)	0 <8 digits>	SYS	Counts the output pages at the Full Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
301-1	Counter		A4	PPC (color)	0 <8 digits>	SYS		4
301-2	Counter		A5	PPC (color)	0 <8 digits>	SYS		4
301-3	Counter		A6	PPC (color)	0 <8 digits>	SYS		4
301-4	Counter		B4	PPC (color)	0 <8 digits>	SYS		4
301-5	Counter		B5	PPC (color)	0 <8 digits>	SYS		4
301-6	Counter		FOLIO	PPC (color)	0 <8 digits>	SYS		4
301-7	Counter		LD	PPC (color)	0 <8 digits>	SYS		4



Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
301-8	Counter	Number of output pages at Full Color Mode in Copier Function	LG	PPC (color)	0 <8 digits>	SYS	Counts the output pages at the Full Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
301-9	Counter		LT	PPC (color)	0 <8 digits>	SYS		4
301-10	Counter		ST	PPC (color)	0 <8 digits>	SYS		4
301-11	Counter		COMP	PPC (color)	0 <8 digits>	SYS		4
301-12	Counter		13"LG	PPC (color)	0 <8 digits>	SYS		4
301-13	Counter		8.5"x8.5"	PPC (color)	0 <8 digits>	SYS		4
301-14	Counter		16K	PPC (color)	0 <8 digits>	SYS		4
301-15	Counter		8K	PPC (color)	0 <8 digits>	SYS		4
301-16	Counter		Others	PPC (color)	0 <8 digits>	SYS		4
302	User interface	Original counter display		PPC	EUR: 2 UC: 0 JPN: 0 <0, 2>	SYS	Sets whether the original counter is displayed or not. 0: Not displayed 2: Displayed	1
303-0	Counter	Number of output pages at Full Color Mode in Printer Function	A3	PRT (color)	0 <8 digits>	SYS	Counts the output pages at the Full Color Mode in the Printer Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
303-1	Counter		A4	PRT (color)	0 <8 digits>	SYS		4
303-2	Counter		A5	PRT (color)	0 <8 digits>	SYS		4
303-3	Counter		A6	PRT (color)	0 <8 digits>	SYS		4
303-4	Counter		B4	PRT (color)	0 <8 digits>	SYS		4
303-5	Counter		B5	PRT (color)	0 <8 digits>	SYS		4
303-6	Counter		FOLIO	PRT (color)	0 <8 digits>	SYS		4
303-7	Counter		LD	PRT (color)	0 <8 digits>	SYS		4
303-8	Counter		LG	PRT (color)	0 <8 digits>	SYS		4
303-9	Counter		LT	PRT (color)	0 <8 digits>	SYS		4
303-10	Counter		ST	PRT (color)	0 <8 digits>	SYS		4
303-11	Counter		COMP	PRT (color)	0 <8 digits>	SYS		4
303-12	Counter		13"LG	PRT (color)	0 <8 digits>	SYS		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
303-13	Counter	Number of output pages at Full	8.5"x8.5"	PRT (color)	0 <8 digits>	SYS	Counts the output pages at the Full Color Mode in the Printer Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
303-14	Counter		16K	PRT (color)	0 <8 digits>	SYS		4
303-15	Counter		8K	PRT (color)	0 <8 digits>	SYS		4
303-16	Counter		Others	PRT (color)	0 <8 digits>	SYS		4
304-0	Counter	Number of output pages at Twin	A3	PPC (color)	0 <8 digits>	SYS	Counts the output pages at the Twin Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
304-1	Counter		A4	PPC (color)	0 <8 digits>	SYS		4
304-2	Counter		A5	PPC (color)	0 <8 digits>	SYS		4
304-3	Counter		A6	PPC (color)	0 <8 digits>	SYS		4
304-4	Counter		B4	PPC (color)	0 <8 digits>	SYS		4
304-5	Counter		B5	PPC (color)	0 <8 digits>	SYS		4
304-6	Counter		FOLIO	PPC (color)	0 <8 digits>	SYS		4
304-7	Counter		LD	PPC (color)	0 <8 digits>	SYS		4
304-8	Counter		LG	PPC (color)	0 <8 digits>	SYS		4
304-9	Counter		LT	PPC (color)	0 <8 digits>	SYS		4
304-10	Counter		ST	PPC (color)	0 <8 digits>	SYS		4
304-11	Counter		COMP	PPC (color)	0 <8 digits>	SYS		4
304-12	Counter		13"LG	PPC (color)	0 <8 digits>	SYS		4
304-13	Counter		8.5"x8.5"	PPC (color)	0 <8 digits>	SYS		4
304-14	Counter		16K	PPC (color)	0 <8 digits>	SYS		4
304-15	Counter		8K	PPC (color)	0 <8 digits>	SYS		4
304-16	Counter	Others	PPC (color)	0 <8 digits>	SYS	4		
305-0	Counter	Number of output pages at Black Mode in Copier Function	A3	PPC (black)	0 <8 digits>	SYS	Counts the output pages at the Black Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
305-1	Counter		A4	PPC (black)	0 <8 digits>	SYS		4
305-2	Counter		A5	PPC (black)	0 <8 digits>	SYS		4
305-3	Counter		A6	PPC (black)	0 <8 digits>	SYS		4
305-4	Counter		B4	PPC (black)	0 <8 digits>	SYS		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
305-5	Counter	Number of output pages at Black Mode in Copier Function	B5	PPC (black)	0 <8 digits>	SYS	Counts the output pages at the Black Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
305-6	Counter		FOLIO	PPC (black)	0 <8 digits>	SYS		4
305-7	Counter		LD	PPC (black)	0 <8 digits>	SYS		4
305-8	Counter		LG	PPC (black)	0 <8 digits>	SYS		4
305-9	Counter		LT	PPC (black)	0 <8 digits>	SYS		4
305-10	Counter		ST	PPC (black)	0 <8 digits>	SYS		4
305-11	Counter		COMP	PPC (black)	0 <8 digits>	SYS		4
305-12	Counter		13"LG	PPC (black)	0 <8 digits>	SYS		4
305-13	Counter		8.5"x8.5"	PPC (black)	0 <8 digits>	SYS		4
305-14	Counter		16K	PPC (black)	0 <8 digits>	SYS		4
305-15	Counter		8K	PPC (black)	0 <8 digits>	SYS		4
305-16	Counter		Others	PPC (black)	0 <8 digits>	SYS		4
306-0	Counter		Number of output pages at Black Mode in Printer Function	A3	PRT (black)	0 <8 digits>		SYS
306-1	Counter	A4		PRT (black)	0 <8 digits>	SYS	4	
306-2	Counter	A5		PRT (black)	0 <8 digits>	SYS	4	
306-3	Counter	A6		PRT (black)	0 <8 digits>	SYS	4	
306-4	Counter	B4		PRT (black)	0 <8 digits>	SYS	4	
306-5	Counter	B5		PRT (black)	0 <8 digits>	SYS	4	
306-6	Counter	FOLIO		PRT (black)	0 <8 digits>	SYS	4	
306-7	Counter	LD		PRT (black)	0 <8 digits>	SYS	4	
306-8	Counter	LG		PRT (black)	0 <8 digits>	SYS	4	
306-9	Counter	LT		PRT (black)	0 <8 digits>	SYS	4	
306-10	Counter	ST		PRT (black)	0 <8 digits>	SYS	4	
306-11	Counter	COMP		PRT (black)	0 <8 digits>	SYS	4	
306-12	Counter	13"LG	PRT (black)	0 <8 digits>	SYS	4		

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
306-13	Counter	Number of output pages at Black	8.5"x8.5"	PRT (black)	0 <8 digits>	SYS	Counts the output pages at the Black Mode in the Printer Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
306-14	Counter	Mode in Printer Function	16K	PRT (black)	0 <8 digits>	SYS		4
306-15	Counter		8K	PRT (black)	0 <8 digits>	SYS		4
306-16	Counter		Others	PRT (black)	0 <8 digits>	SYS		4
307-0	Counter	Number of output pages at List Print Mode	A3	PRT (black)	0 <8 digits>	SYS	Counts the output pages at the List Print Mode for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
307-1	Counter		A4	PRT (black)	0 <8 digits>	SYS		4
307-2	Counter		A5	PRT (black)	0 <8 digits>	SYS		4
307-3	Counter		A6	PRT (black)	0 <8 digits>	SYS		4
307-4	Counter		B4	PRT (black)	0 <8 digits>	SYS		4
307-5	Counter		B5	PRT (black)	0 <8 digits>	SYS		4
307-6	Counter		FOLIO	PRT (black)	0 <8 digits>	SYS		4
307-7	Counter		LD	PRT (black)	0 <8 digits>	SYS		4
307-8	Counter		LG	PRT (black)	0 <8 digits>	SYS		4
307-9	Counter		LT	PRT (black)	0 <8 digits>	SYS		4
307-10	Counter		ST	PRT (black)	0 <8 digits>	SYS		4
307-11	Counter		COMP	PRT (black)	0 <8 digits>	SYS		4
307-12	Counter		13"LG	PRT (black)	0 <8 digits>	SYS		4
307-13	Counter		8.5"x8.5"	PRT (black)	0 <8 digits>	SYS		4
307-14	Counter		16K	PRT (black)	0 <8 digits>	SYS		4
307-15	Counter		8K	PRT (black)	0 <8 digits>	SYS		4
307-16	Counter		Others	PRT (black)	0 <8 digits>	SYS	4	
308-0	Counter	Number of output pages in FAX Function	A3	FAX	0 <8 digits>	SYS	Counts the output pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
308-1	Counter		A4	FAX	0 <8 digits>	SYS		4
308-2	Counter		A5	FAX	0 8 digits>	SYS		4
308-3	Counter		A6	FAX	0 <8 digits>	SYS		4
308-4	Counter		B4	FAX	0 <8 digits>	SYS		4

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
308-5	Counter	Number of output pages in FAX Function	B5	FAX	0 <8 digits>	Counts the output pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
308-6	Counter		FOLIO	FAX	0 <8 digits>		4
308-7	Counter		LD	FAX	0 <8 digits>		4
308-8	Counter		LG	FAX	0 <8 digits>		4
308-9	Counter		LT	FAX	0 <8 digits>		4
308-10	Counter		ST	FAX	0 <8 digits>		4
308-11	Counter		COMP	FAX	0 <8 digits>		4
308-12	Counter		13"LG	FAX	0 <8 digits>		4
308-13	Counter		8.5"x8.5"	FAX	0 <8 digits>		4
308-14	Counter		16K	FAX	0 <8 digits>		4
308-15	Counter		8K	FAX	0 <8 digits>		4
308-16	Counter		Others	FAX	0 <8 digits>		4
309-0	Counter		Number of scanning pages at Full Color Mode in Copier Function	A3	PPC (color)		0 <8 digits>
309-1	Counter	A4		PPC (color)	0 <8 digits>	4	
309-2	Counter	A5		PPC (color)	0 <8 digits>	4	
309-3	Counter	A6		PPC (color)	0 <8 digits>	4	
309-4	Counter	B4		PPC (color)	0 <8 digits>	4	
309-5	Counter	B5		PPC (color)	0 <8 digits>	4	
309-6	Counter	FOLIO		PPC (color)	0 <8 digits>	4	
309-7	Counter	LD		PPC (color)	0 <8 digits>	4	
309-8	Counter	LG		PPC (color)	0 <8 digits>	4	
309-9	Counter	LT		PPC (color)	0 <8 digits>	4	
309-10	Counter	ST		PPC (color)	0 <8 digits>	4	
309-11	Counter	COMP		PPC (color)	0 <8 digits>	4	
309-12	Counter	13"LG		PPC (color)	0 <8 digits>	4	

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
309-13	Counter	Number of scanning pages at Full Color Mode in Copier Function	8.5"x8.5"	PPC (color)	0 <8 digits>	SYS	Counts the scanning pages at the Full Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
309-14	Counter		16K	PPC (color)	0 <8 digits>	SYS		4
309-15	Counter		8K	PPC (color)	0 <8 digits>	SYS		4
309-16	Counter		Others	PPC (color)	0 <8 digits>	SYS		4
310-0	Counter	Number of scanning pages at Full Color Mode in Scanning Function	A3	SCN (color)	0 <8 digits>	SYS	Counts the scanning pages at the Full Color Mode in the Scanning Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
310-1	Counter		A4	SCN (color)	0 <8 digits>	SYS		4
310-2	Counter		A5	SCN (color)	0 <8 digits>	SYS		4
310-3	Counter		A6	SCN (color)	0 <8 digits>	SYS		4
310-4	Counter		B4	SCN (color)	0 <8 digits>	SYS		4
310-5	Counter		B5	SCN (color)	0 <8 digits>	SYS		4
310-6	Counter		FOLIO	SCN (color)	0 <8 digits>	SYS		4
310-7	Counter		LD	SCN (color)	0 <8 digits>	SYS		4
310-8	Counter		LG	SCN (color)	0 <8 digits>	SYS		4
310-9	Counter		LT	SCN (color)	0 <8 digits>	SYS		4
310-10	Counter		ST	SCN (color)	0 <8 digits>	SYS		4
310-11	Counter		COMP	SCN (color)	0 <8 digits>	SYS		4
310-12	Counter		13"LG	SCN (color)	0 <8 digits>	SYS		4
310-13	Counter		8.5"x8.5"	SCN (color)	0 <8 digits>	SYS		4
310-14	Counter		16K	SCN (color)	0 <8 digits>	SYS		4
310-15	Counter		8K	SCN (color)	0 <8 digits>	SYS		4
310-16	Counter	Others	SCN (color)	0 <8 digits>	SYS	4		
311-0	Counter	Number of scanning pages at Twin Color Mode in Copier Function	A3	PPC (color)	0 <8 digits>	SYS	Counts the scanning pages at the Twin Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
311-1	Counter		A4	PPC (color)	0 <8 digits>	SYS		4
311-2	Counter		A5	PPC (color)	0 <8 digits>	SYS		4
311-3	Counter		A6	PPC (color)	0 <8 digits>	SYS		4
311-4	Counter		B4	PPC (color)	0 <8 digits>	SYS		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
311-5	Counter	Number of scanning pages at Twin Color Mode in Copier Function	B5	PPC (color)	0 <8 digits>	SYS	Counts the scanning pages at the Twin Color Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
311-6	Counter		FOLIO	PPC (color)	0 <8 digits>	SYS		4
311-7	Counter		LD	PPC (color)	0 <8 digits>	SYS		4
311-8	Counter		LG	PPC (color)	0 <8 digits>	SYS		4
311-9	Counter		LT	PPC (color)	0 <8 digits>	SYS		4
311-10	Counter		ST	PPC (color)	0 <8 digits>	SYS		4
311-11	Counter		COMP	PPC (color)	0 <8 digits>	SYS		4
311-12	Counter		13"LG	PPC (color)	0 <8 digits>	SYS		4
311-13	Counter		8.5"x8.5"	PPC (color)	0 <8 digits>	SYS		4
311-14	Counter		16K	PPC (color)	0 <8 digits>	SYS		4
311-15	Counter		8K	PPC (color)	0 <8 digits>	SYS		4
311-16	Counter		Others	PPC (color)	0 <8 digits>	SYS		4
312-0	Counter		Number of scanning pages at Black Mode in Copier Function	A3	PPC (black)	0 <8 digits>		SYS
312-1	Counter	A4		PPC (black)	0 <8 digits>	SYS	4	
312-2	Counter	A5		PPC (black)	0 <8 digits>	SYS	4	
312-3	Counter	A6		PPC (black)	0 <8 digits>	SYS	4	
312-4	Counter	B4		PPC (black)	0 <8 digits>	SYS	4	
312-5	Counter	B5		PPC (black)	0 <8 digits>	SYS	4	
312-6	Counter	FOLIO		PPC (black)	0 <8 digits>	SYS	4	
312-7	Counter	LD		PPC (black)	0 <8 digits>	SYS	4	
312-8	Counter	LG		PPC (black)	0 <8 digits>	SYS	4	
312-9	Counter	LT		PPC (black)	0 <8 digits>	SYS	4	
312-10	Counter	ST		PPC (black)	0 <8 digits>	SYS	4	
312-11	Counter	COMP		PPC (black)	0 <8 digits>	SYS	4	
312-12	Counter	13"LG		PPC (black)	0 <8 digits>	SYS	4	

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
312-13	Counter	Number of scanning pages at Black Mode in Copier Function	8.5"x8.5"	PPC (black)	0 <8 digits>	SYS	Counts the scanning pages at the Black Mode in the Copier Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
312-14	Counter		16K	PPC (black)	0 <8 digits>	SYS		4
312-15	Counter		8K	PPC (black)	0 <8 digits>	SYS		4
312-16	Counter		Others	PPC (black)	0 <8 digits>	SYS		4
313-0	Counter	Number of scanning pages in Scanning Function	A3	SCN (black)	0 <8 digits>	SYS	Counts the scanning pages at the Black Mode in the Scanning Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
313-1	Counter		A4	SCN (black)	0 <8 digits>	SYS		4
313-2	Counter		A5	SCN (black)	0 <8 digits>	SYS		4
313-3	Counter		A6	SCN (black)	0 <8 digits>	SYS		4
313-4	Counter		B4	SCN (black)	0 <8 digits>	SYS		4
313-5	Counter		B5	SCN (black)	0 <8 digits>	SYS		4
313-6	Counter		FOLIO	SCN (black)	0 <8 digits>	SYS		4
313-7	Counter		LD	SCN (black)	0 <8 digits>	SYS		4
313-8	Counter		LG	SCN (black)	0 <8 digits>	SYS		4
313-9	Counter		LT	SCN (black)	0 <8 digits>	SYS		4
313-10	Counter		ST	SCN (black)	0 <8 digits>	SYS		4
313-11	Counter		COMP	SCN (black)	0 <8 digits>	SYS		4
313-12	Counter		13"LG	SCN (black)	0 <8 digits>	SYS		4
313-13	Counter		8.5"x8.5"	SCN (black)	0 <8 digits>	SYS		4
313-14	Counter		16K	SCN (black)	0 <8 digits>	SYS		4
313-15	Counter		8K	SCN (black)	0 <8 digits>	SYS		4
313-16	Counter	Others	SCN (black)	0 <8 digits>	SYS	4		
314-0	Counter	Number of scanning pages in FAX Function	A3	FAX	0 <8 digits>	SYS	Counts the scanning pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
314-1	Counter		A4	FAX	0 <8 digits>	SYS		4
314-2	Counter		A5	FAX	0 <8 digits>	SYS		4
314-3	Counter		A6	FAX	0 <8 digits>	SYS		4
314-4	Counter		B4	FAX	0 <8 digits>	SYS		4



Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
314-5	Counter	Number of scanning pages in FAX Function	B5	FAX	0 <8 digits>	Counts the scanning pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
314-6	Counter		FOLIO	FAX	0 <8 digits>		4
314-7	Counter		LD	FAX	0 <8 digits>		4
314-8	Counter		LG	FAX	0 <8 digits>		4
314-9	Counter		LT	FAX	0 <8 digits>		4
314-10	Counter		ST	FAX	0 <8 digits>		4
314-11	Counter		COMP	FAX	0 <8 digits>		4
314-12	Counter		13"LG	FAX	0 <8 digits>		4
314-13	Counter		8.5"x8.5"	FAX	0 <8 digits>		4
314-14	Counter		16K	FAX	0 <8 digits>		4
314-15	Counter		8K	FAX	0 <8 digits>		4
314-16	Counter		Others	FAX	0 <8 digits>		4
315-0	Counter		Number of transmitted pages in FAX Function	A3	FAX		0 <8 digits>
315-1	Counter	A4		FAX	0 <8 digits>	4	
315-2	Counter	A5		FAX	0 <8 digits>	4	
315-3	Counter	A6		FAX	0 <8 digits>	4	
315-4	Counter	B4		FAX	0 <8 digits>	4	
315-5	Counter	B5		FAX	0 <8 digits>	4	
315-6	Counter	FOLIO		FAX	0 <8 digits>	4	
315-7	Counter	LD		FAX	0 <8 digits>	4	
315-8	Counter	LG		FAX	0 <8 digits>	4	
315-9	Counter	LT		FAX	0 <8 digits>	4	
315-10	Counter	ST		FAX	0 <8 digits>	4	
315-11	Counter	COMP		FAX	0 <8 digits>	4	
315-12	Counter	13"LG		FAX	0 <8 digits>	4	

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
315-13	Counter	Number of transmitted pages in FAX Function	8.5"x8.5"	FAX	0 <8 digits>	SYS	Counts the transmitted pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
315-14	Counter		16K	FAX	0 <8 digits>	SYS		4
315-15	Counter		8K	FAX	0 <8 digits>	SYS		4
315-16	Counter		Others	FAX	0 <8 digits>	SYS		4
316-0	Counter		A3	FAX	0 <8 digits>	SYS		4
316-1	Counter	Number of received pages in FAX Function	A4	FAX	0 <8 digits>	SYS	Counts the received pages in the FAX Function for each paper size according to the setting for the count setting of large-sized paper (08-352) and the definition setting of large-sized paper (08-353).	4
316-2	Counter		A5	FAX	0 <8 digits>	SYS		4
316-3	Counter		A6	FAX	0 <8 digits>	SYS		4
316-4	Counter		B4	FAX	0 <8 digits>	SYS		4
316-5	Counter		B5	FAX	0 <8 digits>	SYS		4
316-6	Counter		FOLIO	FAX	0 <8 digits>	SYS		4
316-7	Counter		LD	FAX	0 <8 digits>	SYS		4
316-8	Counter		LG	FAX	0 <8 digits>	SYS		4
316-9	Counter		LT	FAX	0 <8 digits>	SYS		4
316-10	Counter		ST	FAX	0 <8 digits>	SYS		4
316-11	Counter		COMP	FAX	0 <8 digits>	SYS		4
316-12	Counter		13"LG	FAX	0 <8 digits>	SYS		4
316-13	Counter		8.5"x8.5"	FAX	0 <8 digits>	SYS		4
316-14	Counter		16K	FAX	0 <8 digits>	SYS		4
316-15	Counter		8K	FAX	0 <8 digits>	SYS		4
316-16	Counter		Others	FAX	0 <8 digits>	SYS		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
317-0	Counter	Display of number of output pages at Full Color Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages at the Full Color Mode in the Copier Function according to its size (large/small).	14
317-1	Counter		Small	PPC (color)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
317-2	Counter		Total	PPC (color)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
318-0	Counter	Display of number of output pages at Full Color Mode in Printer Function	Large	PRT (color)	0 <8 digits>	SYS	Counts the number of output pages at the Full Color Mode in the Printer Function according to its size (large/small).	14
318-1	Counter		Small	PRT (color)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
318-2	Counter		Total	PRT (color)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
319-0	Counter	Display of number of output pages at Twin Color Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of output pages at the Twin Color Mode in the Copier Function according to its size (large/small).	14
319-1	Counter		Small	PPC (color)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
319-2	Counter		Total	PPC (color)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
320-0	Counter	Display of number of output pages at Black Mode in Copier Function	Large	PPC (black)	0 <8 digits>	SYS	Counts the number of output pages at the Black Mode in the Copier Function according to its size (large/small).	14
320-1	Counter		Small	PPC (black)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
320-2	Counter		Total	PPC (black)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14

Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
321-0	Counter	Display of number of output pages at Black Mode in Printer Function	Large	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages at the Black Mode in the Printer Function according to its size (large/small).	14
321-1	Counter		Small	PRT (black)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
321-2	Counter		Total	PRT (black)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
322-0	Counter	Display of number of output pages at List Print Mode	Large	PRT (black)	0 <8 digits>	SYS	Counts the number of output pages at the List Print Mode Function according to its size (large/small). Large: Number of output pages of	14
322-1	Counter		Small	PRT (black)	0 <8 digits>	SYS	large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
322-2	Counter		Total	PRT (black)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
323-0	Counter	Display of number of output pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of output pages in the FAX Function according to its size (large/small). Large: Number of output pages of	14
323-1	Counter		Small	FAX	0 <8 digits>	SYS	large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
323-2	Counter		Total	FAX	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
324-0	Counter	Display of number of scanning pages at Full Color Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of scanning pages at the Full Color Mode in the Copier Function according to its size (large/small).	14
324-1	Counter		Small	PPC (color)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
324-2	Counter		Total	PPC (color)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14

Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
325-0	Counter	Display of number of scanning pages at Full Color Mode in Scanning Function	Large	SCN (color)	0 <8 digits>	SYS	Counts the number of scanning pages at the Full Color Mode in the Scanning Function according to its size (large/small).	14
325-1	Counter		Small	SCN (color)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
325-2	Counter		Total	SCN (color)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
326-0	Counter	Display of number of scanning pages at Twin Color Mode in Copier Function	Large	PPC (color)	0 <8 digits>	SYS	Counts the number of scanning pages at the Twin Color Mode in the Copier Function according to its size (large/small).	14
326-1	Counter		Small	PPC (color)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
326-2	Counter		Total	PPC (color)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
327-0	Counter	Display of number of scanning pages at Black Mode in Copier Function	Large	PPC (black)	0 <8 digits>	SYS	Counts the number of scanning pages at the Black Mode in the Copier Function according to its size (large/small).	14
327-1	Counter		Small	PPC (black)	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
327-2	Counter		Total	PPC (black)	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14
328-0	Counter	Display of number of scanning pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of scanning pages in the FAX Function according to its size (large/small).	14
328-1	Counter		Small	FAX	0 <8 digits>	SYS	Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper	14
328-2	Counter		Total	FAX	0 <8 digits>	SYS	Total: Total number output pages of all paper sizes.	14

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
329-0	Counter	Display of number of scanning pages in Scanning Function	Large	SCN (black)	0 <8 digits>	SYS	Counts the number of scanning pages in the Scanning Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
329-1	Counter		Small	SCN (black)	0 <8 digits>	SYS		14
329-2	Counter		Total	SCN (black)	0 <8 digits>	SYS		14
330-0	Counter	Display of number of transmitted pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of transmitted pages in the FAX Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
330-1	Counter		Small	FAX	0 <8 digits>	SYS		14
330-2	Counter		Total	FAX	0 <8 digits>	SYS		14
331	User interface	Default setting of screen	ALL	0 <0-3>	SYS	Sets the screen to be displayed after the auto-clear time has passed or it has recovered from the energy saving mode or sleep mode. 0: Copier 1: Fax 2: Scan 3: Box	1	
332-0	Counter	Display of number of received pages in FAX Function	Large	FAX	0 <8 digits>	SYS	Counts the number of received pages in the FAX Function according to its size (large/small). Large: Number of output pages of large-sized paper defined at 08-353 Small: Number of output pages other than set as large-sized paper Total: Total number output pages of all paper sizes.	14
332-1	Counter		Small	FAX	0 <8 digits>	SYS		14
332-2	Counter		Total	FAX	0 <8 digits>	SYS		14
333-0	Counter	Display of total number of pages at Full Color Mode	Large	ALL (color)	0 <8 digits>	SYS	Displays the total number of pages at Full Color Mode in the Copier/Printer/Scanning Functions.	14
333-1	Counter		Small	ALL (color)	0 <8 digits>	SYS		14
333-2	Counter		Total	ALL (color)	0 <8 digits>	SYS		14

Setting mode (08)								
Code	Classification	Items		Function	Default <Acceptable value>	RAM	Contents	Procedure
334-0	Counter	Display of total number of pages	Large	ALL (color)	0 <8 digits>	SYS	Displays the total number of pages at Twin Color Mode in the Copier Function.	14
334-1	Counter	at Twin Color Mode	Small	ALL (color)	0 <8 digits>	SYS		14
334-2	Counter		Total	ALL (color)	0 <8 digits>	SYS		14
335-0	Counter	Display of total number of pages	Large	ALL (black)	0 <8 digits>	SYS	Displays the total number of pages at Black Mode in the Copier/Printer/ Scanning/FAX Functions.	14
335-1	Counter	at Black Mode	Small	ALL (black)	0 <8 digits>	SYS		14
335-2	Counter		Total	ALL (black)	0 <8 digits>	SYS		14
344	Counter	Count setting of tab paper (PM)		ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1
346	Counter	Count setting of large-sized paper (PM)		ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1
347	Counter	Definition setting of large- sized paper (PM)		ALL	1 <0-1>	M	0: A3/LD 1: A3/LD/B4/LG/FOLIO/COMP	1
348	Counter	Count setting of thick paper (PM)		ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1
349	Counter	Count setting of OHP film (PM)		ALL	1 <0-1>	M	0: Counted as 1 1: Counted as 2	1
352	Counter	Count setting of large-sized paper (Fee charging system counter)		ALL	JPN: 0 OTHER: 1 <0-2>	M	0: Counted as 1 1: Counted as 2 2: Counted as 1 (Mechanical counter is double counter)	1
353	Counter	Definition setting of large- sized paper (Fee charging system counter)		ALL	0 <0-1>	M	0: A3/LD 1: A3/LD/B4/LG/FOLIO/COMP/8K	1
356	Counter	Counter for upper drawer feeding		ALL	0 <8 digits>	M	Counts the number of sheets fed from upper drawer	2
357	Counter	Counter for lower drawer feeding		ALL	0 <8 digits>	M	Counts the number of sheets fed from lower drawer	2
358	Counter	Counter for bypass feeding		ALL	0 <8 digits>	M	Counts the number of sheets fed from bypass feed	2
359	Counter	Counter for LCF feeding		ALL	0 <8 digits>	M	Counts the number of sheets fed from LCF	2
360	Counter	Counter for PFP upper drawer feeding		ALL	0 <8 digits>	M	Counts the number of sheets fed from PFP upper drawer	2
370	Counter	Counter for PFP lower drawer feeding		ALL	0 <8 digits>	M	Counts the number of sheets fed from PFP lower drawer	2
372	Counter	Counter for ADU		ALL	0 <8 digits>	M	Counts the number of output pages of duplex printing.	2
374	Counter	Counter for RADF		ALL	0 <8 digits>	SYS	Counts the number of originals fed from RADF	2
375	Maintenance	Setting value of PM time counter display/0 clearing		ALL	Refer to content <8 digits>	M	<Default> e-STUDIO3511 JPN: 0 UC, EUR: 315,000 e-STUDIO4511 JPN: 0 UC, EUR: 315,000	1
376	Maintenance	Current value of PM time counter		ALL	0 <8 digits>	M	Counts the drum driving time (main motor ON).	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
381	Counter	Setting for counter installed externally	ALL	1 <0-7>	M	Selects the job to count up for the external counter. 0: Not selected 1: Copier 2: FAX 3: Copier/FAX 4: Printer 5: Copier/Printer 6: Printer/FAX 7: Copier/Printer/FAX	1
390	Counter	Number of errors in HDD (Copying)	PPC	0 <8 digits>	SYS	The number of error is reset at HDD formatting.	2
391	Counter	Number of errors in HDD (FAX)	FAX	0 <8 digits>	SYS		2
392	Counter	Number of errors in HDD (Scanning)	SCN	0 <8 digits>	SYS		2
393	Counter	Number of errors in HDD (Printer)	PRT	0 <8 digits>	SYS		2
398	Laser	Number of polygonal motor rotational speed switching	ALL	0 <8 digits>	M	Counts the number of time the polygonal motor has switched its rotational speed between normal rotation and standby rotation.	2
399	Laser	Accumulated time of polygonal motor at normal rotation	ALL	0 <8 digits>	M	Accumulates the time the polygonal motor has rotated at normal rotation.	2
400	Fuser	Fuser unit error status counter	ALL	0 <0-19>	M	0: No error 1: C410 (Once) 2: C410 (consecutively occurred) 3: - 4: C430 5: C440 6: C450 7: C440 8: C450 9: C440 10: C470 11: C470 12: C480 13: C490 14: C470 15: C480 16: C490 17: C470 18: C480 19: C490	1
409	Fuser	Fuser roller temperature at a energy saver mode (Center thermistor)	ALL	13 <0-16>	M	0: OFF 1: 40°C 2: 45°C 3: 50°C 4: 55°C 5: 60°C 6: 65°C 7: 70°C 8: 75°C 9: 80°C 10: 85°C 11: 90°C 12: 95°C 13: 100°C 14: 105°C 15: 110°C 16: 115°C	1
410-0	Fuser	Fuser roller temperature during printing (Center thermistor/Plain paper)	ALL (black)	12 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C	4
410-1			ALL (color)	12 <0-16>	M	9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
411	Fuser	Fuser roller temperature on standby (Center thermistor)	ALL	12 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	1



Setting mode (08)																	
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents			Procedure								
412-0	Fuser	Fuser roller temperature during printing (Center thermistor/Thick paper 3)	ALL (black)	12 <0-16>	M	0: 120°C	1: 125°C	2: 130°C	4								
412-1			ALL (color)	12 <0-16>	M	3: 135°C	4: 140°C	5: 145°C		6: 150°C	7: 155°C	8: 160°C	9: 165°C	10: 170°C	11: 175°C	12: 180°C	13: 185°C
413-0	Fuser	Fuser roller temperature during printing (Center thermistor/Thick paper 1)	ALL (black)	12 <0-16>	M	0: 120°C	1: 125°C	2: 130°C	4								
413-1			ALL (color)	13 <0-16>	M	3: 135°C	4: 140°C	5: 145°C		6: 150°C	7: 155°C	8: 160°C	9: 165°C	10: 170°C	11: 175°C	12: 180°C	13: 185°C
415-0	Fuser	Period of time retaining print-start temperature (Thick paper 3)	ALL (black)	3 <0-10>	M	0: Invalid	1: 1 sec.	2: 2 sec.	4								
415-1			ALL (color)	2 <0-10>	M	3: 3 sec.	4: 4 sec.	5: 5 sec.		6: 6 sec.	7: 7 sec.	8: 8 sec.	9: 9 sec.	10: 10 sec.			
416	Fuser	Temperature setting to start solving abnormality (Center/Side thermistor/Thick paper 3)	ALL	9 <0-12>	M	0: 120°C	1: 125°C	2: 130°C	1								
417-0	Fuser	Pre-running time for first printing (Thick paper 3)	ALL (black)	16 <0-16>	M	0: Invalid	0 sec.	2: 2 sec.	4								
417-1			ALL (color)	0 <0-16>	M	3: 3 sec.	4: 4 sec.	5: 5 sec.		6: 6 sec.	7: 7 sec.	8: 8 sec.	9: 10 sec.	10: 12 sec.	11: 14 sec.	12: 16 sec.	13: 18 sec.
422	Fuser	Fuser roller temperature setting at the end of pre-running during warming-up	ALL	9 <0-16>	M	0: 120°C	1: 125°C	2: 130°C	1								
428-0	Fuser	Period of time retaining print-start temperature (Thick paper 2)	ALL (black)	3 <0-10>	M	0: Invalid	1: 1 sec.	2: 2 sec.	4								
428-1			ALL (color)	2 <0-10>	M	3: 3 sec.	4: 4 sec.	5: 5 sec.		6: 6 sec.	7: 7 sec.	8: 8 sec.	9: 9 sec.	10: 10 sec.			

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
430	Fuser	Transport motor speed deceleration (OHP film)	ALL (color)	1 <0-3>	M	Sets deceleration ratio of paper transport speed. 0: 1/1 1: 1/2 2: 1/3 3: 1/4	1
431	Fuser	Transport motor speed deceleration (Thick paper 2)	ALL (color)	1 <0-3>	M		1
432	Fuser	Transport motor speed deceleration (Thick paper 3)	ALL (color)	2 <0-3>	M		1
436	Fuser	Temperature setting to start solving abnormality(Center/Side thermistor/Thick paper 2)	ALL	9 <0-12>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: Invalid	1
437-0	Fuser	Fuser roller temperature during printing (Center thermistor /Thick paper 2)	ALL (black)	12 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
437-1			ALL (color)	12 <0-16>	M		4
438-0	Fuser	Fuser roller temperature during printing (Center thermistor/OHP film)	ALL (black)	12 <0-16>	M	0: 120°C 1: 125°C 2: 130°C 3: 135°C 4: 140°C 5: 145°C 6: 150°C 7: 155°C 8: 160°C 9: 165°C 10: 170°C 11: 175°C 12: 180°C 13: 185°C 14: 190°C 15: 195°C 16: 200°C	4
438-1			ALL (color)	10 <0-16>	M		4
439-0	Fuser	Pre-running time for first printing (Thick paper 2)	ALL (black)	14 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
439-1			ALL (color)	0 <0-16>	M		4
440-0	Fuser	Pre-running time for first printing (Plain paper/Low temperature environment)	ALL (black)	12 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
440-1			ALL (color)	0 <0-16>	M		4
441-0	Fuser	Pre-running time for first printing (Thick paper 1)	ALL (black)	9 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec. 9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
441-1			ALL (color)	5 <0-16>	M		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
458	Fuser	Threshold for warming-up temperature(Low-temperature environment)	ALL	6 <0-11>	M	0: 0°C 1: 5°C 2: 9°C 3: 10°C 4: 12°C 5: 14°C 6: 15°C 7: 16°C 8: 17°C 9: 18°C 10: 19°C 11: 20°C	1	
459	Fuser	Warming-up time(Low-temperature environment)	ALL	7 <0-11>	M	0: No warming-up 1: 30 sec. 2: 40 sec. 3: 50 sec. 4: 60 sec. 5: 70 sec. 6: 80 sec. 7: 90 sec. 8: 100 sec. 9: 120 sec. 10: 180 sec. 11: 300 sec.	1	
460	Fuser	Threshold of temperature for pre-running time for first printing(Low-temperature environment)	ALL	9 <0-11>	M	0: 0°C 1: 5°C 2: 9°C 3: 10°C 4: 12°C 5: 14°C 6: 15°C 7: 16°C 8: 17°C 9: 18°C 10: 19°C 11: 20°C	1	
461	Fuser	Pre-running time for first printing(Plain paper/Low-temperature environment)	ALL	8 <0-11>	M	0: Invalid (always) 1: 0 min. 2: 0.5 min. 3: 1 min. 4: 2 min. 5: 3 min. 6: 5 min. 7: 7 min. 8: 10 min. 9: 15 min. 10: 30 min. 11: 60 min.	1	
462	RADF	Setting for switchback operation to copy mixed-sized original on RADF	ALL	0 <0-1>	SYS	Sets whether or not detecting the original length by transporting without scanning in reverse when finding A4-R/FOLIO paper. 0: Invalid- Judges as A4-R without transporting in reverse with no scanning. 1: Valid- Judges whether it is A4-R or FOLIO size by transporting in reverse with no scanning. * The original is transported in reverse with no scanning when detecting LT-LG size-paper in LT, regardless of this setting.	1	
463-0	Paper feeding	Feeding retry number setting (upper drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the upper drawer.	4
463-1			Others	ALL	5 <0-5>	M		4
464-0	Paper feeding	Feeding retry number setting (lower drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the lower drawer.	4
464-1			Others	ALL	5 <0-5>	M		4
465-0	Paper feeding	Feeding retry number setting (PFP upper drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the PFP upper drawer.	4
465-1			Others	ALL	5 <0-5>	M		4
466-0	Paper feeding	Feeding retry number setting (PFP lower drawer)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the PFP lower drawer.	4
466-1			Others	ALL	5 <0-5>	M		4
467-0	Paper feeding	Feeding retry number setting (bypass feed)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the bypass tray.	4
467-1			Others	ALL	5 <0-5>	M		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
468-0	Paper feeding	Feeding retry number setting (LCF)	Plain paper	ALL	5 <0-5>	M	Sets the number of times of the feeding retry from the LCF.	4
468-1		Others	ALL	5 <0-5>	M	4		
470	Paper feeding	Paper size (305x457 mm) feeding/widthwise direction	ALL	457/305 <148-457/ 105-305>	M		10	
471	Paper feeding	Paper size (Post card) feeding/widthwise direction	ALL	148/100 <148-432/ 100-297>	M	* Post card is supported only for JPN model.	10	
478	Laser	Judged number of polygonal motor rotation error (Normal rotation)	ALL	0 <0-1>	M	Displays the error [CA10] when the set number of rotation error has been detected. 0: 2 times 1: 12 times	1	
479	Laser	Judged number of polygonal motor rotation error (At acceleration/deceleration)	ALL	0 <0-1>	M	0: Waiting time for polygonal motor rotation overshooting 0.6 sec. 1: Waiting time for polygonal motor rotation overshooting 2.2 sec.	1	
480	Paper feeding	Default setting of paper source	PPC	0 <0-5>	SYS	0: A4/LT 1: LCF 2: Upper drawer 3: Lower drawer 4: PFP upper drawer 5: PFP lower drawer	1	
481	Paper feeding	Automatic change of paper source	PPC	1 <0-2>	SYS	Sets whether or not changing the drawer automatically to the other drawer with the paper of the same size when paper in the selected drawer has run out. 0: OFF 1: ON (Changes to the drawer with the same paper direction and size: ex. A4 to A4) 2: ON (Changes to the drawer with the same paper size. Paper with the different direction is acceptable as long as the size is the same: ex., A4 to A4-R, LT-R to LT. "1" is applied when the staple/hole-punch is specified.)	1	
482	Paper feeding	Feeding retry setting	ALL	0 <0-1>	M	0: ON 1: OFF	1	
483	Laser	Pre-running rotation of polygonal motor	ALL	0 <0-2>	SYS	Sets whether or not switching the polygonal motor from the standby rotation to the normal rotation when the original is set on the RADF or the platen cover is opened. 0: Valid (when using RADF and the original is set manually) 1: Invalid 2: Valid (when using RADF only)	1	

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
484	Laser	Polygonal motor rotational status switching at the Auto Clear Mode	ALL	0 <0-1>	SYS	Sets whether or not switching the polygonal motor from the normal rotation to the standby rotation at the Auto Clear Mode. 0: Valid 1: Invalid	1
485	Laser	Rotational status of polygonal motor on standby	ALL	0 <0-1>	SYS	Sets the rotational status of polygonal motor on standby. 0: Rotated (The rotational speed is set at 08-490.) 1: Stopped	1
486	Laser	Timing of auto-clearing of polygonal motor pre-running rotation	ALL	0 <0-2>	SYS	Switches the polygonal motor to the standby rotation when a certain period of time has passed from the pre-running. At this code, the period to switch the status to the standby rotation is set. 0: 15 sec. 1: 30 sec. 2: 45 sec. * This setting is effective when "0" or "2" is set at 08-483.	1
487	Transfer	Selection of performing the 2nd transfer roller cleaning (Bypass feed)	ALL	0 <0-1>	M	0: Performs only at no paper size is designated 1: Performs regardless of designation of paper size	1
488	Laser	Setting of polygonal motor type	ALL	3 <2-3>	M	Set the type of polygonal motor. 2: 2 clock type 3: 3 clock type	1
489	Laser	Polygonal motor rotation number on standby	ALL	5 <0-5>	M	0: 38090.55rpm 1: 35000rpm 2: 30000rpm 3: 25000rpm 4: 20000rpm 5: 10000rpm	1
490	Laser	Polygonal motor rotation in the energy saving mode	ALL	0 <0-1>	M	0: Stopped 1: 10000rpm	1
497	General	Speed switching for color printing	ALL (color)	0 <0-1>	M	Sets the speed for color printing. 0: 11 pages/minute 1: 6 pages/minute	1
502	Image	Error diffusion and dither setting at photo mode	PPC (black)	0 <0-1>	SYS	Sets the image reproduction method at photo mode. 0: Error diffusion 1: Dither	1
503	User interface	Default setting of density adjustment	PPC (black)	0 <0-1>	SYS	0: Automatic 1: Manual (Center)	1
511	Main charger	Main charger wire auto-cleaning setting	ALL	1 <0-1>	M	0: Invalid 1: Valid	1
526-0	Fuser	Pre-running time for first printing (OHP film)	ALL (black)	16 <0-16>	M	0: Invalid 1: 0 sec. 2: 2 sec. 3: 3 sec. 4: 4 sec. 5: 5 sec. 6: 6 sec. 7: 7 sec. 8: 8 sec.	4
526-1			ALL (color)	0 <0-16>	M	9: 10 sec. 10: 12 sec. 11: 14 sec. 12: 16 sec. 13: 18 sec. 14: 20 sec. 15: 25 sec. 16: 30 sec.	4
541	Image control	Environment correction control of 1st transfer roller bias	ALL	1 <0-1>	M	Sets whether or not correcting the 1st transfer roller bias depending on the environment. 0: Invalid 1: Valid	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
542	Image control	Transfer belt life correction of 1st transfer roller bias	ALL	1 <0-1>	M	Sets whether or not correcting the 1st transfer roller bias depending on the transfer belt life. 0: Invalid 1: Valid	1
543	Image control	1st transfer roller life correction of 1st transfer roller bias	ALL	1 <0-1>	M	Sets whether or not correcting the 1st transfer roller bias depending on the 1st transfer roller life. 0: Invalid 1: Valid	1
544	Image control	Environment correction control of 2nd transfer roller bias	ALL	1 <0-1>	M	Sets whether or not correcting the 2nd transfer roller bias depending on the environment. 0: Invalid 1: Valid	1
545	Image control	Transfer belt life correction of 2nd transfer roller bias	ALL	1 <0-1>	M	Sets whether or not correcting the 2nd transfer roller bias depending on the transfer belt life. 0: Invalid 1: Valid	1
546	Image control	2nd transfer roller life correction of 2nd transfer roller bias	ALL	1 <0-1>	M	Sets whether or not correcting the 2nd transfer roller bias depending on the 2nd transfer roller life. 0: Invalid 1: Valid	1
548	Transfer	Setting of 2nd transfer roller bias table (for each destination/paper thickness)	ALL	EUR: 0 UC: 1 JPN: 2 <0-2>	M	0:80 g/m <sup>2</sup> (21.3 lb.)/EUR 1:75 g/m <sup>2</sup> (20 lb.)/UC 2:64 g/m <sup>2</sup> (17.1 lb.)/JPN	1
549	Image control	Image quality control/open-loop control 1	ALL	1 <0-1>	M	Sets whether or not performing the open-loop control 1.The open-loop control 1 is performed in advance of the closed-loop control. 0: Invalid 1: Valid	1
550	Image	Default setting of Original mode	PPC (black)	0 <0-3>	SYS	0: Text/Photo 1: Photo 2: Text 3: Gray Scale	1
551	Image control	Image quality control/open-loop control 2	ALL	1 <0-1>	M	Sets whether or not performing the open-loop control 2.The open-loop control 2 is performed before or during printing. 0: Invalid 1: Valid	1
552	Image control	Drum life correction control	ALL	1 <0-1>	M	Sets whether or not correcting the drum voltage depending on the drum life in open-loop control. 0: Invalid 1: Valid	1
553	Image control	Drum temperature correction control	ALL	1 <0-1>	M	Sets whether or not correcting the drum voltage depending on the drum surface temperature in open-loop control. 0: Invalid 1: Valid	1
554	Image control	Image quality open-loop control/Contrast voltage initial value	ALL	1 <0-1>	M	Sets whether or not deciding the initial value of contrast voltage in open-loop control. 0: Invalid 1: Valid	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
555	Image control	Drum life correction of laser power initial value	ALL	1 <0-1>	M	Sets whether or not correcting the laser power depending on the drum life when the laser power initial value is set in open-loop control. 0: Invalid 1: Valid	1
556	Image control	Image quality closed-loop control/Contrast voltage	ALL	1 <0-1>	M	Sets whether or not correcting the contrast voltage in closed-loop control. 0: Invalid 1: Valid	1
557	Image control	Image quality closed-loop control/Laser power	ALL	1 <0-1>	M	Sets whether or not correcting the laser power in closed-loop control. 0: Invalid 1: Valid	1
558	Image control	Contrast voltage/Correction gain environment setting	ALL	1 <0-1>	M	Sets whether or not switching the correction amount once at contrast voltage correction depending on the environment. 0: Invalid 1: Valid	1
559	Image control	Image quality closed-loop control automatic start-up/At power-ON	ALL (color)	1 <0-2>	M	Sets whether performing closed-loop control automatically at power-ON when the fuser roller temperature becomes below the specified level. 0: Invalid 1: Valid (at mode 1) 2: Valid (at mode 2)	1
560	Image	Process switching for image smoothing (Text/Photo)	PPC (black)	1 <0-1>	M	Sets whether or not performing a smoothing process (primary scanning direction, 2,400 dpi or equivalent). 0: Invalid 1: Valid	1
561	Image	Process switching for image smoothing (Photo)	PPC (black)	0 <0-1>	M	Sets whether or not performing a smoothing process (primary scanning direction, 2,400 dpi or equivalent). 0: Invalid 1: Valid	1
562	Image	Process switching for image smoothing (Text)	PPC (black)	1 <0-1>	M		1
565	Image control	Image quality closed-loop control automatic start-up/Relative humidity variation	ALL (color)	1 <0-2>	M	Sets whether or not performing closed-loop control automatically when the relative humidity becomes below the specified level from the previous control. 0: Invalid 1: Valid (at mode 1) 2: Valid (at mode 2)	1
566	Image control	Image quality closed-loop control automatic start-up/Period of time unattended	ALL (color)	1 <0-2>	M	Sets whether or not performing closed-loop control automatically when the equipment has not been used for a specified period of time. 0: Invalid 1: Valid (at mode 1) 2: Valid (at mode 2)	1
567	Image control	Image quality closed-loop control automatic start-up/Accumulated print volume	ALL (color)	2 <0-2>	M	Sets whether or not performing closed-loop control automatically when the specified number of sheets has been printed out from the previous control. 0: Invalid 1: Valid (at mode 1) 2: Valid (at mode 2)	1

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
568	Image control	Image quality closed-loop control automatic start-up/ When recovered from "Toner empty"	ALL (color)	2 <0-2>	M	Sets whether or not performing closed-loop control automatically when recovered from "Toner empty". 0: Invalid 1: Valid (at mode 1) 2: Valid (at mode 2)	1	
569	Image control	Image quality closed-loop control automatic start-up/ Temperature setting of fuser roller at power-ON	ALL (color)	8 <0-20>	M	Sets the fuser roller temperature to perform closed-loop control when "1" or "2" (valid) is set in 08-559. 0: 20°C 1: 25°C 2: 30°C 3: 35°C 4: 40°C 5: 45°C 6: 50°C 7: 55°C 8: 60°C 9: 65°C 10: 70°C 11: 75°C 12: 80°C 13: 85°C 14: 90°C 15: 95°C 16: 100°C 17: 105°C 18: 110°C 19: 115°C 20: 120°C	1	
570	Image control	Image quality closed-loop control automatic start-up/ Relative humidity difference setting	ALL (color)	4 <0-6>	M	Sets the relative humidity difference to perform the closed-loop control when "1" or "2" (valid) is set in 08-565. 0: 0% 1: 5% 2: 10% 3: 15% 4: 20% 5: 25% 6: 30%	1	
571	Image control	Image quality closed-loop control automatic start-up/ Setting of period of time unattended	ALL (color)	4 <0-24>	M	Sets the period of time unattended to perform closed-loop control when "1" or "2" (valid) is set in 08-566. Setting value x 1 (hour)	1	
572	Image control	Image quality closed-loop control automatic start-up/ Setting of accumulated print volume	ALL (color)	10 <0-30>	M	Sets the number of accumulated print volume to perform closed-loop control when "1" or "2" (valid) is set in 08-567. Setting value x 100 (pages)	1	
573	Image control	Abnormality detection count (Y) Display/0 clearing	ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1	
574	Image control	Abnormality detection count (M) Display/0 clearing	ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1	
575	Image control	Abnormality detection count (C) Display/0 clearing	ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1	
576	Image control	Abnormality detection count (K) Display/0 clearing	ALL	0 <0-16>	M	Counts the abnormality detection of image quality control. Accumulating total of [CE10], [CE20] and [CE40]	1	
583-0	Fuser	Pre-running time at power-ON and ready status	Transport motor speed 1/1	ALL	1 <0-10>	M	0: 3 sec. 1: 6 sec. 2: 9 sec. 3: 12 sec. 4: 15 sec. 5: 18 sec. 6: 21 sec. 7: 24 sec. 8: 27 sec.	4
583-1			Transport motor speed 1/2	ALL	4 <0-10>	M	9: 30 sec. 10: 33 sec.	4
583-2			Transport motor speed 1/3	ALL	7 <0-10>	M		4



Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
584	Fuser	Transport motor speed of pre-running at ready status	ALL	0 <0-2>	M	0: Decelerating to 1/1 1: Decelerating to 1/2 2: Decelerating to 1/3	1
585	User interface	Default setting of Original mode	PPC (color)	0 <0-4>	SYS	0: Text/Photo 1: Text 2: Printed image 3: Photo 4: Map	1
586	Image	Image quality switching when selecting the Image Smoothing Mode	PPC (black)	0 <0-1>	SYS	Selects the method of image processing when the Image Smoothing is selected in the original modes. 0: Processing for Image Smoothing 1: Processing when judging as black in the ACS Mode	1
587	User interface	Default setting of Density mode	PPC (color)	1 <0-1>	SYS	0: Automatic 1: Manual (Center)	1
588	User interface	Default setting of Color mode	PPC	1 <0-2>	SYS	0: Auto color 1: Black 2: Full color	1
589	Image	Image quality switching when judging as black in the ACS Mode	PPC (black)	1 <0-1>	SYS	Selects the method of image processing when the original is judged as black in the ACS Mode. 0: Processing for Image Smoothing 1: Processing when judging as black in the ACS Mode	1
595	Image	Scanning operation switching at automatic calibration	PPC (Color)	0 <0-1>	SYS	0: Scanning color/black integrated pattern 1: Scanning color pattern only	1
597	Image	Gamma correction table all clearing	PRT (color)	-	SYS	Initializes the status of automatic gamma adjustment in color printing.	3
602	User interface	Screen setting for automatic energy saver/automatic power OFF	ALL	EUR:0 UC:1 JPN:1 <0-1>	SYS	0: OFF 1: ON	1
603	User interface	Setting for automatic duplexing mode	ALL	0 <0-3>	SYS	0: Invalid 1: Single-sided to duplex copying 2: Two-sided to duplex copying 3: User selection	1
604	User interface	Default setting for APS/AMS	ALL	0 <0-2>	SYS	0: APS (Automatic Paper Selection) 1: AMS (Automatic Magnification Selection) 2: Not selected	1
605	User interface	Centering printing of primary/secondary direction at AMS	PPC	1 <0-1>	SYS	0: Invalid 1: Valid	1
607	User interface	Default setting of RADF mode	PPC	0 <0-1>	SYS	0: Continuous feeding (by pressing the [START] button) 1: Single feeding (by setting original on the tray)	1

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
609-0	Image	Binarizing level setting (When judging as black in the ACS Mode)	Step -2	ALL	88 <0-255>	SYS	Sets the binarizing level of each step. When the value increases, the image becomes darker. When the value decreases, the image becomes lighter. *Refer to 08-268.	4
609-1			Step -1	ALL	108 <0-255>	SYS		4
609-2			Step 0 (center)	ALL	148 <0-255>	SYS		4
609-3			Step +1	ALL	178 <0-255>	SYS		4
609-4			Step +2	ALL	208 <0-255>	SYS		4
610	User interface	Key touch sound of control panel	ALL	1 <0-1>	SYS	0: OFF 1: ON	1	
611	User interface	Book type original priority	PPC	0 <0-1>	SYS	0: Left page to right page 1: Right page to left page	1	
612	General	Summer time mode	ALL	0 <0-1>	SYS	0: Not summer time 1: Summer time	1	
613	User interface	Paper size selection for [OTHER] button	PPC	EUR: FOLIO UC:COMP JPN:A5-R	SYS	Press the icon on the LCD to select the size.	9	
614	Network	Local I/F time-out period	ALL	6 <1-50>	SYS	Sets the period of time when the job is judged as completed in local I/F printing (USB or parallel). 1: 1.0 sec. 2: 1.5 sec. - 50: 25.5 sec. (in increments of 0.5 sec.)	1	
615	General	Size information of main memory and page memory	ALL	-	SYS	Displays the sizes of the main memory and page memory. Enables to check if each memory is properly recognized.	2	
616	Counter	Counting method in Twin Color Mode (Limitation Function)	ALL	JPN: 1 UC: 0 EUR: 0 <0-1>	SYS	Sets the counting method in Twin Color Mode with the Limitation Function. 0: Count as color 1: Count as black	1	
617	User interface	Print setting without department code	ALL	0 <0-1>	SYS	0: Printed 1: Not printed	1	
618	User interface	Default setting of RADF original size	PPC	0 <0-1>	SYS	0: Same size originals 1: Mixed size originals	1	
619	Paper feeding	Time lag before auto-start of bypass feeding	ALL	4 <0-10>	SYS	Sets the time taken to add paper feeding when paper in the bypass tray has run out during the bypass feed copying. 0: Paper is not drawn in unless the [START] button is pressed. 1-10: Setting value x 0.5sec.	1	
620	User interface	Department management setting (Copier)	PPC	1 <0-1>	SYS	0: Invalid 1: Valid	1	
621	User interface	Department management setting (FAX)	FAX	1 <0-1>	SYS	0: Invalid 1: Valid	1	
622	User interface	Department management setting (Printer)	PRT	1 <0-1>	SYS	0: Invalid 1: Valid	1	
623	User interface	Department management setting (Scanner)	SCN	1 <0-1>	SYS	0: Invalid 1: Valid	1	

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
624	User interface	Department management setting (List print)	PRT	1 <0-1>	SYS	0: Invalid 1: Valid	1
625	User interface	Blank copying prevention mode during RADF jamming	PPC	0 <0-1>	SYS	0: OFF 1: ON (Start printing when the scanning of each page is finished)	1
627	User interface	Rotation printing at the non-sorting	ALL	0 <0-1>	SYS	0: Not rotating 1: Rotating	1
628	User interface	Direction priority of original image	PPC	0 <0-1>	SYS	0: Automatic 1: Portrait	1
629	User interface	Department management setting	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
632	User interface	Automatic calibration disclosure level	PPC	1 <0-2>	SYS	Sets the disclosing level of automatic calibration. 0: Service technician 1: Administrator 2: User	1
634	User interface	Inner receiving tray priority at Non-sort Mode	ALL	0 <0-1>	SYS	0: Normal 1: Inner receiving tray	1
636	User interface	Width setting for image shift copying (linkage of front side and back side)	PPC	0 <0-1>	SYS	0: ON 1: OFF	1
638	General	Time differences	ALL	EUR: 24 UC: 40 JPN: 6 <0-47>	SYS	0: +12.0h 1: +11.5h 2: +11.0h 3: +10.5h 4: +10.0h 5: 9.5h 6: +9.0h 7: +8.5h 8: +8.0h 9: +7.5h 10: +7.0h 11: +6.5h 12: +6.0h 13: +5.5h 14: +5.0h 15: +4.5h 16: +4.0h 17: +3.5h 18: +3.0h 19: +2.5h 20: +2.0h 21: +1.5h 22: +1.0h 23: +0.5h 24: 0.0h 25: -0.5h 26: -1.0h 27: -1.5h 28: -2.0h 29: -2.5h 30: -3.0h 31: -3.5h 32: -4.0h 33: -4.5h 34: -5.0h 35: -5.5h 36: -6.0h 37: -6.5h 38: -7.0h 39: -7.5h 40: -8.0h 41: -8.5h 42: -9.0h 43: -9.5h 44: -10.0h 45: -10.5h 46: -11.0h 47: -11.5h	1
640	User interface	Date display format	ALL	EUR:1 UC:2 JPN:0 <0-2>	SYS	0: YYYY.MM.DD. 1: DD.MM.YYYY 2: MM.DD.YYYY	1
641	User interface	Automatic Sorting Mode setting (RADF)	PPC	2 <0-4>	SYS	0: Invalid 1: STAPLE 2: SORT 3: GROUP 4: ROTATE SORT	1
642	User interface	Default setting of Sorter Mode	PPC	0 <0-4>	SYS	0: NON-SORT 1: STAPLE 2: SORT 3: GROUP 4: ROTATE SORT	1
643	User interface	Color 1 at twin color selection (Select what color black in original is copied)	PPC (color)	0 <0-6>	SYS	0: K 1: Y 2: M 3: C 4: R 5: G 6: B	1
644	User interface	Color 2 at twin color selection (Select what color other than black in original is copied)	PPC (color)	4 <0-6>	SYS	0: K 1: Y 2: M 3: C 4: R 5: G 6: B	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
645	User interface	Correction of reproduction ratio in editing copy	PPC	10 <0-10>	SYS	Sets the reproduction ratio for the "X in 1" printing (including magazine sort) to the "Reproduction ratio x Correction ratio". 0: 90% 1: 91% 2: 92% 3: 93% 4: 94% 5: 95% 6: 96% 7: 97% 8: 98% 9: 99% 10: 100%	1
646	User interface	Image position in editing	PPC	0 <0-1>	SYS	Sets the page pasted position for "X in 1" to the upper left corner/center. 0: Cornering 1: Centering	1
647	User interface	Rotation of paper direction for BOX printing	ALL	1 <0-1>	SYS	0: Rotation OFF 1: Rotation ON	1
648	User interface	Returning finisher tray when printing is finished	ALL	0 <0-1>	SYS	Sets whether or not returning the finisher tray to the bin 1 when printing is finished. 0: Not returned 1: Returned	1
649	User interface	Magazine sort setting	PPC	0 <0-1>	SYS	0: Left page to right page 1: Right page to left page	1
650	User interface	2 in 1/4 in 1 page allocating order setting	PPC	0 <0-1>	SYS	0: Horizontal 1: Vertical	1
651	User interface	Printing format setting for Time Stamp and Page Number	PPC	2 <0-3>	SYS	Hyphen Dropout (with page number)(with date, time and page number) 0: OFF OFF 1: ON OFF 2: OFF ON 3: ON ON <b>Note:</b> Hyphen printing format ON: -1- OFF: 1	1
652	User interface	Cascade operation setting	PPC	0 <0-1>	SYS	0: OFF 1: ON	1
653	User interface	Cascade operation setting	PRT	0 <0-1>	SYS	0: OFF 1: ON	1
657	User interface	Default setting of printing direction for Time Stamp and Page Number	PPC	0 <0-1>	SYS	0: Short edge 1: Long edge	1
658	User interface	Auto-start setting for bypass feed printing	PRT	0 <0-1>	SYS	Sets whether or not feeding a paper automatically into the copier when it is placed on the bypass tray. 0: OFF (Press the [START] button to start feeding.) 1: ON (Automatical feeding)	1
659	User interface	Auto-start setting for bypass feed printing	PPC	1 <0-1>	SYS	Sets whether or not feeding a paper automatically into the copier when it is placed on the bypass tray. 0: OFF (Press the [START] button to start feeding.) 1: ON (Automatical feeding)	1
660	Network	Auto-forwarding setting of received FAX	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
661	Network	Auto-forwarding setting of received E-mail	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
662	General	Clearing of SMS partition	ALL	-	SYS	Clears SMS partition. (Performs when the service call [F106] has occurred.)	3	
663	Counter	Counting method in Twin Color Mode	PPC	0 <0-2>	SYS	Sets the counting method of fee charging or department count in Twin Color Mode. 0: Count as Twin Color Mode 1: Count as Black Mode 2: Count as Full Color Mode	1	
665	General	M/SYS all clearing	ALL	-	M/ SYS	Initializes all the adjustment modes and the setting modes.	3	
666	General	/SHR partition clearing	ALL	-	SYS	Initializes the Electronic Filing.	3	
667	General	/SHA partition clearing	ALL	-	SYS	Initializes the shared folder.	3	
669	General	System all clearing	ALL	-	SYS	Initializes system NVRAM area.	3	
670	General	HDD diagnostic menu display	ALL	-	SYS	Display the HDD information	2	
671	User interface	Size indicator	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1	
672	General	Initialization of department management information	-	-	SYS	Initializing of the department management information * Enter the code with the digital keys and press the [INITIALIZE] button to perform the initialization. If the area storing the department management information is destroyed for some reason, "Enter Department Code" is displayed on the control panel even if the department management function is not set on. In this case, initialize the area with this code. This area is normally initialized at the factory.	3	
675-0	Paper feeding	Coated Paper Mode setting for paper source	Upper drawer	ALL	0 <0-1>	SYS	Sets whether or not applying the Coated Paper Mode to each paper source. 0: Normal mode 1: Coated Paper Mode * Coated Paper Mode - This mode is selected when the paper which often causes the misfeeding (ex. coated paper) is used. The occurrence of misfeeding is reduced by lengthening the jam detection time. However, the printing speed is lowered since the printing cycle is also lengthened with the lengthened jam detection time.	4
675-1			Lower drawer	ALL	0 <0-1>	SYS		4
675-2			PFP upper drawer	ALL	0 <0-1>	SYS		4
675-3			PFP lower drawer	ALL	0 <0-1>	SYS		4
675-4			LCF	ALL	0 <0-1>	SYS		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
676	Paper feeding	Bypass copy printing [COATED] button display	PPC	0 <0-1>	SYS	Sets whether or not displaying the [COATED] button on the LCD screen at bypass feeding. 0: Not displayed 1: Displayed (The Coated Paper Mode is applied by pressing the [COATED] button at bypass feeding.) * Coated Paper Mode - This mode is selected when the paper which often causes the misfeeding (ex. coated paper) is used. The occurrence of misfeeding is reduced by lengthening the jam detection time. However, the printing speed is lowered since the printing cycle is also lengthened with the lengthened jam detection time.	1	
677-0	Paper feeding	Coated Paper Mode setting at bypass feeding	Plain paper	PRT	0 <0-1>	SYS	Sets whether or not applying the Coated Paper Mode on each paper type at bypass printing. 0: Normal mode 1: Coated Paper Mode * Coated Paper Mode - This mode is selected when the paper which often causes the misfeeding (ex. coated paper) is used. The occurrence of misfeeding is reduced by lengthening the jam detection time. However, the printing speed is lowered since the printing cycle is also lengthened with the lengthened jam detection time.	4
677-1			Thick paper 1	PRT	0 <0-1>	SYS		4
677-2			Thick paper 2	PRT	0 <0-1>	SYS		4
677-3			Thick paper 3	PRT	0 <0-1>	SYS		4
677-4			OHP film	PRT	0 <0-1>	SYS		4
677-5			Envelope	PRT	0 <0-1>	SYS		4
678	General	Setting of banner advertising display	ALL	0 <0-1>	SYS	Sets whether or not displaying the banner advertising. The setting contents of 08-679 and 08-680 are displayed at the time display section on the right top of the screen. When both are set, each content is displayed alternately. 0: Not displayed 1: Displayed	1	
679	General	Banner advertising display 1	ALL	-	SYS	Maximum 27 letters (one-byte character)	11	
680	General	Banner advertising display 2	ALL	-	SYS	Maximum 27 letters (one-byte character)	11	
681	General	Display of [BANNER MESSAGE] button	ALL	0 <0-1>	SYS	0: Not displayed 1: Displayed * This button enables the entry of "Banner advertising display 1(08-679)" and "Banner advertising display 2 (08-680)" on the control panel.	1	

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
682	User interface	Offsetting between jobs	ALL	0 <0-1>	SYS	0: Invalid      1: Valid	1
683	General	Duplex printing setting when coin controller is used	ALL	1 <0-1>	SYS	When the duplex printing is short paid with a coin controller, reverse side of the original is not printed and is considered as a defect (printing job may be cleared). To solve this problem, the selection of printing method is enabled with this setting. 0: Invalid (Both sides printed) 1: Valid (Only one side printed)	1
684	General	Rebuilding all databases	ALL	-	SYS	Rebuilds all databases.	3
685	General	Rebuilding all databases related to Address Book	ALL	-	SYS	Rebuilds all databases related to the Address Book.	3
686	General	Rebuilding all databases related to log	ALL	-	SYS	Rebuilds all databases related to the logs.	3
689	FAX	Adaptation of paper source priority selection	FAX	0 <0-1>	SYS	0: Not subjected for APS judgment 1: Subjected for APS judgment	1
690	General	HDD formatting	ALL	- <2>	SYS	2: Normal formatting	7
691	General	HDD type display	ALL	- <0-2>	SYS	0: Not formatted    1: Not used 2: Normal format	7
692	Maintenance	Performing panel calibration	ALL	-	SYS	Performs the calibration of the pressing position on the touch panel (LCD screen). The calibration is performed by pressing 2 reference positions after this code is started up.	1
693	General	Initialization of NIC information	ALL	-	SYS	Returns the value to the factory shipping default value.	3
694	General	Performing HDD testing	ALL	-	SYS	Checks the bad sector.	3
696	Scrambler board	Installation of scrambler board (Option)	ALL	0 <0-1>	-	0: Not installed 1: Installed	2
697	Paper feeding	Paper type priority	PPC	1 <1-2>	SYS	Sets the paper type priority during copying. 1: Normal paper    2: Thick paper 1	1
698	Scrambler board	Entering the key code for scrambler board	ALL	-	-	Start up this code and have the user enter the key code. Once the key code has been set, this code cannot be set again on security grounds.	5
699	Scrambler board	Erasing all data in HDD	ALL	-	-	This setting is effective only when the scrambler board is installed.	3
701	FAX	Destination setting for FAX	FAX	EUR: 5 UC: 4 JPN: 0 Other: 1 <0-25>	SYS	0: Japan            1: Asia 2: Australia       3: Hong Kong 4: U.S.A./Canada 5: Germany 6: U.K.            7: Italy 8: Belgium        9: Netherlands 10: Finland       11: Spain 12: Austria        13: Switzerland 14: Sweden        15: Denmark 16: Norway        17: Portugal 18: France         19: Greece 20: Poland         21: Hungary 22: Czech          23: Turkey 24: South Africa   25: Taiwan	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
702	Maintenance	Remote-controlled service function	ALL	2 <0-2>	SYS	0: Valid (Remote-controlled server) 1: Valid (L2) 2: Invalid	1
703	Maintenance	Remote-controlled service HTTP server URL setting	ALL	-	SYS	Maximum 256 Bytes	11
707	Maintenance	Remote-controlled service HTTP initially-registered server URL setting	ALL	https:// device.mfp- support.com: 443/device/ firstregist.ashx	SYS	Maximum 256 Bytes	11
710	Maintenance	Short time interval setting of recovery from Emergency Mode	ALL	24 <1-48>	SYS	Sets the time interval to recover from the Emergency Mode to the Normal Mode. (Unit: Hour)	1
711	Maintenance	Short time interval setting of Emergency Mode	ALL	60 <30-360>	SYS	Unit: Minute	1
715	Maintenance	Remote-controlled service periodical polling timing (Hour/Hour/Minute/Minute)	ALL	1230	SYS	0 (0:00) to 2359 (23:59)	1
716	Maintenance	Remote-controlled service Writing data of self-diagnostic code	ALL	0 <0-1>	SYS	0: Prohibited 1: Accepted	1
717	Maintenance	Remote-controlled service response waiting time (Timeout)	ALL	3 <1-30>	SYS	Unit: Minute	1
718	Maintenance	Remote-controlled service initial registration	ALL	0 <0-1>	SYS	0: OFF 1: Start 2: Only certification is scanned	1
719	Maintenance	Remote-controlled service tentative password	ALL	-	SYS	Maximum 10 letters	11
720	Maintenance	Status of remote-controlled service initial registration (Display only)	ALL	0 <0-1>	SYS	0: Not registered 1: Registered	2
721	Maintenance	Service center call function	ALL	2 <0-2>	SYS	0: OFF 1: Notifies all service calls 2: Notifies all but paper jams	1
723	Maintenance	Service center call HTTP server URL setting	ALL	-	SYS	Maximum 256 letters	11
726	Maintenance	HTTP proxy setting	ALL	1 <0-1>	SYS	0: Valid 1: Invalid	1
727	Maintenance	HTTP proxy IP address setting	ALL	-	SYS	000.000.000.000 - 255.255.255.255 (Default value 000.000.000.000)	11
728	Maintenance	HTTP proxy port number setting	ALL	0 <0-65535>	SYS		1
729	Maintenance	HTTP proxy ID setting	ALL	-	SYS	Maximum 30 letters	11
730	Maintenance	HTTP proxy password setting	ALL	-	SYS	Maximum 30 letters	11
731	Maintenance	HTTP proxy panel display	ALL	1 <0-1>	SYS	0: Valid 1: Invalid	1
732	Maintenance (Remote)	Automatic ordering function of supplies	ALL	3 <0-3>	SYS	0: Ordered by FAX 1: Ordered by E-mail 2: Ordered by HTTP 3: OFF	1



Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
733	Maintenance (Remote)	Automatic ordering function of supplies FAX number	ALL	-	SYS	Maximum 32 digits Enter hyphen with the [Monitor/ Pause] button	11
734	Maintenance (Remote)	Automatic ordering function of supplies E-mail address	ALL	-	SYS	Maximum 192 letters List: 256 digits	11
738	Maintenance (Remote)	Automatic ordering function of supplies User's name	ALL	-	SYS	Maximum 50 letters	11
739	Maintenance (Remote)	Automatic ordering function of supplies User's telephone number	ALL	-	SYS	Maximum 32 digits Enter hyphen with the [Monitor/ Pause] button	11
740	Maintenance (Remote)	Automatic ordering function of supplies User's E-mail address	ALL	-	SYS	Maximum 192 letters List: 256 digits	11
741	Maintenance (Remote)	Automatic ordering function of supplies User's address	ALL	-	SYS	Maximum 100 letters	11
742	Maintenance (Remote)	Automatic ordering function of supplies Service number	ALL	0 <5 digits>	SYS	Maximum 5 digits	11
743	Maintenance (Remote)	Automatic ordering function of supplies Service technician's name	ALL	-	SYS	Maximum 50 letters	11
744	Maintenance (Remote)	Automatic ordering function of supplies Service technician's telephone number	ALL	-	SYS	Maximum 32 digits Enter hyphen with the [Monitor/ Pause] button	11
745	Maintenance (Remote)	Automatic ordering function of supplies Service technician's E-mail address	ALL	-	SYS	Maximum 192 letters List: 256 digits	11
746	Maintenance (Remote)	Automatic ordering function of supplies Supplier's name	ALL	-	SYS	Maximum 50 letters	11
747	Maintenance (Remote)	Automatic ordering function of supplies Supplier's address	ALL	-	SYS	Maximum 100 letters	11
748	Maintenance (Remote)	Automatic ordering function of supplies Notes	ALL	-	SYS	Maximum 128 letters	11
749	Maintenance (Remote)	Information about supplies Part number of toner cartridge C	ALL	-	SYS	Maximum 20 digits	11
750	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge C	ALL	1 <1-99>	SYS		1
751	Maintenance (Remote)	Information about supplies Condition number of toner cartridge C	ALL	1 <1-99>	SYS		1
752	Maintenance (Remote)	Information about supplies Part number of toner cartridge M	ALL	-	SYS	Maximum 20 digits	11

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
753	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge M	ALL	1 <1-99>	SYS		1
754	Maintenance (Remote)	Information about supplies Condition number of toner cartridge M	ALL	1 <1-99>	SYS		1
755	Maintenance (Remote)	Information about supplies Part number of toner cartridge Y	ALL	-	SYS	Maximum 20 digits	11
756	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge Y	ALL	1 <1-99>	SYS		1
757	Maintenance (Remote)	Information about supplies Condition number of toner cartridge Y	ALL	1 <1-99>	SYS		1
758	Maintenance (Remote)	Information about supplies Part number of toner cartridge K	ALL	-	SYS	Maximum 20 digits	11
759	Maintenance (Remote)	Information about supplies Order quantity of toner cartridge K	ALL	1 <1-99>	SYS		1
760	Maintenance (Remote)	Information about supplies Condition number of toner cartridge K	ALL	1 <1-99>	SYS		1
761	Maintenance (Remote)	Information about supplies Part number of toner bag	ALL	-	SYS	Maximum 20 digits	11
762	Maintenance (Remote)	Information about supplies Order quantity of toner bag	ALL	1 <1-99>	SYS		1
763	Maintenance (Remote)	Information about supplies Condition number of toner bag	ALL	1 <1-99>	SYS		1
764	Maintenance (Remote)	Automatic ordering supplies Result table printout	ALL	1 <0-2>	SYS	0: OFF 1: Always 2: ON Error	1
765	Maintenance (Remote)	Automatic ordering supplies Display	ALL	2 <0-2>	SYS	0: Valid (FAX/Internet FAX) 1: Valid (FAX/Internet FAX/HTTP) 2: Invalid	1
767	Maintenance (Remote)	Service Notification setting	ALL	0 <0-2>	SYS	Enables to set up to 3 E-mail addresses to be sent. (08-768, 777, 778) 0: Invalid 1: Valid (E-mail) 2: Valid (FAX)	1
768	Maintenance (Remote)	Destination E-mail address 1	ALL	-	SYS	Maximum 192 letters	11
769	Maintenance (Remote)	Total counter information transmission setting	ALL	0 <0-1>	SYS	0: Invalid 1: Valid	1
770	Maintenance (Remote)	Total counter transmission date setting	ALL	1 <1-31>	SYS	1 to 31	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
771	Maintenance (Remote)	PM counter notification setting	ALL	0 <0-1>	SYS	0: Invalid      1: Valid	1
772	Maintenance	Dealer's name	ALL	-	SYS	Maximum 100 letters Needed at initial registration	11
773	Maintenance	Login name	ALL	-	SYS	Maximum 20 letters Needed at initial registration	11
774	Maintenance (Remote)	Display setting of [Service Notification] button	ALL	0 <0-1>	SYS	0: Not displayed    1: Displayed	1
775	Maintenance (Remote)	Sending error contents of equipment	ALL	0 <0-1>	SYS	0: Invalid      1: Valid	1
776	Maintenance (Remote)	Setting total counter transmission interval (Hour/Hour/Minute/Minute)	ALL	-	SYS		1
777	Maintenance (Remote)	Destination E-mail address 2	ALL	-	SYS	Maximum 192 letters	11
778	Maintenance (Remote)	Destination E-mail address 3	ALL	-	SYS	Maximum 192 letters	11
779	Maintenance (Remote)	Notification format selection	ALL	0 <0-1>	SYS	0: Text 1: Text + XML data	1
780	Maintenance	Remote-controlled service polling day selection Day-1	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
781	Maintenance	Remote-controlled service polling day selection Day-2	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
782	Maintenance	Remote-controlled service polling day selection Day-3	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
783	Maintenance	Remote-controlled service polling day selection Day-4	ALL	0 <0-31>	SYS	0: OFF 1 to 31: 1st to 31st of a month	1
784	Maintenance	Remote-controlled service polling day selection Sunday	ALL	0 <0-1>	SYS	0: Invalid      1: Valid	1
785	Maintenance	Remote-controlled service polling day selection Monday	ALL	0 <0-1>	SYS	0: Invalid      1: Valid	1
786	Maintenance	Remote-controlled service polling day selection Tuesday	ALL	0 <0-1>	SYS	0: Invalid      1: Valid	1
787	Maintenance	Remote-controlled service polling day selection Wednesday	ALL	0 <0-1>	SYS	0: Invalid      1: Valid	1

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents		Procedure
788	Maintenance	Remote-controlled service polling day selection Thursday	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
789	Maintenance	Remote-controlled service polling day selection Friday	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
790	Maintenance	Remote-controlled service polling day selection Saturday	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
791	Maintenance	Information of supplies setting of toner cartridge C	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
792	Maintenance	Information of supplies setting of toner cartridge M	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
793	Maintenance	Information of supplies setting of toner cartridge Y	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
794	Maintenance	Information of supplies setting of toner cartridge K	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
795	Maintenance	Information of supplies setting of toner bag	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
796	Maintenance	Remote-controlled service lengthened interval polling (End of month)	ALL	0 <0-1>	SYS	0: Invalid	1: Valid	1
797	Maintenance	Firmware download	ALL	0 <0-1>	SYS	0: Accepted	1: Prohibited	1
810	Image control	Transfer bias correction table setting	ALL	2 <1-3>	M	1 : TYPE1 2 : TYPE2 3 : TYPE3		1
819-0	Development	Color auto-toner sensor output	Y	ALL (color)	256 <0-1023>	M	Sets the target output value of color auto-toner sensor to the sleeve in the auto-toner control. (This is set when performing the automatic adjustment of auto-toner sensor.)	4
819-1		setting for initial developer material	M	ALL (color)	256 <0-1023>	M		4
819-2			C	ALL (color)	256 <0-1023>	M		4
820-0	Development	Color auto-toner sensor output display for developer material	Y	ALL (color)	- <0-1023>	M	Displays the output value of the color auto-toner sensor to the sleeve in color printing.	4
820-1			M	ALL (color)	- <0-1023>	M		4
820-2			C	ALL (color)	- <0-1023>	M		4
821	Development	ON/OFF of the mode for developer material stabilization	ALL (color)	0 <0-1>	M	Sets whether or not performing an aging to stabilize the status of developer material when the toner density is uneven or the toner charging amount is lowered. 0: ON 1: OFF		1
822-0	Development	Number of times the mode for developer material stabilization is performed	Y	ALL (color)	0 <0-255>	M	Displays the number of times the developer material stabilization is performed.	4
822-1			M	ALL (color)	0 <0-255>	M		4
822-2			C	ALL (color)	0 <0-255>	M		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
823-0	Development	Color auto-toner sensor/light	Y	ALL (color)	0 <0-1>	M	Displays "1" when the abnormal output voltage is detected for the color auto-toner sensor light amount correction. ([CF40] error) 0: Normal 1: Abnormality detected	4
823-1		amount correction	M	ALL (color)	0 <0-1>	M		4
823-2		voltage abnormal detection	C	ALL (color)	0 <0-1>	M		4
824-0	Development	Color auto-toner sensor/toner	Y	ALL (color)	0 <0-1>	M	Displays "1" when the abnormal toner density detection voltage is detected. ([CF20] error) 0: Normal 1: Abnormality detected	4
824-1		density detection	M	ALL (color)	0 <0-1>	M		4
824-2		voltage abnormal detection	C	ALL (color)	0 <0-1>	M		4
849	Fuser	Fusing control switching for TWD and SAD models		ALL	Other than TWD and SAD: 0 TWD and SAD: 1 <0-1>	M		1
858-0	Development	Toner empty detection	Y	ALL (color)	0 <0-1>	M	Becomes "1" when detecting the toner empty. 0: Normal 1: Empty detected	14
858-1			M	ALL (color)	0 <0-1>	M		14
858-2			C	ALL (color)	0 <0-1>	M		14
859-0	Development	Color toner forced supply level display	Y	ALL (color)	0 <0-1>	M	Becomes "1" when the toner density decreases and it is judged forced toner supply is needed. 0: Normal level 1: Forced supply level	14
859-1			M	ALL (color)	0 <0-1>	M		14
859-2			C	ALL (color)	0 <0-1>	M		14
860-0	Development	Color auto-toner sensor/proper range setting of OFF level voltage	Upper limit	ALL (color)	20 <0-1023>	M	Sets the range for judging whether the sensor output value when the sensor light source is OFF is correct or not.	4
860-1			Lower limit	ALL (color)	0 <0-1023>	M		4
861-0	Development	Color auto-toner sensor/proper range setting of standard light amount voltage	Upper limit	ALL (color)	205 <0-255>	M	Sets the range for judging whether the adjustment result of sensor light amount is correct or not.	4
861-1			Lower limit	ALL (color)	40 <0-255>	M		4
862-0	Development	Color auto-toner sensor/proper range setting of reference plate output	Upper limit	ALL (color)	820 <0-1023>	M	Sets the range for judging whether the sensor output value for the reference plate is correct or not.	4
862-1			Lower limit	ALL (color)	205 <0-1023>	M		4
863-0	Development	Color auto-toner sensor/proper range setting of developer output	Upper limit	ALL (color)	450 <0-1023>	M	Sets the range for judging whether the sensor output value for the sleeve is correct or not.	4
863-1			Lower limit	ALL (color)	155 <0-1023>	M		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
864	Development	Color auto-toner sensor/ sensor OFF output value display at power ON	ALL (color)	- <0-1023>	M	Displays the sensor output value when the sensor light source is OFF at power ON.	2	
865	Development	Color auto-toner sensor/ reference plate output value display at power ON	ALL (color)	- <0-1023>	M	Displays the sensor output value with the standard light amount for the reference plate at power ON.	2	
866-0	Development	Color auto-toner sensor/abnormal detection potential	Upper limit	ALL (color)	820 <0-1023>	M	Sets the range for judging whether the difference between the sensor output when the sensor light source is OFF and the sensor output for the reference plate is correct or not.	4
866-1		difference setting of reference plate output	Lower limit	ALL (color)	205 <0-1023>	M		4
867	Development	Color auto-toner control environment and life light amount correction setting	ALL (color)	0 <0-1>	M	Sets whether the sensor light amount is corrected or not depending on the environment and life. 0: Correction 1: No correction	1	
868	Development	Color auto-toner adjustment finishing range setting	ALL (color)	4 <0-255>	M	Sets the difference from the target value for judging whether the color auto-toner adjustment finishes correctly or not.	1	
869	Development	Color auto-toner control environment and life light amount correction/correction finishing range setting	ALL (color)	5 <0-255>	M	Sets the difference from the target value for judging whether the light amount correction finishes correctly or not.	1	
870	Development	Color auto-toner sensor/ setting of number of times of error detection at light amount correction	ALL (color)	3 <0-255>	M	Sets the number of times of continuous error detection before the light amount correction abnormality is displayed.	1	
871	Development	Color auto-toner control environment and life light amount correction/display of number of times of reference plate detection error	ALL (color)	0 <0-255>	M	Displays the number of times of the reference plate detection error for the environment and life light amount correction.	2	
872	Development	Color auto-toner control environment and life light amount correction/display of number of times of light amount control voltage adjustment error	ALL (color)	0 <0-255>	M	Displays the number of times of the light amount control voltage adjustment error for the environment and life light amount correction.	2	
873-0	Development	Color auto-toner control/developer	Y	ALL (color)	256 <0-1023>	M	Sets the initial developer output target value.	4
873-1		initial output setting	M	ALL (color)	256 <0-1023>	M		4
873-2			C	ALL (color)	256 <0-1023>	M		4

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
874	Development	Color developer life correction	ALL (color)	0 <0-1>	M	Sets whether the toner density detection voltage correction is performed or not depending on the developer life in the color auto-toner control. 0: Corrected 1: Not corrected	1	
875-0	Development	Color developer life correction value (segment 0)	Y	ALL (color)	0 <-512-511>	M	Sets the correction amount of the toner density detection voltage depending on the developer life. In this code, the life count within 0-2000 is set as the correction amount.	4
875-1			M	ALL (color)	0 <-512-511>	M		4
875-2			C	ALL (color)	0 <-512-511>	M		4
876-0	Development	Color developer life correction value (segment 1)	Y	ALL (color)	-4 <-512-511>	M	Sets the correction amount of the toner density detection voltage depending on the developer life. In this code, the life count within 2001-5000 is set as the correction amount.	4
876-1			M	ALL (color)	-2 <-512-511>	M		4
876-2			C	ALL (color)	-2 <-512-511>	M		4
877-0	Development	Color developer life correction value (segment 2)	Y	ALL (color)	-6 <-512-511>	M	Sets the correction amount of the toner density detection voltage depending on the developer life. In this code, the life count within 5001-10000 is set as the correction amount.	4
877-1			M	ALL (color)	-3 <-512-511>	M		4
877-2			C	ALL (color)	-3 <-512-511>	M		4
878-0	Development	Color developer life correction value (segment 3)	Y	ALL (color)	-8 <-512-511>	M	Sets the correction amount of the toner density detection voltage depending on the developer life. In this code, the life count within 10001-20000 is set as the correction amount.	4
878-1			M	ALL (color)	-4 <-512-511>	M		4
878-2			C	ALL (color)	-4 <-512-511>	M		4
879-0	Development	Color developer life correction value (segment 4)	Y	ALL (color)	-10 <-512-511>	M	Sets the correction amount of the toner density detection voltage depending on the developer life. In this code, the life count within 20001-30000 is set as the correction amount.	4
879-1			M	ALL (color)	-5 <-512-511>	M		4
879-2			C	ALL (color)	-5 <-512-511>	M		4
880-0	Development	Color developer life correction value (segment 5)	Y	ALL (color)	-12 <-512-511>	M	Sets the correction amount of the toner density detection voltage depending on the developer life. In this code, the life count within 30001-37500 is set as the correction amount.	4
880-1			M	ALL (color)	-6 <-512-511>	M		4
880-2			C	ALL (color)	-6 <-512-511>	M		4
881-0	Development	Color developer life correction value (segment 6)	Y	ALL (color)	-12 <-512-511>	M	Sets the correction amount of the toner density detection voltage depending on the developer life. In this code, the life count 37501 or more is set as the correction amount.	4
881-1			M	ALL (color)	-6 <-512-511>	M		4
881-2			C	ALL (color)	-6 <-512-511>	M		4
900	Version	System firmware ROM version	ALL	-	-	JPN: T350SY0JXXX UC: T350SY0UXXX EUR: T350SY0EXXX Others: T350SY0XXXX	2	

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
903	Version	Engine ROM version	ALL	-	-	350M-XXX	2
905	Version	Scanner ROM version	ALL	-	-	350S-XXX	2
907	Version	RADF ROM version	ALL	-	-	DF-XXXX	2
908	Version	Finisher ROM version	ALL	-	-	SDL-XX FIN-XX	2
915	Version	FAX board ROM version	FAX	-	-	F562-XXX	2
916	Version	NIC board ROM version	ALL	-	-	X.XXX	2
920	Version	FROM basic section software version	ALL	-	-	VX.XX/X.XX	2
921	Version	FROM internal program	ALL	-	-	VXXX.XXX X	2
922	Version	UI data fixed section version	ALL	-	-	VXXX.XXX X	2
923	Version	UI data common section version	ALL	-	-	VXXX.XXX X	2
924	Version	Version of UI data language 1 in HDD	ALL	-	-	VXXX.XXX X	2
925	Version	Version of UI data language 2 in HDD	ALL	-	-	VXXX.XXX X	2
926	Version	Version of UI data language 3 in HDD	ALL	-	-	VXXX.XXX X	2
927	Version	Version of UI data language 4 in HDD	ALL	-	-	VXXX.XXX X	2
928	Version	Version of UI data language 5 in HDD	ALL	-	-	VXXX.XXX X	2
929	Version	Version of UI data language 6 in HDD	ALL	-	-	VXXX.XXX X	2
930	Version	Version of UI data in FROM displayed at power-ON	ALL	-	-	VXXX.XXX X	2
931	Version	Version of UI data language 7 in HDD	ALL	-	-	VXXX.XXX X	2
933	Version	Web data whole version	ALL	-	-	VXXX.XXX X	2
934	Version	Web UI data in HDD Version: Language 1	ALL	-	-	VXXX.XXX X	2
935	Version	Web UI data in HDD Version: Language 2	ALL	-	-	VXXX.XXX X	2
936	Version	Web UI data in HDD Version: Language 3	ALL	-	-	VXXX.XXX X	2
937	Version	Web UI data in HDD Version: Language 4	ALL	-	-	VXXX.XXX X	2
938	Version	Web UI data in HDD Version: Language 5	ALL	-	-	VXXX.XXX X	2
939	Version	Web UI data in HDD Version: Language 6	ALL	-	-	VXXX.XXX X	2



Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
944	Version	HD version	ALL	-	-	JPN: T350HD0JXXX UC: T350HD0UXXX EUR: T350HD0EXXX Others: T350HD0XXXX	2
945	Network	Two-way setting of RawPort 9100	ALL	1 <1-2>	UTY	1: Valid 2: Invalid	12
947	General	Initialization after software version upgrade	ALL	-	-	Perform this code when the software in this equipment has been upgraded.	3
948	General	Mode setting by pressing [Energy Saver] button for a while	ALL	0 <0-1>	SYS	Sets the mode to enter when the [Energy Saver] button is pressed for a while. 0: Sleep Mode 1: Auto Shut Off Mode	1
949	General	Automatic interruption page setting during black printing	ALL	0 <0-100>	SYS	Sets the number of pages to interrupt the printing automatically. 0-100: 0 to 100 pages	1
950	Electronic filing	Start-up method of Electronic Filing	ALL	0 <0-3>	SYS	Sets the start-up method of the Electronic Filing. 0: Standard 1: Forced start-up (Not recovered) 2: Forced start-up (Recovered) 3: Data update	1
951	User interface	Image setting for Electronic Filing printing (Only for color image)	ALL	0 <0-3>	SYS	0: General 1: Photograph 2: Presentation 3: Line art	1
953	User interface	Access code entry for Electronic Filing printing	ALL	0 <0-1>	SYS	0: Renewed automatically 1: Enter every time	1
954	User interface	Clearing timing for files and Electronic Filing Agent	ALL	1 <0-1>	SYS	0: Immediately after the completion of scanning 1: Cleared by Auto Clear	1
969	User interface	Error sound	ALL	1 <0-1>	SYS	0: OFF 1: ON	1
970	User interface	Sound setting when switching to Energy Saving Mode	ALL	1 <0-1>	SYS	0: OFF 1: ON	1
973	Network	PCL line feed code setting	PRT	0 <0-3>	SYS	Sets the PCL line feed code. 0: Automatic setting 1: CR=CR, LF=LF 2: CR=CR+LF, LF=LF 3: CR=CR, LF=CR+LF	1
975	General	Job handling when printing is short paid with coin controller	ALL	1 <0-1>	SYS	Sets whether pause or stop the printing job when it is short paid using a coin controller. 0: Pause the job 1: Stop the job	1
976	Electronic Filing	Equipment name setting to a folder when saving files	ALL	0 <0-1>	SYS	Sets whether or not adding the equipment name to the folder when saving files. 0: Not add 1: Add	1
977	Network	Switching of extended ASCII code in catFs filesystem	ALL	0 <0-1>	SYS	0: ISO8859-1 1: ISO8859-2	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
978	Network	Raw printing job (Paper feeding drawer)	PRT	0 <0-5>	SYS	0: AUTO 1: Upper drawer 2: Lower drawer 3: PFP upper drawer 4: PFP lower drawer 5: LCF	1
979	Network	Raw printing job (PCL symbol set)	PRT	0 <0-39>	SYS	0: Roman-8 1: ISO 8859/1 Latin 1 2: ISO 8859/2 Latin 2 3: ISO 8859/9 Latin 5 4: PC-8, Code Page 437 5: PC-8 D/N, Danish/Norwegian 6: PC-850, Multilingual 7: PC-852, Latin2 8: PC-8 Turkish 9: Windows 3.1 Latin 1 10: Windows 3.1 Latin 2 11: Windows 3.1 Latin 5 12: DeskTop 13: PS Text 14: Ventura International 15: Ventura US 16: Microsoft Publishing 17: Math-8 18: PS Math 19: Ventura Math 20: Pi Font 21: Legal 22: ISO 4: United Kingdom 23: ISO 6: ASCII 24: ISO 11 25: ISO 15: Italian 26: ISO 17 27: ISO 21: German 28: ISO 60: Danish/Norwegian 29: ISO 69: French 30: Windows 3.0 Latin 1 31: MC Text 32: PC Cyrillic 33: ITC Zapf Dingbats 34: ISO 8859/10 Latin 6 35: PC-775 36: PC-1004 37: Symbol 38: Windows Baltic 39: Wingdings	1
986	General	Copy function setting	PPC	0 <0-1>	SYS	Sets the copy function to be invalid. 0: Valid 1: Invalid	1
988	Paper feeding	Setting of paper size switching to 13" LG	ALL	0 <0-2>	SYS	0: Not switched 1: LG→13"LG 2: FOLIO→13"LG	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
989	Scrambler board	Scrambler board initial setting	ALL	-	-	Performs the initial setting of the scrambler board.	3
995	Maintenance	Equipment number (serial number) display	ALL	0 <10 digits>	SYS	This code can be also keyed in from the adjustment mode (05-976). 10 digits	11
999	Maintenance	FSMS total counter	ALL	0 <8 digits>	SYS	Refer to values of total counter.	1
1001	Network	Reset of NIC board	ALL	3 <1-3>	NIC	1: Cold 2: Warm 3: Not reset	12
1002	Network	Selection of NIC board status information	ALL	1 <1-2>	NIC	1: Not printed out when the copier is restarted 2: Printed out when the copier is restarted	12
1003	Network	Speed setting of Ethernet	ALL	3 <1-3>	NIC	1: 10 MBPS 2: 100 MBPS 3: Automatic	12
1004	Network	NIC Web password	ALL	-	NIC	Writing only (Current setting is not displayed.) Maximum 31 letters	12
1005	Network	Availability of IP	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1006	Network	Address Mode	ALL	2 <1-5>	NIC	1: Fixed IP address 2: Dynamic IP address 3: Dynamic IP address without AutoIP 4: Dynamic IP address without BOOTP 5: Dynamic IP address without DHCP	12
1007	Network	Domain name	ALL	-	NIC	Maximum 96 letters	12
1008	Network	IP address	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1009	Network	Subnet mask	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1010	Network	Gateway	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1011	Network	Availability of IPX	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1012	Network	Network frame type	ALL	1 <1-5>	NIC	1: Automatic 2: IEEE802.3 3: Ethernet II 4: IEEE802.3 SNAP 5: IEEE802.2	12
1013	Network	Availability of NCP Burst	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1014	Network	Availability of AppleTalk	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1015	Network	Zone setting of AppleTalk	ALL	*	NIC	Maximum 32 letters *: Wildcard character	12
1016	Network	Availability of LDAP	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1017	Network	Availability of DNS	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1018	Network	IP address to DNS server (Primary)	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1019	Network	IP address to DNS server (Secondary)	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1020	Network	DDNS Desired level	ALL	1 <1-5>	NIC	1: Invalid 2: Via DHCP 3: Insecure DDNS 4: Secure DDNS 5: Multi-secure DDNS	12
1021	Network	Availability of SLP	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1023	Network	NetBios name	ALL	-	UTY	Maximum 15 letters	12
1024	Network	Name of WINS server or IP address (Primary)	ALL	-	UTY	Maximum 128 letters	12
1025	Network	Name of WINS server or IP address (Secondary)	ALL	-	UTY	Maximum 128 letters	12
1026	Network	Availability of Bindery	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1027	Network	Availability of NDS	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1028	Network	Directory service context	ALL	-	NIC	Maximum 127 letters	12
1029	Network	Directory service tree	ALL	-	NIC	Maximum 47 letters	12
1030	Network	Availability of HTTP server	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1031	Network	Port number to NIC HTTP server	ALL	80 <1-65535>	NIC		12
1032	Network	Port number to system HTTP server	ALL	8080 <1-65535>	SYS		1
1033	Network	Availability of NIC HTTP client	ALL	2 <1-2>	NIC	1: Available 2: Not available	12
1034	Network	TCP port number to Controller HTTP client	ALL	80 <1-65535>	UTY		12
1035	Network	IP address to HTTP server (Primary)	ALL	-	NIC	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1037	Network	Availability of SMTP client	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1038	Network	FQDN or IP address to SMTP server	ALL	-	NIC	Maximum 128 Bytes	12
1039	Network	TCP port number of SMTP client	ALL	25 <1-65535>	NIC		12
1040	Network	Availability of SMTP server	ALL	1 <1-2>	UTY	1: Available 2: Not available	12
1041	Network	TCP port number of SMTP server	ALL	25 <1-65535>	UTY		12
1042	Network	E-mail box name to SMTP server	ALL	-	UTY	Maximum 192 letters	12
1043	Network	Availability of Offramp	ALL	2 <1-2>	UTY	1: Available 2: Not available	12
1044	Network	Offramp security	ALL	1 <1-2>	UTY	1: Available 2: Not available	12
1045	Network	Printing at Offramp	ALL	1 <1-2>	UTY	1: Available 2: Not available	12
1046	Network	Availability of POP3 clients	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1047	Network	FQDN or IP address to POP3 server	ALL	-	NIC	Maximum 128 Bytes	12
1048	Network	Types of POP3 server	ALL	1 <1-3>	NIC	1: Automatic 2: POP3 3: APOP	12

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1049	Network	Login name to POP3 server	ALL	-	NIC	Maximum 96 letters	12
1050	Network	Login password to POP3	ALL	-	NIC	Maximum 96 letters	12
1051	Network	E-mail reception interval	ALL	5 <0-4096>	NIC	Unit: Minute	12
1052	Network	TCP port number of POP3 client	ALL	110 <1-65535>	NIC		12
1053	Network	Availability of FTP client	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1054	Network	FQDN or IP address to FTP server	ALL	-	NIC	Maximum 128 letters	12
1055	Network	TCP port number of FTP client	ALL	21 <1-65535>	UTY		12
1056	Network	Data port number of FTP client	ALL	0 <0-65535>	UTY		12
1057	Network	Login name to FTP server	ALL	-	SYS	Maximum 31 letters	11
1058	Network	Login password to FTP server	ALL	-	SYS	Maximum 31 letters	11
1059	Network	Availability of FTP server	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1060	Network	TCP port number of FTP server	ALL	21 <1-65535>	UTY		12
1061	Network	Login name to FTP client	ALL	-	SYS	Maximum 31 letters	11
1062	Network	Login password to FTP client	ALL	-	SYS	Maximum 31 letters	11
1063	Network	MIB function	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1065	Network	Setting of read Community	ALL	public	NIC	Maximum 31 letters	12
1066	Network	Setting of read/Write Community	ALL	private	NIC	Maximum 31 letters	12
1067	Network	Authentication TRAP function	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1068	Network	ALERTS TRAP function	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1069	Network	TRAP destination IP address	ALL	-	UTY	000.000.000.000-255.255.255.255 (Default value 000.000.000.000)	12
1070	Network	Community setting of TRAP (via IP)	ALL	public	NIC	Maximum 31 letters	12
1073	Network	Availability of Raw/TCP	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1074	Network	TCP port number of Raw	ALL	9100 <1-65535>	NIC		12
1075	Network	Availability of LPD client	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1076	Network	TCP port number of LPD	ALL	515 <1-65535>	NIC		12
1077	Network	LPD queue name	ALL	-	NIC	Maximum 31 letters	12
1078	Network	Availability of IPP	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1079	Network	Availability of IPP port number "80"	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1080	Network	TCP port number of IPP	ALL	631 <1-65535>	NIC		12

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1081	Network	IPP printer name	ALL	-	NIC	Maximum 127 letters	12
1082	Network	IPP printer location	ALL	-	NIC	Maximum 127 letters	12
1083	Network	IPP printer information	ALL	-	NIC	Maximum 127 letters	12
1084	Network	IPP printer information (more)	ALL	-	NIC	Maximum 127 letters	12
1085	Network	Installer of IPP printer driver	ALL	-	NIC	Maximum 127 letters	12
1086	Network	IPP printer "Make and Model"	ALL	-	NIC	Maximum 127 letters	12
1087	Network	IPP printer information (more) MFGR	ALL	-	NIC	Maximum 127 letters	12
1088	Network	IPP message from operator	ALL	-	NIC	Maximum 127 letters	12
1089	Network	Availability of FTP print	ALL	1 <1-2>	NIC	1: Available 2: Not available	12
1090	Network	Printer user name of FTP	ALL	print	NIC	Maximum 31 letters	12
1091	Network	Printer user password of FTP	ALL	-	NIC	Maximum 31 letters	12
1092	Network	TCP port number to FTP print server	ALL	21 <1-65535>	NIC		12
1093	Network	Login name to Novell print server	ALL	-	NIC	Maximum 47 letters	12
1094	Network	Login password to Novell print server	ALL	-	NIC	Maximum 31 letters	12
1095	Network	Name of SearchRoot server	ALL	-	NIC	Maximum 31 letters	12
1096	Network	Scan rate setting of print queue	ALL	5 <1-255>	NIC	Unit: Second	12
1097	Network	Page number limitation for printing text of received E- mail	ALL	5 <1-99>	UTY		12
1098	Network	MDN return mail setting when receiving E-mail	ALL	2 <1-2>	UTY	1: Valid 2: Invalid	12
1099	Network	Trap destination of IPX	ALL	-	UTY	Maximum 24 letters (Valid from 0 to 9 and from A to F)	12
1100	Network	Method of SMTP server authentication	ALL	5 <1-5>	NIC	1: Plain 2: Login 3: Cram-MD5 4: Digest MD5 5: Disable	12
1101	Network	Login name for SMTP server authentication	ALL	-	NIC	Maximum 64 letters	12
1102	Network	Login password for SMTP server authentication	ALL	-	NIC	Maximum 64 letters	12
1103	Network	Rendezvous setting	ALL	1 <1-2>	NIC	1: Valid 2: Invalid	12
1104	Network	Link local host name	ALL	MFP_serial	NIC	Maximum 127 letters	12
1105	Network	Service name setting	ALL	Refer to contents	NIC	Maximum 63 letters <Default value> e-STUDIO3511: TOSHIBA e-STUDIO3511 e-STUDIO4511: TOSHIBA e-STUDIO4511	12
1107	Network	FTP server login name 1	ALL	Tiger	UTY	Maximum 64 letters	12
1108	Network	FTP server login password 1	ALL	Woods	UTY	Maximum 32 letters	12

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1109	Network	FTP server login name 2	ALL	Shigeki	UTY	Maximum 64 letters	12
1110	Network	FTP server login password 2	ALL	Maruyama	UTY	Maximum 32 letters	12
1111	Network	POP Before SMTP setting	ALL	2 <1-2>	NIC	1: Valid 2: Invalid	12
1112	Network	Host name	ALL	MFP_serial	NIC	Maximum 63 letters	12
1114	Network	Sending mail text of InternetFAX	ALL	1 <0-1>	SYS	0: Invalid 1: Valid	1
1117	Network	SMB time-out period	ALL	300 <1-9999>	SYS	Unit: Second	1
1120	Network	Backup/Restore of NIC setting information	ALL	0 <0-1>	SYS	0: Read (Reads all of the setting information in NIC and create a file NAM1B (no extension) in USB) 1: Write (Writes all of the setting information read from a file NAM1B (no extension) in USB)	1
1124	Network	Workgroup name	ALL	workgroup	UTY	Maximum 15 letters	12
1130	User interface	Job Build Function	ALL	1 <0-1>	SYS	Sets the Job Build Function. 0: Invalid 1: Valid	1
1131	User interface	Maximum number of time job build performed	ALL	1000 <5-1000>	SYS	Sets the maximum number of time a job build has been performed. 5-1000: 5 to 1000 times	1
1132	General	Default screen selection of the User Function menu	ALL	1 <0-1>	SYS	Selects the default screen when entering the User Function menu by pressing the [USER FUNCTIONS] button. 0: ADDRESS 1: COUNTER	1
1135	Paper feeding	Default setting of drawers (Printer/BOX)	PRT	1 <1-5>	SYS	1: LCF 2: Upper drawer 3: Lower drawer 4: PFP upper drawer 5: PFP lower drawer	1
1136	Network	Number of lines simultaneously connectable when using SMB	ALL	13 <0-16>	SYS		1
1137	Network	Memory partition size when using Samba	ALL	16 <8-20>	SYS	8-20 M bytes	1
1138	Network	LDAP search method setting	ALL	0 <0-3>	SYS	Sets the search method when performing a LDAP search. 0: Partial match 1: Prefix match 2: Suffix match 3: Full match	1
1139	Network	LDAP authentication setting	ALL	0 <0-1>	SYS	0: Not authenticated 1: Authenticated	1
1140	User interface	Restriction of the template function with the administrator privilege	ALL	0 <0-1>	SYS	Selects the restriction of the template function usage setting. 0: No restriction 1: Only available with the administrator privilege.	1
1145	Maintenance (Remote)	Counter notification Remote FAX setting	ALL	-	SYS	Maximum 32 digits Enter hyphen with the [MONITOR/PAUSE] button.	11
1370	Image processing	Image quality control time accumulating counter	ALL	0 <8 digits>	M	Counts driving count of the drum (image quality control time). Counts up when drum motor and image quality control are ON.	1

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1371	Image processing	Accumulated counter of output pages since the performing of image quality control	ALL	0 <4 digits>	M	Cleared to "0" by the image quality closed-loop control. Counts up with the number of printing job received after this control.	2
1372	Image processing	Heater and energizing time accumulating counter Display/0 clearing	ALL	0 <8 digits>	M	Counts up the heater control time accumulated (when power of the copier is ON) but does not count at the Sleep Mode. When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1378	Image processing	Fuser roller ready temperature time accumulating counter	ALL	0 <8 digits>	M	Counts up the heater control time accumulated (on standby). When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	2
1380	Image processing	Fuser roller printing temperature time accumulating counter	ALL	0 <8 digits>	M	Counts up the heater control time accumulated (during printing). When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	2
1382	Image processing	Fuser roller energy saving temperature time accumulating counter Display/0 clearing	ALL	0 <8 digits>	M	Counts up the heater control time accumulated (at energy saving mode). When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	2
1385	Image processing	Number of output pages (Thick paper 1)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON. When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1386	Image processing	Number of output pages (Thick paper 2)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON. When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1387	Image processing	Number of output pages (Thick paper 3)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON. When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1388	Image processing	Number of output pages (OHP film)	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON. When the counter value of the fuser belt is cleared, this counter value is also cleared in sync at PM support mode.	1
1389	Main charger	Main charger wire cleaning counter display/0 clearing	ALL	0 <5 digits>	M	Does not count up when cleaning is not effective.	1
1390	Paper feeding	Feeding retry counter (upper drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the upper drawer.	1
1391	Paper feeding	Feeding retry counter (lower drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the lower drawer.	1



Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1392	Paper feeding	Feeding retry counter (PFP upper drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the PFP upper drawer.	1
1393	Paper feeding	Feeding retry counter (PFP lower drawer)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the PFP lower drawer.	1
1394	Paper feeding	Feeding retry counter (bypass feed)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the bypass tray.	1
1395	Paper feeding	Feeding retry counter (LCF)	ALL	0 <8 digits>	M	Counts the number of times of the feeding retry from the LCF.	1
1396	Paper feeding	Feeding retry counter upper limit value (upper drawer)	ALL	10 <8 digits>	M	When the number of feeding retry (08-1390 to 08-1395) exceeds the setting value, the feeding retry will not be performed subsequently. In case "0" is set as a setting value, however, the feeding retry continues regardless of the counter setting value. Refer to (Note 1).	1
1397	Paper feeding	Feeding retry counter upper limit value (lower drawer)	ALL	10 <8 digits>	M		1
1398	Paper feeding	Feeding retry counter upper limit value (PFP upper drawer)	ALL	10 <8 digits>	M		1
1399	Paper feeding	Feeding retry counter upper limit value (PFP lower drawer)	ALL	10 <8 digits>	M		1
1400	Paper feeding	Feeding retry counter upper limit value (bypass feed)	ALL	10 <8 digits>	M		1
1401	Paper feeding	Feeding retry counter upper limit value (LCF)	ALL	10 <8 digits>	M		1
1410	Counter	Black toner cartridge drive counts/0 clearing	ALL	<8 digits>	M		1
1412	Counter	Counter for tab paper	ALL	0 <8 digits>	M	Counts up when the registration sensor is ON. When the counter value of the fuser roller is reset, this counter is reset in sync at the PM support mode.	1
1414	Image processing	Toner cartridge wrong installation detection ON/OFF setting	ALL	0 <0-1>	M	0: ON 1: OFF	1
1415	Image processing	Detection/control that the toner cartridge is nearly empty	ALL	1 <0-1>	M	Sets ON or OFF of the detection/control that the toner cartridge is nearly empty. 0: OFF 1: ON	1
1416	Image processing	Threshold for detecting that black toner cartridge is nearly empty	ALL	<8 digits>	M		1
1432	Network	Mode only for Private Print	ALL	0 <0-1>	SYS	0: Normal mode 1: Mode for Private Print	1
1433	Network	"Disable e-Filing" function	ALL	0 <0-1>	SYS	0: Function OFF (no restriction on data saving or other operations) 1: Function ON (Data saving or other operations are restricted)	1
1434	Network	"Disable local file save" function	ALL	0 <0-1>	SYS	0: Function OFF (no restriction on data saving or other operations) 1: Function ON (Data saving or other operations are restricted)	1
1484	Network	Authentication method of "Scan to Email"	ALL	0 <0-2>	SYS	0: Disable 1: SMTP authentication 2: LDAP authentication	1

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1485	Network	Setting whether use of Internet FAX is permitted or not when it is given an authentication	ALL	0 <0-1>	SYS	0: Not permitted 1: Permitted	1	
1486	Network	Server setting for LDAP user authentication	ALL	0 <0-4294967295>	SYS		2	
1487	Network	"From" address assignment method when it is given an authentication	ALL	0 <0-2>	SYS	0: "User name" + @ + "Domain name" 1: LDAP search 2: Use the address registered in "From" field of E-mail setting	1	
1488	Network	ID setting of LDAP server for "From" address assignment	ALL	0 <0-4294967295>	SYS		2	
1489	Network	Setting for "From" address edit at "Scan to Email"	ALL	0 <0-1>	SYS	0: Not permitted 1: Permitted	1	
1491	Network	E-mail domain name	ALL	-	SYS	96+2 (delimiter) character ASCII sequence only	11	
1800-0	Image processing	Color toner forced supply time setting	Y	ALL (color)	70 <0-255>	M	Sets the motor driving time of the developer unit at the time of the color toner forced supply. 0-255: Setting value x 0.1 seconds	4
1800-1			M	ALL (color)	70 <0-255>	M		4
1800-2			C	ALL (color)	70 <0-255>	M		4
1801	Image processing	Color toner forced supply count setting	ALL (color)	7 <1-10>	M	Sets the number of times of the color toner forced supply.	1	
1802-0	Image processing	Start up setting of the developer material stabilizing mode.	Level	ALL	3 <2-8>	M	Sets the performing level of the developer material stabilizing operation. Set the interval time between performances of developer material stabilizing operation. Set the number of repeating times of the developer material stabilizing operation.	4
1802-1			Pattern interval	ALL	50 <0-100>	M		4
1802-2			Number of repeating time	ALL	10 <0-20>	M		4

**(Note 1)**

In this equipment, a toner image is formed on the transfer belt prior to a paper feeding.

When the feeding retry occurs and the transport timing is delayed, the toner image on the transfer belt is cleaned off without the 2nd transfer since the paper cannot be reached for the 2nd transfer process.

After that, the toner image formation is retried while the paper is waited.

In this case, the toner for this image formation is consumed wastefully since the toner image on the transfer belt is already cleaned off, even though the printing is normally completed.

Therefore, note that the excessive toner will be consumed consequently when the upper limit value of feeding retry counter is set larger or set as "0" (no limit).

The toner is also consumed wastefully when the paper misfeeding occurs. Replace the roller at earlier timing if the paper misfeedings have occurred frequently.

<<Pixel counter related code>> ( ► Chapter 2.2.6)

**Note:** In the pixel counter function, the twin color copy mode is regarded as the full color mode.

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1500	Pixel counter	Standard paper size setting	ALL	EUR: 0 UC: 1 JPN: 0 <0-1>	SYS	Selects the standard paper size to convert it into the pixel count (%). 0: A4 1: LT	1
1501	Pixel counter	Pixel counter all clearing	ALL	-	SYS	Clears all information related to the pixel counter.	3
1502	Pixel counter	Service technician reference counter clearing	ALL	-	SYS	Clears all information related to the service technician reference pixel counter.	3
1503	Pixel counter	Toner cartridge reference counter clearing	ALL	-	SYS	Clears all information related to the toner cartridge reference pixel counter.	3
1504	Pixel counter	Pixel counter display setting	ALL	1 <0-1>	SYS	Selects whether or not to display the pixel counter on the LCD screen. 0: Displayed 1: Not displayed	1
1505	Pixel counter	Displayed reference setting	ALL	0 <0-1>	SYS	Selects the reference when displaying the pixel counter on the LCD screen. 0: Service technician reference 1: Toner cartridge reference	1
1506	Pixel counter	Toner empty determination counter setting	ALL	0 <0-1>	SYS	Selects the counter to determine toner empty. 0: Output pages 1: Pixel counter	1
1507	Pixel counter	Threshold setting for toner empty determination (Output pages)	ALL	500 <0-999>	SYS	Sets the number of output pages to determine toner empty. This setting is valid when "0" is set at 08-1506.	1
1508	Pixel counter	Threshold setting for toner empty determination (Pixel counter)	ALL	21500 <0-60000>	SYS	Sets the number of output pages to determine toner empty. This setting is valid when "1" is set at 08-1506.	1
1509	Pixel counter	Pixel counter clear flag/ Service technician reference	ALL	0 <0-1>	SYS	Becomes "1" when 08-1502 is performed.	2
1510	Pixel counter	Service technician reference cleared date	ALL	-	SYS	Displays the date on which 08-1502 was performed.	2
1511	Pixel counter	Toner cartridge reference cleared date (Y)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1512	Pixel counter	Toner cartridge reference cleared date (M)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1513	Pixel counter	Toner cartridge reference cleared date (C)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1514	Pixel counter	Toner cartridge reference cleared date (K)	ALL	-	SYS	Displays the date on which 08-1503 was performed.	2
1515	Pixel counter	Toner cartridge reference count started date (Y)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1516	Pixel counter	Toner cartridge reference count started date (M)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2
1517	Pixel counter	Toner cartridge reference count started date (C)	ALL (color)	-	SYS	Displays the date on which 08-1503 was performed.	2

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1518	Pixel counter	Toner cartridge reference count started date (K)	ALL	-	SYS	Displays the date on which 08-1503 was performed.	2
1547	Pixel counter	Number of output pages/full color (Service technician reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode and service technician reference. [Unit. page]	2
1548	Pixel counter	Number of output pages/black (Service technician reference)	PPC (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, black mode and service technician reference. [Unit. page]	2
1549	Pixel counter	Number of output pages/full color (Service technician reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode and service technician reference. [Unit. page]	2
1550	Pixel counter	Number of output pages/black (Service technician reference)	PRT (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, black mode and service technician reference. [Unit. page]	2
1551	Pixel counter	Number of output pages/black (Service technician reference)	FAX (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the FAX function, black mode and service technician reference. [Unit. page]	2
1552	Pixel counter	Number of output pages/full color (K) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner K and toner cartridge reference. [Unit. page]	2
1553	Pixel counter	Number of output pages/black (Toner cartridge reference)	PPC (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, black mode and toner cartridge reference. [Unit. page]	2
1554	Pixel counter	Number of output pages/full color (K) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner K and toner cartridge reference. [Unit. page]	2
1555	Pixel counter	Number of output pages/black (Toner cartridge reference)	PRT (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, black mode and toner cartridge reference. [Unit. page]	2
1556	Pixel counter	Number of output pages/black (Toner cartridge reference)	FAX (black)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the FAX function, black mode and toner cartridge reference. [Unit. page]	2

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1557	Pixel counter	Number of output pages/full color (Y) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner Y and toner cartridge reference. [Unit. page]	2
1558	Pixel counter	Number of output pages/full color (Y) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner Y and toner cartridge reference. [Unit. page]	2
1559	Pixel counter	Number of output pages/full color (M) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner M and toner cartridge reference. [Unit. page]	2
1560	Pixel counter	Number of output pages/full color (M) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner M and toner cartridge reference. [Unit. page]	2
1561	Pixel counter	Number of output pages/full color (C) (Toner cartridge reference)	PPC (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the copy function, full color mode, toner C and toner cartridge reference. [Unit. page]	2
1562	Pixel counter	Number of output pages/full color (C) (Toner cartridge reference)	PRT (color)	<8 digits>	SYS	Counts the number of output pages converted to the standard paper size in the printer function, full color mode, toner C and toner cartridge reference. [Unit. page]	2
1563	Pixel counter	Toner cartridge Y replacement counter	ALL (color)	<3 digits>	SYS	Counts the number of time of the toner cartridge Y replacement.	2
1564	Pixel counter	Toner cartridge M replacement counter	ALL (color)	<3 digits>	SYS	Counts the number of time of the toner cartridge M replacement.	2
1565	Pixel counter	Toner cartridge C replacement counter	ALL (color)	<3 digits>	SYS	Counts the number of time of the toner cartridge C replacement.	2
1566	Pixel counter	Toner cartridge K replacement counter	ALL	<3 digits>	SYS	Counts the number of time of the toner cartridge K replacement.	2
1577	Pixel counter	Average pixel count/full color (Y+M+C+K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1578	Pixel counter	Average pixel count/full color (Y) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1579	Pixel counter	Average pixel count/full color (M) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1580	Pixel counter	Average pixel count/full color (C) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1581	Pixel counter	Average pixel count/full color (K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1582	Pixel counter	Average pixel count/full color (Y+M+C+K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1583	Pixel counter	Average pixel count/full color (Y) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1584	Pixel counter	Average pixel count/full color (M) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1585	Pixel counter	Average pixel count/full color (C) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1586	Pixel counter	Average pixel count/full color (K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1587	Pixel counter	Average pixel count/full color (Y+M+C+K) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1588	Pixel counter	Average pixel count/full color (Y) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1589	Pixel counter	Average pixel count/full color (M) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1590	Pixel counter	Average pixel count/full color (C) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1591	Pixel counter	Average pixel count/full color (K) (Service technician reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1592	Pixel counter	Average pixel count/black (Service technician reference)	PPC (black)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, black mode and service technician reference. [Unit: 0.01%]	2

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1593	Pixel counter	Average pixel count/black (Service technician reference)	PRT (black)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, black mode and service technician reference. [Unit: 0.01%]	2
1594	Pixel counter	Average pixel count/black (Service technician reference)	FAX (black)	0 <0-10000>	SYS	Displays the average pixel count in the FAX function, black mode and service technician reference. [Unit: 0.01%]	2
1595	Pixel counter	Average pixel count/black (Service technician reference)	PPC/ PRT/ FAX (black)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer/FAX function, black mode and service technician reference. [Unit: 0.01%]	2
1596	Pixel counter	Latest pixel count/full color (Y+M+C+K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1597	Pixel counter	Latest pixel count/full color (Y) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1598	Pixel counter	Latest pixel count/full color (M) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1599	Pixel counter	Latest pixel count/full color (C) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1600	Pixel counter	Latest pixel count/full color (K) (Service technician reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2
1601	Pixel counter	Latest pixel count/full color (Y+M+C+K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, all toner and service technician reference. [Unit: 0.01%]	2
1602	Pixel counter	Latest pixel count/full color (Y) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner Y and service technician reference. [Unit: 0.01%]	2
1603	Pixel counter	Latest pixel count/full color (M) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner M and service technician reference. [Unit: 0.01%]	2
1604	Pixel counter	Latest pixel count/full color (C) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner C and service technician reference. [Unit: 0.01%]	2
1605	Pixel counter	Latest pixel count/full color (K) (Service technician reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner K and service technician reference. [Unit: 0.01%]	2

Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1606	Pixel counter	Latest pixel count/black (Service technician reference)	PPC (black)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, black mode and service technician reference. [Unit: 0.01%]	2
1607	Pixel counter	Latest pixel count/black (Service technician reference)	PRT (black)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, black mode and service technician reference. [Unit: 0.01%]	2
1608	Pixel counter	Latest pixel count/black (Service technician reference)	FAX (black)	0 <0-10000>	SYS	Displays the latest pixel count in the FAX function, black mode and service technician reference. [Unit: 0.01%]	2
1609	Pixel counter	Average pixel count/full color (Y) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2
1610	Pixel counter	Average pixel count/full color (M) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1611	Pixel counter	Average pixel count/full color (C) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1612	Pixel counter	Average pixel count/full color (K) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1613	Pixel counter	Average pixel count/black (Toner cartridge reference)	PPC (black)	0 <0-10000>	SYS	Displays the average pixel count in the copy function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1614	Pixel counter	Average pixel count/full color (K)+black (Toner cartridge reference)	PPC	0 <0-10000>	SYS	Displays the average pixel count in the copy function, full color/black mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1615	Pixel counter	Average pixel count/full color (Y) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2
1616	Pixel counter	Average pixel count/full color (M) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1617	Pixel counter	Average pixel count/full color (C) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1618	Pixel counter	Average pixel count/full color (K) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2



Setting mode (08)							
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure
1619	Pixel counter	Average pixel count/black (Toner cartridge reference)	PRT (black)	0 <0-10000>	SYS	Displays the average pixel count in the printer function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1620	Pixel counter	Average pixel count/full color (K)+black (Toner cartridge reference)	PRT	0 <0-10000>	SYS	Displays the average pixel count in the printer function, full color/black mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1621	Pixel counter	Average pixel count/full color (Y) (Toner cartridge reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2
1622	Pixel counter	Average pixel count/full color (M) (Toner cartridge reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1623	Pixel counter	Average pixel count/full color (C) (Toner cartridge reference)	PPC/ PRT (color)	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1624	Pixel counter	Average pixel count/full color (K)+black (Toner cartridge reference)	PPC/ PRT/ FAX	0 <0-10000>	SYS	Displays the average pixel count in the copy/printer/FAX function, black mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1625	Pixel counter	Average pixel count/black (Toner cartridge reference)	FAX (black)	0 <0-10000>	SYS	Displays the average pixel count in the FAX function, black mode and toner cartridge reference. [Unit: 0.01%]	2
1626	Pixel counter	Latest pixel count/full color (Y) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2
1627	Pixel counter	Latest pixel count/full color (M) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2
1628	Pixel counter	Latest pixel count/full color (C) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2
1629	Pixel counter	Latest pixel count/full color (K) (Toner cartridge reference)	PPC (color)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2
1630	Pixel counter	Latest pixel count/full color (Y) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner Y and toner cartridge reference. [Unit: 0.01%]	2
1631	Pixel counter	Latest pixel count/full color (M) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner M and toner cartridge reference. [Unit: 0.01%]	2

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1632	Pixel counter	Latest pixel count/full color (C) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner C and toner cartridge reference. [Unit: 0.01%]	2	
1633	Pixel counter	Latest pixel count/full color (K) (Toner cartridge reference)	PRT (color)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, full color mode, toner K and toner cartridge reference. [Unit: 0.01%]	2	
1634	Pixel counter	Latest pixel count/black (Toner cartridge reference)	FAX (black)	0 <0-10000>	SYS	Displays the latest pixel count in the FAX function, black mode and toner cartridge reference. [Unit: 0.01%]	2	
1639	Pixel counter	Latest pixel count/black (Toner cartridge reference)	PPC (black)	0 <0-10000>	SYS	Displays the latest pixel count in the copy function, black mode and toner cartridge reference. [Unit: 0.01%]	2	
1640	Pixel counter	Latest pixel count/black (Toner cartridge reference)	PRT (black)	0 <0-10000>	SYS	Displays the latest pixel count in the printer function, black mode and toner cartridge reference. [Unit: 0.01%]	2	
1641-0	Pixel counter	Pixel count distribution/full color (Y)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner Y are displayed. [Unit: page]	14
1641-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1641-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1641-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1641-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1641-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1641-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1641-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1641-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1641-9			80.1-100%	PPC (color)	<8 digits>	SYS		14

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1642-0	Pixel counter	Pixel count distribution/full color (M)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner M are displayed. [Unit: page]	14
1642-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1642-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1642-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1642-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1642-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1642-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1642-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1642-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1642-9			80.1-100%	PPC (color)	<8 digits>	SYS		14
1643-0	Pixel counter	Pixel count distribution/full color (C)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner C are displayed. [Unit: page]	14
1643-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1643-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1643-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1643-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1643-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1643-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1643-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1643-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1643-9			80.1-100%	PPC (color)	<8 digits>	SYS		14

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1644-0	Pixel counter	Pixel count distribution/full color (K)	0-5%	PPC (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function, full color mode and toner K are displayed. [Unit: page]	14
1644-1			5.1-10%	PPC (color)	<8 digits>	SYS		14
1644-2			10.1-15%	PPC (color)	<8 digits>	SYS		14
1644-3			15.1-20%	PPC (color)	<8 digits>	SYS		14
1644-4			20.1-25%	PPC (color)	<8 digits>	SYS		14
1644-5			25.1-30%	PPC (color)	<8 digits>	SYS		14
1644-6			30.1-40%	PPC (color)	<8 digits>	SYS		14
1644-7			40.1-60%	PPC (color)	<8 digits>	SYS		14
1644-8			60.1-80%	PPC (color)	<8 digits>	SYS		14
1644-9			80.1-100%	PPC (color)	<8 digits>	SYS		14
1645-0	Pixel counter	Pixel count distribution/full color (Y)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner Y are displayed. [Unit: page]	14
1645-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1645-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1645-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1645-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1645-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1645-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1645-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1645-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1645-9			80.1-00%	PRT (color)	<8 digits>	SYS		14

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1646-0	Pixel counter	Pixel count distribution/full color (M)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner M are displayed. [Unit: page]	14
1646-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1646-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1646-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1646-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1646-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1646-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1646-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1646-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1646-9			80.1-100%	PRT (color)	<8 digits>	SYS		14
1647-0	Pixel counter	Pixel count distribution/full color (C)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner C are displayed. [Unit: page]	14
1647-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1647-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1647-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1647-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1647-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1647-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1647-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1647-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1647-9			80.1-100%	PRT (color)	<8 digits>	SYS		14

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1648-0	Pixel counter	Pixel count distribution/full color (K)	0-5%	PRT (color)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function, full color mode and toner K are displayed. [Unit: page]	14
1648-1			5.1-10%	PRT (color)	<8 digits>	SYS		14
1648-2			10.1-15%	PRT (color)	<8 digits>	SYS		14
1648-3			15.1-20%	PRT (color)	<8 digits>	SYS		14
1648-4			20.1-25%	PRT (color)	<8 digits>	SYS		14
1648-5			25.1-30%	PRT (color)	<8 digits>	SYS		14
1648-6			30.1-40%	PRT (color)	<8 digits>	SYS		14
1648-7			40.1-60%	PRT (color)	<8 digits>	SYS		14
1648-8			60.1-80%	PRT (color)	<8 digits>	SYS		14
1648-9			80.1-100%	PRT (color)	<8 digits>	SYS		14
1649-0	Pixel counter	Pixel count distribution/black	0-5%	PPC (black)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the copy function and black mode are displayed. [Unit: page]	14
1649-1			5.1-10%	PPC (black)	<8 digits>	SYS		14
1649-2			10.1-15%	PPC (black)	<8 digits>	SYS		14
1649-3			15.1-20%	PPC (black)	<8 digits>	SYS		14
1649-4			20.1-25%	PPC (black)	<8 digits>	SYS		14
1649-5			25.1-30%	PPC (black)	<8 digits>	SYS		14
1649-6			30.1-40%	PPC (black)	<8 digits>	SYS		14
1649-7			40.1-60%	PPC (black)	<8 digits>	SYS		14
1649-8			60.1-80%	PPC (black)	<8 digits>	SYS		14
1649-9			80.1-100%	PPC (black)	<8 digits>	SYS		14

Setting mode (08)								
Code	Classification	Items	Function	Default <Acceptable value>	RAM	Contents	Procedure	
1650-0	Pixel counter	Pixel count distribution/black	0-5%	PRT (black)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the printer function and black mode are displayed. [Unit: page]	14
1650-1			5.1-10%	PRT (black)	<8 digits>	SYS		14
1650-2			10.1-15%	PRT (black)	<8 digits>	SYS		14
1650-3			15.1-20%	PRT (black)	<8 digits>	SYS		14
1650-4			20.1-25%	PRT (black)	<8 digits>	SYS		14
1650-5			25.1-30%	PRT (black)	<8 digits>	SYS		14
1650-6			30.1-40%	PRT (black)	<8 digits>	SYS		14
1650-7			40.1-60%	PRT (black)	<8 digits>	SYS		14
1650-8			60.1-80%	PRT (black)	<8 digits>	SYS		14
1650-9			80.1-100%	PRT (black)	<8 digits>	SYS		14
1651-0	Pixel counter	Pixel count distribution/black	0-5%	FAX (black)	<8 digits>	SYS	The pixel count data are divided into 10 ranges. The number of output pages in each range is displayed. In this code, the distributions in the FAX function and black mode are displayed. [Unit: page]	14
1651-1			5.1-10%	FAX (black)	<8 digits>	SYS		14
1651-2			10.1-15%	FAX (black)	<8 digits>	SYS		14
1651-3			15.1-20%	FAX (black)	<8 digits>	SYS		14
1651-4			20.1-25%	FAX (black)	<8 digits>	SYS		14
1651-5			25.1-30%	FAX (black)	<8 digits>	SYS		14
1651-6			30.1-40%	FAX (black)	<8 digits>	SYS		14
1651-7			40.1-60%	FAX (black)	<8 digits>	SYS		14
1651-8			60.1-80%	FAX (black)	<8 digits>	SYS		14
1651-9			80.1-100%	FAX (black)	<8 digits>	SYS		14

<<PM support mode related code>>

The management items at PM support mode can also be operated at setting mode (08).

The following items are displayed or set by using sub-codes at PM management setting in the table below.

<Sub-codes>

- 0: Present number of output pages
  - Means the present number of output pages.
- 1: Recommended number of output pages for replacement
  - Means the recommended number of output pages for replacement.
- 2: Number of output pages at the last replacement
  - Means the number of output pages at the last replacement.
- 3: Present drive counts
  - Means the present drive counts (1 count = 2 seconds).
- 4: Recommended drive counts to be replaced
  - Means the recommended drive counts for replacement (1 count = 2 seconds).
- 5: Driving counts at the last replacement
  - Means the drive counts at the last replacement.
- 6: Present output pages for control
  - Means the present number of output pages for controlling.
- 7: Present drive counts for control
  - Means the present drive counts for controlling (1 count = 2 seconds).
- 8: Number of times replaced
  - Counts up when clearing the counter of each unit in the PM Support Mode Screen.

**Notes:**

- Sub-code 3 is equivalent to sub-code 7.
- When the value of sub-code 3 is changed, the value of sub-code 7 is also updated and vice versa.
- When "0" is set at one of sub-codes 0, 3, 6 and 7, the rest of them are automatically updated to "0".



Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Photoconductive drum	1150-0 to 8	1151	<Default values of code 1150 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 315000/315000
Drum cleaning blade	1158-0 to 8	1159	<Default values of code 1158 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 315000/315000
Drum cleaner brush	1166-0 to 8	1167	<Default values of code 1166 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 315000/315000
Main charger grid	1174-0 to 8	1175	<Default values of code 1174 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 315000/315000
Main charger wire	1182-0 to 8	1183	<Default values of code 1182 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 315000/315000
Main charger wire cleaning pad	1190-0 to 8	1191	<Default values of code 1190 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 315000/315000
Ozone filter	1198-0 to 8	1199	<Default values of code 1198 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 315000/315000
Developer material K	1200-0 to 8	1201	<Default values of code 1200 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 116000/116000
Developer material Y	1202-0 to 8	1203	<Default values of code 1202 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 30000/37500 Sub-code 4: 28000/28000
Developer material M	1204-0 to 8	1205	<Default values of code 1204 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 30000/37500 Sub-code 4: 28000/28000
Developer material C	1206-0 to 8	1207	<Default values of code 1206 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 30000/37500 Sub-code 4: 28000/28000
1st transfer roller	1214-0 to 8	1215	<Default values of code 1214 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 480000/600000 Sub-code 4: 1010000/1010000

Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Transfer belt	1228-0 to 8	1229	<Default values of code 1228 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 480000/600000 Sub-code 4: 1010000/1010000
Transfer belt driving roller cleaning brush	1230-0 to 8	1231	<Default values of code 1230 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 240000/300000 Sub-code 4: 505000/505000
Transfer belt cleaning blade	1232-0 to 8	1233	<Default values of code 1232 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 160000/200000 Sub-code 4: 337000/337000
2nd transfer roller	1240-0 to 8	1241	<Default values of code 1240 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 240000/300000 Sub-code 4: 312000/312000
2nd transfer roller cleaning brush	1244-0 to 8	1245	<Default values of code 1244 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 240000/300000 Sub-code 4: 312000/312000
Pressure roller	1250-0 to 8	1251	<Default values of code 1250 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 285000/285000
Oil roller	1258-0 to 8	1259	<Default values of code 1258 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 285000/285000
Cleaning roller	1260-0 to 8	1261	<Default values of code 1260 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 285000/285000
Pressure roller separation finger	1270-0 to 8	1271	<Default values of code 1270 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 285000/285000
Fuser belt	1272-0 to 8	1273	<Default values of code 1272 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 285000/285000
Fuser belt guide	1276-0 to 8	1277	<Default values of code 1276 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 285000/285000
Pressure roller scraper	1278-0 to 8	1279	<Default values of code 1278 (e-STUDIO3511/4511)> Sub-codes 0, 2, 3, 5, 6, 7, 8: 0/0 Sub-code 1: 120000/150000 Sub-code 4: 285000/285000
Pickup roller (RADF)	1282-0, 1, 2, 8	1283	<Default values of code 1282 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 120000/120000

Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Feed roller (RADF)	1284-0, 1, 2, 8	1285	<Default values of code 1284 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 120000/120000
Separation roller (RADF)	1286-0, 1, 2, 8	1287	<Default values of code 1286 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 120000/120000
Pickup roller (Upper drawer)	1290-0, 1, 2, 8	1291	<Default values of code 1290 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Pickup roller (Lower drawer)	1292-0, 1, 2, 8	1293	<Default values of code 1292 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Pickup roller (LCF)	1294-0, 1, 2, 8	1295	<Default values of code 1294 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 160000/160000
Feed roller (Upper drawer)	1298-0, 1, 2, 8	1299	<Default values of code 1298 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Feed roller (Lower drawer)	1300-0, 1, 2, 8	1301	<Default values of code 1300 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Feed roller (LCF)	1302-0, 1, 2, 8	1303	<Default values of code 1302 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 160000/160000
Separation roller (Upper drawer)	1306-0, 1, 2, 8	1307	<Default values of code 1306 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Separation roller (Lower drawer)	1308-0, 1, 2, 8	1309	<Default values of code 1308 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Separation roller (LCF)	1310-0, 1, 2, 8	1311	<Default values of code 1310 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 160000/160000
Separation roller (PFP upper drawer)	1312-0, 1, 2, 8	1313	<Default values of code 1312 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Separation roller (PFP lower drawer)	1314-0, 1, 2, 8	1315	<Default values of code 1314 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Separation roller (Bypass unit)	1316-0, 1, 2, 8	1317	<Default values of code 1316 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Feed roller (PFP upper drawer)	1320-0, 1, 2, 8	1321	<Default values of code 1320 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Feed roller (PFP lower drawer)	1322-0, 1, 2, 8	1323	<Default values of code 1322 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Feed roller (Bypass unit)	1324-0, 1, 2, 8	1325	<Default values of code 1324 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000

Items	PM management setting <Procedure 4> *Indicated in 8 digits	Date of previous replacement <Procedure 2>	Remarks
Pickup roller (PFP upper drawer)	1328-0, 1, 2, 8	1329	<Default values of code 1328 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Pickup roller (PFP lower drawer)	1330-0, 1, 2, 8	1331	<Default values of code 1330 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000
Pickup roller (Bypass unit)	1332-0, 1, 2, 8	1333	<Default values of code 1332 (e-STUDIO3511/4511)> Sub-codes 0, 2, 8: 0/0 Sub-code 1: 80000/80000

<<Procedure to copy the total counter value (08-257)>>

1. Turn ON the power while [0] and [8] are pressed simultaneously.
2. Key in the code "257" and press the [START] button (the following is displayed).

**Note:**

Before performing the following operations, note the current counter values.

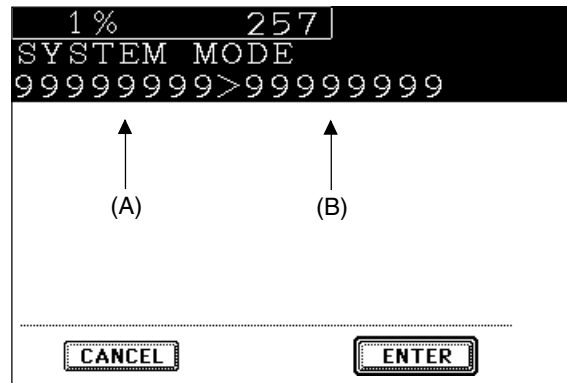


3. Key in the value "1" or "2" and press the [START] button.  
The value entered is displayed on the left of the "%", and the [ENTER] button is displayed.

**Note:**

The value can be erased by pressing the [CLEAR] button to change as long as the [START] button is not pressed. (The value on the left of the "%" is reset to "0" by pressing the [CLEAR] button.)

- Key in "1" to copy the value of the total counter (LGC board) (A) onto the value of the backup counter (SYS board) (B).

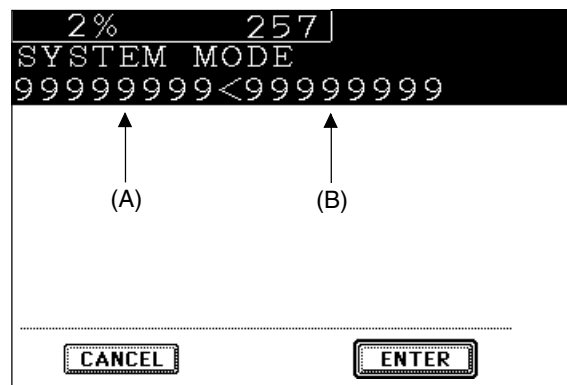


- Key in "2" to copy the value of the backup counter (SYS board) (B) onto the value of the total counter (LGC board) (A).

4. Press the [ENTER] button to complete overwriting of the counter value.

**Note:**

The screen returns to the code entry screen without copying (overwriting) the value when the [CANCEL] button is pressed.



## 2.2.6 Pixel counter

### (1) Outline

Pixel counter is a function that counts the number of dots emitted by the laser and converts it into the print ratio (%) per standard paper size. This "Print ratio (%) per standard paper size" is called Pixel count (%).

This function enables you to know how each user uses the equipment and to grasp the tendency of toner consumption (number of output pages per cartridge).

### (2) Factors affecting toner consumption

Standard number of output pages per cartridge shows the average number of output pages under the condition that the data of print ratio 6% is printed on the standard paper size (A4/LT) at a normal temperature and humidity.

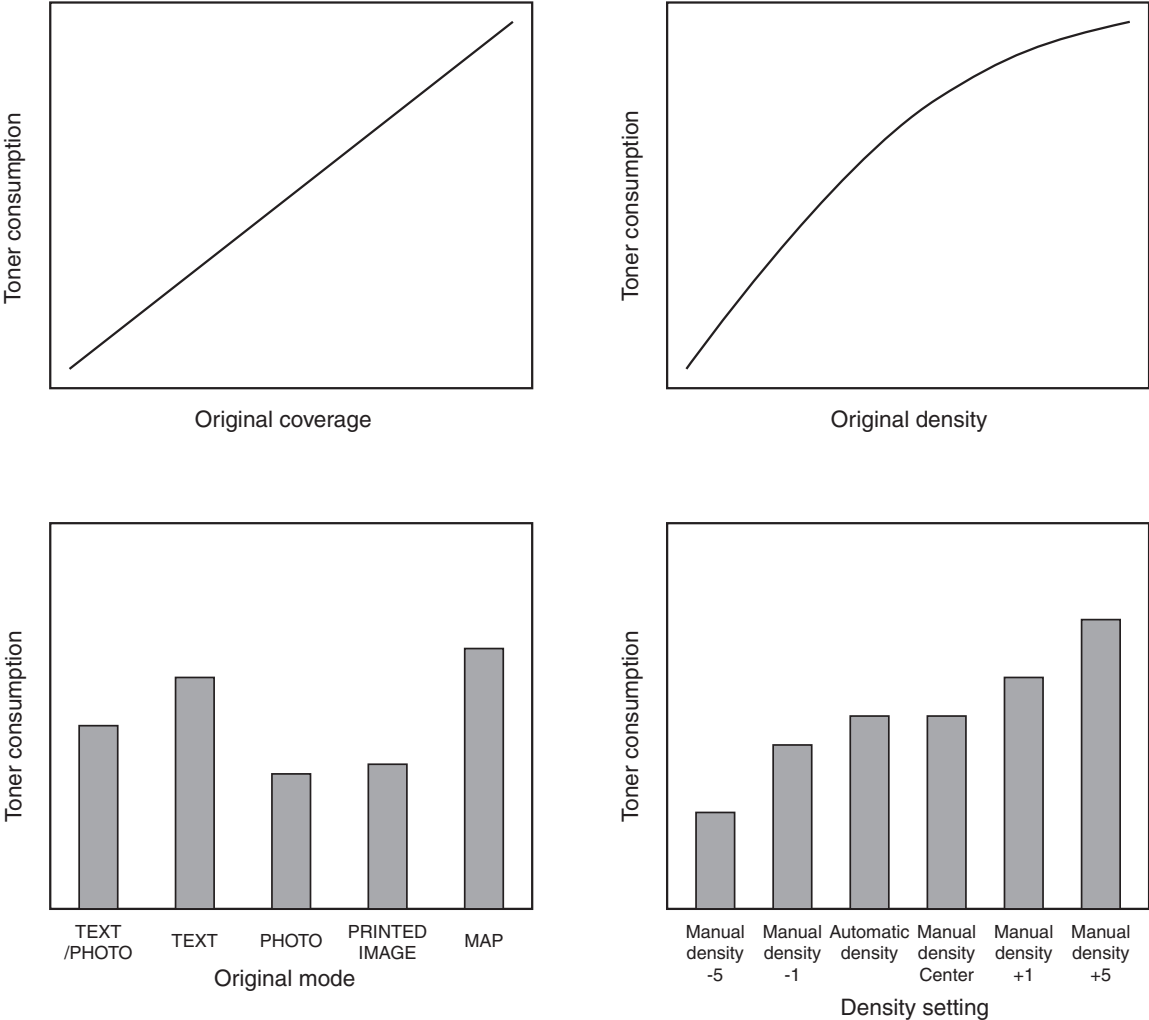
However, users do not always print under the above condition. As for the type of original, copy/print mode and environment, each user has different tendency, and as a result, the number of output pages per cartridge becomes different depending on the user.

The major factors affecting toner consumption are as follows:

- (a) Original/Data coverage
- (b) Original/Data density
- (c) Original/Print mode
- (d) Density setting

Also there are other factors in addition to the above, such as environment, individual difference of equipment, difference in lot quality of materials, toner density and drum surface potential.

The general relations between the above 4 factors and toner consumption per output page in the copy function are as follows:



**Fig. 2-203 Factors affecting toner consumption and the tendency**

### (3) Details of pixel counter

#### (a) Toner cartridge reference and service technician reference

The pixel counter function in this equipment has 2 references, toner cartridge reference and service technician reference.

- Toner cartridge reference

This is a system that accumulates data on each color between the installation of a new toner cartridge and next installation.

The installation of new toner cartridge is judged when the total number of pixel count or output pages after the detection of toner empty has exceeded the threshold.

The threshold to be used is selectable in the setting mode (08-1506) between the pixel count and output pages (0: Output pages 1: Pixel counter). The threshold of pixel count is set in the setting mode (08-1508) and that of output pages is set in the setting mode (08-1507).

When the new toner cartridge is judged as installed, the data related with the previous cartridge is cleared and replaced with the data after the installation of new cartridge.

Clearing of the counter of the toner cartridge reference is performed in the setting mode (08-1503).

- Service technician reference

This is a system that accumulates data between clearing the counter of the service technician reference by service technician and subsequently clearing the same counter.

Clearing of the counter of the service technician reference is performed in the setting mode (08-1502).

#### (b) Print count (number of output pages)

The number of output pages shown at the pixel counter is counted after converting all paper sizes to the standard size (A4/LT). Printing on other than the standard size is converted by paper area ratio. The standard size is set in the setting mode (08-1500).

The examples of conversion are as follows:

Ex.) 1. "1" is added to the print count when printing on A4/LT size.

2. "2" is added to the print count when printing on A3/LD size. (area ratio to A4/LT: 200%)

3. "1.49" is added to the print count when printing on B4 size. (area ratio to A4: 149%)

4. "1.27" is added to the print count when printing on LG size. (area ratio to LT: 127%)



(c) Pixel count (%)

Pixel count (%) shows the ratio of laser emitting pixels to all pixels on standard paper.

The examples of pixel count are as follows:

**Note:** In the following examples, 'solid copy' is considered to be 100%. But since the image has 4 margins, it never becomes 100% actually.

Ex.) 1. Printing 5 pages on A4/LT size with solid copy (Laser emits to all pixels.)

→ Pixel count: 100%, Print count: 5

2. Printing 5 pages on A4/LT size with blank copy (Laser never emits.)

→ Pixel count: 0%, Print count: 5

3. Printing 2 pages on A4/LT size with solid copy (Laser emits to all pixels.)

Printing 2 pages on A4/LT size with blank copy (Laser never emits.)

→ Pixel count: 50%, Print count: 4

4. Printing 3 pages on A4/LT size with 6% of laser emission

Printing 1 page on A4/LT size with 2% of laser emission

→ Pixel count: 5%, Print count: 4

5. Printing 2 pages on A3/LD size with solid copy (Laser emits to all pixels.)

→ Pixel count: 100%, Print count: 4

6. Printing 2 pages on A3/LD size with 6% of laser emission

→ Pixel count: 6%, Print count: 4

(d) Average pixel count (%) and latest pixel count (%)

There are 2 types of the value calculated as the pixel count, average pixel count (%) and latest pixel count (%).

1. Average pixel count (%)

The average value of all pixel count data after each reference data is cleared is calculated and displayed.

2. Latest pixel count (%)

The value is displayed for printing just before the pixel counter is confirmed.

(e) Type of calculated data

Since this is multifunctional and color equipment, the data of pixel count is calculated for each function and color.

The following list is the information that can be confirmed by LCD screen. But actually, more information can be confirmed by the setting mode (08).

See after-mentioned (5)-(c) for details.

○ : With data

— : Without data

	Toner cartridge reference				Service technician reference					
					Full color/Twin color					Black
	Yellow	Magenta	Cyan	Black	Total	Yellow	Magenta	Cyan	Black	
Copy function	○	○	○	○	○	○	○	○	○	○
Printer function	○	○	○	○	○	○	○	○	○	○
FAX function	—	—	—	○	—	—	—	—	—	○
Total	○	○	○	○	○	○	○	○	○	○

Table 2-201 Type of calculated data

(f) Setting related with the pixel counter function

(f-1) Standard paper size setting

The standard paper size (A4 or LT) to convert it into the pixel count is selected (08-1500).

(f-2) Pixel counter display setting

Whether or not to display the pixel counter on the LCD screen is selected (08-1504).

(f-3) Display reference setting

The reference when displaying the pixel counter on the LCD screen (toner cartridge reference or service technician reference) is selected (08-1505).

(f-4) Determination counter of toner empty

This is the counter to determine the replacement of new toner cartridge after the toner empty is detected.

After the toner empty is detected by the auto-toner sensor, this counter checks if toner empty is not detected one more time while the specified number of pixel count or output pages is counted.

(f-5) Pixel counter clearing

There are 3 types for the pixel count clear as follows:

08-1501: All information related to the pixel count is cleared.

08-1502: All information related to the service technician reference pixel count is cleared.

08-1503: All information related to the toner cartridge reference pixel count is cleared.

(4) Relation between pixel count and toner consumption

The user's printing out the image with large coverage or high density may cause the large value of pixel count. And the setting that toner consumption becomes high in the original mode or density setting may cause it as well.

In this case, the replacement cycle of toner cartridge is faster than the standard number of output pages. Therefore, this trend needs to be grasped for the service.

The relation between pixel count and number of output pages per cartridge is as follows:

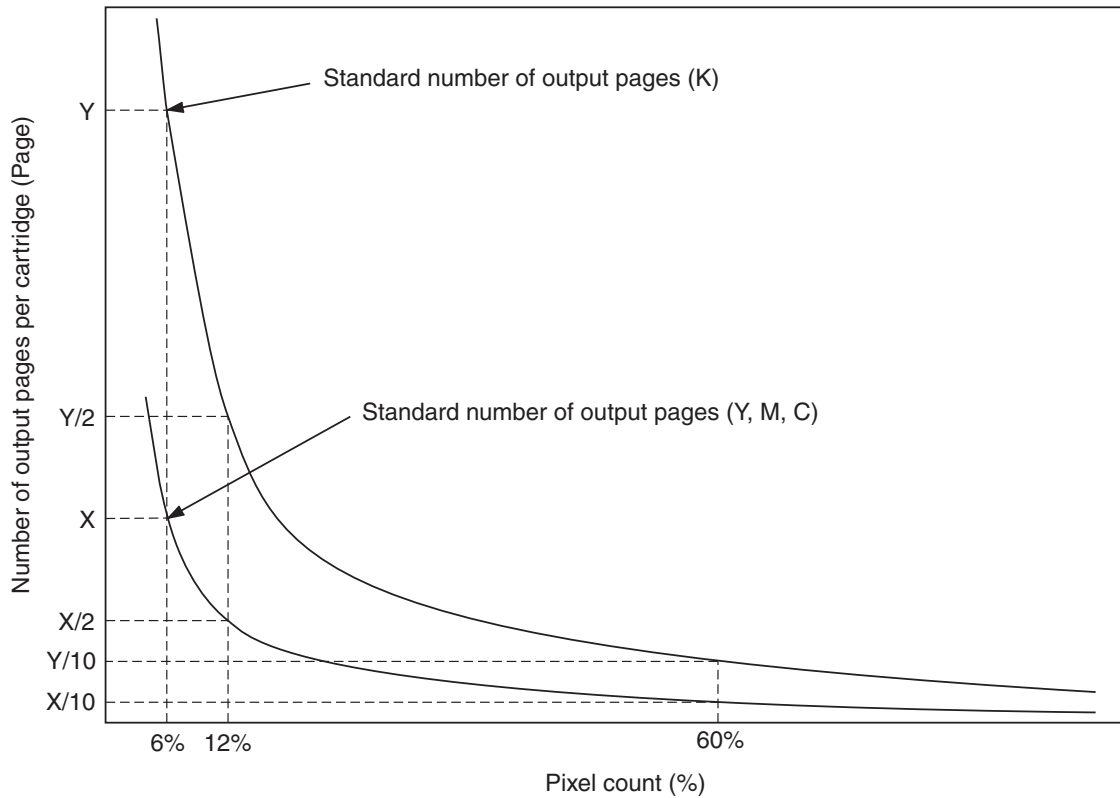


Fig. 2-204 Pixel count and number of output pages per cartridge

(5) Pixel counter confirmation

(a) Display on LCD screen

Whether or not to display the pixel counter on the LCD screen is selected (0: Displayed, 1: Not displayed) in the setting mode (08-1504), and whether or not to display it at the service technician reference or toner cartridge reference is selected (0: Service technician reference, 1: Toner cartridge reference) in the setting mode (08-1505).

The following screen is displayed when the buttons, [USER FUNCTIONS], [COUNTER] and [PIXEL COUNTER] are pressed in this order after “Displayed” is selected with the code above and the power is, as usual, turned ON. (The displayed buttons are depending on the setting of 08-1505.)

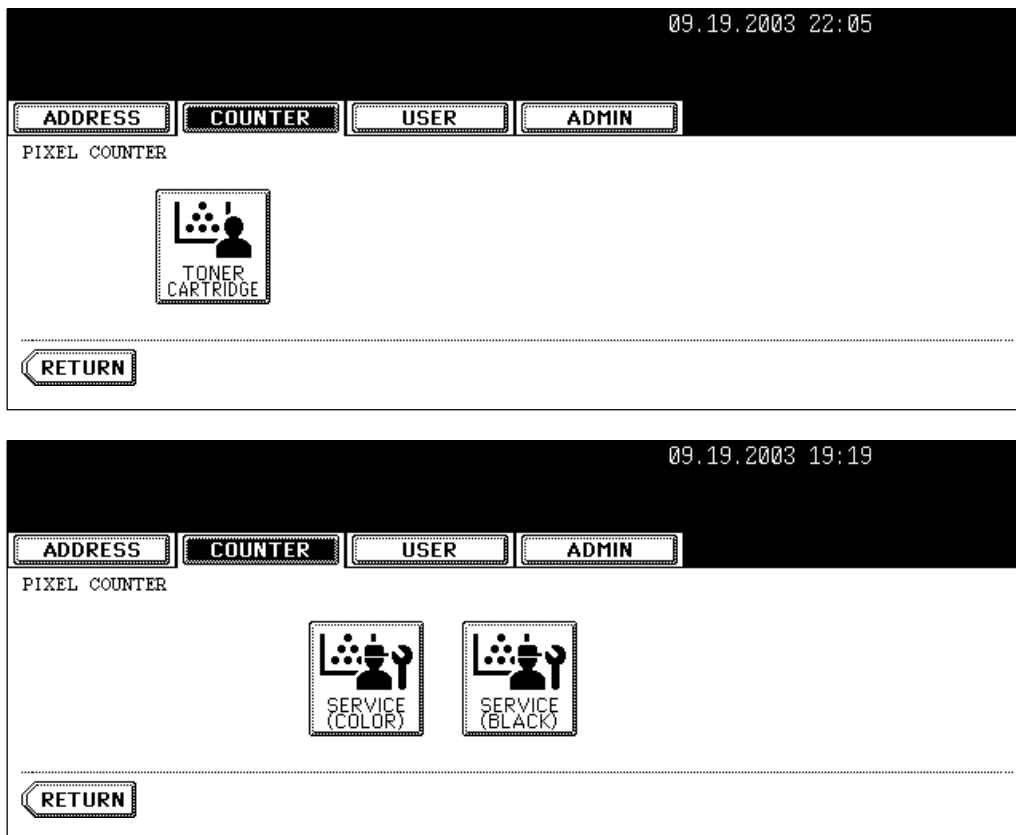


Table 2-205 Reference selection screen

When selecting and pressing the button in the above screen, each pixel counter screen is displayed.

[TONER CARTRIDGE] button: Information screen of toner cartridge reference is displayed.

[SERVICE (COLOR)] button: Information screen of service technician reference (full color) is displayed.

[SERVICE (BLACK)] button: Information screen of service technician reference (black) is displayed.

The following screen is displayed when pressing the [TONER CARTRIDGE] button.

09.19.2003 22:05

ADDRESS   COUNTER   USER   ADMIN

TONER CARTRIDGE

	Copy	Printer	Total	
Print Count [LT/A4]	228	2	230	YELLOW(Y)
Average Pixel Count [%]	0.00	0.00	0.00	MAGENTA(M)
Latest Pixel Count [%]	0.00	0.00	0.00	CYAN(C)
				BLACK(K)

RETURN

Table 2-206 Information screen of toner cartridge reference

The following screen is displayed when pressing the [SERVICE (COLOR)] button.

09.19.2003 19:19

ADDRESS   COUNTER   USER   ADMIN

SERVICE (COLOR)

	Copy	Printer	Total	
Print Count [LT/A4]	228	2	230	TOTAL
Average Pixel Count [%]	0.00	0.00	0.00	YELLOW(Y)
Latest Pixel Count [%]	0.00	0.00	0.00	MAGENTA(M)
				CYAN(C)
				BLACK(K)

RETURN

Table 2-207 Information screen of service technician reference (full color)

The following screen is displayed when pressing the [SERVICE (BLACK)] button.

09.19.2003 19:20

ADDRESS   COUNTER   USER   ADMIN

SERVICE (BLACK)

	Copy	Printer	Fax	Total
Print Count [LT/A4]	91	224	0	315
Average Pixel Count [%]	0.00	0.00	0.00	0.00
Latest Pixel Count [%]	0.00	0.00	0.00	0.00

RETURN

Table 2-208 Information screen of service technician reference (black)

(b) Data list printing

The data for pixel counter can be printed in the list print mode (9S).

9S-104: The data of the toner cartridge reference is printed.

9S-105: The data of service technician reference is printed.

PIXEL COUNTER CODE LIST							
2003.4.23 09:55							
TONERCARTRIDGE							
No	DATE	Col.		PPC	PRN	FAX	TOTAL
0	20030423	Y	Print Count [LT/A4]	12345	23456	---	45678
1	20030423	Y	Average Pixel Count [%]	12345	23456	---	45678
2	20030423	Y	Latest Pixel Count [%]	12345	23456	---	45678
9	20030423	K	Print Count [LT/A4]	12345	23456	12345	45678
10	20030423	K	Average Pixel Count [%]	12345	23456	12345	45678
11	20030423	K	Latest Pixel Count [%]	12345	23456	12345	45678

**Table 2-209 Data list of toner cartridge reference**

PIXEL COUNTER CODE LIST							
2003.4.23 09:55							
SERVICEMAN							
No	DATE	Col.		PPC	PRN	FAX	TOTAL
0	20030423	Y	Print Count [LT/A4]	12345	23456	---	45678
1	20030423	Y	Average Pixel Count [%]	12345	23456	---	45678
2	20030423	Y	Latest Pixel Count [%]	12345	23456	---	45678
9	20030423	K	Print Count [LT/A4]	12345	23456	12345	45678
10	20030423	K	Average Pixel Count [%]	12345	23456	12345	45678
11	20030423	K	Latest Pixel Count [%]	12345	23456	12345	45678

**Table 2-210 Data list of service technician reference**

(c) Display in the setting mode (08)

Information of pixel count can be also checked in the setting mode (08).

For details, see “2.2.5 Setting mode (08)”.

(c-1) Print count, pixel count

		Full color/Twin color				Black	Black (at color) + Black
		Yellow	Magenta	Cyan	Black		
Copy function	Print count (page)	1557	1559	1561	1552	1553	-
	Average pixel count (%)	1609	1610	1611	1612	1613	1614
	Latest pixel count (%)	1626	1627	1628	1629	1639	-
Printer function	Print count (page)	1558	1560	1562	1554	1555	-
	Average pixel count (%)	1615	1616	1617	1618	1619	1620
	Latest pixel count (%)	1630	1631	1632	1633	1640	-
FAX function	Print count (page)	-	-	-	-	1556	-
	Average pixel count (%)	-	-	-	-	1625	-
	Latest pixel count (%)	-	-	-	-	1634	-
Total	Average pixel count (%)	1621	1622	1623	-	-	1624

Table 2-202 Pixel count code table (toner cartridge reference)

		Full color/Twin color					Black
		Total	Yellow	Magenta	Cyan	Black	
Copy function	Print count (page)	1547	-	-	-	-	1548
	Average pixel count (%)	1577	1578	1579	1580	1581	1592
	Latest pixel count (%)	1596	1597	1598	1599	1600	1606
Printer function	Print count (page)	1549	-	-	-	-	1550
	Average pixel count (%)	1582	1583	1584	1585	1586	1593
	Latest pixel count (%)	1601	1602	1603	1604	1605	1607
FAX function	Print count (page)	-	-	-	-	-	1551
	Average pixel count (%)	-	-	-	-	-	1594
	Latest pixel count (%)	-	-	-	-	-	1608
Total	Average pixel count (%)	1587	1588	1598	1590	1591	1595

Table 2-203 Pixel count code table (service technician reference)

(c-2) Pixel count distribution

		Full color/Twin color				Black
		Yellow	Magenta	Cyan	Black	
Copy function	Pixel count distribution (page)	1641	1642	1643	1644	1649
Printer function	Pixel count distribution (page)	1645	1646	1647	1648	1650
FAX function	Pixel count distribution (page)	-	-	-	-	1651

Table 2-204 Pixel count code table

**Note:** By entering the sub code at the above code, the pixel count distribution can be displayed dividing into 10 ranges. The sub codes are as follows.

0: 0 - 5%      1: 5.1 - 10%      2: 10.1 - 15%      3: 15.1 - 20%      4: 20.1 - 25%  
5: 25.1 - 30%      6: 30.1 - 40%      7: 40.1 - 60%      8: 60.1 - 80%      9: 80.1 - 100%

(c-3) Other information

- Toner cartridge replacement counter

The toner cartridge replacement count is displayed.

08-1563: Toner cartridge Y      08-1564: Toner cartridge M  
08-1565: Toner cartridge C      08-1566: Toner cartridge K

- Toner cartridge reference count started date

The toner cartridge reference count started date is displayed.

08-1515: Toner cartridge Y      05-1516: Toner cartridge M  
08-1517: Toner cartridge C      05-1518: Toner cartridge K

- Service technician reference cleared date

The service technician reference cleared date (08-1510) is displayed.

The date (08-1502 was performed) is stored.

- Toner cartridge reference cleared date

The toner cartridge reference cleared date is displayed.

The date (08-1503 was performed) is stored.

08-1511: Toner cartridge Y      05-1512: Toner cartridge M  
08-1513: Toner cartridge C      05-1514: Toner cartridge K



## 2.2.7 Classification List of Adjustment Mode (05) / Setting Mode (08)

Classification	Adjustment Mode (05)	Setting Mode (08)
User interface		[Date/Time] 200, 638, 640 [Timer] 204, 205, 206, 260, 261, 262 [Screen] 207, 602, 1132 [File] 209, 218, 219, 264, 288 [Language] 220, 221 [Administrator] 263 [Scanning] 265, 266, 273, 274 [Box] 267, 270, 950, 976 [HDD] 271 [E-mail] 272, 1097, 1098 [Default setting] 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 289, 331, 480, 503, 550, 585, 587, 588, 603, 604, 607, 618, 642, 986, 989, 1135, 1414, 1415, 1416, 1800-0 to 2, 1801-0 to 2 [Raw printing] 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 973, 978, 979 [Copy volume] 300 [Original counter] 302 [Automatic calibration] 595, 632 [AMS] 605 [Sound] 610, 969, 970 [Book duplexing] 611 [Summer time] 612 [Paper size] 613 [Department management] 617, 620, 621, 622, 623, 624, 672 [Sorting] 627, 634, 641, 649 [Original direction] 628 [Image shift] 636 [Color specification] 643, 644 [Edit copying] 645, 646 [Box printing] 647, 951, 953, 954 [X in 1] 650 [Annotation] 651, 657 [Automatic transferring] 660, 661 [Indicator] 671 [Priority drawer] 689 [Paper type] 697 [Offsetting between jobs] 682 [Job Build] 1130, 1131
Scanner	[Image position] 305, 306 [Distortion] 308 [Reproduction ratio] 340, 884, 1060 [Carriage position] 359, 360 [Fixed value] 364, 363	
Image	[Margin] 430, 431, 432, 433, 434-0 to 1, 435, 436, 437, 438, 439 [Image density] 501, 503, 504, 505, 506, 507, 508, 509, 510, 512, 514, 515, 710, 714, 715, 719, 720, 724, 725, 729, 845, 846, 847, 850, 851, 852, 855, 856, 857, 860, 861, 862, 1550, 1551, 1552, 1553, 1554, 1560, 1561, 1562, 1563, 1564, 1570, 1571, 1572, 1573, 1574, 1580, 1581, 1582, 1583, 1584 [Range correction] 532, 533, 534, 570, 571, 572, 693, 694, 695, 825, 826, 827, 828, 830, 831, 832, 833, 835, 836, 837, 838 [Color deviation correction] 417-0 to 3, 418-0 to 3 [Gamma adjustment] 580, 1000, 1001, 1002, 1003, 1642, 1643	[Error diffusion / Dither] 502 [ACS] 268, 609-0 to 4 [Smoothing] 560, 561, 562 [Image quality] 586, 589 [Gamma correction] 597

Classification	Adjustment Mode (05)	Setting Mode (08)
Image	[Gamma balance] 590-0 to 2, 591-0 to 2, 592-0 to 2, 596-0 to 2, 597-0 to 2, 598-0 to 2, 599-0 to 2, 880-0 to 2, 881-0 to 2, 882-0 to 2, 883-0 to 2 [Sharpness] 604, 605, 606, 840, 841, 842, 843, 1086, 1087, 1088, 1737, 1738, 1739, 1740, 1741, 1757 [Smudged/faint text] 648, 654, 655 [Toner saving] 664, 665, 1055, 1056, 1057, 1058 [Pixel size] 663 [Smoothing] 667-0 to 4 [Binarization] 700, 701, 702 [Background adjustment] 848, 853, 858 [Color balance] 1010-0 to 2, 1011-0 to 2, 1012-0 to 2, 1013-0 to 2, 1014-0 to 2, 1015-0 to 2, 1016-0 to 2, 1017-0 to 2, 1018-0 to 2, 1019-0 to 2, 1020-0 to 2, 1021-0 to 2, 1022-0 to 2, 1023-0 to 2, 1024-0 to 2, 1025-0 to 2, 1026-0 to 2, 1027-0 to 2, 1028-0 to 2, 1029-0 to 2, 1030-0 to 2, 1031-0 to 2, 1032-0 to 2, 1033-0 to 2, 1034-0 to 2, 1035-0 to 2, 1036-0 to 2, 1037-0 to 2, 1038-0 to 2, 1039-0 to 2, 1040-0 to 2, 1041-0 to 2, 1779-0 to 2, 1780-0 to 2, 1781-0 to 2, 1782-0 to 2, 1783-0 to 2, 1784-0 to 2, 1785-0 to 2, 1786-0 to 2, 1787-0 to 2, 1788-0 to 2, 1789-0 to 2, 1790-0 to 2, 1791-0 to 2, 1792-0 to 2, 1793-0 to 2, 1794-0 to 2, 1795-0 to 2, 1796-0 to 2, 1797-0 to 2, 1798-0 to 2 [Toner amount] 1046-0 to 1, 1047-0 to 1, 1048-0 to 1, 1049-0 to 1, 1050-0 to 1, 1612, 1613, 1614, 1615, 1616 [ACS] 1065, 1066, 1675, 1676 [Background/Black density] 1070, 1071, 1072, 1075, 1076, 1077 [RGB] 1080, 1081, 1082 [Maximum text density] 1630, 1631, 1632, 1633 [Background processing] 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1708, 1709, 1710, 1711, 1712 [Highlight pen] 1769, 1770, 1771, 1772 [Reproduction level adjustment] 1725 [Black reproduction switching] 1761	
Image control	[Contrast voltage] 330-0 to 3, 332-0 to 3, 380-0 to 3, 381-0 to 3, 1800-0 to 3, 1801-0 to 3, 1811-0 to 3, 1812-0 to 3, 1815-0 to 3 [Laser power] 331-0 to 3, 333-0 to 3, 382-0 to 3, 383-0 to 3, 384-0 to 3, 1802-0 to 3, 1803-0 to 3, 1816-0 to 3, 1817, 1819, 1820, 1821 [Main charger] 385-0 to 3, 1805-0 to 3, 1806-0 to 3, 1807-0 to 3, 1808-0 to 3, 1809-0 to 3, 1810-0 to 3 [Developer] 386-0 to 3 [Sensor] 388, 389, 390-0 to 3, 390-1 to 3, 392 [Temperature/Humidity] 393	[1st transfer] 541, 542, 543 [2nd transfer] 544, 545, 546, 548 [Setting] 549, 551 [Automatic starting] 559, 565, 566, 567, 568, 569, 570, 571, 572 [Drum] 552, 553 [Contrast voltage] 554, 556, 558 [Laser power] 555, 557 [Abnormality detection] 573, 574, 575, 576 [Counter] 1370, 1371

Classification	Adjustment Mode (05)	Setting Mode (08)
Image control	[Performing] 394, 395, 396, 398-0 to 3 [Background voltage] 1804-0 to 3, 1813-0 to 3, 1814-0 to 3	
Drive system	[Main motor] 421, 422 [Exit motor] 424, 425 [Transport motor] 426, 427	
Feeding system	[Aligning amount] 448-0 to 3, 449-0 to 3, 450-0 to 3, 452-0 to 3, 455-0 to 2, 457, 458-0 to 2, 460-0 to 2, 461-0 to 2, 462-0 to 3, 463-0 to 2, 469-0 to 3, 470-0 to 3, 471-0 to 3, 472-0 to 3, 473, 474-0 to 2, 475-0 to 9 [Paper pushing amount] 466-0 to 7, 467	[Paper dimension] 210, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 470, 471 [Feeding setting] 254, 255, 481, 619, 658, 659, 988 [Paper retry] 463-0 to 1, 464-0 to 1, 465-0 to 1, 466-0 to 1, 467-0 to 1, 468-0 to 1, 482, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401 [Coated paper Mode] 675-0 to 4, 676, 677-0 to 5 [Paper size] 216, 217, 224, 225, 226, 227, 228, 256 [Blank copy prevention] 625
Laser	[Polygonal motor] 401, 405 [Write start] 410, 411, 440, 441, 442, 443, 444, 445, 494, 495, 496, 498-0 to 1 [Sideways deviation] 497-0 to 5	[Polygonal motor] 398, 399, 478, 479, 483, 484, 485, 486, 488, 489, 490
Main charger	[Grid] 241, 242, 243, 244	[Cleaning] 511
Developer	[Auto-toner] 200, 201, 202, 203, 204, 206 [Color auto-toner] 207, 208	[Color auto-toner] 819-0 to 2, 820-0 to 2, 822-0 to 2, 823-0 to 2, 824-0 to 2, 858-0 to 2, 859-0 to 2, 860-0 to 1, 861-0 to 1, 862-0 to 1, 863-0 to 1, 864, 865, 866-0 to 1, 867, 868, 869, 870, 871, 872, 873-0 to 2, 874, 875-0 to 2, 876-0 to 2, 877-0 to 2, 878-0 to 2, 879-0 to 2, 880-0 to 2, 881-0 to 2 [Stabilization] 821
High-voltage transformer	[Grid] 334, 335 [Color developer] 338, 339 [Black developer] 372, 373 [1st transfer] 250, 251 [2nd transfer] 252, 253, 254, 255	[Transfer] 810
Transfer	[1st transfer] 210, 211-0 to 3, 212, 214, 215, 216, 217, 218-0 to 3, 220-0 to 3, 221-0 to 3, 222-0 to 3, 223-0 to 3, 233, 245, 262-0 to 3, 263, 265, 266, 267, 268, 269-0 to 3, 271-0 to 3, 272-0 to 3, 273-0 to 3, 274-0 to 3, 1829-0 to 2, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838-0 to 3, 1843, 1844-0 to 3 [2nd transfer] 224, 225, 226, 227-0 to 3, 229-0 to 3, 230-0 to 1, 231-0 to 1, 232-0 to 1, 234-0 to 3, 236-0 to 3, 237-0 to 1, 238-0 to 1, 239-0 to 1, 275, 276, 277-0 to 3, 279-0 to 3, 290-0 to 1, 291-0 to 1, 292-0 to 1, 293-0 to 4, 294-0 to 3, 296-0 to 3, 297-0 to 1, 298-0 to 1, 299-0 to 1, 1822-0 to 4, 1823-0 to 3, 1825-0 to 3, 1826-0 to 1, 1827-0 to 1, 1828-0 to 1, 1839-0 to 1, 1840-0 to 1, 1841-0 to 1, 1842-0 to 3, 1845-0 to 1 [Cleaning] 284, 285	[Cleaning] 487

Classification	Adjustment Mode (05)	Setting Mode (08)
Fuser		[Status counter] 400 [Temperature] 409, 410-0 to 1, 411, 412-0 to 1, 413-0 to 1, 415-0 to 1, 416, 422, 428-0 to 1, 436, 437-0 to 1, 438-0 to 1 [Transport speed] 430, 431, 432 [Pre-running] 417-0 to 1, 439-0 to 1, 440-0 to 1, 441-0 to 1, 460, 461, 526-0 to 1, 583-0 to 2, 584 [Warming-up] 458, 459 [Fusing control switching] 849
RADF	[Aligning amount] 354, 355 [Sensor/EEPROM] 356, 367, 368 [Transporting] 357, 358, 365, 366	[Switchback] 462
Finisher	[Binding/Folding position] 468-0 to 2	[Tray reset] 648 [Cascade] 652, 653
Network		[NIC] 1001, 1002, 1003, 1004, 1120 [IP address] 1005, 1006, 1007, 1008, 1009, 1010 [IPX] 1011, 1099 [Frame type] 1012 [NCP] 1013 [AppleTalk] 1014, 1015 [LDAP] 1016, 1138, 1139, 1486 [DNS] 1017, 1018, 1019 [DDNS] 1020 [SLP] 1021 [NetBios] 1023 [WINS] 1024, 1025 [Bindery] 1026 [NDS] 1027 [Directory] 1028, 1029 [HTTP] 1030, 1031, 1032, 1033, 1034, 1035 [SMTP] 1037, 1038, 1039, 1040, 1041, 1042, 1100, 1101, 1102 [Offramp] 1043, 1044, 1045 [POP3] 1046, 1047, 1048, 1049, 1050, 1051, 1052 [FTP] 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1089, 1090, 1091, 1092, 1107, 1108, 1109, 1110 [MIB] 1063 [Community] 1065, 1066 [TRAP] 1067, 1068, 1069, 1070 [Raw/TCP] 945, 1073, 1074 [LPD] 1075, 1076, 1077 [IPP] 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088 [Novell] 1093, 1094 [SerchRoot] 1095 [Print queue] 1096 [ASCII code] 977 [Rendezvous] 1103 [Link local host name] 1104 [Service name] 1105 [Host name] 1112 [Internet FAX] 1114, 1485 [SMB] 1117, 1136 [Samba] 1137 [Workgroup name] 1124 [Private print] 1432 [Function] 1433, 1434 [Scan to E-mail] 1484 [From address] 1487, 1488, 1489 [E-mail domain] 1491
Counter		[External counter] 202, 381, 683, 975 [Counter copy] 257 [Paper size] 301-0 to 16, 303-0 to 16, 304-0 to 16, 305-0 to 16, 306-0 to 16, 307-0 to 16, 308-0 to 16, 309-0 to 16, 310-0 to 16, 311-0 to 16, 312-0 to 16, 313-0 to 16, 314-0 to 16, 315-0 to 16, 316-0 to 16

Classification	Adjustment Mode (05)	Setting Mode (08)
Counter		<p>[Large/Small size] 317-0 to 2, 318-0 to 2, 319-0 to 2, 320-0 to 2, 321-0 to 2, 322-0 to 2, 323-0 to 2, 324-0 to 2, 325-0 to 2, 326-0 to 2, 327-0 to 2, 328-0 to 2, 329-0 to 2, 330-0 to 2, 332-0 to 2, 333-0 to 2, 334-0 to 2, 335-0 to 2</p> <p>[Double count] 344, 346, 347, 348, 349, 352, 353</p> <p>[Paper source] 356, 357, 358, 359, 360, 370, 372, 374</p> <p>[HDD] 390, 391, 392, 393</p> <p>[Count method] 616, 663</p> <p>[Department management] 629</p> <p>[Fuser] 1372, 1378, 1380, 1382</p> <p>[Paper type] 1385, 1386, 1387, 1388, 1412</p> <p>[Main charger] 1389</p> <p>[Toner cartridge drive counts] 1410</p>
Version		<p>[System] 900, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 933, 934, 935, 936, 937, 938, 939, 944</p> <p>[Engine] 903, 905, 907, 908</p> <p>[FAX] 915 [NIC] 916</p>
Maintenance		<p>[PM counter] 223, 251, 252, 375, 376</p> <p>[Telephone] 250 [Error history] 253</p> <p>[FSMS] 258, 999</p> <p>[Service notification] 702, 703, 707, 710, 711, 715, 716, 717, 718, 719, 720, 721, 723, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 1145</p> <p>[HTTP] 726, 727, 728, 729, 730, 731</p> <p>[Supply order] 732, 733, 734, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 794, 795</p> <p>[Downloading] 797</p>
Others	[Equipment number] 976	<p>[Destination] 201, 701</p> <p>[Line] 203 [Private] 259 [Local I/F] 614</p> <p>[Memory] 615 [Partition] 662, 666, 667</p> <p>[Clearing] 665, 669, 693</p> <p>[Database] 684, 685, 686</p> <p>[HDD] 670, 690, 691, 694</p> <p>[Control panel] 692</p> <p>[Scrambler board] 696, 698, 699</p> <p>[Equipment number] 995</p> <p>[Speed switching] 497</p> <p>[Banner] 678, 679, 680</p> <p>[Message button] 681</p> <p>[Initialization] 947</p> <p>[Mode setting] 948, 949</p> <p>[Template] 1140</p>

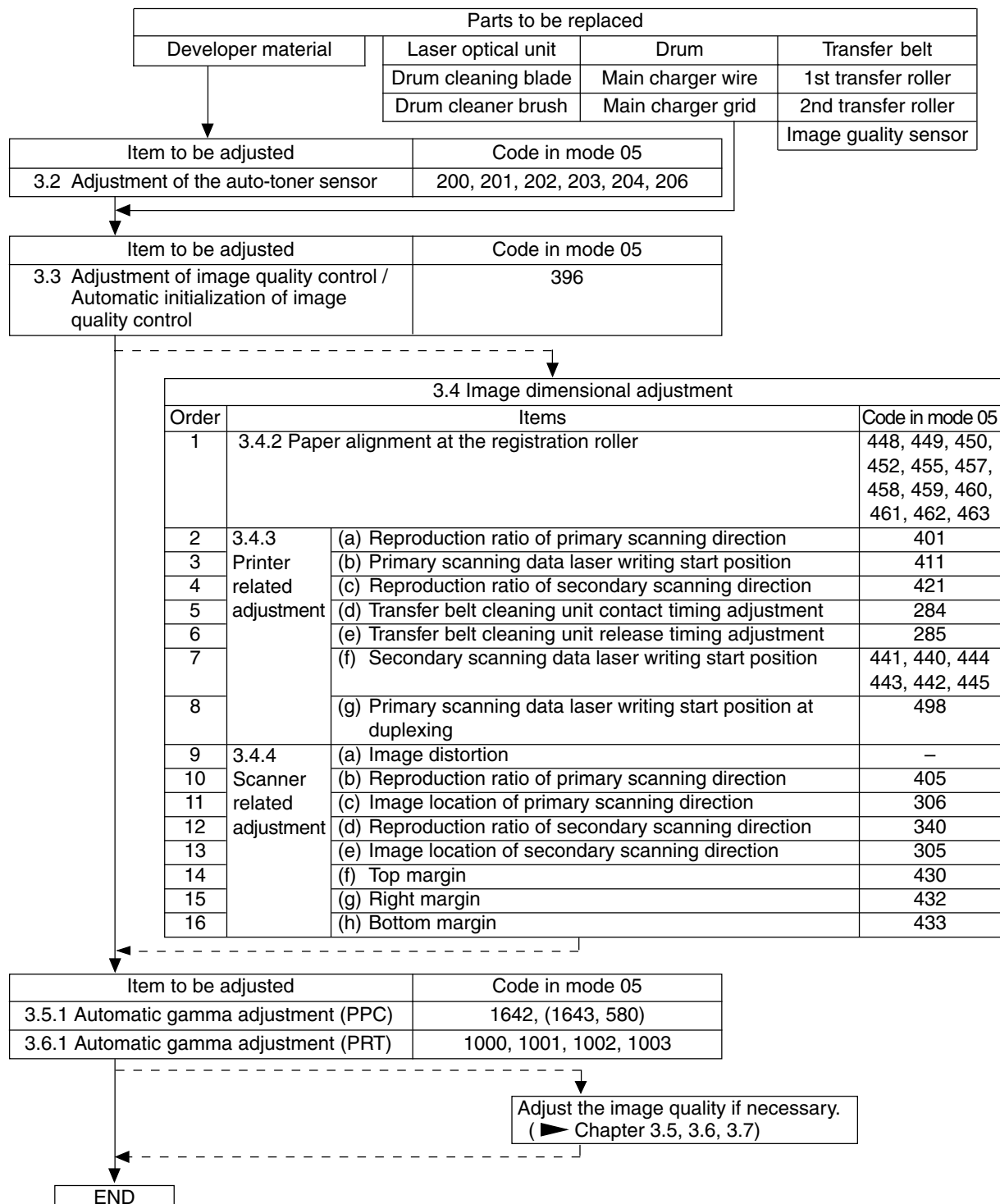


### 3. ADJUSTMENT

#### 3.1 Adjustment Order (Image Related Adjustment)

This chapter mainly explains the procedures for image related adjustment. When replacing components which have other specified instructions for adjustment, those specified instructions are to be obeyed in priority.

In the following diagram, the solid lines with arrow lead to essential adjustments, while the dotted lines lead to adjustments to be performed if necessary.



## 3.2 Adjustment of the Auto-Toner Sensor

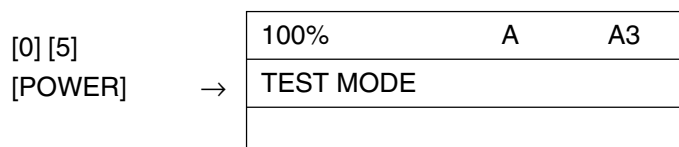
When the developer material is replaced, adjust the auto-toner sensor in the following procedure.

- (1) Install the cleaner and developer unit.

**Note:**

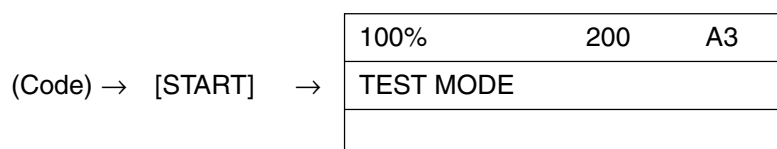
Do not install the toner cartridge.

- (2) While pressing [0] and [5] simultaneously, turn the power ON. The following message will be displayed.



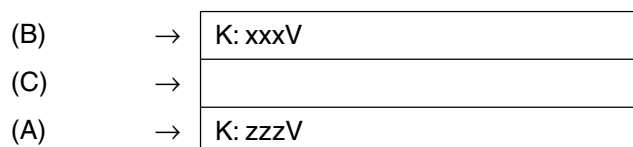
- (3) Key in a code and press the [START] button.

Code 200: All developer materials 201: Developer material Y 202: Developer material M  
203: Developer material C 204: Developer material K 206: Developer material Y, M, C



- (4) Adjustment for "K" (Magnetometric sensor control)

- The following message will be displayed approx. 2 minutes later.



(B): Current sensor voltage (V)

(C): No display

(A): Target values (V) for adjustment reference voltage

**Note:**

The current sensor voltage (V) shown in (B) automatically changes, gradually approaching the target value for adjustment reference voltage shown in (A).



- In 30 to 60 seconds, the current sensor voltage (V) in (B) is converged. Then the sensor output control value (bit value) corresponding to the initial developer material is displayed in (C).

(B)	→	K: xxxV
(C)	→	K: yyy
(A)	→	K: zzzV

(B): Current sensor voltage (V)

(C): Sensor output control value (bit value)

(A): Target value (V) for adjustment reference voltage

**Note:**

Be careful that the values in (A), (B) and (C) vary with humidity.

- In case of single-color adjustment, press the [ENTER] button to store the adjustment results in memory when the control value is displayed. In case of multiple-color adjustment, it is automatically proceeded to the adjustment of next color.

(5) Adjustments for “Y”, “M” and “C” (light sensor control)

- In 15 to 45 seconds, the following message will be displayed (The time varies with the number of colors to be adjusted).

(B)	→	Y:
(C)	→	
(A)	→	Y:

(B): Current sensor voltage (V)

(C): No display

(A): Target value (V) for adjustment reference voltage

**Note:**

The current sensor voltage (V) shown in (B) automatically changes, gradually approaching the target value for adjustment reference voltage shown in (A).

- After approx. 5 seconds have passed, the current sensor voltage (V) in (B) is converged. Then the sensor output control value (bit value) corresponding to the initial developer material is displayed in (C).

(B)	→	Y: xxxV
(C)	→	Y: yyy
(A)	→	Y: zzzV

(B): Current sensor voltage (V)

(C): Sensor output control value (bit value)

(A): Target value (V) for adjustment reference voltage

- In case of single-color adjustment, press the [ENTER] button to store the adjustment results in memory when the control value is displayed. In case of multiple-color adjustment, it is automatically proceeded to the adjustment of next color. When the adjustments of all colors have finished and [ENTER] is lit, press [ENTER] button to store the adjustment results in memory.

(6) Standard of adjustment value range

(A): Adjustment reference voltages (V)

Humidity(%)	K	Y	M	C
29.9 or below	2.47	1.25	1.25	1.25
30.0-44.9	2.49			
45.0-59.9	2.50			
60.0-74.9	2.69			
75.0 or above	2.86			

**Note:**

Since the adjustments for “Y”, “M” and “C” are controlled by the light sensor, the humidity correction is not performed.

(B): Current sensor voltages (V)

Humidity(%)	K	Y	M	C
29.9 or below	2.37-2.57	1.15-1.35	1.15-1.35	1.15-1.35
30.0-44.9	2.39-2.59			
45.0-59.9	2.40-2.60			
60.0-74.9	2.59-2.79			
75.0 or above	2.76-2.96			

**Note:**

Since the adjustments for “Y”, “M” and “C” are controlled by the light sensor, the humidity correction is not performed.

(7) Turn the power OFF.

(8) Install the toner cartridges.

### 3.3 Performing Image Quality Control

- (1) When unpacking  
Prior to image dimensional adjustment, perform the “Automatic initialization of image quality control (05-396)” procedure.
- (2) When any of the following parts is replaced, be sure to perform the “Automatic initialization of image quality control (05-396)” procedure.
- Photoconductive drum
  - Image quality sensor
  - 2nd transfer roller
  - Drum cleaning blade
  - Developer material
  - Transfer belt
  - Main charger
  - Drum cleaner brush
  - Laser optical unit
  - 1st transfer roller
  - Main charger grid

**Note:**

When performing "Automatic gamma adjustment" in addition, “Automatic initialization of image quality control (05-396)” should be done first.

- (3) When performing "Automatic gamma adjustment" in cases no parts written above are replaced, do the “Forced performing of image quality closed-loop control (05-395)” procedure before "Automatic gamma adjustment".

Code	Item to be adjusted	Contents
395	Forced performing of image quality closed-loop control	<p>&lt;Procedure&gt;</p> <p>(1) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment Mode</p> <p>(2) Key in [395] and press the [START] button.</p> <p>(3) "WAIT" is displayed.</p> <p>(4) When the adjustment finishes normally, the equipment returns to the initial state of Adjustment Mode. If an error has occurred, take appropriate action by referring to “5. TROUBLESHOOTING”.</p>
396	Automatic initialization of image quality control	<p>&lt;Procedure&gt;</p> <p>(1) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment Mode</p> <p>(2) Key in [396] and press the [START] button.</p> <p>(3) "WAIT" is displayed.</p> <p>(4) When the adjustment finishes normally, the equipment will return to initial state of the Adjustment Mode. If an error has occurred, take appropriate action by referring to “5. TROUBLESHOOTING”.</p>

## 3.4 Image Dimensional Adjustment

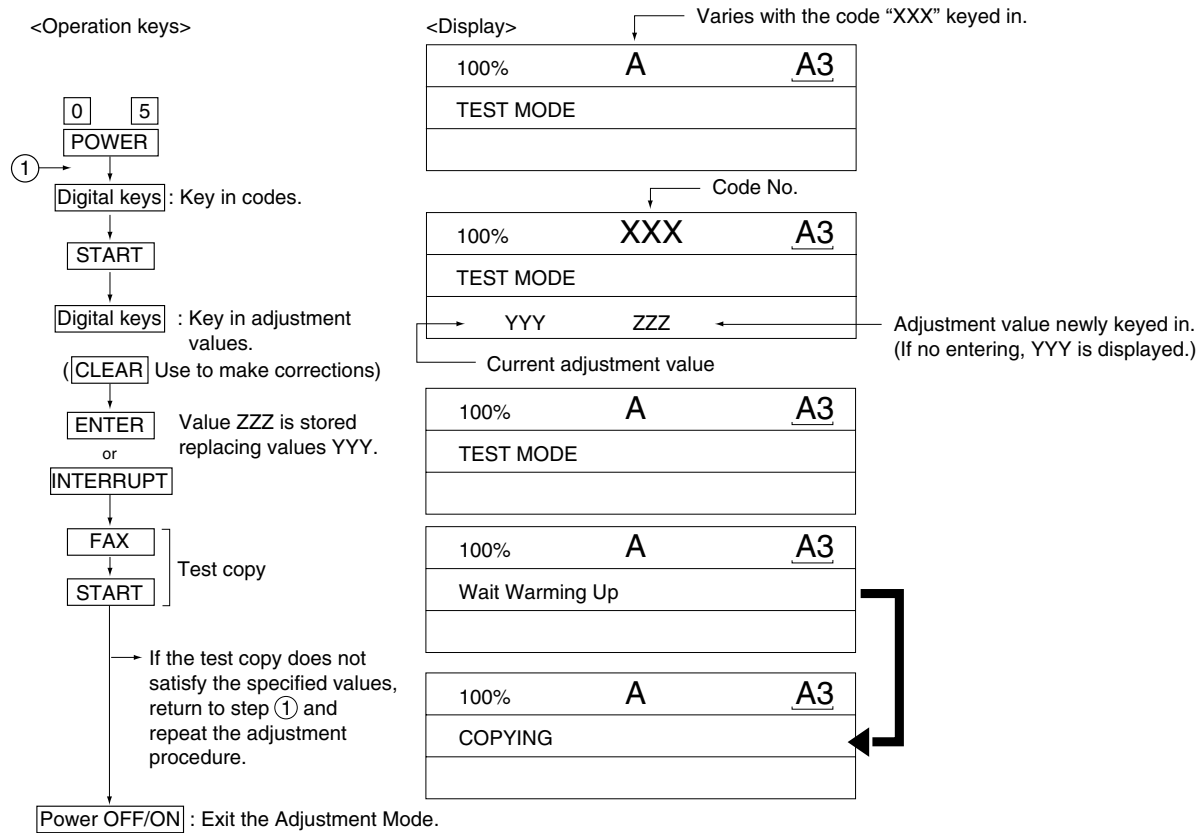
### 3.4.1 General description

There are several adjustment items in the image dimensional adjustment, as listed below. Prior to this image dimensional adjustment, perform the "Automatic initialization of image quality control (05-396)". When adjusting these items, the following adjustment order should strictly be observed.

Item to be adjusted		Code in mode 05
① Paper alignment at the registration roller		448, 449, 450, 452, 455, 457, 458, 459, 460, 461, 462, 463
② Printer related adjustment	(a) Reproduction ratio of primary scanning direction (Fine adjustment of polygonal motor rotation speed)	401
	(b) Primary scanning data laser writing start position	411
	(c) Reproduction ratio of secondary scanning direction (Fine adjustment of main motor rotation speed)	421
	(d) Transfer belt cleaning unit contact timing adjustment	284
	(e) Transfer belt cleaning unit release timing adjustment	285
	(f) Secondary scanning data laser writing start position	441, 440, 444, 443, 442, 445
	(g) Primary scanning data laser writing start position at duplexing	498
③ Scanner related adjustment	(a) Image distortion	–
	(b) Reproduction ratio of primary scanning direction	405
	(c) Image location of primary scanning direction	306
	(d) Reproduction ratio of secondary scanning direction	340
	(e) Image location of secondary scanning direction	305
	(f) Top margin	430
	(g) Right margin	432
	(h) Bottom margin	433

## [Procedure to key in adjustment values]

In accordance with the procedure described below, make adjustment of each adjustment item so that the measured values obtained from test copies satisfy the specification. By pressing the [FAX] button, immediately after starting the Adjustment Mode (05), single-sided test copying can be performed (normal copy mode).



### 3.4.2 Paper alignment at the registration roller

The aligning amount is adjusted by using the following codes in Adjustment Mode (05).

Paper type	Weight	Upper drawer	Lower drawer	PFP upper drawer	PFP lower drawer	LCF	ADU	Bypass feed	
								Black	Color
Plain paper	64-80 g/m <sup>2</sup> 17-20 lb.	450 (*4)	452 (*4)	448 (*4)	449 (*4)	457	455 (*1)	458 (*1)	
Thick paper 1	81-105 g/m <sup>2</sup> 21-28 lb.	469 (*4)	470 (*4)	471 (*4)	472 (*4)	473	474 (*1)	460 (*1)	
Thick paper 2	106-163 g/m <sup>2</sup> 29-43 lb.	-	-	-	-	-	-	461 (*1)	475 (*3)
Thick paper 3	164-209 g/m <sup>2</sup> 44-55 lb.	-	-	-	-	-	-	462 (*2)	475 (*3)
OHP film	-	-	-	-	-	-	-	463 (*1)	475 (*3)

#### Sub-code

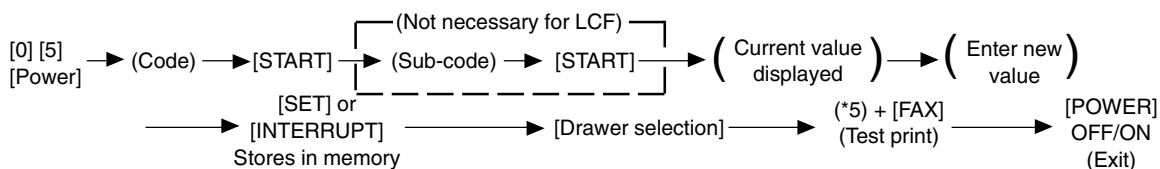
- (\*1) 0: Long size      1: Middle size      2: Short size
- (\*2) 0: Long size      1: Middle size      2: Short size      3: Post card
- (\*3) 0: Long size of thick paper 2      1: Middle size of thick paper 2  
      2: Short size of thick paper 2      3: Long size of thick paper 3  
      4: Middle size of thick paper 3      5: Short size of thick paper 3  
      6: Long size of OHP film      7: Middle size of OHP film  
      8: Short size of OHP film      9: Post card
- (\*4) 0: Long size      1: Middle size      2: Short size 1      3: Short size 2

#### Notes:

- Long size: 330 mm or longer (13.0 inches or longer)  
     Middle size: 220-329 mm (8.7-12.9 inches)  
     Short size: 219 mm or shorter (8.6 inches or shorter)  
     Short size 1: 205-219 mm (8.1-8.6 inches or shorter)  
     Short size 2: 204 mm or shorter (8.0 inches or shorter)

- The adjustment of "Post card" is for Japan only.

#### <Procedure>



- (\*5) 1: Single-sided grid pattern in Black Mode
- 3: Double-sided grid pattern in Black Mode
- 55: Grid pattern of thick paper 2 in Full Color Mode
- 56: Grid pattern of thick paper 3 in Full Color Mode
- 57: Grid pattern of OHP film in Full Color Mode
- 58: Single-sided grid pattern of thick paper 2 in Black Mode
- 59: Single-sided grid pattern of thick paper 3 in Black Mode
- 60: Single-sided grid pattern of OHP film in Black Mode

**Note:**

If the aligning amount is too large, abnormal noise (paper-folding noise) or actual paper folding may occur during paper feeding. If the aligning amount is too small, on the other hand, a skew, an image dislocation in feeding direction or a paper exit jam (E010) may occur. Pay attention to the above and select the appropriate value.

### 3.4.3 Printer related adjustment

#### (a) Reproduction ratio of primary scanning direction (Fine adjustment of polygonal motor rotation speed (Printer))

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Press [1] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A3/LD from the lower drawer.)
3. Measure the distance A from the 1st line to the 21st line of the grid pattern.
4. Check if the distance A is within  $200 \pm 0.5$  mm.
5. If not, use the following procedure to change values and measure the distance A again.

<Procedure> (Adjustment Mode) → (Key in the code [401]) → [START]  
→ (Key in a value (acceptable values: 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
→ "100% A" is displayed.  
→ Press [1] → [FAX] → (A grid pattern is printed out.)  
\*\* The larger the adjustment value is, the longer the distance A becomes (approx. 0.05 mm/step).

#### (b) Primary scanning data laser writing start position (Printer)

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Press [1] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A3/LD from the lower drawer.)
3. Measure the distance B from the left edge of the paper to the 6th line of the grid pattern.
4. Check if the distance B is within  $52 \pm 0.5$  mm.
5. If not, use the following procedure to change values and measure the distance B again.

<Procedure> (Adjustment Mode) → (Key in the code [411]) → [START]  
→ (Key in a value (acceptable values: 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
→ "100% A" is displayed  
→ Press [1] → [FAX] → (A grid pattern is printed out.)  
\* The larger the adjustment value is, the longer the distance B becomes (approx. 0.04 mm/step).

6. After the adjustment for the code 411 is completed, apply the same adjustment value for the code 410.

<Procedure> (Adjustment Mode) → (Key in the code [410]) → [START]  
→ (Key in the same value in the step 5 above)  
→ [ENTER] or [INTERRUPT] (Stored in memory)

#### Note:

Make sure the 1st line of the grid pattern is printed out since the line is occasionally vanished.



**(c) Reproduction ratio of secondary scanning direction (Fine adjustment of main motor rotation speed (Printer))**

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Press [1] → [FAX]. (A grid pattern with 10mm squares is printed out. Use A3/LD from the lower drawer.)
3. Measure the distance C from the 2nd line at the leading edge of the paper to the 22nd line of the grid pattern.  
\* Normally, the 1st line of the grid pattern is not printed.
4. Check if the distance C is within 200±0.5 mm.
5. If not, use the following procedure to change values and measure the distance C again.

<Procedure> (Adjustment Mode) → (Key in the code [426]) → [START]  
\* Confirm that the input value is [153]. If not, key in [153].  
→ (Key in [153])  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
→ (Key in the code [421]) → [START]  
→ (Key in a value (recommended values: 110 to 140 / acceptable values: 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
\* When the value is not within the recommended values, the trailing edge area of the image may be out of position for the paper length or the density at the trailing edge area of the image may become lower. Perform the adjustment confirming the image.  
→ "100% A" is displayed  
→ Press [1] → [FAX] → (A grid pattern is printed out.)  
\*\* The larger the adjustment value is, the longer the distance C becomes (approx. 0.5 mm/6 steps).

**(d) Transfer belt cleaning unit contact timing adjustment**

This adjustment has to be performed after "Adjustment of secondary scanning direction reproduction ratio (421)". Acceptable values are 88 to 168. The larger the value is, the later the transfer belt cleaning unit contact timing becomes.

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. According to the input value for "Adjustment of secondary scanning direction reproduction ratio (421)", key in the value shown in the following table.

\* Be sure to key in the correct value because incorrect value may reduce the cleaning efficiency of the transfer belt.

Adjustment (code)	Input value			
Adjustment of secondary scanning direction reproduction ratio (421)	110	111-120	121-130	131-140
Transfer belt cleaning unit contact timing adjustment (284)	147	143	141	137

<Procedure> (Adjustment Mode) → (Key in the code [284]) → [START]  
→ (Key in a value)  
→ [ENTER] or [INTERRUPT] (Stored in memory)

### (e) Transfer belt cleaning unit release timing adjustment

This adjustment has to be performed after "Adjustment of secondary scanning direction reproduction ratio (421)" Acceptable values are 88 to 168. The larger the value is, the later the transfer belt cleaning unit release timing becomes.

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. According to the input value for "Adjustment of secondary scanning direction reproduction ratio (421)", key in the value shown in the following table.

\* Be sure to key in the correct value because incorrect value may reduce the cleaning efficiency of the transfer belt.

Adjustment (code)	Input value			
Adjustment of secondary scanning direction reproduction ratio (421)	110	111-120	121-130	131-140
Transfer belt cleaning unit release timing adjustment (285)	147	143	141	137

<Procedure> (Adjustment Mode) → (Key in the code [285]) → [START]  
→ (Key in a value)  
→ [ENTER] or [INTERRUPT] (Stored in memory)

### (f) Secondary scanning data laser writing start position

This adjustment has to be performed for each paper source.

The following table shows the order of the paper source to be adjusted, code, paper size and acceptable values.

Order for adjustment	Paper source	Code	Paper size	Acceptable value	Remarks
1	Lower drawer	441	A3/LD	0 to 80	
2	Upper drawer	440	A4/LT	0 to 40	
3	PFP or LCF	444/443	A4/LT	0 to 40	
4	Bypass feed	442	A4/LT	0 to 40	
5	Duplexing	445	A3/LD	0 to 40	Paper fed from the lower drawer

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Press [1] ([3] for duplexing) → [FAX]. (A grid pattern with 10mm squares is printed out.)
3. Measure the distance D from the leading edge of the paper to the 6th line of the grid pattern.  
\* Normally, the 1st line of the grid pattern is not printed.  
\* At the duplexing, measure it on the top side of the grid pattern.
4. Check if the distance D is within  $52 \pm 0.5$  mm.
5. If not, use the following procedure to change values and measure the distance D again.

<Procedure> (Adjustment Mode) → (Key in the code shown above) → [START]  
→ (Key in an acceptable value shown above)  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
→ "100% A" is displayed  
→ Press [1] ([3] for duplexing)  
→ [FAX] → (A grid pattern is printed out.)

\* The larger the adjustment value is, the longer the distance D becomes (approx. 0.2 mm/step).

## (g) Primary scanning data laser writing start position at duplexing

### Note:

Make sure the first line of the grid pattern is printed out since the line is occasionally vanished.

### (g-1) Adjustment for long-sized paper

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Press [3] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A3/LD from the lower drawer.)
3. Check the grid pattern on the test print and measure the distance E from the left edge of the paper to the 6th line of the grid pattern.
4. Check if the distance E is within  $52 \pm 0.5$  mm.
5. If not, use the following procedure to change values and measure the distance E again.  
<Procedure> (Adjustment Mode) → (Key in the code [498]) → [START] → [0] → [START]  
→ (Key in a value (acceptable values: 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
→ "100% A" is displayed.  
→ Press [3] → [FAX] → (A grid pattern is printed out.)  
\*\* The larger the adjustment value is, the longer the distance E becomes (approx. 0.04 mm/step).

### (g-2) Adjustment for short-sized paper

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Press [3] → [FAX]. (A grid pattern with 10 mm squares is printed out. Use A4/LT from the upper drawer.)
3. Check the grid pattern on the test print and measure the distance E from the left edge of the paper to the 6th line of the grid pattern.
4. Check if the distance E is within  $52 \pm 0.5$  mm.
5. If not, use the following procedure to change values and measure the distance E again.  
<Procedure> (Adjustment Mode) → (Key in the code [498]) → [START] → [1] → [START]  
→ (Key in a value (acceptable values: 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
→ "100% A" is displayed  
→ Press [3] → [FAX] → (A grid pattern is printed out.)  
\* The larger the adjustment value is, the longer the distance E becomes (approx. 0.04 mm/step).

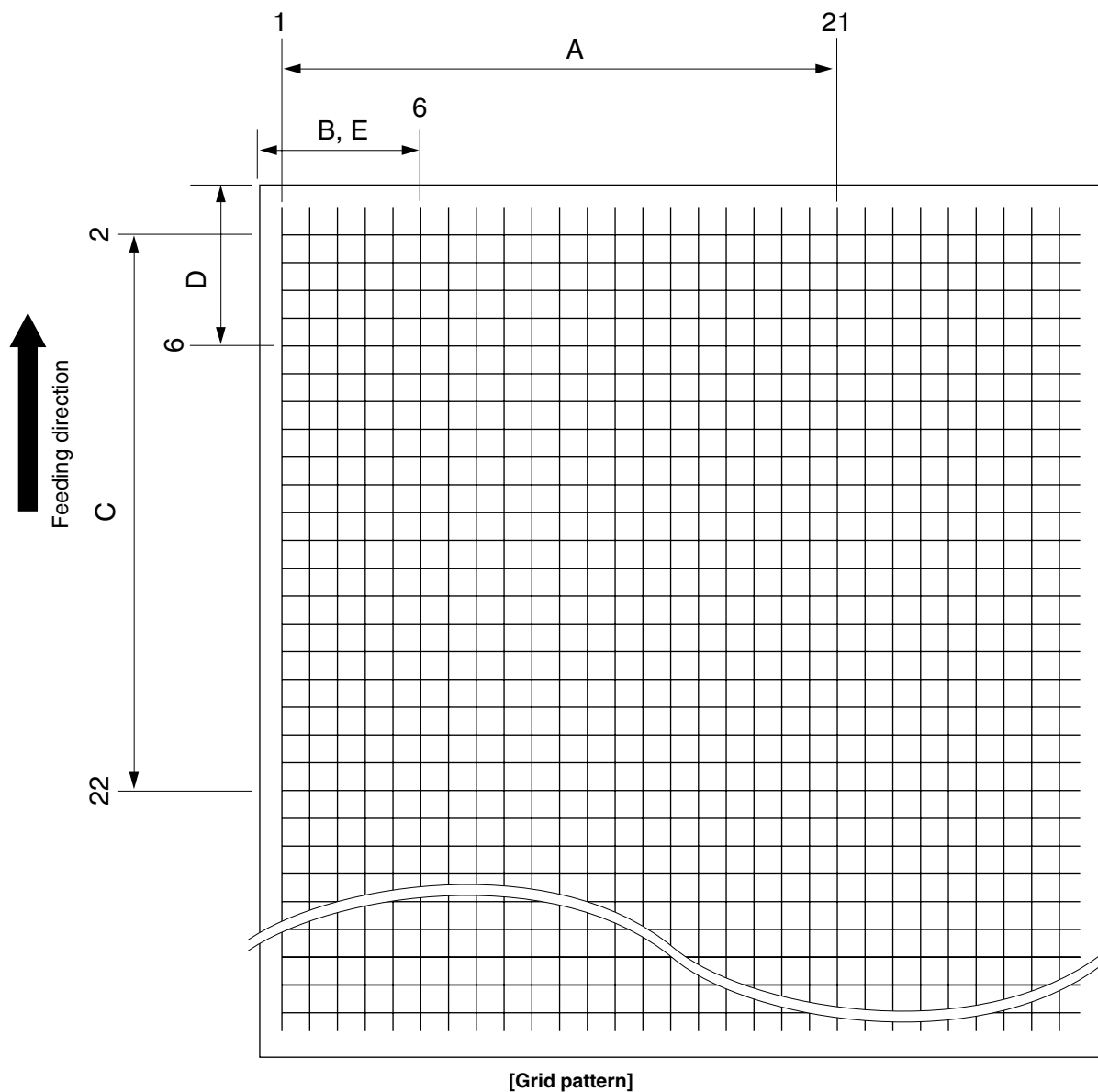


Fig. 3-401

<Adjustment order>

[0] [5] [Power ON] → [1] ([3](05-445, 498) for duplexing) → [FAX]

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| A: 05-401 (Lower drawer, A3/LD)     | → 200±0.5 mm (0.05 mm/step)         |
| B: 05-411 (Lower drawer, A3/LD)     | → 52±0.5 mm (0.04 mm/step)          |
|                                     | → Key in the same value for 05-410. |
| C: 05-421 (Lower drawer, A3/LD)     | → 200±0.5 mm (0.5 mm/6 steps)       |
| D: 05-440 (Upper drawer, A4/LT),    | → 52±0.5 mm (0.2 mm/step),          |
| 441 (Lower drawer, A3/LD),          |                                     |
| 442 (Bypass feed, A4/LT),           |                                     |
| 443 (LCF, A4/LT), 444 (PFP, A4/LT), |                                     |
| 445 (Duplexing, A3/LD)              |                                     |
| E: 05-498-0 (Lower drawer, A3/LD),  | → 52±0.5 mm (0.04 mm/step)          |
| 498-1 (Upper drawer, A4/LT)         |                                     |

### 3.4.4 Scanner related adjustment

#### (a) Image distortion

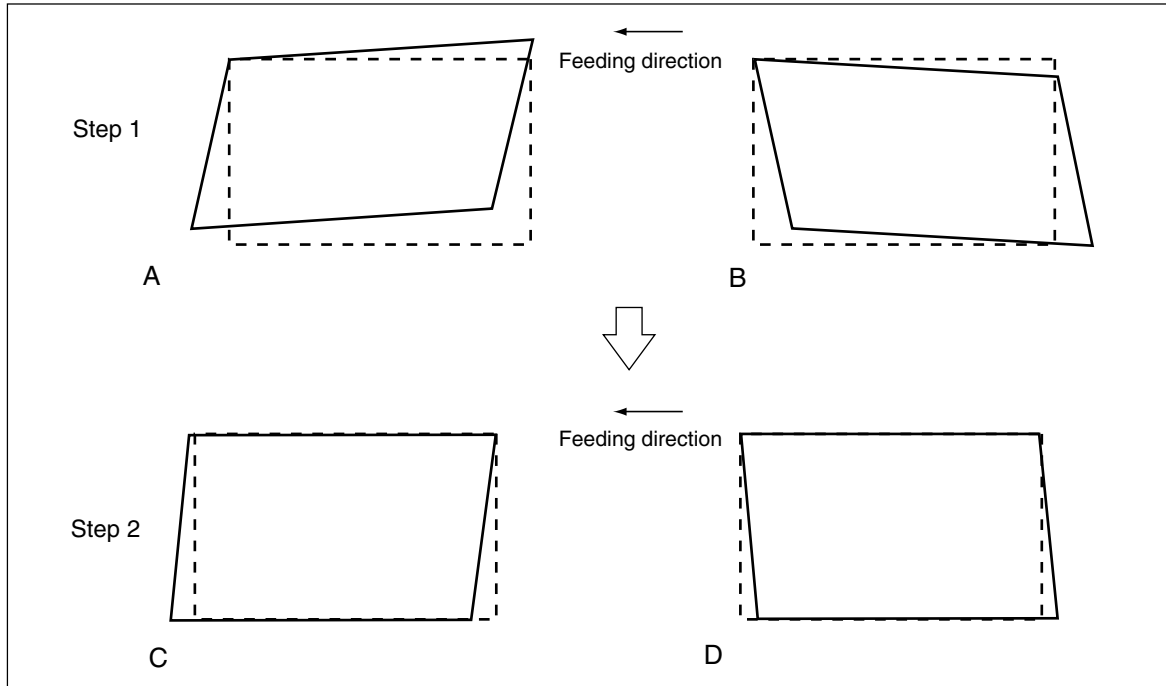


Fig. 3-402

1. While pressing [0] and [5] simultaneously, turn the power ON.
2. Press [FAX] to make a copy of any image on a sheet of A3/LD paper.
3. Key in [308] and press the [START] button to move the carriage to the adjustment position.
4. Make an adjustment in the order of step 1 and 2.

#### Step 1

In case of A:

Tighten the mirror-3 adjustment screw (CW).

In case of B:

Loosen the mirror-3 adjustment screw (CCW).

#### Step 2

In case of C:

Tighten the mirror-1 adjustment screw (CW).

In case of D:

Loosen the mirror-1 adjustment screw (CCW).

5. Apply the screw locking agents to the adjustment screws. (2 areas)

- Recommended screw lock agent  
Manufacturer: Three Bond  
Product name: 1401E

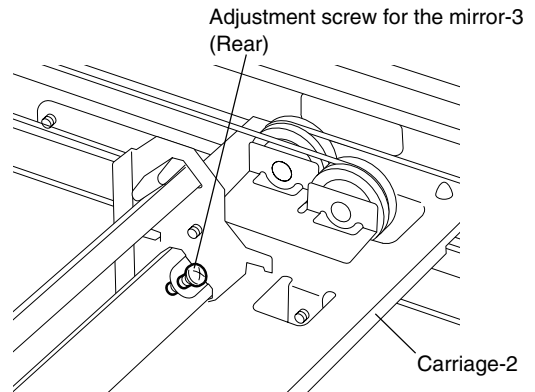


Fig. 3-403

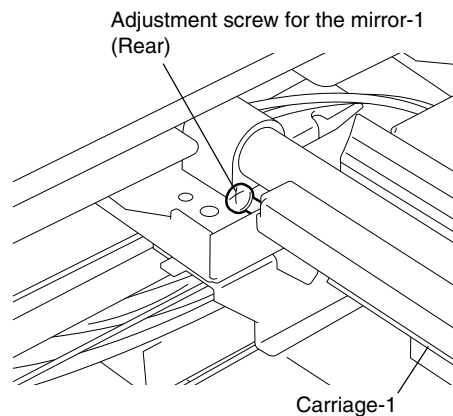


Fig. 3-404

The following adjustments (b) to (e) should be performed with Test Chart No. TCC-1. (Refer to page 3-19.)

**(b) Reproduction ratio adjustment of primary scanning direction**

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
3. Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Black and Text/Photo.
4. Measure the distance A between M1 and M2 on the copy with a ruler.
5. Check if the distance A is within  $200 \pm 0.5$  mm.
6. If not, use the following procedure to change values and repeat step 3. to 5. above.  
<Procedure> (Adjustment Mode) → (Key in the code [405]) → [START]  
→ (Key in a value (acceptable values : 0 to 255) with digital keys)  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
\* The larger the adjustment value is, the longer the distance A becomes (approx. 0.1 mm/step).

**(c) Image location of primary scanning direction**

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
3. Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Black and Text/Photo.
4. Measure the distance B from the left paper edge to the 5 mm line of left grid pattern on the copy with a ruler.
5. Check if the distance B is within  $5 \pm 0.5$  mm.
6. If not, use the following procedure to change values and repeat step 3. to 5. above.  
<Procedure> (Adjustment Mode) → (Key in code [306]) → [START]  
→ (Key in a value (acceptable values : 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
\* The larger the adjustment value is, the longer the distance B becomes (approx. 0.04 mm/step).

**(d) Reproduction ratio of secondary scanning direction**

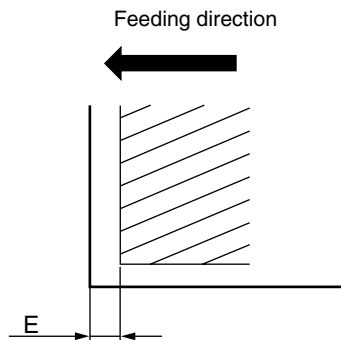
1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
3. Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Black and Text/Photo.
4. Measure the distance C between M3 and M4 on the copy with a ruler.
5. Check if the distance C is within  $150 \pm 0.5$  mm.
6. If not, use the following procedure to change values and repeat step 3. to 5. above.  
<Procedure> (Adjustment Mode) → (Key in the code [340]) → [START]  
→ (Key in a value (acceptable values : 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
\* The larger the adjustment value is, the longer the distance C becomes (approx. 0.3 mm/step).

**(e) Image location of secondary scanning direction**

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Place Test Chart No. TCC-1 on the original glass (with the arrow positioned at the left rear side).
3. Press [FAX] → [START] to make a copy at the mode of A4/LT, 100%, Black and Text/Photo.
4. Measure the distance D from the top paper edge to the 10 mm line of top grid pattern on the copy with a ruler.
5. Check if the distance D is within  $10 \pm 0.5$  mm.
6. If not, use the following procedure to change values and repeat step 3. to 5. above.  
<Procedure> (Adjustment Mode) → (Key in the code [305]) → [START]  
→ (Key in a value (acceptable values : 92 to 164))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
\* The larger the adjustment value is, the longer the distance D becomes (approx. 0.14 mm/step).

**(f) Top margin**

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Open the platen cover or RADF.
3. Press [FAX] → [START] to make a copy at the mode of A3/LD, 100%, Black, Text/Photo and lower drawer.
4. Measure the blank area E at the leading edge of the copied image.
5. Check if the blank area E is within the range of  $3 \pm 0.5$  mm.
6. If not, use the following procedure to change values and repeat the steps 3. to 5. above.  
<Procedure> (Adjustment Mode) → (Key in the code [430]) → [START]  
→ (Key in a value (acceptable values : 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory)  
→ ("100% A" is displayed.)  
\* The larger the adjustment value is, the wider the blank area becomes (approx. 0.04 mm/step).



**Fig. 3-405**

**(g) Right margin**

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Open the platen cover or RADF.
3. Press [FAX] → [START] to make a copy at the mode of A3/LD, 100%, Black, Text/Photo and lower drawer.
4. Measure the blank area F at the right side of the copied image.
5. Check if the blank area F is within the range of 2+1 mm, 2-0.5 mm.
6. If not, use the following procedure to change values and repeat the steps 3. to 5. above.

<Procedure> (Adjustment Mode) → (Key in the code [432]) → [START]  
→ (Key in a value (acceptable values : 0 to 255))  
→ [ENTER] or [INTERRUPT] (Stored in memory).  
→ ("100% A" is displayed.)

\* The larger the adjustment value is, the wider the blank area at the right side becomes (approx. 0.04 mm/step).

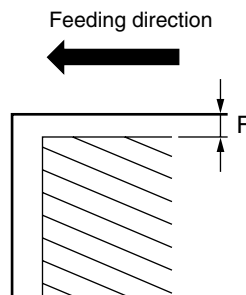


Fig. 3-406

**(h) Bottom margin**

1. While pressing [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
2. Open platen cover or RADF.
3. Press the [FAX] → [START] to make a copy at the mode of A3/LD, 100%, Black, Text/Photo and lower drawer.
4. Measure the blank area G at the trailing edge of the copied image.
5. Check if the blank area G is within the range of 2±0.5 mm.
6. If not, use the following procedure to change values and repeat the steps 2. to 4. above.

<Procedure> (Adjustment Mode) → (Key in the code [433]) → [START]  
→ (Key in value (acceptable values : 0 to 255))  
→ [ENTER] or [INTERRUPT] (stored in memory)  
→ ("100% A" is displayed.)

\* The larger the adjustment value is, the wider the blank area at the trailing edge becomes (approx. 0.04 mm/step).

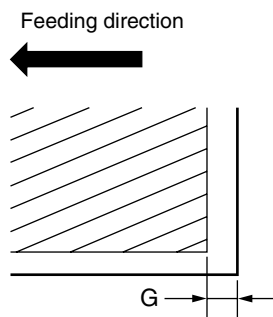


Fig. 3-407



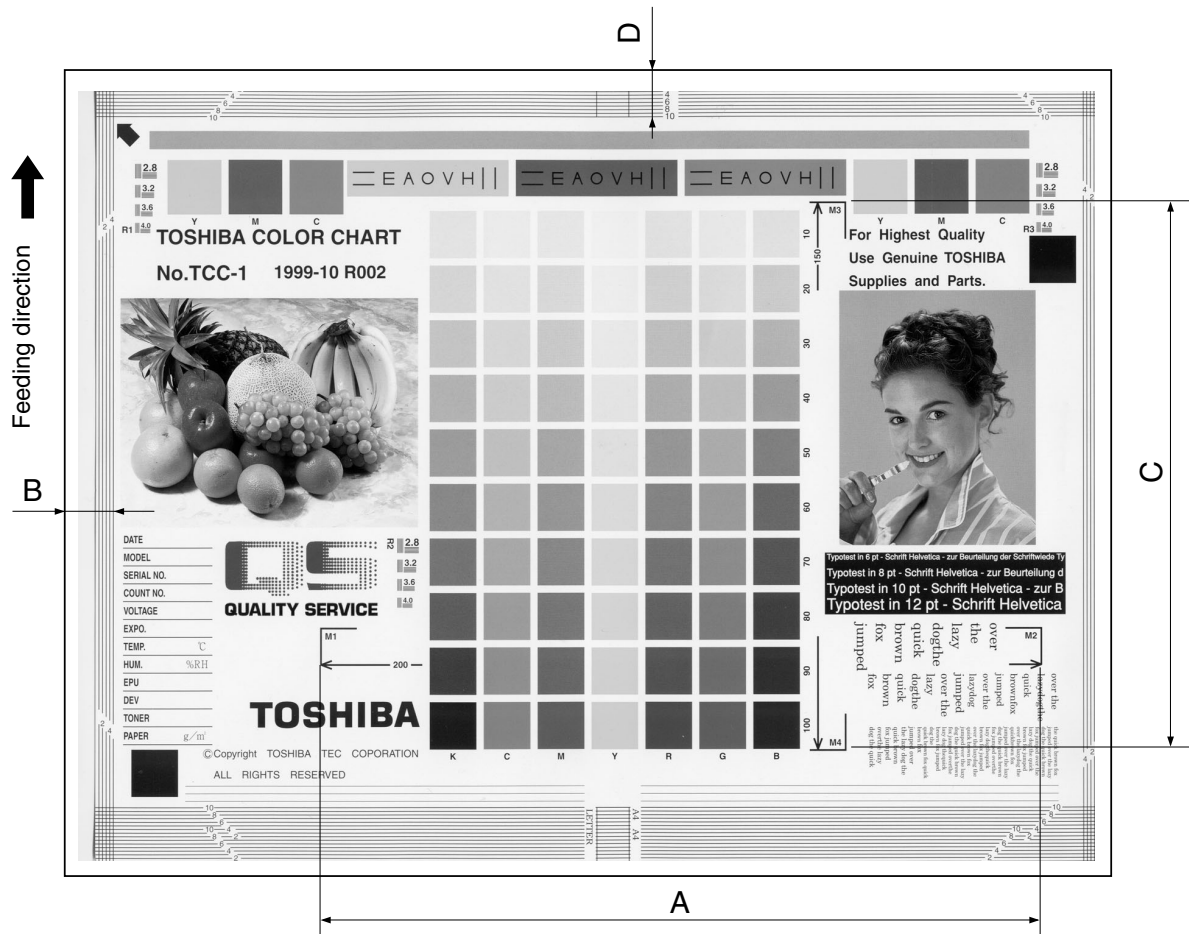


Fig. 3-408 Chart TCC-1

<Adjustment order>

[0] [5] [Power ON] → (Chart TCC-1) → [FAX] → [START] (A4/LT, 100%, Black and Text/Photo)

A: 05-405 → 200±0.5 mm (0.1 mm/step)

B: 05-306 → 5±0.5 mm (0.04 mm/step)

C: 05-340 → 150±0.5 mm (0.3 mm/step)

D: 05-305 → 10±0.5 mm (0.14 mm/step)

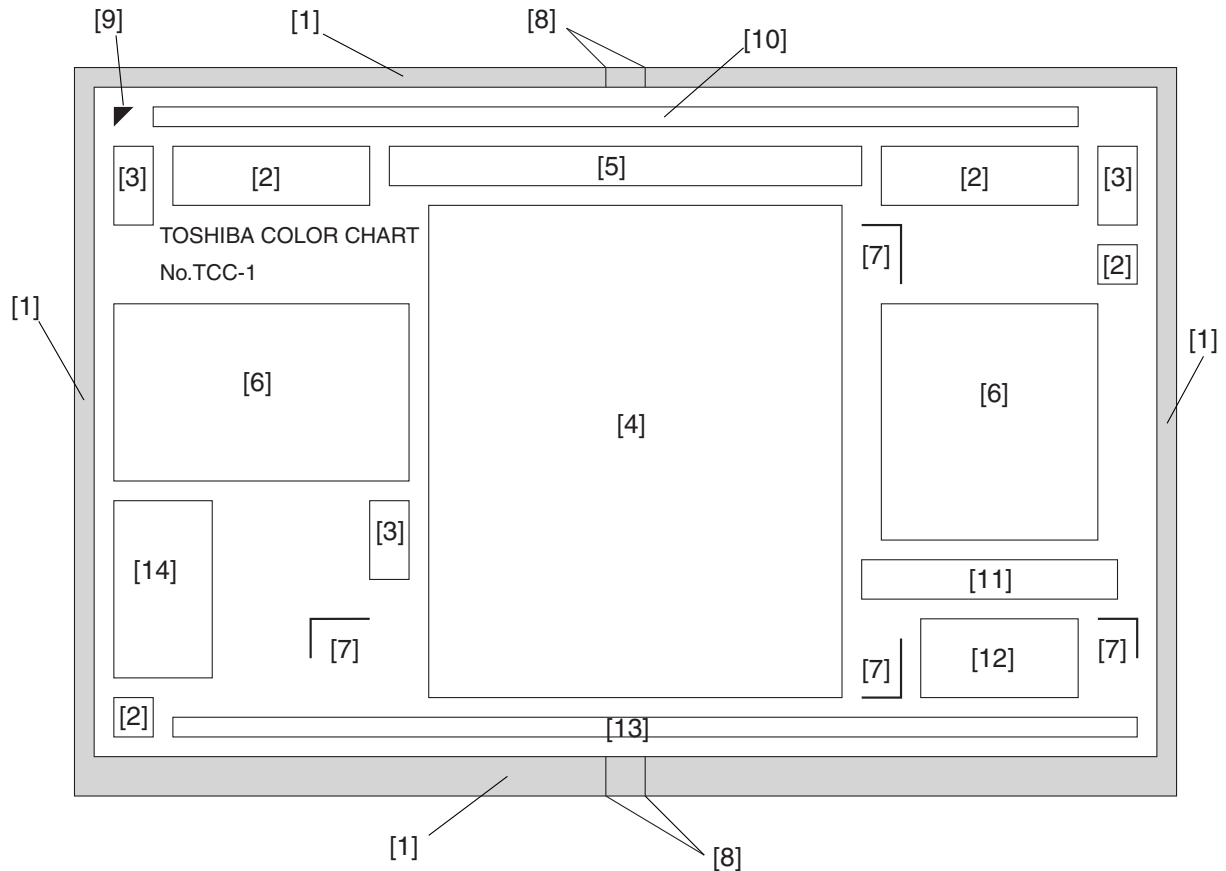


Fig. 3-409

- |                                    |   |
|------------------------------------|---|
| [1] Grid patterns                  | : For adjusting margin (void) and scanner section   |
| [2] YMCK patches                   | : For checking uniformity   |
| [3] Resolution patterns            | : For checking resolution   |
| [4] Gradation pattern              | : Gradation pattern of seven colors (Y, M, C, R, G, B and K)<br>Coverage: 10-100%<br>For adjusting the halftone reproduction and gray balance |
| [5] Color registration pattern     | : For checking color registration   |
| [6] Pictures                       | : For checking color reproduction and moire   |
| [7] Magnification lines            | : For checking the magnification error of primary and secondary scanning directions   |
| [8] Center lines                   | : Center lines for A4/LT sizes  |
| [9] Arrow                          | : A mark for placing the chart properly onto the original glass (place it to the left rear corner of the original glass.)                     |
| [10] Halftone band                 | : For checking uniformity   |
| [11] White text on the black solid | : For checking the reproduction of white text on black solid  |
| [12] Text                          | : For checking reproduction of text   |
| [13] Thin lines                    | : For checking reproduction of the thin lines (line width: 100µm)   |
| [14] Note area                     | : For recording the date, conditions, etc.  |

### 3.5 Image Quality Adjustment (Copying Function)

#### 3.5.1 Automatic gamma adjustment

When the reproduction of gradation is not appropriate, the gradation reproducibility of all colors Y, M, C and K can be corrected by performing this automatic gamma adjustment. In case the gradation reproduction of the image checked is not satisfactory, make this adjustment as described below at parts replacement.

(1) When unpacking or any of the following parts has been or replaced, be sure to make this adjustment:

- Laser optical unit
- Main charger wire
- 1st transfer roller
- Image quality sensor
- Photoconductive drum
- Main charger grid
- Drum cleaning blade
- Developer material
- Transfer belt
- Drum cleaner brush

(2) When any of the following parts are replaced or adjusted, make a copy and check the image to determine if adjustment is necessary:

- 2nd transfer roller

**Notes:**

1. Be sure that this adjustment be made after performing the image adjustment in "3.3 Adjustment of Image Quality Control" and "3.4 Image Dimensional Adjustment".
2. Normally, only the adjustment of color/black integrated pattern is needed. When the adjustment of "3.5.12 Beam level conversion setting" is made, color pattern and black pattern need to be adjusted individually.

<Adjustment Mode (05)>

Code	Item to be adjusted	Contents												
1642 (1643) (580)	Automatic gamma adjustment	<p>&lt;Procedure&gt;</p> <p>(1) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment Mode</p> <p>(2) Select the A4/LT drawer. Key in the pattern number and press the [FAX] button to output a "Patch chart for gamma adjustment".</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Pattern No.</th> <th style="text-align: left; border-bottom: 1px solid black;">Pattern</th> <th style="text-align: left; border-bottom: 1px solid black;">Remarks</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">4</td> <td>Color/black integrated</td> <td>When performing code 1642</td> </tr> <tr> <td style="text-align: center;">10*</td> <td>Black</td> <td>When performing code 580</td> </tr> <tr> <td style="text-align: center;">5*</td> <td>Color</td> <td>When performing code 1643</td> </tr> </tbody> </table> <p>* This adjustment is performed only when "3.5.12 Beam level conversion setting" is performed. Usually, only the adjustment with the color/black integrated pattern (05-1642) is performed.</p> <p>(3) Place the patch chart for adjustment printed in step (2) face down on the original glass. In the cases of patterns 4 and 5, place the chart aligning its side with 2 black squares against the original scale. In the case of pattern 10, place the chart aligning its black side of the gradation pattern against the original scale.</p> <p>(4) Key in a code and press the [START] button. → The scanner reads the chart automatically and performs automatic gamma adjustment calculation (approx. 30 sec.).</p> <p>(5) When the adjustment has finished normally, "ENTER" is shown. Press the [ENTER] button to have the adjustment results reflected. (To cancel the reflection of adjustment results, press the [CANCEL] button.) In the case of an abnormal ending, "ADJUSTMENT ERROR" is shown. Press the [CANCEL] button to clear the error display. When it is cleared, the control panel display will return to the ready state. Then, check if the patch chart on the original glass is placed in the wrong direction or if it is placed inclined on the original glass, and then repeat step (3) and afterward.</p>	Pattern No.	Pattern	Remarks	4	Color/black integrated	When performing code 1642	10*	Black	When performing code 580	5*	Color	When performing code 1643
Pattern No.	Pattern	Remarks												
4	Color/black integrated	When performing code 1642												
10*	Black	When performing code 580												
5*	Color	When performing code 1643												

### 3.5.2 Density adjustment

The center density and the density variation controlled by density adjustment keys can be adjusted as follows.

<Adjustment Mode (05)>

Color mode	Original mode					Item to be adjusted	Remarks
	Text/Photo	Text	Printed Image	Photo	Map		
Full Color	1550	1551	1552	1553	1554	Manual density mode center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	1560	1561	1562	1563	1564	Manual density mode dark step value	The larger the value is, the darker the dark side becomes. Acceptable values: 0 to 255 (Default: 20)
	1570	1571	1572	1573	1574	Manual density mode light step value	The larger the value is, the lighter the light side becomes. Acceptable values: 0 to 255 (Default: 20)
	1580	1581	1582	1583	1584	Automatic density mode	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

<Adjustment Mode (05)>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	Photo		
Black	503	504	501	Manual density mode center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	508	510	509	Manual density mode dark step value	The larger the value is, the darker the dark side becomes. Acceptable values: 0 to 255 (Default: 20)
	505	507	506	Manual density mode light step value	The larger the value is, the lighter the light side becomes. Acceptable values: 0 to 255 (Default: 20)
	514	515	512	Automatic density mode	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment using the following procedure.

**Note:**

Be sure that this adjustment be made after performing "3.5.1 Automatic gamma adjustment".

## &lt;Procedure&gt;

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in a code and press the [START] button.
- (3) Key in an adjustment value (acceptable values: 0 to 255).  
(To correct the value once keyed in , press the [CLEAR] button.)
- (4) Press the [ENTER] or [INTERRUPT] button to store the value. → The equipment goes back to the ready state.
- (5) Press the [FAX] button and then press the [START] button to make a test copy.
- (6) If the desired image has not been attained, repeat step (2) to (5).

### 3.5.3 Color balance adjustment

The color balance is adjusted by adjusting the density of each color at the Full Color Mode. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Color	Original mode					Item to be adjusted	Remarks
	Text/Photo	Text	Printed Image	Photo	Map		
Yellow	1779-0	1780-0	1781-0	1782-0	1783-0	Low density	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255. (Default: 128)
	1779-1	1780-1	1781-1	1782-1	1783-1	Medium density	
	1779-2	1780-2	1781-2	1782-2	1783-2	High density	
Magenta	1784-0	1785-0	1786-0	1787-0	1788-0	Low density	
	1784-1	1785-1	1786-1	1787-1	1788-1	Medium density	
	1784-2	1785-2	1786-2	1787-2	1788-2	High density	
Cyan	1789-0	1790-0	1791-0	1792-0	1793-0	Low density	
	1789-1	1790-1	1791-1	1792-1	1793-1	Medium density	
	1789-2	1790-2	1791-2	1792-2	1793-2	High density	
Black	1794-0	1795-0	1796-0	1798-0	1798-0	Low density	
	1794-1	1795-1	1796-1	1798-1	1798-1	Medium density	
	1794-2	1795-2	1796-2	1798-2	1798-2	High density	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment using the following procedure.

#### Note:

Be sure that this adjustment be made after performing “3.5.1 Automatic gamma adjustment”.

<Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the code of the mode to be adjusted (color and original mode) and press the [START] button.
- (3) Select the density area to be adjusted with digital keys (0, 1 or 2), and press the [START] button.  
0 : Low density (L) 1 : Medium density (M) 2 : High density (H)
- (4) Key in an adjustment value.  
(To correct the value once keyed in, press the [CLEAR] button.)
- (5) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (6) For resetting the value, repeat step (2) to (5).
- (7) Press the [FAX] button and then press the [START] button to make a test copy.
- (8) If the desired image has not been attained, repeat step (2) to (7).

### 3.5.4 Gamma balance adjustment

The density adjustment at the Black Mode is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	Photo		
Black	590-0	591-0	592-0	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255. (Default: 128)
	590-1	591-1	592-1	Medium density	
	590-2	591-2	592-2	High density	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment using the following procedure.

**Note:**

Be sure that this adjustment be made after performing “3.5.1 Automatic gamma adjustment”.

<Procedure>

Procedure is same as that of “3.5.3 Color balance adjustment”.

### 3.5.5 Offsetting adjustment for background processing

The density of background and text can be adjusted as follows.

<Adjustment Mode (05)>

Color mode	Original mode					Item to be adjusted	Remarks
	Text/Photo	Text	Printed Image	Photo	Map		
Full Color	1688	1689	1690	1691	1692	Automatic density adjustment for background	The larger the value is, the darker the background becomes. (Automatic) Acceptable values: 0 to 255. (Default: 128)
	1693	1694	1695	1696	1697	Automatic density adjustment for text	The larger the value is, the darker the text becomes. (Automatic) Acceptable values: 0 to 255. (Default: 128)
	1698	1699	1700	1701	1702	Manual density adjustment for background	The larger the value is, the darker the background becomes. (Manual) Acceptable values: 0 to 255. (Default: 128)
	1708	1709	1710	1711	1712	Manual density adjustment for text	The larger the value is, the darker the text becomes. (Manual) Acceptable values: 0 to 255. (Default: 128)

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment using the following procedure.

<Procedure>

Procedure is same as that of "3.5.2 Density adjustment".



### 3.5.6 Judgment threshold for ACS

The judgment level is adjusted for the automatic identification of whether the original set on the glass is black or color. Namely, this is to adjust the judgment level used when "Auto Color" is selected at a color mode. The adjustment is available for each of the manually-set original and the original used with the RADF.

<Adjustment Mode (05)>

Code	Item to be adjusted	Contents
1675	Judgment threshold for ACS when original is set manually	The larger the value is, the more an original tends to be judged as black even at the Auto Color Mode. The smaller value is, the more it tends to be judged as color. Acceptable values: 0 to 255. (Default: 70)
1676	Judgment threshold for ACS when original is set on RADF	

Make a test copy and compare the image obtained with the current settings; if necessary and make adjustment.

<Procedure>

Procedure is same as that of "3.5.2 Density adjustment".

### 3.5.7 Sharpness adjustment

If you want to make copy images look softer or sharper, perform the following adjustment. The adjustment can be made for each of the color modes and original modes independently.

<Adjustment Mode (05)>

Code	Color mode	Original mode	Contents
1737	Full Color	Text/Photo	<ul style="list-style-type: none"> <li>The larger the value is, the sharper the image becomes; while the smaller the value is, the softer the image becomes.</li> <li>The smaller the value is, the less moire tends to appear.</li> <li>The acceptable values are 0 to 31.</li> </ul> The center value is 16. However, 0 is equivalent to the center value.
1738		Text	
1739		Printed Image	
1740		Photo	
1741		Map	
604	Black	Text/Photo	
605		Text	
606		Photo	
1757	Auto Color	Text/Photo	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

**Note:**

You have to make adjustment by balancing between moire and sharpness.

<Procedure>

Procedure is same as that of "3.5.2 Density adjustment".

### 3.5.8 Setting range correction

The values of the background peak/text peak in the range correction at the Black Mode can be switched to "varied" or "fixed" in the following codes.

If they are fixed, the range correction is performed with standard values.

The values of the background peak affects the reproduction of the background density, and the values of the text peak affects that of the text density.

<Adjustment Mode (05)>

Original mode			Item to be adjusted	Remarks															
Text/Photo	Photo	Text																	
570	571	572	Range correction for original manually set on the original glass	The following are the default values set for each original mode. Text/Photo: 22, Photo: 12, Text: 22 Each digit stands for:															
693	694	695	Range correction for original set on the RADF	One's place: Automatic density mode Ten's place: Manual density mode The setting conditions possible are as follows: <table style="margin-left: 40px; border: none;"> <thead> <tr> <th></th> <th>Background peak</th> <th>Text peak</th> </tr> </thead> <tbody> <tr> <td>1:</td> <td>fixed</td> <td>fixed</td> </tr> <tr> <td>2:</td> <td>varied</td> <td>fixed</td> </tr> <tr> <td>3:</td> <td>fixed</td> <td>varied</td> </tr> <tr> <td>4:</td> <td>varied</td> <td>varied</td> </tr> </tbody> </table>		Background peak	Text peak	1:	fixed	fixed	2:	varied	fixed	3:	fixed	varied	4:	varied	varied
	Background peak	Text peak																	
1:	fixed	fixed																	
2:	varied	fixed																	
3:	fixed	varied																	
4:	varied	varied																	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

<Procedure>

Procedure is same as that of "3.5.2 Density adjustment".

### 3.5.9 Setting range correction (Adjustment of background peak)

The levels of the background peak for the range correction at a Black Mode can be set at the following codes.

<Adjustment Mode (05)>

Original mode			Item to be adjusted	Remarks
Text/Photo	Photo	Text		
532	533	534	Background peak for range correction	When the value increases, the background (low density area) of the image is not output. Acceptable values: 0 to 255. (Default: Text/Photo: 40, Photo: 16, Text: 40)

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

<Procedure>

Procedure is same as that of "3.5.2 Density adjustment".

### 3.5.10 Adjustment of smudged/faint text

The smudge/faint text at a Black Mode can be set at the following codes.

<Adjustment Mode (05)>

Original mode		Item to be adjusted	Remarks
Text/Photo			
648		Adjustment of smudged/faint text	When the value increases, the faint text is improved. When the value decreases, the smudged text is improved. Acceptable values: 0 to 255. (Default: 30)

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment.

**Note:**

Remember the image specifications and life span of the replacing parts may not meet the standard when the setting value is changed from the default value.

<Procedure>

Procedure is same as that of "3.5.2 Density adjustment".

### 3.5.11 Adaptation to highlighter

Four modes of one touch adjustment are performed and each mode can be switched into two modes; highlighter 1 or 2. This adjustment is performed when the reproduction mode for highlighter is needed.

<Adjustment Mode (05)>

Code	One touch adjustment	Remarks
1769	Vivid	0: Default (Vivid / Clear / Warm / Cool) 1: Highlighter 1 2: Highlighter 2
1770	Clear	
1771	Warm	
1772	Cool	

#### Note:

The color may not always be reproduced precisely due to the characteristics of fluorescent ink.

### 3.5.12 Beam level conversion setting

The beam level for 4 divided smoothing is set at the Black Mode. This adjustment enables to adjust the dot size.

<Adjustment Mode (05)>

Code	Item to be adjusted	Remarks
667-0	Beam level 0/4	The smaller the value is, the smaller the beam width becomes. Therefore, the smaller dot is reproduced accordingly. Acceptable values: 0 to 255. (Default: Level 0/4: 0, Level 1/4: 63, Level 2/4: 127, Level 3/4: 191, Level 4/4: 255)
667-1	Beam level 1/4	
667-2	Beam level 2/4	
667-3	Beam level 3/4	
667-4	Beam level 4/4	

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment using the following procedure.

<Procedure>

Procedure is same as that of "3.5.3 Color balance adjustment".

#### Notes:

1. When this adjustment is performed, "3.5.1 Automatic gamma adjustment (Black Mode)" (05-580) needs to be performed since the reproduction of density at Black Mode varies. The result of this adjustment is not reflected to color/black integrated pattern. Namely, each automatic gamma adjustment of Black Mode (05-580) or of Color Mode (05-1643) needs to be performed individually after this adjustment.
2. After this adjustment, set "1" in 08-595 so that the correction result of the Black Mode is not reflected on "Automatic Calibration".
3. The setting value must increase as the beam level number (0 to 4) becomes higher. Do not increase this order when setting the values.
4. Usually, beam level 4 is most effective on all black modes.

### 3.5.13 Maximum toner density adjustment to paper type

The maximum toner amount adhering to the paper can be controlled.

<Adjustment Mode (05)>

Code	Paper type	Remarks
1612	Plain paper	The smaller the value is, the toner amount adhered decreases of the high density area (ex. prevention of fusing offsetting, etc). Acceptable values : 0 to 255. (Default: Plain paper: 255, Thick paper 1: 249, Thick paper 2: 237, Thick paper 3: 237, OHP film: 249)
1613	Thick paper 1	
1614	Thick paper 2	
1615	Thick paper 3	
1616	OHP film	

**Note:**

The larger the value is, the more frequently fusing offsetting occurs.

### 3.5.14 Maximum text density adjustment

The maximum text density of each color at Full Color Mode can be adjusted as follows.

<Adjustment Mode (05)>

Color	Code	Item to be adjusted	Remarks
Yellow	1630	Maximum text density	The larger the value is, the darker the maximum text density of each color to be adjusted becomes. Acceptable values: 0 to 10 (Default: 5)
Magenta	1631		
Cyan	1632		
Black	1633		

Make a test copy and compare the image obtained with the current settings; if necessary, make adjustment using the following procedure.

**Note:**

Be sure that this adjustment be made after performing “3.5.1 Automatic gamma adjustment”.

<Procedure>

Procedure is same as that of “3.5.2 Density adjustment”.

### 3.5.15 Text/Photo reproduction level adjustment

Text/Photo reproduction level at the Full color mode, Auto color mode and Gray scale mode can be adjusted.

Text/Photo reproduction level adjustment can be switched to "Photo oriented 1", "Photo oriented 2", "Text oriented 1" or "Text oriented 2" in the following codes.

<Adjustment Mode (05)>

Mode	Item to be adjusted	Contents
Text/Photo		
1725	Text/Photo reproduction level adjustment	0: Default 1: Photo oriented 2 (The printed image reproduction level higher than that of the Photo oriented 1) 2: Photo oriented 1 (The printed image reproduction level higher than that of the Default) 3: Equivalent to the Default 4: Text oriented 1 (The text reproduction level higher than that of the Default) 5: Text oriented 2 (The text reproduction level higher than that of the Text oriented 1)

#### Notes:

- The text reproduction level is lower when the mode is switched from the default value to the Photo oriented 1 or Photo oriented 2. (The text reproduction level in Photo oriented 2 is lower than that in Photo oriented 1.)
- Changing the setting value from default value to the Text oriented 1 or Text oriented 2 causes image noise in the printed photo image with few lines per inch. (Photo oriented 2 causes more image noise than Photo oriented 1.)

### 3.5.16 Black reproduction switching at the Twin color copy mode

Black reproduction can be switched at the Twin color (Black/Red) copy mode.

<Adjustment Mode (05)>

Mode	Item to be adjusted	Contents
Twin color copy mode (Black/Red)		
1761	Black reproduction switching	0: Default 1: Black reproduction oriented

#### Note:

The boundary between Red and Black may not be smooth when the setting value is "1".

## 3.6 Image Quality Adjustment (Printing Function)

### 3.6.1 Automatic gamma adjustment

When the reproduction of gradation is not appropriate, the gradation reproducibility of all colors Y, M, C and K can be corrected by performing this automatic gamma adjustment. In case the gradation reproduction of the image checked is not satisfactory, make this adjustment as described below at parts replacement.

(1) When unpacking or any of the following parts has been unpacked or replaced, be sure to make this adjustment:

- Laser optical unit
- Main charger wire
- 1st transfer roller
- Image quality sensor
- Photoconductive drum
- Main charger grid
- Drum cleaning blade
- Developer material
- Transfer belt
- Drum cleaner brush

(2) When any of the following parts are replaced or adjusted, make a print and check the image to determine if adjustment is necessary:

- 2nd transfer roller

**Note:** Be sure that this adjustment be made after performing the image adjustment in "3.3 Adjustment of Image Quality Control" and "3.4 Image Dimensional Adjustment".

<Adjustment Mode (05)>

Code	Adjustment item	Contents															
1000 1001 1002 1003	Automatic gamma adjustment	<p>&lt;Procedure&gt;</p> <p>(1) While pressing [0] and [5] simultaneously, turn the power ON. → Adjustment Mode</p> <p>(2) Select the A4/LT drawer. Key in the pattern number and press the [FAX] button to output a "Patch chart for gamma adjustment".</p> <table border="1"> <thead> <tr> <th>Pattern No.</th> <th>Language/Resolution</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>47</td> <td>PS/600x600dpi</td> <td>When performing code 1000</td> </tr> <tr> <td>48*</td> <td>PS/1200x600dpi</td> <td>When performing code 1001</td> </tr> <tr> <td>49</td> <td>PCL/600x600dpi</td> <td>When performing code 1002</td> </tr> <tr> <td>50*</td> <td>PCL/1200x600dpi</td> <td>When performing code 1003</td> </tr> </tbody> </table> <p>*Perform the adjustment only when the expansion memory has been installed.</p> <p>(3) Place the patch chart for adjustment printed in step (2) face down on the original glass, with its side, on which two black squares are present, aligned against the original scale.</p> <p>(4) Key in a code and press the [START] button. → The scanner reads the chart automatically and performs automatic gamma adjustment calculation (approx. 30 sec.).</p> <p>(5) When the adjustment has finished normally, "ENTER" is shown. Press the [ENTER] button to have the adjustment results reflected. (To cancel the reflection of adjustment results, press the [CANCEL] button.)</p> <p>In the case of an abnormal ending, "ADJUSTMENT ERROR" is shown. Press the [CANCEL] button to clear the error display. When it is cleared, the control panel display will return to the ready state. Then, check if the patch chart on the original glass is placed in the wrong direction or if it is placed inclined on the original glass, and then repeat step (3) and afterward.</p>	Pattern No.	Language/Resolution	Remarks	47	PS/600x600dpi	When performing code 1000	48*	PS/1200x600dpi	When performing code 1001	49	PCL/600x600dpi	When performing code 1002	50*	PCL/1200x600dpi	When performing code 1003
Pattern No.	Language/Resolution	Remarks															
47	PS/600x600dpi	When performing code 1000															
48*	PS/1200x600dpi	When performing code 1001															
49	PCL/600x600dpi	When performing code 1002															
50*	PCL/1200x600dpi	When performing code 1003															

### 3.6.2 Gamma balance adjustment (Black Mode)

The gamma balance is adjusted by adjusting the density at the Black Mode. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Color mode	Language and screen				Item to be adjusted	Remarks
	Smooth (PS)	Detail (PS)	Smooth (PCL)	Detail (PCL)		
Black	596-0	597-0	598-0	599-0	Low density	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255. (Default: 128)
	596-1	597-1	598-1	599-1	Medium density	
	596-2	597-2	598-2	599-2	High density	

#### <Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the codes to be adjusted (language and screen) and press the [START] button.
- (3) Key in the value corresponding to the density area to be adjusted (0, 1 or 2) and press the [START] button.  
0: Low density (L) 1: Medium density (M) 2: High density (H)
- (4) Key in the adjustment value. (To correct the value once keyed in, press [CLEAR] button.)
- (5) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (6) For resetting the value, repeat step (2) to (5).
- (7) Let the equipment restart and perform printing job.
- (8) If the image density has not been attained, repeat step (1) to (7).



### 3.6.3 Color balance adjustment (Color Mode)

The color balance is adjusted by adjusting the density of each color. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Color	PS				PCL				Density	Remarks
	600x600dpi		1200x600dpi		600x600dpi		1200x600dpi			
	Smooth	Detail	Smooth	Detail	Smooth	Detail	Smooth	Detail		
Yellow	1010-0	1014-0	1018-0	1022-0	1026-0	1030-0	1034-0	1038-0	Low	The larger the value is, the darker the color to be adjusted becomes. Acceptable values: 0 to 255. (Default: 128)
	1010-1	1014-1	1018-1	1022-1	1026-1	1030-1	1034-1	1038-1	Medium	
	1010-2	1014-2	1018-2	1022-2	1026-2	1030-2	1034-2	1038-2	High	
Magenta	1011-0	1015-0	1019-0	1023-0	1027-0	1031-0	1035-0	1039-0	Low	
	1011-1	1015-1	1019-1	1023-1	1027-1	1031-1	1035-1	1039-1	Medium	
	1011-2	1015-2	1019-2	1023-2	1027-2	1031-2	1035-2	1039-2	High	
Cyan	1012-0	1016-0	1020-0	1024-0	1028-0	1032-0	1036-0	1040-0	Low	
	1012-1	1016-1	1020-1	1024-1	1028-1	1032-1	1036-1	1040-1	Medium	
	1012-2	1016-2	1020-2	1024-2	1028-2	1032-2	1036-2	1040-2	High	
Black	1013-0	1017-0	1021-0	1025-0	1029-0	1033-0	1037-0	1041-0	Low	
	1013-1	1017-1	1021-1	1025-1	1029-1	1033-1	1037-1	1041-1	Medium	
	1013-2	1017-2	1021-2	1025-2	1029-2	1033-2	1037-2	1041-2	High	

**Note:**

Be sure that this adjustment be made after performing "3.6.1 Automatic gamma adjustment".

<Procedure>

Procedure is same as that of "3.6.2 Gamma balance adjustment".

### 3.6.4 Adjustment of smudged/faint text

The smudged/faint text at the Black Mode is adjusted.

<Adjustment Mode (05)>

Language		Remarks
PS	PCL	
654	655	When the value increases, the smudged text is improved. When the value decreases, the faint text is improved. Acceptable values: 0 to 9 (Default: 5)

<Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the codes to be adjusted and press the [START] button.
- (3) Key in the adjustment value. (To correct the value once keyed in, press [CLEAR] button.)
- (4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (5) For resetting the value, repeat step (2) to (4).
- (6) Let the equipment restart and perform printing job.
- (7) If the desired image has not been attained, repeat step (1) to (6).

### 3.6.5 Upper limit value at Toner Saving Mode

The upper limit value is adjusted at the Toner Saving Mode.

<Adjustment Mode (05)>

Black mode		Color mode				Remarks
PS	PCL	PS	PS	PCL	PCL	
		600x600dpi	1200x600dpi	600x600dpi	1200x600dpi	
664	665	1055	1056	1057	1058	The smaller the value is, the lighter the density of image becomes. Acceptable values: 0 to 255. (Default: 176)

<Procedure>

Procedure is same as that of "3.6.4 Adjustment of smudged/faint text".

### 3.6.6 Dot size adjustment in black printing

The dot size is adjusted in primary scanning direction in black printing.

<Adjustment Mode (05)>

Code	Remarks
663	The smaller the value is, the dot size becomes smaller. Acceptable values: 0 to 255. (Default: 255)

<Procedure>

Procedure is same as that of "3.6.4 Adjustment of smudged/faint text".

### 3.6.7 Maximum toner density adjustment to paper type

The maximum toner amount adhering to the paper can be controlled.

<Adjustment Mode (05)>

Code		Paper type	Remarks
PS	PCL		
1046-0	1046-1	Plain paper	The smaller the value is, the toner amount adhered decreases of the high density area (ex. prevention of fusing offsetting, etc). Acceptable values: 0 to 255. (Default: Plain paper: 255, Thick paper 1: 255, Thick paper 2: 255, Thick paper 3: 255, OHP film: 200)
1047-0	1047-1	Thick paper 1	
1048-0	1048-1	Thick paper 2	
1049-0	1049-1	Thick paper 3	
1050-0	1050-1	OHP film	

<Procedure>

Procedure is same as that of "3.6.2 Gamma balance adjustment".

#### Note:

The larger the value is, the more frequently fusing offsetting occurs.

### 3.6.8 Image processing: Gamma correction table all clearing

The state of calibration in color printing mode is initialized at the Setting Mode (08-597). This setting is to be performed when a defect occurs in "Automatic gamma adjustment (05-1000 to 1003)". The cause of defect is presumed as an image failure (jittering or uneven image density) at the patch chart for gamma adjustment.

## 3.7 Image Quality Adjustment (Scanning Function)

### 3.7.1 Gamma balance adjustment

The gamma balance at the Black Mode is adjusted by adjusting the density. The adjustment is performed by selecting its density area from the following: low density, medium density and high density.

<Adjustment Mode (05)>

Item to be adjusted	Original mode			Gray Scale mode	Remarks
	Black Text/Photo	Black Text	Black Photo		
Low density	880-0	881-0	882-0	883-0	The larger the value is, the density of the item to be adjusted becomes darker. Acceptable values: 0 to 255. (Default: 128)
Medium density	880-1	881-1	882-1	883-1	
High density	880-2	881-2	882-2	883-2	

<Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the code corresponding to the desired original mode and press the [START] button.
- (3) Key in the value corresponding to the density area to be adjusted (0, 1 or 2) and press the [START] button.  
0: Low density (L)    1: Medium density (M)    2: High density (H)
- (4) Key in the adjustment value. (To correct the value once keyed in, press [CLEAR] button.)
- (5) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (6) For resetting the value, repeat step (2) to (5).
- (7) Let the equipment restart and perform scanning job.
- (8) If the desired image has not been attained, repeat step (1) to (7).

### 3.7.2 Density adjustment (Black Mode)

Adjusts the center density and the variation of density adjustment buttons.

<Adjustment Mode (05)>

Color mode	Original mode			Item to be adjusted	Remarks
	Text/Photo	Text	Photo		
Black	845	846	847	Manual density center value	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)
	855	856	857	Manual density dark step value	The larger the value is, the darker the dark side becomes. Acceptable values: 0 to 255 (Default: 20)
	850	851	852	Manual density light step value	The larger the value is, the lighter the light side becomes. Acceptable values: 0 to 255 (Default: 20)
	860	861	862	Automatic density	The larger the value is, the darker the image becomes. Acceptable values: 0 to 255 (Default: 128)

#### <Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in a code and press the [START] button.
- (3) Key in an adjustment value (acceptable values: 0 to 255).  
(To correct the value once keyed in, press the [CLEAR] button.)
- (4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (5) Let the equipment restart and perform scanning job.
- (6) If the desired image has not been attained, repeat step (1) to (5).

### 3.7.3 Background adjustment (Gray Scale Mode)

The adjustment level of background center value and the control of background adjustment button are adjusted.

<Adjustment Mode (05)>

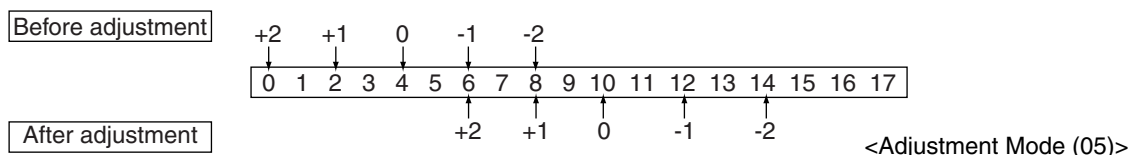
Code	Item to be adjusted	Remarks
848	Center value	The larger the value is, the background becomes darker. The smaller the value is, the background becomes lighter. Acceptable values: 0 to 255 (Default: 128)
858	Dark step value	The larger the value is, the image of the "dark" steps becomes darker. Acceptable values: 0 to 255 (Default: 20)
853	Light step value	The larger the value is, the image of the "light" steps becomes lighter. Acceptable values: 0 to 255 (Default: 35)

<Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the codes and press the [START] button.
- (3) Key in the adjustment values. Acceptable values : 0 to 255. (To correct the value once keyed in, press [CLEAR] button.)
- (4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (5) Let the equipment restart and perform scanning job.
- (6) If the desired image has not been attained, repeat step (1) to (5).

### 3.7.4 Background adjustment (Color Mode)

The adjustment level of background center value is adjusted. The control value of background adjustment button is automatically adjusted to the same level as the adjusted center value. For example, when the control value of background adjustment key ranges from 0 to 6, the background center value (-2 to +2) is used to be the range from 6 to 14 accordingly.



Code	Original mode	Remarks
1070	Text	The larger the value is, the background becomes lighter. Acceptable values: 0 to 50 (Default: 0)
1071	Printed Image	
1072	Photo	

<Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the codes and press the [START] button.
- (3) Key in the adjustment values. Acceptable values : 0 to 50. (To correct the value once keyed in, press [CLEAR] button.)
- (4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (5) Let the equipment restart and perform scanning job.
- (6) If the desired image has not been attained, repeat step (1) to (5).

### 3.7.5 Judgment threshold for ACS

The judgment level is adjusted for the automatic identification of whether the original set on the glass is black or color. Namely, this is to adjust the judgment level used when "Auto Color" is selected at color modes. The adjustment is available for both the manually-set original and the original used with the RADF.

<Adjustment Mode (05)>

Code	Item to be adjusted	Contents
1065	Judgment threshold for ACS when original is set manually	The larger the value is, the more an original tends to be judged as black even at the Auto Color Mode. The smaller the value is, the more it tends to be judged as color.
1066	Judgment threshold for ACS when original is set on RADF	Acceptable values: 0 to 255 (Default: 70)

<Procedure>

Procedure is same as that of "3.7.2 Density adjustment (Black Mode)".

### 3.7.6 Sharpness adjustment

If you want to make scan images look softer or sharper, perform the following adjustment. The adjustment can be made for each of the color modes and original modes independently.

<Adjustment Mode (05)>

Code	Color mode	Original mode	Contents
1086	Full Color	Text	<ul style="list-style-type: none"> <li>The larger the value is, the sharper the image becomes; while the smaller the value is, the softer the image becomes.</li> <li>The smaller the value is, the less moire tends to appear.</li> <li>The acceptable values are 0 to 31.</li> </ul> The center value is 16. However, 0 is equivalent to the center value.
1087		Printed Image	
1088		Photo	
840	Black	Text/Photo	
841		Text	
842		Photo	
843	Gray Scale	-	

**Note:**

You have to make adjustment by balancing between moire and sharpness.

<Procedure>

Procedure is same as that of "3.7.2 Density adjustment (Black Mode)".

### 3.7.7 Setting range correction

The values of the background peak / text peak in the range correction at the Black Mode can be switched to "varied" or "fixed" in the following codes.

If they are fixed, the range correction is performed with standard values.

The values of the background peak affects the reproduction of the background density and the values of the text peak affects that of the text density.

<Adjustment Mode (05)>

Black			Gray Scale	Item to be adjusted	Remarks															
Original mode																				
Text/Photo	Text	Photo																		
825	826	827	828	Range correction for original manually set on the original glass	The following are the default values set for each original mode. Photo/Text: 12, Text: 12, Photo: 12, Gray Scale: 12 Each digit stands for: Ones place: Automatic density mode															
830	831	832	833	Range correction for original set on the RADF	Tens place: Manual density mode The setting conditions possible are as follows: <table style="margin-left: 40px; border: none;"> <tr> <td></td> <td style="text-align: center;">Background peak</td> <td style="text-align: center;">Text peak</td> </tr> <tr> <td>1:</td> <td style="text-align: center;">fixed</td> <td style="text-align: center;">fixed</td> </tr> <tr> <td>2:</td> <td style="text-align: center;">varied</td> <td style="text-align: center;">fixed</td> </tr> <tr> <td>3:</td> <td style="text-align: center;">fixed</td> <td style="text-align: center;">varied</td> </tr> <tr> <td>4:</td> <td style="text-align: center;">varied</td> <td style="text-align: center;">varied</td> </tr> </table>		Background peak	Text peak	1:	fixed	fixed	2:	varied	fixed	3:	fixed	varied	4:	varied	varied
	Background peak	Text peak																		
1:	fixed	fixed																		
2:	varied	fixed																		
3:	fixed	varied																		
4:	varied	varied																		

<Procedure>

Procedure is same as that of "3.7.2 Density adjustment (Black Mode)".

### 3.7.8 Setting range correction (Adjustment of background peak)

The levels of the background peak for the range correction at the Black Mode can be set at the following codes.

<Adjustment Mode (05)>

Black			Gray Scale	Item to be adjusted	Remarks
Original mode					
Text/Photo	Text	Photo			
835	836	837	838	Background peak for range correction	When the value increases, the background (low density section) of the image is not output. Acceptable vales: 0 to 255 (Default: Text/Photo: 56, Text: 64, Photo: 48, Gray Scale: 48)

<Procedure>

Procedure is same as that of "3.7.2 Density adjustment (Black Mode)".



### 3.7.9 Fine adjustment of black density

The density of black side on scanned image is adjusted at color-scanning.

<Adjustment Mode (05)>

Code	Original mode	Remarks
1075	Text	The larger the value is, the black side of the image becomes darker. Acceptable values: 0 to 4 (Default: 0)
1076	Printed Image	
1077	Photo	

#### Note:

Be careful for the value not to be too large since the gradation is reproduced worse in darker side.

#### <Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the codes and press the [START] button.
- (3) Key in the adjustment values. Acceptable values : 0 to 4. (To correct the value once keyed in, press [CLEAR] button.)
- (4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (5) Let the equipment restart and perform scanning job.
- (6) If the desired image has not been attained, repeat step (1) to (5).

### 3.7.10 RGB conversion method selection

The color space conversion method of image is decided at color-scanning.

<Adjustment Mode (05)>

Code	Original mode	Remarks
1080	Text	0: sRGB 1: AppleRGB 2: ROMMRGB 3: AdobeRGB (Default: 0)
1081	Printed Image	
1082	Photo	

#### <Procedure>

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the codes and press the [START] button.
- (3) Key in the adjustment values. Acceptable values : 0 to 3. (To correct the value once keyed in, press [CLEAR] button.)
- (4) Press the [ENTER] or [INTERRUPT] button to store the value in memory. → The equipment goes back to the ready state.
- (5) Let the equipment restart and perform scanning job.
- (6) If the desired image has not been attained, repeat step (1) to (5).

### 3.7.11 Reproduction ratio of primary scanning direction (black)

The reproduction ratio of primary scanning direction with the resolution other than 600 dpi is adjusted in Scanning Function for black image.

<Adjustment Mode (05)>

Code	Remarks
884	When the value increases, the image is zoomed in. When the value decreases, the image is zoomed out. Acceptable values: 0 to 255 (Default: 128) * 0.1%/step

<Procedure>

Procedure is same as that of "3.7.2 Density adjustment".

### 3.7.12 Reproduction ratio of primary scanning direction (color)

The reproduction ratio of primary scanning direction with the resolution other than 600 dpi is adjusted in Scanning Function for color image.

<Adjustment Mode (05)>

Code	Remarks
1060	When the value increases, the image is zoomed in. When the value decreases, the image is zoomed out. Acceptable values: 0 to 255 (Default: 128) * 0.1%/step

<Procedure>

Procedure is same as that of "3.7.2 Density adjustment".

## 3.8 High-Voltage Transformer Setting

### 3.8.1 General description

The high-voltage transformers (PS-HVT-350) supply high-voltage to the parts related to charging, development, transfer and drum cleaning.

The high-voltage transformer has the following high-voltage outputs.

- CH1: Main charger wire
- CH2: Main charger grid bias
- CH3: Color developer bias
- CH4: Black developer bias
- CH5: 1st transfer roller bias
- CH6: 2nd transfer roller bias
- CH7: Cleaning blade bias

#### Note:

Make sure not to lose the data sheets which are attached to the high-voltage transformers. Use these sheets for the following setting.

Never move the fixed volumes of resistors since output adjustment is performed when the devices are shipped.

### 3.8.2 Setting at the replacement of high-voltage transformer

After replacing a high-voltage transformer, be sure to enter the data shown on the data sheets (main charger grid bias, color/black developer bias and 1st/2nd transfer roller bias) noted above according to the following procedure.

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Key in the adjusting codes in the table below and press the [START] button.
- (3) Key in the adjusting value corresponding to each code on the attached sheets, and then press [ENTER] or [INTERRUPT].

<Adjustment Mode (05)>		
Adjusting code	Item to be adjusted	Adjusting value
334	Main charger grid bias lower limit value	Refer to the data sheets
335	Main charger grid bias upper limit value	
338	Color developer bias lower limit value	
339	Color developer bias upper limit value	
372	Black developer bias lower limit value	
373	Black developer bias upper limit value	
250	1st transfer roller bias lower limit value	
251	1st transfer roller bias upper limit value	
252	2nd transfer roller bias lower limit value (+)	
253	2nd transfer roller bias upper limit value (+)	

- (4) Key in all the codes in the above table by repeating (2) and (3).
- (5) Turn the power OFF.

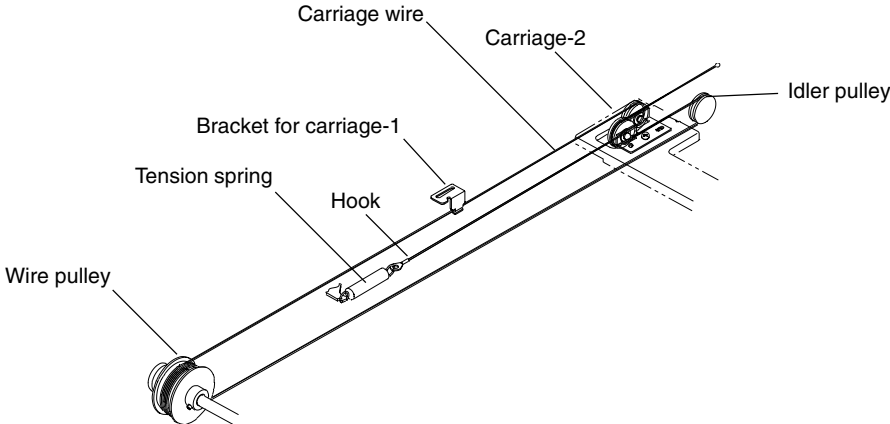
### 3.9 Adjustment of the Scanner Section

#### 3.9.1 Carriages

(1) Installing carriage wires

When replacing the carriage wires, refer illustrations below:

[Front side]



[Rear side]

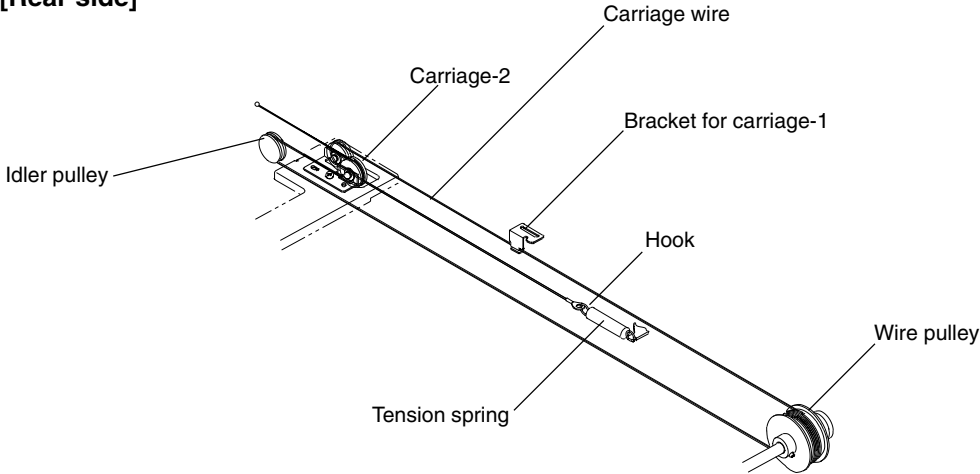


Fig. 3-901

Adjustment of the carriage wire tension is not necessary since a certain tension is applied to the carriage wires by the tension springs.

**Note:**

Make sure the tension applied to the wire is normal.

(2) Adjusting carriages-1 and -2 positions

- a. Move the carriage-2 toward the exit side.
- b. Loosen the screws fixing the front side pulley bracket, make the sections A and B of the carriage-2 touch with the inside of the exit side frame and screw them up.

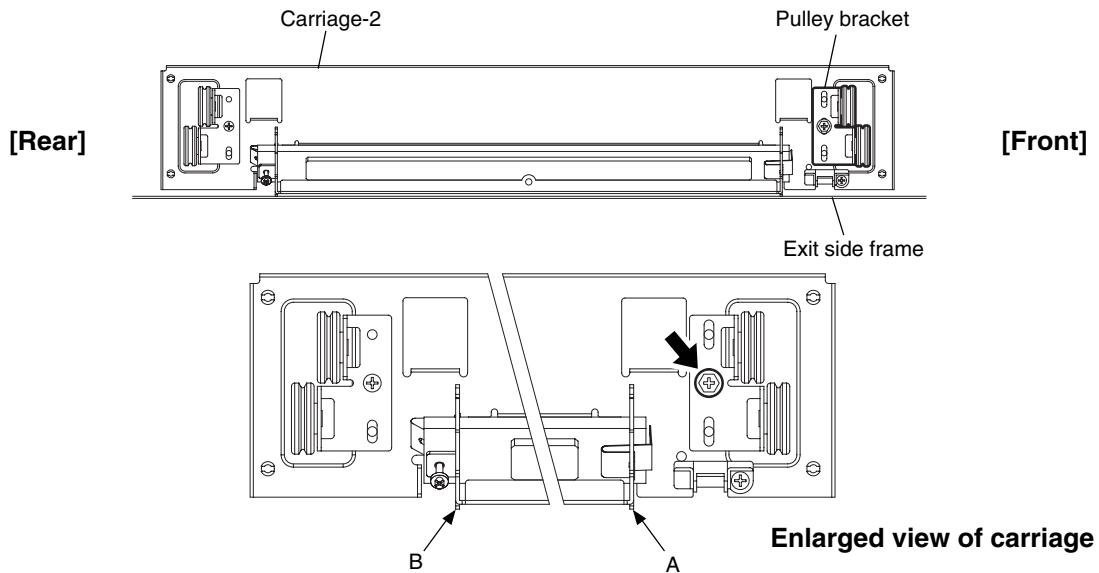


Fig. 3-902

- c. Put the carriage-1 on the rail, make the sections C and D of it touch with the inside of the exit frame and screw up the front/rear side of the bracket to fix it.

**Note:**

Make sure that the sections A and B of the carriage-2 touch with the exit side frame.

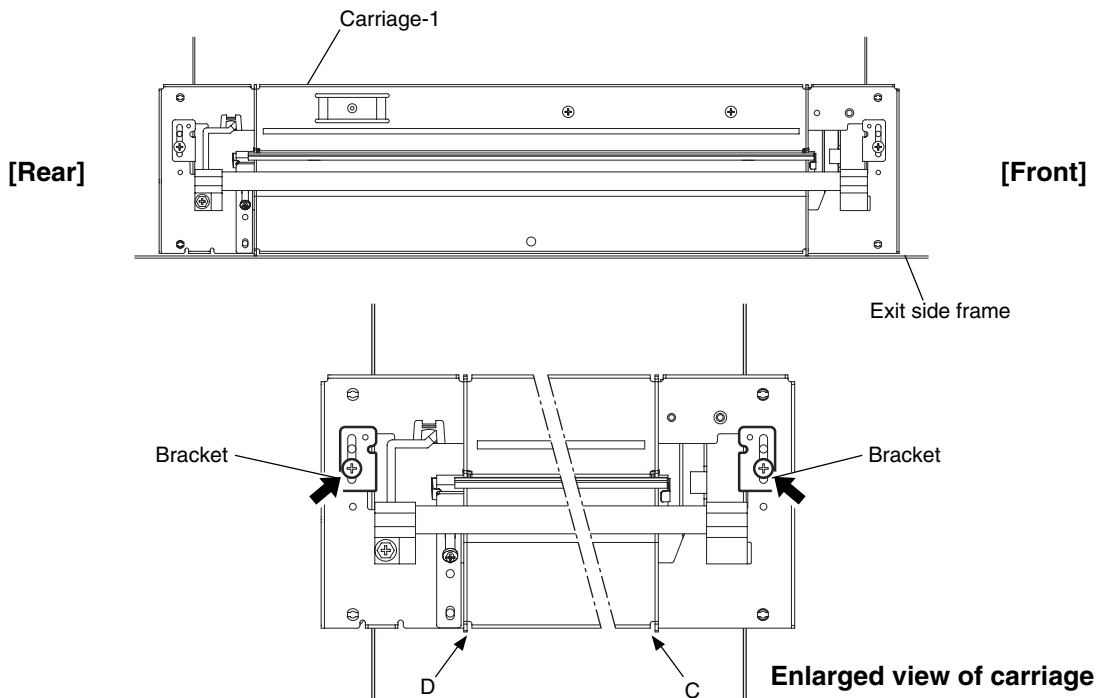


Fig. 3-903

### (3) Assembling carriage wires

#### Winding the wire around the wire pulley:

- a. Pull the  $\varnothing 3$  ball terminal located at the center of the wire into a hole on the wire pulley. One end of the wire with a hook attached comes to the outside.
- b. Wind the wires around the wire pulleys of the front and rear sides. The number of turns to be wound are as follows:
  - 2 turns toward the opposite side of the boss
  - 4 turns toward the boss side

#### **Notes:**

Pay attention to the followings when the wires are wound around the pulleys:

- Do not twist the wire.
- Wind the wires tightly so that they are in complete contact with the surface of the pulleys.
- Each turn should be pushed against the previously wound turn so that there is no space between them.

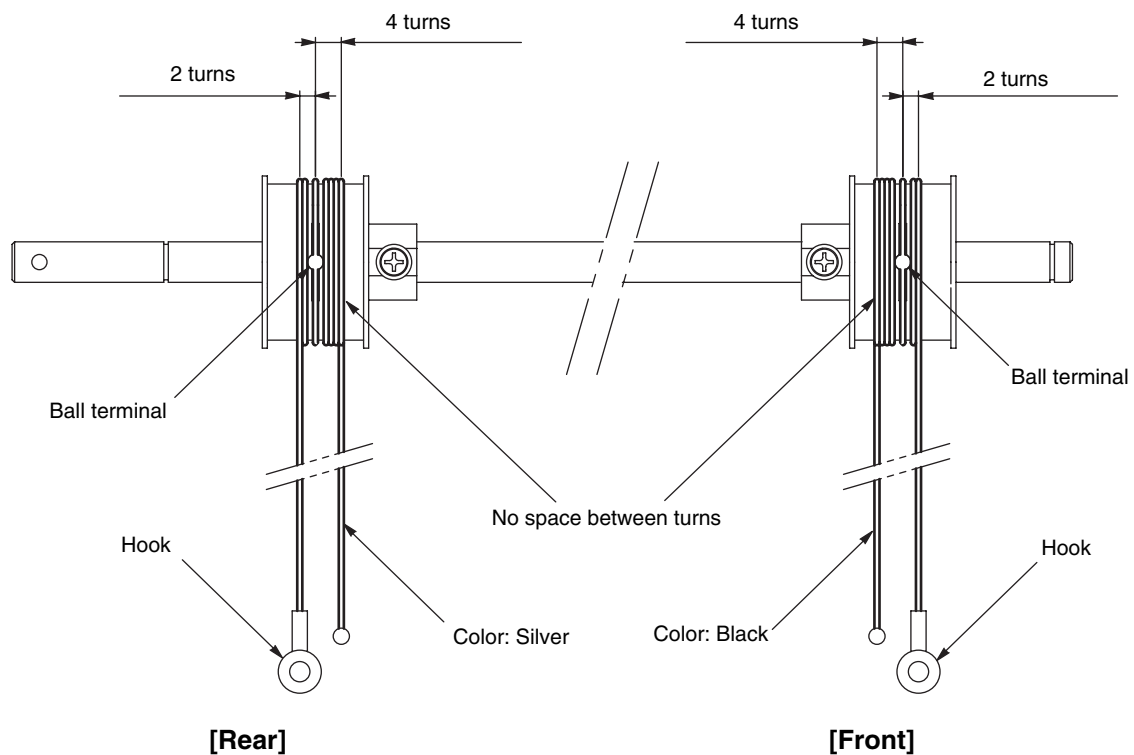
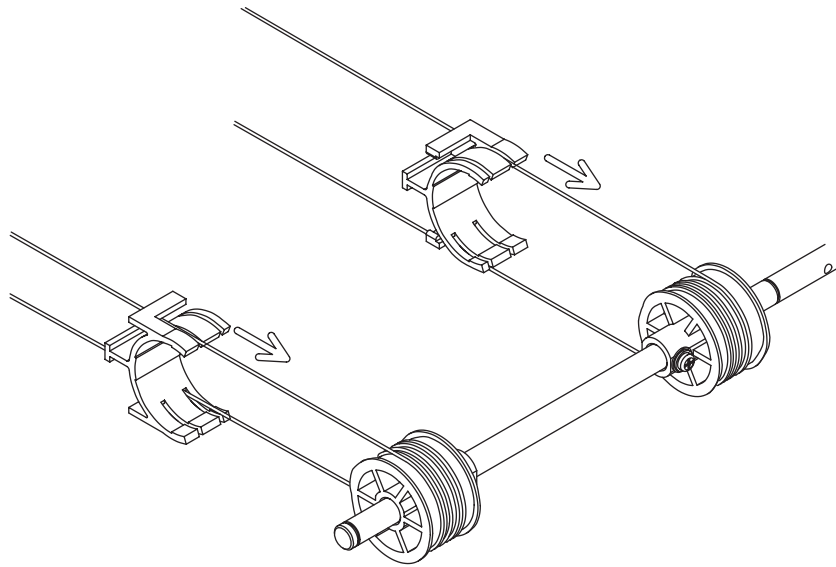


Fig. 3-904

c. After winding the wires around the pulleys, attach the wire holder jigs not to loosen the wires.

**Notes:**

1. When the wire holder jig is attached, make sure that the wire is not shifted or loosened.
2. The wire should come out of the slot of the wire holder jig and be passed under the arm of it.



**Fig. 3-905**

### 3.9.2 Lens unit

#### (1) Replacing the lens unit

- The lens unit must not be readjusted and some part of its components must not be replaced in the field since the unit is precisely adjusted. If any of the components is defective, replace the whole unit.
- When replacing the unit, do not loosen or remove the 4 screws indicated with the arrows.

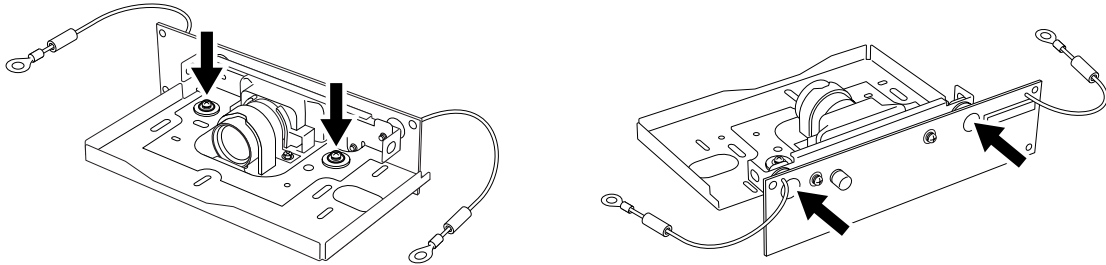


Fig. 3-906

- Handle the unit with care. Do not hold the lens and adjusted part (hold the unit as shown below).

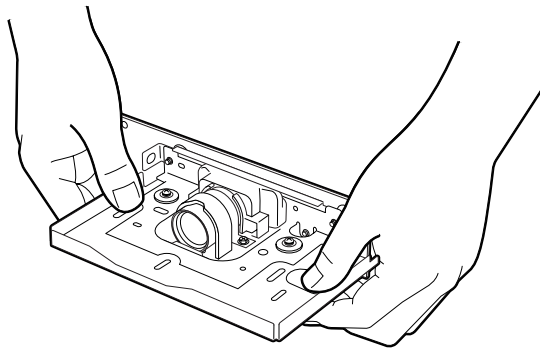


Fig. 3-907



(2) Installation of lens unit

Follow the procedure below when installing and replacing the lens unit.

<Procedure>

1. Attach the lens unit and fix it temporarily with 2 screws.
2. Match the center scale of the plate in which the unit is to be installed and the rightmost scale of the adjusting hole on the lens unit plate.

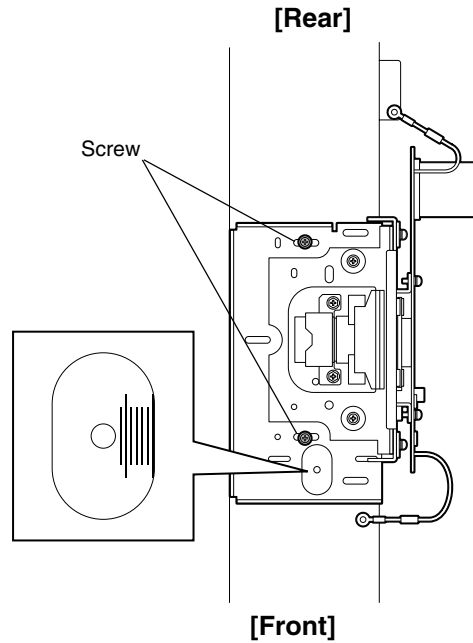


Fig. 3-908

3. Tighten 5 screws securely to fix the lens unit while pushing it to the rear side and fix 2 ground wires with the screws.

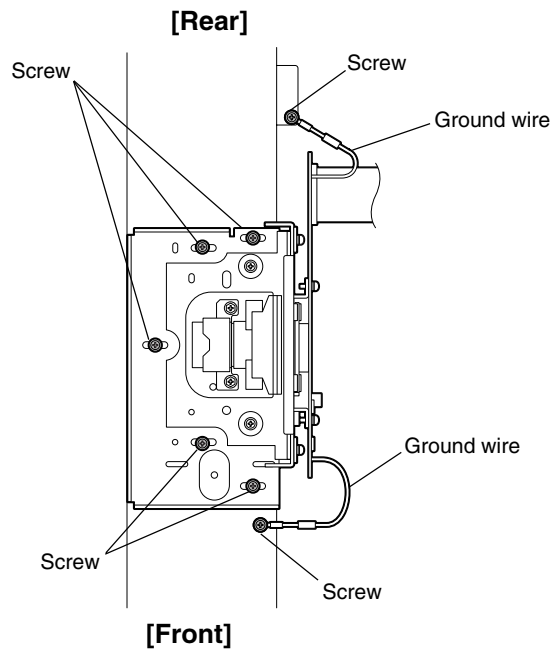


Fig. 3-909

## 3.10 Adjustment of the Paper Feeding System

### 3.10.1 Sheet sideways deviation caused by paper feeding

<Procedure>

- The center of the printed image shifts to the front side. → Move the guide to the front side (Arrow (A) direction in the lower figure).
- The center of the printed image shifts to the rear side. → Move the guide to the rear side (Arrow (B) direction in the lower figure).

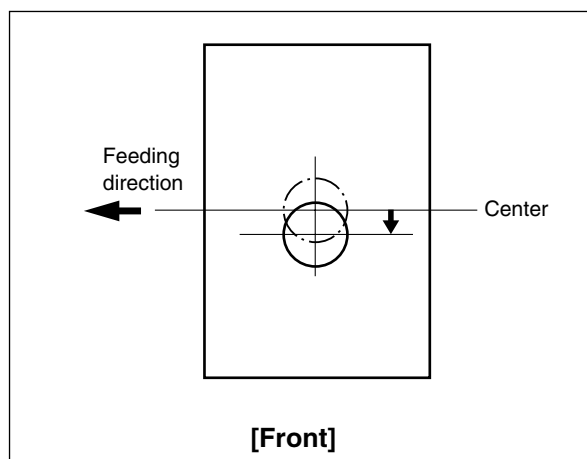


Fig. 3-1001

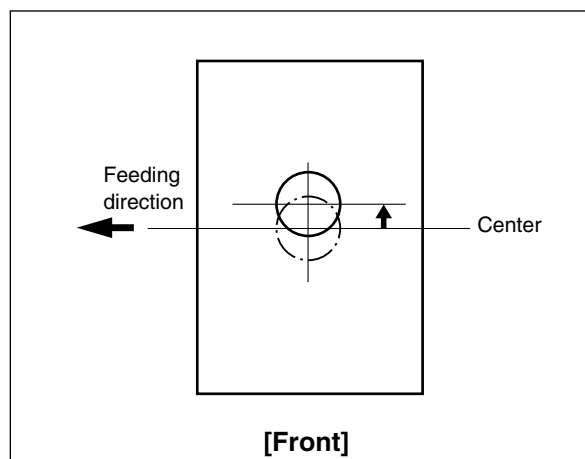


Fig. 3-1002

- Bypass feeding

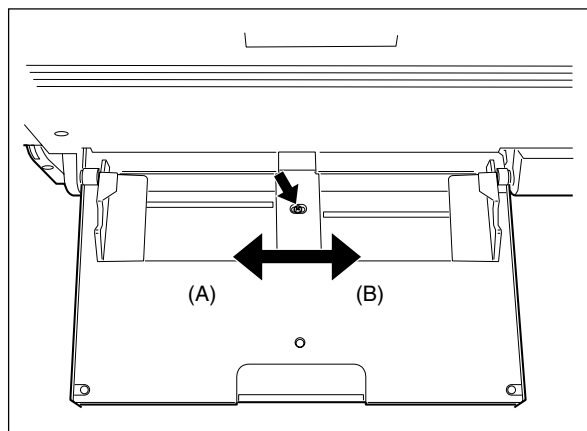


Fig. 3-1003

- Drawer feeding

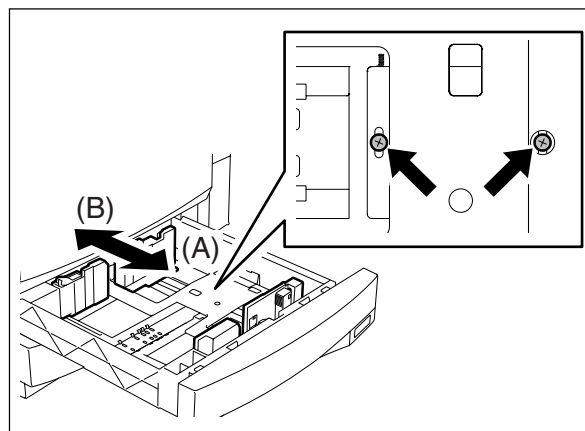


Fig. 3-1004

## 3.11 Adjustment of the Developer Unit

### 3.11.1 Doctor-to-sleeve gap (black developer unit)

Adjustment tool to use: Doctor-sleeve jig

Adjusting procedure:

- (1) Take off the black developer unit from the equipment.
- (2) Remove 2 screws and take off the developer material cover. Then discharge the developer material.

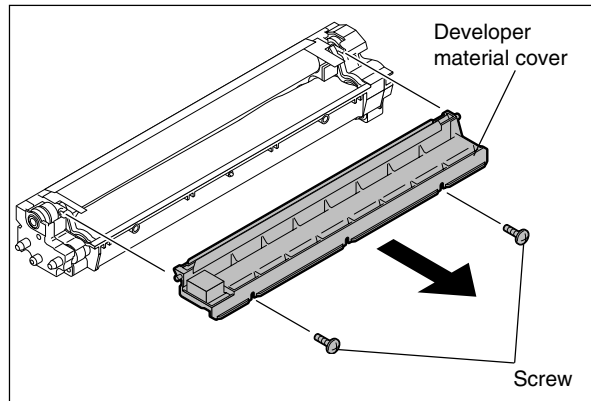


Fig. 3-1101

- (3) Remove 2 screws and take off the doctor blade cover.

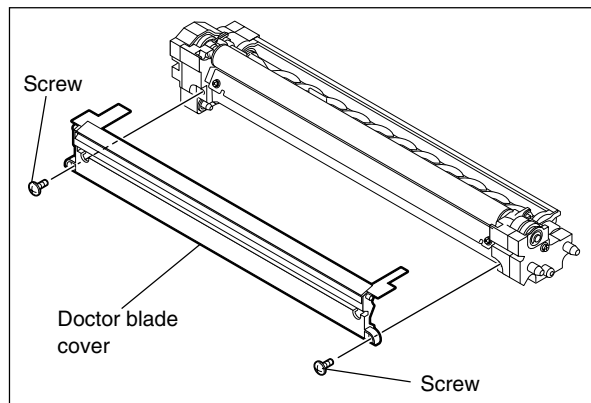


Fig. 3-1102

- (4) Loosen 2 doctor blade fixing screws. Insert the gauge "0.55" of the doctor sleeve jig between the developer sleeve and doctor blade to adjust the gap, and tighten the screws.

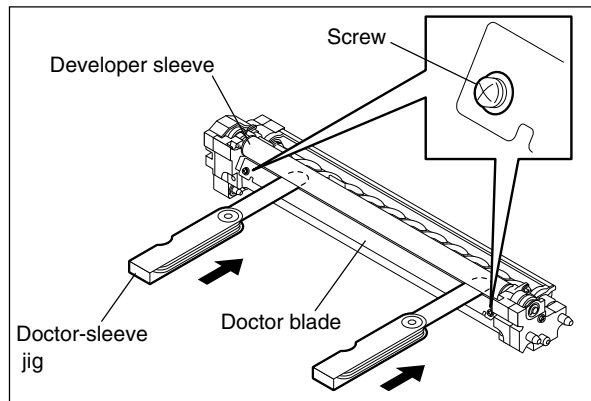


Fig. 3-1103

- (5) Insert the gauge “0.50” of the doctor-sleeve jig into the gap between the developer sleeve and doctor blade and make sure that the gauge can move smoothly in the front/rear direction. In addition, confirm that the gauge “0.60” cannot be inserted into the gap.

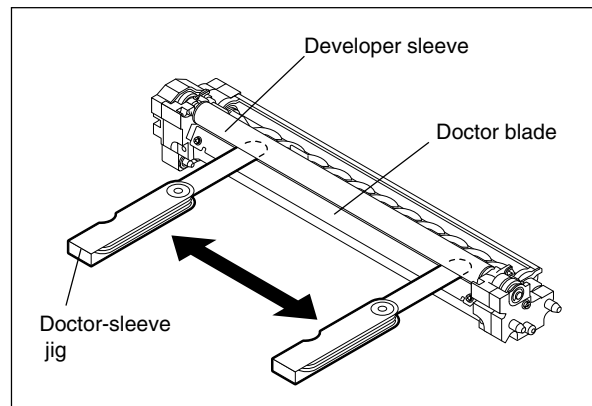


Fig. 3-1104

**Notes:**

1. When confirming and adjusting the gap between the developer sleeve and the doctor blade, insert the gauges into the gap after rotating the developer sleeve so that its marking faces the doctor blade.
2. While reattaching the black developer unit cover, set the latches securely.

**3.11.2 Doctor-to-sleeve gap (color developer unit)**

Adjustment tool to use : Doctor-sleeve jig

Adjusting procedure:

- (1) Take off the color developer unit from the equipment.
- (2) Remove 2 screws and take off the developer material cover. Then discharge the developer material.

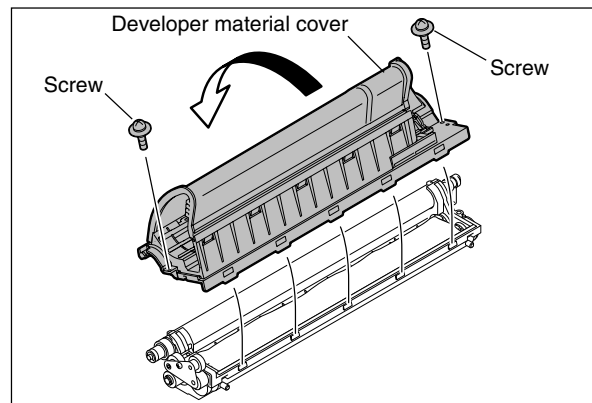


Fig. 3-1105

- (3) Remove 4 screws and the toner-scattering prevention seal holder.

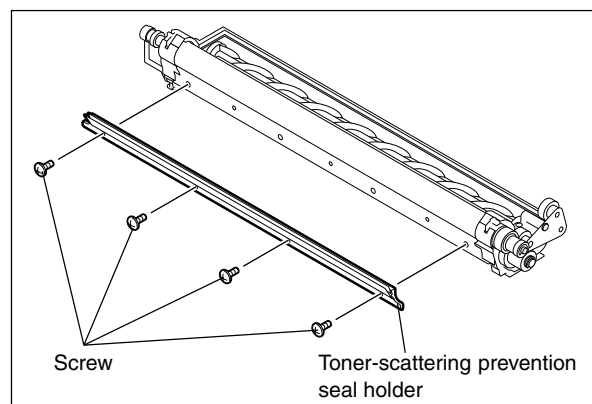


Fig. 3-1106

- (4) Loosen 2 doctor blade fixing screws. Insert the gauge "0.55" of the doctor-sleeve jig between the developer sleeve and doctor blade to adjust the gap, and tighten the screws.

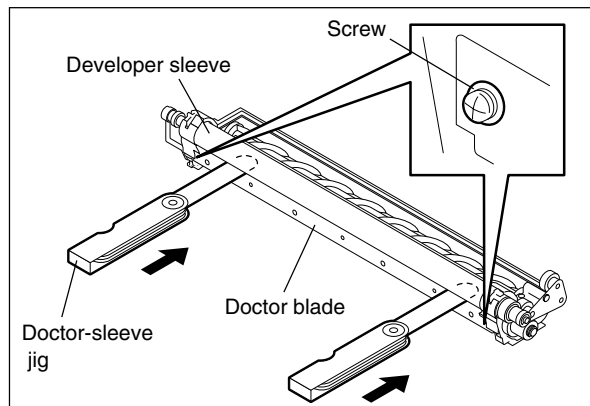


Fig. 3-1107

- (5) Insert the gauge "0.50" of the doctor-sleeve jig into the gap between the developer sleeve and doctor blade and make sure that the gauge can move smoothly in the front/rear direction. In addition, confirm that the gauge "0.60" cannot be inserted into the gap.

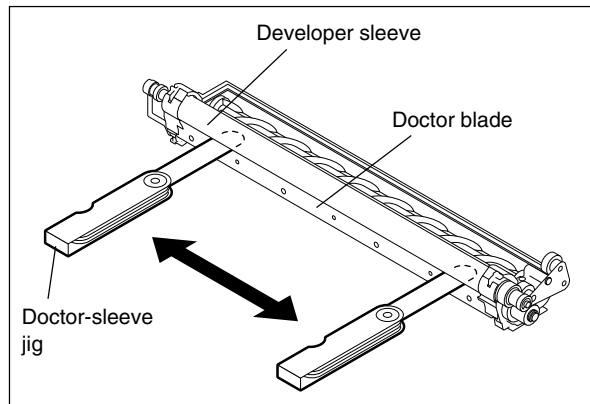


Fig. 3-1108

**Notes:**

1. When confirming and adjusting the gap between the developer sleeve and the doctor blade, insert the gauges into the gap after rotating the developer sleeve so that its marking faces the doctor blade.
2. While reattaching the color developer unit cover, set the latches securely.

## 3.12 Adjustment of the RADF (MR-3015)

### 3.12.1 Adjustment of RADF position

It is mainly performed at the installation. It is also required when the RADF is dislocated for some reason such as moving the equipment.

Remove the platen sheet during adjustment.

- (1) Open the RADF and then attach 2 positioning pins to the equipment.  
(The positioning pins have been attached at the rear of the right-hand hinge of the RADF.)

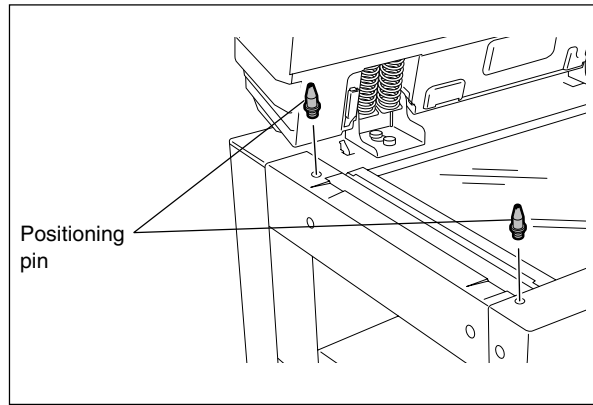


Fig. 3-1201

- (2) Close the RADF to check that the positioning pins fit smoothly into the holes on the RADF.  
If they do not, adjust them according to the following procedure.

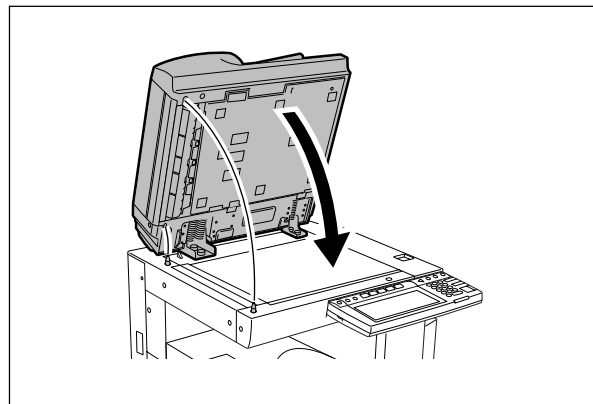


Fig. 3-1202

- (3) Loosen the stepped screw 1 turn and 2 screws on the adjustment plate a half turn (status of temporary fixing).

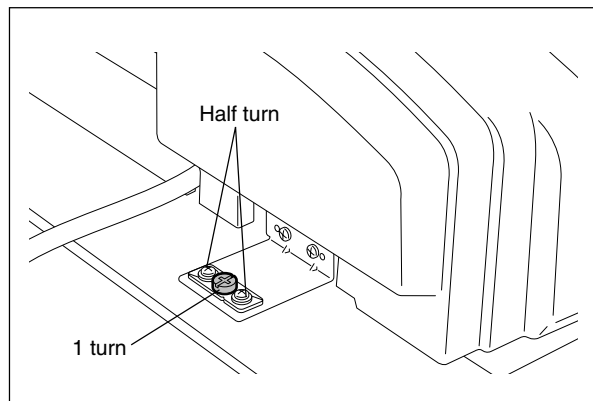


Fig. 3-1203

- (4) Remove the stepped screw at the rear of right-hand hinge.

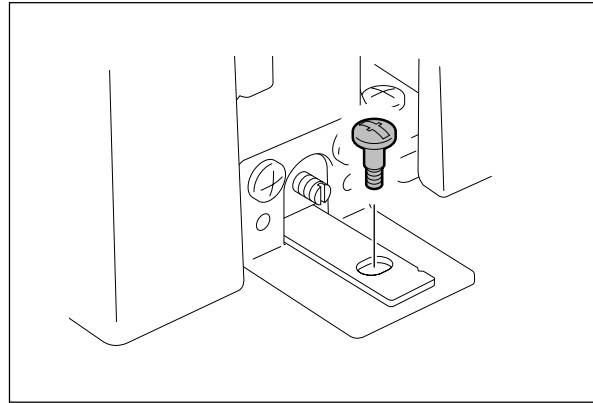


Fig. 3-1204

- (5) Open the RADF, and then loosen 2 hand screws 1 turn (status of tentative fixing).

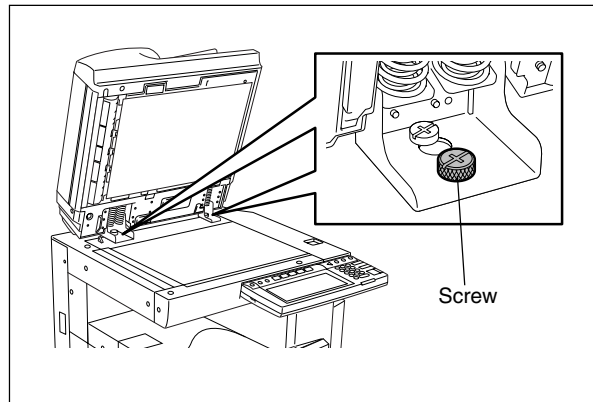


Fig. 3-1205

- (6) Remove the positioning pin at the front side. Close the RADF to fit the positioning pin into the hole at the rear side of the RADF. While peering inside from the front side, fit the positions of the pin and hole by moving the RADF right and left.

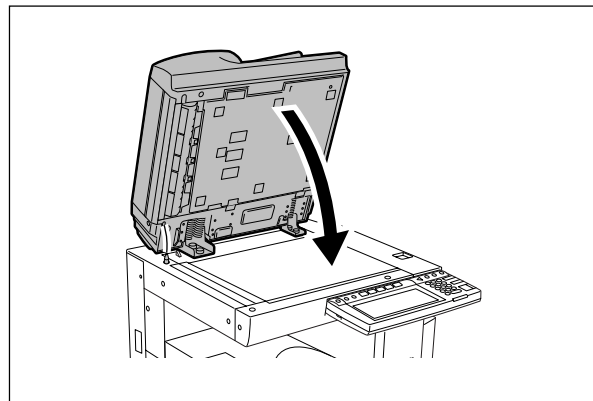


Fig. 3-1206

- (7) Tighten the positioning pin at the front side. Close the RADF to fit the positioning pin into the hole at the front side of the RADF. (For the front side, adjust the RADF position all around.)

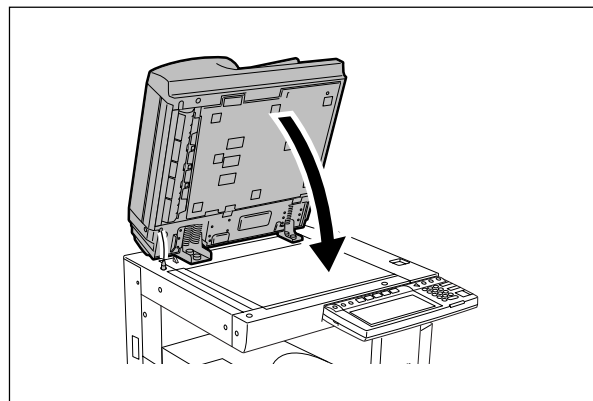


Fig. 3-1207

- (8) While peering inside from the left side, close the RADF. Check the positions of the holes of the RADF and pins and then fit their positions by moving the RADF back and forth. (For the front side, also adjust the RADF position right and left.) Make sure not to dislocate the positions of the pin and hole at the rear side.

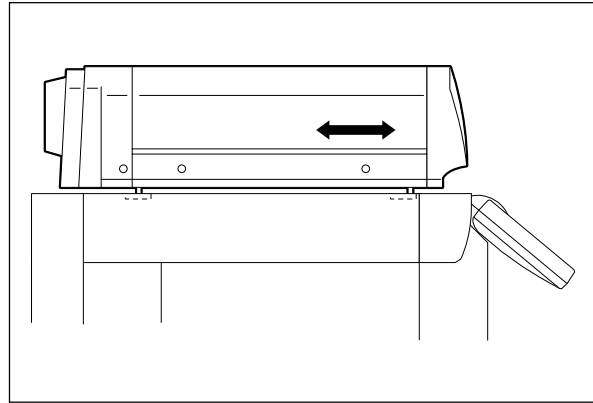


Fig. 3-1208

- (9) Open the RADF to tighten 2 hand screws. Close the RADF and then check again that the positioning pins fit smoothly into the holes on the RADF.

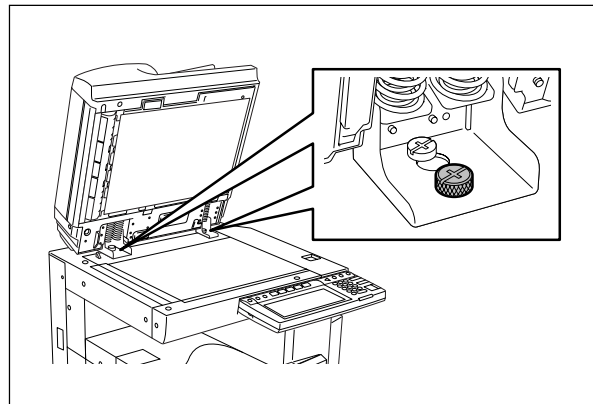


Fig. 3-1209

- (10) Fit the hinge hole into the hole of the equipment at the rear right of the RADF to tighten the stepped screw. If they do not fit, adjust the position of the hole by turning the screw of the adjustment plate.

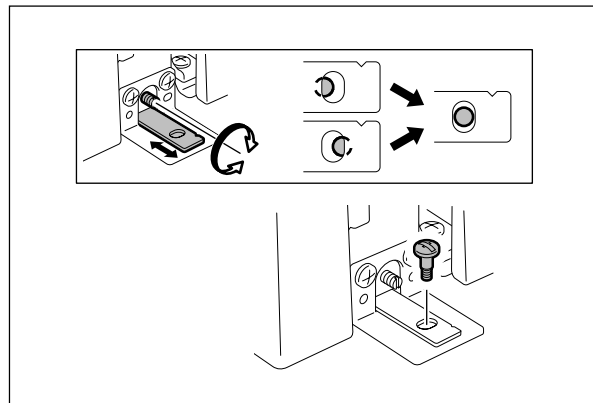


Fig. 3-1210

- (11) Tighten the stepped screw and 2 screws on the adjustment plate. Open and close the RADF to check again that the positioning pins fit smoothly into the holes on the RADF. Remove the positioning pins after checking it. (Replace the positioning pins at the rear of the right-hand hinge of the RADF.)

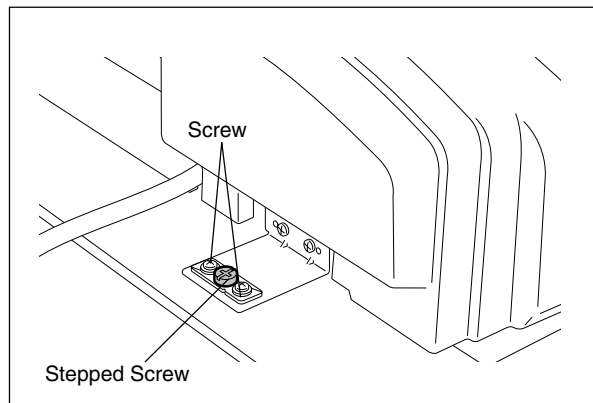


Fig. 3-1211



- (12) Place the platen sheet on the original glass with the semi round cutout toward you. Align the platen sheet against the left and rear side of the original glass. Close the RADF slowly. Open the RADF to check that the platen sheet is correctly attached.

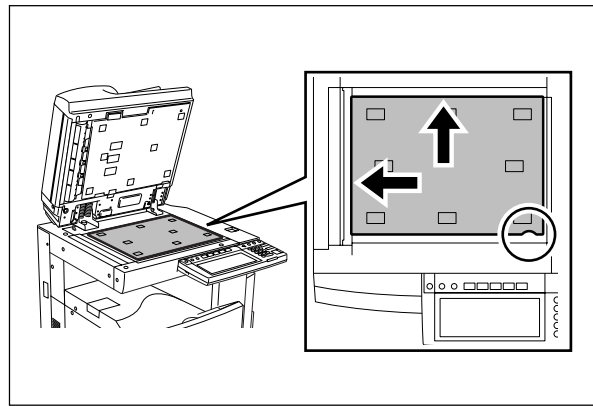


Fig. 3-1212

### 3.12.2 Adjustment of RADF height

It is mainly performed at the installation. It is also required when the RADF is dislocated for some reason such as moving the equipment.

Perform the following adjustment by using the screw of the left and right hinge.

#### Note:

Perform this adjustment after “3.12.1 Adjustment of RADF position”.

Turn the exposure lamp ON during the gap check. (Test Mode: 03-267)

Adjustment standard:

Adjust the height so that the platen guide front holder touches the ADF original glass.

Adjust the height so that the gap between the platen guide rear holder and the ADF original glass becomes  $0.5 \text{ mm} \pm 0.3$ .

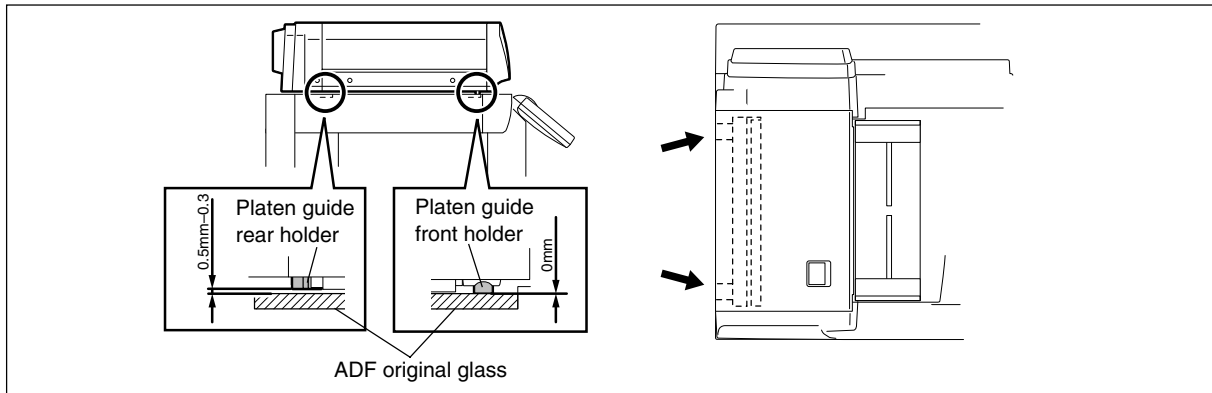


Fig. 3-1213

Adjust the height by turning the height adjusting screw on the left hinge.

Clockwise: The height of the hinge becomes high.

Counterclockwise: The height of the hinge becomes low.

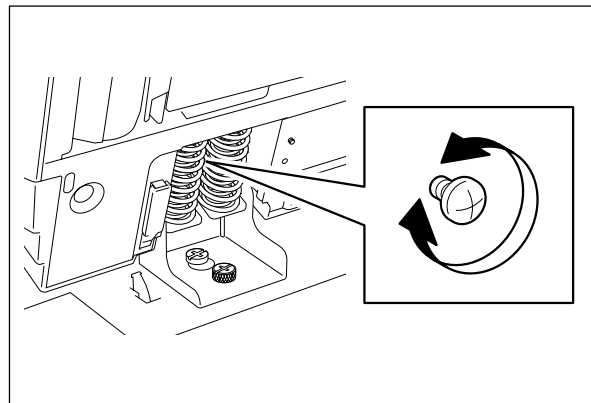


Fig. 3-1214

Adjust the height by turning the height adjusting screw on the right hinge.

Clockwise: The height of the hinge becomes high.

Counterclockwise: The height of the hinge becomes low.

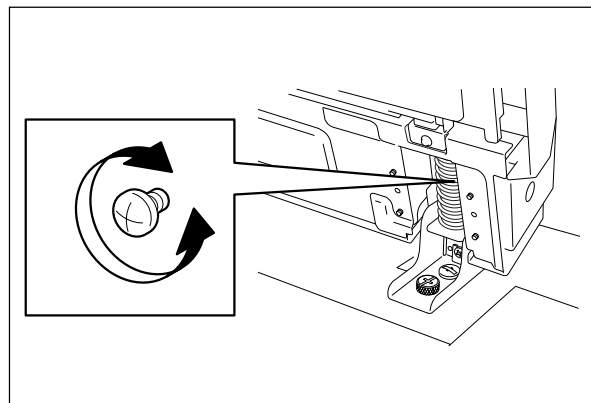


Fig. 3-1215

### 3.12.3 Adjustment of skew

When an image skew occurs, adjust it according to the following steps, Step 1 → Step 2 → Step 3.

#### Note:

Perform this adjustment after confirming that the equipment has been adjusted properly. Prior to this adjustment, of RADF position and height are needed to be adjusted.

#### Step 1

Case A: Adjust the aligning adjustment position to the rear side “-” of the original (▶ Chapter 3.12.5).

Case B: Adjust the aligning adjustment position to the rear side “+” of the original (▶ Chapter 3.12.5).

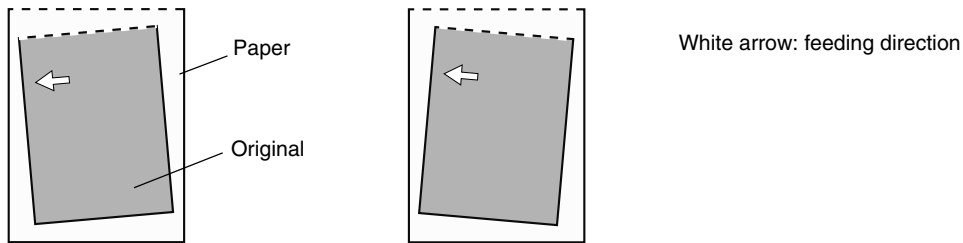


Fig. 3-1216

#### Step 2

Case C: Loosen the fixing screw and hand screw of the right side hinge and then turn the adjustment screw counterclockwise.

Case D: Loosen the fixing screw and hand screw of the right side hinge and then turn the adjustment screw clockwise.

#### Note:

When adjusting, refer to the hinge position (scribed line) and be sure not to move it from the hinge position  $\pm 0.5$  mm or further. Otherwise, image failures such as a jitter may occur.

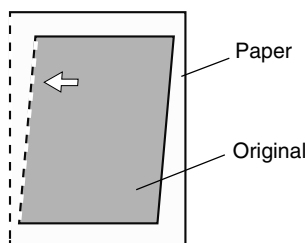


Fig. 3-1217

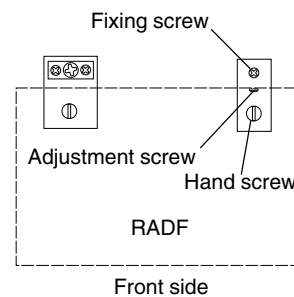


Fig. 3-1218

### Step 3

Case E: Adjust the reverse aligning adjustment position to the rear side “-” of the original (▶ Chapter 3.12.6).

Case F: Adjust the reverse aligning adjustment position to the rear side “+” of the original (▶ Chapter 3.12.6).

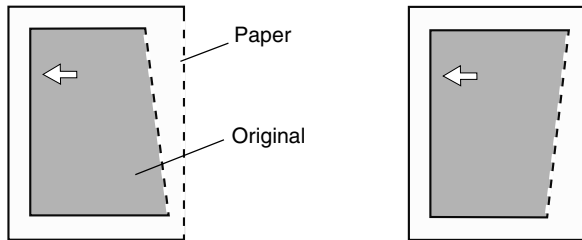


Fig. 3-1219

### 3.12.4 Automatic adjustment of sensors and initialization of EEPROM

When any of the PC board, original length sensor, read sensor, reverse sensor is replaced with a new one, make sure to perform the initialization of EEPROM and adjustment of sensors in the Adjustment Mode (05).

Perform them after removing all originals on the sensor and closing the RADF.

Also, make sure to adjust the tray volume when the initialization of EEPROM and automatic sensor adjustment have been performed.

Refer to “2.2.4 Adjustment Mode (05)” for the details.

Errors such as paper jamming may occur if the EEPROM is not initialized and the sensors are not adjusted after the above mentioned parts were replaced.

### 3.12.5 Adjustment of aligning

Adjust the aligning according to Step 1 of 3.12.3.

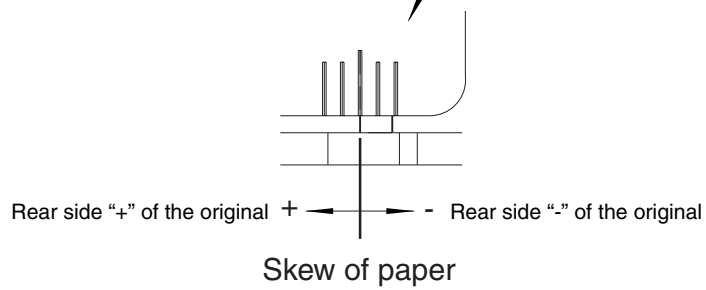
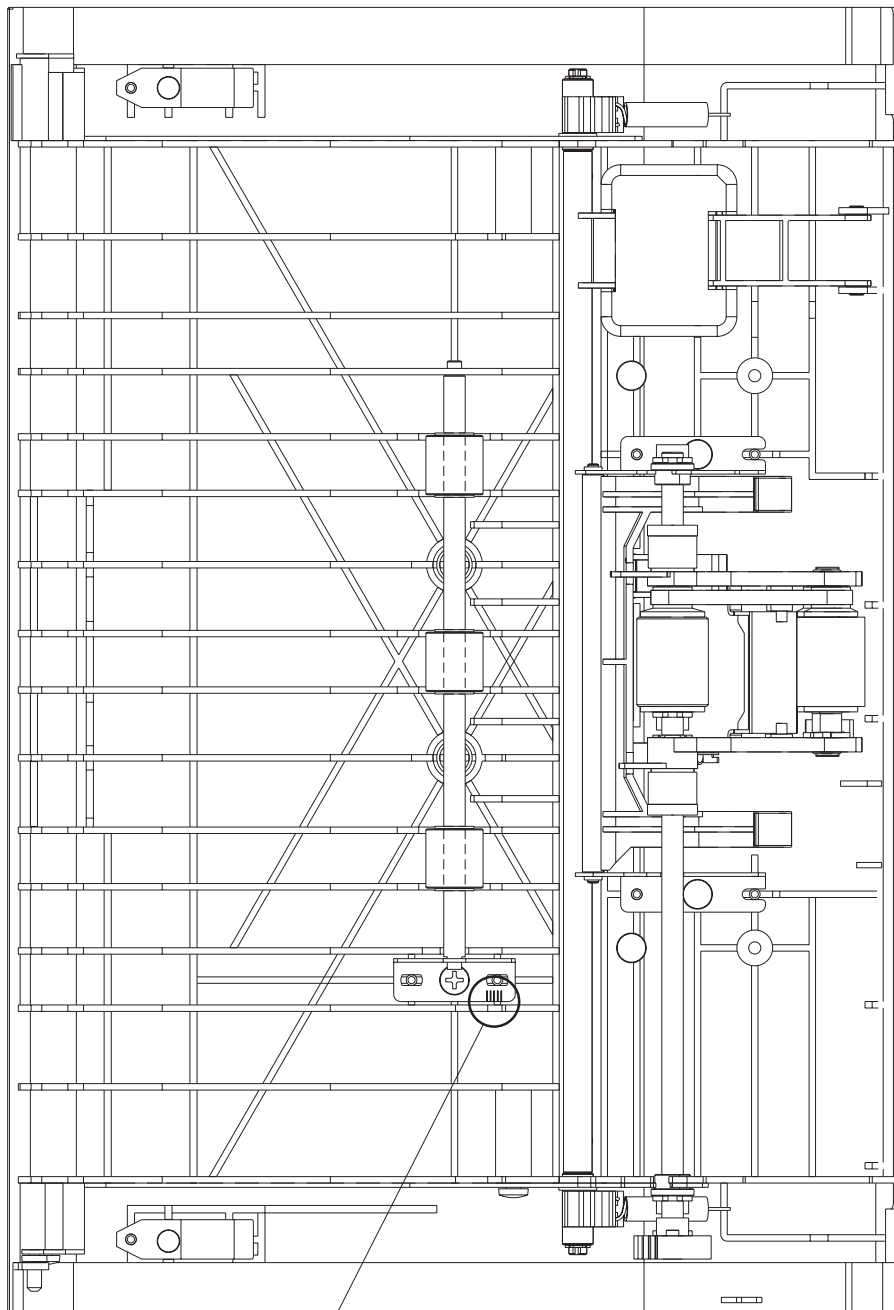


Fig. 3-1220

### 3.12.6 Adjustment of aligning at reversing

Adjust the aligning according to Step 3 of 3.12.3.

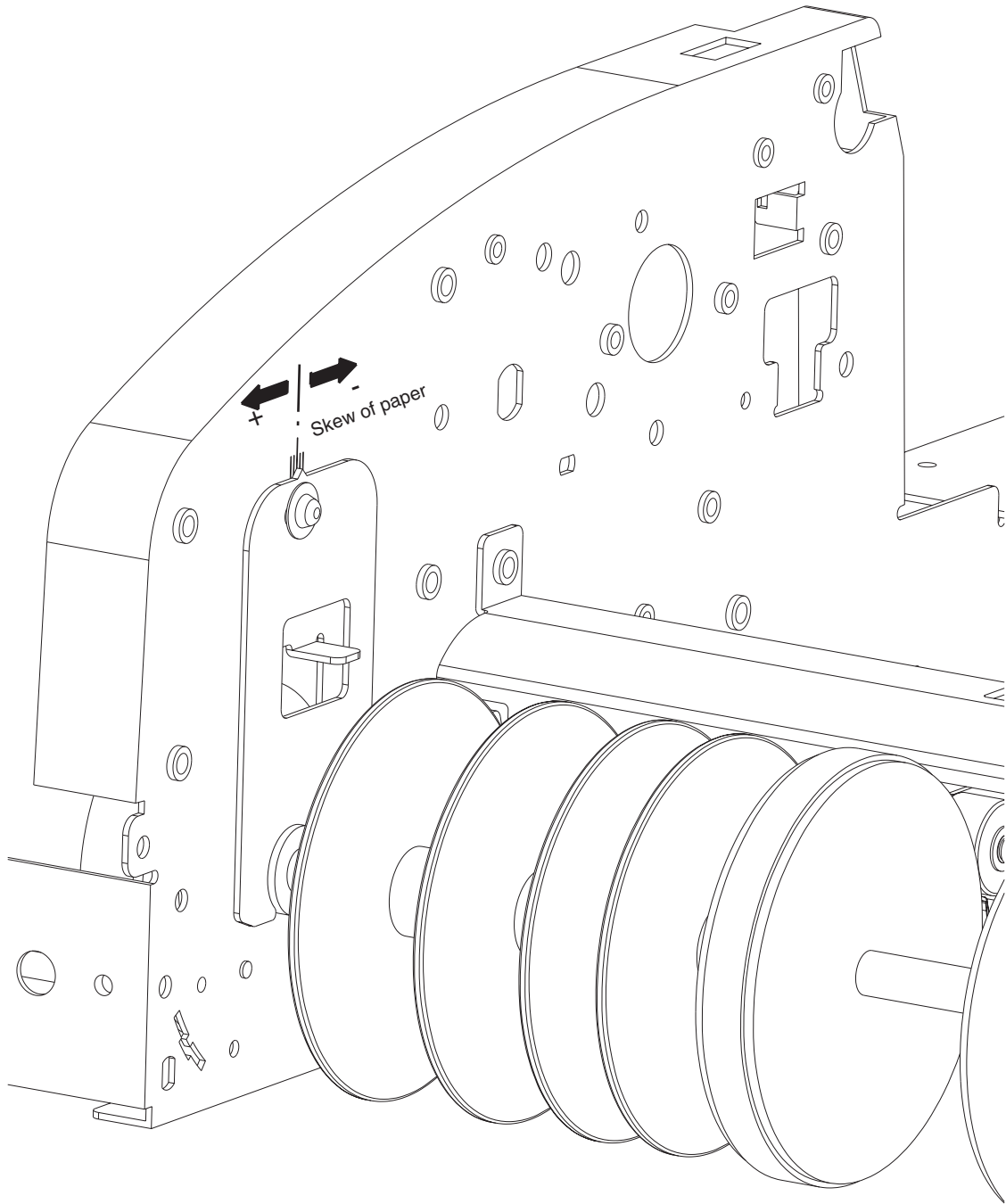


Fig. 3-1221

### 3.12.7 Adjustment of reverse solenoid

When operating the reverse solenoid, adjust it if the position of the flapper lever is out of the following dimension.

Gap between A of the front frame and the flapper lever "C": 0.5 mm to 2.0 mm

#### Adjusting procedure

- (1) Remove the screw on the left and take off the plate spring.

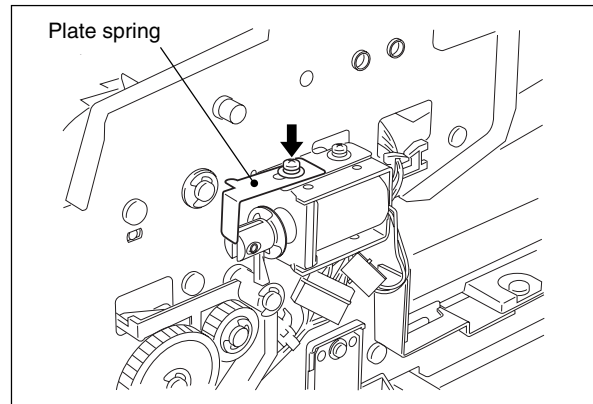


Fig. 3-1222

- (2) Align B of the front frame with the edge of the reverse solenoid, and temporarily fix the reverse solenoid with the screw on the right.

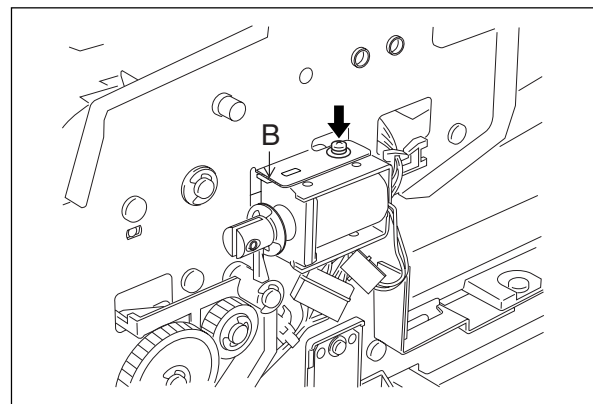


Fig. 3-1223

- (3) While the plunger of the reverse solenoid is put in the position to be turned ON (by pressing it in the direction of an arrow), loosen the screw on the right to adjust the reverse solenoid so that the gap (C) between A of the front frame and the flapper lever is 0.5 mm to 2.0 mm.

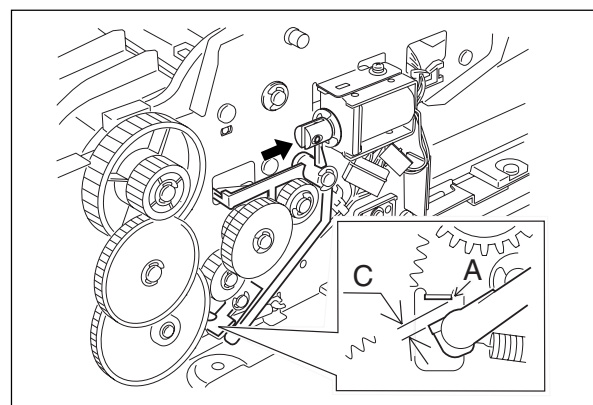


Fig. 3-1224

- (4) Fix the plate spring temporarily with the screw on the left. Then press the plate spring slightly in the direction of an arrow and tighten the screw in the position where the gap (D) between the plunger and the flapper lever is eliminated.

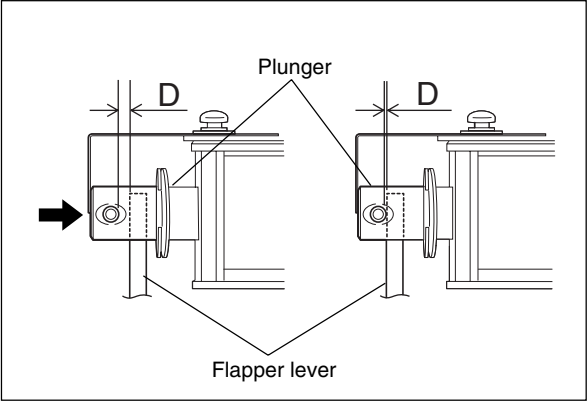


Fig. 3-1225



### 3.12.8 Adjustment of RADF opening/closing switch

Adjust the bracket position so that the switch is turned ON when the height A becomes 40-45 mm (within the empty weight falling limit).

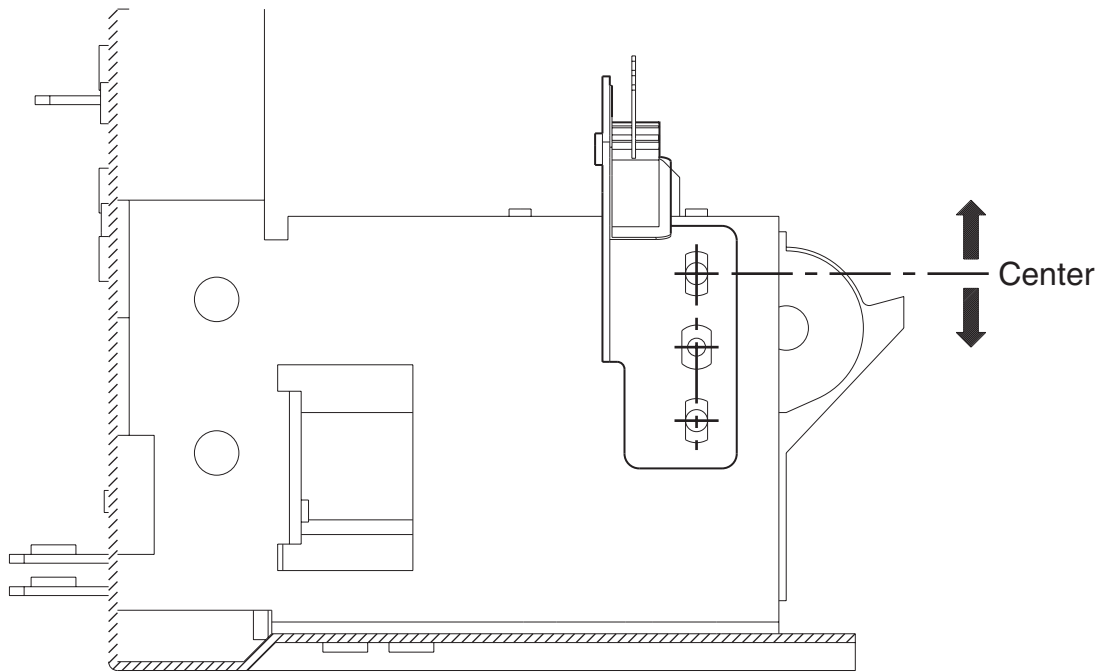
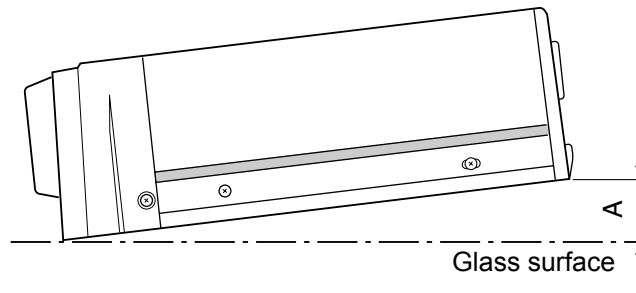


Fig. 3-1226

### 3.12.9 Adjustment of RADF opening/closing sensor

Adjust the bracket position so that the sensor is turned ON when the height A becomes 30-35 mm (within the empty weight falling limit).

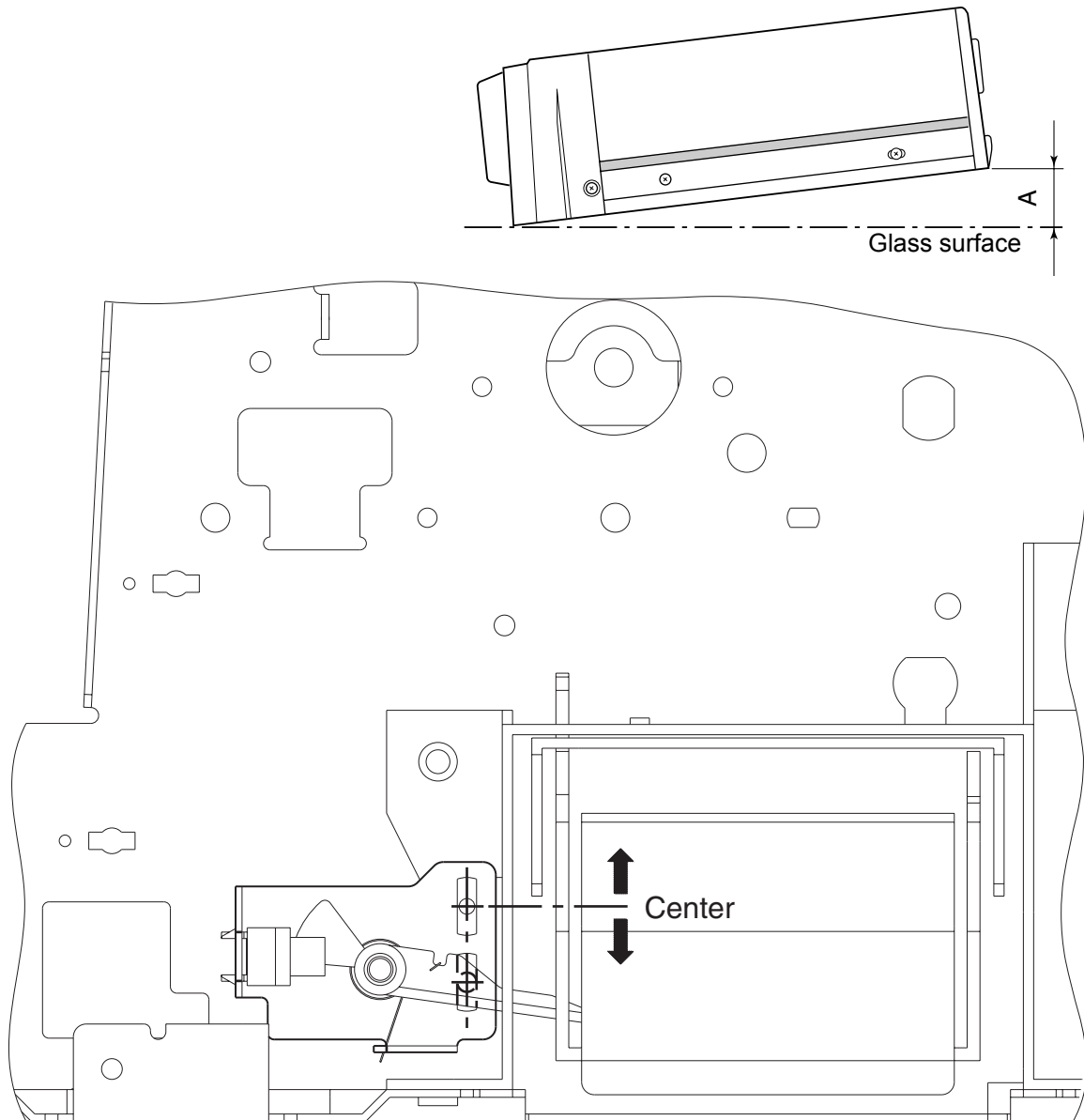


Fig. 3-1227

### 3.12.10 Adjustment of tray volume

Adjust in the adjustment mode (05).

- (1) While pressing [0] and [5] simultaneously, turn the power ON.
- (2) Narrow the original guide to the limit.
- (3) Input the code "367".
- (4) Press the [START] button.

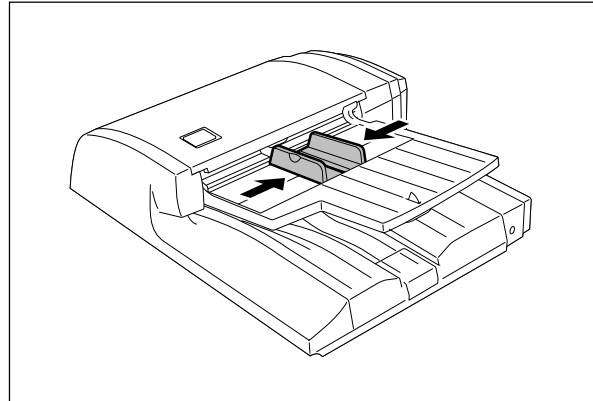


Fig. 3-1228

- (5) Extend the original guide to the limit.
- (6) Input the code "368".
- (7) Press the [START] button
- (8) Turn the power OFF.

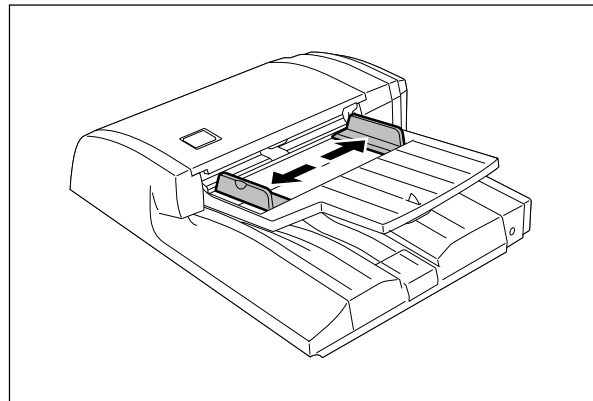


Fig. 3-1229

### 3.13 Adjustment of the Finisher (MJ-1022)

#### 3.13.1 Adjusting the jogging plate width

- (1) Remove the right inner cover and the rear cover.
- (2) Adjust the front jogging plate to the home position.

① Set SW1 on the finisher controller PC board as shown in Fig. 3-1301.

② Press SW2 twice on the finisher controller PC board.

- The front jogging plate moves to the home position.

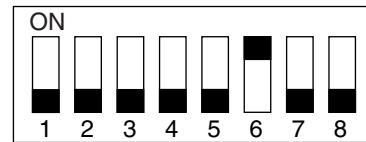


Fig. 3-1301

- (3) Adjust the rear jogging plate to the home position.

① Set SW1 on the finisher controller PC board as shown in Fig. 3-1302.

② Press SW2 twice on the finisher controller PC board.

- The rear jogging plate moves to the home position.

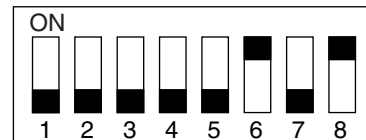


Fig. 3-1302

Rear jogging plate home position

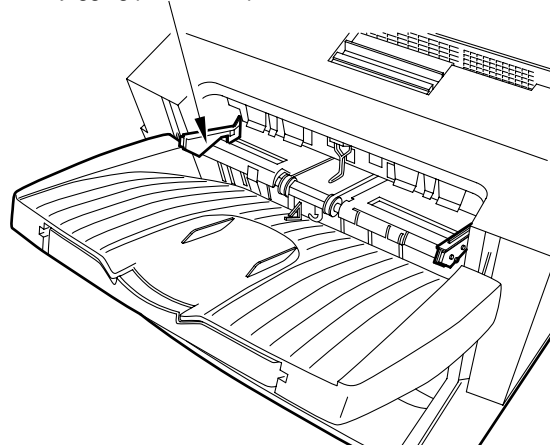


Fig. 3-1303

- (4) Measure the jogging width (standard at 317 mm).
- (5) Remove the processing tray.
- (6) Loosen the screw on the home position sensor plate at the front.

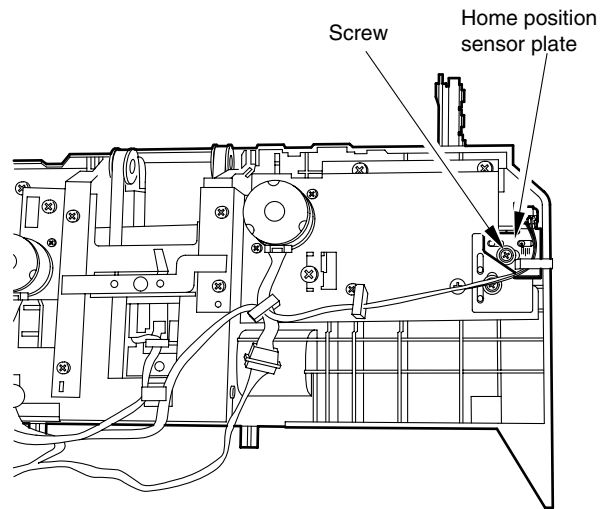


Fig. 3-1304

- (7) Adjust the position of the front jogging plate home position sensor (S6) with reference to the index.

EX. 1

If the width is 319 mm in step (2), the difference from the standard is +2 mm, it requires relocation of the sensor [3] in the direction of arrow A by 2 mm.

EX. 2

If the width is 316 mm in step (2), the difference from the standard is -1 mm; it requires relocation of the sensor [3] in the direction of arrow B by 1 mm.

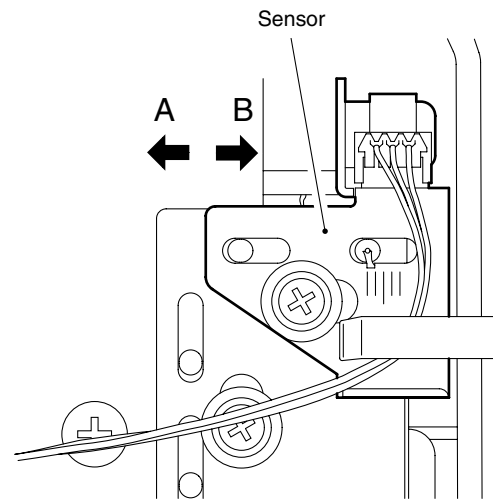


Fig. 3-1305

### 3.13.2 Adjusting the angle of the jogging plate

- (1) Without removing the processing tray unit, loosen the 2 mounting screws of the rear jogging plate.

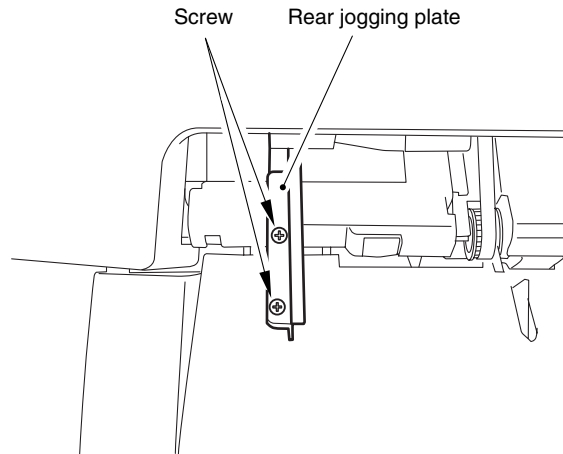


Fig. 3-1306

- (2) Place several sheets of A4/LT paper on the processing tray, and adjust the rear jogging plate. (At this time, adjust the gap between the paper and the front end of the rear jogging plate so that it is 0 mm to 0.5 mm.)

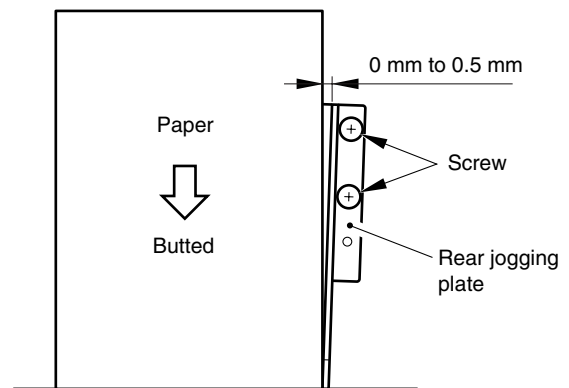


Fig. 3-1307

- (3) With reference to the rear jogging plate adjusted in step (2), adjust the front jogging plate in the same manner.

### 3.13.3 Adjusting the overlap of the sensor flag

If the overlap between the sensor and the flag is wrong for some reason, perform the following adjustment.

- (1) Remove the processing tray unit.
- (2) Loosen the mounting screw of the front/rear jogging plate adjusting plate; then, move the adjusting plate to the left and the right.

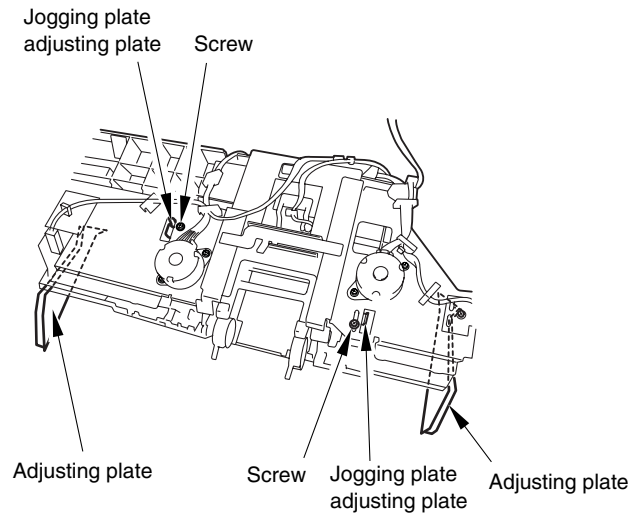


Fig. 3-1308

- (3) Tighten the screw so that the overlap between the flag of the front/rear jogging rack plate and the sensor is 1.5 mm to 2.0 mm.

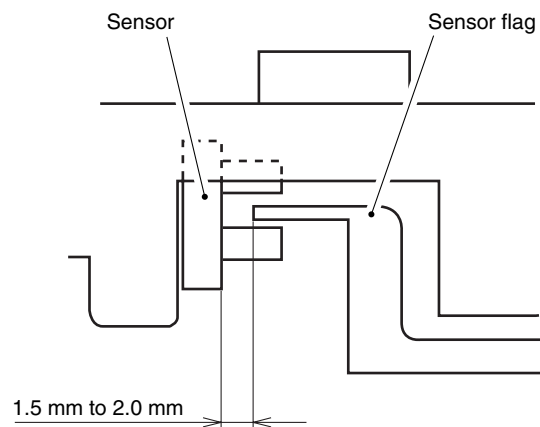


Fig. 3-1309

### 3.13.4 Adjusting the tension of the stack processing motor belt

- (1) Remove the right inner cover and the rear cover.
- (2) Remove the 2 mounting screws, and detach the grip unit.

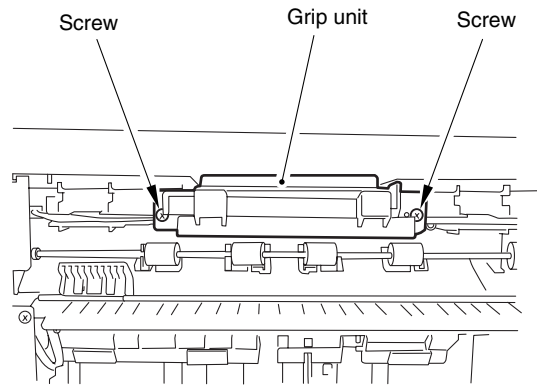


Fig. 3-1310

- (3) Loosen the screw on the tension arm plate.  
(The tension arm plate will be pulled under tension by the tension spring.)

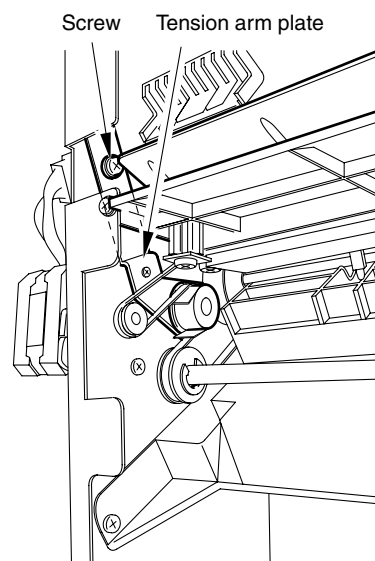


Fig. 3-1311



- (4) Move the returning roller shaft to its lower limit (the slack of a belt is lightly taken); then, tighten the screw on the tension arm plate.

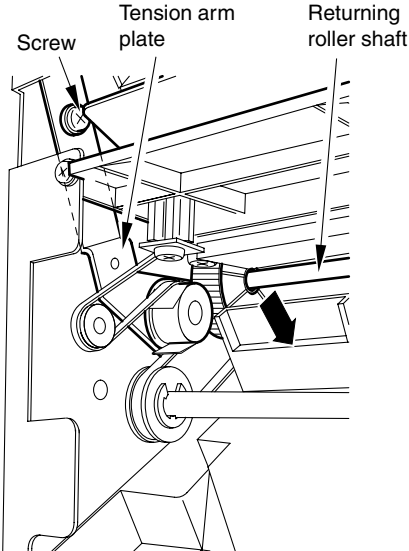


Fig. 3-1312

- (5) Check to make sure that the returning roller shaft moves smoothly.

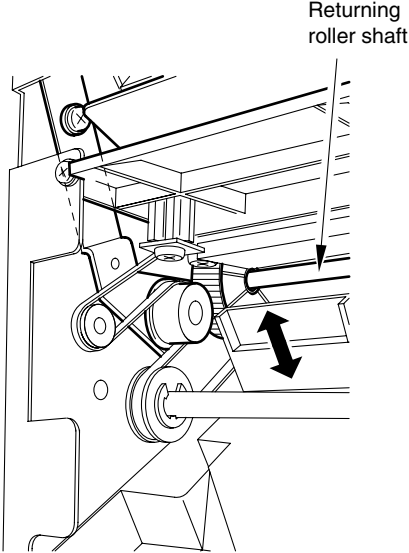


Fig. 3-1313

### 3.13.5 Releasing the stack tray guide lever fixing plate

- (1) Remove the right inner cover and the rear cover.
- (2) Remove the finisher control PC board, PC board bracket and sensor PC board.
- (3) Remove the stack tray.
- (4) Remove the stack tray drive unit.
- (5) Place the stack tray guide lever fixing plate so that it is in view through the hole in the side plate (front, rear). Then remove the fixing screw. (Perform the same for the front and the rear.)

**Note:**

When removing the mounting screw, be sure to hold the stack tray guide lever up from below.

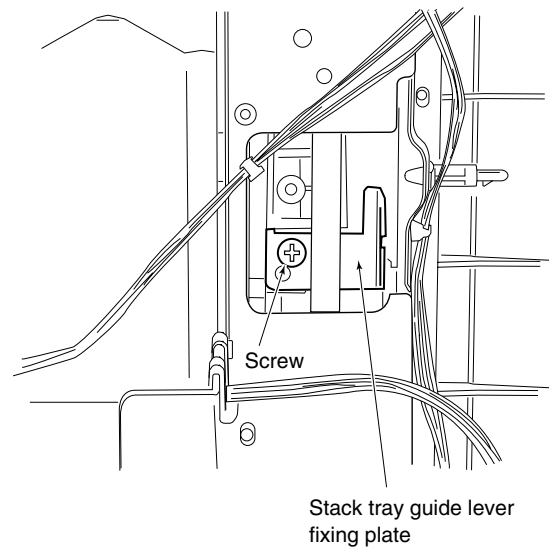


Fig. 3-1314

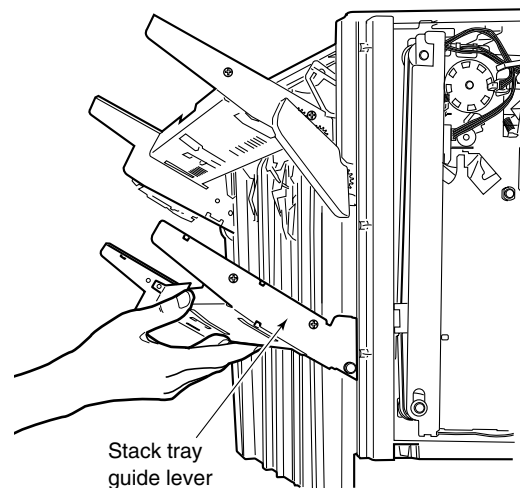


Fig. 3-1315

### 3.13.6 Adjustment of the upper tray angle

- (1) Remove the front cover.

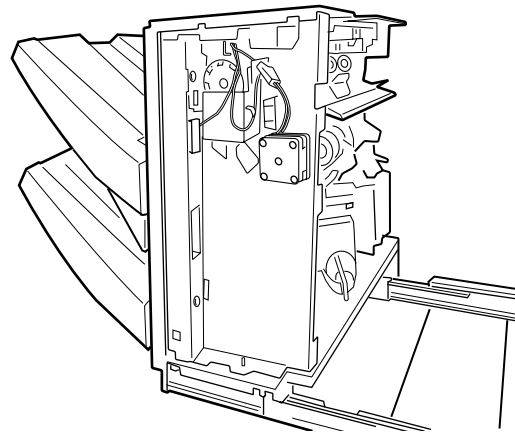


Fig. 3-1316

- (2) Loosen the screw denoted with the arrow.

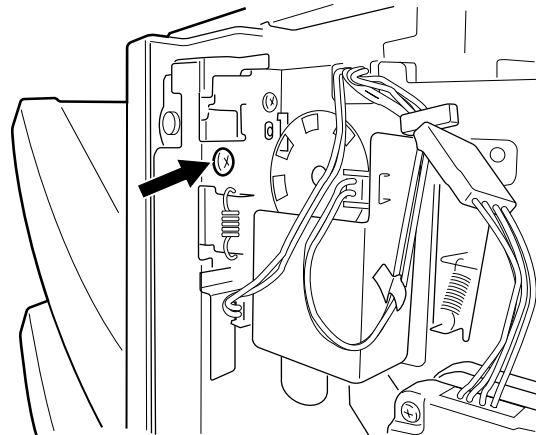


Fig. 3-1317

- (3) The tension becomes loose.  
While pushing the bracket down, hold the tray and move it up or down, to adjust the angle so that the tray becomes parallel by a visual check.

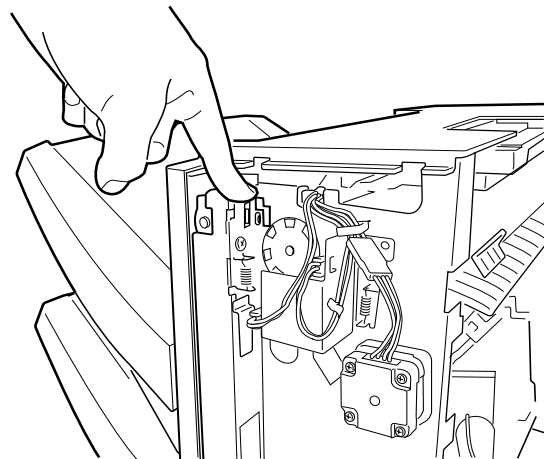
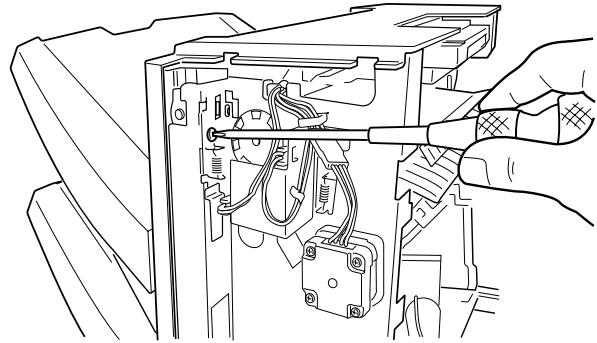


Fig. 3-1318

- (4) After the height adjustment, tighten the fixing screw of the bracket.

**Note:**

If the fixing screw of the bracket is not fixed, the belt is loosened which may cause a skipped tooth.



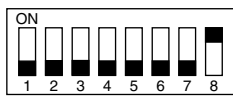
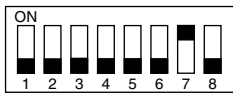
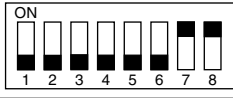

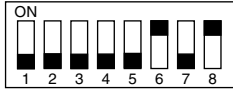
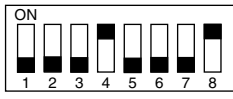
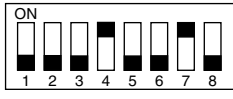
**Fig. 3-1319**

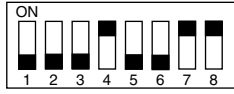

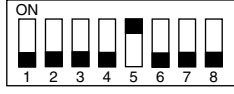

### 3.13.7 DIP switch functions

You can simulate various functions by setting the DIP switch (SW1) on the finisher controller PC board appropriately.

#### ■ Initiating Operations

- 1) Remove any obstacles from the area of operation.
- 2) Set the DIP switch (SW1) as shown, and turn ON the power (so that LED1 will start to blink).
- 3) Press the pushing switch (SW2) twice to initiate the operation in question. (LED2 will remain on during operation).

Setting	Item	Operation		To stop
	Delivery motor	The delivery roller rotates in a specific speed.		<ul style="list-style-type: none"> <li>• Press SW2 again.</li> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Stack processing motor (stack delivery lever)	The stack delivery lever moves to its home position and stops.		<ul style="list-style-type: none"> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Stack processing motor (returning roller)	The returning roller moves to the home position and stops.		<ul style="list-style-type: none"> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Front jogging plate motor	When not at the home position	The front jogging plate moves to its home position and stops.	<ul style="list-style-type: none"> <li>• Turn OFF the joint sensor (S4).</li> </ul>
		When at the home position	The front jogging plate moves over a specific position and stops at the home position.	<ul style="list-style-type: none"> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Rear jogging plate motor	When not at the home position	The rear jogging plate moves to the home position and stops.	<ul style="list-style-type: none"> <li>• Turn OFF the joint sensor (S4).</li> </ul>
		When at the home position	The rear jogging plate moves over a specific distance and stops.	<ul style="list-style-type: none"> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Upper stack tray motor (up)	The upper stack tray moves up and stops when the upper stack tray upper limit sensor turns ON.		<ul style="list-style-type: none"> <li>• Press SW2 again.</li> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Upper stack tray motor (down)	The upper stack tray moves down and stops when the lower stack tray lower limit sensor turns ON.		<ul style="list-style-type: none"> <li>• Press SW2 again.</li> <li>• Turn OFF the joint sensor (S4).</li> </ul>

Setting	Item	Operation	To stop
	Lower stack tray motor (up)	The lower stack tray moves up and stops when the lower stack tray upper limit sensor is turned ON.	<ul style="list-style-type: none"> <li>• Press SW2 again.</li> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Lower stack tray motor (down)	The lower stack tray moves down and stops when the lower stack tray lower limit sensor is turned ON.	<ul style="list-style-type: none"> <li>• Press SW2 again.</li> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Stapler motor	The stapler motor stops after the stapling operation.	<ul style="list-style-type: none"> <li>• Press the stapler safety switch (S14).</li> <li>• Turn OFF the joint sensor (S4).</li> </ul>
	Shipping position operation	The upper and lower stack trays move to the shipping position and stop.	<ul style="list-style-type: none"> <li>• Turn OFF the joint sensor (S4).</li> </ul>

**Note:**

Perform the shipping position operation when the finisher is packed again.

## 3.14 Adjustment of the Finisher (MJ-1023/1024)

### 3.14.1 Adjusting the alignment position (Finisher unit)

Perform this adjustment after replacing the finisher controller PC board or when the alignment position must be changed for some reason.

- (1) Remove the rear cover of the finisher unit.
- (2) Check that the power is OFF and set SW104 on the finisher controller PC board as follows according to the paper used for adjustment.

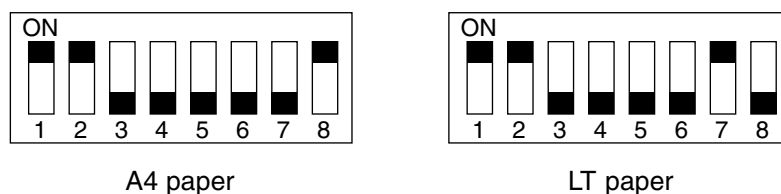


Fig. 3-1401

- (3) Turn ON the power.
- (4) Press SW103 on the finisher controller PC board.
  - When SW103 is pressed, the swing guide opens and the alignment plate moves to prescribed position.
- (5) Place ten sheets of A4/LT paper between the alignment plates and push them against the stopper.
- (6) Press SW101 or SW102 on the finisher controller PC board and push the alignment plate against the paper.
  - When SW101 is pressed, alignment plate moves 0.42 mm forward.
  - When SW102 is pressed, alignment plate moves 0.42 mm backward.
- (7) When adjustment is complete, remove paper and press SW103 on the finisher controller PC board once to store the adjustment in memory.
- (8) Turn OFF all bits of finisher controller PC board SW104.
- (9) Turn OFF the power and install the rear cover of the finisher unit.

### 3.14.2 Adjusting the staple position (Finisher unit)

Perform this adjustment after replacing the finisher controller PC board or when the staple position must be changed for some reason. This adjustment adjusts the front/rear stitches with A4/A4-R when the paper used for adjustment is AB type and with LT/LT-R when the paper is INCH type.

- (1) Remove the rear cover of the finisher unit.
- (2) Check that the power is OFF and set SW104 on the finisher controller PC board as follows according to paper/stitch position used for adjustment.

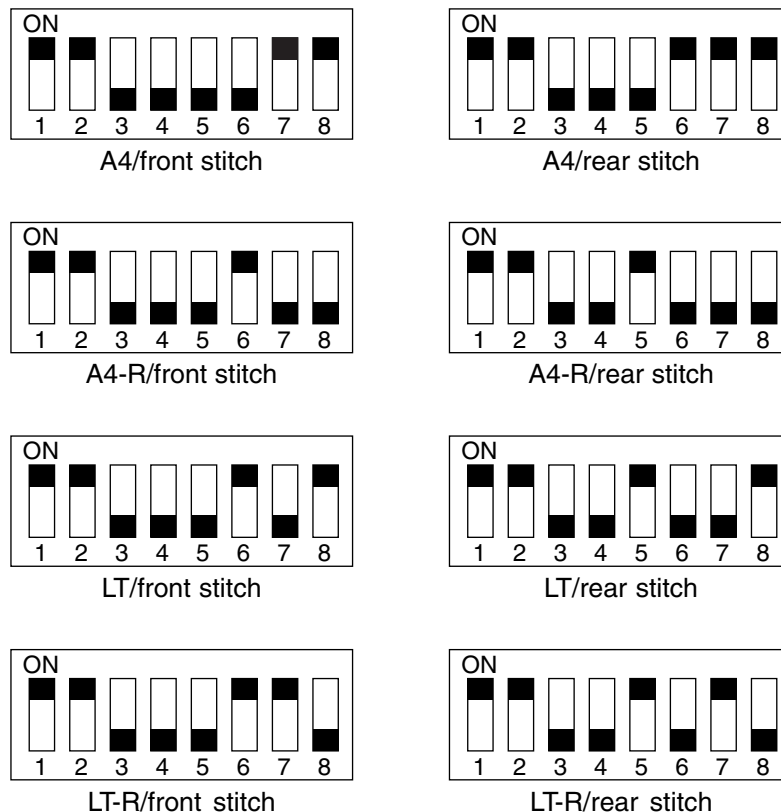


Fig. 3-1402

- (3) Turn ON the power.
- (4) Press SW103 on the finisher controller PC board.
  - When SW103 is pressed, the swing guide opens and the alignment plate moves to prescribed position.
- (5) Place a sheet of paper between the alignment plates. Push it against the stopper and push the rear edge of the paper against the rear alignment plate. If the gap between the front alignment plate and front edge of the paper is 1 mm or greater, stop the staple position adjustment and repeat the staple position adjustment after completing alignment plate adjustment.
- (6) Press SW103 on the finisher controller PC board once to staple. However, remove the stapled paper manually because the paper is not ejected. Press SW103 on the finisher controller PC board once again.



- (7) Verify the staple position. If any adjustment is needed, proceed to the step 8). If no adjustment is needed, proceed to the step 9).
- (8) Press SW101 or SW102 on the finisher controller PC board to adjust the staple position.
  - When SW101 is pressed, the staple position shifts 0.49 mm to the front side.
  - When SW102 is pressed, the staple position shifts 0.49 mm to the rear side.

Repeat the steps 5) to 7).

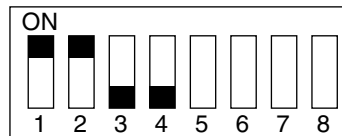
- (9) After confirming that the staple position is adjusted correctly, place a sheet of paper between the alignment plates and push it against the stopper and push the rear edge of the paper against the rear alignment plate. Then press SW103 once. (Stapling is performed and the adjustment value is stored in memory.)
  - The staple position adjustment is completed.
- (10) Turn OFF all bits of SW104 on the finisher controller PC board.
- (11) Turn OFF the power and install the rear cover of the finisher unit.

### 3.14.3 Adjusting the folding position (Saddle stitcher unit)

The folding position is adjusted by changing setting of bits 6 through 8 of SW504 on the saddle stitcher controller PC board to match the stitching position (adjusting the distance over which the paper positioning plate is moved to the folding position from the stitching position).

If you have replaced the saddle stitcher controller PC board, be sure to set the new SW504 so that the settings will be the same as those on the old SW504. Perform this adjustment if, for any reason, you must change the folding position.

- (1) Check that the power is OFF and separate the finisher from the host machine.  
If the optional puncher unit is installed, remove it from the finisher.
- (2) Remove the PC board cover and set bits 1 through 4 of SW504 on the saddle stitcher controller PC board as follows:



Do not change bits 5 through 8.

Fig. 3-1403

- (3) Remove the rear cover, open the inlet cover of the saddle stitcher unit and tape the actuator of inlet cover sensor (PI9) and inlet door switch (SW1).
- (4) Before inserting the paper, mark the top of the paper. You will be using two sheets of A3 or LD paper.

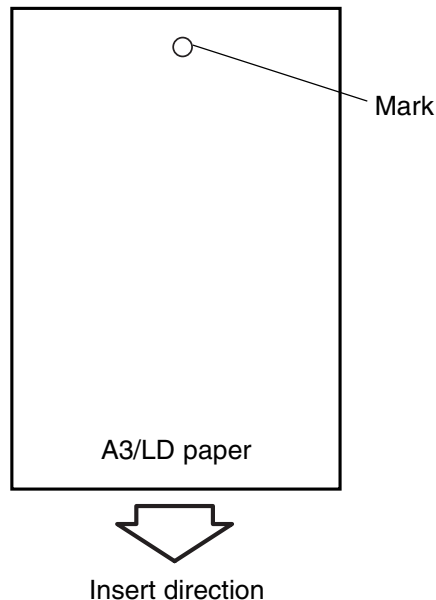


Fig. 3-1404

- (5) Turn ON the power.
- (6) Press SW1 on the saddle stitcher controller PC board so that the feed motor (M1) starts to rotate. (Press SW1 three seconds or more if LD paper is used.)
- (7) Open the inlet cover and insert two sheets of paper. Push them in by hand until the front edge of the sheets push against the paper positioning plate.
- (8) Close the inlet cover.
- (9) Press SW1 on the saddle stitcher controller PC board.
  - The saddle stitcher unit will “stitch” the sheets, and fold and deliver the stack automatically.
- (10) Measure the distance (L) between the stitching position and the folding position. Then perform “positive width adjustment” or “negative width adjustment” to suit the relationship between the stitching position and the folding position.
  - If the stitching position is below the folding position, perform “positive width adjustment.”
  - If the stitching position is above the folding position, perform “negative width adjustment.”

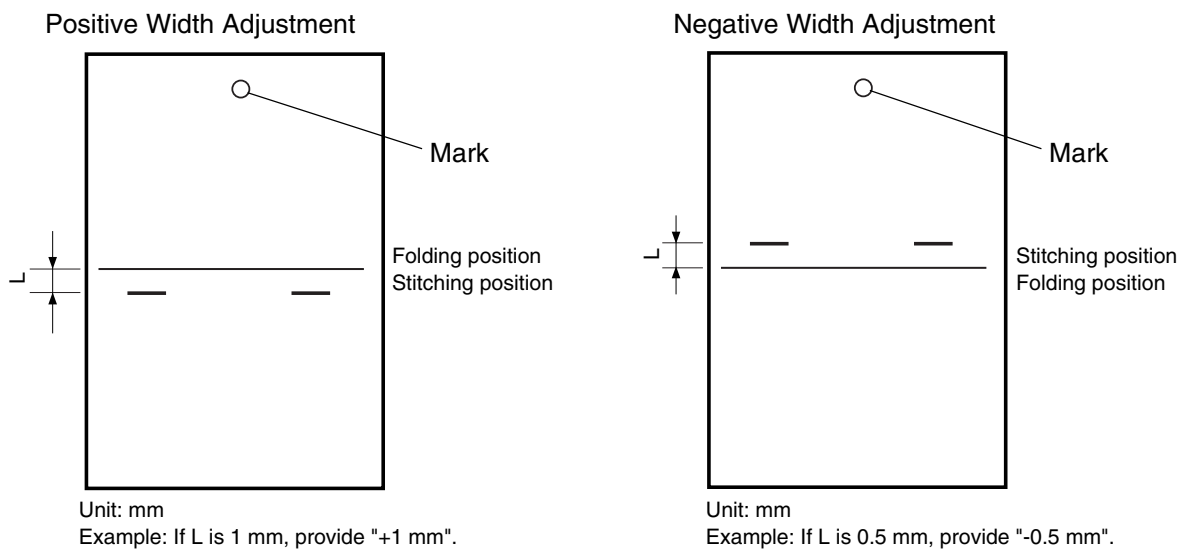


Fig. 3-1405

(11) Change the settings of bits 6 through 8 on SW504 referring to the following table.

- If the width adjustment is 0  
The stitching position and the folding position match, requiring no change.
- If for “positive width adjustment”  
Set SW504 so that the difference resulting from subtraction of the interval from the appropriate setting in the table below is provided.

Example: If SW504 is currently set to +2 and the interval is +1 mm, set SW504 to reflect - 2.

- If for “negative width adjustment”  
Set SW504 so that the sum resulting from addition of the interval from the appropriate setting in the table below is provided.

Example: If SW504 is currently set to -1 and the interval is -0.5mm, set SW504 to reflect +1.

DIPSW1 bit settings			Setting (in units of 0.5 mm)
Bit 6	Bit 7	Bit 8	
OFF	ON	ON	+3
OFF	ON	OFF	+2
OFF	OFF	ON	+1
OFF	OFF	OFF	0
ON	OFF	ON	-1
ON	ON	OFF	-2
ON	ON	ON	-3

Do not use the following setting		
Bit 6	Bit 7	Bit 8
ON	OFF	OFF

(12) Set SW504 bits 1 to 4 to OFF.

### 3.14.4 Fine adjustment of binding/folding position (Saddle stitcher unit)

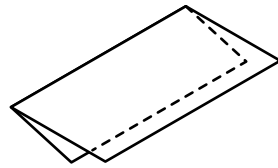
The binding position/folding position can be adjusted in the following (05) codes.

Code	Paper size	Remarks
468-0	A4-R / LT-R	When the value increases, the binding/folding position shifts toward the right page. (0.25mm/step) Acceptable values: -14 to 14 (Default: 0)
468-1	B4	
468-2	A3 / LD	

Increase the adjustment value when the sheet of paper which has exited is "A".

Decrease the adjustment value when the sheet of paper which has exited is "B".

A: When the upper side of the folding is longer than the lower side



B: When the upper side of the folding is shorter than the lower side

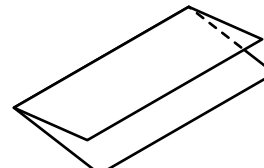


Fig. 3-1406

### 3.14.5 Sensor output adjustment (Puncher unit)

Perform this adjustment when replacing the punch controller PC board, transmittance sensor (photosensor PC board/LED PC board), or deflection sensor (scrap full detector PC board unit).

- (1) Check that the power is OFF and then remove the rear cover of the puncher.
- (2) Set SW601 on the punch controller PC board as shown below.

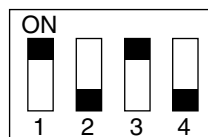


Fig. 3-1407

- (3) Turn ON the power.
- (4) Press SW602 on the punch controller PC board. Sensor output is adjusted automatically when the switch is pressed.
  - Adjustment is complete if LED601 and LED602 on the punch controller PC board blinks alternately.
- (5) Press SW602 or SW603 on the punch controller PC board to end the adjustment mode and set all bits of SW601 to OFF.
- (6) Turn OFF the power.

### 3.14.6 Registering the number of punch holes (Puncher unit)

This operation registers which puncher unit is attached to the IC on the punch driver PC board so that the puncher unit can be identified by the finisher. For this reason, this operation must be performed when the punch driver PC board has been replaced.

- (1) Check that the power is OFF and then remove the rear cover of the puncher.
- (2) Set SW601 on the punch controller PC board as shown below.

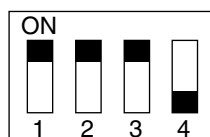


Fig. 3-1408

- (3) Turn ON the power.
- (4) Press SW602 on the punch controller PC board to select the number of punch holes.
  - The items in the following table are displayed repeatedly from top to bottom each time SW602 is pressed.

Number of punch holes	LED601/LED602
2 hole (E)	Blinks 1 times per cycle
2/3 hole (N)	Blinks 2 times per cycle
4 hole (F)	Blinks 3 times per cycle
4 hole (S)	Blinks 4 times per cycle

- (5) Press SW603 on the punch controller PC board. The number of punch holes is registered to the punch controller PC board each time the switch is pressed.
  - Registration is complete if LED601 and LED602 on the punch controller PC board blinks alternately.
- (6) Press SW602 or SW603 on the punch controller PC board to end the adjustment mode and set all bits of SW601 to OFF.
- (7) Turn OFF the power.

### 3.15 Key Copy Counter (MU-8, MU-10)

To make a key copy counter available, the following 2 components must be installed to the equipment.

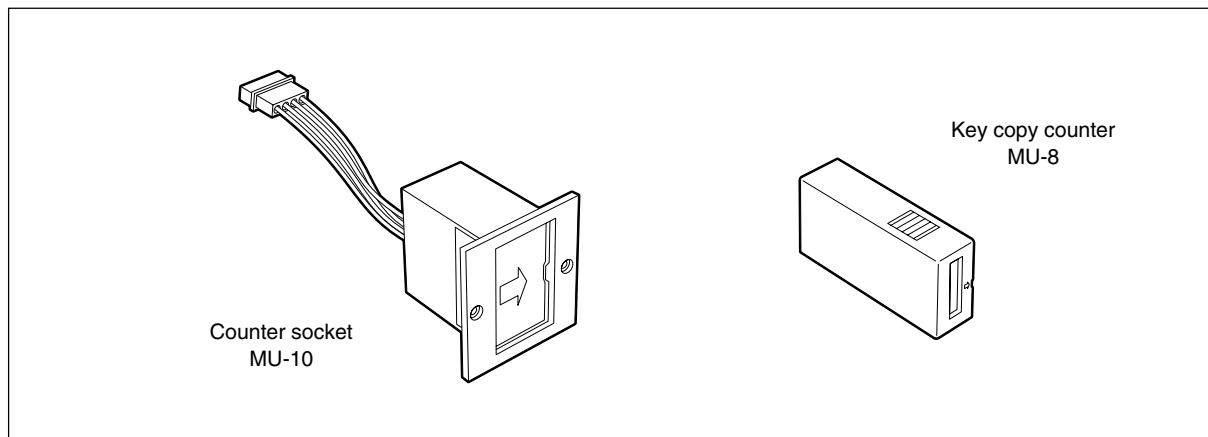


Fig. 3-1501

#### <Installation procedure>

- (1) Take off the right upper cover.
- (2) Open the bypass tray, ADU, jam access cover and fuser unit cover. Take off the IH terminal cover.
- (3) Take off the right rear cover, and cut open the window for the key copy counter.

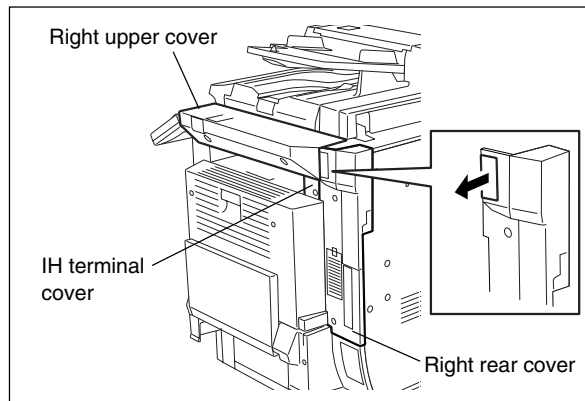


Fig. 3-1502

- (4) Pull out the harness connector from the hole of the machine frame, and cut the short harness of the connector. (Treat the cut harness properly to avoid it causing a short circuit with the machine frame.) Then, disconnect the dummy connector.

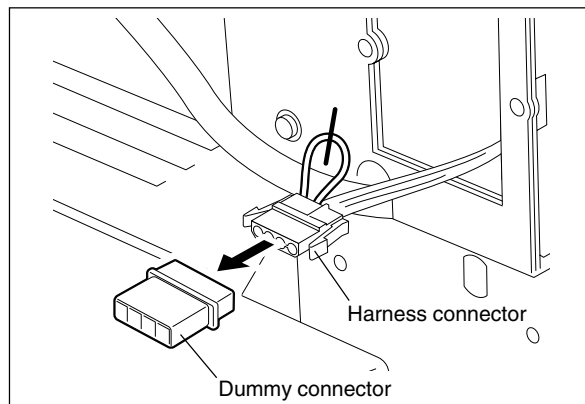
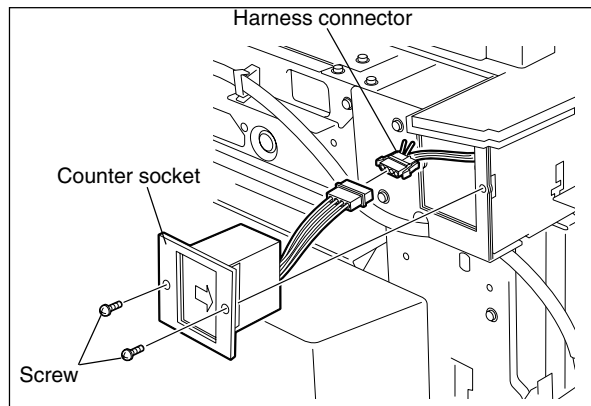


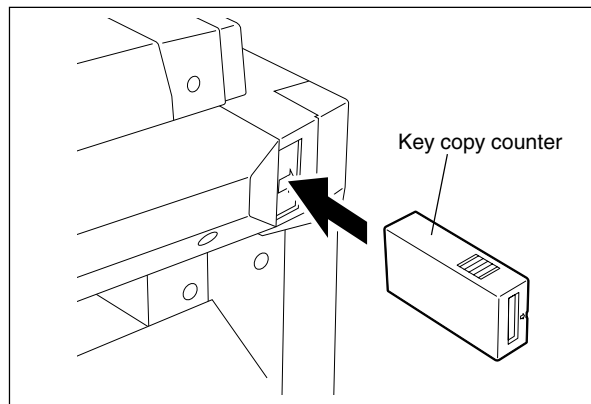
Fig. 3-1503

- (5) Connect the connector of the counter socket to the harness connector of the equipment side.
- (6) Install the counter socket to the machine frame with two M3 screws.
- (7) Reattach the covers.



**Fig. 3-1504**

- (8) Insert the key copy counter with its arrow mark pointing the rear side of the equipment.



**Fig. 3-1505**

- (9) Key in the value "3" in the setting mode (08-222).



## 3.16 Adjustment of Transfer Belt Deviation

### 3.16.1 Outline

If any transfer belt deviation (See 3.16.2) occurs when the equipment is installed, moved to another place or the transfer belt is replaced, perform this adjustment.

### 3.16.2 Transfer belt deviation

Transfer belt deviation means that the transfer belt is not in the following normal condition. Check the equipment and if the transfer belt does not conform to the conditions described below, perform the adjustment according to the adjustment procedure of 3.16.3.

- (1) Open the 2nd transfer unit and check the gaps between both ends of the transfer belt and the regulation plates. They should be 0.2 mm or more.

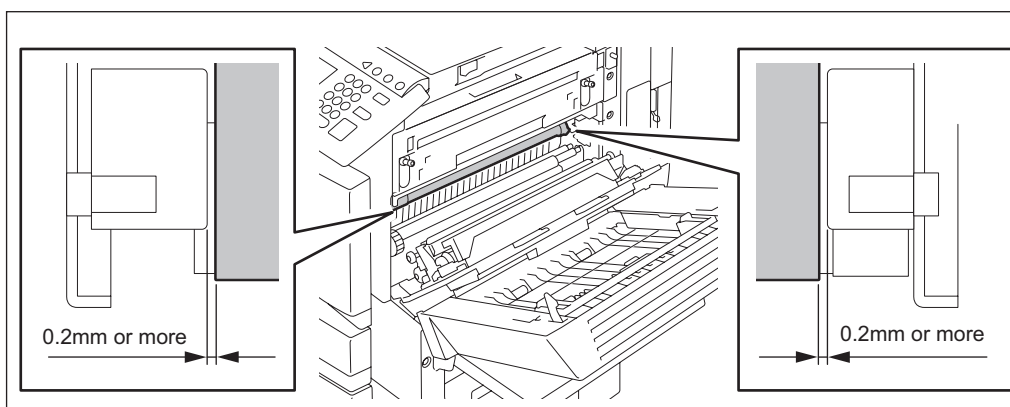


Fig. 3-1601

- (2) The gaps remain the same after the transfer belt has been rotated for 3 minutes or more. (The belt should not be dislocated to the front or rear side.)

### 3.16.3 Adjustment procedure

- (1) Check if there is no abnormality in the installation of the equipment.
- (2) Take off the drum cleaner unit.
- (3) Take off the black developer unit.
- (4) Turn the releasing lever clockwise to lower the transfer belt unit.

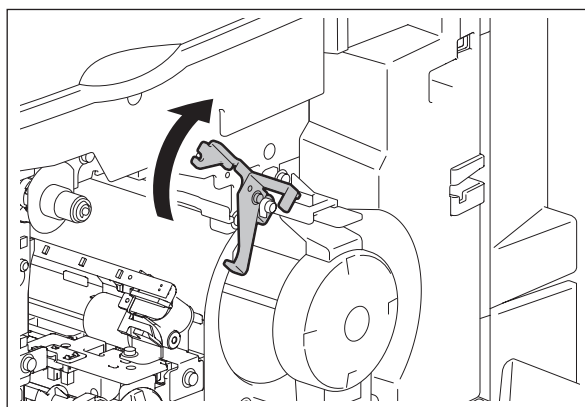


Fig. 3-1602

- (5) Tighten 2 screws that were loosened when the drum cleaner unit was taken off.

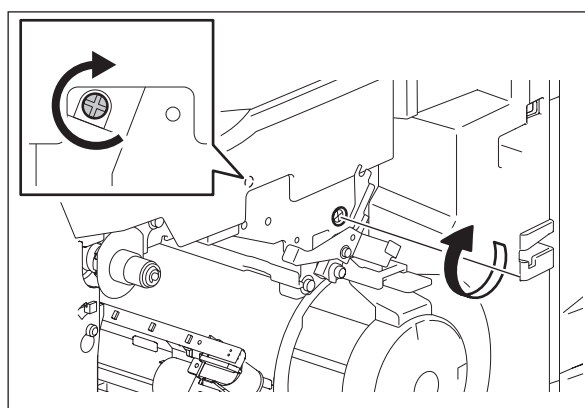


Fig. 3-1603

- (6) Tighten 2 screws.

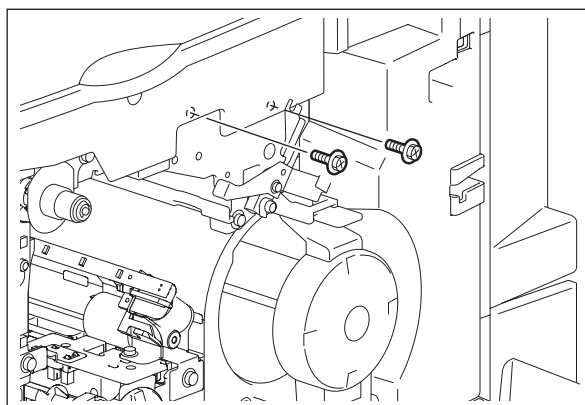


Fig. 3-1604

- (7) Loosen 2 screws that were tighten in step (6).
- (8) Loosen 1 screw and turn the adjustment fixing bracket in the direction of an arrow.

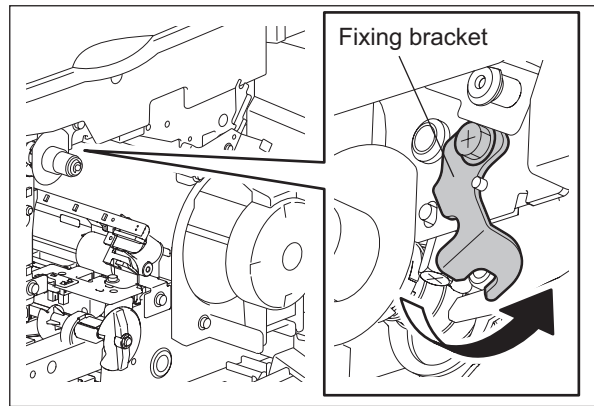


Fig. 3-1605

- (9) Turn the adjustment screw. Since this is a hex-head screw, turn it based on each face of the hex head.
  - If the transfer belt contacts with the rear regulation plate or the gap between the transfer belt and the rear regulation plate is less than 0.2 mm, rotate the adjustment screw clockwise (viewing from below) five-sixth turn.

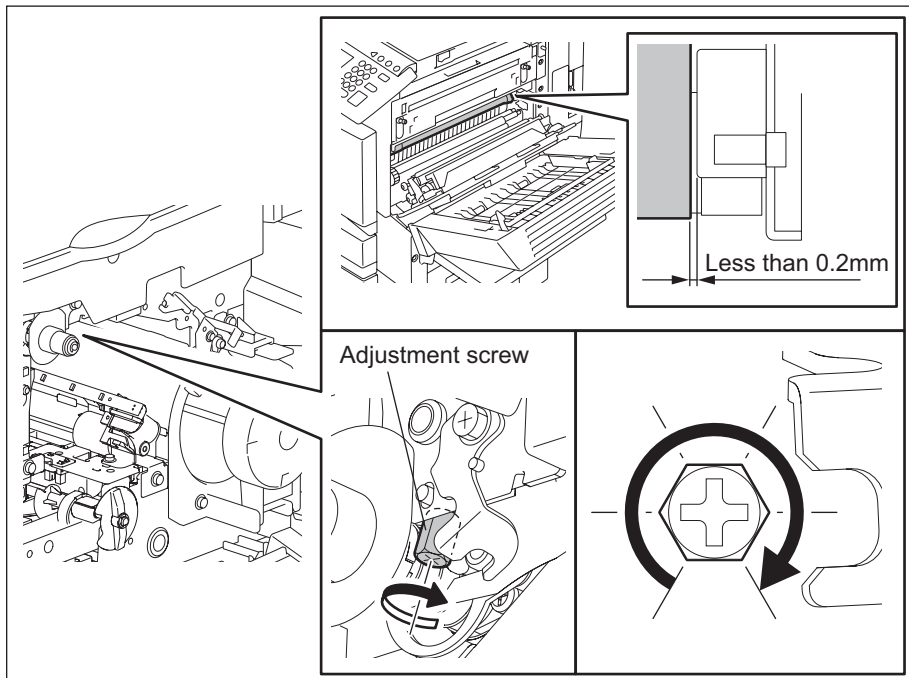


Fig. 3-1606

- If the transfer belt contacts with the front regulation plate or the gap between the transfer belt and the rear regulation plate is less than 0.2 mm, rotate the adjustment screw counterclockwise (viewing from below) five-sixth turn.

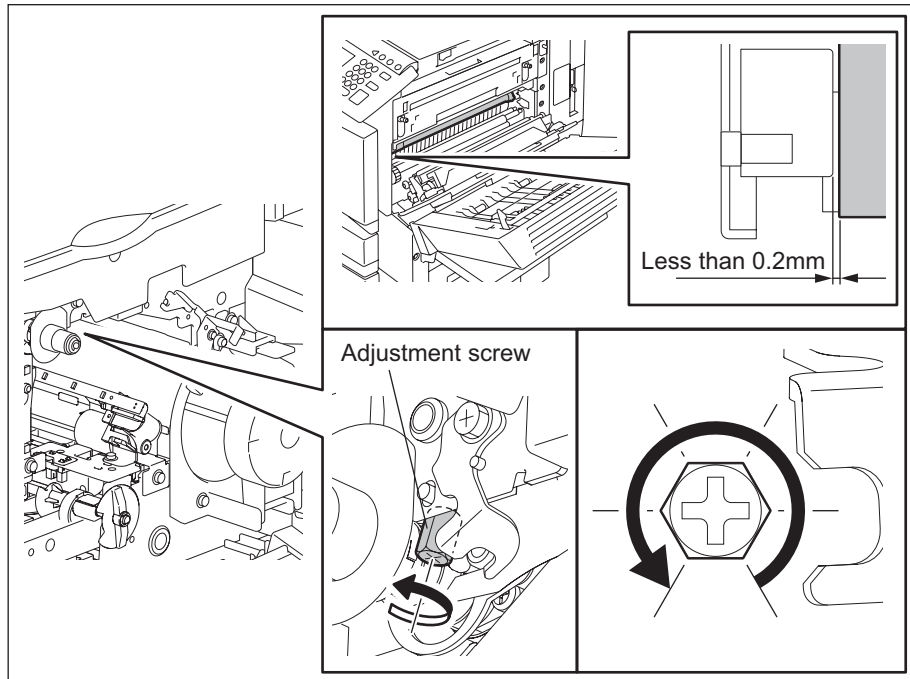


Fig. 3-1607

**Note:**

- Do not rotate the adjustment screw counterclockwise (viewing from below) 2.5 turns or more. The screw may come off.
- Before turning the adjustment screw, make a mark on the reference face and a note of the turning direction of the screw and the number of turning faces. These preparations make the adjustment efficient.
- To readjust the screw according to the result of step (13), follow the turns in the list below.

Number of adjustment	1st	Readjustment	2nd	3rd	4th
Number of turns	5/6 turn	Result A	5/6 turn	5/6 turn	-
		Result B	2/6 turn	1/6 turn	1/6 turn

- (10) Turn the adjustment screw fixing bracket in the direction of an arrow and tighten 1 screw.

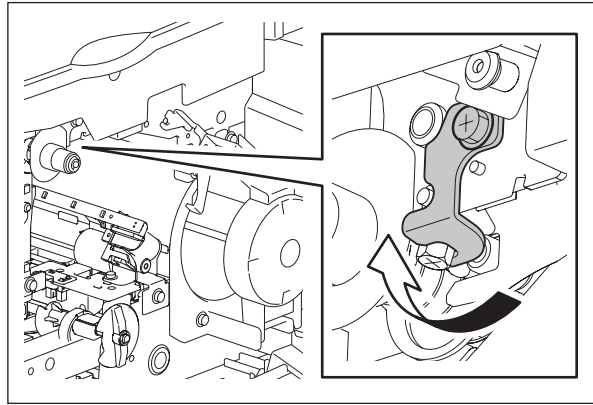


Fig. 3-1608

**Note:**

Install the fixing bracket so that the adjustment screw is caught by the fixing bracket. (The side face of the fixing bracket and the screw head become parallel.)

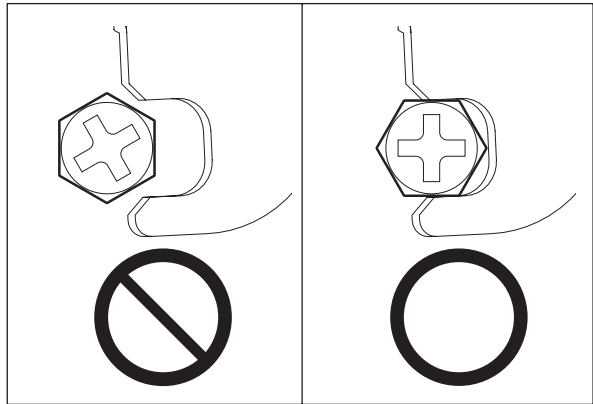


Fig. 3-1609

- (11) Tighten 2 screws.

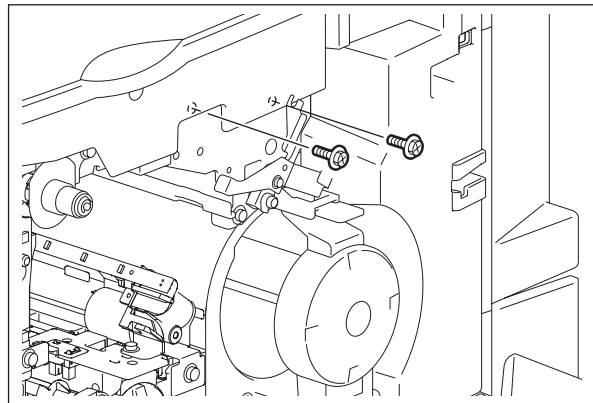


Fig. 3-1610

- (12) Close all covers and drive the main motor for 3 minutes to stabilize the transfer belt.
- While pressing the [0] and [3] button, turn the power ON.
  - Key in the code [103] and press the [START] button. (The main motor rotates.)
  - Key in the code [151] 3 minutes later and press the [START] button. (The main motor stops.)

(13) Open the 2nd transfer unit cover to check the transfer belt deviation. (See 3.16.2)

After the checking, continue the adjustment according to the following items A to C.

- Result A

The direction of the transfer belt deviation is the same as before the adjustment and the gap is 0.2 mm or less:

Return to step (7) to readjust it. If the same result is obtained after adjusting it 3 times, replace the transfer belt unit.

- Result B

The direction of the transfer belt deviation moves to the opposite side and the gap is 0.2 mm or less:

Return to step (7) to readjust it. The rotation amount of the adjustment screw should be two-sixth turn because the one in step (9) is for the 2nd adjustment. If the adjustment is performed 3 times or more, it should be one-sixth turn.

- Result C

Neither Result A nor B:

Go to the next step (14).

(14) Install the drum cleaner unit and the black developer unit (do not connect 2 connectors of the black developer unit), and then perform step (12).

**Note:**

Be sure to disconnect 2 connectors of the black developer unit in advance.

(15) Open the 2nd transfer unit cover to check the transfer belt deviation. (See 3.16.2)

If no problem is found, go to step (16).

If any problem is found, perform steps (2) to (11) and (14). At this time, the rotation amount of the adjustment screw should be one-sixth turn.

(16) Connect the connector of the black developer unit and install all covers to complete the adjustment.

## 4. PREVENTIVE MAINTENANCE (PM)

### 4.1 PM Support Mode

#### 4.1.1 General description

The timing for the parts replacement usually depends on the number of output pages / develop counts after they were replaced before. However, the life span of them changes depending on the general use of users and the environment in which the equipment is placed. Therefore, it is necessary to consider not only the number of output pages but also the drive counts when deciding the timing for the parts replacement in order to utilize the parts and materials effectively.

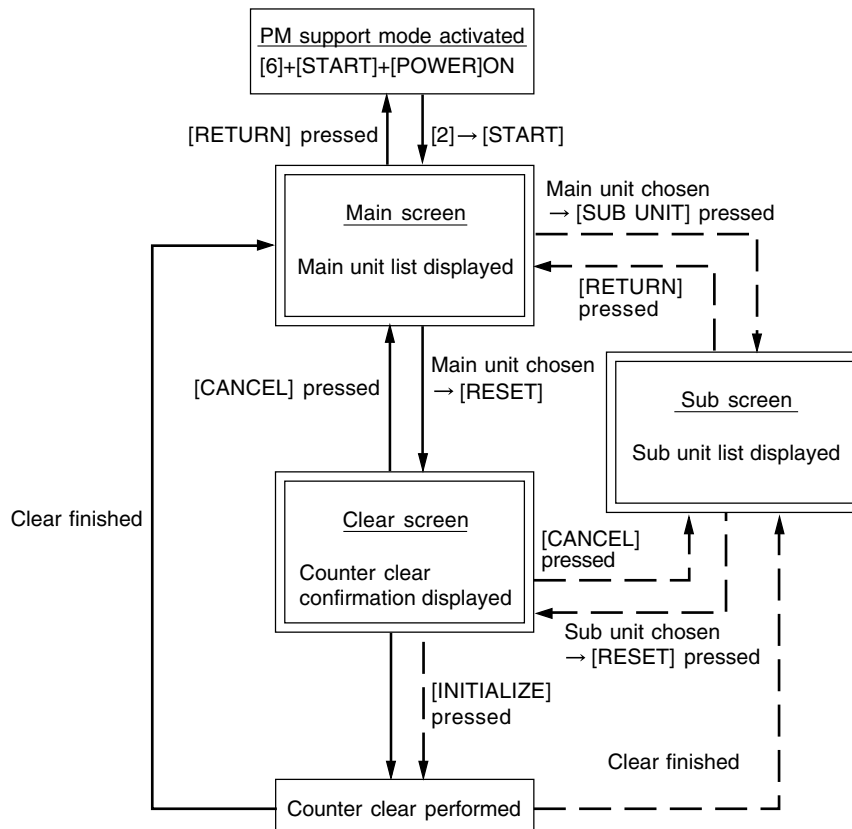
In addition, the drum rotates 4 times at color modes to transfer the images of 4 colors on the transfer belt, overlaying one after another. Therefore, the number of output pages is counted as "4" for 1 page for printing at color mode.

This equipment has the PM support mode, which makes it possible to see the general use of each part (the number of output pages, develop counts and drive counts) and replacement record and to do a counter clearing operation more efficiently when replacing.

The replacement record can be printed out in the list printing mode (9S-103).

#### 4.1.2 Operational flow and operational screen

##### (1) Operational flow



\* The screen goes back to the main screen when the counter clear is performed or the [CANCEL] button is pressed after moving from the main screen, while it goes back to the sub screen after moving from the sub screen.

Fig. 4-101

(2) Operational screen

(a) Main screen

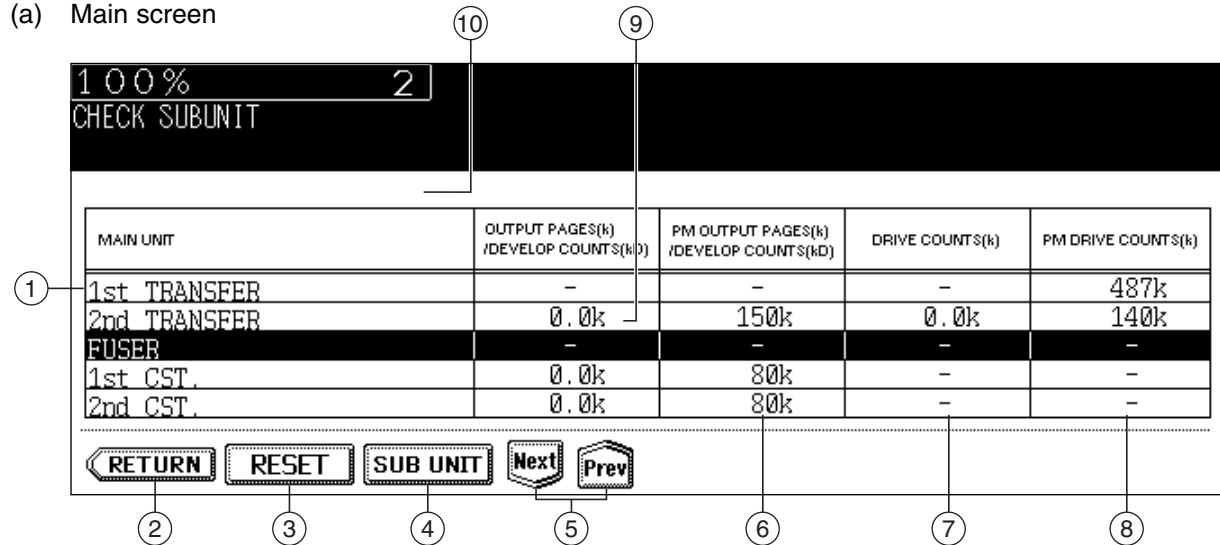


Fig. 4-102

- ① Displaying of the main unit name
- ② Back to the PM support mode activation screen
- ③ Clearing of the chosen unit counters (all the sub unit (parts) counters belonging to that unit)  
All counters are cleared when the unit is not selected
- ④ Moving to the sub screen
- ⑤ Moving to the next/previous page
- ⑥ Displaying of the standard number of output pages / develop counts (x1,000) to replace the unit parts
- ⑦ Displaying of the present drive counts (x1,000)  
“\*” is displayed next to the present number when the number of drive counts has exceeded its PM standard number.
- ⑧ Displaying of the standard number of drive counts (x1,000) to replace the unit parts
- ⑨ Displaying of the present number of output pages/develop counts (x1,000)  
When there are differences among the sub units (parts), “\_” is displayed and “CHECK SUBUNIT” is displayed at the top  
“\*” is displayed next to the present number when the number of output pages or develop counts has exceeded its PM standard number.
- ⑩ Displaying of the number of output pages / develop counts (Page/D. cnt), drive counts (Cnt.) and previous replacement date (Chg.) for a chosen unit  
When the replacement date for the sub unit is different, press the [SUB UNIT] button to move to the sub screen and see each information, otherwise information is not displayed

**Notes:**

1. “\_” is always displayed at the drive counts section for the reversing automatic document feeder (RADF) and feed unit.
2. “\_” is displayed at the numeric section for the paper source which is not installed since the paper source is different depending on the structure of options.



(b) Sub screen

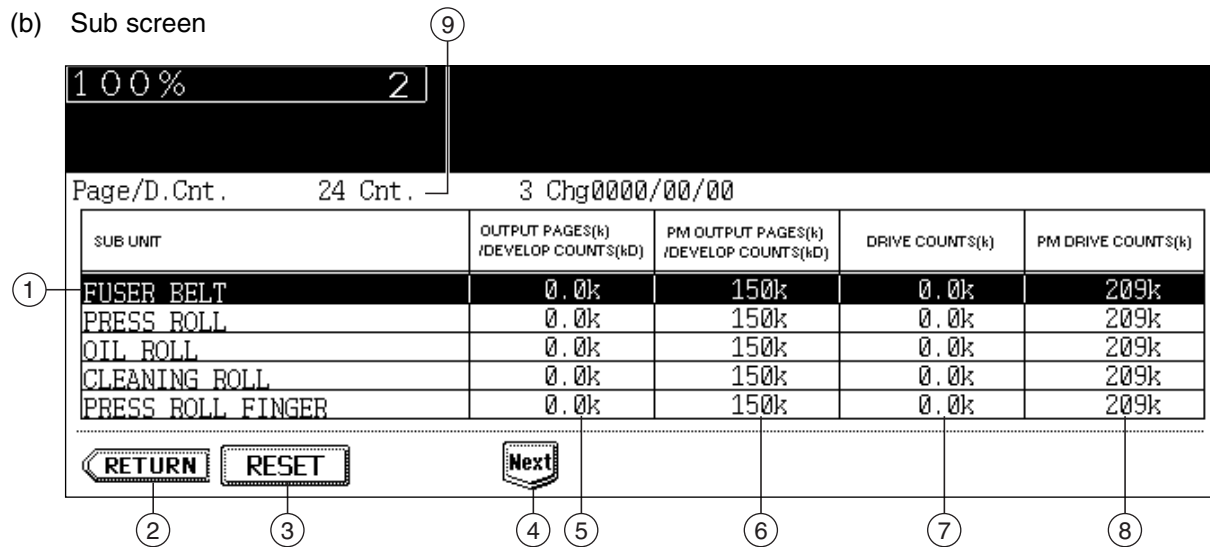


Fig. 4-103

- ① Displaying of the sub unit (parts) name
- ② Back to the main screen
- ③ Clearing of the chosen sub unit (parts) counters
- ④ Moving to the next/previous page
- ⑤ Displaying of the present number of output pages / develop counts (x1,000)  
“\*” is displayed next to the present number when the number of output pages or develop counts has exceeded its PM standard number.
- ⑥ Displaying of the standard number of output pages / develop counts (x1,000) to replace the sub unit (parts)
- ⑦ Displaying of the present drive counts (x1,000)  
“\*” is displayed next to the present number when the number of drive counts has exceeded its PM standard number.
- ⑧ Displaying of the standard number of drive counts (x1,000) to replace the sub unit (parts)
- ⑨ Displaying of the number of output pages, develop counts and drive counts and previous replacement date for a chosen sub unit

(c) Clear screen

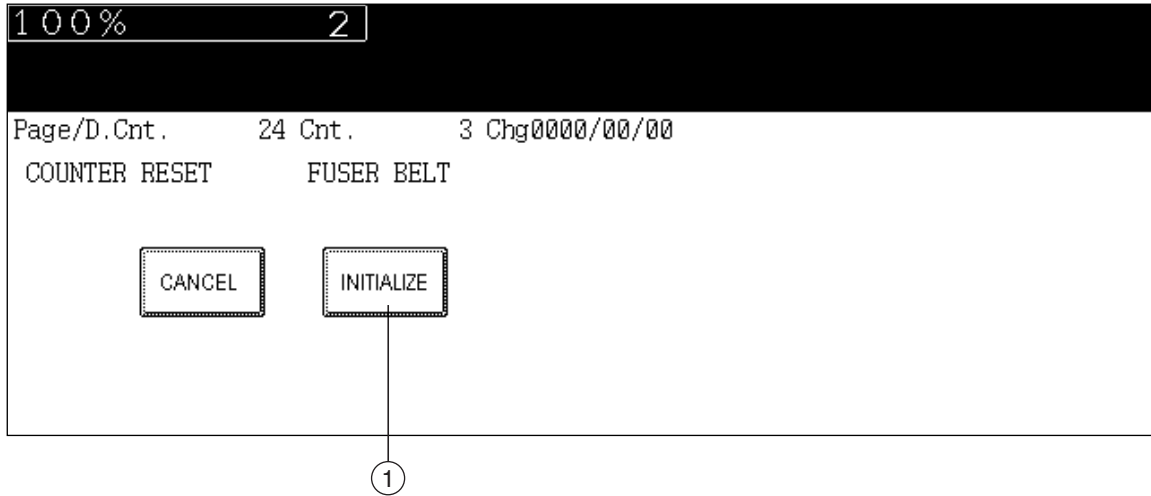


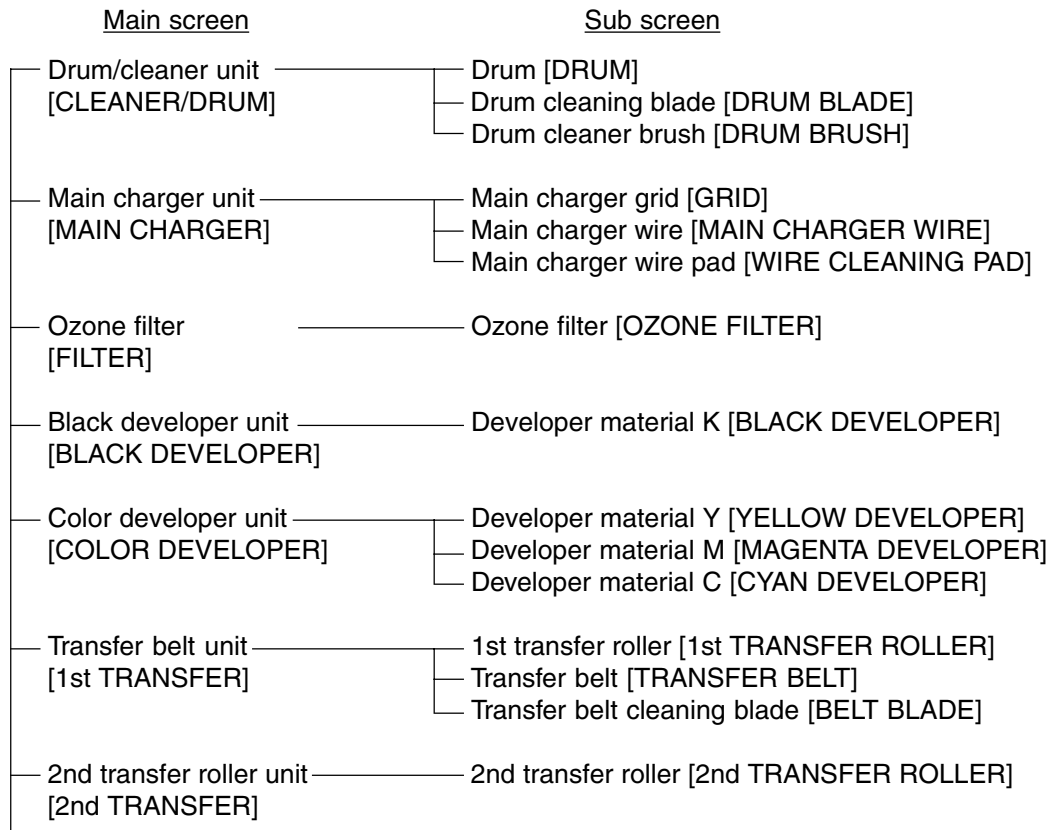
Fig. 4-104

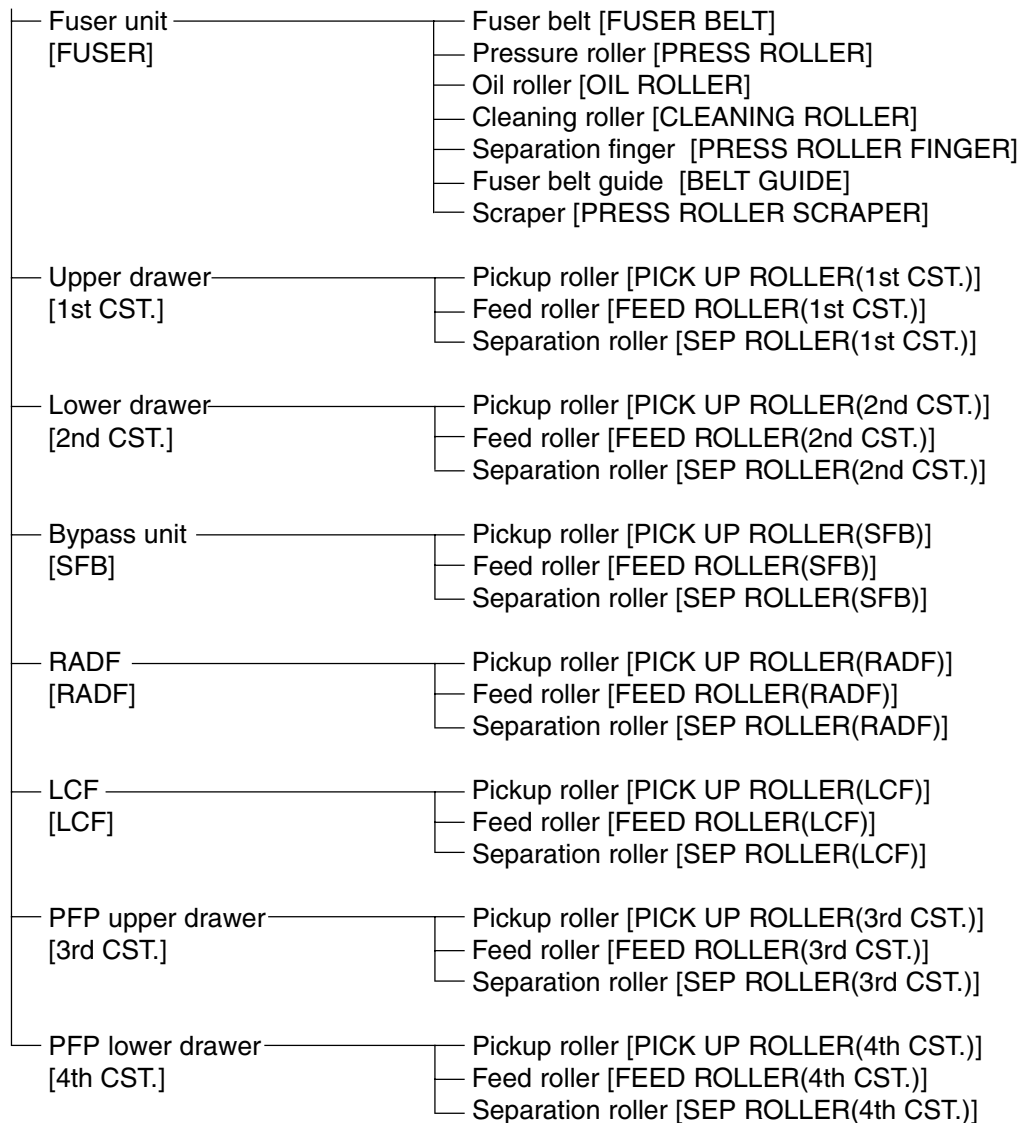
- ① When the [INITIALIZE] button is pressed, “Present number of output pages/develop counts” and Present driving counts” are cleared and “Previous replacement date” is updated.

(3) Access tree

**Note:**

The name inside [ ] is displayed on the LCD screen.





**Note:**

When the counter value of any of the pickup roller, feed roller and separation roller in each unit is reset, the value of the feeding retry counter is also reset simultaneously. When the [RESET] button is pressed after selecting the feed unit in the Main Screen, the value of the feeding retry counter is also reset simultaneously.

The feeding retry counter:

- Upper drawer           Reset the feeding retry counter (08-1390)
- Lower drawer           Reset the feeding retry counter (08-1391)
- PFP upper drawer       Reset the feeding retry counter (08-1392)
- PFP lower drawer       Reset the feeding retry counter (08-1393)
- Bypass unit             Reset the feeding retry counter (08-1394)
- LCF                      Reset the feeding retry counter (08-1395)

### 4.1.3 Work flow of parts replacement

The timing for the parts replacement usually depends on the number of output pages / develop counts after they were replaced before. However, its drive counts is also to be considered when replacing the parts. Even if the number of output pages has reached the level of replacement, for instance, the part may still be usable with its drive counts not reaching the specified drive counts. On the other hand, the part may need replacement even if the number of output pages has not reached the level of replacement with its driving time exceeding the specified drive counts. The life span of some parts such as feed roller is heavily dependent on the number of output pages rather than the drive counts.

The following work flow diagram shows how to judge the timing of replacement with the number of output pages and the drive counts.

The number of output pages is counted as “4” for 1 page for printing at color modes. This “4” is “develop counts”.

#### Example 1:

When the number of output pages has reached the specified level

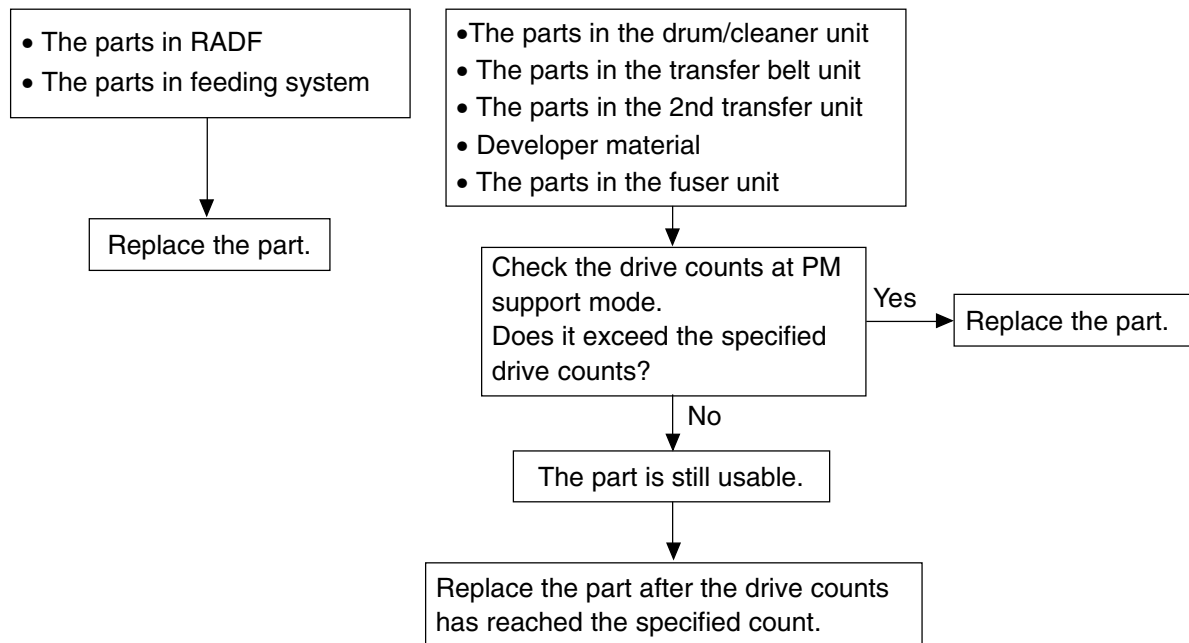


Fig. 4-105

#### Example 2:

When the image failure occurred before the number of output pages has reached the specified level

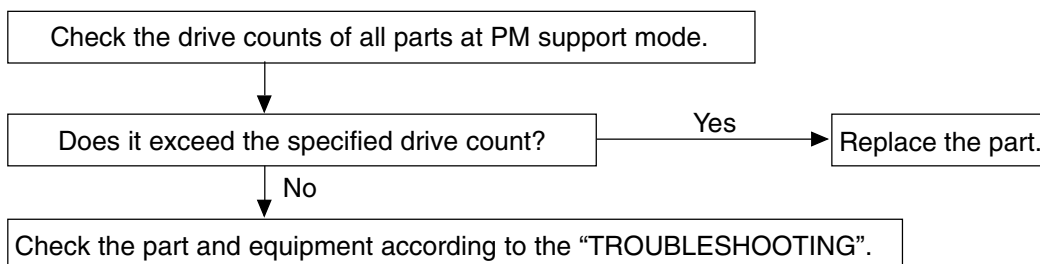


Fig. 4-106

## 4.2 General Descriptions for PM Procedure

### (1) Preparation

- a. Ask the user about the current conditions of the equipment and note them down.
- b. Before starting maintenance, make some sample copies and store them.
- c. See the replacement record and check the parts to be replaced in the PM support mode (6S-2) or list printing mode (9S-103).

6S-2 : [6]+[START]+[POWER]ON g [2] g [START]

9S-103 : [9]+[START]+[POWER]ON g [103] g [START]

PM SUPPORT CODE LIST				
10-20-'03 11:28				
UNIT	OUTPUT PAGES/ DEVELOP COUNTS	PM OUTPUT PAGE/ DEVELOP COUNTS	DRIVE COUNTS	PM DRIVE COUNTS
DRUM	22220	200000	30948	320000
DRUM BLADE	22220	200000	30948	320000
DRUM BRUSH	22220	200000	30948	320000
GRID	22220	200000	30948	320000
MAIN CHARGER WIRE	22220	200000	30948	320000
WIRE CLEANING PAD	22220	200000	30948	320000

Fig. 4-201

- d. Turn OFF the power and make sure to unplug the equipment.
- (2) Perform a preventive maintenance using the following checklist and illustrations. Refer to the Service Manual if necessary.
- (3) Plug in the equipment after the maintenance has been finished. Then turn ON the power and make some copies to confirm that the equipment is working properly.

## 4.3 Operational Items in Overhauling

Overhaul each equipment with the following timing.

- e-STUDIO3511: When the number of develop counts has reached 360,000 or 2.5 years have passed from the start of use (Whichever is earlier.)
- e-STUDIO4511: When the number of develop counts has reached 450,000 or 2.5 years have passed from the start of use (Whichever is earlier.)

- (1) Replace all the supplies.
- (2) Check the components in the drive section (gears, pulleys, timing belts, etc.). Replace them with new ones if they are damaged.
- (3) Check all the adhesives such as tape and Mylar if they are damaged or have become unstuck. Replace them with new ones if necessary.
- (4) Check the performance of all the switches and sensors. Replace them with new ones if necessary.
- (5) Clean inside the equipment thoroughly.

## 4.4 Preventive Maintenance Checklist

Symbols used in the checklist

Cleaning	Lubrication	Replacement	Operation check	Date
A Clean with alcohol ○ Clean with soft pad, cloth or vacuum cleaner	L Launa 40	The number of sheets or developments consumed before replacement (Value x 1,000) △ Replace if deformed or damaged	○ After cleaning or replacement, confirm there is no problem.	User name
	Coating			Serial No.
	SI Silicon oil			Inspector's name
	W1 White grease (Molykote X5-6020)			Remarks
	W2 White grease (Molykote HP-300)			
AV Alvania No.2				
FL Floil (GE-334C)				

### [Preventive Maintenance Checklist]

#### Notes:

1. Perform cleaning and lubricating in every 120,000 output pages for e-STUDIO3511, and every 150,000 output pages for e-STUDIO4511. Lubricate the replacement parts following to the replacement cycle. Exceptionally, the lubrication for the drum unit, main charger, color developer unit and 1st transfer unit must follow the PM cycle of each unit.
2. Values under "Replacement" indicate the replacement cycle for e-STUDIO3511/e-STUDIO4511. (KS= x 1,000 sheets, KD= x 1,000 developments)
3. The replacement cycle of the parts for the charge, development and 1st transfer in copying process is not indicated by the number of output pages (sheet), but the develop counts (development). The number of output pages is counted as "4 developments" for 1 page for printing at color mode, and "1 development" at black-and-white mode.
4. The replacement cycle of the parts in the feeding section equals to the number of sheets fed from each paper source.
5. Be careful not to put oil on the rollers, belts and belt pulleys when lubricating.

#### A. Scanner

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
A1. Original glass	○ or A					*a1
A2. ADF original glass	○					*a1
A3. Mirror-1	○					
A4. Mirror-2	○					
A5. Mirror-3	○					
A6. Reflector	○					
A7. Lens	○					
A8. Exposure lamp			△	○		
A9. Automatic original detection sensor	○			○		
A10. Slide sheet (front and rear)	○ or A		△			

#### B. Laser unit

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
B1. Slit glass	○					

### C. Feed unit

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
C1. Pickup roller			80/80		P18-I20	
C2. Feed roller			80/80		P18-I24	
C3. Separation roller		AV, V2	80/80		P18-I5	*c1
C4. Transport roller	A		△			
C5. Paper guide	○					
C6. Drive gear (tooth face and shaft)		W1				*c2
C7. GCB bushing bearing		L				
C8. One side of the plastic bushing to which the shaft is inserted		W1				
C9. Registration roller	A		△			
C10. Paper dust removal brush	○		△			*c3

### D. Automatic duplexing unit

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
D1. Transport roller (upper, middle and lower)	A		△			
D2. One side of the GCB bushing to which the shaft is inserted		L				
D3. One side of the plastic bushing to which the shaft is inserted		W1				
D4. Paper guide	○	W				

### E. Bypass feed unit

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
E1. Pickup roller			80/80		P22-I26	
E2. Feed roller			80/80		P22-I37	
E3. Separation roller		AV, W2	80/80		P21-I11	*e1
E4. Bypass tray	○					
E5. Drive gear (shaft)		W1				
E6. GCB bushing bearing		L				
E7. Transport roller	A		△			

### F. Main charger

Items to check	Cleaning	Lubri- cation	Replace- ment (KD)	Operation check	Parts list <P-I>	Remarks
F1. Main charger case	○					*f1
F2. Main charger wire			160/200	○	P28-I15	*f1
F3. Contact point of terminals	○					
F4. Charger wire cleaning pad			160/200		P28-I12	
F5. Main charger grid			160/200		P28-I21	

### G. Drum/Cleaner related section

Items to check	Cleaning	Lubri- cation	Replace- ment (KD)	Operation check	Parts list <P-I>	Remarks
G1. Photoconductive drum			160/200		P103-I1	Refer to Chapter 4.8.2.
G2. Drum shaft	○					
G3. Whole cleaner unit	○					
G4. Drum cleaning blade			160/200		P32-I34	*g1
G5. Drum cleaner brush			160/200		P32-I29	*g1
G6. Recovery blade	○		△			*g2
G7. Used toner auger drive section		W1				
G8. Discharge LED	○					
G9. Ozone filter			160/200		P14-I50	

**Note:** Check the color deviation after replacing G1 and G4.

### H. Toner bag

Items to check	Cleaning	Lubri- cation	Replace- ment (KD)	Operation check	Parts list <P-I>	Remarks
H1. Toner bag			50/50		P103-I6	

### I. Black developer unit

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
I1. Whole black developer unit	○					
I2. Black developer unit drive section		W1				
I3. Developer material (K)			120/150		P103-I2	*i1
I4. Front shield	○		△			
I5. Oil seal (6 pcs.)		AV	360/450		P34-I3, 15	*i2
I6. Guide roller	○ or A					
I7. Toner cartridge drive gear		W1				
I8. Side shield	○		△			



J. Color developer unit / Revolver unit

Items to check	Cleaning	Lubri- cation	Replac- ment (KS)	Operation check	Parts list <P-I>	Remarks
J1. Whole color developer unit (Y, M and C)	○					
J2. Color developer unit drive section (Y, M and C)		W1				
J3. Developer material (Y, M, and C)			30/37.5		P103-I3	*j1
J4. Front shield (Y, M and C)	○		△			
J5. Oil seal (4 pcs. for each color)		AV	360/450		P33-I4, 14	*j2
J6. Guide roller (Y, M and C)	○ or A					
J7. Toner cartridge drive gear (Y, M and C)		W1				
J8. Revolver drive gear		W1				
J9. Color auto-toner sensor	○	AV				*j3
J10. Side shield	○		△			
J11. Polarity adjustment plate		FL				*j4
J12. Color toner cartridge sensor	○				P36-I104	*j5
J13. Front bearings of mixers		AV	360/450		P33-I12	*j6

K. Transfer belt unit

Items to check	Cleaning	Lubri- cation	Replac- ment (KD)	Operation check	Parts list <P-I>	Remarks
K1. Transfer belt			480/600		P30-I34	
K2. 1st transfer roller			480/600		P30-I17	
K3. Transfer belt drive roller 1	A		△			*k1
K4. Transfer belt drive roller 2	A		△			*k1
K5. Transfer belt cleaning blade			160/200		P31-I11	
K6. Image quality sensor	○					*k2
K7. Transfer belt home position sensor (2 pcs.)	○					*k3
K8. Transfer belt recovery blade	○		△			*k4
K9. Paper clinging detection sensor	○					
K10. Blade seal (front side)			160/200		P31-I8	
K11. Blade seal (rear side)			160/200		P31-I41	
K12. Tape			160/200		P31-I31	

**Note:** Check the color deviation after replacing K1, K2 and K5.

L. 2nd transfer roller unit

Items to check	Cleaning	Lubri- cation	Replac- ment (KS)	Operation check	Parts list <P-I>	Remarks
L1. 2nd transfer roller			240/300		P13-I30	
L2. Paper guide	○					*l1
L3. Washer			240/300		P13-I49	

**Note:** Check the color deviation after replacing L1.

M. Fuser unit

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
M1. Fuser belt			120/150		P40-I1	
M2. Pressure roller			120/150		P39-I5	
M3. Separation finger			120/150		P39-I25	*m1
M4. Oil roller			120/150		P40-I34	
M5. Cleaning roller			120/150		P40-I23	
M6. Thermistor (3 pcs.)	A		△			*m2
M7. Fuser unit drive gear		W1				
M8. Exit roller	A					
M9. Fuser belt guide			120/150		P41-I18	
M10. Separation roller		W2				*m3
M11. Scraper			120/150		P39-I55	

N. RADF (MR-3015)

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
N1. Pickup roller	○		120/120		P8-I26	
N2. Feed roller	○		120/120		P8-I25	
N3. Separation roller	○		120/120		P6-I6	
N4. Original length sensor	○					
N5. Registration roller	A					
N6. 1st small roller	A					
N7. 2nd small roller	A					
N8. Read sensor	○					
N9. Read guide	○					
N10. Read roller	A					
N11. 3rd small roller	A					
N12. 4th small roller	A					
N13. Reverse sensor	○					
N14. Exit roller	A					
N15. Reverse roller	A					
N16. Platen sheet	○ or A					

O. PFP (KD-1011)

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
O1. Pickup roller (upper/lower)	A		80/80		P5-I29	
O2. Feed roller (upper/lower)	A		80/80		P5-I26	
O3. Separation roller (upper/lower)	A	AV, W2	80/80		P5-I12	*o1
O4. Drive gear (tooth face)		W1				

P. LCF (KD-1012)

Items to check	Cleaning	Lubri- cation	Replace- ment (KS)	Operation check	Parts list <P-I>	Remarks
O1. Pickup roller	A		160/160		P4-I30	
O2. Feed roller	A		160/160		P4-I28	
O3. Separation roller	A		160/160		P5-I12	
O4. Drive gear (tooth face)		W1				

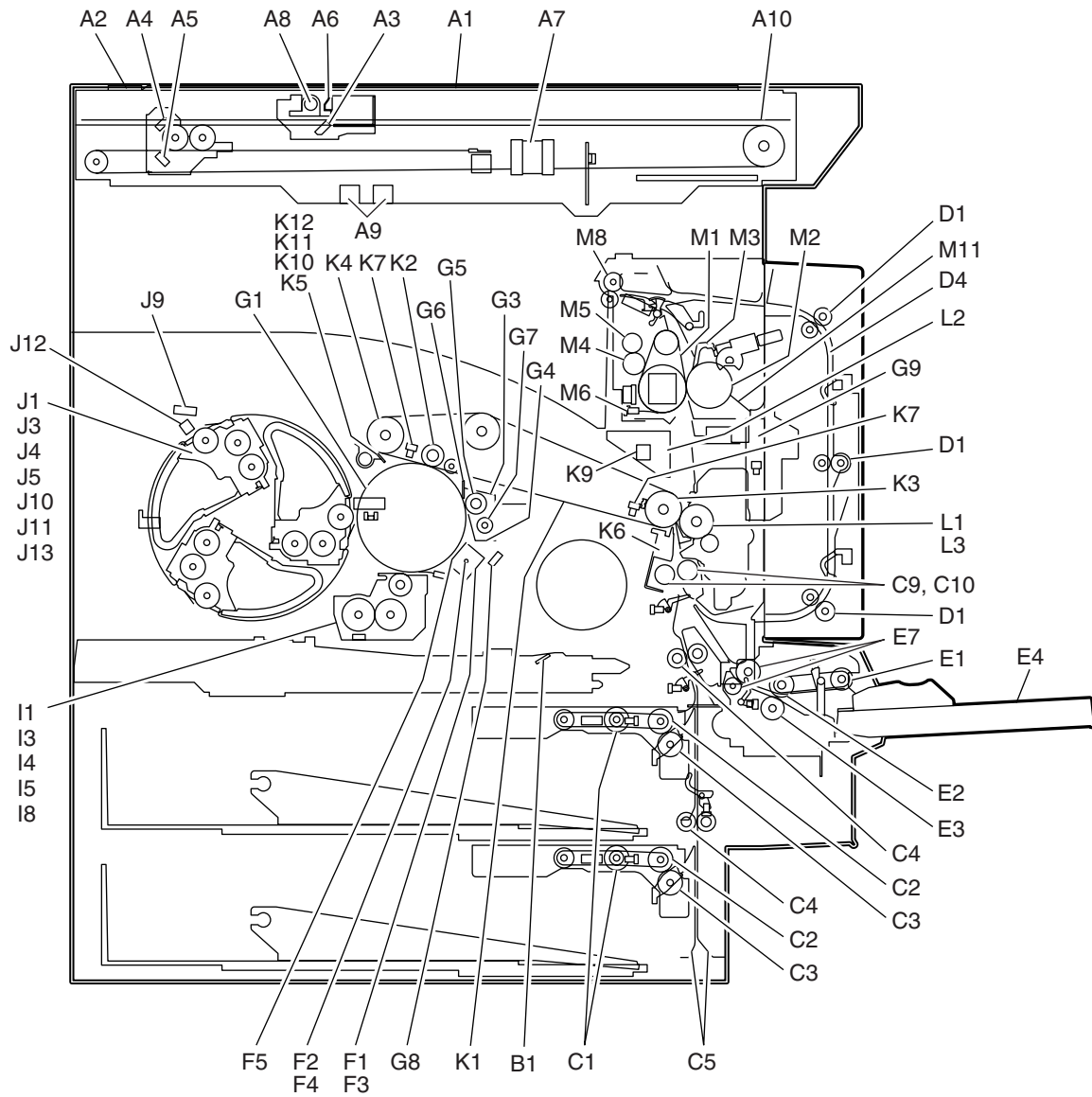
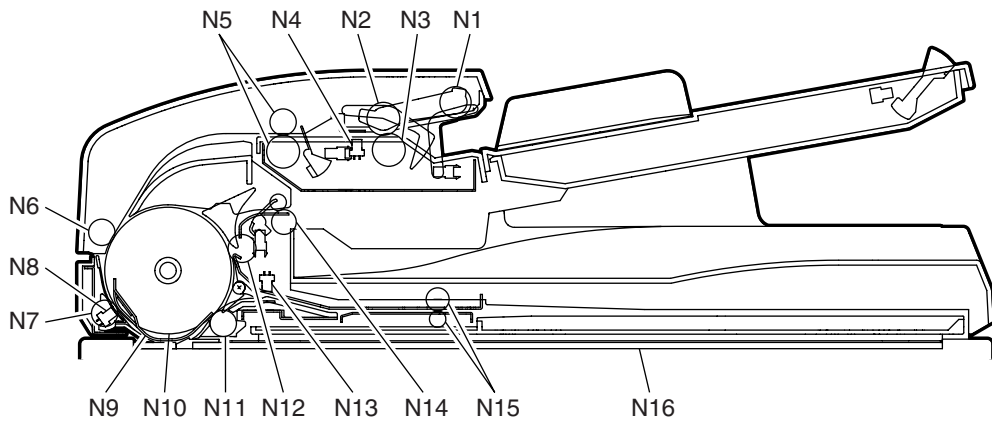
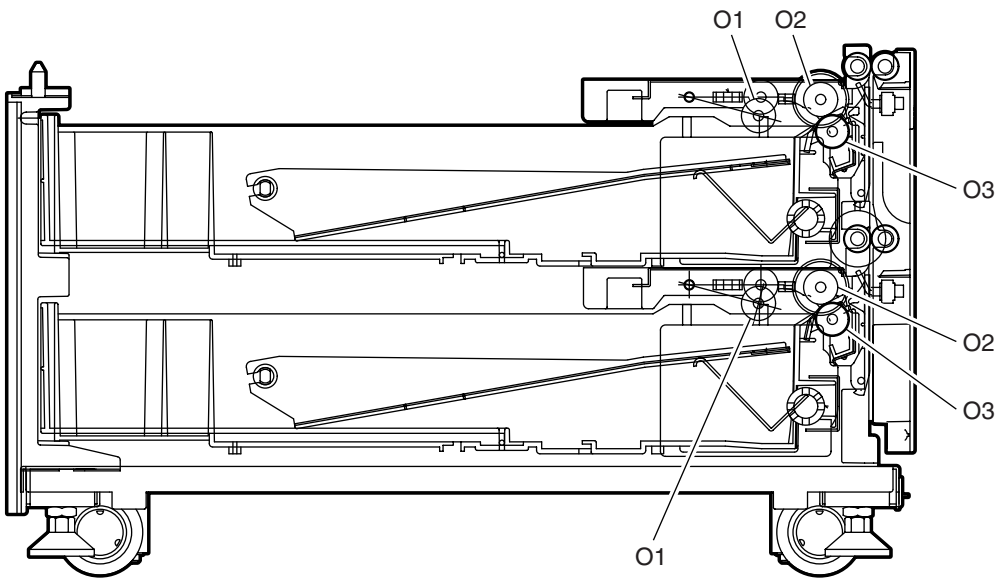


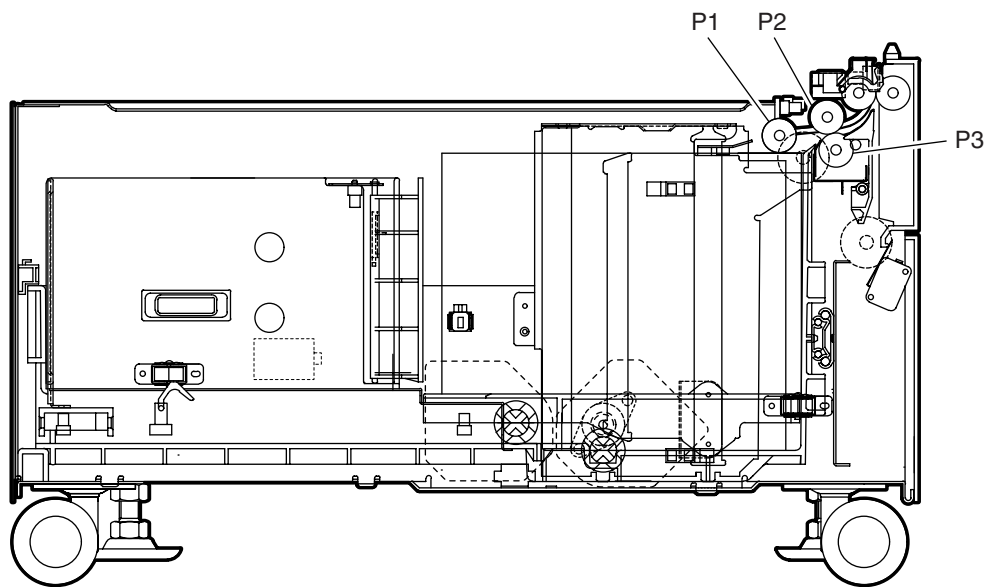
Fig. 4-202 Front side



**Fig. 4-203 Reversing Automatic Document Feeder (RADF)**



**Fig. 4-204 Paper Feed Pedestal (PFP)**



**Fig. 4-205 Large Capacity Feeder (LCF)**

## Remarks “\*” in the Preventive Maintenance Check List

\*a1. Original glass, ADF original glass

Clean both sides of the original glass and ADF original. Make sure that there is no dust on the mirrors-1, -2, -3 and lens after cleaning. Then install the original glass and ADF original glass.

**Note:**

Make sure that there is no fingerprints or oil staining on part of the original glass on where the original scale is mounted since the shading correction plate is located below the scale to be scanned.

\*c1, o1. Separation roller (Feed unit, PFP)

Apply an even coat of grease (Alvania No.2) to all round the inside of the spring.

When replacing the separation roller, apply adequate amount of white grease (Molykote HP-300) on the places of the holder shown in the figure (4 places).

**Note:**

Make sure that the grease does not adhere to the roller surface. Wipe it off with alcohol if adhered.

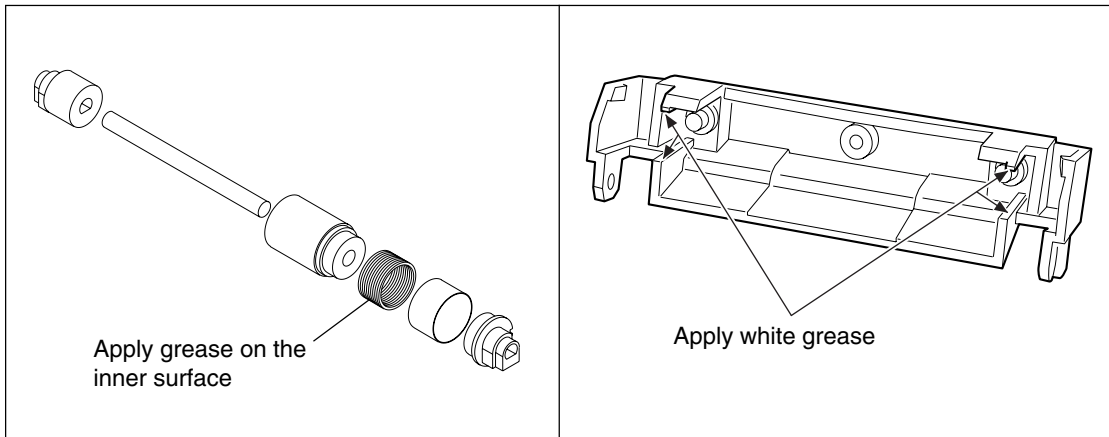


Fig. 4-206

Fig. 4-207

\*c2. Drive gears in the paper feeding section (teeth of gears and shafts)

Apply some white grease (Molykote X5-6020) to the teeth of gears and shafts of the drive gears.

**Note:**

Make sure that oil is not running over or scattered around as the gear is rotated coming into the clutch after applying molykote to the gear which is located near the clutch. The quantity of molykote should be smaller than that to be applied to the other parts.

- \*c3. Install the 2nd transfer front guide after the cleaning of the paper dust removal brush. Push the 2nd transfer front guide to the transfer belt unit and fix it securely as shown in the figure below.

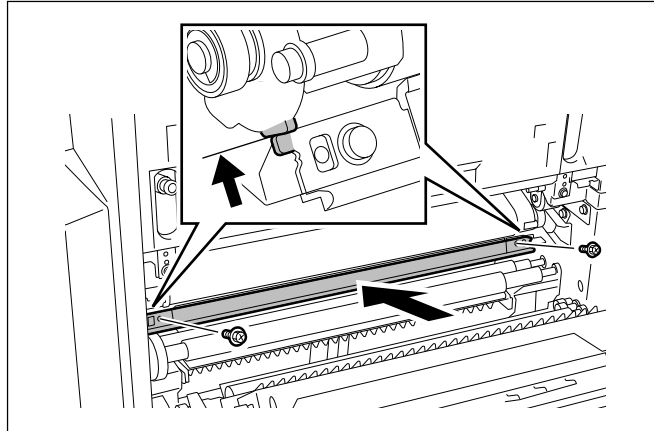


Fig. 4-208

- \*e1. Separation roller (SFB)  
Apply an even coat of grease (Alvania No.2) to all round the inside of the spring.  
When replacing the separation roller, apply adequate amount of white grease (Molykote HP-300) on the places of the holder shown in the figure (4 places).

**Note:**

Make sure that the grease does not adhere to the roller surface. Wipe it off with alcohol if adhered.

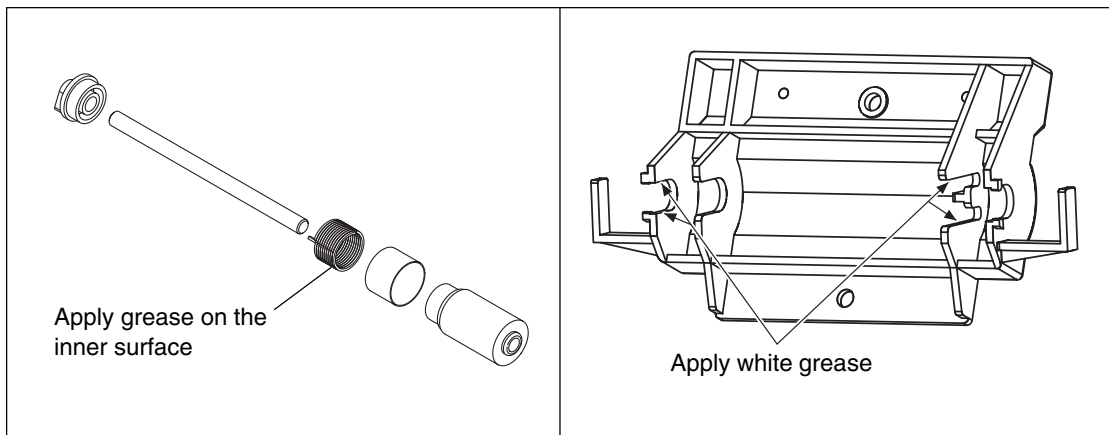


Fig. 4-209

Fig. 4-210

- \*f1. Main charger case / Main charger wire  
Clean the main charger case and wire with a cloth soaked in water and squeezed tightly, and then wipe them with a dry cloth.

**Note:**

Be careful of the following when attaching a new wire (length: 373 mm).

- Insert the wire securely into the V-grooves of the front and rear sides.
- Do not twist the wire.
- Do not touch the wire with your bare hand.

- \*g1. Drum cleaning blade / Drum cleaner brush  
Since the edge of the blade is vulnerable and can be easily damaged by factors such as the adherence of paper dust. Replace the cleaning blade and brush with new ones if poor images are copied due to the damaged blade regardless of the number of output pages which have been made.

- \*g2. Recovery blade  
Replace the recovery blade regardless the number of output pages if the edge of the blade get damaged.

- \*i1, j1. Developer material  
After replacing the developer material, be sure to perform the auto-toner adjustment and then image quality control initialization ( ► Chapter 3.2 ).

- \*i2. Oil seal (Black developer unit)  
Mixer unit (Shafts of mixers-1 & -2)            4 pcs.  
Developer sleeve                                    2 pc.

- \*j2. Oil seal (Color developer unit)  
Mixer unit (Rear side of mixers-1 & -2)       2 pcs.  
Developer sleeve                                    2 pc.

**Note:**

1. Lubricate the oil seal only when the oil seal is replaced.
2. When exchanging the oil seal of the color developer unit, replace “j6. Front bearings of mixers” at the same time.

During replacement, coat the oil seal with grease (Alvania No.2).

- (1) Push in a new oil seal parallel to the mounting hole section of the developer frame or outside of the nozzle mixer.
  - \* Pay attention to the direction in which the oil seal is attached. (See figure on right.)
- (2) Apply an even coat of grease to the inside of the oil seal.
  - Amount: About two small drops
- (3) Wipe off any grease exuded from the inside.

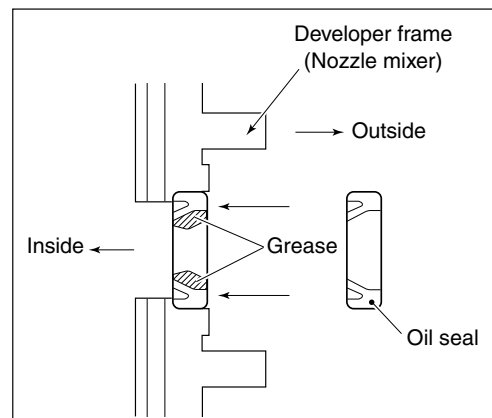


Fig. 4-211



\*j3.

### Color auto-toner sensor

The head of color auto-toner sensor is to be cleaned with a cotton swab or soft cloth with sufficient alcohol filled in. The reference plate is to be cleaned by blowing off the adhered toner with an air-spray type cleaner such as a blower brush or an air duster.

During replacement, coat the shaft of sensor shutter with the grease (Alvania No.2).

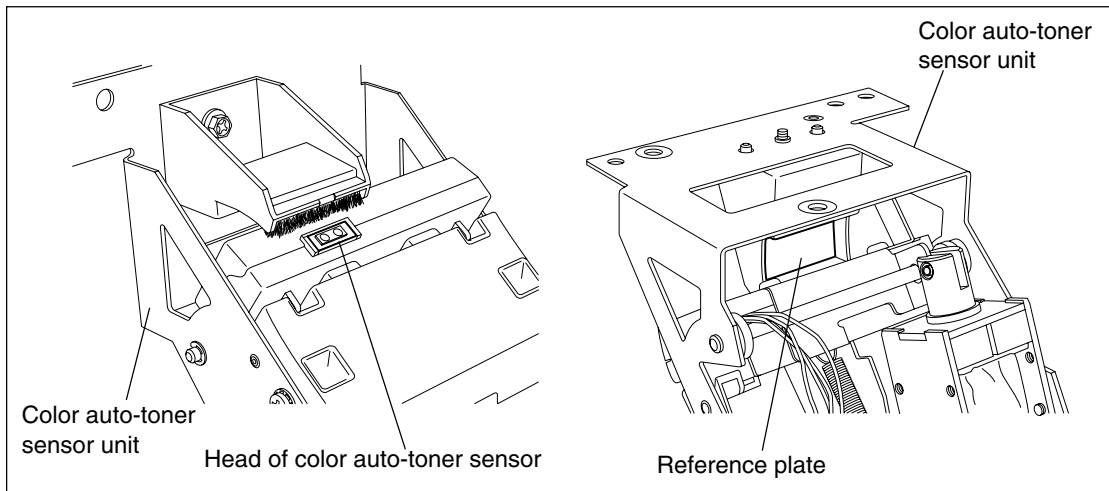


Fig. 4-212

### Note:

Never clean the reference plate by touching it directly (e.g. brushing away the dust) since the surface of reference plate will be scratched.

\*j4.

### Polarity adjustment plate

Apply two-rice-grain-amount of FLOIL (GE-334C) to the polarity adjustment plate (feeding terminal).

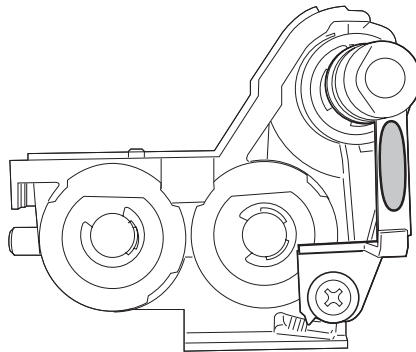


Fig. 4-213

\*j5.

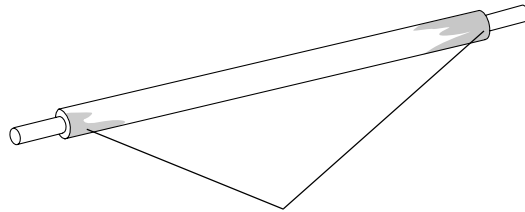
### Color toner cartridge sensor

Perform the cleaning of the surface of the color toner cartridge sensor when you replace the color developer unit (e-STUDIO3511: 30,000 sheets / e-STUDIO4511: 37,500 sheets).

\*j6.

### Front bearings of mixers

When exchanging the oil seals (rear side of mixer-1 and -2) of the color developer unit, replace the front bearings of mixer-1 and -2 at the same time. Since the oil seal is attached to the front bearings of mixer-1 and -2, apply grease when replacing them referring to \*j2.



Blot

Fig. 4-214

- \*k2. Area around image quality sensor  
Clean the shutter of the image quality sensor and around it. Do not touch the sensor head inside the shutter.
- \*k3. Transfer belt home position sensor  
Clean each surface of transfer belt home position sensors (2 pcs.) with a dry cloth when replacing the transfer belt.

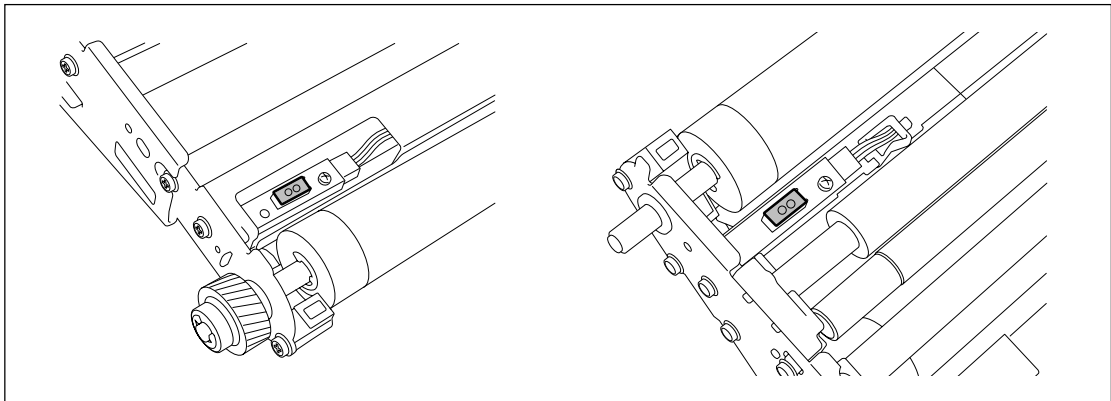


Fig. 4-215

- \*k4. Transfer belt recovery blade  
Clean the surface of transfer belt recovery blade with a cloth soaked in water and tightly squeezed, and the wipe it with a dry cloth when replacing the transfer belt cleaning blade.  
If the edge of recovery blade is damaged, replace the blade regardless of the number of output pages.

- \*k5. Paper clinging detection sensor  
Open the ADU and clean the paper clinging detection sensor with a cotton swab, etc.

**Note:**

Clean the entire area (denoted in the figure below) of the sensor surface.

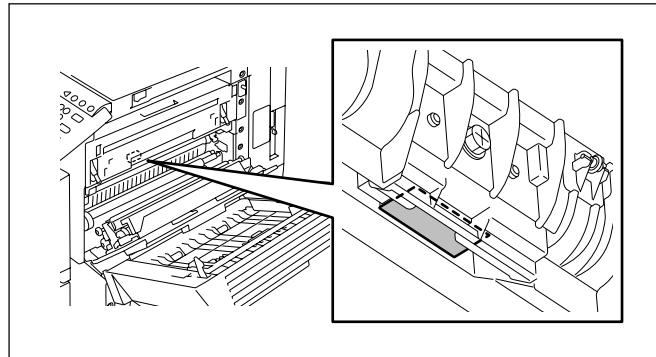


Fig. 4-216

- \*11. Paper guide  
Clean the surface of the paper guide (denoted in the figure) with a piece of dry cloth.  
When cleaning, do not touch the surface of the transfer belt with bare hands.

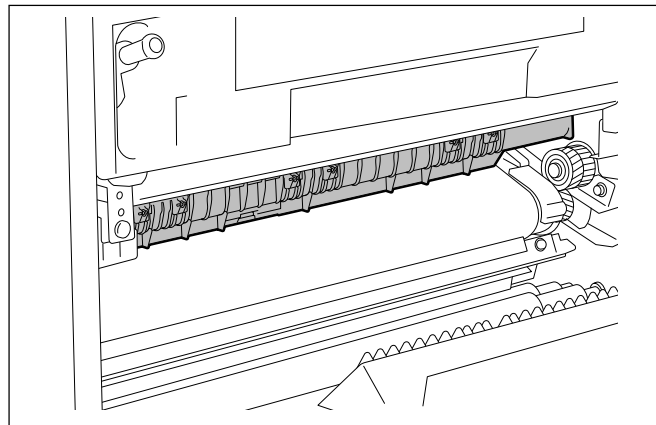


Fig. 4-217

- \*m1. Separation finger  
The paper jam may be caused if the tip of the finger is damaged or deformed. If there is any problem with it, replace the finger with a new one regardless of the number of output pages which have been made. Do not damage the tip of the finger during the cleaning. The finger may be damaged if the toner adhering to the tip of it is scraped off forcibly. Replace the finger if the toner is sticking to it heavily.

\*m2. Thermistor

Clean the thermistor with alcohol if the toner or dirt is sticking to it when the fuser roller is replaced. Do not deform or damage the thermistor during the cleaning. Replace the thermistor with a new one if it is damaged or deformed regardless of degree.

\*m3. Separation roller

When replacing the transfer belt, apply some White Molykote (HP-300) on both ends of the separation roller shaft.

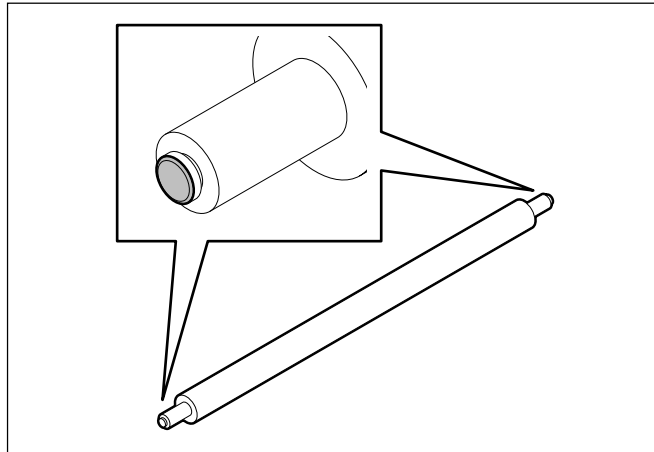


Fig. 4-218

## 4.5 PM KIT

Item	Product name	Part name	Qty.
EPU-KIT-3511	Drum cleaning blade	BL-3511D	1
	Main charger wire	WIRE-CHARGR-373	1
	Main charger grid	GRID-220	1
	Drum cleaner brush	B-3511	1
	Ozone filter	FILTER-OZ-SPB-600	1
	Charger wire cleaning pad	ASYS-PAD-CHARGR-350	1
DEV-KIT-3511C	Developer material (Y)	D-3511-Y	1
	Developer material (M)	D-3511-M	1
	Developer material (C)	D-3511-C	1
	Cleaning jig	JIG-CLEAN-DOC	1
TBU-KIT-3511	Transfer belt	BT-3511TR	1
	Transfer belt cleaning blade	BL-3511TR	1
	1st transfer roller	CR-3511TR	1
	Blade seal (front side)	SEAL-BLADE-FRT	1
	Blade seal (rear side)	SEAL-BLADE-RER	1
	Tape	TAPE-2191FR	1
DEV-KIT-3511	Developer material (K)	D-3511-K	1
	Cleaning jig	JIG-CLEAN-DOC	1
	2nd transfer roller	CR-3511TR2	1
	Washer	WSH-4P5-8-OP3-PHF850S	4
FR-KIT-3511	Fuser belt	BT-3511-FU	1
	Pressure roller	HR-3511-L	1
	Separation finger	SCRAPR-FUS-350	5
	Oil roller	SR-3511U	1
	Cleaning roller	B-3511U	1
	Fuser belt guide	COLAR-HR-IN	2
	Scraper	ASYB-BRKT-SCRAPR	1
ROL-KIT-16CST	Pick up roller	ROLLER-PICK-AT	1
	Feed roller	K-ROLL-FEED	1
	Separation roller	K-ROLL-SPT	1
ROL-KIT-1010	Pick up roller	ROL-PICK-UP	1
	Feed roller	ROL-PAPER-FED-F	1
	Separation roller	ROL-PAPER-FED-S	1
DF-KIT-3015	Pick up roller	ROL-PICK-UP	1
	Feed roller	ROL-FEED	1
	Separation roller	ROL-SPT-513	1

## 4.6 Jig List

Item	Parts list	
	Page	Item
Door switch jig	101	1
Test chart (A4)	101	3
Test chat (LT)	101	3
Test chart No. TCC-1 (A4)	101	2
Test chart No. TCC-1 (LT)	101	2
Doctor blade cleaning jig	101	4
Downloading jig (DLM board)	102	1
Wire holder jig	101	5
Download JIG-2 (6 Flash ROMs)	102	2
Download JIG-1 (2 Flash ROMs)	102	3
ROM writer adapter (For 1881)	102	4
ROM writer adapter (For 1931)	102	5
Doctor sleeve jig	101	7
Developer material nozzle	101	6
Belt tenstion jig (spring)	101	20

## 4.7 Grease List

Grease name	Part name	Volume	Container	Parts list	
				Page	Item
SI Silicon oil	ASM-SILICONE-1M	100 cc	Bottle	101	8
L Launa 40	OIL-LAUNA40-100	100 cc	Oiler	101	9
W1 White grease (Molykote X5-6020)	MOLYKOTE-100	100 g	Tube	101	12
W2 White grease (Molykote HP-300)	ASM-PG-HP300-S	100 g	Bottle	101	10A
W2 White grease (Molykote HP-300)	GREASE-HP-S	10 g	Bottle	101	10B
AV Alvania No.2	ASM-PG-ALV2	100 g	Tube	101	11
FL Floil (GE-334C)	ASM-PG-GE334C-S	20 g	Bottle	101	13

## 4.8 Precautions for Storing and Handling Supplies

### 4.8.1 Precautions for storing TOSHIBA supplies

A. Toner/Developer

Toner and developer should be stored in a place where the ambient temperature is between 10°C to 35°C (no condensation), and should also be protected against direct sunlight during transportation.

B. Photoconductive drum

Like the toner and developer, photoconductive drum should be stored in a dark place where the ambient temperature is between 10°C to 35°C (no condensation). Be sure to avoid places where drums may be subjected to high humidity, chemicals and/or their fumes.

C. Drum cleaning blade / Transfer belt cleaning blade

This item should be stored in a flat place where the ambient temperature is between 10°C to 35°C, and should also be protected against high humidity, chemicals and/or their fumes.

D. Transfer belt / Transfer roller / Fuser belt / Pressure roller

Avoid places where the rollers may be subjected to high humidity, chemicals and/or their fumes.

E. Oil roller / Cleaning roller

Avoid places where the rollers may be subjected to high humidity, chemicals and/or their fumes. They should also be stored “horizontally” on a flat surface.

F. Paper

Avoid storing copy paper in places where it may be subjected to high humidity. After a package is opened, be sure to place and store it in a storage bag.

#### 4.8.2 Checking and cleaning of photoconductive drum

(1) Use of gloves

If fingerprints or oil adhere to the drum surface, the property of the photosensitive drum may degrade, affecting the quality of the copy image. So, do not touch the drum surface with bare hands.

(2) Handling precautions

As the photoconductive drum surface is very sensitive, be sure to handle the drum carefully when installing and removing it so as not damage its surface.

Be sure to apply "patting powder" (lubricant) to the entire surface of the drum (including both ends of the drum where OPC is not coated) when replacing the drum. When the drum has been replaced with a new one, the drum counter (setting mode (08-1150-0, 3, 6 and 7) must be cleared to 0 (zero). This clearing can be performed in PM support mode.

**Notes:**

1. Application of the patting powder is for reducing the friction between the drum and cleaning blade. If the application of patting powder is neglected, the drum and cleaning blade may be damaged.
2. When paper fibers or dirt adhere to the cleaning blade edge, they may reduce the cleaning efficiency and, in addition, may damage the blade and the drum. Be sure to remove any fibers found adhering to the blade.

(3) Installation of equipment and storage of drum

Avoid installing the equipment where it may be subjected to high temperature, high humidity, chemicals and/or their fumes.

Do not place the drum in a location where it is exposed to direct sunlight or high intensity light such as near a window. Otherwise the drum will fatigue, and will not produce sufficient image density immediately after being installed in the equipment.

(4) Cleaning the drum

At periodic maintenance calls, wipe the entire surface of the drum clean using the designated cleaning cotton. Use sufficiently thick cleaning cotton (dry soft pad) so as not to scratch the drum surface inadvertently with your fingertips or nails. Also, remove your rings and wristwatch before starting cleaning work to prevent accidental damage to the drum.

Do not use alcohol, selenium refresher and other organic solvents or silicon oil as they will have an adverse effect on the drum.

(5) Scratches on photoconductive drum surface

If the surface is scratched in such a way that the aluminum substrate is exposed, no copy image will be produced on this area. In addition, the cleaning blade will be damaged so replacement with a new drum will be necessary.

(6) Collecting used photoconductive drums

Regarding the recovery and disposal of used photoconductive drums, we recommend following the relevant local regulations or rules.



### **4.8.3 Checking and cleaning of drum cleaning blade and transfer belt cleaning blade**

#### (1) Handling precautions

Pay attention to the following points as the cleaning blade life is determined by the condition of its edge:

- Do not allow hard objects to hit or rub against blade edge.
- Do not rub the edge with a cloth or soft pad.
- Do not leave oil (or fingerprints, etc.) on the edge.
- Do not apply solvents such as paint thinner to the blade.
- Do not allow paper fibers or dirt to contact the blade edge.
- Do not place the blade near a heat source.

#### (2) Cleaning procedure

Clean the blade edge with a cloth moistened with water and squeezed lightly.

### **4.8.4 Handling of drum cleaner brush**

Do not touch the brush surface with bare hands.

### **4.8.5 Handling of transfer belt**

- (1) Do not touch the transfer belt surface with bare hands.
- (2) Prevent oil or other foreign matter from adhering to the transfer belt surface.
- (3) Do not touch the transfer belt with alcohol or any other organic solvent.
- (4) Do not apply external pressure that might scratch the transfer belt.
- (5) When replacing the belt and transfer belt cleaning unit, apply patting powder sufficiently and evenly. Otherwise, it may reduce the cleaning efficiency.
- (6) When replacing the transfer belt, clean the drive roller-1 drive roller-2, and tension roller with a solvent such as alcohol, and then attach the transfer belt.

### **4.8.6 Checking and cleaning of fuser belt and pressure roller**

#### (1) Handling precautions

Fuser belt

- Do not touch the fuser belt surface with bare hands.
- Prevent oil or other foreign matter from staining the fuser belt surface.
- Do not allow alcohol or any other organic solvent to contact with the fuser belt.
- Do not apply external pressure that might scratch the fuser belt.

Pressure roller

- Do not leave any oil (fingerprints, etc.) on the pressure roller.
- Be careful not to allow any hard object to hit or rub against the pressure roller, or it may be damaged, possibly resulting in poor cleaning.

(2) Checking

- Check for stain and damage on the fuser belt and pressure roller, and clean if necessary.
- Check the separation guide and fingers and check for chipped tips.
- Check the cleaning effect of the cleaning roller.
- Check the thermistors for proper contact with the pressure roller.
- Check the fused and fixed condition of the toner.
- Check the gap between the inlet guide and pressure roller.
- Check the fuser belt for proper transportation.
- Check the pressure roller for proper rotation.

(3) Cleaning procedure

When the fuser belt and pressure roller become dirty, they will cause jamming. If this happens, wipe the surface clean with a suitable cloth. For easier cleaning, clean the belt and roller while they are still warm.

**Note:**

Be careful not to rub the fuser belt and pressure roller surface with your nails or hard objects because it can be easily damaged. Do not use silicone oil on the fuser belt and pressure roller.

(4) Checking after the assembly of the fuser belt unit

After the assembly, rotate the fuser belt for a round to confirm that the belt is neither folded nor scratched.

A folded or scratched belt may be broken when it is in use.

#### **4.8.7 Checking and replacing the oil roller and cleaning roller**

(1) Handling precautions

Never allow solvents such as paint thinner to touch to the oil/cleaning rollers.

(2) Poor cleaning and corrective treatment

Judgment should be made depending on how much toner has been deposited on the fuser belt surface. When its surface is stained with toner, check the oil roller and cleaning roller. If toner is heavily adhered on the oil/cleaning rollers, it means the cleaning performance is declined and the oil/cleaning rollers should be replaced with new ones.

The oil/cleaning rollers are gradually degraded due to subjection to the heat from the fuser belt over a long period of time. Replace them after the specified number of output pages have been made.

## 5. TROUBLESHOOTING

When any of the PC boards or the HDD requires replacement, refer to “5.3 Replacement of PC Boards and HDD”.

### 5.1 Diagnosis and Prescription for Each Error Code

#### 5.1.1 Paper transport jam (paper exit section)

**[E010] Jam not reaching the exit sensor**

**[E020] Stop jam at the exit sensor**

Open the jam access cover. Is there any paper on the transport path?

YES → Remove the paper.  
NO ↓

Is the paper clinging to the transfer belt entering under the receiving tray?

YES → Take an appropriate action according to the countermeasure of [E011] (▶ Chapter 5.1.4).  
NO ↓

Is the exit sensor working? (Perform the input check: 03-[FAX]OFF/[7]/[H])

NO →  
1. Check if the connector of the exit sensor is disconnected.  
2. Check if the connector CN358 on the LGC board is disconnected.  
3. Check if the connector pins are disconnected or the harnesses are open circuited.  
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.  
5. Replace the exit sensor.  
6. Replace the LGC board.  
YES ↓

Is the registration clutch working? (Perform the output check: 03-108/158)

NO →  
1. Check if the connector of the registration clutch is disconnected.  
2. Check if the connector CN362 on the LGC board is disconnected.  
3. Check if the connector pins are disconnected or the harnesses are open circuited.  
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.  
5. Replace the registration clutch.  
6. Replace the LGC board.  
YES ↓

Check the registration roller. Replace it if it is worn out.

## 5.1.2 Paper misfeeding

### [E110] ADU misfeeding (paper not reaching the registration sensor)

Open the jam access cover. Is there any paper in front of the registration sensor?

YES → Remove the paper.

NO ↓

Is the registration sensor working? (Perform the input check: 03-[FAX]ON/[9]/[E])

- NO →
1. Check if the connector of the registration sensor is disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the registration sensor.
  6. Replace the LGC board.

YES ↓

Is the ADU clutch working? (Perform the output check: 03-222)

- NO →
1. Check if the connector of the ADU clutch is disconnected.
  2. Check if the connector CN340 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the ADU clutch.
  6. Replace the LGC board.

YES ↓

Check the rollers in the ADU. Replace them if they are worn out.

**[E120] Bypass misfeeding (paper not reaching the registration sensor)**

Open the jam access cover. Is there any paper in front of the registration sensor?

YES → Remove the paper.

NO ↓

Is the registration sensor working? (Perform the input check: 03-[FAX]ON/[9]/[E])

- NO →
1. Check if the connector of the registration sensor is disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected and the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the registration sensor.
  6. Replace the LGC board.

YES ↓

Are the bypass feed clutch and bypass feed sensor working? (Perform the output check: 03-204 and the input check: 03-[FAX]ON/[9]/[D])

- NO →
1. Check if the connector of the bypass feed clutch and bypass feed sensor are disconnected.
  2. Check if the connector CN340 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected and the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the bypass feed clutch and bypass feed sensor.
  6. Replace the LGC board.

YES ↓

Check the bypass transport, feed, separation and pickup rollers. Replace them if they are worn out.

**[E130] Upper drawer misfeeding (paper not reaching the upper drawer feed sensor)**

Open the jam access cover. Is there any paper in front of the upper drawer feed sensor?

YES → Remove the paper.

NO ↓

Is the upper drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[3]/[H])

- NO →
1. Check if the connector of the upper drawer feed sensor is disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the upper drawer feed sensor.
  6. Replace the LGC board.

YES ↓

Is the upper drawer feed clutch working? (Perform the output check: 03-201)

- NO →
1. Check if the connector of the upper drawer feed clutch is disconnected.
  2. Check if the connector CN337 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the upper drawer feed clutch.
  6. Replace the LGC board.

YES ↓

Check the upper drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.

**[E140] Lower drawer misfeeding (paper not reaching the lower drawer feed sensor)**

Open the side cover. Is there any paper in front of the lower drawer feed sensor?

YES → Remove the paper.

NO ↓

Is the lower drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[3]/[G])

- NO →
1. Check if the connector of the lower drawer feed sensor is disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the lower drawer feed sensor.
  6. Replace the LGC board.

YES ↓

Is the lower drawer feed clutch working? (Perform the output check: 03-202)

- NO →
1. Check if the connector of the lower drawer feed clutch is disconnected.
  2. Check if the connector CN337 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the lower drawer feed clutch.
  6. Replace the LGC board.

YES ↓

Check the lower drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.

**[E150] PFP upper drawer misfeeding (paper not reaching the PFP upper drawer feed sensor)**

Open the PFP side cover. Is there any paper in front of the PFP upper drawer feed sensor?

YES → Remove the paper.

NO ↓  
Is the PFP upper drawer feed sensor working? (Perform the input check: 03-[FAX]OFF/[2]/[D])

- NO →
1. Check if the connector of the PFP upper drawer feed sensor is disconnected.
  2. Check if either of the connectors CN241 or CN243 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP upper drawer feed sensor.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓  
Is the PFP upper drawer feed clutch working? (Perform the output check: 03-226)

- NO →
1. Check if the connector of the PFP upper drawer feed clutch is disconnected.
  2. Check if any of the connectors CN241, CN242 and CN244 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP upper drawer feed clutch.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓  
Check the PFP upper drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.

**[E160] PFP lower drawer misfeeding (paper not reaching the PFP lower drawer feed sensor)**

Open the PFP side cover. Is there any paper in front of the PFP lower drawer feed sensor?

YES → Remove the paper.

NO ↓  
Is the PFP lower drawer feed sensor working? (Perform the input check: 03-[FAX]OFF/[4]/[D])

- NO →
1. Check if the connector of the PFP lower drawer feed sensor is disconnected.
  2. Check if either of the connectors CN241 or CN243 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP lower drawer feed sensor.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓  
Is the PFP lower drawer feed clutch working? (Perform the output check: 03-228)

- NO →
1. Check if the connector of the PFP lower drawer feed clutch is disconnected.
  2. Check if any of the connectors CN241, CN242 and CN244 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP lower drawer feed clutch.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓  
Check the PFP lower drawer feed roller, separation roller and pickup roller. Replace them if they are worn out.



**[E190] LCF misfeeding (paper not reaching the LCF feed sensor)**

Open the LCF side cover. Is there any paper in front of the LCF feed sensor?

YES → Remove the paper.

NO ↓  
Is the LCF feed sensor working? (Perform the input check: 03-[FAX]OFF/[5]/[G])

NO →

1. Check if the connector of the LCF feed sensor is disconnected.
2. Check if either of the connectors CN100 or CN104 on the LCF board is disconnected.
3. Check if the connector CN332 on the LGC board is disconnected.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the LCF board and LGC board are short circuited or open circuited.
6. Replace the LCF feed sensor.
7. Replace the LCF board.
8. Replace the LGC board.

YES ↓  
Is the LCF feed clutch working? (Perform the output check: 03-209)

NO →

1. Check if the connector of the LCF feed clutch is disconnected.
2. Check if any of the connectors CN100, CN101 and CN103 on the LCF board is disconnected.
3. Check if the connector CN332 on the LGC board is disconnected.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the LCF board and LGC board are short circuited or open circuited.
6. Replace the LCF feed clutch.
7. Replace the LCF board.
8. Replace the LGC board.

YES ↓  
Check the LCF feed roller, separation roller and pickup roller. Replace them if they are worn out.

### 5.1.3 Paper transport jam

**[E200] Upper drawer transport jam (not reaching the registration sensor)**

**[E210] Lower drawer transport jam (not reaching the registration sensor)**

**[E300] PFP upper drawer transport jam (not reaching the registration sensor)**

**[E330] PFP lower drawer transport jam (not reaching the registration sensor)**

**[E3C0] LCF transport jam (not reaching the registration sensor)**

Open the jam access cover. Is there paper in front of the registration sensor?

YES → Remove the paper.  
NO ↓

Is the registration sensor working? (Perform the input check: 03-[FAX]ON/[9]/[E])

NO →

1. Check if the connector of the registration sensor is disconnected.
2. Check if the connector CN345 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the registration sensor.
6. Replace the LGC board.

YES ↓

Are the upper transport clutches (high/low speed) working? (Perform the output check: 03-439, 440)

NO →

1. Check if the connectors of the upper transport clutches (high/low speed) are disconnected.
2. Check if the connector CN362 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the upper transport clutches (high/low speed).
6. Replace the LGC board.

YES ↓

1. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
2. Check the transport roller. Replace it if it is worn out.

- [E220] Lower drawer transport jam (not reaching the upper drawer feed sensor)**
- [E310] PFP upper drawer transport jam (not reaching the upper drawer feed sensor)**
- [E340] PFP lower drawer transport jam (not reaching the upper drawer feed sensor)**
- [E3D0] LCF transport jam (not reaching the upper drawer feed sensor)**

Open the jam access cover. Is there paper in front of the upper drawer feed sensor?

YES → Remove the paper.

NO ↓

Is the upper drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[3]/[H])

- NO →
1. Check if the connector of the upper drawer feed sensor is disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the upper drawer feed sensor.
  6. Replace the LGC board.

YES ↓

Are the lower transport clutches (high/low speed) working? (Perform the output check: 03-203, 205)

- NO →
1. Check if the connectors of the lower transport clutches (high/low speed) are disconnected.
  2. Check if the connector CN337 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the lower transport clutches (high/low speed).
  6. Replace the LGC board.

YES ↓

1. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
2. Check the transport roller. Replace it if it is worn out.

**[E320] PFP upper drawer transport jam (not reaching the lower drawer feed sensor)**

**[E350] PFP lower drawer transport jam (not reaching the lower drawer feed sensor)**

**[E3E0] LCF transport jam (not reaching the lower drawer feed sensor)**

Open the side cover. Is there paper in front of the lower drawer feed sensor?

YES → Remove the paper.

NO ↓

Is the lower drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[3]/[G])

- NO →
1. Check if the connector of the lower drawer feed sensor is disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the lower drawer feed sensor.
  6. Replace the LGC board.

YES ↓

Are the lower transport clutches working? (Perform the output check: 03-203, 205)

- NO →
1. Check if the connectors of the lower transport clutches (high/low speed) are disconnected.
  2. Check if the connector CN337 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the lower transport clutches (high/low speed).
  6. Replace the LGC board.

YES ↓

When the paper fed from the PFP:

Is the PFP transport clutch working? (Perform the output check: 03-225)

- NO →
1. Check if the connector of the PFP transport clutch is disconnected.
  2. Check if any of the connectors CN241, CN242 and CN244 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP transport clutch.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓

1. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
2. Check the transport roller. Replace it if it is worn out.

**[E360] PFP lower drawer transport jam (not reaching the PFP upper drawer feed sensor)**

Open the PFP side cover. Is there any paper in front of the PFP upper drawer feed sensor?

YES → Remove the paper.

NO ↓  
Is the PFP upper feed sensor working?

(Perform the input check: 03-[FAX]OFF/[2]/[D])

- NO →
1. Check if the connector of the PFP upper drawer feed sensor is disconnected.
  2. Check if either of the connectors CN241 or CN243 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP upper drawer feed sensor.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓

Is the PFP transport clutch working? (Perform the output check: 03-225)

- NO →
1. Check if the connector of the PFP transport clutch is disconnected.
  2. Check if any of the connectors CN241, CN242 and CN244 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP transport clutch.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓

1. Check the condition of the feed roller, separation roller and pickup roller of each paper source, and replace them if they are worn out.
2. Check the PFP transport roller. Replace it if it is worn out.

**[E510] ADU transport stop jam**

Open the ADU. Is there any paper in front of the ADU exit sensor?

YES → Remove the paper.

NO ↓

Is the ADU exit sensor working? (Perform the input check: 03-[FAX]OFF/[8]/[H])

- NO →
1. Check if the connector of the ADU exit sensor is disconnected.
  2. Check if either of the connectors CN211 or CN213 on the ADU board is disconnected.
  3. Check if the connector CN340 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the ADU board and LGC board are short circuited or open circuited.
  6. Replace the ADU exit sensor.
  7. Replace the ADU board.
  8. Replace the LGC board.

YES ↓

Is the ADU clutch working? (Perform the output check: 03-222)

- NO →
1. Check if the connector of the ADU clutch is disconnected.
  2. Check if the connector CN340 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the ADU clutch.
  6. Replace the LGC board.

YES ↓

Check the rollers in the ADU. Replace them if they are worn out.

## [E520] Stop jam in the ADU

Open the ADU. Is there any paper in front of the ADU entrance sensor?

YES → Remove the paper.

NO ↓  
Is the ADU entrance sensor working? (Perform the input check: 03-[FAX]OFF/[8]/[G])

- NO →
1. Check if the connector of the ADU entrance sensor is disconnected.
  2. Check if either of the connectors CN211 or CN214 on the ADU board is disconnected.
  3. Check if the connector CN340 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the ADU board and LGC board are short circuited or open circuited.
  6. Replace the ADU entrance sensor.
  7. Replace the ADU board.
  8. Replace the LGC board.

YES ↓  
Is the exit motor (rotating in reverse) working? (Perform the output check: 03-121/171)

- NO →
1. Check if the connector of the exit motor is disconnected.
  2. Check if the connectors CN437 and J434 on the DRV board is disconnected.
  3. Check if the connector CN360 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the DRV board and LGC board are short circuited or open circuited.
  6. Replace the exit motor.
  7. Replace the DRV board.
  8. Replace the LGC board.

YES ↓  
Is the ADU motor working? (Perform the output check: 03-110/160)

- NO →
1. Check if the connector of the ADU motor is disconnected.
  2. Check if any of the connectors CN211, CN212 and CN215 on the ADU board is disconnected.
  3. Check if the connector CN340 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the ADU board and LGC board are short circuited or open circuited.
  6. Replace the ADU board.
  7. Replace the LGC board.

YES ↓  
Check the rollers in the ADU and the exit roller of the equipment. Replace them if they are worn out.

**[EB50] Paper remaining on the transport path due to multiple feeding**

When the paper is fed from any of the upper drawer, bypass feed unit or ADU:

Open the jam access cover. Is there any paper in front of the registration sensor?

YES → Remove the paper.

NO ↓  
When the paper is fed from the upper drawer:

Is the upper drawer feed sensor working? (Perform the input check: 03-[FAX]ON/[3]/[H])

NO →  

1. Check if the connector of the upper drawer feed sensor is disconnected.
2. Check if the connector CN345 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the upper drawer feed sensor.
6. Replace the LGC board.

YES ↓  
When the paper is fed from the bypass feed unit:

Is the bypass feed sensor working? (Perform the input check: 03-[FAX]ON/[9]/[D])

NO →  

1. Check if the connector of the bypass feed sensor is disconnected.
2. Check if the connector CN340 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the bypass feed sensor.
6. Replace the LGC board.

YES ↓  
When the paper is fed from the ADU:

Is the ADU exit sensor working? (Perform the input check: 03-[FAX]OFF/[8]/[H])

NO →  

1. Check if the connector of the ADU exit sensor is disconnected.
2. Check if either of the connectors CN211 or CN213 on the ADU board is disconnected.
3. Check if the connector CN340 on the LGC board is disconnected.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the ADU board and LGC board are short circuited or open circuited.
6. Replace the ADU exit sensor.
7. Replace the ADU board.
8. Replace the LGC board.

YES ↓  
Is the registration sensor working? (Perform the input check: 03-[FAX]ON/[9]/[E])

NO →  

1. Check if the connector of the registration sensor is disconnected.
2. Check if the connector CN345 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the registration sensor.
6. Replace the LGC board.

YES ↓  
Check the rollers. Replace them if they are worn out.



When the paper is fed from any of the lower drawer, PFP or LCF:

Open the jam access cover. Is there any paper in front of the upper drawer feed sensor?

YES → Remove the paper.

NO ↓

Are the upper/lower drawer feed sensors working?

(Perform the input check: 03-[FAX]ON/[3]/[H], /[3]/[G])

- NO →
1. Check if the connectors of the upper/lower drawer feed sensors are disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the upper/lower drawer feed sensors.
  6. Replace the LGC board.

YES ↓

Check the rollers. Replace them if they are worn out.

### **[EB60] Paper remaining on the transport path due to multiple feeding**

Open the jam access cover. Is there any paper in front of the registration sensor?

YES → Remove the paper.

NO ↓

Is the registration sensor working? (Perform the input check: 03-[FAX]ON/[9]/[E])

- NO →
1. Check if the connector of the registration sensor is disconnected.
  2. Check if the connector CN345 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the registration sensor.
  6. Replace the LGC board.

YES ↓

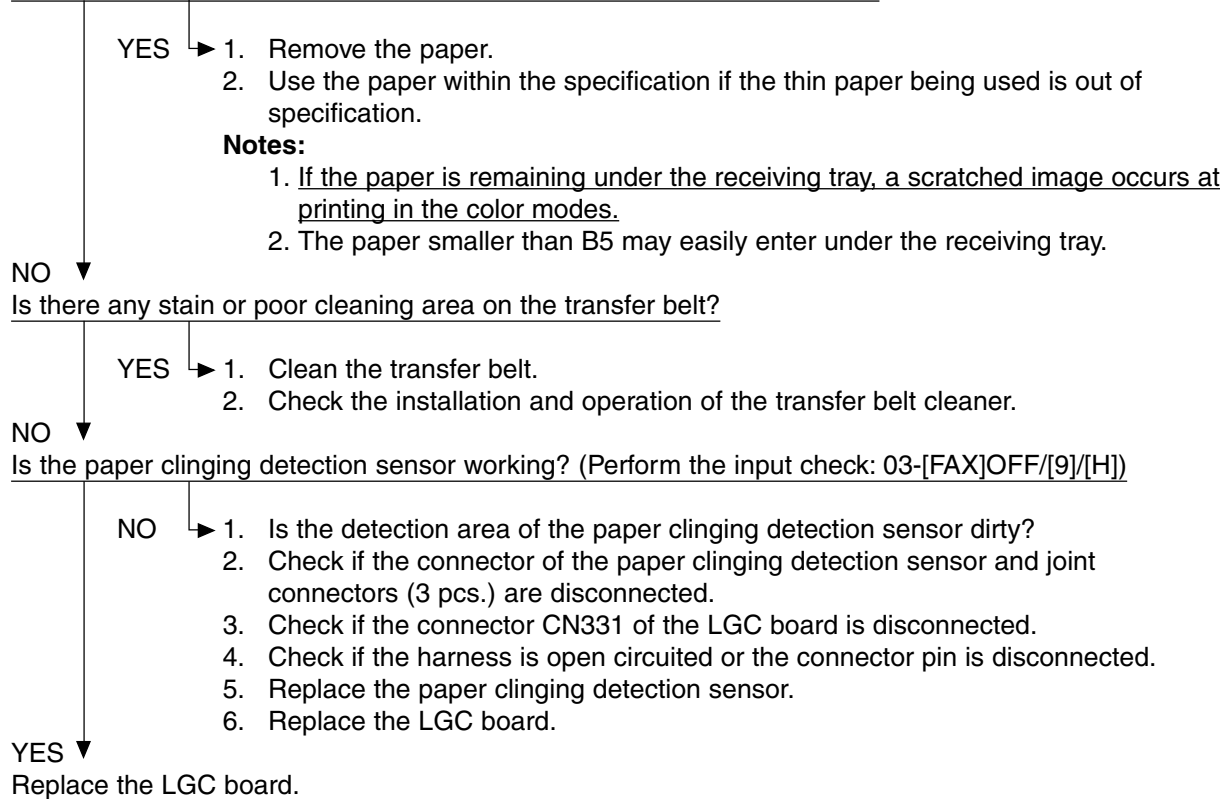
Check the rollers. Replace them if they are worn out.

## 5.1.4 Other paper jam

### [E011] Paper jam caused by clinging to the transfer belt

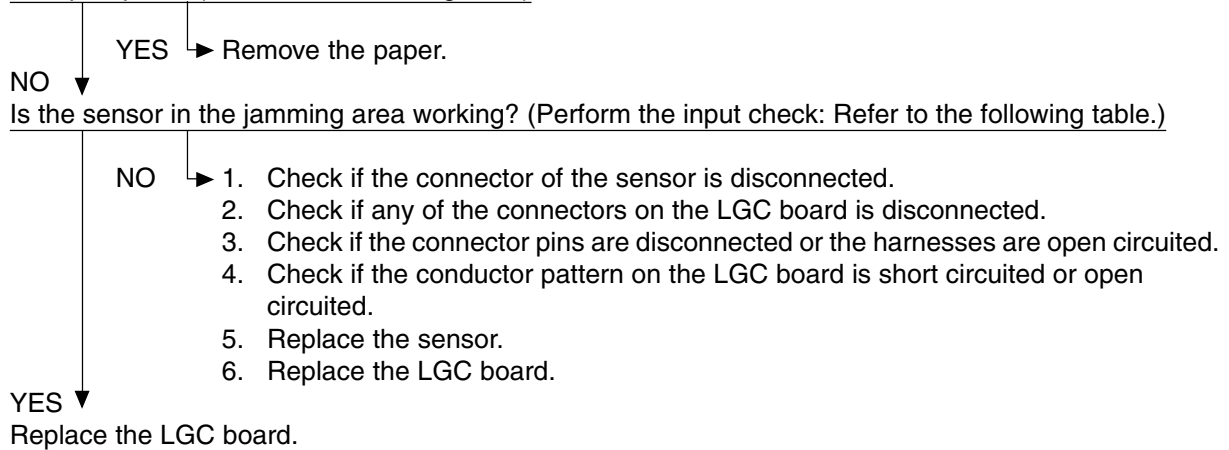
Open the jam access cover. Is the paper clinging to the transfer belt?

Is the paper clinging to the transfer belt entering under the receiving tray?



**[E030] Power-ON jam**

Open the cover of the unit/area whose picture is flashing on the control panel. Is there any paper on the transport path? (Refer to the following table)



Relation between the jamming area and the corresponding sensors/covers  
(If a jam is occurring in the ADU, LCF or PFP, check the board in each unit.)

Jamming area	Cover	Sensor	Test Mode/Input check
Registration area	Jam access cover	Registration sensor	03-[FAX]ON/[9]/[E]
		Upper drawer feed sensor	03-[FAX]ON/[3]/[H]
Exit area	Fuser cover	Exit sensor	03-[FAX]OFF/[7]/[H]
ADU	ADU	ADU entrance sensor	03-[FAX]OFF/[8]/[H]
		ADU exit sensor	03-[FAX]OFF/[8]/[G]
Feeding area (equipment)	Side cover	Lower drawer feed sensor	03-[FAX]ON/[3]/[G]
Bypass unit	Bypass unit	Bypass feed sensor	03-[FAX]ON/[9]/[D]
LCF	LCF side cover	LCF feed sensor	03-[FAX]OFF/[5]/[G]
PFP	PFP side cover	PFP upper drawer feed sensor	03-[FAX]OFF/[2]/[D]
		PFP lower drawer feed sensor	03-[FAX]OFF/[4]/[D]
Bridge unit	Bridge unit	Bridge unit transport sensor-1	03-[FAX]ON/[0]/[C]
		Bridge unit transport sensor-2	03-[FAX]ON/[0]/[A]

**[E090] Paper jam by HDD abnormality**

- (1) Check if the error is cleared by turning the power OFF and then back ON.
- (2) Check if the connectors of the HDD are disconnected.
- (3) Check if the connector pins are disconnected or the harnesses are open circuited.
- (4) Replace the HDD.
- (5) Replace the SYS board.

**[E550] Paper remaining on the transport path**

Open the cover of the unit/area whose picture is flashing on the control panel. Is there any paper on the transport path?

YES → Remove the paper.  
 NO ↓

Is the sensor in the jamming area working? (Perform the input check: Refer to the following table)

NO →

1. Check if the connector of the sensor is disconnected.
2. Check if any of the connectors on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the sensor.
6. Replace the LGC board.

YES ↓  
 Replace the LGC board.

Relation between the jamming area and the corresponding sensors/covers  
 (If a jam is occurring in the ADU, LCF or PFP, check the board in each unit.)

Jamming area	Cover	Sensor	Test Mode/Input check
Registration area	Jam access cover	Registration sensor	03-[FAX]ON/[9]/[E]
		Upper drawer feed sensor	03-[FAX]ON/[3]/[H]
Exit area	Fuser cover	Exit sensor	03-[FAX]OFF/[7]/[H]
ADU	ADU	ADU entrance sensor	03-[FAX]OFF/[8]/[H]
		ADU exit sensor	03-[FAX]OFF/[8]/[G]
Bypass unit	Bypass unit	Bypass feed sensor	03-[FAX]ON/[9]/[D]
Feeding area (equipment)	Side cover	Lower drawer feed sensor	03-[FAX]ON/[3]/[G]
LCF	LCF side cover	LCF feed sensor	03-[FAX]OFF/[5]/[G]
PFP	PFP side cover	PFP upper drawer feed sensor	03-[FAX]OFF/[2]/[D]
		PFP lower drawer feed sensor	03-[FAX]OFF/[4]/[D]
Bridge unit	Bridge unit	Bridge unit transport sensor-1	03-[FAX]ON/[0]/[C]
		Bridge unit transport sensor-2	03-[FAX]ON/[0]/[A]
Finisher	Finisher door	Sensors in the finisher	-

## 5.1.5 Cover open jam

### [E400] Jam access cover open

Is the jam access cover open?

YES → Remove paper if there is any, then shut the cover.

NO ↓

Is the voltage of 24V being supplied from the power supply unit?

(Perform the input check: 03-[FAX] ON/[1]/[H])

NO →

1. Check if the connector for 24V power supply is disconnected.
2. Check if the connector CN350 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the LGC board.

YES ↓

Replace the LGC board.

### [E410] Front cover open jam

Is the front cover open?

YES → Shut the cover.

NO ↓

Is the voltage of 24V being supplied from the power supply unit?

(Perform the input check: 03-[FAX] ON/[1]/[H])

NO →

1. Check if the connector for 24V power supply is disconnected.
2. Check if the connector CN350 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the LGC board.

YES ↓

Is the front cover opening/closing switch working?

(Perform the input check: 03-[FAX] OFF/[7]/[F])

NO →

1. Check if the connector of the front cover opening/closing switch is disconnected.
2. Check if the connector CN345 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the front cover opening/closing switch.
6. Replace the LGC board.

YES ↓

Replace the LGC board.

### [E420] PFP side cover open jam

Is the PFP side cover open?

YES → Remove the paper if there is any, then shut the cover.

NO ↓

Is the PFP side cover opening/closing switch working? (Perform the input check: 03-[FAX]OFF/[2]/[F])

- NO →
1. Check if the connector of the PFP side cover opening/closing switch is disconnected.
  2. Check if either of the connectors CN241 or CN243 on the PFP board is disconnected.
  3. Check if the connector CN332 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the PFP board and LGC board are short circuited or open circuited.
  6. Replace the PFP side cover opening/closing switch.
  7. Replace the PFP board.
  8. Replace the LGC board.

YES ↓

1. Replace the PFP board.
2. Replace the LGC board.

### [E430] ADU open jam

Is the ADU open?

YES → Remove the paper if there is any, then shut the ADU.

NO ↓

Is the ADU opening/closing switch working? (Perform the input check: 03-[FAX]OFF/[8]/[F])

- NO →
1. Check if the connector of the ADU opening/closing switch is disconnected.
  2. Check if either of the connectors CN211 or CN217 on the ADU board is disconnected.
  3. Check if the connector CN340 on the LGC board is disconnected.
  4. Check if the connector pins are disconnected or the harnesses are open circuited.
  5. Check if the conductor patterns on the ADU board and LGC board are short circuited or open circuited.
  6. Replace the ADU opening/closing switch.
  7. Replace the ADU board.
  8. Replace the LGC board.

YES ↓

1. Replace the ADU board.
2. Replace the LGC board.

### [E440] Side cover open jam

Is the side cover open?

YES → Remove the paper if there is any, then shut the cover.

NO ↓

Is the side door switch working?

(Perform the input check: 03-[FAX]OFF/[7]/[E])

NO →

1. Check if the connector of the side door switch is disconnected.
2. Check if the connector CN345 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the side door switch.
6. Replace the LGC board.

YES ↓

Replace the LGC board.

### [E450] LCF side cover open jam

Is the LCF side cover open?

YES → Remove the paper if there is any, then shut the cover.

NO ↓

Is the LCF side cover opening/closing switch working?

(Perform the input check: 03-[FAX]OFF/[5]/[D])

NO →

1. Check if the connector of the LCF side cover opening/closing switch is disconnected.
2. Check if either of the connectors CN100 or CN106 on the LCF board is disconnected.
3. Check if the connector CN332 on the LGC board is disconnected.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the LCF board and LGC board are short circuited or open circuited.
6. Replace the LCF side cover opening/closing switch.
7. Replace the LCF board.
8. Replace the LGC board.

YES ↓

1. Replace the LCF board.
2. Replace the LGC board.

## [E480] Bridge unit open jam

Is the Bridge unit open?

YES → Remove the paper if there is any, then close the unit.

NO ↓

Is the bridge unit cover opening/closing detection switch working?

(Perform the input check: 03-[FAX]ON/[0]/[B])

NO →

1. Check if the connector of the bridge unit cover opening/closing detection switch is disconnected.
2. Check if the connector CN351 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the bridge unit cover opening/closing detection switch.
6. Replace the LGC board.

YES ↓

Replace the LGC board.



## 5.1.6 RADF jam

### Note:

When performing the RADF related troubleshooting, be sure to perform "Automatic adjustment of RADF sensor and EEPROM initialization (05-356)" and then "RADF original guide width adjustment (05-367, 368)" at Adjustment Mode whenever the RADF board, original length sensor, read sensor or reverse sensor has been replaced.

### [E711] Jam not reaching the original length sensor

### [E712] Jam not reaching the registration sensor

### [E713] Stop jam at the original length sensor

Are the pickup roller, feed roller and separation roller stained or worn out?

YES → Clean the rollers or replace them.

NO ↓

Is the original excessively curled or folded?

YES → Flatten and set it again.

NO ↓

Are the original length sensor and registration sensor working?

(Perform the input check: 03-[FAX]ON/[8]/[E], [7]/[H])

NO →

1. Check if the connectors of the original length sensor and registration sensor are disconnected.
2. Check if the connector CN3 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the original length sensor and registration sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E714] Feed signal reception jam

Is the empty sensor working? (Perform the input check: 03-[FAX]ON/[7]/[B])

NO →

1. Check if the lever of empty sensor is working normally.
2. Check if the connector of the empty sensor is disconnected.
3. Check if the connector CN5 on the RADF board is disconnected.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor pattern on the RADF board is short circuited or open circuited.
6. Replace the empty sensor.
7. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E721] Jam not reaching the read sensor

Are the registration roller and read roller stained?

YES → Clean the rollers.

NO ↓

Is the read sensor working? (Perform the input check: 03-[FAX]ON/[7]/[G])

NO →

1. Check if the connector of the read sensor are disconnected.
2. Check if the connector CN6 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the read sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E722] Jam not reaching the exit sensor (during scanning)

### [E723] Jam not reaching the reverse sensor (during scanning)

Is the read roller stained?

YES → Clean the roller.

NO ↓

Are the exit sensor and reverse sensor working? (Perform the input check: 03-[FAX]ON/[7]/[E], [7]/[F])

NO →

1. Check if the connectors of the exit sensor and reverse sensor are disconnected.
2. Check if the connector CN4 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the exit sensor and reverse sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E724] Stop jam at the registration sensor

Is the registration roller stained?

YES → Clean the roller.

NO ↓

Is the registration sensor working? (Perform the input check: 03-[FAX]ON/[7]/[H])

NO →

1. Check if the connector of the registration sensor is disconnected.
2. Check if the connector CN3 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the registration sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E725] Stop jam at the read sensor

Is the read roller stained?

YES → Clean the roller.

NO ↓

Is the read sensor working? (Perform the input check: 03-[FAX]ON/[7]/[G])

NO →

1. Check if the connector of the read sensor is disconnected.
2. Check if the connector CN6 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the read sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E726] Transport/exit signal reception jam

1. If the original remains in the RADF, remove it.
2. If any paper remains in the equipment, remove it.
3. Turn the power OFF and then back ON. If the jam still occurs, lead the following procedure.
4. Check the connection between the RADF board and SLG board, and the connection between the RADF board and switching power supply.
  - Are the connection of the connectors and joint connectors normal?
  - Are the connector pins disconnected or are the harnesses open circuited?
5. Check if the 24V and 5V outputs of the switching power supply are normal.
6. Check if the conductor pattern on the RADF board is short circuited or open circuited.
7. Replace the RADF board.
8. Check if the conductor pattern on the SLG board is short circuited or open circuited.
9. Replace the SLG board.

### [E731] Stop jam at the exit sensor

Is the exit roller stained?

YES → Clean the roller.

NO ↓

Is the exit sensor working? (Perform the input check: 03-[FAX]ON/[7]/[E])

NO →

1. Check if the connector of the exit sensor is disconnected.
2. Check if the connector CN4 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the exit sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E741] Stop jam at the reverse sensor

Are the read roller and reverse roller stained?

YES → Clean the rollers.

NO ↓

Is the reverse sensor working? (Perform the input check: 03-[FAX]ON/[7]/[F])

NO →

1. Check if the connector of the reverse sensor is disconnected.
2. Check if the connector CN4 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the reverse sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E742] Jam not reaching the reverse sensor (feeding in reverse)

Is the reverse roller stained?

YES → Clean the roller.

NO ↓

Is the reverse sensor working? (Perform the input check: 03-[FAX]ON/[7]/[F])

NO →

1. Check if the connector of the reverse sensor is disconnected.
2. Check if the connector CN4 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the reverse sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E743] Jam not reaching the exit sensor (feeding in reverse)

Are the reverse roller and read roller stained?

YES → Clean the rollers.

NO ↓

Is the exit sensor working? (Perform the input check: 03-[FAX]ON/[7]/[E])

NO →

1. Check if the connector of the exit sensor is disconnected.
2. Check if the connector CN4 on the RADF board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
5. Replace the exit sensor.
6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E860] Jam access cover open

Is the jam access cover opened?

YES → Remove the original, if any, and close the jam access cover.

NO ↓

Is the jam access cover switch working? (Perform the input check: 03-[FAX]ON/[7]/[C])

- NO →
1. Check if the connector of the jam access cover switch is disconnected.
  2. Check if the connector CN8 on the RADF board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
  5. Replace the jam access cover switch.
  6. Replace the RADF board.

YES ↓

Replace the RADF board.

### [E870] RADF open jam

Is the RADF opened?

YES → Remove the original, if any, and close the RADF.

NO ↓

Is the RADF opening/closing sensor adjusted within the specified range?

NO → Adjust the RADF opening/closing sensor.

YES ↓

Is the RADF opening/closing sensor working? (Perform the input check: 03-[FAX]ON/[7]/[D])

- NO →
1. Check if the connector of the RADF opening/closing sensor is disconnected.
  2. Check if the connector CN6 on the RADF board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the RADF board is short circuited or open circuited.
  5. Replace the RADF opening/closing sensor.
  6. Replace the RADF board.

YES ↓

Replace the RADF board.

## 5.1.7 Finisher jam

### (1) Jam in bridge unit

**[E910] Paper not reaching the bridge unit transport sensor-1**

**[E920] Paper stopping at the bridge unit transport sensor-1**

**[E930] Paper not reaching the bridge unit transport sensor-2**

**[E940] Paper stopping at the bridge unit transport sensor-2**

Is there any paper remaining inside the bridge unit?

YES → Remove the paper.  
NO ↓

Are the bridge unit transport sensors-1 and -2 working?

(Perform the input check: 03-[FAX]ON/[0]/[C], /[0]/[A])

NO →

1. Check if the connectors of the bridge unit transport sensors-1 and -2 are disconnected.
2. Check if the connector J510 of the bridge unit is disconnected.
3. Check if the connector CN351 on the LGC board is disconnected.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor pattern on the LGC board is short circuited or open circuited.
6. Replace the bridge unit transport sensors-1 and -2.
7. Replace the LGC board.

YES ↓

Is the bridge unit gate solenoid working? (Perform the output check: 03-232)

NO →

1. Check if the connector J510 of the bridge unit is disconnected.
2. Check if the connector CN351 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Replace the bridge unit gate solenoid.
5. Replace the LGC board.

YES ↓

Does the transport roller of the bridge unit work when the main motor is rotated?

(Perform the output check: 03-101/151)

NO → Check the drive system of the equipment and bridge unit.  
YES ↓  
Check if the rollers in the bridge unit are worn out.

## (2) Paper jam in finisher section

### [EA10] Paper transport delay jam

MJ-1022

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.  
NO ↓

Is the connector J10 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and inlet sensor (S2) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Is the inlet sensor working normally? (Check the movement of the actuator.)

NO →  
1. Connect the connector of the inlet sensor securely.  
2. Attach the actuator securely if its shaft is out of place.  
3. Replace the inlet sensor.

YES ↓  
Replace the finisher controller PC board.

MJ-1023/1024

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.  
NO ↓

Is the connector J708 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and inlet sensor (PI33) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Is the inlet sensor working properly? (Check the movement of the actuator.)

NO →  
1. Connect the connector of the inlet sensor securely.  
2. Attach the actuator securely if its shaft is out of place.  
3. Replace the inlet sensor.

YES ↓  
Replace the finisher controller PC board.

## [EA20] Paper transport stop jam

### MJ-1022

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is the connector J10 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and inlet sensor (S2) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the inlet sensor working properly? (Check the movement of the actuator.)

NO →

1. Connect the connector of the inlet sensor securely.
2. Attach the actuator securely if its shaft is out of place.
3. Replace the inlet sensor.

YES ↓

Replace the finisher controller PC board.

### MJ-1023/1024

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is any of the connectors (J707, J708 and J722B) on the finisher controller PC board disconnected?

Is the harness between the finisher controller PC board and each sensor (the inlet sensor [PI33], the transport path sensor [PI34], the processing tray sensor [PI38]) open circuited?

YES → Connect the connectors securely. Replace the harnesses.

NO ↓

Is each of the sensors (the inlet sensor, the transport path sensor and the processing tray sensor) working properly? (Check the movement of the actuator.)

NO →

1. Connect the connectors of the sensors securely.
2. Attach the actuators securely if their shafts are out of place.
3. Replace the sensors.

YES ↓

Replace the finisher controller PC board.



## [EA30] Power-ON jam

### MJ-1022

Is there any paper remaining on the transport path in the finisher?

YES → Remove the paper.

NO ↓

Is the connector J10 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and inlet sensor (S2) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the inlet sensor working properly? (Check the movement of the actuator.)

NO →

1. Connect the connector of the inlet sensor securely.
2. Attach the actuator securely if its shaft is out of place.
3. Replace the inlet sensor.

YES ↓

Replace the finisher controller PC board.

### MJ-1023/1024

Is there any paper remaining on the transport path in the finisher?

YES → Remove the paper.

NO ↓

Is any of the connectors J707, J708 and J722B on the finisher controller PC board disconnected?

Is the harness between the finisher controller PC board and each sensor (the inlet sensor [PI33], the transport path sensor [PI34], the processing tray sensor [PI38], open circuited?

YES → Connect the connectors securely. Replace the harnesses.

NO ↓

Is each of the sensors (the inlet sensor, the transport path sensor and the processing tray sensor) working properly?

(Check the movement of the actuator.)

NO →

1. Connect the connectors of the sensors securely.
2. Attach the actuators securely if their shafts are out of place.
3. Replace the sensors.

YES ↓

Replace the finisher controller PC board.

**[EA40] Door open jam**

MJ-1022

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is the finisher connected with the equipment?

NO → Connect the finisher with the equipment.

YES ↓

Is the connector J11 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and joint sensor (S4) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the joint sensor working properly?

NO → 1. Connect the connector of the joint sensor securely.  
2. Replace the joint sensor.

YES ↓

Replace the finisher controller PC board.

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.  
NO ↓

Is either of the covers upper or front of the finisher closed?

NO → Close the door.  
YES ↓

Is any connectors J707 and J708 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and upper/front cover opening sensors (PI31 and PI32) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Is the upper/front cover opening sensor working properly?

NO → 1. Connect the connector of the upper/front cover opening sensor securely.  
2. Replace the upper/front cover opening sensor.  
YES ↓

Is the connector J719 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and front cover switch (MS31) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Is the front cover switch working properly?

NO → 1. Connect the connector of the front cover switch securely.  
2. Replace the front cover switch.  
↓

Is the connector J5 on the punch controller PC board disconnected?

Is the harness connecting the punch controller PC board and upper door switch (MSW61) open circuited?

Is the harness connecting the punch controller PC board and front door switch (MSW62) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Are the upper and front door switches working properly?

NO → 1. Connect the connectors of the upper and front door switches securely.  
2. Replace the upper/front door switches.  
YES ↓

Replace the finisher controller PC board.

## [EA50] Stapling jam

### MJ-1022

Is there any paper remaining on the transport path in the finisher or equipment or on the stapling tray?

YES → Remove the paper.  
NO ↓

Is the jam cleared by taking off the staple cartridge from the finisher and removing the staple sheet slid from the staple case?

YES → End.  
NO ↓

Is the connector J8 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and stapling home position sensor (S17) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Is the stapling home position sensor working properly?

NO → 1. Connect the connector of the stapling home position sensor securely.  
2. Replace the stapling home position sensor.  
YES ↓  
Replace the finisher controller PC board.

### MJ-1023/1024

Is there any paper remaining on the transport path in the finisher or equipment or on the stapling tray?

YES → Remove the paper.  
NO ↓

Is the jam cleared by taking off the staple cartridge from the finisher and removing the staple sheet slid from the staple case?

YES → End.  
NO ↓

Is the connector J721B on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and staple home position sensor (PI40) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Is the staple home position sensor working properly?

NO → 1. Connect the connector of the staple home position sensor securely.  
2. Replace the staple home position sensor.  
YES ↓  
Replace the finisher controller PC board.

**[EA60] Early arrival jam**

MJ-1022

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is the connector J10 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and inlet sensor (S2) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the inlet sensor working properly? (Check the movement of the actuator.)

NO →

1. Connect the connector of the inlet sensor securely.
2. Attach the actuator securely if its shaft is out of place.
3. Replace the inlet sensor.

YES ↓

Replace the finisher controller PC board.

MJ-1023/1024

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is the connector J708 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and inlet sensor (PI33) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the inlet sensor working properly? (Check the movement of the actuator.)

NO →

1. Connect the connector of the inlet sensor securely.
2. Attach the actuator securely if its shaft is out of place.
3. Replace the inlet sensor.

YES ↓

Replace the finisher controller PC board.

## [EA70] Stack delivery jam

MJ-1022

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is the connector J9 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and stack delivery lever home position sensor (S8) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the stack delivery lever home position sensor working properly?

NO →

1. Connect the connector of the stack delivery lever home position sensor securely.
2. Replace the stack delivery lever home position sensor.

YES ↓

Replace the finisher controller PC board.

## [EAF0] Stack return jam

MJ-1022

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is the connector J10 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and returning roller home position sensor (S3) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the returning roller home position sensor working properly?

NO →

1. Connect the connector of the returning roller home position sensor securely.
2. Replace the returning roller home position sensor.

YES ↓

Replace the finisher controller PC board.

### (3) Paper jam in saddle stitcher section

#### [EA80] Stapling jam

MJ-1024

Is there any paper remaining on the transport path or the stapling tray in the finisher, saddle stitcher section or equipment?

YES → Remove the paper.  
NO ↓

Is the jam cleared by taking off the staple cartridge from the finisher and removing the staples stuck in the stapling unit?

YES → End.  
NO ↓

Is the connector J8 on the saddle stitcher controller PC board disconnected?

Is the harness connecting the saddle stitcher controller PC board and stitcher home position switch (rear: SW5, front: SW7) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Are the stitcher home position switches working properly?

NO →  
1. Connect the connectors of the stitcher home position switches securely.  
2. Replace the stitcher home position switches.  
YES ↓

Replace the saddle stitcher controller PC board.

#### [EA90] Door open jam

MJ-1024

Is there any paper remaining on the transport path in the finisher, saddle stitcher section or equipment?

YES → Remove the paper.  
NO ↓

Is the saddle stitcher door closed?

NO → Close the door.  
YES ↓

Is either of the connectors J10 or J11 on saddle stitcher controller PC board disconnected?

Are the harnesses between the saddle stitcher controller PC board and cover opening sensors (delivery cover sensor [PI3], inlet cover sensor [PI9]) open circuited?

YES → Connect the connector securely. Replace the harness.  
NO ↓

Is each of the sensors (delivery cover sensor, inlet cover sensor) working properly?

NO →  
1. Connect the connectors of the each sensor securely.  
2. Replace the sensors.  
YES ↓

Replace the finisher controller PC board.

## [EAA0] Power-ON jam

MJ-1024

Is there any paper remaining on the transport path in the finisher or saddle stitcher section?

YES → Remove the paper.  
NO ↓

Is any of the connectors J9, J10 and J13 on the saddle stitcher controller PC board disconnected?

Is the harness between the saddle stitcher controller PC board and each sensor (No.1 paper sensor [PI18], No.2 paper sensor [PI19], No.3 paper sensor [PI20], the vertical path paper sensor [PI17] and the delivery sensor[PI11]) open circuited?

YES → Connect the connectors securely. Replace the harnesses.  
NO ↓

Is each of the sensors (No.1 paper sensor, No.2 paper sensor, No.3 paper sensor, the vertical path paper sensor, and the delivery sensor) working properly?  
(Check the movement of the actuator.)

NO →  
1. Connect the connectors of the sensors securely.  
2. Attach the actuators securely if their shafts are out of place.  
3. Replace the sensors.  
YES ↓  
Replace the saddle stitcher controller PC board.

## [EAB0] Paper transport stop jam

MJ-1024

Is there any paper remaining on the transport path in the finisher, saddle stitcher section or equipment?

YES → Remove the paper.  
NO ↓

Is the connector J708 on finisher controller PC board disconnected?

Is the harness between the finisher controller PC board and inlet sensor [PI33] open circuited?

Is either of the connectors J9 or J10 on the saddle stitcher controller PC board disconnected?

Is the harness between the saddle stitcher controller PC board and each sensor (No.1 paper sensor [PI18], No.2 paper sensor [PI19], No.3 paper sensor [PI20] and the delivery sensor [PI11]) open circuited?

YES → Connect the connectors securely. Replace the harnesses.  
NO ↓

Is each of the sensors (the inlet sensor, No.1 paper sensor, No.2 paper sensor, No.3 paper sensor and the delivery sensor) working properly?  
(Check the movement of the actuator.)

NO →  
1. Connect the connectors of the sensors securely.  
2. Attach the actuators securely if their shafts are out of place.  
3. Replace the sensors.  
YES ↓  
Replace the saddle stitcher controller PC board.



## [EAC0] Transport delay jam

MJ-1024

Is there any paper remaining on the transport path in the finisher, saddle stitcher section or equipment?

YES → Remove the paper.

NO ↓

Is the connector J708 on the finisher controller PC board disconnected?

Is the harness connecting the finisher controller PC board and inlet sensor (PI33) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the inlet sensor working properly? (Check the movement of the actuator.)

NO

1. Connect the connector of the sensor securely.
2. Attach the actuator securely if its shaft is out of place.
3. Replace the sensor.

YES ↓

Replace the finisher controller PC board.

## (4) Paper jam in puncher unit

### [E9F0] Punching jam

MJ-1023/1024

Is there any paper remaining on the transport path in the finisher or equipment?

YES → Remove the paper.

NO ↓

Is the connector J605A on the punch controller PC board disconnected?

Is the harness connecting the punch controller PC board and punch home position sensor (PI63) open circuited?

YES → Connect the connector securely. Replace the harness.

NO ↓

Is the punch home position sensor working properly?

NO

1. Connect the connector of the punch home position sensor securely.
2. Replace the punch home position sensor.

YES ↓

Replace the punch controller PC board.

## (5) Other paper jam

### [EAD0] Print end command time-out jam

Is the main motor rotating normally?

NO ↓

1. Replace the SYS board.
2. Replace the LGC board.

### [EAE0] Receiving time time-out jam

Is the finisher working?

NO ↓

1. Check if the voltage (24V) is being supplied to the finisher.
2. Check the connection of the LGC board and IPC board.
3. Check if the harness connecting the IPC board and finisher I/F connector of the equipment side is open circuited.
4. Check if the harness connecting the I/F connector of the finisher side and finisher controller PC board is open circuited.
5. Replace the finisher controller PC board.

YES → Replace the finisher controller PC board.

### [EB30] Ready time time-out jam

Is there paper in the equipment?

YES ↓

Are the IPC board and LGC board properly connected to each other?

YES ↓

Is the harness securely connected to the IPC board?

YES ↓

Is any of the connector pins of the harness connecting the equipment and finisher disconnected or any of those harnesses open circuited?

YES ↓

1. Replace the IPC board.
2. Replace the LGC board.
3. Replace the finisher controller PC board.

NO → Replace the LGC board.

NO → Connect them properly.

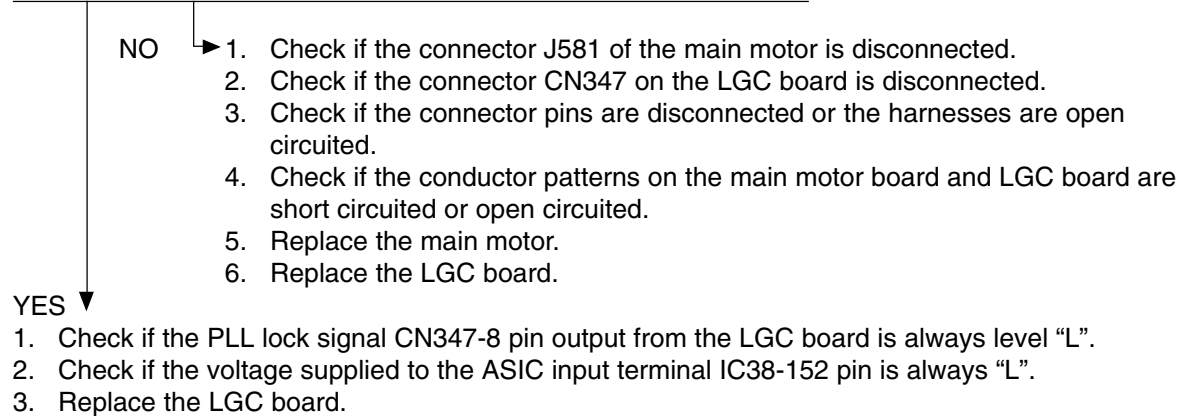
NO → Connect the harness properly.

NO → Connect the pin or replace the harness.

## 5.1.8 Drive system related service call

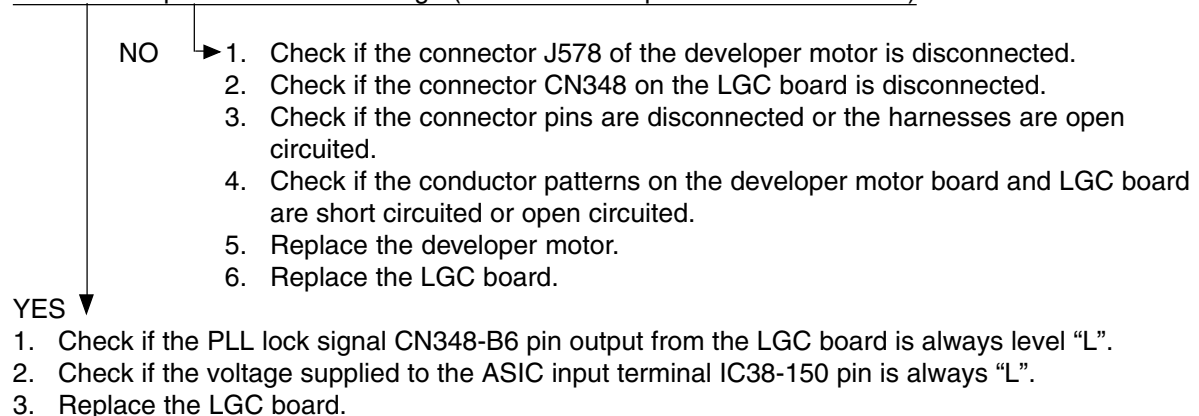
### [C010] Main motor abnormality

Is the main motor working? (Perform the output check: 03-101/151)



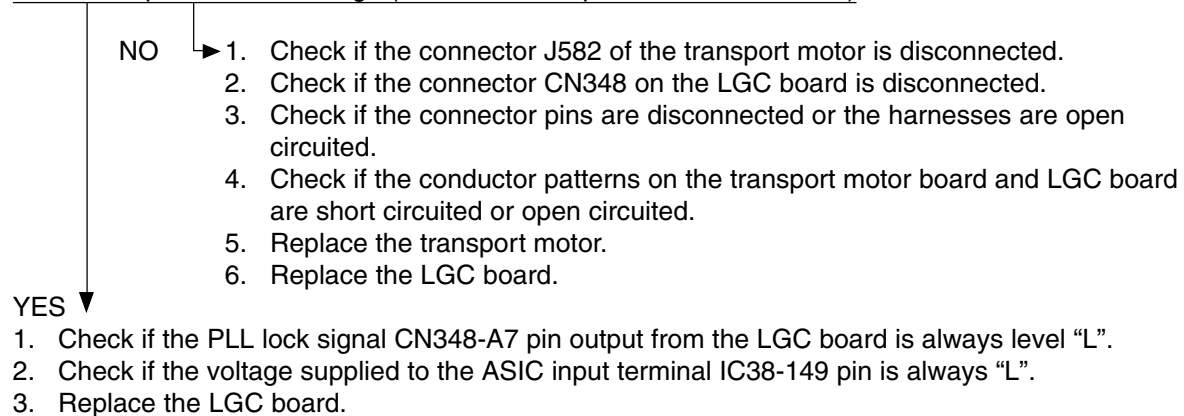
### [C020] Developer motor abnormality

Is the developer unit motor working? (Perform the output check: 03-112/162)



### [C030] Transport motor abnormality

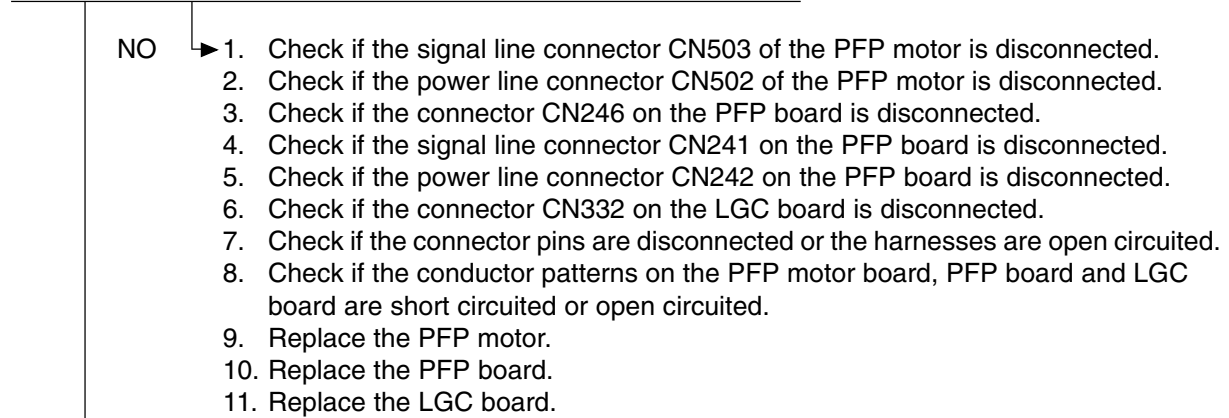
Is the transport motor working? (Perform the output check: 03-123/173)



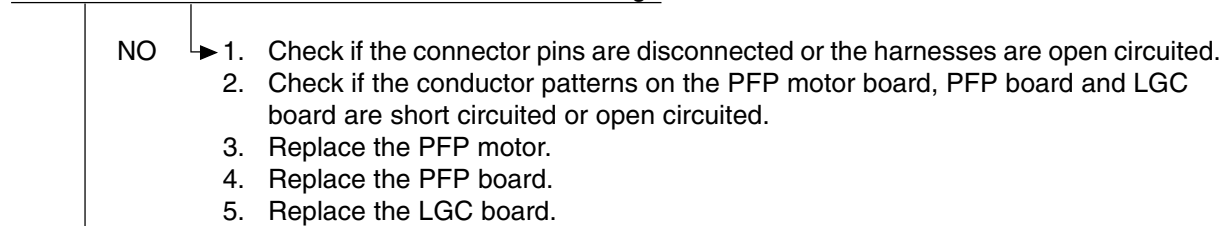
## 5.1.9 Paper feeding system related service call

### [C040] PFP motor abnormality

Is the PFP motor working? (Perform the output check: 03-109/159)



Is the LED on the PFP motor board lit without flashing?

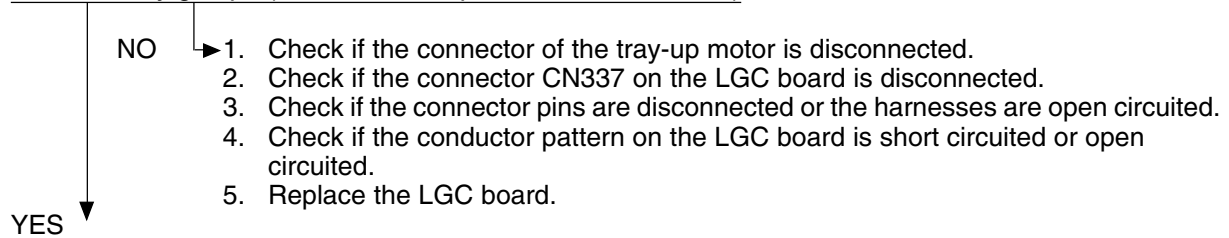


1. Check if the PLL lock signal CN246-8 pin output from the PFP board is always "L" level.
2. Check if the voltage supplied to the microcomputer input terminal IC5-17 pin is always "L" level.
3. Replace the PFP board.
4. Replace the LGC board.

**[C130] Upper drawer tray abnormality**

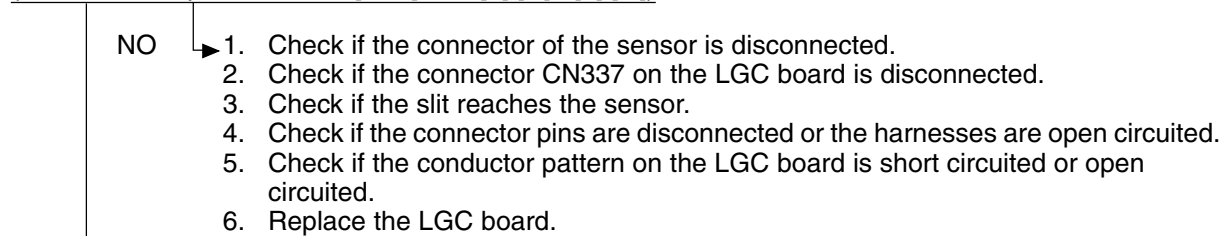
**[C140] Lower drawer tray abnormality**

Does the tray go up? (Perform the output check: 03-242, 243)



Is the tray-up sensor working?

(Perform the input check: 03-[FAX]OFF/[6]/[H], /[6]/[G])

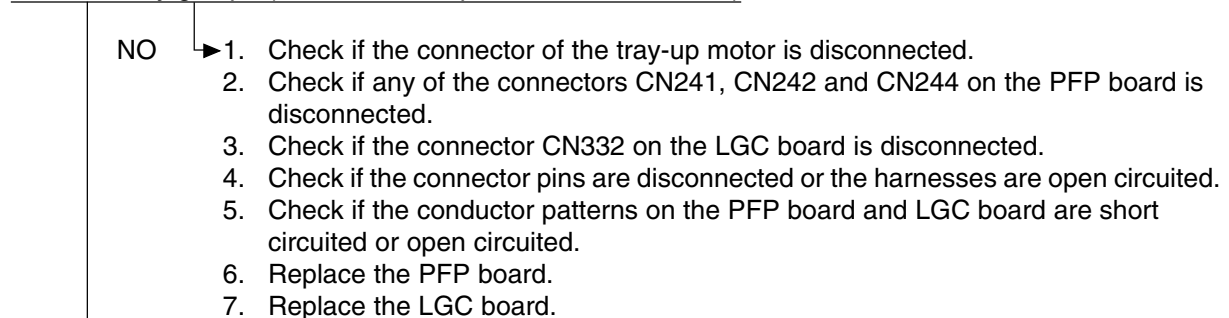


- ▶ 1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
- ▶ 2. Replace the LGC board.

**[C150] PFP upper drawer tray abnormality**

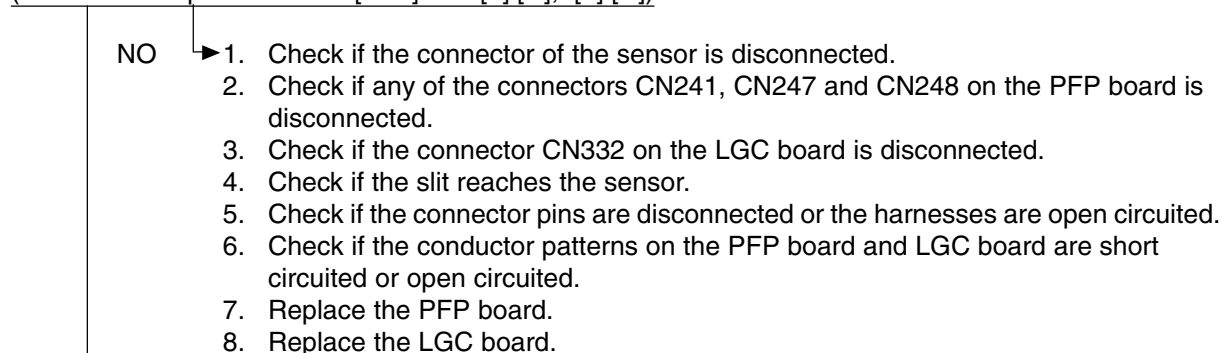
**[C160] PFP lower drawer tray abnormality**

Does the tray go up? (Perform the output check: 03-278, 280)



Is the tray-up sensor working?

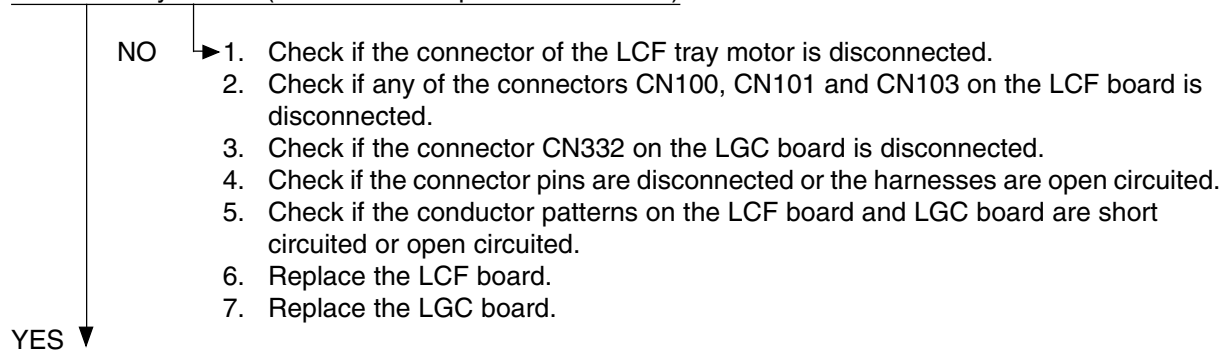
(Perform the input check: 03-[FAX]OFF/[2]/[H], /[4]/[H])



- ▶ 1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
- ▶ 2. Replace the LGC board.

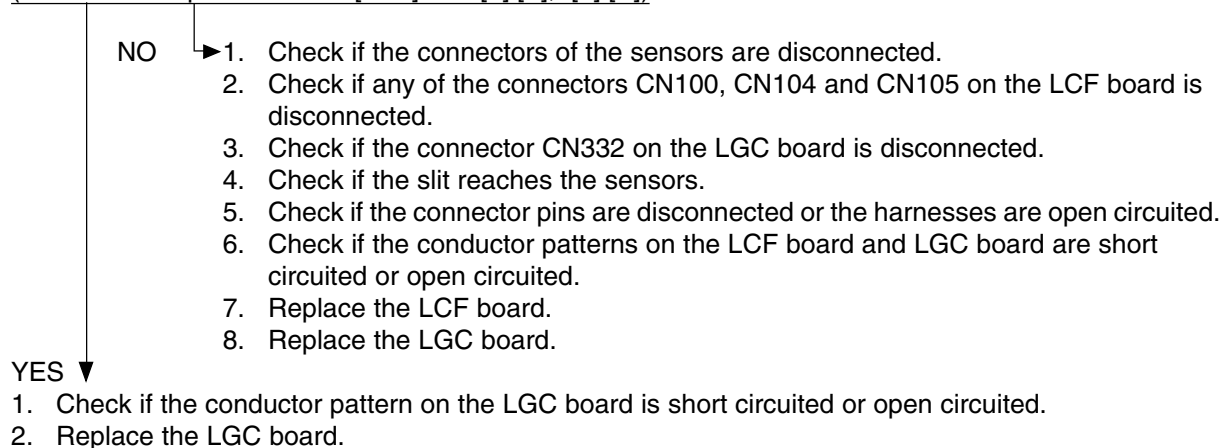
## [C180] LCF tray motor abnormality

Does the tray move? (Perform the output check: 03-271)



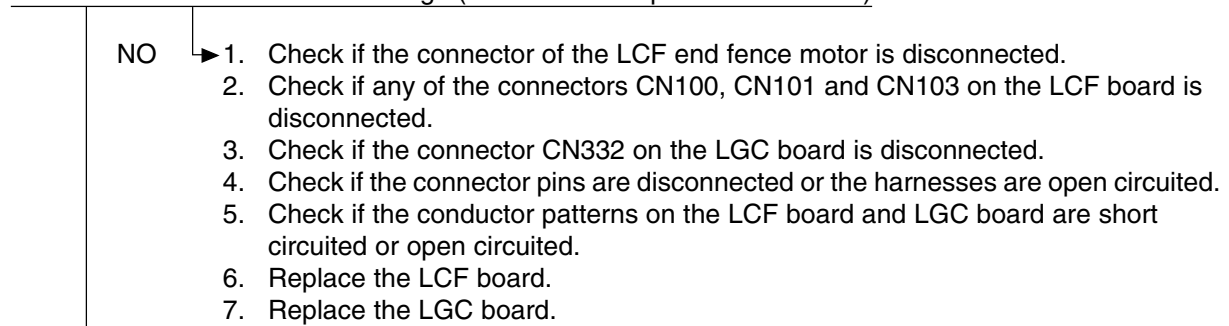
Are the LCF tray-up sensor and LCF tray bottom sensor working?

(Perform the input check: 03-[FAX]OFF/[5]/[F], /[3]/[A])



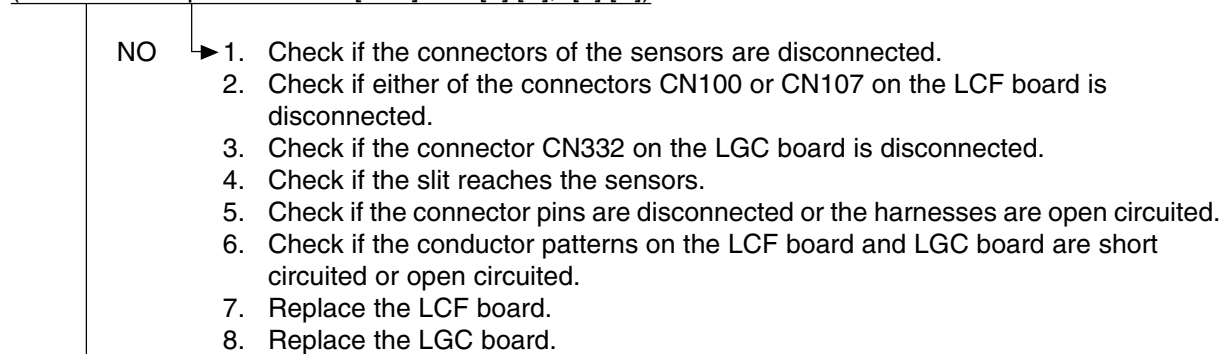
## [C1A0] LCF end fence motor abnormality

Is the LCF end fence motor working? (Perform the output check: 03-207)



Are the LCF end fence home/stop position sensors working?

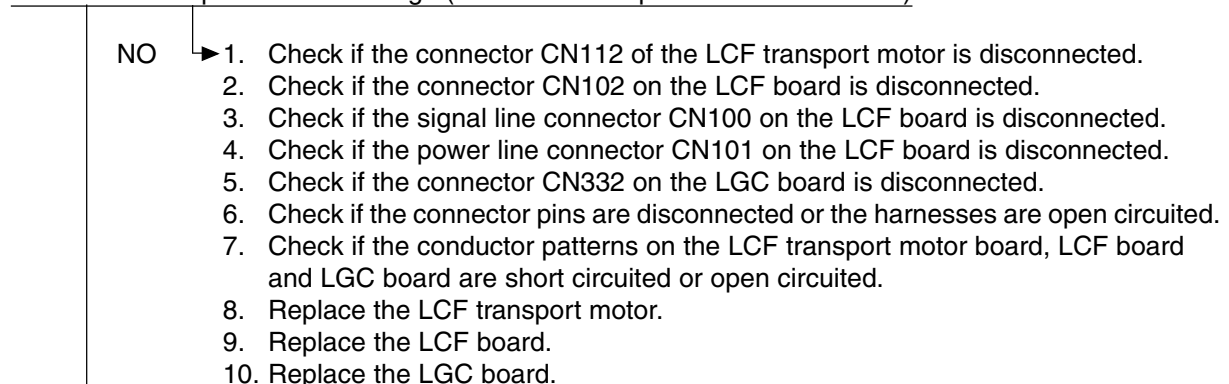
(Perform the input check: 03-[FAX]OFF/[5]/[A], /[5]/[B])



- 1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
- 2. Replace the LGC board.

## [C1B0] LCF transport motor abnormality

Is the LCF transport motor working? (Perform the output check: 03-122/172)

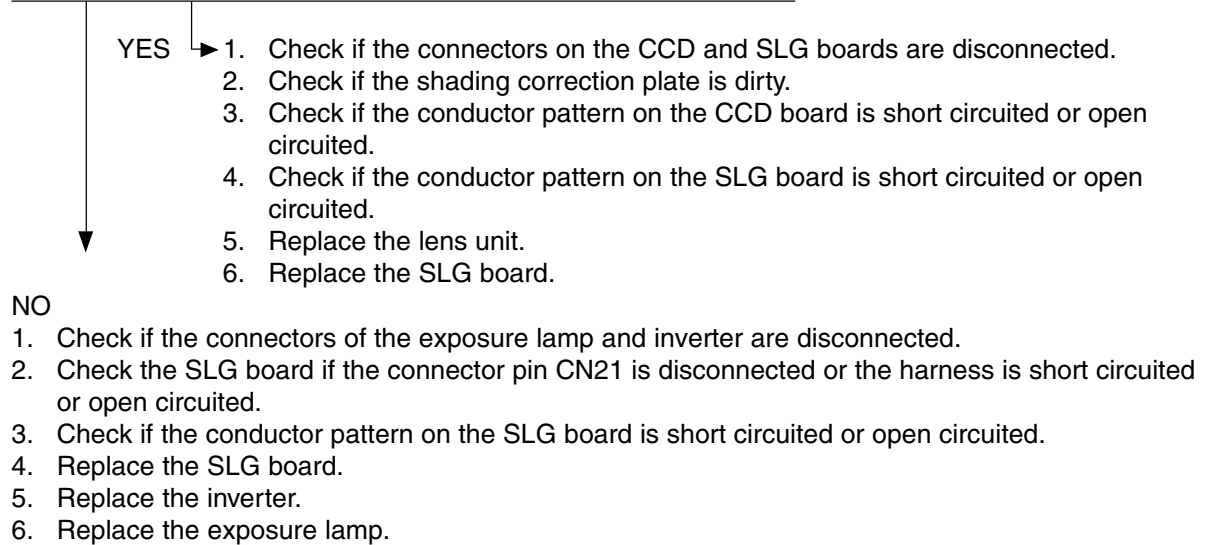


- 1. Check if the connector pins are disconnected or the harnesses are open circuited.
- 2. Check if the conductor patterns on the LCF transport motor board, LCF board and LGC board are short circuited or open circuited.
- 3. Check if the PLL lock signal CN102-3 pin output from the LCF board is always "L" level.
- 4. Check if the voltage supplied to the microcomputer input terminal IC103-17 pin is always "L" level.
- 5. Replace the LCF transport motor.
- 6. Replace the LCF board.
- 7. Replace the LGC board.

## 5.1.10 Scanning system related service call

### [C260] Peak detection error

Does the exposure lamp light? (Perform the output check: 03-267)

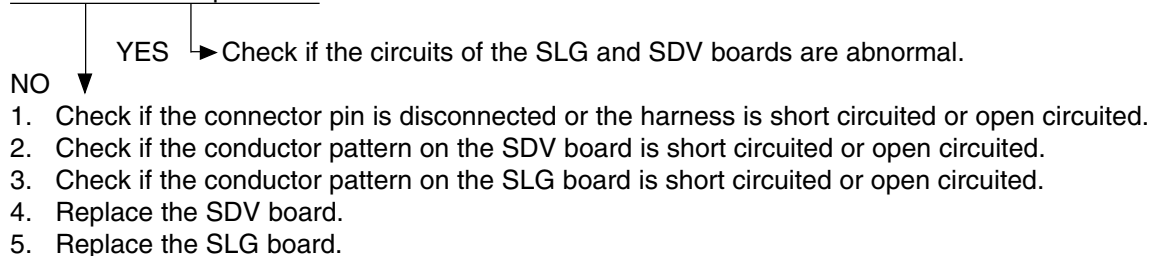


### [C270] Carriage home position sensor not going OFF within a specified time

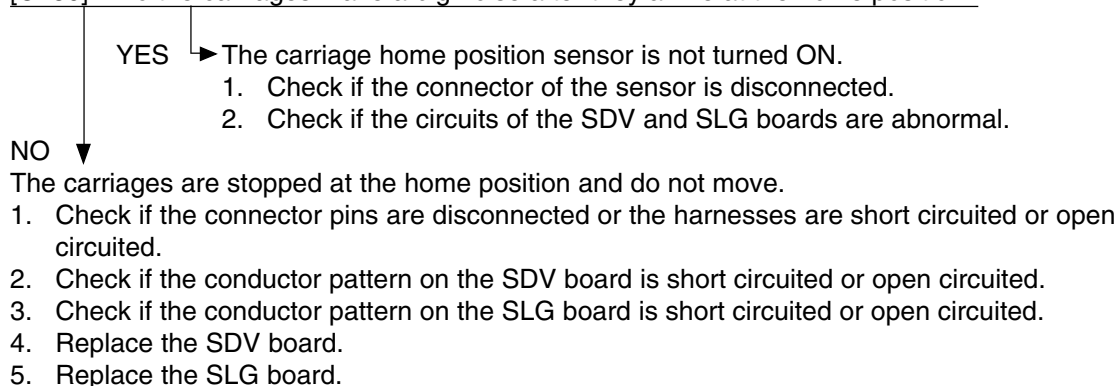
### [C280] Carriage home position sensor not going ON within a specified time

Remove the original glass and move the carriages to the paper feeding side. Turn ON the power and check the following items.

[C270] Are the carriages slightly moved to the feeding direction?/Are the carriages staying at a position other than home position?



[C280] Do the carriages make a big noise after they arrive at the home position?





## 5.1.11 Fuser unit related service call

### CAUTION:

Be sure to turn OFF the power and unplug the power cable beforehand when checking the IH control circuit and IH coil.

The fuser unit itself or the part of the unit remains heated and the capacitors are still charged after a while the power cable is unplugged. So make sure the unit is cooled down enough before checking.

### [C410] Thermistor or heater abnormality at power ON

#### 1. Check the thermistors

- (1) Check if the connectors are disconnected.
- (2) Check if the main, sub and front edge thermistors are in contact with the surface of the fuser belt properly?
- (3) Check if the harnesses of the main, sub and front edge thermistors are open circuited.

#### 2. Check the IH control board and IH coil

- (1) Check if the IH coil is broken.
- (2) Check if the connector of the IH coil is disconnected.
- (3) Check if the thermostats are blown.
- (4) Check if the connectors on the IH control board are disconnected (AC input connectors CN450, 451 and LGC I/F connectors CN455, 456).
- (5) Check if the IH control board or the switching power supply unit is abnormal.

#### 3. Check the LGC board

- (1) Check if the connector CN358 is disconnected.
- (2) Check if the conductor pattern on the LGC board is short circuited or open circuited.
- (3) Replace the LGC board.

#### 4. Clear the status counter

After repairing the matter which caused the error [C410], perform the following:

- (1) Turn ON the power while [0] and [8] are pressed simultaneously.
- (2) Key in "400", then press the [START] button.
- (3) Change the current status counter value "1" or "2" to "0", then press the [ENTER] button or [INTERRUPT] button (to cancel [C410]).
- (4) Turn the power OFF and then back ON. Make sure that the equipment enters the normal ready state.

### [C430] Thermistor abnormality after abnormality judgment

### [C440] Heater abnormality after abnormality judgment

#### 1.2.3. Check the thermistors, IH control board, IH coil and LGC board

Check the above components following the procedure 1, 2 and 3 for [C410].

#### 4. Clear the status counter

Change the current status counter value (08-400) "4" to "0" for [C430] and "5", "7" or "9" to "0" for [C440], taking the same procedure as that for [C410].

\* The status counter value is as follows in the following cases. Change them to "0" respectively.

- The error occurred during warming-up : "4" or "5"
- The error occurred after the equipment has become ready: "7"
- The temperature detected by the main thermistor is 230°C or higher: "9"
- The temperature detected by the sub thermistor is 230°C or higher: "9"

## **[C450] Thermistor abnormality during printing**

### 1. Check the front edge thermistor

- (1) Check if the connector is disconnected.
- (2) Check if the front edge thermistor is in contact with the surface of the fuser belt properly.
- (3) Check if the harness of the front edge thermistor is open circuited.

### 2. Check the LGC board

- (1) Check if the connector CN358 is disconnected.
- (2) Check if the conductor pattern on the board is short circuited or open circuited.
- (3) Replace the LGC board.

### 3. Clear the status counter

Change the current status counter value (08-400) "6" to "0".

## **[C470] IH initialization or IH power voltage abnormality**

### 1. Check the AC input voltage

Check if the AC input voltage is within the specified range.  
(especially when the heater becomes ON after the power is turned ON [the equipment is warming up])

### 2. Check the thermostats

Check if the thermostats are blown.

### 3. Check the IH control board

- (1) Check if the AC input connectors CN450, 451 on the IH control board or the LGC I/F connectors CN455, 456 are disconnected?
- (2) Check if the fuse on the IH control board has blown.
- (3) Replace the IH control board.

### 4. Check the LGC board

- (1) Check if the connector CN358 is disconnected.
- (2) Check if the conductor pattern on the board is short circuited or open circuited.
- (3) Replace the LGC board.

### 5. Clear the status counter

Change the values "10", "11", "14" or "17" of the status counter (08-400) to "0".

\* The status counter value is as follows in the following cases. Change them to "0" respectively.

- The error occurred immediately after the power was turned ON: "10"
- The error occurred before the temperature of the fuser roller reaches 40°C: "11"
- The error occurred before the equipment has become ready: "14"
- The error occurred when the equipment is in the ready state: "17"

## **[C480] Overheating of IGBT**

### 1. Check the operation of the IH control board cooling fan

Check if the IH control board cooling fan is rotating normally. (Is the connector securely connected?)

### 2. Check the IH board

- (1) Check if the IGBT or IGBT radiation plate is normal. (Is the radiation plate securely attached?)
- (2) Check if the conductor pattern on the board is short circuited or open circuited.
- (3) Replace the IH board.

### 3. Clear the status counter

Change the values "12", "15" or "18" of the status counter (08-400) to "0".

\* The status counter value is as follows in the following cases. Change them to "0" respectively.

- The error occurred before the temperature of the fuser roller reaches 40°C: "12"
- The error occurred before the equipment has become ready: "15"
- The error occurred when the equipment is in the ready state: "18"

(When the only one side of IH coil is energized continuously for 15 seconds)

## **[C490] IH control circuit or IH coil abnormality**

### 1. Check the IH board

- (1) Check if the conductor pattern on the board is short circuited or open circuited.
- (2) Replace the IH board.

### 2. Check the IH coil

- (1) Check if the coil is broken or short out.
- (2) Replace the IH coil.

### 3. Clear the status counter

Change the values "13", "16" or "19" of the status counter (08-400) to "0".

\* The status counter value is as follows in the following cases. Change them to "0" respectively.

- The error occurred before the temperature of the fuser roller reaches 40°C: "13"
- The error occurred before the equipment has become ready: "16"
- The error occurred when the equipment is in the ready state: "19"

When the problem is solved, [C470], [C480] and [C490] can be cleared by turning OFF and ON the main switch so the status counter does not have to be changed to "0".  
The value of the status counter remains the same until the next service call overwrites the value.

## **5.1.12 Communication related service call**

### **[C550 (C780)] RADF I/F error**

- (1) Check if the harness connecting the RADF board and SLG board is disconnected or open circuited.
- (2) Check if the conductor pattern on the RADF board is short circuited or open circuited.
- (3) Check if the conductor pattern on the SLG board is short circuited or open circuited.
- (4) Replace the RADF board.
- (5) Replace the SLG board.

### **[C570] Communication error between Engine-CPU and IPC board**

- (1) Check if the LGC board and IPC board are connected properly.
- (2) Check if the conductor pattern on the IPC board is short circuited or open circuited.
- (3) Check if the conductor pattern on the LGC board is short circuited or open circuited.
- (4) Replace the IPC board.
- (5) Replace the LGC board.

### **[C580] Communication error between IPC board and finisher**

- (1) Check if the specified finisher is attached.
- (2) Check if the harness connecting the IPC board and the finisher controller PC board is disconnected or open circuited.
- (3) Check if the conductor pattern on the IPC board is short circuited or open circuited.
- (4) Check if the conductor pattern on the finisher controller PC board is short circuited or open circuited.
- (5) Replace the IPC board.
- (6) Replace the finisher controller PC board.

### **[F070] Communication error between System-CPU and Engine-CPU**

- (1) Check if the harness connecting the SYS board and LGC board is disconnected or open circuited.
- (2) Check the version of the system ROM on the SYS board.
- (3) Check the version of the engine ROM version on the LGC board.
- (4) Replace the SYS board.
- (5) Replace the LGC board.

### **[F110] Communication error between System-CPU and Scanner-CPU**

#### **[F111] Scanner response abnormality**

- (1) Check if the harness connecting the SYS board and SLG board is disconnected or open circuited.
- (2) Check the version of the system ROM on the SYS board.
- (3) Check the version of the scanner ROM version on the SLG board.
- (4) Replace the SYS board.
- (5) Replace the SLG board.

### 5.1.13 RADF related service call

**Note:**

When performing the RADF related troubleshooting, be sure to perform “Automatic adjustment of RADF sensor and EEPROM initialization (05-356)” and then “RADF original guide width adjustment (05-367, 368) at Adjustment Mode whenever the RADF board, original length sensor, read sensor or reverse sensor has been replaced.

#### **[C730] EEPROM initialization error**

- (1) Check if the conductor pattern on the RADF board is short circuited or open circuited.
- (2) Replace the RADF board.

#### **[C810] Fan motor abnormality**

- (1) Check if the load on the motor shaft is normal.
- (2) Remove any foreign matter.
- (3) Check if the harness connecting the fan motor and RADF board is open circuited.
- (4) Check if the power is supplied to the pin 1 of the CN9 on the RADF board during the operation.
- (5) Check if the conductor pattern on the RADF board is short circuited or open circuited.
- (6) Replace the fan motor.
- (7) Replace the RADF board.

#### **[C820] Read sensor adjustment error**

- (1) Check if there is any foreign matter between the read sensor and the reflecting mirror. Check if the reflecting mirror is dirty.
- (2) Check if the harness connecting the read sensor and the RADF board is open circuited.
- (3) Check if the conductor pattern on the RADF is short circuited or open circuited.
- (4) Replace the read sensor.
- (5) Replace the RADF board.

#### **[C830] Original length sensor adjustment error**

- (1) Check if there are any foreign objects between the original length sensor and the reflecting mirror. Check if the reflecting mirror is dirty.
- (2) Check if the harness connecting the original length sensor and the RADF board is open circuited.
- (3) Check if the conductor pattern on the RADF board is short circuited or open circuited.
- (4) Replace the original length sensor.
- (5) Replace the RADF board.

#### 5.1.14 Circuit related service call

##### [C900] Connection error between the SYS board and the LGC board

- (1) Check if the connector CN117 on the SYS board is completely inserted or not disconnected.
- (2) Check if the connector CN338 on the LGC board is completely inserted or not disconnected.
- (3) Check if the harness connecting the SYS board (CN117) and the LGC board (CN338) is open circuited.
- (4) Check if the conductor pattern on each board is short circuited or open circuited.
- (5) Replace the SYS board.
- (6) Replace the LGC board.

##### [C940] Engine-CPU abnormality

Does service call still occur even after turning OFF the main switch then back ON?

- NO → Leave it for a while and see how.
- YES ↓
1. Check if the conductor pattern between the Engine-CPU and FROM is short circuited or open circuited.
  2. Replace the LGC board if it frequently occurs.

##### [C950] Memory of the LGC board abnormality, ID abnormality

- (1) Check if the connectors CN360 and CN 331 on the SYS board are completely inserted or not disconnected.
- (2) Check if the connector J434 on the DRV board is completely inserted or not disconnected.
- (3) Check if the conductor pattern on each board is short circuited or open circuited.
- (4) Replace the NVRAM.
- (5) Replace the LGC board.
- (6) Replace the DRV board.
- (7) Replace the SYS board.
- (8) Ask a specialist for a repair (Abnormal ID).

**[C960] Connection error between the LGC board and the DRV board, ID abnormality**

- (1) Check if the connectors CN360 and CN331 on the LGC board are completely inserted or not disconnected.
- (2) Check if the connector J434 on the DRV board is completely inserted or not disconnected.
- (3) Check if the harness connecting the DRV board (J434) and the LGC board (CN360) is open circuited.
- (4) Check if the harness connecting the LGC board (CN331) and the high-voltage transformer (J480) is open circuited.
- (5) Check if the conductor pattern on each board is short circuited or open circuited.
- (6) Replace the DRV board.
- (7) Replace the LGC board.
- (8) Ask a specialist for a repair (Abnormal ID).

**[C9E0] Connection error between the SLG board and the SYS board**

- (1) Check if the connector CN18 of the SLG board is completely inserted or not disconnected.
- (2) Check if the connector CN102 of the SYS board is completely inserted or not disconnected.
- (3) Check if the harness connecting the SLG board (CN18) and the SYS board (CN102) is open circuited.
- (4) Check if the conductor pattern on each board is short circuited or open circuited.
- (5) Replace the SLG board.
- (6) Replace the SYS board.

**[F090] SRAM abnormality on the SYS board**

- (1) Turn the power OFF and start up the Setting Mode (08).
- (2) When the message "SRAM ERROR DOES IT INITIALIZE?" is displayed on the LCD, press the [INITIALIZE] button. (SRAM is cleared.)
- (3) Turn the power OFF and then back ON. If the error is not recovered, replace the SYS board.

### **[F091] NVRAM abnormality on the SYS board**

- (1) Turn the power OFF and start up the Setting Mode (08).
- (2) When the message "NVRAM ERROR DOES IT INITIALIZE?" is displayed on the LCD, press the [INTERRUPT] or [INITIALIZE] button. (NVRAM is initialized.)
- (3) Perform the panel calibration (08-692).

**Note:**

When the NVRAM is initialized, the scanner and image processing related adjustments are also initialized. Readjust them after the NVRAM initialization.

- (4) Turn the power OFF and then back ON. If the error is not recovered, replace the NVRAM on the SYS board.

### **[F092] SRAM/NVRAM abnormality on the SYS board**

- (1) Turn the power OFF and start up the Setting Mode (08).
- (2) When the message "NVRAM/SRAM ERROR DOES IT INITIALIZE?" is displayed on the LCD, press the [INTERRUPT] or [INITIALIZE] button. (SRAM is cleared and NVRAM is initialized.)
- (3) Perform the panel calibration (08-692).

**Note:**

When the NVRAM is initialized, the scanner and image processing related adjustments are also initialized. Readjust them after the NVRAM initialization.

- (4) Turn the power OFF and then back ON. If the error is not recovered, replace the NVRAM on the SYS board.

### **[F350] SLG board abnormality**

- (1) Check if the conductor pattern on the SLG board is short circuited or open circuited.
- (2) Replace the SLG board.



## 5.1.15 Laser optical unit related service call

### [CA10] Polygonal motor abnormality

Is the polygonal motor rotating?

- NO
1. Check if the connector CN352 on the LGC board is disconnected.
  2. Check if the harness is open circuited or the connector pin is disconnected.
  3. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  4. Replace the laser optical unit.
  5. Replace the LGC board.

YES

Is the printed image distorted?

- YES
1. Check if the connector CN352 on the LGC board is almost disconnected.
  2. Check if the harness is almost open circuited or the connector pin is almost disconnected.
  3. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  4. Check if the laser unit cooling fan is stopped.
  5. Check if the suction area of laser unit cooling fan is plugged up.
  6. Replace the laser optical unit.
  7. Replace the LGC board.

NO

1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
2. Check if the units with high-voltage (developer unit, transfer belt unit and 2nd transfer roller unit) are securely grounded.
3. Check if the bias supply joints of the units with high-voltage are securely connected or they are not stained.
4. Check if the plate in paper transport system is securely grounded.
5. Check if the equipment is grounded.
6. Check if the laser unit cooling fan is stopped.
7. Check if the suction area of laser unit cooling fan is plugged up.
8. Replace the laser optical unit.
9. Replace the LGC board.

### [CA20] H-Sync detection error

Is the cable (flexible flat type) between the connector (CN334) on the LGC board and connector (CN201) on the LDR board open circuited, broken or disconnected?

- YES
1. Reconnect the cable.
  2. Check if the connector on the LGC board hold the cable securely.
  3. Replace the laser optical unit.

NO

1. Check if the units with high-voltage (developer unit, transfer belt unit and 2nd transfer roller unit) are securely grounded.
2. Check if the bias supply joints of the units with high-voltage are securely connected or they are not stained.
3. Check if the plate in paper transport system is securely grounded.
4. Check if the equipment is grounded.
5. Check if the conductor pattern is short circuited or open circuited.
6. Replace the LGC board.
7. Replace the laser optical unit.

### 5.1.16 Finisher related service call

#### [CB20] Delivery motor abnormality

MJ-1022

Rotate the delivery roller by hand. Does it rotate smoothly?

NO → Fix the mechanism.  
YES ↓

Is the wiring between the finisher controller PC board and delivery motor (M1) correct?

NO → Correct the wiring.  
YES ↓

Is the delivery motor clock sensor (S1) working properly?

NO → Replace the sensor.  
YES ↓

1. Replace the delivery motor.
2. Replace the finisher controller PC board.

#### [CB30] Tray 1/2 shift motor abnormality

MJ-1023/1024

Are the tray 1 shift area sensors 1-3 and tray 2 shift area sensors 1-3 normal?

NO → Replace the tray 1/2 shift area sensor boards.  
YES ↓

Are the wirings between the finisher controller PC board and the tray 1/2 shift motors (M37/M38) correct?

NO → Correct the wirings.  
YES ↓

Is there any problem with the tray lift mechanism?

NO → Fix the lift mechanism.  
YES ↓

1. Replace the tray 1/2 shift motors.
2. Replace the finisher controller PC board.

## [CB40] Rear aligning plate motor abnormality

MJ-1023/1024

Is the rear aligning plate home position sensor (PI37) normal?

NO → Replace the sensor.

YES ↓

Is the wiring between the finisher controller PC board and the rear aligning plate motor (M34) correct?

NO → Correct the wiring.

YES ↓

Is there any mechanical problem with the path of aligning plate?

NO → Fix the mechanism.

YES ↓

1. Replace the rear aligning plate motor.
2. Replace the finisher controller PC board.

## [CB50] Staple motor abnormality

MJ-1022/1023/1024

Is the wiring between the stapler and finisher controller PC board correct?

NO → Correct the wiring.

YES ↓

1. Replace the stapler.
2. Replace the finisher controller PC board.

## [CB60] Stapler unit shift motor abnormality

MJ-1023/1024

Is the stapler shift home position sensor (PI40) working normally?

NO → Replace the sensor.

YES ↓

Is the wiring between the finisher controller PC board and the stapler shift motor (M35) correct?

NO → Correct the wiring.

YES ↓

Is there any mechanical problem with the stapler stand motion path?

YES → Fix the mechanism.

NO ↓

1. Replace the stapler shift motor.
2. Replace the finisher controller PC board.

### [CB80] Backup RAM data abnormality

MJ-1023/1024

Is the problem solved by turning the power of the equipment OFF and ON?

YES → End.

NO ↓

1. Replace the finisher controller PC board.
2. Replace the punch controller PC board.

### [CB90] Paper pushing plate motor abnormality

MJ-1024

Are the paper pushing plate home position sensor (PI14), paper pushing plate top position sensor (PI15) and paper pushing plate motor clock sensor (PI1) working normally?

NO → Replace the sensor.

YES ↓

Is the paper pushing plate drive mechanism normal?

NO → Fix the mechanism.

YES ↓

1. Replace the paper pushing plate motor (M8).
2. Replace the saddle stitcher controller PC board.

**[CBA0] Stitch motor (front) abnormality**

**[CBB0] Stitch motor (rear) abnormality**

MJ-1024

Are the front and rear stitchers and their stands installed properly?

NO → Install them properly.

YES ↓

Are the stitcher home position switches (SW7/SW5) and stitcher motors (M7/M6) on the front and rear stitchers working normally?

NO → Replace the front or rear stitcher.

YES ↓

Replace the saddle stitcher controller PC board.

**[CBC0] Alignment motor abnormality**

MJ-1024

Is the alignment plate home position sensor (PI5) working normally?

NO → Replace the sensor.

YES ↓

Is the alignment plate drive mechanism normal?

NO → Fix the mechanism.

YES ↓

1. Replace the alignment motor (M5).
2. Replace the saddle stitcher controller PC board.

### [CBD0] Guide motor abnormality

MJ-1024

Is the guide home position sensor (PI13) working normally?

NO → Replace the sensor.

YES ↓

Is the guide plate drive mechanism normal?

NO → Fix the mechanism.

YES ↓

1. Replacing the guide motor (M3).
2. Replace the saddle stitcher controller PC board.

### [CBE0] Paper folding motor abnormality

MJ-1024

Are the paper folding motor clock sensor (PI4) and paper folding home position sensor (PI21) working normally?

NO → Replace the sensors.

YES ↓

Is the paper folding roller drive mechanism normal?

NO → Fix the mechanism.

YES ↓

1. Replacing the paper folding motor (M2).
2. Replace the saddle stitcher controller PC board.

### [CBF0] Paper positioning plate motor abnormality

MJ-1024

Is the paper positioning plate home position sensor (PI7) working normally?

NO → Replace the sensor.

YES ↓

Is the paper positioning plate drive mechanism normal?

NO → Fix the mechanism.

YES ↓

1. Replacing the paper positioning plate motor (M4).
2. Replace the saddle stitcher controller PC board.

## [CC00] Sensor connector abnormality

MJ-1024

Are the guide home position sensor (PI13), paper pushing plate home position sensor (PI14) and paper pushing plate top position sensor (PI15) connected to the saddle stitcher controller PC board?

NO → Connect them to the board.  
YES ↓

Is the wiring between the sensors and the saddle stitcher correct?

NO → Correct the wiring.  
YES ↓

Is 5V DC being supplied from the connector pins J9-7, -10 and -13 on the saddle stitcher controller PC board?

NO → Replace the saddle stitcher controller PC board.  
YES ↓

Are the connector pins J9-8, -11 and -14 on the saddle stitcher controller PC board correctly connected to the ground?

NO → Replace the saddle stitcher controller PC board.  
YES ↓  
End.

## [CC10] Microswitch abnormality

MJ-1024

Are the front cover switch (MS31), inlet door switch (SW1) and delivery door switch (SW3) normal?

NO → Replace the switches.  
YES ↓

Measure the voltage between J704-1 (+) and J704-2 (-) on the finisher controller PC board. Is it 24V?

NO → Replace the finisher controller PC board.  
YES ↓

Is the wiring between J704 on the finisher controller PC board and J1 on the saddle stitcher controller PC board correct?

NO → Correct the wiring.  
YES ↓  
Replace the saddle stitcher controller PC board.

**[CC20] Communication error between finisher and saddle stitcher**

MJ-1024

Is the problem solved by turning OFF and ON the power switch of the equipment?

YES → End.

NO ↓

Is the wiring between the finisher controller PC board and the saddle stitcher controller PC board connected?

NO → Connect the wiring.

YES ↓

1. Replace the finisher controller PC board.
2. Replace the saddle stitcher controller PC board.

**[CC30] Stack processing motor abnormality**

MJ-1022

[Procedure 1]

Is the tension of the drive belt normal?

NO → Loosen the adjustment screw to adjust its tension.

YES ↓

Does the bushing attached to the returning roller shaft smoothly move up and down?

NO → Apply grease on the cut-out part of the front side frame with where the bushing contacts.

YES ↓

Is the spring of the returning roller detached?

YES → Attach the spring.

NO ↓

Is the wiring between the finisher controller PC board and stack processing motor (M2) correct?

NO → Correct the wiring.

YES ↓

Is the stack delivery lever home position sensor (S8) working properly?

NO → Replace the sensor.

YES ↓

1. Replacing the stack processing motor.
2. Replace the finisher controller PC board.



[Procedure 2]

Does the bushing attached to the returning roller shaft smoothly move up and down?

NO → Apply grease on the cut-out part of the front side frame with where the bushing contacts.  
YES ↓

Is the spring of the returning roller detached?

YES → Attach the spring.  
NO ↓

Is the tension of the stack processing motor drive belt normal?

NO → Loosen the adjustment screw to adjust its tension.  
YES ↓

Is the returning roller home position sensor (S3) working properly?

NO → Replace the sensor.  
YES ↓

1. Replace the stack processing motor.
2. Replace the finisher controller PC board.

**[CC40] Swing motor abnormality**

MJ-1023/1024

Is the swing unit home position sensor (PI35) normal?

NO → Replace the sensor.  
YES ↓

Is the wiring between the finisher controller PC board and the swing motor (M36) correct?

NO → Correct the wiring.  
YES ↓

Is the swing mechanism normal?

NO → Fix the mechanism.  
YES ↓

1. Replace the swing motor.
2. Replace the finisher controller PC board.

## [CC50] Horizontal registration motor abnormality

MJ-1023/1024 (when MJ-6004 is installed)

Is the horizontal registration home position sensor (PI61) working normally?

NO → Replace the sensor.

YES ↓

Is the wiring between the horizontal registration home position sensor and finisher controller PC board correct?

NO → Correct the wiring.

YES ↓

Is the horizontal registration mechanism normal?

NO → Fix the mechanism.

YES ↓

1. Replace the horizontal registration motor (M62).
2. Replace the punch controller PC board.
3. Replace the finisher controller PC board.

## [CC60] Punch motor abnormality

MJ-1023/1024 (when MJ-6004 is installed)

Are the punch home position sensor (PI63) and punch motor clock sensor (PI62) working normally?

NO → Replace the sensors.

YES ↓

Is the wiring between the sensors and finisher controller PC board correct?

NO → Correct the wiring.

YES ↓

Is the punching mechanism normal?

NO → Fix the mechanism.

YES ↓

1. Replace the punch motor (M61).
2. Replace the punch controller PC board.
3. Replace the finisher controller PC board.

**[CC80] Front jogging motor abnormality/Front aligning plate motor abnormality**

MJ-1022 (Front jogging motor abnormality)

Is the front jogging plate home position sensor (S6) working properly?

NO → Replace the sensor.

YES ↓

Is the wiring between the finisher controller PC board and front jogging motor (M3) correct?

NO → Correct the wiring.

YES ↓

Has the rack run over the stopper of the roll?

YES → Fix it.

NO ↓

1. Replace the front jogging motor.
2. Replace the finisher controller PC board.

MJ-1023/1024 (Front aligning plate motor abnormality)

Is the front aligning plate home position sensor (PI36) normal?

NO → Replace the sensor.

YES ↓

Is the wiring between the finisher controller PC board and the front aligning plate motor (M33) correct?

NO → Correct the wiring.

YES ↓

Is there any mechanical problem with the path of aligning plate?

NO → Fix the mechanism.

YES ↓

1. Replace the front aligning plate motor.
2. Replace the finisher controller PC board.

## [CC90] Upper stack tray lift motor abnormality

MJ-1022

Is the wiring between the finisher controller PC board and upper stack tray lift motor (M5) correct?

NO → Correct the wiring.  
YES ↓

Are the front and rear sides of the upper stack tray leveled?

NO → Level them.  
YES ↓

Is the upper stack tray lift motor clock sensor (S19) working properly?

NO → Replace the sensor.  
YES ↓

Is the stack tray paper height sensor (S10) working properly?

NO → Replace the sensor.  
YES ↓

Are the upper stack tray upper limit sensor (S25), upper stack tray full sensor (S23) and stack processing safety switch (S26) working properly?

NO → Replace the sensor or sensor controller PC board.  
YES ↓

Does the voltage between the pins J14-1 and -2 on the finisher controller PC board become 24V when the upper stack tray lift motor starts rotating?

NO → Replace the finisher controller PC board.  
YES ↓

Check the wiring between the upper stack tray lift motor and finisher controller PC board. If there is no problem, replace the upper stack tray lift motor.

## [CCA0] Lower stack tray lift motor abnormality

MJ-1022

Is the wiring between the finisher controller PC board and lower stack tray lift motor (M7) correct?

NO → Correct the wiring.

YES ↓

Are the front and rear sides of the lower stack tray leveled?

NO → Level them.

YES ↓

Is the lower stack tray lift motor clock sensor (S9) working properly?

NO → Replace the sensor.

YES ↓

Is the stack tray paper height sensor (S10) working properly?

NO → Replace the sensor.

YES ↓

Are the lower stack tray upper limit sensor (S13) and lower stack tray full sensor (S23) working properly?

NO → Replace the sensor or sensor controller PC board.

YES ↓

Does the voltage between the pins J3-1 and -2 on the finisher controller PC board become 24V when the lower stack tray lift motor starts rotating?

NO → Replace the finisher controller PC board.

YES ↓

Check the wiring between the upper stack tray lift motor and finisher controller PC board. If there is no problem, replace the motor.

## [CCB0] Rear jogging motor abnormality

MJ-1022

Is the rear jogging plate home position sensor (S7) working properly?

NO → Replace the sensor.

YES ↓

Is the wiring between the finisher controller PC board and rear jogging motor (M4) correct?

NO → Correct the wiring.

YES ↓

Has the rack run over the stopper of the roll?

YES → Fix it.

NO ↓

1. Replace the rear jogging motor.
2. Replace the finisher controller PC board.

## [CCD0] Stack ejection motor abnormality

MJ-1023/1024

Is the shutter home position sensor (PI45) normal?

NO → Replace the sensor.  
YES ↓

Are the wirings between the finisher controller PC board and the stack ejection motor (M32)/shutter clutch (CL31) correct?

NO → Correct the wirings.  
YES ↓

Is there any problem with the shutter mechanism?

YES → Fix the shutter mechanism.  
NO ↓

1. Replace the stack ejection motor and shutter clutch.
2. Replace the finisher controller PC board.

## [CCE0] Rear end assist motor abnormality

MJ-1023/1024

Is the rear end assist guide home position sensor (PI39) normal?

NO → Replace the sensor.  
YES ↓

Is the wiring between the finisher controller PC board and the rear end assist motor (M39) correct?

NO → Correct the wiring.  
YES ↓

Is there any problem with the rear end assist mechanism?

YES → Fix the rear end assist mechanism.  
NO ↓

1. Replace the rear end assist motor.
2. Replace the finisher controller PC board.

## [CCF0] Gear change motor abnormality

MJ-1023/1024

Is the gear change home position sensor (PI49) normal?

NO → Replace the sensor.  
YES ↓

Is the wiring between the finisher controller PC board and the gear change motor (M40) correct?

NO → Correct the wiring.  
YES ↓

Is there any problem with the gear change mechanism?

YES → Fix the gear change mechanism.  
NO ↓

1. Replace the gear change motor.
2. Replace the finisher controller PC board.

## [CE00] Communication error between finisher and puncher unit

MJ-1023/1024 (When MJ-6004 is installed)

Is the problem solved by turning OFF and ON the power of the equipment?

YES → End.  
NO ↓

Is the wiring between the finisher controller PC board and punch controller PC board correct?

NO → Correct the wiring.  
YES ↓

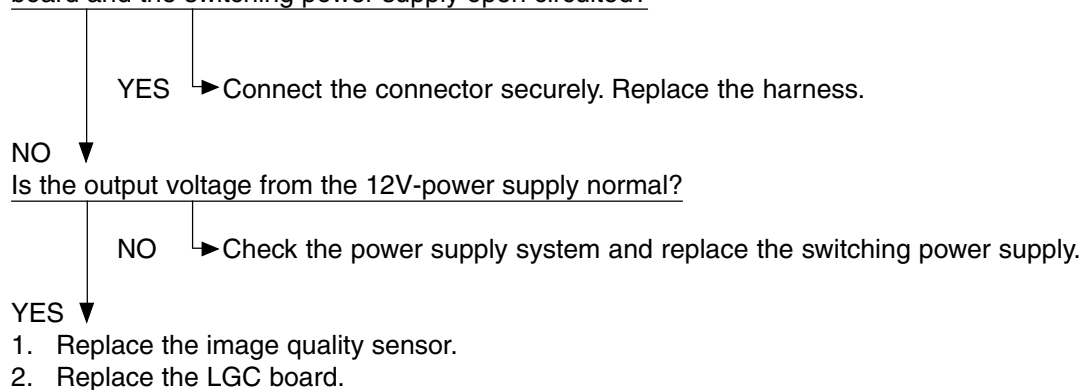
1. Replace the finisher controller PC board.
2. Replace the punch controller PC board.

### 5.1.17 Image control related service call

- (1) Based on the procedure of [CE10], [CE20] and [CE40] described below, check the status and take appropriate actions. And then perform the forced performing of image quality closed-loop control according to the following procedure.
  1. While pressing [0] and [5] simultaneously, turn ON the power.
  2. Key in [395], and then press the [START] button. Confirm that the image quality control has finished normally.
  
- (2) After confirming the items in (1), clear the abnormal detection counter of image quality control.
  1. While pressing [0] and [8] simultaneously, turn ON the power.
  2. Key in [573], and then press the [START] button.
  3. Rewrite the displayed status counter from "1" - "16" to "0", and then press the [ENTER] or [INTERRUPT] button.
  4. Key in [574], and then press the [START] button.
  5. Rewrite the displayed status counter from "1" - "16" to "0", and then press the [ENTER] or [INTERRUPT] button.
  6. Key in [575], and then press the [START] button.
  7. Rewrite the displayed status counter from "1" - "16" to "0", and then press the [ENTER] or [INTERRUPT] button.
  8. Key in [576], and then press the [START] button.
  9. Rewrite the displayed status counter from "1" - "16" to "0", and then press the [ENTER] or [INTERRUPT] button.

#### [CE10] Image quality sensor abnormality (OFF level)

Is the connector of the image quality sensor, or the connector CN345 on the LGC board disconnected?  
Is the harness between the LGC board and the image quality sensor, or the harness between the LGC board and the switching power supply open circuited?





**[CE20] Image quality sensor abnormality (no pattern level)**

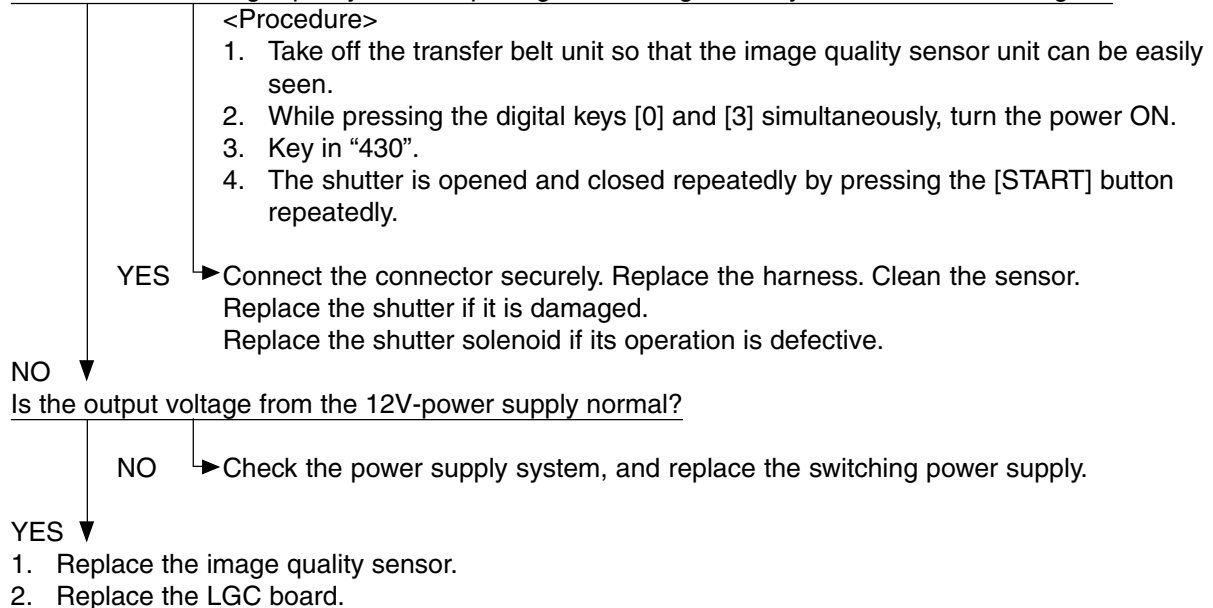
1. Check if the transfer belt or transfer belt unit are securely installed.
2. Check for any abnormal stain caused by poor cleaning, large flaw or break on the transfer belt surface.
3. Check if the drum and the transfer belt are rotating. If any abnormality is found, correct any mechanical problem.

Is the connectors CN345 on the LGC board disconnected?

Is the connector of the image quality sensor disconnected or the surface of the sensor stained?

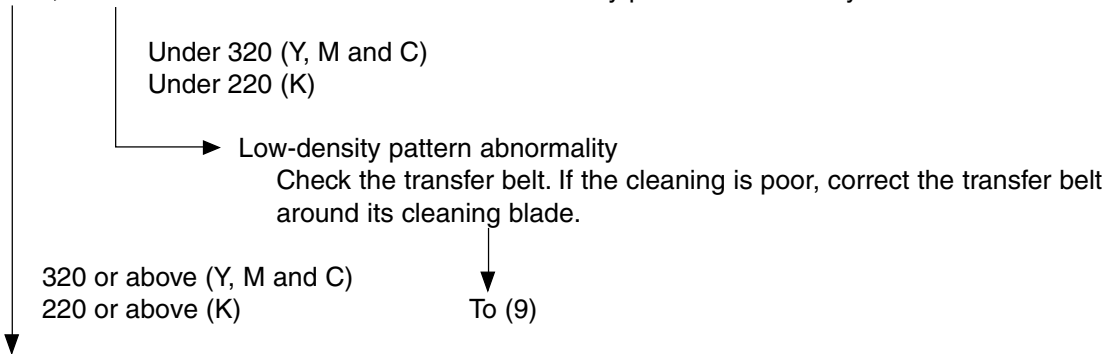
Is the harness between the LGC board and the image quality sensor open circuited?

Is the shutter of image quality sensor opening and closing normally? Is the shutter damaged?



## [CE40] Image quality control test pattern abnormality

- (1) Use "Image quality control abnormal detection counter Y to K display/0 clearing (08-573 to 576)" to check the abnormal occurring condition for each color.
- (2) Check "Output value display of image quality sensor / Low-density pattern (05-391-0 to 3)" to check if the low-density pattern abnormality occurs for each color. The values under 320 for Y, M and C, and under 220 for K are defined as low-density pattern abnormality.

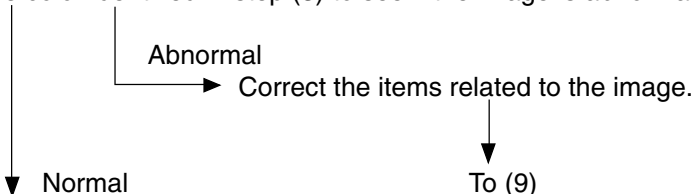


- (3) Check "Output value display of image quality sensor / High-density pattern (05-390-0 to 3)" to check if the high-density pattern abnormality occurs for each color and identify the color which pattern is abnormal. If the value is 630 or above, it is defined as high-density pattern abnormality.

- (4) Set the values of "Image quality closed-loop control / Contrast voltage (08-556)" and "Image quality closed-loop control / Laser power (08-557)" to "0" (Invalid).

- (5) Perform "Enforced performing of image quality open-loop control (05-394)".

- (6) Output the image quality control test pattern (04-270) more than one time and check the patch of the color identified in step (3) to see if the image is abnormal (Note).



- (7) Replace the image quality sensor.

- (8) Set the values of "Image quality closed-loop control / Contrast voltage (08-556)" and "Image quality closed-loop control / Laser power (08-557)" to "1" (Valid).

- (9) Perform "Enforced performing of image quality open-loop control (05-394)" and make sure it is completed normally. (Error [CE40] does not appear.) Then perform "Automatic gamma adjustment" (▶ Chapter 3.5.1 and 3.6.1).

- (10) Clear all "Image quality control abnormal detection counter Y to K display/0 clearing (08-573 to 576)".

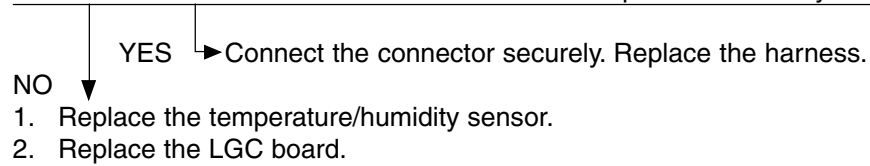
### Note

Abnormal image: Blank print, Solid print, White banding, Color banding, White spots, Poor transfer, Uneven image density, Faded image (low density), Uneven light distribution, Blotched image

**[CE50] Temperature/humidity sensor abnormality**

Is the connector CN361 on the LGC board or the connector of the temperature/humidity sensor disconnected?

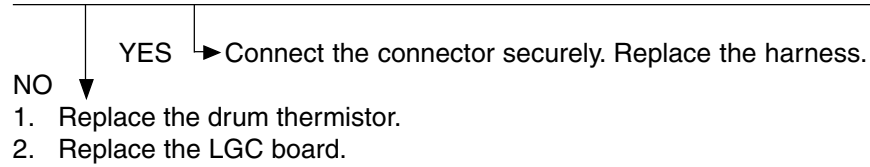
Is the harness between the LGC board and the temperature/humidity sensor disconnected ?



**[CE90] Drum thermistor abnormality**

Is the connector CN361 on the LGC board, or the connector of the drum thermistor disconnected?

Is the harness between the LGC board and the drum thermistor disconnected?



### 5.1.18 Copy process related service call

#### [C360] Charger cleaner motor abnormality

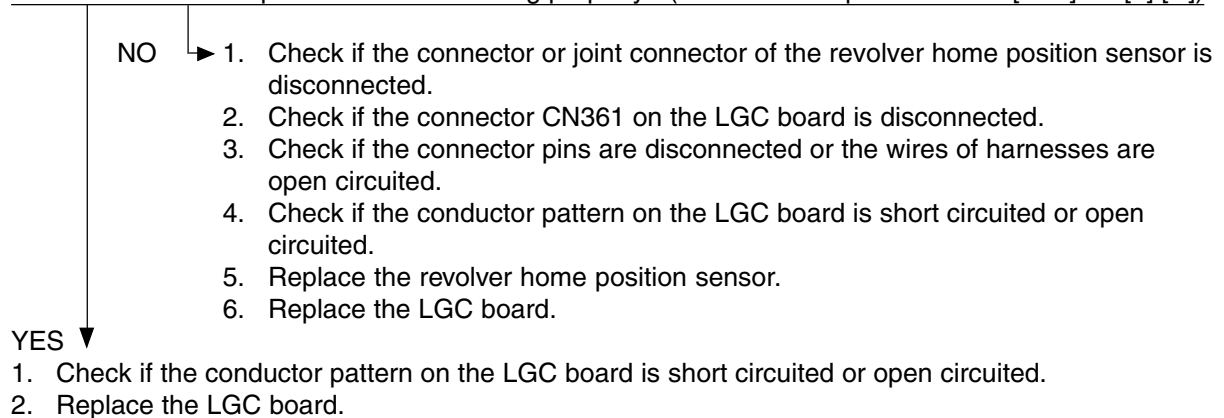
- (1) Check if the main charger is installed normally.
- (2) Check if the charger wire is broken.
- (3) Check if any of the connector pins of the charger cleaner front/rear position detection switch is disconnected.
- (4) Check if the cleaning pads are damaged or removed.
- (5) Check if any of the connector pins of the charger cleaner motor is disconnected.
- (6) Replace the charger cleaner motor.
- (7) Replace the LGC board.

#### [C970] High-voltage transformer abnormality

- (1) Is the main charger installed securely?
- (2) Check if the spring of high-voltage supply contact point is deformed.
- (3) Check if the charger wire is broken or the main charger grid is deformed.
- (4) Check if any foreign matter is on the charger wire or main charger grid.

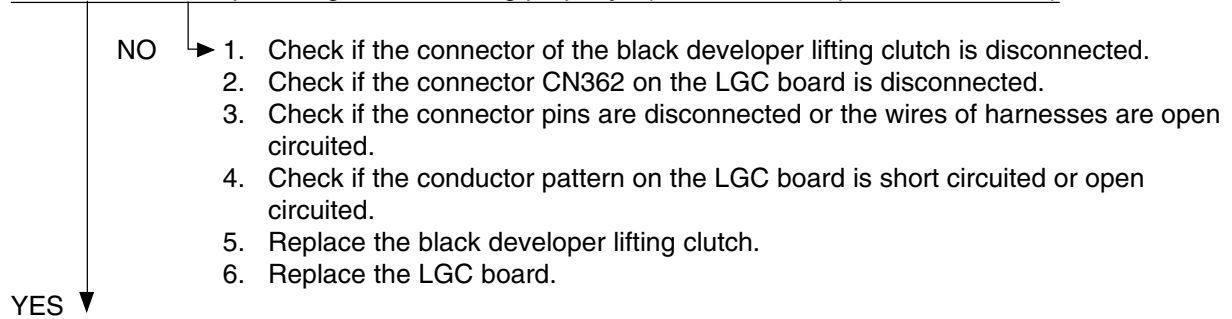
#### [CEA0] Revolver home position detection abnormality

Is the revolver home position sensor working properly? (Perform the input check: 03-[FAX]ON/[2]/[C])

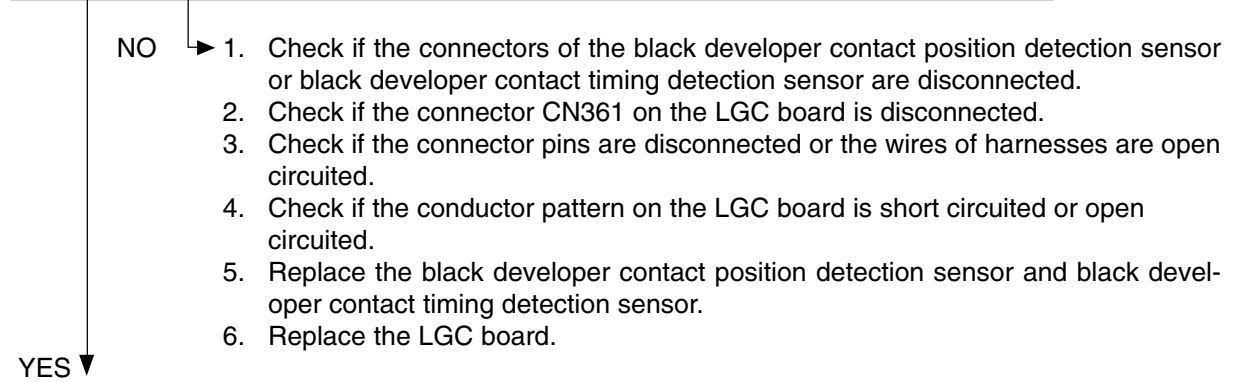


**[CEB0] Black developer unit lifting movement abnormality**

Is the black developer lifting clutch working properly? (Perform the output check: 03-433)



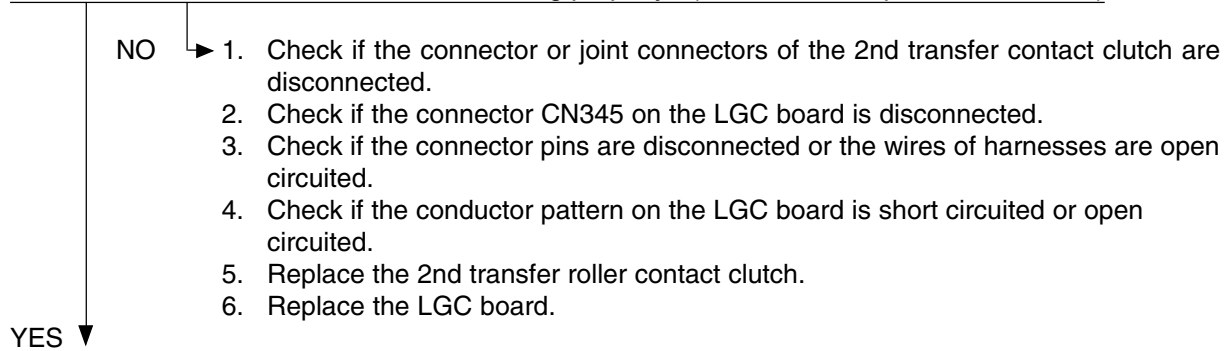
Are the black developer contact position detection sensor and black developer contact timing detection sensor working properly? (Perform the input check: 03-[FAX]ON/[1]/[C], /[1]/[B])



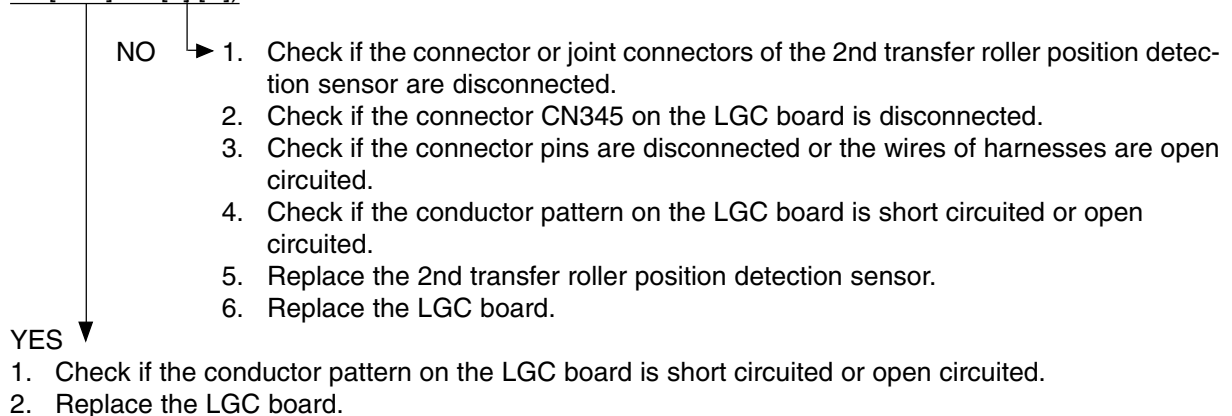
- 1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
- 2. Replace the LGC board.

## [CEC0] 2nd transfer roller position detection abnormality

Is the 2nd transfer roller contact clutch working properly? (Perform the output check: 03-435)



Is the 2nd transfer roller position detection sensor working properly? (Perform the input check: 03-[FAX]ON/[1]/[A])



**[CEE0] Transfer belt position detection abnormality (Normal speed)**

**[CEE1] Transfer belt position detection abnormality (When decelerating)**

If the error [CEE0] has occurred, check the transfer belt home position sensor-1. If the error [CEE1] has occurred, check the transfer belt home position sensor-2.

Is there any stain or scratch on the reflection tape inside the transfer belt?

YES → Clean the transfer belt or replace it.  
Replace the cleaning pad if it is excessively stained.

NO ↓

Are the transfer belt home position sensors-1 and -2 stained?

YES → Clean them.

NO ↓

Are the transfer belt home position sensors-1 and -2 working properly? (Perform the input check: 03-[FAX]ON/[9]/[H])

NO →

1. Check if the connectors or joint connectors of the transfer belt home position sensors-1 and -2 are disconnected.
2. Check if the connector CN361 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the wires of harnesses are open circuited.
4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
5. Replace the transfer belt home position sensor-1 and -2.
6. Replace the LGC board.

YES ↓

1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
2. Replace the LGC board.

**[CEF0] Revolver motor abnormality**

Is the revolver motor working? (Perform the output check: 03-450)

NO →

1. Check if the connector of the revolver motor is disconnected.
2. Check if the connectors CN435 and J434 on the DRV board are disconnected.
3. Check if the connector CN360 on the LGC board is disconnected.
4. Check if the connector pins are disconnected or the harnesses are open circuited.
5. Check if the conductor patterns on the DRV board and LGC board are short circuited or open circuited.
6. Replace the revolver motor.
7. Replace the DRV board and LGC board.

YES ↓

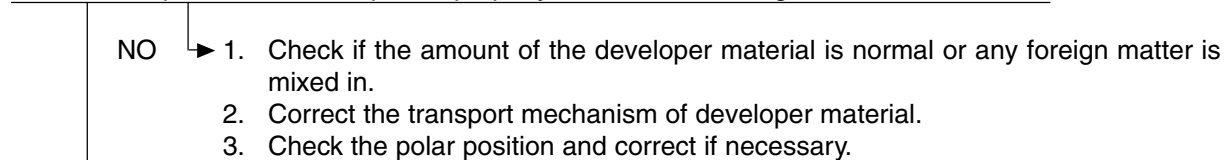
1. Check if the conductor patterns on the DRV board and LGC board are short circuited or open circuited.
2. Replace the DRV board and LGC board.

## 5.1.19 Toner density control related service call

### [CF20] Toner density detection voltage abnormality

- (1) Specify the developer unit with the abnormality by checking the setting values of 08-824-0 to 08-824-2. (When the value is "1", an abnormality occurs.)
- (2) Correct the defective section of the unit specified in (1) with the following procedure.

Is the developer material transported properly? Is the form of magnetic brush is normal?



YES ↓

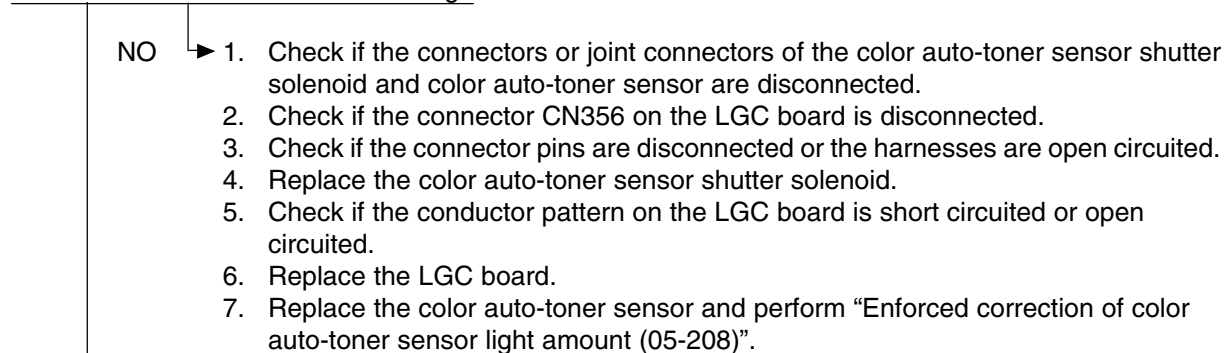
Is the color auto-toner sensor stained?



NO ↓

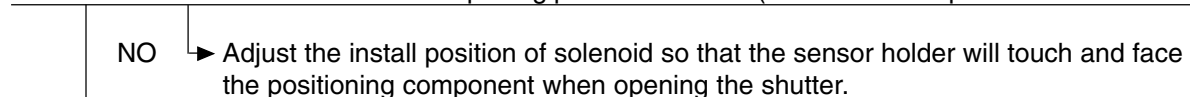
Is the color auto-toner sensor shutter solenoid working normally? (Perform the output check: 03-125/175)

Is the color auto-toner sensor working?



YES ↓

Is the color auto-toner sensor shutter opening position correct? (Perform the output check: 03-125/175)



YES ↓

1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
2. Replace the LGC board.

- (3) When the correction is completed, reset the values of 08-824-0 to 08-824-2 from "1" to "0" to clear the abnormality.



### [CF30] Reference plate detection voltage abnormality

Are the reference plate and color auto-toner sensor stained?

YES → Clean them.

NO ↓

Is the color auto-toner sensor shutter solenoid working normally? (Perform the output check: 03-125/175)

Is the color auto-toner sensor working?

NO →

1. Check if the connectors or joint connectors of the color auto-toner sensor shutter solenoid and color auto-toner sensor are disconnected.
2. Check if the connector CN356 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Replace the color auto-toner sensor shutter solenoid.
5. Check if the conductor pattern on the LGC board is short circuited or open circuited.
6. Replace the LGC board.
7. Replace the color auto-toner sensor and perform "Enforced correction of color auto-toner sensor light amount (05-208)".

YES ↓

Is the color auto-toner sensor shutter closing position correct? (Perform the output check: 03-125/175)

NO → Adjust the install position of solenoid so that the gap between the sensor holder and stopper will be 1.0 mm when closing the shutter.

YES ↓

1. Replace the LGC board.
2. Replace the reference plate and perform "Initialization of color auto-toner sensor light amount correction target value (05-207)".

## [CF40] Light amount correction voltage abnormality

- (1) Specify the developer unit with the abnormality by checking the setting values of 08-823-0 to 08-823-2. (When the value is "1", an abnormality occurs.)
- (2) Correct the defective section of the unit specified in (1) with the following procedure.

Is the developer unit inserted properly?

NO → Insert it properly.

YES ↓

Is the developer material transported properly? Is the form of magnetic brush is normal?

NO →

1. Check if the amount of the developer material is normal or any foreign matter is mixed in.
2. Correct the transport mechanism of developer material.
3. Check the polar position and correct if necessary.

YES ↓

Is the color auto-toner sensor stained?

YES → Clean it.

NO ↓

Is the color auto-toner sensor shutter solenoid working normally? (Perform the output check: 03-125/175)

Is the color auto-toner sensor working?

NO →

1. Check if the connectors or joint connectors of the color auto-toner sensor shutter solenoid and color auto-toner sensor are disconnected.
2. Check if the connector CN356 on the LGC board is disconnected.
3. Check if the connector pins are disconnected or the harnesses are open circuited.
4. Replace the color auto-toner sensor shutter solenoid.
5. Check if the conductor pattern on the LGC board is short circuited or open circuited.
6. Replace the LGC board.
7. Replace the color auto-toner sensor and perform "Enforced correction of color auto-toner sensor light amount (05-208)".

YES ↓

Is the color auto-toner sensor shutter opening position correct? (Perform the output check: 03-125/175)

NO → Adjust the install position of solenoid so that the sensor holder will touch and face the positioning component when opening the shutter.

YES ↓

1. Replace the LGC board.
2. Replace the reference plate and perform "Initialization of color auto-toner sensor light amount correction target value (05-207)".

- (3) When the correction is completed, reset the values of 08-823-0 to 08-823-2 from "1" to "0" to clear the abnormality.

## [CF50] Color auto-toner sensor abnormality

Are the connector of color auto-toner sensor, joint connector and connector CN356 on the LGC board connected normally?

- NO →
1. Reconnect the connectors.
  2. Correct or replace if the connector pins are disconnected or harnesses are open circuited.

YES ↓

Are the color auto-toner sensor and reference plate stained?

- YES → Clean them.

NO ↓

Is the color auto-toner sensor shutter solenoid working normally?

(Perform the output check: 03-125/175)

- NO →
1. Check if the connectors or joint connectors of the color auto-toner sensor shutter solenoid and color auto-toner sensor are disconnected.
  2. Check if the connector CN356 on the LGC board is disconnected.
  3. Check if the connector pins are disconnected or the harnesses are open circuited.
  4. Check if the conductor pattern on the LGC board is short circuited or open circuited.
  5. Replace the color auto-toner sensor shutter solenoid.
  6. Replace the LGC board.

YES ↓

Is the color auto-toner sensor shutter closing position correct? (Perform the output check: 03-125/175)

- NO → Adjust the install position of solenoid so that the gap between the sensor holder and stopper will be 1.0 mm when closing the shutter.

YES ↓

1. Check if the conductor pattern on the LGC board is short circuited or open circuited.
2. Replace the LGC board.
3. Replace the reference plate and perform "Initialization of color auto-toner sensor light amount correction target value (05-207)".
4. Replace the color auto-toner sensor and perform "Enforced correction of color auto-toner sensor light amount (05-208)".

## 5.1.20 Other service call

### [F100] HDD format error

- (1) Check if the HDD is mounted.
- (2) Check if the specified HDD is mounted.
- (3) Check if the connector pins of the HDD are bent.
- (4) Check if the connectors CN112, CN113 on the SYS board is disconnected.
- (5) Replace the harness.
- (6) Format the HDD. (Key in "2" at 08-690.)
- (7) Replace the HDD.
- (8) Replace the SYS board.

### [F101] HDD unmounted

### [F102] HDD start error

### [F103] HDD transfer time-out

### [F104] HDD data error

### [F105] HDD other error

- (1) Check if the connectors of the HDD are disconnected.
- (2) Check if the connector pins are disconnected or the wires of harnesses are open circuited.
- (3) Perform the bad sector check (08-694). If the check result is OK, recover the data in the HDD. If the check result is failed, replace the HDD.
- (4) Replace the SYS board.

### [F106] Point and Print partition damage

- (1) Turn the power OFF and start up the Setting Mode (08).
- (2) Key in "662" and press the [START] button. (Partition clearing is performed.)
- (3) Restart the equipment.
- (4) Access TopAccess. Click the [Administration] tab, and then click the Maintenance Menu to open. Then install the "Point and Print" driver.

### [F107] / SHR partition damage

Initialize the Electronic Filing using the Setting Mode (08-666).

### [F108] /SHA partition damage

Initialize the shared folder using the Setting Mode (08-667).

### [F120] Database abnormality

- (1) Rebuild the databases. (Perform 08-684.)
- (2) If the error is not recovered, initialize the HDD. (Enter "2" at 08-690.)

\* When "Rebuilding all databases (08-684)" is performed, all data in the Address Book and Mailbox are deleted. Make sure to back up these data in advance of rebuilding and restore the data after rebuilding.

## 5.1.21 Error in Internet FAX / Scanning Function

### Notes:

1. When initializing the Electronic Filing (Setting Mode (08-666)), all data in the Electronic Filing are erased. Back up the data in the Electronic Filing by using the Electronic Filing Function of TopAccess before the initialization.
2. When initializing the shared folder (Setting Mode (08-667)), all data in the shared folder are erased. Back up the data in the shared folder by using Explorer before the initialization.
3. When formatting the HDD (Setting Mode (08-690)), all data in the shared folder, Electronic Filing, Address Book, template, etc. are erased. Back up these data before the initialization. Note that some of data cannot be backed up ( ► Page 5-1).

(1) Internet FAX related error

### **[1C10] System access abnormality**

#### **[1C32] File deletion failure**

Turn the power OFF and then back ON. Perform the job in error again.

If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (08-690).

### **[1C11] Insufficient memory**

When there are running jobs, perform the job in error again after the completion of the running jobs. If the error still occurs, turn the power OFF and then back ON, and perform the job again.

### **[1C12] Message reception error**

#### **[1C13] Message transmission error**

Turn the power OFF and then back ON. Perform the job in error again.

### **[1C14] Invalid parameter**

When a template is used, form the template again.

If the error still occurs, turn the power OFF and then back ON, and perform the job again.

### **[1C15] Exceeding file capacity**

Reset and extend the "Maximum send to E-mail/iFAX size" or reduce the number of pages and perform the job again.

**[1C20] System management module access abnormality**

**[1C21] Job control module access abnormality**

**[1C22] Job control module access abnormality**

Turn the power OFF and then back ON. Perform the job in error again.  
Check if there are no other running jobs and perform the HDD formatting (08-690).  
If the recovery is still not completed, replace the SYS board.

**[1C30] Directory creation failure**

**[1C31] File creation failure**

**[1C33] File access failure**

Check if the access privilege to the storage directory is writable.  
Check if the server or local disk has a sufficient space in disk capacity.

**[1C40] Image conversion abnormality**

Turn the power OFF and then back ON. Perform the job in error again.  
Replace the main memory and perform the job again.

**[1C60] HDD full failure during processing**

Reduce the number of pages of the job in error and perform the job again.  
Check if the server or local disk has a sufficient space in disk capacity.

**[1C61] Address Book reading failure**

Turn the power OFF and then back ON. Perform the job in error again.  
Reset the data in the Address Book and perform the job again.

**[1C62] Memory acquiring failure**

Check if there is any job being performed and perform the job in error again.  
Turn the power OFF and then back ON. Perform the job in error again.  
Replace the main memory and perform the job again.

**[1C63] Terminal IP address unset**

Reset the Terminal IP address.  
Turn the power OFF and then back ON. Perform the job in error again.

**[1C64] Terminal mail address unset**

Reset the Terminal mail address.  
Turn the power OFF and then back ON. Perform the job in error again.

**[1C65] SMTP address unset**

Reset the SMTP address and perform the job.  
Turn the power OFF and then back ON. Perform the job in error again.

**[1C66] Server time time-out error**

Check if the SMTP server is operating properly.

**[1C67] NIC time time-out error**

**[1C68] NIC access error**

**[1C6D] System error**

Turn the power OFF and then back ON. Perform the job in error again.  
If the error still occurs, replace the NIC board.

**[1C69] SMTP server connection error**

Reset the login name or password of SMTP server and perform the job again.  
Check if the SMTP server is operating properly.

**[1C6A] HOST NAME error**

Check if there is an illegal character in the device name.  
Delete the illegal character and reset the appropriate device name.

**[1C6B] Terminal mail address error**

Check if there is an illegal character in the Terminal mail address.  
Delete the illegal character and reset the appropriate Terminal mail address, then perform the job again.

**[1C6C] Destination mail address error**

Check if there is an illegal character in the Destination mail address.  
Delete the illegal character and reset the appropriate Destination mail address, then perform the job again.

**[1C70] SMTP client OFF**

Set the SMTP valid and perform the job again.

**[1C80] Internet FAX transmission failure when processing E-mail job received**

Reset the "Received InternetFax Forward".

**[1C81] Onramp Gateway transmission failure**

Reset the mail box.

**[1C82] Internet FAX transmission failure when processing FAX job received**

Reset the "Received Fax Forward".

**[1CC1] Power failure**

Check if the power cable is connected properly and it is inserted securely.  
Check if the power voltage is unstable.



(2) RFC related error

**[2500] HOST NAME error (RFC: 500) / Destination mail address error (RFC: 500) / Terminal mail address error (RFC: 500)**

**[2501] HOST NAME error (RFC: 501) / Destination mail address error (RFC: 501) / Terminal mail address error (RFC: 501)**

Check if the Terminal mail address and Destination mail address are correct.  
Check if the mail server is operating properly.  
Turn the power OFF and then back ON. Perform the job in error again.

**[2503] Destination mail address error (RFC: 503)**

**[2504] HOST NAME error (RFC: 504)**

**[2551] Destination mail address error (RFC: 551)**

Check if the mail server is operating properly.  
Turn the power OFF and then back ON. Perform the job in error again.  
If the error still occurs, replace the NIC board.

**[2550] Destination mail address error (RFC: 550)**

Check the state of the mail box in the mail server.

**[2552] Terminal/Destination mail address error (RFC: 552)**

Turn the power OFF and then back ON. Perform the job in error again.  
If the error still occurs, replace the NIC board.

**[2553] Destination mail address error (RFC: 553)**

Check if there is an illegal character in the mail box in the mail server.

(3) Electronic Filing related error

**[2B10] No applicable job error in Job control module**

**[2B11] JOB status abnormality**

**[2B20] File library function error**

**[2B30] Insufficient disk space in /SHR partition**

**[2BC0] Fatal failure occurred**

**[2BC1] System management module resource acquiring failure**

Erase some data in the Electronic Filing and perform the job in error again (in case of [2B30]).  
Turn the power OFF and then back ON. Perform the job in error again.  
Check if there are no other running jobs and perform the HDD formatting (08-690).  
If the recovery is still not completed, replace the SYS board.

**[2B50] Image library error**

**[2B90] Insufficient memory capacity**

Turn the power OFF and then back ON. Perform the job in error again.  
If the error still occurs, replace the main memory.  
Perform the job in error again.  
Check if there are no other running jobs and initialize the Electronic Filing using the Setting Mode (08-666).

**[2B31] Status of specified Electronic Filing or folder is undefined or being created/deleted**

Check if the specified Electronic Filing or folder exists. (If no, this error would not occur.)  
Delete the specified Electronic Filing or folder.  
Perform the job in error again.  
If the specified Electronic Filing or folder can not be deleted, initialize the Electronic Filing using the Setting Mode (08-666).

**[2B32] Electronic Filing printing failure: Specified document can not be printed because of client's access (being edited, etc.)**

Check if the specified document exists. (If no, this error would not occur.)  
Delete the specified document.  
Perform the job in error again.  
If the specified document can not be deleted, initialize the Electronic Filing using the Setting Mode (08-666).

**[2B51] List library error**

Check if the Function List can be printed out.

If it can be printed out, perform the job in error again.

If it can not be printed out, replace the main memory.

If the recovery is still not completed, perform the HDD formatting (08-690).

**[2BA0] Invalid Box password**

Check if the password is correct.

Reset the password.

When this error occurs when printing the data in the Electronic Filing, perform the printing with the administrator's password.

If the recovery is still not completed or in case of invalid password for the operation other than printing (opening the file, etc.), initialize the Electronic Filing using the Setting Mode (08-666).

**[2BB1] Power failure**

**[2BD0] Power failure occurred during restoring of Electronic Filing**

Check if the power cable is connected properly and it is inserted securely.

Check if the power voltage is unstable.

**[2BE0] Machine parameter reading error**

Turn the power OFF and then back ON. Perform the job in error again.

**[2BF0] Exceeding maximum number of pages**

Reduce the number of inserting pages and perform the job again.

**[2BF1] Exceeding maximum number of documents**

Backup the documents in the box or folder to PC or delete them.

**[2BF2] Exceeding maximum number of folders**

Backup the folders in the box or folder to PC or delete them.

(4) E-mail related error

**[2C10] System access abnormality**  
**[2C32] File deletion failure**

Turn the power OFF and then back ON. Perform the job in error again.  
If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (08-690).

**[2C11] Insufficient memory**

When there are running jobs, perform the job in error again after the completion of the running jobs.  
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

**[2C12] Message reception error**  
**[2C13] Message transmission error**

Turn the power OFF and then back ON. Perform the job in error again.

**[2C14] Invalid parameter**

When a template is used, form the template again.  
If the error still occurs, turn the power OFF and then back ON, and perform the job again.

**[2C15] Exceeding file capacity**

Reset and extend the "Maximum send to E-mail/iFAX size" or reduce the number of pages and perform the job again.

**[2C20] System management module access abnormality**  
**[2C21] Job control module access abnormality**  
**[2C22] Job control module access abnormality**

Turn the power OFF and then back ON. Perform the job in error again.  
Check if there are no other running jobs and perform the HDD formatting (08-690).  
If the recovery is still not completed, replace the SYS board.

**[2C30] Directory creation failure**  
**[2C31] File creation failure**  
**[2C33] File access failure**

Check if the access privilege to the storage directory is writable.  
Check if the server or local disk has a sufficient space in disk capacity.

**[2C40] Image conversion abnormality**

**[2C62] Memory acquiring failure**

Turn the power OFF and then back ON. Perform the job in error again.  
Replace the main memory and perform the job again.

**[2C60] HDD full failure during processing**

Reduce the number of pages of the job in error and perform the job again.  
Check if the server or local disk has a sufficient space in disk capacity.

**[2C61] Address Book reading failure**

Turn the power OFF and then back ON. Perform the job in error again.  
Reset the data in the Address Book and perform the job again.

**[2C63] Terminal IP address unset**

Reset the Terminal IP address.  
Turn the power OFF and then back ON. Perform the job in error again.

**[2C64] Terminal mail address unset**

Reset the Terminal mail address.  
Turn the power OFF and then back ON. Perform the job in error again.

**[2C65] SMTP address unset**

Reset the SMTP address and perform the job.  
Turn the power OFF and then back ON. Perform the job in error again.

**[2C66] Server time time-out error**

Check if the SMTP server is operating properly.

**[2C67] NIC time time-out error**

**[2C68] NIC access error**

**[2C6D] NIC system error**

Turn the power OFF and then back ON. Perform the job in error again.  
If the error still occurs, replace the NIC board.

**[2C69] SMTP server connection error**

Reset the login name and password of SMTP server and perform the job again.  
Check if the SMTP server is operating properly.

**[2C6A] HOST NAME error (No RFC error)**

Check if there is an illegal character in the device name.  
Delete the illegal character and reset the appropriate device name.

**[2C6B] Terminal mail address error**

Check if there is an illegal character in the Terminal mail address.  
Delete the illegal character and reset the appropriate Terminal mail address, then perform the job again.

**[2C6C] Destination mail address error (No RFC error)**

Check if there is an illegal character in the Destination mail address.  
Delete the illegal character and reset the appropriate Destination mail address, then perform the job again.

**[2C70] SMTP client OFF**

Set the SMTP valid and perform the job again.

**[2C80] E-mail transmission failure when processing E-mail job received**

Reset the "Received InternetFax Forward".

**[2C81] Process failure of FAX job received**

Reset the setting of the mail box or "Received InternetFax Forward".

**[2CC1] Power failure**

Check if the power cable is connected properly and it is inserted securely.  
Check if the power voltage is unstable.

(5) File sharing related error

- [2D10] System access abnormality**
- [2D32] File deletion failure**
- [2DA6] File deletion failure**
- [2DA7] Resource acquiring failure**

Delete some files in the shared folder by using Explorer because of automatic/manual file deletion failure (in case of [2DA6])

Turn the power OFF and then back ON. Perform the job in error again.

If the error still occurs, first, check if there are no jobs existing and then perform the HDD formatting (08-690).

#### **[2D11] Insufficient memory**

When there are running jobs, perform the job in error again after the completion of the running jobs.

If the error still occurs, turn the power OFF and then back ON, and perform the job again.

- [2D12] Message reception error**
- [2D13] Message transmission error**

Turn the power OFF and then back ON. Perform the job in error again.

#### **[2D14] [2D61] Invalid parameter**

When a template is used, form the template again.

If the error still occurs, turn the power OFF and then back ON, and perform the job again.

#### **[2D15] Exceeding document number**

Delete some documents in the folder, and then perform the job in error again.

- [2D20] System management module access abnormality**
- [2D21] Job control module access abnormality**
- [2D22] Job control module access abnormality**
- [2D60] File library access abnormality**

Turn the power OFF and then back ON. Perform the job in error again.

Check if there are no other running jobs and perform the HDD formatting (08-690).

If the recovery is still not completed, replace the SYS board.

**[2D30] Directory creation failure**

**[2D31] File creation failure**

**[2D33] File access failure**

Check if the access privilege to the storage directory is writable.  
Check if the server or local disk has a sufficient space in disk capacity.

**[2D40] Image conversion abnormality**

Turn the power OFF and then back ON. Perform the job in error again.  
Replace the main memory and perform the job again.  
If the error still occurs, first, check if there are no jobs existing and then initialize the shared folder using the Setting Mode (08-667).

**[2D62] File server connection error**

Check the IP address or path of the server.  
Check if the server is operating properly.

**[2D63] Invalid network path**

Check the network path.  
If the path is correct, turn the power OFF and then back ON, and perform the job again.

**[2D64] Login failure**

Reset the login name and password. Perform the job.  
Check if the account of the server is properly set up.

**[2D65] Exceeding documents in folder: Creating new document is failed**

Delete some documents in the folder.

**[2D66] HDD full failure during processing**

Reduce the number of pages of the job in error and perform the job again.  
Check if the server or local disk has a sufficient space in disk capacity.



**[2D67] FTP service not available**

Check if the setting of FTP service is valid.

**[2D68] File sharing service not available**

Check if the setting of SMB is valid.

**[2DC1] Power failure**

Check if the power cable is connected properly and it is inserted securely.  
Check if the power voltage is unstable.

(6) E-mail reception related error

**[3A10] [3A11] [3A12] E-mail MIME error**

The format of the mail is not corresponding to MIME 1.0.  
Request the sender to retransmit the mail in the format corresponding to MIME 1.0.

**[3A20] [3A21] [3A22] E-mail analysis error**  
**[3B10] [3B11] [3B12] E-mail format error**  
**[3B40] [3B41] [3B42] E-mail decode error**

These errors occur when the mail data is damaged from the transmission to the reception of the mail.  
Request the sender to retransmit the mail.

**[3A30] Partial mail time-out error**

The partial mail is not received in a specified period of time.  
Request the sender to retransmit the partial mail, or set the time-out period of the partial mail longer.

**[3A40] Partial mail related error**

The format of the partial mail is not corresponding to this equipment.  
Request the sender to remake and retransmit the partial mail in RFC2046 format.

**[3A50] [3A51] [3A52] Insufficient HDD capacity error**  
**[3A60] [3A61] [3A62] Warning of insufficient HDD capacity**

These errors occur when the HDD capacity is not sufficient for a temporary concentration of the jobs, etc.  
Request the sender to retransmit after a certain period of time, or divide the mail into more than one.  
Insufficient HDD capacity error also occurs when printing is disabled for no printing paper.  
In this case, supply the printing paper.

**[3A70] Warning of partial mail interruption**

This error occurs when the partial mail reception setting becomes OFF during the partial mail reception.  
Reset the partial mail reception setting ON and then request the sender to retransmit the mail.

**[3A80] [3A81] [3A82] Partial mail reception setting OFF**

Reset the partial mail reception setting ON and then request the sender to retransmit the mail.

### **[3B20] [3B21] [3B22] Content-Type error**

The format of the attached file is not supported by this equipment (TIFF-FX).  
Request the sender to retransmit the file in TIFF-FX.

### **[3B30] [3B31] [3B32] Charset error**

These errors occur when the standard of the Charset is other than ISO-8559-1 or ISO-8559-2.  
Request the sender to reformat the Charset into either of the standards described above and then retransmit the mail.

### **[3C10] [3C11] [3C12] [3C13] TIFF analysis error**

These errors occur when the mail data is damaged from the transmission to the reception of the mail, or when the format of the attached file is not supported by this equipment (TIFF-FX).  
Request the sender to retransmit the mail.

### **[3C20] [3C21] [3C22] TIFF compression error**

The compression method of the TIFF file is not acceptable for this equipment. (Acceptable: MH/MR/MMR/JBIG)  
Request the sender to retransmit the file in the acceptable compression method.

### **[3C30] [3C31] [3C32] TIFF resolution error**

The resolution of the TIFF file is not acceptable for this equipment. (Acceptable: 200 x 100, 200 x 200, 200 x 400, 400 x 400, 300 x 300 or equivalent)  
Request the sender to retransmit the file in the acceptable resolution.

### **[3C40] [3C41] [3C42] TIFF paper size error**

The paper size of the TIFF file is not acceptable for this equipment. (Acceptable: A4, B4, A3, B5, LT, LG, LD or ST)  
Request the sender to retransmit the file in the acceptable paper size.

### **[3C50] [3C51] [3C52] Offramp destination error**

These errors occur when the FAX number of the offramp destination is incorrect.  
Request the sender to correct the FAX number of offramp destination and then retransmit the mail.

### **[3C60] [3C61] [3C62] Offramp security error**

These errors occur when the FAX number of the offramp destination is not on the Address Book. Check if the FAX number of the offramp destination is correctly entered or the number has not been changed.

### **[3C70] Power failure error**

Check if the mail is recovered after turning ON the power again. Request the sender to retransmit the mail if it is not recovered.

### **[3D10] Destination address error**

Check if the setting of the server or DNS is correct. Correct if any of the setting is incorrect. When the content of the setting is correct, confirm the sender if the destination is correct.

### **[3D20] Offramp destination limitation error**

Inform the sender that the transfer of the FAX data over 40 is not supported.

### **[3D30] FAX board error**

This error occurs when the FAX board is not installed or the FAX board has an abnormality. Check if the FAX board is correctly connected.

### **[3E10] POP3 server connection error**

Check if the IP address or domain name of the POP3 server set for this equipment is correct, or check if POP3 server to be connected is operating properly.

### **[3E20] POP3 server connection time-out error**

Check if POP3 server to be connected is operating properly. Check if the LAN cable is correctly connected.

### **[3E30] POP3 login error**

Check if the POP3 server login name and password set for this equipment are correct.

### **[3F00] [3F10] [3F20] [3F30] [3F40] File I/O error**

These errors occur when the mail data is not transferred properly to the HDD. Request the sender to retransmit the mail. Replace the HDD if the error still occurs after retransmission.

**[402F] Page memory size error**

This error occurs when the expansion memory is not installed or the expansion memory has an abnormality.

Check if the expansion memory exists or not, or it is correctly installed.

**[4031] HDD full failure during printing**

Reduce the number of pages of the job in error and perform the job again.

Check if the server or local disk has a sufficient space in disk capacity.

**[4032] Private-print-only error**

Select "Print", and then perform the printing again.

**[A221] Print job cancellation**

This message appears when deleting the job on the screen.

**[A222] Print job power failure**

When there are running jobs, perform the job in error again after the completion of the running jobs. If the error still occurs, turn the power OFF and then back ON, and perform the job again.

## 5.2 Troubleshooting of Image

### (1) Color deviation

<Symptoms>

Original mode	Location	Phenomena
All modes	Color blurred in outline of white text or illustration on a colored background	Color deviation
Text Mode Text/Photo Mode	Outline in black text on a colored background	White void
Photo Mode Map Mode	Color blurred in outline of line or text	Color deviation

Fig. 5-201

Section	Step	Cause			Check Item
		Main Classification	Sub Classification	Specific Classification	
	1				Output the built-in pattern on A3/LD.
Drum drive system	2	Drum rotation	Unstable	Motor abnormal	Check main motor operation in the Test Mode (03).
				Control circuit abnormal	Check main motor operation in the Test Mode (03).
		Main motor rotation speed	Inadequate	Adjustment error	Recheck values set for main motor rotation speed.
		Drum coupling	Loose coupling Damage Deformation		Check the grid pattern.
Transfer belt system	3	Transfer belt	Deformation or damage		Check the grid pattern.
					Check the condition of transfer belt edge.
		Reflection tape	Stain Damage		
		Transfer belt home position sensor	Stain		
		Drive roller	Slipping	Stain	Check the grid pattern.
					Check the condition of roller surface.
		Large driving load	Cleaning blade	Peeling	
Grounding (transfer belt unit)			Check the installing of the transfer belt unit.		
Laser optical unit	4	Reflection mirror warp		Check the grid pattern.	
		fθ lens characteristic defect		Check the grid pattern.	
High-voltage transformer	5	High-voltage supply terminal (1st/2nd transfer rollers)		Check the connection of the terminal.	

Criteria	Measures
Perform following procedures from 2 and after.	
	Replace the main motor.
	Reconnect the connectors. Replace the harnesses. Replace the LGC board.
Is the value significantly different from the default value 128?	Reset main motor speed to 128.
	Tighten the screws.
	Replace the couplings.
	Replace the couplings.
Is the misalignment of the secondary scanning direction varied?	Replace the belt (troubleshoot the transfer belt).
Is the belt edge damaged or folded?	
Is there any stain on the reflection tape?	Clean the reflection tape or replace the transfer belt.
Is the reflection tape damaged?	Replace the transfer belt.
Is lens section of the sensor stained?	Clean the lens section or replace the sensor.
Is the misalignment of the primary scanning direction varied?	Clean it.
Is there any stain?	
	Replace the cleaning blade.
Is the transfer belt unit installed normally? (Is the unit normally grounded?)	Check/correct the installing.
Are the lines of the primary scanning direction warped?	Replace the unit.
Are the lines of the primary scanning direction warped?	Replace the unit.
Is the terminal loosened?	Check/reconnect the terminal.

\* If the desired image has not been obtained with the above measures or the more qualified image is needed, correct the "deviation amount" in the Adjustment Mode (05). (Refer to the next page.)

## <Color Deviation Correction Procedure>

There are 2 methods to correct a color deviation; using the "Test pattern 63" (correction method 1) and using the "Test pattern 64" (correction method 2). Correct in either way of these methods.

### Correction method 1

- (1) While pressing the digital keys [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
- (2) Print out the test pattern and correct the deviation amount of the 1st page. Use the image position of magenta (M) as a reference for correction. The image positions of yellow (Y), cyan (C) and black (K) must be corrected with this reference.
  - a. Select A3/LD size. Key in "63" and then press the [FAX] button. → 2 pages of test pattern are printed out.
  - b. Check the image of the 1st page and specify the color to be corrected.
  - c. Key in the code "417" and press the [START] button.
  - d. Key in the sub code of the color to be corrected and press the [START] button.  
Sub code      0: Black (K)    1: Cyan (C)    3: Yellow (Y)
  - e. Key in the adjustment value and press the [ENTER] or [INTERRUPT] button.

#### **Notes:**

1. When the value increases by "1", the image shifts toward the trailing edge of the paper by 0.0423 mm.
2. Adjust the image positions of black (B), cyan (C) and yellow (Y) to align the leading/trailing edge of each image. If both leading and trailing edges are not aligned, adjust to uniform the deviation amount of each edge.

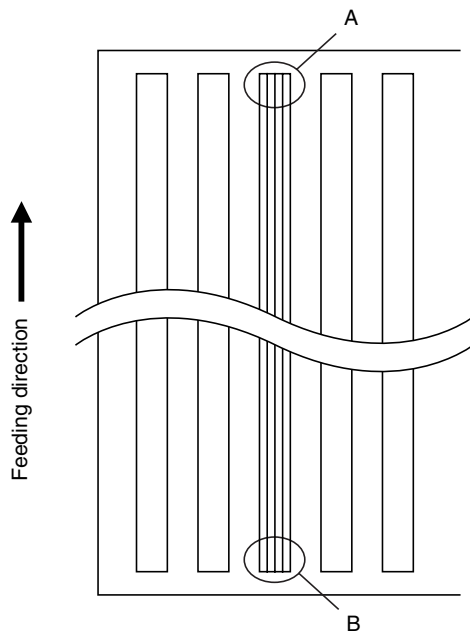
- (3) Print out the test pattern and correct the deviation amount of the 2nd page. Use the image position of magenta (M) as a reference for correction. The image positions of yellow (Y), cyan (C) and black (K) must be corrected with this reference.
  - a. Select A3/LD size. Key in "63" and then press the [FAX] button. → 2 pages of test pattern are printed out.
  - b. Check the image of the 2nd page and specify the color to be corrected.
  - c. Key in the code "418" and press the [START] button.
  - d. Key in the sub code of the color to be corrected and press the [START] button.  
Sub code      0: Black (K)    1: Cyan (C)    3: Yellow (Y)
  - e. Key in the adjustment value and press the [ENTER] or [INTERRUPT] button.

#### **Notes:**

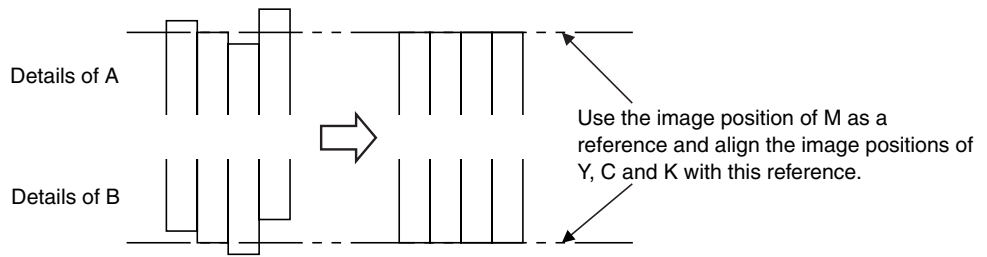
1. When the value increases by "1", the image shifts toward the trailing edge of the paper by 0.0423 mm.
2. Adjust the image positions of black (B), cyan (C) and yellow (Y) to align the leading/trailing edge of each image. If both leading and trailing edges are not aligned, adjust to uniform the deviation amount of each edge.

- (4) Turn the power OFF.





[Test pattern]



[Details of adjustment area]

Fig. 5-202

## Correction method 2

- (1) While pressing the digital keys [0] and [5] simultaneously, turn the power ON. → (Adjustment Mode)
  
- (2) Print out the test pattern and correct the deviation amount of the 1st page. Use the image position of magenta (M) as a reference for correction. The image positions of yellow (Y), cyan (C) and black (K) must be corrected with this reference.
  - a. Select A3/LD size. Key in "64" and then press the [FAX] button. → 2 pages of the test pattern are printed out.
  - b. Check the image of the 1st page and specify the color to be corrected.
  - c. Key in the code "417" and press the [START] button.
  - d. Key in the sub code of the color to be corrected and press the [START] button.  
Sub code    0: Black (K)    1: Cyan (C)    3: Yellow (Y)
  - e. Key in the adjustment value and press the [ENTER] or [INTERRUPT] button.

### **Notes:**

1. When the value increases by "1", the image shifts toward the trailing edge of the paper by 0.0423 mm.
2. Adjust the image positions of black (K), cyan (C) and yellow (Y) so that the colors do not overlap.
3. If the patterns of the leading and trailing edge sides are not aligned, adjust to uniform the deviation amount of each side. (The top gap of the pattern on the leading edge side and bottom gap of the pattern on the trailing edge side should be the same. The bottom gap of the pattern on the leading edge side and top gap of the pattern on the trailing edge side should be the same.)

- (3) Print out the test pattern and correct the deviation amount of the 2nd page. Use the image position of magenta (M) as a reference for correction. The image positions of yellow (Y), cyan (C) and black (K) must be corrected with this reference.
  - a. Select A3/LD size. Key in "64" and then press the [FAX] button. → 2 pages of the test pattern are printed out.
  - b. Check the image of the 2nd page and specify the color to be corrected.
  - c. Key in the code "418" and press the [START] button.
  - d. Key in the sub code of the color to be corrected and press the [START] button.  
Sub code    0: Black (K)    1: Cyan (C)    3: Yellow (Y)
  - e. Key in the adjustment value and press the [ENTER] or [INTERRUPT] button.

### **Notes:**

1. When the value increases by "1", the image shifts toward the trailing edge of the paper by 0.0423 mm.
2. Adjust the image positions of black (K), cyan (C) and yellow (Y) so that the colors do not overlap.

3. If the patterns of the leading and trailing edge sides are not aligned, adjust to uniform the deviation amount of each side. (The top gap of the pattern on the leading edge side and bottom gap of the pattern on the trailing edge side should be the same. The bottom gap of the pattern on the leading edge side and top gap of the pattern on the trailing edge side should be the same.)

(4) Turn the power OFF.

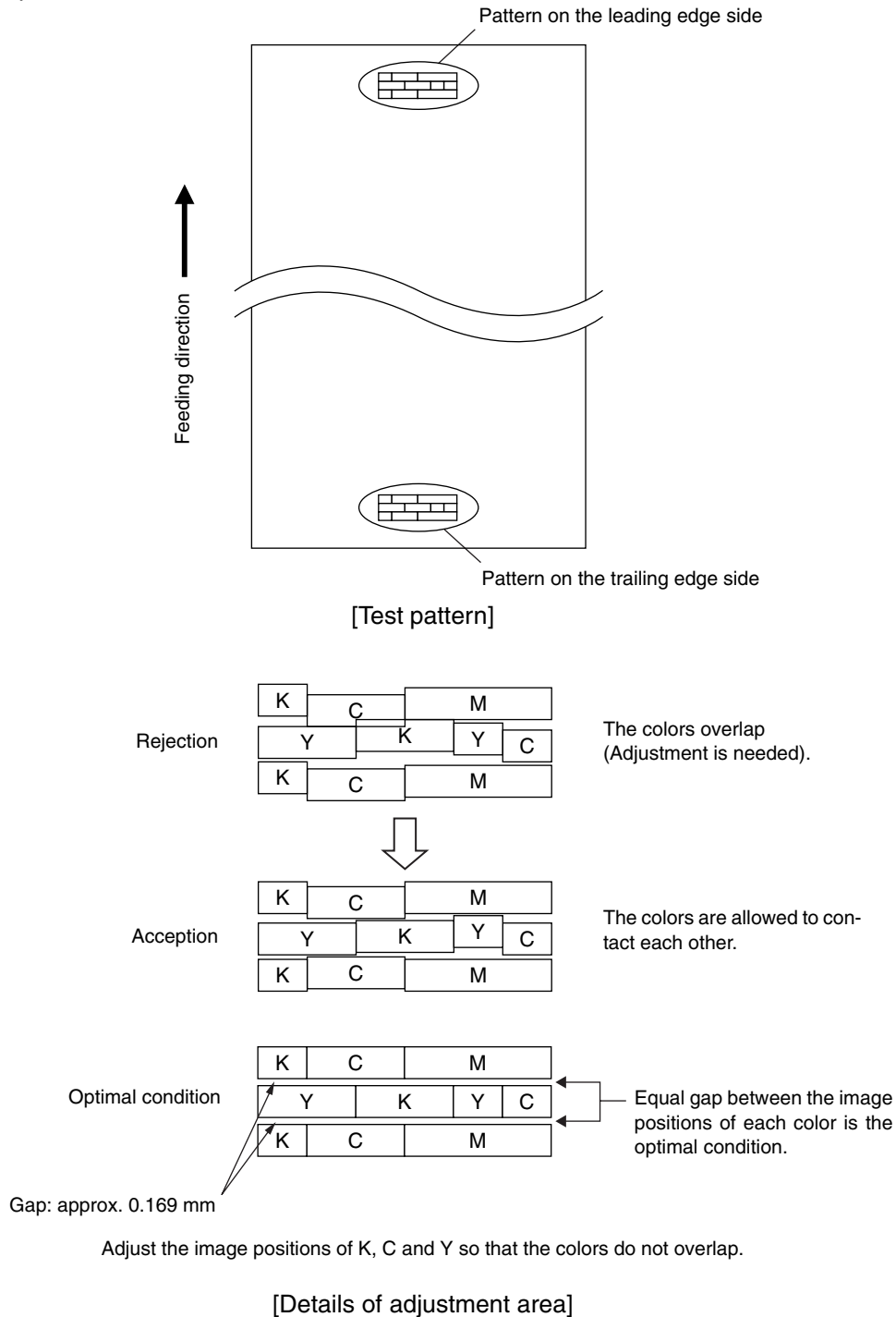


Fig. 5-202B

(2) Uneven pitch and jitter image

<Symptoms>

Original mode	Location	Phenomena
All modes	Occurs cyclically at right angles to paper feeding direction	Uneven pitch

Feeding direction  
←

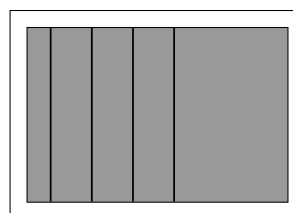


Fig. 5-203

Section	Step	Cause			Check Item
		Main Classification	Sub Classification	Specific Classification	
	1				Output the built-in half-tone and grid patterns on A3/LD.
Drum drive system	2	Drum	Surface condition	Damage	Check the half-tone pattern.
				Attached foreign matter	Check the drum surface.
				Motor abnormal	Check the drum surface.
	3	Drum rotation	Unstable	Control circuit abnormal	Check main motor operation in Test Mode (03).
				Adjustment error	Check main motor operation in Test Mode (03).
				Inadequate	Recheck values set for main motor rotation speed.
Drum coupling	Loose coupling	Damage	Deformation	Check the half-tone pattern.	
Transfer belt system	4	Drive unit	Timing belt	Tension looseness	Check the half-tone pattern.
	5	Transfer belt	Deformation or damage		Check the half-tone pattern.
					Check the condition of transfer belt edge.
	Drive roller	Slipping	Stain	Peeling	Check the half-tone pattern.
6	Polygonal mirror	Surface inclined	Deformation	Check the half-tone pattern.	

	Criteria	Measures
	Perform following procedures from 2 and after.	
	Are there uneven pitches approx. 283 mm?	Replace the drum.
	Is there any damage?	Replace the drum.
	Is there any attached foreign matter?	Clean or replace the drum.
		Replace the main motor.
		Reconnect the connectors. Replace the harnesses. Replace the LGC board.
	Is the value significantly different from the default value 128?	Reset main motor rotation speed to 128.
		Retighten the screws.
		Replace the couplings.
		Replace the couplings.
	Are there uneven pitches approx. 2.5 mm in the whole image?	Retighten the screws to fix the tension arm.
	Are there uneven pitches approx. 75 mm in the whole image?	Replace the transfer belt.
	Is the belt edge damaged or folded?	
	Are there uneven pitches approx. 75 mm in the whole image?	Clean it.
	Is there any stain?	
		Replace the cleaning blade.
	Are there uneven pitches approx. 0.3 mm in the whole image?	Replace the unit.

(3) Poor image density, color reproduction and gray balance

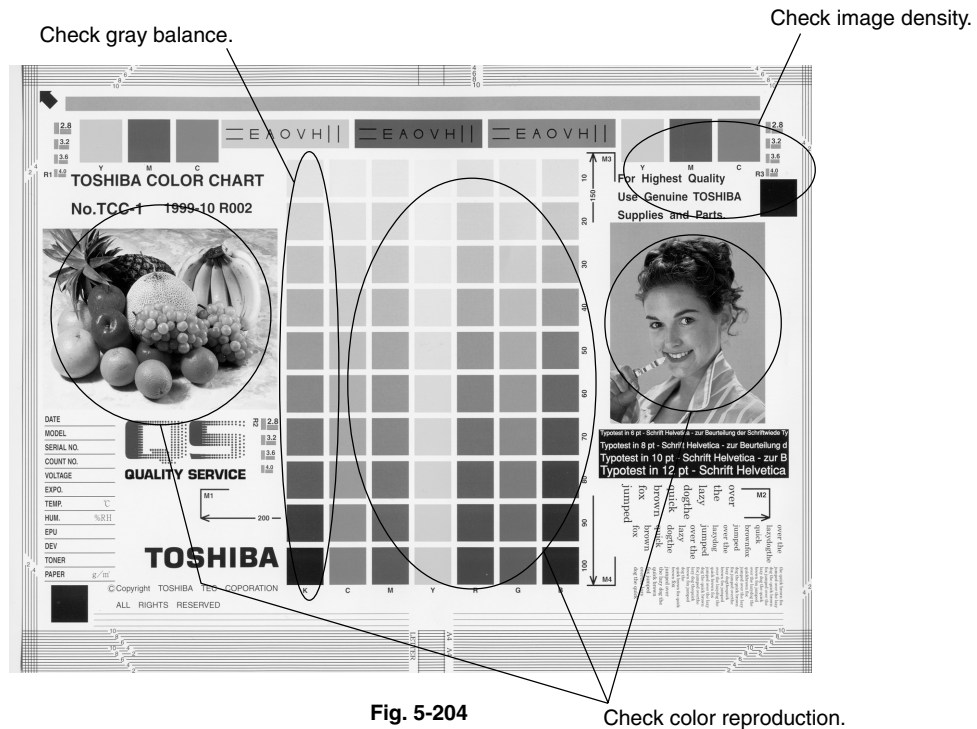


Fig. 5-204

Cause/Section	Step	Check items	Measures	Remarks
Density / Color reproduction / Gray balance	1	Check the image density / color reproduction / gray balance.	Perform the enforced performing of image quality closed-loop control (05-395) and then automatic gamma adjustment.	
Printer density	2	Check the density of printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113	See step 5 if defect occurs.
Scanner	3	Check if the original glass, mirrors or lens is dirty.	Clean it.	
Parameter adjustment value	4	Check the image processing parameters.	Adjust the color balance (color). Adjust the image density.	
Printer output image abnormal	5	Is there any faded image (low density)?	Perform the troubleshooting procedures against the faded image.	
		Is there any fog in the background?	Perform the troubleshooting procedures against the background fogging.	
		Is there any blotch image?	Perform the troubleshooting procedures against the blotch image.	
		Is there any poor transfer?	Perform the troubleshooting procedures against the poor transfer.	
		Is there any poor cleaning of the transfer belt? (Check inside the equipment.)	Correct the transfer belt area. (Refer to Service Manual)	

\* If the trouble is not solved at the step 1 and the step 2 or followings (excluding the parameter adjustment) are performed, make sure to perform "Enforced performing of image quality closed-loop control" and then "Automatic gamma adjustment" after taking a measure.

(4) Background fogging

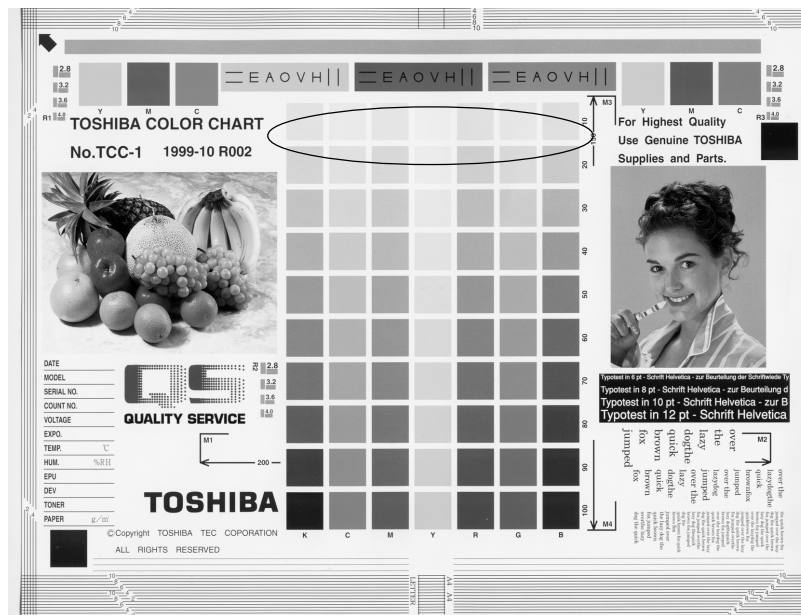


Fig. 5-205

Cause/Section	Step	Check items	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of image quality closed-loop control (05-395) and then automatic gamma adjustment.	
Printer section	2	Check the printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113	See step 6 if defects occur.
Scanner	3	Check if the original glass, mirrors or lens is dirty.	Clean it.	
Parameter adjustment value	4	Check the image processing parameters.	Check the value of offsetting adjustment for background processing (color) and background peak adjustment for range correction (black).	
	5	Adjust the image processing parameters.	While checking the above encircled image, adjust the reproduction level by the offsetting adjustment for background processing (color) and background peak adjustment for range correction (black).	
Cover	6	Is the cover installed properly? (Is the drum exposed to the external light?)	Correct it.	
Auto-toner	7	Is the auto-toner sensor normal?	Check the operation of auto-toner sensor and readjust.	
	8	Is the toner supply operating constantly?	Check the motor and circuits.	
Main charger output	9	Is the main charger output normal?	Check the circuits.	
Developer bias	10	Is the developer bias proper?	Check the circuits.	
Developer unit	11	Is the contact between the drum and developer material proper?	Check the doctor-to-sleeve gap and pole position.	
Developer material/ Toner/Drum	12	Using the specified developer material, toner and drum?	Use the specified developer material, toner and drum.	
	13	Have the developer material and drum reached their PM life?	Replace the developer material and drum.	
	14	Is the storage environment of the toner cartridge 35°C or less without dew?	Use the toner cartridge stored in the environment within specification.	
Drum cleaning blade	15	Is the drum cleaned properly?	Check the drum cleaning blade pressure.	
Transfer belt cleaning blade	16	Is the transfer belt cleaning blade contacted and released properly?	Check if the spring of the transfer belt cleaner clutch is removed or if any connector is disconnected. Otherwise replace the clutch.	
	17	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Check if the blade pressure spring is installed.	
Toner dusting	18	Is the toner accumulated on the seals of the developer unit?	Remove the toner and clean the seals.	

\* If the trouble is not solved at the step 1 and the step 2 or followings (excluding the parameter adjustment) are performed, make sure to perform "Enforced performing of image quality closed-loop control" and then "Automatic gamma adjustment" after taking a measure.



(5) Moire/lack of sharpness

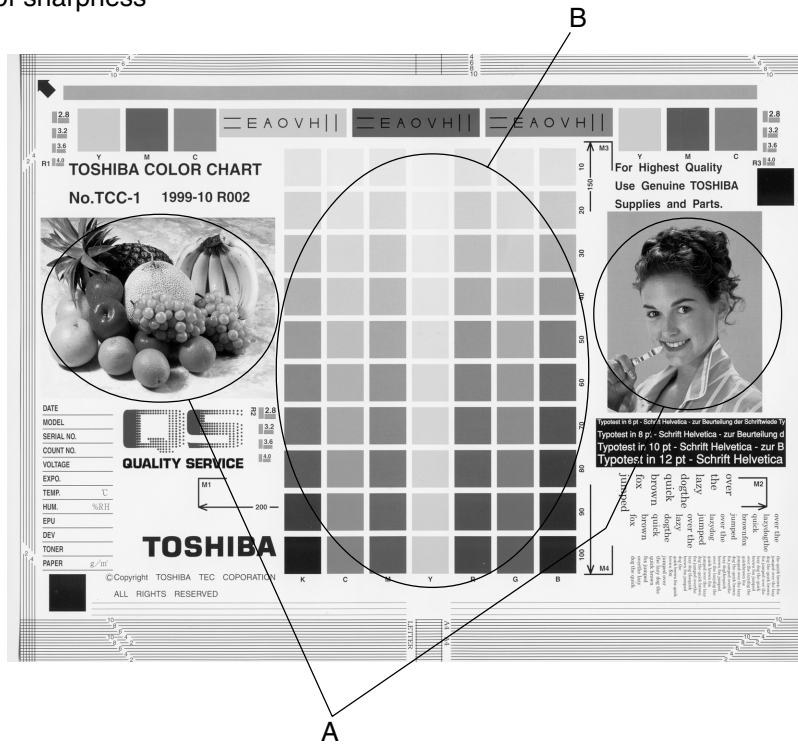


Fig. 5-206

## Moire

Cause/Section	Step	Check items	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of image quality closed-loop control (05-395) and then automatic gamma adjustment.	
Parameter adjustment value	2	Check the image processing parameters.	Check the sharpness adjustment value.	
	3	Adjust the image processing parameters.	While checking the above encircled images A and B, decrease moire by sharpness adjustment.	
Printer section	4	Check the printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113	When defects occur, perform the corresponding troubleshooting procedures.

## Lack of sharpness

Cause/Section	Step	Check items	Measures	Remarks
Density reproduction	1	Check the gradation reproduction.	Perform the forced performing of image quality closed-loop control (05-395) and then automatic gamma adjustment.	
Parameter adjustment value	2	Check the image processing parameters.	Check the sharpness adjustment value.	
	3	Adjust the image processing parameters.	While checking the above encircled image A, increase sharpness by sharpness adjustment.	

\* If the trouble is not solved at the step 1 and the step 2 or followings (excluding the parameter adjustment) are performed, make sure to perform "Enforced performing of image quality closed-loop control" and then "Automatic gamma adjustment" after taking a measure.

(6) Toner offset



Fig. 5-207

Toner offset (Shadow image appears approx. 173 mm behind the high density image.)

Cause/Section	Step	Check items	Measures	Remarks
Fuser unit	1	Is the pressure between the fuser belt and pressure roller proper?	Check the pressure removal parts and pressure mechanism.	
	2	Is the thermostat in contact?	Establish its contact.	
	3	Is there scratch on the fuser belt or pressure roller surface?	Replace the fuser belt or the pressure roller.	
	4	Has the fuser belt or pressure roller reached its PM life?	Replace the fuser belt or the pressure roller.	
	5	Is the fuser roller temperature proper?	Check and correct the control circuit.	
Paper	6	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.	
	7	Using recommended paper?	Use the recommended paper.	
Developer material	8	Is the specified developer used?	Use the specified developer and toner.	
Scanner	9	Are the mirrors, original glass or lens dirty?	Clean them.	
Image quality control	10	Is the control activated?	Check the image quality control related codes.	
Density	11	Is the density too high?	Perform the forced performing of image quality closed-loop control (05-395) and then automatic gamma adjustment.	
Printer density	12	Check the density of printer output image.	Output the test patterns and check them. Color: using 04-231 for each color Black: using 04-113	When defects occur, perform the corresponding troubleshooting procedures.

(7) Blurred image

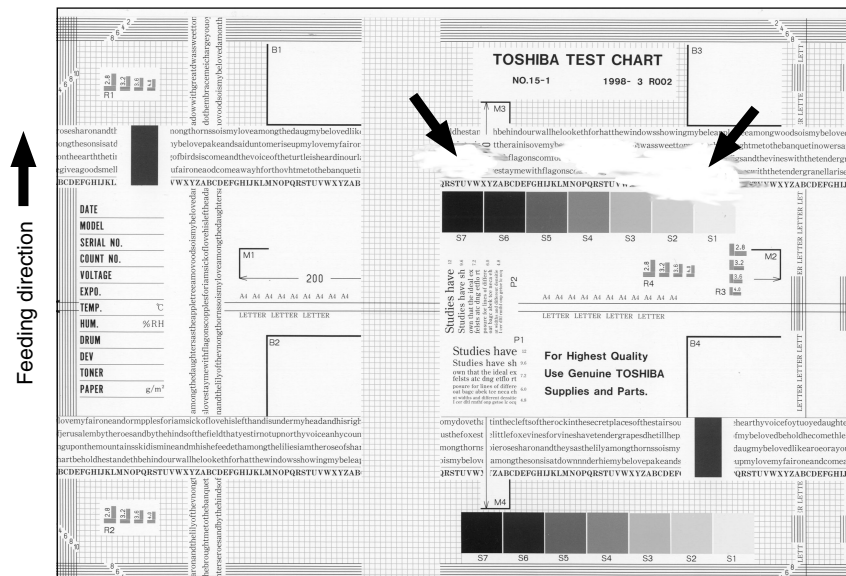


Fig. 5-208

Cause/Section	Step	Check items	Measures
Scanner	1	Is the scanner bedewed?	Clean it.
Drum	2	Is the drum bedewed or dirty?	Wipe the drum with dry cloth. * Be sure never use alcohol or other organic solvents because they have bad effect on the drum.
Ozone exhaust	3	Is the ozone exhaust fan operating properly?	Check the connection of the connector.
	4	Is the ozone filter stained or damaged?	Replace it.

(8) Poor fusing

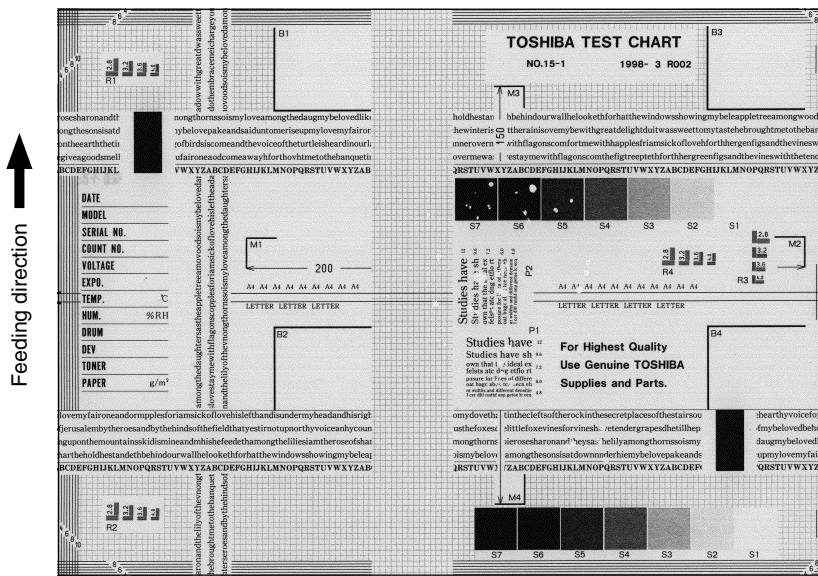


Fig. 5-209

Cause/Section	Step	Check items	Measures
IH electric power/ control abnormal	1	Check if the connector contacts properly.	Correct it.
	2	Is the IH coil shorted or broken? Is the IH control board normal?	Replace the IH coil or IH control board.
	3	Are the connectors on the LGC board and joint connectors connected prop- erly?	Reconnect them.
	4	Is the LGC board normal?	Replace the LGC board.
	5	Is the harness between the LGC board and IH board short circuited or open circuited?	Replace the harness.
Pressure between fuser belt and pressure roller improper	6	Are the pressure springs working properly?	Check/adjust the pressure springs.
Fuser roller temperature	7	Is the temperature of fuser roller too low?	Check/correct the setting value of fuser roller temperature. Clean or replace the thermistors. Check/correct the related circuit.
Developer material and toner	8	Using the specified developer material and toner?	Use the specified developer material and toner.
Paper	9	Is the paper damp?	Change the paper.
	10	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.
	11	Using the recommended paper?	Use the recommended paper.

(9) Blank print



Fig. 5-210

Cause/Section	Step	Check items	Measures
High-voltage transformer (1st/2nd transfer roller and developer bias)	1	Is the high-voltage transformer output defective?	Adjust the output and correct the circuit, or replace the transformer.
	2	Are the connector of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.
Developer unit	3	Is the developer unit installed securely?	Check/correct the developer sleeve coupling engaging.
	4	Do the developer sleeve and mixer rotate?	Check/correct the developer drive system.
	5	Is the developer material properly transported?	Remove foreign matter from the developer material, if any.
	6	Is there any magnetic brush phase error?	Check the developer pole position.
	7	Is the doctor sleeve gap incorrect?	Adjust the gap with the doctor-sleeve jig.
Drum	8	Is the drum rotating?	Check that the drum shaft is inserted. Check the drum drive system.
	9	Is the drum grounded?	Check the contact of the grounding plate.
Transfer unit	10	Is the transfer belt in proper contact with the drum?	Check if the contact releasing lever is at releasing position. Check the installation of the transfer belt.
	11	Is the transport of the transfer belt normal?	Check the installation of the transfer belt or transport mechanism.
	12	Is the releasing movement of the transfer belt cleaner is normal? (Does the cleaning blade stay in contact?)	Check the installation of the transfer belt cleaning blade. Check the operation of the transfer belt cleaner clutch.
	13	Is the 2nd transfer roller contacted and released properly?	Check the connection of the connector of 2nd transfer roller contact clutch and open circuit of harness.
Switching power supply	14	Is the power supply output (5.1VD) normal?	Replace the switching power supply.
Harnesses for SLG, SYS, LGC and LDR boards	15	Are the connectors securely connected? Is any harness between the boards open circuited?	Reconnect the connectors securely. Replace the harness.
Laser optical unit	16	Was the protection seal of slit removed when replacing the unit?	Remove the protection seal.

(10) Solid print

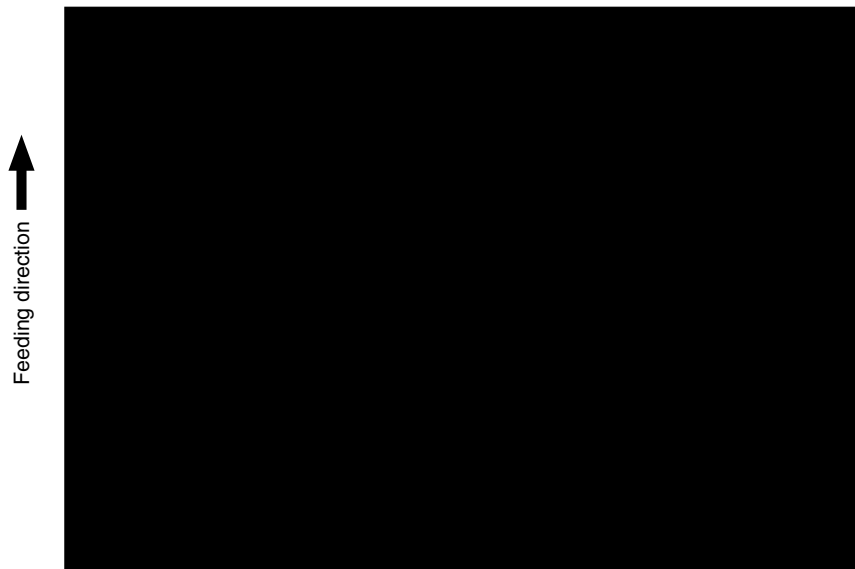


Fig. 5-211

Cause/Section	Step	Check items	Measures
Exposure lamp Inverter	1	Does the exposure lamp light?	Check the contact of the inverter connector. If the inverter does not work, replace it. If the lamp does not work, replace it.
Main charger	2	Is the main charger securely installed?	Reinstall it securely.
	3	Is the main charger wire open circuited?	Replace it.
High-voltage transformer (main charger wire/ grid bias)	4	Is the high-voltage transformer output defective?	Adjust the output and correct the circuit, or replace the high-voltage transformer.
	5	Are the connector of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.
Harnesses for SLG, SYS and LGC boards	6	Are the connectors securely connected? Is any harness between the boards open circuited ?	Reconnect the connectors securely. Replace the harness.
Scanner	7	Is there foreign matter in the optical path?	Remove it.
Bedewing of scanner and drum	8	Is the scanner or the drum bedewed?	Clean the mirrors, lens and drum. Keep the power cord plugged so that the damp heater can work.



(11) White banding (in feeding direction)

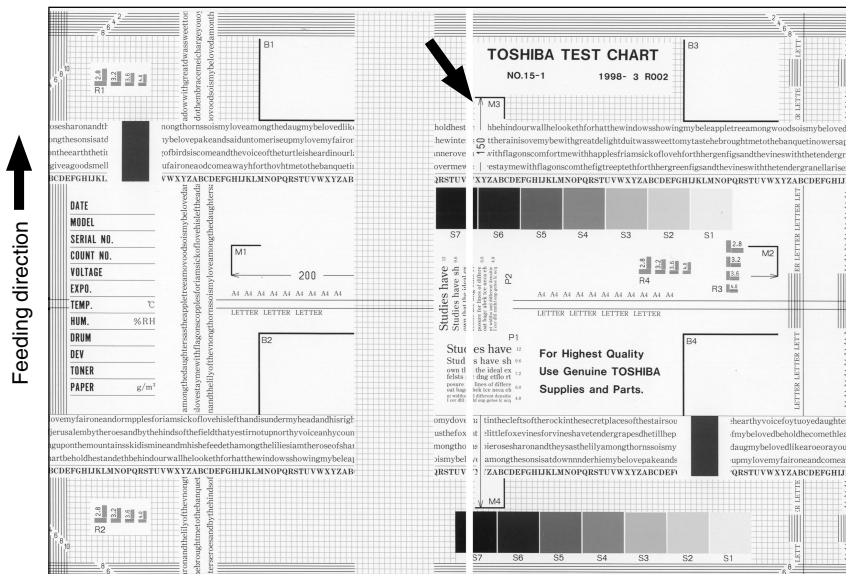


Fig. 5-212

Cause/Section	Step	Check items	Measures
Laser optical unit	1	Is there foreign matter or dust on the slit glass?	Clean the slit glass.
Main charger grid	2	Is there foreign matter on the charger grid?	Remove foreign matter.
Developer unit	3	Is there foreign matter inside the doctor blade?	Remove foreign matter.
	4	Is there foreign matter on the drum seal?	Remove foreign matter.
	5	Is the drum seal of developer unit in proper contact with the drum?	Modify the position of drum seal or replace it.
Drum	6	Is there scratch or foreign matter on the drum surface?	Replace the drum.
Transfer unit	7	Is there scratch or foreign matter on the transfer belt surface?	Replace the transfer belt.
	8	Are the harness or foreign matters in contact with the transfer belt surface?	Correct or remove them.
	9	Is the transfer belt cleaning blade contacted and released properly?	Check if the spring of the transfer belt cleaner clutch is removed or if any connector is disconnected. Otherwise replace the clutch.
	10	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Check if the blade pressure spring is installed.
	11	Is there any scratch or hole on the 1st/2nd transfer roller?	Replace the 1st/2nd transfer roller.
Transport path	12	Does the toner image touch foreign matter after transfer, before entering the fuser unit?	Remove foreign matter.
Discharge lamp	13	Has any LED of discharge lamp gone out?	Replace the discharge lamp.
Scanner	14	Is there foreign matter or dust in the optical path?	Clean the lens and mirrors.

(12) White banding (at right angles to feeding direction)

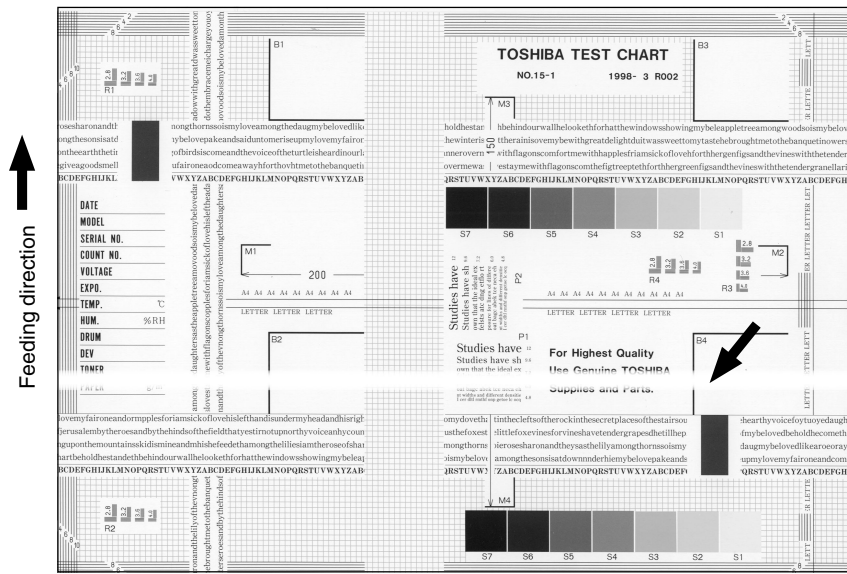


Fig. 5-213

Cause/Section	Step	Check items	Measures
Main charger	1	Is there foreign matter on the charger?	Remove foreign matter.
	2	Is the terminal contact poor?	Clean or adjust the terminals.
Drum	3	Is there any abnormalities on the drum surface?	Replace the drum.
	4	Is the drum grounded?	Check the contact of the grounding plate.
Discharge lamp	5	Is the discharge lamp lighting properly?	Replace the discharge lamp or clean terminals.
Developer unit	6	Is the developer sleeve rotating correctly? Is there any abnormalities on the sleeve surface?	Check the developer drive system, or clean the sleeve surface.
	7	Is the connection of developer bias supply terminal normal?	Correct it.
Drive systems	8	Is the drum, scanner or transfer belt jittery?	Check each drive system.
High-voltage transformer (main charger wire/ grid, 1st/2nd transfer roller and developer bias)	9	Is the high-voltage transformer output defective?	Check/correct any electric leakage and related circuits. If the high-voltage transformer does not work, replace it.

(13) Skew (slantwise copying)

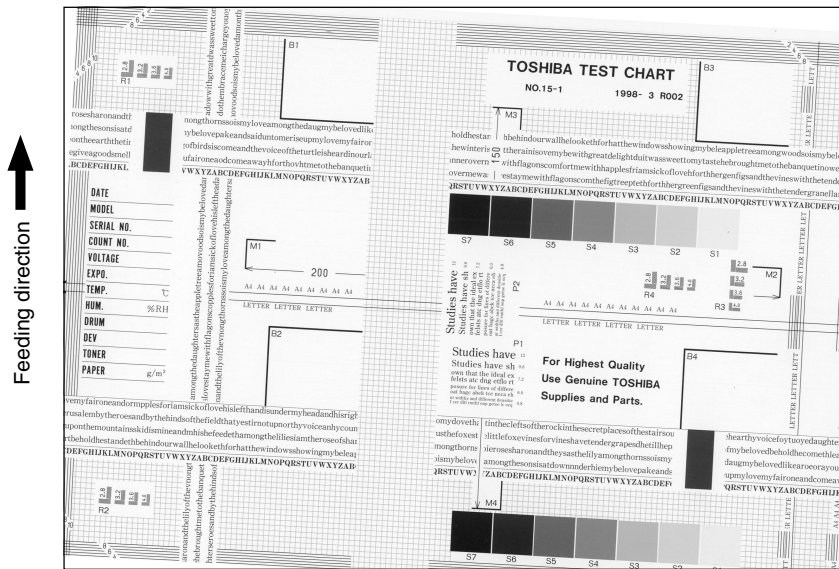


Fig. 5-214

Cause/Section	Step	Check items	Measures
Drawer/LCF	1	Is the drawer or LCF properly installed?	Reinstall the drawer or LCF properly.
	2	Is too much paper loaded in the drawer or LCF?	Reduce paper to 550 sheets or less. (2500 sheets or less/stack for LCF)
	3	Is the paper corner folded?	Change the paper direction and reinsert it.
	4	Are the drawer or LCF side guides properly set?	Adjust the side guides.
Paper feed roller	5	Is the surface of paper feed roller dirty?	Clean the roller surface with alcohol, or replace the roller.
Rollers	6	Is each roller impropely fixed to the shaft?	Check and reinstall E-rings, pins, clips and setscrews.
Aligning amount	7	Is the aligning amount proper?	Increase the aligning amount.
Registration roller	8	Is the registration roller spring removed?	Mount the spring correctly. Clean the roller if it is dirty.
Pre-registration guide	9	Is the pre-registration guide impropely installed?	Correct it.
2nd transfer front guide	10	Is the 2nd transfer front guide installed properly?	Correct it.
RADF	11	Is the RADF installed and adjusted properly?	Reinstall and readjust it.

(14) Color banding (in feeding direction)

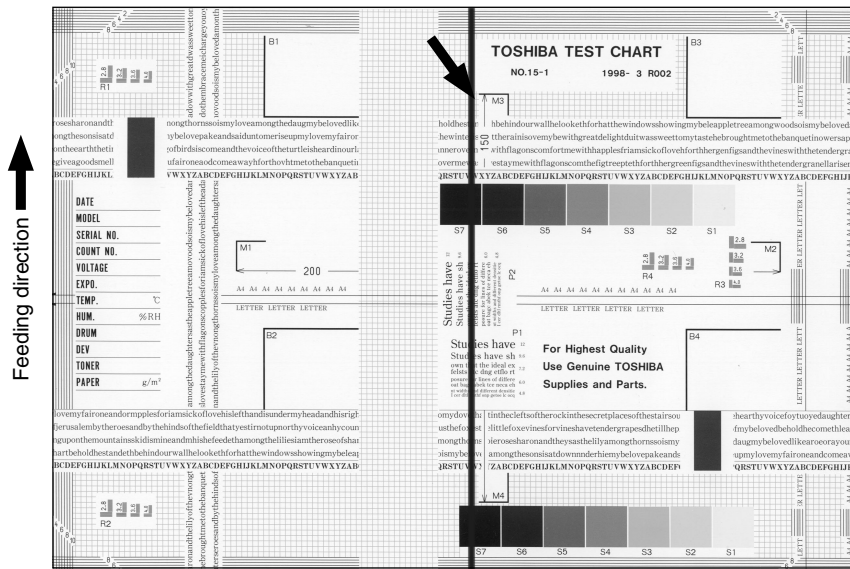


Fig. 5-215

Cause/Section	Step	Check items	Measures
Scanner	1	Is there foreign matter in the optical path?	Clean the slit, lens and mirrors.
	2	Is there dust or stain on the shading correction plate or ADF original glass?	Clean it.
Main charger	3	Is there foreign matter on the charger grid?	Remove foreign matter.
	4	Is the charger grid dirty or deformed?	Clean or replace the charger grid.
	5	Is there foreign matter on the main charger?	Remove foreign matter.
	6	Is the charger wire dirty or deformed?	Clean or replace the charger wire.
	7	Is there foreign matter inside the charger case?	Remove foreign matter.
	8	Is the inner surface of charger case dirty?	Clean inside.
	9	Are the pads of charger wire cleaner stopping at the position other than their home position?	Correct the position.
Cleaner	10	Is there paper dust on the cleaning blade edge?	Clean or replace the paper dust removal brush for the registration roller. Clean or replace the cleaning blade.
	11	Is the cleaning blade contact improper?	Correct it.
	12	Is toner recovery defective?	Clean the toner recovery auger section.
Transfer unit	13	Are the harness or foreign matters in contact with the transfer belt surface?	Correct or remove them.
	14	Is there paper dust on the edge of transfer belt cleaning blade?	Clean or replace it.
	15	Is the transfer belt cleaning blade contacted and released properly?	Check if the spring of the transfer belt cleaner clutch is removed or if any connector is disconnected. Otherwise replace the clutch.
	16	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Check if the blade pressure spring is installed.
Fuser unit	17	a. Is there dirt or scratches on the fuser belt and pressure roller surface? b. Is the thermistor dirty?	a. Clean or replace them. b. Clean the thermistor.
Drum	18	Are there scratches on the drum surface?	Replace the drum.
Laser optical unit	19	Is there foreign matter or dust on the slit glass?	Remove foreign matter or dust.

(15) Color banding (at right angles to feeding direction)

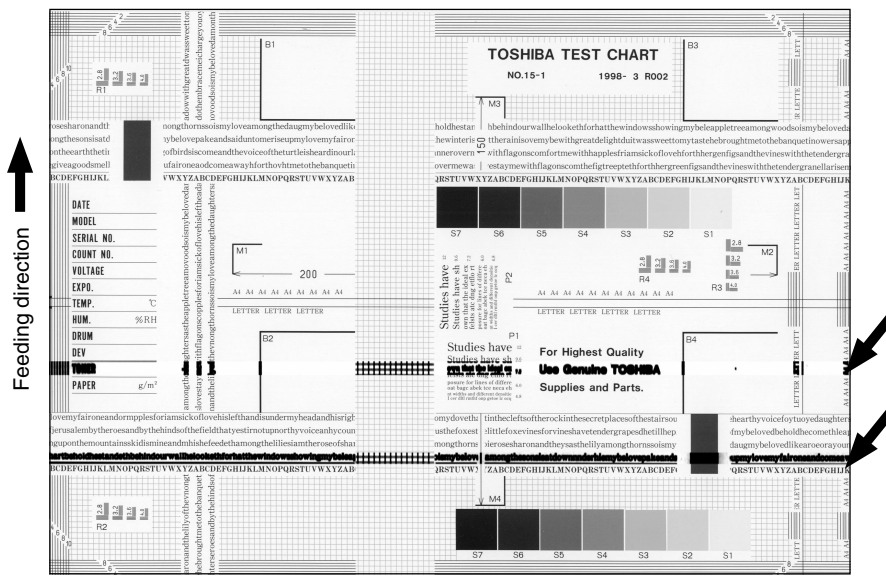


Fig. 5-216

Cause/Section	Step	Check items	Measures
Main charger	1	Is the charger wire dirty or deformed?	Clean or replace the charger wire.
Fuser unit	2	Is the fuser belt, pressure roller or oil roller dirty?	Clean them.
High-voltage transformer (main charger wire/grid and transfer roller bias)	3	Is the high-voltage transformer output defective?	Check the circuit and replace the high-voltage transformer if not working.
	4	Is each joint of high-voltage output loosened? (Check if any electric leakage is causing noise.)	Reconnect each joint.
Drum	5	Is there deep scratch on the drum surface?	Replace the drum, especially if the scratch has reached the aluminum base.
	6	Are there fine scratches on the drum surface (drum pitting)?	Check and correct the contact of cleaning blade and recovery blade.
	7	Is the drum grounded?	Check the contact of the grounding plate.
2nd transfer roller	8	Is the 2nd transfer roller rotating normally?	Clean the roller area or replace the roller.
Scanner	9	Is there foreign matter on the carriage rail?	Remove foreign matter.

(16) White spots

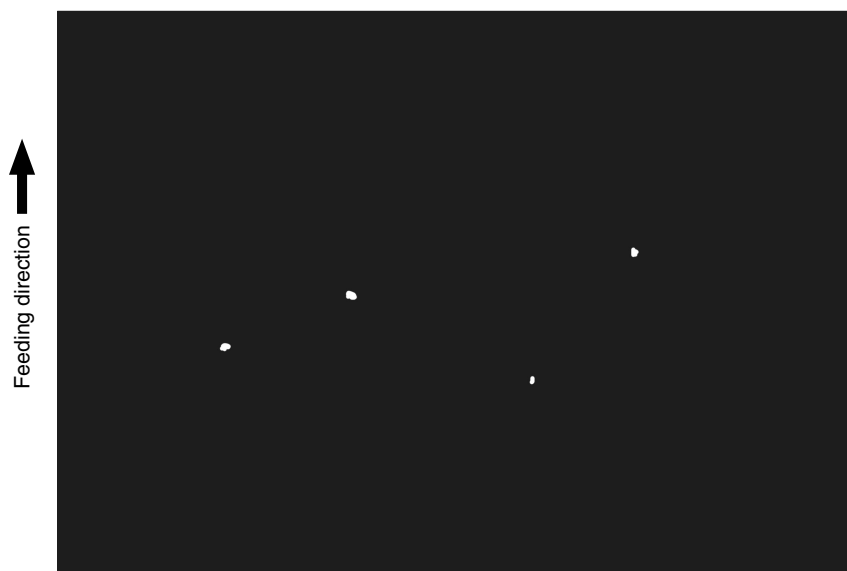


Fig. 5-217

Cause/Section	Step	Check items	Measures
Developer unit/Toner cartridge	1	Is the toner density of developer material proper?	Check and correct the auto-toner sensor and toner supply operation. Check if the amount of toner is sufficient in the toner cartridge.
	2	Is the doctor-sleeve gap proper?	Adjust the gap.
Developer material/Toner/Drum	3	Using the specified developer material, toner and drum?	Use the specified developer material, toner and drum.
	4	Have the developer material and drum reached their PM life?	Replace the developer material and drum.
	5	Is the storage environment of the toner cartridge 35°C or less without dew?	Use the toner cartridge stored in the environment within specification.
	6	Is there any dent on the surface of the drum?	Replace the drum.
	7	Is there any film forming on the drum?	Clean or replace the drum.
	8	Is the drum bedewed?	Wipe the drum surface with a piece of dry cloth.
Transfer unit	9	Is there foreign matter on the transfer belt surface?	Remove foreign matter.
	10	Is there foreign matter on the transfer belt drive roller?	Clean the transfer belt unit.
Main charger	11	Is there foreign matter on the charger?	Remove it.
	12	Is the charger wire dirty or deformed?	Clean or replace the charger wire.
High-voltage transformer (main charger wire/grid, developer 1st/2nd transfer roller bias)	13	Is the high-voltage transformer output defective?	Adjust the output.
Paper	14	Is the paper type corresponding to its mode?	Use the proper type of paper or select the proper mode.

(17) Poor transfer

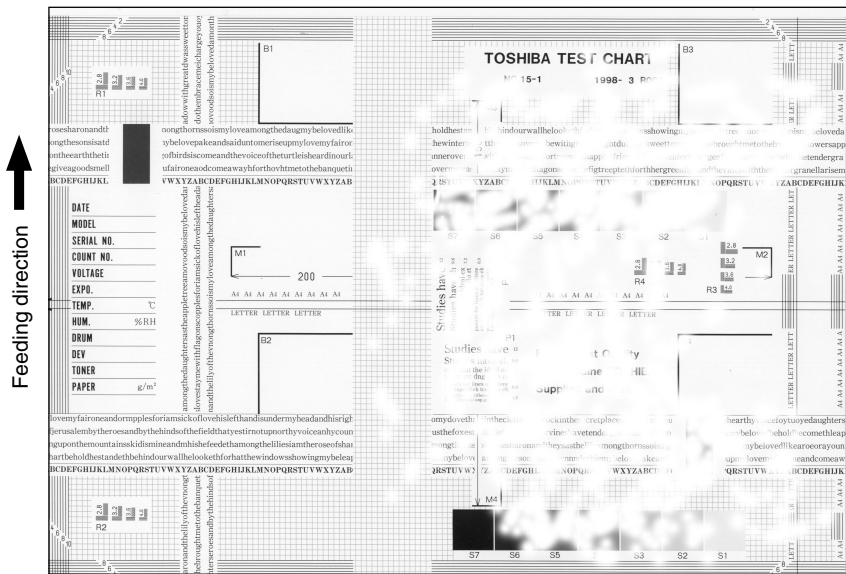


Fig. 5-218

Cause/Section	Step	Check items	Measures
Transfer unit	1	Is the transfer belt or 1st/2nd transfer rollers dirty?	Clean it.
	2	Is the transfer belt in proper contact with the drum ?	Correct it.
	3	Is the 2nd transfer roller in proper contact with the transfer belt?	Correct it.
	4	Is there any deformation or abnormalities on the transfer belt?	Replace the belt.
Paper	5	Is paper in the drawer or LCF curled?	Reinsert paper with reverse side up or change paper.
	6	Is paper in the drawer or LCF damp?	Change paper. * Avoid storing paper in damp place.
Registration roller	7	Is the registration roller malfunctioning?	Clean the roller, remount the spring, or replace defective clutch-related parts.
High-voltage transformer (1st/2nd transfer roller bias)	8	Is the high-voltage transformer output defective?	Check the circuit and adjust the transformer output.
	9	Are the high-voltage harness and terminals in proper contact?	Correct them if loosened.



(18) Uneven image density

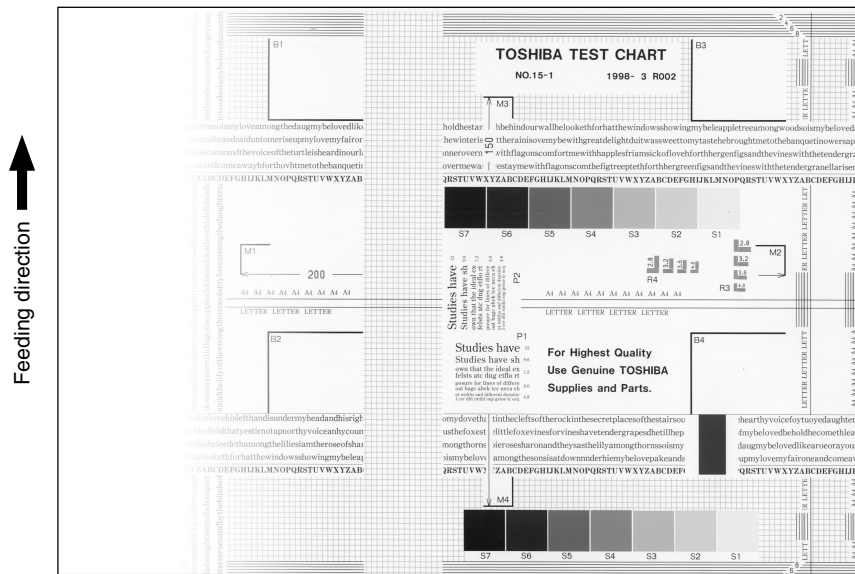


Fig. 5-219

Cause/Section	Step	Check items	Measures
Main charger	1	Is the main charger dirty?	Clean it or replace the charger wire.
Transfer unit	2	Is the transfer belt or 1st/2nd transfer rollers dirty?	Clean the belt.
	3	Is the transfer belt in proper contact with the drum?	Correct it.
	4	Is 2nd transfer roller in proper contact with the transfer belt? (Is the roller tilted?)	Correct it.
	5	Is there any abnormalities or deformation on the transfer belt?	Replace the transfer belt.
Laser optical unit	6	Is there foreign matter or dust on the slit glass?	Clean the slit glass.
Discharge lamp	7	Is the discharge lamp dirty?	Clean it.
	8	Has any LED of discharge lamp gone out?	Replace it.
Developer unit	9	Is the magnetic brush in proper contact with the drum?	Adjust the doctor-sleeve gap.
	10	Is the developer unit pressure mechanism malfunctioning?	Check the mechanism.
	11	Is the transport of developer material poor?	Remove foreign matter if any.
Scanner section	12	a. Is the platen cover or RADF open? b. Is the original glass, mirrors, or lens dirty?	a. Close the platen cover or RADF. b. Clean them.

(19) Faded image (low density)

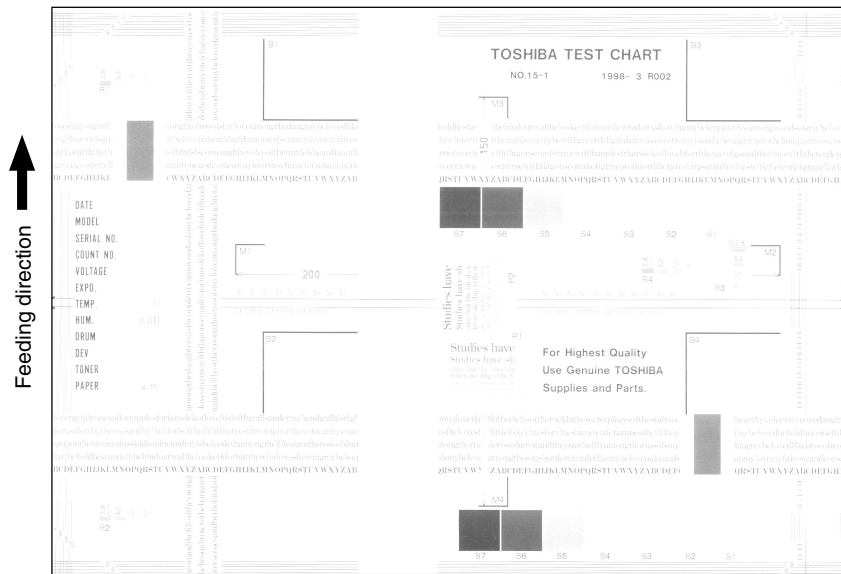


Fig. 5-220

Cause/Section	Step	Check items	Measures
Toner empty Auto-toner circuit	1	Is the "ADD TONER" symbol blinking?	Replace the toner cartridge.
	2	Is there enough toner in the cartridge?	Check the auto-toner circuit function.
	3	Is the toner density of developer material too low?	
Toner motor	4	Is the toner motor malfunctioning?	Check the motor drive circuit.
Toner cartridge	5	Are there any abnormalities in the toner cartridge?	Replace the toner cartridge.
Developer material	6	Has the developer material reached its PM life?	Replace developer material.
Developer unit	7	Is the magnetic brush in proper contact with the drum?	Check the developer unit installation. Check the doctor-sleeve gap and pole position.
Main charger	8	Is the main charger dirty?	Clean it or replace the charger wire.
Drum	9	Is there film forming on the drum surface?	Clean or replace the drum.
	10	Has the drum reached its PM life?	Replace the drum.
Transfer unit	11	Has the transfer belt, 1st or 2nd transfer roller reached its PM life?	Replace the transfer belt, 1st or 2nd transfer roller.
High-voltage transformer (developer bias)	12	Is the high-voltage transformer output settings improper?	Adjust the high-voltage transformer output.
	13	Are the connector of the high-voltage harness securely connected? Is the harness open circuited?	Reconnect the harness securely. Replace the high-voltage harness.

(20) Image dislocation in feeding direction

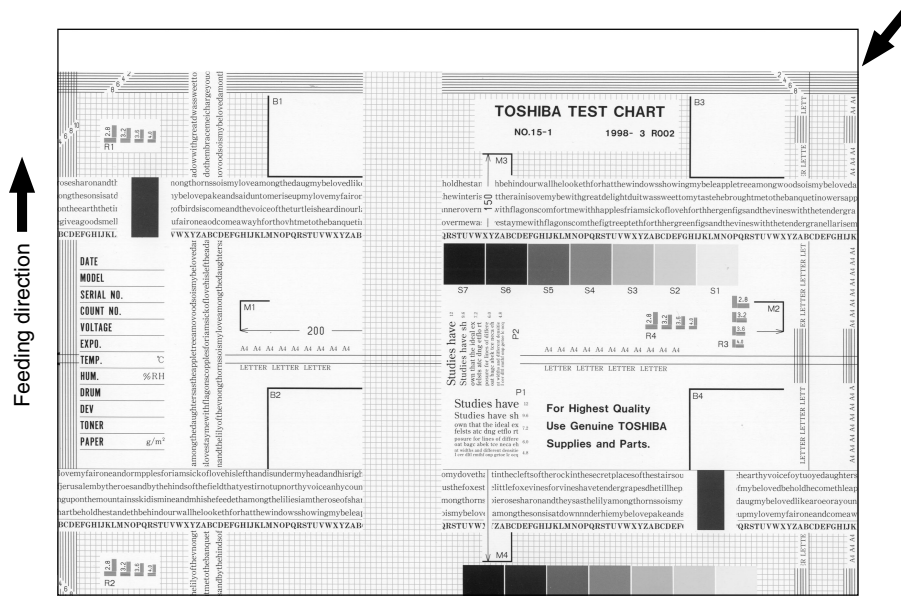


Fig. 5-221

Cause/Section	Step	Check items	Measures
Adjustment error of scanner or printer section	1	Is same dislocation on every copy?	Adjust the scanner/printer using the Adjustment Mode.
Registration roller	2	Is the registration roller dirty, or is the spring removed?	Clean the roller with alcohol. Reinstall the spring.
	3	Is the registration motor malfunctioning?	Adjust or replace the gears, etc. if they are not engaged properly.
	4	Is the registration roller clutch operating normally? (Is the timing of operation delaying?)	Replace the registration roller clutch.
Paper feed clutch	5	Is the paper feed clutch malfunctioning?	Check the circuit or the clutch and replace them if necessary.
Pre-registration guide	6	Is the pre-registration guide improperly installed?	Reinstall the guide.
Transfer belt	7	Is there any stain or scratch on the reflection tape?	Clean or replace it.
	8	Is the lens of the transfer belt home position sensor stained?	Clean or replace it.

(21) Image jittering

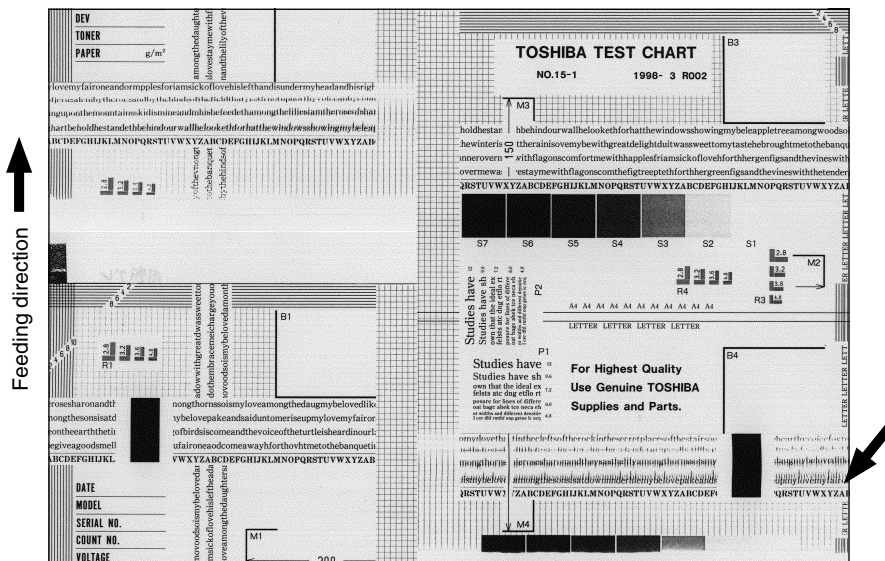


Fig. 5-222

Cause/Section	Step	Check items	Measures
—	1	Is the toner image on the drum proper?	If proper, perform step 1 to 3; otherwise perform step 4 and after.
Registration roller	2	Is the registration roller rotating normally?	Check the registration roller section and its springs.
Transfer unit	3	Is the transfer belt or 2nd transfer roller operating normally?	Check the drive system and replace the transfer belt or 2nd transfer roller if necessary.
Fuser unit	4	Are the fuser roller and pressure roller rotation proper? Is the fuser belt transportation proper?	Check the drive system. Replace the fuser belt, fuser roller and pressure roller if necessary.
Drum	5	Is there large scratch on the drum?	Replace the drum.
Scanner	6	Is the slide sheet defective?	Replace it.
	7	Are there any abnormalities on the carriage feet?	Replace the feet.
	8	Is the tension of timing belt inappropriate?	Correct the tension.
	9	Is the carriage drive system malfunctioning?	Check the carriage drive system.
	10	Are any mirrors loosely installed?	Install them properly.
Drum drive system	11	Is the drum drive system malfunctioning?	Check the drum drive system. Clean or replace the belts, pulleys, bushings if they have dirt or scratches.

(22) Poor cleaning

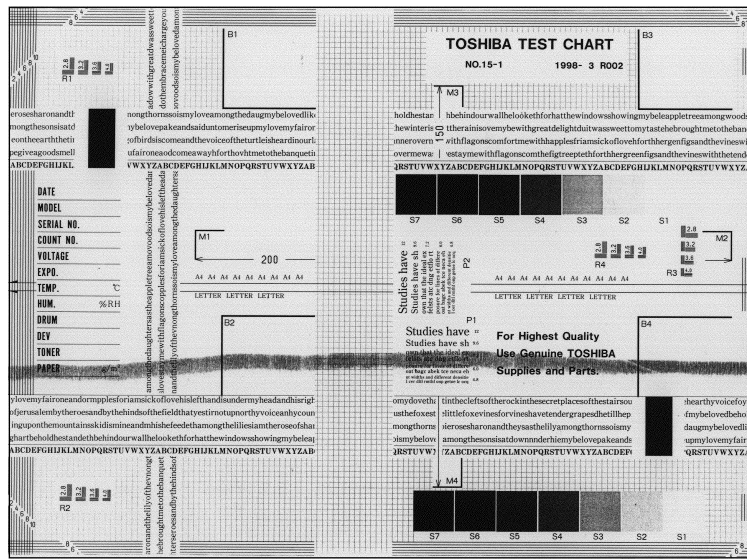


Fig. 5-223

**Note:** Poor cleaning may occur in feeding direction.

Cause/Section	Step	Check items	Measures
Developer material	1	Is the specified developer material used?	Use the specified developer material and toner.
Cleaner	2	Is there paper dust on the drum cleaning blade edge?	Clean it.
	3	Is the drum cleaning blade peeled?	Replace the blade. Check and replace the drum.
	4	Is the cleaning brush rotating normally?	Check the brush driving section. Clean the brush area.
	5	Is the cleaning brush damaged? Is there foreign matter on the brush?	Replace the brush and clean the brush area. Check the drum and replace if there is any abnormality.
Transfer belt cleaner	6	Is there paper dust on the edge of transfer belt cleaning blade?	Clean or replace it.
	7	Is the transfer belt cleaning blade peeled?	Replace the blade.
	8	Is the transfer belt cleaning blade contacted and released properly?	Check if the spring of the transfer belt cleaner clutch is removed or if any connector is disconnected. Otherwise replace the clutch.
	9	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Check if the blade pressure spring is installed.
Toner recovery auger	10	Is the toner recovery defective?	Clean the toner recovery auger. Check the cleaning blade pressure.
Fuser unit	11	Is the cleaning roller or the oil roller damaged? Have the roller reached their PM life?	Replace them.
	12	Is there any bubble-like defect on the fuser belt (173 mm pitch on the image)?	Replace the fuser belt. Check and modify the heater control circuit.
	13	Have the fuser belt and pressure roller reached their PM life?	Replace them.
	14	Is the pressure between the fuser belt and pressure roller proper?	Check and adjust the pressure mechanism.
	15	Is the temperature of fuser roller proper?	Check/correct the setting value of fuser roller temperature. Clean or replace the thermistors. Check and correct the circuit.

(23) Uneven light distribution

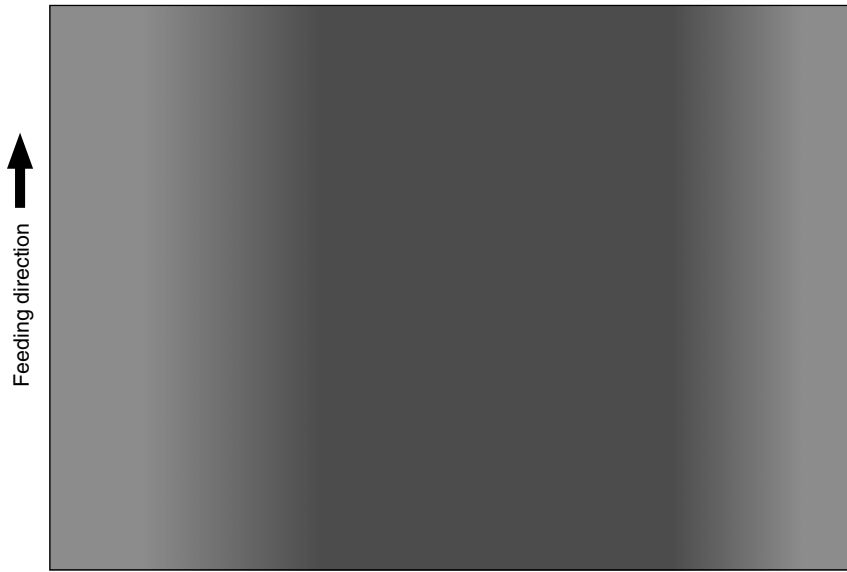


Fig. 5-224

Cause/Section	Step	Check items	Measures
Original glass	1	Is the original glass dirty?	Clean the glass.
Main charger	2	Are the main charger wire, grid and case dirty?	Clean or replace them.
Discharge lamp	3	Is the discharge lamp dirty?	Clean it.
Scanner	4	Are the reflector, exposure lamp, mirrors, lens, etc. dirty?	Clean them.
Exposure lamp	5	Is the exposure lamp tilted?	Adjust the installed position of the lamp.
	6	Is the lamp discolored or degraded?	Replace it.

(24) Blotched image

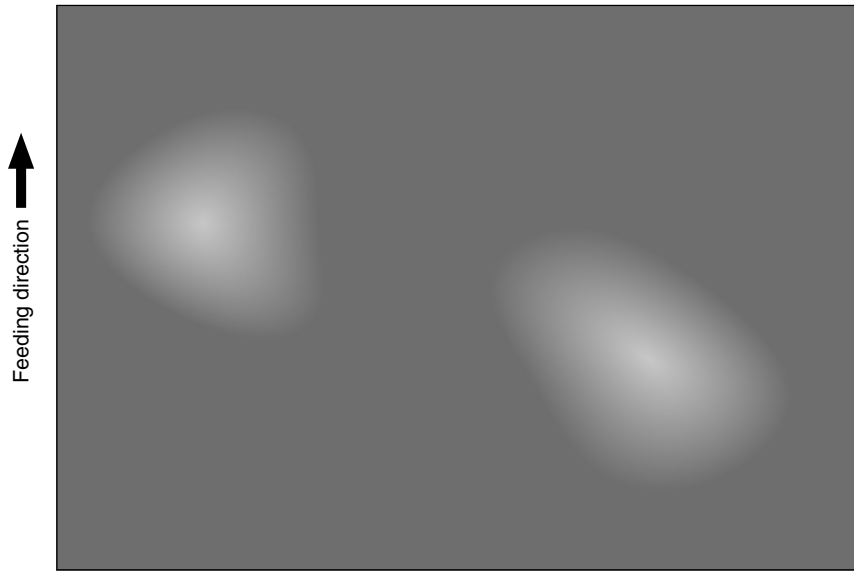


Fig. 5-225

Cause/Section	Step	Check items	Measures
Paper	1	Is the paper type corresponding to its mode?	Check the paper type and mode.
	2	Is paper too dry?	Change paper.
Transfer unit	3	Is the transfer belt in proper contact with the drum?	Correct it.
	4	Is the 2nd transfer roller in proper contact with the transfer belt?	Correct it.
	5	Are there any abnormalities on the transfer belt?	Clean or replace the transfer belt.
High-voltage transformer (1st/2nd transfer roller bias)	6	Is the high-voltage transformer output abnormal?	Adjust the output. Replace the transformer, if necessary.



(25) Stain on the paper back side

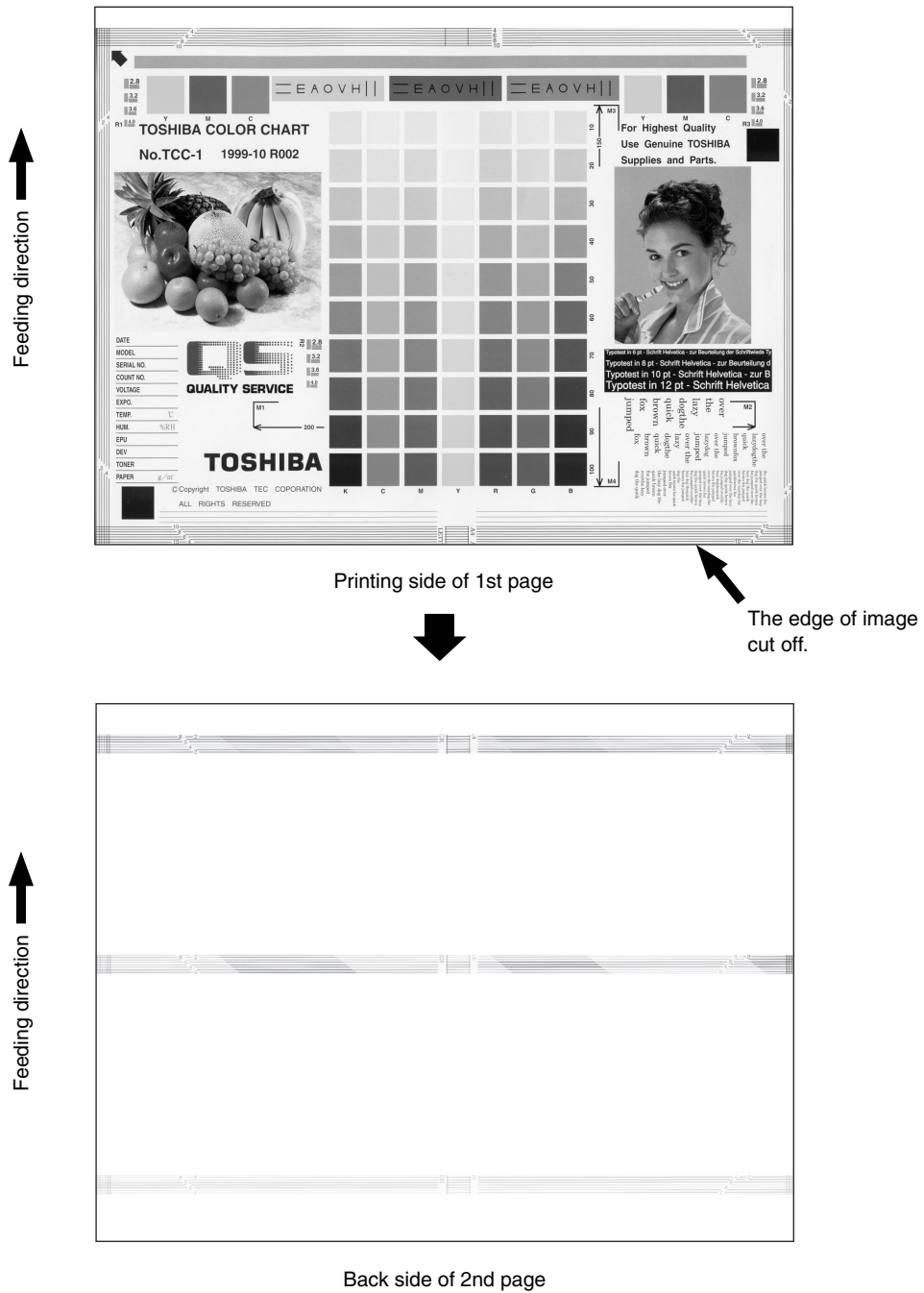


Fig. 5-226

Cause/Section	Step	Check items	Measures
Image adjustment/ setting	1	Is the margin adjustment of image correct?	Adjust the margin.
	2	Is the margin adjustment of image correct when the paper size is not selected in bypass feeding?	Adjust the margin.
	3	Is the margin adjustment of image at duplexing correct?	Adjust the margin. (05-434)
	4	Is the image location in primary/secondary scanning direction correct?	Adjust the location.
	5	Is the reproduction ratio of image in primary/secondary scanning direction correct?	Adjust the reproduction ratio.
	6	Is the tab setting correct?	Correct the setting.
Paper feeding / Transport area	7	Does the size of paper in the drawer or LCF correspond to the setting?	Use the appropriate paper size or correct the size setting.
	8	Is the width between the slides in the drawer correct (too wide)?	Correct the position of the slides.
	9	Is the width between the slides of the bypass tray correct (too wide)?	Correct the width.
	10	Is the sideways deviation adjustment for drawers or slides of the bypass tray correct?	Adjust the deviation.
	11	Is the paper aligning amount sufficient?	Adjust the aligning amount.
	12	Are the feed roller and transport roller dirty or worn out?	Clean or replace the rollers.
	13	Does the paper mode correspond to the paper type?	Use the appropriate paper type or paper mode.
	14	Using the recommended paper?	Use the recommended paper.
Transfer unit	15	Is there any stain caused by a poor cleaning, etc. on the transfer belt?	Clean the transfer belt.
	16	Is the transfer belt cleaning blade in proper contact with the transfer belt?	Check if the blade pressure spring is installed.
	17	Is the transfer belt cleaning blade contacted or released properly?	Check if the spring of the transfer belt cleaner clutch is removed or if any connector is disconnected. Otherwise replace the clutch.
	18	Is the 2nd transfer roller rotating properly?	Clean the area around the roller. Otherwise replace the roller.
	19	Is there any foreign matter or stain on the 2nd transfer roller?	Clean or replace the roller.
	20	Has the 2nd transfer roller reached to its PM life?	Replace the 2nd transfer roller.
Fuser unit	21	Are the fuser belt and pressure roller dirty?	Clean the fuser belt and pressure roller.
	22	Is the rib of transport guide dirty?	Clean the rib.

## 5.3 Replacement of PC Boards and HDD

### <CAUTION IN REPLACING PC BOARDS>

The ID for each equipment is registered on the LGC board, the DRV board, the SYS board and the SLG board. So, if their replacement is required, be sure to replace only one board at a time

If more than one of the LGC board, the DRV board and the SYS board require replacement, replace them in the following procedure.

1. First, replace one of the board to be replaced.
2. Turn the power ON and confirm that "READY" is displayed.
3. Turn the power OFF.
4. Replace another board that requires replacement.
5. Repeat steps 2 to 4.

The LGC board and DRV board can be replaced without other settings.

When the HDD requires replacement, see "5.3.1 Replacing HDD".

When the SYS board requires replacement, see "5.3.2 Replacing SYS board".

When the SLG board requires replacement, see "5.3.3 Replacing SLG board".

When NVRAM requires replacement or clearing, see "5.3.4 NVRAM replacing and clearing".

### 5.3.1 Replacing HDD

#### <CAUTION IN REPLACING HDD>

When the HDD is replaced, it is necessary to back up the data in the HDD before replacing and to recover them after replacing.

Notes:

1. To maintain the security, ask users to perform the backup/restore for users' data/information in the HDD. The service technician can perform them only when users permit it.
2. Some data in the HDD cannot be backed up and can be kept only on the paper.

The procedure for replacing the HDD is as follows.

- (1) Ask users to back up the data in the HDD. See the following for the item of data, and the possibility and the measure of the backup.
  - 1) Image data in the Electronic Filing
    - Archive them in the "e-Filing" of TopAccess.
  - 2) F-code information, Template registration information, Address book
    - Back them up in the "Administrator" menu of TopAccess.
  - 3) Department management data
    - Export them in "Administrator" menu of TopAccess.
  - 4) Log data (Print, Scan, FAX (Transmission/Reception))
    - Export them in the "Administrator" menu of TopAccess. (Import cannot be performed.)

- 5) Data in the shared folder (Scanned data, Saved data of copy / FAX transmission)
  - Copy them to the client computer via the network. (The data which have been copied to the client computer cannot be copied to the shared folder.)
- 6) Print waiting data (Copying data and FAX reception data that are waiting to be printed due to the paper run-out and jam, etc.)
  - Finish printing them after the paper supply and the jam release, etc. (The data cannot be kept.)
- 7) Print job (Private print data, Schedule print data)
  - If any jobs are left, print them. (The data cannot be backed up.)
- 8) FAX saved data (Confidential / Bulletin board data)
  - Print them. (The data cannot be backed up.)
- 9) Registration data for FAX transmission (Delayed transmission / Recovery transmission)
  - The data cannot be backed up.

(2) Print out the "FUNCTION LIST FOR MAINTENANCE" (content of Function Mode (13) setting) list.

- 1) Press the [USER FUNCTIONS] button and then the [USER] button.
- 2) Press the [LIST] button.
- 3) Key in [\*] [#] [\*] [\*] [3] [3] and then press the [START] button. The list is outputted.

(3) Print out the "FUNCTION" list.

- 1) Press the [USER FUNCTIONS] button.
- 2) Press the [ADMIN] button, enter the password, and then press the [ENTER] button.
- 3) Press the [LIST/REPORT] button and then the [LIST] button.
- 4) Press the [FUNCTION] button. The list is outputted.

(4) Replace the HDD.

(5) Update of HDD program data and UI data.

- 1) Create partitions. (In case of using the download jig, this is not necessary.)  
While pressing [3] and [CLEAR] button, turn the power ON.  
When "Firmware Version Up Mode" appears on the LCD, key in [3] and press the [START] button.
- 2) Format the HDD. (Setting Mode (08-690: 2))
- 3) Update with the download jig or USB storage.  
See "6. FIRMWARE UPDATING" for details.
- 4) Format the HDD. (Setting Mode (08-690: 2))  
\* When the FAX unit (GD-1150) is installed.  
Start up with the FAX Clearing Mode (1\*)  
Perform the 1\*-100 (FAX Set Up), 1\*-102 (Clearing the image data) of the FAX Clearing Mode.

- 5) Perform the gamma automatic adjustment of the printer.  
See "3.6.1 Automatic gamma adjustment" for details.
- (6) Ask users to reset the user's setting items and to restore the data/information. See the following for the reset and the restore.
  - 1) Printer driver
    - Upload them in the "Administrator" menu of TopAccess.
  - 2) F-code information, Template registering information, Address book
    - Restore them in the "Administrator" menu of TopAccess
  - 3) Department management data
    - Import them in the "Administrator" menu of TopAccess.
  - 4) Image data in the Electronic Filing
    - Upload them in the "e-Filing" of TopAccess.
- (7) Referring to the "FUNCTION LIST FOR MAINTENANCE" list which was printed beforehand, perform the re-setting.
  - 1) Print out the "FUNCTION LIST FOR MAINTENANCE" list after the formatting. (Refer to the procedure of (2).)
  - 2) While pressing [1] and [3] simultaneously, turn the power ON. (Function Mode)
  - 3) Compare the lists which were printed before and after the formatting to check the setting items having the different setting values. Set the value which was set before the formatting.
  - 4) Turn the power OFF.
- (8) Referring to the "FUNCTION" list which was printed beforehand, perform the re-setting of the default setting of the FAX function.
  - 1) Press the [USER FUNCTIONS] button.
  - 2) Press the [ADMIN] button, enter the password, and then press the [ENTER] button.
  - 3) Press the [FAX] button and then the [TERMINAL ID] button to set each item.
  - 4) Press the [INITIAL SETUP] button to set each item.

### 5.3.2 Replacing SYS board

<<CAUTION IN REPLACING the SYS board>>

The procedure for replacing the SYS board is as follows.

<After replacing the SYS board>

- (1) Install DIMM (main memory) to the new SYS board (from the old SYS board).
- (2) Install NVRAM to the new SYS board (from the old SYS board).
- (3) Install NIC board to the new SYS board (from the old SYS board).

(4) Update the version of system ROMs (System Firmware, OS data, UI data) (The ROMs had been used for the old SYS board).

\* See "6. FIRMWARE UPDATING" for the details of System ROM update.

(5) Turn the power OFF and start up with the Setting Mode (08).

(6) When the message "SRAM ERROR DOES IT INITIALIZE?" is displayed on the LCD, press the [INITIALIZE] button.

\* SRAM is cleared

\* If SRAM is not performed, F090 error occurs when starting up.

**Notes:**

- When SRAM is cleared, following items need to be re-set, so make sure the contents of settings are kept as a record.

<FAX settings>

Terminal ID

Default setting of fax

<E-mail settings>

Setting of properties for E-mail message

<Internet Fax>

Setting of properties for Internet Fax

- When SRAM is cleared, the toner cartridge consumed count of Automatic ordering function of supplies becomes 0, however, it cannot be re-set.

(7) [If a scrambler board has already been installed]

Perform 08-698 (Entering the key code for scrambler board). Have the user enter the key code.

(8) Perform 08-200 (date and time setting) to set Date/Time.

(9) Turn the power OFF.

\* If the FAX board has not been installed, skip to step (13).

(10) Start up with the FAX Clearing Mode (1\*)

(11) Perform 1\*-102 (Clearing the image data).

**Note:**

Following image data are deleted when 1\*-102 is performed.

- Images of fax polling transmission
- Images of fax Mailbox and box information
- Images of fax transmission
- Images of fax reception

(12) Turn the power OFF.

(13) Turn the power ON.

(14) Set the dial type. [USER FUNCTIONS] → [ADMIN] → [FAX] → [INITIAL SETUP]

### 5.3.3 Replacing SLG board

<CAUTION IN REPLACING SLG BOARD>

When the SLG board has been replaced, "Data transfer of characteristic value of scanner / SYS board → SLG board (05-363)" must be performed.

### 5.3.4 NVRAM replacing and clearing

<CAUTION IN REPLACING AND CLEARING NVRAM>

When NVRAM has been replaced or cleared ("System all clearing (08-669)"), the following adjustments must be performed.

1. Perform "Data transfer of characteristic value of scanner / SLG board → SYS board (05-364)".
2. Perform "Image quality control initialization (05-396)" (▶ Chapter 3.3), and then perform "Automatic gamma adjustment (05-1642, 1000 and 1002)" consecutively (▶ Chapters 3.5.1 and 3.6.1).





## 6. FIRMWARE UPDATING

In this equipment, following firmware is written on the ROM on each board.

Firmware	Stored
Master data (HDD program data, UI data)	Hard disk
System ROM (System firmware, OS data, UI data)	System control PC board (SYS board)
Engine ROM (Machine firmware)	Logic PC board (LGC board)
Scanner ROM (Scanner firmware)	Scanning section control PC board (SLG board)
NIC ROM (NIC firmware)	NIC board
RADF ROM (RADF firmware)	RADF control PC board (MR-3015)
Finisher ROM (Finisher firmware)	Finisher control PC board (MJ-1023/ MJ-1024)
Finisher ROM (Saddle stitcher firmware)	Finisher control PC board (MJ-1024)
FAX ROM (FAX firmware)	FAX board (GD-1150)

When you want to update the firmware above or the equipment becomes inoperative status due to some defectives of the firmware, updating the firmware is available by the following actions.

- Updating with the download jig
  - ▶ 6.1 Firmware Updating with Download Jig
- Updating with PC connected
  - ▶ 6.2 Firmware Updating with FSMS (Field Service Manager)
- Updating with the USB Storage Device
  - ▶ 6.3 Firmware Updating with USB Storage Device

### Notes:

- Written firmware varies depending on the kinds of the boards provided as service parts. For updating, only the minimum firmware is installed on the system control PC board, logic PC board, and scanning section control PC board. No firmware is installed on the NIC board and FAX board. The latest version of the firmware at the delivery is written on the RADF control PC board and finisher control PC board. When any of above boards is replaced with a new one in the field, confirm the other firmware version used with and then write the suitable version of the firmware.
- The firmware (master data) is not installed on the hard disk provided as a service part. When the hard disk is replaced with a new one, confirm the other firmware version used with and then write the suitable version of the firmware.

## 6.1 Firmware Updating with Download Jig

In this equipment, it is feasible to update the firmware automatically by connecting the download jig using the dedicated connector and turning ON the equipment.

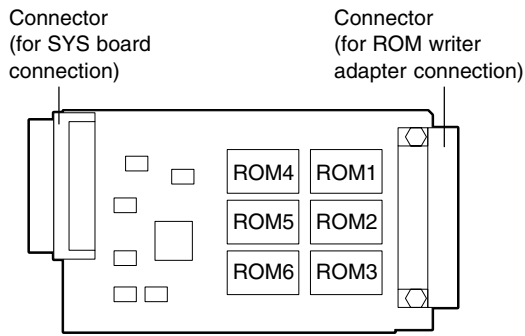
The download jig consists of the ROM, in which the program is written, and the jig board. And three types of the download jigs are available for each type of the firmware.

For updating the firmware, in addition to the current ways such as updating each firmware individually, the batch update of the firmware of the equipment is available (except the hard disk and the option).

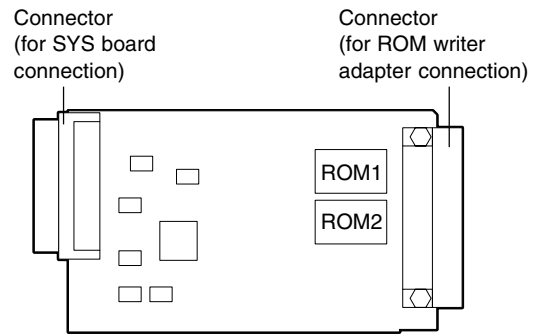
Firmware	Stored	Download jig	
		Individual update	Batch update
Master data	Hard disk	PWA-DWNLD-350-JIG2 (48 MB)	—
System ROM	System control PC board (SYS board)	PWA-DWNLD-350-JIG1 (16 MB)	PWA-DWNLD-350-JIG1 (16 MB)
Engine ROM	Logic PC board (LGC board)	K-PWA-DLM-320 or PWA-DWNLD-350-JIG1 (16 MB)	
Scanner ROM	Scanning section control PC board (SLG board)	K-PWA-DLM-320 or PWA-DWNLD-350-JIG1 (16 MB)	
NIC ROM	NIC board	PWA-DWNLD-350-JIG1 (16 MB)	
RADF ROM	RADF control PC board (MR-3015)	K-PWA-DLM-320	—
Finisher ROM (Finisher firmware)	Finisher control PC board (MJ-1023/MJ-1024)	K-PWA-DLM-320	—
Finisher ROM (Saddle stitcher firmware)	Finisher control PC board (MJ-1024)	K-PWA-DLM-320	—
FAX ROM	FAX board (GD-1150)	K-PWA-DLM-320	—

Refer to the following for the details to update with each download jig.

- ▶ 6.1.1 PWA-DWNLD-350-JIG2 (48 MB)
- ▶ 6.1.2 PWA-DWNLD-350-JIG1 (16 MB)
- ▶ 6.1.4 K-PWA-DLM-320



[Jig board: PWA-DWNLD-350-JIG2 (48 MB)]



[Jig board: PWA-DWNLD-350-JIG1 (16 MB)]

**Important:**

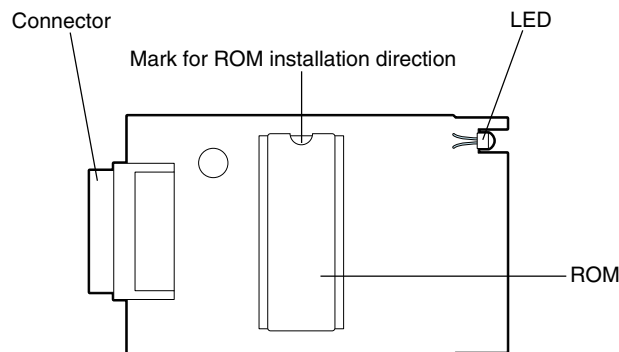
- The download jig (PWA-DWNLD-350-JIG) has two types having different ROM capacity. ROM capacity for each jig is as follows.

Download jig	ROM capacity	Application
PWA-DWNLD-350-JIG2 (48 MB)	8 MB x 6	Updating the master data
PWA-DWNLD-350-JIG1 (16 MB)	8 MB x 2	Updating the system ROM, engine ROM, scanner ROM, NIC ROM

\* “PWA-DWNLD-350-JIG2 (48 MB)” is substitutable for “PWA-DWNLD-350-JIG1 (16 MB)”

- The download jig (PWA-DWNLD-350-JIG) is different from the existing jigs. The ROM is installed on the board directly. Therefore, ROM writer adapter (PWA-DL-ADP-350) is required to write the data to these ROMs. Refer to the following to write the data.

▶ 6.1.3 Writing the data to the download jig (PWA-DWNLD-350-JIG)



[Jig board:K-PWA-DLM-320]

**Important:**

Pay attention to the direction of the ROM.

### 6.1.1 PWA-DWNLD-350-JIG2 (48 MB)

The master data written on the hard disk can be updated by using PWA-DWNLD-350-JIG2 (48 MB). Update the master data according to the need such as the case of replacing the hard disk.

The data to be overwritten are as follows.

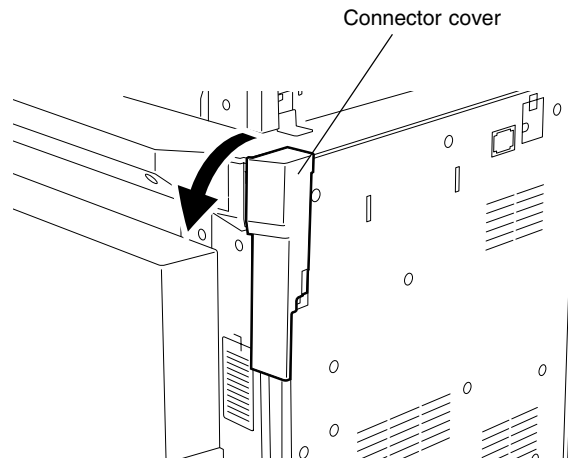
- HDD program data (RIP data, list data, Web data, filing box control data)
- UI data (fixed section data, common section data, the language 1 to 7 data, the language 1 to 6 data for Web)

#### (a) Update procedure

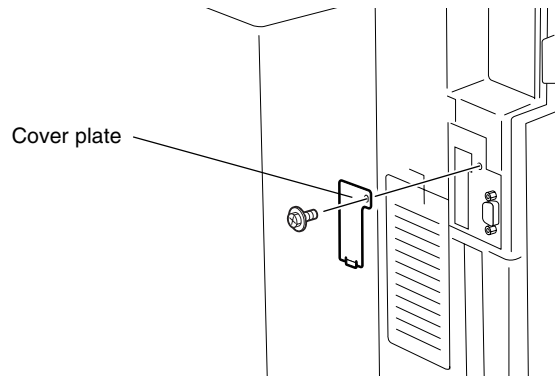
##### Important:

- Use the download jig “PWA-DWNLD-350-JIG2 (48 MB)”.
- Turn OFF the power before installing and removing the download jig.
- Do not turn OFF the power during the update. The data could be damaged and not be operated properly.

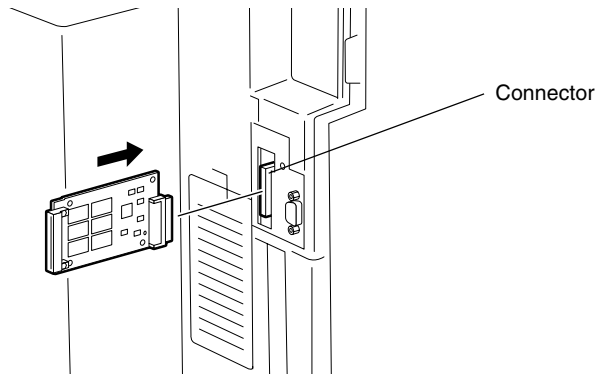
- (1) Write the data to the download jig.
  - ▶ 6.1.3 Writing the data to the download jig (PWA-DWNLD-350-JIG)
- (2) Turn OFF the power of the equipment.
- (3) Take off connector cover.



(4) Remove the cover plate.

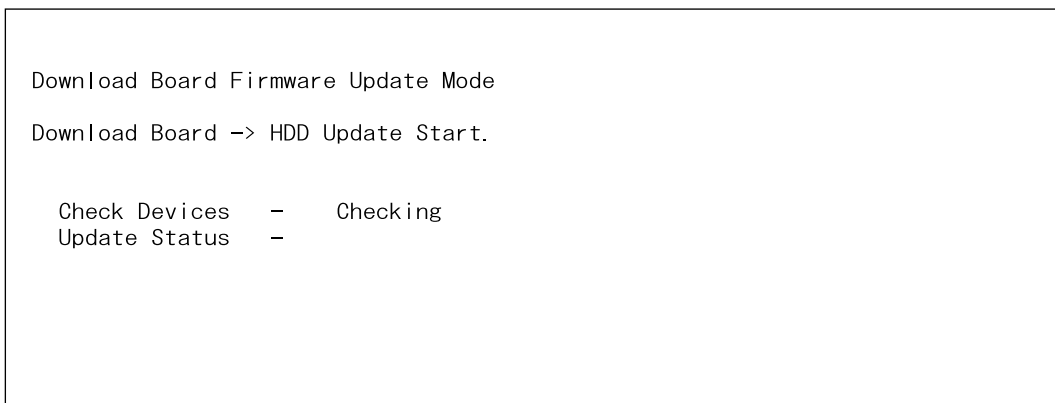


(5) Connect the download jig with the jig connector (CN100) on the SYS board.



(6) Turn ON the power.

Downloading starts automatically and the processing status is displayed on LCD screen.



- (7) "Update Completed!!" is displayed at the bottom of the LCD screen after the updating is completed properly.

```
Download Board Firmware Update Mode
Download Board -> HDD Update Start.

Check Devices   -   Completed
Update Status   -   Completed

                                                    xxx/yyy

Update Completed!!
```

"Update Failed." is displayed at the bottom of the LCD screen when the updating is not completed properly. Turn OFF the power, and then check the following items. After confirming and clearing the problems, restart updating from the beginning.

- Is the download jig connected properly?
- Is the updating data written to the download jig properly?
- Do the download jig and the equipment operate properly?

```
Download Board Firmware Update Mode
Download Board -> HDD Update Start.

Check Devices   -   Checking
Update Status   -

Update Failed.
```

- (8) Turn OFF the power, and then remove the download jig.
- (9) Perform the "Updating System ROM" continuously.
- ▶ 6.1.2 PWA-DWNLD-350-JIG1 (16 MB) <Updating System ROM>

**(b) Confirmation of the updated data**

After the updating is completed, check each data version in the Setting Mode (08) to confirm that the data was overwritten properly.

- 08-900: System ROM version
- 08-920: FROM basic section software version
- 08-921: FROM internal program version
- 08-922: UI data fixed section version
- 08-923: UI data common section version
- 08-924: Version of UI data language 1 in HDD
- 08-925: Version of UI data language 2 in HDD
- 08-926: Version of UI data language 3 in HDD
- 08-927: Version of UI data language 4 in HDD
- 08-928: Version of UI data language 5 in HDD
- 08-929: Version of UI data language 6 in HDD
- 08-931: Version of UI data language 7 in HDD
- 08-930: Version of UI data in FROM displayed at power ON
- 08-933: HDD unit data version
- 08-934: Version of Web UI data language 1 in HDD
- 08-935: Version of Web UI data language 2 in HDD
- 08-936: Version of Web UI data language 3 in HDD
- 08-937: Version of Web UI data language 4 in HDD
- 08-938: Version of Web UI data language 5 in HDD
- 08-939: Version of Web UI data language 6 in HDD

**(c) Display during the update**

The processing status is displayed as follows on the LCD screen during the update.

Turn ON the power.



Download Board Firmware Update Mode  
Download Board -> HDD Update Start.

Check Devices -  
Update Status -



The device check starts.

Download Board Firmware Update Mode  
Download Board -> HDD Update Start.

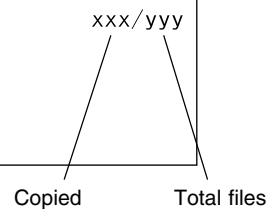
Check Devices -   Checking  
Update Status -



When the device check completes,  
copying the data to HDD starts.

Download Board Firmware Update Mode  
Download Board -> HDD Update Start.

Check Devices -   Completed  
Update Status -   F-ROM -> HDD copying



When copying all the files completes,  
the backup of the RIP font starts.



```
Download Board Firmware Update Mode
Download Board -> HDD Update Start.

Check Devices - Completed
Update Status - Backup file /PRF -> /PR2
xxx/yyy
```



When the backup of the RIP font completes, the update completes with the following screen.

```
Download Board Firmware Update Mode
Download Board -> HDD Update Start.

Check Devices - Completed
Update Status - Completed
xxx/yyy

Update Completed!!
```

\* If an error occurs, the following error message is displayed and the update is interrupted.

```
Check Devices - Checking
Update Status -

Update Failed.
```

Error message

### 6.1.2 PWA-DWNLD-350-JIG1 (16 MB)

The firmware of the equipment except the hard disk and the option can be updated individually or in a batch by using PWA-DWNLD-350-JIG1 (16 MB). Update the ROM data written on each board according to the need such as the case of replacing the system control PC board, logic PC board, scanning section control PC board, or NIC board.

The data to be overwritten by this update are as follows.

<Updating System ROM>

- System firmware (System firmware data, FROM internal program data)
- OS data (FROM basic section software)
- UI data (fixed section data, common section data, UI data in FROM displayed at power ON)

<Updating Engine ROM>

Engine ROM data

<Updating Scanner ROM>

Scanner ROM data

<Updating NIC ROM>

NIC ROM data

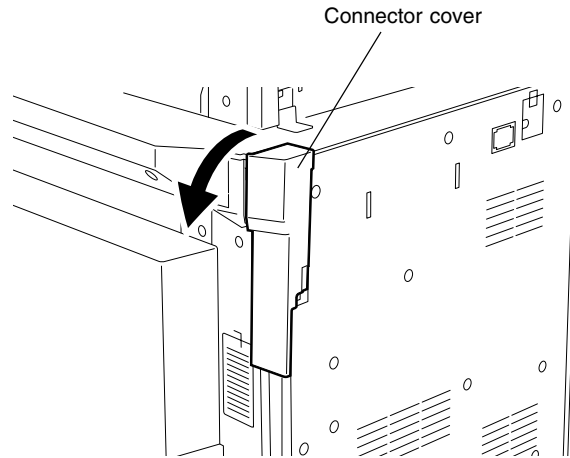
#### (a) Update procedure

##### **Important:**

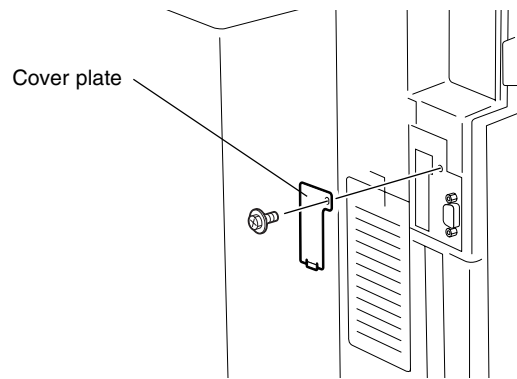
- Use the download jig “PWA-DWNLD-350-JIG1 (16 MB)”. (“PWA-DWNLD-350-JIG2 (48 MB)” is substitutable.)
- Turn OFF the power before installing and removing the download jig.
- Do not turn OFF the power during the update. The data could be damaged and not be operated properly.

- (1) Write the ROM data to be updated to the download jig.
  - > 6.1.3 Writing the data to the download jig (PWA-DWNLD-350-JIG)
- (2) Turn OFF the power of the equipment.

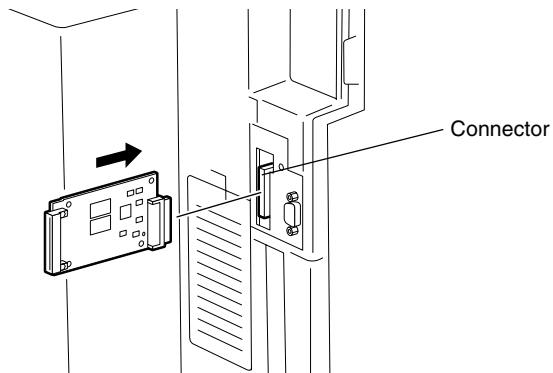
(3) Take off the connector cover.



(4) Remove the cover plate.



(5) Connect the download jig with the jig connector (CN100) on the SYS board.



- (6) Turn ON the power while [8] button and [9] button are pressed simultaneously.  
The screen for selecting the items to be updated is displayed. “\*” is displayed next to the items to be updated. (All items are selected in the default settings.)

Download Board Firmware Update Mode Select Update Item	Version in update media
*1. OS Update	OS Version.. Vx.xx/x.xx
*2. UI Update	UIF Version.. Vxxx.xxx.x
*3. System Firmware Update	UIO Version.. Vxxx.xxx.x
*4. NIC Firmware Update	UI1 Version.. Vxxx.xxx.x
*5. Scanner Firmware Update	SYS Version.. Vxxx.xxx.x
*6. Machine Firmware Update	NIC Version.. xxxxxxxx.xxx
	SCN Version.. xxxxx-xxx
	MCN Version.. xxxxx-xxx

- (7) Select the item with the digital keys.  
“\*” is displayed next to the selected item. Display or delete the “\*” by pressing the number of the item. All items are selected in the default settings.

- Select all items to update the firmware of the equipment in a batch.
- Select items as follows to update it individually.

<Updating System ROM>

Select “1. OS Update”, “2. UI Update”, and “3. System Firmware”.

<Updating Engine ROM>

Select “6. Machine Firmware Update” only.

<Updating Scanner ROM>

Select “5. Scanner Firmware Update” only.

<Updating NIC ROM>

Select “4. NIC Firmware Update” only.

**Example:** Updating the system ROM

(Updating the system ROM is taken as an example and explained.)

	Version in update media
Download Board Firmware Update Mode	
Select Update Item	OS Version... Vx. xx/x. xx
*1. OS Update	UIF Version... Vxxx. xxx. x
*2. UI Update	UI0 Version... Vxxx. xxx. x
*3. System Firmware Update	UI1 Version... Vxxx. xxx. x
4. NIC Firmware Update	SYS Version... Vxxx. xxx. x
5. Scanner Firmware Update	NIC Version... xxxxxxxx. xxx
6. Machine Firmware Update	SCN Version... xxxxx-xxx
	MCN Version... xxxxx-xxx

(8) Press the [START] button.

Updating starts and the processing status is displayed on the LCD screen.

Download Board Firmware Update Mode	
Download Board -> FROM Update Start.	
Check Devices	- Checking
Update Status	-
Data Check	-

- (9) "Update Completed!!" is displayed at the bottom of the LCD screen after the updating is completed properly.

```
Download Board Firmware Update Mode
Download Board -> FROM Update Start.
OS Update      ...      Completed
UI Data Update ...      Completed
SysFirm Update ...      Completed

Check Devices  -   Completed
Update Status  -   Completed
Data Check    -   Completed

Update Completed!!
```

"Update Failed." is displayed at the bottom of the LCD screen when the updating is not completed properly. Turn OFF the power, and then check the following items. After confirming and clearing the problems, restart updating from the beginning.

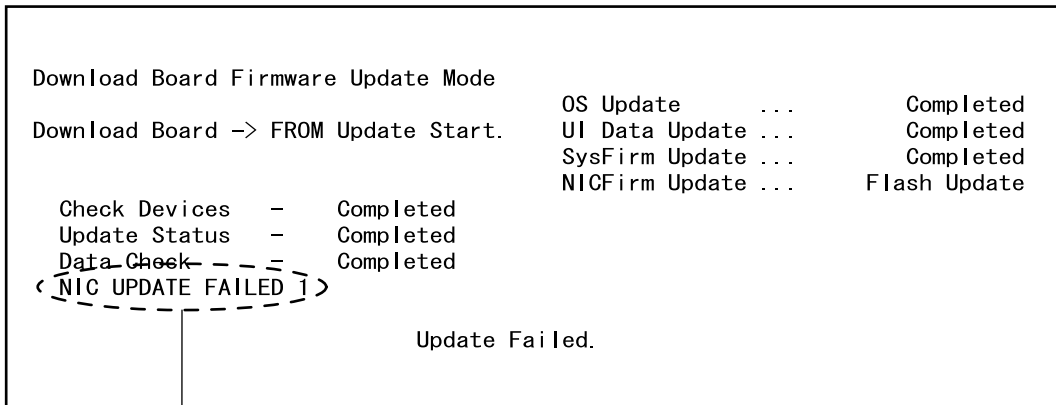
- Is the download jig connected properly?
- Is the updating data written to the download jig properly?
- Do the download jig and the equipment operate properly?

```
Download Board Firmware Update Mode
Download Board -> FROM Update Start.

Check Devices  -   Checking
Update Status  -
Data Check    -

Update Failed.
```

\* When the updating of the NIC firmware is failed, an error message is displayed as the figure below. Turn OFF the power and then check the above-mentioned items. After confirming them, select only “4. NIC Firmware Update” and restart updating from the beginning. This may complete the updating properly.



NIC error message

If the updating of the NIC firmware is still failed, check the prescription corresponding to the error message. After confirming and clearing the problem, restart updating from the beginning.

NIC Error Message	Error Contents	Prescription
NIC UPDATE FAILED 1	NIC initialization time-out	The IP address may not be assigned correctly. <ul style="list-style-type: none"> <li>• Is the IP address assigned correctly?</li> <li>• Does the IP address conflict with the other system?</li> </ul> If the error still occurs, replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 2	ATA driver initialization error	The HDD cable may be disconnected. <ul style="list-style-type: none"> <li>• Is the HDD cable connected correctly?</li> </ul> If the HDD cable is connected correctly, replace the SYS board because it may be destroyed.
NIC UPDATE FAILED 3	HDD partition mount error	Replace the HDD because it may be destroyed.
NIC UPDATE FAILED 4	NIC setting information backup error	Replace the HDD because it may be destroyed.
NIC UPDATE FAILED 5	NIC firmware transfer error	Replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 6	NIC firmware writing error	Replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 7	NIC status time-out	Replace the NIC board because it may be destroyed.

**Notes:**

If the updating of the NIC firmware is not completed properly, wait 5 minutes or more from the beginning of the updating before turning OFF the power, and then restart updating from the beginning. If you turn OFF the power within 5 minutes, HDD may be destroyed.

- (10) Turn OFF the power, remove the download jig and install the cover plate and the connector cover.
- (11) Perform the initialization of the updating data (NVRAM updating).
- a. Turn ON the power while [0] button and [8] button are pressed simultaneously.
  - b. Key in "947", and then press the [START] button.
  - c. Press the [INITIALIZE] button.

**(b) Confirmation of the updated data**

After the updating is completed, check each data version in the Setting Mode (08) to confirm that the data was overwritten properly.

<Updating System ROM>

08-900: System ROM version

08-920: FROM basic section software version

08-921: FROM internal program version

08-922: UI data fixed section version

08-923: UI data common section version

08-930: Version of UI data in FROM displayed at power ON

<Updating Engine ROM>

08-903: Engine ROM version

<Updating Scanner ROM>

08-905: Scanner ROM version

<Updating NIC ROM>

08-916: NIC ROM version



### (c) Display during the update

The processing status is displayed as follows on the LCD screen during the update.

(As an example, the display for updating the system ROM is explained below.)

Turn ON the power while [8] button and [9] button are pressed simultaneously.



Download Board Firmware Update Mode Select Update Item	Version in update media
*1. OS Update	OS Version... Vx.xx/x.xx
*2. UI Update	UIF Version... Vxxx.xxx.x
*3. System Firmware Update	UI0 Version... Vxxx.xxx.x
*4. NIC Firmware Update	UI1 Version... Vxxx.xxx.x
*5. Scanner Firmware Update	SYS Version... Vxxx.xxx.x
*6. Machine Firmware Update	NIC Version... xxxxxxxx.xxx
	SCN Version... xxxxx-xxx
	MCN Version... xxxxx-xxx



Press [START] button after selecting the item to be updated. The device check starts.

Download Board Firmware Update Mode	
Download Board -> FROM Update Start.	
Check Devices	- Checking
Update Status	-
Data Check	-



When the device check completes, erasing the data in the ROM of the equipment starts.

Download Board Firmware Update Mode	OS Update	...
Download Board -> FROM Update Start.		
Check Devices	- Completed	
Update Status	- Erasing	
Data Check	-	



When erasing the data completes, copying the data to the ROM of the equipment starts.

```

Download Board Firmware Update Mode
Download Board -> FROM Update Start.

Check Devices - Completed
Update Status - Installing
Data Check -
  
```



When copying the data completes, verifying the data starts.

```

Download Board Firmware Update Mode
Download Board -> FROM Update Start.

Check Devices - Completed
Update Status - Completed
Data Check - Verifying
  
```



When verifying the data completes, copying and verifying the other data are implemented repeatedly.

```

Download Board Firmware Update Mode
Download Board -> FROM Update Start.

Check Devices - Completed
Update Status - Installing
Data Check -

OS Update ... Completed
UI Data Update ...
  
```



When copying and verifying all the data complete, the update completes with the following screen.

```
Download Board Firmware Update Mode
Download Board -> FROM Update Start.
OS Update      ...      Completed
UI Data Update ...      Completed
SysFirm Update ...      Completed

Check Devices  -   Completed
Update Status  -   Completed
Data Check     -   Completed

Update Completed!!
```

\* If an error occurs, the following error message is displayed and the update is interrupted.

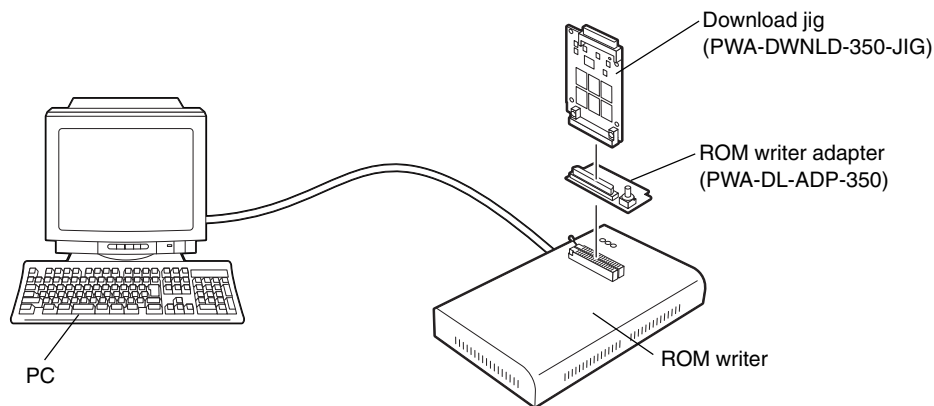
```
Check Devices  -   Checking
Update Status  -
Data Check     -

Update Failed.
```

Error message

### 6.1.3 Writing the data to the download jig (PWA-DWNLD-350-JIG)

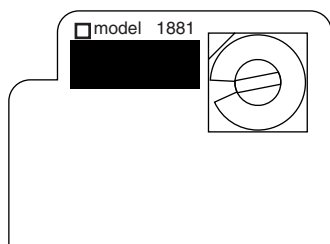
The download jig (PWA-DWNLD-350-JIG) differs from the existing jigs in that the Flash ROM is mounted on the board of the jig directly. The ROM writer adapter (PWA-DL-ADP-350) is required to write data to these Flash ROMs. Connect the download jig with the ROM writer via ROM writer adapter to write data. For the procedure to write data, refer to the download procedure, instruction manual of each ROM writer, or others.



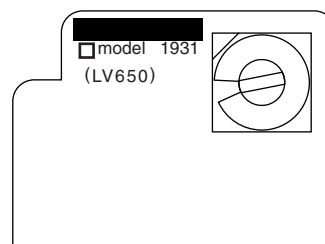
#### Note:

There are two types of the ROM writer adapter. Use the proper one according to the ROM writer to be used. Applicable type of the adapter for the ROM writer can be confirmed by the model name indicated on the board. Confirm that the adapter is available for the ROM writer to be used before connecting them. If an unapplied adapter is connected, the application of the ROM writer judges it as an error and writing the data cannot be implemented. Applicable combinations of the ROM writer and adapter are as follows.

ROM writer	ROM writer adapter
Minato Electronics MODEL 1881XP (or equivalent)	PWA-DL-ADP-350-1881 (model 1881)
Minato Electronics MODEL 1893/1895/1931/1940 (or equivalent)	PWA-DL-ADP-350-1931 (model 1931)



[PWA-DL-ADP-350-1881]



[PWA-DL-ADP-350-1931]

(a) Precaution when writing the data

- Set the writing voltage (VID) to 3.3 V.
- When writing the data, set the address from 0 to 3FFFFFF. The data may not be written correctly if it is not set.
- The Flash ROM in which the data will be written, on the download jig is selected by switching the rotary switch on the adapter. Be sure to switch the rotary switch on the adapter depending on the data (file) to be written.

Rotary Switch	File Name		Flash ROM
	Master Data (PWA-DWNLD-350-JIG2)	System, Engine, Scanner and NIC data (PWA-DWNLD-350-JIG1)	
1	ROM. bin	ROM. bin	ROM1
2	1	Sysfirm. bin	ROM2
3	2	N/A	ROM3
4	3	N/A	ROM4
5	4	N/A	ROM5
6	N/A	N/A	ROM6

**Note:**

Be sure not to confuse different ROM Versions since the file name is identical although the ROM version is different.

#### 6.1.4 K-PWA-DLM-320

The firmware of the equipment (engine ROM, scanner ROM) and the option (RADF ROM, Finisher ROM, FAX ROM) can be updated individually by using K-PWA-DLM-320. Update the ROM data written on each board according to the need such as the case of replacing the board.

The data to be overwritten by this update are as follows.

<Updating Engine ROM>

Engine ROM data

<Updating Scanner ROM>

Scanner ROM data

<Updating RADF ROM>

RADF ROM data

<Updating Finisher ROM>

- Finisher firmware
- Saddle stitcher firmware

<Updating FAX ROM>

FAX ROM data

### (a) Update Procedure

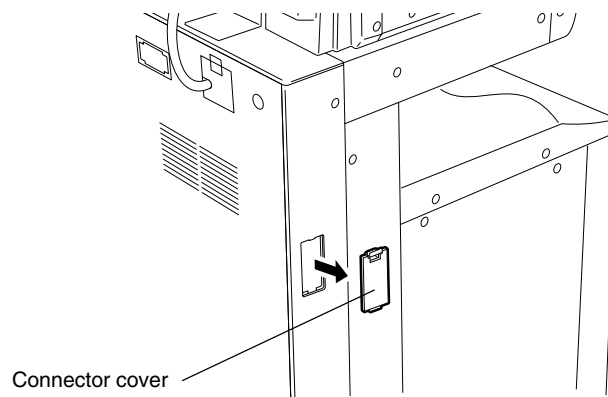
Since the procedure differs depending on the data, see the each procedure below.

#### Important:

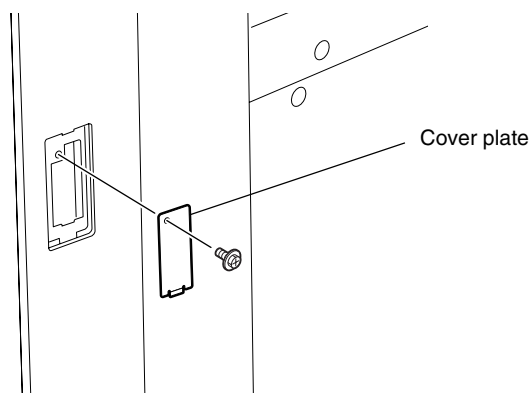
- Turn OFF the power before installing or removing the download jig.
- Do not turn OFF the power during the update. The data could be damaged and not be operated properly.

#### <Updating Engine ROM>

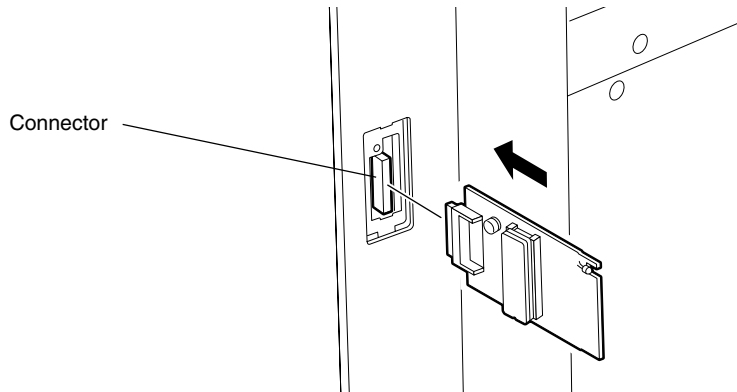
- (1) Install the ROM to the download jig.  
Make sure the direction is correct ( ▶ Page 6-3).
- (2) Turn OFF the power of the equipment.
- (3) Take off the connector cover.



- (4) Remove the cover plate.



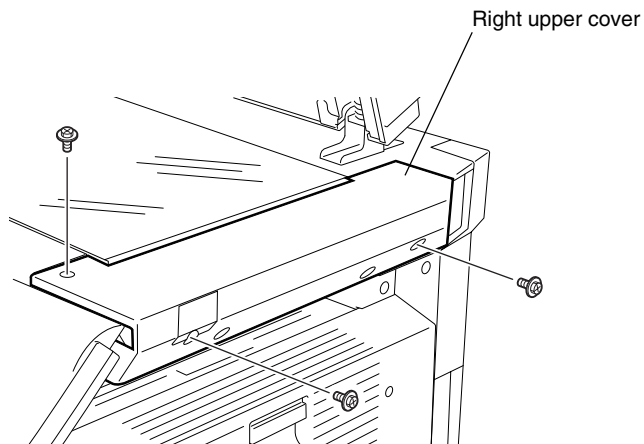
- (5) Connect the download jig with the jig connector (CN344) on the logic PC board (LGC board).



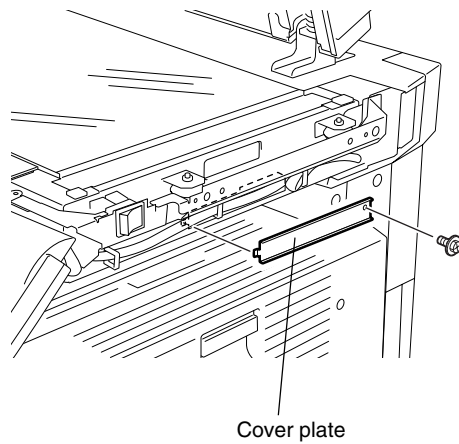
- (6) Turn ON the power while [0] button and [8] button are pressed simultaneously. Updating starts automatically and the LED on the download jig lights.
- (7) When the update is completed properly, the LED on the download jig blinks. The LED starts blinking in approx. 20 sec. since the update starts. It is assumed that the update is failed if it does not start blinking even though 1 min. has passed. In this case, turn OFF the power and check the following items. Then, clear the problem and restart updating from the beginning.
- Is the download jig connected properly?
  - Is the ROM installed to the download jig properly?
  - Is the updating data written on the ROM of the download jig properly?
  - Do the download jig and the equipment operate properly?
- (8) Turn OFF the power, remove the download jig and install the cover plate and the connector cover.

<Updating Scanner ROM>

- (1) Install the ROM to the download jig.  
Make sure the direction is correct ( ▶ Page 6-3).
- (2) Turn OFF the power of the equipment.
- (3) Take off the right upper cover.

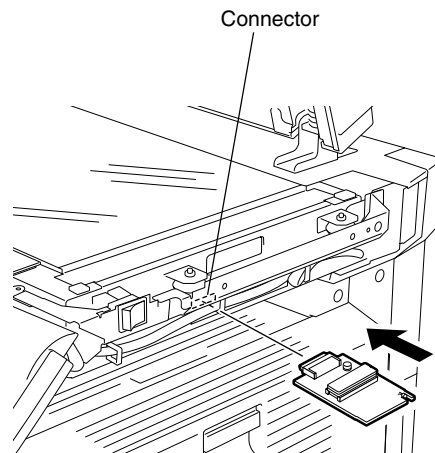


- (4) Remove the cover plate.





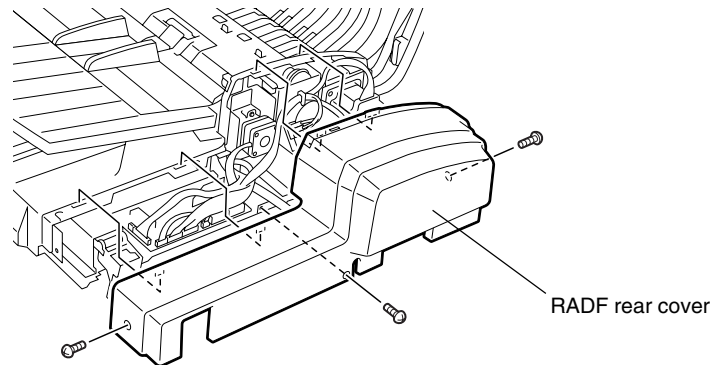
- (5) Connect the download jig with the jig connector (CN16) on the scanning section control PC board (SLG board).



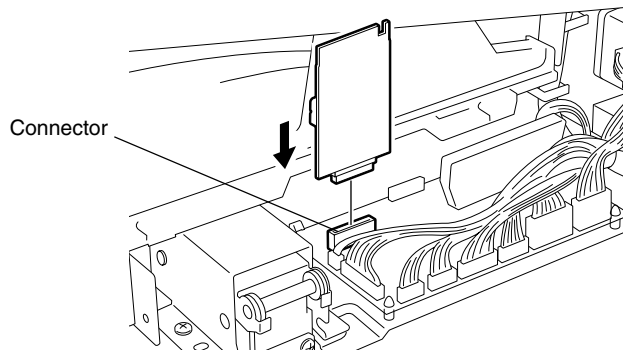
- (6) Turn ON the power while [0] button and [8] button are pressed simultaneously. Updating starts automatically and the LED on the download jig lights.
- (7) After the update is completed properly, the LED on the download jig blinks. The LED starts blinking in approx. 20 sec. since the update starts. It is assumed that the update is failed if it does not start blinking even though 1 min. has passed. In this case, turn OFF the power and check the following items. Then, clear the problem and restart updating from the beginning.
- Is the download jig connected properly?
  - Is the ROM installed to the download jig properly?
  - Is the updating data written on the ROM of the download jig properly?
  - Do the download jig and the equipment operate properly?
- (8) Turn OFF the power, remove the download jig and install the cover plate and the right upper cover.

<Updating RADF ROM>

- (1) Install the ROM to the download jig.  
Make sure the direction is correct ( ▶ Page 6-3).
- (2) Turn OFF the power of the equipment.
- (3) Take off the RADF rear cover.



- (4) Connect the download jig with the jig connector (CN14) on the RADF control PC board.



- (5) Turn ON the power while [0] button and [8] button are pressed simultaneously.  
Updating starts automatically and the LED on the download jig lights.

- (6) After the update is completed properly, the LED on the download jig blinks. The LED starts blinking in approx. 15 sec. since the update starts. It is assumed that the update is failed if it does not start blinking even though 1 min. has passed. In this case, turn OFF the power and check the following items. Then, clear the problem and restart updating from the beginning.
- Is the download jig connected properly?
  - Is the ROM installed to the download jig properly?
  - Is the updating data written on the ROM of the download jig properly?
  - Do the download jig and the equipment operate properly?
- (7) Turn OFF the power, remove the download jig and install the RADF rear cover.

### <Updating Finisher ROM>

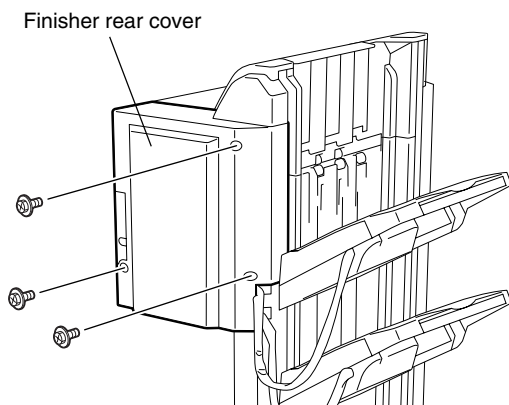
Finisher firmware (MJ-1023/1024) and saddle sticher firmware (MJ-1024 only) are written on the finisher ROM. These two kinds of firmware can be updated individually by installing the download jig to the finisher control PC board.

#### Tip:

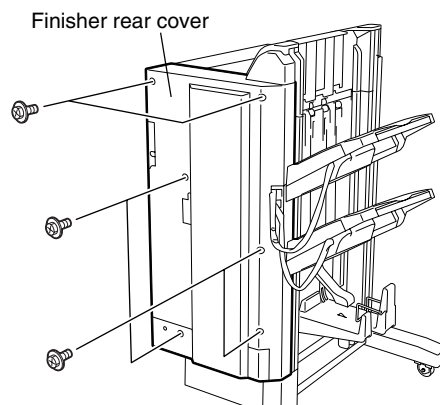
The following updates are needed according to the finisher model.

- MJ-1023 (Console type):  
Only the update of “Finisher firmware” is needed.
- MJ-1024 (Console type with the saddle sticher):  
Two kinds of update “Finisher firmware” and “Saddle sticher firmware” are needed.

- (1) Install the ROM to the download jig.  
Make sure the direction is correct ( ▶ Page 6-3).
- (2) Turn OFF the power of the equipment.
- (3) Take off the finisher rear cover.



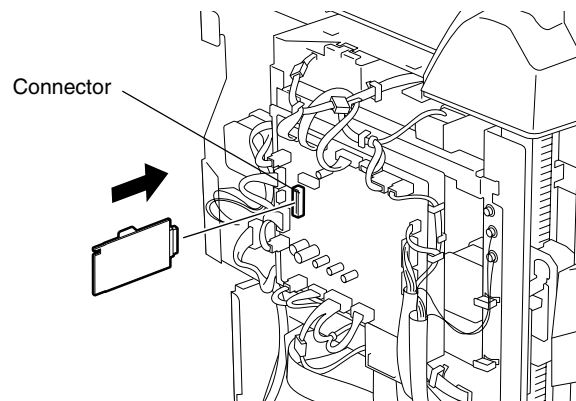
[MJ-1023]



[MJ-1024]

\* Connect the finisher interface cable with the equipment after removing the finisher rear cover.

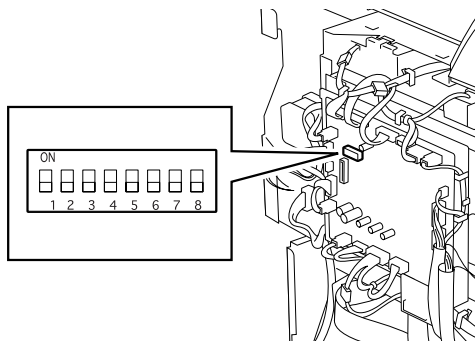
- (4) Connect the download jig with the jig connector on the finisher control PC board.



- (5) Change the setting of the DIP switch on the finisher control PC board.  
Change the setting of the DIP switch as follows according to the firmware to be updated.

**Note:**

Record the current settings of the DIP switch before changing them. After the updating is completed, return the DIP switch to the status as record.



<Updating Finisher Firmware>

Change all the setting of the DIP switch (1-8) to OFF.

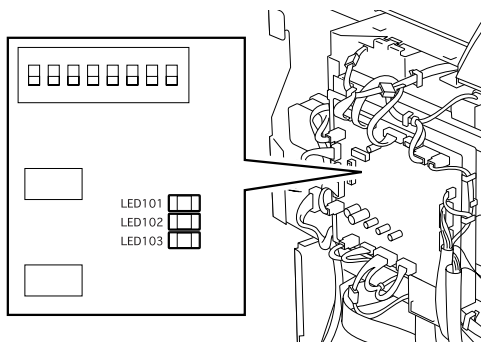
<Updating Saddle Stitcher Firmware>

Change the setting of the DIP switch 1-6 to OFF and 7-8 to ON.

- (6) Turn ON the power while [0] button and [8] button are pressed simultaneously.  
Updating starts automatically and the LED on the download jig lights.

**Tip:**

The processing status can be confirmed by the lighting of the LED (LED 101-103) on the finisher control board.



Processing status	LED		
	LED103	LED102	LED101
0% or above	OFF	OFF	ON
15% or above	OFF	ON	OFF
30% or above	OFF	ON	ON
45% or above	ON	OFF	OFF
60% or above	ON	OFF	ON
75% or above	ON	ON	OFF
90% or above	ON	ON	ON

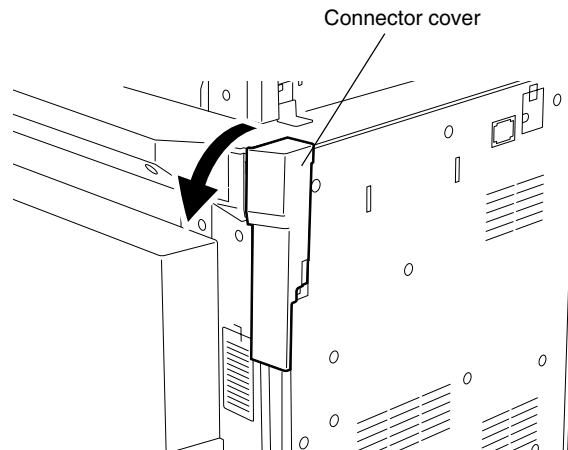
- (7) After the update is completed properly, the LED on the download jig blinks slowly (at interval of 0.8 sec). The LED starts blinking in approx. 30 sec. (finisher section) or 2 min. 30 sec. (saddle stitcher section) since the update starts. It is assumed that the update is failed if it does not start blinking even though 1 min. has passed (finisher section) or 3 min. (saddle stitcher section), or LED flashes fast (at interval of 0.1 sec.). In this case, turn OFF the power and check the following items. Then, clear the problem and restart updating from the beginning.
- Is the download jig connected properly?
  - Is the ROM installed to the download jig properly?
  - Is the updating data written on the ROM of the download jig properly?
  - Do the download jig and the equipment operate properly?
  - Is the DIP switch on the finisher control PC board set properly according to the download section (finisher or saddle stitcher)?
- (8) Turn OFF the power, remove the download jig and return the DIP switch to the status before updating.
- (9) Install the finisher rear cover.

## <Updating FAX ROM>

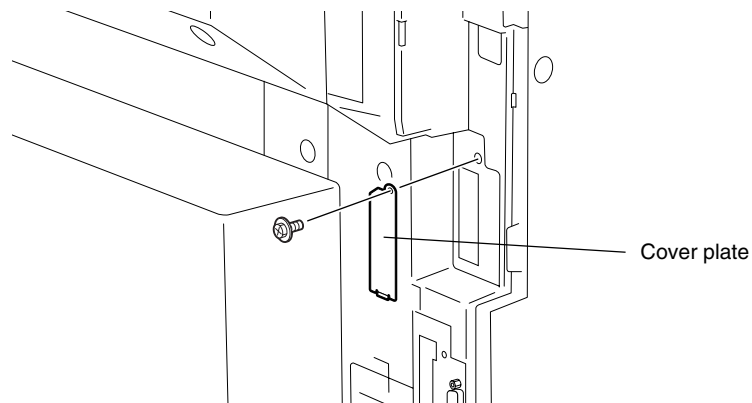
### Important:

- Before updating the FAX ROM, make sure to print out the current Function list for maintenance, Function list (ADMIN), Phone book number information and Group number information. In case the updating is failed and the registered information of the users is lost for some reason, re-register the user information referring to the lists and recover it.
- Confirm the following items before turning OFF the power of the equipment. Turning OFF the power may clear the data below.
  - Confirm that the “MEMORY RX” LED is OFF and there are no memory reception data.
  - Print the “Mailbox/Relay box report” and then confirm that there are no F code data.
  - Press the [JOB STATUS] button to display the screen and then confirm that there are no memory transmission data.

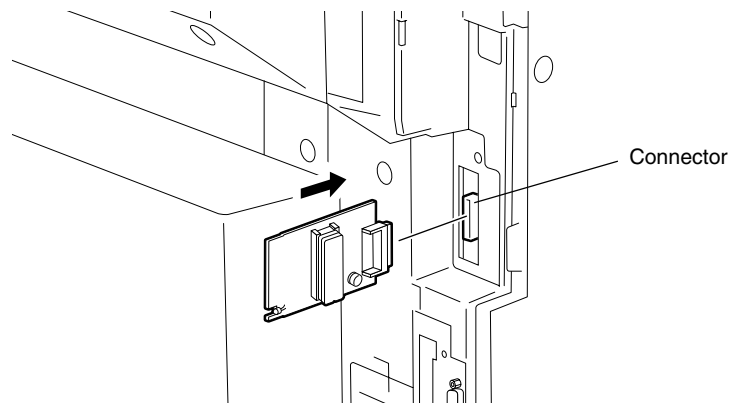
- (1) Install the ROM to the download jig.  
Make sure the direction is correct ( ▶ Page 6-3).
- (2) Turn OFF the power of the equipment.
- (3) Take off the connector cover.



- (4) Remove the cover plate.



- (5) Connect the download jig with the jig connector (CN602) on the FAX board.



- (6) Turn ON the power while [0] button and [8] button are pressed simultaneously. Updating starts automatically and the LED on the download jig lights.
- (7) After the update is completed properly, the LED on the download jig blinks. The LED starts blinking in approx. 30 sec. since the update starts. It is assumed that the update is failed if it does not start blinking even though 1 min. has passed. In this case, turn OFF the power and check the blinking items. Then, clear the problem and restart updating from the beginning.
- Is the download jig connected properly?
  - Is the ROM installed to the download jig properly?
  - Is the updating data written on the ROM of the download jig properly?
  - Do the download jig and the equipment operate properly?
- (8) Turn OFF the power, remove the download jig and install the cover plate and the connector cover.



- (9) In the FAX Clearing Mode, perform the "FAX Set Up".
  - a. Confirm the destination setting is correct in the Setting Mode (08).
    - 08-201: Destination setting of the equipment
    - 08-701: Destination setting of the FAX machine
  - b. Turn ON the power while [1] button and [\*] button are pressed simultaneously.
  - c. Key in "100".
  - d. Press the [START] button.

**Note:**

If the equipment does not work properly after the operation (9), follow the procedure below and then perform the "Clearing the image data" in the FAX Clearing Mode to erase the image data in the memory.

- a. Confirm the destination setting is correct in the Setting Mode (08).
  - 08-201: Destination setting of the equipment
  - 08-701: Destination setting of the FAX machine
- b. Turn ON the power while [1] button and [\*] button are pressed simultaneously.
- c. Key in "102".
- d. Press the [START] button.

**(b) Confirmation of the updated data**

After the updating is completed, check each data version in Setting Mode (08) to confirm that the data was overwritten properly.

<Updating Engine ROM>

08-903: Engine ROM version

<Updating Scanner ROM>

08-905: Scanner ROM version

<Updating RADF ROM>

08-907: RADF ROM version

<Updating Finisher ROM>

08-908: Finisher ROM version

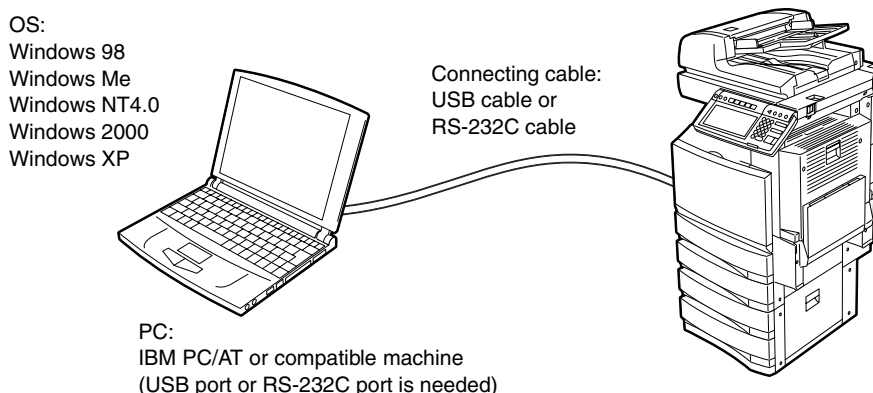
<Updating FAX ROM>

08-915: FAX ROM version

## 6.2 Firmware Updating with FSMS (Field Service Manager)

In this equipment, it is feasible to update the downloaded firmware from the PC connected with the equipment by using the utility software "FSMS (Field Service Manager)". Firmware can be also downloaded through USB, in addition to an existing serial transfer through RS-232C.

This chapter explains only the firmware downloading method with FSMS. Refer to the Field Service Manager Operator's Manual for the details about installation method and functions of FSMS.



### Important:

- Updating with USB connection is more recommended since the data transfer speed is lower and it takes more time to update in the serial connection with RS-232C cable.

Example: Updating time for system ROM (sysfirm.tz : Approx. 8 MB)

RS-232C connection: Approx. 1 hour and 20 minutes

USB connection: Approx. 10 minutes

\* The updating time noted above is a reference. It may vary depending on the performance of the PC used.

- Updating through USB is not feasible for Windows NT4.0 since this operating system does not support USB. When this system is used, update in the serial connection with RS-232C cable.
- When updating through USB (using FSMS), a printer driver needs to be installed in the PC in advance. Refer to the Printing Guide about the installation method of the printer driver.

- 
- The official name of Windows 98 is Microsoft Windows 98 Operating System.
  - The official name of Windows Me is Microsoft Windows Millennium Edition Operating System.
  - The official name of Windows 2000 is Microsoft Windows 2000 Operating System.
  - The official name of Windows XP is Microsoft Windows XP Operating System.
  - Microsoft, Windows and the brand names and product names of other Microsoft products are trademarks or registered trademarks of US Microsoft Corporation in the US and other countries.
  - IBM PC/AT is a registered trademark of US International Business Machines Corporation.

The types of firmware which can be updated with this method are as follows in the table below.

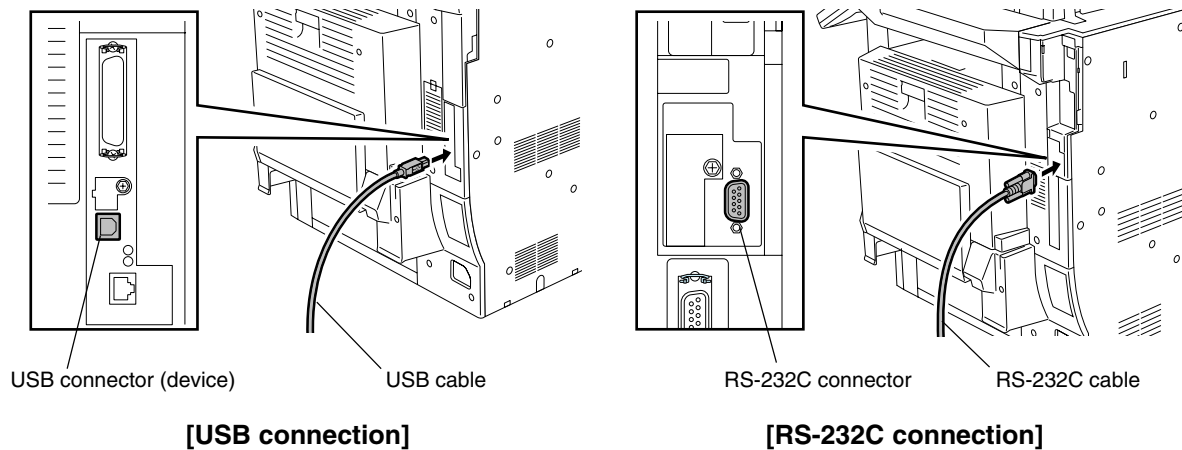
Firmware	Stored	Data file name
Master data	Hard disk	uidata2.tz, uidata3.tz, uidata4.tz, uidata5.tz, uidata6.tz, uidata7.tz, webdata1.tz, webdata2.tz, webdata3.tz, webdata4.tz, webdata5.tz, webdata6.tz, all.tz
System ROM	System control PC board (SYS board)	sysfirm.tz, uidataF.tz, uidata0.tz, uidata1.tz
Engine ROM	Logic PC board (LGC board)	mfirm.tz
Scanner ROM	Scanning section control PC board (SLG board)	scnfirm.tz
NIC ROM	NIC board	nicfirm.tz

## (a) Update procedure

### Important:

- Do not operate the equipment or send a print job to the equipment during the update. This interferes the updating operation and the firmware may not be written properly.
- Do not turn OFF the power of equipment or PC during the update. The data could be damaged and not to be continued to function properly.
- When using FSMS, set “1” at FSMS permission code (08-258) in the Setting Mode (08) in advance.
- The data file (tz file format) of each firmware is recommended to save at the local drive in the PC (C drive, etc.) where FSMS program is installed.

(1) Connect the equipment and PC with the cable.



- \* Connect the cable to the RS-232C connector in RS-232C connection after taking off the connector cover of the equipment.
- \* Connect the PC end of the cable to the USB port or RS-232C port on the PC.

(2) Turn ON the power of the equipment.

### Tip:

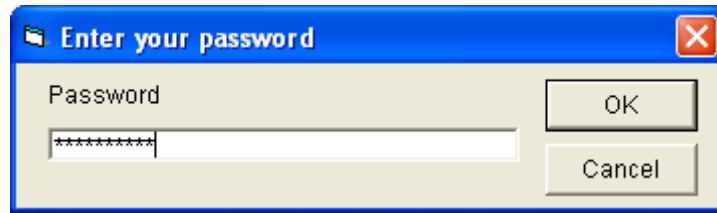
When updating with FSMS, updating can be performed in any of the normal mode, Adjustment Mode (05) and Setting Mode (08). To avoid an interruption during the update, using the Setting Mode (08) is recommended.

(3) Turn ON the power of the PC.

(4) Activate FSMS.

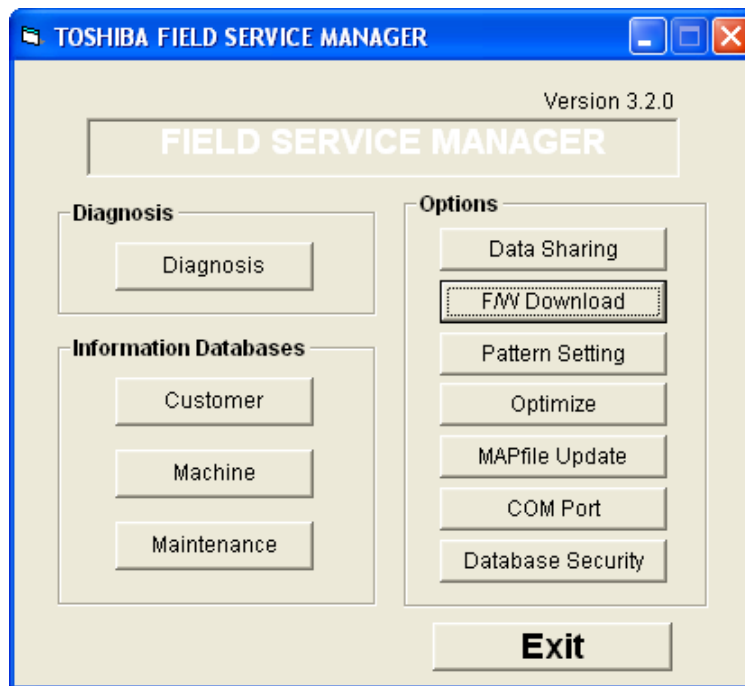
Select “TOSHIBA FSMS” starting with the Start menu.

- (5) Enter the login password and click the [OK] button.

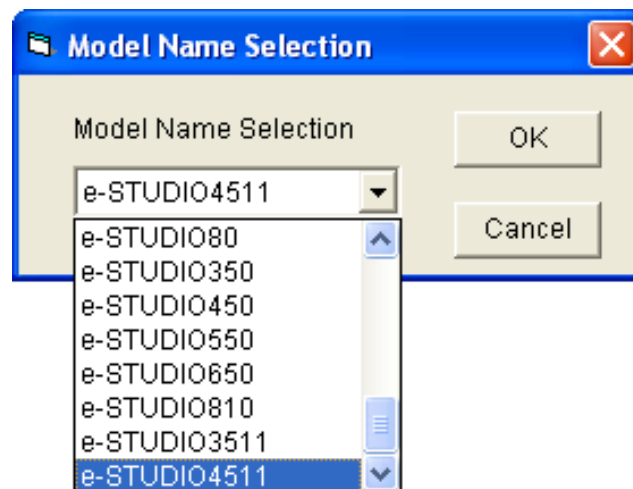


\* Set the login password at the installation of FSMS.

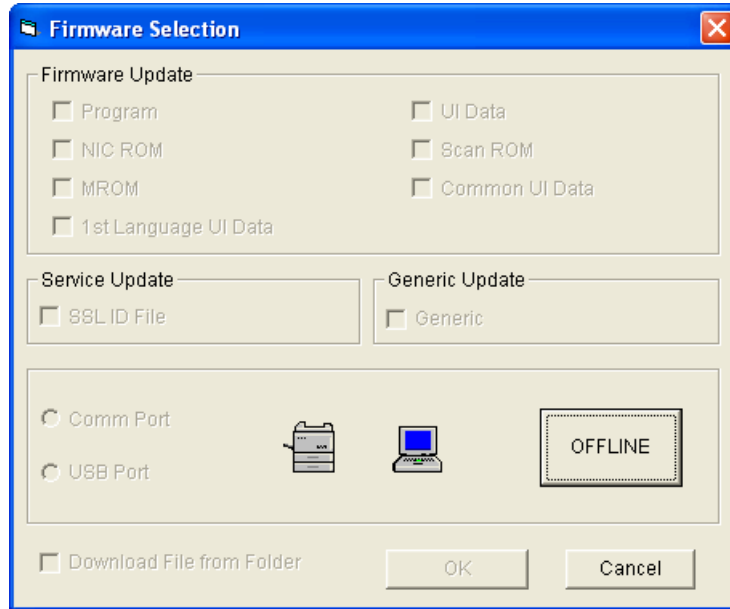
- (6) Click the [F/W Download] button.



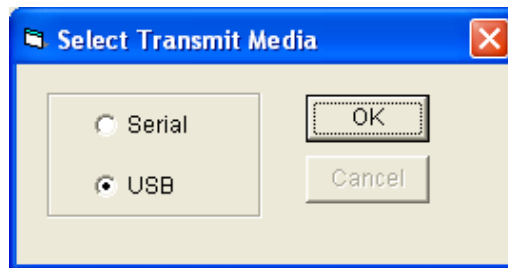
- (7) Select the model name of the equipment to be updated from the drop-down menu and click the [OK] button.



(8) Click the [OFFLINE] button.



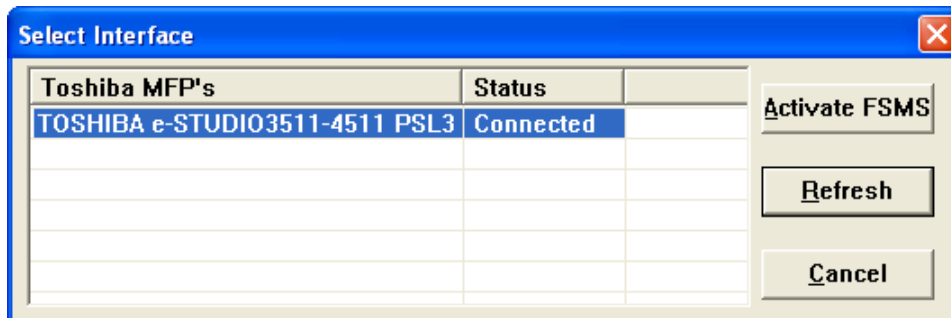
(9) Select the transmit media and click the [OK] button.



In case of RS-232C connection: Select "Serial"

In case of USB connection: Select "USB"

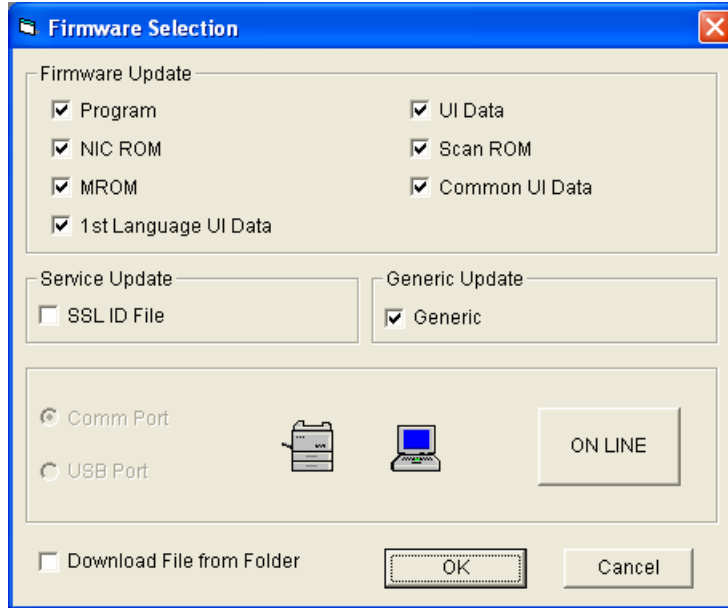
\* The connection status between the printer driver installed in the PC and the equipment to be connected is displayed only when "USB" is selected. Select the equipment to be updated and click the [Activate FSMS] button.



**Tip:**

The content of "Status" display can be renewed to the latest status by clicking the [Refresh] button. When the status is displayed as "Disconnected" because the start up of the equipment is delayed, the status can be renewed to "Connected" by clicking this.

(10) Check the firmware to be updated and click the [OK] button.



**Tip:**

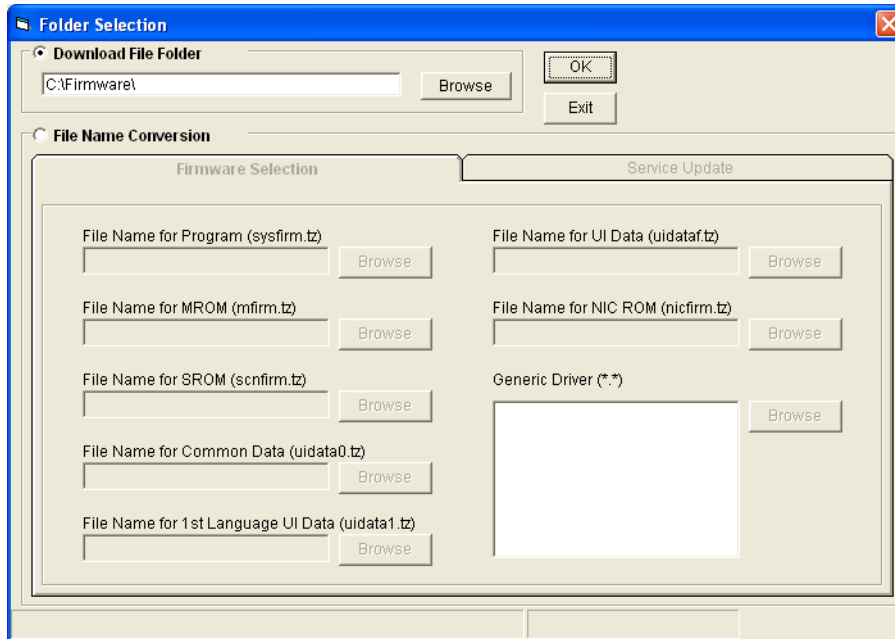
The relation between the types of firmware to be updated and items to check is as follows in the table below.

Item	Firmware	Data file name to update
Program	System ROM	sysfirm.tz
UI Data		uidataF.tz
Common UI Data		uidata0.tz
1st Language UI Data		uidata1.tz
MROM	Engine ROM	mfirm.tz
Scan ROM	Scanner ROM	scnfirm.tz
NIC ROM	NIC ROM	nicfirm.tz
Generic	Master data	uidata2.tz, uidata3.tz, uidata4.tz, uidata5.tz, uidata6.tz, uidata7.tz, webdata1.tz, webdata2.tz, webdata3.tz, webdata4.tz, webdata5.tz, webdata6.tz, all.tz

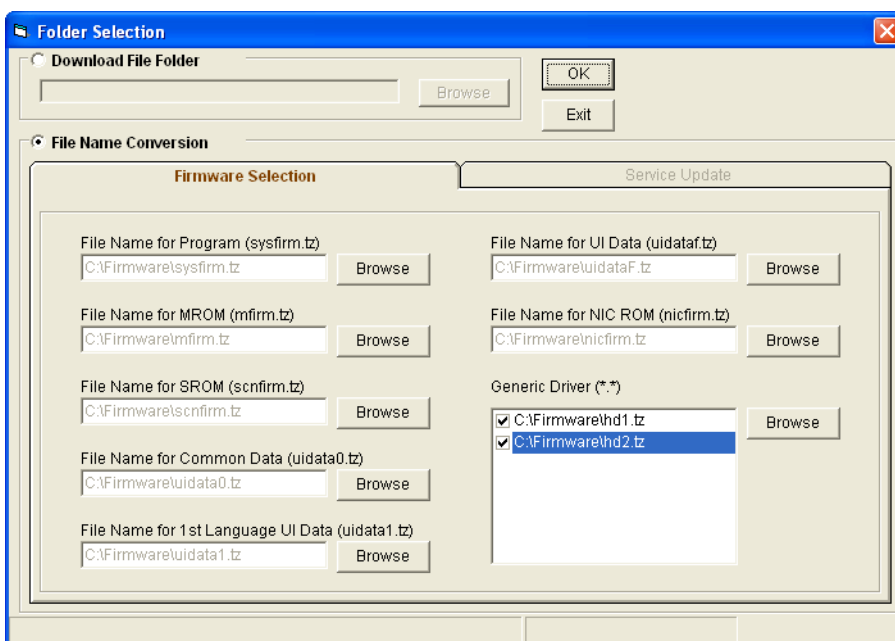


(11) Select the data file to be updated and click the [OK] button.  
There are two data filing methods: Selecting the multiple data files in a batch (select the folder where the files are saved) and selecting each data file individually.

- Selecting the multiple data files in a batch
  - a. Select “Download File Folder”.
  - b. Click the [Browse] button and select the folder where the files are saved.

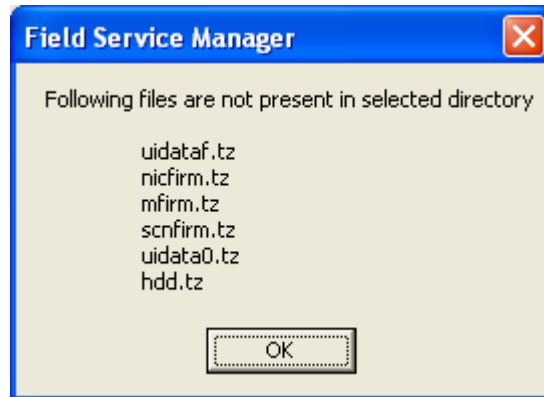


- Selecting each data file individually
  - a. Select “File Name Conversion”.
  - b. Click the [Browse] button of each data and select the file. When “Generic Driver” is used, check the checkbox of the file to be selected.



**Tip:**

When selecting the multiple files in a batch, the name of the unselected data file (not saved in the folder) may be displayed. In this case, click the [OK] button and then the update of all files except the displayed file starts.



(12) The selected data is transmitted to the equipment.

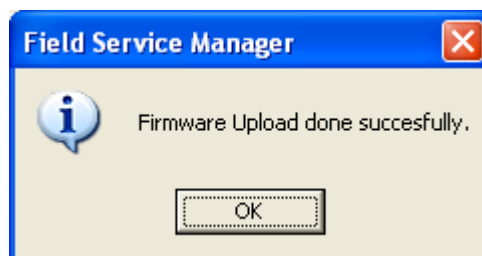
The data file name being transmitted and transmission condition are displayed at the bottom.



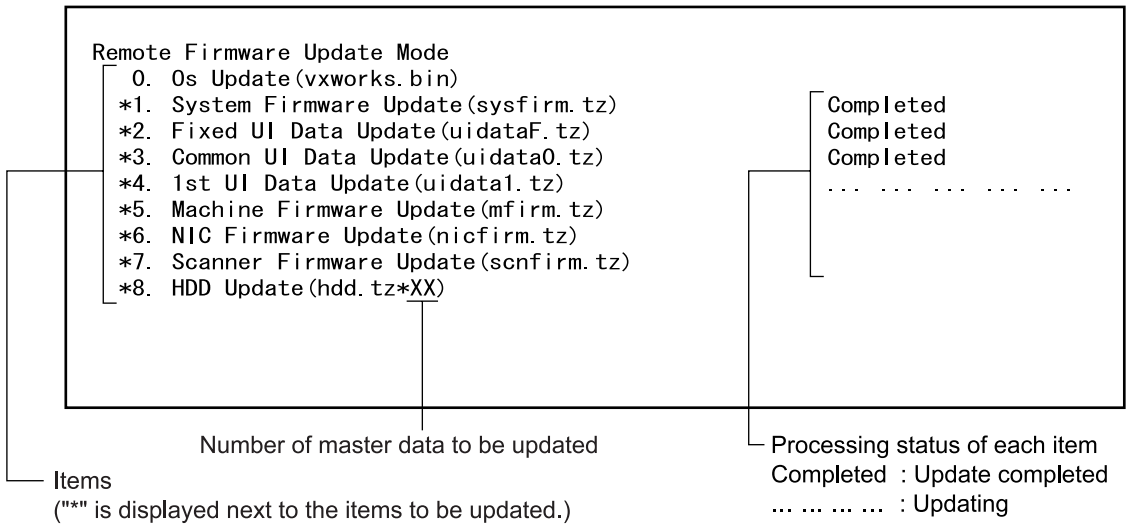
**Tip:**

During transmission, the message "WAIT" or "NOW SERVICING" is displayed on the LCD screen of the equipment. In this case, all the button operations are locked.

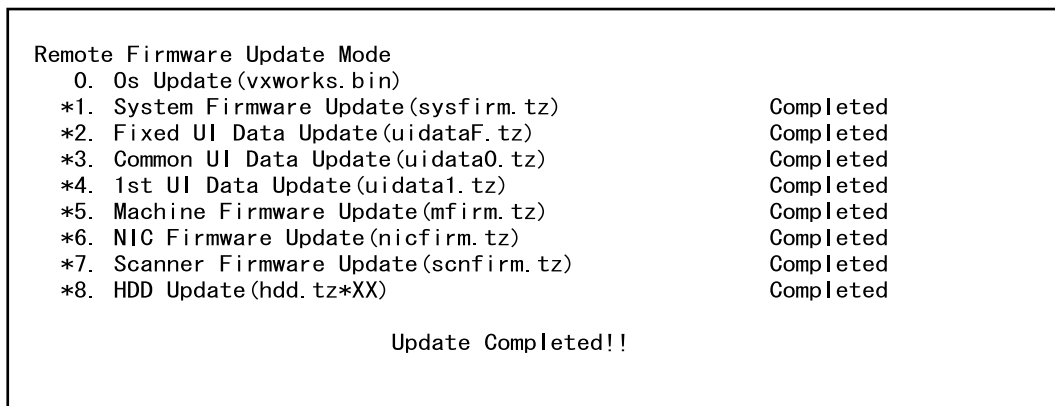
(13) When the data transmission is completed, the following screen is displayed. Then click the [OK] button.



(14) The equipment restarts automatically and the items to be updated and processing status are displayed on the LCD screen.



(15) "Update Completed!!" is displayed at the bottom of the LCD screen after the updating is completed properly.



“Update Failed!!” is displayed at the bottom of the LCD screen when the updating is not completed properly. Turn OFF the power, and then check the following items. After confirming and clearing the problems, restart updating from the beginning.

- Are the equipment and PC properly connected?
- Is the selected data file proper?
- Do the cable, equipment and PC operate properly?
- Are FSMS and printer driver properly installed?

```

Remote Firmware Update Mode
 0. Os Update(vxworks.bin)
*1. System Firmware Update(sysfirm.tz)           Completed
*2. Fixed UI Data Update(uidataF.tz)             Completed
*3. Common UI Data Update(uidata0.tz)           Completed
*4. 1st UI Data Update(uidata1.tz)             Completed
*5. Machine Firmware Update(mfirm.tz)          Completed
*6. NIC Firmware Update(nicfirm.tz)            Completed
*7. Scanner Firmware Update(scnfirm.tz)        Failed
*8. HDD Update(hdd.tz*XX)

Update Failed!!
  
```

\* When the updating of the NIC firmware is failed, an error message is displayed as the figure below. Turn OFF the power and then check the above-mentioned items. After confirming them, select only "NIC ROM" (6. NIC Firmware Update) and restart updating from the beginning. This may complete the updating properly.

```

Remote Firmware Update Mode
 0. Os Update(vxworks.bin)
*1. System Firmware Update(sysfirm.tz)           Completed
*2. Fixed UI Data Update(uidataF.tz)             Completed
*3. Common UI Data Update(uidata0.tz)           Completed
*4. 1st UI Data Update(uidata1.tz)             Completed
*5. Machine Firmware Update(mfirm.tz)          Completed
*6. NIC Firmware Update(nicfirm.tz)            < NIC UPDATE FAILED ! >
*7. Scanner Firmware Update(scnfirm.tz)
*8. HDD Update(hdd.tz*12)

Update Failed!!
  
```

NIC error message

If the updating of the NIC firmware is still failed, check the prescription corresponding to the error message. After confirming and clearing the problem, restart updating from the beginning.

NIC Error Message	Error Contents	Prescription
NIC UPDATE FAILED 1	NIC initialization time-out	The IP address may not be assigned correctly. <ul style="list-style-type: none"> <li>• Is the IP address assigned correctly?</li> <li>• Does the IP address conflict with the other system?</li> </ul> If the error still occurs, replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 2	ATA driver initialization error	The HDD cable may be disconnected. <ul style="list-style-type: none"> <li>• Is the HDD cable connected correctly?</li> </ul> If the HDD cable is connected correctly, replace the SYS board because it may be destroyed.
NIC UPDATE FAILED 3	HDD partition mount error	Replace the HDD because it may be destroyed.
NIC UPDATE FAILED 4	NIC setting information backup error	Replace the HDD because it may be destroyed.
NIC UPDATE FAILED 5	NIC firmware transfer error	Replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 6	NIC firmware writing error	Replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 7	NIC status time-out	Replace the NIC board because it may be destroyed.

**Notes:**

If the updating of the NIC firmware is not completed properly, wait 5 minutes or more from the beginning of the updating before turning OFF the power, and then restart updating from the beginning. If you turn OFF the power within 5 minutes, HDD may be destroyed.

(16) Turn OFF the power of the equipment.

(17) Perform the initialization of the updating data (NVRAM updating).

- a. Turn ON the power while [0] button and [8] button are pressed simultaneously.
- b. Key in "947", and then press the [START] button.
- c. Press the [INITIALIZE] button.

**(b) Confirmation of the updated data**

After the updating is completed, check each data version in the Setting Mode (08) to confirm that the data was overwritten properly.

<Updating Master data>

08-925: Version of UI data language 2 in HDD  
08-926: Version of UI data language 3 in HDD  
08-927: Version of UI data language 4 in HDD  
08-928: Version of UI data language 5 in HDD  
08-929: Version of UI data language 6 in HDD  
08-931: Version of UI data language 7 in HDD  
08-933: HDD data unit version  
08-934: Version of Web UI data language 1 in HDD  
08-935: Version of Web UI data language 2 in HDD  
08-936: Version of Web UI data language 3 in HDD  
08-937: Version of Web UI data language 4 in HDD  
08-938: Version of Web UI data language 5 in HDD  
08-939: Version of Web UI data language 6 in HDD

<Updating System ROM>

08-900: System ROM version  
08-922: UI data fixed section version  
08-923: UI data common section version  
08-924: Version of UI data language 1 in HDD  
08-930: Version of UI data in FROM displayed at power ON

<Updating Engine ROM >

08-903: Engine ROM version

<Updating Scanner ROM>

08-905: Scanner ROM version

<Updating NIC ROM>

08-916: NIC ROM version

### 6.3 Firmware Updating with USB Storage Device

In this equipment, it is feasible to update the firmware by connecting the USB storage device on which the firmware data is written to the USB connector mounted on the system control PC board and turning ON the power.

The type of firmware to be updated can be selected on the LCD screen in this method. This allows to update only the necessary firmware individually or to update all firmware in a batch.

The type of firmware which can be updated with this method are as follows in the table below. Also, the data file of each firmware can be used commonly in the updating methods with USB storage device and Download jig.

Firmware	Stored	Data file name
Master data	Hard disk	1, 2, 3 ... n * The file name should be consecutive numbers from 1 to "n" without file extension. The capacity of each file is approx. 8 MB. However, the file capacity of "n" (last number) may be less than 8 MB.
System ROM	System control PC board (SYS board)	sysfirm.bin, ROM.bin
Engine ROM	Logic PC board (LGC board)	ROM.bin
Scanner ROM	Scanning section control PC board (SLG board)	
NIC ROM	NIC board	

**Important:**

- The following USB storage devices are recommended for updating.
  - MELCO ClipDrive (RUF-C128M)
  - Lexar Media JumpDrive (RD128-231)
  - Iomega Mini USB Drive (Mini 128MB USB Drive)
- Only the USB storage device which meets the following conditions should be used for updating. Be careful since updating with any device other than the above is never guaranteed.
  - A combination USB storage device with a flash memory (to be connected directly to the USB port) and its capacity is 64 MB or more
  - A USB storage device which is complied with the following standards regulated by USB-IF (USB Implementers Forum)
    - Class number: 8 (=08h) (Mass-storage class)
    - Sub-class number: 6 (=06h) (SCSI transfer command set)
    - Protocol number: 80 (=50h) (Bulk-Only)
  - \* Most common USB storage devices are complied with the specification above and can be used for updating. However, the operation in this equipment is not always guaranteed since the most of these devices are developed based on the use in PC environment (Windows or Macintosh). Therefore, confirm thoroughly that the device is operational in this equipment when purchasing the device.
- The USB storage device complied with USB1.1 and USB2.0 can be used for updating. However, the update is performed in the speed of USB1.1 when the device complied with USB2.0 is used.
- Do not update the firmware by any storage device other than a flash memory (such as a USB connection type memory card reader, CD/DVD drive or hard disk) since it is never guaranteed.



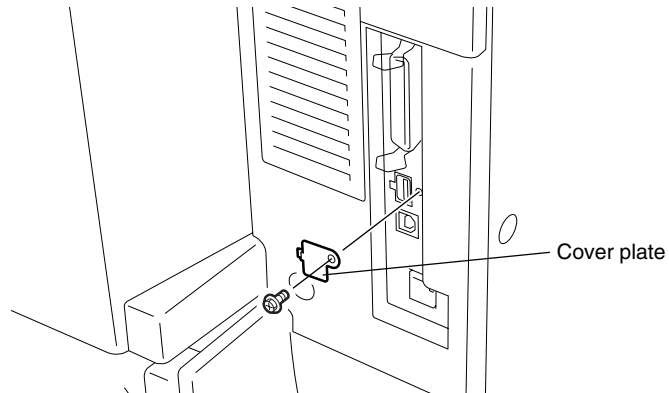
## (a) Update procedure

### Important:

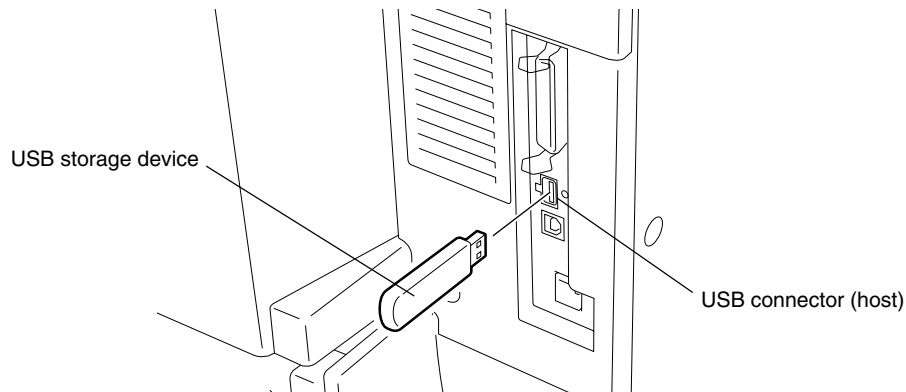
- The file system of USB storage device should be formatted in FAT format. Be careful since the devices formatted in FAT32 or NTFS format will not be operated. The file system can be confirmed on the properties in applications such as Explorer of Windows.
  - Do not turn OFF the power during the update. The data could be damaged and not to be operated properly.
- (1) Connect the USB storage device to the PC and write the data file.
    - Confirm the data file name before writing ( ► Page 6-44).
    - The file system of USB storage device should be formatted in FAT format.
    - Windows 95 and NT do not support USB. Be careful since the data can not be written on the devices in the PCs with these operating systems.

(2) Turn OFF the power of equipment.

(3) Take off the cover plate.



(4) Connect the USB storage device to the USB connector (host) on the SYS board.



- (5) Turn ON the power while [4] button and [9] button are pressed simultaneously. The screen for selecting the items to be updated is displayed after 3 minutes. “\*” is displayed next to the items to be updated. (All items other than "0. OS Update" are selected in the default settings.)

Download Storage Firmware Update Mode	Select Update Item	Version in update media
	0. OS Update	UIF Version... Vxxx. xxx. x
	*1. HDD Update	UI0 Version... Vxxx. xxx. x
	*2. UI Data Update	UI1 Version... Vxxx. xxx. x
	*3. System Firmware Update	SYS Version... Vxxx. xxx. x
	*4. NIC Firmware Update	NIC Version... xxxxxxxx. xxx
	*5. Scanner Firmware Update	SCN Version... xxxxx-xxx
	*6. Machine Firmware Update	MCN Version... xxxxx-xxx

**Note:**

The display of items on this screen varies depending on the types of data written on the USB storage device. Each item is displayed only when each data file is written on the USB storage device in the following conditions.

Item	Condition
0. OS Update	ROM.bin is written.
1. HDD Update	All master data files (1, 2, 3 ... n) are written.
2. UI Data Update	ROM.bin is written.
3. System Firmware Update	sysfirm.bin and ROM.bin are written.
4. NIC Firmware Update	ROM.bin is written.
5. Scanner Firmware Update	ROM.bin is written.
6. Machine Firmware Update	ROM.bin is written.

If the USB storage device is not recognized properly, the following message is displayed. In this case, turn OFF the power of the equipment and connect the device properly. Then repeat the procedure from (5).

Please Set Correct USB Storage Key

(6) Select the item with the digital keys.  
“\*” is displayed next to the selected item. Display or delete the “\*” by pressing the number of the item. All items are selected in the default settings.

- Select all items to update the firmware of the equipment in a batch.
- Select items as follows to update individually.

<Updating Master data>

Select “1. HDD Update” only.

<Updating System ROM>

Select “2. UI Data Update” and “3. System Firmware Update”.

<Updating Engine ROM>

Select “6. Machine Firmware Update” only.

<Updating Scanner ROM>

Select “5. Scanner Firmware Update” only.

<Updating NIC ROM>

Select “4. NIC Firmware Update” only.

**Example:** Updating the master data and system ROM

(Updating the master data and system ROM is taken as an example and explained.)

Download Storage Firmware Update Mode	Version in update media
Select Update Item	
0. OS Update	UIF Version... Vxxx.xxx.x
*1. HDD Update	UI0 Version... Vxxx.xxx.x
*2. UI Data Update	UI1 Version... Vxxx.xxx.x
*3. System Firmware Update	SYS Version... Vxxx.xxx.x
4. NIC Firmware Update	NIC Version... xxxxxxxx.xxx
5. Scanner Firmware Update	SCN Version... xxxxx-xxx
6. Machine Firmware Update	MCN Version... xxxxx-xxx

(7) Press the [START] button.

Updating starts and the processing status is displayed on the LCD screen. When the multiple items are selected, updating starts in order of item number.

```
Download Storage Firmware Update Mode
Download Storage -> HDD Update Start.

Check Devices - HDD Checking
Update Status -

HD Data Update ...
```

(8) "Update Completed." is displayed at the bottom of the LCD screen after the updating is completed properly.

```
Download Storage Firmware Update Mode
Download Storage -> FROM Update Start.

Check Devices - Completed
Update Status - Completed
Data Check - Completed

HD Data Update ... Completed
UI Data Update ... Completed
SysFirm Update ... Completed

Update Completed.

Please Connect Next Storage Key, Push 'START' Button!!
```

**Tip:**

Updating can be continued with another USB storage device on which the firmware data is written in the following procedure when the updating is completed.

- a. Confirm the message "Please Connect Next Storage Key. Push 'START' Button!!" is displayed at the bottom of the LCD screen.
- b. Replace the USB storage device while the power is left ON.
- c. Press the [START] button.
- d. The screen for selecting the items to be updated is displayed. Continue the updating from procedure (6). However, the items already updated are not displayed on the screen.



If the updating of the NIC firmware is still failed, check the prescription corresponding to the error message. After confirming and clearing the problem, restart updating from the beginning.

NIC Error Message	Error Contents	Prescription
NIC UPDATE FAILED 1	NIC initialization time-out	The IP address may not be assigned correctly. <ul style="list-style-type: none"> <li>• Is the IP address assigned correctly?</li> <li>• Does the IP address conflict with the other system?</li> </ul> If the error still occurs, replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 2	ATA driver initialization error	The HDD cable may be disconnected. <ul style="list-style-type: none"> <li>• Is the HDD cable connected correctly?</li> </ul> If the HDD cable is connected correctly, replace the SYS board because it may be destroyed.
NIC UPDATE FAILED 3	HDD partition mount error	Replace the HDD because it may be destroyed.
NIC UPDATE FAILED 4	NIC setting information backup error	Replace the HDD because it may be destroyed.
NIC UPDATE FAILED 5	NIC firmware transfer error	Replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 6	NIC firmware writing error	Replace the NIC board because it may be destroyed.
NIC UPDATE FAILED 7	NIC status time-out	Replace the NIC board because it may be destroyed.

**Notes:**

If the updating of the NIC firmware is not completed properly, wait 5 minutes or more from the beginning of the updating before turning OFF the power, and then restart updating from the beginning. If you turn OFF the power within 5 minutes, HDD may be destroyed.

(9) Turn OFF the power, remove the USB storage device and install the connector cover.

(10) Perform the initialization of the updating data (NVRAM updating).

- a. Turn ON the power while [0] button and [8] button are pressed simultaneously.
- b. Key in "947", and then press the [START] button.
- c. Press the [INITIALIZE] button.

**(b) Confirmation of the updated data**

After the updating is completed, check each data version in the Setting Mode (08) to confirm that the data was overwritten properly.

<Updating Master data>

- 08-924: Version of UI data language 1 in HDD
- 08-925: Version of UI data language 2 in HDD
- 08-926: Version of UI data language 3 in HDD
- 08-927: Version of UI data language 4 in HDD
- 08-928: Version of UI data language 5 in HDD
- 08-929: Version of UI data language 6 in HDD
- 08-931: Version of UI data language 7 in HDD
- 08-933: HDD unit data version
- 08-934: Version of Web UI data language 1 in HDD
- 08-935: Version of Web UI data language 2 in HDD
- 08-936: Version of Web UI data language 3 in HDD
- 08-937: Version of Web UI data language 4 in HDD
- 08-938: Version of Web UI data language 5 in HDD
- 08-939: Version of Web UI data language 6 in HDD

<Updating System ROM>

- 08-900: System ROM version
- 08-922: UI data fixed section version
- 08-923: UI data common section version
- 08-930: Version of UI data in FROM displayed at power ON

<Updating Engine ROM>

- 08-903: Engine ROM version

<Updating Scanner ROM>

- 08-905: Scanner ROM version

<Updating NIC ROM>

- 08-916: NIC ROM version

**(c) Display during the update**

The processing status is displayed as follows on the LCD screen during the update.  
(As an example, the display for updating the system ROM is explained below.)

Turn ON the power while [4] button and [9] button are pressed simultaneously.

↓ The initial screen is displayed and the recognition of the USB storage device connected to the equipment is started.

```
Download Storage Update Mode
Please wait ... now Initialization
```

↓ When the device is recognized properly after 3 minutes, the screen for selecting items is displayed.

	Version in update media
Download Storage Firmware Update Mode	
Select Update Item	
0. OS Update	UIF Version... Vxxx. xxx. x
*1. HDD Update	UI0 Version... Vxxx. xxx. x
*2. UI Data Update	UI1 Version... Vxxx. xxx. x
*3. System Firmware Update	SYS Version... Vxxx. xxx. x
*4. NIC Firmware Update	NIC Version... xxxxxxxx. xxx
*5. Scanner Firmware Update	SCN Version... xxxxx-xxx
*6. Machine Firmware Update	MCN Version... xxxxx-xxx

↓ Press the [START] button after selecting the item to be updated. The device check starts.





```

Download Storage Firmware Update Mode
Download Storage -> HDD Update Start.

Check Devices - Completed
Update Status - Completed

HD Data Update ... Completed

1/n xxx/ yy
2/n xxx/ yy
3/n xxx/ yy
4/n xxx/ yy

```



Updating the system ROM starts subsequently.  
The device check starts.

```

Download Storage Firmware Update Mode
Download Storage -> FROM Update Start.

Check Devices - Checking
Update Status -
Data Check -

HD Data Update ... Completed

```



When the device check completes, copying the data to the ROM of the equipment starts.

```

Download Storage Firmware Update Mode
Download Storage -> FROM Update Start.

Check Devices - Completed
Update Status - Installing
Data Check -

HD Data Update ... Completed
UI Data Update ...

```



When copying the data completes, copying the other data are implemented repeatedly.

```
Download Storage Firmware Update Mode
Download Storage -> FROM Update Start.  HD Data Update ...      Completed
                                          UI Data Update ...      Completed
                                          SysFirm Update ...
Check Devices - Completed
Update Status - Installing
Data Check -
```



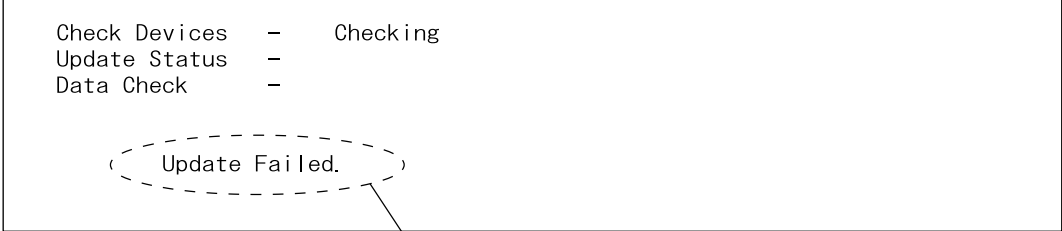
When copying all the data complete, the update completes with the following screen.

```
Download Storage Firmware Update Mode
Download Storage -> FROM Update Start.  HD Data Update ...      Completed
                                          UI Data Update ...      Completed
                                          SysFirm Update ...      Completed
Check Devices - Completed
Update Status - Completed
Data Check - Completed
Update Completed.
Please Connect Next Storage Key, Push 'START' Button!!
```

\* If the USB storage device is not recognized properly, the following message is displayed and the update is interrupted.

```
Please Set Correct USB Storage Key
```

\* If an error occurs, the following error message is displayed and the update is interrupted.



Error message

## <Appendix> Assist Mode

This equipment has the Assist Mode to enable the following functions.

(1) NVRAM flag clearing (“Clear NvRAM flags.”)

Even if the firmware downloading has been completed normally, the Recovery Mode may accidentally start up when the power is turned ON again. In this case, clear the NVRAM flags used in the download process with this function.

(Normally, the flags are automatically cleared in the download process.)

Also in the case the Recovery Mode accidentally starts up after the replacement of NVRAM on the SYS board, the flags are cleared with this function.

(2) Data storage partition formatting (“Format UID rom PRF PR2 SMS Partition.”)

When a deflection occurs on the UI data, etc. which are stored in the HDD, the partition with the stored UI data, etc. is formatted with this function.

(Do not use this function since it is not normally necessary.)

(3) HDD partition creation (“All Partition delete and create UID rom PRF PR2 SMS Partition.”)

When the HDD is replaced or UI data, etc. are downloaded using the FSMS or USB storage, it is necessary to format a partition in the HDD before downloading. In this case, the partition is created in the HDD with this function.

### Notes:

1. When downloading with a download jig, it is not necessary to format a partition in advance.
2. Perform the HDD partition formatting only when a new HDD and scrambler board are installed since all data in the current HDD are erased by this operation.

## Operating Procedure of Assist Mode

- (1) Turn ON the power while [3] button and [CLEAR] button are pressed simultaneously.
  - The following screen is displayed.

```
Firmware Version Up Mode

Select Number(1-3) and Press START key.

> 1 : Clear NvRAM flags.
   2 : Format UID rom PRF PR2 SMS Partition.
   3 : All Partition delete and create UID rom PRF PR2 SMS Partition.
```

- (2) Select the item with the digital keys and press the [START] button.



## 7. POWER SUPPLY UNIT

### 7.1 Output Channel

The followings are four output channels which are not linked with the door switch.

#### (1) +3.3V

- +3.3VA : CN464 Pins 13, 14, 15 and 16  
Output to the SYS board
- +3.3VB : CN464 Pins 19 and 20  
Output to the SYS board
- +3.3VB : CN466 Pin 3  
Output to the LGC board
- +3.3VB : CN467 Pins 17 and 18  
Output to the SLG board

#### (2) +5.1V

- +5.1VA : CN464 Pins 24 and 26  
Output to the SYS board
- +5.1VB : CN464 Pin 25  
Output to the SYS board
- +5.1VB : CN466 Pin 1  
Output to the LGC board, CCL board (via LGC board), PFP/LCF (via LGC board), Bridge unit (via LGC board)
- +5.1VB : CN467 Pins 5 and 6  
Output to the RADF
- +5.1VB : CN467 Pins 21 and 22  
Output to the SLG board
- +5.1VB : CN468 Pin 1  
Output to the finisher
- +5.1VB : CN469 Pin 5  
Output to the FIL board or FUS board

#### (3) +12V

- +12VA : CN464 Pin 7  
Output to the SYS board
- +12VB : CN464 Pin 5  
Output to the SYS board
- +12VB : CN466 Pin 16 (\*NAD/SAD/TWD models only)  
Output to the LGC board

#### (4) -12V

- 12VA : CN464 Pin 9  
Output to the SYS board
- 12VB : CN464 Pin 3  
Output to the SYS board

The followings are two output channels which are linked with the door switch.

(1) +5.1V

+5.1VD : CN466 Pins 11 and 12  
Output to the LGC board

(2) +24V

+24VD1 : CN465 Pins 1 and 2  
Output to the LGC board, CCL board (via LGC board), Bridge unit (via LGC board)

+24VD1 : CN469 Pins 1 and 2  
Output to the PFP/LCF

+24VD1 : CN470 Pin 1  
Output to the power supply cooling fan

+24VD2 : CN465 Pins 5 and 6  
Output to the DRV board

+24VD3 : CN467 Pins 1 and 2  
Output to the RADF

+24VD4 : CN467 Pin 9  
Output to the SDV board

+24VD4 : CN467 Pins 11 and 13  
Output to the SLG board

+24VD5 : CN468 Pin 3  
Output to the finisher

<<Output connector>>

Not linked with the door switch

CN464 For the SYS board  
CN466 For the LGC board, FAX board, CCL board (via LGC board), PFP/LCF (via LGC board), Bridge unit (via LGC board)  
CN467 For the SLG board, RADF  
CN468 For the finisher  
CN469 For the FIL board / FUS board

Linked with the door switch

CN465 For the LGC board, DRV board, CCL board (via LGC board), Bridge unit (via LGC board)  
CN466 For the LGC board  
CN467 For the SLG board, SDV board, RADF  
CN468 For the finisher  
CN469 For the PFP/LCF  
CN470 For the power supply cooling fan

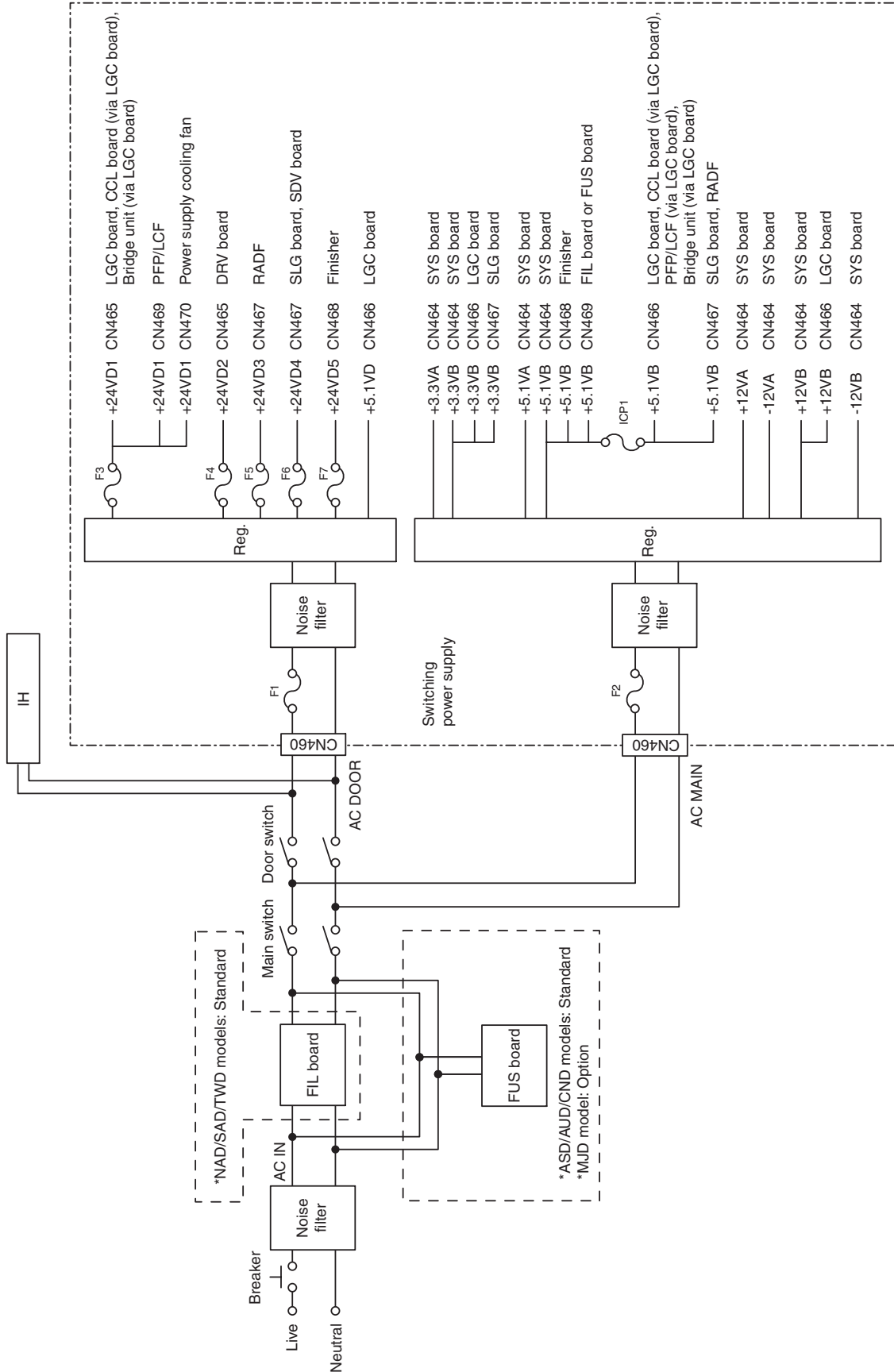


## 7.2 Fuse

When the power supply secondary fuse is blown out, confirm that there is no abnormality with each part using the following table.

Voltage	Board/Unit	Part	Fuse type
+24VD1	LGC	Polygonal motor	F3:8A (Semi time-lag)
		Tray-up motor	
		ADU motor	
		Main motor	
		Developer motor	
		Transport motor	
		Drum cleaner brush motor	
		Transfer belt cleaner auger motor	
		Toner motor	
		Laser unit cooling fan	
		2nd transfer roller contact clutch	
		Bypass feed clutch	
		Registration clutch	
		Upper transport clutch (high speed)	
		Upper transport clutch (low speed)	
		Lower transport clutch (high speed)	
		Lower transport clutch (low speed)	
		Upper drawer feed clutch	
		Lower drawer feed clutch	
		ADU clutch	
		Color developer toner supply clutch	
		Color developer drive clutch	
		Black developer drive clutch	
	Black developer lifting clutch		
	Transfer belt cleaner contact clutch		
	Bypass pickup solenoid		
	Image quality sensor shutter solenoid		
Color auto-toner sensor shutter solenoid			
Discharge LED			
Key copy counter / Copy key card			
CCL	Charge cleaner motor		
Power supply	Power supply cooling fan		
PFP/LCF			
Bridge unit			
+24VD2	DRV	Revolver motor	F4:5A (Semi time-lag)
		Exit motor	
		IH control board cooling fan	
		Ozone exhaust fan	
		Internal cooling fan	
+24VD3	RADF		F5:4A (Semi time-lag)
+24VD4	SLG	Exposure lamp (lamp inverter)	F6:4A (Semi time-lag)
		CCD drive circuit (CCD board)	
		SLG board cooling fan	
		Scanner unit cooling fan	
	SDV	Scan motor	
+24VD5	Finisher		F7:5A (Semi time-lag)

### 7.3 Configuration of Power Supply Unit



## 8. REMOTE SERVICE

There are following functions as Remote Service.

- (1) Auto Supply Order  
Automatically orders the toner and used toner container by FAX or E-mail.
- (2) Service Notification  
Notifies the status of the equipment to the service technician by E-mail or FAX.

### 8.1 Auto Supply Order

#### 8.1.1 Outline

Automatically orders the toner and used toner container.

- (1) Placing an Order  
There are two ways to place an order.
  - (1-1) FAX  
Installation of the FAX board is required.  
If the FAX board has not been installed, it is regarded as OFF setting.
  - (1-2) E-mail (E-mail body + TIFF image)
- (2) Order Intervals  
When the toner empty occurs, the number of occurrences is counted. And when it reaches the specified number for CONDITION, the order is placed automatically.  
With regard to the used toner container, it is done according to the number of the used toner container full detection.  
The number of the CONDITION can be set respectively for the toner and used toner container.
- (3) If Order Failure Occurs  
If some problems occur and the order cannot be placed after registering an order as a job, refer to the standard countermeasure for the FAX/E-mail transmission failure.

### 8.1.2 Setting Item

To enable Auto Supply Order, the following settings are required.

**Note:** When selecting E-mail to place an order, it is required that sending and receiving E-mails are available. Confirm the details to the administrator.

#### (1) Self-diagnosis (08) Setting

As the default setting, the Auto Supply Order setting screen is not displayed on the touch panel.

To display it, switching the Valid/Invalid setting (08-765) is required.

0: Valid (FAX/Internet FAX)

1: Valid (FAX/Internet FAX/HTTP)\*

2: Invalid (Default)

When changing the setting value from "2" (default) to "0", the Auto Supply Order setting screen is displayed. (\* HTTP has not been supported yet.)

#### (2) Touch Panel Setting

Each item is set from the Auto Supply Order screen on the touch panel.

Entering the password and customer information is required because the setting is made from the ADMIN screen. Setting it with the administrator is a must.

#### (2-1) Basic setting

[ADMIN] > [SERVICE] > [SUPPLY ORDER SETUP] > [ORDER INFORMATION]

AUTO SUPPLY ORDER	Ordered by: [FAX], [MAIL], [HTTP] (*1)
FAX NUMBER	FAX number of supplier (*2)
E-MAIL	E-mail address of supplier (*3)
CUSTOMER	Customer information
NAME	
TEL NUMBER	
E-MAIL	
ADDRESS	
SUPPLIER	Supplier information
NAME	
ADDRESS	
SERVICE TECNICIAN	Service technician information
NUMBER	
NAME	
TEL NUMBER	
E-MAIL	

\*1 HTTP has not been supported yet.

\*2 Even when "FAX" is selected, the order is not placed without entering the FAX number.

\*3 Even when "MAIL" is selected, the order is not placed without entering the E-mail address.

(2-2) Detailed setting for the order

[ADMIN] > [SERVICE] > [SUPPLY ORDER SETUP] > [TONER ORDERING]

**** TONER ORDER	Order information (TONER /USED TONER CONTAINER)
PART NUMBER	Part number to be ordered
CONDITIOIN	The number of conditions (*1)
QUANTITY	The quantity to be ordered
AUTO ORDER	ON/OFF setting of order for each part

\*1 The order is placed when the number of replacement reaches the number specified for the CONDITION.

(2-3) FAX number of this equipment (common information)

[ADMIN] > [FAX] > [TERMINAL ID]

ID NAME	ID name of this equipment
FAX NUMBER	FAX number of this equipment

(2-4) E-mail information of this equipment (common information)

[ADMIN] > [E-MAIL]

FROM ADDRESS	E-mail address of this equipment (*1)
FROM NAME	E-mail username of this equipment

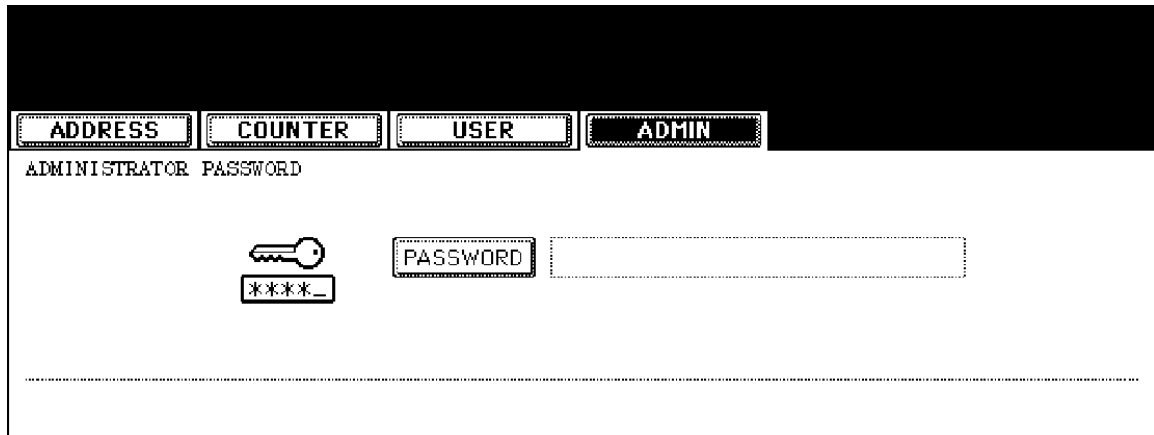
\*1 When sending an E-mail, validity of the address is checked. If the address is invalid, it is not sent.

(3) Output of setting list of the Auto Supply Order Keying in the following buttons and keys prints the setting list.

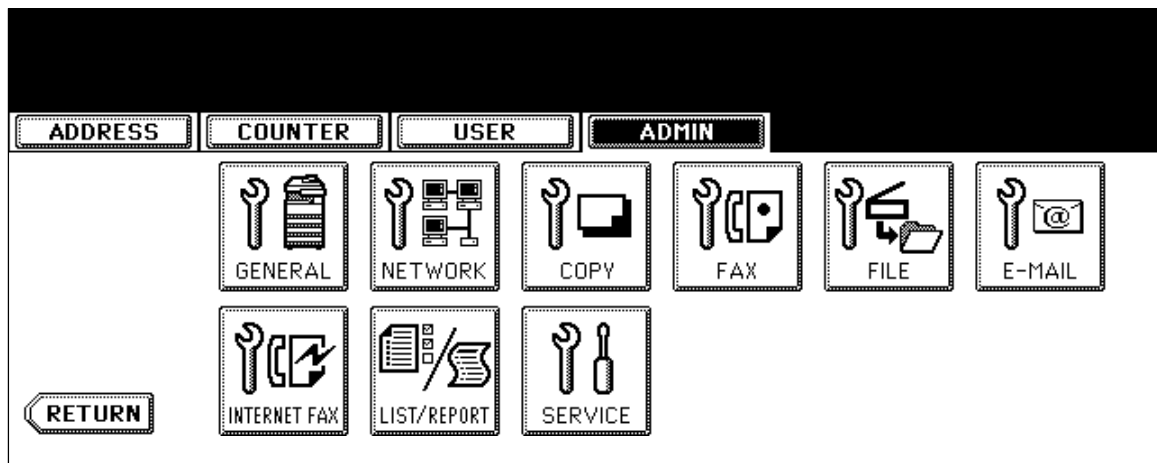
[USER FUNCTIONS] [USER] [LISTS] [\*] [#] [\*] [\*] [3] [8] [START]

### 8.1.3 Setting procedure

- (1) Start up the self-diagnosis setting mode 08-765, and then change the setting value to "0".
- (2) Turn the power OFF, and then ON.
- (3) Press the [USER FUNCTIONS] button to enter the user function screen.
- (4) Press the [ADMIN] button.
  - When the Administrator Password has been set, ADMINISTRATOR PASSWORD screen is displayed.

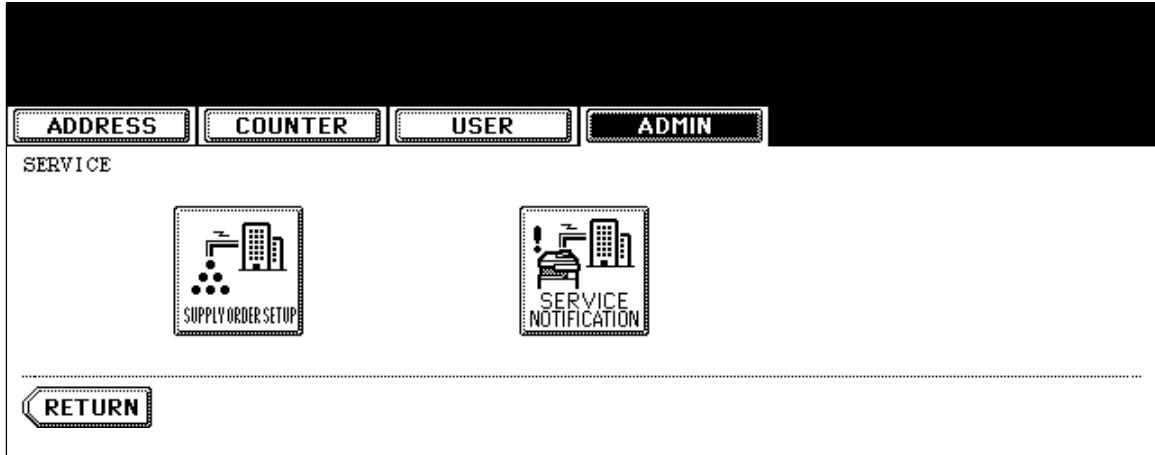


- (5) Press the [PASSWORD] button and the screen is switched to a full keyboard. Then key in the Administrator Password and press the [ENTER] button.
  - \* Confirm the password to the administrator.

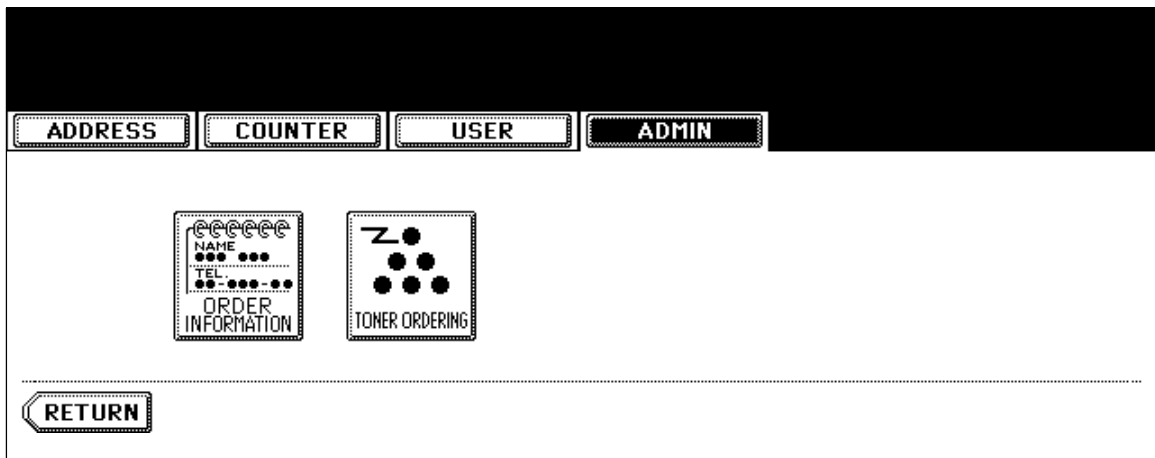


- (6) Press the [SERVICE] button in the ADMIN screen.

(7) The SERVICE screen is displayed.

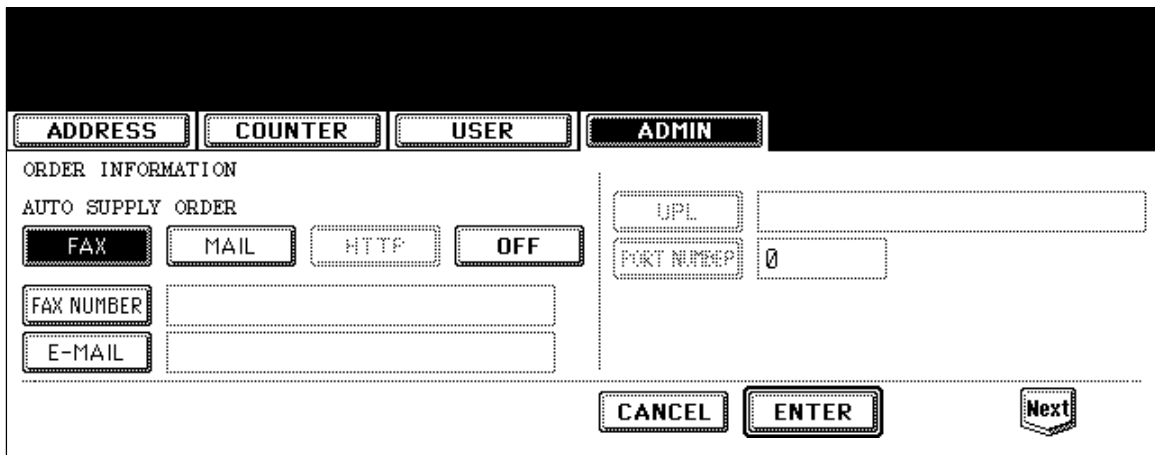


(8) Press the [SUPPLY ORDER SETUP] button.



(9) Press the [ORDER INFORMATION] button.

(10) The ORDER INFORMATION screen is displayed.



- (11) Press the buttons on the screen of ORDER INFORMATION to set the required item.
- [FAX]/[MAIL] / [OFF] -- Select the [FAX] or the [MAIL] button for the transmitting way of order.  
 (HTTP has not been supported yet.)  
 [OFF]: Turn off the AUTO SUPPLY ORDER function.
- [FAX NUMBER] ----- Input the FAX number of supplier.  
 (To transmit by FAX, the order cannot be placed automatically if you do not input the number.)
- [E-MAIL] ----- Input the E-mail address of supplier.  
 (To transmit by E-mail, the order cannot be placed automatically if you do not input the address.)
- (12) Press the [NEXT] button.  
 (Press the [ENTER] button to register, and then the screen returns to the (7) SERVICE screen.  
 Press the [CANCEL] button to cancel this register, and then the screen returns to the (7) SERVICE screen.)
- (13) The CUSTOMER/SUPPLIER screen is displayed.

- (14) Press the buttons of the screen of CUSTOMER/SUPPLIER to set the required item.

**CUSTOMER**

- [NAME] ----- Input the name of customer.  
 [TEL NUMBER]--- Input the telephone number of customer.  
 [E-MAIL] ----- Input the E-mail address of customer.  
 [ADDRESS] ----- Input the address of customer.

**SUPPLIER**

- [NAME] ----- Input the name of supplier.  
 [ADDRESS] ----- Input the address of supplier.



- (15) Press the [NEXT] button.
- (16) The SERVICE TECHNICIAN/ RESULT PRINTING screen is displayed.

- (17) Press a button on the screen of SERVICE TECHNICIAN/ RESULT PRINTING to set the required item.

**SERVICE TECHNICIAN**

[NUMBER]----- Input the number of SERVICE TECHNICIAN.

[NAME] ----- Input the name of SERVICE TECHNICIAN.

[TEL NUMBER]--- Input the telephone number of SERVICE TECHNICIAN.

[E-MAIL] ----- Input the E-mail address of SERVICE TECHNICIAN.

[DESCRIPTION] - Input the remarks if you want to register.

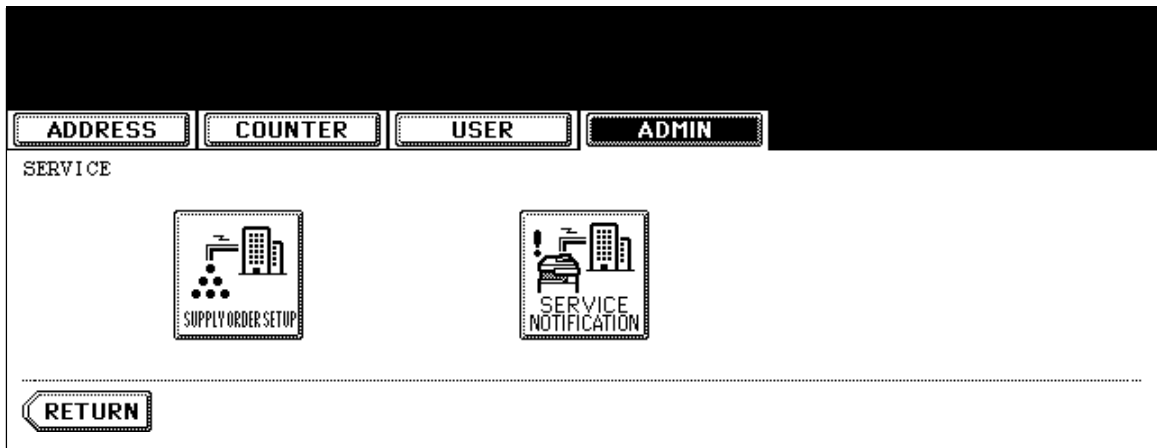
**RESULT PRINTING**

[OFF] / [ALWAYS] / [ON ERROR]

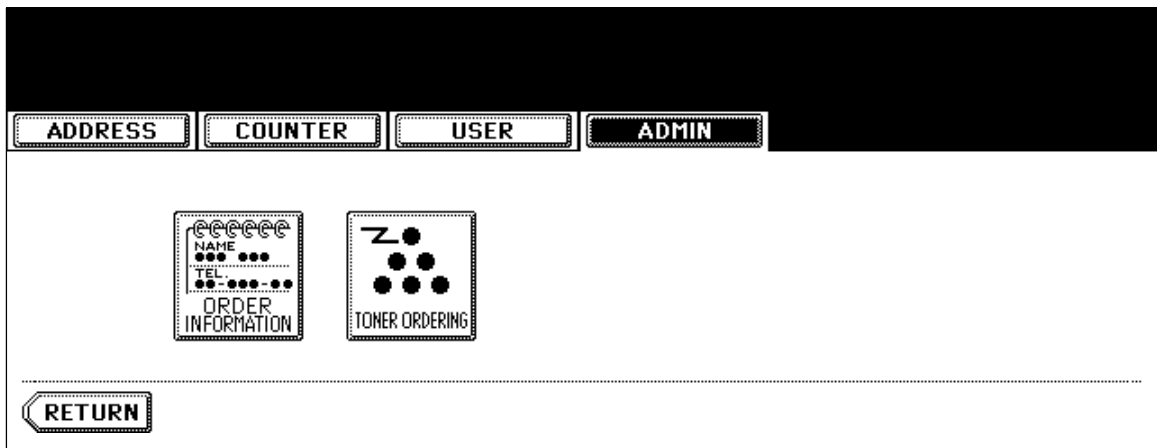
--- Whichever you press, the result list is printed.

- (18) Press the [ENTER] button to register and complete the order information setting.

(19) The SERVICE screen is returned.

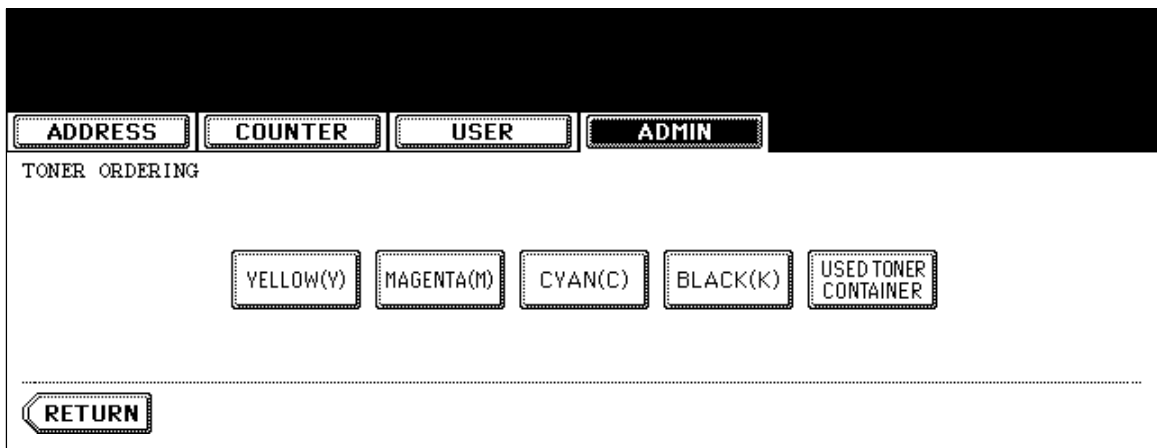


(20) Press the [SUPPLY ORDER SETUP] button.



(21) Press the [TONER ORDERING] button.

(22) The TONER ORDERING screen is displayed.



(23) Press the [YELLOW(Y)] button. (Select the part to be ordered.)

ADDRESS COUNTER USER ADMIN

YELLOW(Y) TONER ORDER

PART NUMBER [ ]

CONDITION 1

QUANTITY 1

AUTO ORDER

ON OFF

CANCEL ENTER

(24) Input the order information of TONER.

[PART NUMBER] -- Toner number

[CONDITION] ----- The order is placed when the number of toner empty reaches the number specified for the CONDITION.

[QUANTITY]----- Quantity to be ordered

#### AUTO ORDER

[ON]/[OFF] --- Allows you to select whether each part to be ordered is placed automatically or not.

(25) Press the [ENTER] button to register the setting of toner order.

(26) The TONER ORDERING screen is displayed.

ADDRESS COUNTER USER ADMIN

TONER ORDERING

YELLOW(Y) MAGENTA(M) CYAN(C) BLACK(K) USED TONER CONTAINER

RETURN

- (27) Press the [MAGENTA(M)] / [CYAN(C)] / [BLACK(K)] / [USED TONER CONTAINER] button, and then input the order information in the same way.

- (28) Press the [ENTER] button to register the order information.  
 (29) The screen returns to the TONER ORDERING.  
 (30) Press the [USER FUNCTION] button to be switched from the ADMIN screen on touch panel and returned to the BASIC screen, so that the setting of Auto Supply Order is finished.

**Note:** Auto Supply Order setting is also available from the following setting mode (08).

Items	08 code	Contents
The transmitting way of order [FAX]/[MAIL] / [OFF]	732	0: Ordered by FAX 1: Ordered by E-mail 2: Ordered by HTTP 3: OFF
SUPPLIER [FAX NUMBER]	733	Maximum 32 digits
SUPPLIER [E-MAIL]	734	Maximum 192 letters
CUSTOMER [NAME]	738	Maximum 50 letters
CUSTOMER [TEL NUMBER]	739	Maximum 32 digits
CUSTOMER [E-MAIL]	740	Maximum 192 letters
CUSTOMER [ADDRESS]	741	Maximum 100 letters
SUPPLIER [NAME]	746	Maximum 50 letters
SUPPLIER [ADDRESS]	747	Maximum 100 letters

Items	08 code	Contents
SERVICE TECHNICIAN [NUMBER]	742	Maximum 5 digits
SERVICE TECHNICIAN [NAME]	743	Maximum 50 letters
SERVICE TECHNICIAN [TEL NUMBER]	744	Maximum 32 digits
SERVICE TECHNICIAN [E-MAIL]	745	Maximum 192 letters
Remarks [DESCRIPTION]	748	Maximum 128 letters
RESULT PRINTING [OFF] / [ALWAYS] / [ON ERROR]	764	0: OFF 1: Always 2: ON Error
YELLOW(Y) TONER [PART NUMBER]	755	Maximum 20 digits
YELLOW(Y) TONER [CONDITION]	757	1-99
YELLOW(Y) TONER [QUANTITY]	756	1-99
MAGENTA(M) TONER [PART NUMBER]	752	Maximum 20 digits
MAGENTA(M) TONER [CONDITION]	754	1-99
MAGENTA(M) TONER [QUANTITY]	753	1-99
CYAN(C) TONER [PART NUMBER]	749	Maximum 20 digits
CYAN(C) TONER [CONDITION]	751	1-99
CYAN(C) TONER [QUANTITY]	750	1-99
BLACK(K) TONER [PART NUMBER]	758	Maximum 20 digits
BLACK(K) TONER [CONDITION]	760	1-99
BLACK(K) TONER [QUANTITY]	759	1-99
USED TONER CONTAINER [PART NUMBER]	761	Maximum 20 digits
USED TONER CONTAINER [CONDITION]	763	1-99
USED TONER CONTAINER [QUANTITY]	762	1-99

### 8.1.4 Order Sheet Format

The sample of order sheet is as follows.

- (1) FAX (This format is the same as that of TIFF image attached E-mail.)

\*1 Part not to be ordered is not output. (Less space between the lines)

DATE & TIME	:99-99-'99 99:99		
CUSTOMER NUMBER	:XXX		
CUSTOMER NAME	:XX		
CUSTOMER ADDRESS	:XX		
CUSTOMER TEL NUMBER	:XX		
CUSTOMER E-MAIL ADDRESS	:XX		
SERVICE TECHNICIAN TEL NUMBER	:XX		
SERVICE TECHNICIAN E-MAIL	:XX		
SUPPLIER NAME	:XX		
SUPPLIER ADDRESS	:XX		

---

	PART NUMBER	QUANTITY	
TONER CARTRIDGE			
CYAN	:XXXXXXXXXXXX	99	} (*1)
MAGENTA	:XXXXXXXXXXXX	99	
YELLOW	:XXXXXXXXXXXX	99	
BLACK	:XXXXXXXXXXXX	99	
USED TONER CONTAINER	:XXXXXXXXXXXX	99	

---

DESCRIPTION AREA .....

.....

DEVICE DESCRIPTION	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
SERIAL NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
DEVICE FAX NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
DEVICE E-MAIL ADDRESS	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX			

	TOTAL	BLACK	TWIN COLOR	FULL COLOR
PRINT COUNTER	999999999	999999999	999999999	999999999
SCAN COUNTER	999999999	999999999	999999999	999999999

- (2) E-MAIL (TIFF image attached with the E-mail is the same format with that of the FAX order sheet.)

SUBJECT: SUPPLY ORDER REQUEST

\*1 Part not to be ordered is not output. (Less space between the lines)

Date&Time: '03-09-12 00:17
Customer Number: S01 MachineName: TOSHIBA e-STUDIO4511
SerialNumber: 1234567890
Device FAX Number:
Device Email: aaa@linux.nam1.local
OrderInformation:
YELLOW PartNumber: YELLOW-03 Quantity:17
CounterInformation:
PrintCounter(Small) FullColor: 0 TwinColor: 0 Black: 141 } (*1)
PrintCounter(Large) FullColor: 0 TwinColor: 0 Black: 0
ScanCounter FullColor: 0 TwinColor: 0 Black: 7

(3) Result list

	ORDER XXXXXXXXX
DATE & TIME	:99-99-'99 99:99
CUSTOMER NUMBER	:XXX
CUSTOMER NAME	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER ADDRESS	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER TEL NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
CUSTOMER E-MAIL ADDRESS	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN	
TEL NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERVICE TECHNICIAN E-MAIL	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER NAME	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
SUPPLIER ADDRESS	:XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

---

	PART NUMBER	QUANTITY
TONER CARTRIDGE		
CYAN	:XXXXXXXXXXXX	99
MAGENTA	:XXXXXXXXXXXX	99
YELLOW	:XXXXXXXXXXXX	99 (*1)
BLACK	:XXXXXXXXXXXX	99
USED TONER CONTAINER	:XXXXXXXXXXXX	99

---

DESCRIPTION AREA .....

.....

DEVICE DESCRIPTION	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX
SERIAL NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX
DEVICE FAX NUMBER	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX
DEVICE E-MAIL ADDRESS	:XXXXXXXXXXXXXXXXXXXXXXXXXXXX

	TOTAL	BLACK	TWIN COLOR	FULL COLOR
PRINT COUNTER	999999999	999999999	999999999	999999999
SCAN COUNTER	999999999	999999999	999999999	999999999

\*1 Part not to be ordered is not output. (Less space between the lines)

## 8.2 Service Notification

### 8.2.1 Outline

This function automatically notifies the status of the equipment to the service technician by E-mail or FAX. The following three are the items to be notified.

- Total Counter Transmit  
When this function is effective, it notifies each counter information periodically (on the set date and time every month).
- Service Call Transmit (E-mail only)  
When this function is effective, it notifies the corresponding error code and such at a service call error.
- PM Counter Transmit  
When this function is effective, it notifies that the PM timing has come when the present PM count has reached to its setting value, or the present PM driving count has reached to its setting value.

### 8.2.2 Setting

**Note:** When using this function, it is required that sending and receiving E-mails or FAXes are available. Confirm the details to the administrator.

#### 8.2.2.1 Preparation

The screen to set this function is not displayed at the default setting.  
Set this screen to be displayed with the following code (08).

08-774 Setting of notification display

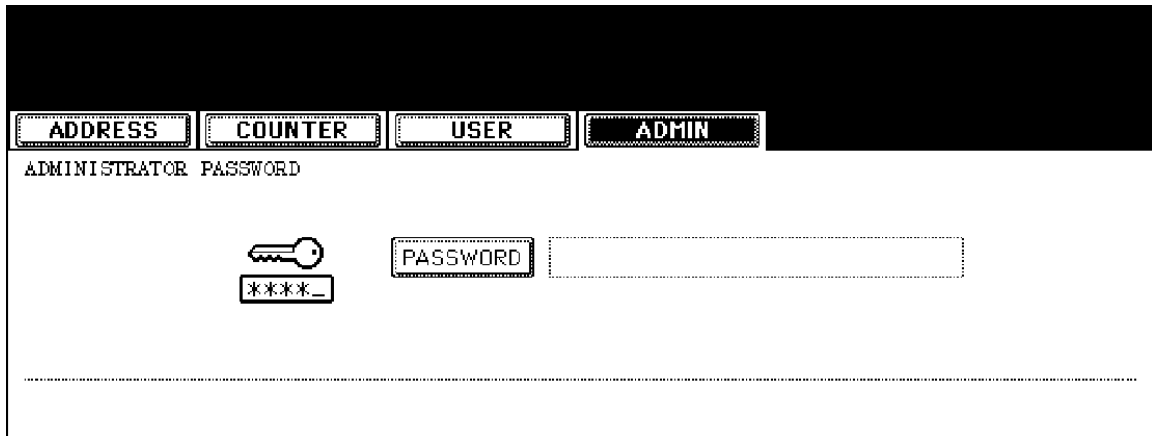
0: Invalid (Default)

1: Valid

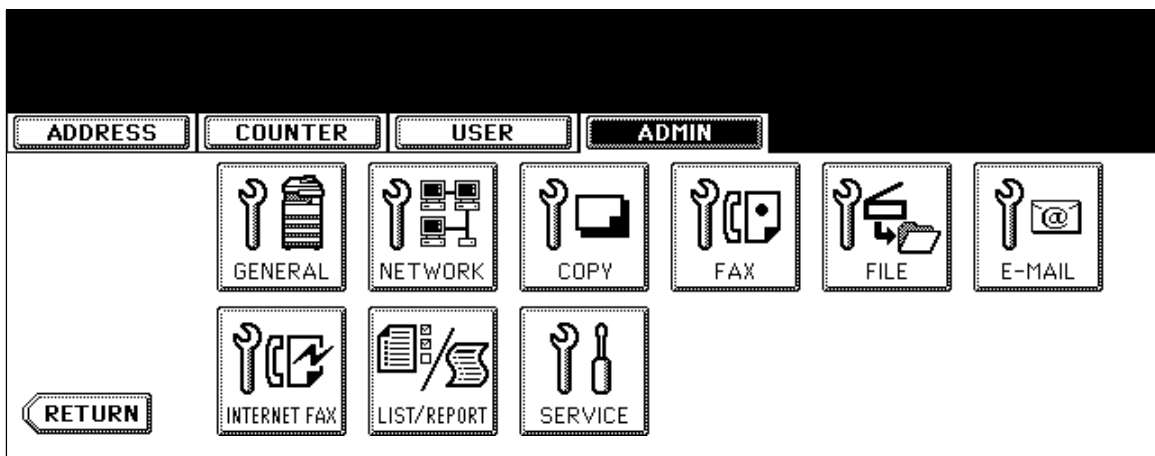


### 8.2.2.2 Setting procedure

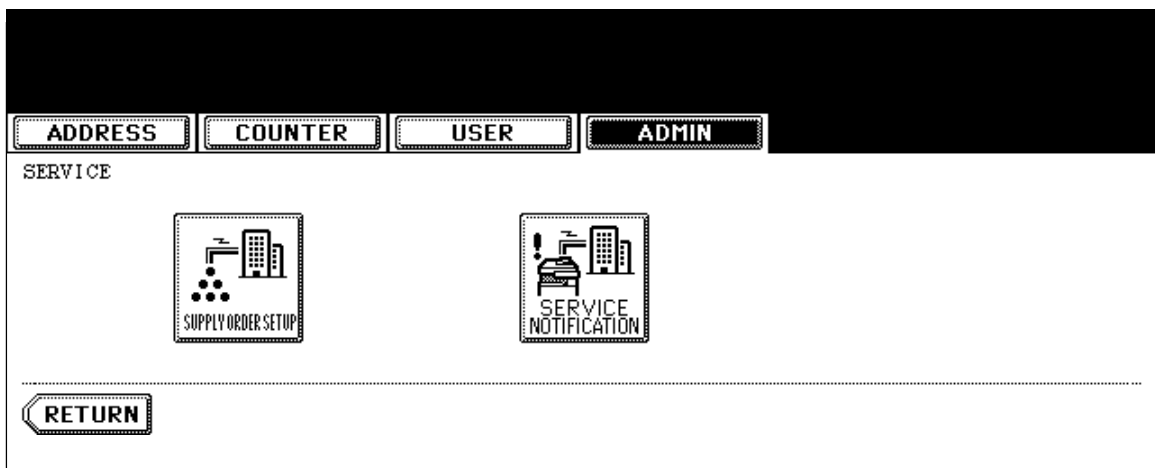
- 1) Press the [USER FUNCTIONS] button and select the [ADMIN] button. Then enter the password and press the [ENTER] button.
  - Confirm the password to the administrator.



- 2) Press the [SERVICE] button.



- 3) Press the [SERVICE NOTIFICATION] button.



- 4) Press the [E-MAIL] or [FAX] button in "SERVICE NOTIFICATION".
- When the [OFF] button is pressed, all functions related Service Notification become ineffective.

The screenshot shows a menu titled "SERVICE NOTIFICATION" with a navigation bar at the top containing "ADDRESS", "COUNTER", "USER", and "ADMIN" buttons. The "ADMIN" button is highlighted. Below the title, there are three buttons: "OFF", "E-MAIL", and "FAX". At the bottom center, there is a "CANCEL" button.

- 5) Enter the E-mail address or FAX number of the destination.
- When pressing the [E-MAIL] button, the screen is switched to a full keyboard. Then enter the E-mail addresses and press the [ENTER] button. (Maximum 3 addresses can be set.)

The screenshot shows the "SERVICE NOTIFICATION" menu with the "ADMIN" button highlighted. On the left, there are three "E-MAIL" buttons, each followed by a text input field. The first field contains "aaa@toshiba.com". On the right, there are three "ON" and "OFF" buttons for "TOTAL COUNTER TRANSMIT", "PM COUNTER TRANSMIT", and "SERVICE CALL TRANSMIT". At the bottom, there are "CANCEL" and "ENTER" buttons.

- Press the [FAX NUMBER] button, key in the FAX number and then press the [ENTER] button.

The screenshot shows the "SERVICE NOTIFICATION" menu with the "ADMIN" button highlighted. On the left, there is a "FAX NUMBER" button followed by a text input field. On the right, there are "ON" and "OFF" buttons for "TOTAL COUNTER TRANSMIT" and "PM COUNTER TRANSMIT". At the bottom, there are "CANCEL" and "ENTER" buttons.

- 6) Press the [ON] button to notify or [OFF] button not to notify of each item for E-mail and FAX. When the Total Count Transmit is set ON, the screen to set the notification date is displayed. Then set the notification date with the following procedure. (The information is notified on the set date and time every month.)

The screenshot shows a menu interface with four tabs: ADDRESS, COUNTER, USER, and ADMIN. The ADMIN tab is selected. Below the tabs, the text 'TOTAL COUNTER DETAILS' is displayed. The screen contains two input fields: 'Date : 15' and 'Time : 20 15'. To the right of the Date field is a 'SET' button, and to the right of the Time field is a 'RESET' button. At the bottom of the screen, there are two buttons: 'CANCEL' and 'ENTER'.

- 6-1) Key in the date (acceptable values: 1-31) in "Date" and press the [SET] button. (Correct the value by pressing the [CLEAR] button if the [SET] button is not yet pressed. Correct the value by pressing the [RESET] button to move the cursor back to the digit to be corrected if the [SET] button is already pressed.)
- 6-2) Key in the time (acceptable values: 00:00-23:59) in "Time".  
Key in the time in the hour column of "Time", press the [SET] button, key in the time in the minute column of "Time" and press the [SET] button. (Correct the value by pressing the [CLEAR] button if the [SET] button is not yet pressed. Correct the value by pressing the [RESET] button to move the cursor back to the digit to be corrected if the [SET] button is already pressed.)
- 6-3) Press the [ENTER] button to set all. The display returns to the screen at procedure 5).
- 7) Press the [ENTER] button. The setting completes.

**Note:**

Service Notification setting is also available from the following setting mode (08).

Items	08 code	Contents
Service Notification setting	767	0: OFF (Invalid) 1: E-mail 2: FAX
E-mail address 1	768	Maximum 192 letters
E-mail address 2	777	Maximum 192 letters
E-mail address 3	778	Maximum 192 letters
FAX number	1145	Maximum 32 digits
Total Counter Transmit setting	769	0: OFF (Invalid) 1: ON (Valid)
Total counter transmission date setting	770	1 to 31
Total counter transmission interval setting (Hour/Minute/Minute/Minute)	776	00:00-23:59
Service Call Transmit setting	775	0: OFF (Invalid) 1: ON (Valid)
PM Counter Transmit setting	771	0: OFF (Invalid) 1: ON (Valid)

### 8.2.3 Items to be notified

The items to be notified are shown below.

- 1) Total Counter Transmit / PM Counter Transmit by E-mail (XML file attached to E-mail has also the same format.)

Subject: Counter Notification

(In case of the PM Counter Transmit, it is shown as "Periodical Maintenance Notification".)

①	Date	: 10/20/2003 13:47	
②	Machine Model	: TOSHIBA e-STUDIO4511	
③	SerialNumber	: 1234567890	
④	Total Counter	: 00004787	
	ChargeCounterFormat:		
⑤	LargeSizeChargeCount		1
⑥	LargeSizeChargePaperDefinition		1
	PMCounterFormat:		
⑦	LargeSizePMCount		1
⑧	LargeSizePMPaperDefinition		0
	Charge Counter:	Large	Small
	<Print Counter>		
	Full Color -----		
⑨	Copy	00000000	00000000
⑩	Print	00000000	00000000
	Twin Color -----		
⑪	Copy	00000000	00000000
	Black -----		
⑫	Copy	00000000	00000000
⑬	Print	00000000	00000000
⑭	List	00000000	00000000
⑮	FAX	00000000	00000000
	<Scan Counter>		
	Full Color -----		
⑯	Copy Scan	00000000	00000000
⑰	Net Scan	00000000	00000000
	Twin Color -----		
⑱	Copy Scan	00000000	00000000
	Black -----		
⑲	Copy Scan	00000000	00000000
⑳	FAX Scan	00000000	00000000
㉑	Net Scan	00000000	00000000
	<FAX Counter>		
㉒	Transmit	00000000	00000000
㉓	Receive	00000000	00000000
	Periodical Maintenance Counter:		
㉔	Set PM	00150000	
㉕	Current PM	00004787	
㉖	Set PMTime	00000000	
㉗	CurrentPMTime	00000000	
㉘	Printer Error History:		
	Date	Time	ErrorCode
	10/18/2003	16:44	F110
	10/15/2003	22:28	F110
	10/15/2003	22:23	F110
	09/15/2003	22:23	F110
	08/25/2003	11:12	F110
			(*1)

- ① Date
- ② Machine model name
- ③ Serial number
- ④ Total counter value
- ⑤ Count setting of large-sized paper (Fee charging system counter)
- ⑥ Definition setting of large-sized paper (Fee charging system counter)
- ⑦ Count setting of large-sized paper (PM)
- ⑧ Definition setting of large-sized paper (PM)
- ⑨ Number of output pages in the Copier Function (FULL COLOR)
- ⑩ Number of output pages in the Printer Function (FULL COLOR)
- ⑪ Number of output pages in the Copier Function (TWIN COLOR)
- ⑫ Number of output pages in the Copier Function (BLACK)
- ⑬ Number of output pages in the Printer Function (BLACK)
- ⑭ Number of output pages at the List Print Mode (BLACK)
- ⑮ Number of output pages in the FAX Function (BLACK)
- ⑯ Number of scanning pages in the Copier Function (FULL COLOR)
- ⑰ Number of scanning pages in the Network Scanning Function (FULL COLOR)
- ⑱ Number of scanning pages in the Copier Function (TWIN COLOR)
- ⑲ Number of scanning pages in the Copier Function (BLACK)
- ⑳ Number of scanning pages in the FAX Function (BLACK)
- ㉑ Number of scanning pages in the Network Scanning Function (BLACK)
- ㉒ Number of transmitted pages in the FAX Function (BLACK)
- ㉓ Number of received pages in the FAX Function (BLACK)
- ㉔ PM count setting value
- ㉕ PM count present value
- ㉖ PM driving count setting value
- ㉗ PM driving count present value
- ㉘ History of error

\*1 The latest 20 errors are displayed.

2) Total Counter Transmit / PM Counter Transmit by FAX

\*1 In case of the PM Counter Transmit, the title is replaced to "PERIODICAL MAINTENANCE NOTIFICATION".

COUNTER NOTIFICATION (*1)						
①	DATE	:	05/03/10 13:47			
②	MACHINE MODEL	:	TOSHIBA e-STUDIO4511			
③	SERIAL NUMBER	:	1234567890			
④	TOTAL COUNTER	:	00004787			
	CHARGE COUNTER FORMAT				PM COUNTER FORMAT	
⑤	LARGE SIZE CHARGE COUNT	:	1	⑦	LARGE SIZE PM COUNT	: 1
⑥	LARGE SIZE CHARGE PAPER DEFINITION	:	1	⑧	LARGE SIZE PM PAPER DEFINITION	: 1
	CHARGE COUNTER				SCAN COUNTER	
	PRINT COUNTER				FULL COLOR	
			LARGE			SMALL
⑨	COPY	00000000	00000000	⑩	COPY SCAN	00000000
⑩	PRINT	00000000	00000000	⑪	NET SCAN	00000000
	TWIN COLOR				TWIN COLOR	
			LARGE			SMALL
⑪	COPY	00000000	00000000	⑫	COPY SCAN	00000000
	BLACK				BLACK	
			LARGE			SMALL
⑫	COPY	00000000	00000000	⑬	COPY SCAN	00000000
⑬	PRINT	00000000	00000000	⑭	FAX SCAN	00000000
⑭	LIST	00000000	00000000	⑮	NET SCAN	00000000
⑮	FAX	00000000	00000000			
	FAX COUNTER				PERIODICAL MAINTENANCE COUNTER	
			LARGE			SMALL
⑲	TRANSMIT	00000000	00000000	⑲	SET PM	: 00000000
⑲	RECEIVE	00000000	00000000	⑳	CURRENT PM	: 00000000
				㉑	SET PM TIME	: 00000000
				㉒	CURRENT PM TIME	: 00000000
㉓	PRINTER ERROR HISTORY					
	DATE	TIME	ERROR CODE	DATE	TIME	ERROR CODE
	05/03/09	16:44	F110			
	05/03/05	22:28	F110			
	05/03/05	22:23	F110			
	05/02/15	22:23	F110			
	05/01/25	11:12	F110			
						(*2)

- ① Date
- ② Machine model name
- ③ Serial number
- ④ Total counter value
- ⑤ Count setting of large-sized paper (Fee charging system counter)
- ⑥ Definition setting of large-sized paper (Fee charging system counter)
- ⑦ Count setting of large-sized paper (PM)
- ⑧ Definition setting of large-sized paper (PM)
- ⑨ Number of output pages in the Copier Function (FULL COLOR)

- ⑩ Number of output pages in the Printer Function (FULL COLOR)
- ⑪ Number of output pages in the Copier Function (TWIN COLOR)
- ⑫ Number of output pages in the Copier Function (BLACK)
- ⑬ Number of output pages in the Printer Function (BLACK)
- ⑭ Number of output pages at the List Print Mode (BLACK)
- ⑮ Number of output pages in the FAX Function (BLACK)
- ⑯ Number of scanning pages in the Copier Function (FULL COLOR)
- ⑰ Number of scanning pages in the Network Scanning Function (FULL COLOR)
- ⑱ Number of scanning pages in the Copier Function (TWIN COLOR)
- ⑲ Number of scanning pages in the Copier Function (BLACK)
- ⑳ Number of scanning pages in the FAX Function (BLACK)
- ㉑ Number of scanning pages in the Network Scanning Function (BLACK)
- ㉒ Number of transmitted pages in the FAX Function (BLACK)
- ㉓ Number of received pages in the FAX Function (BLACK)
- ㉔ PM count setting value
- ㉕ PM count present value
- ㉖ PM driving count setting value
- ㉗ PM driving count present value
- ㉘ History of error

\*2 The latest 20 errors are displayed.

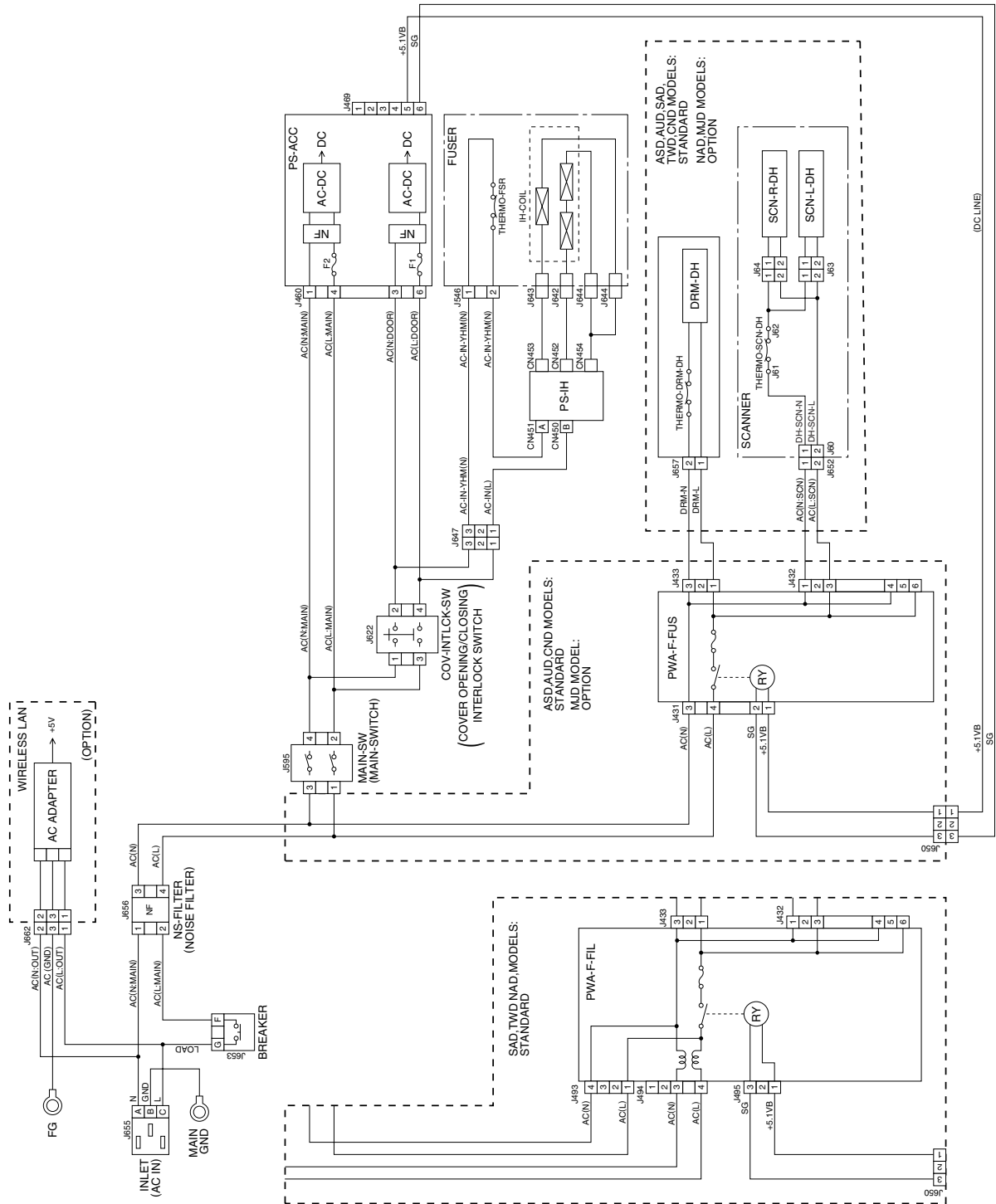




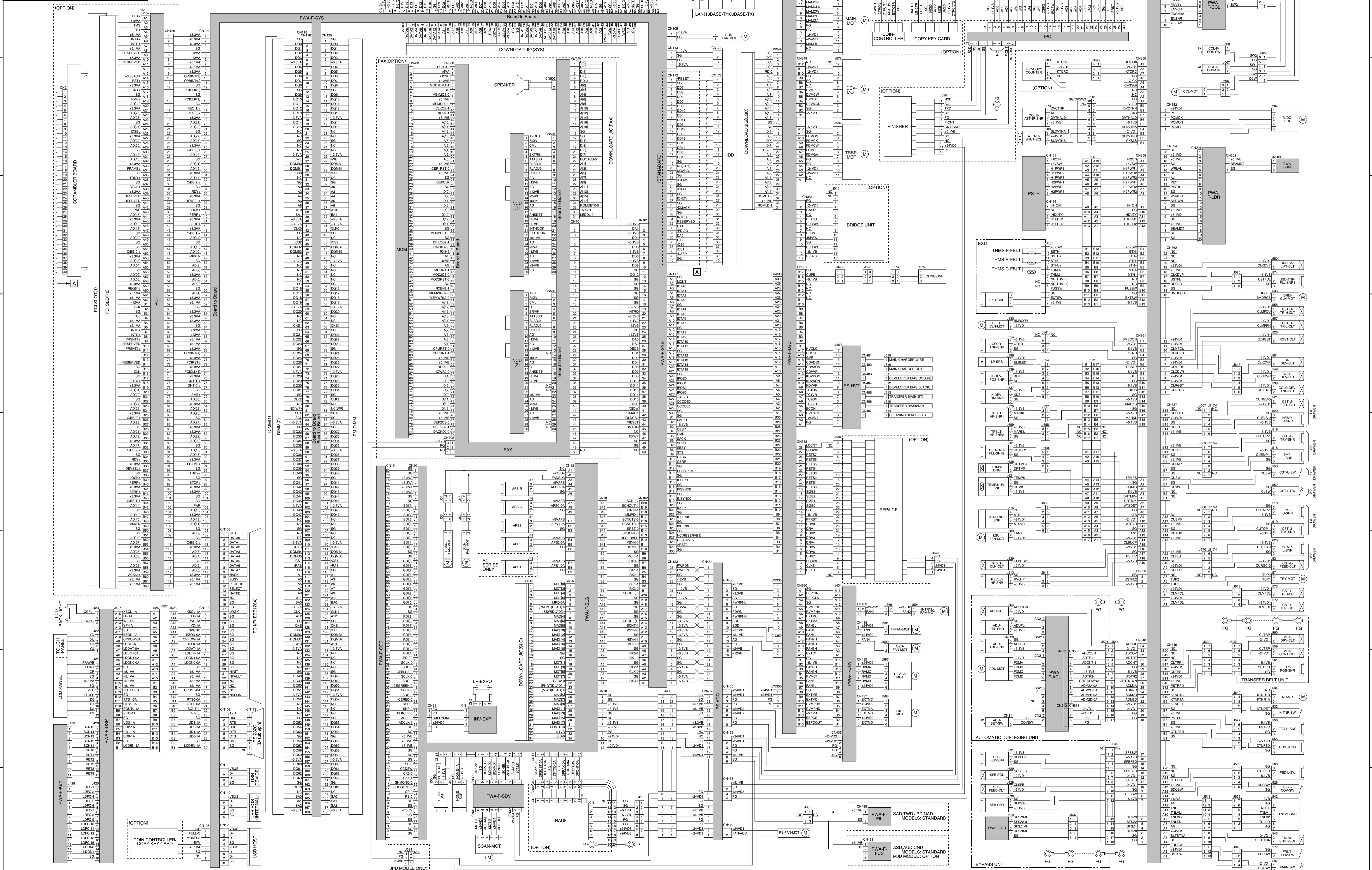


# 9. WIRE HARNESS CONNECTION DIAGRAMS

## 9.1 AC Wire Harness







9.3 Connector Table

Table with multiple columns for connector types (e.g., CN31, CN32, CN33, etc.), pin numbers, names, and descriptions. The table is organized into a grid with 10 columns and 95 rows of connector data.



**TOSHIBA**

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