OKI
PRINTING SOLUTIONS

C3600n
Maintenance Manual

082805A

Copyright Information

Disclaimer

Every effort has been made to ensure that the information in this document is complete, accurate, and up-to-date. The manufacturer assumes no responsibility for the results of errors beyond its control. The manufacturer also cannot guarantee that changes in software and equipment made by other manufacturers and referred to in this guide will not affect the applicability of the information in it. Mention of software products manufactured by other companies does not necessarily constitute endorsement by the manufacturer.

While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy or completeness of the information contained herein.

The most up-to-date drivers and manuals are available from the web site:
http://www.okiprintingsolutions.com

Preface

This manual explains the maintenance methods of C3600n.

This manual is prepared for the maintenance person. In regard to the handling methods of C3600n, please refer to the User's Manual.

Note!

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

Table of contents

1 CONFIGURATION

1.1 System Configuration

C3600n

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

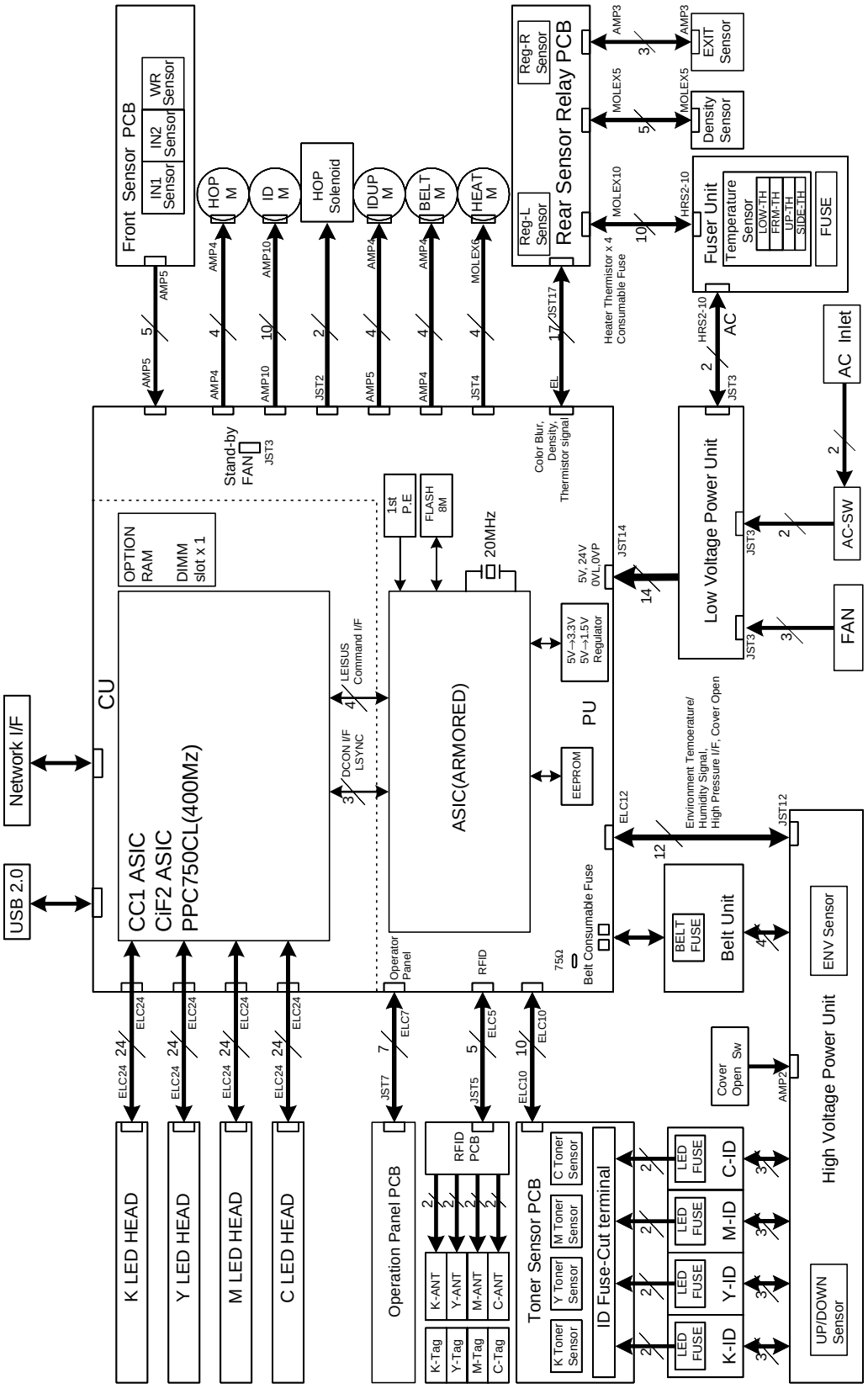


Figure 1-1-1

1.2 Structure of Printer

The insides of C3600n printers are composed of the following parts.

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

Figure 1-2 shows the composition of the printer.

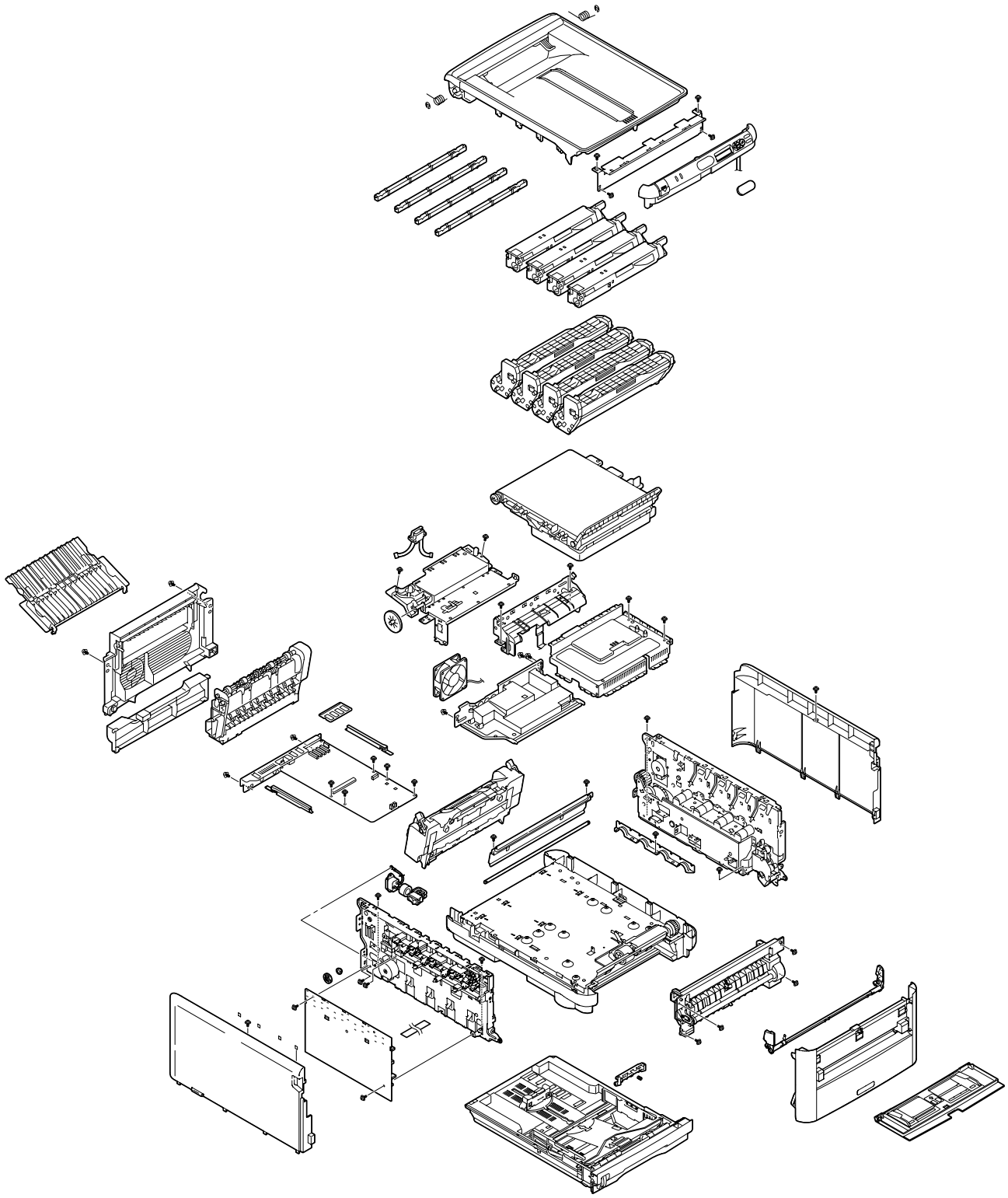
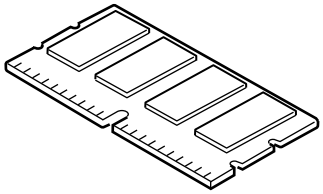


Figure 1-2

1.3 Offer of Options

This product can be installed with the following option.

(1) Additional memory board 256/512MB 200pin DDR RAM DIMM Installation of the additional memory board is recommended for banner-sheet printing.



1.4 Specifications

Category	Item	C3600n
Exterior Dimension	Width	372mm
	Depth	478mm
	Height	290mm
	Weight	about 21kg
Width of print	Width of print	A4
Engine speed(A4)	Monochrome	20ppm
	Color	16ppm
Fast print time (A4)	Monochrome	10sec
	Color	12sec
	Warm-up time	80sec
	Low noise mode	Unavailable
Resolution	LED head	600dpi
	Maximum input resolution	600 × 1200dpi
	Output resolution	True 600 × 1200dpi True 600 × 600dpi
	Step	4 steps 600 × 600dpi
	Economic mode	toner saving by lowering light
CPU	Core	PowerPC750
	Level 1 cache	32KB
	Level 2 cache	256KB
	Clock	400MHz
	Bus width	64bit
RAM	Resident	128MB
	Option	256/512MB DIMM
ROM	Program	64MB+2MB
Power Consumption	Power input	100-127VAC (Range 99-140VAC) / 220-240VAC (Range 198-264VAC)
	Power saving mode	Below 14W
	Idle	100W(average)
	Normal operation	400W
	Peak	980W
Operating Environment (temperature)	In operation	10°C-32°C,17°C-27°C (temperature at full color printing with quality guaranteed)
	At stand-by	0°C-43°C, power off
	In storage (1 year max.)	-10°C-43°C with drum and toner
	At transport (1 month max.)	-29°C-50°C with drum and without toner
	At transport (1 month max.)	-29°C-50°C with drum and toner
Operating Environment (humidity)	In operation	20%-80%, 50%-70% (humidity at fullcolor printing with quality guaranteed) Max. wet bulb temperature : 25°C
	At stand-by	10%-90%, Max. wet bulb temperature : 26.8°C with power off
	In storage	10%-90%, Max. wet bulb temperature : 35°C
	At transport	10%-90%, Max. wet bulb temperature : 40°C

Category	Item		C3600n
Life	Printer life		300,000 pages or 5 years
	Duty cycle (M=L/12,A=L/12/5)		350,000 pages per month max. 5,000 pages per month average
	MTBF (2.3% duty)		6,000 hours
	MTBF		35,000 pages
	MTTR		20 minutes
	Toner life (5% duty)	starter toner (Appended)	ODA about 1,000 pages (black) OEL/AOS about 500pages (black) ODA about 1,000 pages (color) OEL/AOS about 500pages (color)
		Standard	about 2,500pages (black) AOS about 2,000pages (color) ODA/OEL about 2,500pages (color)
		New drum 1st one	about 1,700pages (black) AOS about 1,200pages (color) ODA/OEL about 1,700pages (color)
		S type	OEL about 1,500pages (black) AOS about 1,000pages (black) AOS about 1,500pages (color) OEL about 1,000pages (color)
		New drum 1st one	OEL about 700pages (black) AOS about 500pages (black) AOS about 500pages (color) OEL about 700pages (color)
	Image drum life		15,000 pages approx.(3 pages/ job) 9,000 pages approx.(1 page/ job) 20,000 pages approx.(at continuous print) Automatic drum counter reset
	Transcript belt life		50,000pages (size A4, 3 pages/job) Automatic counter reset
	Fuser life		50,000pages (size A4) Automatic counter reset
Operation noise	In operation (ISO 7779 front) Printing on one side		6.5B (A)
	At stand-by (ISO 7779 front)		3.7B (A)
	Power saving mode		back grand level
Paper handling	Paper feeding capacity (1st tray)		legal/universal cassette 250 sheets (70kg)
	Paper feeding capacity (manual feeder)		1 sheet
	Paper output		150 sheets (70kg) face down/ one sheet (10 postcards) face up tray
Paper size	Legal/universal or A4 cassette/ Universal cassette		1st cassette: legal13/13.5/14, letter, executive, A4, A5, B5, A6, postcard
	Manual feeder		legal 13/13.5/14, letter, executive, A4, A5, B5, A6, C5, DL, Com-9, com-10,monarch, custom size, government postcard, reply paid postcard, end-opening envelope, banner up to 1200mm (In case length is over 356, width would be up to 210 to 215.9)
Min. paper size	1st tray		100mm × 148mm
	Manual feeder		100mm × 148mm

Category	Item	C3600n
Paper thickness	1st tray	64-120gsm
	Manual feeder	64-203gsm
	duplex (manual)	64-105gsm
Operation panel	LCD	16 characters in 2 line(Roman alphabet) No paper size indicated
	LED (color)	2 (Green × 1, dark amber × 1)
	Switch	6
Status switch/Sensor	Paper tray empty	Available
	Paper low	N/A
	Toner low	Available (Y.M.C.K)
	Cover open	Available
	Fuser temp.	Available
	Paper size	N/A
	Stacker full	N/A
Communication Interface	Standard (on circuit board)	• Hi-Speed USB
		• Ethernet
	Option for OEM user	N/A
	On/off switch	Automatic
Emulation	Standard	PCL 6 (XL3.0 and PCL5c) PostScript 3 (clone), SIDM (IBM-PPR,EPSON-FX)
	Option (Removable)	N/A
	Emulation switch	Auto
Font	Bit map Type face	MonoType 1
	Scalable 1 Type face	MonoType MicroType 80
	Scalable 2 Type face	MonoType TrueType 10
	Scalable 3 Type face	Adobe Type 1 80
	Rasterizer	MonoType UFST 4.0
	Barcode	USPS, UPC-A, UPC-E, EAN/JAN-8, EAN/JAN-13, Iinterleaved2of5, Code39, Code128, EAN/UCC-128, CODABAR, ZIP+4 POSTNE
	OCR	OCR-A,B
	Japanese PCL font	N/A
	Japanese PS font	N/A
Shipping set-up	Japan	N/A
Others	USB-IF logo	Available
	Windows logo	Available
	Operation by UPS	Operation by UPS (outage free power supply) is not guaranteed. (Do not use UPS)

1.5 Interface Specification

1.5.1 USB Interface Specification (C3600n)

1.5.1.1 Outline of USB Interface

(1) Basic Specification
USB (C3600n supports Hi-Speed USB)

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

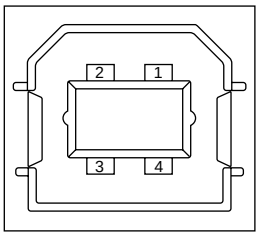
(3) Power Control
Self power device

1.5.1.2 USB Interface Connector and Cable

(1) Connector

• Printer side: B receptacle
Upstream port
Equivalent of UBR24-4K5C00 (made by ACON)

Connector pin arrangement



• Cable side: B plug (off)

(2) Cable

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

1.5.1.3 USB Interface Signal

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

1.5.2 Network Interface Specification (C3600n)

1.5.2.1 Outline of Network Interface

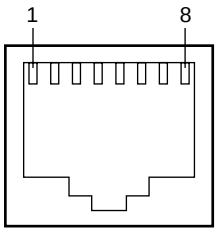
Table1.5.2 Basic Specification of Network Interface (C3600n)

Protocol Family	Network Protocol	Application
TCP/IP	TCP,UDP, IPv4/v6, ICMP, ARP, IGMP	LPR, RAW, IPP,FTP HTTP, Telnet SNMPv1/v3 DHCP/BOOTP DNS, DDNS WINS, UPnP, Bonjour SMTP SNTP WindowsRally (WSD Print, LLTD)
NetBEUI	NetBIOS	SMB

1.5.2.2 Network Interface Connector and Cable

(1) Connector

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



Connector pin arrangement

(2) Cable

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

1.5.2.3 Network Interface Signal

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

2. OPERATION DESCRIPTION

2.1 Electrophotographic Process Mechanism

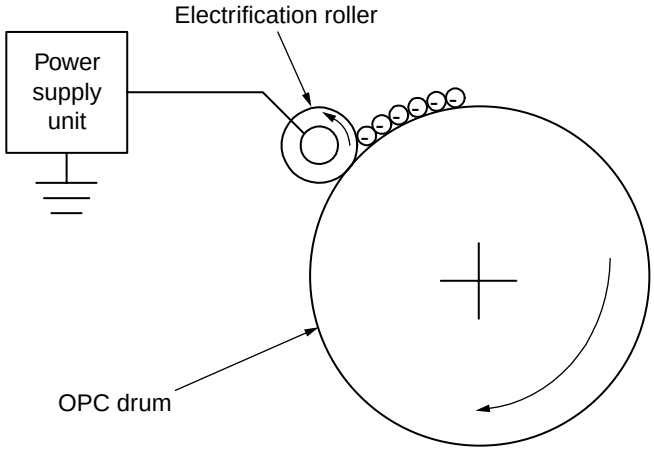
(1) Electronic photography Process

Electronic photography process is outlined as follows:

1. Electrification
   Electric voltage is impressed on CH roller and the surface of CPC drum is electrified.
2. Exposure
   LED head radiates light on the electrified surface of OPC drum following the image signal. Electric charge on the radiated OPC drum surface abates depending on the intensity of light and static latent image is formed on the OPC drum surface.
3. Development
   Electrified toner is adhered to the static latent image on the OPC drum by static electricity and a visible image is formed on the OPC drum surface.
4. Transcript
   A sheet of paper is put upon the OPC drum surface and the toner image is transferred on the paper by impressing electric charge on its back side by the transcript roller.
5. Drum Cleaning
   Drum cleaning blade eliminates the remaining toner on the OPC drum after transfer.
6. Belt Cleaning
   Belt cleaning blade eliminates the remaining toner on the belt.
7. Fusing
   The toner image on the paper is fused by adding heat and pressure.

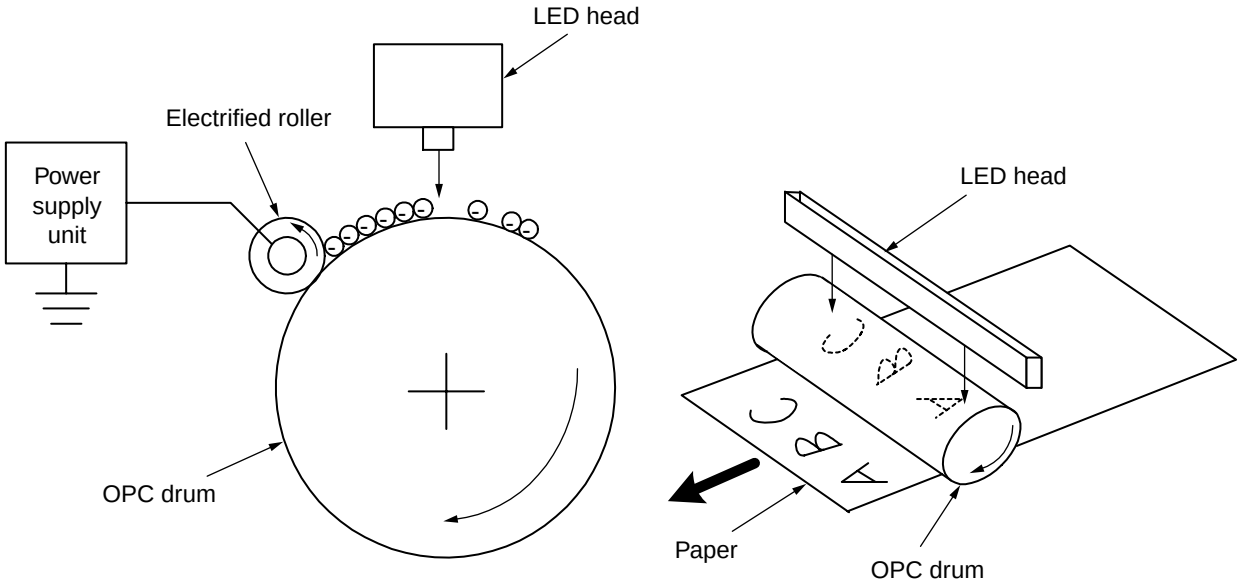
(2) Electrification

Electric voltage is impressed on electrification roller touching on the OPC drum surface and thus the OPC drum surface is electrified.



(3) Exposure

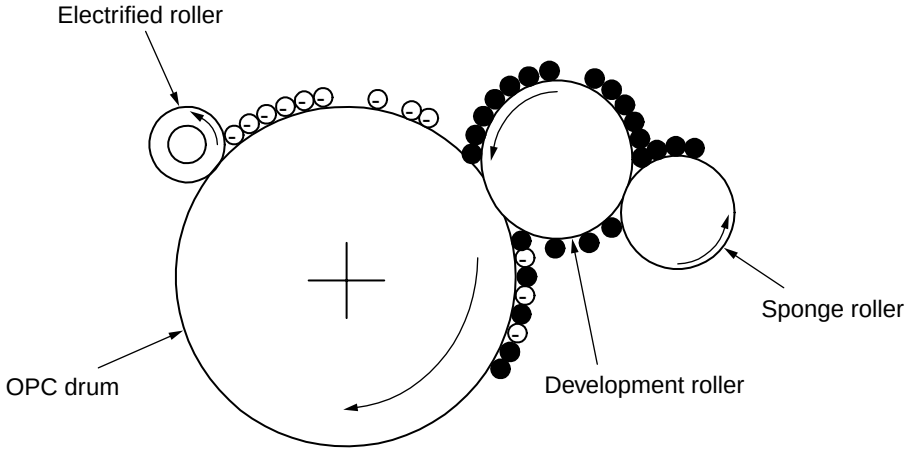
The light emanated from the LED head is radiated on the OPC drum surface. The electric charge on the radiated portion of the OPC drum surface abates by intensity of the light and a static latent image is formed on the OPC drum surface.



(4) Development

Adhere the toner to the static latent image on the drum surface and change it to the toner image.

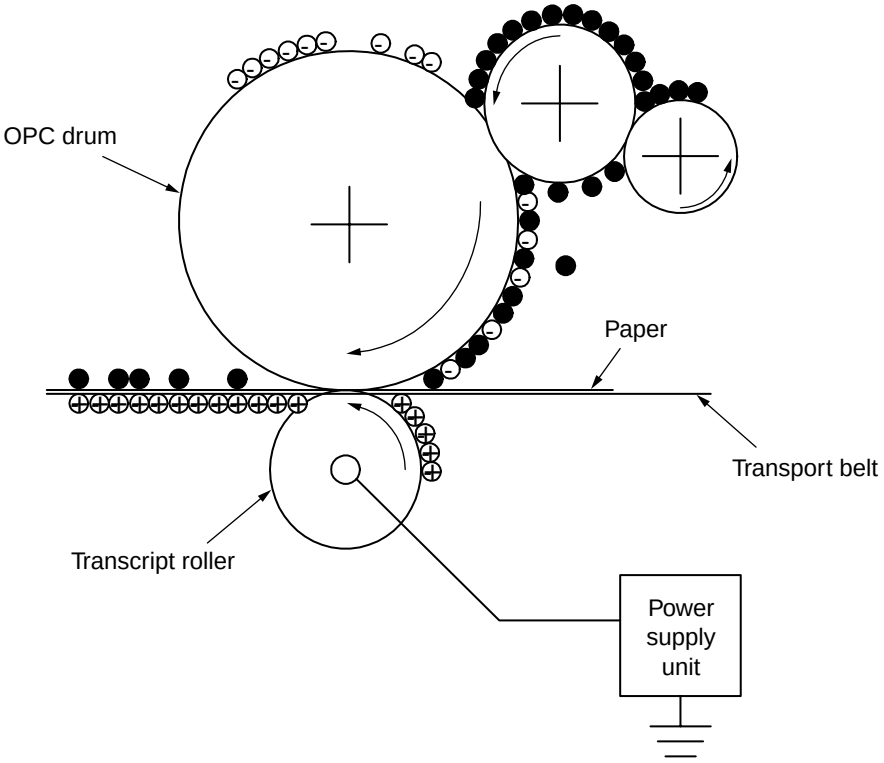
1. The sponge roller let the toner adhere to the development roller.



2. The static latent image on the OPC drum surface is changed to a visible image by the toner.

(5) Transcript

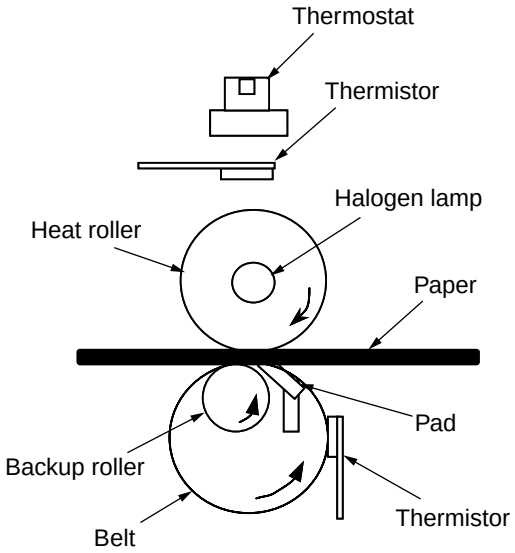
A sheet of paper is placed under the OPC drum surface and is given electric charge from the back side by the transcript roller. When a high voltage is impressed on the transcript roller, the electric charge generated by the transcript roller moves over to the paper surface at the interfacing part of the transcript roller and the toner is absorbed to the paper surface from the OPC drum surface.



(6) Fusing

The toner image transferred on the paper is impressed with heat and pressure and is fused to the paper when the paper passes through the heat roller and the back-up roller.
Further, a thermostat is equipped for the safety's sake and if the temperature of the heat roller rises above a certain degree, the thermostat opens and shuts the power supply to the heater.

C3600n (belt fusing method)

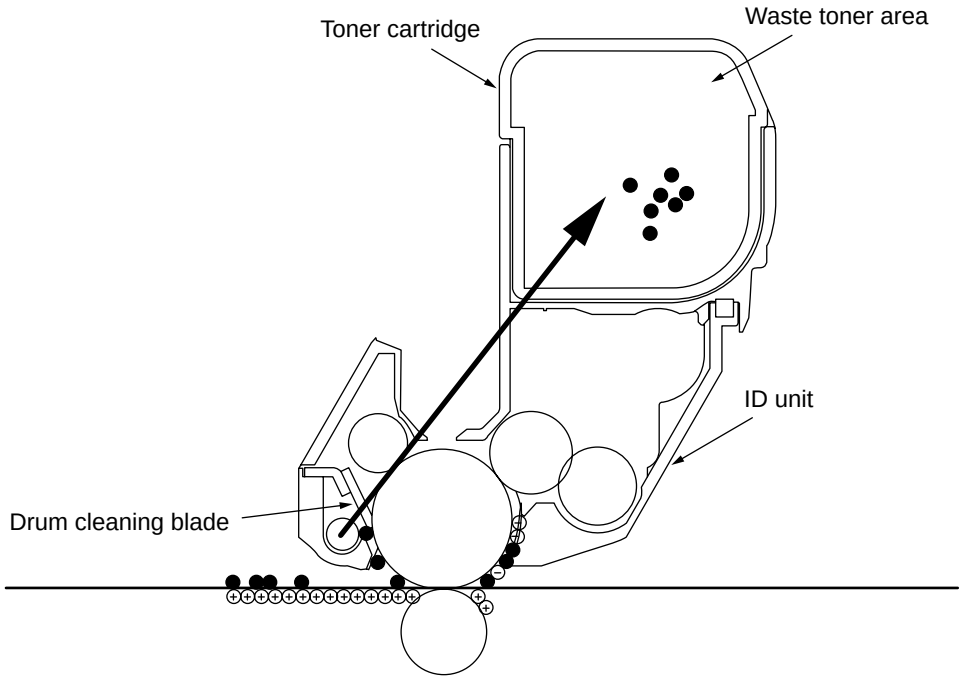


Setting of Fusing Temperature

Paper Thickness	Paper Type Setting	Temperature Setting
Thin	Light	Middle temp.
↓	Medium	High temp.
	Heavy	Middle temp.
Thick	U.Heavy	Low temp.

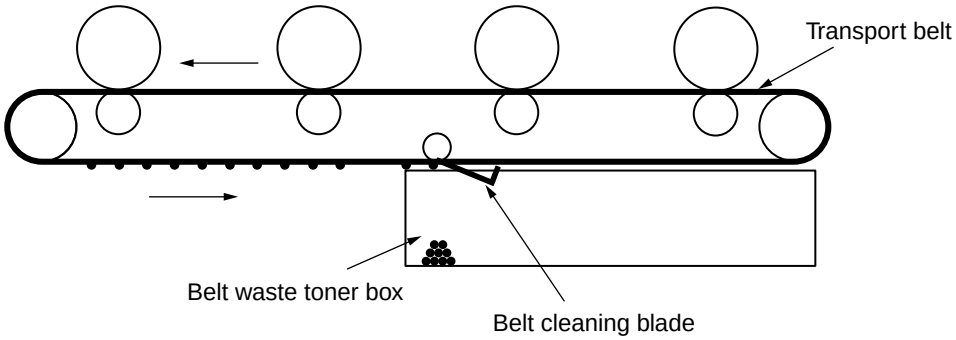
(7) Drum Cleaning

The toner not transferred and remaining on the OPC drum is scraped away by the drum cleaning blade and is collected in the waste toner area of the toner cartridge.



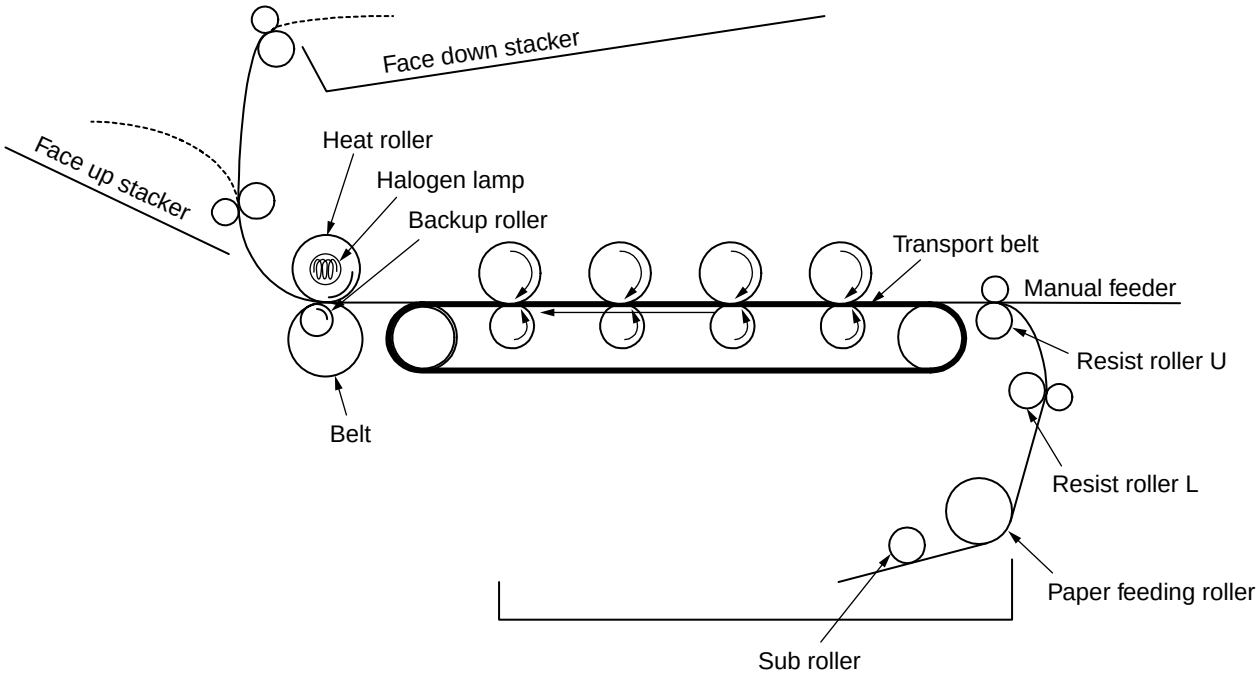
(8) Belt Cleaning

The toner remaining on the transcript belt is scraped away by the belt cleaning blade and is collected in the waste toner box of the transcript belt unit.



2.2 Printing Process

The paper feeded from tray 1 is transported by the resist roller L and transport roller. When the paper is feeded by the manual feeder, it is transported by the resist roller U. Then, the paper transported is developed into a toner image not yet fused on the paper through electronic photography process in the order of KYMC. After that, the image is fused by heat and pressure while passing through the fusing unit. After fusing, the paper is discharged on the face up or face down stacker through the discharge method opted by opening or shutting of the face up stacker.



(1) Paper Feeding from the 1st Tray

1. As shown in Figure 2-1, while the solenoid is on and the resist motor turns counterclockwise, a sheet of paper is transported until the IN1 sensor is on. (When the solenoid is on, the paper feeding roller operates.)
2. When the paper turns the IN1 sensor on, a certain more sheets of paper are transported and thrusted against the resist roller. (This process corrects the paper skew.)
3. As shown in Figure 2-2, turn the solenoid off and transport the paper by the resist roller L. (When the solenoid is off, the resist roller operates.)

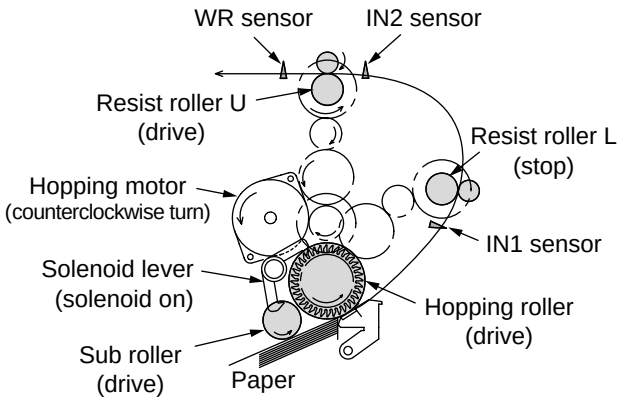


Figure 2-1

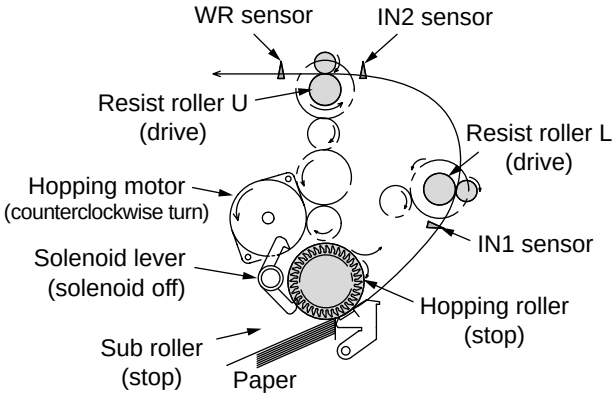


Figure 2-2

(2) Paper Feeding from Manual Feeder

1. Thrust the paper against the resist roller U. (This process corrects the paper skew.)
2. As shown in Figure 2-3, the resist motor turns counterclockwise and the paper is transported by the resist roller U. (When the resist roller turns counterclockwise, the resist roller U drives.)

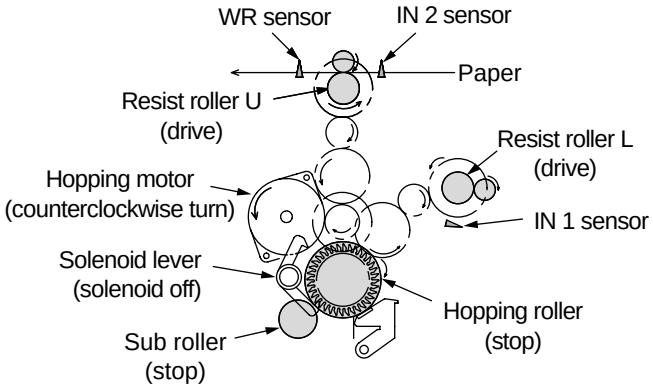


Figure 2-3

(3) Transport Belt

1. When the transport belt motor turns in the direction of the arrow, the transport belt starts to operate. The belt unit is composed of drums of each color above and the transport rollers immediately below them with the transport belt in-between. When a certain voltage is impressed, the transport belt and the transport rollers send the paper on the transport belt to the fuser while transferring the toner images on the drums of each color.

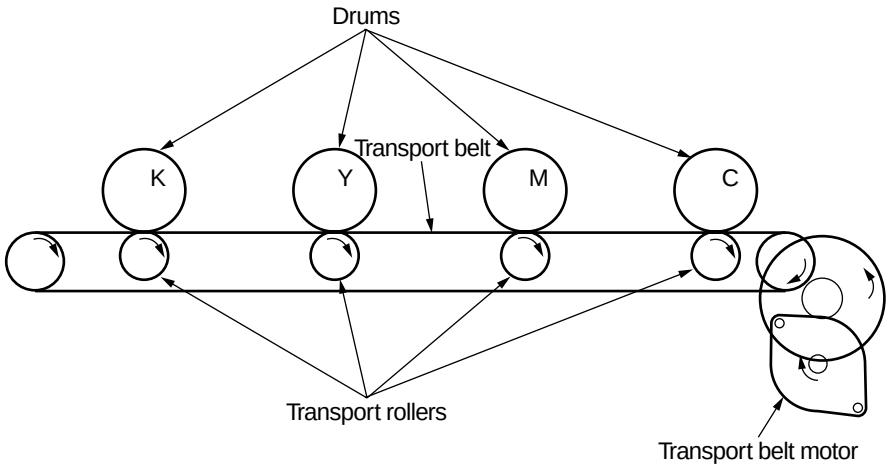


Figure 2-4

(4) Up and Down Movements of ID Units

1. The up and down movements of the ID units are performed by the drive of the lift-up motor.
2. Figure 2-5 shows movements of each ID unit at the time of printing. When the lift-up motor turns clockwise, the lift-up link slides to the left and each ID unit is in the state of down as shown in Figure 2-6. That condition enables color printing.
3. Figure 2-6 shows movements of each ID unit at the time of monochrome printing. When the lift-up motor turns counterclockwise, the lift-up link slides to the right and the units other than K-ID are in the state of up as shown in Figure 2-7. That condition enables monochrome printing.

Movement of each ID unit at the time of color printing

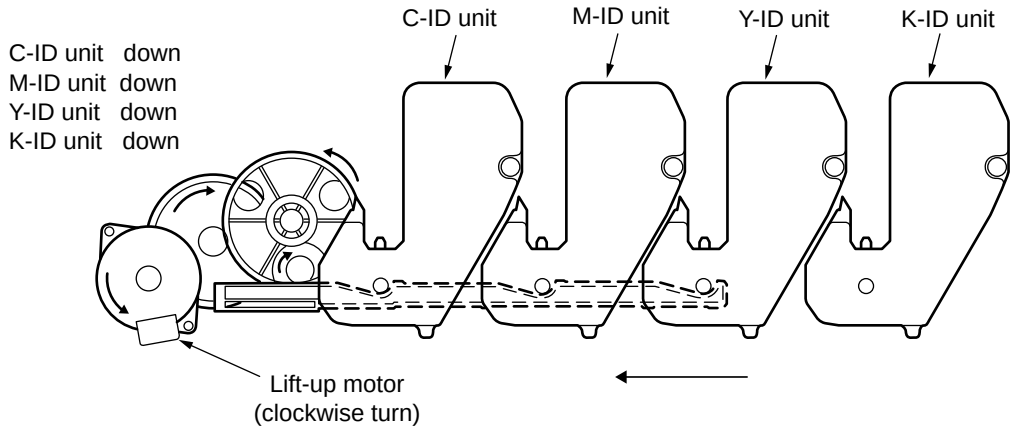


Figure 2-5

Movement of each ID unit at the time of monochrome printing

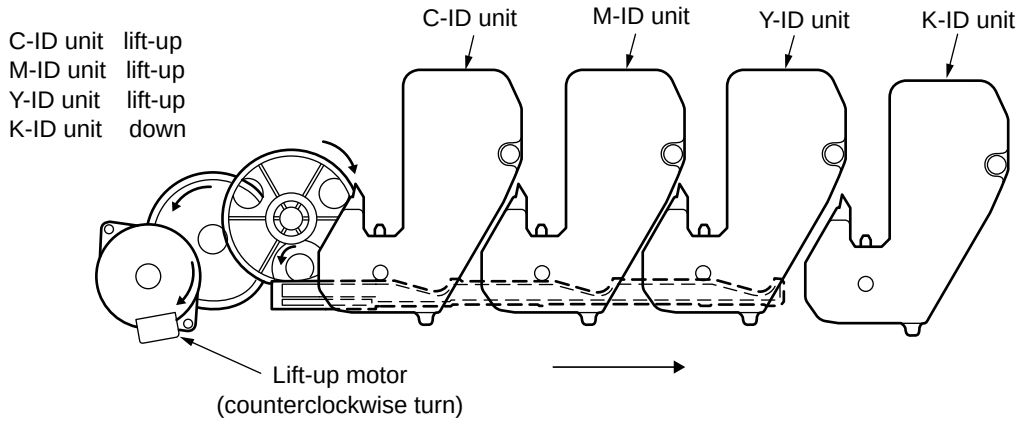


Figure 2-6

(5) Fusing Unit and Paper Output

1. As shown in Figure 2-7, the fuser unit and output roller are driven by the pulse motor. When the fuser motor turns counterclockwise, the heat roller turns. This roller fuses the toner image ‘on the paper with heat and pressure.
2. At the same time, the output roller turns and ‘sends out the paper.

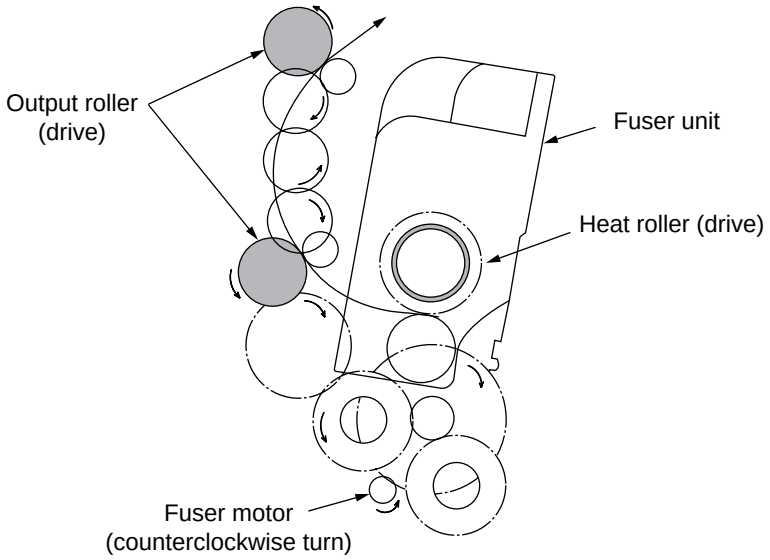


Figure 2-7

(6) Cover Open Operation of Color Registration Sensor and Density Sensor

1. As shown in Figure 2-8, when the fuser motor turns clockwise, the cover open gear also turns and the covers of the color registration sensor and the density sensor will open.
2. When the fuser motor turns counterclockwise, interlocking of the cover open gear is released and the covers of the color registration sensor and the density sensor will close.

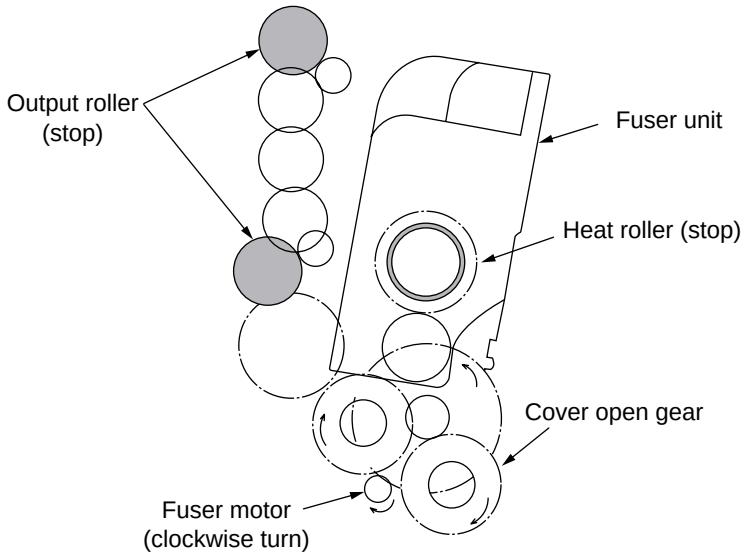


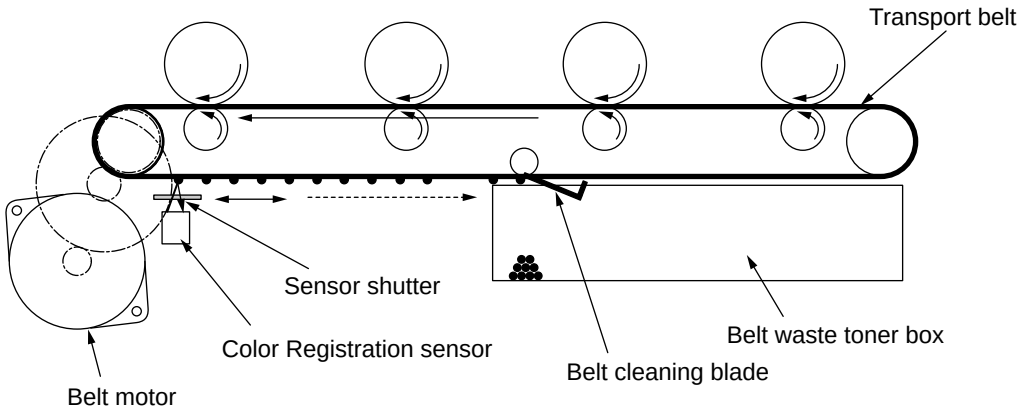
Figure 2-8

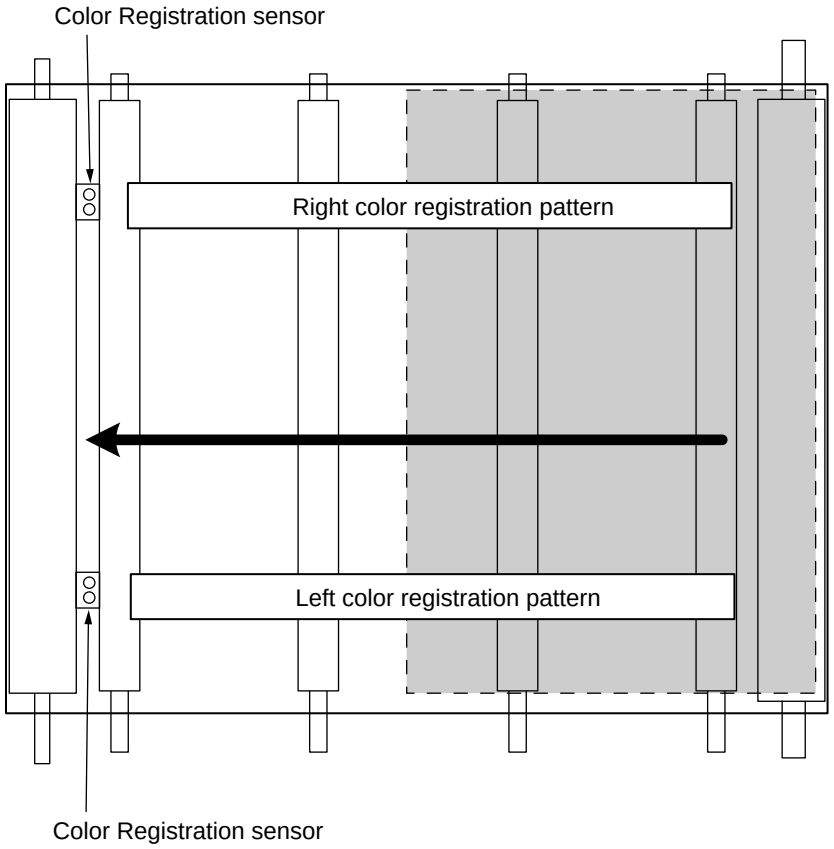
Outline of Color registration Method

Color registration is performed by reading the correction pattern printed on the belt using the sensor placed in the sensor shutter equipped under the belt unit. The correction is made by identifying the pattern using this sensor.
Timing of automatic activation of color registration:

- At the time of switching the power on
- At the time of closing the cover after opening it over 5 seconds
- When over 400 sheets are printed after a color registration was made previously

Correction errors can be caused by the amount of toner which generates the pattern, toner stain on the sensor, malfunction of shutter opening and closing. However, as an error may not be displayed on the operation panel, it may be necessary to confirm the error display by forcible execution of the color registration test function (2.4.1.5.3) using the maintenance utility.





Error Confirmation Method and Countermeasure

Errors should be confirmed by using the color registration test function of the maintenance utility (2.4.1.5.3).

Countermeasures to each error are:

- SNS CARIBRATION(L or R), DYNAMICRANGE(L or R)

  Confirmation 1 When the above is displayed, check the connection of the sensor cable (FFC). If the connection is found abnormal, correct it to the normal state.

  Confirmation 2 Check the surface of the sensor to confirm if it is stained by the toner, paper dust, etc. If stained, wipe the surface neatly.

  Confirmation 3 Confirm adequacy of opening and shutting of the sensor shutter by MOTOR& CLUTCH TEST of the maintenance utility. If a malfunction is found, replace the shutter unit .

- BELT REFLEX ERR

  Confirmation 4 When the above is displayed, confirm the cleaning state of the toner remaining on the belt surface besides the above confirmations 1, 2 and 3. Remove the belt unit and confirm if the belt surface is cleaned neatly by turning the drive gear placed in the left rear side.
  Replace the belt unit if the toner remains on the belt surface and the surface is not cleaned despite of turning of the drive gear.

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

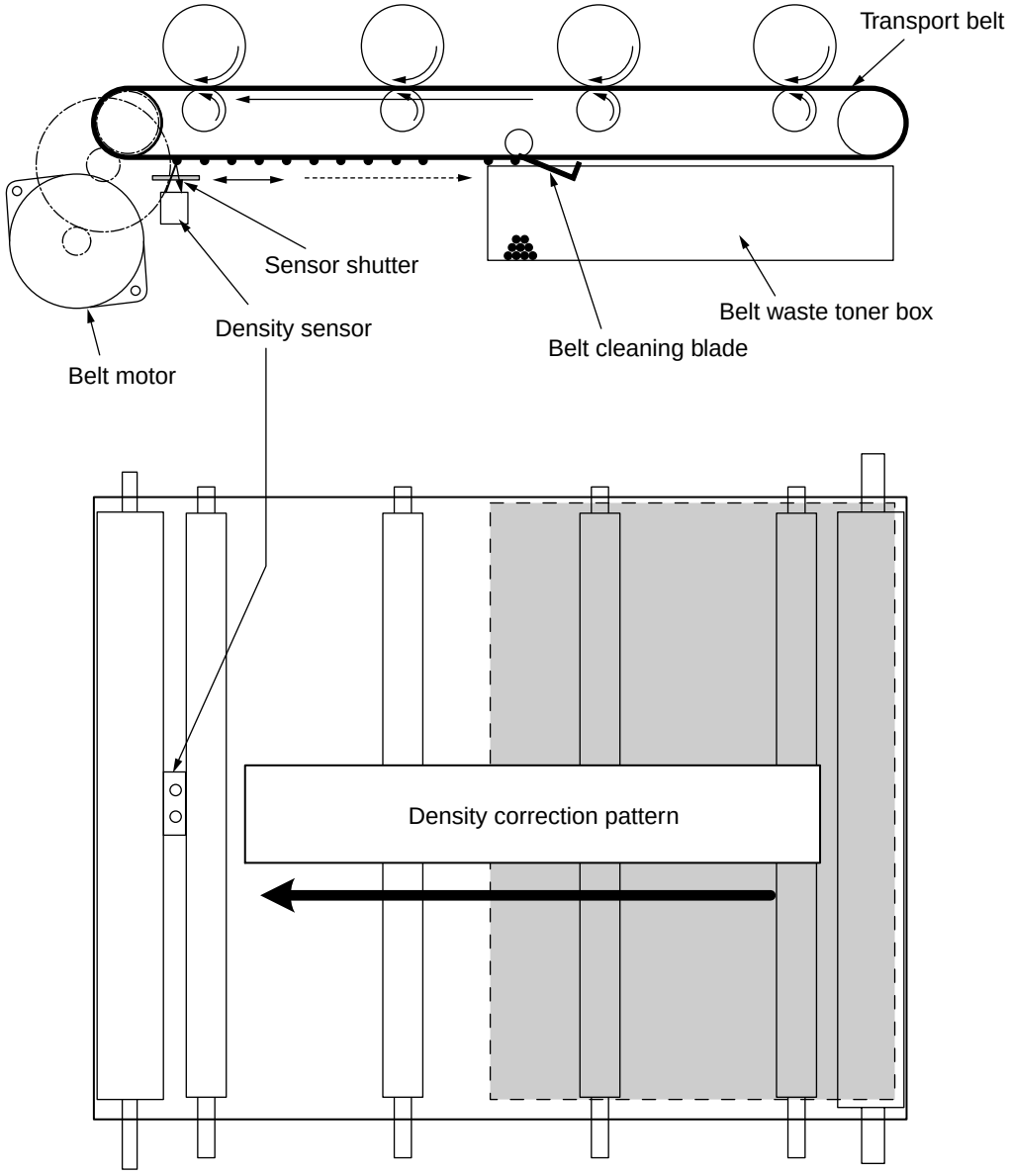
  Confirmation 5 When the above is displayed, confirm if it is the toner insufficiency that has caused NG color generation and replace the cartridge if necessary.

Outline of Density Correction Method

Density correction is made by identifying the correction pattern printed on the belt using the sensor installed in the sensor shutter under the belt unit.
Timing of automatic activation of density correction

- When the circumstance is significantly different from the previous work performance at the time when the power is to be switched on.
- When at least one of the 4 ID count values is almost new at the time when the power is to be switched on.
- When the ID count value is over 500 after the previous work performance.

Correction error can be caused by the amount of toner which generates the pattern, toner stain on the sensor, malfunction of shutter opening and closing. However, as an error may not be displayed on the operation panel, it may be necessary to confirm the error display by forcible execution of the density correction test function (2. 4. 1. 5. 3) using the maintenance utility.
Error Confirmation Method and Countermeasure



Errors should be confirmed by using the density correction test function of the maintenance utility (2.4.1.5.4).

Countermeasures to each error are:

- CALIBRATION ERR, DENS SENSOR ERR

  Confirmation 1 When the above is displayed, check connection of the sensor cable. If the connection is found abnormal, correct it to the normal state.

  Confirmation 2 Check the surface of the sensor to confirm if it is stained by the toner, paper dust, etc. If stained, wipe the surface neatly.

- DENS SHUTTER ERR

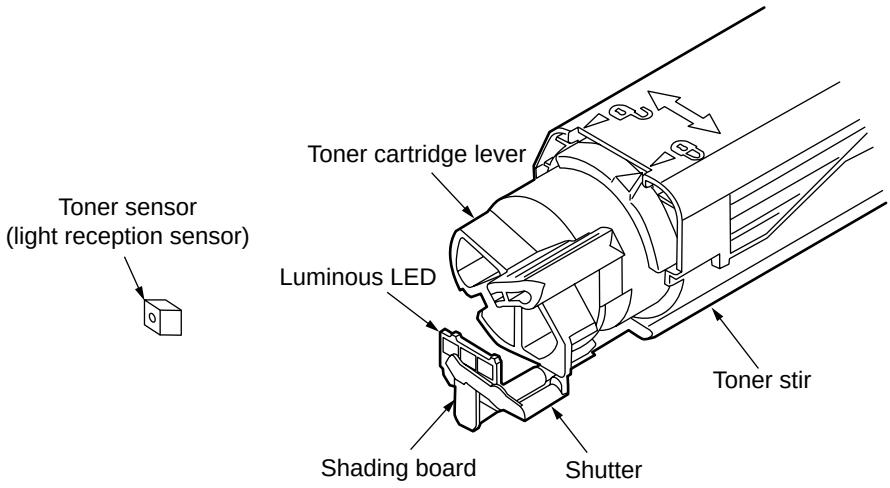
  Confirmation 3 Confirm adequacy of the opening and shutting of the sensor shutter by MOTOR&CLUTCH TEST of the maintenance utility. If a malfunction is found, replace the shutter unit.

- DENS ID ERR

  Confirmation 4 Remove the ID unit to confirm if the surface of the drum is covered with abnormal amount of toner. Then, replace the LED head if the focus blurs or replace the ID unit.
  When a new ID unit is to be used for trial, attach a treatment device to the ID unit lest the fuse breaks (refer to p.132).

Toner Sensor Detection Principle

Detection of the low toner is performed by the toner sensor (light reception sensor) installed inside the equipment and the luminous LED installed inside the cartridge. The shading board is installed inside the ID and rotates synchronizing with the toner stir. A shutter is attached to the ID. The shutter synchronizes with the cartridge operation lever and the toner sensor can detect whether the cartridge is installed properly. If the toner sensor is stained by the toner, etc., or the ID unit and the toner sensor are not facing each other as specified due to improper setting of the ID unit or for other reason, the detection may not be executed normally, resulting in a toner sensor error.



Toner Counter Principle

After the image data is developed into 2 value data to enable printing using the printer, the print dot number is counted by the LSI. The amount of the toner used is counted from the above count value and the remaining amount is displayed. On the other hand, detection of the low toner by the toner sensor is physically made when the amount of the toner remaining in the cartridge comes to be under certain amount.

Principles of ID, Belt and Fusing Counter

ID Counter : 1 count is the value of one third of the amount of drum rotation when three A4 sheets of paper are continuously printed.

Belt Counter : 1 count is one third of the amount of the belt rotation when three A4 sheets of paper are continuously printed.

Fusing Counter : Standard is the length of Legal 13 inches sheet of paper. 1 count is the sheet of paper under that length and when the length is more than that, the number of count is decided by multiples of Legal 13 inches.(Number under the decimal point is rounded up.)

3. PRINTER INSTALLATION

3.1 Precautions and Prohibition

⚠Warning

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

⚠Caution

- Do not install the printer at the place where the vent hole is blocked.
- Do not install the printer on the shaggy carpet.
- Do not install the printer at the place with little draught or without ventilation like a room with no window.
- Install the printer away from the monitor TV.
- When the printer is to be moved, hold both ends of the printer.
- This printer weighs about 21kg and should be lifted by 2 or more persons.
- When to switch the power on or while printing, do not come near the paper exit of the printer. Injury may occur.

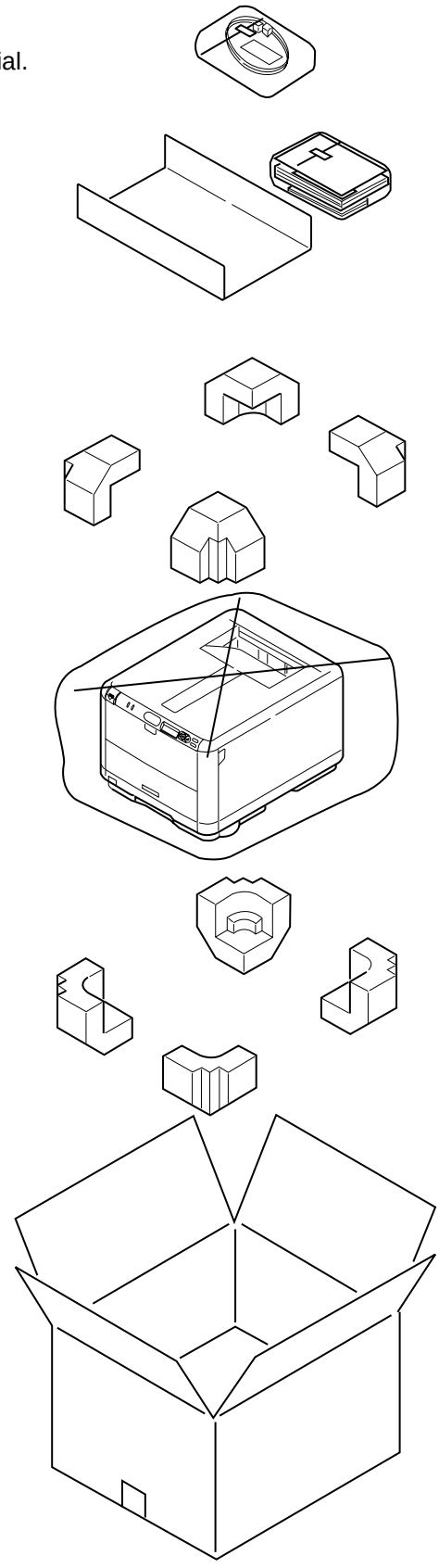
As regards the items of caution, explain to the customer showing the items of caution of the User's Manual. Particularly, explain fully about the power supply cord and earth cable.

3.2 Printer Unpacking Procedure

⚠Warning	Personal injuries may occur.	⚠

This printer weighs about 21kg. So lift it up with 2 or more persons.

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



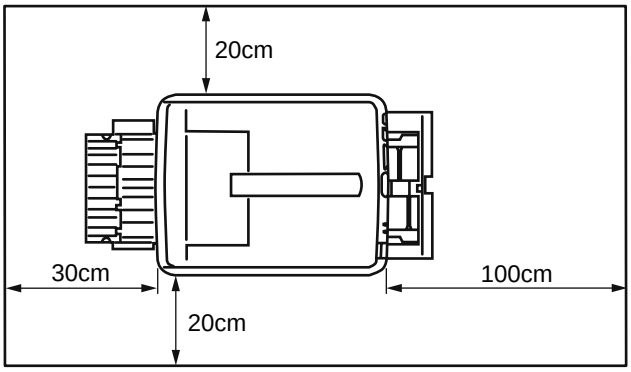
3.3 Printer Installation Instructions

- Install the printer at a place under the following temperature and humidity:
  Ambient Temperature : 10 to 32°C
  Ambient Humidity : 20 to 80% relative humidity
  Maximum Wet-Bulb Temperature : 25°C
- Be careful not to be bedewed.
- When the printer is to be installed at a place where the humidity is less than 30%, use a humidifier or a static electricity prevention mat.

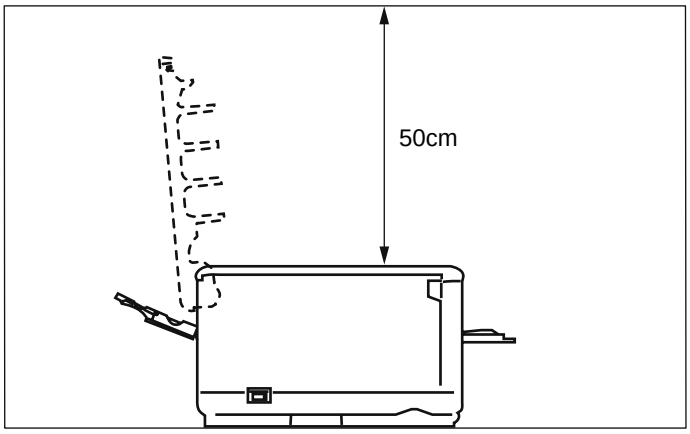
Installation Space

- Place the printer on a flat desk with enough space for the legs of the printer.
- Secure enough space around the printer.

Top View



Side View



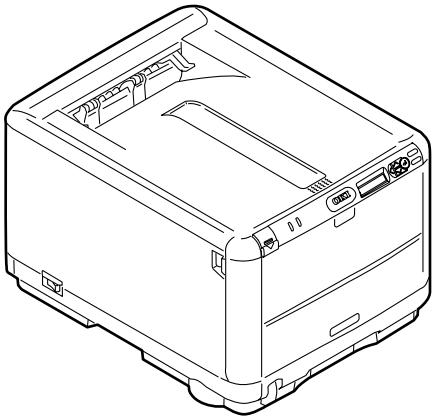
3.4 Packed Units and Attachments

- Confirm whether there are scratches, stains, etc. on the exterior of the machine.
- Confirm whether there are lacking items, damages, etc. among the accessories.
- If anything unusual is found, contact the user's section in charge and follow its instruction.

⚠**Warning**	Personal injuries may occur.	⚠

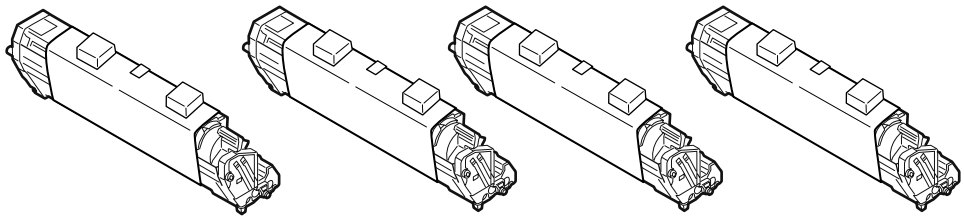
This printer weighs about 21kg and should be lifted by 2 or more persons.

☐ Printer (main body)



C3600n

☐ Image Drum Cartridges with Starter Toner Cartridges (4 sets) (installed in the printer)



Explain to customers that the toner cartridge and the image drum cartridge are separable.

☐ Printer Software CD-ROM
☐ Power Cord
☐ Warranty and Registration Card
☐ Users Manual (Setup Guide)
☐ Users Manual on CD-ROM
☐ Quick Guide
☐ Quick Guide Bag

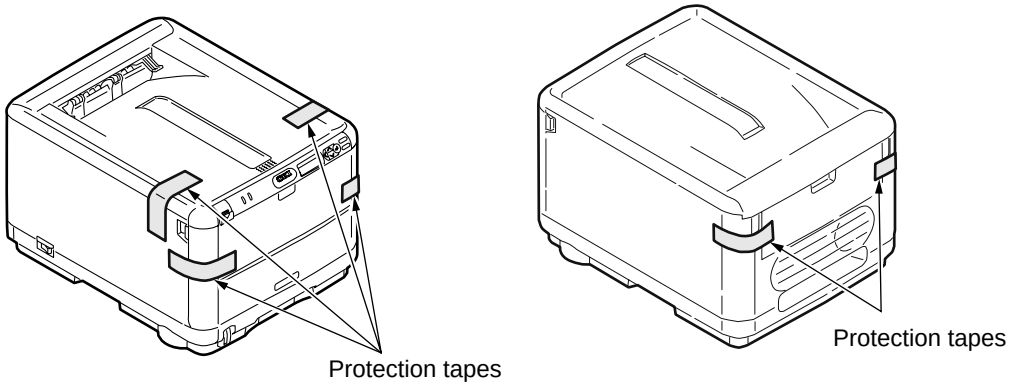
Note! The printer cable is not included in the accessories.

3.5 Assembly Procedure

3.5.1 Printer Main Body

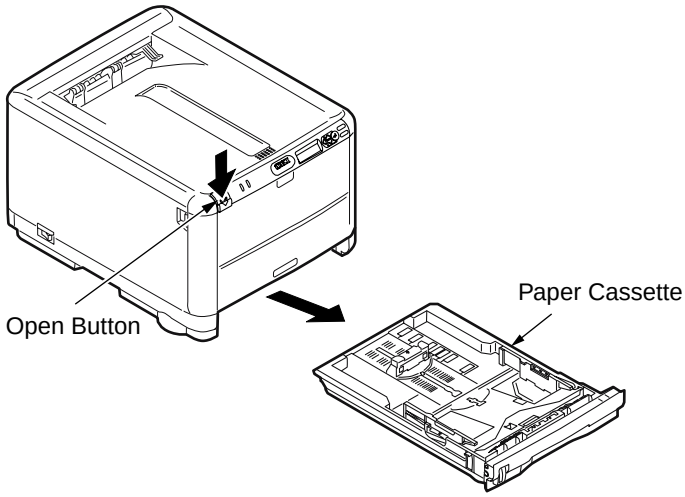
Remove Protective Equipment

(1) Remove front protection tapes (4 places) and back protection tapes (2 places) of the printer.



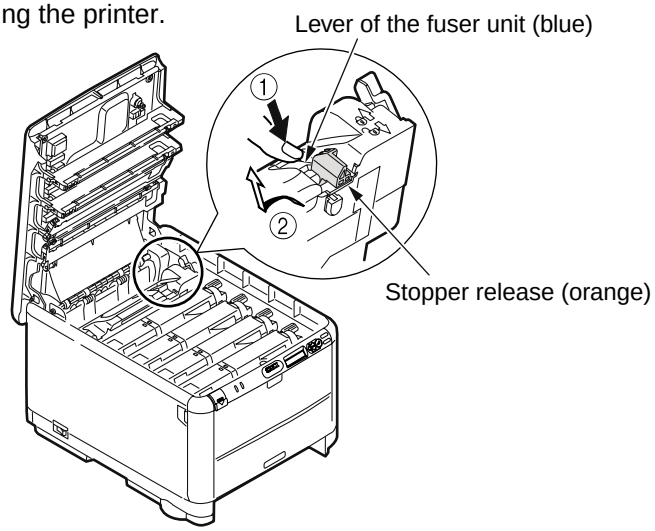
(2) Pull out the paper cassette.

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



(4) Remove the stopper release (orange color) while pushing down the lever (blue) of the fuser unit in the direction of arrow ①.

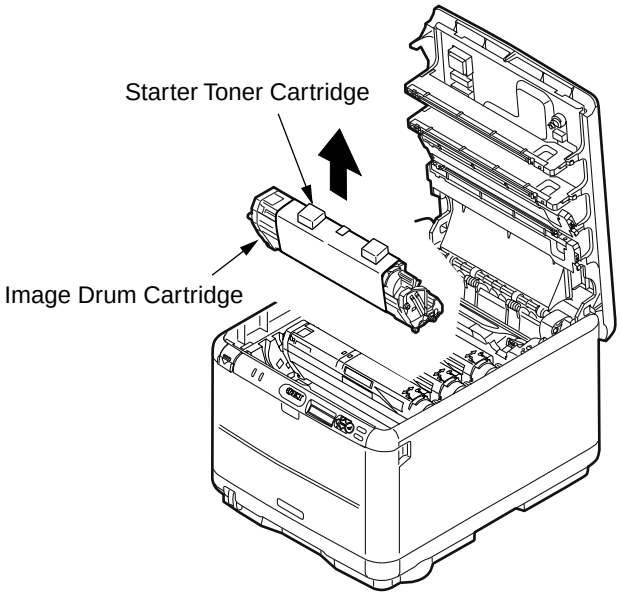
Note! Explain to the customer that the stopper release must be kept as it would be used at the time of transporting the printer.



Install Image Drum Cartridges

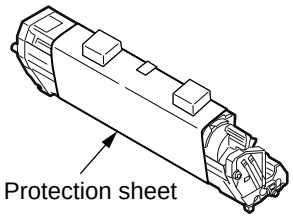
(1) Pull out the image drum cartridge (4 pieces) gently with the toner cartridge attached.

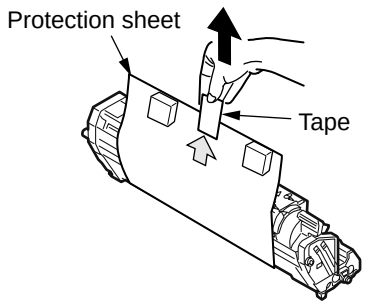
Note! • Handle the image drum (green tube portion) very carefully as it is quite easily injured.
• Do not expose the image drum cartridge to direct sunshine or bright light (approximately 1,500 lux or more) . Do not leave it more than 5 minutes under the room light.
• Do not move the blue lever of the cartridge at this stage.



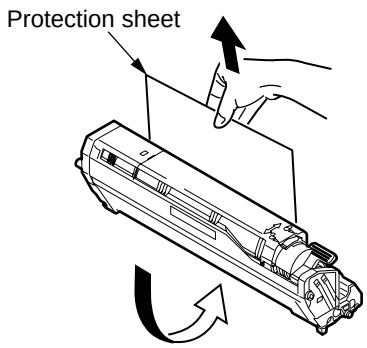
(2) Place the image drum cartridge on a flat desk, remove the tape which fastens the protection sheet and pull it out in the direction of arrow.

Note! Do not work on the image drum off the desk top.



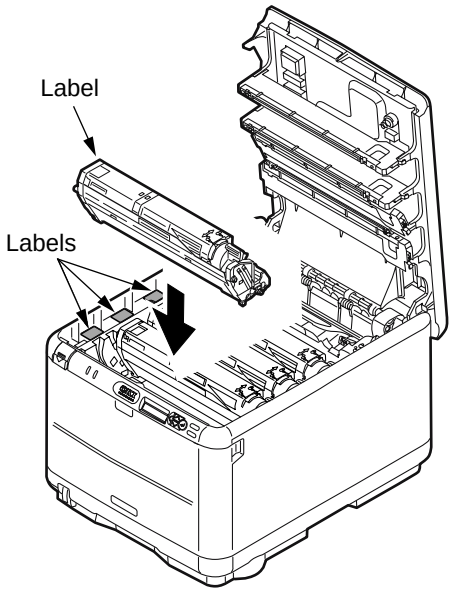


(3) Pull out protection sheet 2 from the image drum cartridge in the direction of arrow.



(4) Conform the label color of the image drum cartridge to the label color of the printer.

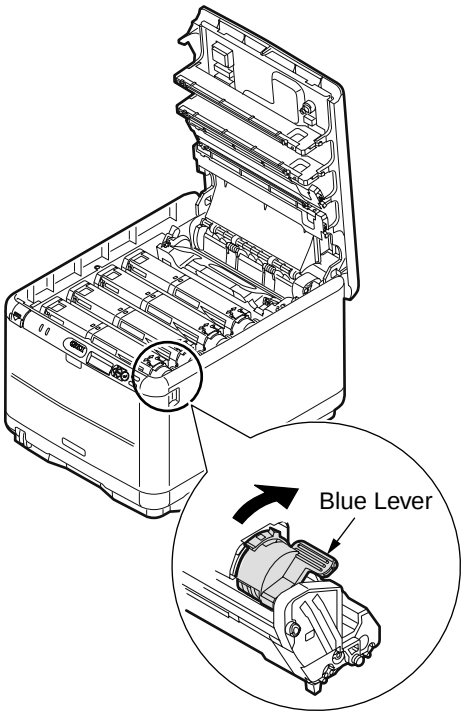
(5) Return the 4 image drum cartridges gently.



(6) Turn the 4 blue levers of the toner cartridges fully in the direction of arrow.

Note! • The starter toner (the toner cartridge attached to the product at the time of purchase) can print approximately 1,000 sheets of A4 paper in case of 5% coverage. (Approximately 500 sheets in case of OEL/AOS specification)

- If the error message [CHECK TONER CARTREGE] stays permanently on the operator panel,check to make sure that the levers of the toner cartridges have fully been moved in the direction of the arrow.
- If normal starter toner cartridges have been used, the starter toners can no longer be used. First use the starter toners, and use normal toners after the starter toners are exhausted.
- Make sure to change the starter toners only after [REPLACE TONER] is indicated. If the starter toners are replaced before the above message appears, the correct toner remaining level will not be able to be indicated.

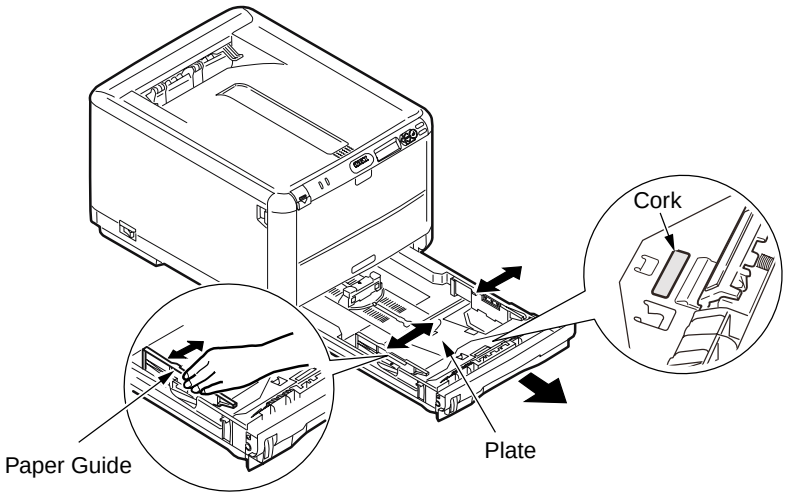


Load Paper in Paper Cassette

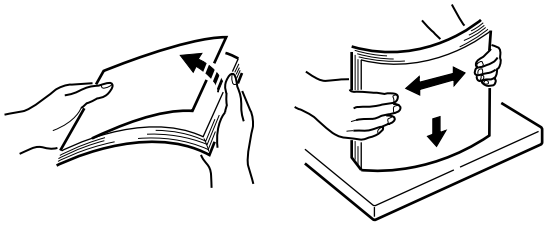
(1) Pull out the paper cassette.

Note! Do not remove the cork on the plate.

(2) Conform the paper guide to the paper size and fix it firmly.



(3) Shuffle the sheets of paper and arrange up, down, left and right properly.

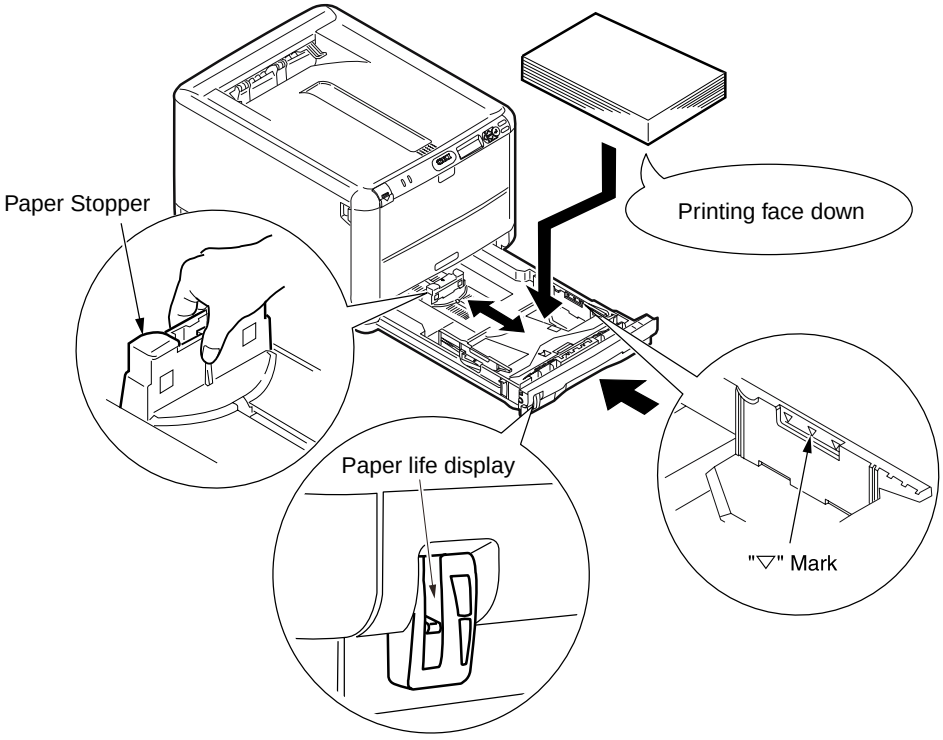


(4) Make the printable side down and set the paper.

Note! • Place the paper in front of the paper cartridge.
• Set the paper not to exceed "▽"mark of the paper guide. (250 sheets weighing 70kg)

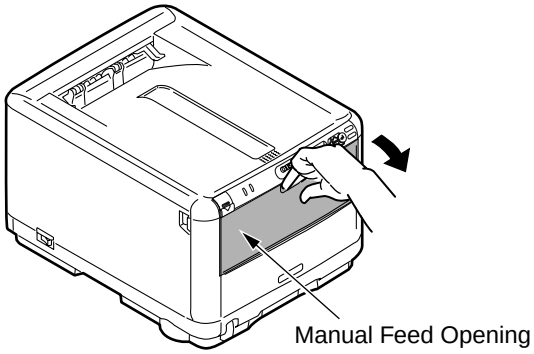
(5) Fix the paper by the paper stopper.

(6) Return the paper cassette to the printer.



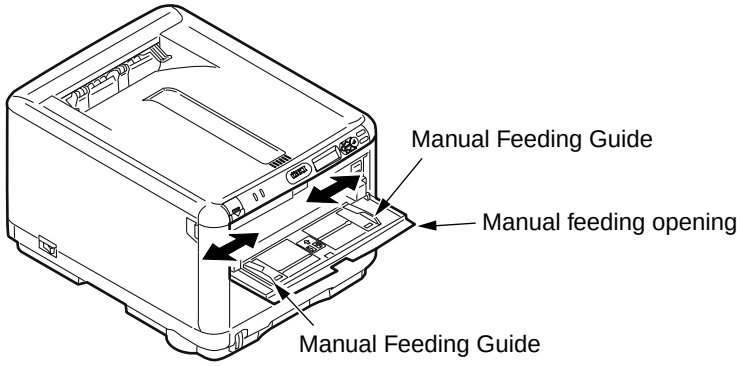
Load Paper in the Manual Feed Opening

(1) Put a finger in the dent at the center of the manual feed opening and pull forward.

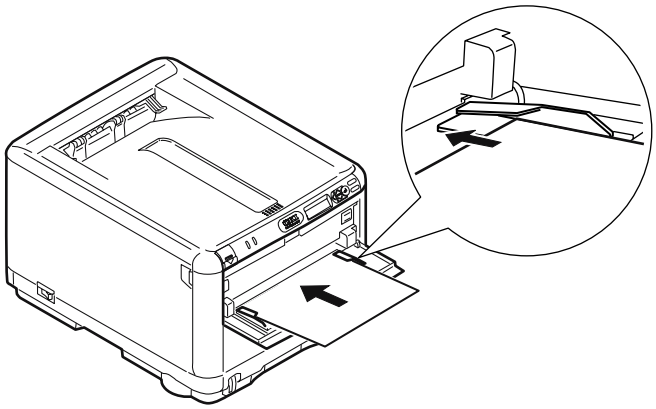


(2) Conform the manual feeding guide to the size of the paper.

(3) Arrange the left and right of the paper.



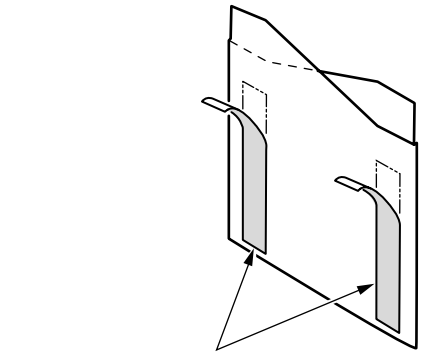
(4) Make the printing side up and insert the paper straight to the rear end along the manual feed guide.



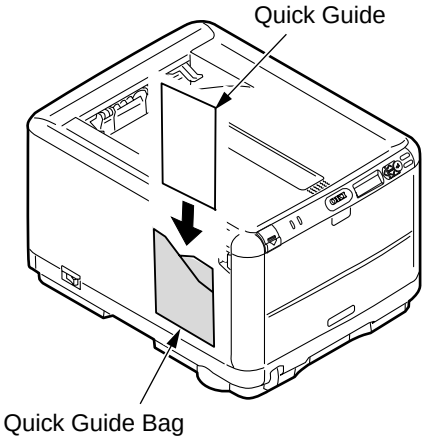
Preserve the Quick Guide

Paste the quick guide case to the printer and put in the quick guide.

(1) Turn around the quick guide case and remove the covers of the Double faced adhesive tapes (2 places).



(2) Paste the case to the printer.



Note! Paste the case so as not to block the vent hole on the back of the printer.

3.5.2 Power Cable Connection

Conditions for Power Supplies

- Observe the following conditions:
  Alternate Current (AC) : 110 ~127VAC(Range 99~140VAC)/220 ~240VAC(Range 198~264VAC)
  Power Supply Frequency : 50Hz or 60Hz±2%
- Use a voltage regulator when the power supply is not stable.
- The maximum power consumption of this printer is 980W. Confirm that the power supply has sufficient extra capacity.

⚠**Warning**	It may expose you to electric shocks or cause a fire.	

- Never fail to switch off the power supply at the time of connection or removal of the electric cord and earth cable.
- Always connect the earth cable to the earth terminal equipped only for that purpose. Never connect the earth cable with water pipe, gas pipe, telephone cable earth terminal, lightening rod, etc.
- Always grasp the power plug at the time of connection and removal of the electric cord.
- Always make sure that the electric plug is inserted fully into the outlet.
- Do not connect or disconnect the electric plug with the wet hand.
- Do not install the electric cord at the place liable to be stepped on and do not put things on the electric cord.
- Do not bundle up or tie up the electric cord
- Do not use the damaged electric cord.
- Do not put many loads on one electric outlet.
- Do not connect this printer to the same outlet with other electric machines. Particularly, erroneous operation may occur by electric noise when the same outlet is shared by the air conditioner, duplicator, shredder, etc. at the same time. When the same outlet had to be used, use a noise filter or noise cut transformer on the market.
- Use the attached electric cord only.
- Do not use an extension cord. Use the cord of over rating 15A if you had to use one.
- When you use the extension cord, the printer may not operate normally due to the drop of AC voltage.
- Do not shut down the power supply or remove the power plug while printing.
- Disconnect the power cord when the printer would not be used for some long while due to consecutive holidays or journey.

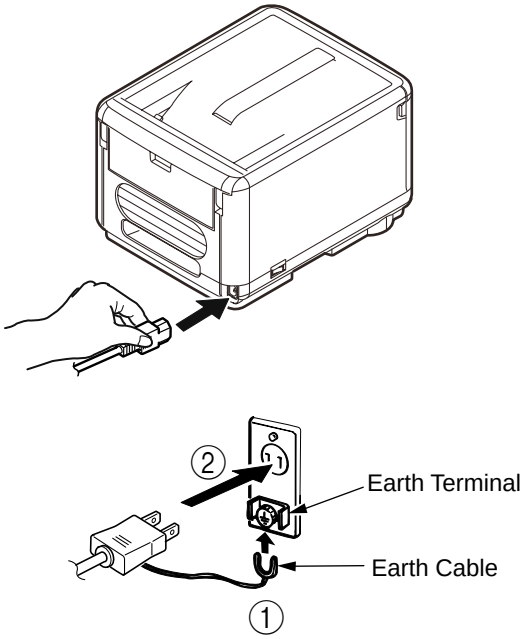
As to the connection of the electric cord and earth cable, explain fully to the customer showing the User's Manual.

Connect Power Supply Cord

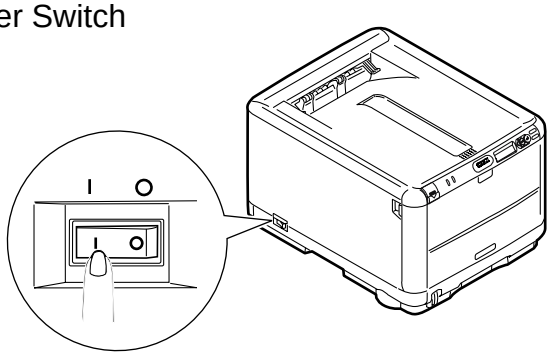
Note! Be certain the power switch is placed in the OFF (O) position.

(1) Insert the electric cord in the printer.

(2) Insert the plug in the outlet after connecting the earth cable with the earth cable terminal of the outlet.

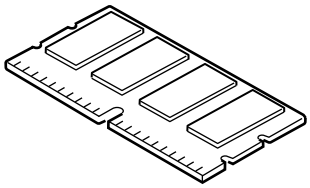


Press ON (I) of Power Switch



3.5.3 Installation of Optional Components

(1) Extension Memory Installation



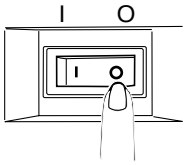
C3600n Additional Memory

Type	Memory Capacity (Total Memory)
resident (mandatory)	128MB (128MB)
256MB	+256MB (384MB)
512MB	+512MB (640MB)

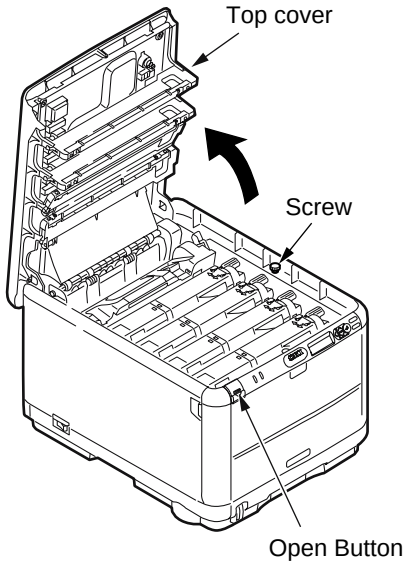
Note! • You must use genuine Oki Original. Otherwise, the memory will not work.
- For banner-sheet printing, use of additional memory of more than 256MB is recommended.
- The slot for memory is one slot.
- C3600n additional memory (256MB/512MB) is interchangeable with the memory of other PDL (C9650/C6150/C5950/C710/etc) .

Switch the power supply of the printer off and pull out the electric cord.

Note! If installed with the switch on, an electric shock or a trouble to the printer may occur.



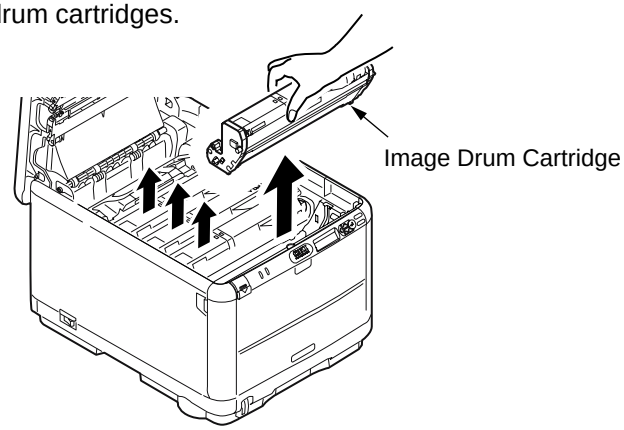
Open the top cover.



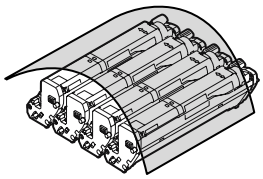
Eliminate static electricity by touching a screw.

Remove the image drum cartridges.

(1) Remove the 4 image drum cartridges.



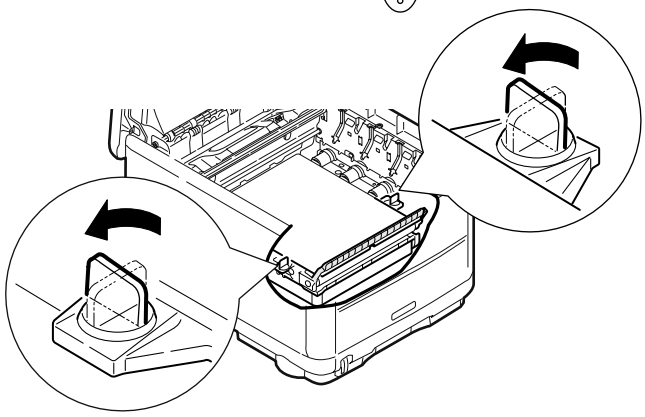
(2) Cover the removed image drum cartridges with a sheet of black paper.



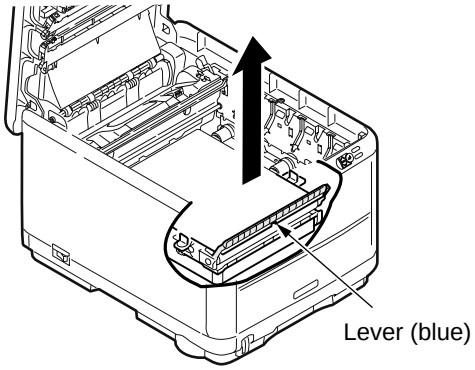
Note! • As the image drum (green tube portion) is quite liable to injury, take care fully at the time of handling.
• Do not expose the image drum cartridge to the direct sunshine or bright light (approximately more than 1,500 lux). Do not leave it more than 5 minutes under the room light.

Remove the belt unit.

(1) Turn the lock levers (blue, 2) in the direction of , and release the lock.

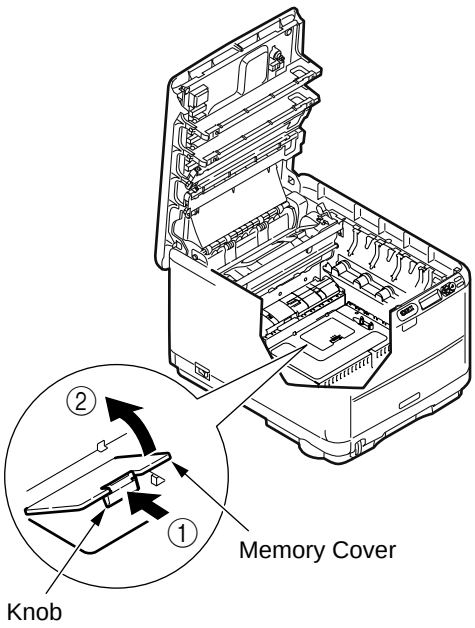


(2) Hold the lever (blue) of the belt unit and take out the belt unit gently.



Open the memory cover.

(1) Release the lock by pushing the knob of the memory cover in the direction of arrow and open the memory cover.



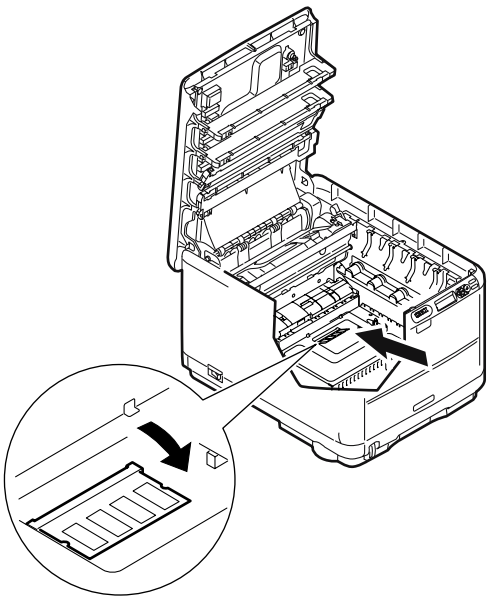
Install the memory.

Note! Do not touch electronic parts and connector terminal.

(1) Neutralize static electricity by letting the bag touch the metal part before taking out the memory from the bag.

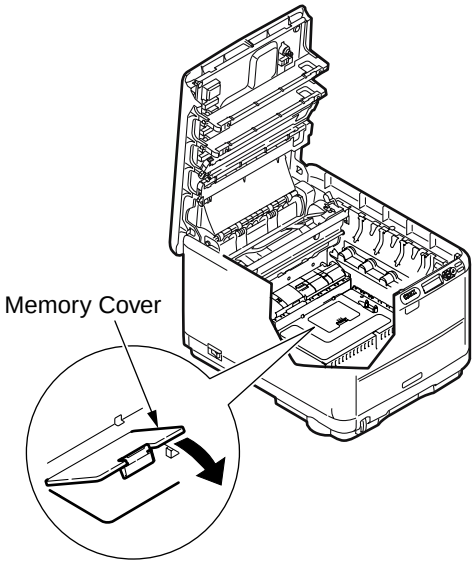
(2) Pay attention to the direction of the memory. There is a cut on the terminal part of the memory to fit it into the connector of the slot.

(3) Insert the memory in the empty slot and bring it down to the circuit board side.



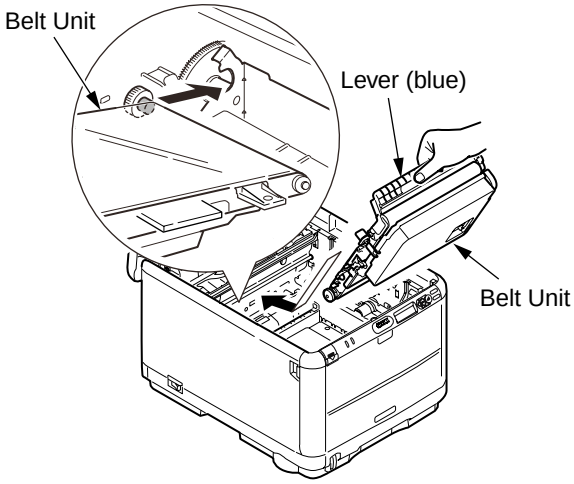
Close the memory cover.

(1) Close the memory cover. Confirm that it is firmly locked.

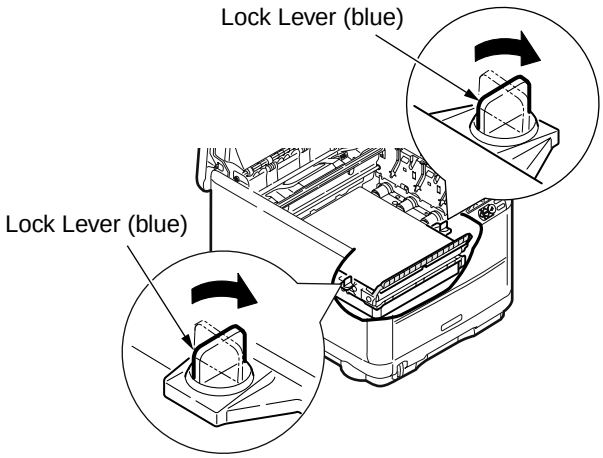


Install the belt unit.

(1) Hold the belt unit lever (blue) and install the belt unit.

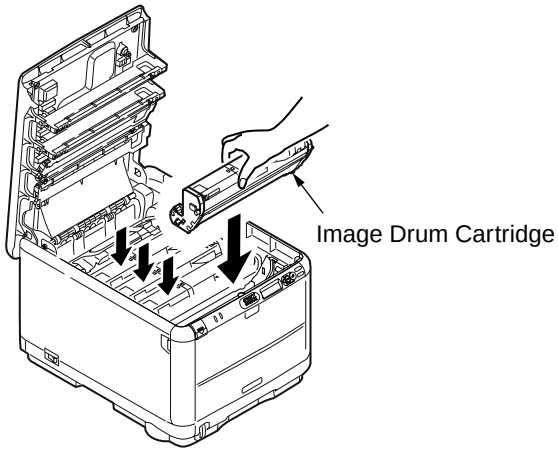


(2) Turn the lock lever(blue, 2) in the direction of  and confirm that the belt unit is firmly fixed.



Install the image drum cartridge.

(1) Restore the 4 image drum cartridges to the original place.



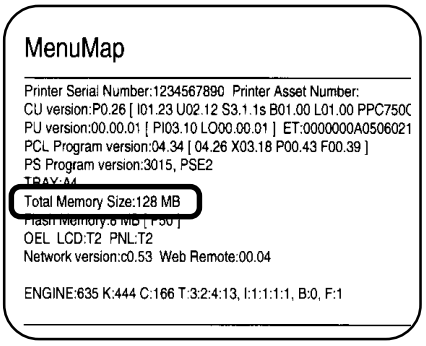
Install the electric cord and printer cable to the printer and set the switch on.

3.5.4 Confirmation of recognition of optional items

To check to see whether or not the optional items have been installed properly, execute the Menu Map print by referring to "3.6 Menu Map print.

(1) Confirmation of recognition of expansion memory

Checking the contents of the Menu Map.
Check the total memory volume indicated in "Total Memory Size" of the header.



3.6 Menu Map print

This print is intended to ensure that the printer operates normally.

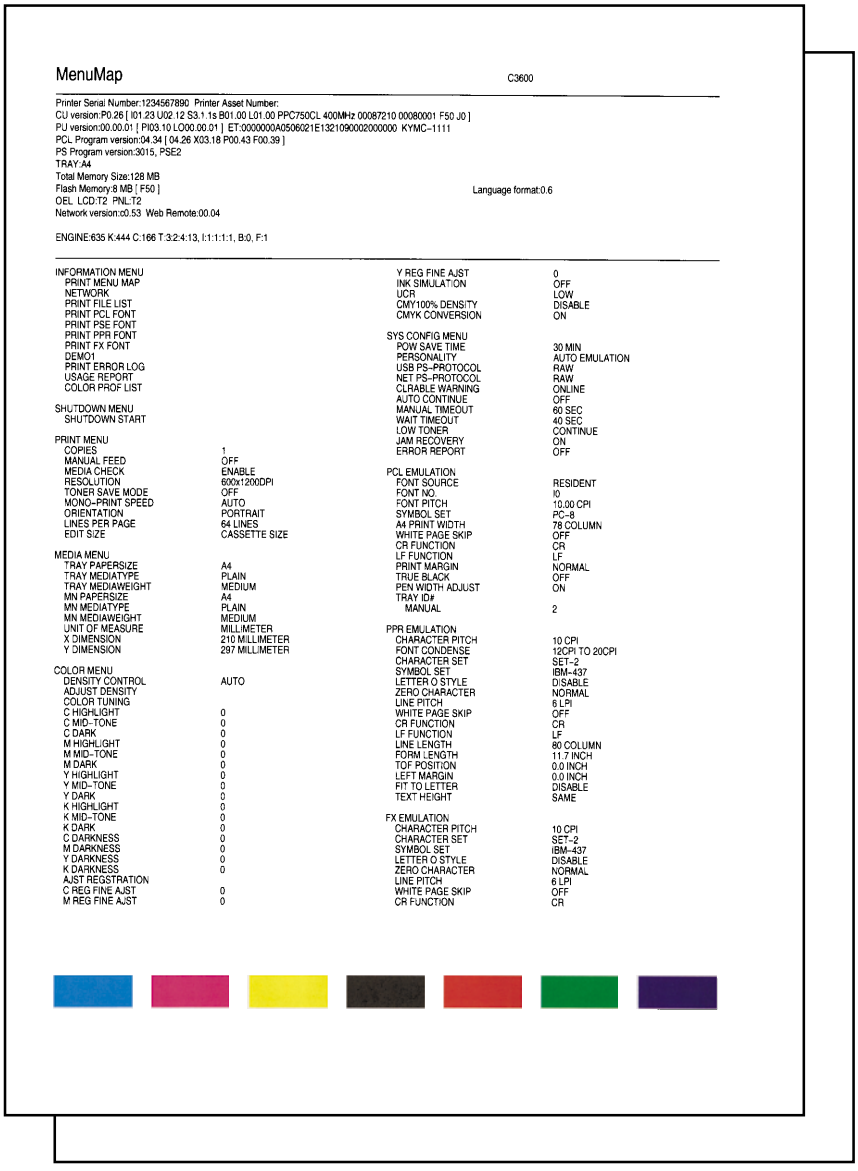
(1) Press the MENU + key several times to cause "INFORMATION MENU" to be displayed.

(2) Press the ENTER key to cause "PRINT MENU MAP/EXECUTE" to appear.

(3) Press the ENTER key.

The Menu Map print will get under way.

(Sample) C3600n



MenuMap C3600

Printer Serial Number:1234567890 Printer Asset Number:
CU version:P0.26 [I01.23 U02.12 S3.1.1s B01.00 L01.00 PPC750CL 400MHz 00087210 00080001 F50 J0]
PU version:00.00.01 [PI03.10 LO00.00.01] ET:0000000A0506021E132109000200000 KYMC-1111
PCL Program version:04.34 [04.26 X03.18 P00.43 F00.39]
PS Program version:3015, PSE2
TRAY:A4
Total Memory Size:128 MB
Flash Memory:8 MB [F50] Language format:0.6
OEL LCD:T2 PNL:T2
Network version:c0.53 Web Remote:00.04

ENGINE:635 K:444 C:166 T:3:2:4:13, I:1:1:1:1, B:0, F:1

INFORMATION MENU	
PRINT MENU MAP	
NETWORK	
PRINT FILE LIST	
PRINT PCL FONT	
PRINT PSE FONT	
PRINT PPR FONT	
PRINT FX FONT	
DEMO1	
PRINT ERROR LOG	
USAGE REPORT	
COLOR PROF LIST	
SHUTDOWN MENU	
SHUTDOWN START	
PRINT MENU	
COPIES	1
MANUAL FEED	OFF
MEDIA CHECK	ENABLE
RESOLUTION	600x1200DPI
TONER SAVE MODE	OFF
MONO-PRINT SPEED	AUTO
ORIENTATION	PORTRAIT
LINES PER PAGE	64 LINES
EDIT SIZE	CASSETTE SIZE
MEDIA MENU	
TRAY PAPERSIZE	A4
TRAY MEDIATYPE	PLAIN
TRAY MEDIAWEIGHT	MEDIUM
MN PAPERSIZE	A4
MN MEDIATYPE	PLAIN
MN MEDIAWEIGHT	MEDIUM
UNIT OF MEASURE	MILLIMETER
X DIMENSION	210 MILLIMETER
Y DIMENSION	297 MILLIMETER
COLOR MENU	
DENSITY CONTROL	AUTO
ADJUST DENSITY	
COLOR TUNING	
C HIGHLIGHT	0
C MID-TONE	0
C DARK	0
M HIGHLIGHT	0
M MID-TONE	0
M DARK	0
Y HIGHLIGHT	0
Y MID-TONE	0
Y DARK	0
K HIGHLIGHT	0
K MID-TONE	0
K DARK	0
C DARKNESS	0
M DARKNESS	0
Y DARKNESS	0
K DARKNESS	0
AJST REGSTRATION	
C REG FINE AJST	0
M REG FINE AJST	0
Y REG FINE AJST	0
INK SIMULATION	OFF
UCR	LOW
CMY100% DENSITY	DISABLE
CMYK CONVERSION	ON
SYS CONFIG MENU	
POW SAVE TIME	30 MIN
PERSONALITY	AUTO EMULATION
USB PS-PROTOCOL	RAW
NET PS-PROTOCOL	RAW
CLRABLE WARNING	ONLINE
AUTO CONTINUE	OFF
MANUAL TIMEOUT	60 SEC
WAIT TIMEOUT	40 SEC
LOW TONER	CONTINUE
JAM RECOVERY	ON
ERROR REPORT	OFF
PCL EMULATION	
FONT SOURCE	RESIDENT
FONT NO.	I0
FONT PITCH	10.00 CPI
SYMBOL SET	PC-8
A4 PRINT WIDTH	78 COLUMN
WHITE PAGE SKIP	OFF
CR FUNCTION	CR
LF FUNCTION	LF
PRINT MARGIN	NORMAL
TRUE BLACK	OFF
PEN WIDTH ADJUST	ON
TRAY ID#	
MANUAL	2
PPR EMULATION	
CHARACTER PITCH	10 CPI
FONT CONDENSE	12CPI TO 20CPI
CHARACTER SET	SET-2
SYMBOL SET	IBM-437
LETTER O STYLE	DISABLE
ZERO CHARACTER	NORMAL
LINE PITCH	6 LPI
WHITE PAGE SKIP	OFF
CR FUNCTION	CR
LF FUNCTION	LF
LINE LENGTH	80 COLUMN
FORM LENGTH	11.7 INCH
TOF POSITION	0.0 INCH
LEFT MARGIN	0.0 INCH
FIT TO LETTER	DISABLE
TEXT HEIGHT	SAME
FX EMULATION	
CHARACTER PITCH	10 CPI
CHARACTER SET	SET-2
SYMBOL SET	IBM-437
LETTER O STYLE	DISABLE
ZERO CHARACTER	NORMAL
LINE PITCH	6 LPI
WHITE PAGE SKIP	OFF
CR FUNCTION	CR

3.7 Network Information Print

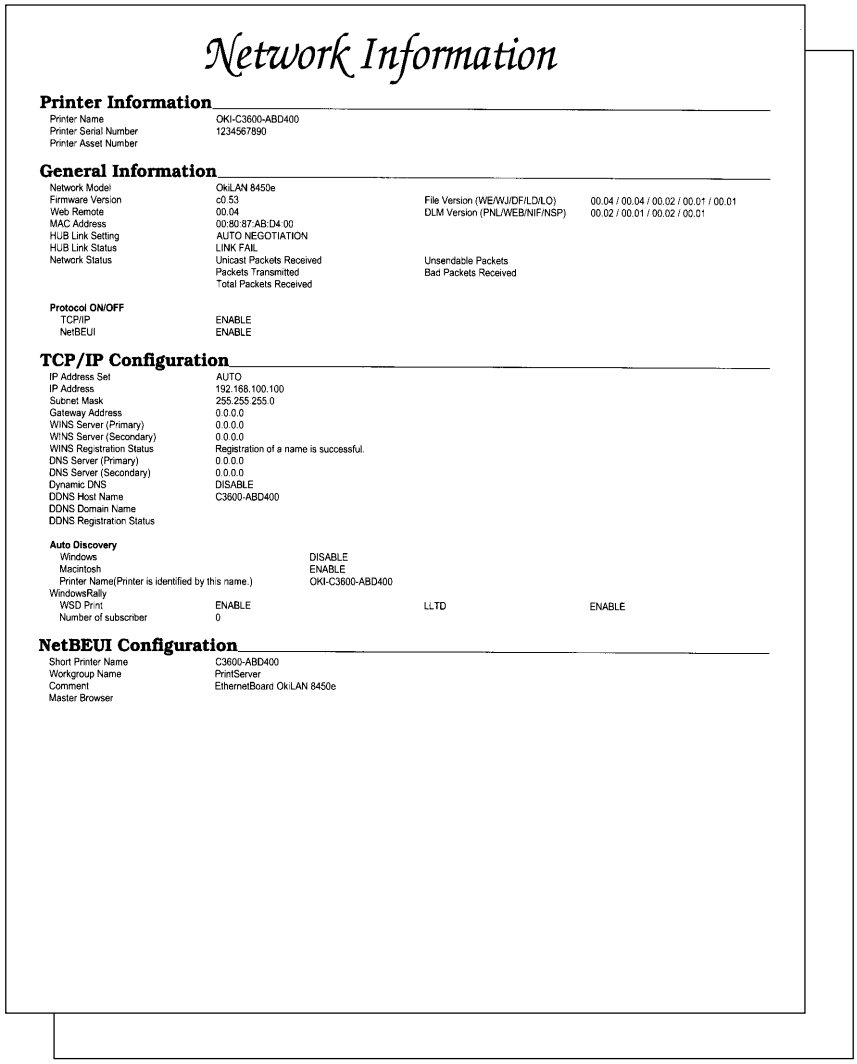
Confirm the network information print.

(1) Press the MENU + Key several times to cause "INFORMATION MENU" to be displayed.

(2) Press the ENTER Key to cause "NETWORK/EXECUTE" to be displayed.

(3) Press the ENTER Key.
Or, press the TEST switch which is at the side of network connector on the back of the printer for 5 seconds, then release it.

(Sample) C3600n



Network Information

Printer Information

Printer Name	OKI-C3600-ABD400
Printer Serial Number	1234567890
Printer Asset Number	

General Information

Network Model	OkiLAN 8450e		
Firmware Version	c0.53	File Version (WE/WJ/DF/LD/LO)	00.04 / 00.04 / 00.02 / 00.01 / 00.01
Web Remote	00.04	DLM Version (PNL/WEB/NIF/NSP)	00.02 / 00.01 / 00.02 / 00.01
MAC Address	00:80:87:AB:D4:00		
HUB Link Setting	AUTO NEGOTIATION		
HUB Link Status	LINK FAIL		
Network Status	Unicast Packets Received	Unsendable Packets	
	Packets Transmitted	Bad Packets Received	
	Total Packets Received		

Protocol ON/OFF

TCP/IP	ENABLE
NetBEUI	ENABLE

TCP/IP Configuration

IP Address Set	AUTO
IP Address	192.168.100.100
Subnet Mask	255.255.255.0
Gateway Address	0.0.0.0
WINS Server (Primary)	0.0.0.0
WINS Server (Secondary)	0.0.0.0
WINS Registration Status	Registration of a name is successful.
DNS Server (Primary)	0.0.0.0
DNS Server (Secondary)	0.0.0.0
Dynamic DNS	DISABLE
DDNS Host Name	C3600-ABD400
DDNS Domain Name	
DDNS Registration Status	

Auto Discovery

Windows	DISABLE		
Macintosh	ENABLE		
Printer Name(Printer is identified by this name.)	OKI-C3600-ABD400		
WindowsRally			
WSD Print	ENABLE	LLTD	ENABLE
Number of subscriber	0		

NetBEUI Configuration

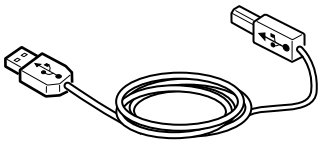
Short Printer Name	C3600-ABD400
Workgroup Name	PrintServer
Comment	EthernetBoard OkiLAN 8450e
Master Browser	

3.8 Connection Procedures

<USB Connection>

Prepare a USB Cable.

Note! • The cable of the printer is not attached. Users should buy seperately.
• Obtain the cable of USB specification by yourself.
• Use the USB cable of Hi-Speed specification in case the connection is to be made using “HI-Speed” mode of USB2.0.



Switch off the power of the printer and computer.

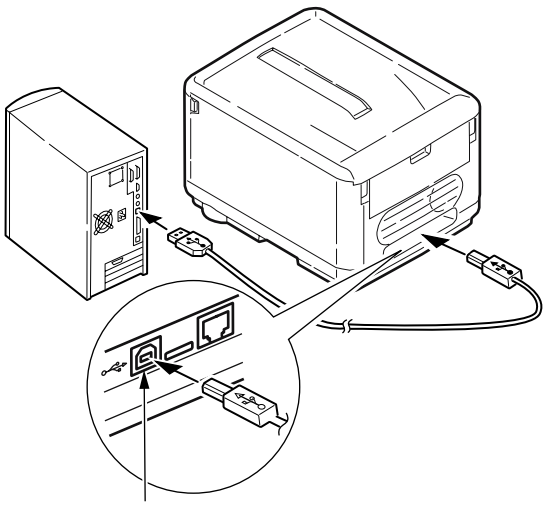
Memo Although the USB cable can be connected or removed with the switch of the computer and printer on, switch off the power of the printer at this step in order to ensure installation of the printer driver and USB driver later.

Connect the printer with the computer.

(1) Plug the USB cable into the USB interface connector of the printer.

(2) Plug the USB cable into the USB interface connector of the computer.

Note! Be careful not to insert the USB cable into the network interface connector.
Or else it may cause troubles.



USB Interface Connector

<LAN Cable Connection>

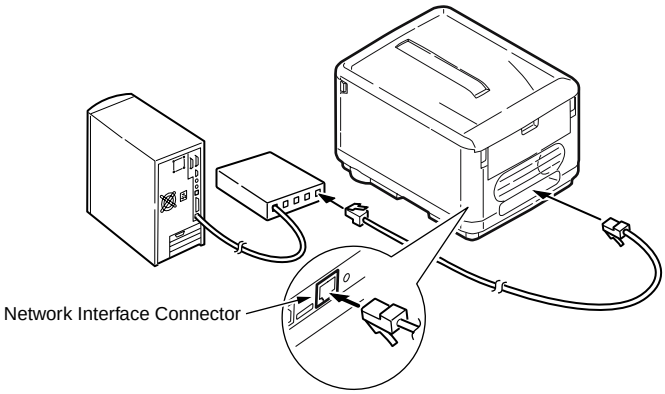
Prepare the LAN cable.

Switch off the power of the printer and computer.

Connect the computer and printer.

(1) Plug the Ethernet cable into the network interface connector of the printer.

(2) Plug the Ethernet cable into the hub.



3.9 Checking of User Paper

Set the medium the user uses, set up media type/weight, conduct menu map/demo print and confirm that the toner does not peel off.

Types	Weight	Setting values of the printer menu setting		Setting *2 for [Media weight] of the printer driver
		Media weight	Media type *1	
Regular paper*3	55-64kg (64-74g/m^2)	Light	Light	Light
	65-89kg (75-104g/m^2)	Madium		Madium
	90-103kg (105-120g/m^2)	Heavy		Heavy
	104-172kg (121-200g/m^2)	Ultra Heavy		Ultra Heavy
Postcard*4	-	-	-	-
Envelope*4	-	-	-	-
Label paper	Less than 0.1-0.17mm	Heavy	Label paper	Label paper 1
	0.17-0.2mm	Ultra Heavy		Label paper 2

*1 : The set-up of the media type at the time of shipment from the factory is “Light”.

*2 : Thickness and type of paper can be set up by the printer driver. When they are set up by the printer driver, the printer driver set-up has priority. When “Automatic Selection” is selected by “Paper Feed Method” of the printer driver or when “Printer Set-up” is selected by “Paper Thickness”, printing is made by the set-up of the printer menu setting.

*3 : Thickness of paper for both side printing is 65~90kg in weight (75~105g/m2).

*4 : Set-up of media weight and media type is not necessary for postcards and envelopes.

Memo When “Heavy” and “Ultra Heavy” of Media Weight and “Label Paper” of Media Type are set up, the printing speed becomes slow.

4. REPLACEMENT OF PARTS

This section explains the field replacement procedures for parts, assemblies and component units. While those replacement procedures refer to the disassembling of parts, follow the same procedures inversely for reassembling them.
The part numbers (1, 2, etc.) employed in this manual are different from those assigned in the corresponding configuration diagrams of Disassembly for Maintenance (44004601TL) and RSPL (44004601TR).

4.1 Precautions on the replacement of parts

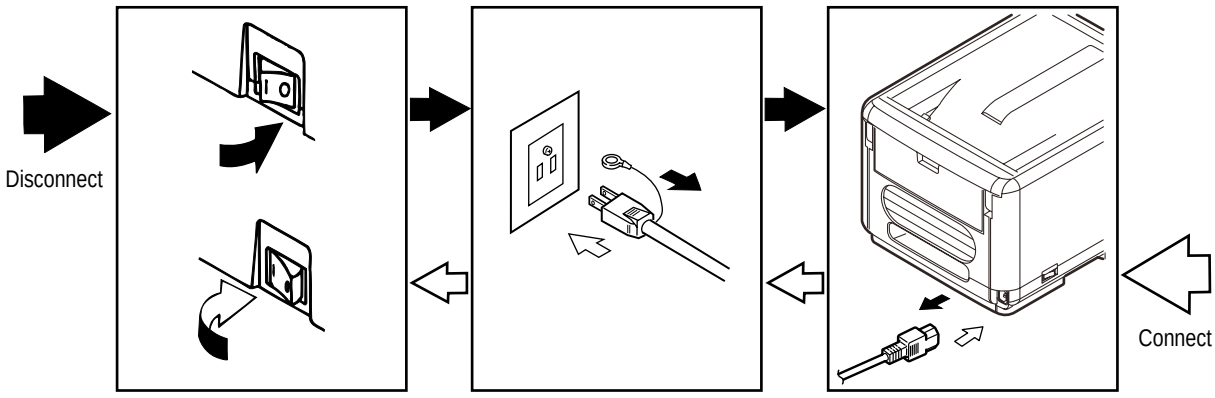
(1) Prior to replacing a part, be sure to disconnect the AC cord and interface cable.

(a) To disconnect the AC cord, always follow the procedure described below:

① Turn off ("O") the power switch of the printer.
② Pull out the AC plug of the AC cord from the AC power outlet.
③ Unplug the AC cord and interface cable from the printer.

(b) To reconnect the printer, always follow the procedure described below:

① Plug the AC cord and interface cable into the printer.
② Insert the AC plug into the AC power outlet.
③ Turn on ("|") the power switch of the printer.



(2) Do not disassemble the printer as long as it is operating normally.

(3) Limit disassembly to a necessary minimum. Do not remove other parts than those specified in the part replacement procedure.

(4) Use the designated maintenance tools.

(5) Conduct disassembly by following the specified sequential order. Failure to observe this order could damage the parts.

(6) Screws, collars and other small parts should be attached provisionally to their original positions, since they are liable to be lost.

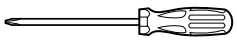
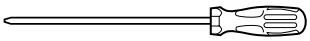
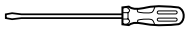
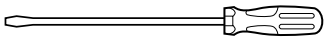
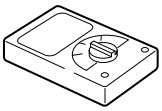
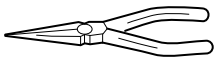
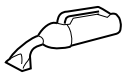
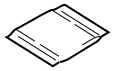
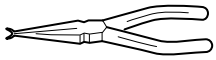
(7) When handling a microprocessor, ROM, RAM and other ICs and circuit boards, do not wear gloves that tend to generate static electricity.

(8) Printed-circuit boards should not be placed directly on an equipment or floor.

[Maintenance Tools]

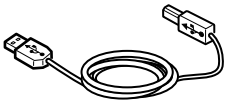
Clawle 4-1-1 indicates the tools necessary to replace printed-circuit boards and component units.

Clawle 4-1-1 Maintenance Tools

No.	Service Tools		Q' ty	Place of use	Remarks
1		No. 1-100 Philips screwdriver	1	2-2.5 mm screws	
2		No. 2-200 Philips screwdriver, Magnetized	1	3~5	
3		No. 3-100 screwdriver	1		
4		No. 5-200 screwdriver	1		
5		Digital multimeter	1		
6		Pliers	1		
7		Handy cleaner	1		
8		LED Head cleaner P/N 4PB4083-2248P001	1	Cleans LED head	
9		E-ring pliers	1		

Clawle 4-1-2 indicates the tools necessary for using maintenance utilities.

Table 4-1-2 Maintenance Tools

No.	Service Tools		Q' ty	Place of use	Remarks
1		Laptop computer [Must have maintenance utilities installed]	1		
2		USB cable	1		

4.2 Part replacement methods

This subsection explains the replacement methods for the parts and assemblies illustrated in the disassembly system diagram below.

4.2.1 Left side cover

(1) Open the top cover.

(2) Open the front cover.

(3) Remove a screw (silver) ① four claws A and a claw B to detach the left side cover ②.

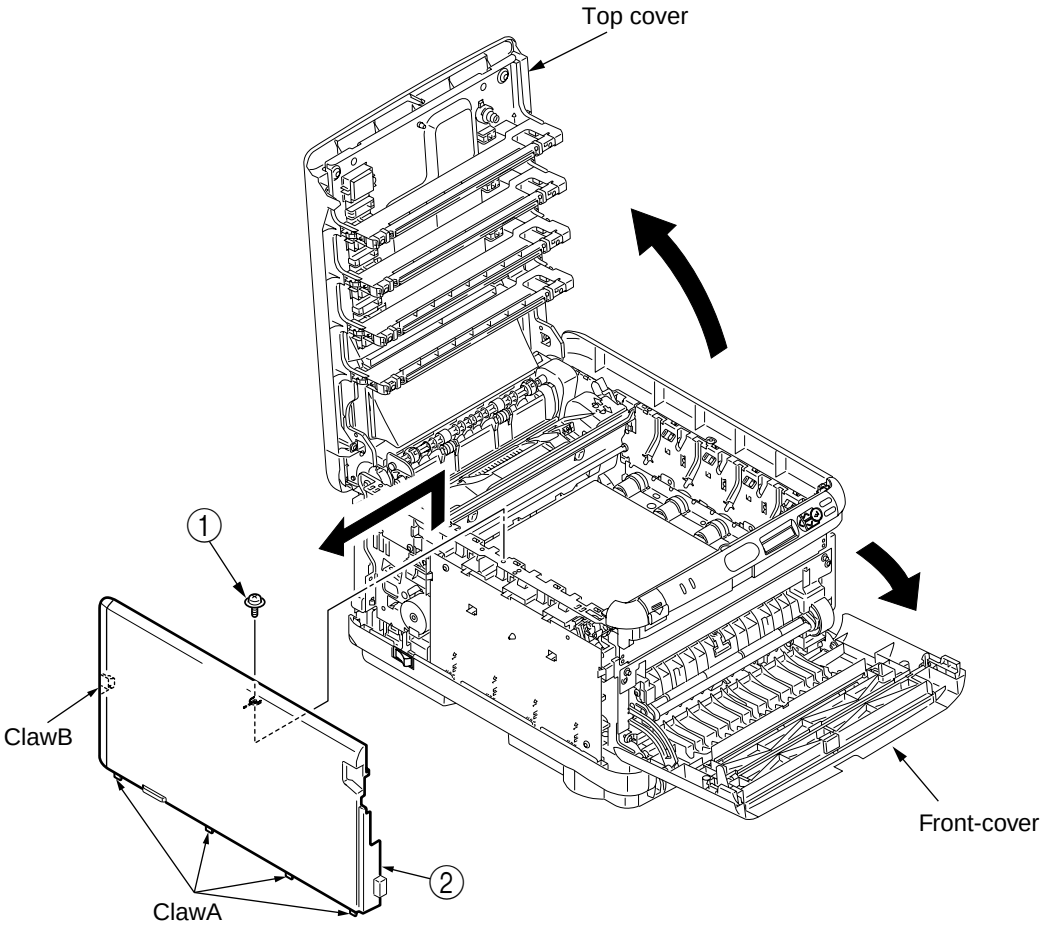


Figure 4-2-1 Left side cover

4.2.2 Right side cover

(1) Open the top cover.

(2) Open the front cover.

(3) Remove a screw (silver) ① four claws A and a claw B to detach the right side cover ②.

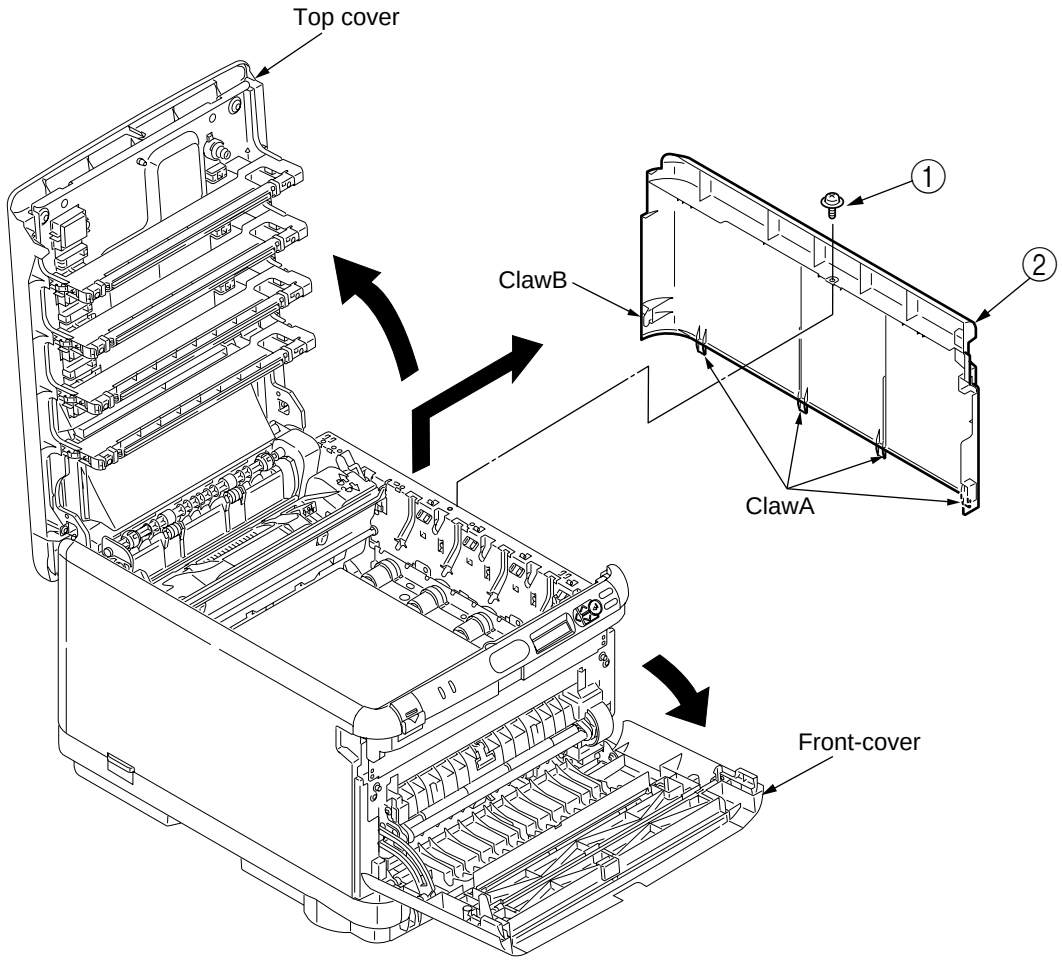


Figure 4-2-2 Right side cover

4.2.3 Rear cover (Top/Bottom)

(1) Remove the left side cover. (See Subsection 4.2.1)

(2) Remove the right side cover. (See Subsection 4.2.2)

(3) Remove two screws (silver) ①.

(4) As shown in the drawing, put the flat-blade screwdriver into a hole A to remove two claws A.

(5) Remove tow claws B by hand and then, remove the rear cover assembly ②.

(6) Lift the rear cover bottom ③ upward to detach it.

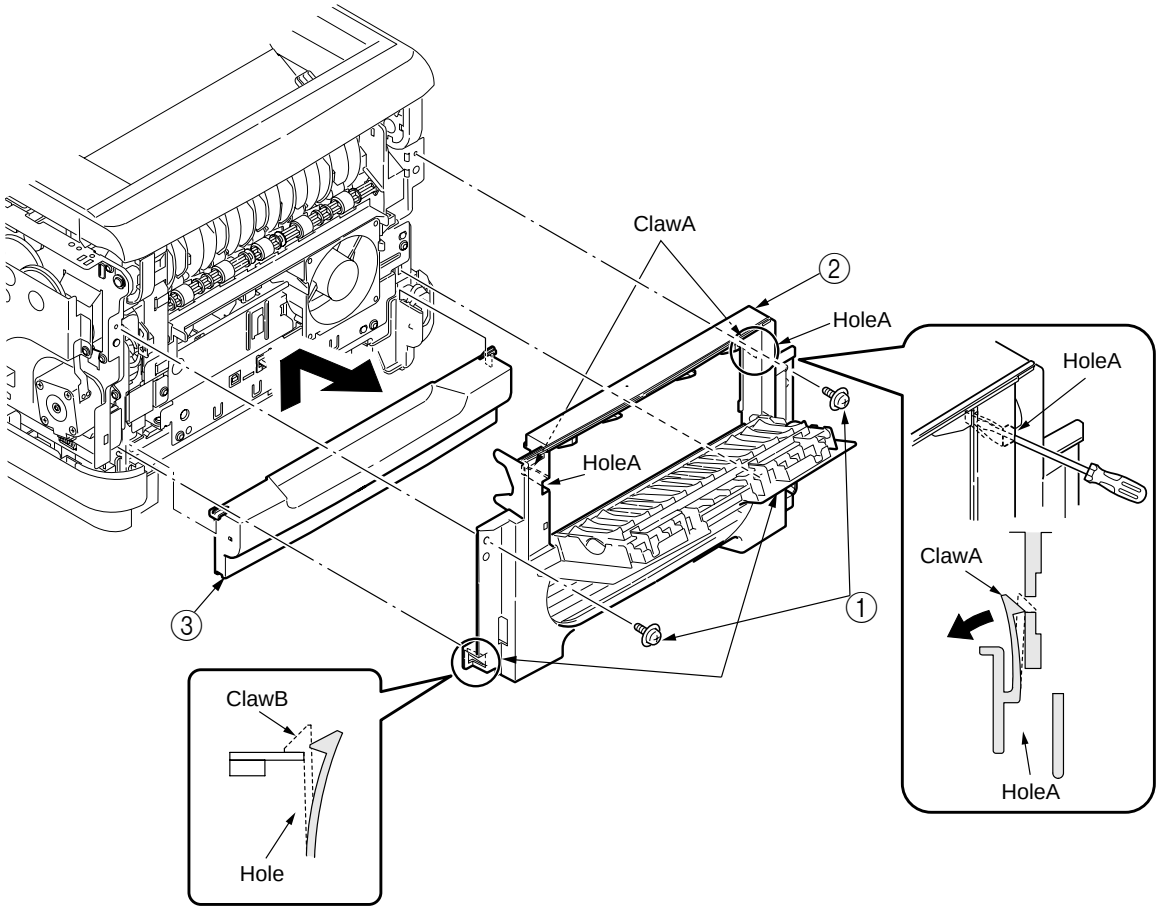


Figure 4-2-3 Rear cover

4.2.4 Front cover

(1) Remove the Shaft-Cover ① and the stay ② and then, remove the Shaft-Cover ③, and the Front-Cover ④.

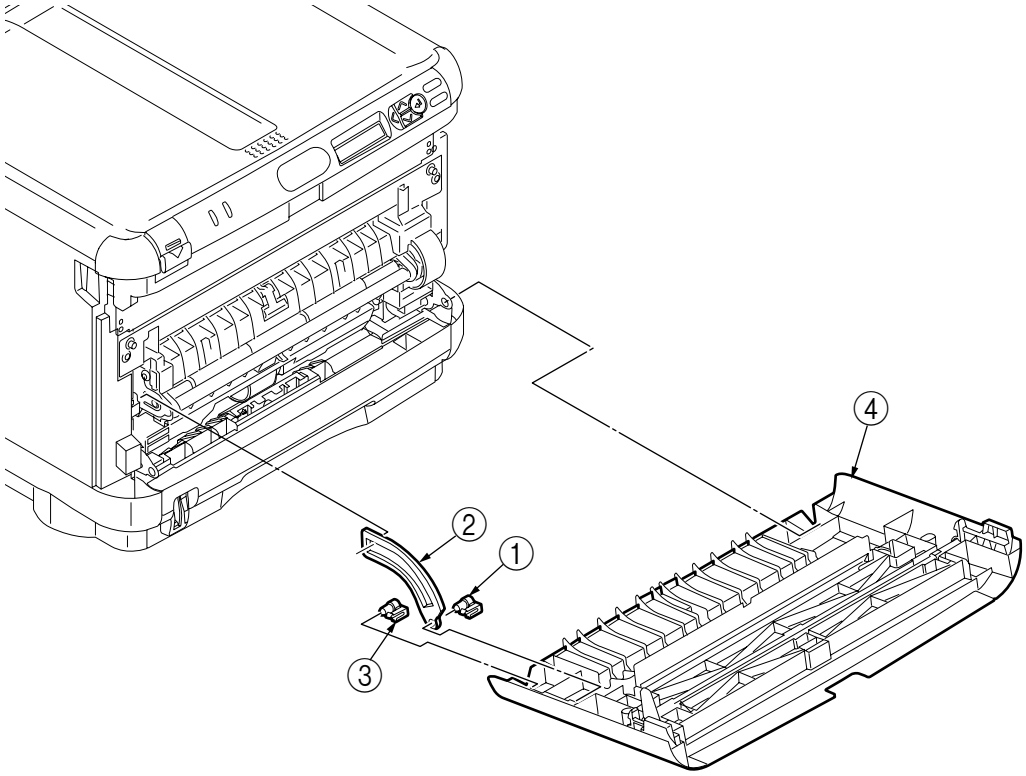


Figure 4-2-4 Front cover

4.2.5 Top cover assembly

(1) Open the top cover.

(2) Remove the left side cover. (See Subsection 4.2.1)

(3) Remove the right side cover. (See Subsection 4.2.2)

(4) Detach the rear cover. (See Subsection 4.2.3)

(5) Remove the plate heat. (See Subsection 4.2.18)

(6) Remove the plate shield front. (See Subsection 4.2.16)

(7) Remove a screw (silver) ①.

(8) Remove the TB3-PCB (main board) (See Subsection 4.2.23), and then, remove the head cable (FFC) and the RFID cable.

(9) Remove two E-type retaining rings ② two spring torsions ③ and the top cover assembly ④.

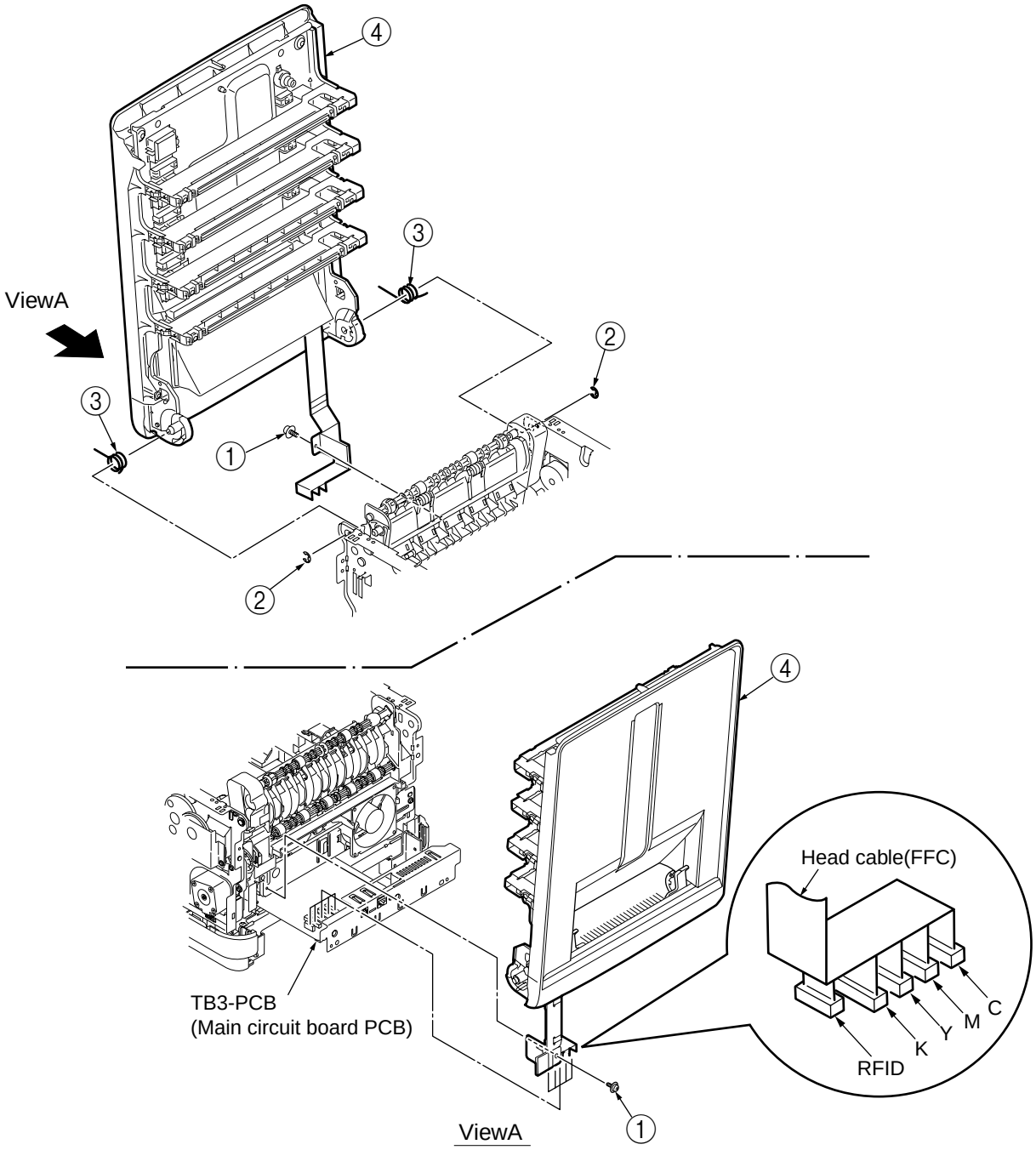


Figure 4-2-5 Top cover assembly

4.2.6 Top cover

(1) Remove the top cover assembly. (See Subsection 4.2.5)

(2) Remove nine screws (black) ① to remove the top cover ②.

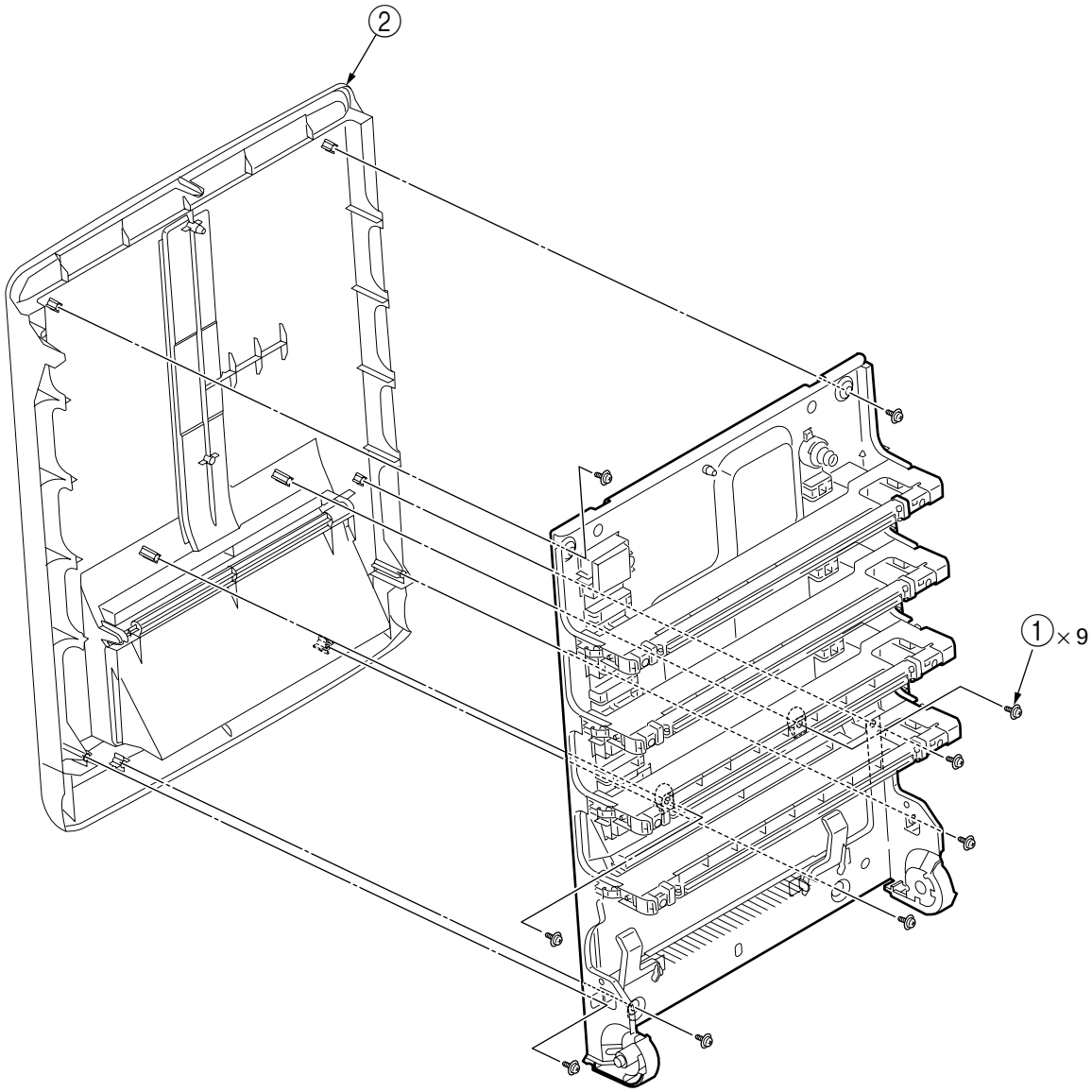


Figure 4-2-6 Top cover

4.2.7 LED assembly/ LED assembly spring

(1) Open the top cover.

(2) After removing the head cable (FFC), apply force in the direction of the arrow 'X' as shown in Figure (2). Remove a hook A first and then a hook B to remove the LED assembly ①.

(3) Remove the spring ②.

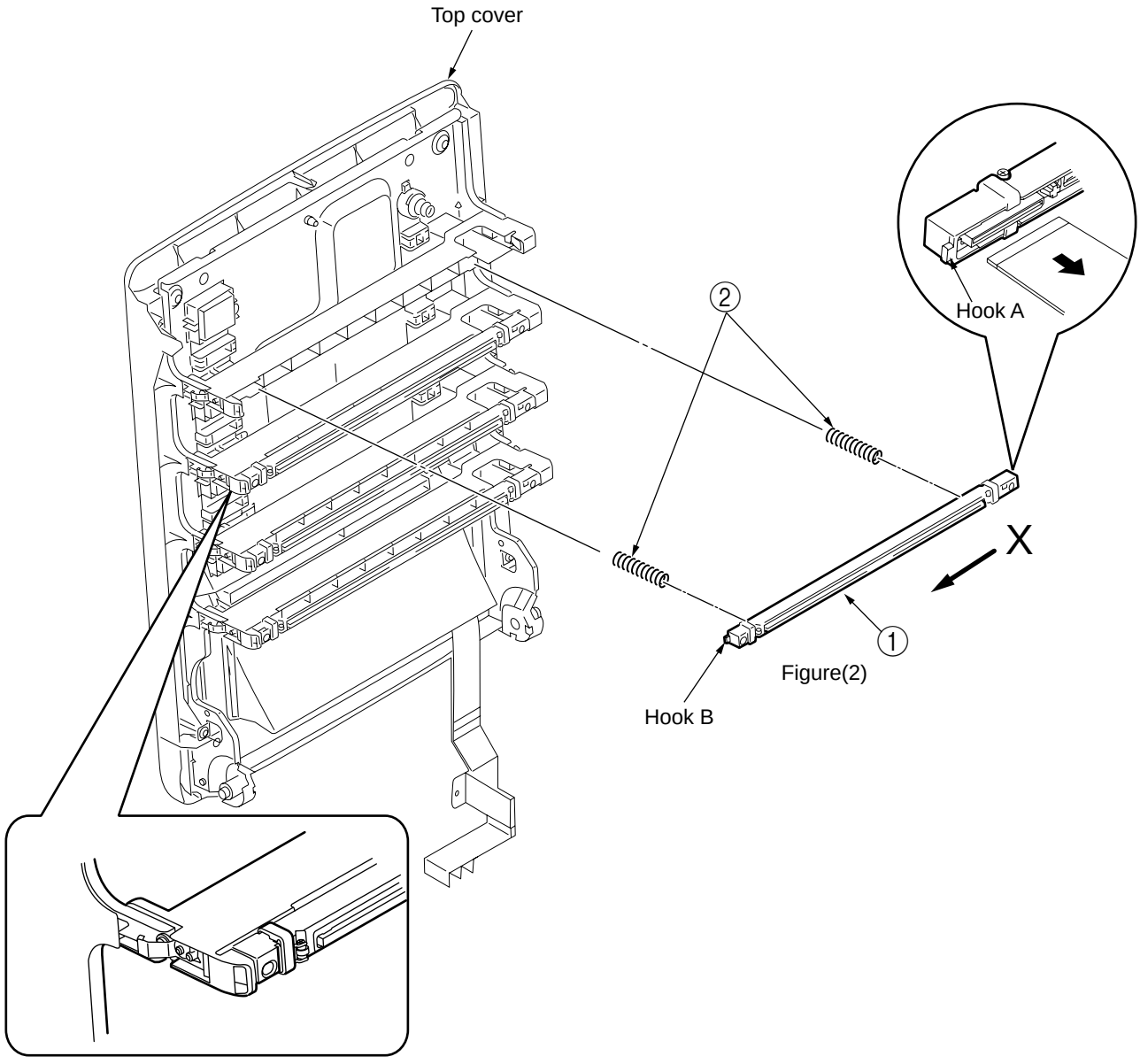


Figure 4-2-7 LED assembly/ LED assembly spring

4.2.8 RFID assembly

(1) Remove the top cover assembly. (See Subsection 4.2.6)

(2) Remove the top cover. (See Subsection 4.2.7)

(3) Remove two screws (silver) ① and all connectors to detach the LUM board (RFID reader writer) ②.

(4) Detach six claws A and two claws B engaging with the plate-inner ③ to remove RFID assembly ④.

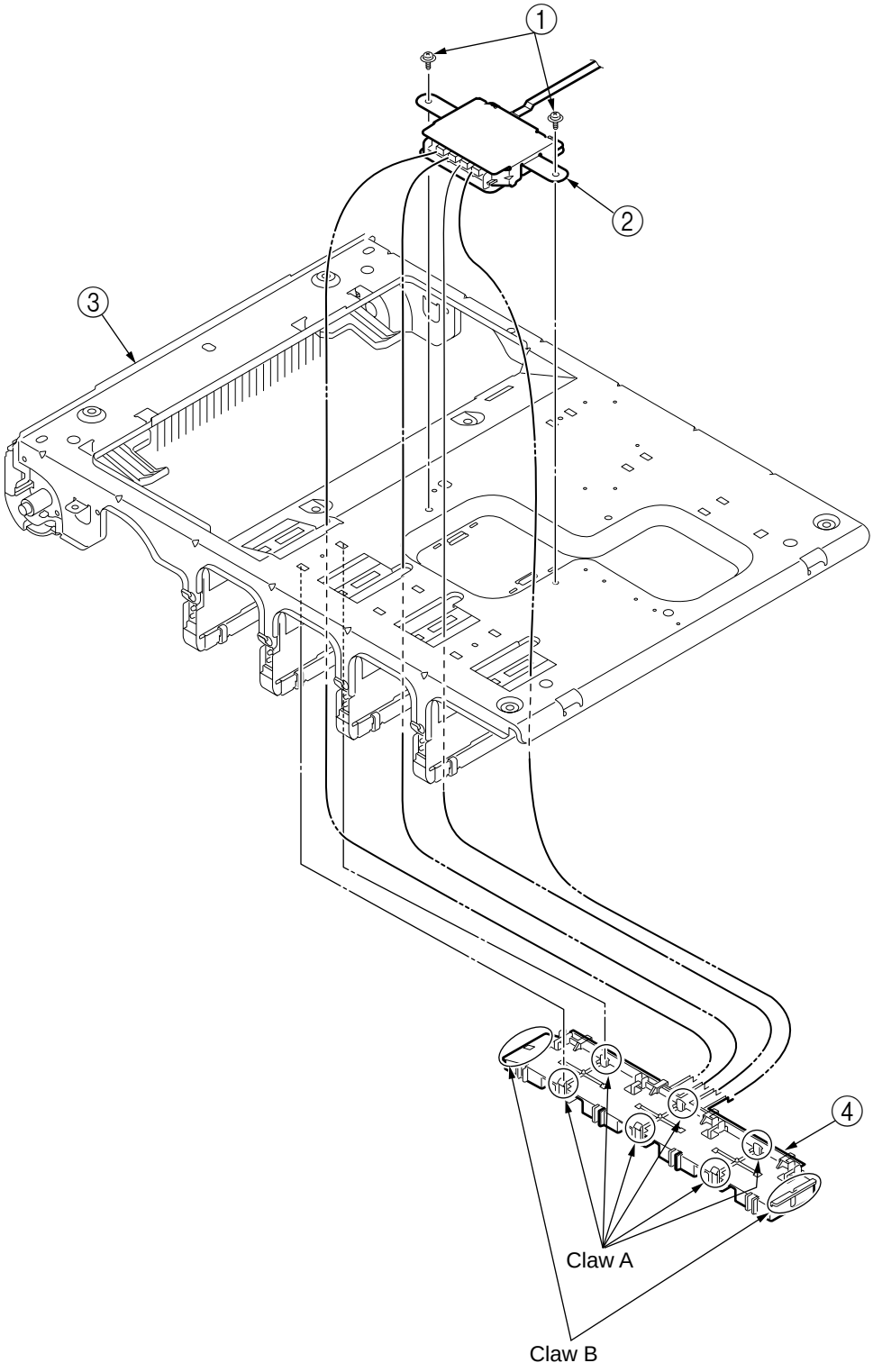


Figure 4-2-8 RFID assembly

4.2.9 Control pane assembly

(1) Open the top cover.

(2) Open the front cover.

(3) Remove the right side cover (See Subsection 4.2.2)

(4) Remove the plate shield front and cable (See Subsection 4.2.16)

(5) Detach FFC which connects the control panel assembly with the control panel PCB.

(6) Remove four screws (silver) ① to remove the control panel assembly ②.

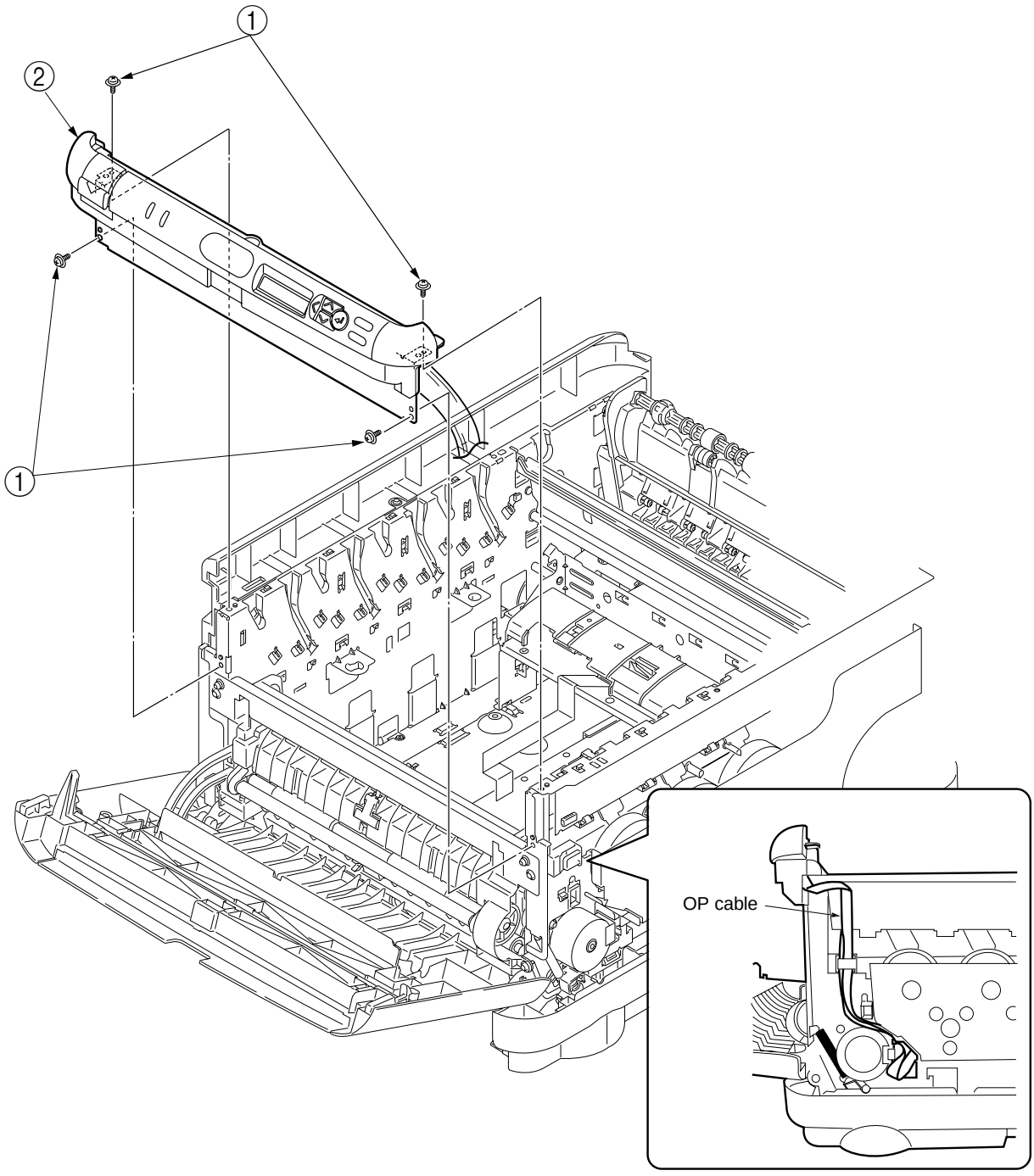


Figure 4-2-9 Control pane assembly

4.2.10 WHP board

(1) Remove the control panel assembly (See Subsection 4.2.9)

(2) Remove a claw A to remove the frame OP ①.

(3) Remove a claw B and the button lock ② to detach the lever lock ③.

(4) Remove a spring ④.

(5) Remove nine claws C and the cover assembly OP ⑤.

(6) Remove the cover-LCD ⑥ and lens-LED ⑦.

(7) Remove two screws ⑨ (M2,Tool No.1) and the button-Key ⑧ to remove the WHP board (operation panel) ⑩.

(8) Remove a spring ⑪.

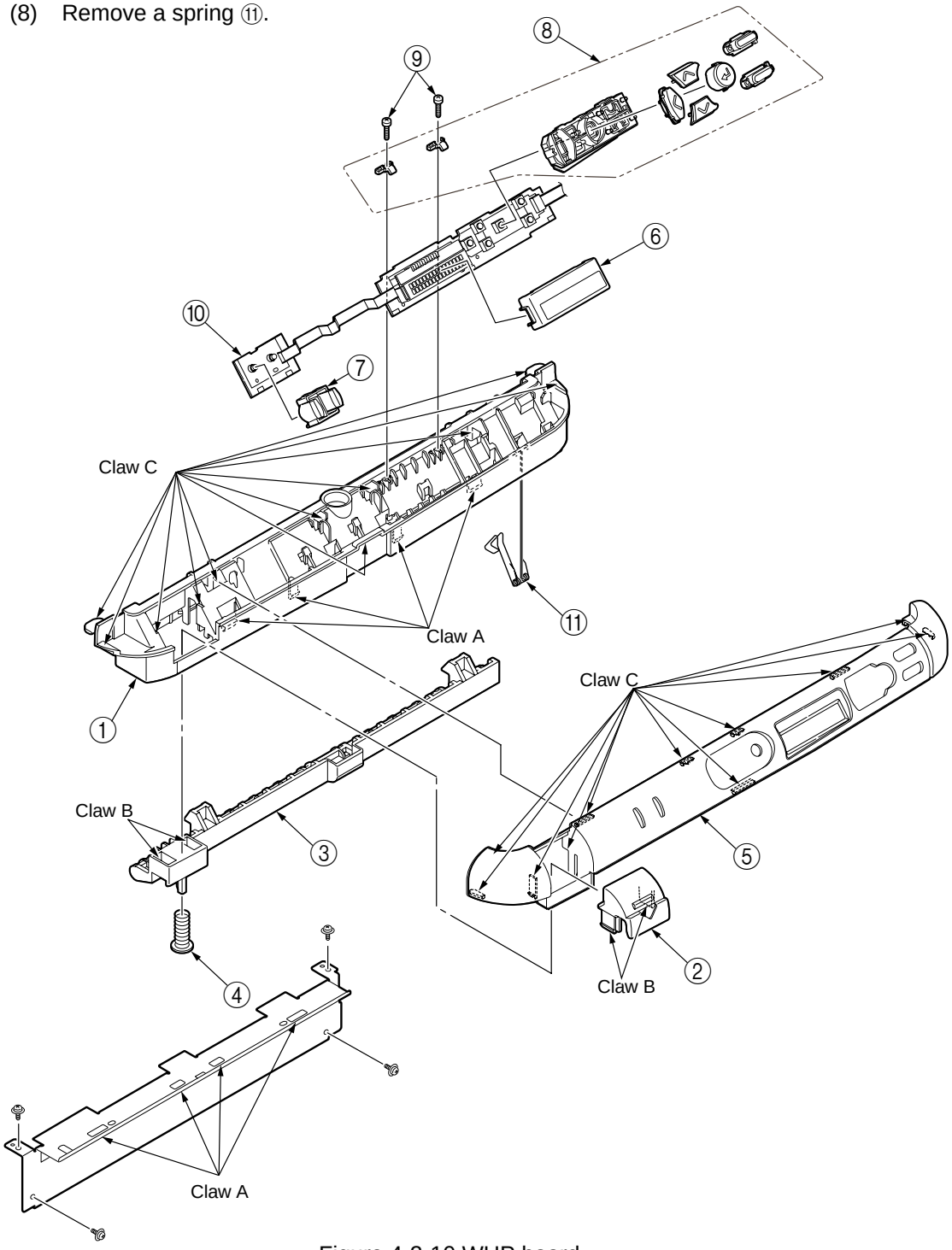


Figure 4-2-10 WHP board

4.2.11 Feeder unit

(1) Open the top cover.

(2) Open the front cover. (See Subsection 4.2.4)

(3) Remove the Lever_Lock_Assembly ①.

(4) Remove the left side cover. (See Subsection 4.2.1)

(5) Remove the right side cover. (See subsection 4.2.2)

(6) Detach the plate shield front. (See Subsection 4.2.16)

(7) Remove a connector ③ connecting to the feeder unit ② from the TB3 board (main board).

(8) Remove four screws (silver) ④ to remove the feeder unit ②.

(9) Remove claws to remove the cover sensor ⑤.

(10) Remove the MIP board (front sensor board) ⑥.

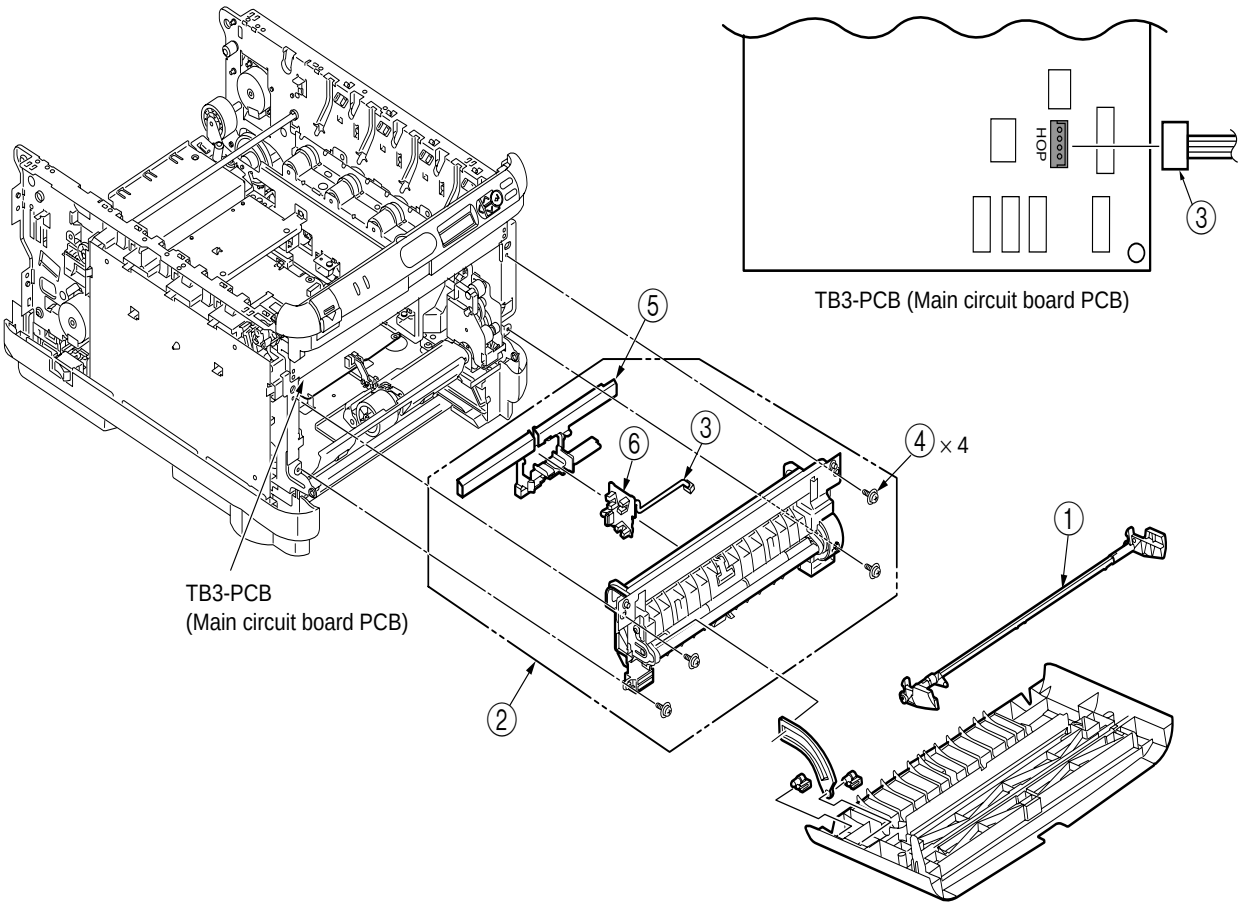


Figure 4-2-11 Feeder unit

4.2.12 Manual feeder unit

(1) Open the top cover.

(2) Open the manual feeder ① .

(3) Hold both ends of the manual feeder ① and pull it in the direction of the arrow to remove it.

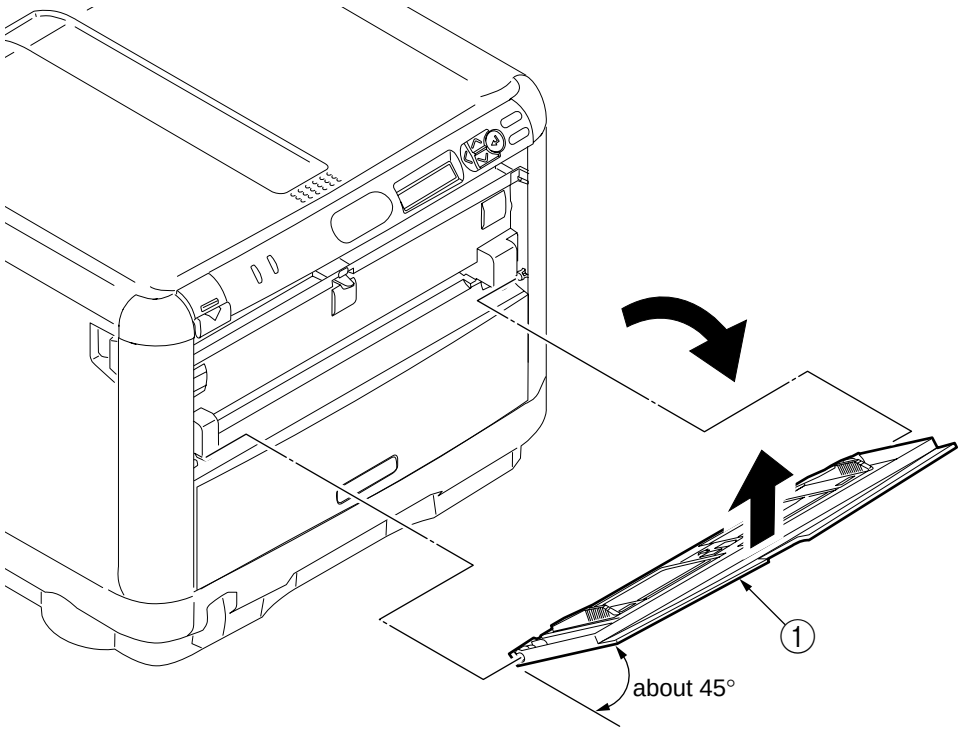


Figure 4-2-12 Manual feeder unit

4.2.13 Face up tray

(1) Remove the left side cover. (See Subsection 4.2.1)

(2) Remove the right side cover. (See Subsection 4.2.2)

(3) Remove the rear cover. (See Subsection 4.2.3)

(4) Remove the supporting points of the face up tray ① with a flat blade screwdriver.

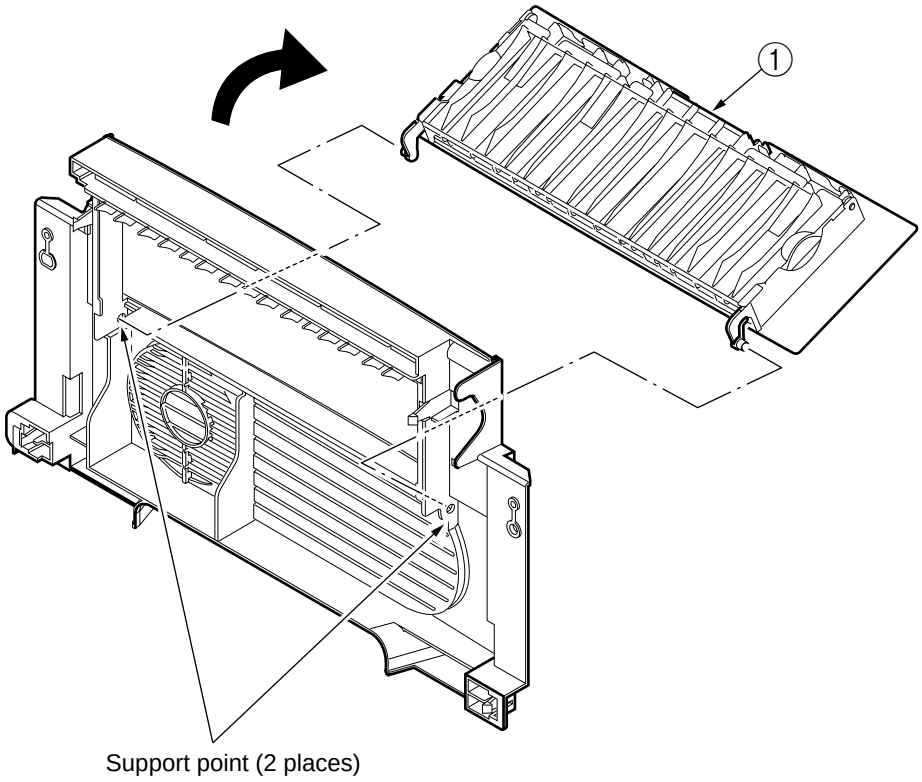


Figure 4-2-13 Face up tray

4.2.14 Guide eject assembly

(1) Remove the left side cover. (See Subsection 4.2.1)

(2) Remove the right side cover. (See Subsection 4.2.2)

(3) Remove the rear cover. (See Subsection 4.2.3)

(4) Remove the top cover assembly. (See Subsection 4.2.5)

(5) Remove the color registration assembly. (See Subsection 4.2.17)

(6) Detach two latches at the lower part of the guide eject assembly ① to remove the guide eject assembly ①.

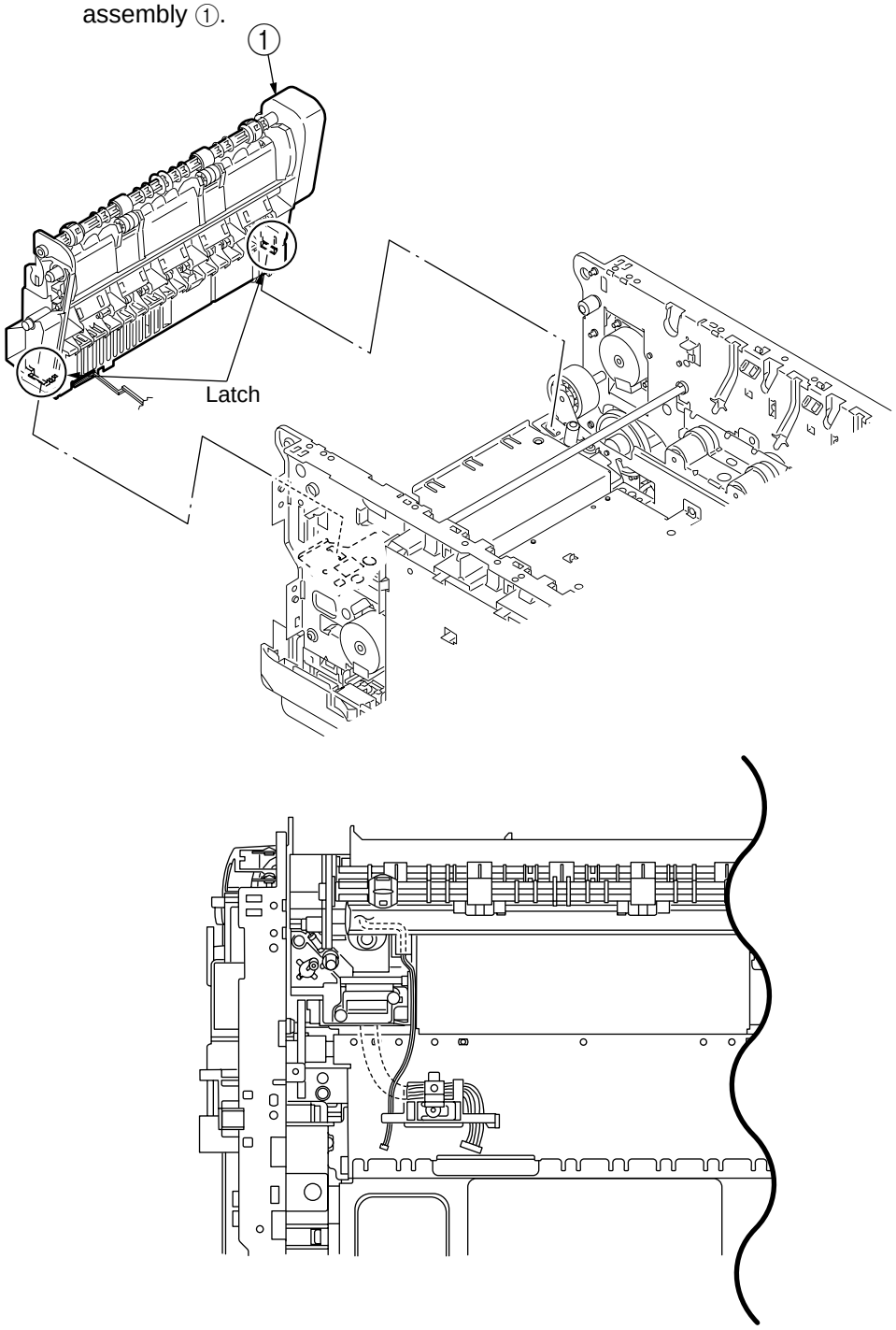


Figure 4-2-14 Guide eject assembly

4.2.15 Eject roller

(1) Remover the guide eject assembly ①. (See Subsection 4.2.14)

(2) Remove two claws A to divide them into the guide eject lower ② and the guide eject upper ③.

(3) Detach a claw B, three gear idle ejects ④. Remove the shaft assembly eject (FD) ⑤ and the shaft assembly eject (FU) ⑥.

(4) Remove the eject sensor ⑦, and the lever eject sensor ⑧ from the guide eject lower ②.

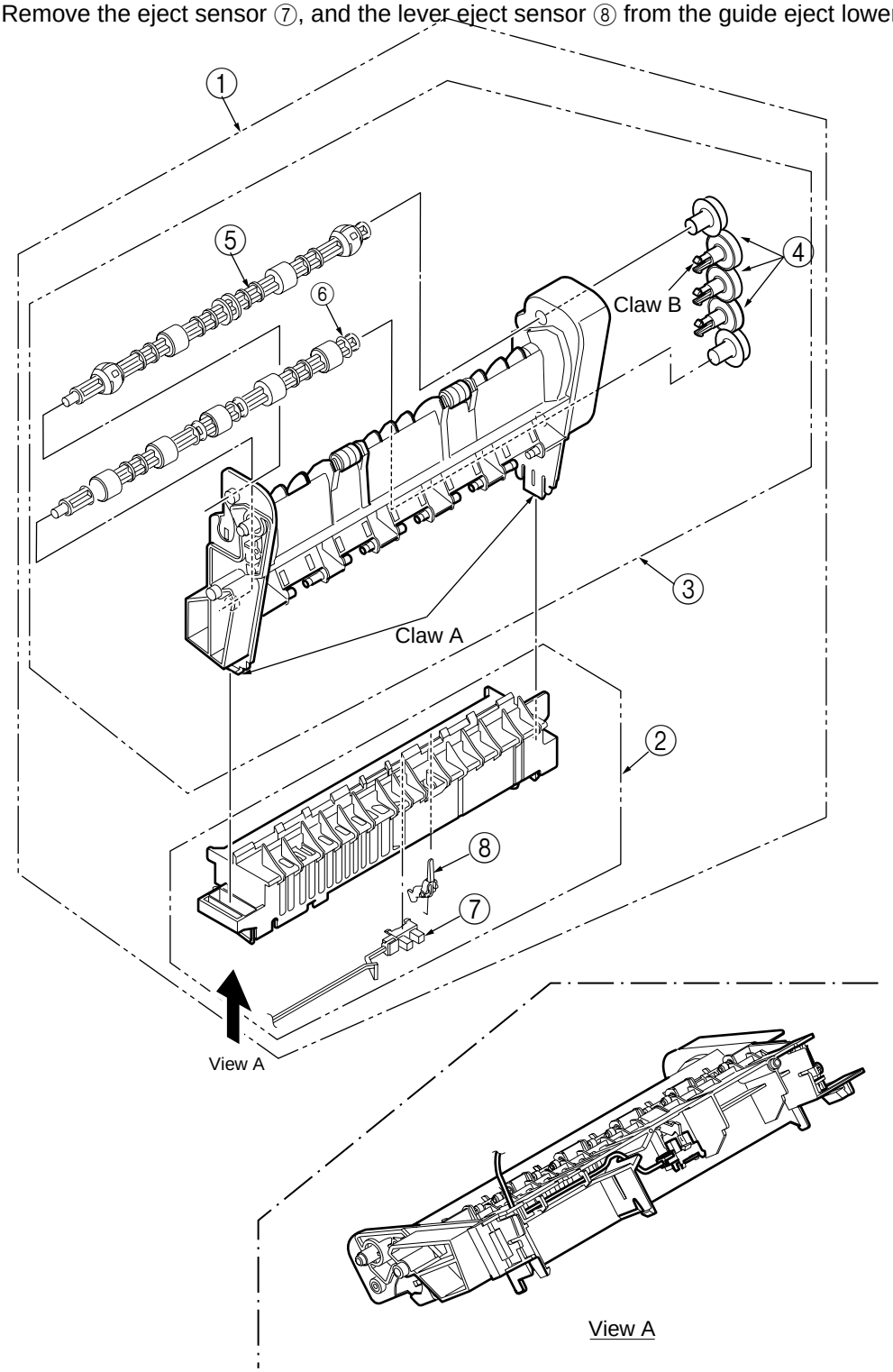


Figure 4-2-15 Eject roller

4.2.16 Plate shield front

(1) Remove three screws (silver) and remove the plate shield front ②.

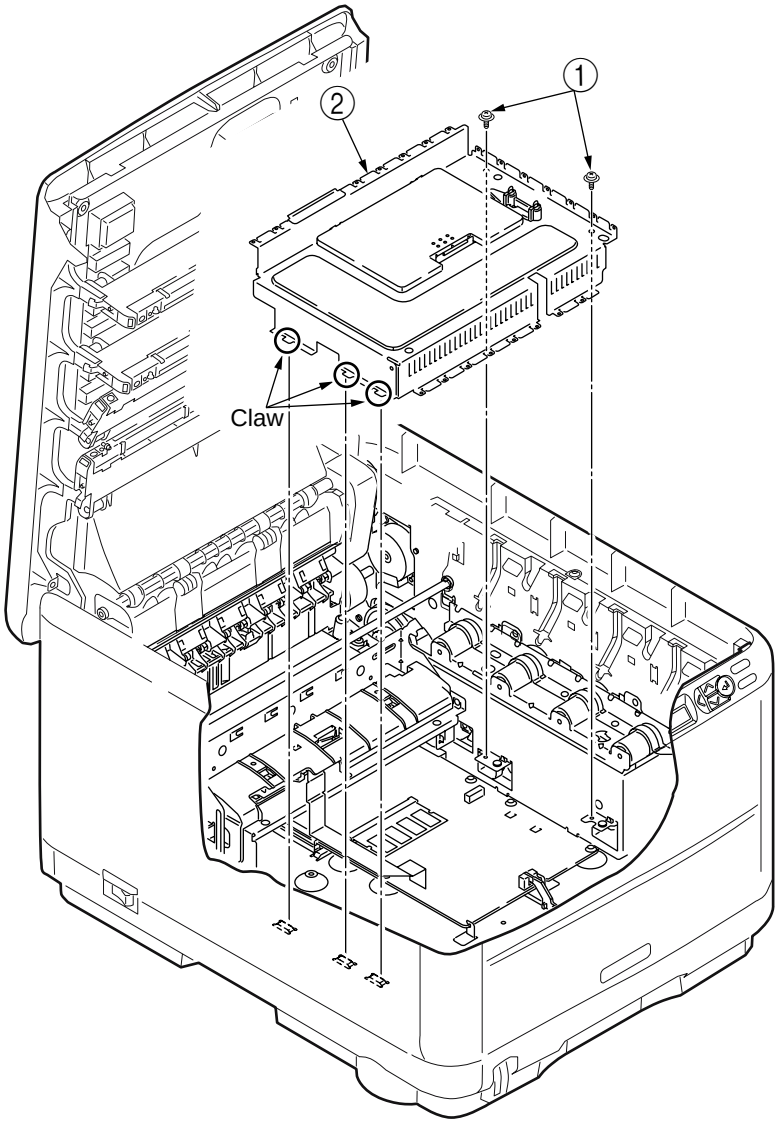


Figure 4-2-16 Plate shield front

4.2.17 Color registration assembly

(1) Remove two screws (silver) ① to remove the plate heat.

(2) Remove two screws (silver) ③ to detach two connectors and one FFC. Then remove the color registration assembly ④.

(3) Detach two supporting points to remove the frame shutter ⑤.

(4) Remove two screws (silver) ⑥ to remove the color registration sensor board ⑦.

(5) Remove a screw (silver) ⑧ to remove the density sensor board ⑨.

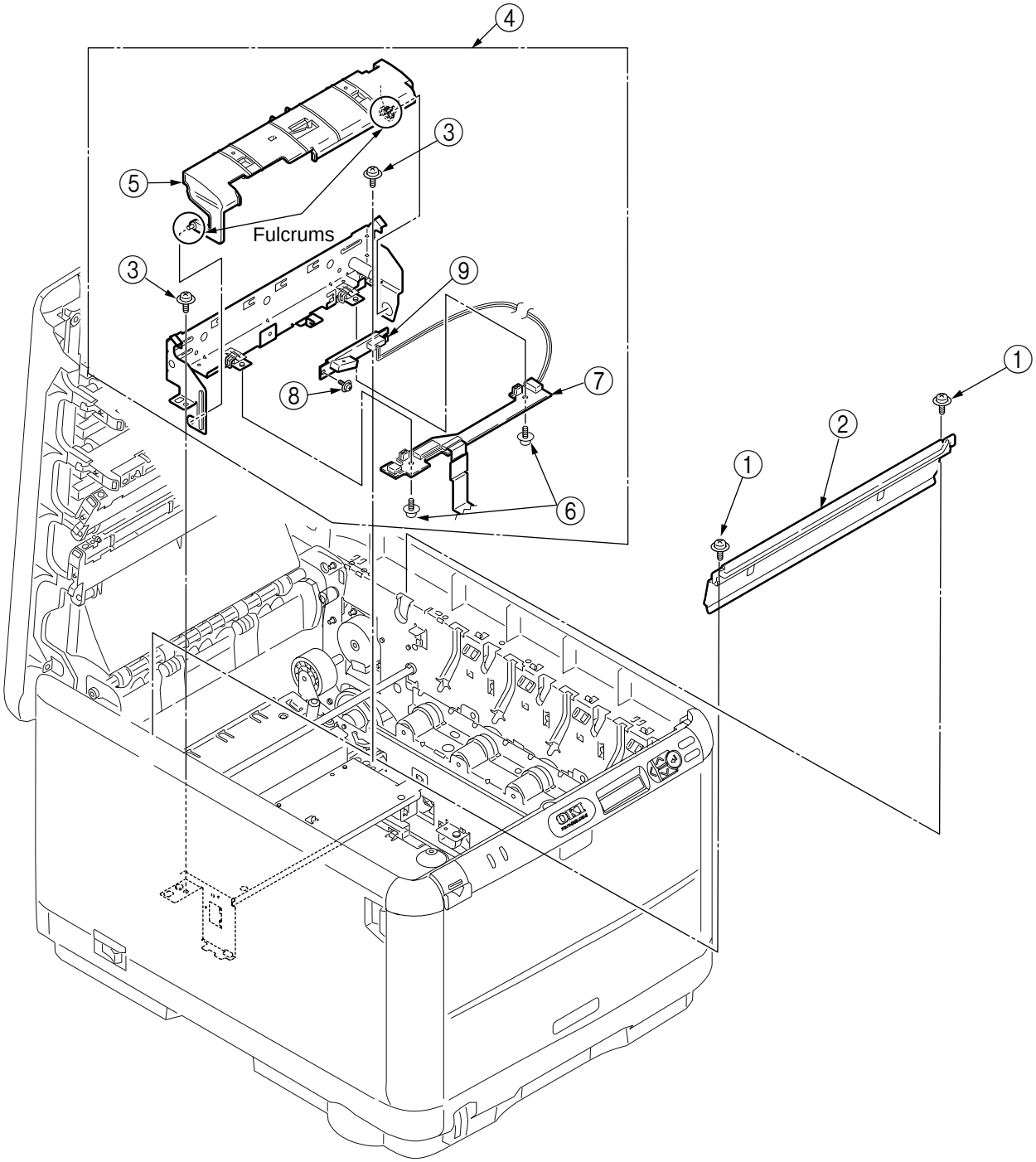


Figure 4-2-17 Color registration assembly

4.2.18 Plate shield rear

(1) Remove the left side cover. (See Subsection 4.2.1)

(2) Remove the right side cover. (See Subsection 4.2.2)

(3) Remove the rear cover. (See Subsection 4.2.3)

(4) Remove the top cover assembly. (See Subsection 4.2.5)

(5) Remove the color registration assembly. (See Subsection 4.2.17)

(6) Remove the plate shield front. (See Subsection 4.2.16)

(7) Remove the low voltage power supply. (See Subsection 4.2.22)

(8) Remove the TB3 board (main board.) (See Subsection 4.2.23)

(9) Remove two screws (silver) ① to remove the plate heat ②.

(10) Remove latches of the gear lift up ③ to detach a shaft ④.

(11) Remove three screws (silver) ⑤ to remove the plate shield rear ⑥.

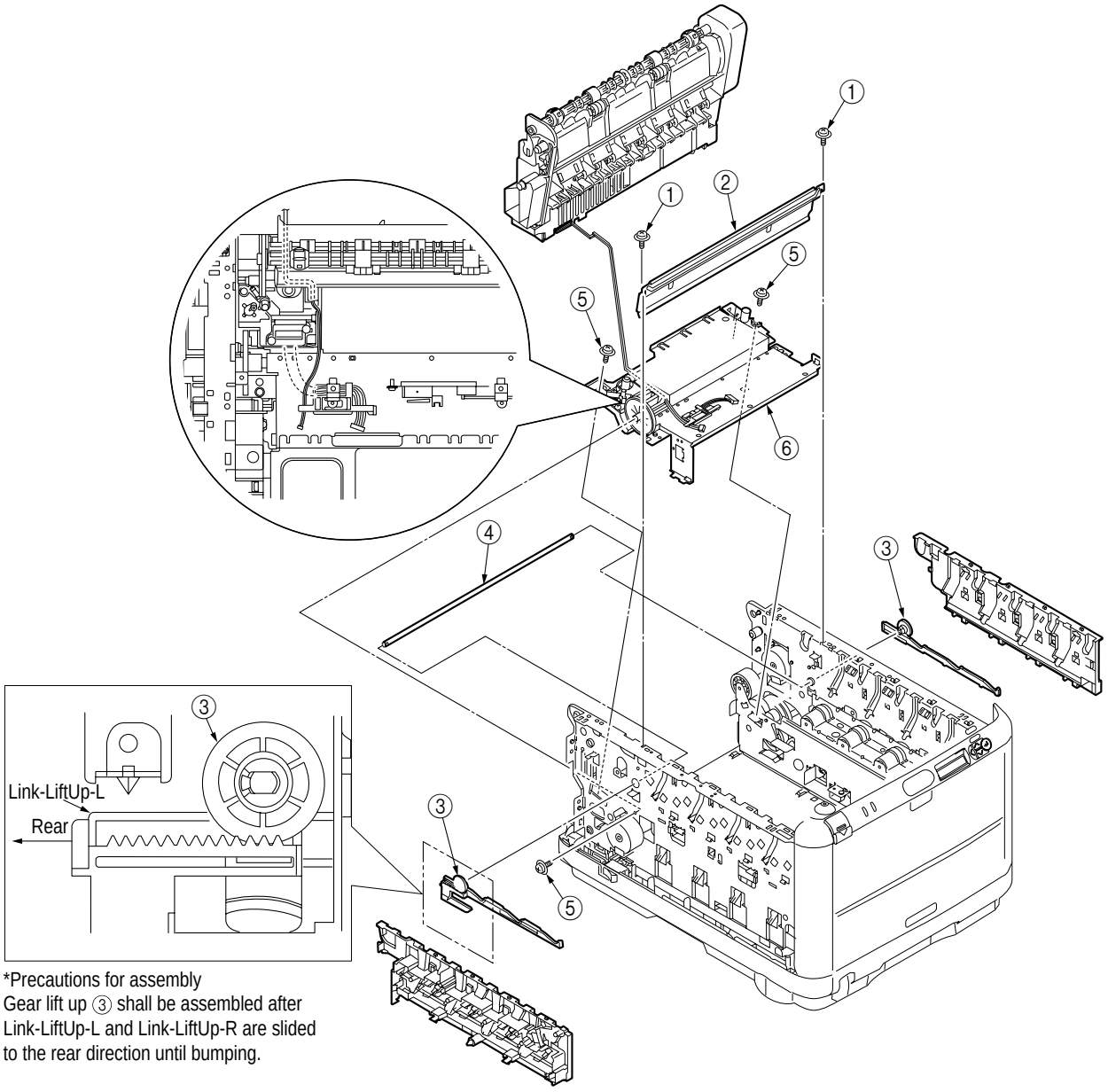


Figure 4-2-18 Plate shield rear

4.2.19 PRS board (toner sensor board)/ Gear idle dram

(1) Remove the right side cover. (See Subsection 4.2.2)

(2) Remove seven screws (silver) ① and remove bracket outer ②.

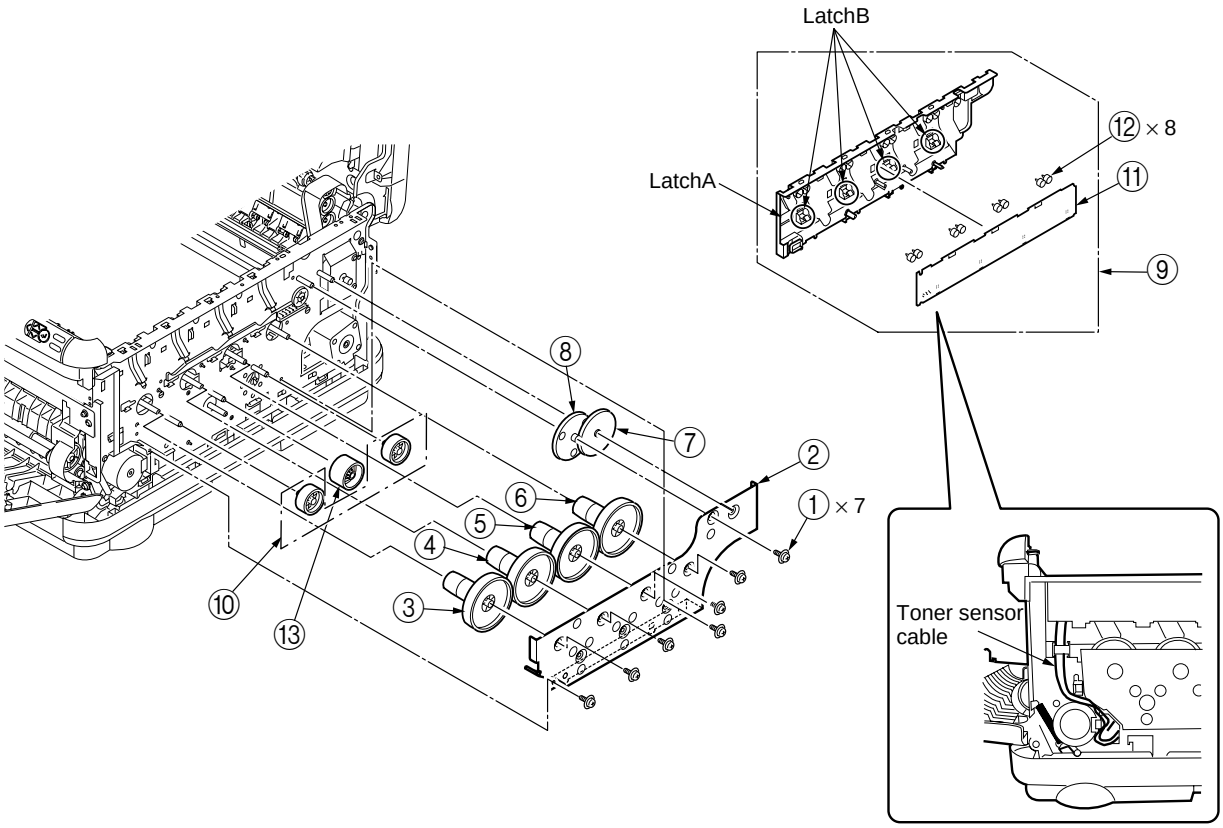
(3) Remove the drum idle gears ③, ④, ⑤ and ⑥.

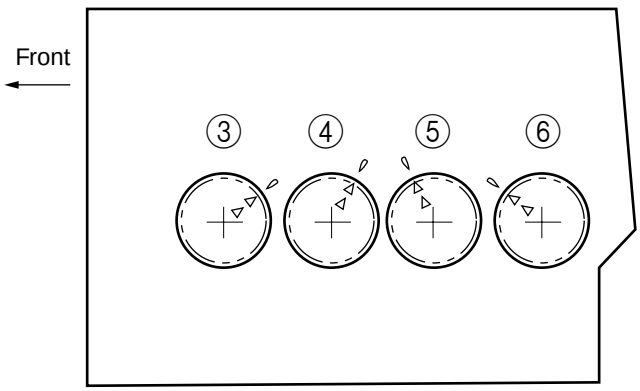
(4) Remove the idle gear ⑩, ⑬.

(5) Remove ID lift-up gears ⑦ and ⑧.

(6) Remove the cover plate ⑨ by sliding back the latch A.

(7) Remove the latch B to remove the Board-PRS ⑪ and the spring contact ⑫.





*Precautions for assembly
Make sure that the triangle directions at the sides of the gears match the arrow directions of the cover plate on completion of assembling drum idle gears ③ to ⑥ .

Figure 4-2-19 PRS board/ Gear idle dram

4.2.20 Main motor/ Solenoid

(1) Remove the left side cover. (See Subsection 4.2.1)

(2) Remove the right side cover. (See Subsection 4.2.2)

(3) Remove the rear cover. (See Subsection 4.2.3)

(4) Remove the front cover (See Subsection 4.2.4)

(5) Remove the plate shield front. (See Subsection 4.2.16)

(6) Remove the top cover assembly. (See Subsection 4.2.5)

(7) Remove the control panel assembly. (See Subsection 4.2.9)

(8) Remove the feeder unit assembly. (See Subsection4.2.11)

(9) Remove the guide eject assembly. (See Subsection4.2.14)

(10) Remove the color registration assembly. (See Subsection 4.2.17)

(11) Remove the plate shield rear. (See Subsection 4.2.18)

(12) Remove two screws (silver) ① to remove the part A and the side plate R assembly ②.

(13) Remove a screw (silver) ③ to remove the plate lockout ID ④.

(14) Remove five screws (silver) ⑤ to remove the part B and the bracket inner ⑥.

(15) Remove two screws (silver) ⑦ to remove the Fuser- motor ⑧.

(16) Remove two screws (silver) ⑨ to remove the DC motor ⑩.

(17) Remove two screws (silver) ⑪ to remove the ID lift up motor ⑫.

(18) Remove two screws (black) ⑬ to remove the hopping motor ⑭.

(19) Remove two screws (black) ⑮ to remove a claw C and the Gear-HP-assembly ⑯.

(20) Remove a spring ⑰, a screw ⑱ and solenoid ⑲.

(21) Remove a spring ⑳, a claw D of the hopping roller ㉑, claw E of the gear ㉒ , bushing ㉓, hopping roller ㉔ and frame hopping ㉕.

(22) Remove the lever end ㉖.

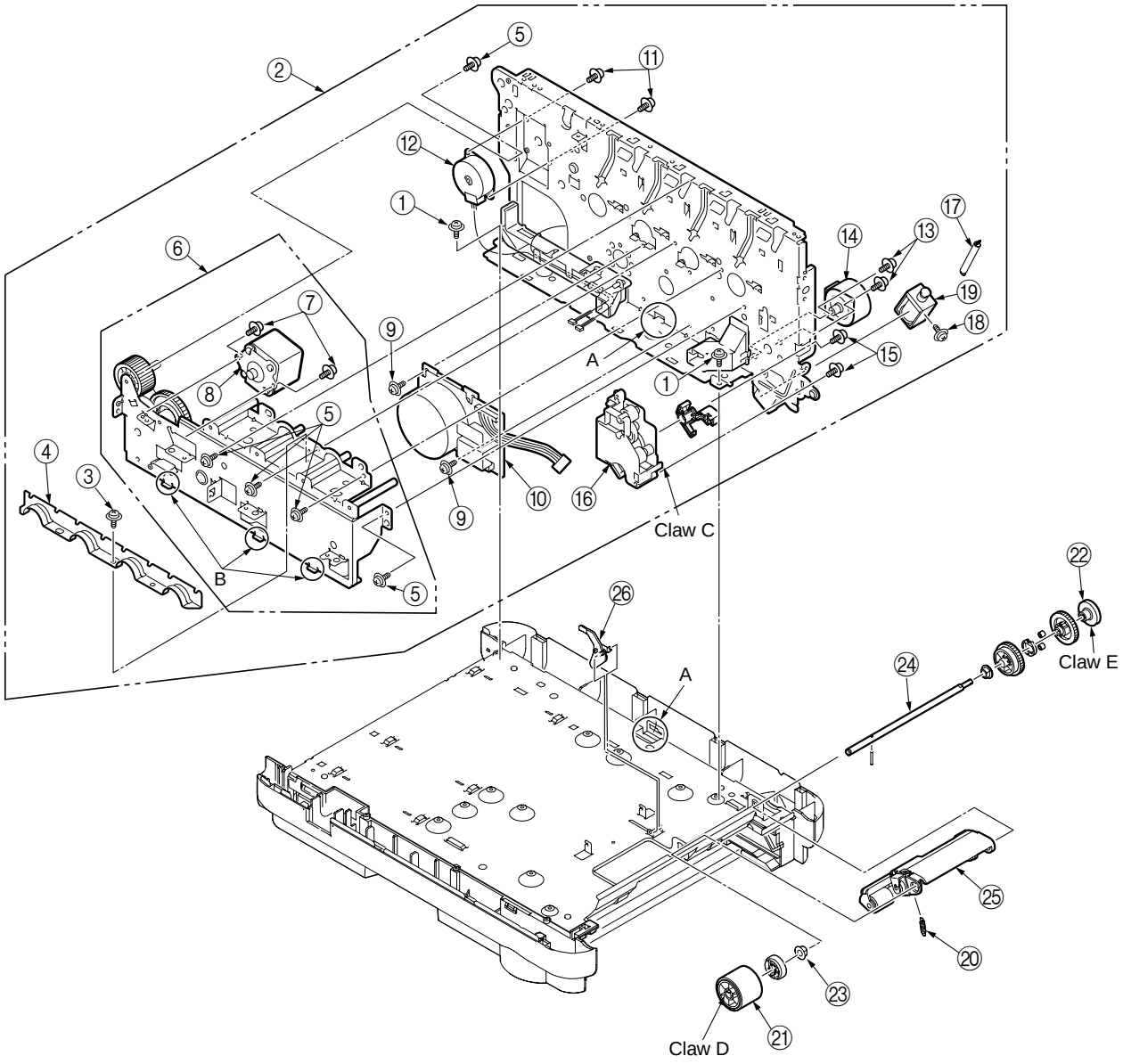


Figure 4-2-20 Main motor/ Solenoid

4.2.21 Belt motor/ High voltage board/ Cover open switch

(1) Remove the left side cover. (See Subsection 4.2.1)

(2) Remove the connector and claw A to remove the cover open switch①.

(3) Remove a screw (silver) ② and a screw (black) ③, and then remove seven claws B to detach the high voltage board ③.

(4) Remove a screw (silver) ④ to remove belt motor ⑥.

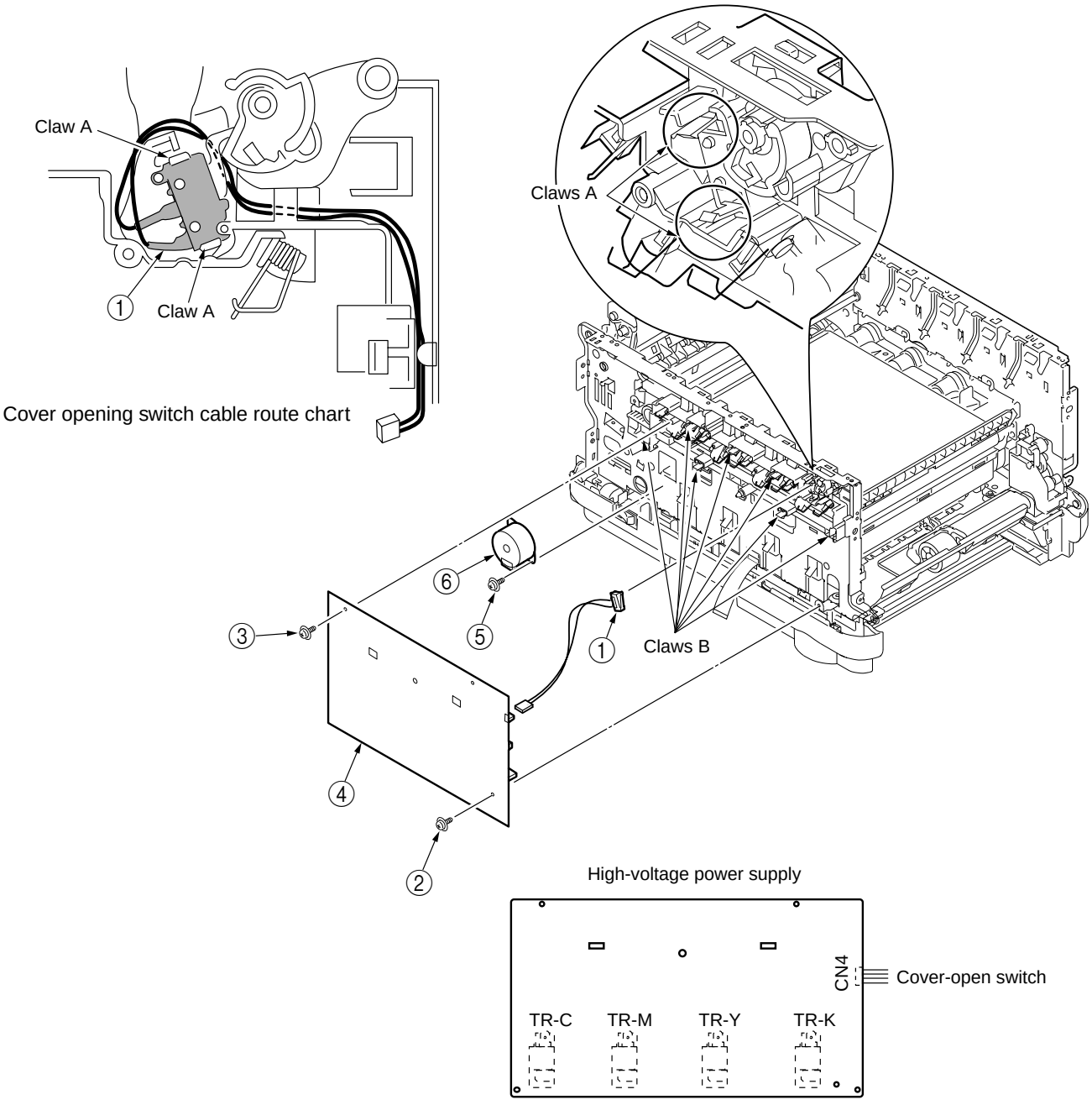


Figure 4-2-21 Belt motor/ High voltage board/ Cover open switch

4.2.22 Low voltage power supply/ Low voltage fan

(1) Remove the left side cover (See Subsection 4.2.1)

(2) Remove the right side cover (See Subsection 4.2.2)

(3) Remove the plate shield front (See Subsection 4.2.16)

(4) Remove a cable connecting the TB3 board (main board) with the Low voltage power supply.

(5) Detach the rear cover. (See Subsection 4.2.3)

(6) Remove the two (silver-colored) screws ①, release claw engagement at the two places, and pull out the low-voltage power supply ② to the position at which the AC switch connector and the fuser interface connector can be removed.

(7) Remove the AC switch connector and the fuser interface connector and detach the low-voltage power supply ②.

(8) Pull out a connector of the FAN in the direction of the arrow to extract the FAN ③.

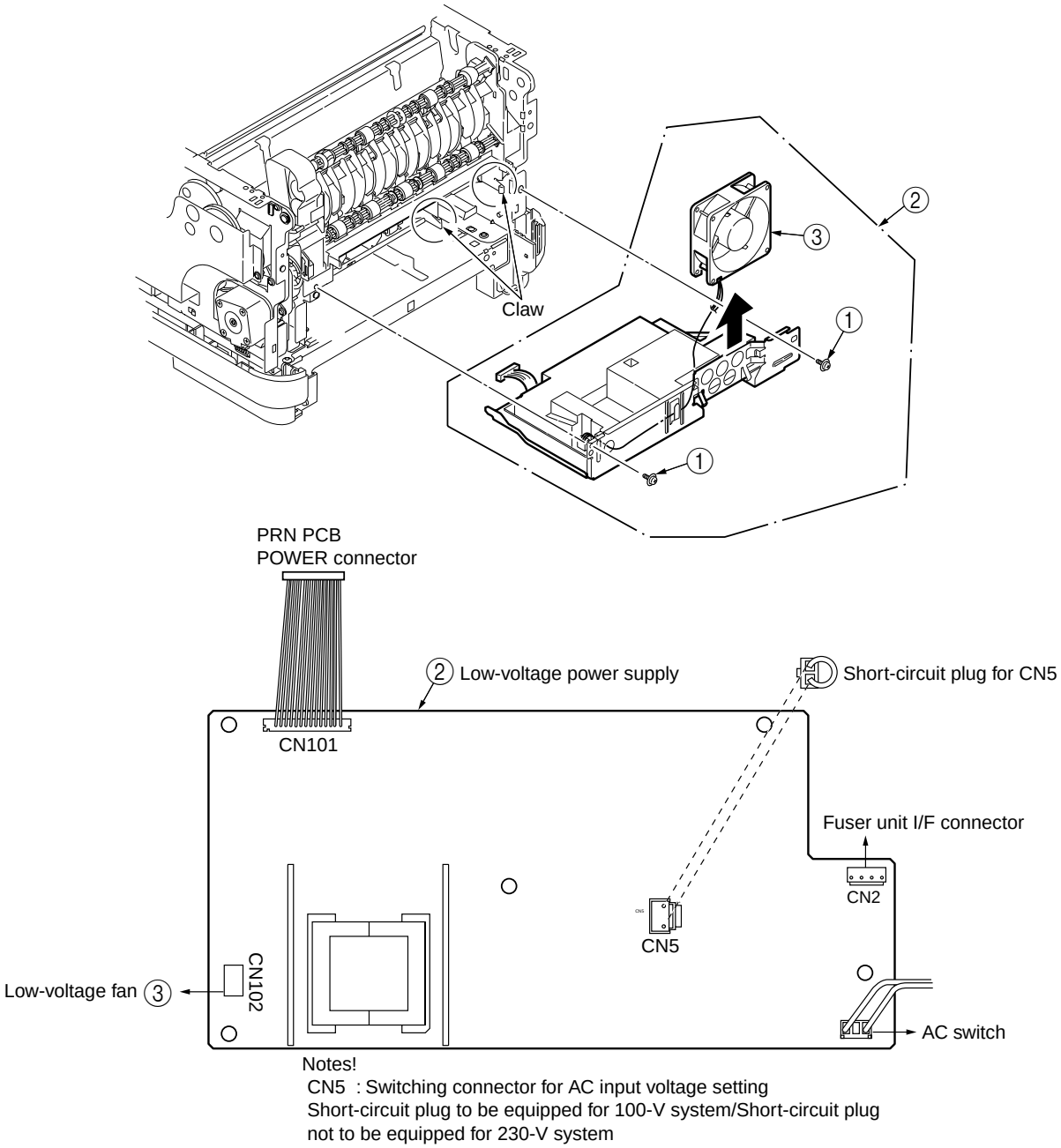


Figure 4-2-22 Low voltage power supply/ Low voltage fan

4.2.23 TB3 Board (Main Board)

(1) Remove the left side cover (See Subsection 4.2.1)

(2) Remove the right side cover (See Subsection 4.2.2)

(3) Remove the plate shield front (See Subsection 4.2.16)

(4) Remove all connectors connecting to the TB3 board (main board).

(5) Remove the rear cover. (See Subsection 4.2.3)

(6) Remove the low voltage power supply (See Subsection 4.2.22)

(7) Remove five screws (silver) ① and two screws (silver) ② to remove the TB3 board (main board) ③

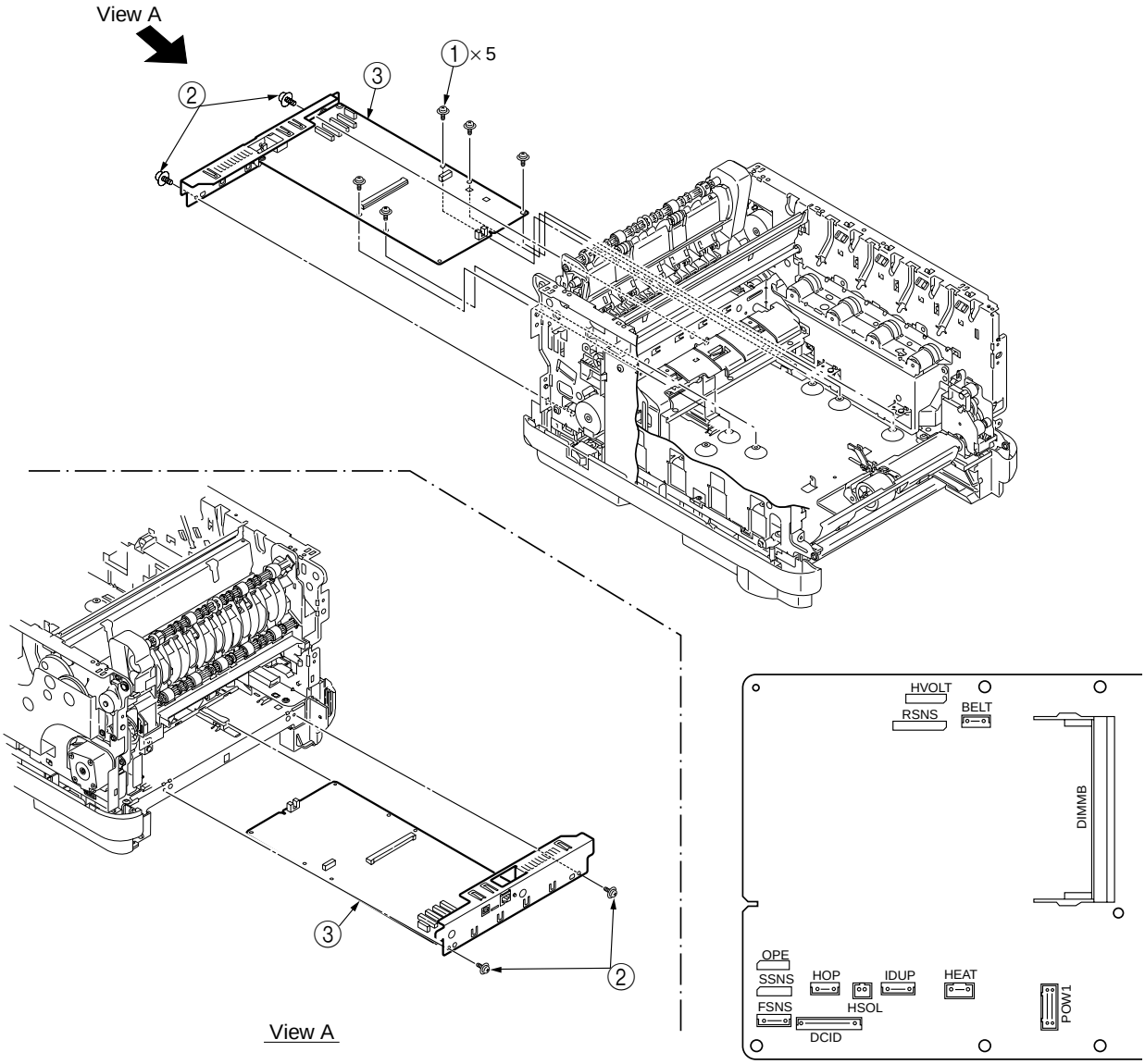


Figure 4-2-23 TB3 Board

4.3 Lubricating points

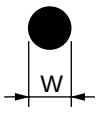
This subsection indicates the lubricating points of the printer. Conversely, it means that any other parts than the specified lubricating points must not be lubricated.
There is no need to lubricate in the midst of a disassembling job. However, if lubricating oil has been wiped off, supply the specified oil.

Lubricating work

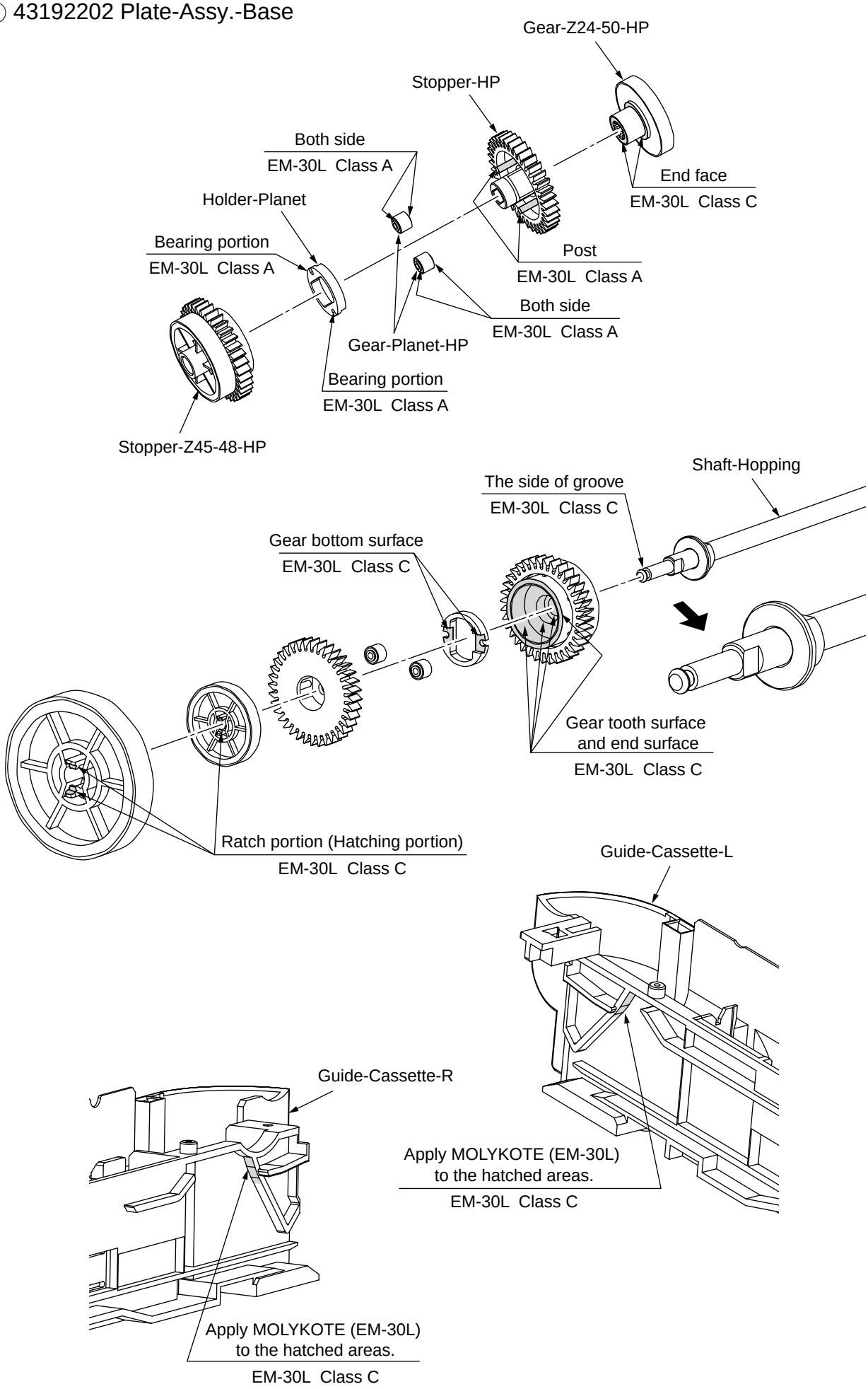
(1) Symbols and names of oils
EM-30L: MOLYKOTE EM-30L
HP-300: MOLYKOTE HP-300
PM : Pan Motor Oil 10W-40 or ZOA 10W-30

(2) Boundary samples of grease

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

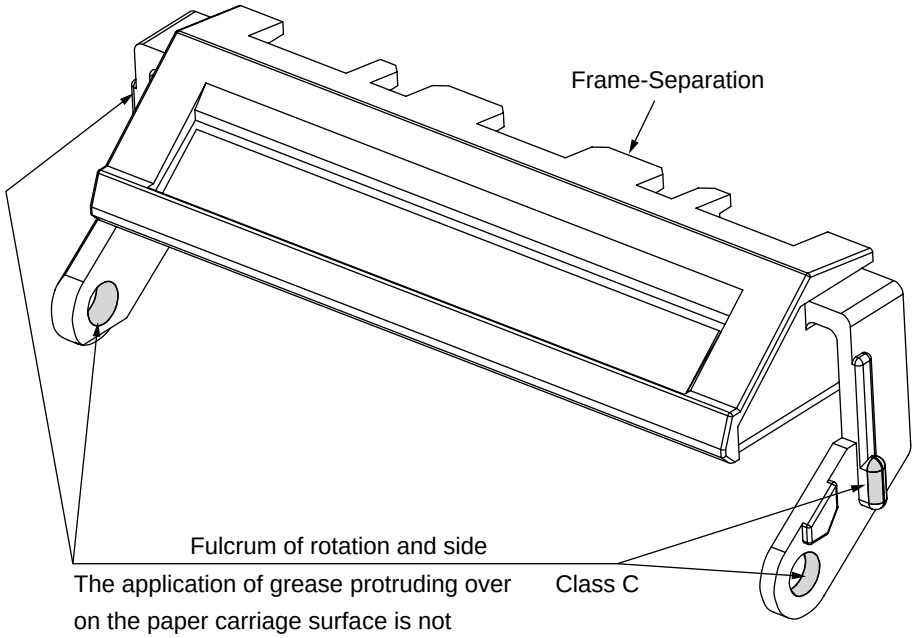


① 43192202 Plate-Assy.-Base



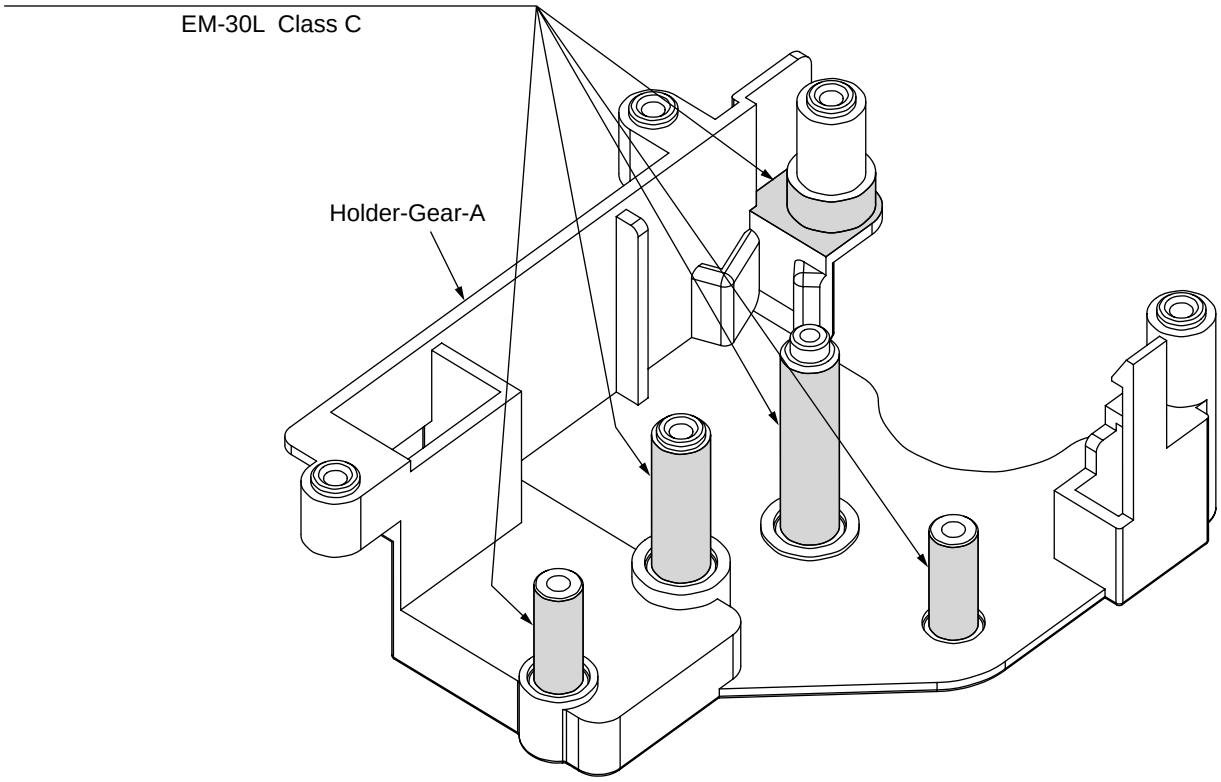
② 43192602 Cassette-Assy.

The MOLYKOTE (EM-30L) should be applied to the hatched areas portions shown in the figure below before assembly. (At both sides)

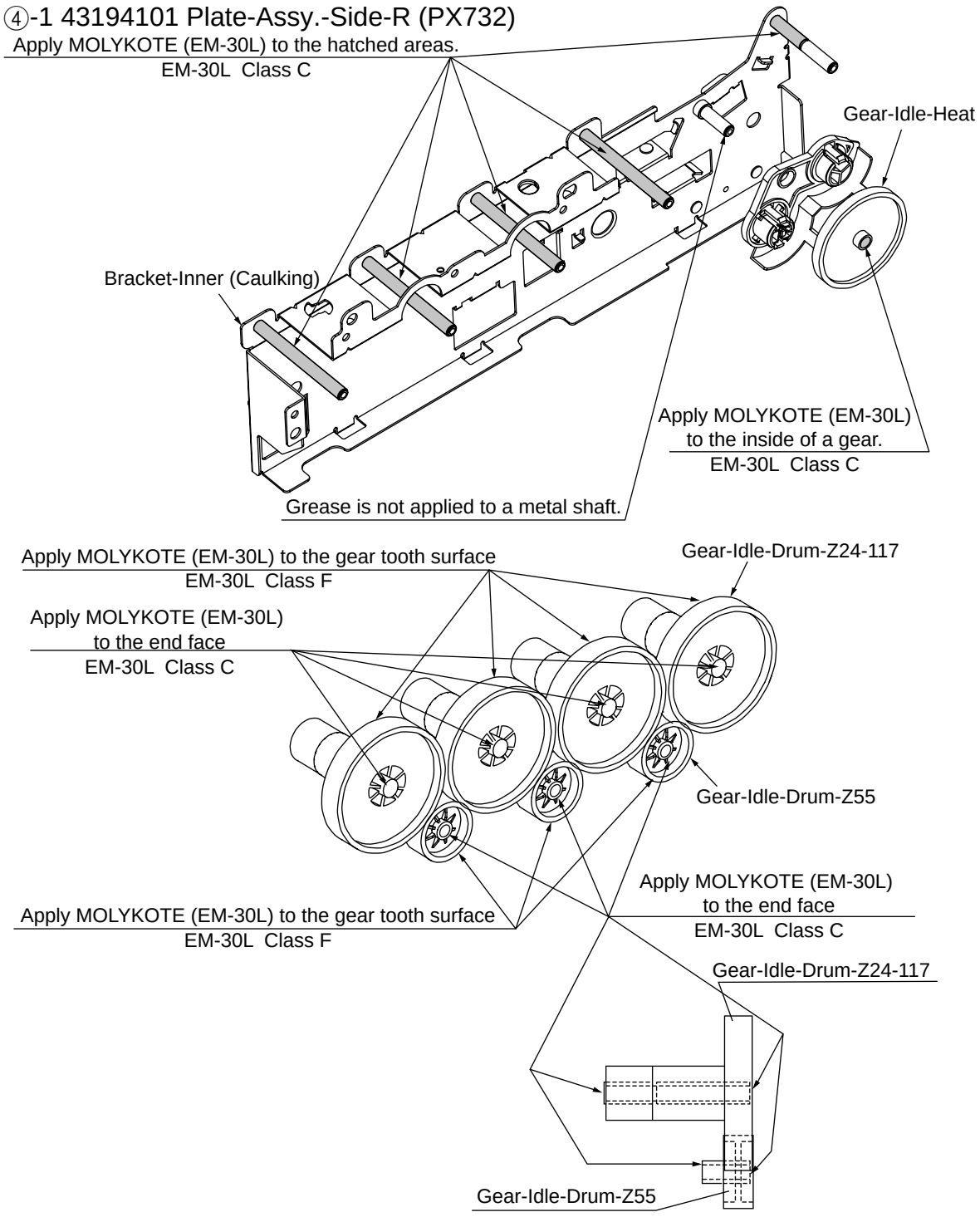


③ 43197301 Gear-Assy.-HP

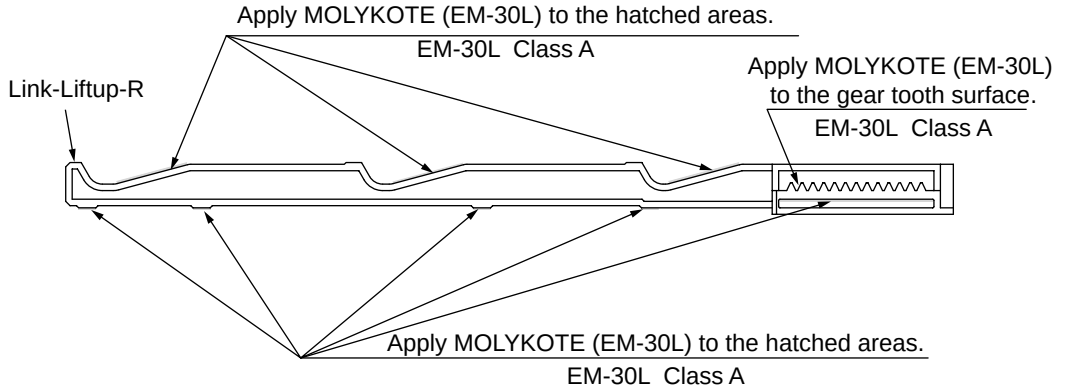
Apply MOLYKOTE (EM-30L) to the hatched areas.



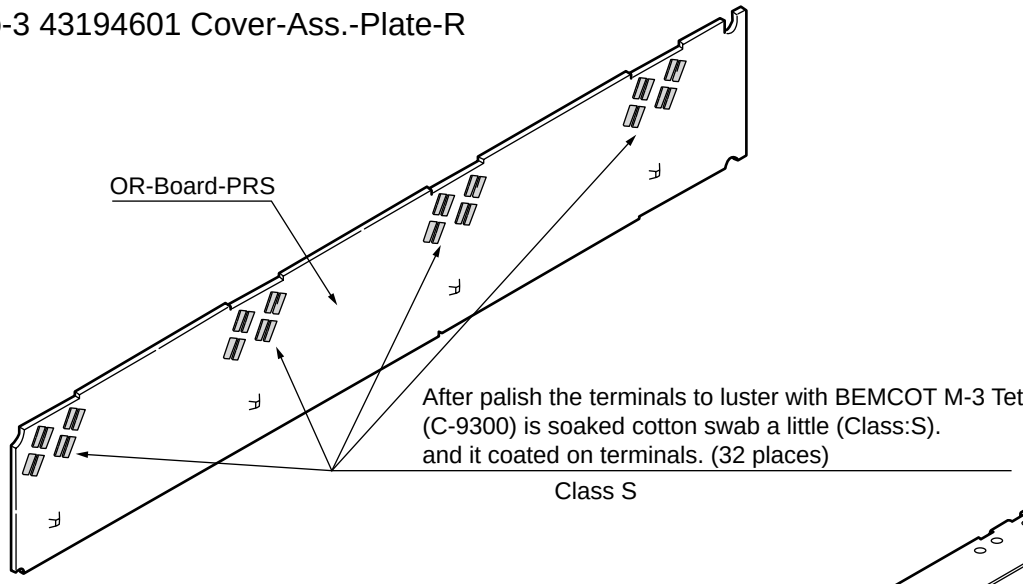
④-1 43194101 Plate-Assy.-Side-R (PX732)



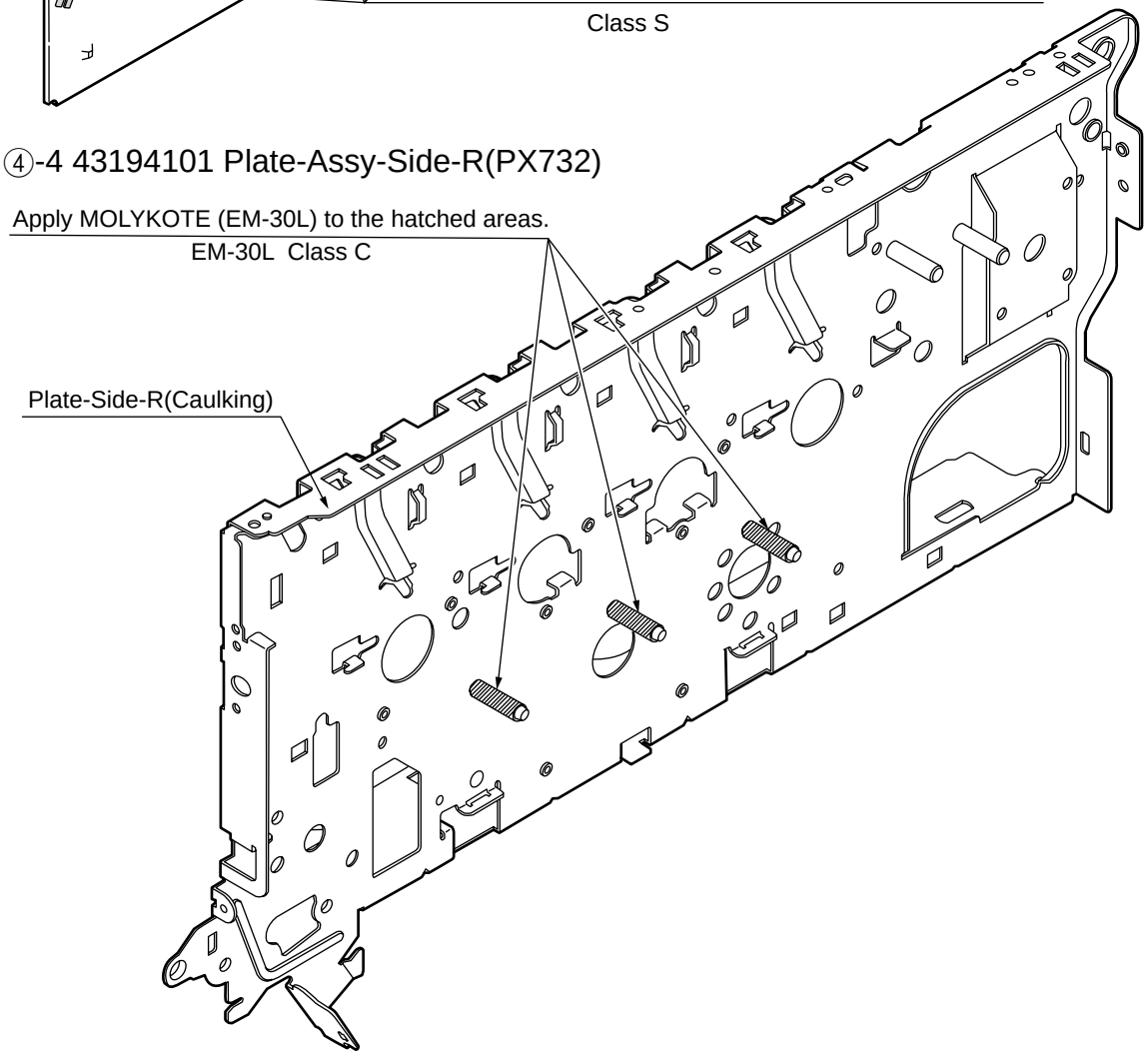
④-2 43194101 Plate-Assy.-Side-R (PX732)



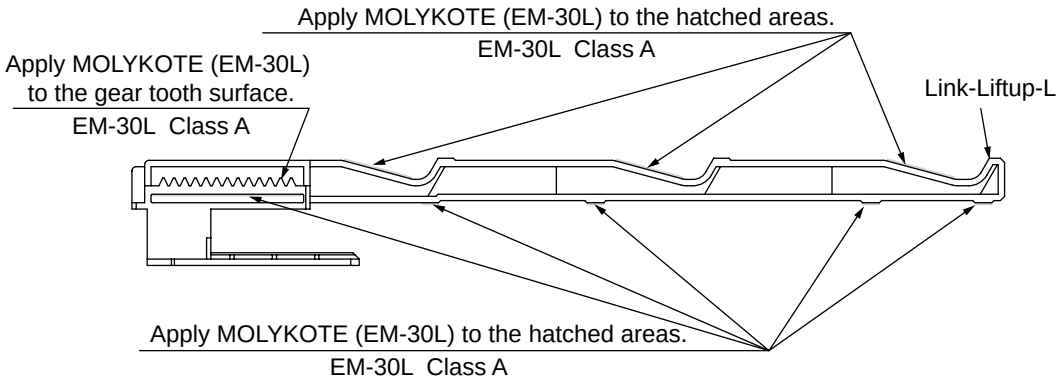
④-3 43194601 Cover-Ass.-Plate-R



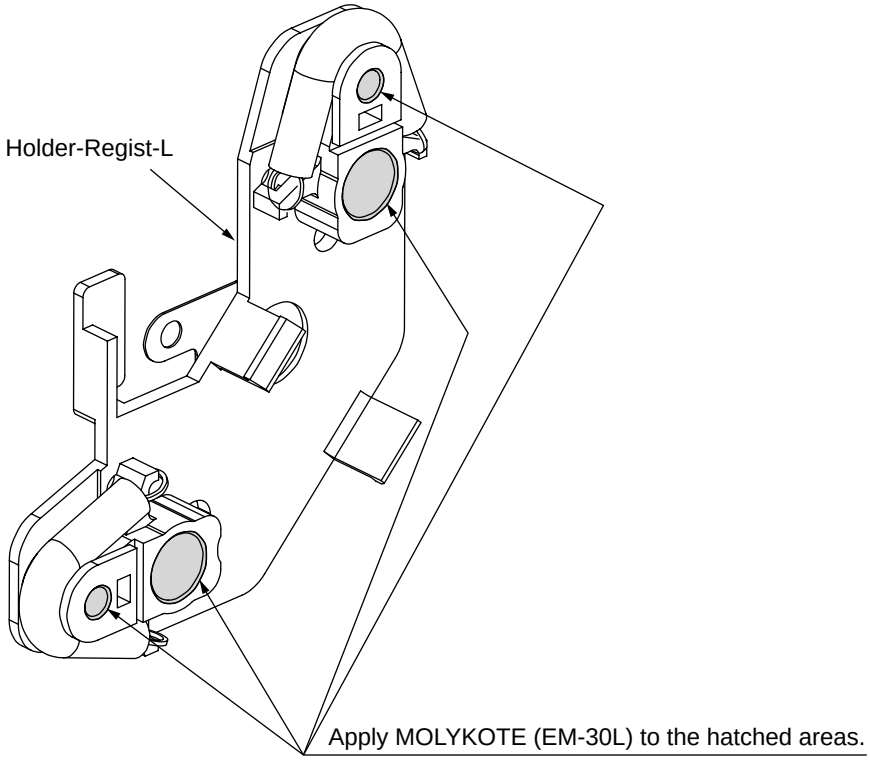
④-4 43194101 Plate-Assy-Side-R(PX732)



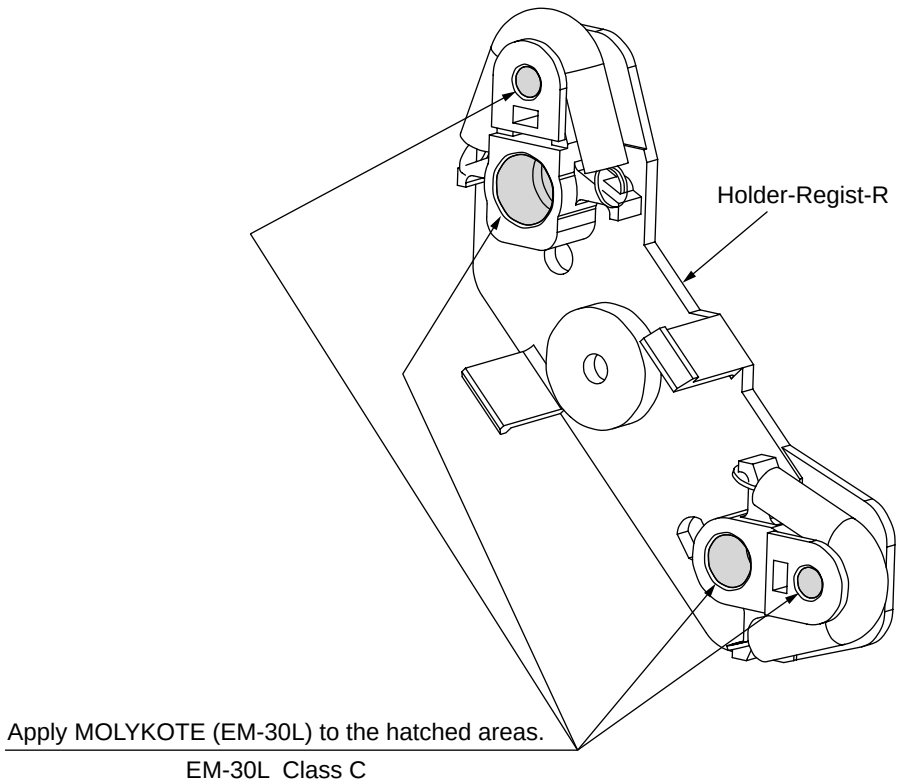
⑤ 43200101 Plate-Assy.-Side-L (PX732)



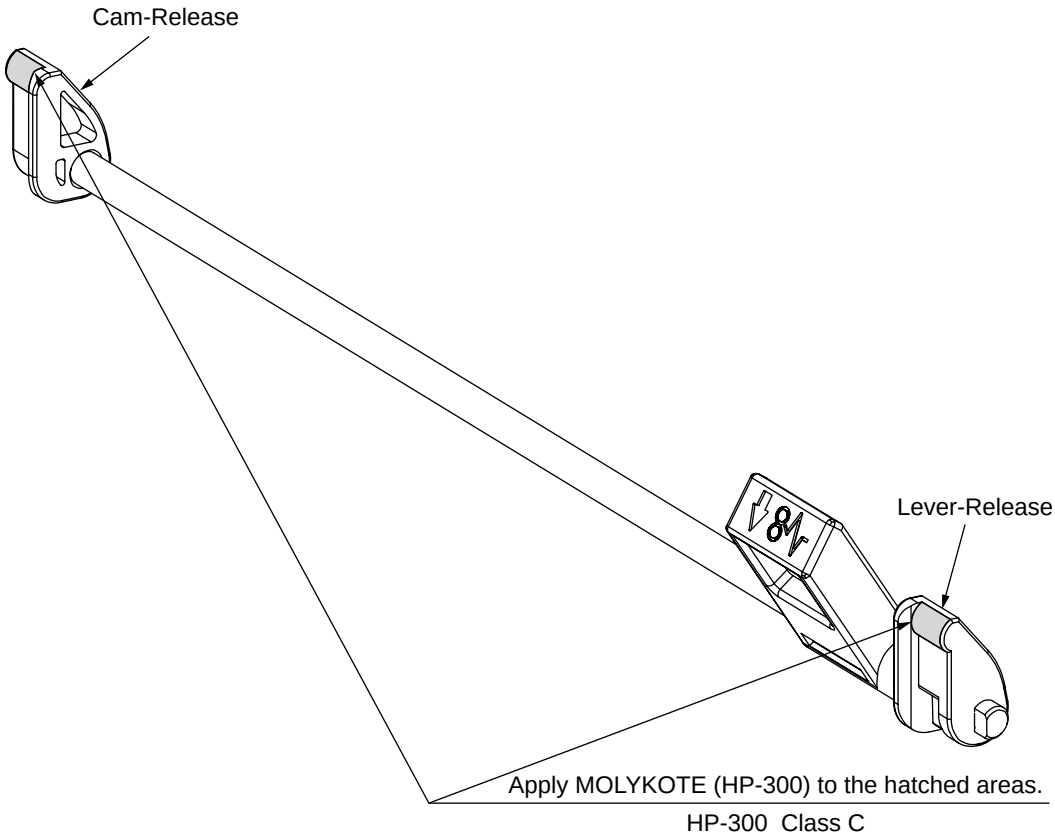
⑥ 43209701 Holder Assy.-Regist-L



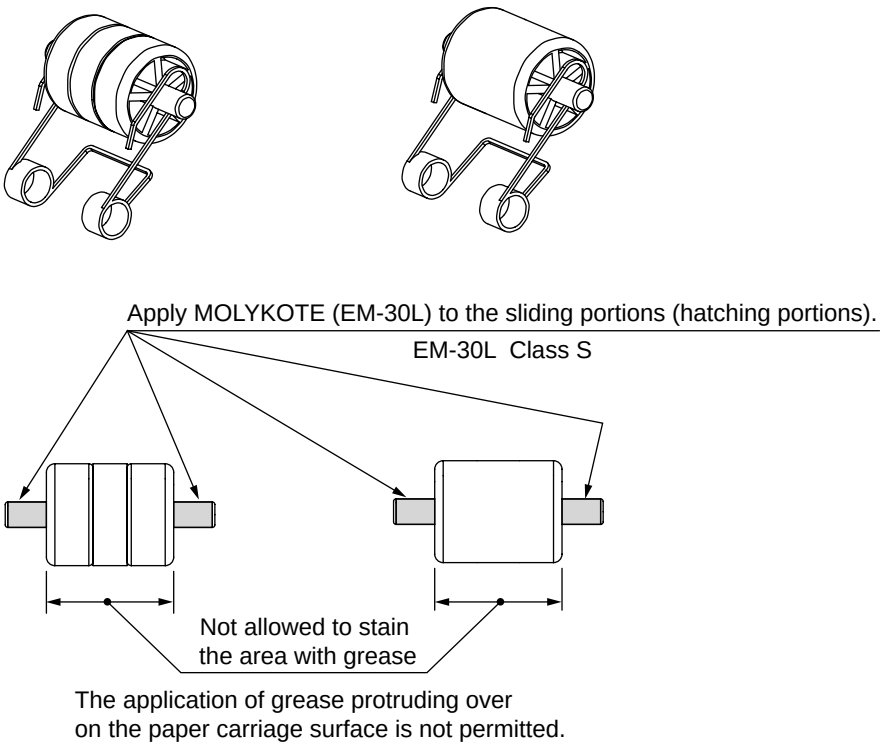
⑦ 43210301 Holder Assy.-Regist-R



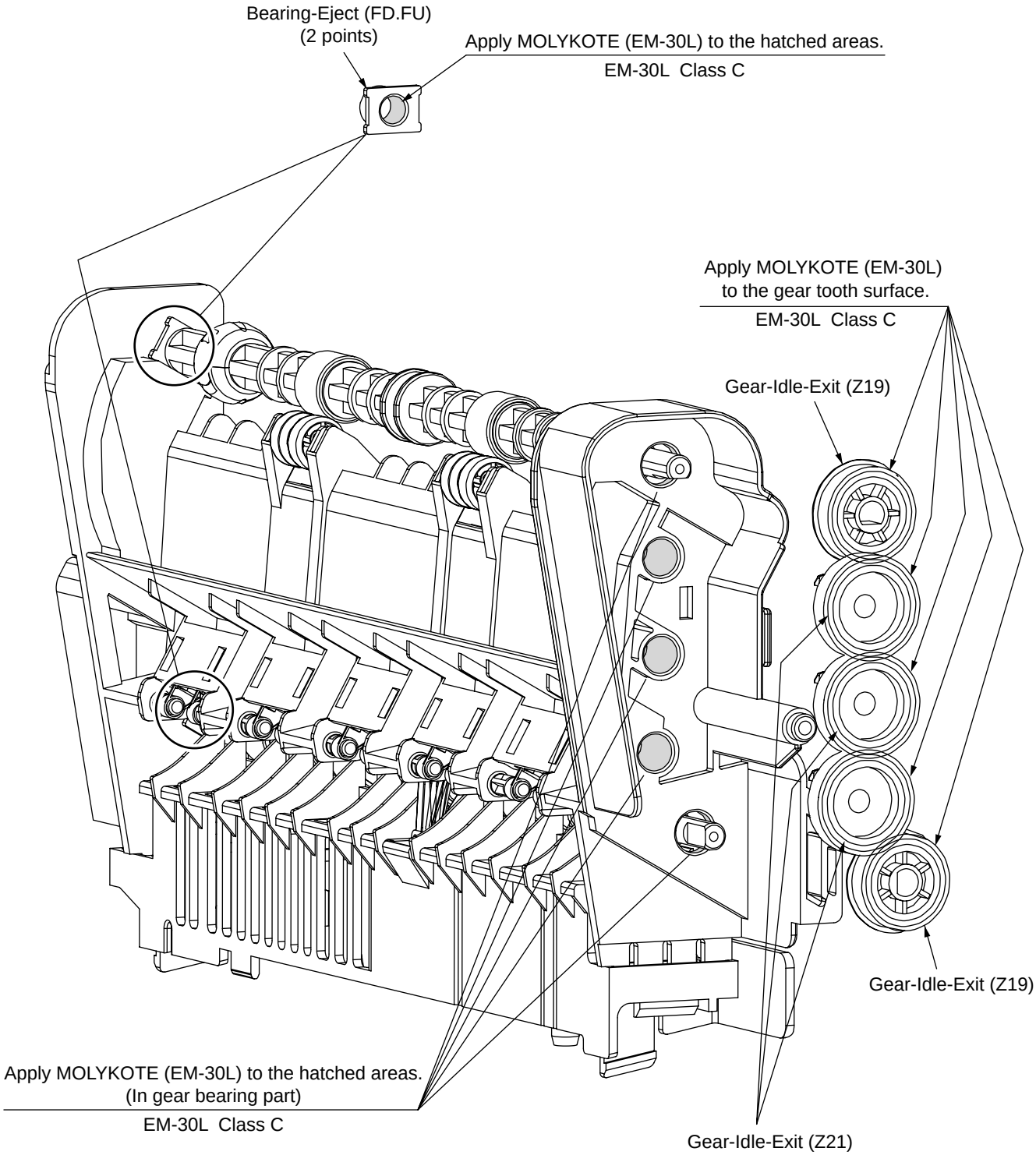
⑧ 43217001 Fuser-Assy.



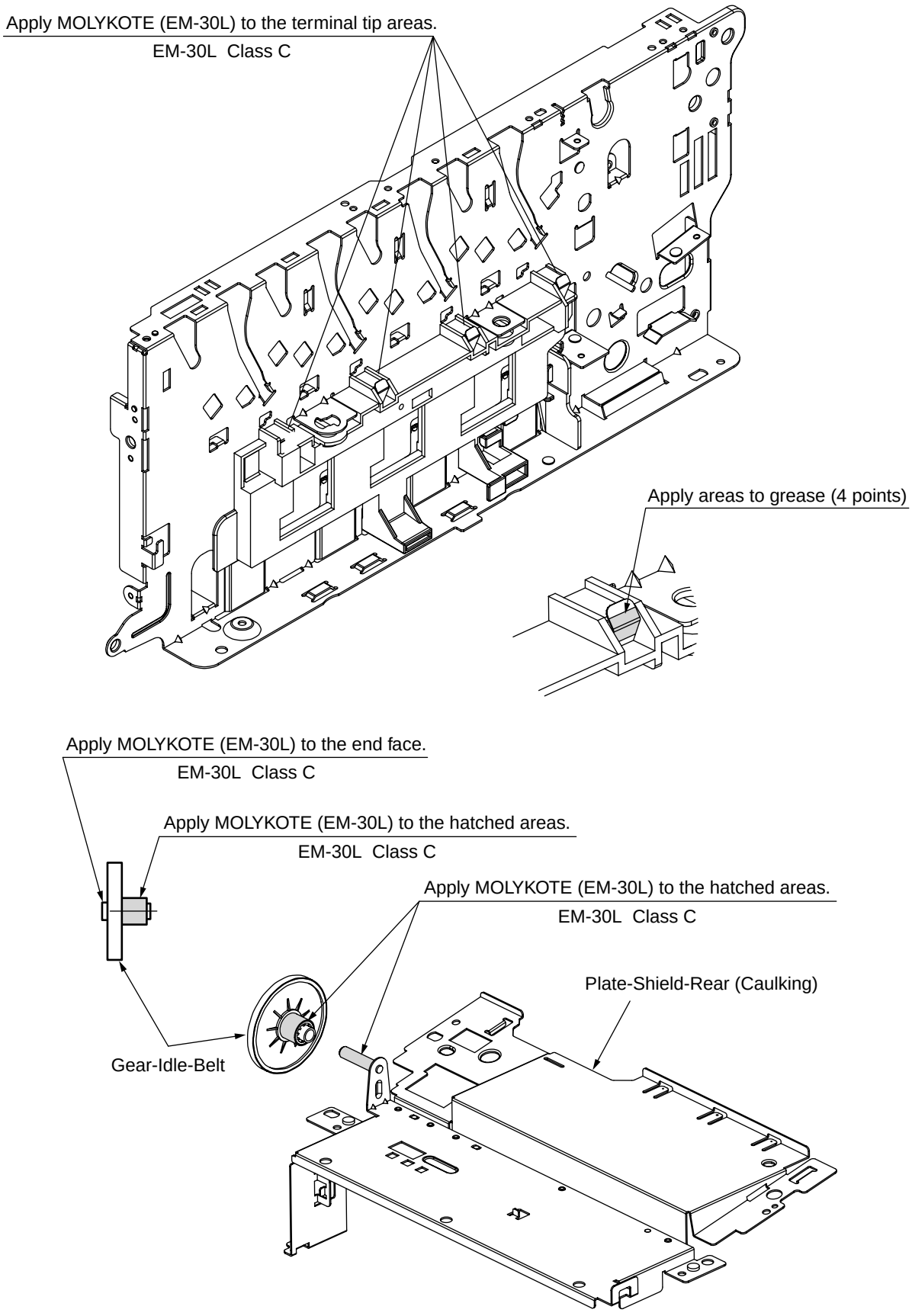
⑨-1 43206503 Guide-Assy.-Eject-U



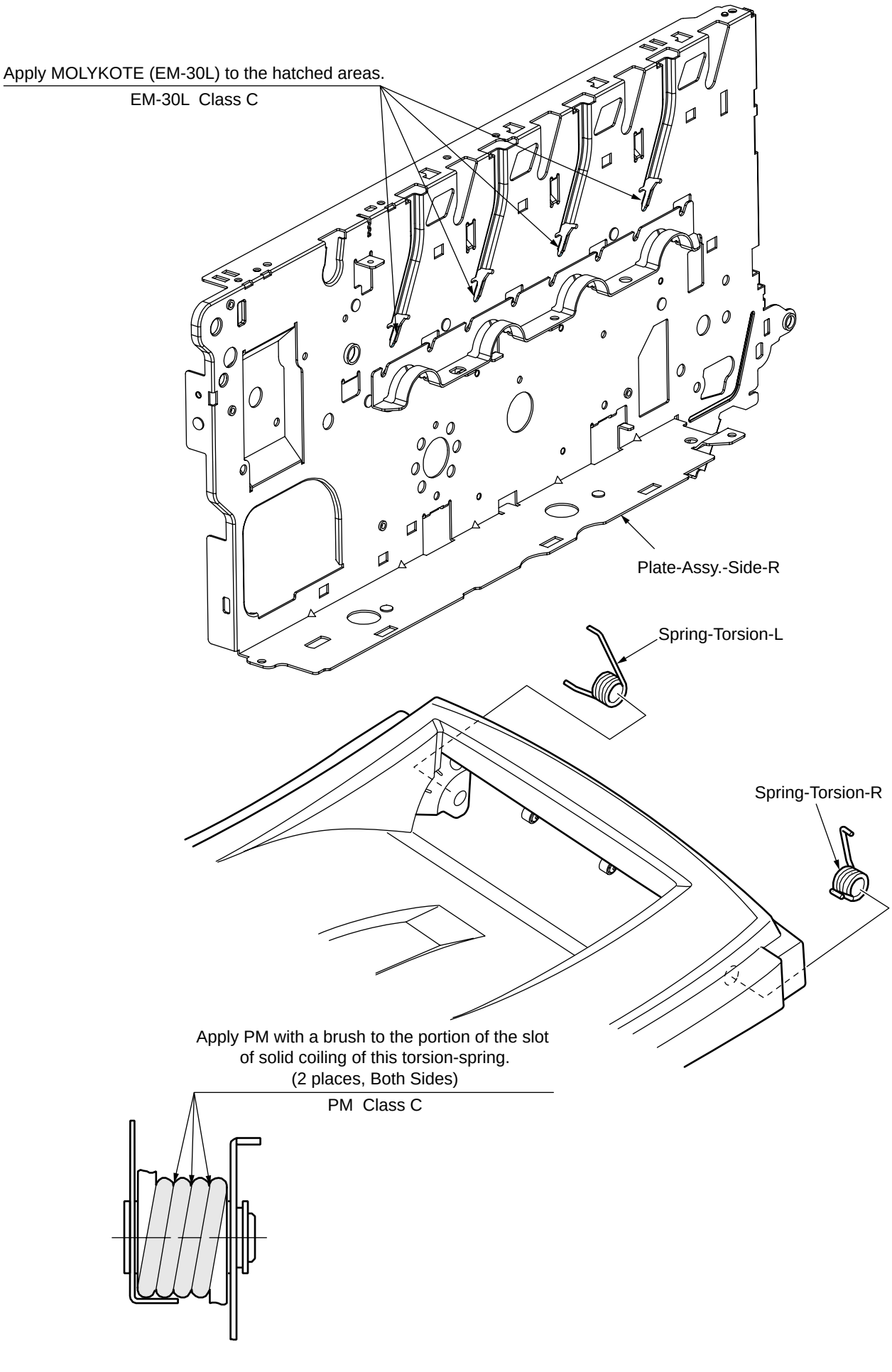
⑨-2 43206503 Guide-Assy.-Eject-U



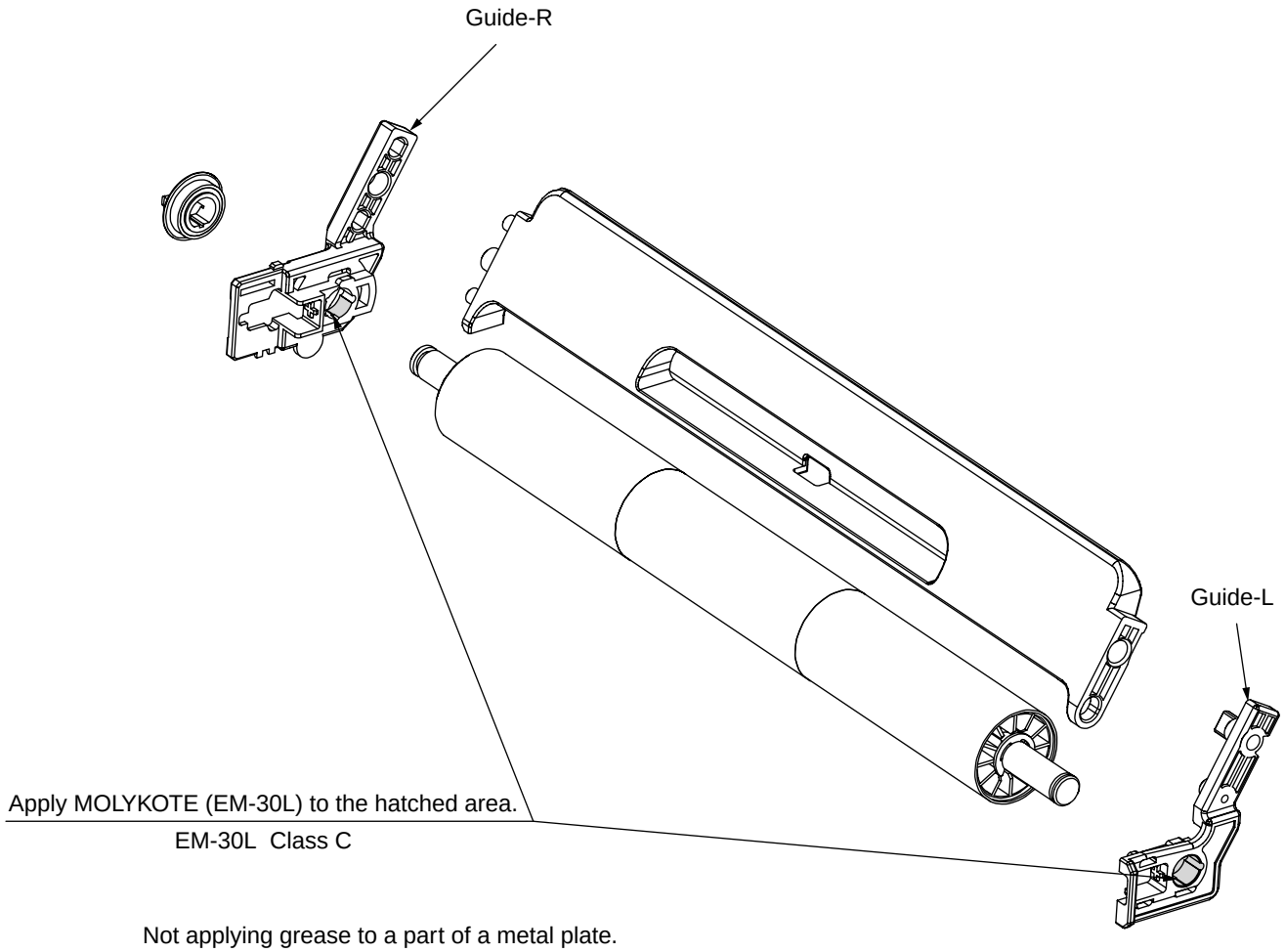
⑩-1 43192008 Printer-Unit-PX742

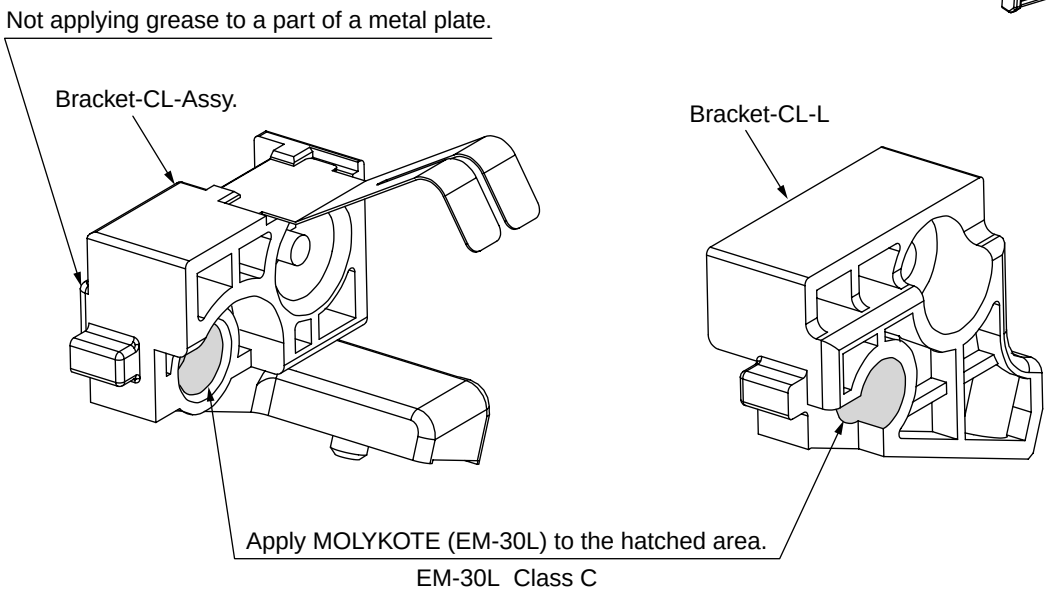


⑩-2 43192008 Printer-Unit-PX742

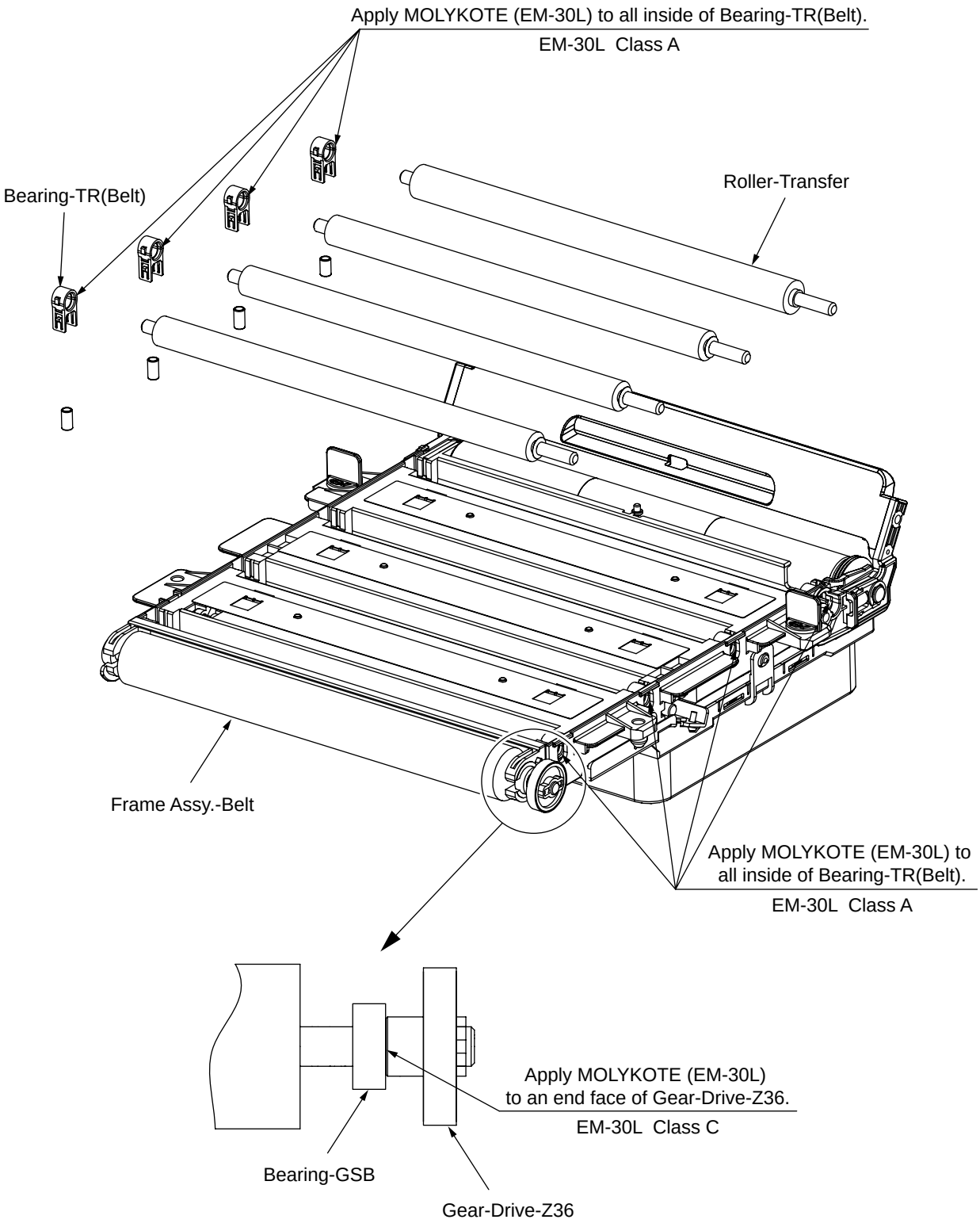


⑪-1 43216001 Belt-Unit (PX732)

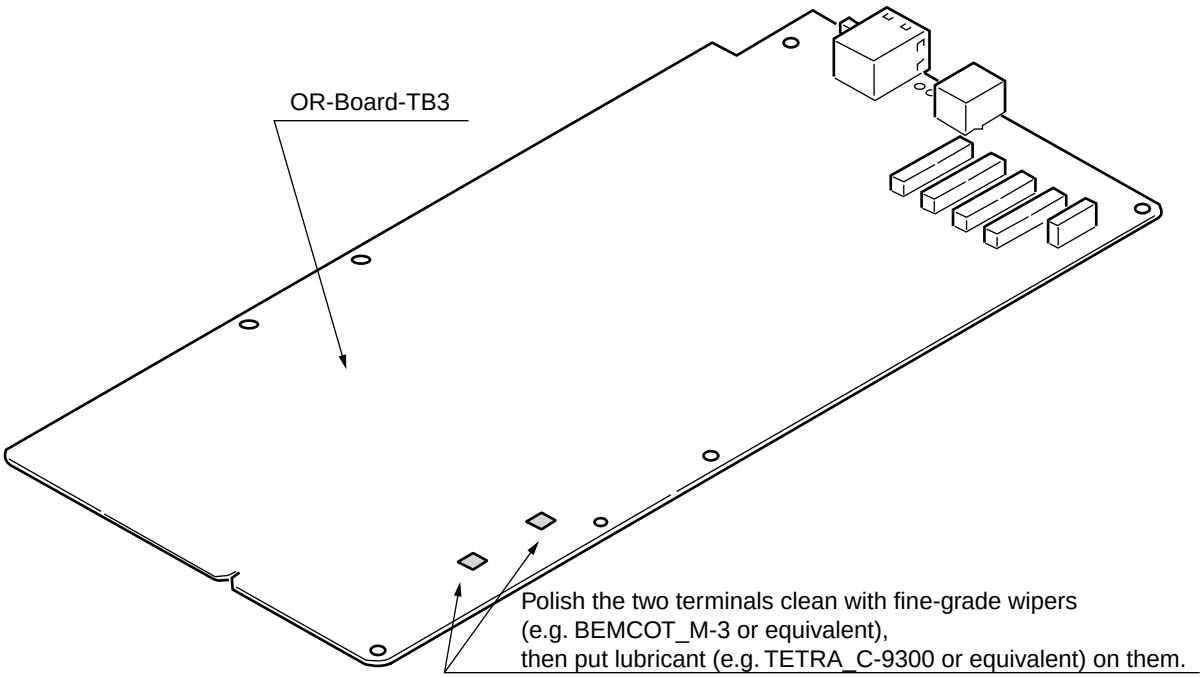




⑪-2 43216001 Belt-Unit (PX732)



⑫ 44017501 Borad-Assy PX742 PDL



5. MAINTENANCE MENUS

The adjustment of this printer can be implemented using the maintenance utility and also by key input through the operator panel.
This printer provides maintenance menus, apart from the normal menus. Select the menu that best suits the purpose of your intended adjustment.

5.1 System maintenance menu (For maintenance personnel)

This menu is activated when the power is turned with the MENU+ and MENU- keys held down. The menu indications are given in English only, irrespective of the destination of the printer.

Note! Since this menu is likely to be changed depending on the destination or for other reason, it is not disclosed to the end users.

Table 5-1. Maintenance menu indication table (1/3)

Category	Item(1st Line)	Value(2nd Line)	DF	Function
SYSTEM MAINTE	ENTER PASSWORD	xxxxxxxxxxxxxx	000 000	
OKIUSER	OKIUSER	ODA OEL APS JP1 JPOEM1 OEMA OEML	*	Used to set the destination. JPOEM1: Japan OEM OEMA: Overseas OEM for A4 default OEML: Overseas OEM for Letter default When the menu is dismissed, the printer is automatically rebooted. Default is OEL.
MAINTENANCE MENU	FLASH FORMAT	EXECUTE	-	Do not use. Initializes the Flash ROM. When this item is executed, the menu is dismissed, and formatting of the flash device mounted in the Resident (Onboard) begins. (CAUTION! NIC F/W will be erased.see section 7.4.4)
	MENU RESET	EXECUTE	-	Resets the EEPROM contents to the factory defaults. After the settings have been changed, the printer is automatically rebooted. * Certain special items are not initialized.

Table 5-1. Maintenance menu indication table (2/3)

Category	Item(1st Line)	Value(2nd Line)	DF	Function
CONFIG MENU	CODESET	TYPE1 TYPE2	*J *E	Function This menu is displayed on the printers for all destinations. TYPE1: Does not indicate Russian/ Greek. TYPE2: Indicates Russian/Greek. When the menu is dismissed, the printer is automatically rebooted. For destinations of OEL/APS/OEMA, TYPE2 is the default value, and for the rest of destinations, TYPE1 is the default value.
TEST PRINT MENU	TEST PRINT MENU	ENABLE DISABLE	*	Setting is made here to select either to display or not to display "PRT ID CHK PATN" and "ENG STATUS IPRINT" under "USER MENU" - "PRINT INFORMATION" category. If this item is set to "DISABLE," "PRT ID CHK PATN" and "ENG STATUS PRINT" will not be displayed at all. When the menu is dismissed after changing the setting, the printer is restarted.
FUSE KEEP MODE	FUSE KEEP MODE	EXECUTE	-	Pressing the ENTER key issues a command from CU to PU, making the printer ONLINE. A consumable part is replaced with a new one with the power switched on and the operation is checked (in this condition, the new consumable fuse is not cut, and the operation count is not added to the value of the old consumable part). Turning off the power terminates the check mode, and the mode becomes invalid next time the power is turned on.

Table 5-1. Maintenance menu indication table (3/3)

Category	Item(1st Line)	Value(2nd Line)	DF	Function
PERSONALITY	IBM5577	ENABLE DISABLE	 *	Changes the default of support PDL language for each destination. The PDL language disabled in this menu will no longer be displayed in "USER MENU" - "SYS CONFIG MENU" - "PERSONALITY." If print data in the PDL language set to "DISABLE" is received, the printer displays INVALID DATA and discards the received data. (HP-GL/2 is an item now under development.) If IBM PPR III XL and EPSON FX are set to ENABLE on a printer for domestic market, its operation is not guaranteed.
	IBM PPR III XL	ENABLE DISABLE	*E *J	
	EPSON FX	ENABLE DISABLE	*E *J	
	HP-GL/2	ENABLE DISABLE	 *	
CHANGE PASSWORD			-	
	NEW PASSWORD	xxxxxxxxxxxxxxx	-	
	VERIFY PASSWORD	xxxxxxxxxxxxxxx	-	
ENGINE DIAG MODE				Activates the self-diagnostic mode of the engine.

Operations of the switches and LCD indications produced during the self-diagnostic mode are different from the specifications for operation of the printer.
See 5.3.2 Self-diagnostic mode.

5.2 TBD

5.3 Self-diagnostic mode

Individual explanation of LEVEL0 and LEVEL1.

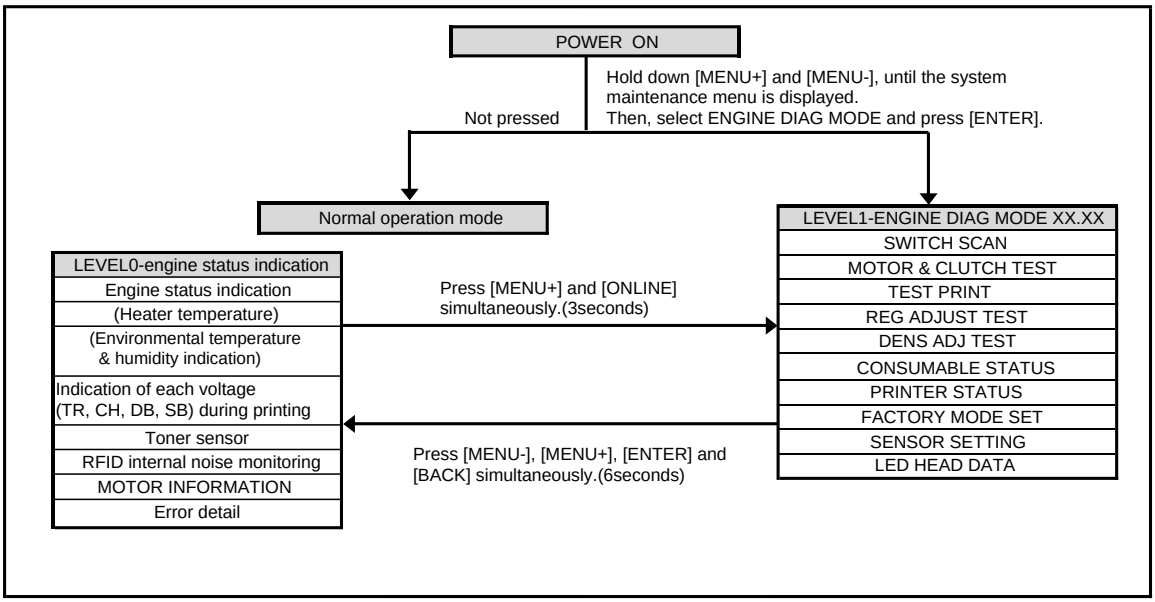
5.3.1 Operator panel

The explanation of the operations relating to the self-diagnosis presupposes the

Self-diagnostic mode layout (Overall)

(1) Transition of menu items

xxxxx	Level transition is possible only when a part is displayed.
xxxxx	Transition of is activated with [MENU-] or [MENU+].

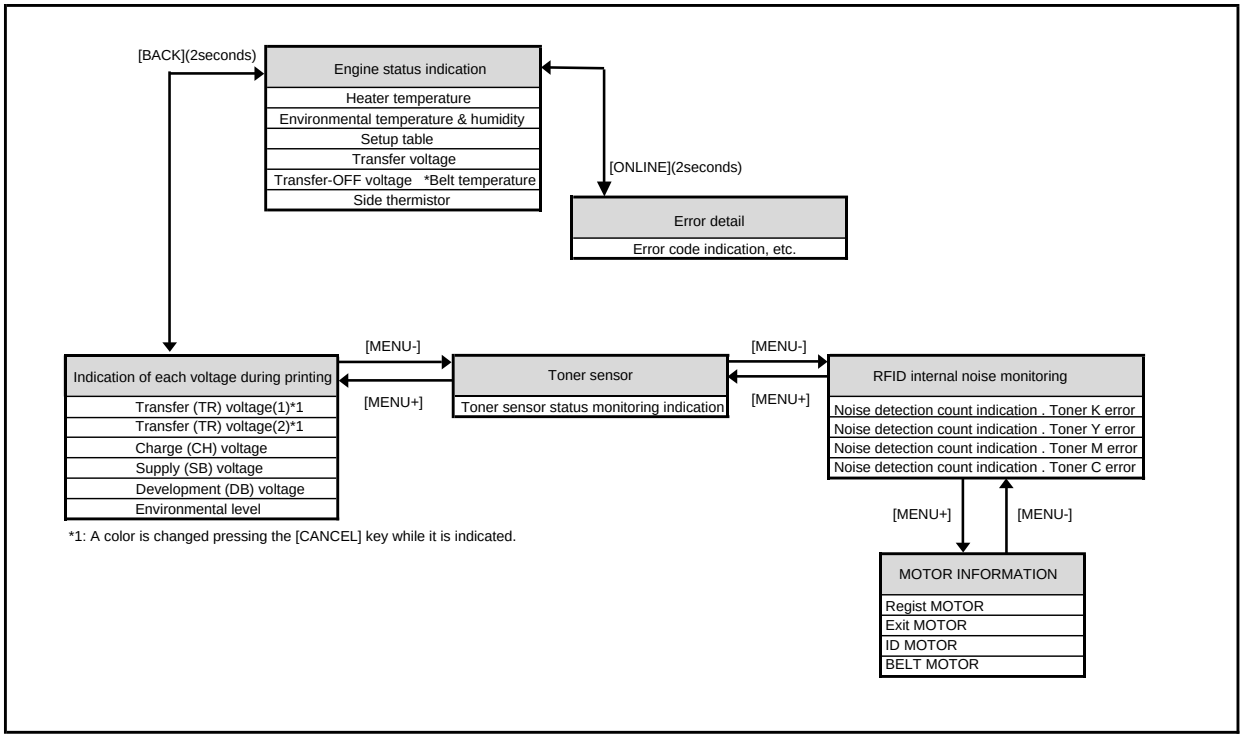


LEVEL0

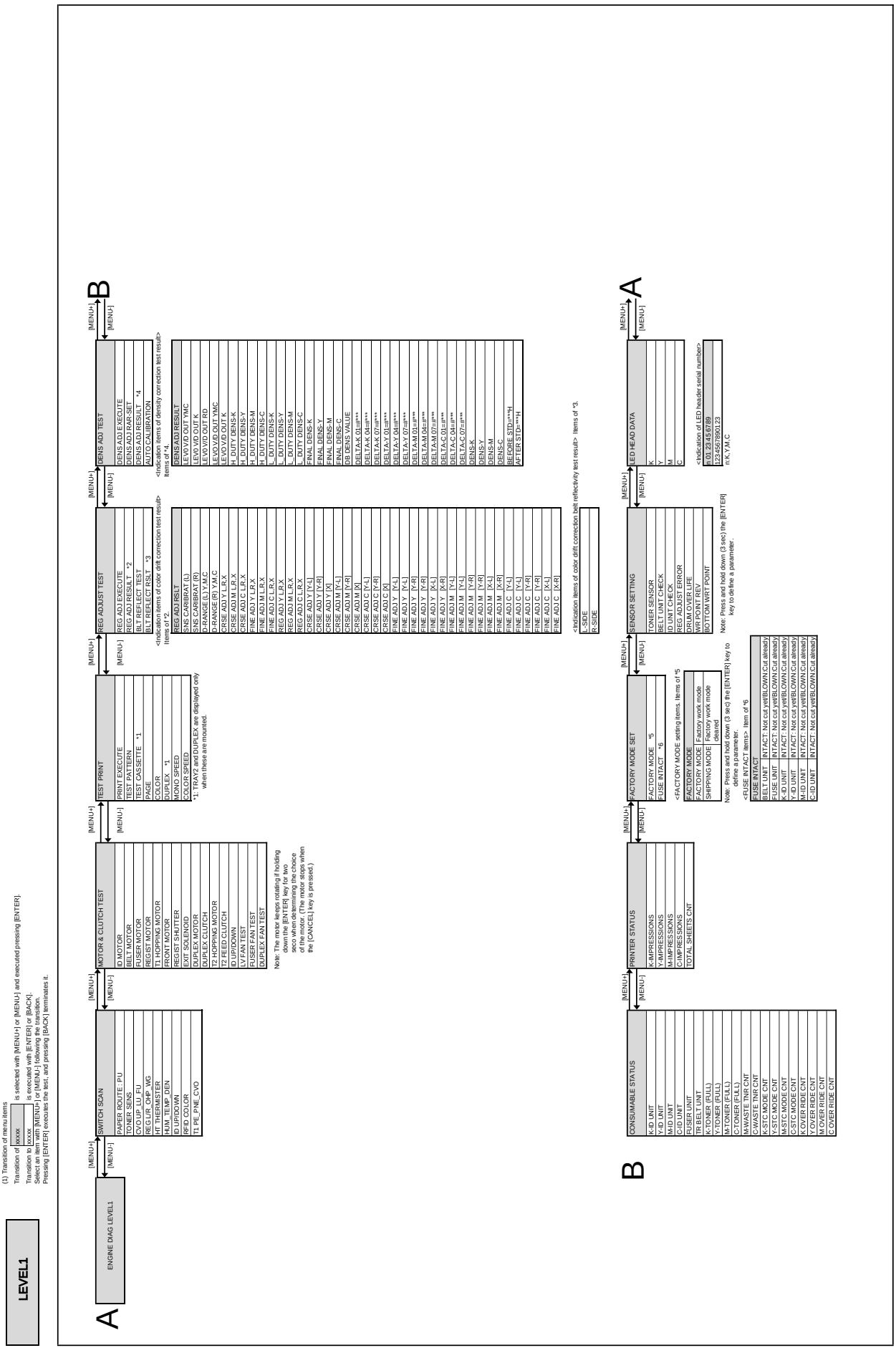
(1) Switchover of menu items

The transition of [xxxxx] is activated when [BACK] or [ONLINE] is pressed and held down, or [MENU+] or [MENU-] is pressed briefly.

The transition of [xxxxx] is activated with [MENU+] or [MENU-].
The item selection screen is restored when [BACK] is pressed and held down.



*1: A color is changed pressing the [CANCEL] key while it is indicated.


LEVEL1
(1) Transition of menu items
Transition of xxxx is selected with [MENU+] or [MENU-] and executed pressing [ENTER].
Transition to xxxx is executed with [ENTER] or [BACK].
Select an item with [MENU+] or [MENU-] following the transition.
Pressing [ENTER] executes the test, and pressing [BACK] terminates it.
ENGINE DIAG LEVEL1
SWITCH SCAN
PAPER ROUTE : PU
TONER SENS
CVO UP_LU_FU
REG UR_OHP_WG
HT THERMISTER
HUM_TEMP_DEN
ID UP/DOWN
REGIST SHUTTER
BELT UP/DOWN
T1 PE_PNE_CVO
MOTOR & CLUTCH TEST
ID MOTOR
BELT MOTOR
FUSER MOTOR
REGIST MOTOR
T1 HOPPING MOTOR
FRONT MOTOR
REGIST SHUTTER
DUPLEX SOLENOID
DUPLEX MOTOR
DUPLEX CLUTCH
T2 HOPPING MOTOR
T2 FEED CLUTCH
ID UP/DOWN
LV FAN TEST
FUSER FAN TEST
DUPLEX FAN TEST
Note: The motor keeps rotating if holding down the [ENTER] key for two secs when determining the choice of the motor. (The motor stops when the [CANCEL] key is pressed.)
TEST PRINT
PRINT EXECUTE
TEST PATTERN
TEST CASSETTE *1
PAGE
COLOR *1
DUPLEX *1
MONO SPEED
COLOR SPEED
*1: TRAY2 and DUPLEX are displayed only when these are mounted.
REG ADJUST TEST
REG ADJ EXECUTE
REG ADJ RESULT *2
BLT REFLECT TEST
BLT REFLECT RSLT *3
<Indication items of color drift correction test result> Items of *2.
REG ADJ RSLT
SNS CARIBRAT (L)
SNS CARIBRAT (R)
D-RANGE (L) Y,M,C
D-RANGE (R) Y,M,C
CRSE ADJ Y L,R,X
CRSE ADJ C L,R,X
FINE ADJ Y L,R,X
FINE ADJ M L,R,X
FINE ADJ C L,R,X
REG ADJ Y L,R,X
REG ADJ M L,R,X
REG ADJ C L,R,X
CRSE ADJ Y [Y-L]
CRSE ADJ Y [Y-R]
CRSE ADJ Y [X]
CRSE ADJ M [Y-L]
CRSE ADJ M [Y-R]
CRSE ADJ C [Y-L]
CRSE ADJ C [Y-R]
CRSE ADJ C [X]
FINE ADJ Y [Y-L]
FINE ADJ Y [Y-R]
FINE ADJ Y [X-L]
FINE ADJ Y [X-R]
FINE ADJ M [Y-L]
FINE ADJ M [Y-R]
FINE ADJ M [X-L]
FINE ADJ M [X-R]
FINE ADJ C [Y-L]
FINE ADJ C [Y-R]
FINE ADJ C [X-L]
FINE ADJ C [X-R]
<Indication items of color drift correction belt reflectivity test result> Items of *3.
L-SIDE
R-SIDE
DENS ADJ TEST
DENS ADJ EXECUTE
DENS ADJ RAR-SET
DENS ADJ RESULT *4
AUTO CALIBRATION
<Indication items of density correction test result> Items of *4.
DENS ADJ RESULT
LEVO VID OUT YMC
LEVO VID OUT K
LEVO VID OUT RD
LEVO VID OUT YMC
LEVO VID OUT K
H_DUTY DENS-K
H_DUTY DENS-Y
H_DUTY DENS-M
H_DUTY DENS-C
L_DUTY DENS-K
L_DUTY DENS-Y
L_DUTY DENS-M
L_DUTY DENS-C
FINAL DENS-K
FINAL DENS-Y
FINAL DENS-M
FINAL DENS-C
DB DENS VALUE
DELTA-K 01=#***
DELTA-K 04=#***
DELTA-K 07=#***
DELTA-Y 01=#***
DELTA-Y 04=#***
DELTA-Y 07=#***
DELTA-M 01=#***
DELTA-M 04=#***
DELTA-M 07=#***
DELTA-C 01=#***
DELTA-C 04=#***
DELTA-C 07=#***
DENS-K
DENS-Y
DENS-M
DENS-C
BEFORE STD=***H
AFTER STD=***H
B
A
CONSUMABLE STATUS
K-ID UNIT
Y-ID UNIT
M-ID UNIT
C-ID UNIT
FUSER UNIT
TR BELT UNIT
K-TONER (FULL)
Y-TONER (FULL)
M-TONER (FULL)
C-TONER (FULL)
M-WASTE TNR CNT
C-WASTE TNR CNT
K-STC MODE CNT
Y-STC MODE CNT
M-STC MODE CNT
C-STC MODE CNT
K-OVER RIDE CNT
Y-OVER RIDE CNT
M-OVER RIDE CNT
C-OVER RIDE CNT
PRINTER STATUS
K-IMPRESSIONS
Y-IMPRESSIONS
M-IMPRESSIONS
C-IMPRESSIONS
TOTAL SHEETS CNT
FACTORY MODE SET
FACTORY MODE *5
FUSE INTACT *6
<FACTORY MODE setting items. Items of *5
FACTORY MODE
FACTORY MODE Factory work mode
SHIPPING MODE Factory work mode cleared
Note: Press and hold down (3 sec) the [ENTER] key to define a parameter.
<FUSE INTACT Items> Item of *6
FUSE INTACT
BELT UNIT INTACT: Not cut yet/BLOWN:Cut already
FUSE UNIT INTACT: Not cut yet/BLOWN:Cut already
K-ID UNIT INTACT: Not cut yet/BLOWN:Cut already
Y-ID UNIT INTACT: Not cut yet/BLOWN:Cut already
M-ID UNIT INTACT: Not cut yet/BLOWN:Cut already
C-ID UNIT INTACT: Not cut yet/BLOWN:Cut already
SENSOR SETTING
TONER SENSOR
BELT UNIT CHECK
ID UNIT CHECK
REG ADJUST ERROR
DRUM OVER LIFE
WARM UP TEST
ISO TONAR PATT POINT
Note: Press and hold down (3 sec) the [ENTER] key to define a parameter.
LED HEAD DATA
K
Y
M
C
<Indication of LED header serial number>
01 23 45 67 89
12 34 56 78 91 23
n:K, Y,M,C

5.3.2 Normal self-diagnostic mode (Level 1)

The menus of the normal self-diagnostic mode are indicated below.

Table 5-3 Maintenance Utility Adjustment Items

	Item	Self-diagnosis Menu	Adjustment	Maintenance Utility
				ML3600n (With a Panel)
1	Switch scan test	SWITCH SCAN	Checking of inlet sensor and switch	No.19
2	Motor clutch test	MOTOR&CLTCH TEST	Operation test of motor and clutch	No.20
3	Execution of test print	TEST PRINT	Print of test patterns built in PU	Not operable
4	Color drift correction test	REG ADJUST TEST	Judgment of good/bad color drift correction mechanism.	No.21
5	Density correction test	DENS ADJ TEST	Judgment of good/bad density correction mechanism.	No.21
6	Indication of consumable part counter	CONSUMABLE STATUS	Indication of consumed state of consumables	No.14
7	Indication of consumable part continuance counter	PRINTER STATUS	Indication of lifetime consumed state of consumables	No.14
8	Factory/ Shipping mode switching	FACTORY MODE	Switching between Factory mode and Shipping mode	No.3
9	Check of Fuse status	SET	Indication of the status of each fuse	No.25
10	Engine parameter setup	SENSOR SETTING	Setup of Enable/Disable of error detection by various sensors	No.26

5.3.2.1 Activation method for self-diagnostic mode (Level 1)

1. The system maintenance menu mode is activated when the power is turned on with the MENU+ and MENU- keys held down simultaneously
2. Press the MENU+ or MENU- key several times, until "ENGINE DIAG MODE" is displayed. Pressing the ENTER key causes "DIAGNOSTIC MODE" to appear.

DIAGNOSTIC MODE
XX.XX.XX FACTORY/SHIPPING

3. XX.XX.XX of "DIAGNOSTIC MODE XX.XX.XX" which is displayed in the LCD section is the version of the PU firmware. The set value of FACTORY WORKING MODE is indicated in the lower line to the right. Normally, S-MODE for "SHIPPING" is displayed.
4. Pressing the MENU+ or MENU- key takes you to each self-diagnostic step. (The menu items rotate as the MENU+ or MENU- key is pressed.)

5.3.2.2 Deactivation of self-diagnostic mode

1. Turn the power off, and on again after ten seconds.

5.3.3 Switch scan test

This self-diagnosis is practiced to check the inlet sensors and switches.

1. Activate the self-diagnostic mode (Level 1), press and hold down the MENU+ or MENU- key, until "SWITCH SCAN" appears in the upper line of the display section, and then, press the ENTER key. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)

SWITCH SCAN

2. Press and hold down the MENU+ or MENU- key, until the item corresponding to the unit of Table 5-3 now to be tested appears in the lower line of the display section. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)
3. Pressing the ENTER key initiates the test, and the name and current status of the corresponding unit are displayed.

   Note) Pressing and holding down (2 sec) the [ENTER] key when a motor is decided causes the motor to keep running.

PAPER ROUTE:PU
1=H 2=L 3=H 4=L

   Conduct this operation on each unit (Figure 5-1). The indications are produced in the corresponding LCD display. (The indications vary from one sensor to another. See Table 5-3 for details).
4. Pressing the CANCEL key restores the status of Item 2 above.
5. Repeat Items 2 to 4, as needed.
6. To end the test, press the BACK key. (The status of Item 1 will be restored).

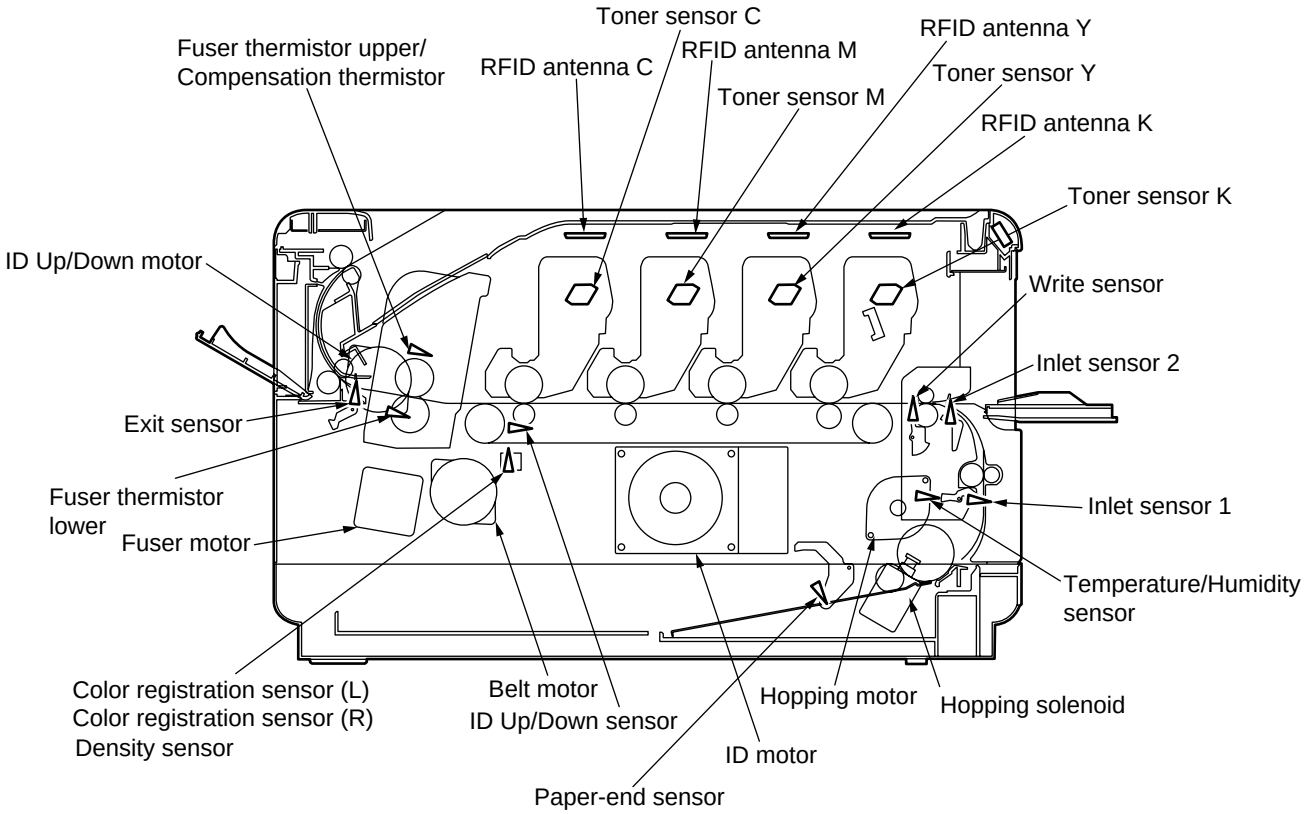


Figure 5-1 Switch Sensor Positions

Table 5-4 SWITCH SCAN Display Detail

No functionality

*1: Indication only, without functionality

*2: L is indicated when a cover is open.

*3: Status of 1st cassette is indicated.
This function is effective only when a 2nd tray is installed.

		1	2			3		4	
NO	Upper line of display section	Detail	Display	Detail	Display	Detail	Display	Detail	Display
1	PAPER ROUTE : PU	Entrance Cassette Sns(IN1)	H:Paper out L:Paper present	Entrance-FF Sns(IN2)	H:Paper out L:Paper present	Entrance Belt Sns(WR)	H:Paper out L:Paper present	Exit Sns(OUT)	H:Paper out L:Paper present
2	TONER SENS	Toner-K Sns	H:Blocked L:Reflected	Toner-Y Sns	H:Blocked L:Reflected	Toner-M Sns	H:Blocked L:Reflected	Toner-C Sns	H:Blocked L:Reflected
3	CVO UP_LU_FU	Cover-Upper	H:Close L:Open						
4	REG L/R_OHP_WG	Aligment-Left-Sns	AD value: ***H	Aligment-Right-Sns	AD value: ***H				
5	HT THERMISTER	Upper-Center-Thermister	AD value: ***H	Lower-Center-Thermister	AD value: ***H			Ambient Temp -Thermister (Frame Temp)	AD value: ***H
6	HUM_TEMP_DEN	Hum Sns	AD value: ***H	Temperture-Sns	AD value: ***H	DensityK-Sns	AD value: ***H	DensityYMC-Sns	AD value: ***H
7	ID UP/DOWN							ID UpDown Sns	H:Down L:Up
8	RFID COLOR L*2	TAG-K present/absent	UID: ***H	TAG-Y present/absent	UID: ***H	TAG-Mpresent/absent	UID: ***H	TAG-C present/absent	UID: ***H
9	T1 PE_PNE_CVO	1st-Paper-End Sns	H:Paper out L:Paper present						

5.3.4 Motor clutch test

This self-diagnosis is practiced to test motors and clutches.

1. Activate the self-diagnostic mode (Level 1), press and hold down the MENU+ or MENU- key, until "MOTOR & CLUTCH TEST" appears in the upper line of the display section, and then, press the ENTER key. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)
2. Press and hold down the MENU+ or MENU- key, until the item corresponding to the unit of Table 5-4 now to be tested appears in the lower line of the display section. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)

MOTOR & CLUTCH TEST
ID MOTOR

3. Pressing the ENTER key initiates the test, causing the unit name to start blinking, and the corresponding unit is driven for ten seconds (See Figure 5-2).

   Note! After the unit has been driven for ten seconds, the status of Item 2. above is restored. The unit is driven again when the corresponding switch is pressed again.
   The clutch solenoid repeats ON/OFF operations in a normal printing drive. (Clutches that cannot be driven individually due to their structural reason are driven along with their motors.) * "ID UP/DOWN" continues being driven, until the "CANCEL" key is depressed.
   The motor keeps rotating if holding down the [ENTER] key for two seconds when determining the choice of the motor. (The motor stops when the [CANCEL] key is pressed.)

4. Pressing the CANCEL key stops the drive of the corresponding unit. (The indication of the corresponding unit will be maintained.)
5. Repeat Items 2 to 4, as needed.
6. To end the test, press the BACK key. (The status of Item 1 will be restored).

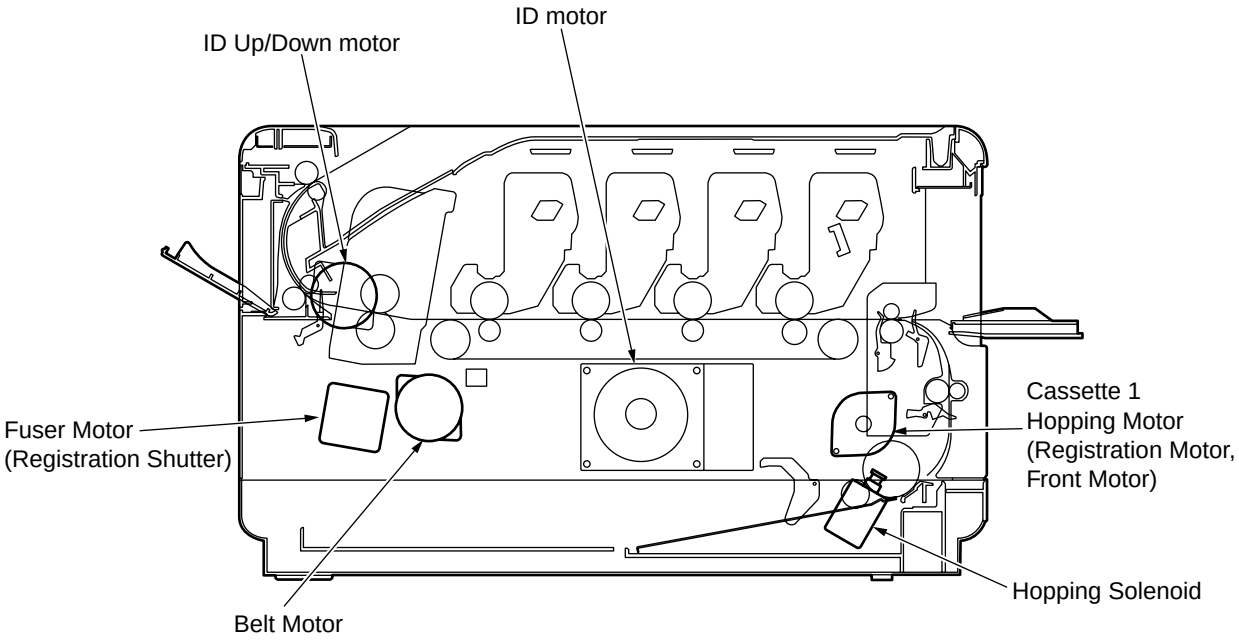


Figure 5-2

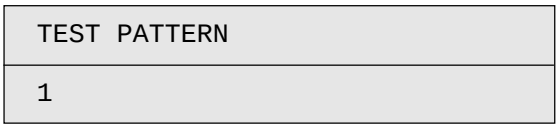
Table 5-5

Unit Name	Description of Control for Unit Driving
ID motor	To be driven with all the IDs (Black/yellow/magenta/cyan) removed.
Belt motor	To be driven with all the IDs (Black/yellow/magenta/cyan) removed.
Fuser motor	-
Registration motor	(Tray 1 hopping motor only is driven.)
Tray 1 hopping motor	To be driven with Cassette 1 removed. (Hopping solenoid driven simultaneously)
Front motor	(Tray 1 hopping motor rotates in reverse.)
Color registration (Registration) shutter	(Fuser unit motor rotates in reverse.)
Duplex print solenoid (EXIT)	-
Duplex print motor	-
Duplex print clutch	-
Tray 2 motor	-
Tray 2 clutch	-
ID UP/DOWN	In closed state of TOP/FRONT cover
LV FAN TEST	-
FUSER FAN TEST	-

5.3.5 Test print

This self-diagnosis is practiced to print test patterns built in PU. Other test patterns are stored in the controller.
This print cannot be used to check the print quality.
To diagnose abnormal images, follow Section 7.

1. Activate the self-diagnostic mode (Level 1), press and hold down the MENU+ or MENU- key, until "TEST PRINT" appears in the upper line of the display section, and then, press the ENTER key. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)
2. The lower line of the display section shows the set items that are applicable to the test print only. Press and hold down the MENU+ or MENU- key, until the corresponding item appears, and press the ENTER key. (The MENU+ key increments a test item, while the MENU- key decrements a test item.)(If the set values of the items are not necessary (Default settings), go on to Item 5.)
3. When the ENTER key is depressed after holding down the MENU+ or MENU- key in Item 2 above, a set item is displayed in the upper line of the display section, and a set value, in the lower line. Pressing the MENU+ key increments the set value, and pressing the MENU- key decrements it (the set value finally displayed will be applied). Pressing the BACK key defines the value and restores Item 2. Repeat Item 3, as needed.



Indication	Set value	Function
PRINT EXECUTE	–	Pressing the ENTER key initiates print and pressing the CANCEL key ends the print (Page by page).
TEST PATTERN	0	0: Blank sheet print 1 - 7: See the following page (Pattern print). 8 - 15: Blank sheet print
CASSETTE	TRAY1	Select the paper feed source.
	FF	
PAGE	0000	Setup of the number of test-print pages
COLOR	ON	Select between Color print or Monochrome print.
	OFF	* If ON is specified, ON/OFF needs to be specified for each color.
DUPLEX	2 PAGES STACK	Two-sided print is conducted with two-page stack.
(Indicated only when	OFF	OFF is selected for two-sided print.
Duplex is mounted)	1PAGES STACK	Two-sided print is conducted with one-page stack.
MONO SPEED	DEFAULT	The monochrome print speed is set.
	LOW	LOW:16ppm
	HIGH	HIGH:20ppm DEFAULT:20ppm
COLOR SPEED	DEFAULT	The color print speed is set.
	LOW	LOW:12ppm
	HIGH	HIGH:16ppm DEFAULT:16ppm

* denotes a default value. Items set here are valid only in this test mode (Not written to the EEPROM).

Notes!

PAGE setup ---------- After shifting the digit of the set value with the MENU+ key or MENU- key, press the ONLINE key. The set value will be incremented. Pressing the CANCEL key decrements it.

COLOR setup ---------- Pressing the ENTER key after selecting ON causes the data indicated below to appear on the panel.

Print setup for each color --- Pressing the MENU+ key or MENU- key activates shifting. Pressing the ONLINE key or CANCEL key switches between ON and OFF. Pressing the BACK key restores the original panel indications.

COLOR	→	Y:ON M:ON
ON		C:ON K:ON

4. When the ENTER key is depressed while "PRINT EXECUTE" remains displayed in the lower line of the display section in the operation of Item 2., the test print takes place with the set values specified in Items 2 and 3.

   Pressing the CANCEL key stops the test print.

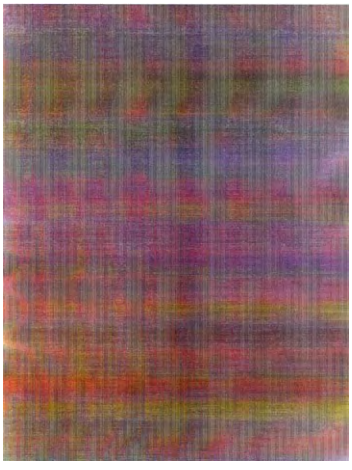
   If any of the alarms indicated in the Detail column of the table below is detected when test print is started or during execution, it will be indicated on the panel, and the test print will be interrupted. (For details on the errors, see Subsection 5.3.2.14 Details of panel indications. In the case of a PU test print, the comments displayed will be different.)

Panel Display	Detail
PAPER END SELECTED TRAY	The tray is out of paper.
DUPLEX UNIT IS NOT INSTALLED	A duplex unit is not installed.
SELECTED TRAY IS NOT INSTALLED	The selected tray is not installed.
REMOVE PAPER OUT OF DUPLEX	An internal error of the duplex unit occurred.

Print Patterns (Cannot be used for checking print quality.)

Patterns 0 and 8 to 15 ... Blank sheet print

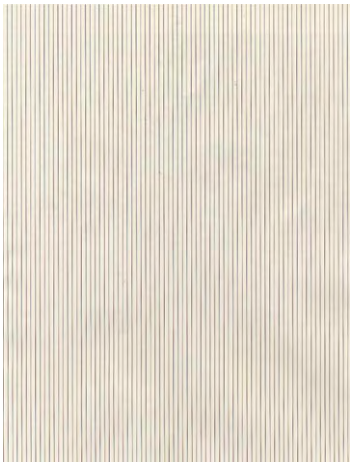
Pattern 1



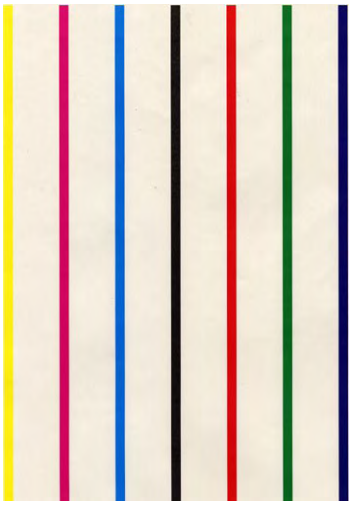
Pattern 2

Pattern 3

Pattern 4



Pattern 5



Pattern 6

Pattern 7

Note! If the solid print (Pattern 7) available among the local print functions is conducted with 100% of each color, offset will take place. To prevent this offset, it will be necessary to make the print setup of each color as specified in 3 of Subsection 5.3.2.5 and to limit the colors to be printed simultaneously to two or less when conducting the solid print No. 7.

- When print is executed, the following message is displayed:

```
P=***
W=***
```

P: Number of test-print pages (Unit: sheets)
W: Print wait time (Unit: seconds)

- Pressing the MENU+ key switches over the indication.

```
T=***  U=***[###]
H=*** %L=***[###]
```

U: *** = Measured value of upper heater temperature [Unit: ˚C]
[###] = Target temperature for print execution [Unit: ˚C]
L : *** = Measured value of lower thermistor [Unit: ˚C]
[###] = AD value of lower thermistor reading [Unit: HEX]
T: Measured value of environmental temperature [Unit: ˚C]
H: Measured value of environmental humidity [Unit: %]

- Pressing the MENU+ key switches over the indication.

```
KTR=*.** YTR=*.**
MTR=*.** CTR=*.**
```

YTR, MTR, CTR and KTR denote the transfer voltage set values of the respective colors (Unit: KV).

- Pressing the MENU+ key switches over the indication.

```
KR=*.** YR=*.**
MR=*.** CR=*.**
```

KR: BLACK transfer roller resistance value [Unit: uA]
YR: YELLOW transfer roller resistance value [Unit: uA]
MR: MAGENTA transfer roller resistance value [Unit: uA]
CR: CYAN transfer roller resistance value [Unit: uA]

- Pressing the MENU+ key switches over the indication.

```
ETMP=*** UTMP=***
REG=**** EXT=***
```

ETMP: Hopping motor constant-speed correction parameter (Environmental temperature)[Unit: DEC]
UTMP: Fuser motor constant-speed correction parameter (Target fuser temperature)[Unit: DEC]
REG: Hopping motor constant-speed timer value (I/O set value)[Unit: HEX]
EXT: Fuser motor constant-speed timer value (I/O set value)[Unit: HEX]

- Pressing the MENU+ key switches over the indication.

ID=****

KID, YID, MID and CID denote the constant-speed timer values of the respective ID motors (I/O set values) [Unit: HEX].

- Pressing the MENU+ key switches over the indication.

BELT=****
FRM[***](xxx)

BELT: Constant speed timer value of belt motor (I/O set value) [Unit: HEX]
FRM : [***] = AD value of frame thermistor reading [Unit: HEX]
(xxx) = Frame temperature [Unit: ˚C]

- Pressing the MENU+ key switches over the indication.

DB:k**y**m**c**

DB: Development voltage setup table ID No. [Unit: HEX]

- Pressing the MENU+ key switches over the indication.

TR1:k**y**m**c**
TR2:k**y**m**c**

TR1: Transfer voltage parameter VTR1 table ID No. [Unit: HEX]
TR2: Transfer voltage parameter VTR2 table ID No. [Unit: HEX]

- Pressing the MENU+ key switches over the indication.

TROFF:**
BELT xxx(***)

TROFF: Transfer OFF voltage setup table ID No. [Unit: HEX]
BELT: *** = Belt temperature [Unit: ˚C]
xxx = AD value of belt thermistor reading [Unit: HEX]

5. Repeat Items 2 to 4, as needed.
6. Press the CANCEL key to terminate the test. (Status of Item 1 restored)

5.3.6 Color registration adjustment test

This self-diagnosis is practiced to conduct testing on the color registration function of the printer and to locate the cause of color drift.
Restore the normal operation of the printer by following the troubleshooting procedure if any error is issued during the color registration test.

1. Activate the self-diagnostic (Level 1) mode, and press and hold down the [MENU+] key or [MENU-] key, until the following message appears:

REG ADJUST TEST

2. Pressing the [ENTER] key causes the following message to appear. Press and hold down the [MENU+] key or [MENU-] key, until the intended item is displayed.

REG ADJUST TEST
REG ADJ EXECUTE

3. Pressing the [ENTER] key executes the test of the item currently displayed on the panel.

<<REG ADJ RESULT is executed>>

① Color registration adjustment test is conducted. ([READY] light blinking)

② When the test ends, the test result (OK or error name) appears in the upper line of the display section, and **** RESULT, in the lower line.

OK
REG ADJ RESULT

Pressing the [MENU+] key increments the test result sequentially in the display.

Pressing the [MENU-] key decrements the test result sequentially in the display.

Pressing the [BACK] key restores the status of Item 2.

③ Pressing the [CANCEL] key while the test is under way aborts the test ([READY] light comes on) and restores the status of Item 2.

<<REG ADJ RESULT is executed>>

The same as the key operation in the execution of REG ADJ EXECUTE②.

<< BLT REFLECT TESTis executed>>

① A color drift belt reflection test is conducted. ([READY] light blinking)

② When the test ends, the test result (OK or error name) appears in the upper line of the display section, and **** RESULT, in the lower line.

OK
BLT REFLECT RSLT

Pressing the [MENU+] key increments the test result sequentially in the display.

Pressing the [MENU-] key decrements the test result sequentially in the display.

Pressing the [BACK] key restores the status of Item 3.

③ Pressing the [CANCEL] key while the test is under way aborts the test ([READY] light comes on) and restores the status of Item 3.

<<BLT REFLECT RSLT is executed>>

The same as the key operation of Item②. in the execution of BLT REFLECT TEST.

4. Repeat Items 2 and 3, as needed.
5. Press the [BACK] key to terminate the test. (Status of Item 1 restored)

Color registration adjustment test items

Display	Function
REG ADJ EXECUTE	Execution of Color registration adjustment
REG ADJ RESULT	Viewing of the Color registration adjustment result
BLT REFLECT TEST	Execution of the judgment of good or bad Color registration adjustment belt reflectivity
BLT REFLECT RSLT	Viewing of the result of judgment of good or bad Color registration adjustmentbelt reflectivity

5.3.7 Print density adjustment test

This self-diagnosis is practiced to conduct testing on the Print density adjustment function of the printer and to view the execution result. This test is executed also to judge whether the Print density adjustment mechanism is normal or abnormal.

1. Activate the self-diagnostic (Level 1) mode, and press and hold down the [MENU+] key or [MENU-] key, until the following message appears:

DENS ADJ TEST

2. Pressing the [ENTER] key causes the following message to appear. Press and hold down the [MENU+] key or [MENU-] key, until the intended item is displayed.

DENS ADJ TEST
DENS ADJ EXECUTE

3. Pressing the [ENTER] key executes the test of the item currently displayed on the panel.

<< DENS ADJ EXECUTE is executed>>

① A density correction test is conducted. ([READY] light blinking)

② When the test ends, the test result (OK or error name) appears in the upper line of the display section, and **** RESULT, in the lower line.

OK
DENS ADJ RESULT

Pressing the [MENU+] key increments the test result sequentially in the display.

Pressing the [MENU-] key decrements the test result sequentially in the display.

Pressing the [BACK] key restores the status of Item 2.

③ Pressing the [CANCEL] key while the test is under way aborts the test ([READY] light comes on) and restores the status of Item 2.

<<DENS ADJ RESULT is executed>>

The same as the key operation of Item ② in the execution of DENS ADJ EXECUTE.

<<DENS ADJ PAR-SET is executed>>

Indication only, without functionality.

<<AUTO CALIBRATION is executed>>

① Automatic setting of a density sensor sensitivity correction value is made. ([READY] light blinking)

② When the test ends, the test result (OK or error name) appears in the upper line of the display section, and **** RESULT, in the lower line.

OK
DENS ADJ RESULT

Pressing the [MENU+] key increments the test result sequentially in the display.

Pressing the [MENU-] key decrements the test result sequentially in the display.

Pressing the [BACK] key restores the status of Item 2.

③ Pressing the [CANCEL] key while the test is under way aborts the test ([READY] light comes on) and restores the status of Item 2.

4. Repeat Item 3, as needed.
5. Press the [BACK] key to terminate the test. (Status of Item 1 restored)

Density correction test items

Display	Function
DENS ADJ EXECUTE	Execution of Print density adjustment
DENS ADJ PAR-SET	Indication is given, without functionality.
DENS ADJ RESULT	Viewing of Print density adjustment result
AUTO CALIBRATION	Automatic setting of Print density adjustment value

5.3.8 Indication of consumable part counters

This self-diagnosis is practiced to indicate the consumed states of consumable parts.

1. Activate the normal self-diagnostic mode, and press and hold down the [MENU+] key or [MENU-] key, until "CONSUMABLE STATUS" appears in the display section, and then, press the ENTER key. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)
2. Pressing the [MENU+] key or [MENU-] key causes the consumed states of consumable parts to be displayed sequentially. (ONLINE and CANCEL keys inactive to pressing)
3. Press the [BACK] key to terminate the test. (Status of Item 1 restored)

Display Upper	Display Lower	Format	Unit	Function
K-ID UNIT	********IMAGES	DEC	Images	The number of rotation after a new TONER ID of each color was attached. The number is converted into A4 3Page/Job.
Y-ID UNIT	********IMAGES	DEC	Images	
M-ID UNIT	********IMAGES	DEC	Images	
C-ID UNIT	********IMAGES	DEC	Images	
FUSER UNIT	********PRINTS	DEC	Prints	The number of sheets after a new FUSER unit was attached.
TR BELT UNIT	********IMAGES	DEC	Images	The number of sheets after a new BELT unit was attached.
K-TONER (FULL)	********%	DEC	%	The number of use of each color TONER.
Y-TONER (FULL)	********%	DEC	%	
M-TONER (FULL)	********%	DEC	%	
C-TONER (FULL)	********%	DEC	%	
M-WASTE TNR CNT	********TIMES	DEC	Times	The number of disposal TONER count. *Disposal TONER becomes full in more than 32times.
C-WASTE TNR CNT	********TIMES	DEC	Times	
K-STC MODE CNT	********TIMES	DEC	Times	The printing dot counts of each color TONER cartridge. (The count is NOT reset by replacing cartridge.)
Y-STC MODE CNT	********TIMES	DEC	Times	
M-STC MODE CNT	********TIMES	DEC	Times	
C-STC MODE CNT	********TIMES	DEC	Times	
K OVER RIDE CNT	********TIMES	DEC	Times	The number of times that each color TONER cartridge life was extended.
Y OVER RIDE CNT	********TIMES	DEC	Times	
M OVER RIDE CNT	********TIMES	DEC	Times	
C OVER RIDE CNT	********TIMES	DEC	Times	

5.3.9 Indication of printed page counters

This self-diagnosis is practiced to indicate the current number of printed pages of the printer.

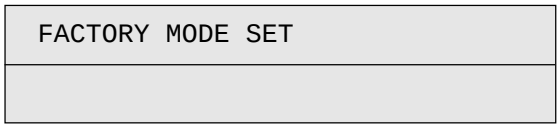
1. Activate the normal self-diagnostic mode, and press and hold down the [MENU+] key or [MENU-] key, until "PRINTER STATUS" appears in the display section, and then, press the ENTER key. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)
2. Pressing the [MENU+] key or [MENU-] key causes the current number of printed pages to be displayed sequentially. (ONLINE and CANCEL keys inactive to pressing)
3. Press the [BACK] key to terminate the test. (Status of Item 1 restored)

Display Upper	Display Lower	Format	Unit	Function
K-IMPRESSIONS	********IMAGES	DEC	Images	The printing number of sheets of each color.
Y-IMPRESSIONS	********IMAGES	DEC	Images	
M-IMPRESSIONS	********IMAGES	DEC	Images	
C-IMPRESSIONS	********IMAGES	DEC	Images	
TOTAL SHEET CNT	********COUNTS	DEC	Prints	The indication of the total printing number of sheets

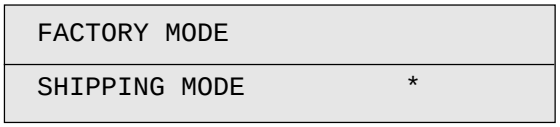
5.3.10 Factory/Shipping switching

This self-diagnosis is practiced to switch the PU between the Factory mode and the Shipping mode.

1. Activate the self-diagnostic (Level 1) mode, and press and hold down the [MENU+] key or [MENU-] key, until the following message appears.



2. Pressing the [ENTER] key causes the following message to appear. Press and hold down the [MENU+] key or [MENU-], until the intended item (See the table below) is displayed.



3. Pressing the [ENTER] key while the desired set item remains displayed selects the set value.
4. Pressing and holding down (3 sec) the [ENTER] key while the value you want to set remains displayed registers the currently displayed value on the EEPROM. Then, the status of Item 2 will be restored.
5. Repeat Items 2 to 4, as needed.

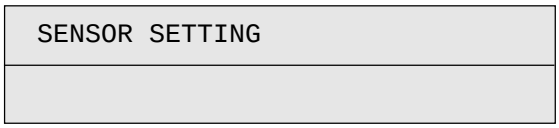
6. Press the [BACK] key to terminate the test. (The status of Item 1 is restored.)

Indication	Set value	Function
FACTORY MODE	FACTORY MODE	For setting the Factory Work mode (Fuse-cut disabled mode).
	SHIPPING MODE	For canceling the Factory Work mode and enabling the fuse-cut function.
FUSE INTACT Note: ****** is either INTACT or BLOWN.	BELT UNIT ******	For checking the FUSE status of the transfer belt unit.
	FUSE UNIT ******	For checking the FUSE status of the fuser unit.
	K-ID UNIT ******	For checking the FUSE status of the K-ID unit.
	Y-ID UNIT ******	For checking the FUSE status of the Y-ID unit.
	M-ID UNIT ******	For checking the FUSE status of the M-ID unit.
	C-ID UNIT ******	For checking the FUSE status of the C-ID unit.

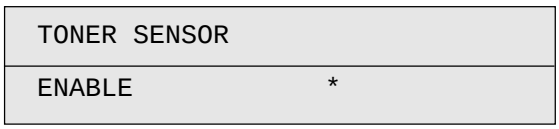
5.3.11 Setup of self-diagnostic function

This self-diagnosis is practiced to Enable/Disable the error detections of the different types of sensors.
The error detections can be disabled or enabled temporarily for troubleshooting purposes. However, this function should be exercised with utmost care, since it is able to set some items that require specialized knowledge in the field of operation of the engine.
After the function has been used, the set values must always be reset to the defaults.

1. Activate the self-diagnostic (Level 1) mode, and press and hold down the [MENU+] key or [MENU-] key, until the following message appears.



2. Pressing the [ENTER] key causes the following message to appear. Press and hold down the [MENU+] key or [MENU-], until the intended item (See the table below) is displayed.



3. Pressing the [ENTER] key allows to select the set value in the lower line of the display section.

   Pressing the [MENU+] key increments the set value.

   Pressing the [MENU-] key decrements the set value.

4. Pressing and holding down (3 sec) the [ENTER] key while the value you want to set remains displayed registers that value on the EEPROM. Then, the status of Item 2 will be restored.

5. Repeat Items 2 to 4, as needed.

6. Press the [BACK] key (except for the status of Item 4.) to terminate the setup. (Status of Item 1 restored)

Indication	Set value	Operation of set value	Function
TONER SENSOR	ENABLE	Detects.	For enabling/disabling toner sensor operation.
	DISABLE	Does not detect.	
BELT UNIT CHECK	ENABLE	Checks	For enabling/disabling checking operation for mounted belt unit.
	DISABLE	Does not check.	
ID UNIT CHECK	ENABLE	Checks	For enabling/disabling checking operation for mounted ID unit.
	DISABLE	Does not check.	
REG ADJUST ERROR	ENABLE	Detect.Stops.	For enabling/disabling the stop of error issuance, based on color drift detection value.
	DISABLE	Does not stop.	
DRUM OVER LIFE	STOP	Does not extend life.	For enabling/disabling extending the drum life.
	CONTINUANCE	Extends life.	

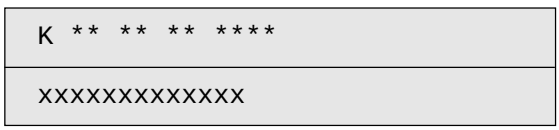
Hatched part: Denotes the default.

Display Part Upper	Display Part lower			Range Of Selection	Initialing Value	Deteils
	Setting Method	Set Number	Set Value			
WR POINT REV	-	TBL=**H	±=*.***mm	00H~FFH	0.000mm (00H)	The correction value is added to the predetermined writing position
BOTTOM WRT POINT	-	TBL=**H	±=*.***mm	00H~FFH	00H~FFH (00H)	The amount of the form rear end cutting is set

5.3.12 Indication of LED head serial number

This self-diagnosis is practiced to check whether a downloaded LED head data matches the serial number of the actual LED head.

1. Activate the self-diagnostic mode, and press and hold down the [MENU+] key or [MENU-] key, until "LED HEAD DATA" appears in the upper line of the display section, and then, press the ENTER key. (The MENU+ key increments a test item, and the MENU- key decrements a test item.)
2. Pressing the [MENU+] key or [MENU-] key causes the serial numbers of the K/Y/M/C LED head data to be displayed sequentially.
3. Press the [BACK] key to terminate the test. (Status of Item 1 restored)



** ** ** **** : Rev No.
xxxxxxxxxxxxx : Serial No.

5.3.13 Details of panel indications

Display

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
PLEASE WAIT	Off	Off	It displays, while not having determined the system display language immediately after turning on a power supply. If a display language is determined, it will change to the display of Priority 2.	Initializing
INITIALIZING	Off	Off	The controller side is initializing.	Initializing
MENU RESETTING	Off	Off	Indicates that EEPROM of the controller side is being reset. The condition that EEPROM is reset includes the followings. •Changes of CU ROM (when disagreement of CU F/W version is detected) •Changes of destination channel •Compulsive initialization of EEPROM (System maintenance menu) •OEM set of PJL command	Initializing
RAM CHECK **********	Off	Off	RAM checking. The rate of checked capacity to the total capacity is displayed on the 2nd line.	Initializing
WAIT A MOMENT NETWORK INITIAL	Off	Off	The network is in initializing.	Initializing
FLASH FORMAT	Off	Off	Displays that Flash memory is being formatted. It is displayed it when Resident/Option Flash memory not fomented are detected, or "Format Flash ROM" of a system maintenance menu is performed. The function mentioned above is secret to users. Therefore, this status does not occur in a user environment.	Initializing
PROGRAM UPDATE MODE	Off	Off	Displays that a printer is a special mode to conduct the update of the program (Controller firmware) This mode starts by turning on power with pressing Online switch.	Initializing
WAIT A MOMENT DATA RECEIVE	Off	Blink	Displays that a program data to update is being received.	Initializing
WAIT A MOMENT DATA RECEIVED OK	Off	Off	Displays that a program data to update has been received.	Initializing

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
CHECK DATA REC DATA ERROR <%DLCODE%>	Off	On	Displays that an error takes place while a program data to update is being received. %DLCODE% 1:Size Error 2:Check SUM Error 3:Printer Model No. Error 4:Module I/F Version Error 5:FAT Version Error	Initializing
WAIT A MOMENT DATA WRITING	Off	Blink	Displays that a program data to update is being written.	Initializing
POWER OFF/ON DATA WRITTEN OK	Off	Off	Displays that a program data to update has been written.	Initializing
CHECK DATA DATA WRITE ERROR <%DLCODE%>	Off	On	Displays that an error takes place while a program data to update is being written. %DLCODE% 1:Memory alloc Error 2:Download File Error 3:Device Free space acquirement Error 4:Device Free area Shortage Error 5:File Write Error 6:CU-F/W Mismatch Error	Initializing
PU FLASH ERROR	Off	Off	It is shown that PU firmware has booted in Loader mode. It displays, when PU firmware returns "00.00.00" as a response of Leisus command"VERSIONR 01 H" (version of PU firmware main part program) which CU firmware transmits at the time of initialization. If initialization is completed, it will change to the status of Priority 251. This status may occur also in a user environment. When it occurs, the maintenance by a maintenance member is required (equivalent to S/C).	Initializing
STATUS MODE	Off	Off	Displays that normal Online mode starts. Data (Job) from an external portion is processed even though an error takes place after Online (ready) state once this mode starts. Displays Error or Warning on a panel. If a power supply is turned on pressing a <Enter>+<Back>+<Down> switch, it will enter into this mode. This function is secret to users. Therefore, this status does not occur in a user environment.	Initializing

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
ONLINE	On	Off	Shows on-line status.	Normal
OFFLINE	Off	Off	Shows off-line status. * Ready LED in off-line is always assumed to be Off.	Normal
FILE ACCESSING	Varies	Varies	The status showing FILE SYSTEM (FLASH) is being accessed.	Normal
DATA ARRIVE	Varies	Varies	Data receiving, process not started yet. Displayed mainly during PJL process without text print data or during job spooling.	Normal
PROCESSING	Blink	Varies	Data receiving or output processing	Normal
DATA	Varies	Varies	Un-printed data remains in Buffer. Waiting for data to follow.	Normal
PRINTING	Varies	Varies	A printer is printing.	Normal
PRINT DEMO PAGE	Varies	Varies	Printing Demo Pages	Normal
PRINT FONT	Varies	Varies	Printing Font Lists	Normal
PRINT MENU MAP	Varies	Varies	Printing Menu Maps	Normal
PRINT FILE LIST	Varies	Varies	Printing File Lists	Normal
PRINT ERROR LOG	Varies	Varies	Printing Error Logs	Normal
PRINT NETWORK CONFIG	Varies	Varies	It is shown that a network setup is printing.	Normal
□ COLLATE COPY iii/jjj	Varies	Varies	Collate printing. iii: The number of copy in printing. jjj: the total number of printing. When the total number of printing is 1, it is a normal printing display.	Normal
□ COPY kkk/lll	Varies	Varies	Copy printing. kkk: The number of pages in printing. lll: The total number of printing. When the number of copy is 1, it is a normal printing display.	Normal
CANCELING JOB	Blink	Varies	Indicates that job cancellation has been instructed and data is being ignored until the job completion.	Normal
CANCELING JOB (JAM)	Blink	Varies	Indicates if JAM occurs when Jam Recover is OFF, that job cancellation has been instructed and data is being ignored until the job completion.	Normal
CANCELING JOB	Blink	Varies	Indicates a job being cancelled due to no print permit. (Related to JobAccount) 1. A job received from a user who is denied printing. 2. A color job received from a user who is denied color printing.	Normal

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
CANCELING JOB (BUFFER FULL)	Blink	Varies	Indicates that a job is being cancelled because the printer area where the logs are stored has been used up and also "Cancel job" is specified as an operation at the time of Log Full. (Related to JobAccount)	Normal
C M Y K ■ ■ ▬ ▬	ON	Varies	Displays toner gauges. Remaining toner levels are as follows: 100-60%: ■, 50-40%: ■, 30-10%: ▬ "Toner Low" indication: ▬	Normal
□ ADJUSTING TEMP	Varies	Varies	Warming up.	Normal
□ OPTIMIZING TEMP	Varies	Varies	Indicates that printing has been suspended for a while due to high temperature of the drum, or the printer is in a wait state to cope with heat at the time of switching narrow paper to wide paper.	Normal
□ POWER SAVE	Varies	Varies	A printer is in power save mode. Displayed in a combination of other message in the first line. LCD back light extincts in the energy saving mode and blinks after that mode. If the power is on during the energy saving mode, it lights up and extincts after 30 seconds. However, the energy saming mode remains. Also, it lights up in the priority 365 in shut down process.	Normal
□ ADJUSTING COLOR	Varies	Varies	Executing Auto Color Adjusting	Normal
□ ADJUSTING DENSITY	Varies	Varies	Executing Auto Density Adjustment.	Normal
PU DOWNLOADING	Varies	Varies	Downloading PU F/W (This is not user-level error) This function is secret to users. Therefore, this status does not occur in a user environment.	Normal

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
□ ORDER %COLOR% TONER	Varies	On (Blink) (Off)	Toner amount is low. Displayed in a combination of other message in the first line. In case of MENUÅhLOW TONER=STOP,Åh ATTENTION LED blinks and the printer shifts to OFF Line. When an ONLINE switch is pushed, or when arbitrary errors occur and the error is canceled, an off-line state is canceled, and printing is continued until it is set to Toner Empty. Arbitrary errors are errors of Priority 301-361. "TONER LOW" status occurs when the power is on, the LED of ATTENTION in a case of "LOWER TONER=STOP is blinked and go back to the off line after the initializing process. It is possible to operate untill "TONER EMPTY" by pressing "ONLINE switch". Moreover, when set as "NearLifeLED = Disable", Attention LED is switched off. %COLOR% Y M C K	Warning
□ %COLOR% WASTE TONER FULL. REPLACE TONER	Varies	On	This warning is displayed at Cover Open/Close or Power OFF/ON after a waste-toner full error (Priority: 321.8) occurs. (Not occur for Black.) Displayed in a combination of other message in the first line. As long as this warning is being displayed, a waste toner full error occurs , the printer shifts to Offline and stops each time it has printed about 50 copies. %COLOR% Y M C	Warning
□ NON OEM %COLOR% TONER DETECTED	Varies	On	It shows the toner cartridge of authorized 3rd party. (RFID Licensed to 3rd party) %COLOR% Y M C K	Warning
□ %COLOR% TONER REGIONAL MISMATCH	Varies	On	The Region ID of toner cartridge is not proper to the distribution channel. %COLOR% Y M C K	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
□ NON GENUINE %COLOR% TONER	Varies	On	The chip of RFID is not compatible. %COLOR% Y M C K	Warning
□ PS3 EMUL ERROR	Blink	Varies	Interpreter detects an error due to the following reason. Receive data after this is ignored until the job completion. When the job is completely received, this is automatically cleared. - The job has a grammatical error. - The page is complicated, and VM was used up.	Warning
□ ORDER %COLOR% IMAGE DRUM	Varies	On (Off)	The life of the drum (warning). Displayed in a combination of other message in the first line. The printer stops at the point when it reaches the drum life (Shifts to error, OFF-LINE.) Moreover, when set as "NearLifeLED = Disable", Attention LED is switched off. Y M C K	Warning
□ ORDER FUSER	Varies	On (Off)	Notifies the fuser unit is near its life. Moreover, when set as "NearLifeLED = Disable", Attention LED is switched off.	Warning
□ ORDER BELT	Varies	On (Off)	Notifies the belt unit is near its life. This is a warning; thus, printing will not stop. Moreover, when set as "NearLifeLED = Disable", Attention LED is switched off.	Warning
□ FUSER LIFE	Varies	On	Notifies the life of the fuser unit (warning). Displayed in a combination of other message in the first line. Warning only (No Life error). This appears when the cover was opened and closed just after the fuser life error occurred.	Warning
□ BELT LIFE	Varies	On	Notifies the life of the belt unit (warning). Displayed in a combination of other message in the first line. Warning only (No Life error). This appears when the cover was opened and closed just after the belt life error occurred.	Warning
□ %COLOR% TONER EMPTY	Varies	On	Notifies the toner is empty. This is a warning only. This appears when the cover was opened and closed just after the toner empty error occurred. Y M C K	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
□ %COLOR% TONER NOT INSTALLED	Varies	On	Notifies the toner cartridge is not installed. This is a warning only. Y M C K	Warning
□ %COLOR% DRUM LIFE	Varies	On	Notifies the life of the drum. This is a warning only. This appears when the cover was opened and closed just after the drum life error occurred. Y M C K	Warning
□ BELT REFLEX ERROR	Varies	On	Belt Reflex Check Error. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning
□ DENSITY SHUTTER ERROR2	Varies	Varies	Density Adjustment Shutter Error 2.Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning
□ DENSITY SHUTTER ERROR1	Varies	Varies	Density Adjustment Shutter Error 1.Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning
□ DENSITY COLOR CALIBRATION ERROR	Varies	Varies	Density Adjustment Color Calibration Error.Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning
□ DENSITY COLOR SENSOR ERROR	Varies	Varies	Density Adjustment Color Sensor Error.Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
□ DENSITY BLACK CALIBRATION ERROR	Varies	Varies	Density Adjustment Black Calibration Error.Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning
□ DENSITY BLACK SENSOR ERROR	Varies	Varies	Density Adjustment Black Sensor Error.Error that does not occur at user level.Displayed only in FactoryMode. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning
SENSOR CALIBRATION ERROR	Varies	On	Sensor calibration error This error does not occur in the user's environment because the PU firmware does not notify the CU firmware of this status detected in Shipping Mode.	Warning
□ %COLOR% IMAGE DRUM SMEAR ERROR	Varies	Varies	Density Adjustment ID ERROR 2; smear due to ID failure. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. Y M C K	Warning
□ %COLOR% LOW DENSITY ERROR	Varies	Varies	Density Adjustment ID ERROR; LED out of focus is assumed. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. Y M C K	Warning
□ SENSOR CALIBRATION ERROR	Varies	On	When output of color registration sensor is below reference value. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment.	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
□ REGISTRATION ERROR n	Varies	On	When a color registration error is detected with coarse adjustment, or with the main-scan line adjustment. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. n 2 = Yellow 3 = Magenta 4 = Cyan 5 =	Warning
□ REGISTRATION SENSOR ERROR n	Varies	On	When a color registration error is detected with the fine control of registration adjustment, or with the sub-scan line adjustment. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. n 2 = Yellow 3 = Magenta 4 = Cyan 5 =	Warning
□ %COLOR% HEAD DATA ERROR	Varies	On	The LED head calibration data is missing or invalid. Printing can be proceeded without calibrating light radiation. PU firmware does not notify this warning to CU firmware at the time of Shipping Mode. Therefore, this status does not occur in a user environment. Y M C K	Warning
□ %TRAY% EMPTY	Varies	On	%TRAY%: The tray is empty. Treated as Warning until printing to the empty tray is designated. In this case, Leisus I/F : corresponding bits of both LFTERR and LFTERR2 should be '0'. Tray1 Tray2	Warning
□ HARD DISK FULL	Varies	On	Disk-full is occurring. Because this is a temporary warning, it remains until the end of the job and disappears.	Warning
□ DISK WRITE DISABLED	Varies	On	An attempt to write in a read-only file was done. Because this is a temporary warning, it remains until the end of the job and disappears.	Warning
□ COLLATE FAIL	Varies	Varies	Memory overflow was occurred in the collate copy. Stays displayed until the ONLINE key is pressed.	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
PRESS ONLINE SW JOB LOG. DISK FULL	Varies	On	Indicates that the free space of the storage device is too small to execute PRINT STATISTICS SYSTEM.	Warning
PRESS ONLINE SW COLOR RESTRICTED. MONO PRINTED	Varies	On	Notifies users that jobs have been by monodorome because they are not permitted for color printing. (Related to Job Account.) Stays displayed until the ON LINE key is pressed.	Warning
PRESS ONLINE SW COLOR RESTRICTED. JOB RE-JECTED	Varies	On	Notifies users that jobs have been cancelled because they are not permitted for color printing. (Related to Job Account.) Stays displayed until the ON LINE key is pressed.	Warning
PRESS ONLINE SW PRINT RESTRICTED. JOB RE-JECTED	Varies	On	Notifies users that jobs have been cancelled because they are not permitted for printing. (Related to Job Account.) Stays displayed until the ON LINE key is pressed.	Warning
PRESS ONLINE SW LOG BUFFER FULL. JOB REJECTED	Varies	On	Notifies users that jobs have been cancelled because the buffer is full. (Related to JobAccount.)Stays displayed until the ON LINE key is pressed.	Warning
PRESS ONLINE SW DISK USE FAILED %FS_ERR%	Varies	On	A disk error is occurred, which is other than the file system fill or the disk write protected. Operation that does not involve a disk is available. nnn: An identifier to Error type (For details, see the overview chapter.) %FS_ERR% =0...GENERAL ERROR =1...VOLUME NOT AVAILABLE =3...FILE NOT FOUND =4...NO FREE FILE DESCRIPTORS =5...INVALID NUMBER OF BYTES =6...FILE ALREADY EXISTS =7...ILLEGAL NAME =8...CANT DEL ROOT =9...NOT FILE =10...NOT DIRECTORY =11...NOT SAME VOLUME =12...READ ONLY =13...ROOT DIR FULL =14...DIR NOT EMPTY =15...BAD DISK =16...NO LABEL =17...INVALID PARAMETER =18...NO CONTIG SPACE =19...CANT CHANGE ROOT =20...FD OBSOLETE =21...DELETED =22...NO BLOCK DEVICE =23...BAD SEEK =24...NTERNAL ERROR =25...WRITE ONLY	Warning
PRESS ONLINE SW INVALID DATA	Varies	Varies	Invalid data was received. Press the On-line switch and eliminate the warning. Displayed when unsupported PDL command is received or a spool command is received without HDD.	Warning

5.4 Settings after Parts Replacement

The necessary adjustments after the parts exchange are explained as follows.

Replaced Part	Adjustment
LED Head	Not required.
Image Drum Cartridge (Any of Y, M, C and K)	Not required.
Fuser Unit	Not required.
Belt Unit	Not required.
Main (TB3 Board)	Copy the EEPROM information; utility is required

5.4.1 Notes when replacing Main Board TB3

5.4.1.1 Precautions when replacing Main Board TB3

When PCB-TB3 is replaced, it is necessary for the new replaced PCB to take over the previous F/W revision and user-settings that the user had been using to that point. For this, a maintenance member needs to check beforehand FW of the equipment.

Rewrite F/W

Compare the F/W revision with the maintenance board's ones, and rewrite the F/W according to the procedure of the setting spec. (44004601DD) when they are different.

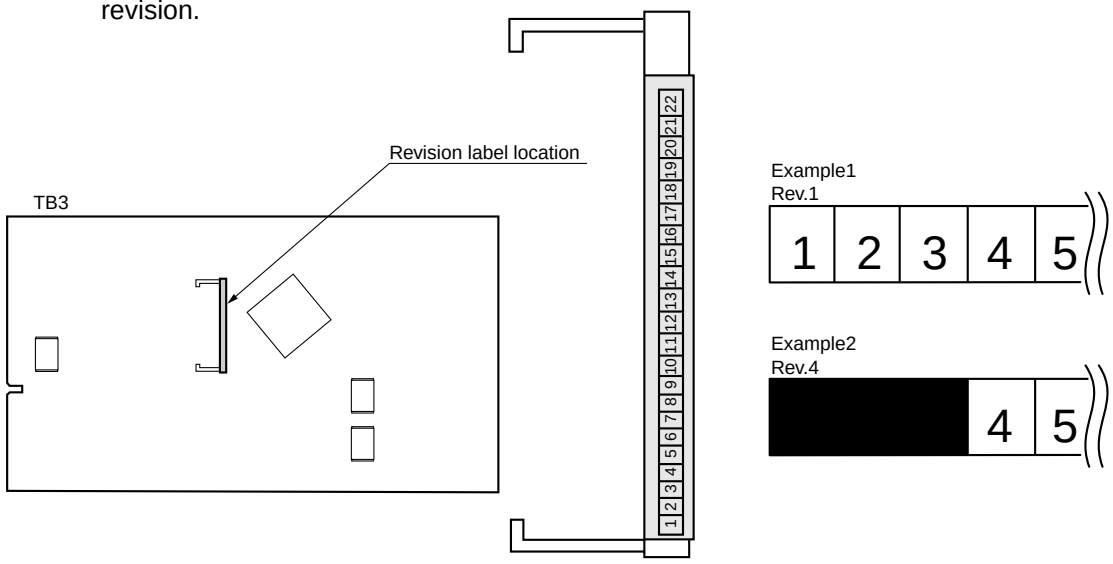
Refer to the following table indicated on 44004801YB or 44004701YA for the combination of F/W.

ROM Revision	Date	CU F/W 43875707FYxx			CU loader 43436809FYxx	PU F/W 44003801FYxx		Note.
		CU	NIC	Web Page	loader	PU	loader	
1	2007.12.19	P0.20	c0.53	0.02	V01.00	V00.00.01	V00.00.01	α lot

When F/W is updated, display the new revision by the following method.

1) Perform "PRINT MENU MAP" and confirm the update of F/W revision.

2) Paint out ROM label stuck on the location of the figure below according to the rewritten F/W revision.



5.4.1.2 Setup of EEPROM after replacement of Main Board TB3

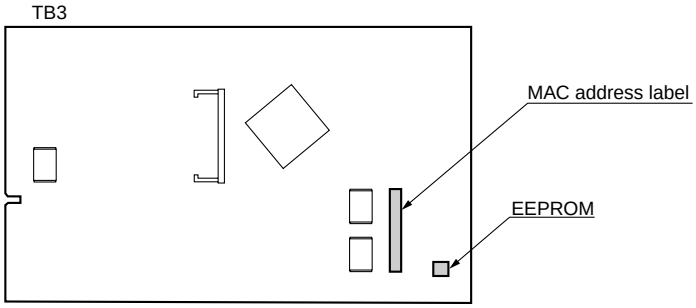
When replacing main board TB3, if the EEPROM is removed but not loaded on the new board, or if the EEPROM is replaced with a new EEPROM, then the user-settings and Version Read Function (fuse cut) etc. have become invalid. For this reason, it is necessary to arrange the EEPROM by the following method (a) or (b).

(a) When it is possible to access to the EEPROM of the circuit board to be removed.(When neither SERVICE CALL 40 [CU EEPROM Error] nor SERVICE CALL 105 [Engine EEPROM Error] is displayed on the LCD.)

(a-1)By using the PU board replacement function of the maintenance utility (maintenance utility operation manual, Section 2.4.1.1.1, PU board replacement function and Section 2.4.1.1.3, CU board replacement function), retrieve information about the CU EEPROM and the PU EEPROM from the circuit board that is to be removed, and store the information temporarily in the HDD of PC.

(a-2)By using the PU board replacement function of the maintenance utility (maintenance utility operation manual, Section 2.4.1.1.1, PU board replacement function and Section 2.4.1.1.3, CU board replacement function), copy the information about the CU EEPROM and the PU EEPROM information stored in the HDD of PC by (a-1) to the EEPROM of a new circuit board to be installed.

(a-3)Remove the MAC address sticker label of the old TB3, and paste it on the new one.



Note. CU's EEPROM is loaded in the IC socket. So, it is possible to setup the CU's EEPROM by exchanging the ROM itself physically.

(b) When it is impossible to access to the EEPROM of the circuit board to be removed. When SERVICE CALL 40 [CU EEPROM Error] or SERVICE CALL 105 [Engine EEPROM Error] is displayed on the LCD by handling the circuit board to be removed, or when the EEPROM data cannot be read out, perform maintenance with the maintenance utility according to the following procedure after replacing with a new circuit board.

(b-1)Set the e-serial number

(Maintenance utility operation manual, Section 2.4.1.2, PU circuit board setting)
SAP serial number can be applied to the device. The SAP serial number is displayed in the highest rung of the serial number label. It is a 12-digit number including production place (2 digits), production year (2 digits), sequence number (6 digits) and revision number (2 digits).

- PU serial number is a 10-digit number which is basically the same as SAP serial number except that it has no the 2-digit revision number.
- Set on the menu of [Section 2.4.1.1.2.1, PU serial number setting] of [Section 2.4.1.1.2 PU circuit board setting function].
- If you want to specify the PU serial number, please add a “0” (a normal-width zero) then input the 11-digit number. (Please notice that when read out, the number will be 10 digits.)
  As shown in the following image, on the menu of [PU serial number setting], eliminate the 2-digit revision number then add a normal-width zero to the 10-digit number and input it.

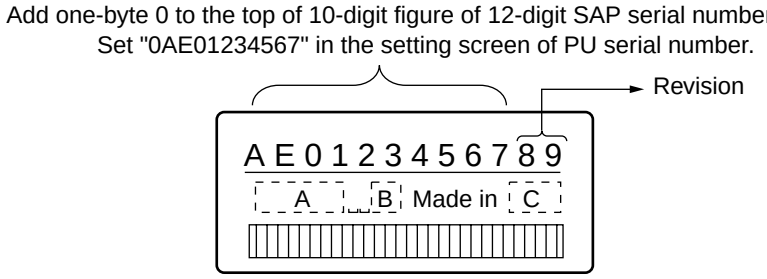


Figure of Serial No. label image

- PU serial number will be output to the Printer Serial Number column in the header of Status Page. For this reason, check of PU serial number is performed by printing Status Page.
- After the configuration in the UK factory, when facing OEL, the PU serial number is taken as Lot Number and shown in the Lot Number: column of the last line which is in the header of the Status Page.

5.4.1.3 Mode change after setup of EEPROM

When PCB-TB3 has been replaced, it will become Factory Mode.Therefore there is a need to change it from Factory Mode to Shipping Mode to activate the new EEPROM by the maintenance utility.

(It is also possible to change this setting by PJL or panel operation in the maintenance mode.)

(1) Change to the menu of [Section 2.4.1.1.2.2 Factory/Shipping mode] in the [Section 2.4.1.1.2 PU circuit board setting function] of the maintenance utility.

(2) Set the desired market and confirm the setting by printing MENU MAP.

Note! Set the destination prior to shipping out a printer or maintenance PCB since the default setting of maintenance board is OEL. (This setting is stored on the EEPROM of TB3.)

Note! Because of the EEPROM exchange (engine control circuit board), the life information of belt and ID, etc. has been cleared. Please notice that there may appear some errors in the life management until the following unit exchange is done.

Item	Description	Count Description
Fuser unit	Fuser unit life count	A value converted on a A4-size-paper basis from number of pages printed (prints) after installation of a new fuser unit
Belt unit	Belt unit life count	A value converted on a A4-size-paper basis from number of pages impressed (images) after installation of a new belt unit
Image drum unit - Black Image drum unit - Yellow Image drum unit - Magenta Image drum unit - Cyan	Respective life counts of image drum units	Values converted on a A4-size-paper basis from numbers of revolutions after installation of new image drum units
Total number of sheets fed	Printer life count	Total number of sheets fed
Pages - Black Pages - Yellow Pages - Magenta Pages - Cyan	Respective numbers of pages impressed (images) with image drums	Numbers of pages impressed (images) from installation of new image drum units.

5.5 About the manual setting of density correction

At shipment the density correction mode of printer is set to [Auto], if the user set it to [Manual] mode, the density in use will be changed, thus the density might appear strange.

Note! This should be done only when the printer is at idle state. Don't make this setting when warming up.

6. REGULAR MAINTENANCE

6.1 Recommended substitutes

It is recommended by our company that only heavy users should change the following parts.
(If not changed, the printing quality cannot be guaranteed and failures may arise.)

Part Name	C3600n
Friction Pad Assy	42088801
Roller Assy. Hopping	43334901

Note! 1. Consumables(image drum, toner cartridge, fuser and belt unit) are not included.
2. Power supply and main circuit board, etc. are not included.

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

6.2 Cleaning

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

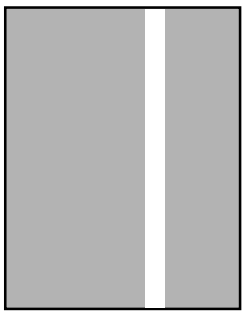
Note! Don't touch image drum terminals, LED lens array and LED head connector.

6.3 Cleaning LED lens array

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

Note! LED lens array should only be cleaned by using LED head cleaner.
(LED head cleaner is provided with toner cartridge)

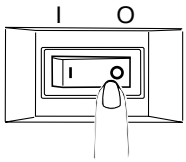
White lines, white stripes
(white defection, light printing)



CLEANING LED HEAD

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

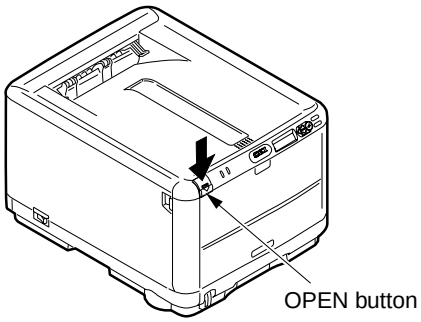
(1) Switch off the power supply.



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

⚠Caution	Personal injuries may occur.	

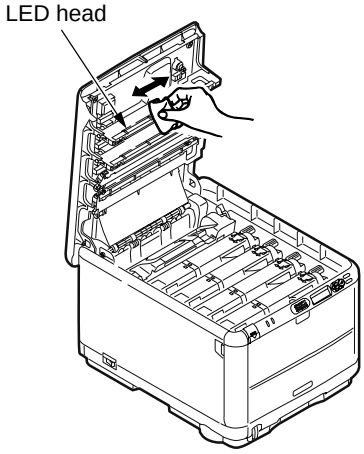
The fuser unit is extremely hot. Do not touch it.



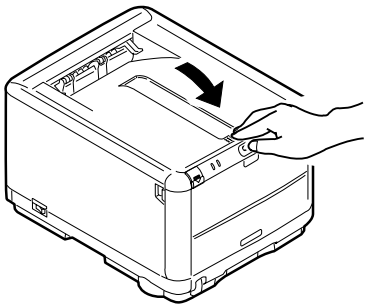
(3) Please use lens cleaner or soft tissue paper to wipe the lens surfaces (4 places) of LED head gently.

Note! Don't use solvent such as methyl alcohol or thinner since they may cause damage to the LED head.

Memo LED lens cleaner is provided with toner cartridge.



(4) Close the top cover.



6.4 Cleaning the pick-up roller

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

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

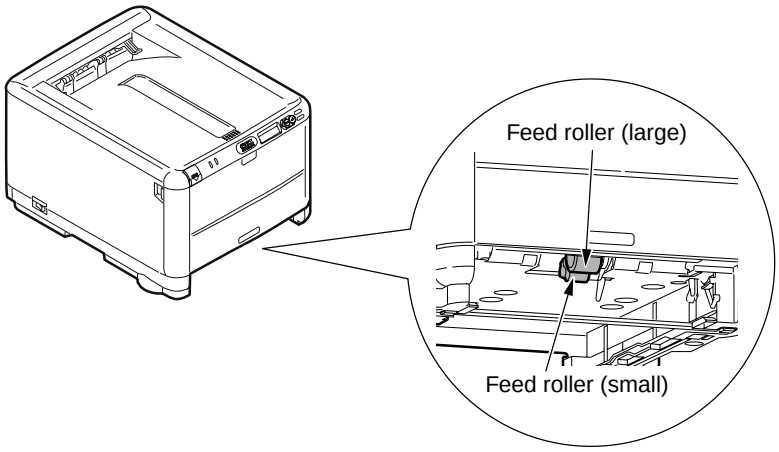
CLEANING PAPER FEEDING ROLLER AND PAD

If [391: paper jam] happens frequently, please clean your paper feeding roller and pad.

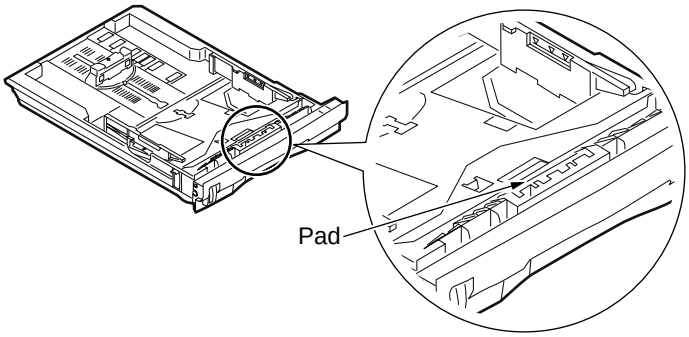
(1) Draw out the paper cassette.

(2) Get the cloths wet and wring it out. Then use the cloths or the LED lens cleaner to wipe paper feeding roller (large) and paper feeding roller (small).

Memo: LED lens cleaner is provided with toner cartridge.



(3) Get the cloths wet and wring it out. Then use the cloths or the LED lens cleaner to wipe the pad part of paper cassette.

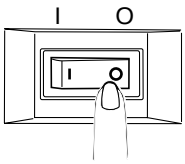


6.5 Cleaning the inside of the printer

CLEANING THE INSIDE OF THE PRINTER

According to printing patterns, the metal shaft between fuser and cyan image drum cartridge may be stained with toner. If this happens, please clean your printer.

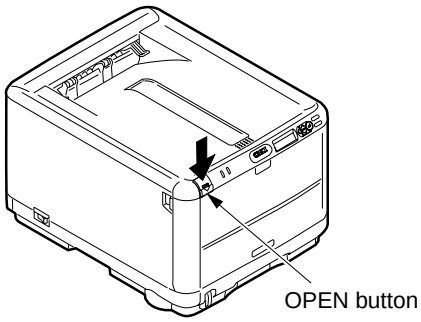
(1) Switch off the power supply.



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

⚠Caution	Personal injuries may occur.	

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

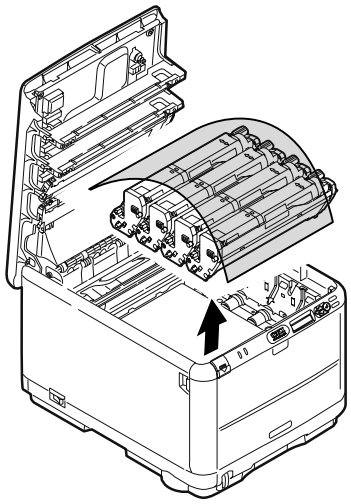


(3) Take out the image drum cartridge.

1. Take out the 4 image drum cartridges and put them on a flat surface.
2. Cover the 4 image drum cartridges with black paper.

Note! • The image drum (the green cylinder) is very easy to be damaged, please be careful when handling it.

• Don’t put the image drum cartridges in direct sunlight or strong light (above1500 lux). And don’t put them in indoor lighting condition for more than 5 minutes.

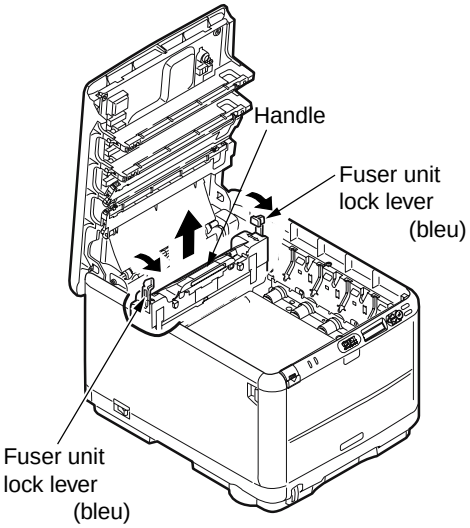


(4) Take out the fuser unit.

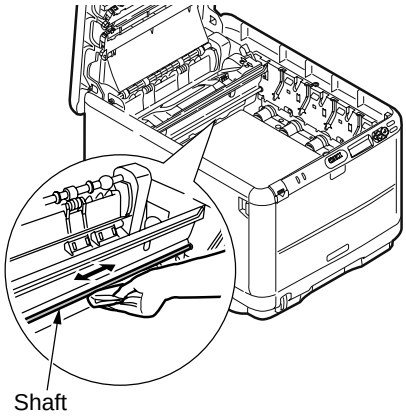
⚠Caution	Personal injuries may occur.	

The fuser unit is extremely hot. Be careful not to touch it. If the fuser unit is hot, do not try yourself to clear paper but wait until the fuser unit becomes cool.

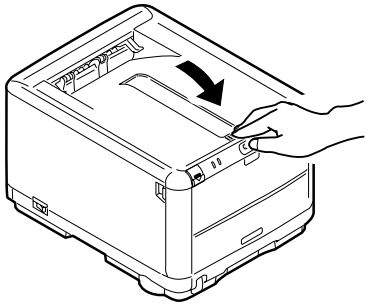
1. Pull the 2 blue lock levers of the fuser unit in the direction of arrows.
2. Hold the handle of the fuser unit and take it out.



(5) Use LED lens cleaner, soft cloths or tissue paper to wipe the metal shaft.



(6) Set the fuser unit.
For more detailed information, please refer to the Users' Manual Setup part, [Change the fuser unit].
(7) Gently put the 4 image drum cartridges back into your printer.
(8) Close the top cover.



7. TROUBLESHOOTING PROCEDURES

7.1 Precautions prior to repair

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

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

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

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

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

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

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

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

7.3 Precautions when taking action on abnormal images

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

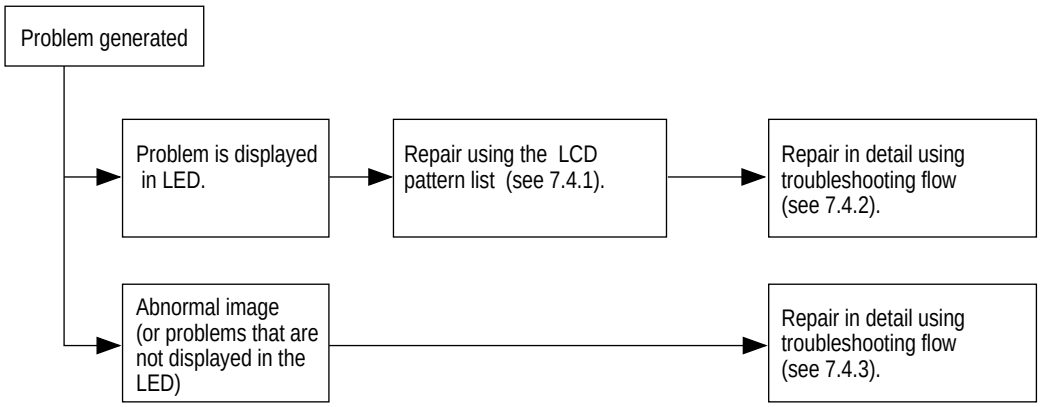
(2) Do not expose the OPC drum to direct sun.

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

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

7.4 Troubleshooting method

If a trouble occurs in the printer, search for it by the following procedure:



7.4.1 LCD Message List

When the printer detects an irrecoverable error, it displays a service call error in the LCD like the one given below:

Service call
nnn: error
Note! "nnn" is an error code.

When a service call error is issued, an error code is displayed in the lower line of the LCD, accompanied by the relevant error information. Be sure to make a note of this error information (numeric values representing an address, etc.) and communicate it to the related departments, since such information will be required for the subsequent trouble analysis/solution. The error codes and their meanings, as well as the related remedial methods, are given in Table 7-1-1.

Table 7-1-1 Operator Alarm (1/7)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
LOAD %MEDIA_SIZE% IN MANU-AL TRAY	On	Off	Manual paper feed is required.Manually insert the paper shown by %MEDIA_SIZE%. The nuit of paper size in Custom: The unit specified for menu setting is used if no unit is specified by the driver. Where the driver specifies a unit, the unit is used for display. Paper size displays in Custom mode: "<width>x<length><unit>" ex) 210x297mm 8.5x11.0inch	Error (ON-LINE)
LOAD IN TRAY AND PRESS ON-LINE SWITCH DUPLEX REQUEST	On	Off	Paper feeding is reccomended because the print of back sides(odd number pages) is finished during the Manual Duplex print.	Error (ON-LINE)
LOAD IN MANUAL DUPLEX REQUEST	On	Off		
LOAD %MEDIA_SIZE%/ %MEDIA_TYPE% AND PRESS ONLINE SWITCH %ERRCODE%:%TRAY% MEDIA MISMATCH	Off	Blink	The media type in the tray and the print data do not match. Load mmmmmmm/pppppp paper in ttttt tray (It takes a while until the status disappears after you have closed the tray and the lever lifted.) (ttttt:TrayName,mmmmmm:PaperName.pppppp:MediaTypeName) Error 461 : Tray Paper size displays in Custom mode: "<width>x<length><unit>" ex.) 210x297MM 8.5x11.0INCH As a user pressed ONLINE key, the printer could ignore this error at the just printing job.	Error 461
LOAD %MEDIA_SIZE%/ %MEDIA_TYPE% AND PRESS ONLINE SWITCH %ERRCODE%:%TRAY% SIZE MISMATCH	Off	Blink	The size of paper or media type in the tray does not match the print data. Load paper in tray (It takes a while until the status disappears after you have closed the tray and the lever lifted.) Error 461 : Tray The paper size displaying form of the custom mode is the same as above. As a user pressed ONLINE key, the printer could ignore this error at the just printing job.	Error 461

Table 7-1-1 Operator Alarm (2/7)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
DOWNLOAD MESSAGE PROCESSING	Varies	Varies	Indicates that message data to be updated is being processed.	Error
DOWNLOAD MESSAGE WRITING	Varies	Varies	Indicates that message data to be updated is being written.	Error
DOWNLOAD MESSAGE SUCCESS	Varies	Varies	Indicates that message data to be updated has been written successfully.	Error
DOWNLOAD MESSAGE FAILED %CODE%	Varies	Varies	Indicates that writing of message data to be uploaded has been failed. %CODE% is a decimal value (one digit) and represents the cause of failure in writing. = 1 ··· Unknown: Cause of failure unknown = 2 ··· DATA_ERROR: Hash check error in data reading/ writing, or abnormal FLASH = 3 ··· OVERFLOW: Downloading failure due to FLASH memory full at starting or during writing in a language file = 4 ··· MEMORYFULL: Memory reservation failure = 5 ··· UNSUPPORTED_DATA: Downloading data unsupported on the printer	Error
NETWORK CONFIG WRITING	Varies	Varies	This appears during the NIC configuration data is storing into the flash memory, as the setting was changed.	Error
WAIT A MOMENT NETWORK INITIAL	Varies	Varies	This appears when the NIC initialization is occurred, as the setting was changed.	Error
LOAD %MEDIA_SIZE% %ERRCODE%:%TRAY% EMPTY	Off	Blink	Printing request is issued to an empty tray. Load paper. (It takes a while until the status disappears after you have closed the tray and the lever lifted.) Error 491 : Tray The paper size displaying form of the custom mode is the same as above.	Error 491
ADD MORE MEMORY %ERRCODE%:MEMORY OVERFLOW	Off	Blink	Memory capacity overflows due to the following reason. Press ON-LINE switch so that it continues. Install expansion RAM or decrease the data amount. - Too much print data in a page. - Too much Macro data. - Too much DLL data. - After frame buffer compression, over flow occurred.	Error 420

Table 7-1-1 Operator Alarm (3/7)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
REPLACE TONER %ERRCODE%:%COLOR% WASTE TONER FULL	Off	Blink	Indicates that a waste toner box represented by %COLOR% has become full and needs to be replaced. Error 415 : M Error 416 : C (Does not occur for K and Y.) Warning status takes effect at Cover Open/Close and printing of about 50 copies becomes available.	Error 415 416
REPLACE TONER %ERRCODE%:%COLOR% TONER EMPTY	Off	Blink	Toner ends. Error 410 : Y Error 411 : M Error 412 : C Error 413 : K Warning status takes effect at Cover Open/Close.	Error 410 411 412 413
REPLACE TONER %ERRCODE%:%COLOR% TONER REGIONAL MISMATCH	Off	Blink	The signature ID of toner cartridge is not proper to the distribution channel, but the group of signature ID is proper (OKI regional mismatch). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Error 554 : Y Error 555 : M Error 556 : C Error 557 : K Four following behavior is carried out by mode of operation. 1.Only warning display .(This error is not displayed). 2.Warning status takes effect at Cover Open/Close. 3.With no automatic concentration compensation . 4.This error is displayed and it stops.	Error 554 555 556 557
REPLACE TONER %ERRCODE%:INCOMPATIBLE %COLOR% TONER	Off	Blink	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is not proper (OEM channel mismatch). Error 614 : Y Error 615 : M Error 616 : C Error 617 : K	Error 614 615 616 617
REPLACE TONER %ERRCODE%:INCOMPATIBLE %COLOR% TONER	Off	Blink	The signature ID of toner cartridge is not proper to the distribution channel, and the group of signature ID is protected (OEM mismatch). Error 620 : Y Error 621 : M Error 622 : C Error 623 : K	Error 620 621 622 623

Table 7-1-1 Operator Alarm (4/7)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
GENUINE TONER IS RECOMMENDED %ERRCODE%:NON GENUINE %COLOR% TONER	Off	Blink	The signature ID of toner cartridge can not be recognized (Unauthorized third party). As probable missing to measure the amount of toner, the printer notifies error status and stop printing. Error 550 : Y Error 551 : M Error 552 : C Error 553 : K Four following behavior is carried out by mode of operation. 1.Only warning display .(This error is not displayed). 2.Warning status takes effect at Cover Open/Close. 3.With no automatic concentration compensation . 4.This error is displayed and it stops.	Error 550 551 552 553
INSTALL TONER %ERRCODE%:%COLOR% TONER MISSING	Off	Blink	The toner cartridge is not installed. Error 610 : Y Error 611 : M Error 612 : C Error 613 : K Four following behavior is carried out by mode of operation. 1.Only warning display .(This error is not displayed). 2.Warning status takes effect at Cover Open/Close. 3.With no automatic concentration compensation . 4.This error is displayed and it stops.	Error 610 611 612 613
CHECK TONER CARTRIDGE %ERRCODE%:%COLOR% TONER SENSOR ERROR	Off	Blink	Something is wrong with the toner sensor. This status is indicated in Shipping Mode only. If the same error is detected in FACTORY Mode, it is indicated as service call of 163. Error 540 : Y Error 541 : M Error 542 : C Error 543 : K	Error 540 541 542 543
OPEN FRONT COVER %ERRCODE%:PAPER SIZE ERROR	Off	Blink	Inappropriate size paper was fed from a tray. Check the paper in the tray or check for Multiple-feed. Open and close the cover to perform recovery printing, and continue.	Error 400
CHECK MANUAL %ERRCODE%:PAPER JAM	Off	Blink	Paper jam occurred during paper feeding from tray. Error 390 : MANUAL	Error 390
OPEN FRONT COVER %ERRCODE%:PAPER JAM	Off	Blink	Paper jam occurred during paper feeding from tray. Error 391 : Tray	Error 391
OPEN FRONT COVER %ERRCODE%:PAPER JAM	Off	Blink	Jam has occurred in paper path. Error 380 : Feed	Error 380

Table 7-1-1 Operator Alarm (5/7)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
OPEN TOP COVER %ERRCODE%:PAPER JAM	Off	Blink	Jam has occurred in paper path. Error 381 : Transport Error 382 : Exit Error 385 : Around Fuser Unit Error 389 : Printing Page Lost	Error 381 382 385 389
REPLACE IMAGE DRUM %ERRCODE%:%COLOR% DRUM LIFE	Off	Blink	The life of the image drum (Alarm) Error 350 : Y Error 351 : M Error 352 : C Error 353 : K Warning status takes effect at Cover Open/Close.	Error 350 351 352 353
REPLACE IMAGE DRUM %ERRCODE%:%COLOR% DRUM LIFE	Off	Blink	The toner empty error is occurred after the image drum reached its life. Error 560 : Y Error 561 : M Error 562 : C Error 563 : K This is displayed until a user exchanges the image drum.	Error 560 561 562 563
REPLACE FUSER %ERRCODE%:FUSER LIFE	Off	Blink	Notifies the fuser has reached its life. This is the error displayed based on the counter to indicate that the fuser has reached its life, and printing will stop. Warning status takes effect at Cover Open/Close. This error will occur on some user setting mode.	Error 354
REPLACE BELT %ERRCODE%:BELT LIFE	Off	Blink	Notifies the transfer belt has reached its life. This is the error displayed based on the counter to indicate that the belt has reached its life, and printing will stop. Warning status takes effect at Cover Open/Close.	Error 355
REPLACE BELT %ERRCODE%:BELT LIFE	Off	Blink	Indicates waste toner full. Warning status takes effect only once at Cover Open/Close, and the error occurs again when about 500 copies have been printed.	Error 356
CHECK TONER CARTRIDGE %ERRCODE%:%COLOR% IMPROPER LOCK LEVER POSITION	Off	Blink	Shows that the toner cartridge lever has not been locked. Error 544 : Y Error 545 : M Error 546 : C Error 547 : K	Error 544 545 546 547
CHECK IMAGE DRUM %ERRCODE%:%COLOR% DRUM MISSING	Off	Blink	The image drum is not correctly installed. Error 340 : Y Error 341 : M Error 342 : C	Error 340 341 342
CHECK FUSER %ERRCODE%:FUSER MISSING	Off	Blink	The fuser unit is not correctly installed.	Error 320

Table 7-1-1 Operator Alarm (6/7)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
CHECK BELT %ERRCODE%:BELT MISSING	Off	Blink	The belt unit is not correctly installed.	Error 330
CLOSE COVER %ERRCODE%:COVER OPEN	Off	Blink	The cover is open. Error 310 : Top Cover Error 311 : Front Cover	Error 310 311
WAIT A MOMENT DATA RECEIVE	Off	Blink	The printer is receiving the NIC download data.	Error
WAIT A MOMENT DATA RECEIVED OK	Off	Off	The printer finished receiving the NIC download data.	Error
CHECK DATA REC DATA ERROR <%DLCODE%>	Off	On	An error has happened while the printer is receive-processing the NIC download data. %DLCODE% 1: File size error 2: Check-sum error 3: Invalid printer model number 4: Invalid module I/F version 5: Invalid FAT version	Error
WAIT A MOMENT DATA WRITING	Off	Blink	The printer is writing the NIC download data.	Error
POWER OFF/ON DATA WRITTEN OK	Off	Off	The printer finished writing the NIC download data.	Error
CHECK DATA DATA WRITE ERROR <%DLCODE%>	Off	On	An error has happened while the printer is writing the NIC download data. %DLCODE% 1: Memory allocation error 2: Download file error 3: Device allocation error 4: No device space 5: File writing failure 6: CU-F/W mismatch	Error
REBOOTING %CODE%	Off	On	Rebooting of the controller unit. %CODE% is a decimal value (one digit) and represents the reason to reboot. = 0 Reboot due to a reason other than the followings. = 1 ··· Reboot due to PJLCommand. = 2 ··· Reboot in accordance with a menu change. = 3 ··· Reboot due to quit operator of PostScript Language. = 4 ··· reboot by Network Utility (including Web).	Error

Table 7-1-1 Operator Alarm (7/7)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
SHUTTING DOWN	Off	Off	It is shown that a printer is shutting down. Shutdown processing is started with which press BACK button 4 seconds or more after the completion of initiolization processing of a printer.	Error
SHUTDOWN	Off	Off	Indicates that the printer has completed shutting down.	Error
PLEASE POW OFF SHUTDOWN COMP	Off	Off	It is shown that the printer completed shutdown processing.	Error
POWER OFF AND WAIT FOR A WHILE %ERRCODE%:CONDENSING ERROR	Off	Blink	A dew is formed. *Fatal Error is not available in national language.	Fatal 126
POWER OFF/ON %ERRCODE%:FATAL ERROR	Off	Blink	A fatal error occurred. For more information, see attached 'service call error list'. *Fatal Error is not available in national language.	Fatal <nnn>
SERVICE CALL %ERRCODE%:FATAL ERROR	Off	Blink	A fatal error occurred. For more information, see "service call error list". *Fatal Error is not available in national language.	Fatal <nnn>
SERVICE CALL %ERRCODE%:FATAL ERROR *	Off	Blink	A fatal error occurred. '*' specifies the detailed error cause. *Fatal Error is not available in national language.	Fatal 096 231 128 168 169
POWER OFF/ON %ERRCODE%:FATAL_ERROR nnnnnnnn nnnnnnnn nnnnnnnn	Off	Blink	A fatal error occurred. For more information, see "service call error list". 'nnnnnnnn' specifies the detailed error cause. *Fatal Error is not available in national language.	Fatal 002 ~ 011 F0C F0D FFE FFF
POWER OFF/ON %ERRCODE%:DOWNLOAD ERROR	Off	Blink	Downloading Media Table to PU has failed. (Related to CustomMediaType.) *Fatal Error is not available in national language.	Fatal 209

Table 7-1-2 service call error list (1/6)

Display	Cause	Details of error		Method
Service call 001:Error	Machine Check Exception Hardware fault detected. (Board defectiveness or Shortage of power supply volume)			Replace TB3 board
Power off/on 002: Error ~ 005: Error 006: Error 007: Error	CPU Excepption	Is the error message displayed again?	Yes No	If the RAM DIMM is mounted, remove it and turn the power supply off/ON. Replace TB3 board Remount RAM DIMM Replace RAMDIMM
Service call 020:Error	CU ROM Hash Check Error	Does error display reappear?	Yes	Power OFF/ON Replace TB3 board
Service call 025:Error	CU Font ROM Hash Check Error	A font ROM hash check error was detected. (On printers for domestic market only)	Yes	Power OFF/ON Replace TB3 board
Service call 030: Error	CU RAM Check Error	Is the error message displayed again?	Yes	Power supply OFF/ON Replace TB3 board
Service call 031: Error	CU Optical RAM Check Error	Is RAM DIMM installed properly? Does it restore by exchanging RAM DIMM?	No Yes No	Remount RAM DIMM Replace RAMDIMM Replace TB3 board
Service call 036:Error	RAM Spec Error Unsupported DIMM specification of the CU RAM	Is a genuine RAM DIMM in use? Is the RAM DIMM installed properly? Is the fault recovered when the RAM DIMM is replaced?	No No Yes No	Use genuine RAM DIMM. Reset RAM DIMM. Replace RAM DIMM. Replace TB3 board
Service call 040: Error	CU EEPROM Error	Is the error message displayed again?	Yes	Power supply OFF/ON Replace TB3 board
Service call 042: Error 043: Error 045: Error	Flash File System Error	It failed to the access to CU Flash ROM that is attached to the TB3 board directly.		Replace TB3 board
Power off/on 052:Error	DMA Abort Error detected in Image processor.	Does error reoccur?	Yes	Power OFF/ON. Replace TB3 board.
Power off/on 070:Error	PSE firmware fault detected.	Does error reoccur?	Yes	Power OFF/ON. Replace TB3 board.

Table 7-1-2 service call error list (2/6)

Display	Cause	Details of error		Method
Power off/on 072: Error	Engine I/F Error I/F Error between PU and CU			Replace TB3 board
Power off/on 073: Error	Video Error When the image data sprads, defect is detected. (Incorrect data receive)	Does the error recur?	Yes	Change the PC to high spec or lower the resolution, and then print again. Replace TB3 board
Power off/on 074: Error 075: Error	Video Error When the image data spreads, defect is detected.			Replace TB3 board
Service call 081: Error	Difference between version of CU firm and EEPROM	Does the error recur?	Yes	Do EEPROM Initialization. (Turn on the power supply by Cover-open & pressing ONLINE switch & pressing CANCEL switch). Because the Mac address will disappear with this initialization, please reset Mac address by using the maintenance utility. Replace TB3 board
Service call 104: Error	Engine EEPROM mounting check is OK with turning on the power supply, after that, lead/light error is detected	Does the error recur?	Yes	Power supply OFF/ON Replace TB3 board
Service call 106: Error	The engine control logic is abnormal	Does the error recur?	Yes	Power supply OFF/ON Replace TB3 board
Service call 120: ERROR	PU unit FAN motor error			Replace TB3 board
Service call 121: Error	High-voltage power supply I/F error	Is the cable between main board ant the high-voltage power supply unit correctly connected? Isn't there defective contact point?	No Yes No	Reconnect correctly. Check the defective contact point of high-voltage system. Replace the high voltage power supply.

Table 7-1-2 service call error list (3/6)

Display	Cause	Details of error		Method
Service call 122:Error	Low-voltage power supply fan error. Low-voltage power supply temperature error.	Is fan in low-voltage power supply unit operating? Is fan connector connected properly?	No Yes No Yes	Check connections for connector of fan. Replace low-voltage power supply. Replace fan motor. Replace low-voltage power supply.
Service call 123: Error	Environmental humidity abnormal/ humidity sensor disconnection	and the high-voltage power supply unit correctly connected?	No Yes	Reconnect correctly. Replace the high-voltage power supply.
Service call 124: Error	Environmental temperature abnormality	Does the error recur?	Yes	Power supply OFF/ON Replace control panel board (PRP)
Power off/on 126: Error	The dewy of the device is detected	Dew condensation occurs easily after the device is carried in from outside. After leaving it at room temperature for 2 hours to half a day, turn on the power again. Does the error recur?	Yes	Turn on the power again after leaving the device for hours. Replace the high-voltage power supply.
Service call 127: Error	Fixed cooling fan error	Is the connector connection of the fan normal? Does the error recur?	No Yes	Reconnect normally Replace the fan motor
Service call 131: Error ~ 134: Error	LED head detection abnormality (131=Y, 132=M, 133=C, 134=K)	Is the LED head installed correctly? Does LED HEAD FUSE cut? Does the error recur?	No Yes Yes No Yes	Install the LED head correctly Check LED HEAD FUSE. Replace FUSE Turn on the power supply again Replace the LED head unit Please refer to chapter 7.5 for replace method of FUSE. Replace TB3 board
Service call 140: Error 142: Error	ID Up/Down position detection error	Does it has anything trouble with the detaching/attaching of ID unit? Does the error recur?	Yes No Yes	Reinstall the ID unit. Turn on the power supply again Replace the high voltage power supply.
Service call 150: Error ~ 153: Error	Defective fuse cutting of ID unit	Is the ID unit installed correctly? Does the error reoacur? Does it restore by exchanging PRE board	No Yes Yes	Install the ID unit again Turn on the power supply again Replace PRE board after check the cable connection of PRE board - TB3 board Replace TB3 board

Table 7-1-2 service call error list (4/6)

Display	Cause	Details of error		Method
Service call 154: Error	Defective fuse cutting of belt unit	Is the belt unit installed correctly? Does the error recur?	No Yes Yes	Reinstall the belt unit. Turn on the power supply again Replace TB3 board after check cable connection.
Service call 155: Error	Defective fuse cutting of fuser	Is the fuser installed correctly? Does the error recur?	No Yes Yes	Reinstall the fuser after its connection connector is cleaned Turn on the power supply again Replace TB3 board after check the cable connection.
Service call 160: Error ~ 163: Error	Defective toner sensor detection It does not occur during shipping setting	Is the toner cartridge installed? Is the lock level of toner set? Does the error recur? Does the error recur? Does the error recur?	No No Yes Yes Yes	Install a toner cartridge. Turn the lock lever of toner cartridge to the fixed position. Remove the right side cover, take measures to prevent the right side of the device from being exposed to ambient light, and confirm that the toner sensor is lighted during initialization of the device. Reconfirm it after replacing the toner sensor Assy. Replace the TB3 board.
Service call 167: Error	Thermistor Slope Error	Is the error message displayed? Does the error recur?	Yes Yes	Turn on the power supply again Turn on the power supply again after storage for 30 minutes.
Service call 168: Error	Compensation Thermistor Error	Is the error message displayed? Does the error recur?	Yes Yes	Turn on the power supply again Turn on the power supply again after storage for 30 minutes. Note)
Service call 169: Error	Upper Side Thermistor Error	Is the error message displayed? Does the error recur?	Yes Yes	Turn on the power supply again Turn on the power supply again after storage for 30 minutes.
Service call 170: Error 171: Error	Thermistor Short circuit / Open circuit of the fuser is detected	Does the error recur?	Yes	Check the cable connection between the ZAK board and TB3 board and turn on the power again. Replace the fuser unit. Replace the TB3 board. See Note.
Service call 172: Error 173: Error	Thermistor Temperature abnormality (high or low) of the fuser is detected	Does the error recur?	Yes	Check the cable connection between the ZAK board and TB3 board and turn on the power again. Replace the fuser unit. Replace the TB3 board.

Table 7-1-2 service call error list (5/6)

Display	Cause	Details of error		Method
Service call 174: Error	The short circuit of the backup roller Thermistor is detected. (For the high temperature)	Does the error recur?	Yes	Check the cable connection between the ZAK board and TB3 board and turn on the power again. Replace the fuser unit. Replace the TB3 board.
Service call 175: Error	The open circuit of the backup roller Thermistor is detected. (For the low temperature)	Does the error recur?	Yes	Check the cable connection between the ZAK board and TB3 board and turn on the power again. Replace the fuser unit. Replace the TB3 board. See Note.
Service call 176: Error 177: Error	Temperature abnormality (high or low) of the backup roller thermistor was detected	Does it become an error again?	Yes	Check the cable connection between the ZAK board and TB3 board and turn on the power again. Replace the fuser unit. Replace the TB3 board.
Power off/on 190: Error	System memory overflow	Does the error recur?	Yes	Turn on the power supply again. Install an additional RAM DIMM.
Service call 200: Error ~ 202: Error	PU Firmware Download Error	Error occurs when the PU firmware is rewritten		After the power supply is turned on again, try to download again. (Because this processing is not performed during usual operation, it does not occur.)
Power off/on 209: Down Load Error	Custom Media Type table download failure	Failed in downloarding Custom Media Type Table		After the power supply is turned on again, try to download again. (Because this processing is not performed during usual operation, it does not occur.)
Power off/on 203: Error 204: Error 207: Error 208: Error 213: Error 214: Error	CU program trouble (203~214 are not generated in usual operation)	Incorrect processing is performed by the CU program. Does the error recur?		Turn on the power supply again. Replace TB3 board.
Service call 230: Error	RFID Reader not Installed	RFID Reader Device error Does the error recur?	Yes Yes	Check the connection of the LUM board (RFID reader/writer board). Replace the LUM board (RFID reader/writer board). Replace the TB3 board.

Table 7-1-2 service call error list (6/6)

Display	Cause	Details of error		Method
Service call 231: Error	RFID Reader I/F Error	An interface error was detected with the RFID reader device. 01: communication error between the RFID reader and the engine PCB. 02: the transceiver circuit error of the RFID reader. 03: communication error between the RFID reader and the Tag chip. 04: the RFID Tag detection error (more than 4chips).		01: Same as Error 230. 02: Replace the LUM board (RFID reader/writer board). 03: Check the connection of the antenna cable. 04: Check if the number of RFID Tags is correct.
Service call 240: Error	Engine Program Memory Error	240: Flash Memory Hardware Error		If the error occurs again after re-turning on the power supply, replace the board of the unit.
Power off/on 901:Error 902:Error	Short or open in belt thermistor detected.	Is belt thermistor cable setting proper? Does error reoccur?	 Yes Yes	Connect cable set properly again. Turn power ON again. Replace belt thermistor.
Power off/on 903:Error 904:Error	Abnormal temperature detected by belt thermistor (high-temp or low temp.)	Is belt thermistor cable setting proper? Does error reoccur?	No Yes Yes	Connect cable set properly again. Turn power ON again. Replace belt thermistor and leave aside for 30 min. Then turn power ON again.
Power off/on 923: Error	Image Drum Lock Error	The ID motor does not rotate correctly. Is the error message displayed when the power is turned on again?	No Yes Yes	Check if the ID unit is set correctly. Replace the ID unit. Replace the ID motor.
Power off/on 928:Error	Fuser MotorLock Error	The fuser unit does not rotate properly. Does the error reoccur after power cycling?	 Yes Yes	Check to see if the fuser unit is properly installed. Replace the fuser unit. Replace the fuser motor.
Service call 980: Error	Media coiling error to the fuser	Media is coiled to the fuser		Turn off the power supply Replace the fuser
Service call 983: Error	Error due to detection of the toner cartridges of the same color	Two or more toner cartridges of the same color are detected		Install the cartridge of the specified in the specified position
Power off/on F0C: Error F0D:Error	System Call Exception			Turn on the power supply again.
Power off/on FFF: Error	Bus controller ROM Write protection			Turn on the power supply again.

Note! Because service call 168 error ,171 error and 175 error may occur when the temperature of printer is below zero, please restart the printer after making it warm when the temperature of printer is low.

7.4.2 Preparing for troubleshooting

Note! When replacing the main board (TB3 PCB), please read the content on the EEPROM chip of the old board and copy it to the new board. (Refer to 5.4.1 when exchange main board)

7.4.2.(1) LCD Display Malfunction

(1-1) Nothing is displayed in LCD

Confirmation Items		Confirmation Tasks	Action at NG
(1-1-1) Fuse confirmation			
	Fuse F3 of main board (TB3 PCB)	Confirm whether F3 is Blown.	Exchange F3 or TB3 PCB.
(1-1-2) Check the connection			
	Connection of low-voltage power supply unit and main board (TB3 PCB).	Confirm whether the cord is normally connected from a low-voltage power supply to the POW connector of main board (TB3 PCB) Check whether incompletely connection and oblique insertion of connector exist.	Try to plug in the code normally.
	Connection cable between low-voltage power supply unit and main board (TB3 PCB).	Confirm whether it is disconnected. Confirm whether the coating peeling off exists. Check whether Cord ASSY defect exists such as the wire pulled out.	Replace it with normal low-voltage power supply unit.
	Connection of main board (TB3 PCB) and operation panel board (WHP PCB).	Confirm whether 7-pole FFC is normally connected with the OPE connector of main board (TB3 PCB). Confirm whether 7-pole FFC is normally connected with the CN1 connector of operation panel board (WHP PCB). Check whether incompletely connection and oblique insertion of connector exist.	Try to insert the cord normally.
	FFC connects between main board (TB3 PCB) and Operation panel board (WHP PCB).	Disconnection check by the tester. Confirm the coating peeling off by visual inspection.	Replace it with normal FFC.
(1-1-3) Peripheral check of power supply			
	AC power supply supplied to the printer.	Confirm the supplied voltage of the AC power supply.	Supply the AC power supply.
	Voltage setting of low-voltage supply unit (100V/ 230V).	Measurement of supplied AC voltage. Confirm the power supply setting of the equipment used. (Confirm the short plug of the low-voltage supply setting switch. Short plug Have/None=100V /230V)	Adjust the low-voltage power supply setting.
	The 5V power supply supplied to the main board (TB3 PCB).	Confirm the 5V power supply by 5 and 6pin of POW1 connector of the main board (TB3 PCB).	Exchange the Low-voltage power supply.
	The 5V power supply supplied to the Operation panel board (WHP PCB).	Confirm the 5V power supply by 2pin of CN1 connector of Operation panel board (WHP PCB).	Exchange F3 or TB3 PCB.
(1-1-4) Short circuit confirmation of power supply			
	The 5V power supply and 24V power supply supplied to the main board (TB3 PCB)	Confirm whether short circuit exists by the POW1 connector of the main board. If 3, 4pin: 24V 5, 6pin: 5V 7, 8, 9pin:0VL 1, 2 pin:0VP are measured, the position of short circuit can be located. Pulling out the cords connected with the main board (TB3 PCB) one by one, and then fix the position of short-circuit.	Exchange the short parts.

7.4.2.(2) Irregular Operation of the device after turning on the power

(2-1) No operation

Confirmation Items		Confirmation Tasks	Action at NG
(2-1-1) Peripheral check of power supply			
	AC power supply supplied to the printer.	Confirm the supplied voltage of the AC power supply.	Supply the AC power supply.
	Voltage setting of low-voltage power supply unit (100V/ 230V).	Measurement of the supplied AC voltage. Confirm the power supply setting of the equipment used. (Confirm the short plug of low-voltage supply setting switch. Short plug Have/None=100V /230)	Adjust the low-voltage power supply setting.
	The 5V power supply and 24V power supply supplied to the main board (TB3 PCB).	Confirm the power supply by the POW1 connector of the main board (TB3 PCB). 3, 4pin: 24V 5, 6pin: 5V 7, 8, 9pin: 0VL 1, 2 pin: 0VP	Exchange low-voltage power supply.

(2-2) Abnormal sound

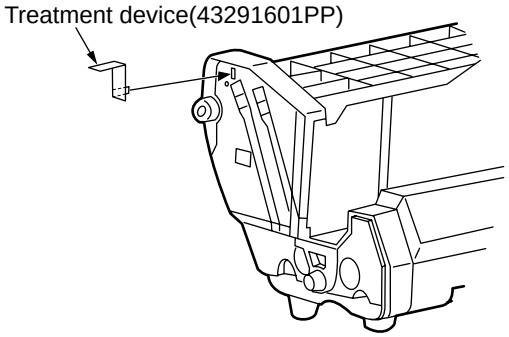
Confirmation Items		Confirmation Tasks	Action at NG
(2-2-1) Motor step out confirmation (driver abnormality)			
	Operation condition of each motor	Use the motor clutch test function of the maintenance utility to confirm whether the operation of each motor is normal or abnormal. Confirm whether load exists. When it is in abnormal state, check whether beep sounds.	Exchange main board (TB3 PCB).
	Motor cord condition	Check the layout condition of each motor. By visual inspection and tester, perform short-circuit check. Remove the motor cord from board side, and check the resistance value between each PIN and FG of removed cord side.	Exchange the motor cord, and reassemble normally.
(2-2-2) Motor step out confirmation (load abnormality of Consumable)			
	Operation condition of each motor.	Use the motor clutch test function of the maintenance utility to confirm whether the operation of each motor is normal or abnormal. Confirm whether load exists. When it is in abnormal state, check whether beep sounds.	Exchange each consumable. When trying to use a new belt and fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.) When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
(2-2-3) Gear-skip confirmation (load abnormality of Consumable)			
	Operation condition of each motor.	Use the motor clutch test function of the maintenance utility to confirm whether the operation of each motor is normal or abnormal. Confirm whether load exists. When it is in abnormal state, check whether crackling sound sounds.	Exchange each consumable. When trying to use a new belt and fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.) When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
	Set condition of each consumable	By visual inspection confirm whether the gear of each consumable is set in position.	Exchange or correct necessary mechanical parts.
(2-2-4) Layout condition of cord			
	Layout of cord around cooling FAN	Check whether layout of cord around cooling fan is poor and the cable may touch the fan blade. When it is in abnormal state, check whether rattly sounds.	Correct the layout of cord.

(2-3) Abnormal odor

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

(2-4) Slow starting time

Confirmation Items		Confirmation Tasks	Action at NG
(2-4-1) Check a fuser unit			
	Halogen lamp	Confirm the wattage of the halogen lamp mounted in the fuser.	Exchange for wattage parts of the rated voltage.
(2-4-2) Check optional parts			
	Expansion memory	Reset the optional parts (expansion memory) and recheck the operation.	Exchange optional parts

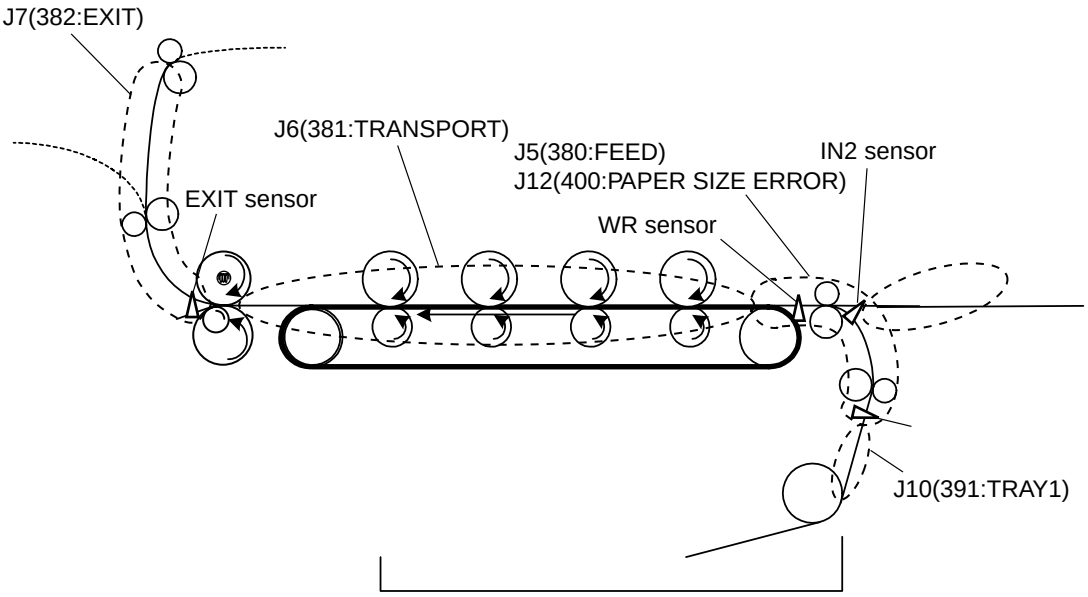


When insert the jig, please insert it into the gap of the phosphor bronze terminal that can be seen inside the ID unit side cover.

(3) Error number and jam location at paper jam

Error No.	Name	Reference	Corresponding sensor	Jam release method
380	Feed (front cover jam)	J5	IN2, WR	Jam release method ①
381	Transport (paper feed jam)	J6	IN1, IN2, WR, EXIT	Jam release method ②
382	Exit (paper reject jam)	J7	EXIT	Jam release method ②
391	Tray1 (paper feed jam)	J10	IN1	Jam release method ①, ④
400	Paper size error (paper size error)	J12	IN1	Jam release method ①

Diagram of jam location



Jam Release Method ①

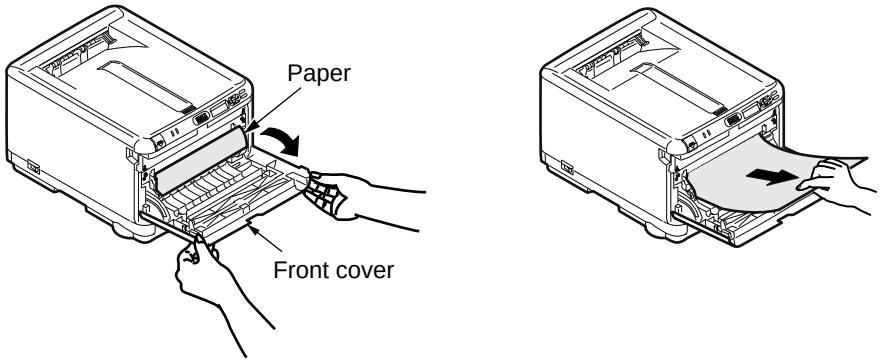
Remove the jammed paper.

Front Cover Part

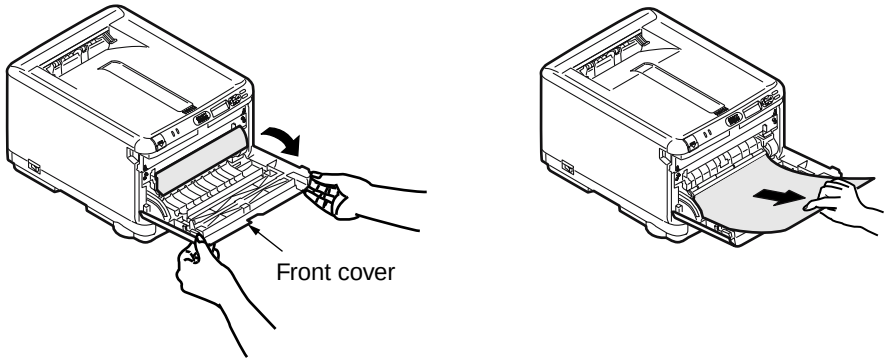
[code: 380 (front cover jam), 391 (paper feed jam), and 400 (paper size error)]

Open the front cover, if the front and the rear end of the paper can be seen, please pull the jammed paper out slowly.
As for code 400, the paper can be automatically ejected. At this time, open and close the front cover, then the error can be released.

If the rear end can be seen



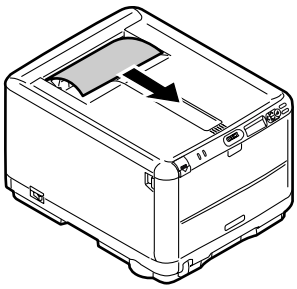
If the front end can be seen



Paper eject part [code: 382 (paper eject jam)]

Draw the paper out slowly from the exit.

Note! Even if paper jammed at the paper exit, when the paper can be seen inside the top cover, the paper should be removed inside the printer.
The fuser might be damaged if drawing the paper out from behind with too much force.



Jam Release Method ②

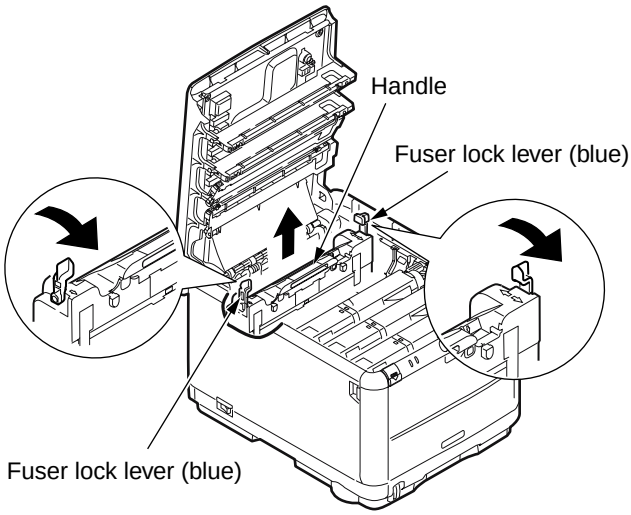
Fuser Unit Part [code: 381 (Paper feeding jam) and 382 (paper eject jam)]

⚠Caution	Possible to get burned.	

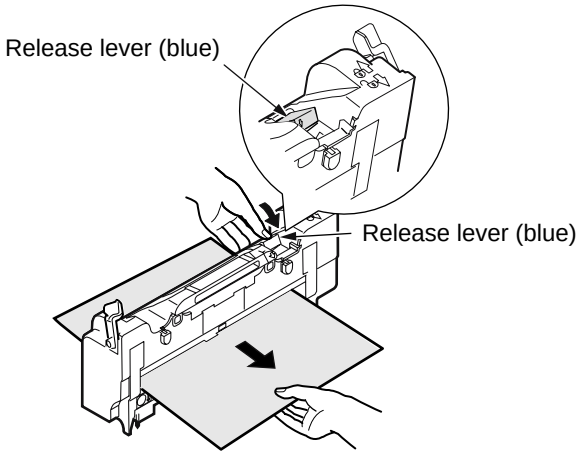
The fuser unit is extremely hot. Be careful not to touch it. If the fuser unit is hot, do not try yourself to clear paper but wait until the fuser unit becomes cool.

(1) Raise the fuser lock lever (two blue places) in the direction of the arrow.

(2) Hold the handle and take the fuser out, put it on a flat table.

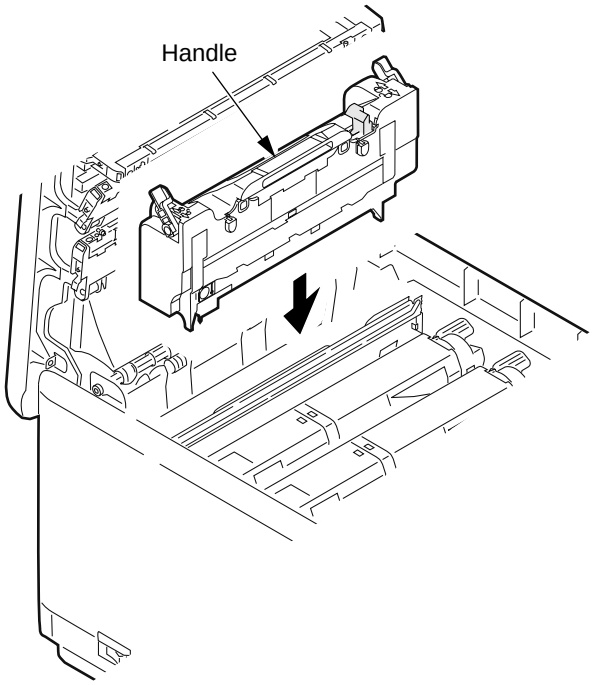


(3) Draw the jammed paper out slowly in the direction of the arrow, while pressing the lever of the fuser (blue) in the direction of the arrow.



(4) Hold the handle, return the fuser to the printer softly.

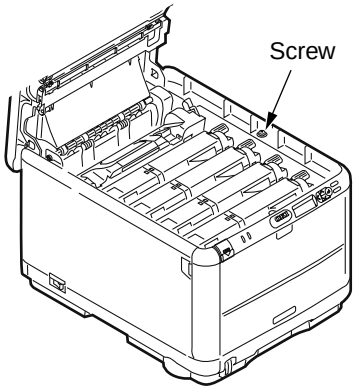
(5) Push the fuser lock lever (two blue places) down to the interior side, and fix it.



Note! After removing the paper jammed in the fuser, please print the menu map (section 3.6) and the white paper etc for several times because the unfixed toner may remain in the fuser.

Remove other jammed paper according to the following procedures when the paper jam error still cannot be released even if jammed paper has been removed.

(1) Touch the screw by hand to remove the static.

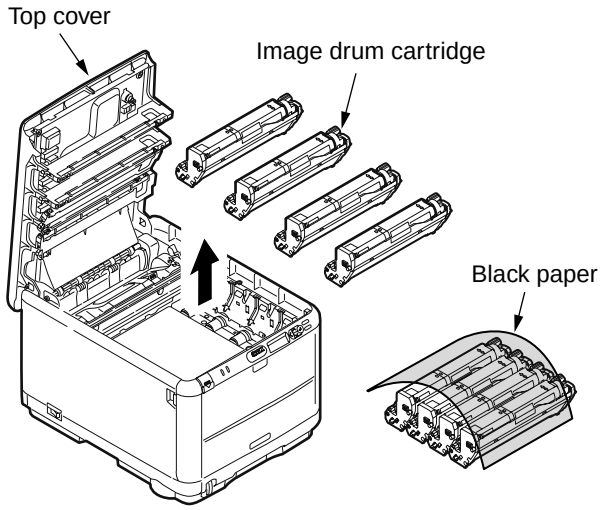


(2) Take the image drum (four cartridges) out, and put them on a table with flat surface.

(3) Cover the taken-out image drum cartridge with black paper.

Note! • The image drum surface (green cylinder unit) is very delicate. Please handle with care.

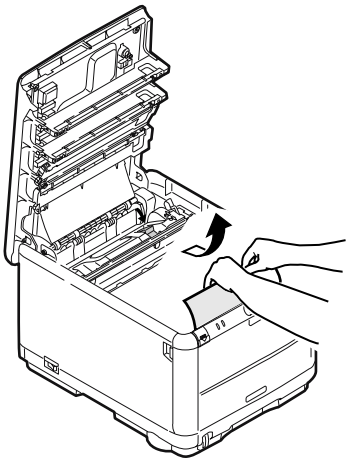
• Never expose the image drum cartridge to direct sunlight or very bright light (more than 1500 lux).
Do not expose it to normal room light for more than 5 minutes.



(4) Carefully remove the jammed paper.

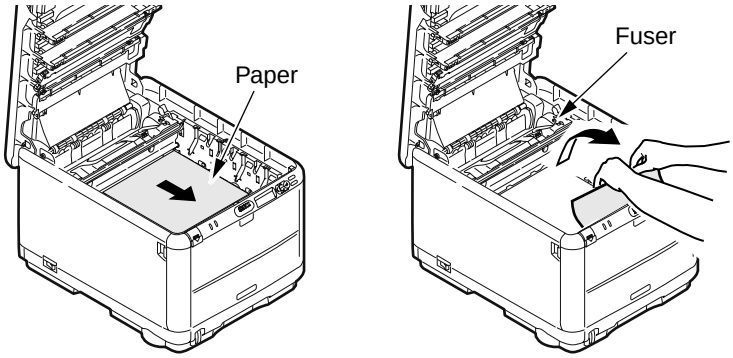
When the front end of the paper can be seen

Carefully remove the jammed paper inside the printer.



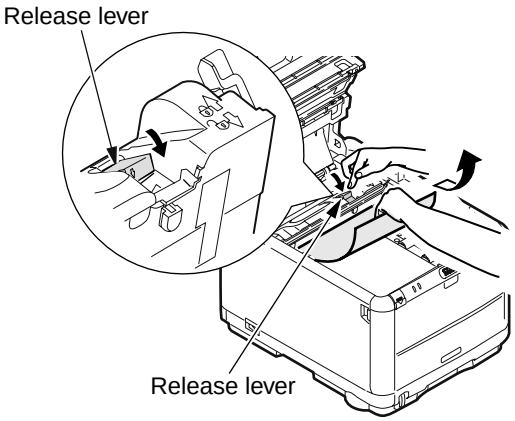
When the front and back end of paper cannot be seen

Carefully remove the jammed paper in the direction of the arrow.



When the back end of paper can be seen

Press the release lever in the direction of the arrow, and carefully remove the jammed paper.



(5) Put the image drum cartridge back into position

7.4.2.(3) Paper Feed Jam (Error 391:1st tray)

(3-1) Paper jam occurred immediately after turning on the printer. (1st tray)

Confirmation Items		Confirmation Tasks	Action at NG
(3-1-1) Check paper-feeding route condition			
	Paper-feeding route inside the front unit	Open the front cover, and check whether the paper jam occurred during the route.	Remove the jammed paper.
(3-1-2) Check the mechanical parts condition			
	Check the sensor lever of the entry sensor 1 and 2.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
(3-1-3) Check the electrical parts condition			
	Check the condition of sensor signal detection.	By using the switch scanning test function of the maintenance utility, check whether the sensor signal has been normally detected.	Replace the main board (TB3 PCB) or front sensor board (MIP PCB) or the connecting cable with new one.
	Check the output level of entry sensor 1 and 2.	Check the following signals of FSNS connector of main board (TB3 PCB). 2pin: entry sensor 1 3pin: entry sensor 2 Operate and adjust the sensor lever in order to check the above signal level.	Replace the front sensor board (MIP PCB) with a new one.
	Check the power supply of front sensor board (MIP PCB).	Check the power supply of 5V of CN connector of front sensor board (MIP PCB). 1pin: 5V power supply 5pin: 0VL	Replace the connecting cable with a new one.

(3-2) Paper jam occurred immediately after paper feeding. (1st tray)

Confirmation Items		Confirmation Tasks	Action at NG
(3-2-1) Check paper-feeding route condition			
	Paper-feeding route inside the front unit	Check whether the paper jam occurred during the route.	Remove the jammed paper.
(3-2-2) Check the mechanical parts condition			
	Check the sensor lever of the entry sensor 1 and 2.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
(3-2-3) Check the motor operation			
	Paper feed motor	By using the motor clutch test function of the maintenance utility, check whether paper feed motor operates normally.	Replace the main board (TB3 PCB) or paper feed motor with new one.
	Paper feed motor driver	Pull the HOP connector of main board (TB3 PCB) out, check the following resistance value on the cable side. SEVERAL MΩ Between 1pin-FG SEVERAL MΩ Between 2pin-FG SEVERAL MΩ Between 3pin-FG SEVERAL MΩ Between 4pin-FG	Replace the main board (TB3 PCB) with a new one.

Confirmation Items		Confirmation Tasks	Action at NG
(3-2-4) Check the connection			
	Check the cable connection.	By visual inspection, please check whether incompletely connection and oblique insertion of connector or defective cable assembly exists.	Connect the cable normally.Replace the cable with a new one.
	Paper feed motor cable	Check whether wire gnawing occurred during assembly of equipment. Pull the HOP connector of main board (TB3 PCB) out, check the followings on the cable connector. Short circuit between 1pin-FG Short circuit between 2pin-FG Short circuit between 3pin-FG Short circuit between 4pin-FG	Replace the cable with a new one, and reassemble correctly.
	Paper feed motor	Pull the HOP connector of the main board (TB3 PCB) out, check whether the resistance values between 1pin-2pin and 3pin-4pin are about 3.5‰or 4.4‰respectively on the cable side.	Replace the paper feed motor with a new one.
(3-2-5) Check the solenoid operation			
	Paper feed solenoid	By using the motor clutch test function of the maintenance utility, check whether paper feed solenoid operates normally. Remove the sheet metal of the right side in order to check whether the solenoid can be seen.	Replace the main board (TB3 PCB) or paper feed solenoid with new one.
	Paper feed solenoid	Check whether the parts that may disturb the operation of moving parts of the solenoid exist (cable etc).	Assemble normally.
(3-2-6) Check the connection			
	Paper feed solenoid cable	Check the cable connection. By visual inspection, please check whether incompletely connection and oblique insertion of connector or defective cable assembly exists	Connect the cable normally. Replace the cable with a new one.
	Paper feed solenoid cable	Check whether wire gnawing occurred during assembly of equipment. Pull the HSOL connector of main board (TB3 PCB) out, check the followings on the cable side. Short circuit between 1pin-FG Check whether the resistance value between 1pin-2pin is about 82‰ with pulling the HSOL connector out.	Replace the solenoid ASSY with a new one, and reassemble correctly.

7.4.2.(4) Paper Feed Jam (Error 390: Multipurpose tray)

(4-1) Paper jam occurred immediately after turning on the printer. (Multipurpose tray)

Confirmation Items		Confirmation Tasks	Action at NG
(4-1-1) Check paper-feeding route condition			
	Paper-feeding route inside the multipurpose tray	Check whether the paper jam occurred during the route.	Remove the jammed paper.
(4-1-2) Check the mechanical parts condition			
	Check the sensor lever of the entry sensor 2 and WR sensor.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
(4-1-3) Check the electrical parts condition			
	Check the condition of sensor signal detection.	By using the switch scanning test function of the maintenance utility, check whether the sensor signal has been normally detected.	Replace the main board (TB3 PCB) or front sensor board (MIP PCB) or the connecting cable with new one.
	Check the output level of entry sensor 2 and WR sensor.	Check the following signals of FSNS connector of main board (TB3 PCB). 2pin: WR sensor 3pin: entry sensor 2 Operate and adjust the sensor lever in order to check the above signal level.	Replace the front sensor board (MIP PCB) with a new one.
	Check the power supply of front sensor board (MIP PCB).	Check the power supply of 5V of CN connector of front sensor board (MIP PCB). 1pin: 5V power supply 5pin: 0VL	Replace the connecting cable with a new one.

(4-2) Paper jam occurred immediately after paper feeding. (Multipurpose tray)

Confirmation Items		Confirmation Tasks	Action at NG
(4-2-1) Check paper-feeding route condition			
	Paper-feeding route inside the multipurpose tray	Check whether the paper jam occurred during the route.	Remove the jammed paper.
(4-2-2) Check the mechanical parts condition			
	Check the sensor lever of the entry sensor 2 and WR sensor.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
	Front cover	Check whether the left and right lock of front cover has been locked normally. Confirm both right and left locks of the front cover work well.	Replace the front unit with a new one.
(4-2-3) Check the motor operation			
	Paper feed motor	By using the switch scanning test function of the maintenance utility, check whether paper feed motor operates normally.	Replace the main board (TB3 PCB) or paper feed motor with new one.
	Paper feed motor driver	Pull the HOP connector of main board (TB3 PCB) out, check the following data on the cable side. SEVERAL M‰ Between 1pin-FG SEVERAL M‰ Between 2pin-FG SEVERAL M‰ Between 3pin-FG SEVERAL M‰ Between 4pin-FG	Replace the main board (TB3 PCB) with a new one.
(4-2-4) Check the connection			
	Paper feed motor cable	Check the cable connection. By visual inspection, check whether incompletely connection and oblique insertion of HOP connector of main board (TB3 PCB) or defective cable assembly exists.	Connect the cable normally. Replace the cable with a new one.
	Paper feed motor cable	Check whether wire gnawing occurred during assembly of equipment. Pull the HOP connector of main board (TB3 PCB) out, check the followings on the cable side. Short circuit between 1pin-FG Short circuit between 2pin-FG Short circuit between 3pin-FG Short circuit between 4pin-FG	Replace the cable with a new one, and reassemble correctly.
	Paper feed motor	Pull the HOP connector of the main board (TB3 PCB) out, check whether the resistance values between 1pin-2pin and 3pin-4pin are about 3.5‰ or 4.4‰ respectively.	Replace the paper feed motor with a new one.

7.4.2.(5) Paper transport jam (Error 381)

(5-1) Transport jam occurred immediately after turning on the printer.

Confirmation Items		Confirmation Tasks	Action at NG
(5-1-1) Check paper-feeding route condition			
	Paper-feeding route inside the front unit	Check whether the paper jam occurred during the route.	Remove the jammed paper.
(5-1-2) Check the mechanical parts condition			
	Check the sensor lever of the WR sensor.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
(5-1-3) Check the electrical parts condition			
	Check the condition of sensor signal detection.	By using the switch scanning test function of the maintenance utility, check whether the sensor signal has been normally detected.	Replace the main board (TB3 PCB) or front sensor board (MIP PCB) or the connecting cable with new one.
	Check the output level of WR sensor.	Check the following signals of FSNS connector of main board (TB3 PCB). 4pin: WR sensor Operate and adjust the sensor lever in order to check the signal level.	Replace the front sensor board (MIP PCB) with a new one.
	Check the power supply of front sensor board (MIP PCB).	Check the power supply of 5V of CN connector of front sensor board (MIP PCB). 1pin: 5V power supply 5pin: 0VL	Replace the connecting cable with a new one.

(5-2) Transport jam occurred immediately after paper pickup.

Confirmation Items		Confirmation Tasks	Action at NG
(5-2-1) Check feeding condition			
	Paper feeding on the belt	Remove the ID unit, and check whether the paper jam occurred during the route.	Remove the jammed paper.
(5-2-2) Check the mechanical parts condition			
	Check the sensor lever of the WR sensor.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
(5-2-3) Check the motor operation			
	Paper feed motor, belt motor, ID up motor, ID motor	By using the motor clutch test function of the maintenance utility, check whether paper feed motor and belt motor and ID up motor and ID motor operates normally. Check whether the load exists.	As for a paper feed motor, belt motor, ID motor or ID up motor, please replace the main board (TB3 PCB) with new one. Replace the paper feed motor or belt motor or ID motor or ID up motor with a new one. Replace ID unit and belt unit with new one. When trying to use a new belt unit, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.) When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
	Paper feed motor driver, ID up motor driver, belt motor driver	Pull the HOP connector of main board (TB3 PCB) out, check the following data on the cable side. SEVERAL M‰ Between 1pin-FG SEVERAL M‰ Between 2pin-FG SEVERAL M‰ Between 3pin-FG SEVERAL M‰ Between 4pin-FG Pull the IDUP connector of main board (TB3 PCB) out, check the following data on the cable side. SEVERAL M‰ Between 1pin-FG SEVERAL M‰ Between 2pin-FG SEVERAL M‰ Between 3pin-FG SEVERAL M‰ Between 4pin-FG Pull the BELT connector of main board (TB3 PCB) out, check the following data on the cable side. SEVERAL M‰ Between 1pin-FG SEVERAL M‰ Between 2pin-FG SEVERAL M‰ Between 3pin-FG SEVERAL M‰ Between 4pin-FG	As for a paper feed motor, belt motor, ID up motor, please replace the main board (TB3 PCB) with a new one.

Confirmation Items		Confirmation Tasks	Action at NG
(5-2-4) Check the connection			
	Paper feed motor cable, ID motor cable, belt motor cable, ID up motor cable, fuser motor cable	Check the cable connection. By visual inspection, check whether incompletely connection and oblique insertion of HOP connector, CID connector, BELT connector, IDUP connector and HEAT connector or defective cable assembly exists.	Assemble normally. Replace the cable with a new one.
	Paper feed motor cable, belt motor cable, ID up motor cable	Check whether wire gnawing occurred during assembly of equipment. Pull the HOP connector of main board (TB3 PCB) out, check the followings on the cable side. SEVERAL M‰ Between 1pin-FG SEVERAL M‰ Between 2pin-FG SEVERAL M‰ Between 3pin-FG SEVERAL M‰ Between 4pin-FG Pull the BELT connector of main board (TB3 PCB) out, check the followings on the cable side. SEVERAL M‰ Between 1pin-FG SEVERAL M‰ Between 2pin-FG SEVERAL M‰ Between 3pin-FG SEVERAL M‰ Between 4pin-FG Pull the IDUP connector of main board (TB3 PCB) out, check the followings on the cable side. SEVERAL M‰ Between 1pin-FG SEVERAL M‰ Between 2pin-FG SEVERAL M‰ Between 3pin-FG SEVERAL M‰ Between 4pin-FG	Replace the cable with a new one, and reassemble correctly.
	Paper feed motor, belt motor, ID up motor	Pull each connector out of the board, and check the following resistance value between terminals on the cable side. HOP connector of main board (TB3 PCB) Between 1pin-2pin: about 3.5‰ or 4.4‰ Between 3pin-4pin: about 3.5‰ or 4.4‰ BELT connector of main board (TB3 PCB) Between 1pin-2pin: about 3.5‰ or 4.4‰ Between 3pin-4pin: about 3.5‰ or 4.4‰ IDUP connector of main board (TB3 PCB) Between 1pin-2pin: about 7‰ or 6.7‰ Between 3pin-4pin: about 7‰ or 6.7‰	Replace the paper feed motor, belt motor, ID up motor with a new one.

(5-3) Transport jam occurred during paper feeding.

Confirmation Items		Confirmation Tasks	Action at NG
(5-3-1) Check the motor operation			
	Paper feed motor, belt motor, ID motor, ID up motor	By using the motor clutch test function of the maintenance utility, check whether the paper feed motor and belt motor and ID motor and ID up motor operate normally. Check whether the load exists.	Replace main board (TB3 PCB) or the paper feed motor belt motor ID motor ID up motor or ID unit Abelt unit with a new one. When trying to use a new belt unit, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.) When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
	Paper feed motor driver, belt motor driver, ID up motor driver	Pull the HOP connector of main board (TB3 PCB) out, check the following data on the cable side. SEVERAL M_Between 1pin-FG SEVERAL M_Between 2pin-FG SEVERAL M_Between 3pin-FG SEVERAL M_Between 4pin-FG Pull the BELT connector of main board (TB3 PCB) out, check the following data on the cable side. SEVERAL M_Between 1pin-FG SEVERAL M_Between 2pin-FG SEVERAL M_Between 3pin-FG SEVERAL M_Between 4pin-FG Pull the IDUP connector of main board (TB3 PCB) out, check the following data on the cable side. SEVERAL M_Between 1pin-FG SEVERAL M_Between 2pin-FG SEVERAL M_Between 3pin-FG SEVERAL M_Between 4pin-FG	As for paper feed motor or ID up motor or Belt motor, Please replace the main board (TB3 PCB) with a new one.

(5-4) Transport jam occurred immediately after fuser is in position.

Confirmation Items		Confirmation Tasks	Action at NG
(5-4-1) Check the motor operation			
	Fuser motor	By using the motor clutch test function of the maintenance utility, check whether fuser motor operates normally. Check whether load exists.	Replace the main board (TB3 PCB) with a new one. Replace the fuser with a new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility.
(5-4-2) Temperature control of roller rotate speed			
	Heat roller detected temperature	By using the switch scanning test function of the maintenance utility, check the heat roller detected temperature. Check whether abnormal low-temperature or high-temperature has been detected.	Replace the fuser with a new one; replace the rear sensor relay board (ZAK PCB) or main board (TB3 PCB) with new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility.(See Note! on page 181.)
(5-4-3) Check the mounting of fuser			
	Fuser	Check whether fuser has been mounted normally. (has the fuser been pressed to bottom?)	Mount the unit in position.

7.4.2.(6) Paper Exit Jam (Error 382)

(6-1) Paper eject jam occurred immediately after turning on the printer.

Confirmation Items		Confirmation Tasks	Action at NG
(6-1-1) Check paper-ejecting route condition			
	Paper-ejecting route across paper eject part.	Check whether the paper jam occurred during the route.	Remove the jammed paper.
(6-1-2) Check the mechanical parts condition			
	Check the paper-ejecting sensor lever.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
(6-1-3) Check the electrical parts condition			
	Check the condition of sensor signal detection.	By using the switch scanning test function of the maintenance utility, check whether the sensor signal has been normally detected.	Replace the main board (TB3 PCB) or EXIT sensor or the connecting cable with new one.
	Check the output level of EXIT sensor.	Check the following signals of RSNS connector of main board (TB3 PCB). 9pin: EXIT sensor Operate and adjust the sensor lever in order to check the above signal level.	Replace the EXIT sensor with a new one.
	Check the power supply of rear sensor relay board (ZAK PCB).	Check the power supply of 5V of CN2 connector of rear sensor relay board (ZAK PCB). 1pin: 5V power supply 3pin: 0VL	Replace the connecting cable with a new one.
(6-1-4) Check the connection			
	Signal wire of rear sensor relay board, EXIT sensor cable	Check whether FFC has been inserted into RELAY connector of main board (TB3 PCB) and CN1 connector of rear sensor relay board (ZAK PCB) normally. Check whether the cable between color difference sensor board (ZAK PCB) and EXIT sensor has been connected normally.	Connect normally.
	Signal wire of rear sensor relay board, EXIT sensor cable	Check whether wire gnawing, peel-off or defective cable assembly exists.	Replace the connecting cable with a new one and reassemble normally.

(6-2) Paper eject jam occurred immediately after paper pickup.

Confirmation Items		Confirmation Tasks	Action at NG
(6-2-1) Check the paper route condition			
	Faceup stacker cover	Check whether the cover is completely close or open.	Do not keep the cover in incomplete close/open state.
	Rear panel	Check whether rear panel is installed normally and may disturb the operation.	Reinstall the rear panel correctly.
	Paper-ejecting route across paper eject part.	By visual inspection, check whether there exists something like load that may disturb the paper-ejecting operation. Check whether eject roller is jammed.	Repair the load.
(6-2-2) Check the mechanical parts condition			
	Check the eject sensor lever.	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.
(6-2-3) Check the motor operation			
	Fuser motor	By using the motor clutch test function of the maintenance utility, check whether fuser motor operates normally. Check whether load exists.	Replace the main board (TB3 PCB) or fuser motor or fuser with new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.)
(6-2-4) Check the connection			
	Paper feed motor cable	Check the cable connection. By visual inspection, please check whether incompletely connection and oblique insertion of HEAT connector of main board (TB3 PCB) or defective cable assembly exists.	Connect the cable normally. Replace the cable with a new one.
	Fuser motor		Replace the fuser motor with a new one.

(6-3) Paper eject jam occurred during paper feeding.

Confirmation Items		Confirmation Tasks	Action at NG
(6-3-1) Confirm status of the motor operation			
	Fuser Motor	By using the motor clutch test function of the maintenance utility, check whether fuser motor operates normally. Check whether load exists.	Replace the main board (TB3 PCB) or fuser motor or fuser with new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.)

7.4.2.(7) Paper Size Error (Error 400)

(7-1) Jam occurred when the rear end of paper is close to IN1 sensor.

Confirmation Items		Confirmation Tasks	Action at NG
(7-1-1) Check the paper feeding condition			
	Paper overlapping	Open the front cover, and check whether two or more document sheets are fed overlapping.	If paper jam reoccurred after removing jammed paper, please replace the tongue piece of used tray.
	Paper size	Check whether size of paper loading inside tray is compatible with specified paper size.	Change the size of specified paper or change the size of paper in the tray.
	Entry sensor 1	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the sensor lever with a new one.

7.4.2.(8) ID Unit Up-Down Error (Service Call 140-143)

(8-1) Error occurred during ID unit up operation

Confirmation Items		Confirmation Tasks	Action at NG
(8-1-1) Check the load during up operation			
	Load when ID unit is attached or removed	Check whether abnormal load exists when ID unit is attached or removed.	Replace the ID unit or right-and-left side plate with new one. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
	Up-and-down link lever grease of right-and-left side	Check whether the slant of link lever is greased up.	Spread the grease evenly.
	Assembly of up-and-down link lever of right-and-left side	Check whether the parts around the link lever that may disturb the movement of link lever exist. (Cable etc.)	Assemble correctly.
(8-1-2) Up-and-down mechanism			
	Assembly condition around link lever	Check whether the link lever is connected with planet gear.	Assemble correctly.
	Left-and-right link lever	Is the link lever set correctly in position of engagement? (Check whether the set position of link lever is out of gear tooth.)	Assembly correctly.
(8-1-3) Check the sensor.			
	Up-and-down sensor lever (which is integrated with left link lever)	Check whether there is something abnormal about the form of sensor lever and its movement.	Replace the left link lever with a new one.
	Up-and-down sensor	Switch scanning test function of the maintenance utility.	Replace the high-voltage board with a new one.

(8-2) Error occurred during ID unit down operation

Confirmation Items		Confirmation Tasks	Action at NG
(8-2-1) Check the load during down operation			
	Load when ID unit is attached or removed	Check whether abnormal load exists when ID unit is attached or removed.	Replace the ID unit or right-and-left side plate with new one.
	Up-and-down link lever grease of right-and-left side	Check whether the slant of link lever is greased up.	Spread the grease evenly.
	Assembly of up-and-down link lever of right-and-left side	Check whether the parts around the link lever that may disturb the movement of link lever exist. (Cable etc.)	Assemble correctly.

7.4.2.(9) Fuser Error (Error 170-177)

(9-1) Error occurred immediately after turning on the printer.

Confirmation Items		Confirmation Tasks	Action at NG
(9-1-1) Trouble of thermistor Note)			
	Upper thermistor, lower thermistor, frame thermistor, side thermistor	Check whether short or open circuit exists. Check the resistance value of connector pins on the lower part of fuser. (Refer to Chapter 8.1 check the resistance value (Fuser))	Replace the fuser with a new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.)
	Mounting condition of fuser	Is the connector of lower part of fuser pressed in position in order to mount the fuser?	Reset the fuser.

Note! Because service call 171 error and 175 error may occur when the temperature of printer is below zero, please restart the printer after making it warm when the temperature of printer is low.

(9-2) Error occurred after turning on the printer for about 1 minute.

Confirmation Items		Confirmation Tasks	Action at NG
(9-2-1) Temperature rise of fuser			
	Thermostat, halogen lamp	Perform the heater control of fuser, and by hand check whether the fuser is warmed up. Check that the resistance value between 1pin-7pin of connector is several ‰ -several 10‰ with keeping the printer cool. (Refer to Chapter 8.1 check the resistance value (Fuser))	Replace the fuser with a new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.)
(9-2-2) Temperature rise of fuser			
	Installation of upper thermistor	The upper thermistor may be installed out of position, is the measured temperature lowered? Remove the heater cover, by visual inspection check whether bending of sensor occurs.	Replace the fuser with a new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.)
	Installation of lower thermistor	If the lower thermistor is not contacted, would the detected temperature be lower than actual temperature?	Replace the fuser with a new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.)
(9-2-3) AC input for halogen			
	AC voltage of low-voltage power supply	Is AC voltage supplied for heater normally? Between 1-3pin and 3-4pin of CN2 connector of power supply	Replace the low-voltage power supply.
	Heater ON signal outputted from main board to low-voltage power supply	Check whether heater ON signal is activated in the warming-up timing. L is activated during ON. 14pin of POW1 connector of main board (TB3 PCB)	Replace the main board (TB3 PCB) with a new one.

7.4.2.(10) Motor Fan Error(Error 127)

(10-1) Fan cannot rotate.

Confirmation Items		Confirmation Tasks	Action at NG
(10-1-1) Cable connection, wire layout			
	Cable connection, wire layout of low-voltage power supply and fuser fan	Check whether the connector is connected normally. Check whether the redundant part of cable may touch the fan blade.	Reconnect the connector. Correct the wiring route. Replace the FAN with a new one.
(10-3-1) 24V power supply			
	Fuse F8 of main board TB3	Check whether fuse F8 is blown.	Replace the main board TB3 with a new one.
	24V power supply supplied to PU board (TB3 PCB)	Check the power supply of POW1 connector of main board TB3. 3,4pin: 24V 7,8,9pin: 0VL 1,2pin: 0VP	Replace the low-voltage power supply.

Note! Precaution for using FUSE KEEP MODE of the maintenance utility for troubleshooting

- "Please click on the [Execute] button to enter FUSE KEEP mode" is displayed whenever you try to set FUSE KEEP MODE to ON from the maintenance utility regardless of the current setting.
- If you want to set it to OFF reliably, please turn down the power of the device once.

7.4.2.(11) Print Speed is Slow (Low Performance)

(11-1) The print speed will fall to about 2ppm after the continuous print started for about ten minutes.

Confirmation Items		Confirmation Tasks	Action at NG
(11-1-1) Ambient temperature			
	The ambient temperature of the set position of printer	Is the printer set in narrow position that will result in abnormal high ambient temperature and low cooling effect taken from fan?	Adjust the installation environment. (Be careful to check whether the air duct and exhaust of fan is plugged.)

(11-2) The print speed slowed down

Confirmation Items		Confirmation Tasks	Action at NG
(11-2-1) Media Media Weight setting			
	Specified Media Weight when printing.	Check whether the specified Media Weight is correct.	Correct the Media Weight.

7.4.2.(12) LED head is not recognized(Error 131,132,133,134)

(12-1) Service Call 131-134(LED HEAD Missing)

Confirmation Items		Confirmation Tasks	Action at NG
(12-1-1) Check the connection			
	Connection of main board connector and head connector	By visual inspection, check the FFC connection.	Connect normally.
	Head FFC	Remove the head FFC from equipment, and check whether the wire-break and peeling off of coating occurred.	Replace head FFC or main board with a new one.
	Fuse conduction on the main board.	Check whether fuse F501 is blown. (Refer to chapter 7.5)	Replace the fuse F501 or main board with a new one.

7.4.2.(13) Toner cartridge is not recognized (Error 540, 541, 542, 543)

(13-1) Consumable error

Confirmation Items		Confirmation Tasks	Action at NG
(13-1-1) Mounting condition of Consumable			
	ID unit and toner cartridge	Is ID unit set in position? Check whether lock lever of toner cartridge is locked.	Reset normally.

(13-2) Toner sensor error

Confirmation Items		Confirmation Tasks	Action at NG
(13-2-1) Toner sensor condition			
	Toner sensor	Does the core of toner sensor get dirty from toner?	Wipe the dirt of sensor off.
	Toner sensor	By using the switch scanning test function of the maintenance utility, check whether the sensor is normal. Check whether the SCAN condition is changed with a white paper covering in front of sensor. Furthermore, start the printer with right side cover removed, and check whether the red lamp of toner sensor blinks over PRE board.	Replace the toner sensor board (PRE PCB) or main board (TB3 PCB) or FFC between PRE-TB3 with new one.

(13-3) Defective mechanism error

Confirmation Items		Confirmation Tasks	Action at NG
(13-3-1) Load condition of ID unit			
	ID unit	Is the load of the ID unit added by the waste toner belt etc?	Replace the ID unit with a new one. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
(13-3-2) Check the motor operation			
	ID motor	By using the motor clutch test function of the maintenance utility, check whether each ID motor operates normally. Check whether the load exists.	Replace the main board (TB3 PCB) or ID motor with new one.

7.4.2.(14) Fuse Cut Error (Error 150-155)

(14-1) Fuse cut errors

Confirmation Items		Confirmation Tasks	Action at NG
(14-1-1) Check the connection			
	FFC connected with main board (TB3 PCB) and toner sensor board (PRE PCB)	Check whether incompletely connection and oblique insertion of SSNS connector of main board (TB3 PCB) and SSNS connector of toner sensor board (PRE PCB) exists. Check whether the wire-break and peeling off of coating for FFC occurs.	Connect FFC correctly. Or replace FFC with a new one.
(14-1-2) Fuse cut circuit			
	Main board (TB3 PCB)	After checking the connection, turn on the printer again, and then check whether error occurs.	Replace the main board (TB3 PCB) with a new one.

7.4.2.(15) Dew Condensation Errors (Error 123)

(15-1) Dew Condensation

Confirmation Items		Confirmation Tasks	Action at NG
(15-1-1) Check of the connection			
	Connection of main board (TB3 PCB) and high-voltage board	Check whether 12-pole FFC is normally connected with the HVOLT connector of main board (TB3 PCB). Check whether 12-pole FFC is normally connected with the CN1 connector of high-voltage board. Check whether incompletely connection and oblique insertion occurs.	Reinsert the cable normally.
	Connection of main board (TB3 PCB) and high-voltage board	Check the wire-break by tester. By visual inspection, check whether peeling off of coating occurs.	Replace FFC with a new one.
(15-1-2) Environment condition			
	Extreme change of environment condition	Is environment temperature changed from low to high in a short time? (For example, move from cold storage area to office environment.)	After moving the printer to the new environment for about one hour till it adapts to new environment, turn on the printer again. Before turning on the printer, please check the temperature of sheet metal of rear control panel and inner sheet metal by hand and check that the difference between the above and room temperature doesn t exist, then turn on again.

7.4.2.(16) RFID Related Error (Error 610-613)

(16-1) A toner cartridge not installed

Confirmation Items		Confirmation Tasks	Action at NG
(16-1-1) Check attachment of the tag			
	Attachment status of the RFID tag	Confirm that genuine toner cartridges with a tag attached are used.	Replace with a genuine spare toner cartridge that is not the starter toner cartridge.
(16-1-2) Check mode of toner cartridges			
	Starter toner cartridge mode (STC) or Normal toner cartridge mode (NTC)	Print out the menu map by continuation of operation by opening/closing the cover restoring the power, and check STC mode/NTC mode and installation of STC/NTC. Check the menu map for the following values. ET: . . . . . * KYMC-**** Every toner cartridge is in STC mode when the least significant digit of ET is F, or in NTC mode when 0. Every toner cartridge is in STC when the KYMC value is 0000, or in NTC mode when 1111. If STC is installed in NTC mode, the non-installation error occurs.	Replace with a genuine spare toner cartridge that is not the starter toner cartridge.

(16-2) Detection of an OKIDATA toner cartridge of different type

Confirmation Items		Confirmation Tasks	Action at NG
(16-2-1) Check for a toner cartridge of different type			
	Check the toner cartridge	Check the status monitor for error details. Error: 554-557, 614-617, 620-623	Replace with a usable genuine spare toner cartridge that is not a starter toner cartridge.

(16-3) Detection of a non-OKIDATA toner cartridge

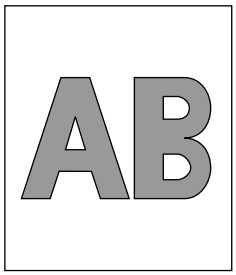
Confirmation Items		Confirmation Tasks	Action at NG
(16-3-1) Check for a non-genuine toner cartridge			
	Check the toner cartridge	Check the status monitor for error details. Error: 550-553	Replace with a usable genuine spare toner cartridge that is not a starter toner cartridge.

(16-4) RFID communication error

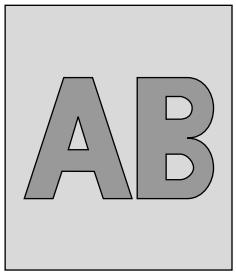
Confirmation Items		Confirmation Tasks	Action at NG
(16-4-1) Check the connection			
	Check the connection of the RFID PCB	Check the connection of it to the TB3 (main) board, the LUM (RFID reader writer) board, and the POL (RFID antenna PCB) board.	Reconnect the poorly connected cable. If the same error occurs in rechecking, replace the LUM board and/or TB3 board.

7.4.3 Image Problem Troubleshooting

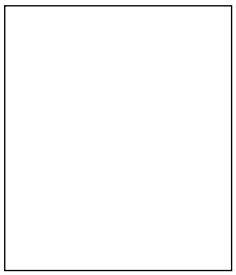
Note! When replacing the PU board (PRX PCB), please read the content on the EEPROM chip of the old board and copy it to the new board**..**



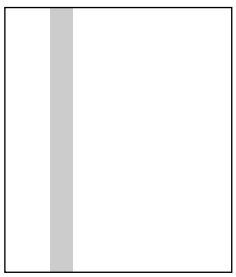
A Light or faded image on whole page



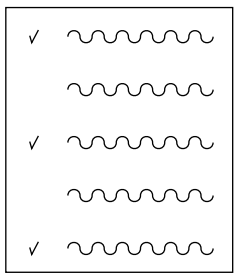
B Dirty Background



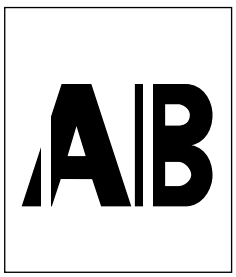
C Blank



D Vertical black belt or line



E Defective image of regular interval



F Vertical white belt or line

Figure 7.2

7.4.3.(1) Color is totally pale (Figure 7.2 **A**)

(1-1) Color is pale

Confirmation Items		Confirmation Tasks	Action at NG
(1-1-1) Toner			
	Residual toner	Confirm that "TONER LOW" or "TONER EMPTY" is not shown in the operation panel.	Replace the toner cartridge with a new one.
	Tape of toner cartridge opening	Check whether tape of toner cartridge opening is peeled off.	Keep the lever of the toner cartridge in close state and peel off the tape of the opening.
(1-1-2) LED head			
	Lens of LED head	Check whether the surface of lens of LED head gets dirty from toner and paper scrap.	Clean the lens by LED head lens cleaner.
	Mounting condition of LED head	Check whether the LED head is correctly installed to the LED holder. Check whether right and left tension spring is correctly installed.	Remount normally.
(1-1-3) Printing media			
	Medium type	Check whether the printed media is especially thick.	Please use specified paper.
(1-1-4) High voltage terminal			
	ID unit terminal	By visual inspection, check whether the high-voltage terminals of ID unit are normally contacted with contacting ASSY. (Please refer to Figure 7-3)	Replace the ID unit or correct the high-voltage terminals. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
(1-1-5) Mounting condition of ID unit			
	Down position of ID unit (defective copy function)	Try to move the ID unit in and out by hand, check whether ID unit can go down to correct down position without abnormal load. If paper can be easily inserted between the drum and the belt, it means NG.	Check the U ditch of the side plate. If it is impossible to be repaired, please replace the equipment.

7.4.3.(2) Background is dirty (Figure 7.2 **B**)

(2-1) Background is dirty (partly)

Confirmation Items		Confirmation Tasks	Action at NG
(2-1-1) I D unit			
	Optical exposure of drum	Is the surface of the drum exposed to bright light for a long time?	Replace the ID unit with a new one. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
	Leakage of toner	Does leakage of toner from ID unit or toner cartridge occur?	Replace the ID unit or toner cartridge with new one. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
(2-1-2) Fuser			
	Offset toner of fuser	By visual inspection, check whether offset toner printed for last time adheres to fuser.	Try to use waste media to repeat the empty print for offset toner till print can be normally performed. Or replace the fuser with a new one. When trying to use a new fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.)

(2-2) Background is dirty (totally)

Confirmation Items		Confirmation Tasks	Action at NG
(2-2-1) Media for printing			
	Media type	Check whether the printed media is especially thin.	Please use specified paper.
(2-2-2) High-voltage terminals			
	ID unit terminals	By visual inspection, check whether the high-voltage terminals of ID unit are normally contacted with contacting ASSY. (Please refer to Figure 7-3)	Replace the ID unit or correct the high-voltage terminals. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)

7.4.3.(3) Blank Print (Figure 7.2 **C**)

(3-1) Blank on the whole page

Confirmation Items		Confirmation Tasks	Action at NG
(3-1-1) Toner condition			
	Residual toner	Check whether the toner in the toner cartridge remains enough.	Replace toner cartridge with a new one.
(3-1-2) Exposure condition			
	LED head	With the close cover, check whether LED head faces to the drum in position. Check whether the parts that may disturb the light emitting from light-emitting surface of LED head exist.	Correct the LED head setting.
	Connection of LED head	Check whether the LED head is correctly connected.	Replace the LED head with a new one.
	Drum shaft	Is drum shaft correctly contacted with left and right side plate?	Replace the ID unit with a new one. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
(3-1-3) High-voltage terminals			
	ID unit terminals	By visual inspection, check whether the high-voltage terminals of ID unit are normally contacted with contacting ASSY. (Please refer to Figure 7-3)	Replace the ID unit or replace the high-voltage board or correct the high-voltage terminals. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)

7.4.3.(4) Vertical lines are printed

(4-1) Thin vertical lines (with color) (See Figure 7.2 **D**)

Confirmation Items		Confirmation Tasks	Action at NG
(4-1-1) ID unit condition			
	Filming of ID unit	Print without toner?	Replace the toner cartridge with a new one. If trouble is occurred again after replacing, please replace ID unit with a new one. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)

(4-2) Thin vertical lines (without color) (See Figure 7.2 **F**)

Confirmation Items		Confirmation Tasks	Action at NG
(4-2-1) LED head condition			
	LED head	Does any foreign adhere to light-emitting surface of SELFOC lens of LED head?	Remove the foreign.
(4-2-2) Paper feeding condition			
	Feeding route	Check whether the barricade resulted from unfixed toner scratched during unfixed paper transport route exists.	Remove the barricade.

7.4.3.(5) Cyclic Print Trouble (Refer to Figure 7.2 **E**)

(5-1) Vertical cyclic print trouble

Confirmation Items		Confirmation Tasks	Action at NG
(5-1-1) Period			
	Image drum	Check whether the period is 75.4mm.	Exchange the ID unit.
	Development roller	Check whether the period is 34.05mm for Y, M-ID and 31.62mm for K,C-ID.	Exchange the ID unit.
	Toner supply roller	Check whether the period is 46.21mm for Y, M-ID and 42.91mm for K,C-ID.	Exchange the ID unit.
	Charging roller	Check whether the period is 31.42mm.	Exchange the ID unit.
	Upper roller of fuser	Check whether the period is 79.3mm.	Exchange the fuser unit.
	Lower belt of fuser	Check whether the period is 75.4mm.	Exchange the fuser unit.
	Transfer roller (Black)	Check whether the period is 50.27mm.	Exchange the belt unit.
	Transfer roller (Color)	Check whether the period is 43.98mm.	Exchange the belt unit.
			When trying to use a new belt and fuser, please utilize the fuse keep mode of the maintenance utility. (See Note! on page 181.) When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)

7.4.3.(6) Color drift is wide.

(6-1) "IN ADJUSTING COLOR REGISTRATION" is shown only a short time

Confirmation Items		Confirmation Tasks	Action at NG
(6-1-1) Result of color difference correction			
	Time of color difference correction (If the correction is normal, it should be about 30 seconds.)	Please perform REG ADJUST TEST of color difference correction test function of the maintenance utility, and then check the result of test.	Clean the sensor. Replace the shutter with a new one. Replace the main board (TB3 PCB). Replace the color difference sensor board (PRE PCB).
(6-1-2) Toner			
	Residual toner	Check whether "TONER LOW" or "TONER EMPTY" is displayed by the status monitor.	Replace the toner cartridge with a new one.
(6-1-3) Color difference sensor			
	Dirt of sensor	Does the sensor get dirty from toner and paper scrap?	Wipe the dirt off.
(6-1-4) Color difference sensor shutter			
	Defective operation of shutter	By using the motor clutch test function of the maintenance utility, check whether the shutter operates normally.	Replace the shutter with a new one or correct the mechanism.

(6-2) Although REG ADJUST TEST of the engine maintenance function is OK, Color drift is seen

Confirmation Items		Confirmation Tasks	Action at NG
(6-2-1) Paper feed system			
	Paper feed system condition of paper-feeding route	Check whether the parts that may disturb the operation during paper-feeding route exist.	Remove the parts.

7.4.3.(7) Solid Black Print

(7-1) Solid black on a full page

Confirmation Items		Confirmation Tasks	Action at NG
(7-1-1) High-voltage contact condition			
	CH terminal	By visual inspection, look down to check whether high-voltage terminal of left side of ID unit that protrudes from the equipment is normal.	Replace the terminal of equipment side with a new one.
	CH terminal	Check whether the high-voltage terminal of high-voltage board is in normal contact state. Open the left cover and remove the high-voltage board, check whether terminal is installed abnormally.	Reinstall the terminal normally.
	ID unit terminal	By visual inspection, check whether the high-voltage terminals of ID unit are normally contacted with contacting ASSY. (Please refer to Figure 7.3)	Replace the ID unit or correct the high-voltage terminals. When trying to use a new ID unit, please be careful not to break the fuse with jig inside the ID unit. (Please refer to page 159)
(7-1-2) High-voltage output condition			
	CH output	When high-voltage probe is used as maintenance tool, please open the left cover and check the CH output from solder side of high-voltage board by high-voltage probe during printing. (High-voltage probe is not a usual maintenance tool.)	Replace the high-voltage board with a new one.

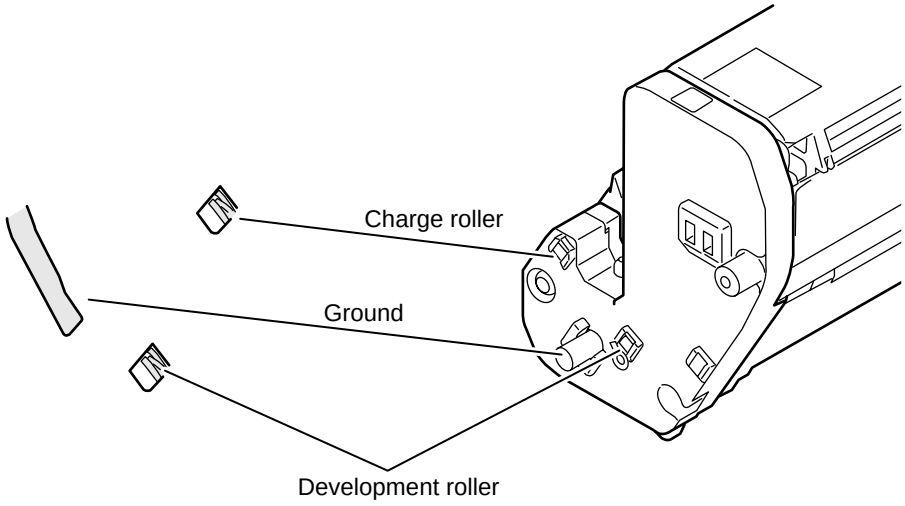


Figure 7.3

7.4.4 Response after Flash compulsive initialization

Explain the response after compulsive initialization is performed with trouble occurred in Flash.

(1) Flash compulsive initialization

If Flash compulsive initialization is performed, the following data would be deleted and the network would not be available.

- NIC-F/W
- WebPage data
- Demo page data for OEM (OEM)

It is necessary to write above NIC-F/W and WebPage data into Flash by the maintenance utility.

Note! Do not carry it out usually.

7.4.5 Network Troubleshooting

(1) Cannot print from Utility.

Confirmation Items	Confirmation Tasks	Action at NG
(1) Check the LINK lamp		
Check whether LINK lamp(green) is lighted.	Check whether HUB and printer are connected normally. (Check the network cable connection.)	Reconnect the network cable normally.
	Check whether straight cable is used.	Replace with straight cable.
	Try to insert the network cable into different HUB port.	Try to replace the HUB.
(2) Check the network information		
Check whether network information can be printed normally.	Press the Push-SW of NIC card, and then print out the network information.	Rewrite the NIC-F/W by utility.
(3) Check the content of network information		
Check IP address, Subnet mask, Gateway address.	Print out the network information. Check IP address, Subnet mask, Gateway address.	Set the IP address, Subnet mask, Gateway address correctly.
(4) Check whether the communication on the network is normal.		
Send the Ping command from PC to printer to check.	Send the Ping command from PC to printer, and check whether the response is correct.	Set the IP address, Subnet mask, Gateway address correctly.
(5) Check the utility		
Check the settings of OKIPR utility.	Check the setting items of OKIPR utility.	Set the setting items of OKIPR utility correctly.
(6) Check the OS standard port.		
Check windows (NT, 2000,XP) standard LPR port.	Set windows (NT, 2000,XP) standard LPR port, and check whether print is normal.	Set windows (NT, 2000,XP) standard LPR port correctly.

7.5 Fuse Checking

If the fuse has blown, the following errors occur. Refer to Table 7-6 and check each fuse on the main board TB3.

Table 7-6 Errors connected with fuse

Fuse Name		Error Description	Insert Point
Main board (TB3 PCB)	F5	Hopping error Papers conveying error	Paper feed motor, fuser motor 24V
	F4	Papers conveying error ID UP/DOWN error	Belt motor, ID UP/DOWN motor 24V
	F8	FAN error Hopping error	Solenoid, FAN, Fuse cutter 24V
	F3	Cover open	Sensor etc. 5V
	F7,F501	Service call 130 to 134 error	LED HEAD 5V,3.3V
High Voltage Board	F1	Cover open error	High voltage 24V
	F2	POWER LSI error	High voltage 5V

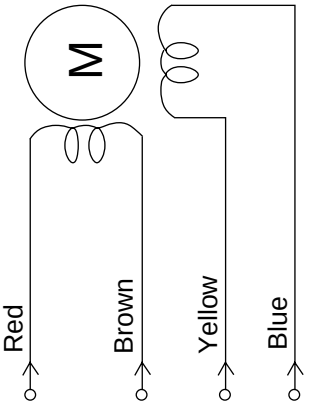
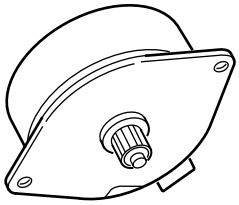
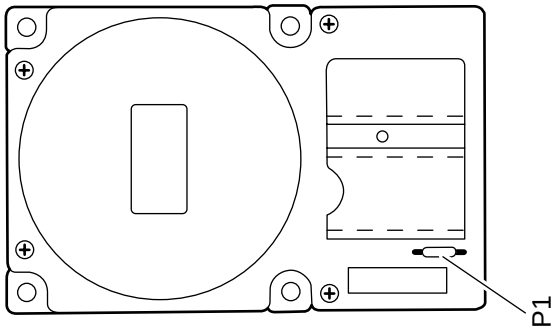
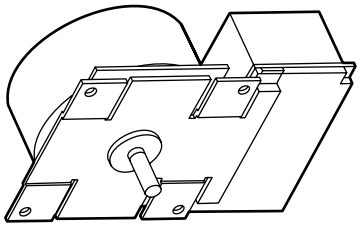
Fuse list and location

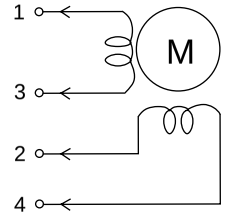
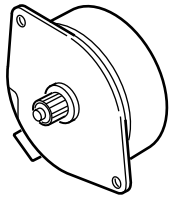
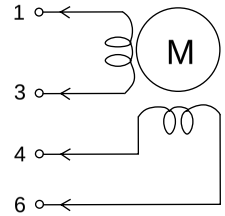
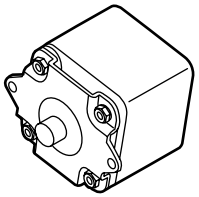
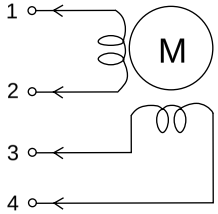
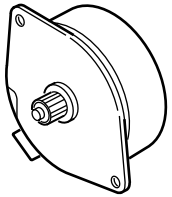
		Maker name	Model name	Figure NO	Rated current	Rated voltage	Location
Main board	F7 F3 F5,F8	LITTEL	0494 002NR	5402212S0202	2A	3.3V 5V 24V	Page 201 Please refer to figure of the main board-TB3.
	F4	LITTEL	0494 001NR	5402212S0102	1	24V	Page 201 Please refer to the figure of the main board-TB3.
	F501	LITTEL	0494 003NR	5402212S0302	3A	5V	Page 202 Please refer to the fig. of the main board-TB3.
High-voltage board	F1	WICKMAN or LITTEL (*1)	3821200 0663 002	---	2A	50V	Page 207 Please refer to the figure of high-voltage power supply board
	F2	WICKMAN or LITTEL (*1)	3821125 0663 1.25	---	1.25A	50V	Page 207 Please refer to the figure of high-voltage power supply board

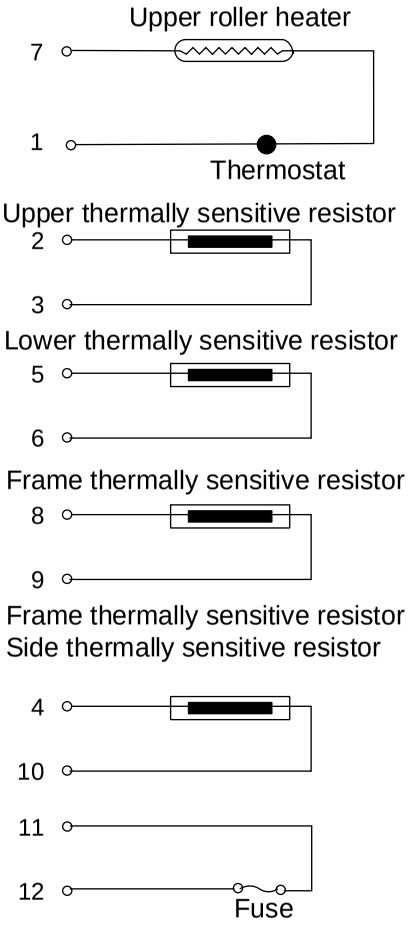
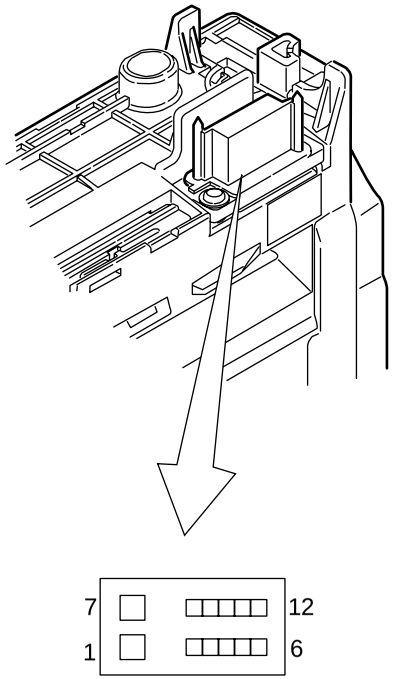
*1 : Fuse F1 and F2 of the high-voltage board should be specified by WICKMAN or LITTEL

8. CONNECTION DIAGRAMS

8.1 Check of resistance values

Unit	Circuit diagram & configuration	Part schematic	Resistance value
Transport belt motor			Between pin 1 and pin 2: 3.5Ω Between pin 3 and pin 4: 3.5Ω or Between pin 1 and pin 2: 4.4Ω Between pin 3 and pin 4: 4.4Ω or Between pin 1 and pin 2: 4.5Ω Between pin 3 and pin 4: 4.5Ω
ID motor			Both ends of IP1: 1Ω or less

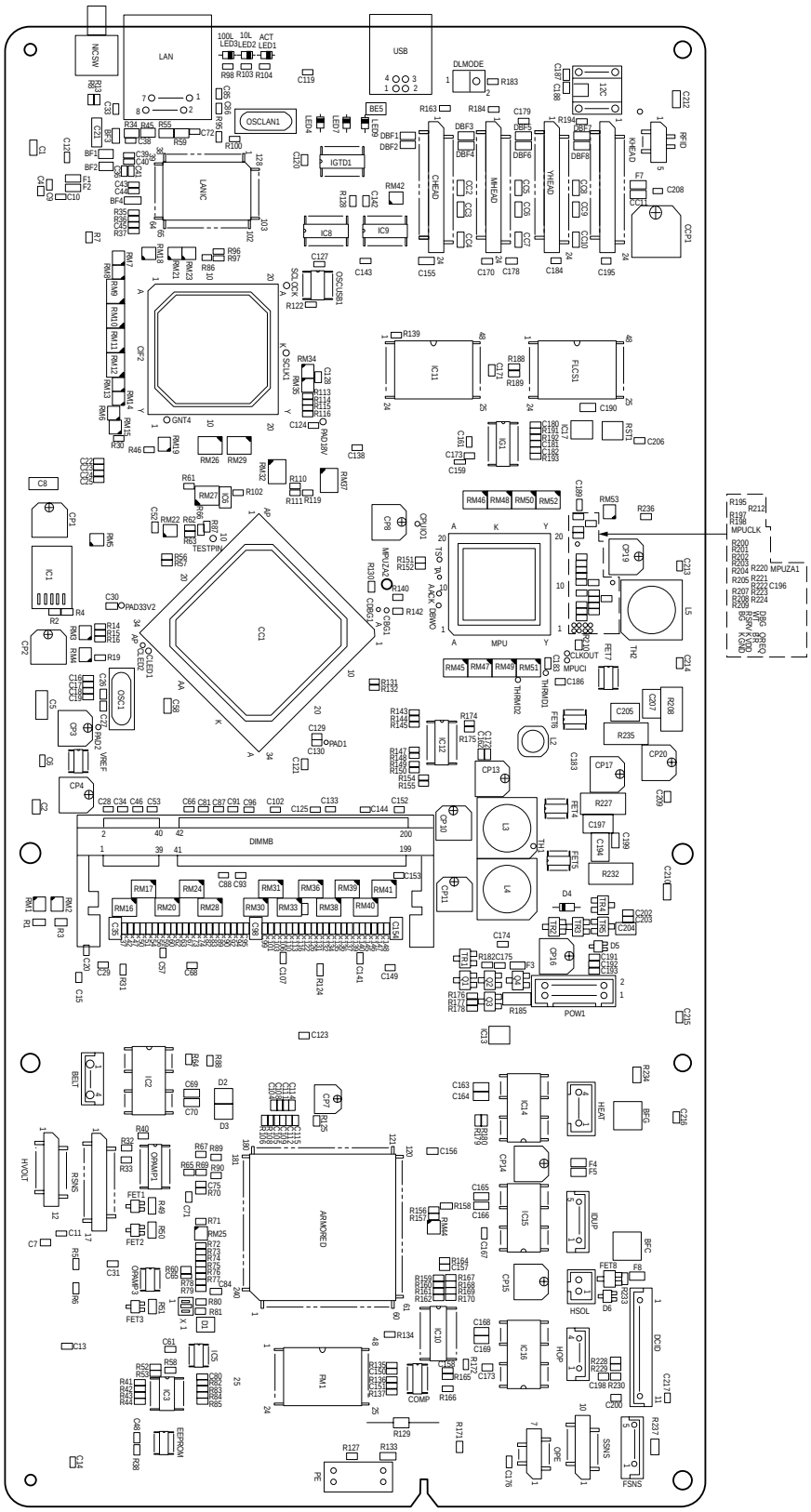
Unit	Circuit diagram & configuration	Part schematic	Resistance value
ID up-down motor			Between pin 1 and pin 3: 6.7Ω Between pin 2 and pin 4: 6.7Ω or Between pin 1 and pin 3: 7Ω Between pin 2 and pin 4: 7Ω
Fuser motor			Between pin 1 and pin 3: 2.4Ω Between pin 4 and pin 6: 2.4Ω
Paper feeding motor			Between pin 1 and pin 2: 3.5Ω Between pin 3 and pin 4: 3.5Ω or Between pin 1 and pin 2: 4.4Ω Between pin 3 and pin 4: 4.4Ω or Between pin 1 and pin 2: 4.5Ω Between pin 3 and pin 4: 4.5Ω

Unit	Circuit diagram & configuration	Part schematic	Resistance value
Fuser unit			Between pin 1 and pin 7: several Ω~ scores10Ω Between pin 2 and pin 3: about 4kΩ~ 5338Ω (0~200℃) Between pin 5 and pin 6: about 4.7k~979.2kΩ (0~200℃) Between pin 8 and pin 9: about 1k~806.5kΩ (0~200℃) Between pin 4 and pin 10: about 4.7k~979.2kΩ (0~200℃) Between pin 11 and pin 12: Open

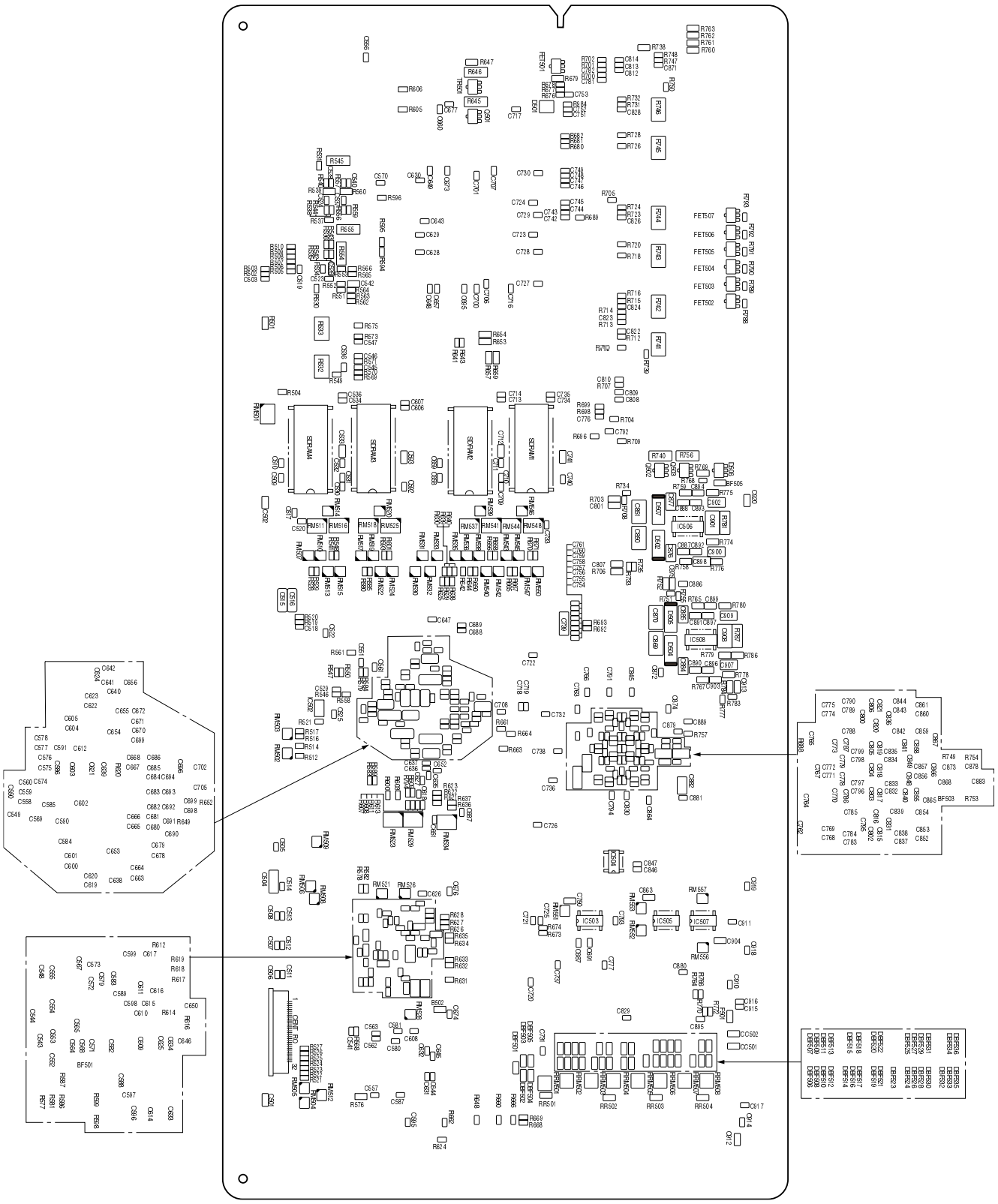
8.2 Component layout

(1) Main control board (TB3-PCB)

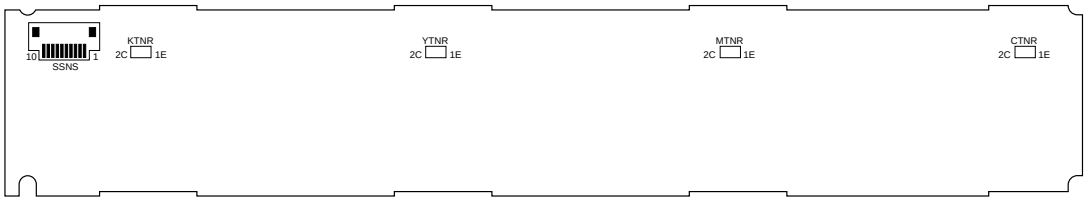
Component side



Solder side

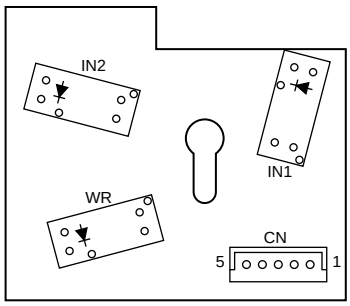


(3) Toner sensor circuit board (PRS PCB)

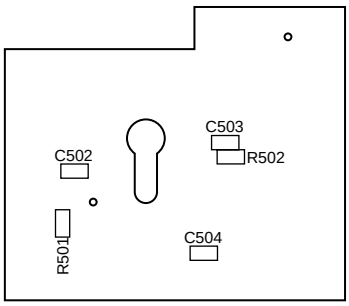


(4) Front sensor circuit board (MIP PCB)

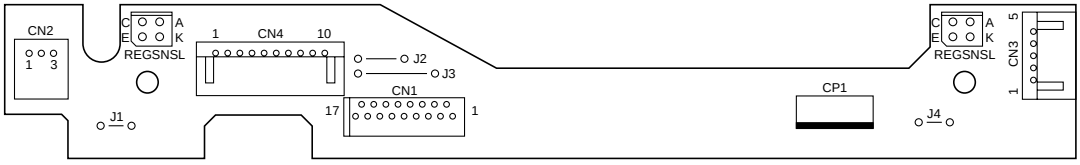
Component side



Solder side

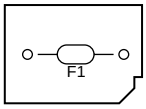


(5) Rear sensor relay circuit board (ZAK PCB)

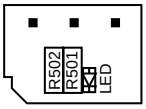


(6) ID circuit board (CUR PCB)

Component side

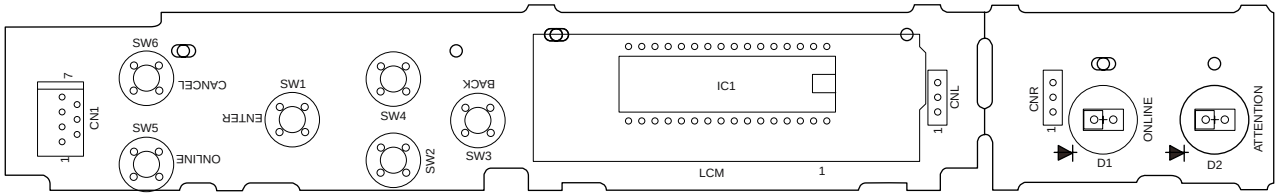


Solder side

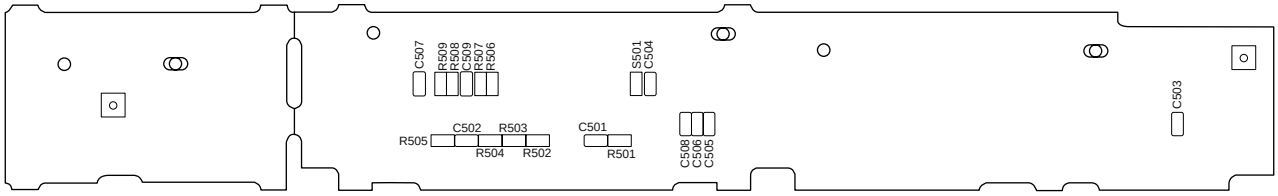


(7) Operation panel circuit board (WHP PCB)

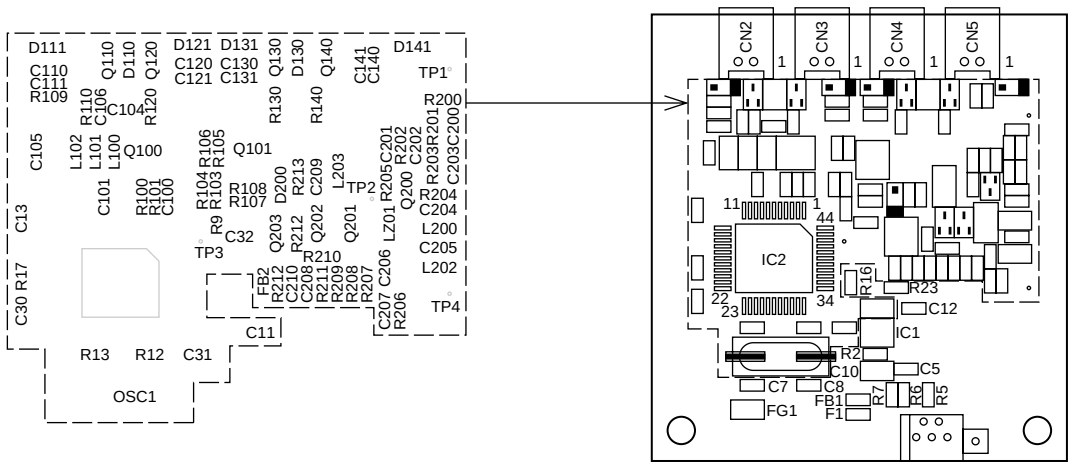
Component side



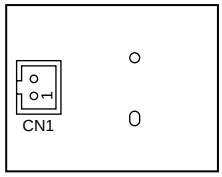
Solder side



(8) RFID reader –writer circuit board (LUM PCB)

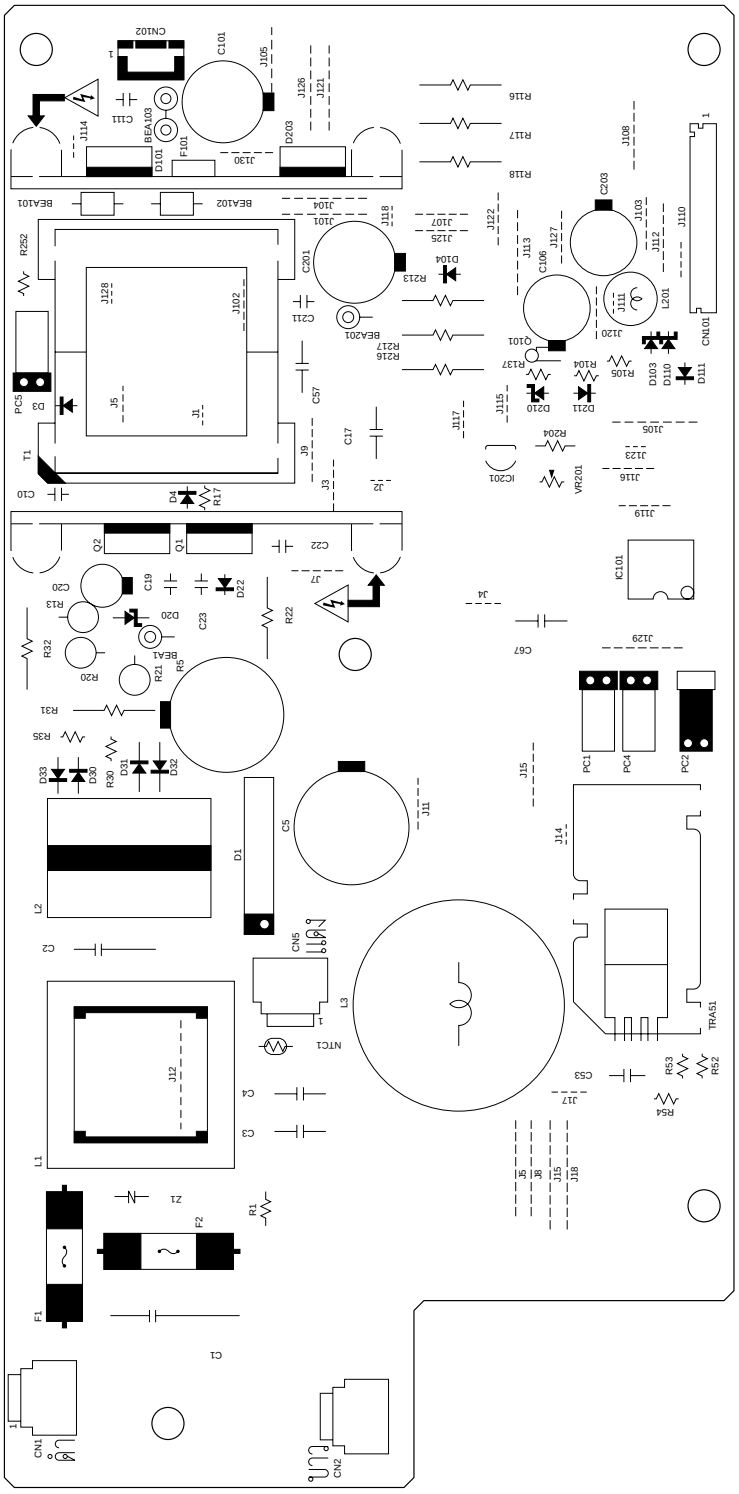


(9) RFID antenna PCB (POL PCB)

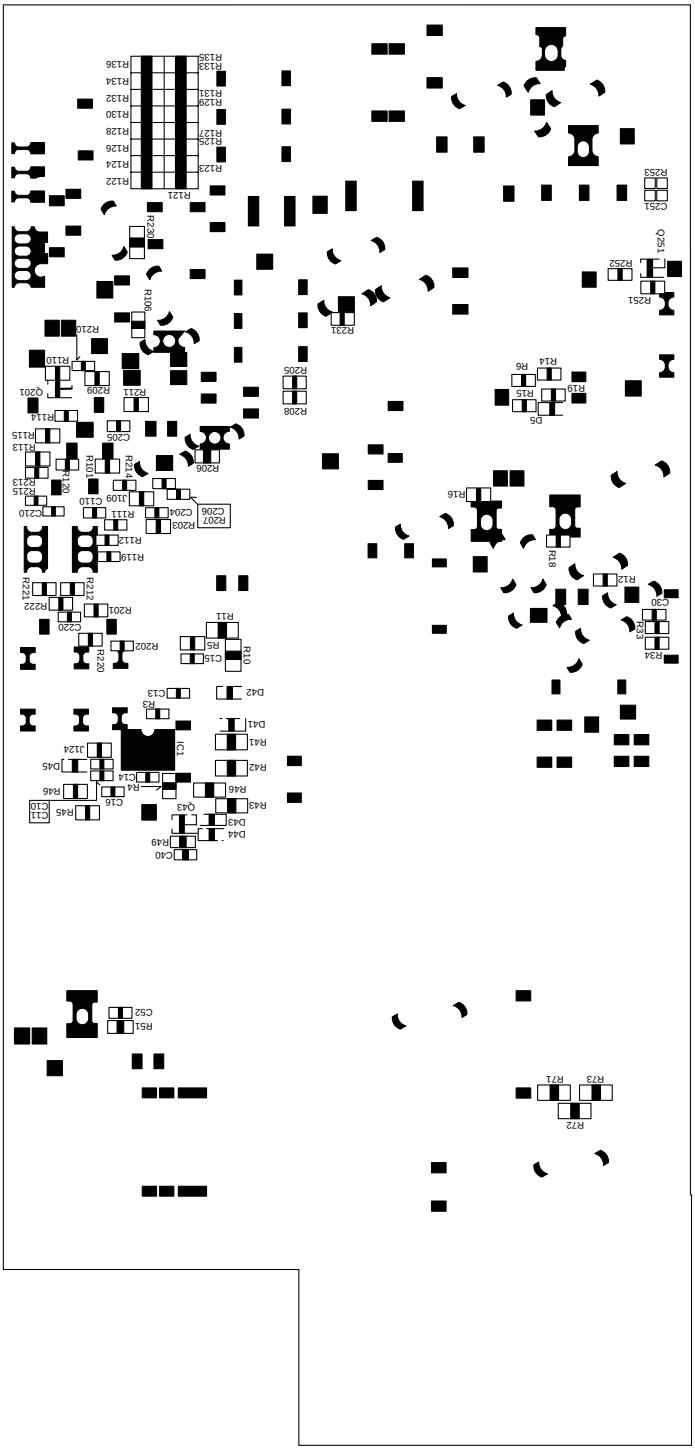


(10) Low-voltage power supply PCB

Component side

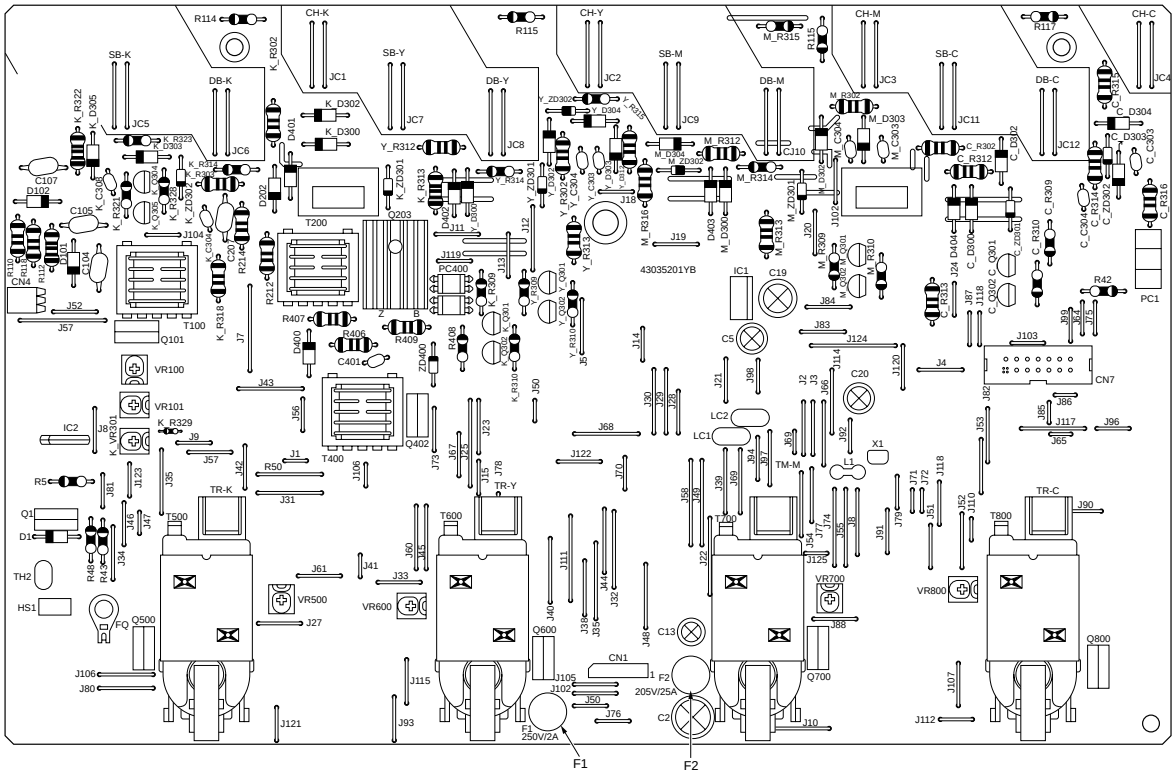


Solder side

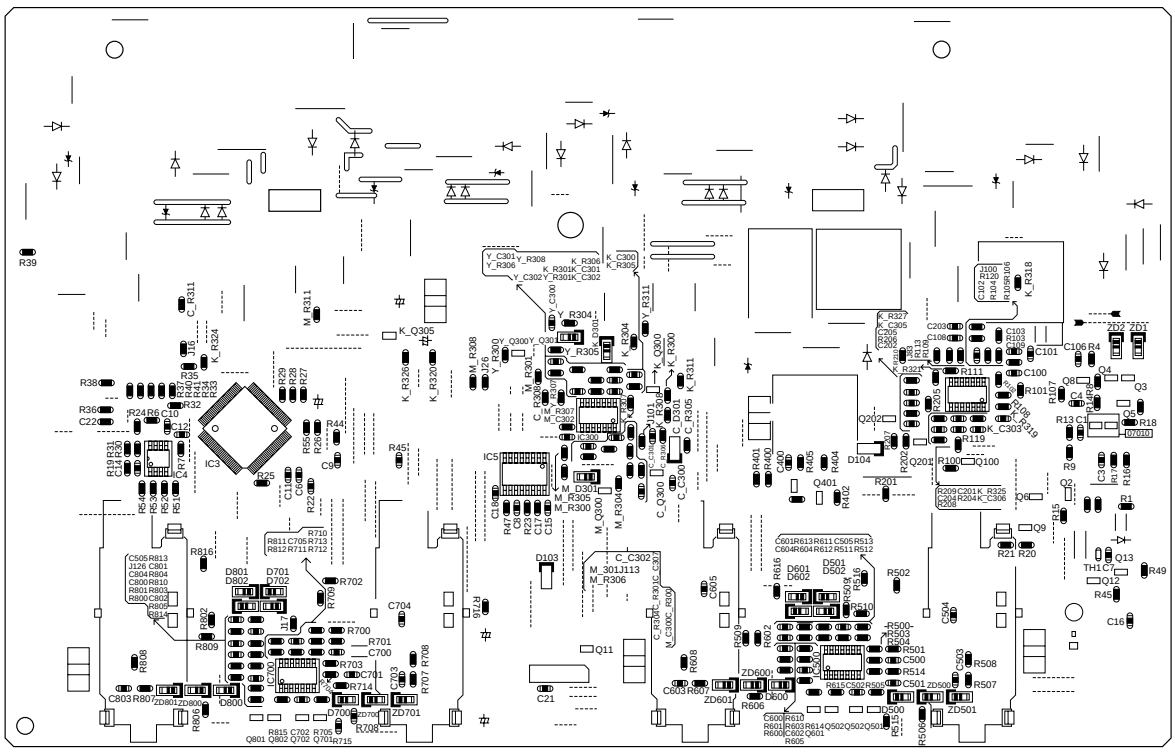


(11) High-voltage power supply PCB

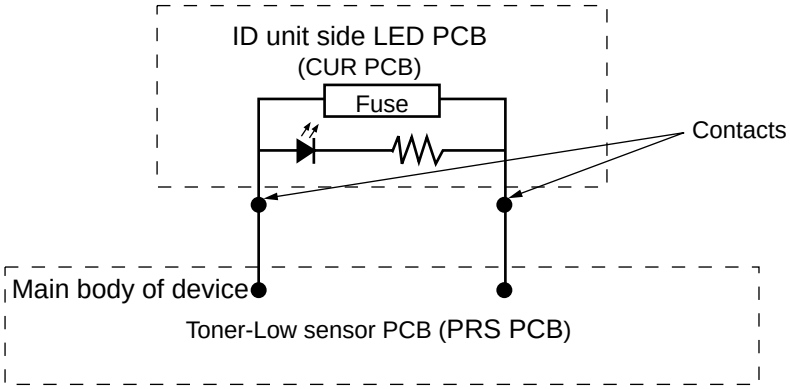
Component side

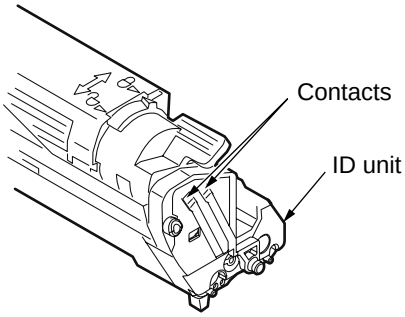


Solder side



(12) ID unit





(13) Transfer belt unit