KIP 3000

SERVICE MANUAL

Version E.2 December 28, 2006

This service manual includes the basic information about the KIP 3000 Multi-Function Printer, which is required when you during field service to maintain the product's quality and reliability.

Chapter 1 Introduction	Overview (Features, specifications, name of parts and etc.)
Chapter 2 Installation	Installation requirements, method of installation, connection with PC & printer
Chapter 3 Print / Scan Process	explanation for the steps of the print and scan process
Chapter 4 Electrical	Circuit diagrams, image process system, electric parts location and etc.
Chapter 5 Mechanical	Parts replacement and mechanical disassembly
Chapter 6 Maintenance	Field maintenance information
Chapter 7 Troubleshooting	Problem resolution
Chapter 8 Service Mode and Utility Software	Service Mode settings, Diagnosis and etc.
Chapter 9 Appendix	General Circuit Diagram

Some of the information included in this manual may be changed by product upgrades. Such information will be informed to you through Technical Bulletins or Engineering Change Orders. Read this service manual and these TBs / ECOs to understand the KIP 3000 correctly, and you will be able to maintain the product quality for a long period of time.

Chapter 1

Introduction

1. 1 Features

The KIP 3000 is a single footprint Multi-Function Printer which can copy, scan and print. Advanced drivers and comprehensive print utilities make the KIP 3000 an advanced, easy to use system. (some functions may be optional)

The scan and print speeds are up to 60mm/sec or up to 4 landscape “D” prints/minute.

KIP HDP technology generates no waste toner.

The combination of the KIP HDP Plus imaging system with mono-component minute toner produces high definition lines, distinctive greyscale and consistent blacks.

The maximum paper width is 36” (914mm) wide, and the minimum is 11” (279mm). The maximum paper length is 11.8’ (3.6m, with 36” paper) or, and the minimum is 8.5” (210mm).

Up to 600dpi print and scan resolutions, with an advanced Image Process System, produces the highest quality images.

Copier Features

- Easy Touch screen control panel
- Collated Sets copying
- Real-time image preview
- Recall/reprint previous jobs
- 600x600DPI copy quality
- Integrated Accounting and Reports for all copying, network printing, scanning
- Network ready copier
- Simple Operator assistance for every day tasks (toner replacement procedure)
- Image stamping
- All hardware/software included for instant upgrade from Digital Copier to Network Printer to Scan-to-File system.
- Information center displays all support information, meter readings, and serial number.

Network Printer Features (Optional)

- Standard TCP/IP connectivity
- Direct support for vector file formats: HPGL1/2, HP-RTL, Calcomp 906/907
- KIP 3000 DWF format support
- Direct support for raster file formats: TIF Group 3/4, Cals Group 4, Uncompressed Grayscale/Color TIF,
- Optional KIP 3000 PDF format support: PS/PDF file format.
- Standard Windows Driver for KIP Script (PS output) and KIP-GL (HPGL/2,RTL output)
- Standard AutoCAD Drivers
- Unlimited site license of KIP Request allows users to group supported formats together for printing collated sets.
- Integrated Accounting in all KIP Drivers/Request for all network printing.
- Integrated KIP 3000 Web Printing (web server)
- Open architecture ASCII Job Ticket for third party applications

Scan-to-File Features

- Scan directly to PDF, TIF Group 4, Cals Group 4
- Scan to file to FTP or personal inbox on the KIP 3000
- Selected resolution – up to 600 DPI optical
- Automatic original size recognition
- Retrieve scanned image files with KIP Request

1. 2 Specifications

1. 2. 1 General

Subject	Specification
Model	KIP 3000
Configuration	Console
Maximum power consumption	1500W (Including Scanner & IPS)
Acoustic noise	Idling ..... Max. 52db Printing ..... Max. 60db Impulse sound ..... Max. 65db
Ozone	Max. 0.1ppm (Measurement method under UL Standard)
Dimensions	50” (W) x 24” (D) x 44” (H) 1266mm x 600mm x 1100mm (Operation Panel is not included in these dimensions)
Weight	210 kg (1 roll) 217 kg (2 roll) (weights are estimated)
Environmental condition for usage	Temperature: 10 to 32 Centigrade or 50 to 86 Fahrenheit Humidity: 20 to 85% RH
Interface	Network Interface (10 BASE-T / 100 BASE-TX)
Input power	In U.S.A. : 120V plus 6% or minus 10%, 50/60Hz, 10A In Europe : 220-240V plus 6% or minus 10%, 50/60Hz, 6A

⚠ NOTE

The above specifications are subject to change without notice.

1. 2. 2. Printer part

Subject	Specification
Model	KIP 3000
Configuration	Console – Single Footprint
Printing method	LED Array Electro-Photography
Photoreceptor	Organic Photoconductive Drum
Print speed	60mm per second (Inch) ..... 2 E or 4 D Landscape / minute (Metric) ..... 2 A0 / minute
Print head	LED Array – Calibrated
Resolution	600dpi x 600dpi
Print width	Maximum ..... 36” (914mm) Minimum ..... 11” (279mm)
Print length	Maximum Plain paper ..... 3.6m or 11.8’ (36”) ..... 3 times as long as each standard size (other sizes) Tracing paper ..... Twice as long as each standard size Film ..... Each standard size Minimum ..... 210mm or 8.5” **NOTE** It is possible to make a longer print than the above shown maximum lengths (24 meters in maximum). But we will not guarantee the image quality or reliability of paper feeding if the page is longer than the above maximum lengths.
Warm up time	Less than 4 minutes (23°C or 74F at 60% RH, with the rated voltage, and bond media)
First print time	24 seconds (D Landscape) 32 seconds (E)
Fusing method	Heat - Pressure Rollers
Development method	Dry, non-magnetic mono-component toner
Media	Plain Paper ..... 64 to 80g/m^2 - US Bond (20lbs) Tracing Paper ..... US Vellum (20lbs) Film ..... 4 MIL Recommend media for electro-photography process
Storage of consumables	Store toner from 0 to 35 C (32 to 95 F) and within the humidity range from 10 to 85% RH.

NOTE

The above specifications are subject to change without notice.

1. 2. 3 Scanner part

Subject	Specification
Scanning method	Contact Image Sensor (CIS) (5 – A4)
Light source	LED (R/G/B)
Scanning speed	65mm per second
Setting of original	Face up
Starting point of scan	Center
Scan width	Max. : 36” (914.4mm) Min. : 11” (275.0mm)
Scan length	Max. : 3.6m (Including the margin area) Min. : 11” (210mm, including the margin area)
Margin area	3mm from leading edge and trailing edge 3mm on both left and right
Optical resolution	600dpi
Digital resolution	600, 400, 300, 200, 100dpi
Original transportation	Sheet through type
Transportable original thickness	Max. : 0.65mm Min. : 0.05mm **NOTE** It is possible to scan a longer original than 0.65mm (1.6mm in maximum). But we will not guarantee the image quality or reliability of original feeding if the original is thicker than 0.65mm.

NOTE

The above specifications are subject to change without notice.

1. 3 Specifications for Originals

1. 3. 1 Original Standards

(1) The width of original must range from 11” to 36” (275.0mm to 914.4mm).
(2) The length of original must range 8.5” (210mm) to 25,000mm
(3) The thickness of original must range from 0.05mm to 0.65mm.
(4) The shape of original must be square, and it must be standard sized.
(5) The type of original must belong to any of the followings.
    Plain paper
    Coated paper (High or middle class plain paper is coated with the paint.)
    Tracing paper
    Pansy Trace Paper (Both sides of the film is sandwiched between Tracing paper.)
    Film
    Newspaper
    Cardboard paper

1. 3. 2 Special Documents

The following kinds of originals are “special”. It is possible to scan them, **but the image quality and feed reliability are not guaranteed**.

(1) The type of original is acceptable, but the thickness and type may not be:
    Booklets
    Original with a Hanger
    Cut and Pasted originals
(2) These original may not damage the scanner, but these types are NOT recommended: following ones.
    Cloth
    Aluminium Kent Paper

1. 3. 3 “Do Not Scan” Originals

It is impossible to use the following types of originals because they are likely to damage the scanner.

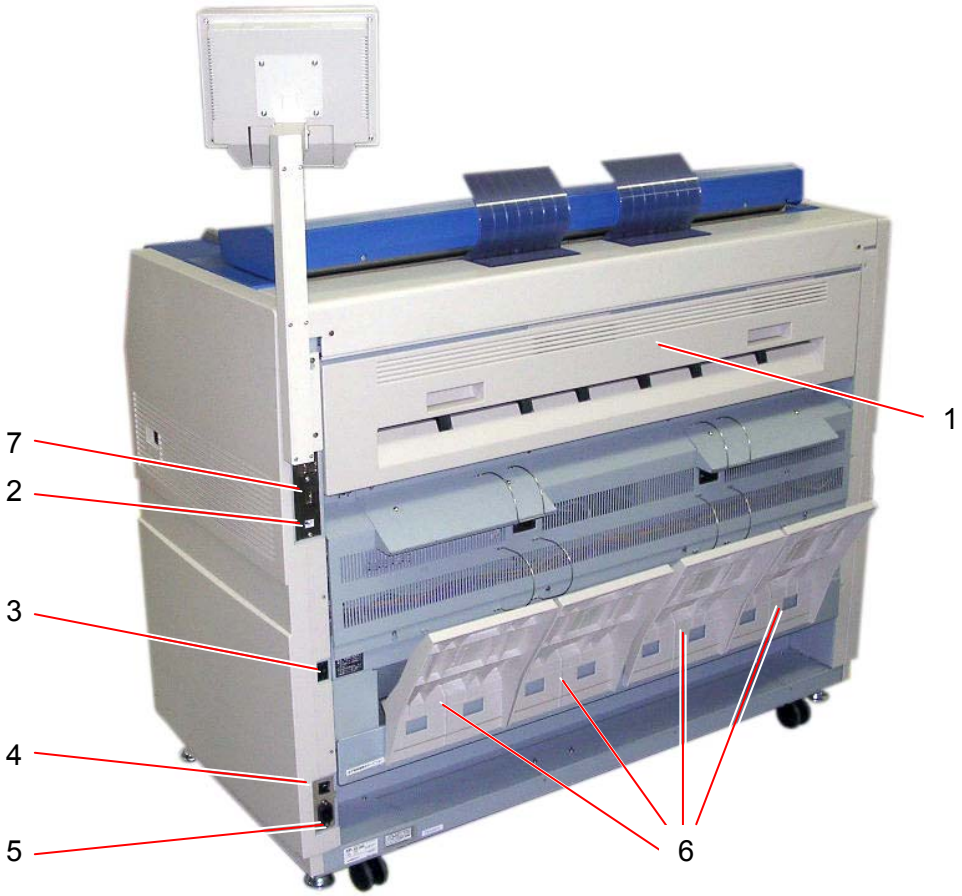
(1) Metal originals (The Scan Glass may damage)
(2) Slippery originals which is difficult to transport
(3) Irregularly shaped originals (Not square in shape)
(4) Extremely curled originals (Diameter of curl is less than 50mm)
(5) Extremely creased originals
(6) Torn originals

1. 4 Appearance

1. 4. 1 Front

No.	Name	Function
1	Main Switch	You can turn on/off the KIP 3000.
2	Original Guides	Feed the original under the Scanner Unit along the Original Guides.
3	User Interface	This is a Touch Screen, and many kinds of user operation are available.
4	Emergent Stop Button	Press this button when you would like to stop copying or scanning emergently.
5	Original Tray	These trays catch the original ejected from the Scanner Unit.
6	Scanner Unit	Read the original with this unit when you make scan or copy.
7	Toner Hatch (Original Table)	Open the Toner Hatch when you replace the Toner Cartridge. Also put the original here and then feed it into the Scanner Unit when you make scan or copy.
8	Engine Unit Open Lever	Pull up these levers when you open the Engine Unit.
9	Bypass Feeder	Feed a cut sheet paper from the Bypass Feeder.
10	Roll Deck	Roll paper can be set here. (You can set 1 roll paper normally, but 2 roll paper are available if you install the optional 2nd Roll Deck.)
11	Print Tray	Prints are stacked here after the ejection.
12	Sub User Interface	Service Mode operations are available.
13	Counter	It counts the total amount printing.

1. 4. 2 Rear



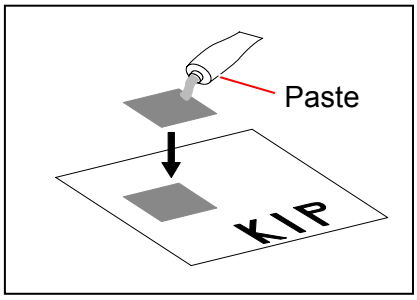
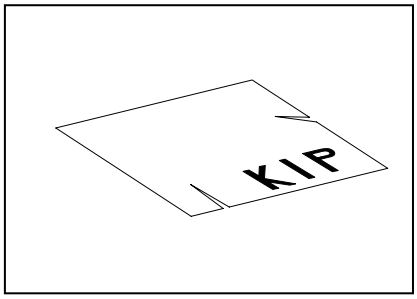
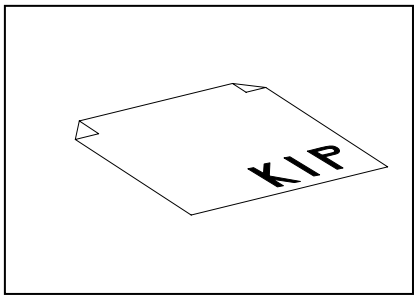
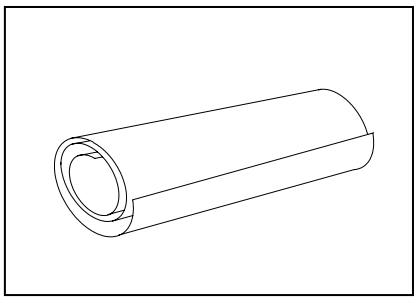
No.	Name	Function
1	Exit Cover	Open the Exit Cover when you remove the paper misfed inside the Fuser Unit.
2	LAN Port	Connect the LAN Cable to connect the KIP3000 to the network.
3	Dehumidify Heater Switch (Optional in U. S. A.)	Turn on the Dehumidify Heater with this switch when you would like to dry the paper in the humid season.
4	Breaker	It is possible to shut off supplying the AC power.
5	Inlet Socket	Connect the Power Cord here.
6	Print Guide Trays	These trays guide the prints to the Print Tray.
7	COM Port (Optional)	Connect the cable from the Optional Device. (D-Sub Connector 9 pins: +/-12VDC in maximum)

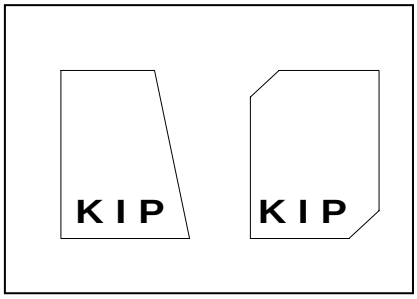
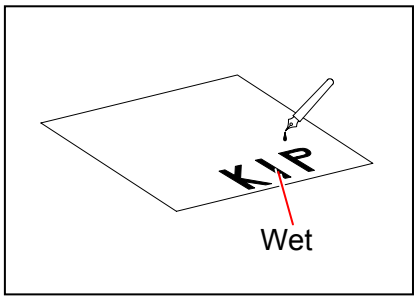
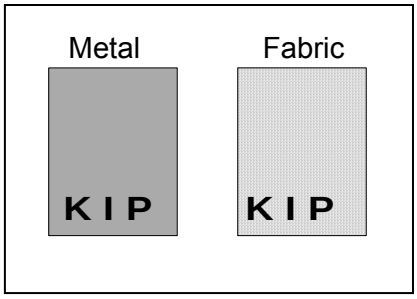
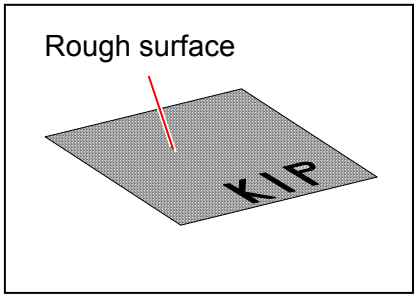
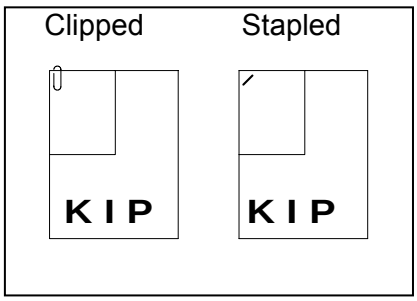
1. 5 Specifications for the Scan Original

A scan original must satisfy the following specifications.

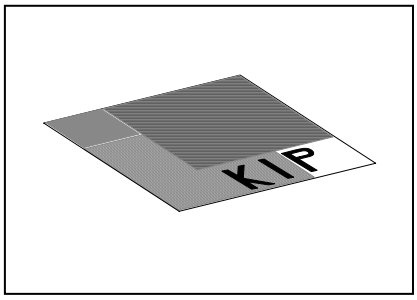
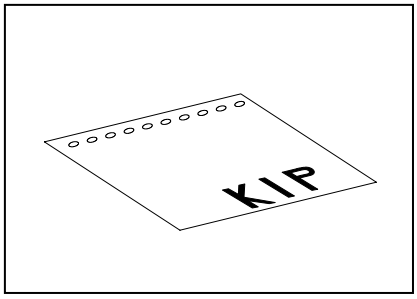
Thickness	0.05mm to 0.6mm
Width	11” to 36” (279.4mm to 914.4mm)
Length	8.5” (210mm) to 3,600mm

Do not scan the following kinds of original, because you may damage the original or scanner itself!

Sticked with paste	
Torn	
Folded (Leading edge)	
Excessively curled (a diameter of 50 mm or less)	

Not square	
Wet	
Metal or fabric material	
Rough surface (Carbon paper for example)	
Clipped or stapled	

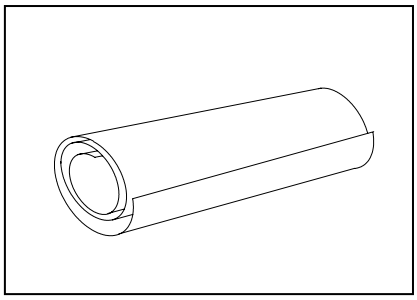
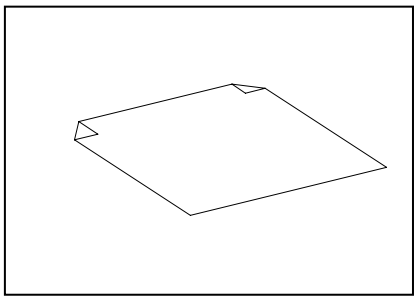
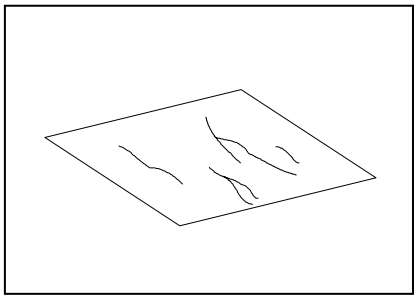
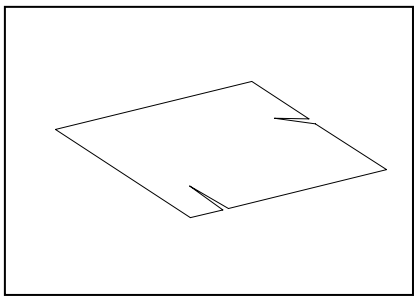
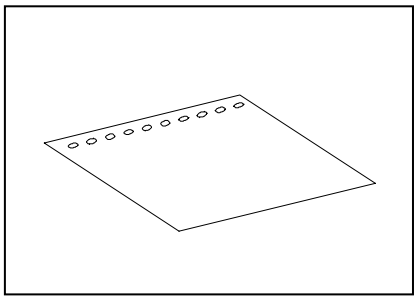
The following kinds of originals can be read with using a carrier sheet.
Image quality or the reliability of paper feeding for them is not guaranteed.

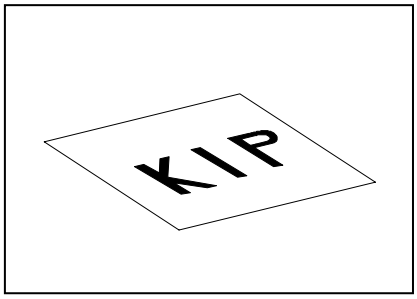
Patched	
Punched	

1. 6 Specifications for the Printing Paper

1. 6. 1 Papers not available to use

Do not use the following kinds of printing paper because you may damage the print engine!

Excessively curled (a diameter of 50 mm or less)	
Folded	
Creased	
Torn	
Punched	

Extremely slippery	
Extremely sticky	
Extremely thin and soft	
Extremely slippery	
OHP Film	

⚠ CAUTION

Do not use the paper with staple, or do not use such conductive paper as aluminium foil and carbon paper.
Such paper may become cause for the fire.

⚠ NOTE

(1) Print image may become light if printed on a paper of rough surface.

(2) Print image may become defective if the print paper is much curled.

(3) It will become a cause for paper mis-feed, defective print image or crease of paper if you use a paper that does not satisfy the specification.

(4) Do not use a paper of which surface is very special, such as thermal paper, art paper, aluminium foil, carbon paper and conductive paper.

(5) Tracing paper exposed to air over a long period tends to defective printing. Removing one round on the surface of the tracing roll paper from the beginning is recommended.

1. 6. 2 Keeping the paper in the custody

Keep the paper in the custody taking care of the following matters.

1. Do not expose the paper to the direct sunlight.
2. Keep the paper away from high humidity. (It must be less than 70%)
3. Put the paper on a flat place
4. If you will keep the paper in the custody, which you have already unpacked, put it into the polyethylene bag to avoid the humidity.

1. 6. 3 Treatment against environmental condition

Humidity(%)	Possible problem	Necessary treatment
Low ↑	"Void of image", "crease of paper" and other problems occurs when you print with plain paper and tracing paper.	1. Install the humidifier in the room, and humidify the room air. 2. Remove the paper from the machine right after the completion of print, and keep it in a polyethylene bag.
	"Void of image" occurs when you print with tracing paper.	If you will not make print soon, remove the tracing paper from the machine and keep it in a polyethylene bag.
40%		Remove the paper from the machine after everyday use, and keep it in a polyethylene bag.
70%	"Void of image" occurs when you print with plain paper and tracing paper.	If you will not make print soon, remove the tracing paper from the machine and keep it in a polyethylene bag.
↓ High	"Void of image", "crease of paper" and other problems occurs when you print with plain paper and tracing paper.	1. Turn on the Dehumidify Heater.(if installed) 2. Remove the paper from the machine right after the completion of print, and keep it in a polyethylene bag.

⚠ NOTE

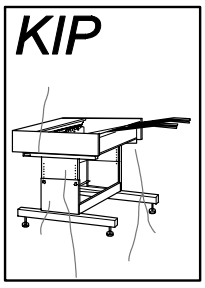
(1) KIP 3000 is equipped with the Dehumidify Heater (optional in U.S.A.)
Using it in high humidity environment (65% or higher) is recommended.

(2) "Void of image" and "crease of paper" will occur in case of extremely high or low humidity.

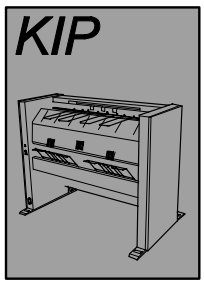
Normal Print

If the media is humidified ;

Crease of paper

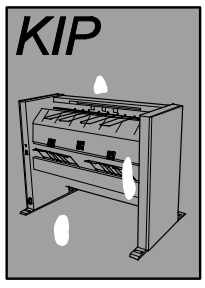


Normal Print



If the media is humidified ;

Loss of image



Chapter 2

Installation

The machine had passed our strict inspection after careful adjustment in the factory, and then it was packaged and shipped. Installation is an important work to make the machine work at customer's site as same as it has passed our strict inspection before shipment. A service engineer has to understand machine's function very well. Install the machine in a good environmental place in a correct way, and then check that it works perfectly.

2. 1 Installation Requirements

The following conditions are required for the installation of the equipment.

1. Power source should be rated as:
   In U.S.A ..... 120V +6% or -10%, 50/60Hz, 15A or higher
2. The equipment must be on a dedicated circuit.
3. The outlet must be near the equipment and easily accessible.

1. Make sure to connect this equipment to a properly grounded outlet.
2. The outlet shall be installed near the equipment and shall be easily accessible.

Site Environmental Conditions

Temperature Range
10 C to 30 C
50 F to 86 F

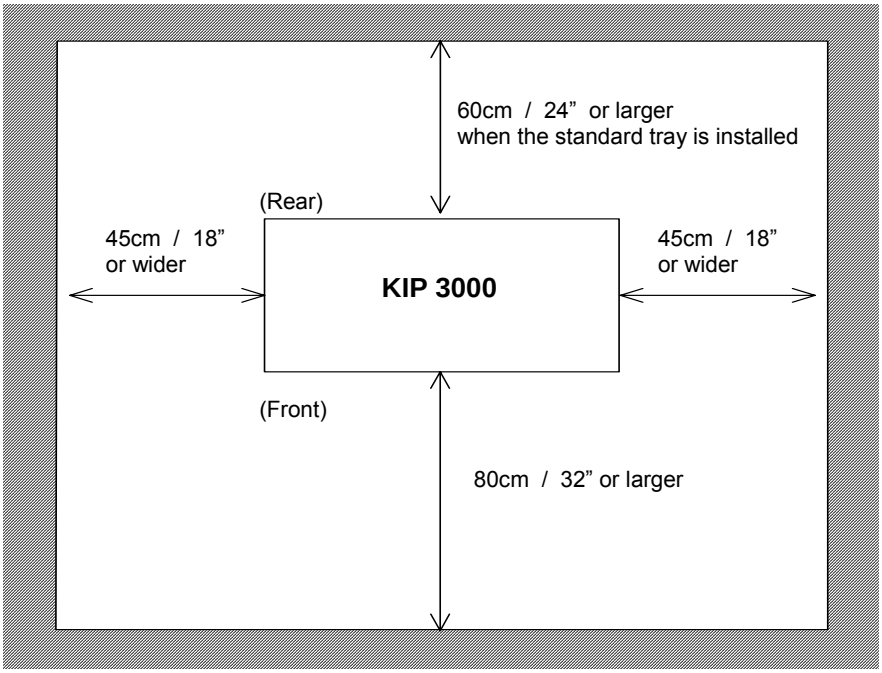
Humidity Range
20% to 85% RH. (NON CONDENSING)

Keep the printer away from water sources, boilers, humidifiers or refrigerators.

1. The installation site must not have any open flames, dust or ammonia gases.
2. The equipment must not be exposed to the air vents from heating/cooling systems.
3. The equipment should not be exposed to the direct sunlight.
   Please draw curtains to block any sunlight.
   When you open the printer (Upper Half), do not expose the Photoconductive Drum to strong (intense) light as this will damage the Drum.

Ozone will be generated while this equipment is in use, although the quantity generated is within all safe levels. (see certifications) Ventilate the room, if so required.

Keep ample space around the equipment to ensure comfortable operation.
(Refer to the following figure.) The floor must be level and the strength must be ample to sustain the weight of the equipment.



2. 2 Unpacking

2. 2. 1 Unpacking

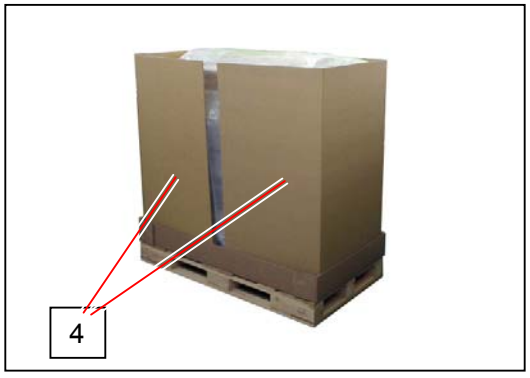
1. Cut the bands (1) and remove the top board (2).

2. Remove the outer cardboard box (3).

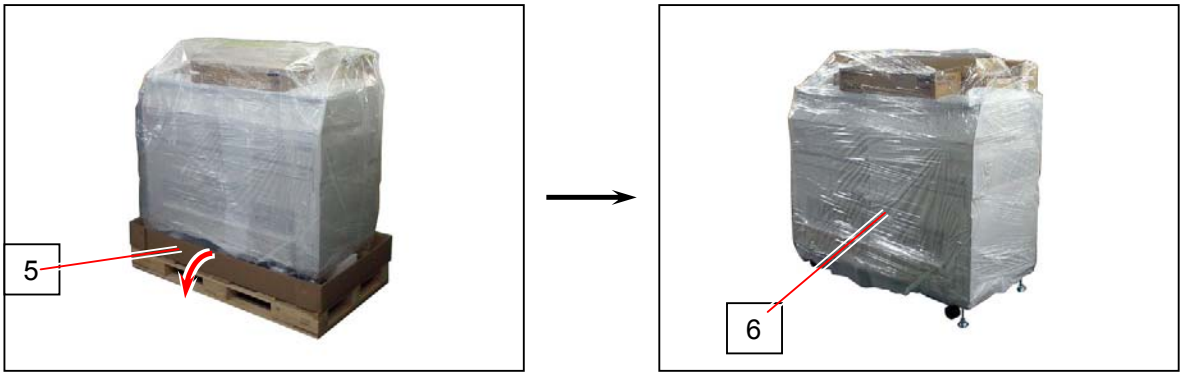
   Please note that installation toner and a Software Box will be included in the crate. The Software box has the Software CD and other important installation notes and documents

   OPEN THIS BOX FIRST
   DO NOT DISCARD THIS BOX

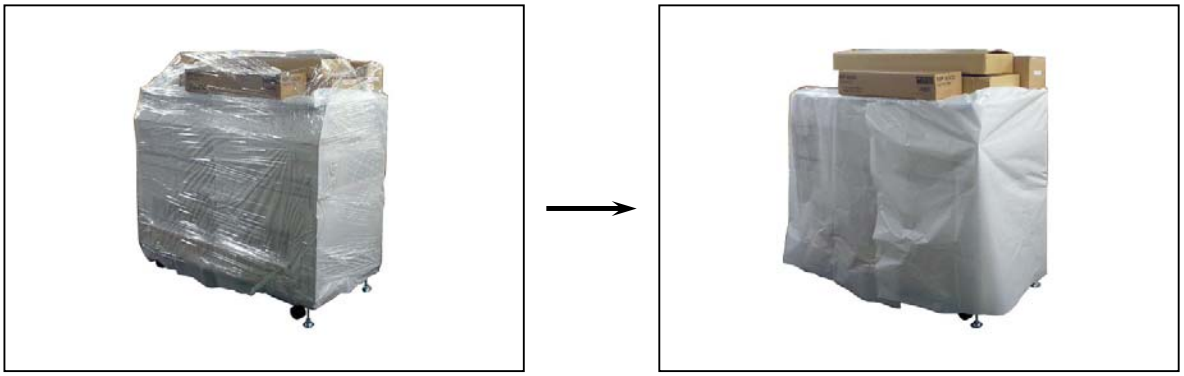
3. Remove the inner cardboard cases (4).



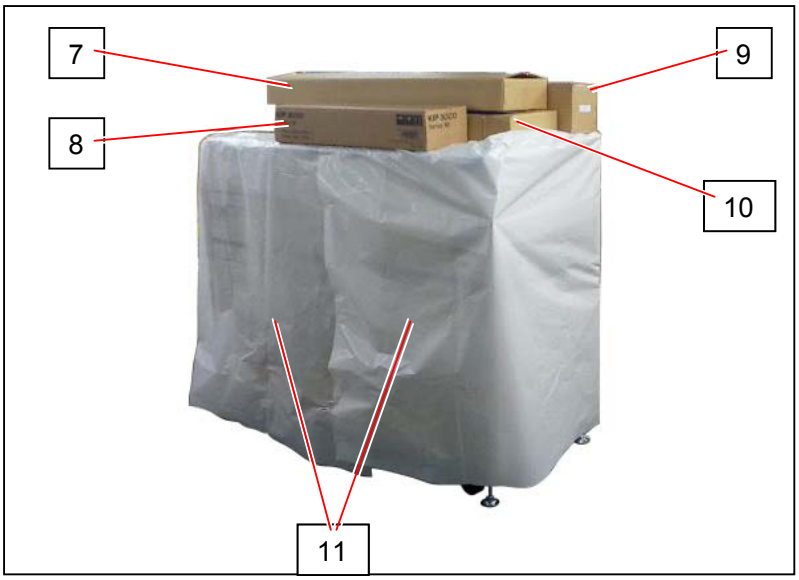
4. Open the front face (5) of the bottom board.
   Remove the wrapped machine (6) with a forklift, and move it to the installation place.



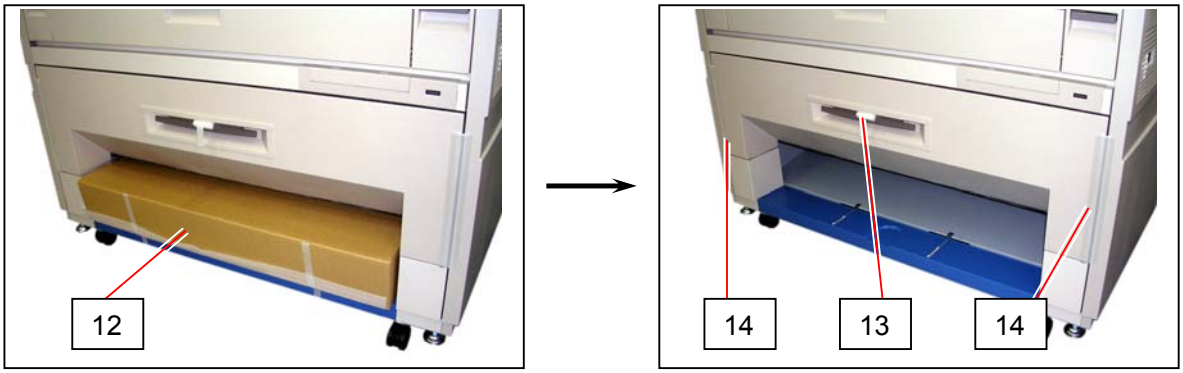
5. Unwrap the machine.



6. Put aside each accessory box (7), Start Up Kit (8) and empty Drum Box (9).
   DO NOT DISCARD THESE ITEMS.
   Remove the scanner protection box (10) and the protection papers (11) around the machine.

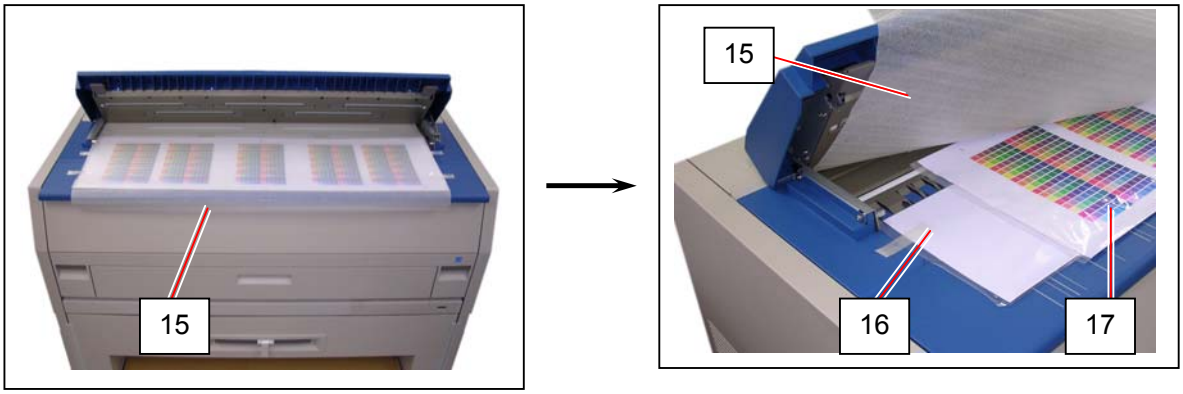


7. Put aside one more accessory box (12) under the Roll Deck. **DO NOT DISCARD IT.**
   Remove the padding (13) on Roll Deck Handle. Remove the tapes (14) on both sides.

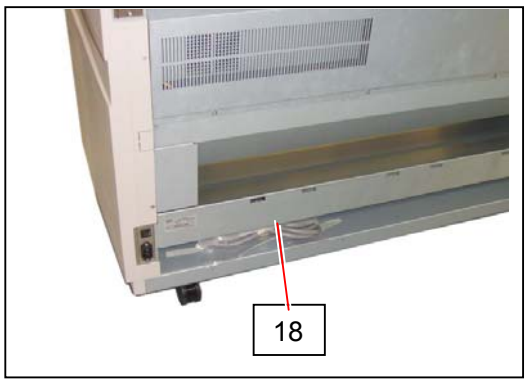


8. Open the Scanner Unit and remove the protection mat (15).
   Put aside Shading Sheet (16) and Calibration Sheet (17: for machines after S/N 10510001) under the protection mat (15), which will be used on the scanner adjustment.

   DO NOT DISCARD THE SHEET(S). HANDLE WITH GREAT CARE.
   KEEP THE SHEET(S) IN SAFE COSTODY FOR AVOIDING DIRT, FOLD OR TEAR.

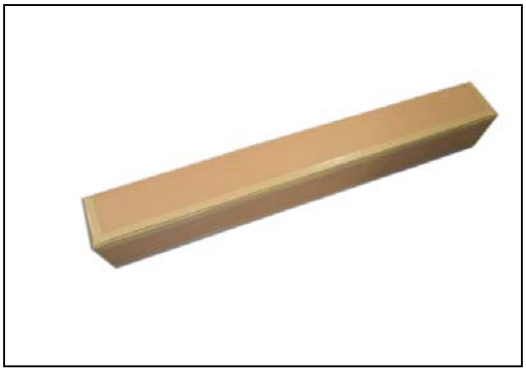
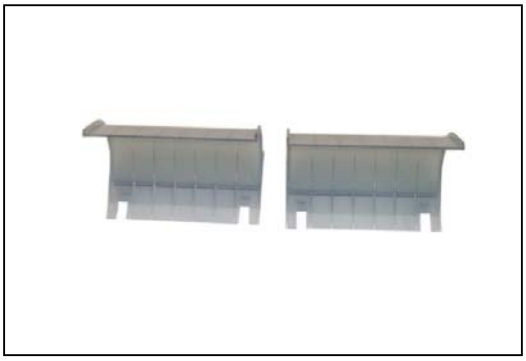
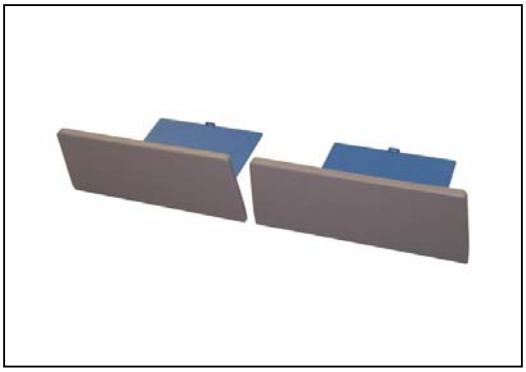


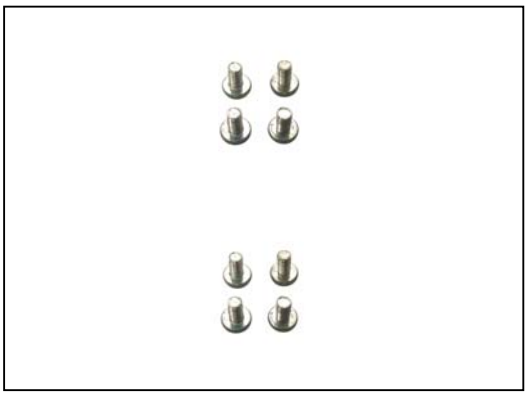
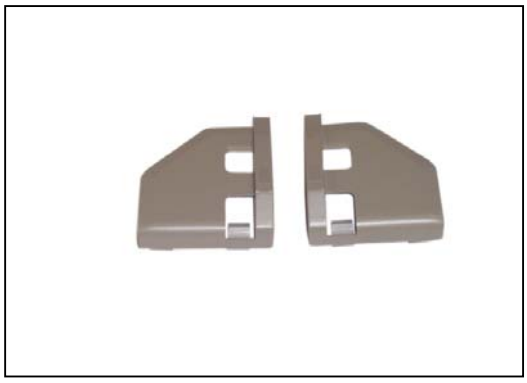
9. Put aside the Power Cord (18) which is on the bottom plate of machine.

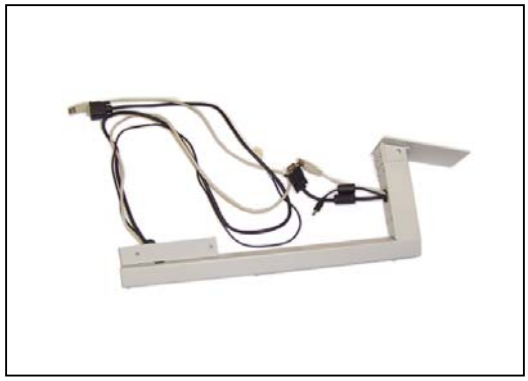
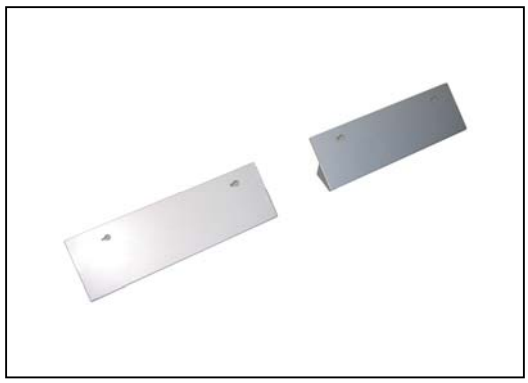


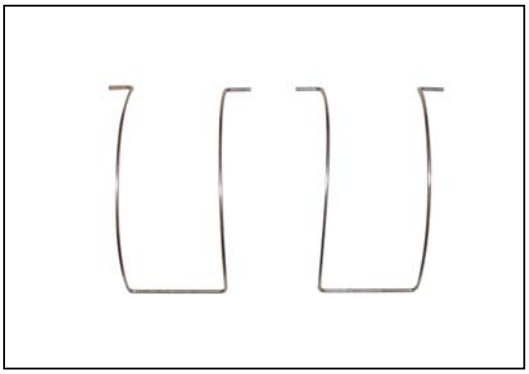
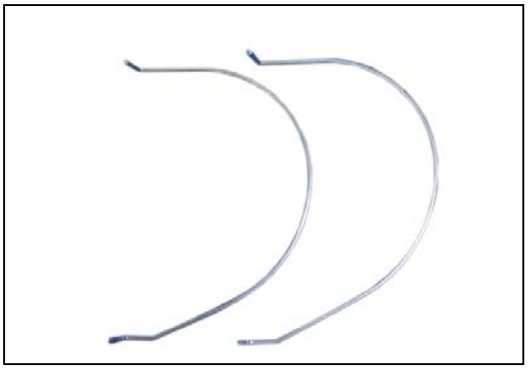
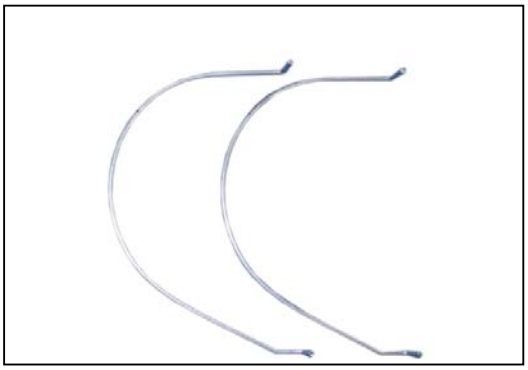
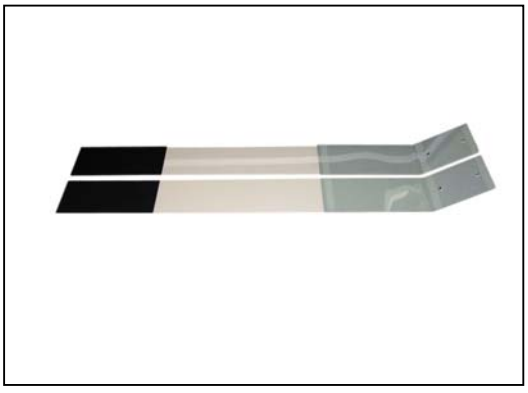
2. 2. 2 Confirmation of accessories

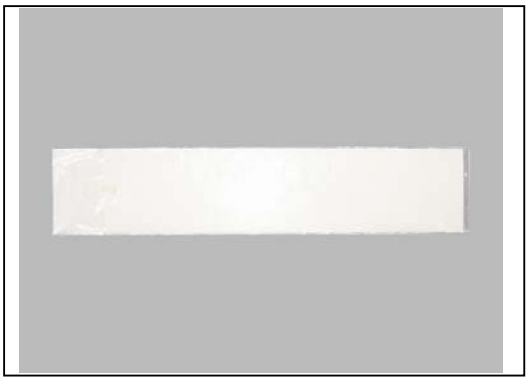
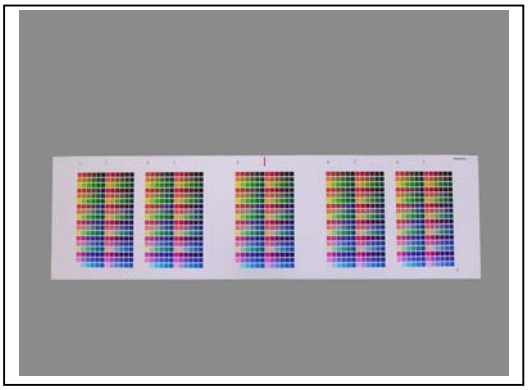
Confirm the following parts are attached to the product.
Some parts may slightly vary in quantity or shape according to time of manufacture.

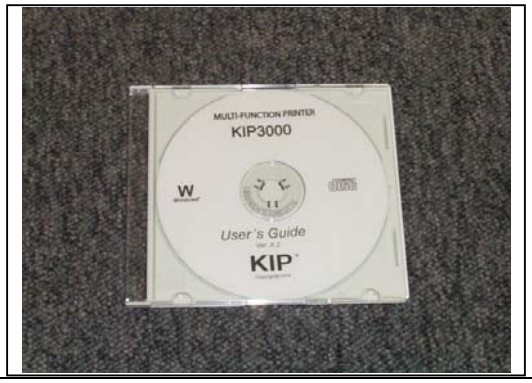
Item name	Picture	Number of article
Tray		4 (3)
Drum Box (empty)		1
Guide 3		2
Tray 2 Assembly		2

Item name	Picture	Number of article
Guide 4		2
3x8 Bind Screws (for Tray 2 Assembly & Guide 2) 3x6 Bind Screws (for Cover 3)		4 4
Org. Guide 1 & 2		1 1
Power Cord		1

Item name	Picture	Number of article
Monitor Assembly		1
Arm Assembly		1
Cover 3		1
Plate 2		2

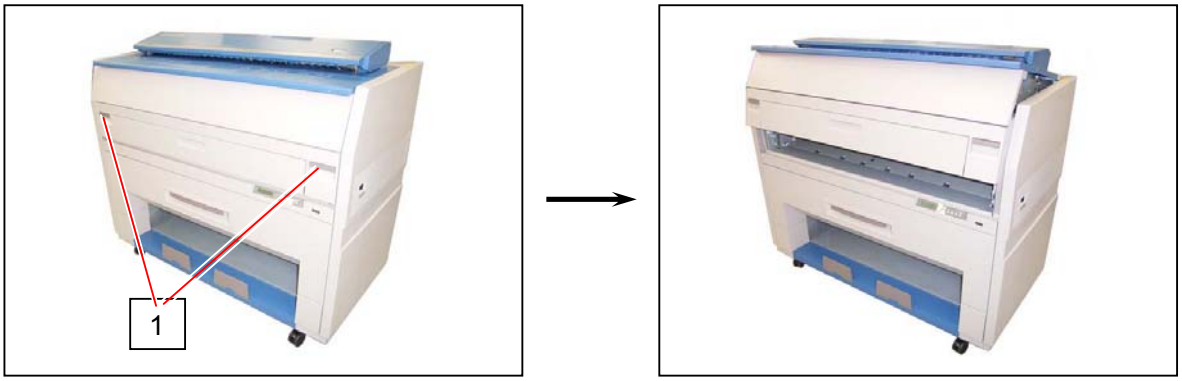
Item name	Picture	Number of article
Arm		2
Arm 3		2
Arm 4		2
Plate 5 Assembly		2

Item name	Picture	Number of article
Shading Sheet		1
Calibration Sheet (for machines after S/N 10510001)		1
Starting Toner (500g)		1
Toner Cartridge (300g)		2

Item name	Picture	Number of article
4x10 Bind Screws 4x8 Tooth Washer Screws		4 4
Setup Procedure		1
User CD (Operator Manual)		1
Developer Handle		1

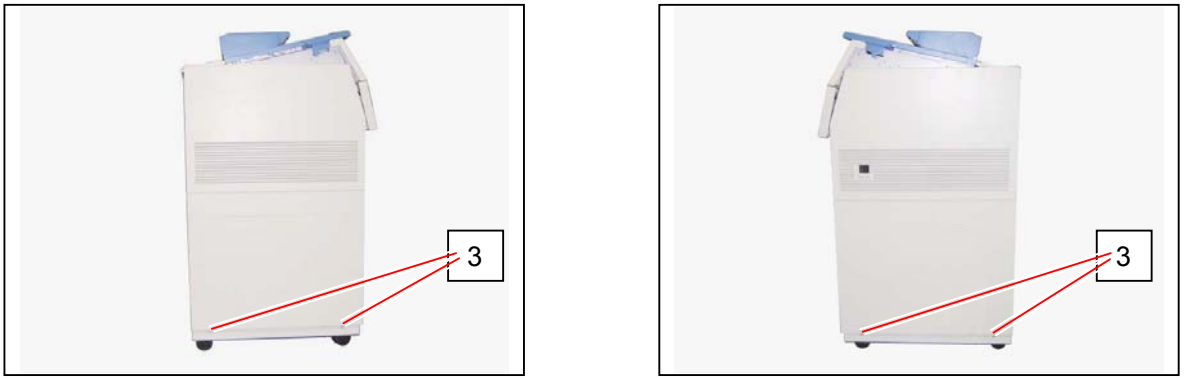
2. 3 Leveling the KIP 3000

1. Pull up the Lever 2 (1) to open the Engine.

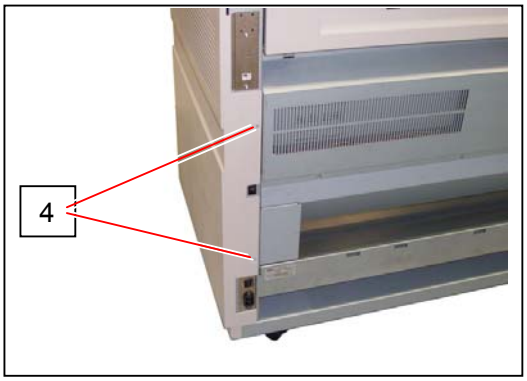


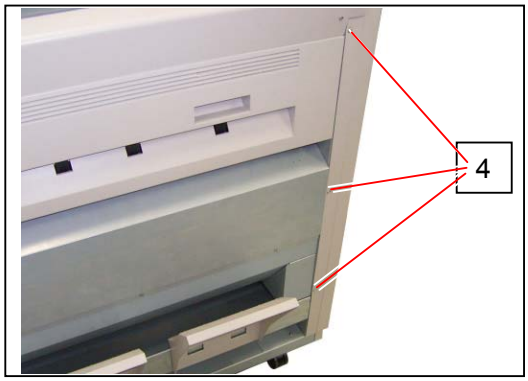
2. Remove the screws (2) at both sides.

3. Remove 4 screws (3) at the bottom of both sides.

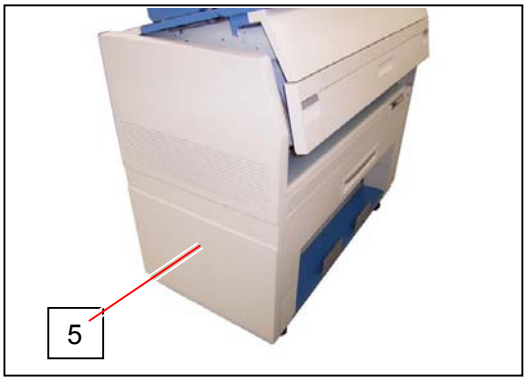


4. Remove 5 screws (4) at the back on both sides.
   (2 pieces on the right and 3 pieces on the left)

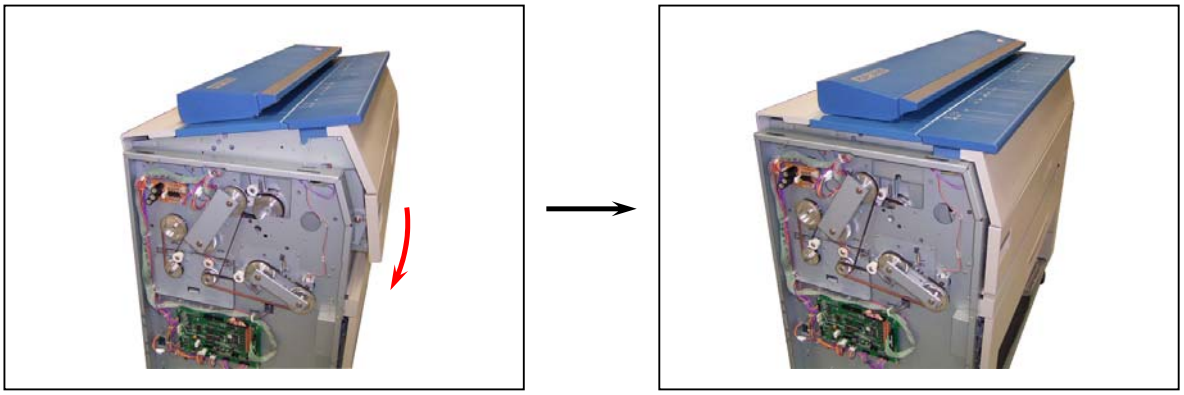




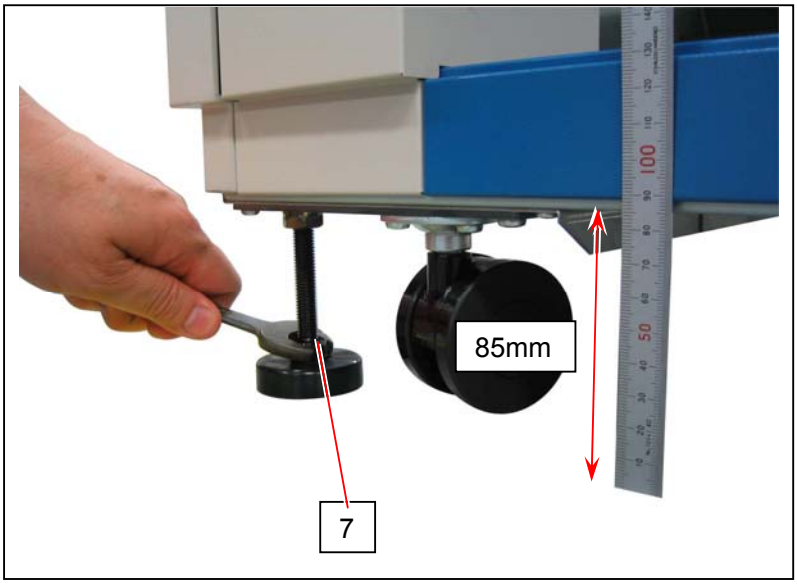
5. Remove the Cover 2 (5) and the Cover 3 (6).



6. Close the Engine Unit.



7. Rotate 4 Levelling Bolts (7) on the bottom of the KIP 3000 with a wrench to bring up the KIP 3000 from the floor.
   Keep 85mm of distance between the bottom plate and the floor. (It is about 80mm before the adjustment.)

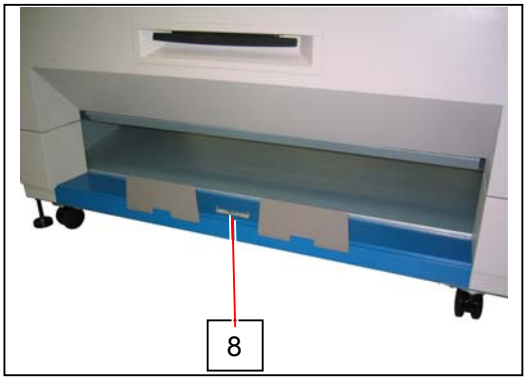


NOTE

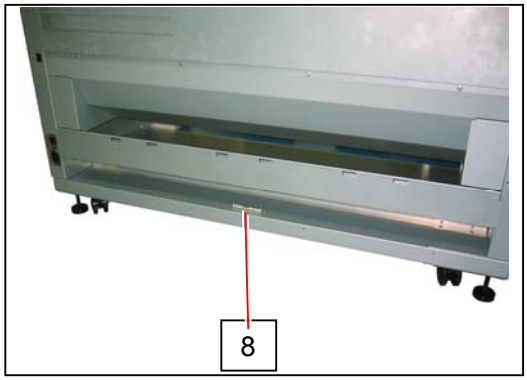
Do not rotate the Levelling Bolts too much.
If the distance between the bottom plate and the floor becomes wider than 95mm, the Adjuster Bolt may be removed.

8. Put a level (8) on the specified positions shown to check the level of the KIP 3000.
   If not leveled, adjust by rotating the Adjustment Bolts.

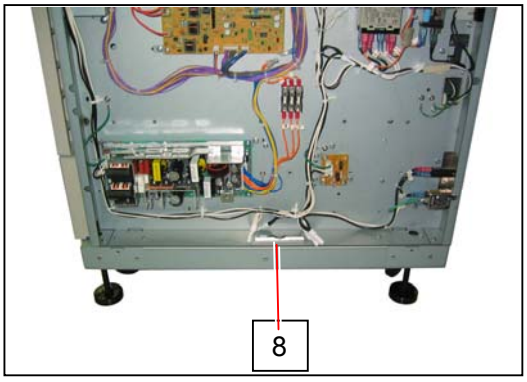
Front



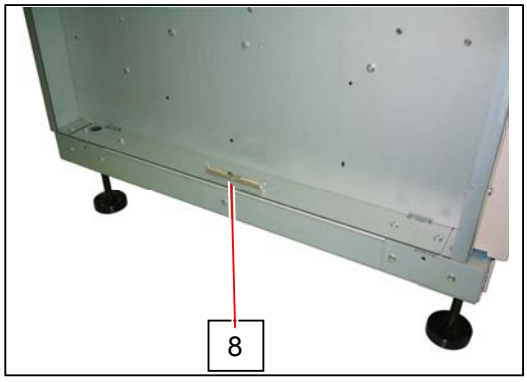
Rear



Right

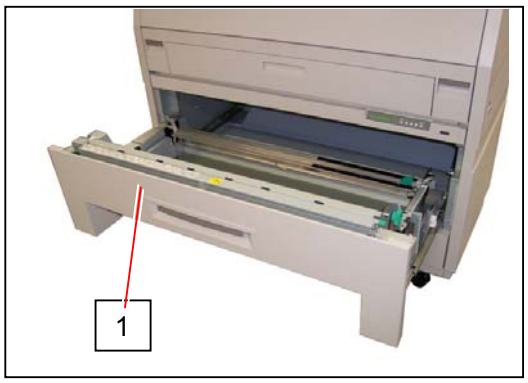


Left

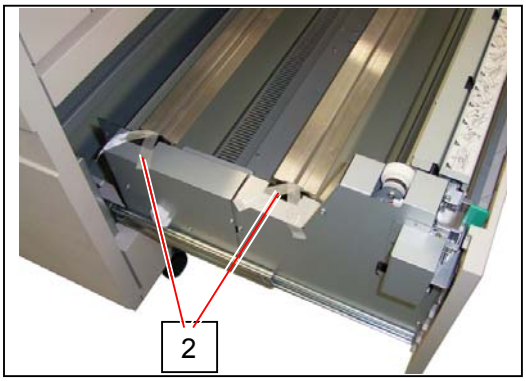


2. 4 Setup of the Roll Deck

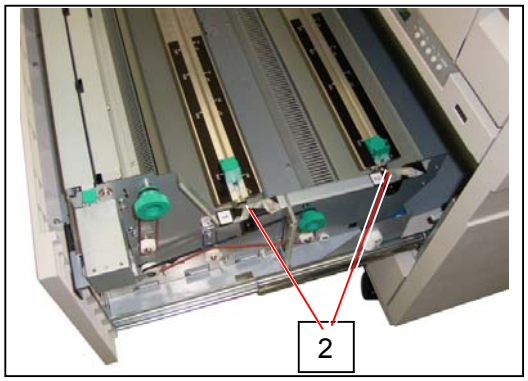
1. Open the Roll Deck (1).



2. Remove the tape (2) that fixes the Spool Assemblies.

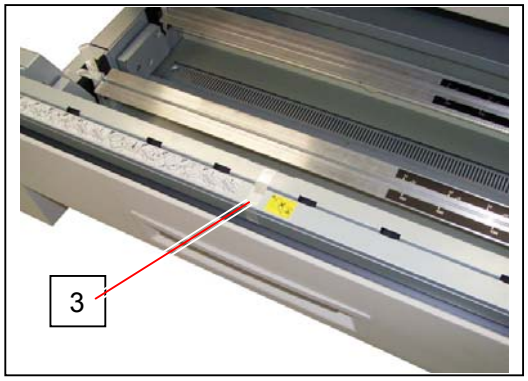


Left side



Right side

3. Remove the tape (3) at the center, which fixes the Guide Plate.



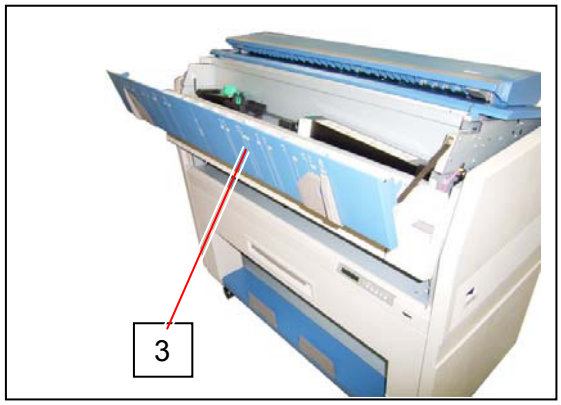
4. Close the Roll Deck.

2. 5 Setup of the Machine Unit

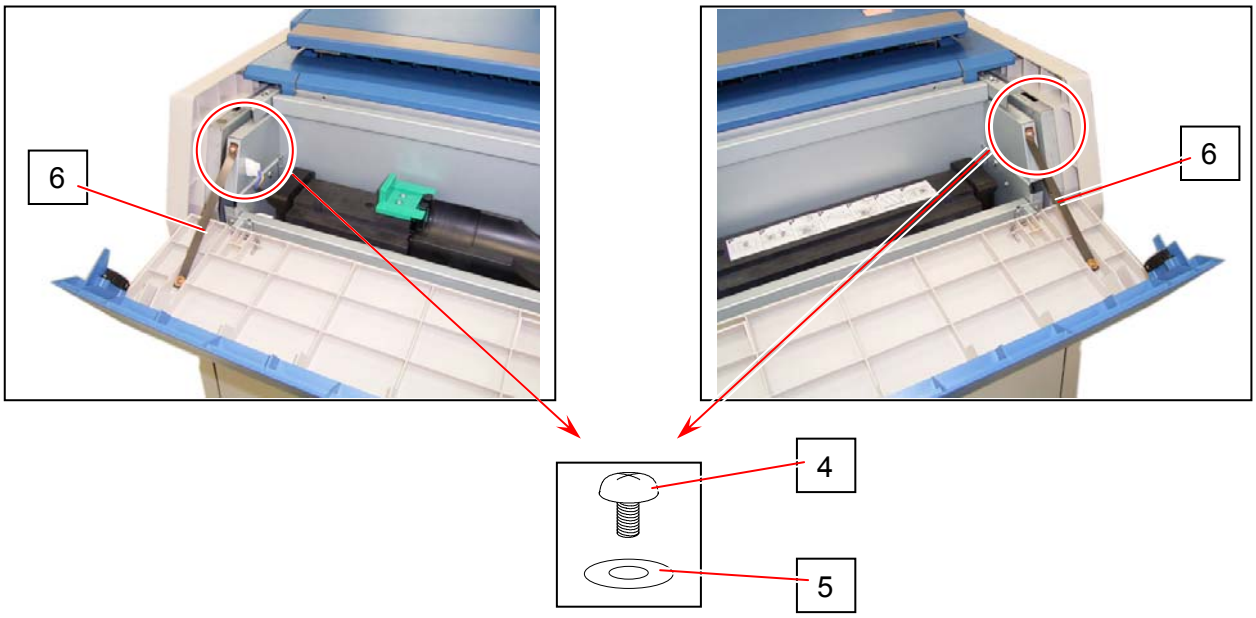
1. Pull up on the Levers (1) to open the Engine.

2. **Carefully remove** the protection mat (2) under the Drum.

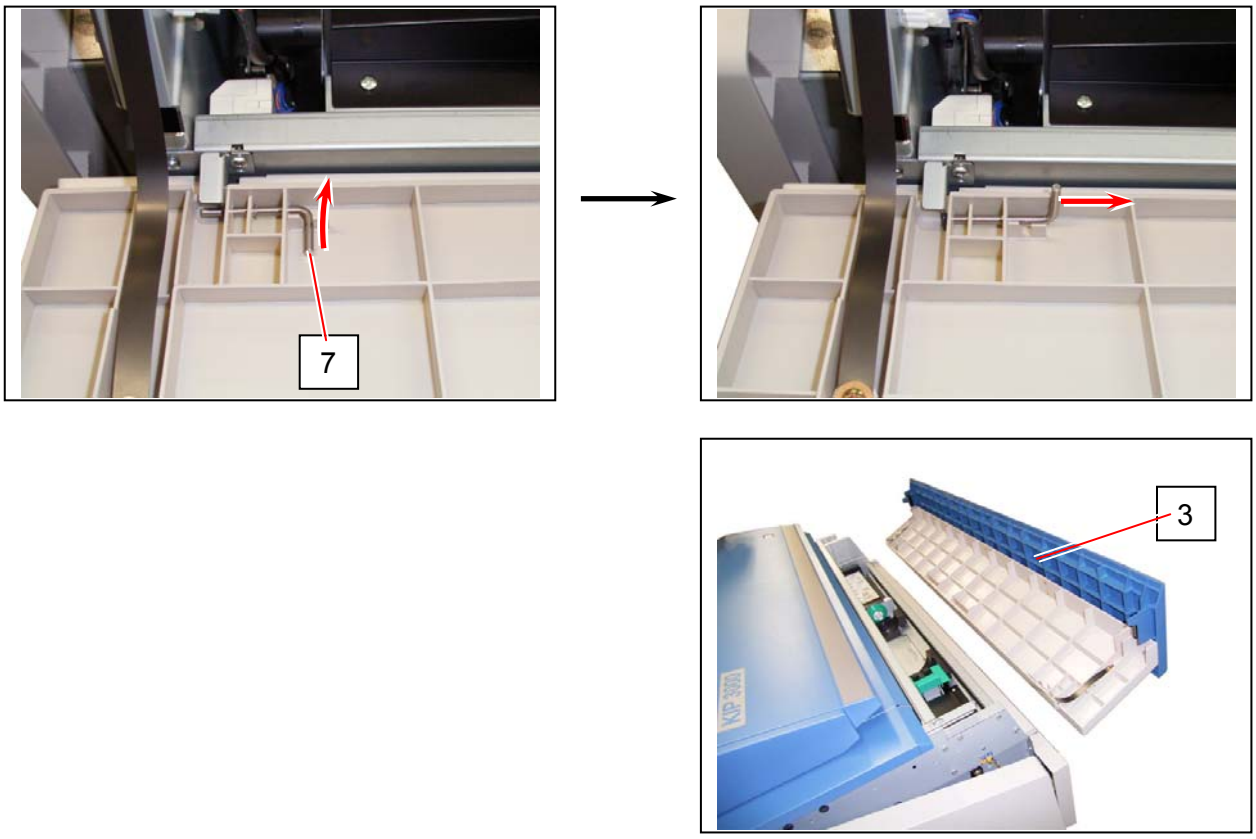
3. Open the Toner Cover 4 (3).



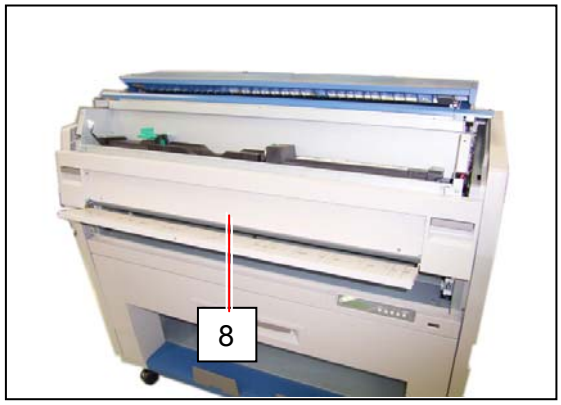
4. Remove the screws (4) and flat washers (5) to release the Bands (6) at both sides.



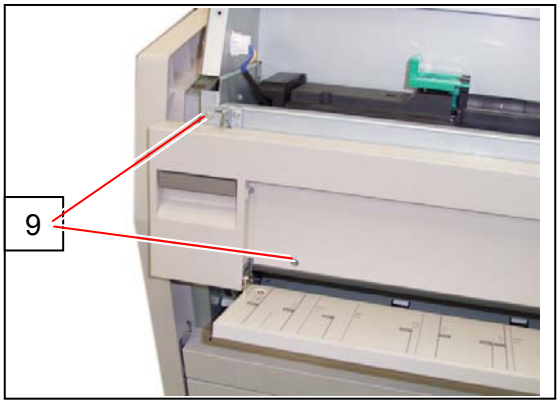
5. Rotate up the Pins (7) and move them to the inside to pull them out from the holes. Remove the Toner Cover 4 (3).



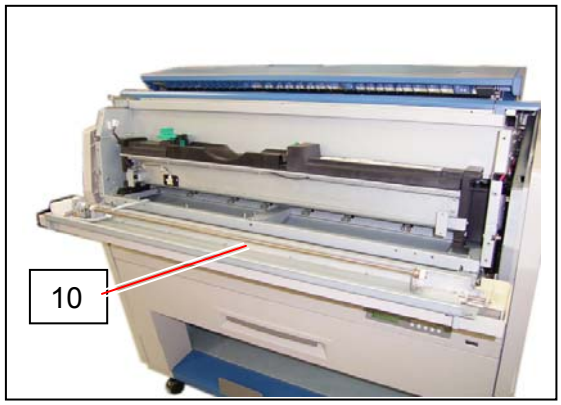
6. Open the Bypass Feeder (8).



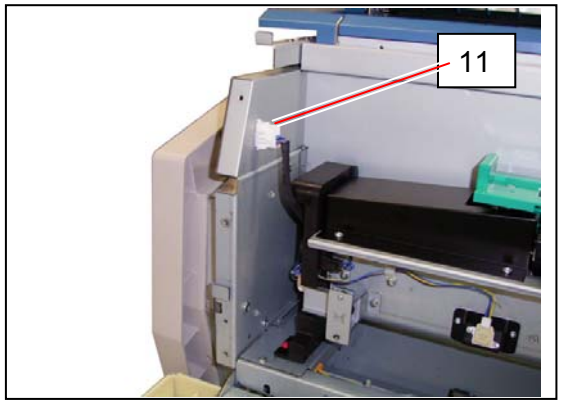
7. Remove 4 pieces of screw (9).



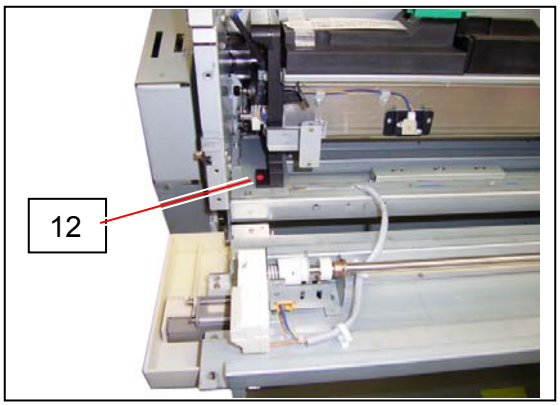
8. Open the Developer Press Unit (10).

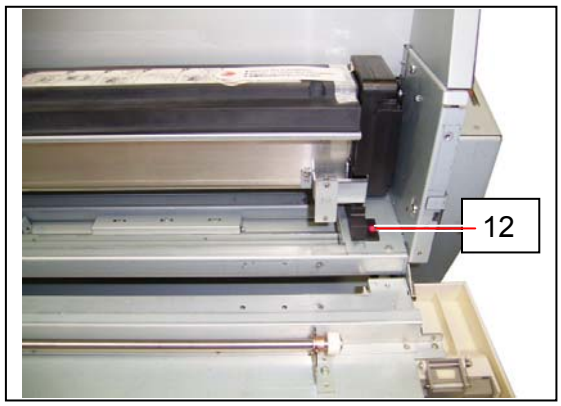


9. Disconnect the connector (11).

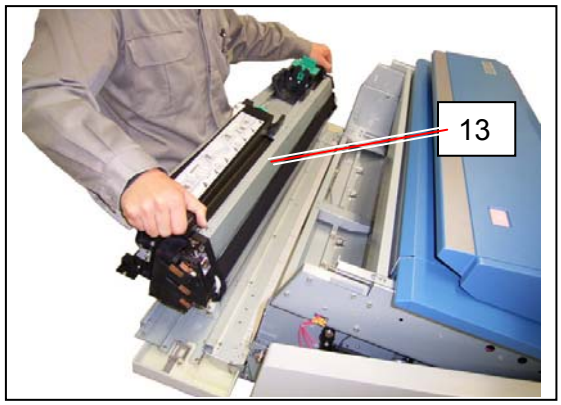


10. Remove 2 pieces of red screw (12) at both sides of the Developer Unit, which protect the Developer Unit from vibration during transportation. (They are no longer required.)

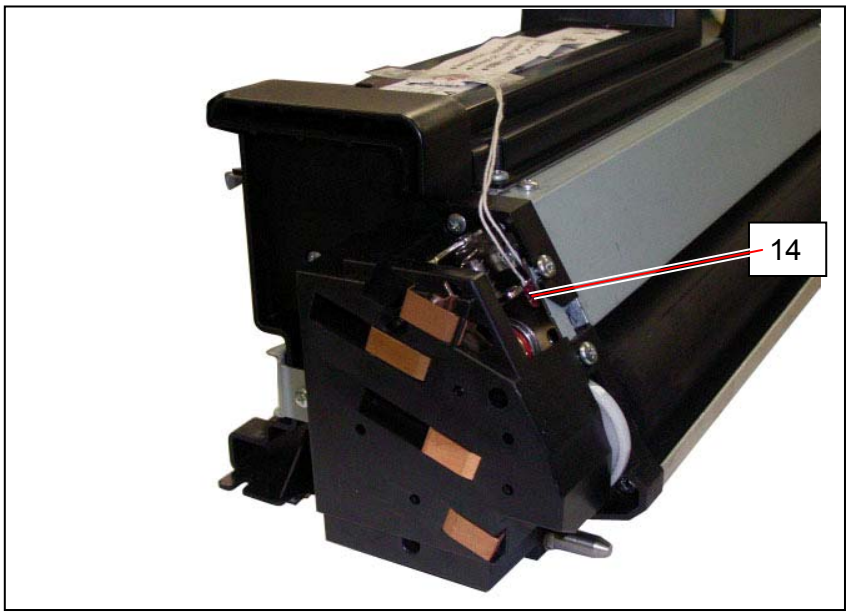




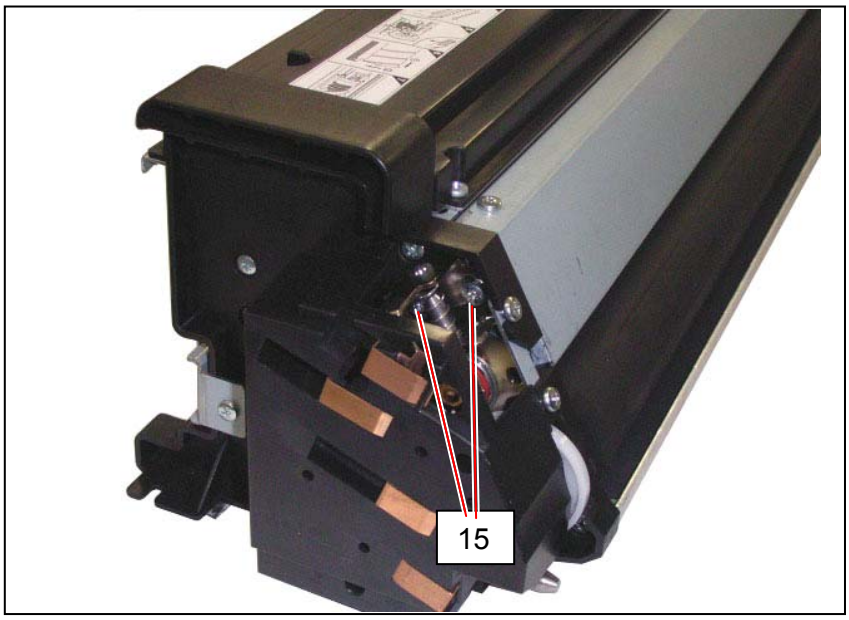
11. Holding both side plates firmly, slide the Developer Unit (13) out of the machine.



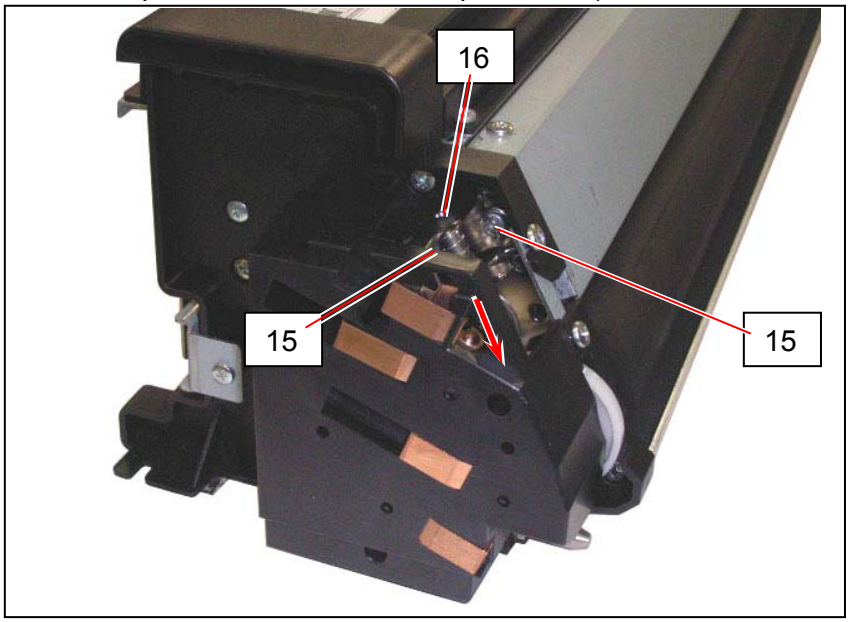
12. **On the right (electrode plate side)** of the unit, **remove** the red screw with tag (14). (This red screw will not to be reused.)



13. Loosen 2 screws (15) which fix Bracket 5.

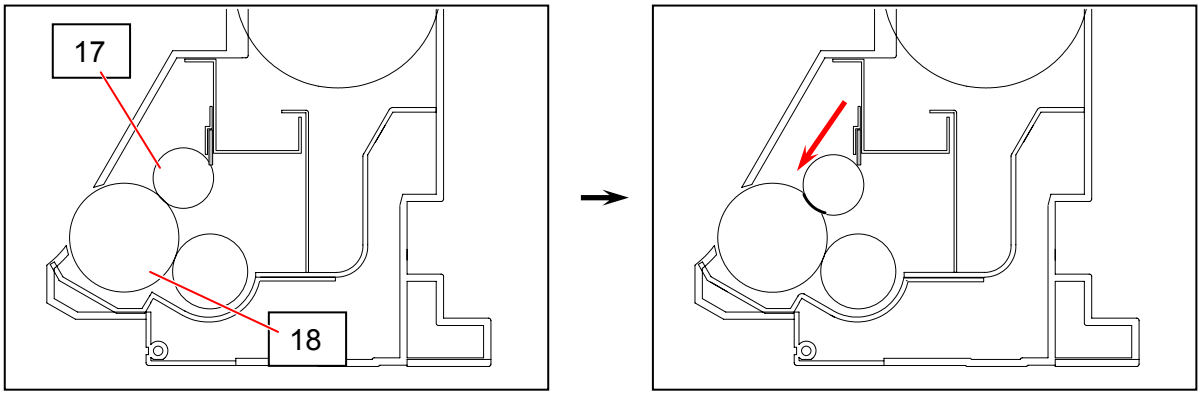


14. Completely press down and hold the Bracket 5 (16), and tighten the screws (15).
(The Regulation Roller is pressed onto the Developer Roller.)



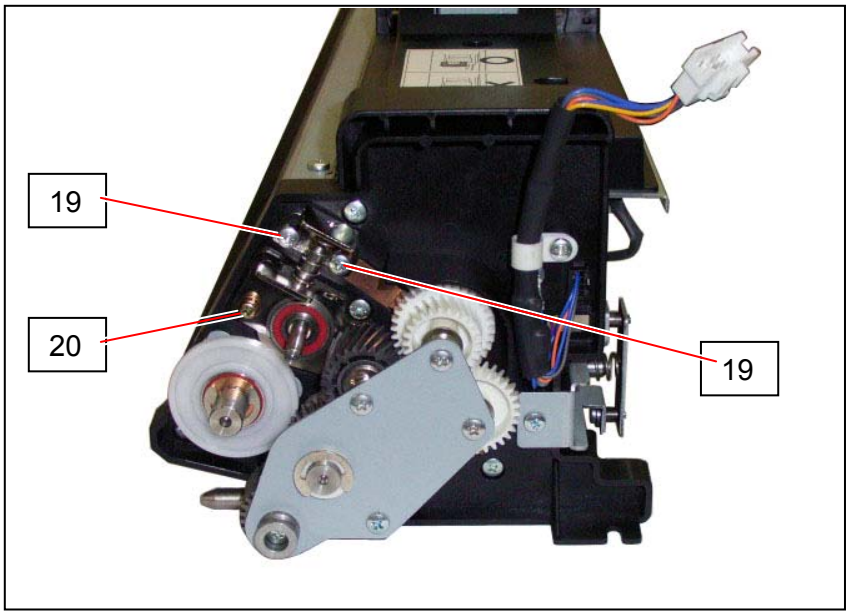
NOTE

(1) The Regulation Roller (17) is not pressurized during the transportation not to damage the Developer Roller (18), but it **must** be pressurized by pressing down the Bracket 5 (16) before using the machine. If you do not do it, too dark image will be printed out.

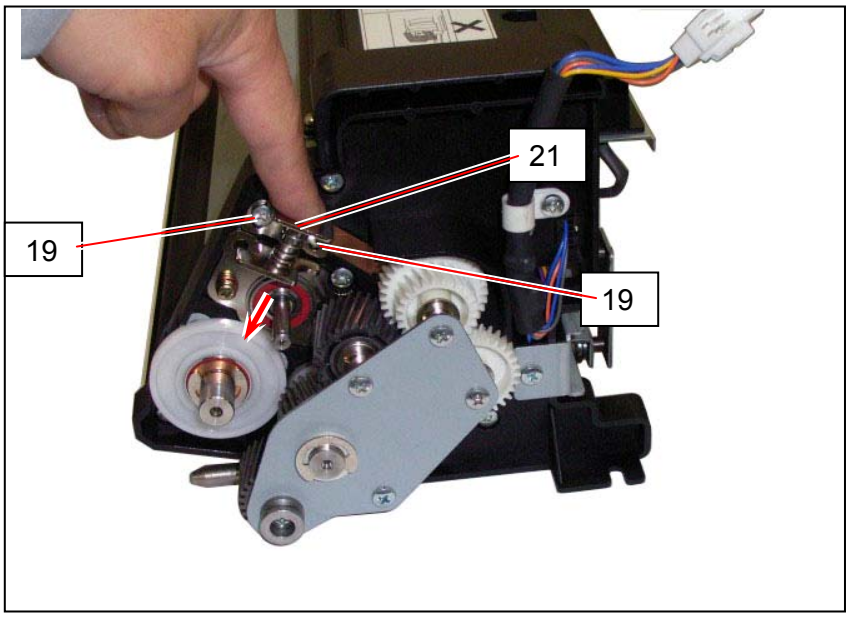


(2) Make sure to fix the **right side (electrode plate side)** of the Regulation Roller first then the **left side (gear side).**
The pressure of Regulation Roller will be unbalanced between left and right if you do not follow this order.

15. **On the left (gear side)**, loosen 2 screws (19) which fixes the Bracket 4.
And also **loosen** the screw (20) which fixes the Bracket 6.

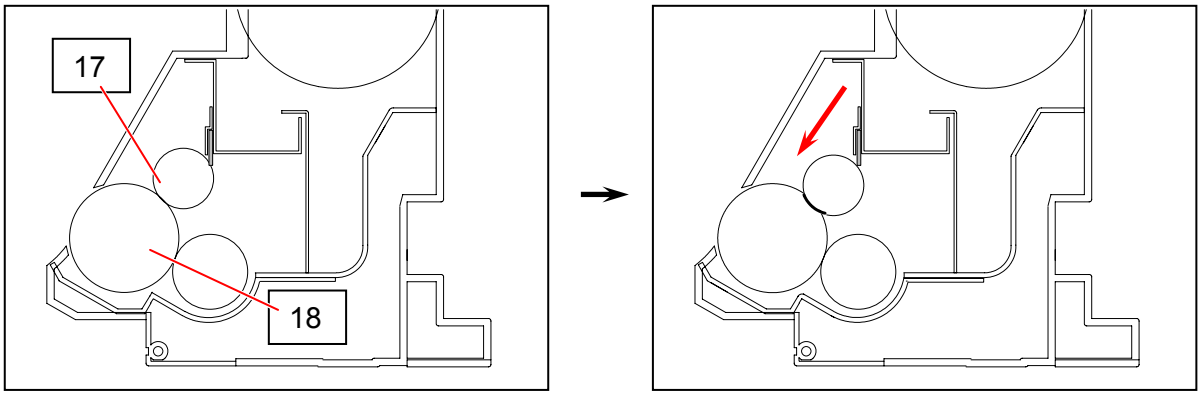


16. Completely press down and hold the Bracket 4 (21), tighten the screws (19).



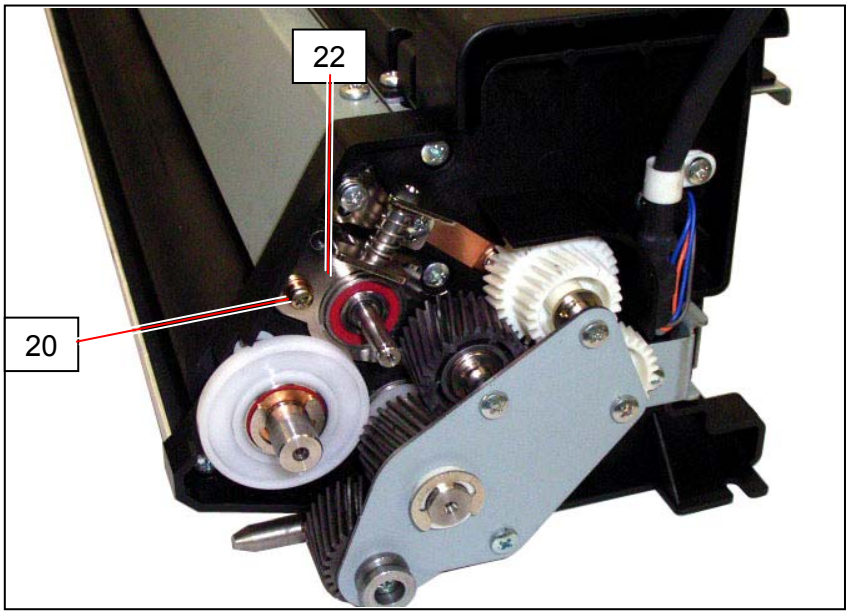
NOTE

(1) The Regulation Roller (17) is not pressurized during the transportation not to damage the Developer Roller (18), but it **must** be pressurized by pressing down the Bracket 5 (16) before using the machine. If you do not do it, too dark image will be printed out.



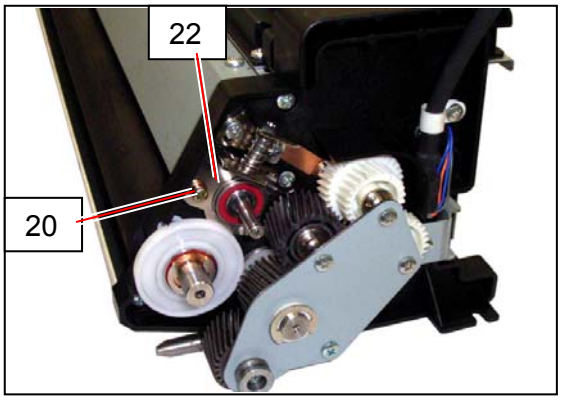
(2) Make sure to fix the **right side (electrode plate side)** of the Regulation Roller first then the **left side (gear side).**
The pressure of Regulation Roller will be unbalanced between left and right if you do not follow this order.

17. **Tighten** the screw (20) to fix the Bracket 6 (22).
(It is unnecessary to press down the Bracket 4 at this point of time.)

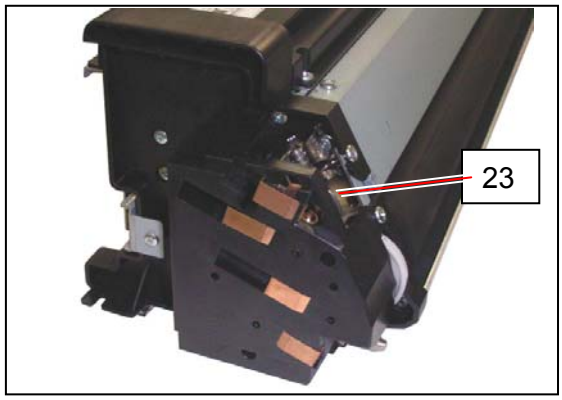


NOTE

Note that Bracket 6 (22) on the left **is fixed** with the screw (20) although the Bracket 7 (23) on the right **is not fixed**. The Regulation Roller can press the Developer Roller with an even pressure with this state.

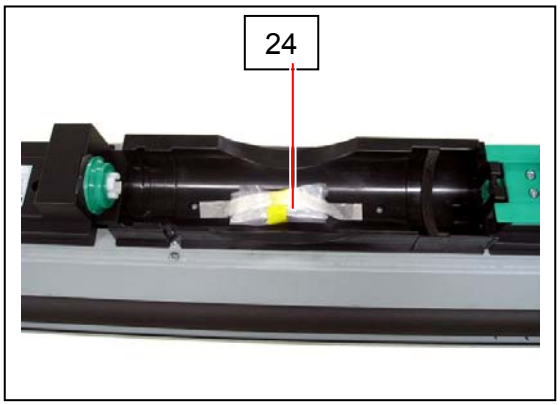


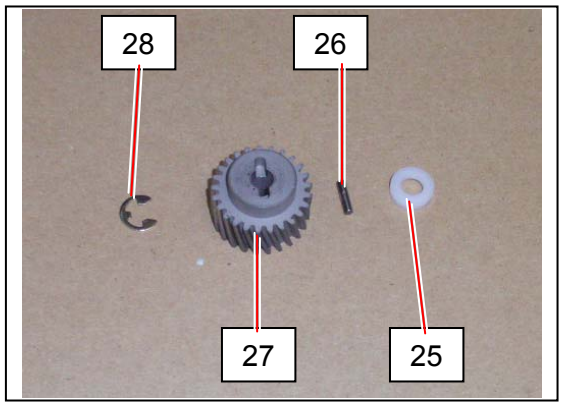
Fixed



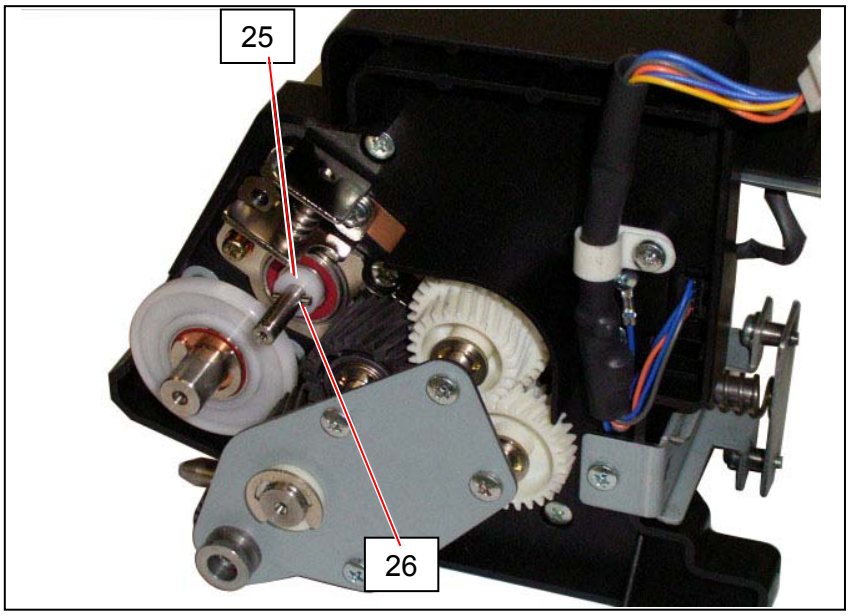
Not fixed

18. Remove the Gear Package (24) on the Hopper and carefully unpack it.
You will find a Collar (25), a Parallel Pin (26), a Gear Helical (27) and a Retaining Ring-E (28).



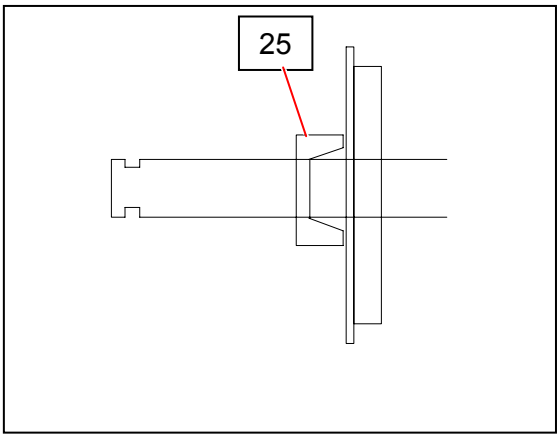


19. Set the Collar (25) onto the shaft of Regulation Roller.
    Install the Parallel Pin (26) to the shaft.

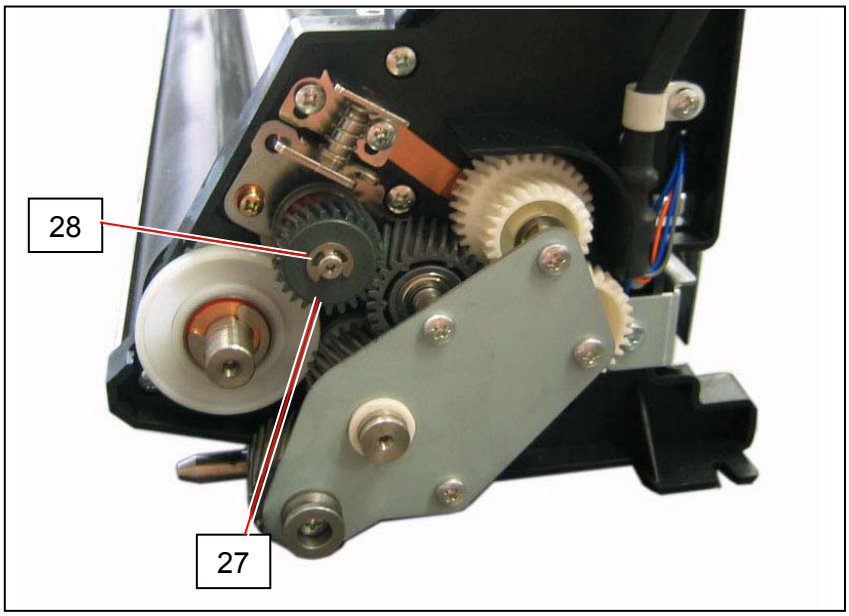


NOTE

Be careful of the direction of the Collar (25).
Install it as shown.

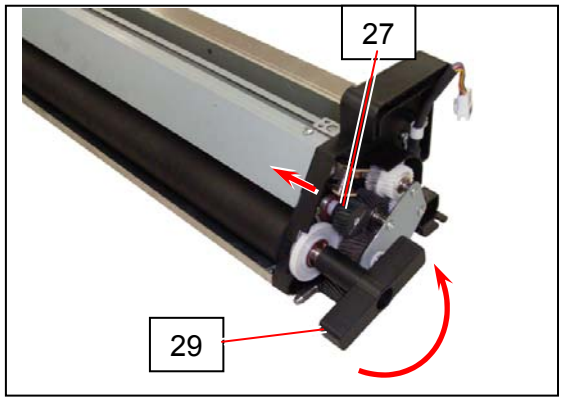


20. Install the Gear Helical 20T (27) to the shaft, and fix it with the Retaining Ring-E (28).

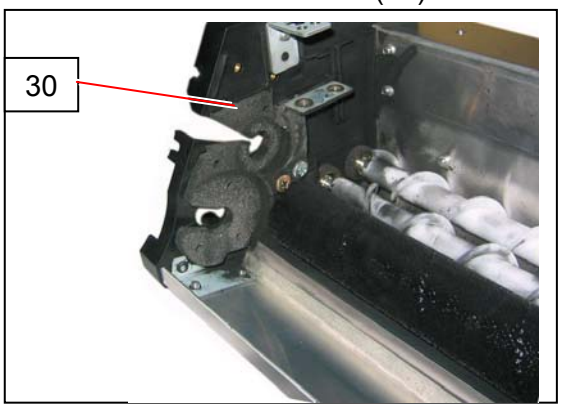


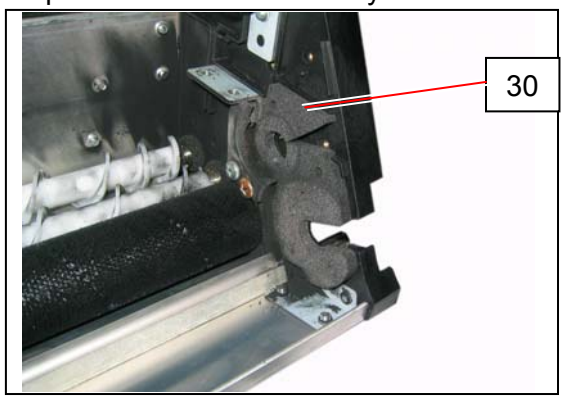
NOTE

(1) Press the Gear Helical 20T (27) to the arrow direction. (you may rotate the Developer Roller Shaft with the Developer Handle (29) to easily install the Gear Helical 20T.)

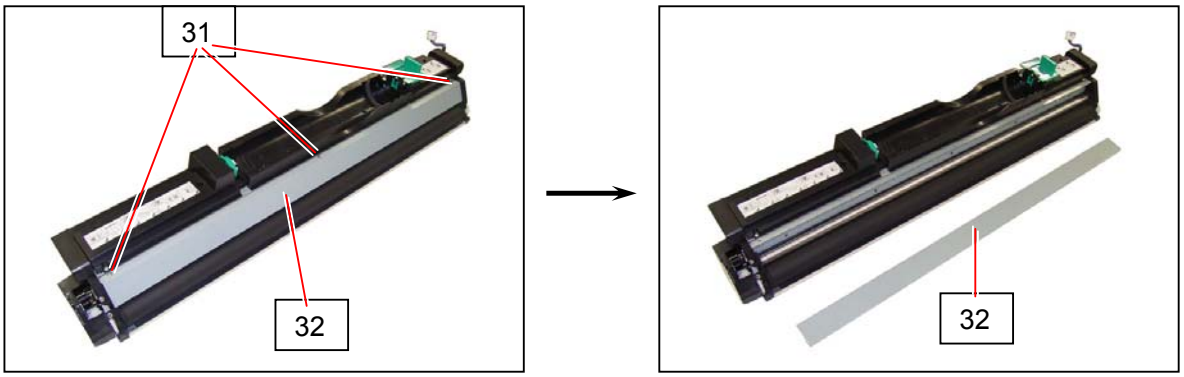


(2) Do not rotate the Developer Roller **when the Gear Helical 20T (27) is not installed to the shaft of Regulation Roller!**
The Seal 3 or the Seal 4 (30) inside of the Developer Unit will be broken if you do so.

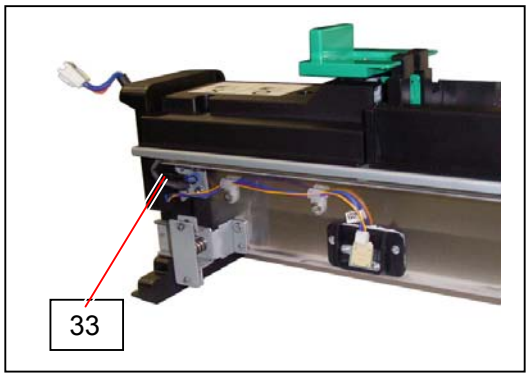




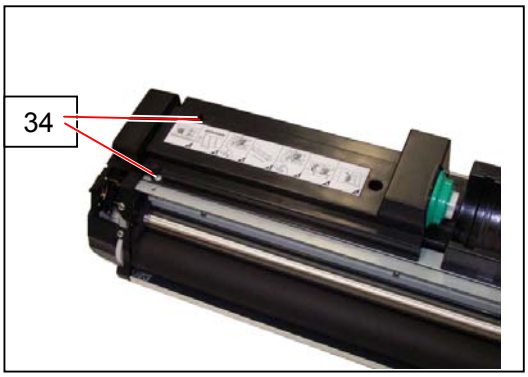
21. Remove 3 screws (31) to remove the front Cover (32).

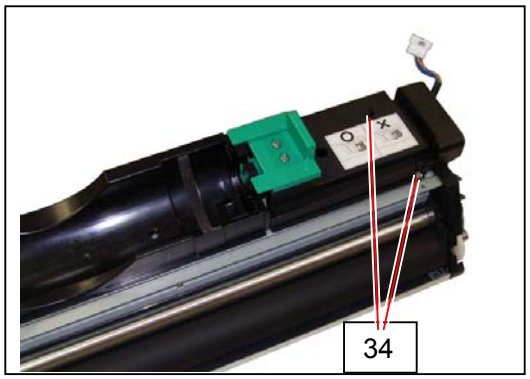


22. Disconnect the connector (33).

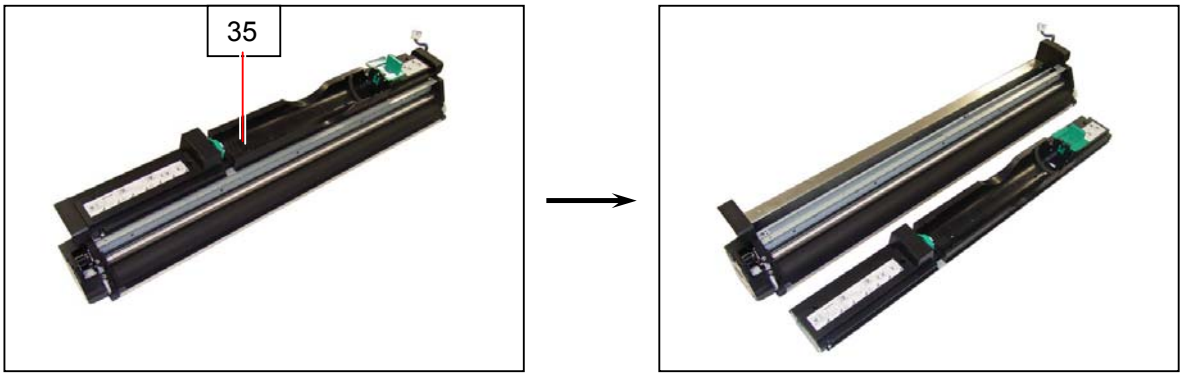


23. Remove 4 screws (34).

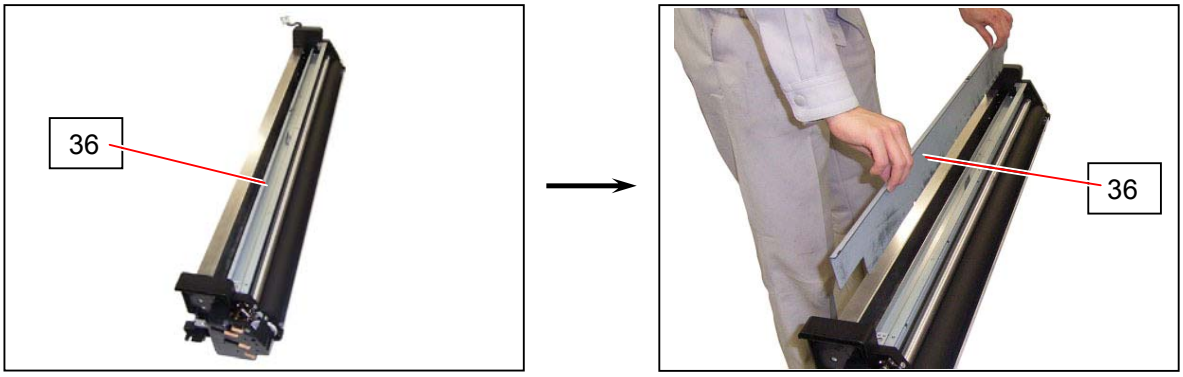




24. Remove the Hopper Assembly (35).

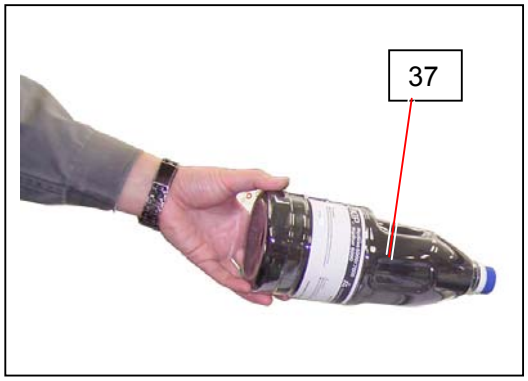


25. Remove the Separator (36).



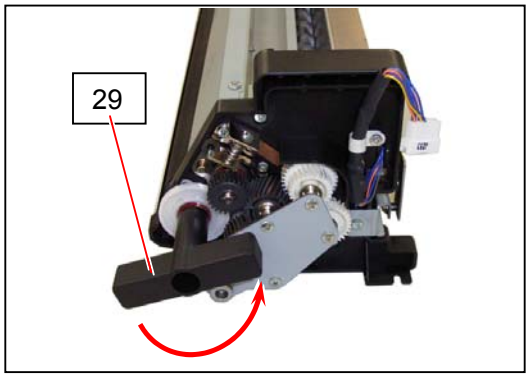
26. Shake the Starting Toner Bottle (37) well, and add the toner to the Developer Unit.

    (Please even out the toner in the development unit.)



27. Insert the Developer Handle (29) to the shaft of Roller Developer, and rotate the Roller Developer several times so that its surface is covered with the toner.

Developer Handle P/N: **Z050320050**

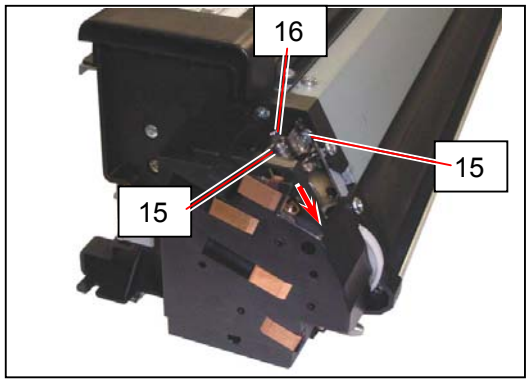


⚠ NOTE

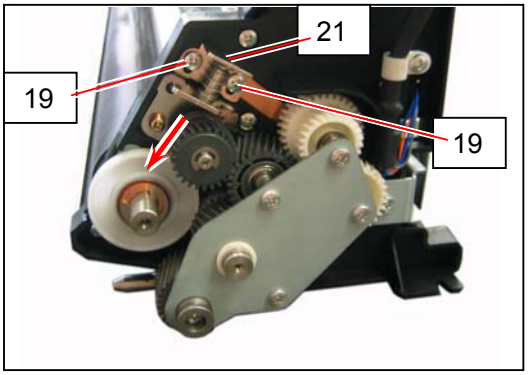
Readjustment of the pressure of Regulation Roller

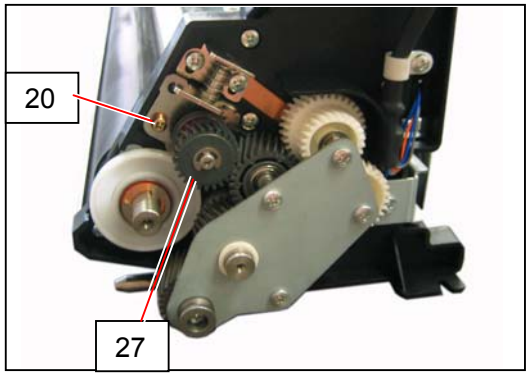
If the pressure of Regulation Roller is weak, the toner layer on the Developer Unit will be much thicker than required when you rotate the Developer Roller in the above procedure 27. Pressurize the Regulation Roller in the correct way as shown below in this case.
(You will not be able to pressurize it successfully by the usual way of pressurization.)

(1) **On the right side (Electrode Plate side)** of the unit, press and hold the Bracket 5 (16) to the arrow direction completely, and fix it with the screws (15).



(2) **On the left side of the unit (gear side),** confirm that the Bracket 4 (21) is fixed with the screws (19) being completely pressed to the arrow direction.
Also confirm that **the screw (20) is loosened and the Gear Helical 20T (27) is installed.**

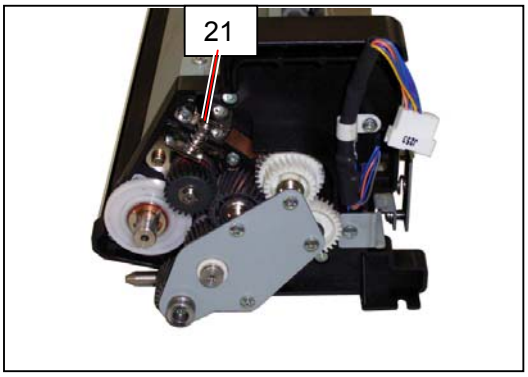


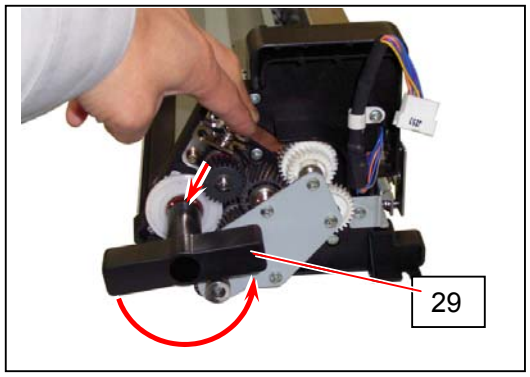


⚠ NOTE

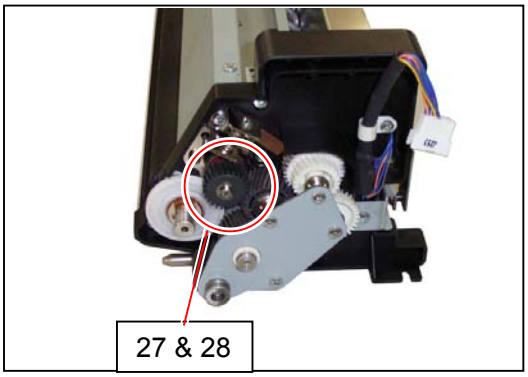
Readjustment of the pressure of Regulation Roller

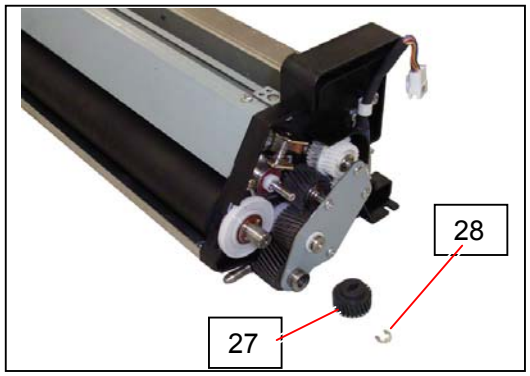
(3) Fully press down and hold the top of the Bracket 4 (21).
With holding, rotate the Developer Roller **twice** with the Developer Handle (29).
Check that the toner layer on the Developer Roller gets thinner.



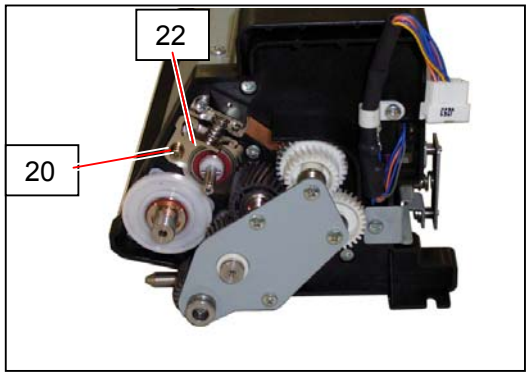


(4) Remove both the Retaining Ring-E (28) and the Gear Helical 20T (27).





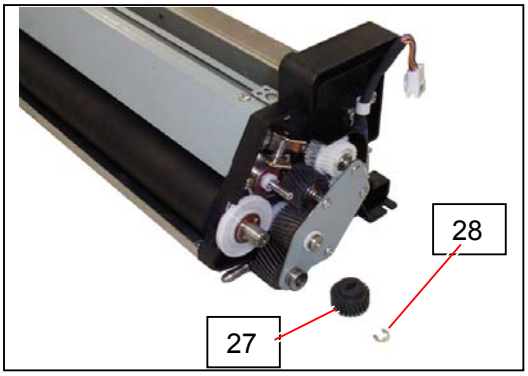
(5) Tighten the screw (20) to fix the Bracket 6 (22).

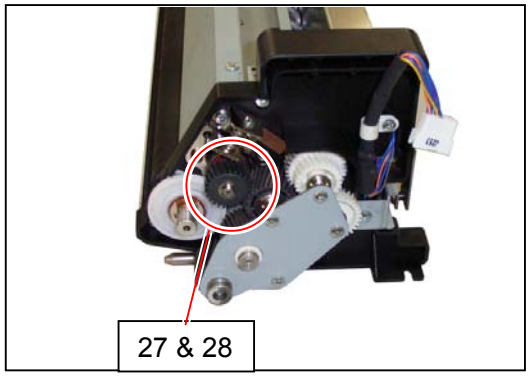


NOTE

Readjustment of the pressure of Regulation Roller

(6) Reinstall the Gear Helical 20T (27) and the Retaining Ring-E (28).

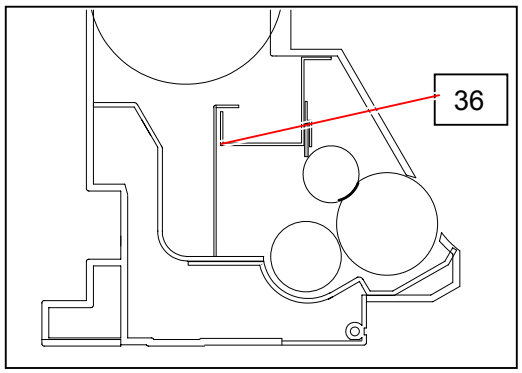




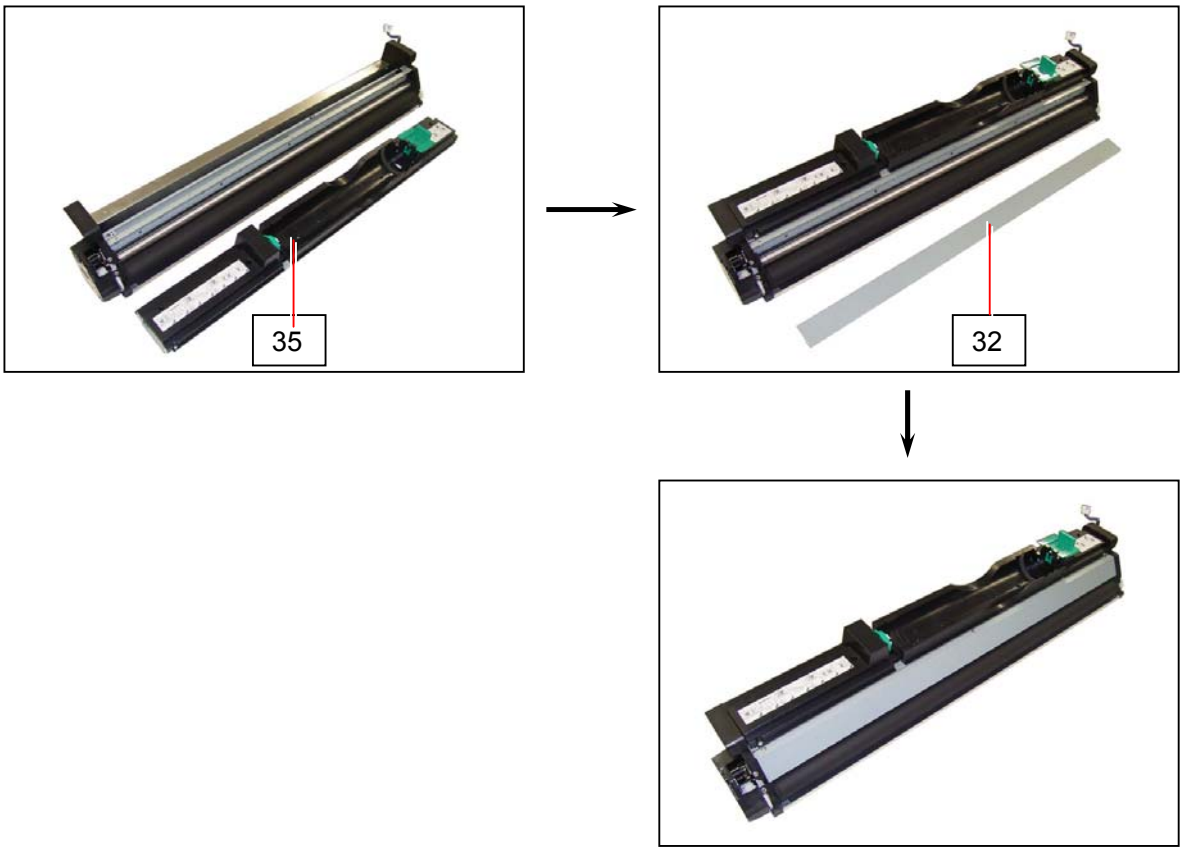
28. Replace the Separator Plate (36).

NOTE

Be careful of the direction of Separator (36).
Do not install it in the wrong direction.



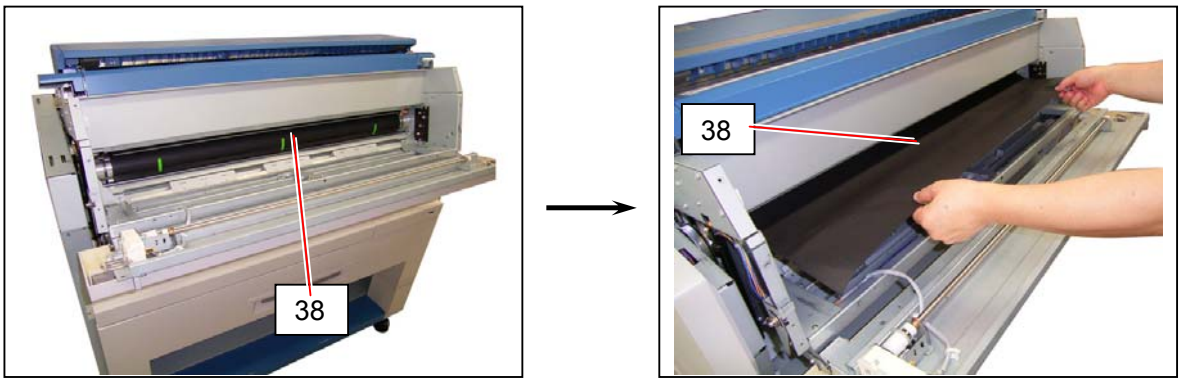
29. Replace the Hopper Assembly (35) and Cover (32).



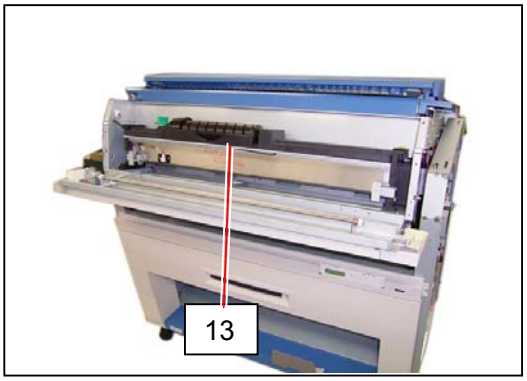
NOTE

Do not install the Developer Unit at this time, as it must be removed when you setup the Drum in the later procedure.

30. The process unit and toner cover should be open. The Photoconductive Drum is covered with a black sheet (38). **Gently** pull and remove it.

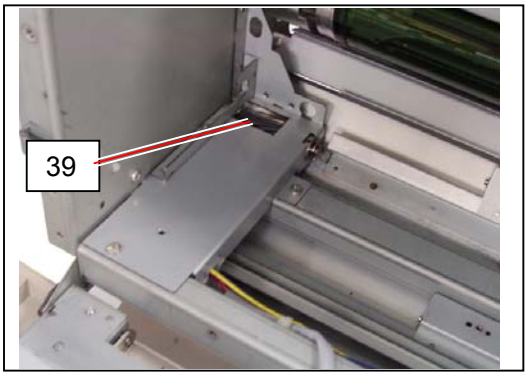


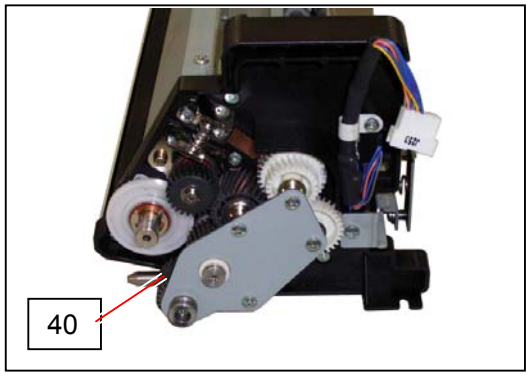
31. Install the Developer Unit (13)



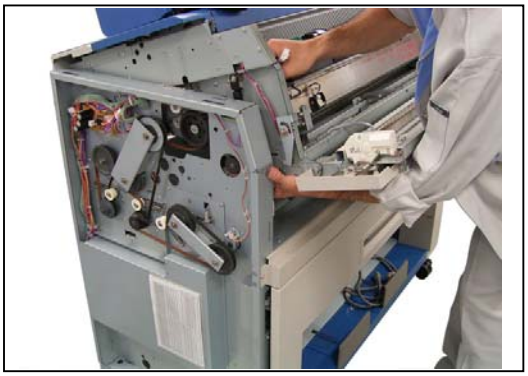
NOTE

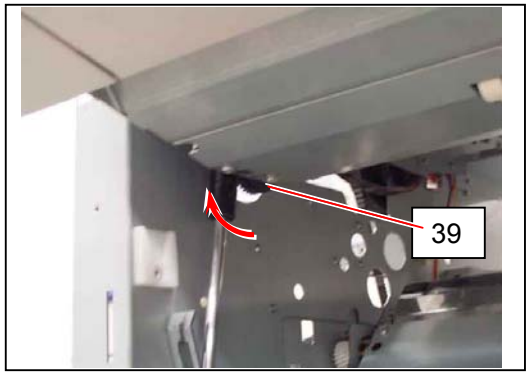
Both the Gear Helical 34T (39) on machine side and the Gear Helical 28T (40) on Developer Unit side must be in gear firmly with each other. But they may not be in gear with each other if you just install the Developer Unit to the machine.



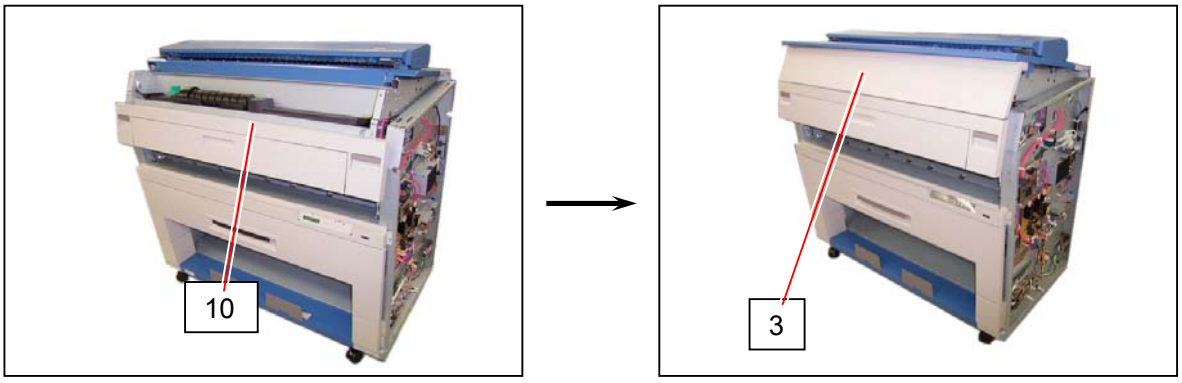


To make sure, rotate the Gear Helical 34T (39) by hand from under the Engine Unit. Both gears will be in gear by this treatment.

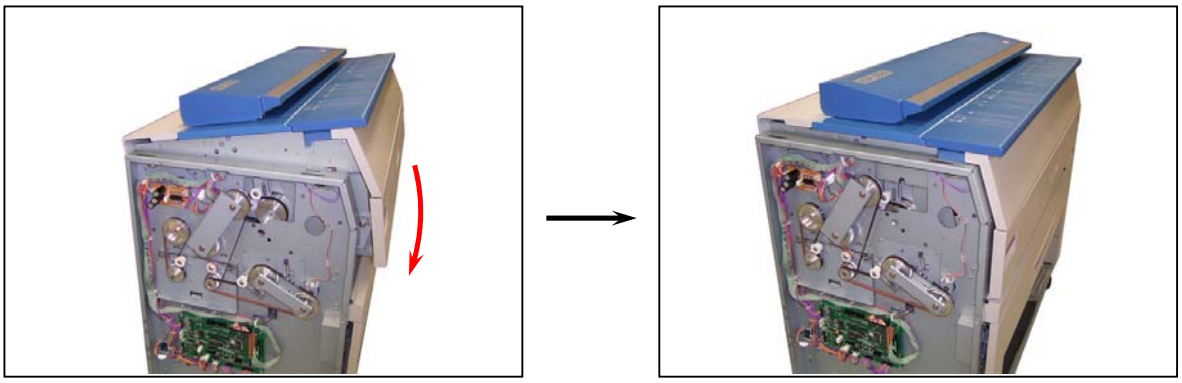




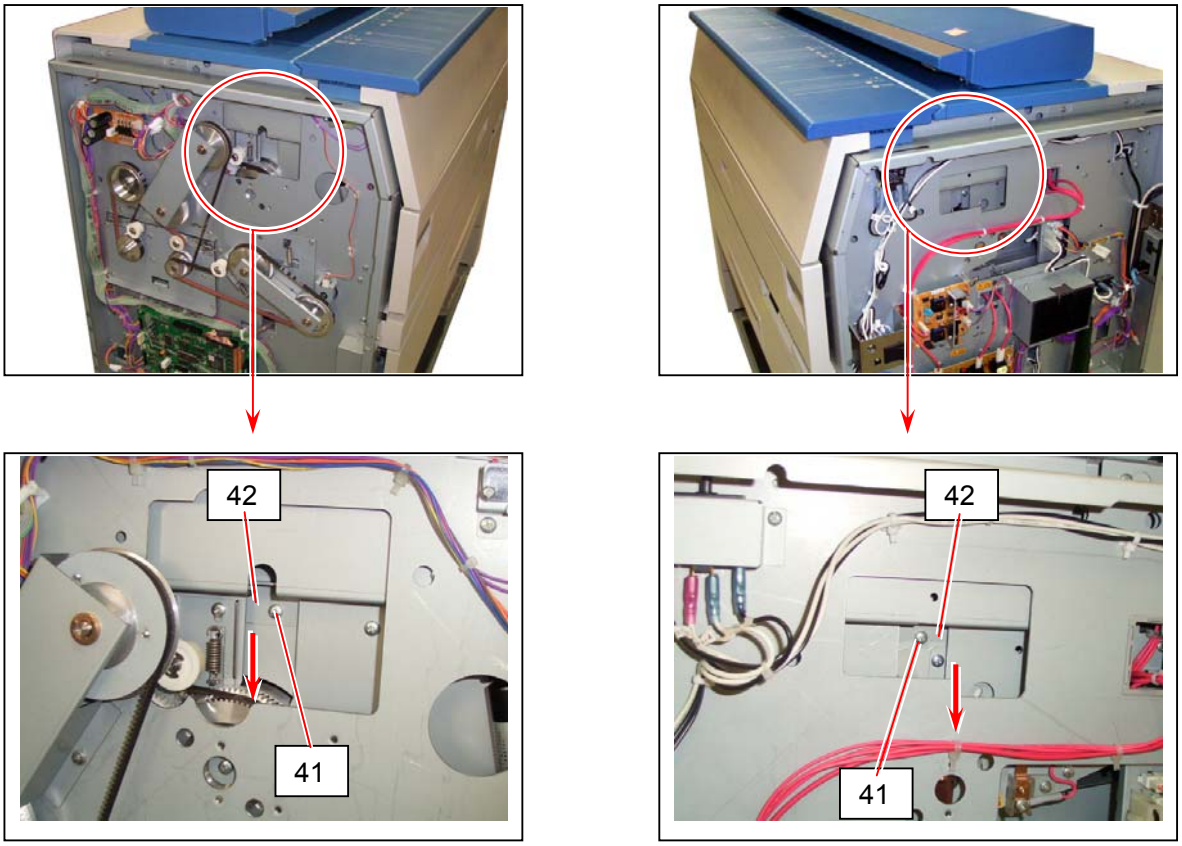
32. Close and fix the Developer Press Unit (10), and put back the Cover 4 (3).



33. Close the Engine Unit.



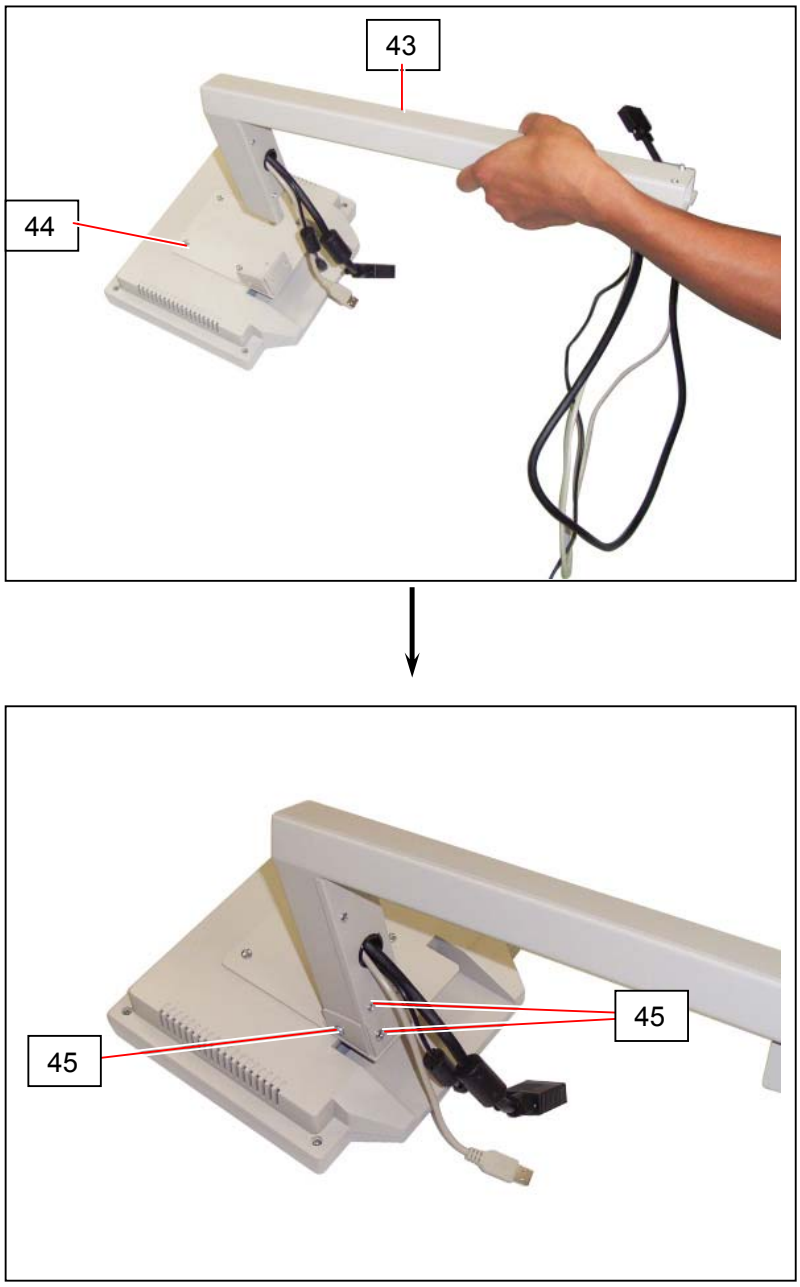
34. Both the LED Head and the Image Corona are locked with the screws (41) being separated from the Drum, not to be damaged during the transportation. Loosen the screws (41) to unlock the Fixing Brackets (42) at both sides. Pressing down the Fixing Brackets (42) firmly, tighten the screws (41).



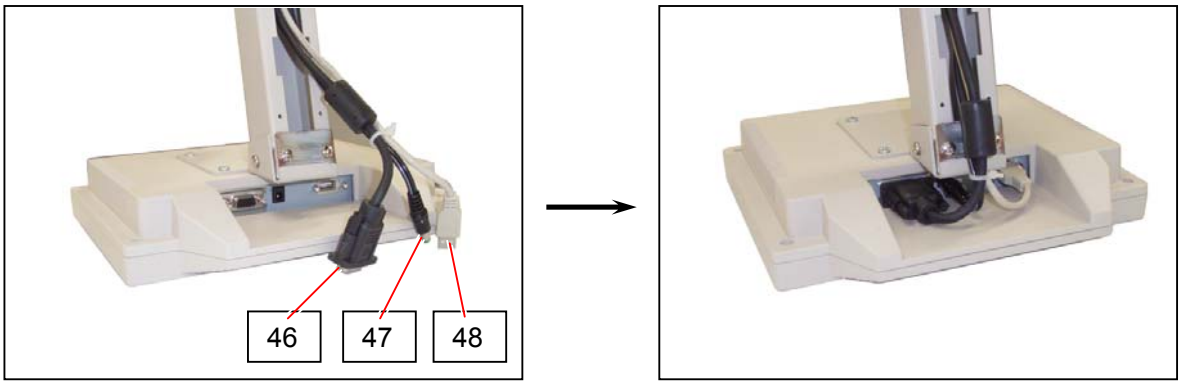
NOTE

Please satisfy the following requirements before performing Step 34.
(1) The black sheet has been removed from the Drum. (See the former procedure 30.)
(2) The Engine Unit is closed firmly. (See the former procedure 33.)
Otherwise a proper distance can not be kept between LED Head and Drum.

35. Fit the Arm Assembly (43) to the bracket of Monitor Assembly (44), with 4 - 4 x 6 screw (45).

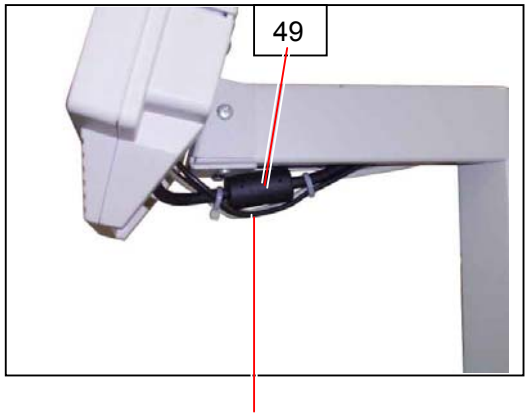


36. Connect the VGA Cable (46), Power Supply Cable (47) and USB Cable (48) to the Monitor.

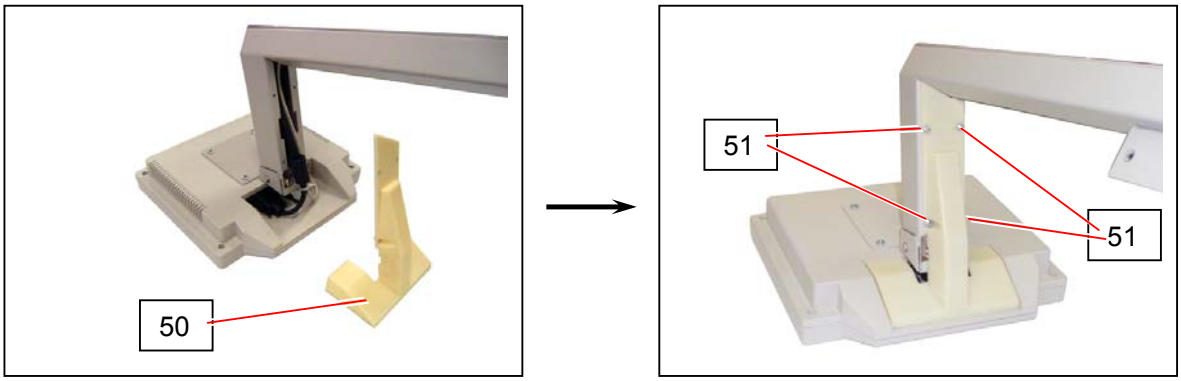


NOTE

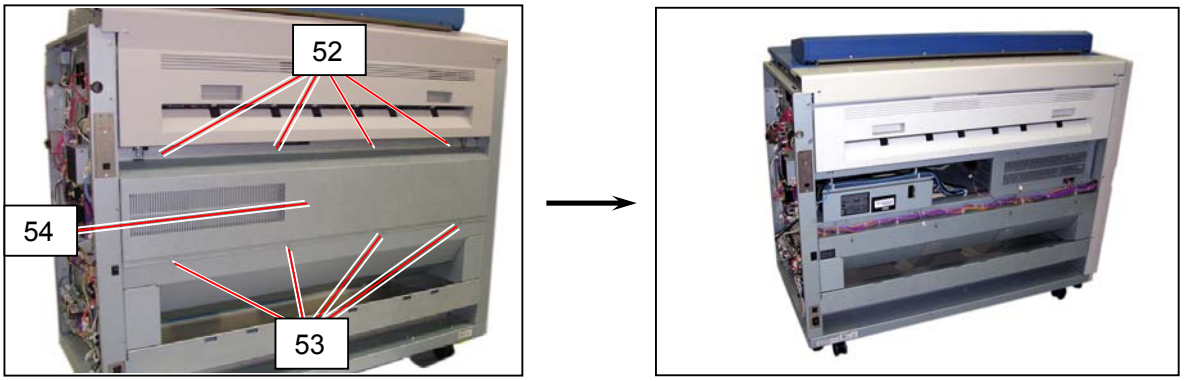
Make sure that both Power Supply Cable and USB Cable are under the Core (49) of the VGA Cable to avoid any electrostatic issues.



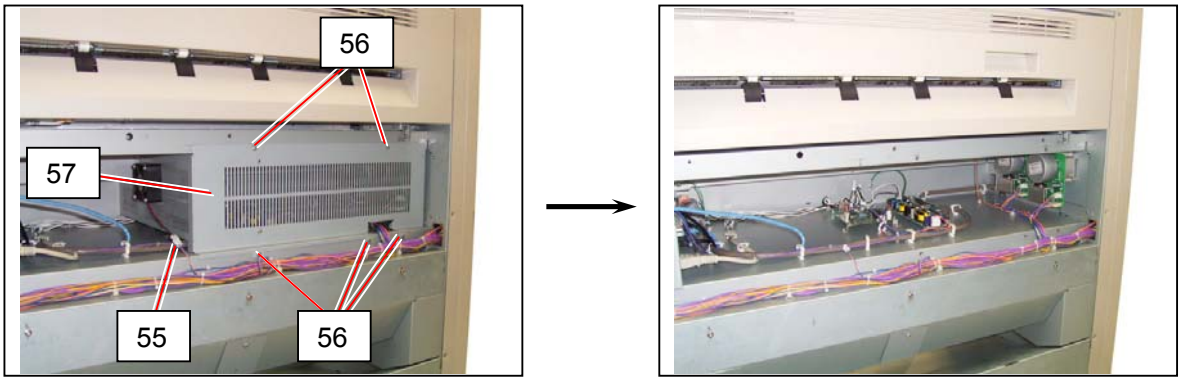
37. Install the Cover 3 (50) to the Arm Assembly with 4 pieces of 3x6 screw (51).



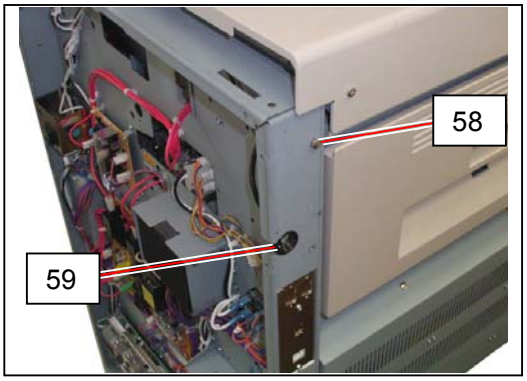
38. Remove 4 screws (52), loosen 4 screws (53), and remove the Cover 15 (54).



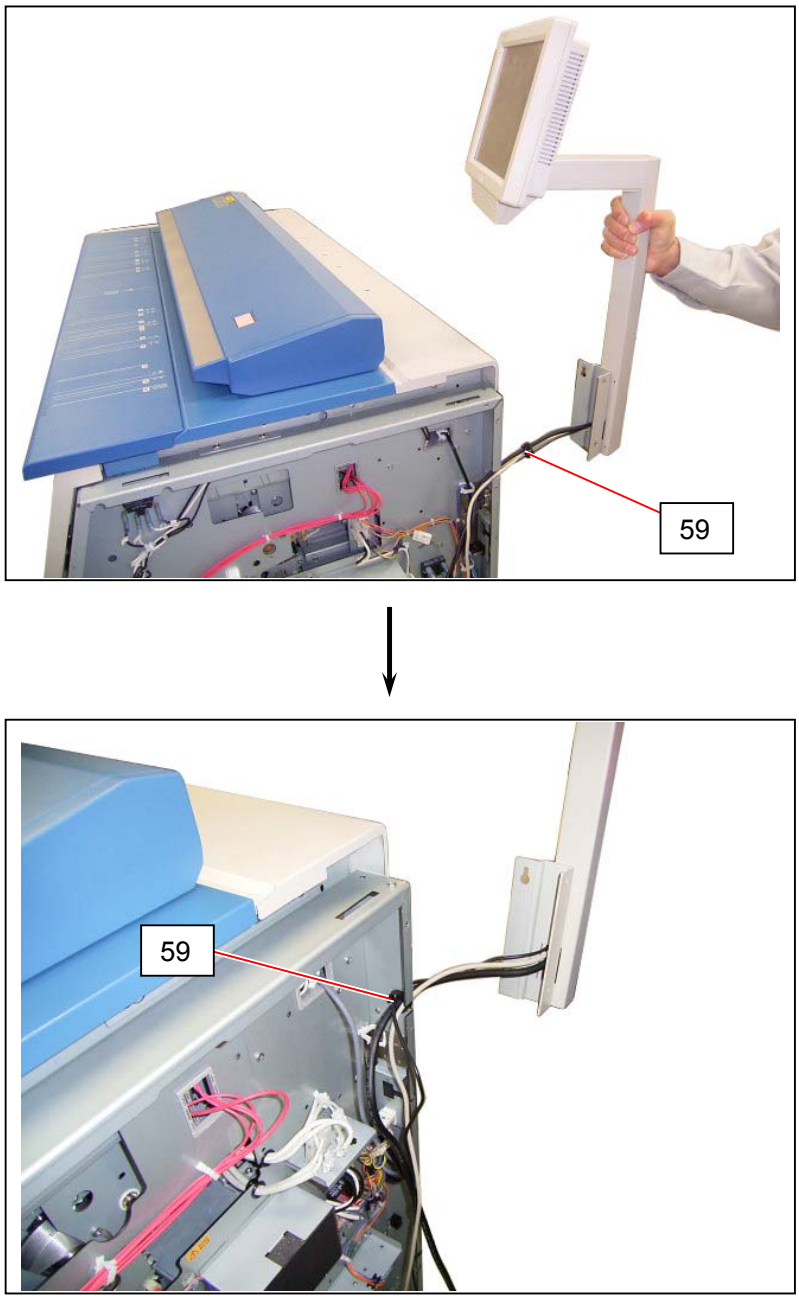
39. Disconnect the connector (55), remove 5 screws (56), and remove the Case 5 (57).



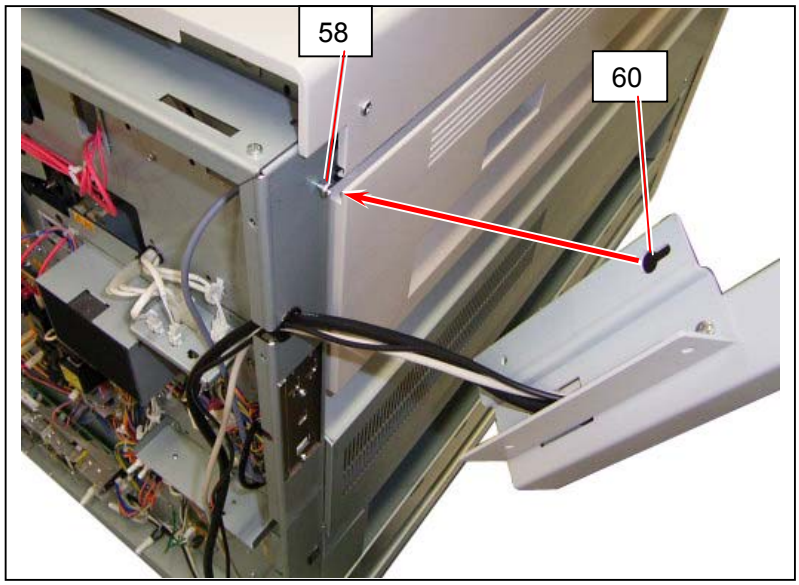
40. Put a 4x8 tooth washer screw (58) to the screw hole as the photo. (Do not tighten it.)
Also remove the Bushing (59) from the right side plate.



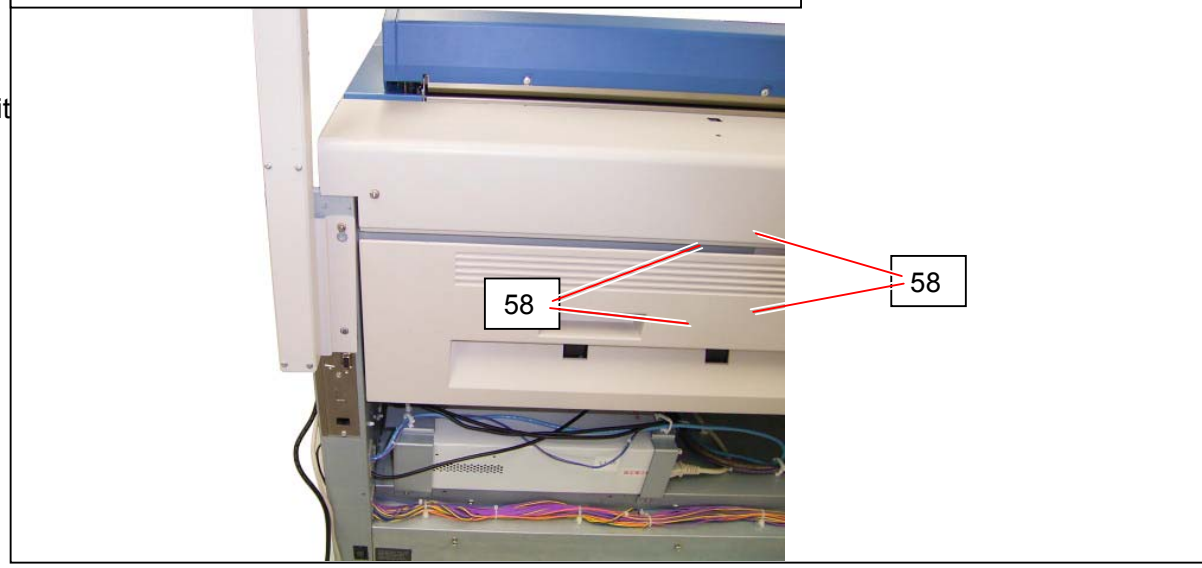
41. Hold the harness with the Bushing (59), and fit it to the Side Plate.



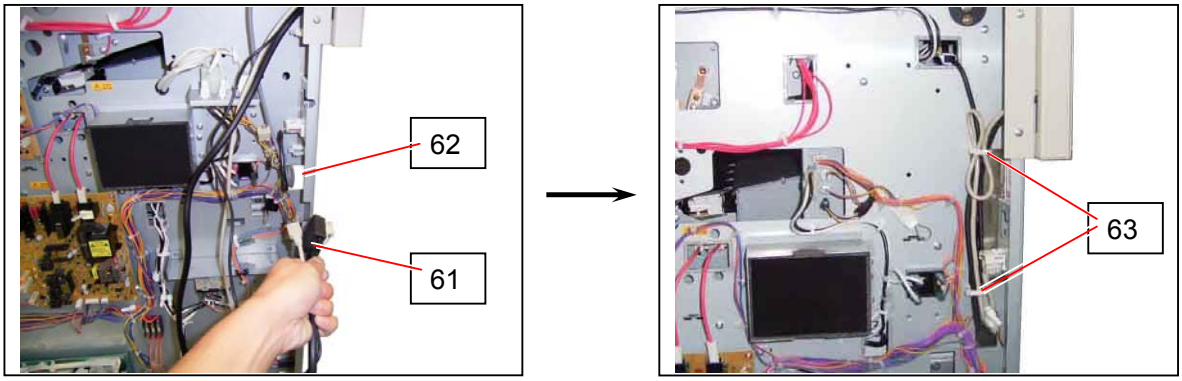
42. Fit the screw hole (60) of the Arm Assembly to the tooth washer screw (58) you have put in step 40.



43. Fix the Arm wit
screw (58).



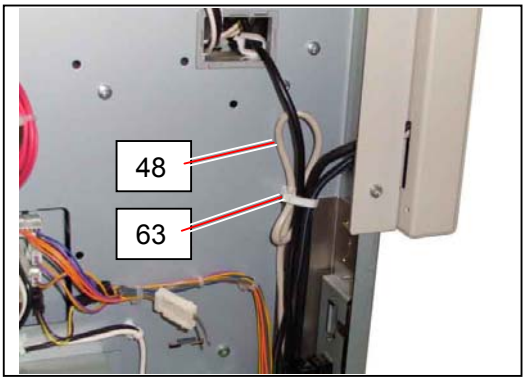
44. Insert the harnesses (61) into the machine through the hole (62). Bundle the harnesses with the Wire Saddles (63).



NOTE

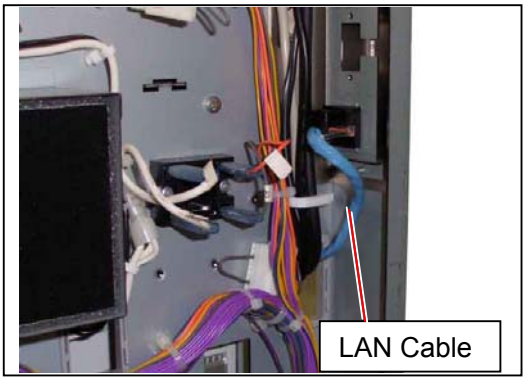
(1) As the USB Cable (48) is a little long, curve it outside of the Side Plate, and bundle it with the Wire Saddle (63).

(It is not recommended to curve it inside of the Side Plate, because there are many cables inside of the Side Plate so it will become very complicating if you do so.)

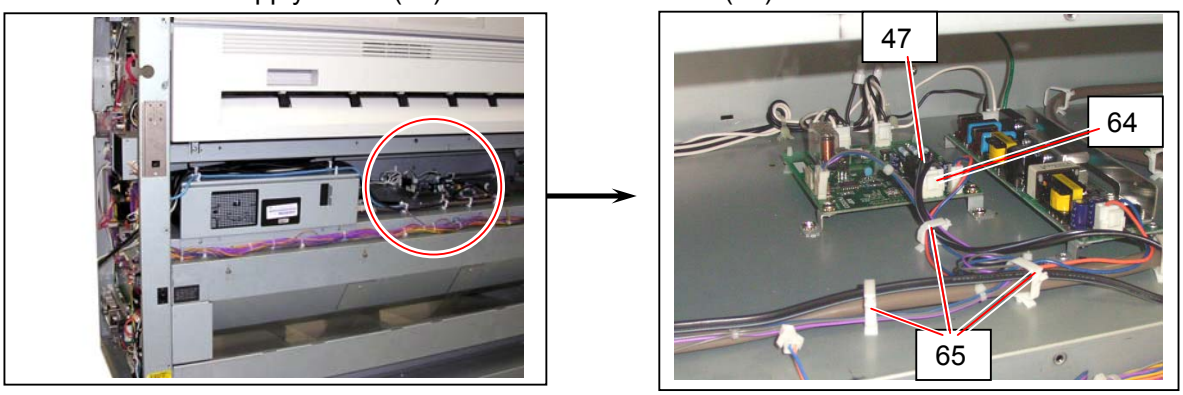


(2) There are 2 kinds of cable inside of the machine.
One is the internal cable such as USB Cable, VGA Cable and Power Supply Cable.
And another is the external one such as LAN Cable and Folder Cable (Option).
These 2 kinds of cable must not be bundled with the same Wire Saddle because a noise problem may occur.

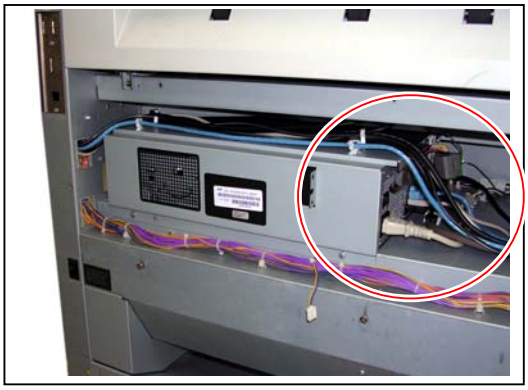
Therefore bundle the internal cables only with the Wire Saddles at this time.
(The blue cable is the LAN Cable, so do not bundle it.)

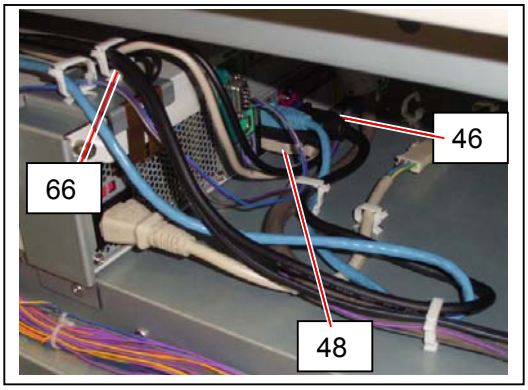


45. Connect the Power Supply Cable (47) to the connector (64) of the DC Power Supply. Hold the Power Supply Cable (47) with the Wire Saddles (65) at this time.



46. Connect the VGA Cable (46) and USB Cable (48) to the concerning terminal of Controller PC. Hold these cables with the Wire Saddles (66).

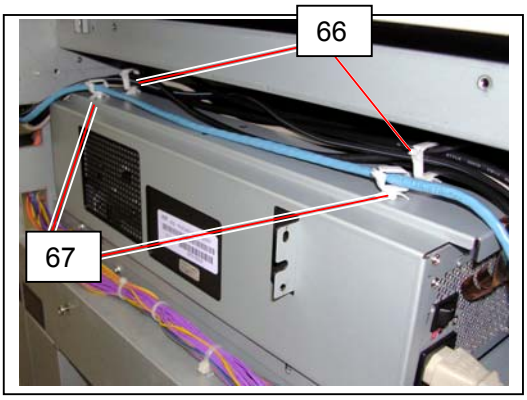




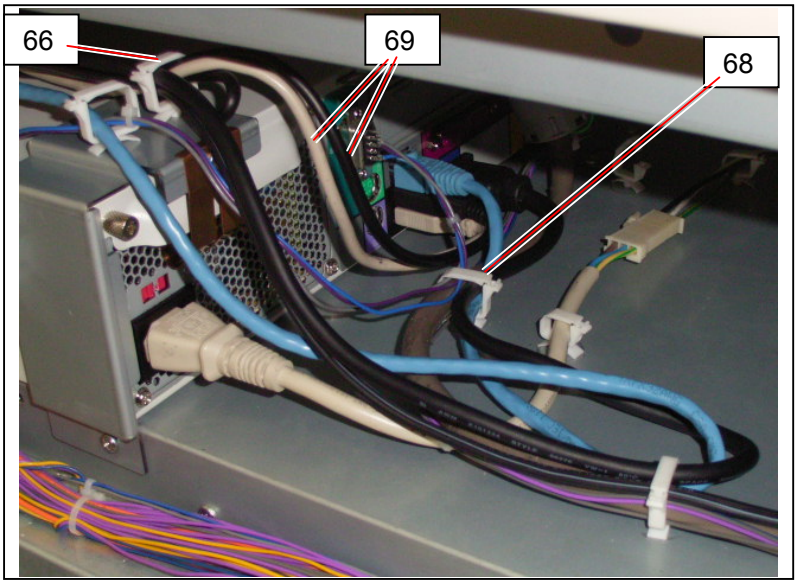
NOTE

There are 2 kinds of cable inside of the machine.
One is the internal cable such as USB Cable, VGA Cable and Power Supply Cable.
And another is the external one such as LAN Cable and Folder Cable (Option).
These 2 kinds of cable must not be bundled with the same Wire Saddle because a noise problem may occur if these cables are mixed.
Take care of the following matters.

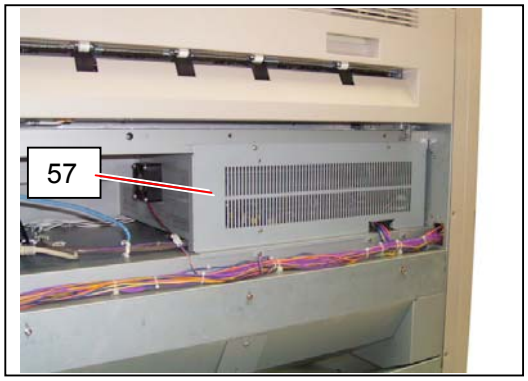
(1) There are 2 Wire Saddles on each PC Cover. Bundle the internal cables with the front one (66) of them.
Note that the rear one (67) is for the external cable.



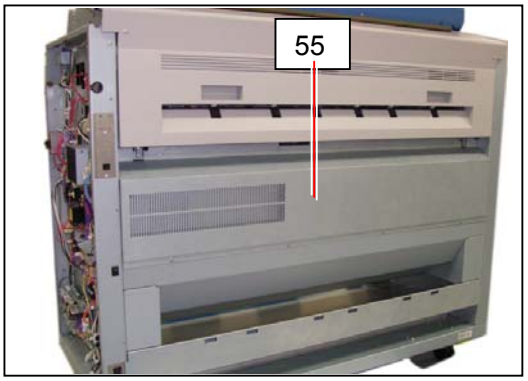
(2) Between the Wire Saddle (66) and the terminal of each cable, bundle each VGA Cable, Power Supply Cable and external cable together with the same Wire Saddle (68).
But do not bundle the USB Cables (69 : for both scanner and UI) together at this time, because the USB Cable is the great cause for a noise issue.



47. Replace the Case 5 (57).

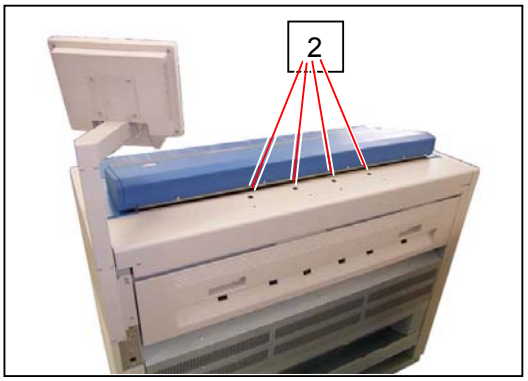


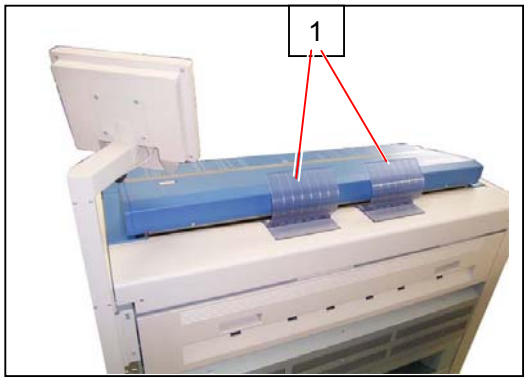
48. Replace the Cover 15 (54), Cover 3 (70) and Cover 2 (71).



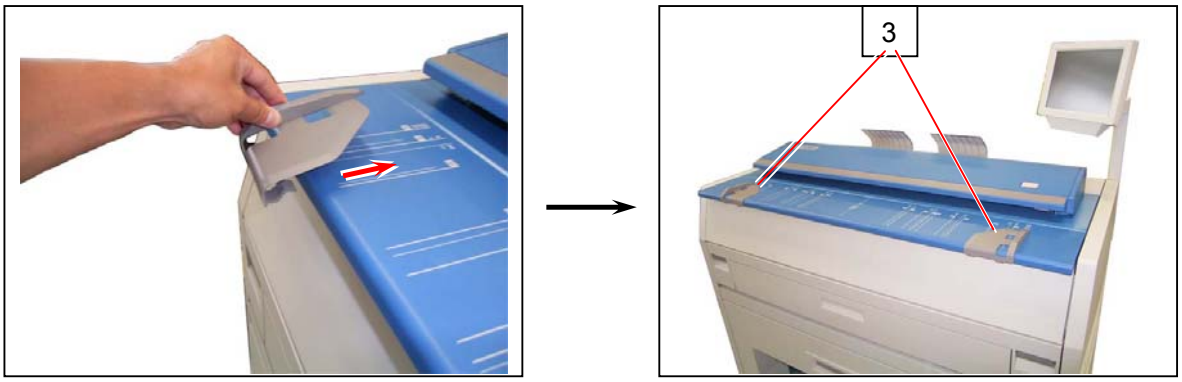
2. 6 Installation of Accessories

1. Fit 2 pieces of Guide 3 (1) to the notches (2) on the Cover 10.

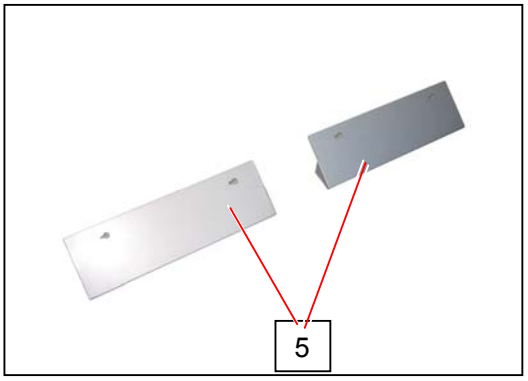


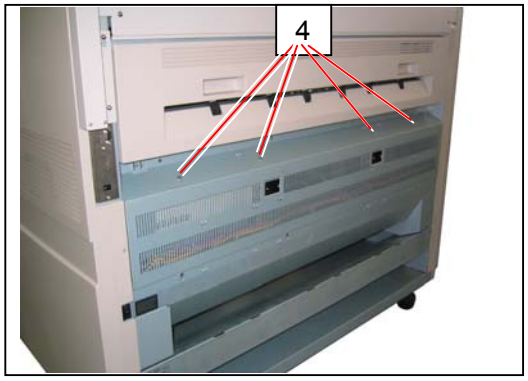


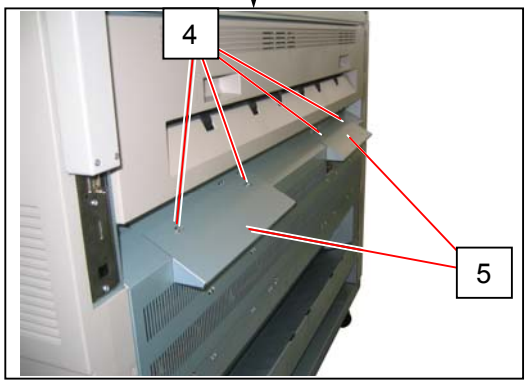
2. Fit the Guide 1 & 2 (3) to the Cover 4.



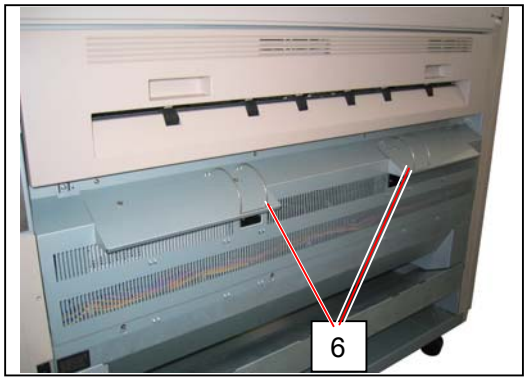
3. Loosen 4 screws (4), fit the Plate 2 (5) to the screws (4), and tighten the screws (4).

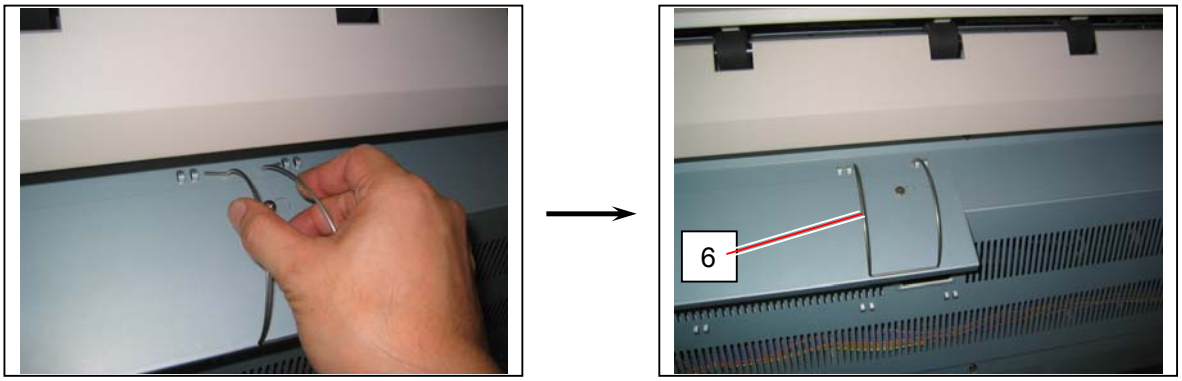




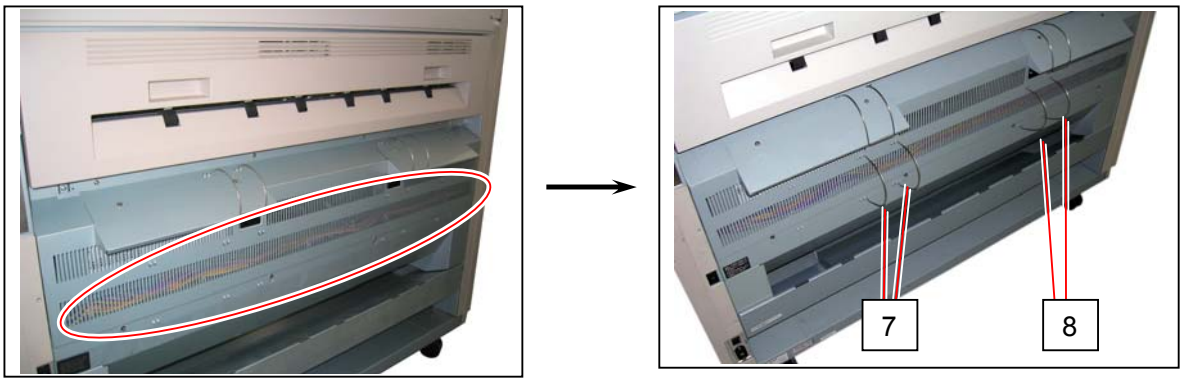


4. Install 2 pieces of Arm (6).



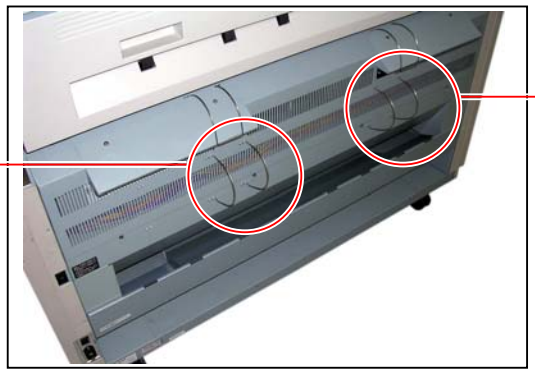


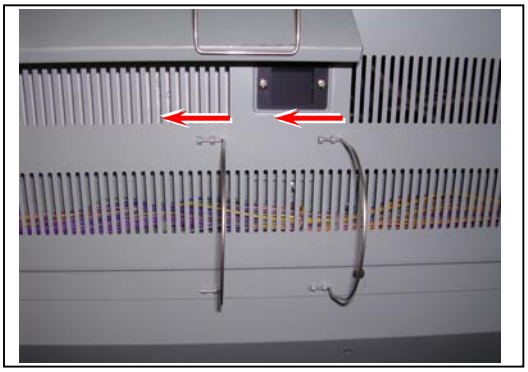
5. Install Arm 3 (7) and Arm 4 (8).



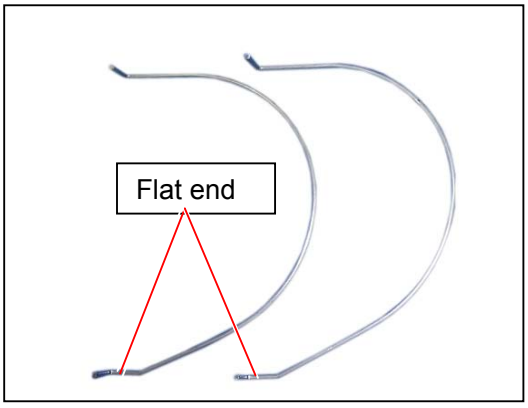
NOTE

(1) Insert all Arm 3 (7) and Arm 4 (8) as the following photos.
(Be careful of the direction of insertion.)

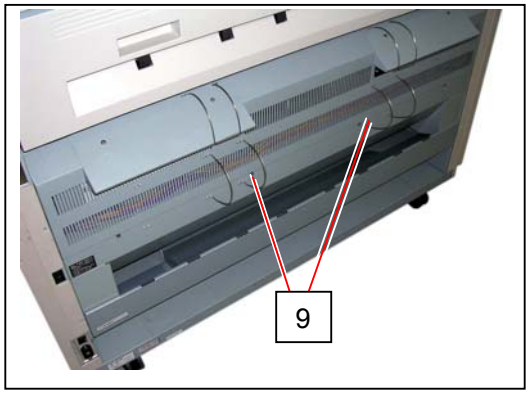




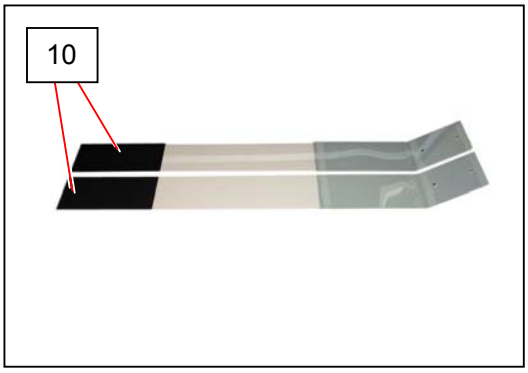
(2) Direct the flat end of each Arm 3 (7) and Arm 4 (8) to the bottom.
Prints will not be stuck satisfactory when they installed upside down.

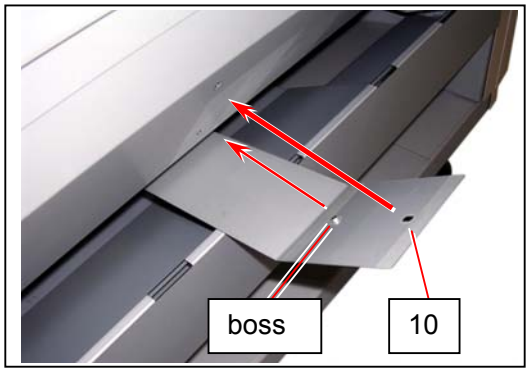


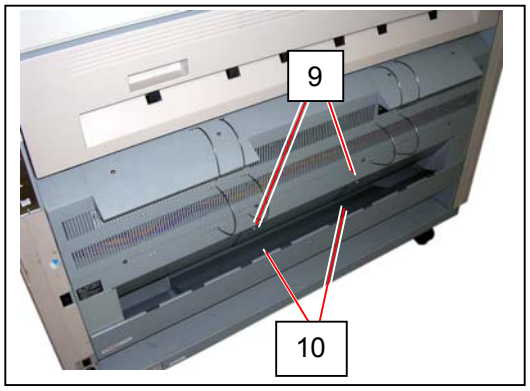
6. Remove 2 screws (9).



7. Attach 2 Plate 5 Assembly (10) with 4x6 Bind Screws (9) you have removed at step 6.



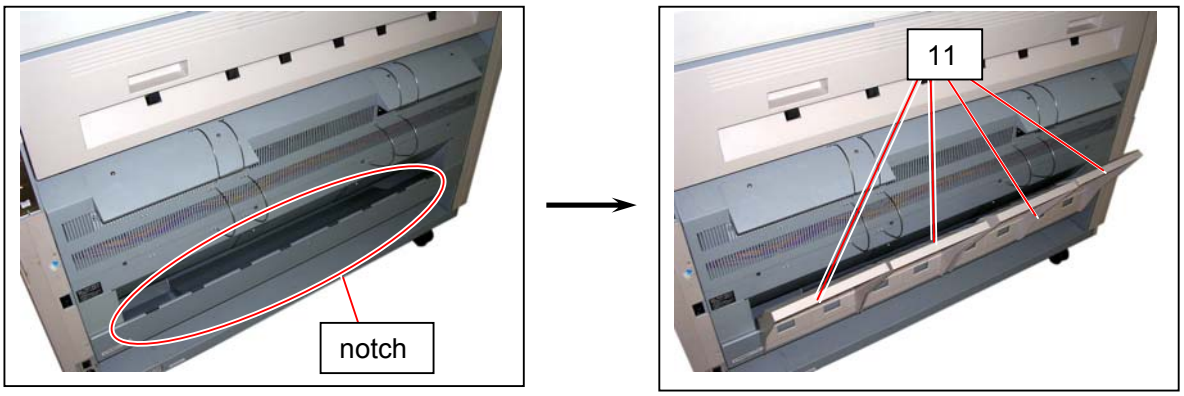




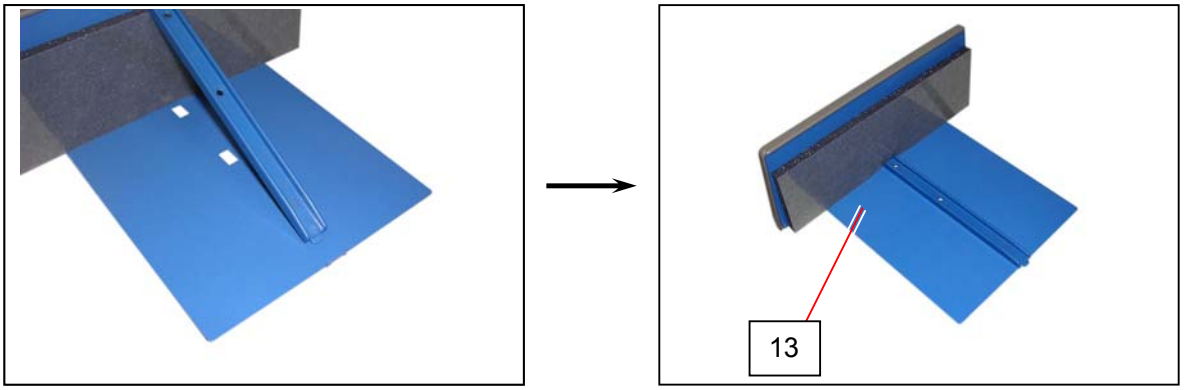
NOTE

Fit the positioning bosses on Plate 5 Assembly to the positioning holes on machine side at this time.

8. Fit 4 pieces of Tray (11) to the notches on the rear of the machine.

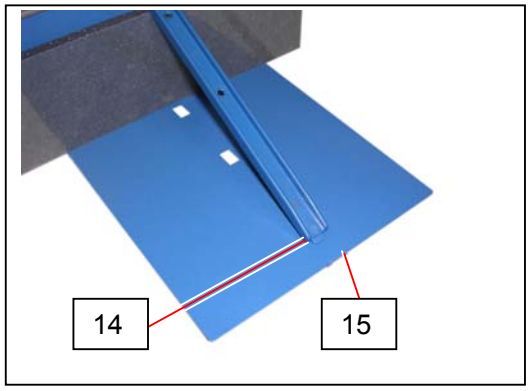


9. Fit the Guides 4 (12) to the Tray 2 Assemblies (13).

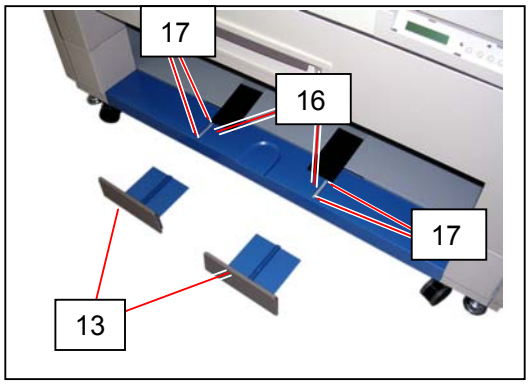


NOTE

Insert the tip plate (14) of the Guide 4 (12) into the slit (15) of the Tray 2 Assembly (13).



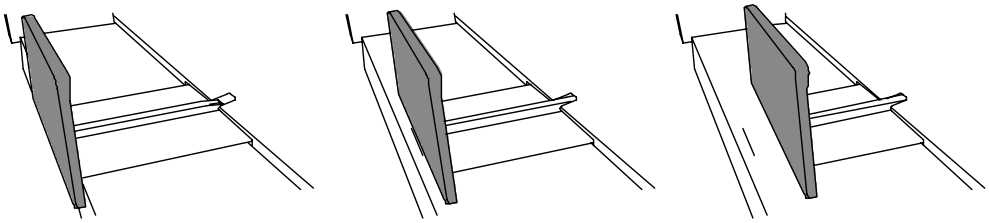
10. Put Tray 2 Assemblies (13) onto the slide rails (16) on the bottom.
    Fix them with 2 screws (M3x8) (17).



NOTE

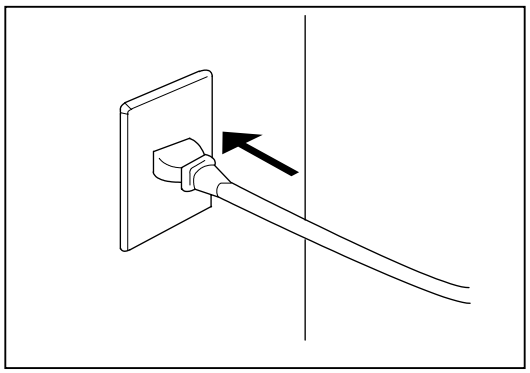
Change the position of Tray 2 Assemblies (13) according to the format of printing paper.

ISO (A/B)	Architecture	Engineering
Pull out completely	Align with the marking line.	Push in completely



2. 7 Turning on the KIP 3000

1. Plug the KIP 3000 into a dedicated wall outlet.



⚠ WARNING

(1) Do not handle the Power Plug with wet hands, or you may receive an electrical shock.

(2) Make sure to ground the machine for safety.

(3) Do not plug the printer into a multi-wiring connector in which other devices are plugged. It may overheat the outlet and may result in a fire.

(4) The outlet must satisfy the following conditions.
In U.S.A. : 120V, plus 6% or minus 10%, 50/60Hz and 15A

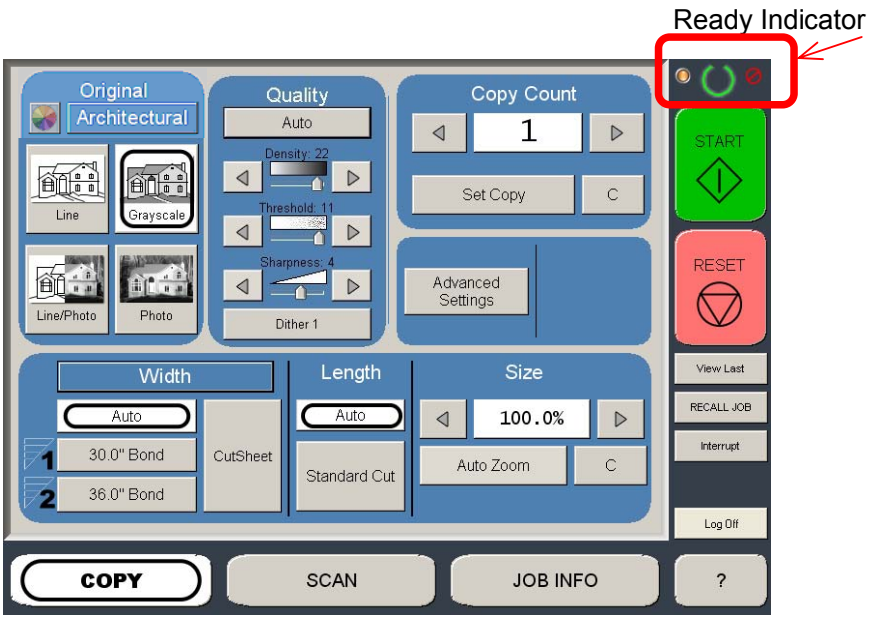
2. There is a Power Switch on the right side of KIP 3000.
Press it to the " I " side to turn on the KIP 3000.

Power Switch

Press this side.

3. The User Interface (UI) starts operating, and it indicates the following Copy Mode Screen in about 1 minute.

   There is a Ready Indicator on the Copy Mode Screen, which flashes during warming up.



4. The Ready Indicator lights green when the KIP 3000 is ready. Set media type / width and then make a test copy.

2. 8 Initializing the KIP 3000 Scanner

After the setup, the KIP 3000 scanner requires initialization.
This provides a clearer and more accurate scan image.
Follow the below outline to initialize the KIP 3000 scanner with Scanner Utility.

1. Install USB driver and Scanner Utility. See [8.12.1 Installation] on page 8-172.

2. Perform Shading. See [8.12.4.1 Shading] on page 8-181.

3. Perform Calibration. See [8.12.4.2 Calibration] on page 8-187.
   (Only for machines after S/N 10510001)

Chapter 3

Print / Scan Process

3. 1 Print Process

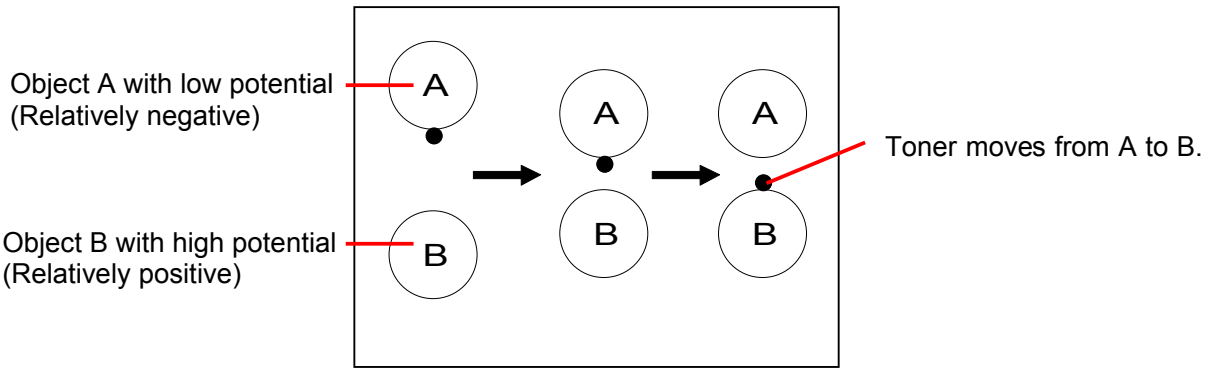
3. 1. 1 Characteristic of toner

The toner used for KIP 3000 has a characteristic to be charged “negative”, which tends to be attracted to a more “positive” object.

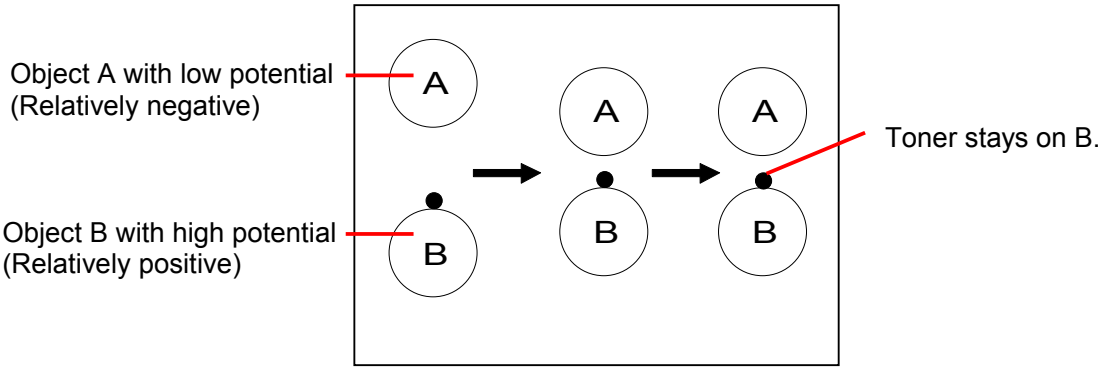
Suppose that there are objects A and B, and the situation is as follows.

1. Electric potential of the object B is higher than that of object A.
2. Toner exists on the object A.

Comparing the potential of both objects, it can be said that the object B is relatively “positive” and the object A is “negative”. (In another word, object B is more “positive” than the object A.)
As the toner is “negative”, it is attracted to the object B that is more “positive”.
If you move the object B close to the object A, therefore, the toner moves onto the object B.



On the contrary, suppose that the toner exists on the object B of which electric potential is higher than the object A.
Even if you move the object A close to the object B, the toner continues to stay on the object B because negative toner and relatively negative object A repel each other.

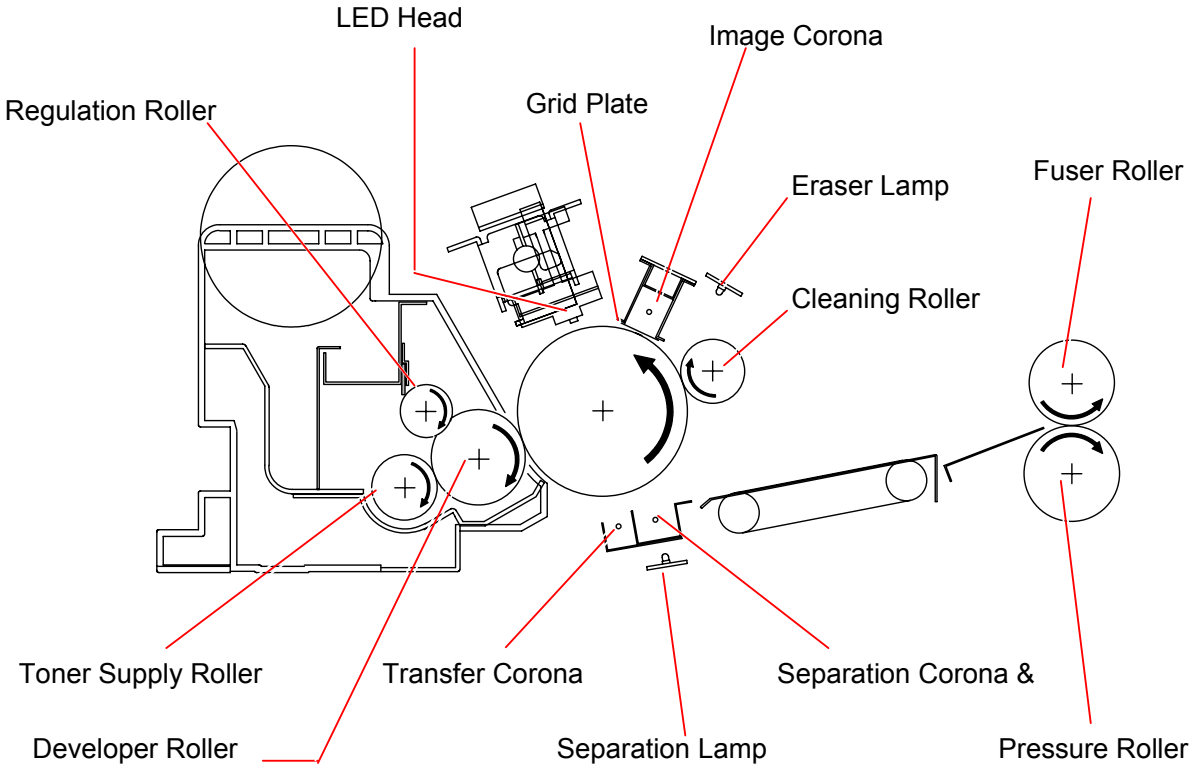


Thus, the toner has a characteristic to move from one place with a lower potential to another place with a higher potential.
If we control the electric potentials, it is possible to move the toner from one place to another as we intend, or it is also possible to remove the toner from an unwanted place.
KIP 3000 controls the electric potentials properly working each part as Drum, Corona Units, Lamps, Developer Unit and Cleaning Roller.
The movement of toner is controlled correctly and several processes as Development, Toner Transfer, Drum Cleaning and etc. are performed.

3. 1. 2 Each step of print process

One cycle of print consists of the following 8 processes.

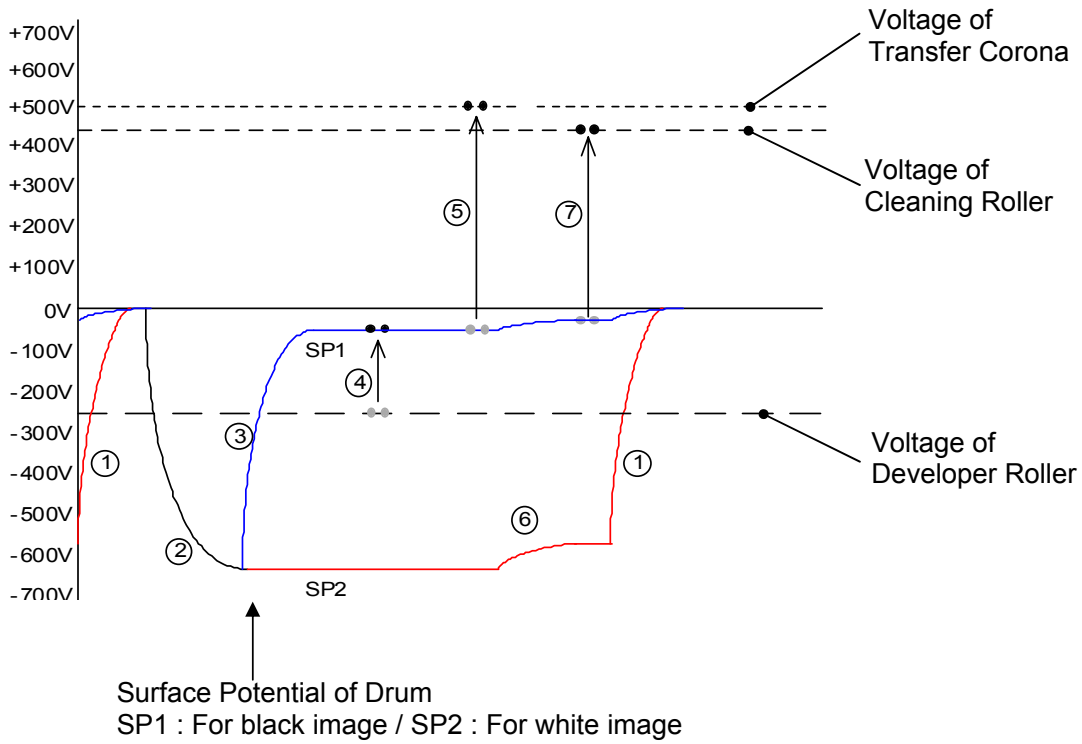
1. Erasing (Removal of negative electric charges)
2. Charge of Drum
3. Exposure
4. Development
5. Transfer
6. Separation
7. Drum Cleaning (Removal of remained toner)
8. Fusing



NOTE

The figures of Developer Unit's side view in this chapter are shown with a brush type Developer Unit unless otherwise indicated.

Processes from 1 to 8 are related with the control of the electric potentials.
The following graphic shows the electric potential at each process and the movement of toner.



Name of part	Voltage (Current) during Print Cycle	Voltage during Toner Collection Process
Image Corona Wire	-1.3mA +/-0.02mA	
Grid Plate	-620V +/-30V	
Developer Roller	-230V +/-5V	+350V +/-5V
Regulation Roller (Center)	-40V +/-5V against the Developer Roller Bias	-40V +/-5V against the Developer Roller Bias
Regulation Roller (Both sides)	0V (Connected to the ground)	0V (Connected to the ground)
Toner Supply Roller *	(A) Same voltage with Developer Roller Bias or (B) -150 +/-5V against Developer Roller Bias (on printing) -50+/-5V against Developer Roller Bias (Interval of print)	(A) Same voltage with Developer Roller Bias or (B) -150 +/-5V against Developer Roller Bias (on printing) -50+/-5V against Developer Roller Bias (Interval of print)
Transfer Corona	+500V +/-30V	-
Separation Corona	AC (5.0KV) + DC (-250V +/-5V)	-
Cleaning Roller	+450V +/-5V	-550V +/-5V

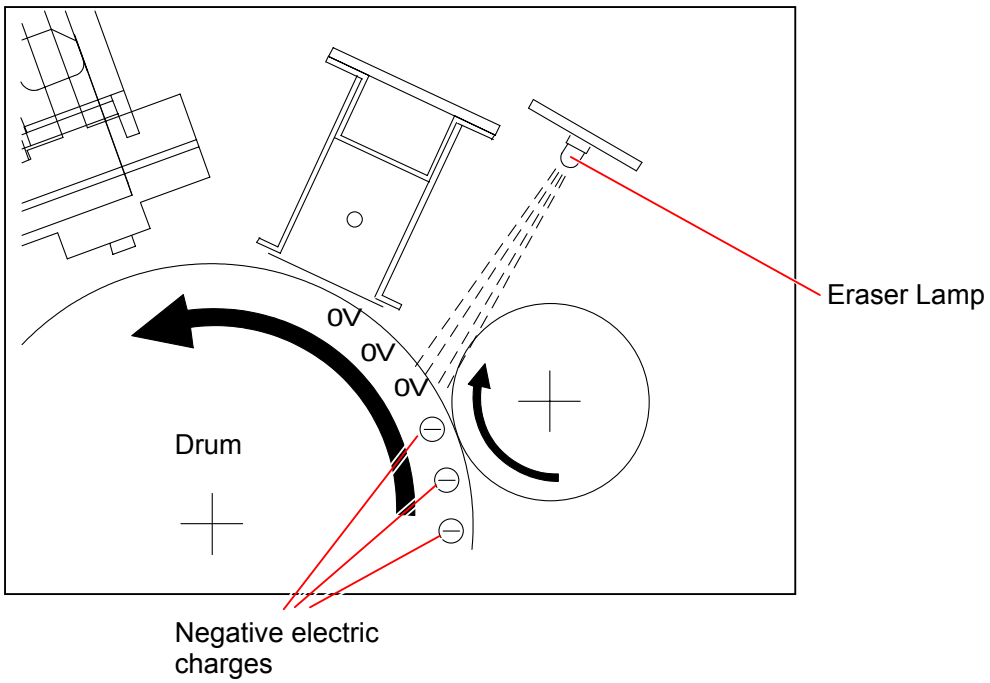
* (A) for brush type Developer Unit, (B) for sponge type Developer Unit

Reference

When the printer is going to stop after printing, or when the used Roll Deck is changed with other one, the KIP 3000 Digital Printer will take the “Toner Collection Process” to remove the remained toner and place back into the Developer Unit.
Refer to [3.1.5 Toner Collection Process] on the page 3-20 for the detail.

3. 1. 2. 1 Erasing (Removal of negative electric charges)

As the first step of print cycle, it is necessary to remove the negative electric charges from the Drum, which have remained there after the former print cycle.
The Drum has a characteristic to lose the negative electric charges if it is exposed to the light.
So the Drum is rotated and evenly exposed to the light from the Eraser Lamp.
The electric potential on the Drum becomes 0V (residual potential) by this process.

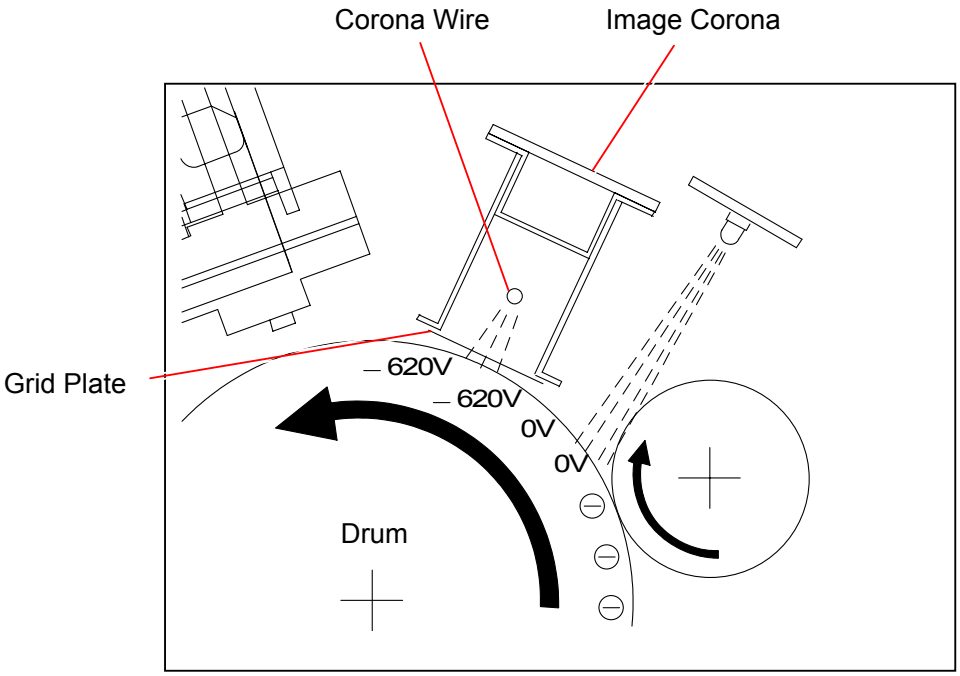


3. 1. 2 .2 Charge of Drum

The Image Corona discharges negative electric charges which are given to the Drum.
The surface of Drum becomes about -620V evenly as a result, which corresponds to the white area of the printed image pattern.
The Grid Plate is also connected to the High Voltage Power Supply individually.

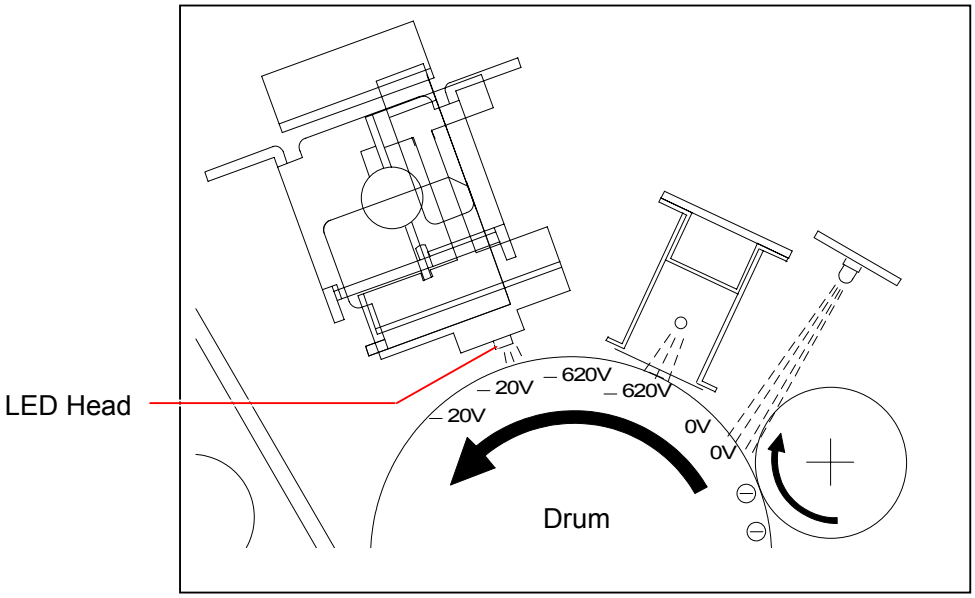
Current and Voltage supplied to the Image Corona Wire is as follows.

Corona Wire ..... -1.3mA +/-0.02mA

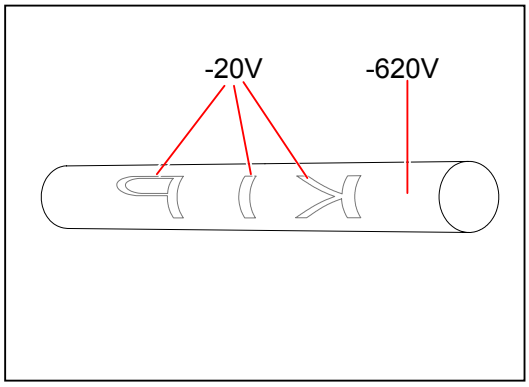


3. 1. 2. 3 Exposure

According to the printed image pattern, the LED Head throws the light (740nm) onto some part of Drum which corresponds to the black area of printed image pattern.
As the Drum has a characteristic to lose the negative electric charges if it is exposed to the light, this part of Drum surface loses the charges and its potential becomes about -20V. (This potential is not constant but is variable by the environment.)
The other part of Drum surface, which was not exposed to the light from the LED Head, keeps -620V of potential which the Image Corona has given.
An invisible electric image pattern that consists of -620V area and the -20V area is formed on the surface of Drum as a result. (This is called “Electrostatic Latent Image”.)



(Distribution of electric potentials after the Exposure)



Reference

Even if the toner remains on the Drum, it will not block the light from the LED Head as the diameter of toner (9 micrometers) is much smaller than that (42 micrometers) of 1 pixel of LED. The electric charges on the Drum are removed as needed.

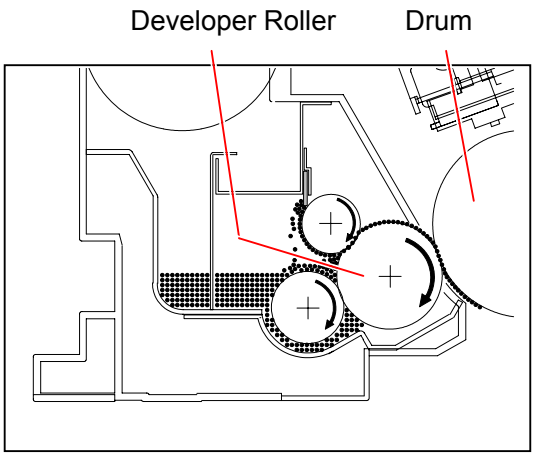
3. 1. 2. 4 Development

The Developer Roller, which is evenly covered with the toner, is contacted to the Drum because the Developer Unit is pressed to the Drum. (The width of contact point is about 5mm.)
The Developer Roller is supplied with -230V (+/-5V) during the print cycle.
And both -620V area and -20V area exist on the Drum because the Electrostatic Latent Image has been formed in the former Exposure process.

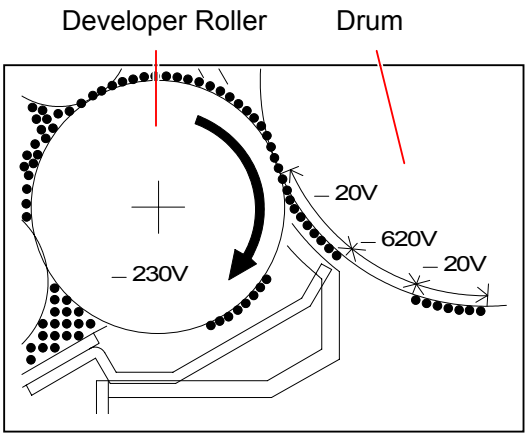
Seen from the voltage of Developer Roller Bias (-230V), the -20V area on the Drum is relatively "positive". So the toner moves from the Developer Roller to the -20V area of Drum.

On the other hand, the -620V area is relatively "negative" seen from the Developer Roller.
So the toner does not move to the -620V area but stays on the Developer Roller.

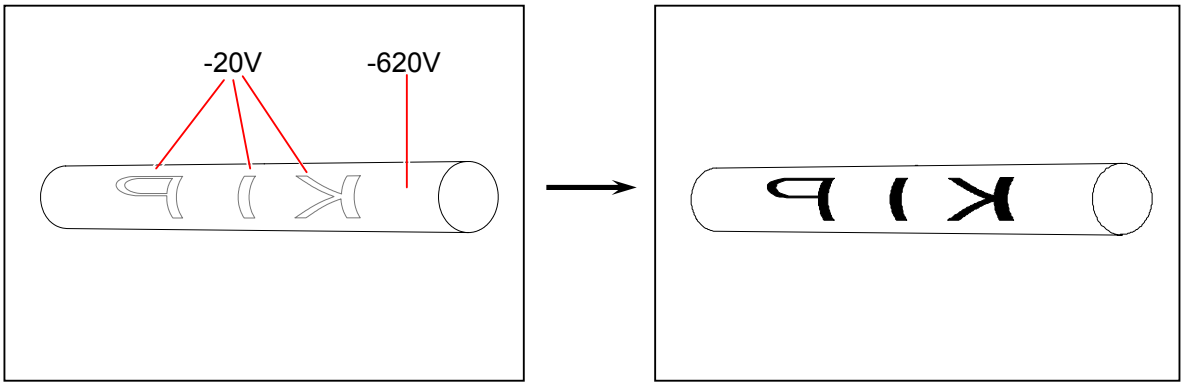
A visible toner image is formed on the Drum as a result.



Before Development



After Development : Toner moves only to -20V area.

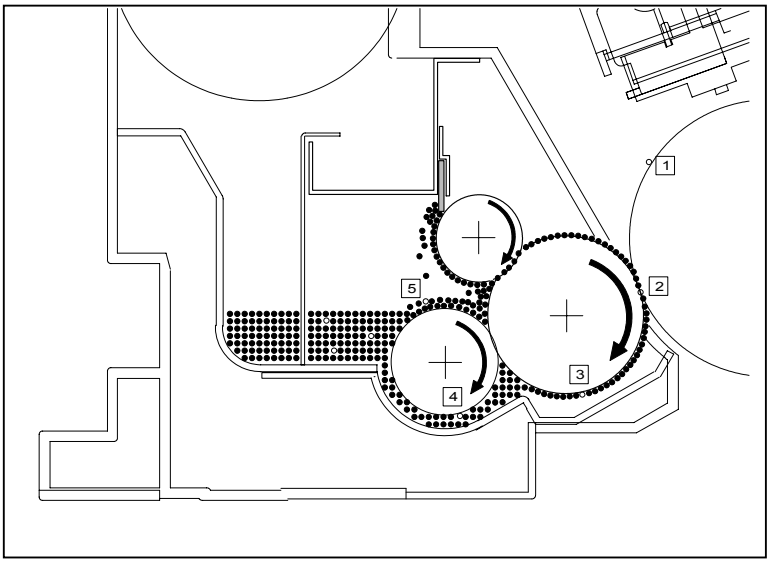


(Invisible Electrostatic Latent Image)

(Visible toner image)

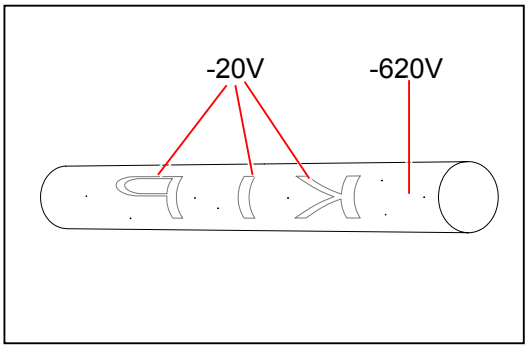
Even if some toner has not been removed by the Cleaning Roller but remained on the -620V area of Drum (It corresponds to the white area of the print) in the later [3.1.2.7 Drum Cleaning], this toner is removed at the time of Development because it moves to the Developer Roller of which potential (-230V) is higher than that of Drum (-620V).
So there will be no case that unnecessary black spot is printed on the white area of the print.
The remained toner that moved to the Developer Roller is carried into the Developer Unit and then reused.

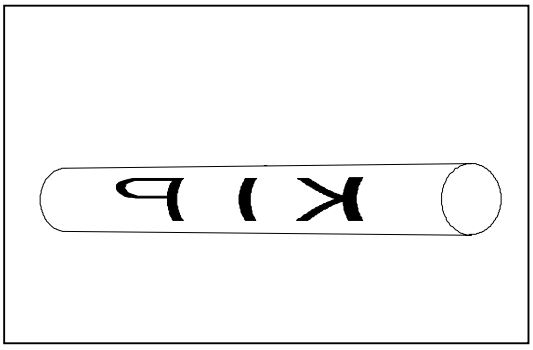
1. Toner remained on the Drum
2. Toner moves from the Drum to the Developer Roller.
3. Developer Roller carries the toner toward the Toner Supply Roller
4. Toner is shifted to the inside of the Developer Unit by the revolution of Toner Supply Roller.
5. Toner is reused.



Before Development
(Toner is remaining on the white area.)

After Development
(Toner is removed from the white area.)





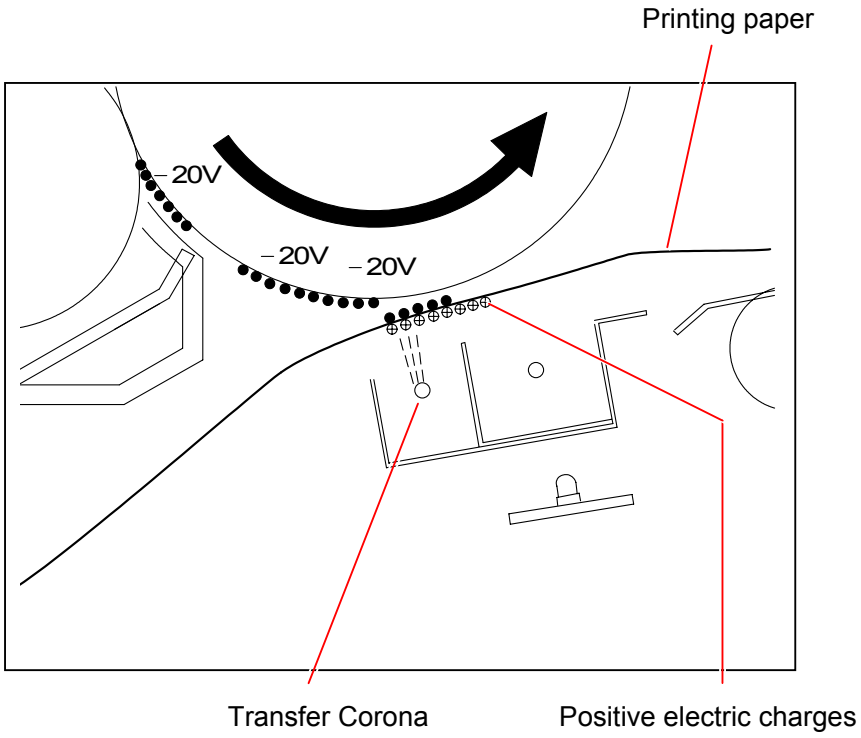
Reference

The Developer Unit has not only the Developer Roller but also 2 more rollers inside which are also supplied with the individual voltages.
The Developer Unit controls the movement of toner in the unit taking advantage of the difference of potentials among these rollers, and covers the Developer Roller with the toner in the end.
Refer to [3.3 Controlling the Movement of Toner in the Developer Unit] to know how the Developer Unit controls the movement.

3. 1. 2. 5 Transfer

The printing paper is charged positively as the Transfer Corona discharges positive electric charges from under the paper.
The toner existing on the -20V area on the Drum will move to the printing paper because the potential of the paper comes to be higher than the Drum by the Transfer Process.
The voltage supplied to the Transfer Corona Wire is as follows.

Transfer Corona Wire : +500 +/-30V (When the Insulated Drum is used.)

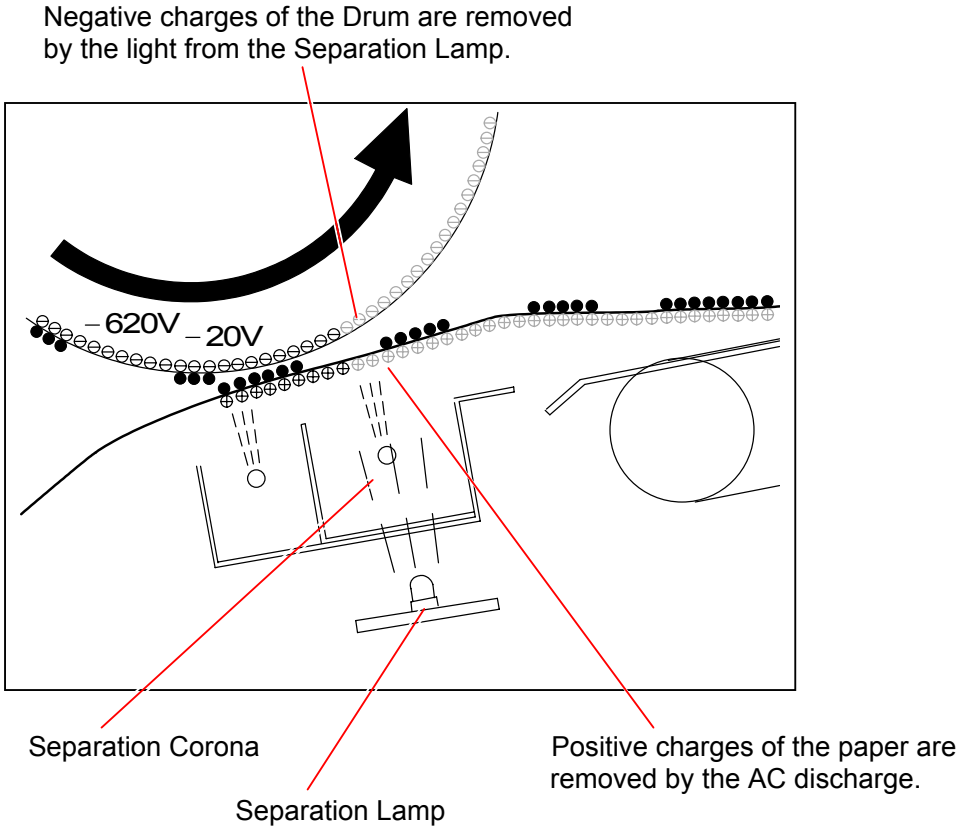


3. 1. 2. 6 Separation

The printing paper is attracted to the Drum after the Transfer because the potential of paper is positive and that of Drum is negative.
It is necessary for avoiding the jam to separate the paper from the Drum by removing the static force between them.
The Separation Corona takes AC discharge being supplied with the AC voltage and the DC voltage.

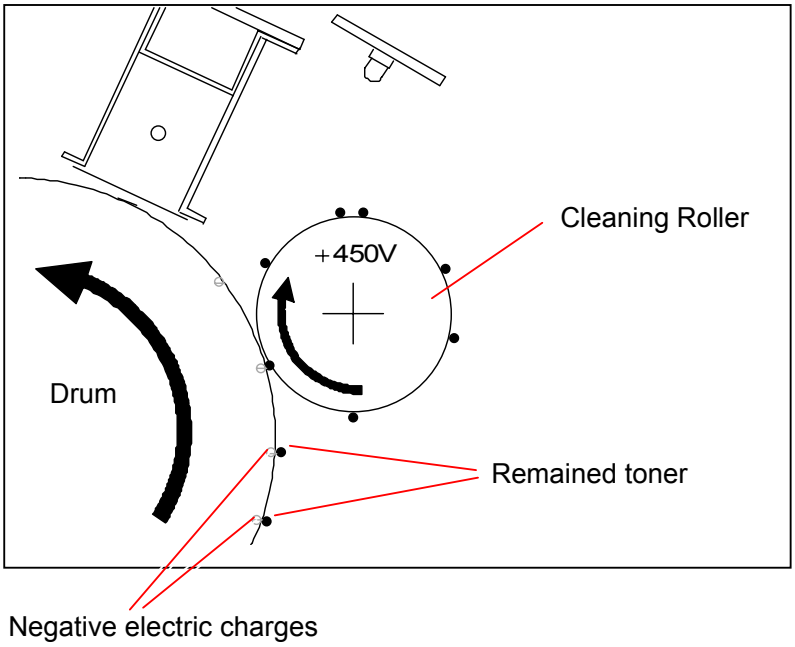
AC voltage : 5.0KV
DC voltage : -250V

As the AC voltage is compensated by the negative DC voltage, the negative charges are generated more than positive ones, which mainly results in removing the positive charges of the printing paper.
On the other hand, the Separation Lamp throws light from under the Corona Wires to remove the negative charges of the Drum.
The static force between the printing paper and the Drum is reduced as a result, and the paper is separated from the Drum by its weight.



3. 1. 2. 7 Drum Cleaning (Removal of remained toner)

Some amount of toner that has not been transferred onto the printing paper is remaining on the Drum.
This remained toner will be removed by the Cleaning Roller.
The Cleaning Roller is supplied with +450V (+/-5V), and there are some negative electric charges on the Drum at this time.
As the Cleaning Roller is relatively “positive” and the Drum is “negative”, the toner moves from the Drum to the Cleaning Roller.

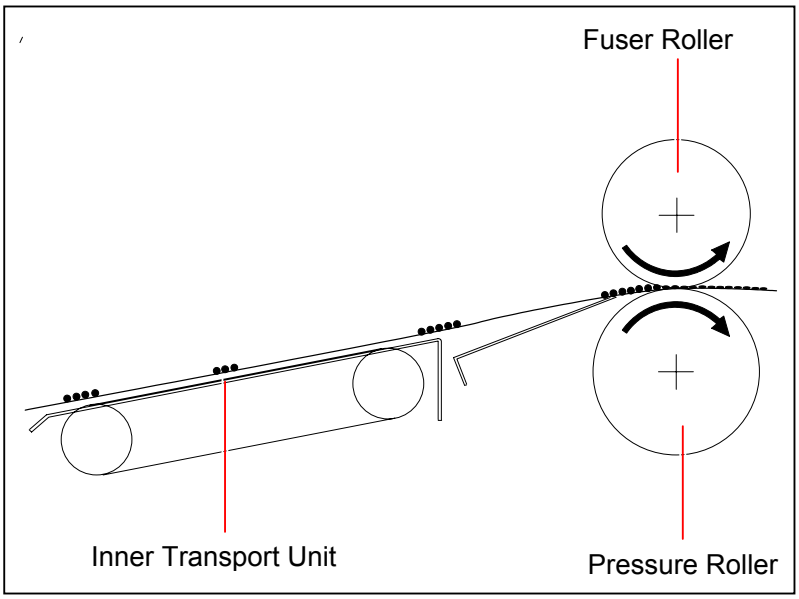


NOTE

If too much toner exists in a small area (like a trace of solid black image) the Cleaning Roller may not be able to remove all of them.
But this toner is removed from the Drum in the Development Process.
Refer to the page 3-9 for the detail.

3. 1. 2. 8 Fusing

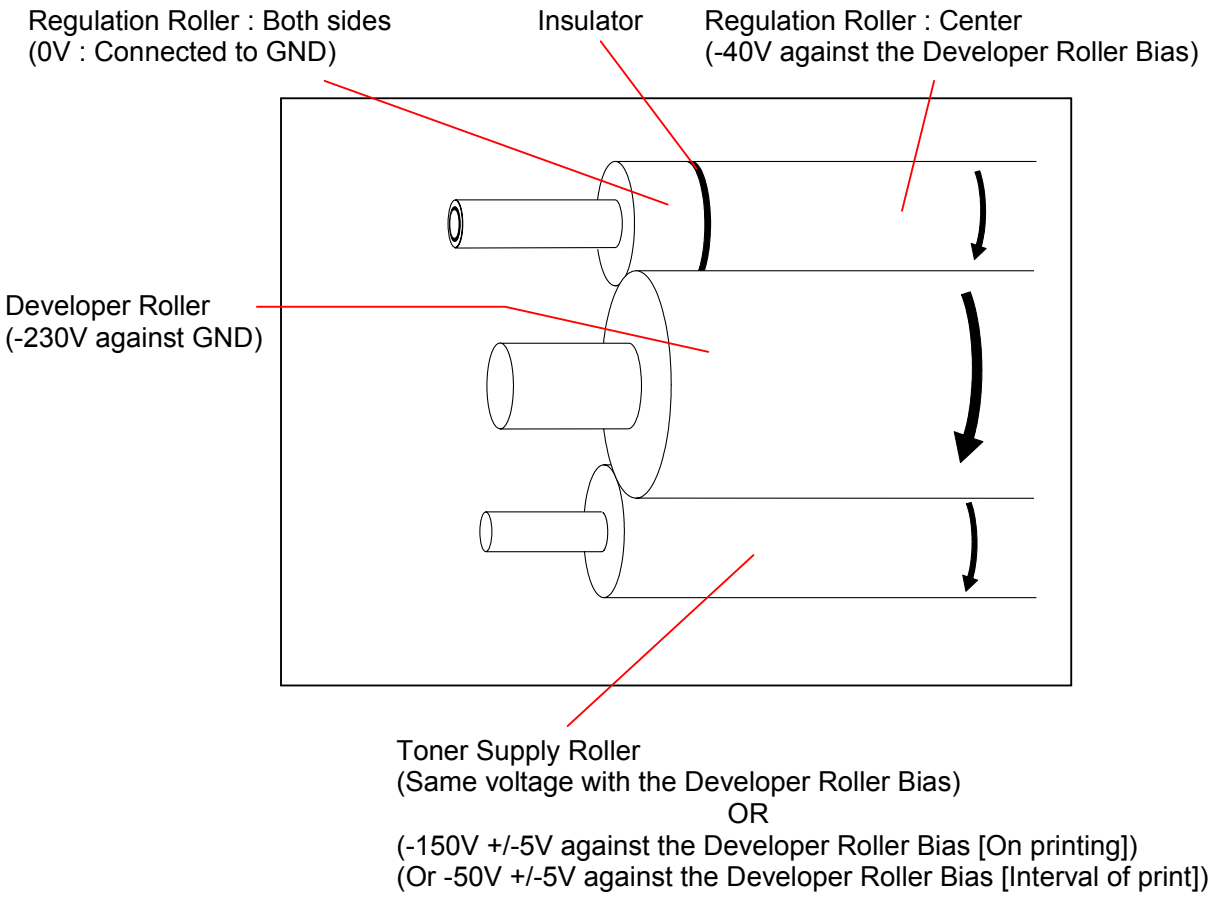
After Transfer / Separation Processes, the printing paper is transported to the Fuser Unit by the Inner Transport Unit.
The Fuser Unit mainly consists of the Fuser Roller and the Pressure Roller.
The Fuser Roller is very hot, and the Pressure Roller is strongly pressed to the Fuser Roller by the spring.
The toner is firmly fused onto the printing paper by the heat and the pressure when the paper passes through between these rollers.



3. 1. 3 Controlling the movement of toner in the Developer Unit

There are 3 kinds of rollers called “Developer Roller”, “Regulation Roller” and “Toner Supply Roller” in the Developer Unit.
Each roller is supplied with its own voltage.
In the following list, the voltage of the Developer Roller (-230V) is measured against the ground.
The other voltages mean the difference against the voltage of Developer Roller Bias.

Name of roller	Supplied voltage
Developer Roller	-230V +/-5V against the ground
Regulation Roller (Center)	-40V +/-5V against the Developer Roller Bias
Regulation Roller (Both sides)	0V (Connected to the ground)
Toner Supply Roller	(brush type) Same voltage with the Developer Roller Bias (Developer Roller and Toner Supply Roller are short circuited being connected with the plate.)
	(sponge type) -150V +/-5V against the Developer Roller Bias (On printing) -50V +/-5V against the Developer Roller Bias (Interval of print)



NOTE

The Regulation Roller is divided into central area and both side areas by the insulator, and individual voltage is supplied to each area.

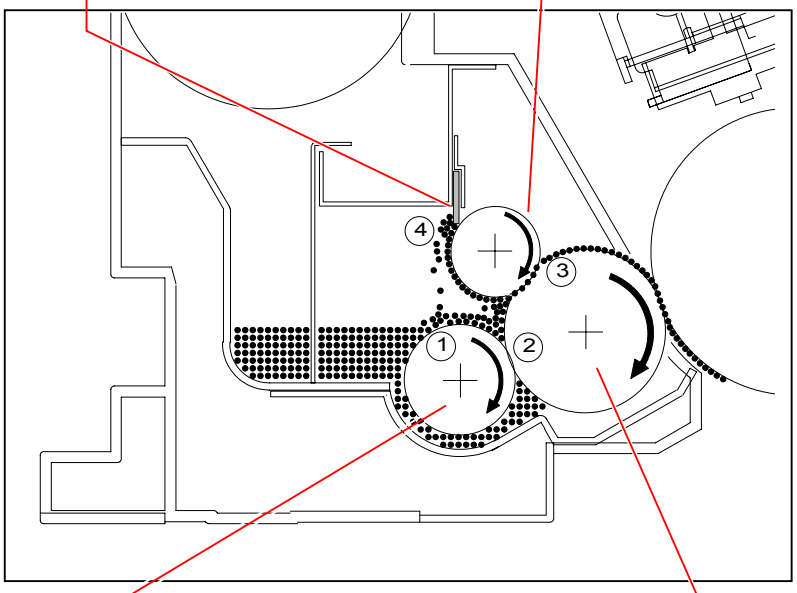
Taking advantage of the difference of potentials among these rollers, the movement of toner is controlled in the Developer Unit as follows.

1. The Toner Supply Roller carries the toner toward the Developer Roller.

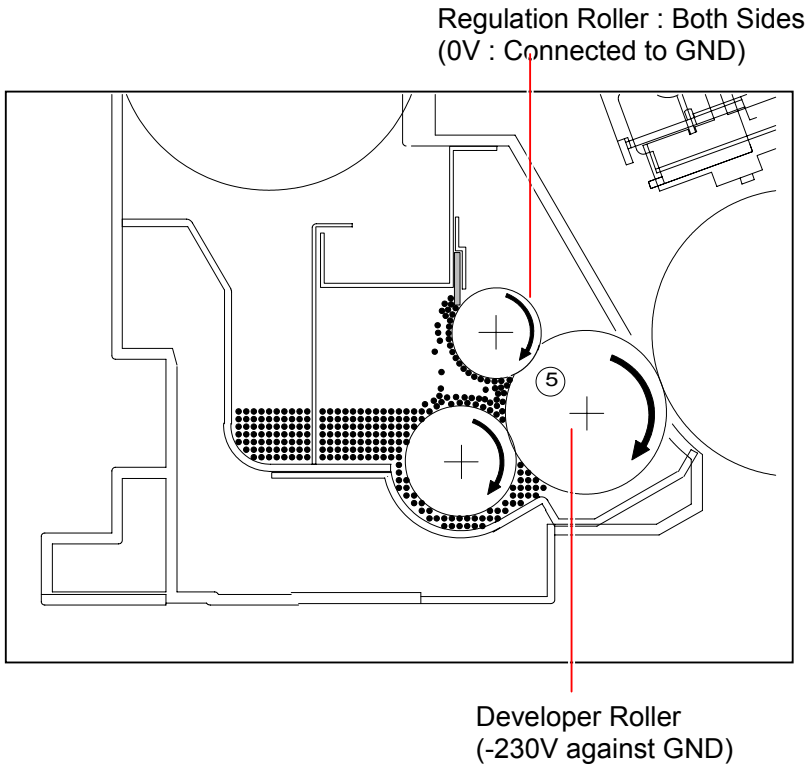
2. The voltage of the Toner Supply Roller is 150V lower than that of Developer Roller. When the toner reaches the contact point of these rollers, therefore, it moves onto the Developer Roller.
   Then the Developer Roller carries the toner toward the Regulation Roller.

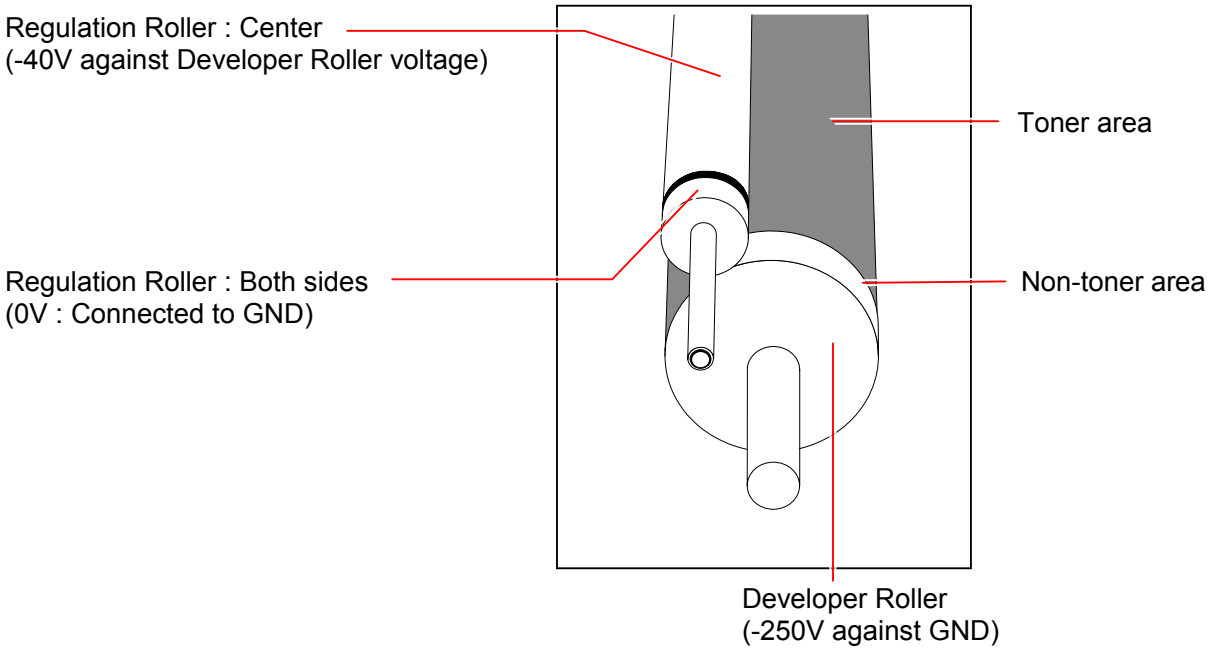
3. The Regulation Roller is strongly pressed to the Developer Roller by the spring, and these 2 rollers move to the opposite direction each other at the contact point.
   Even if the Developer Roller carries more toner than required, the Regulation Roller limits the amount of toner that can pass through between 2 rollers. So very small amount of toner can pass through between rollers and the rest is returned back to the inside.
   As the voltage of Developer Roller is 40V higher than that of Regulation Roller (Center), the toner which has passed through between rollers is firmly attracted to the Developer Roller. Very thin layer of toner is evenly formed on the surface of Developer Roller as a result.

4. Much toner sticks onto the Regulation Roller when it is returned back to the inside.
   This toner is scraped off by the Scraper which is contacted to the Regulation Roller.



5. The voltage of both sides of Regulation Roller is 0V as these parts are connected to the ground.
   It is higher than that of Developer Roller (-230V).
   When the toner reaches the contact point of these rollers, therefore, it moves onto the Regulation Roller.
   The side areas of the Developer Roller are not covered with the toner as a result, so it is possible to avoid the toner drops into the machine from the side.





3. 1. 4 Control of Toner Supply Roller Bias

(This section is applied to sponge type Developer Unit only.)

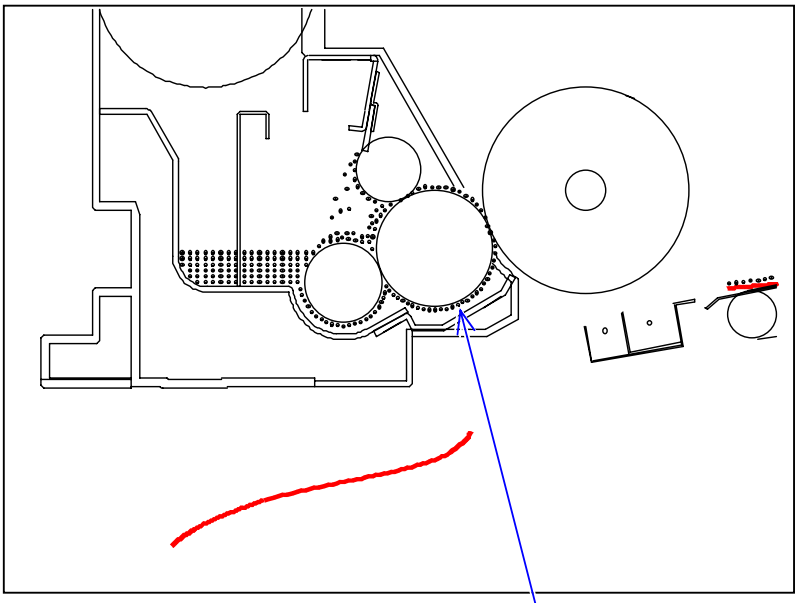
In the Print Cycle, the Toner Supply Roller Bias is switched between “high” and “low” according to the situation.
It is “low” when “on printing”, and it is “high” when “interval of print”.
The actual voltage in each situation is as follows.

On printing (Low) ..... -150 +/-5V against the Developer Roller Bias
Interval of print (High) ..... -50 +/-5V against the Developer Roller Bias

The purpose to switch the Toner Supply Roller Bias is to avoid the deterioration of toner.

[Technical explanation]

The toner on the Developer Roller is not transferred onto the Drum surface if this area of Drum surface is either “white image area” or “interval of print (paper)”.
This toner is returned to the Developer Unit.
Then in the next occasion this toner is transported by the Developer Roller for the development, but it may be returned again by the same reason.
The toner is deteriorated in the end if this “go and return” cycle is repeated many times, which will result in a defective image.



This toner is returned to the Developer Unit as it was not transferred onto the Drum.

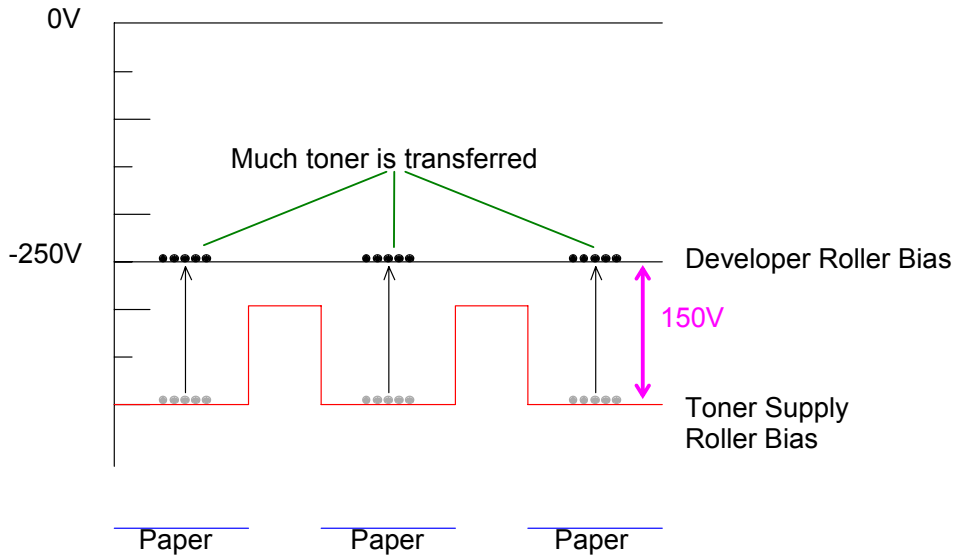
As the cause for the deterioration is repeating “go and return” cycle many times, it is possible to avoid the deterioration if the Developer Roller transports only few amount of toner when in the term no toner is required at all.
This term is in short, “interval of print”.

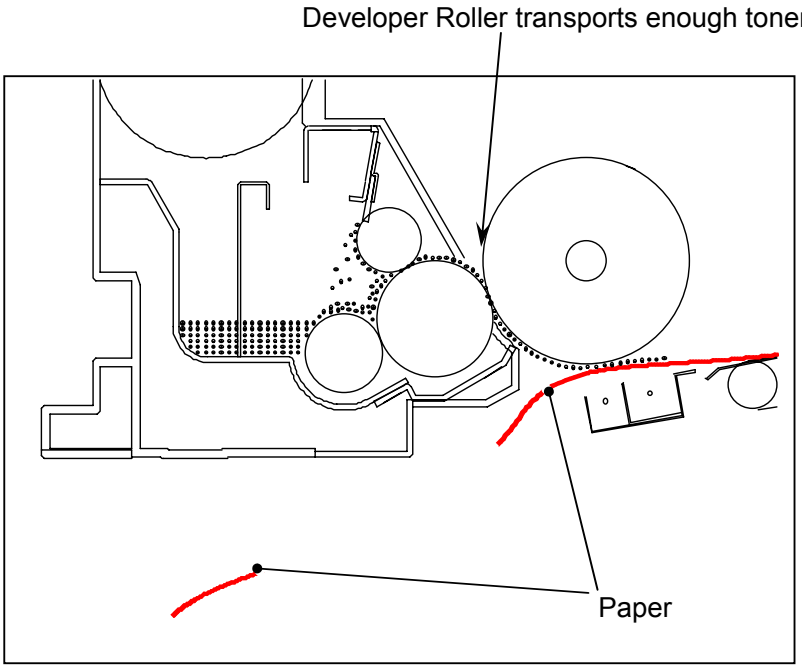
Of course the Developer Roller must supply enough toner to the Drum when in the term the toner is required, in short “on printing”.

So the Toner Supply Roller Bias is controlled as follows to satisfy the above requirements.

1. The Developer Roller must supply enough toner to the Drum when the situation is “on printing” (paper exists under the Drum).

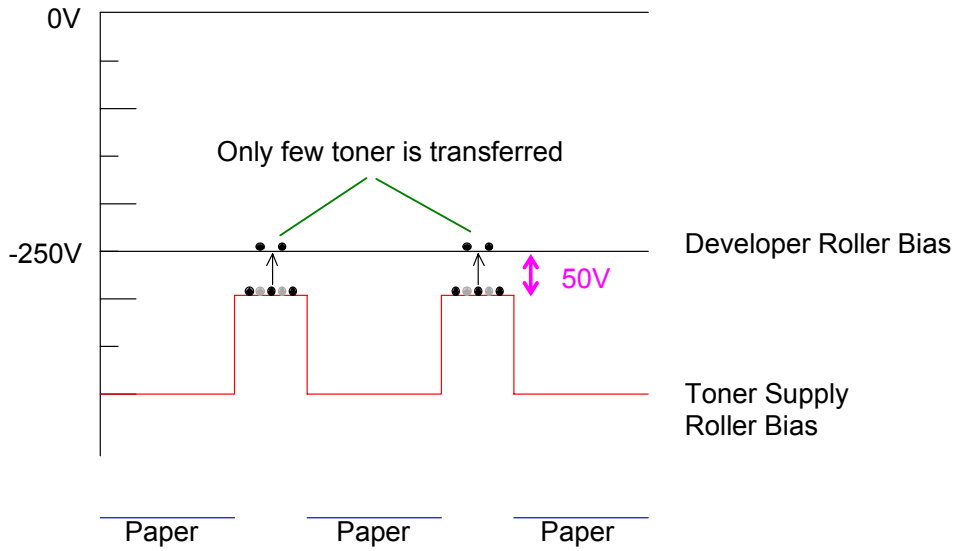
   So the Toner Supply Roller Bias becomes “-150V against the Developer Roller Bias”.
   As the difference of voltage between 2 rollers is big (150V), much amount of toner is transferred from on the Toner Supply Roller onto the Developer Roller.
   As a result the Developer Roller can transport enough toner for the development.

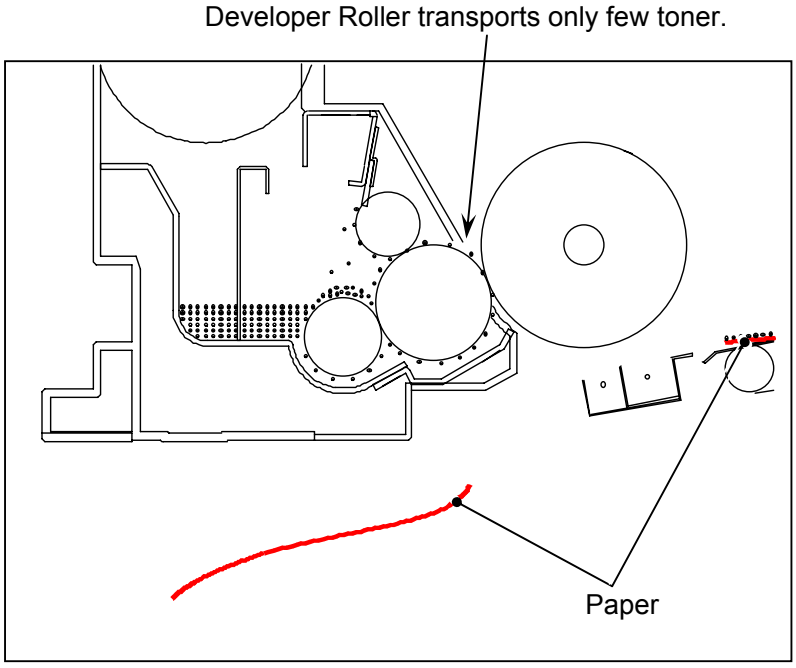




2. It is preferable for avoiding the deterioration of toner not to transport so much toner when the situation is “interval of print” (paper does not exist under the Drum).

   So the Toner Supply Roller Bias becomes “-50V against the Developer Roller Bias”.
   Because the difference of voltage between 2 rollers is small (50V), only few amount of toner is transferred from on the Toner Supply Roller to the Developer Roller.
   As a result the Developer Roller transports only few amount of toner, which means much amount of toner can be prevented from “go and return” cycle that is the cause of deterioration.





3. 1. 5 Toner collection process

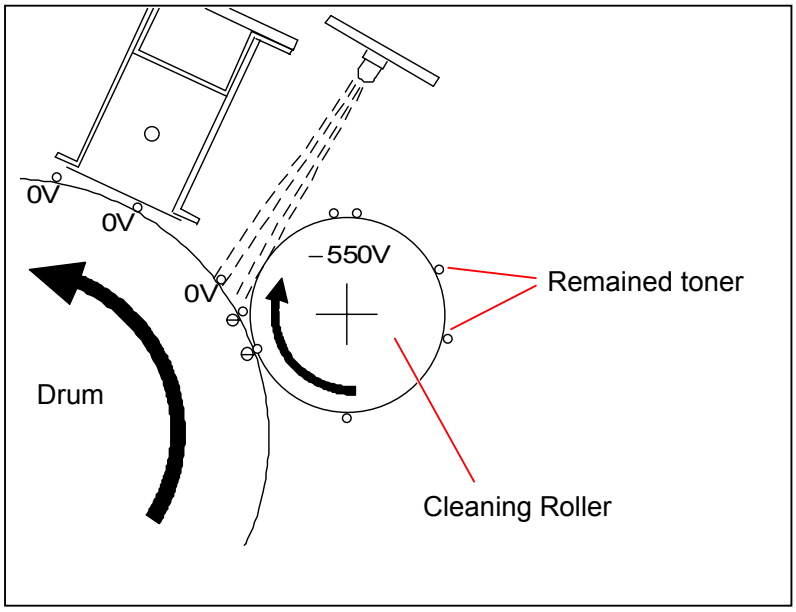
As explained in [3.1.2.7 Drum Cleaning] on the page 3-12, the Cleaning Roller is supplied with +450V to remove the remained toner from the Drum during the print cycle.
This toner gathered by the Cleaning Roller is returned to the Developer Unit in the following 3 cases.

(1) When the printer has finished printing out all the accumulated print jobs and then going to stop.
(2) When the used roll paper is ended and changed with another one.
(3) When the used roll paper is changed from one to another because the print size specified in the job is different.

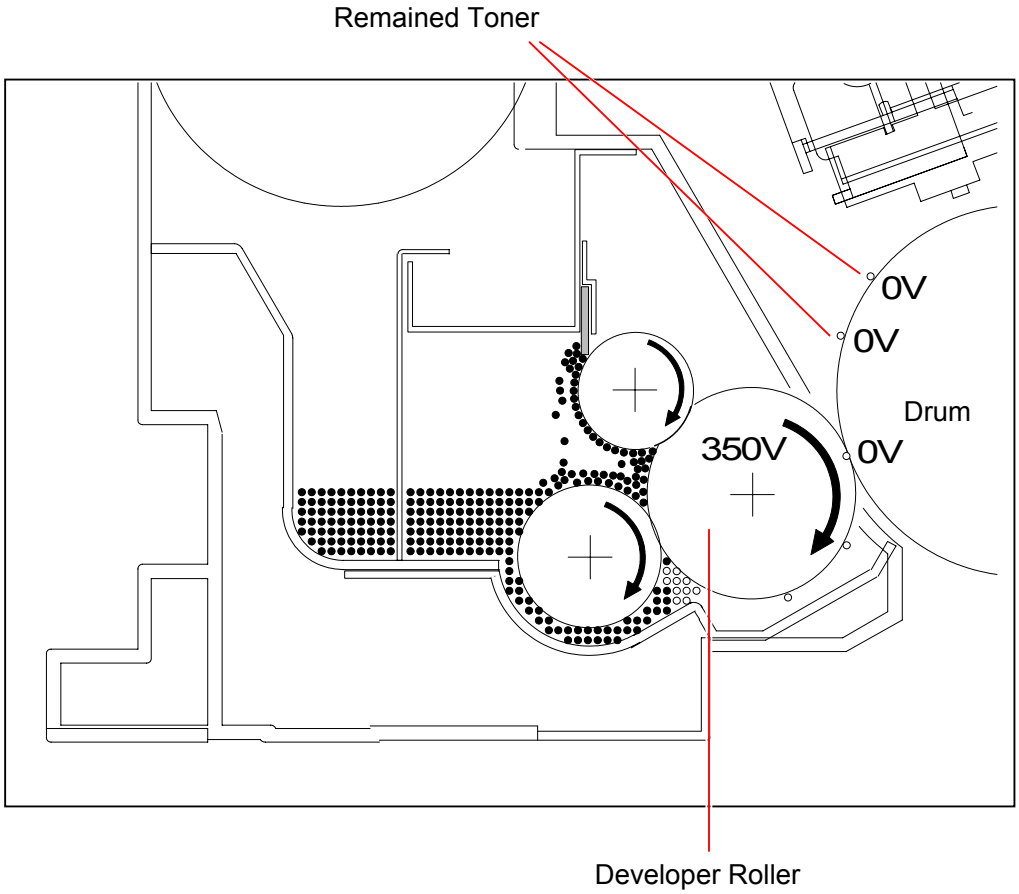
This process to return the toner is called “Toner Collection Process”.
When the trailing edge of the last sheet passes over the Separation Area, the printer will take the Toner Collection Process as follows rotating the Drum for 2 revolutions.

1. The Eraser Lamp throws light onto the Drum to remove the negative electric charges from the Drum. The potential of Drum becomes 0V.

2. The voltage supplied to the Cleaning Roller is changed to -550V in the Toner Collection Process.
   As the potential of Drum becomes higher than that of Cleaning Roller, toner on the Cleaning Roller moves onto the Drum.



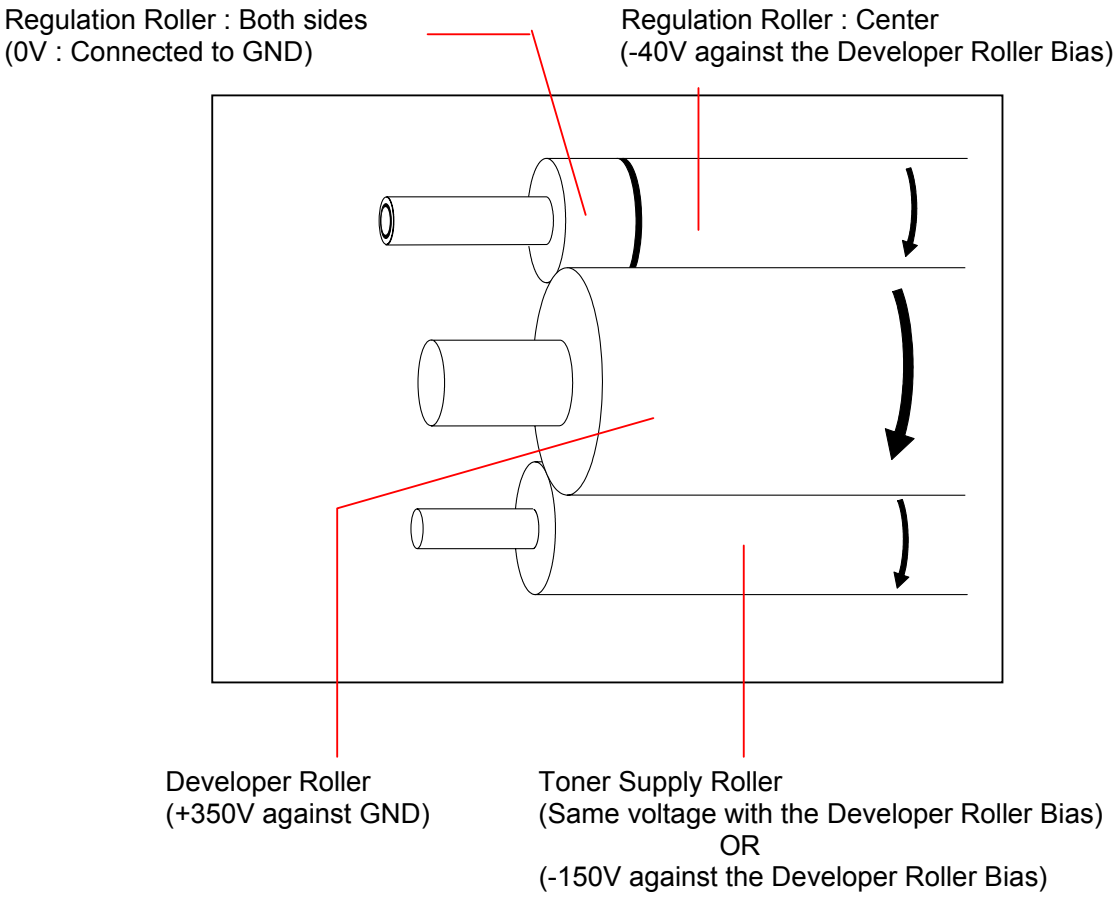
3. The voltage supplied to the Developer Roller is also changed to +350V (+/-5V) in the Toner Collection Process.
   As the potential of Developer Roller becomes higher than that of Drum, toner on the Drum moves onto the Developer Roller.
   Then the toner is carried into the Developer Unit by both the Developer Roller and the Toner Supply Roller.



Reference

Voltages supplied to Regulation Roller and Toner Supply Roller are changed also as follows.

Name of roller	Supplied voltage
Developer Roller	+350V +/-5V against the ground
Regulation Roller (Center)	-40V +/-5V against the Developer Roller Bias
Regulation Roller (Both sides)	0V (Ground)
Toner Supply Roller	(brush type) Same voltage with the Developer Roller Bias
	(sponge type) -150V +/-5V against the Developer Roller Bias



3. 2 Scan Process

3. 2. 1 Data flow in scan and copy

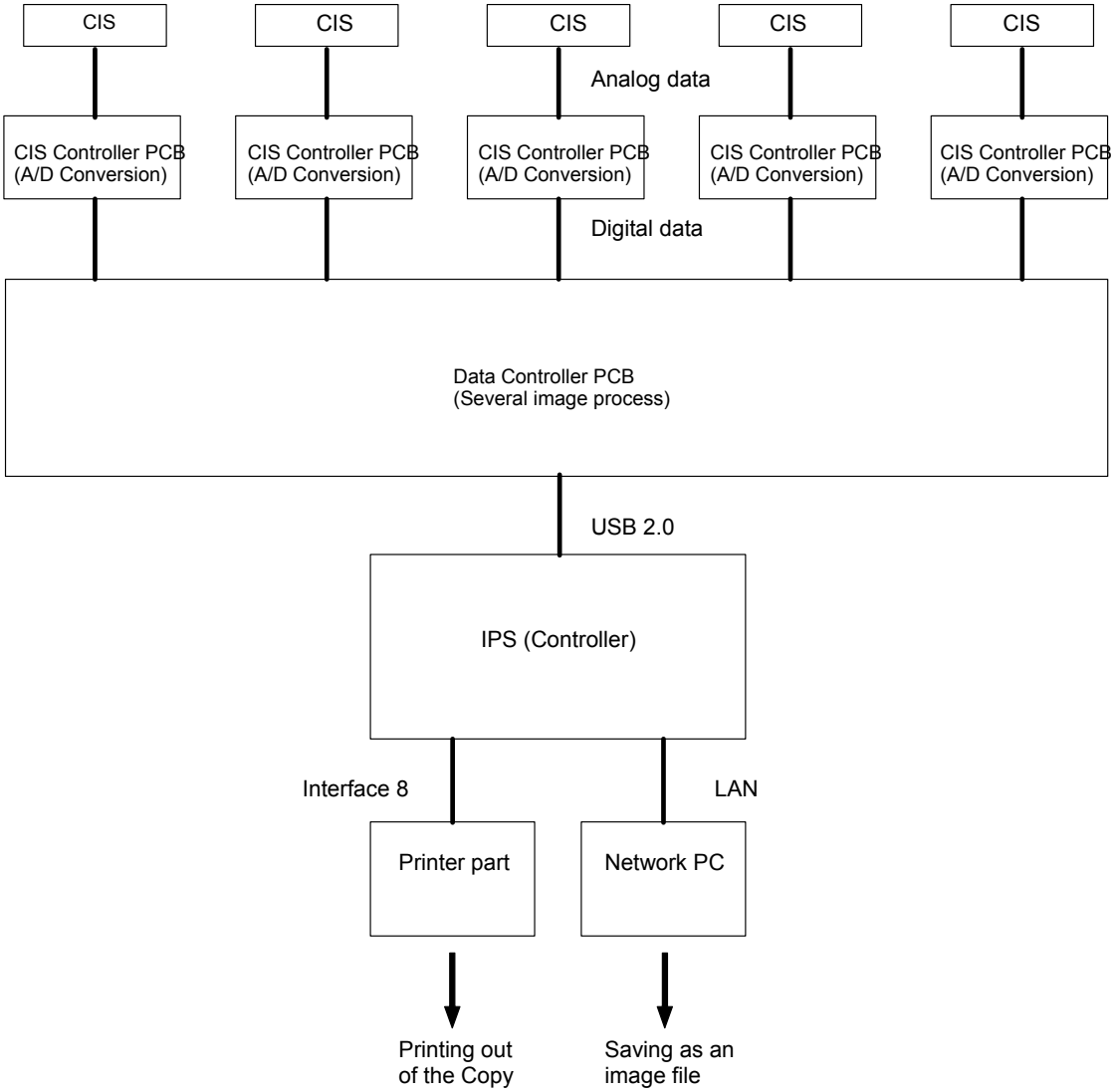
There are CIS Units, CIS Controller PCB and Data Controller PCB in the scanner unit, which take image reading and processes the data.

1. The CIS Units read the image pattern of original, and then send the analog data to the CIS Controller Board.

2. The CIS Controller Boards converts the analog data into digital data, and then send to the Data Controller PCB.

3. The Data Controller PCB takes the correct image process according to the UI setting. Then it outputs the image data to the IPS through the USB 2.0.

4. The IPS output the image data to the printer part of KIP 3000 through the Interface 8 in case of “copy”, or it outputs to the Network PC through the LAN cable in case of “scan to file”.



3. 2. 2 Positioning process of Image Block

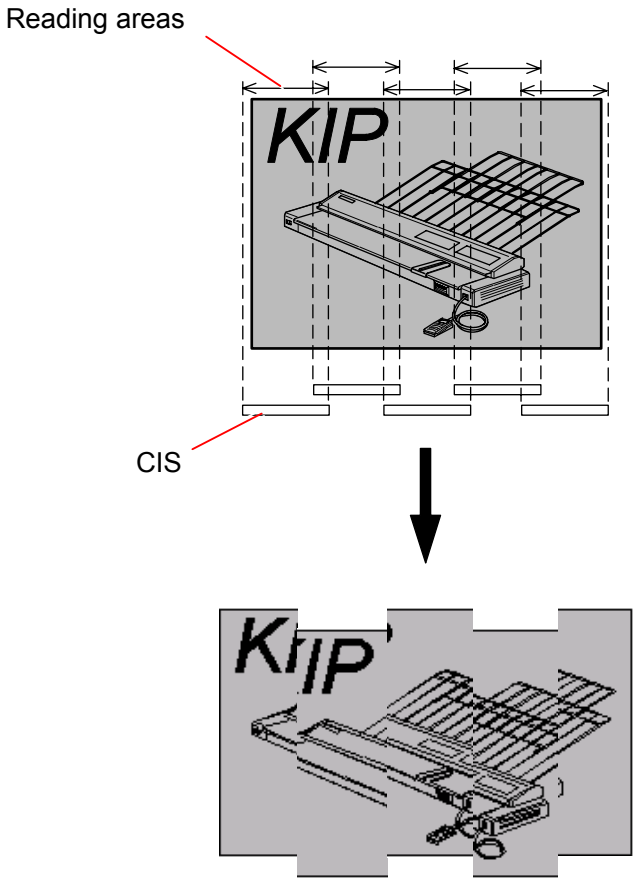
The scanner part of KIP 3000 reads the image of original with 5 - CIS (Contact Image Sensor).
As these CIS are arranged in 2 rows, there occurs a vertical gap of image among the image blocks.
So it is necessary to remove this gap by vertical positioning process (Y offset).
Also the reading area of these 5 pieces of CIS overlaps each other some degree. It means some image pixels are commonly included in the neighboring two Image Blocks. It is very hard to recognize the image because many images are duplicated. To prevent this kind of problem, it is necessary to remove the duplication of image pixels by horizontal positioning process (X overlap).
The Data Controller PCB performs these positioning processes.

> **NOTE**
>
> The KIP 3000 performs these positioning processes (X overlap & Y offset) according to the setting specified through Scanner Utility.
> Please refer to [8.12. 4. 4 Position] for this setting.

[Explanation]

5 pieces of CIS are arranged in 2 rows as the following illustration, with some amount of their reading area overlapping each other.
So the reading data initially inputted to the Data Controller PCB is as follows.

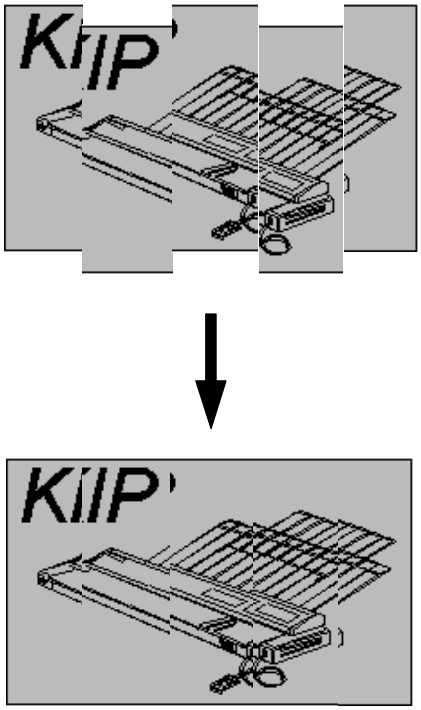
(1) There occurs a vertical gap of image among the image blocks.
(2) Some image pixels are commonly included (duplicating) in the neighbouring two Image Blocks.



The image data before the positioning process

The Data Controller PCB removes the vertical gap among the Image Block according to the positioning setting (Y offset) specified through Scanner Utility.

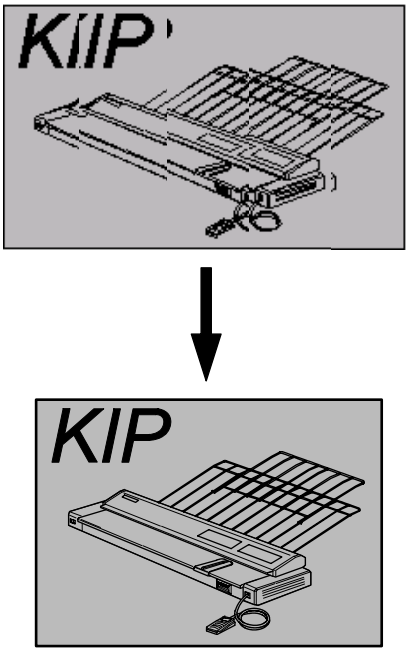
The image data before the positioning process



The image data after the positioning process (Y offset)

Also the Data Controller PCB removes the duplication of image pixels among the Image Blocks according to the positioning setting (X overlap) specified through Scanner Utility.

The image data after the positioning process (Y offset)



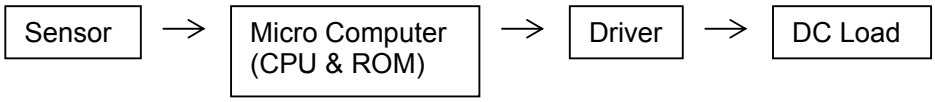
The image data after the positioning process (X overlap)

Chapter 4

Electrical

4. 1 General Information

This machine is mainly controlled by a microcomputer, which is located on DC Controller. This microcomputer reads input signals from sensors, and outputs the operation signals to motors, SSRs, solenoid, clutches and blowers on programmed timing.



DC Controller has an LED, meaning that 5VDC is applied on this DC Controller safely.

Generally the color of wiring is separated depends on the voltage.

0VDC	Blue
5VDC	Yellow
12VDC	Brown
24VDC	Orange
Signal in to DC Controller (sensors)	Purple
Signal out from DC Controller	Gray

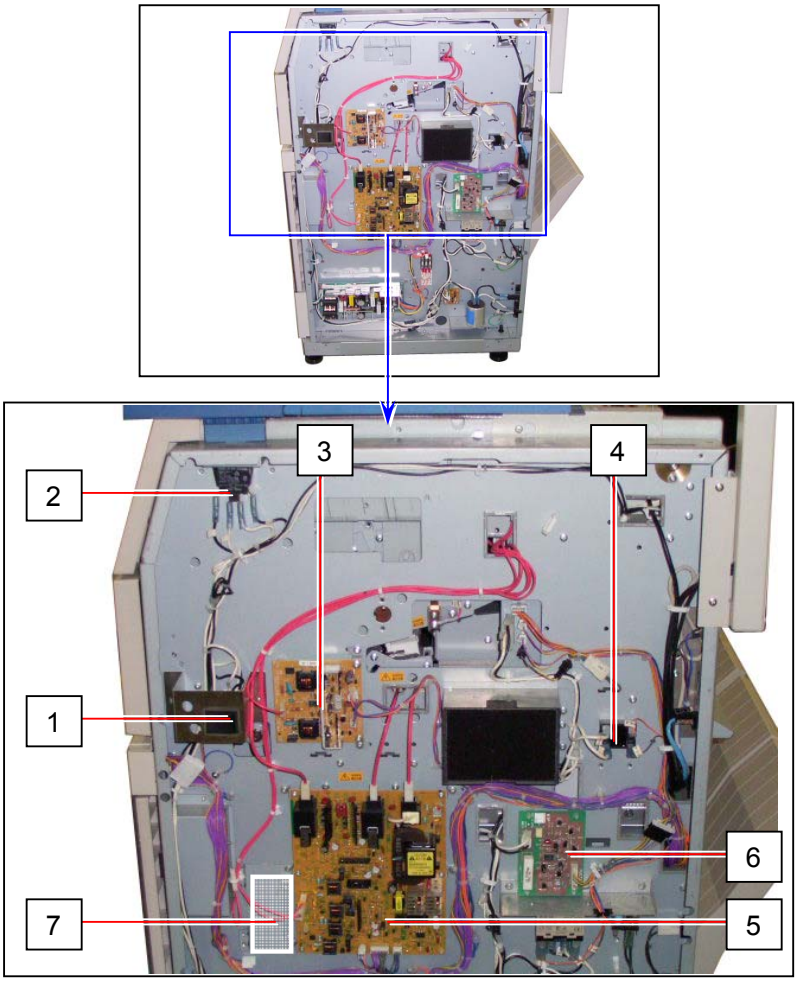
⚠ CAUTION

There is a battery (CR2032) on the Motherboard of IPS Controller.

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.
As for the waste disposal of battery, dispose in accordance with local state and federal relations.

4. 2 Electrical Components Location

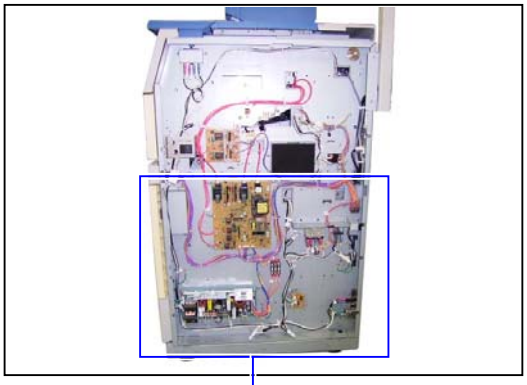
4. 2. 1 Right side

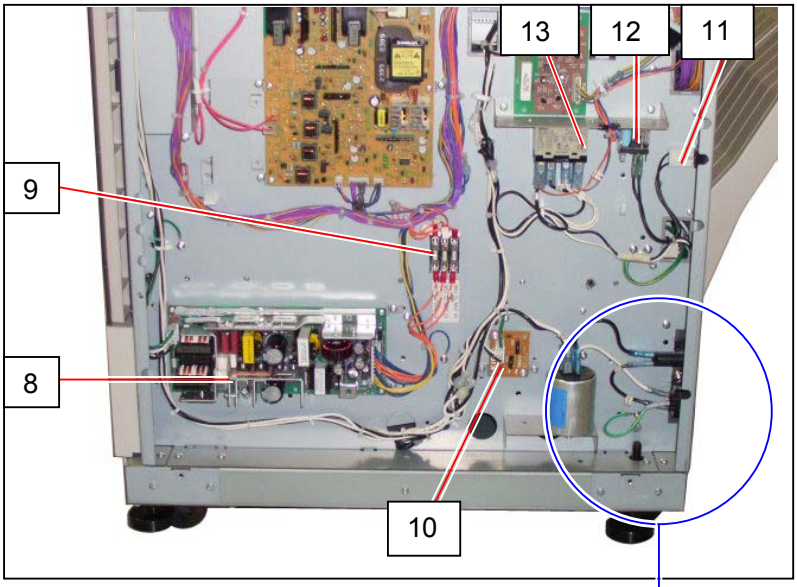


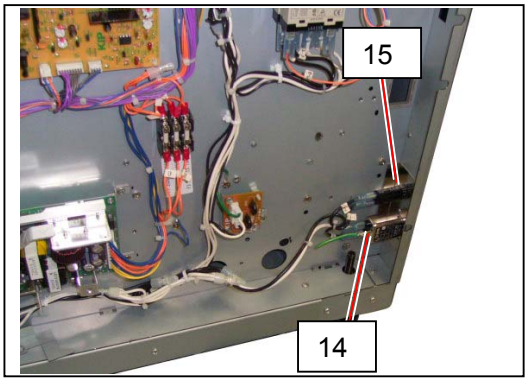
Item	Symbol	Signal name	Name	Type	Function
1	SW1	(POWER-OFF)	Switch	AJ8R2004BBCF	Turning on and off the machine
2	MS1		Switch	D2D-3104-3	Detecting whether or not the Toner Hatch or the Engine Unit is opened. (It shuts off the AC power to the DCP1 when either of them is opened
3	HV4	-	HV Power Supply	AHKG-067	Outputting the high voltage to the Cleaning Roller.
4	SSR1		Solid State Relay	S5C-225HV	ON / OFF control of the Fuser
5	HV1 HV2 HV3 OUTPUT2 OUTPUT3 OUTPUT1	HV_IM HV_TR HV_AC BIAS_TRG BIAS_SW	HV Power Supply	EUKG845HA	Outputting the high voltage to each of the following components. (1) Image Corona (HV1) (2) Transfer Corona (HV2) (3) Separation Corona (HV3) (4) Developer Roller (OUTPUT2) (5) Regulation Roller (OUTPUT3) (6) Toner Supply Roller (OUTPUT1)
6	PW5724B		Phase Control PCB	PW5724B	Avoiding the flicker of room lamp **This board is used on 230V machine only.**
7	PW10350-01	OUT1-IN OUT1-OUT	PW10350-01 PCB	PW10350-01	Switching the Toner Supply Roller Bias between high and low **This board is used on machines containing sponge type Developer Unit only**

⚠ NOTE

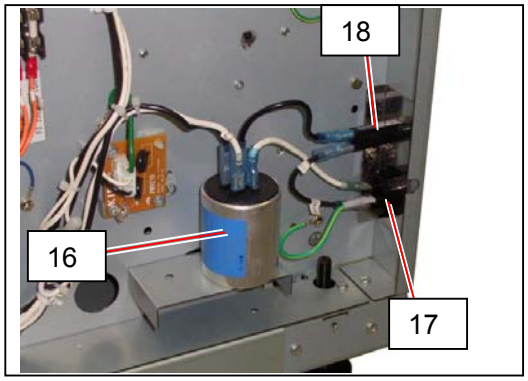
Developer Bias (OUTPUT 2, 3 & 1) is outputted (or stopped) by the signal “BIAS_TRG”.
The polarity of Bias is decided by the signal “BIAS_SW”







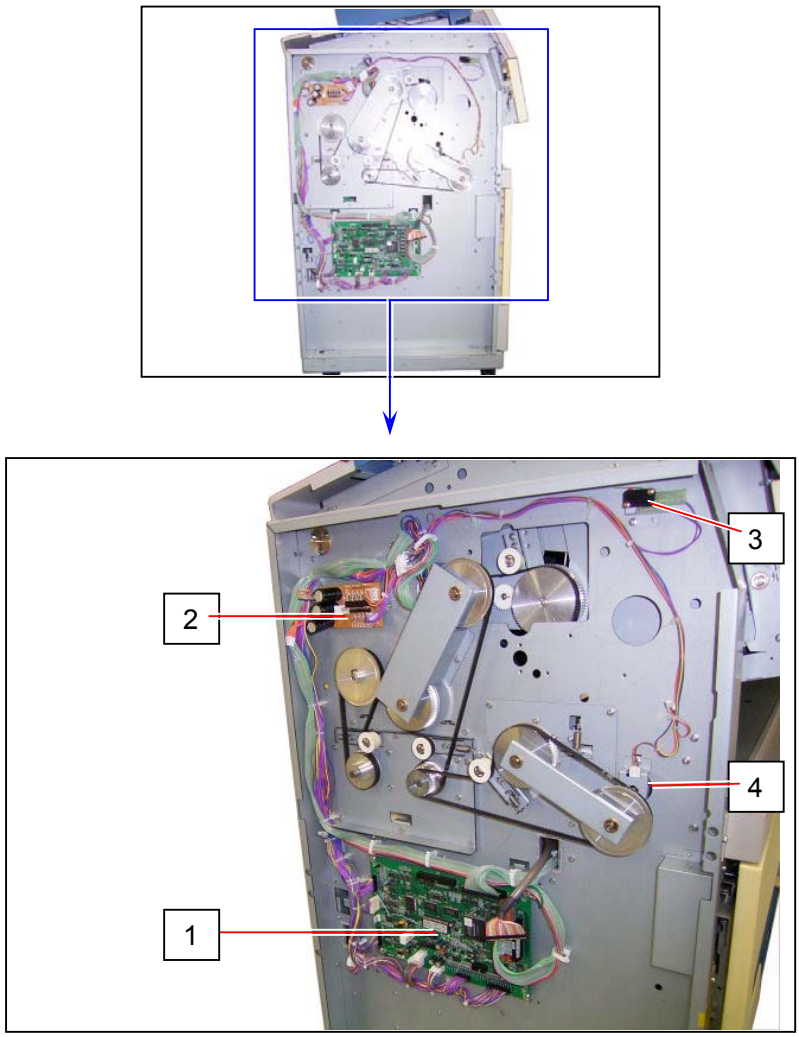
(120V machine)



(230V machine)

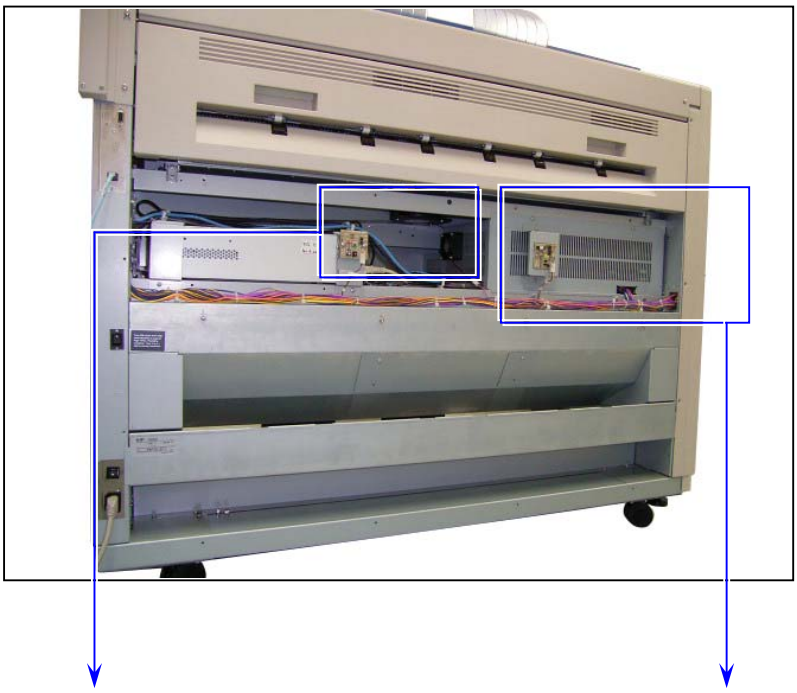
Item	Symbol	Signal name	Name	Type	Function
8	DCP1	-	DC Power Supply	LEB225F-0524-U	Outputting each 24VDC, 5VDC and 0VDC
9	F1 F2 F3	-	Fuse	2153 15MXP	Protecting the 24VDC from the over-current If you replace the fuses, make sure to use the following specified one. (Manufacturer) LITTEL FUSE INC. (Type) 02153 15MXP (250V / 3.15A)
10	PW9210	-	Surge Protection PCB	PW9210	Protecting the circuit from the surge caused by the thunder
11	SW2	-	Switch (Option)	SDDJE1	Turning on and off the Dehumidify Heater
12	RY2	-	Relay (Option)	G2R-1-T-24V	ON / OFF control for the Dehumidify Heater (It makes the Dehumidify Heater OFF when the Main Switch is ON, and it makes the heater ON when the switch is OFF.)
13	RY1	-	Relay	G7L-2A-TUB (DC24V)	Supplying the power to the Lamp (H1). (It stops supplying the power to the Lamp when Switch (MS3) or Thermostat (TS1) is open.)
14	LF1	-	Noise Filter		Removing the noise from the AC line **Used on 120V machine.**
15	CB1	-	Breaker	X28-XQ1A-15	Protecting the AC line from the over-current **Used on 120V machine.**
16	LF1	-	Noise Filter	RG-208F2	Removing the noise from the AC line **Used on 230V machine.**
17	INLET	-	Inlet		Inputting the AC Power **Used on 230V machine.**
18	CB1	-	Breaker	X28-XQ1A-10	Protecting the AC line from the over-current **Used on 230V machine.**

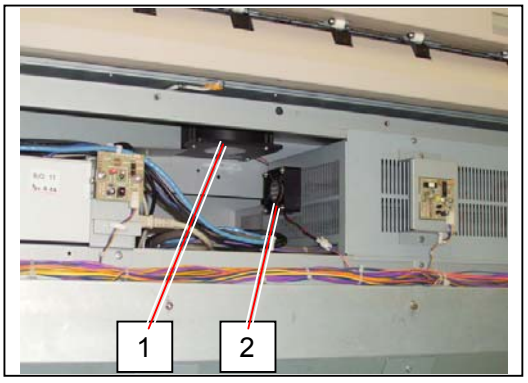
4. 2. 2 Left side

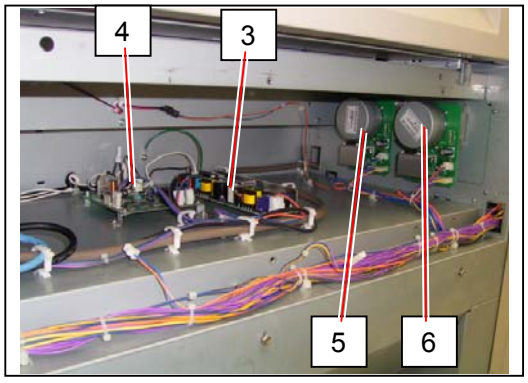


Item	Symbol	Signal name	Name	Type	Function
1	PW10520	-	PW10520 PCB	PW10520	Overall sequence control
2	PW6654B	-	Driver PCB B	PW6654B	Driver for the motors, clutches and so on
3	MS4	-	Switch	V-162-1C25 10E	Detecting whether or not the Toner Hatch or the Engine Unit is opened (The machine does not shut off the AC power even if the MS4 detects either of them is opened.)
4	CL1	REGIST_CL	Clutch	MIC5NE-45	Meeting the image head and leading edge of paper each other

4. 2. 3 Back side

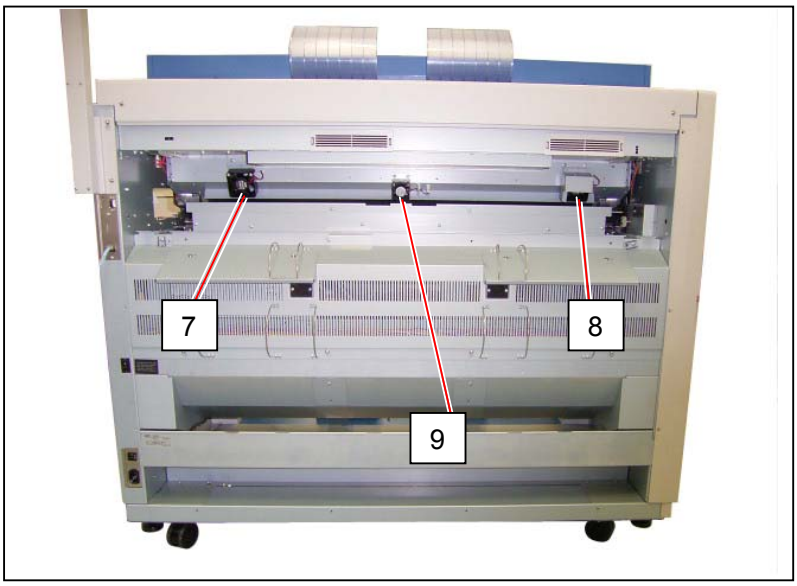






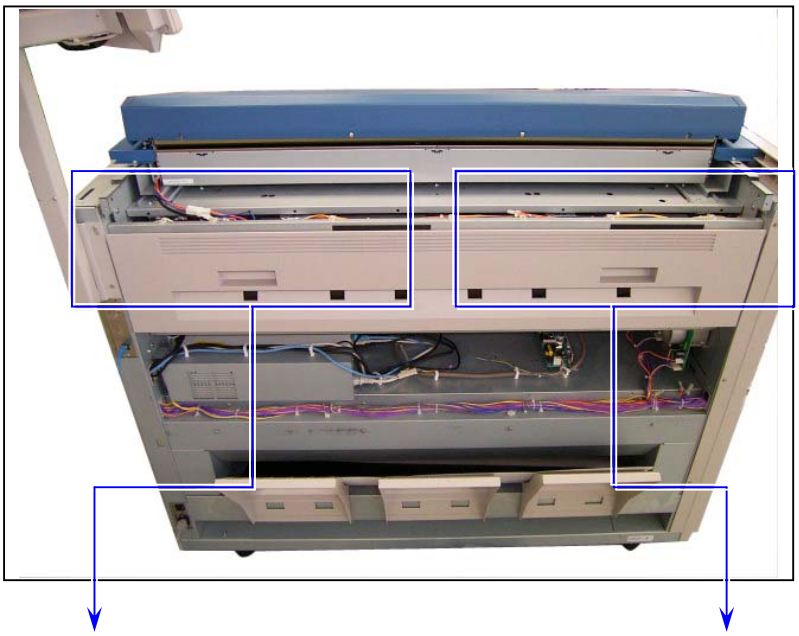
Item	Symbol	Signal name	Name	Type	Function
1	BL7	-	Blower	D12F-24BL 05	Assisting to transport the paper on the Inner Transport Unit
2	BL8	-	Fan	ASFN60372	Cooling down the IPS Controller
3	DCP2	-	DC Power Supply	LEA50F-12-XKKD	Supplying the DC power to both the UI and the PW10523
4	PW10523		PC Controller PCB	PW10523	Shutting down the IPS Controller.
5	M1	MAMTR	DC Motor	DRG-6236-196	Driving the Drum, Developer Unit and paper feeding section
6	M2	HEAT_M	DC Motor	DRG-6236-196	Driving the Fuser Unit

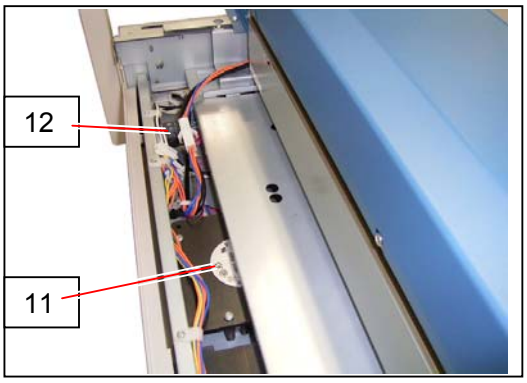
(Fuser unit is removed.)

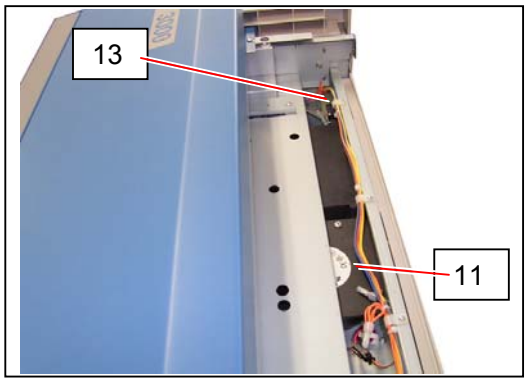


Item	Symbol	Signal name	Name	Type	Function
7	BL5		Fan	ASFN60372	Controlling the temperature on the right area of Fuser Roller
8	BL6		Fan	ASFN60372	Controlling the temperature on the left area of Fuser Roller
9	BL9		Fan	EUDC24B8	Controlling the temperature on the central area of Fuser Roller

Item	Symbol	Signal name	Name	Type	Function
10	MS8		Switch (Optional in USA)	FA2L-BA22	It stops supplying the AC power to the Dehumidify Heater when the Roll Deck is opened.

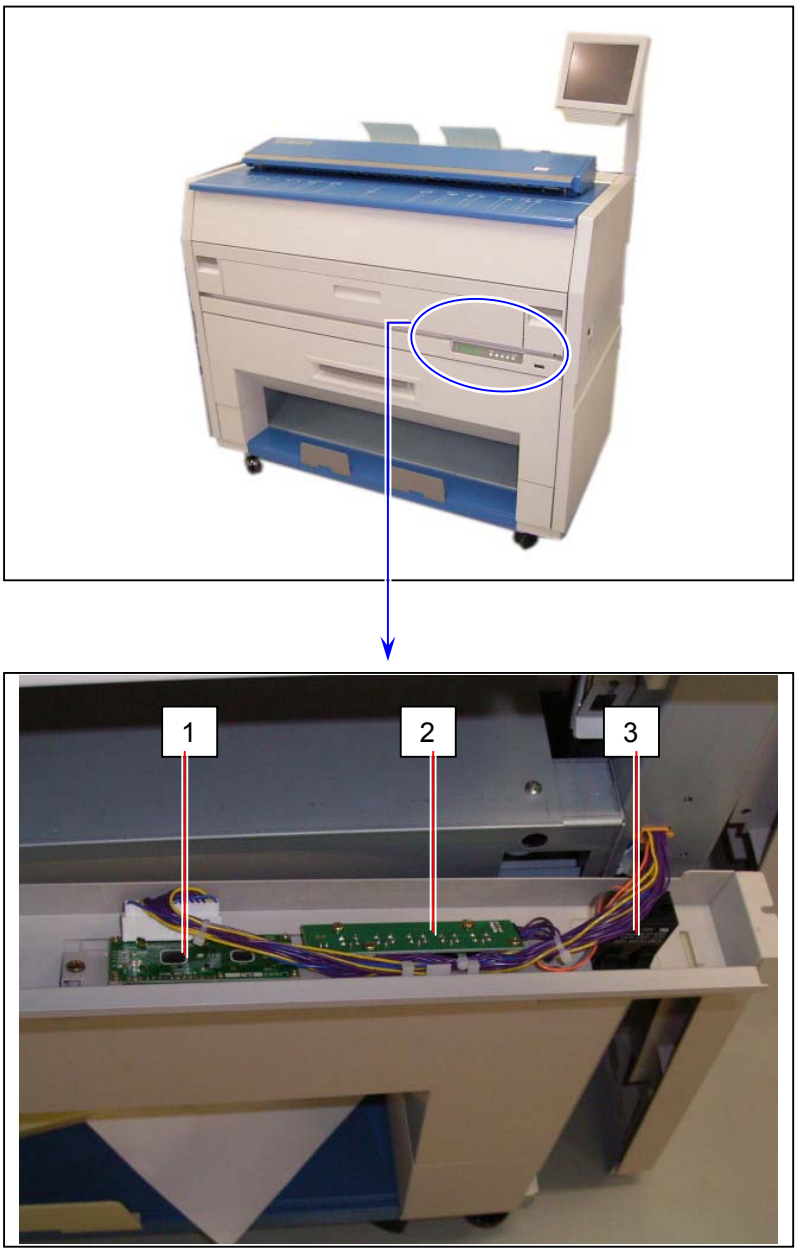






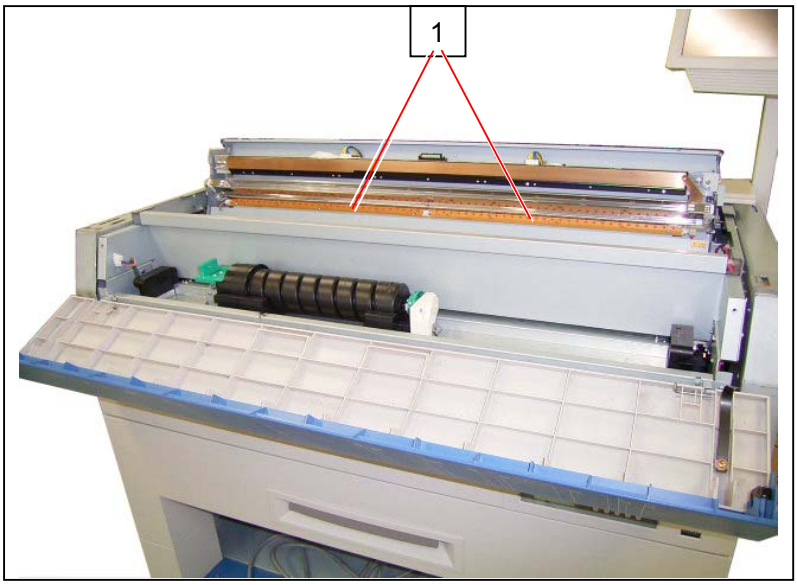
Item	Symbol	Signal name	Name	Type	Function
11	BL3 & BL4	HEAT_BL_L HEAT_BL_R	Blower	D12F-24BL 05	Exhausting the inside air. (They are equipped with the Ozone Filter.)
12	MS2		Switch	D2D-3104-3	Detecting whether or not the Heater Hatch is opened. (It shuts off the AC power to the DCP1 when the Heater Hatch is opened.)
13	MS3		Switch	V-162-1C25 10E	Detecting whether or not the Heater Hatch is opened. (The machine does not shut off the AC power even if the MS3 detects the Heater Hatch is opened.)

4. 2. 4 Front side

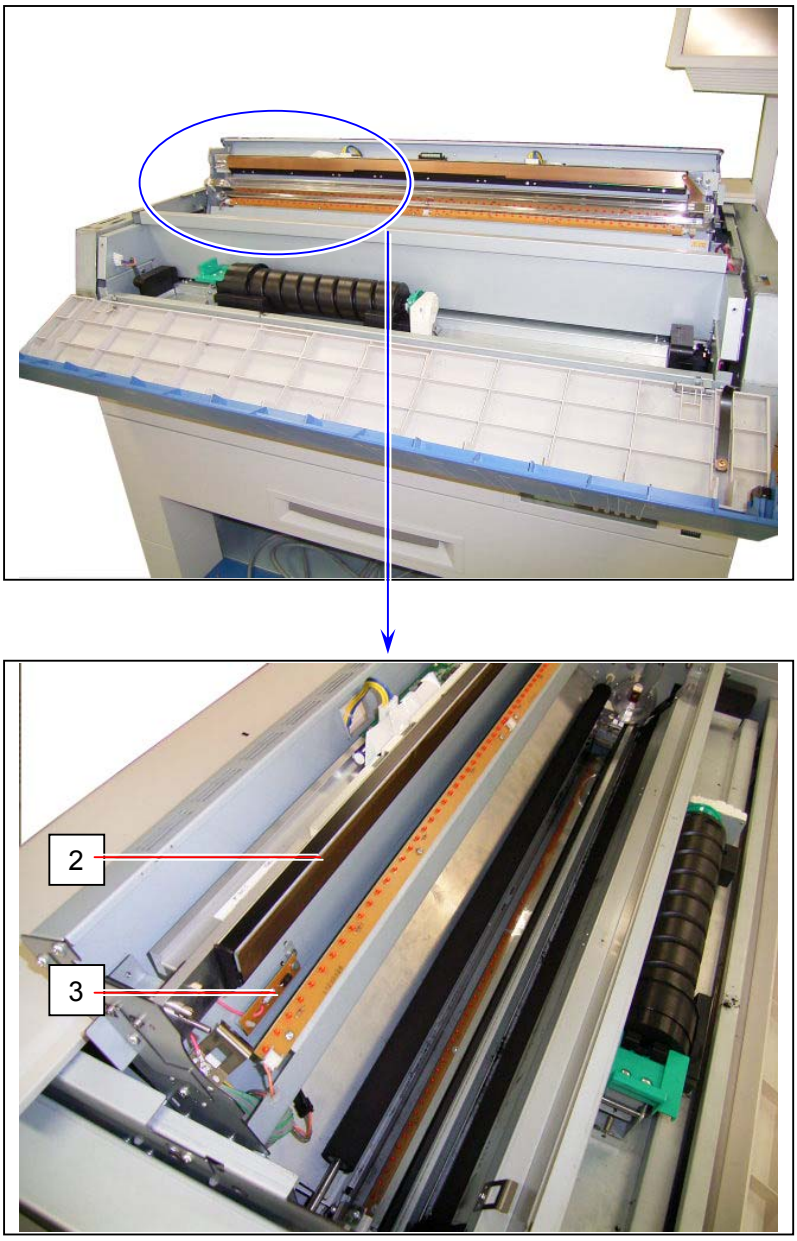


Item	Symbol	Signal name	Name	Type	Function
1	LCD		LCD	L168200J000	Several kinds of message are indicated.
2	PW10570		PW10570 PCB	PW10570	Several kinds of service operations are available.
3	EC1	COUNT	Counter	E760PC10DC 24-551	Counting the total linear meter (linear foot) or square meter (square foot). It is possible to change the counting unit in the Service Mode.

4. 2. 5 LED Head Frame

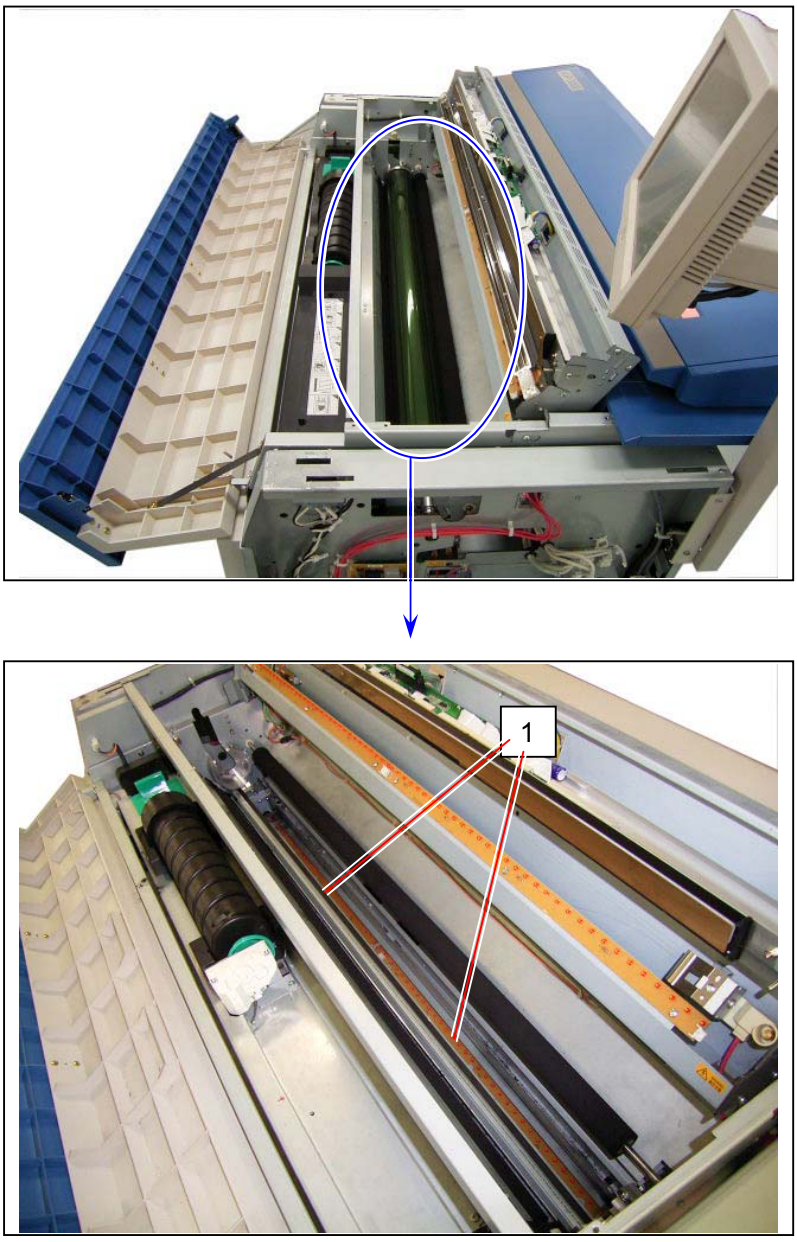


Item	Symbol	Signal name	Name	Type	Function
1	PW6631	ER1	Eraser PCB A	PW6631	Removing the negative electric charges from the Drum at the beginning of the Print Process

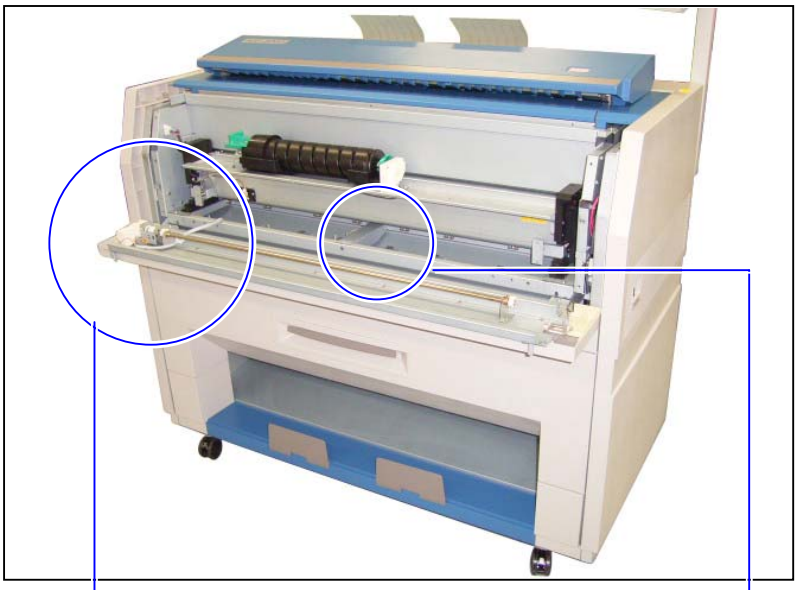


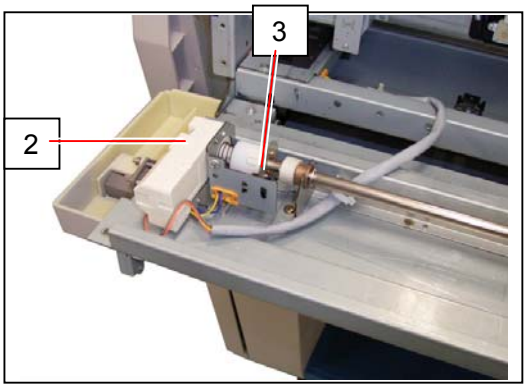
Item	Symbol	Signal name	Name	Type	Function
2	LED HEAD		LED Head	LH6601	Creating the Electrostatic Latent Image on the Drum
3	PW6693		HV-ZD Assy	PW6693	Keeping the Grid Voltage constant (Control of the surface potential)

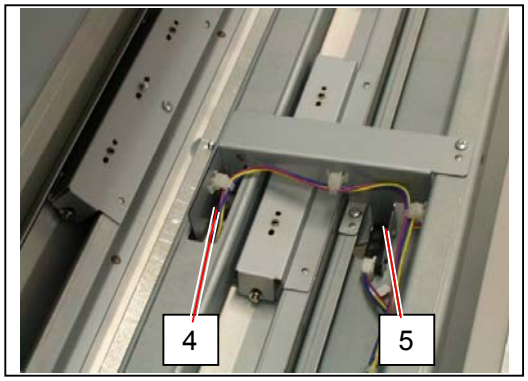
4. 2. 6 Main Frame



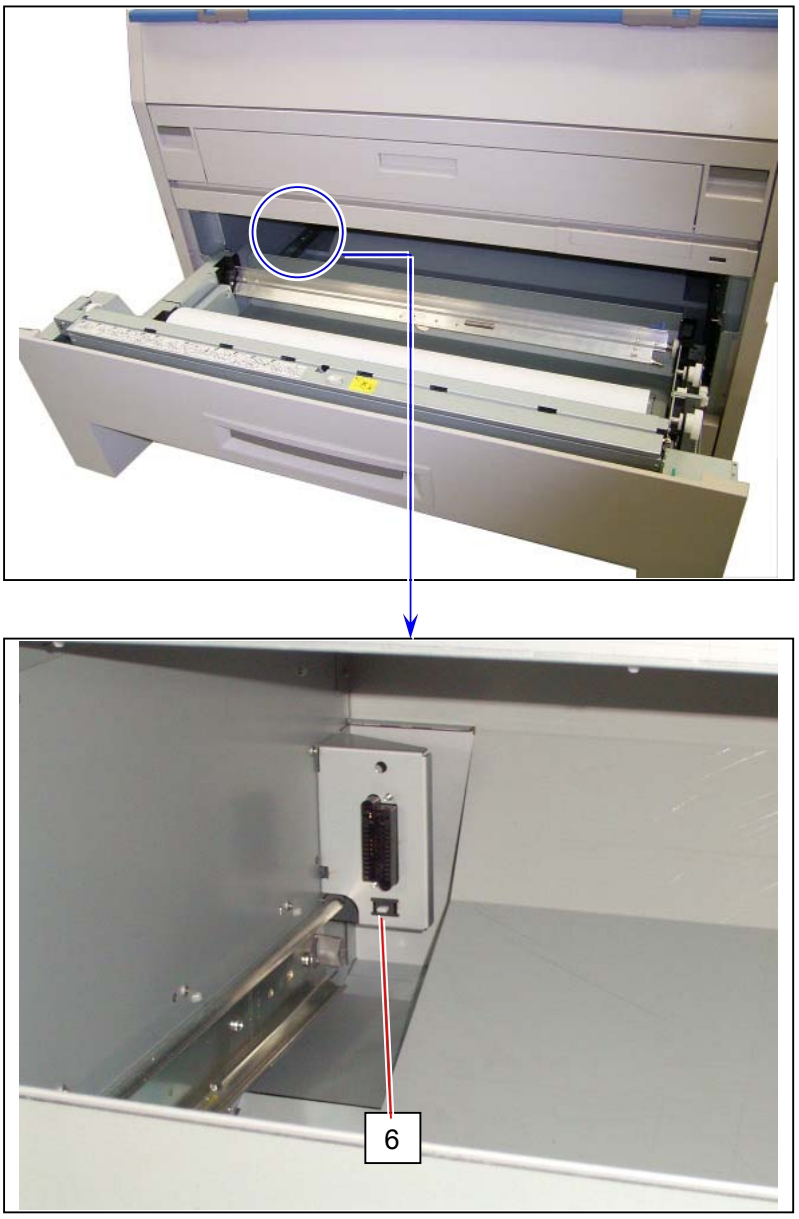
Item	Symbol	Signal name	Name	Type	Function
1	PW6631	ER2	Eraser PCB A	PW6631	Assisting the paper separation by removing the electric charges from the Drum at the time of Separation Process





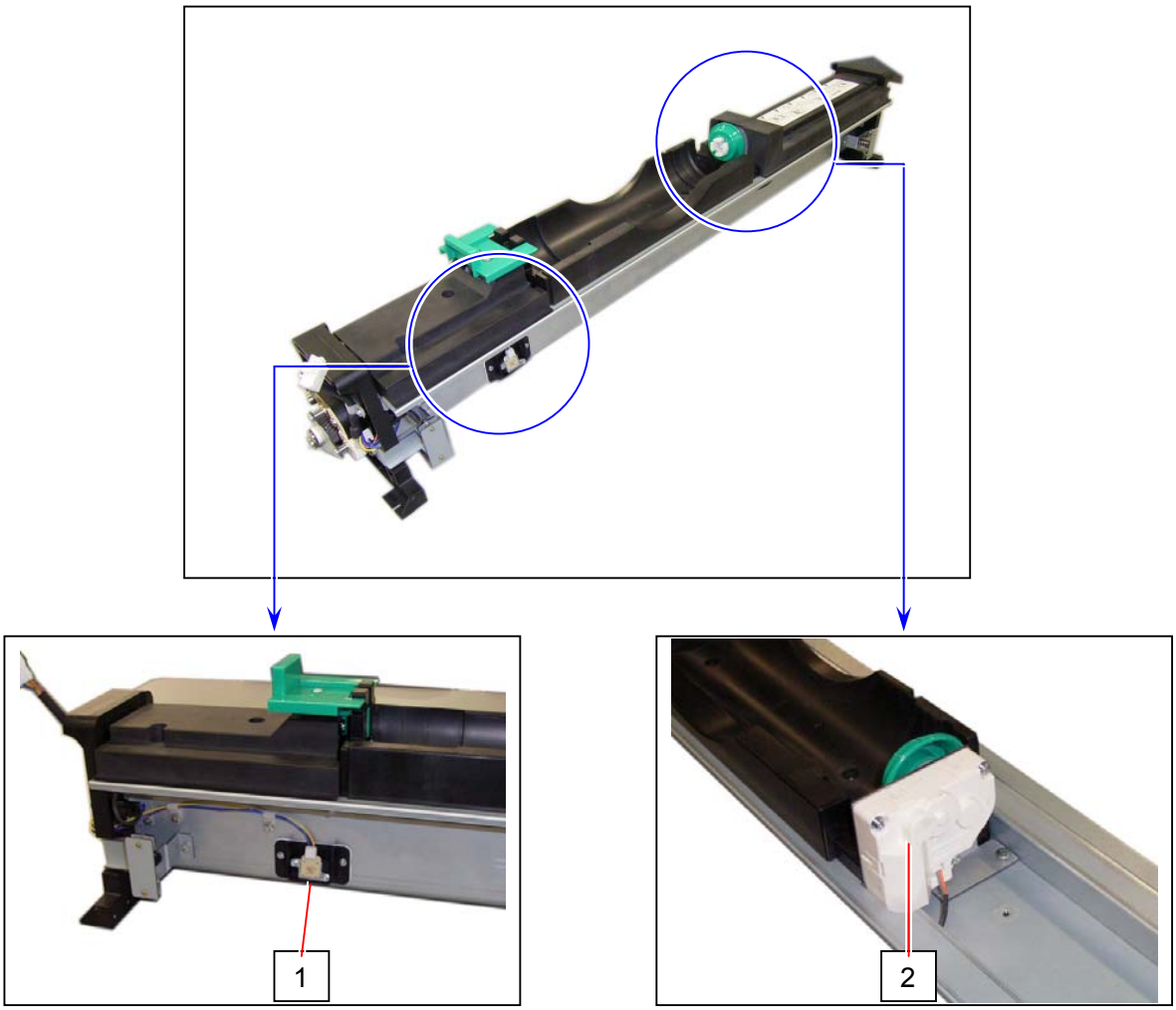


Item	Symbol	Signal name	Name	Type	Function
2	M4	PRESS_M	DC Motor	DU2422-1	Pressing the Developer Unit to the Drum (Or keeping the Developer Unit away from the Drum)
3	PH4	PRESS_S	Sensor	GP1A73A000J	Detecting the Developer Unit is pressed or kept away
4	PH1	REGIST_S	Sensor	PS117ED1	Detecting the paper at the Registration Area
5	PH5	MAN_IN	Sensor	PS117ED1	Detecting the set of cut sheet paper



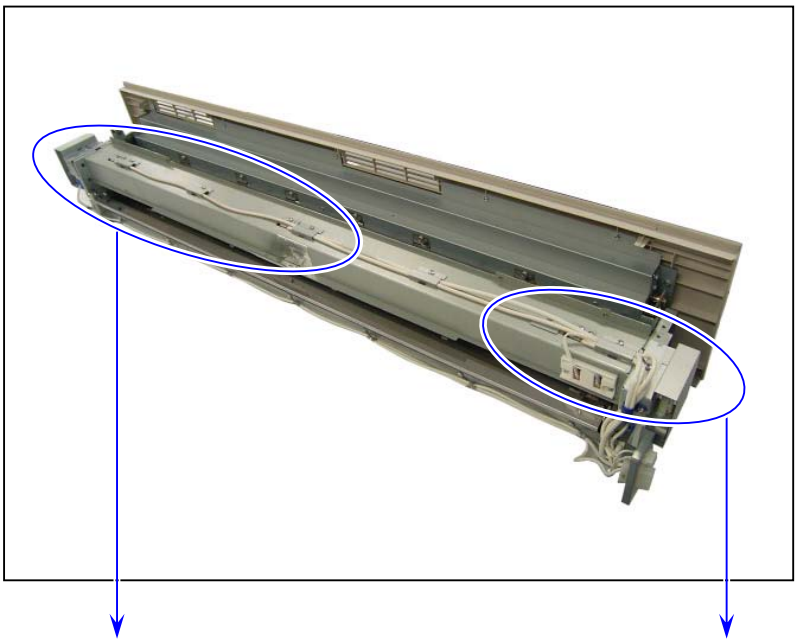
Item	Symbol	Signal name	Name	Type	Function
6	MS5	DOOR-OPEN	Switch	CS1A-B2CA	Detecting the Roll Deck Open Error

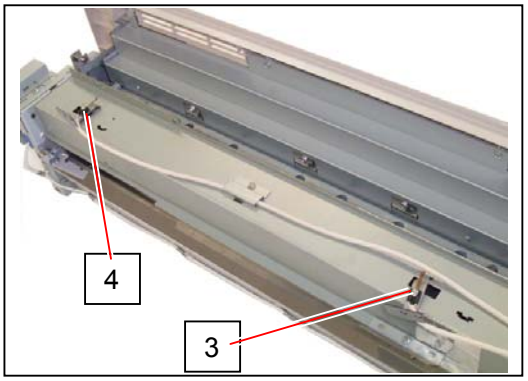
4. 2. 7 Developer Unit

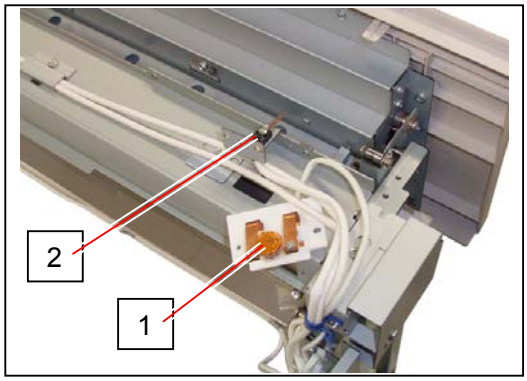


Item	Symbol	Signal name	Name	Type	Function
1	TLS1	TONER_S	Sensor	TSP15DA10C-01	Detecting whether or not the toner exists in the Developer Unit
2	M3	TONER_M	DC Motor	DU2431-2	Driving the Toner Hopper to supply the toner to the Developer Unit

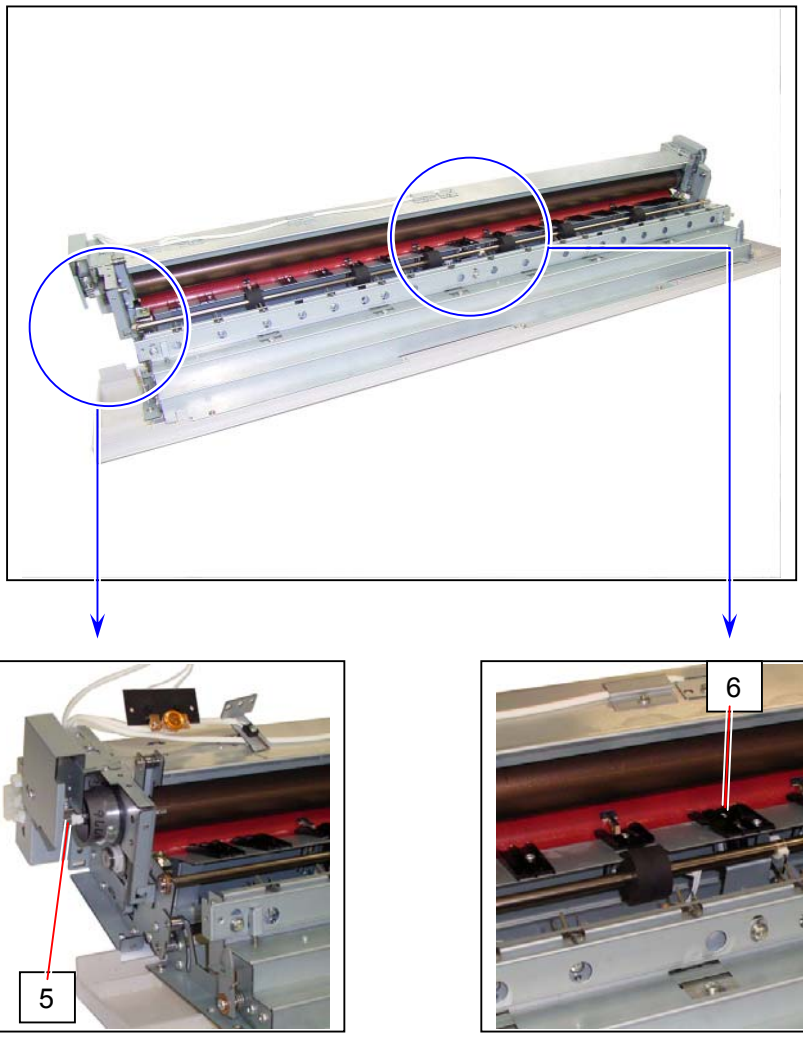
4. 2. 8 Fuser Unit





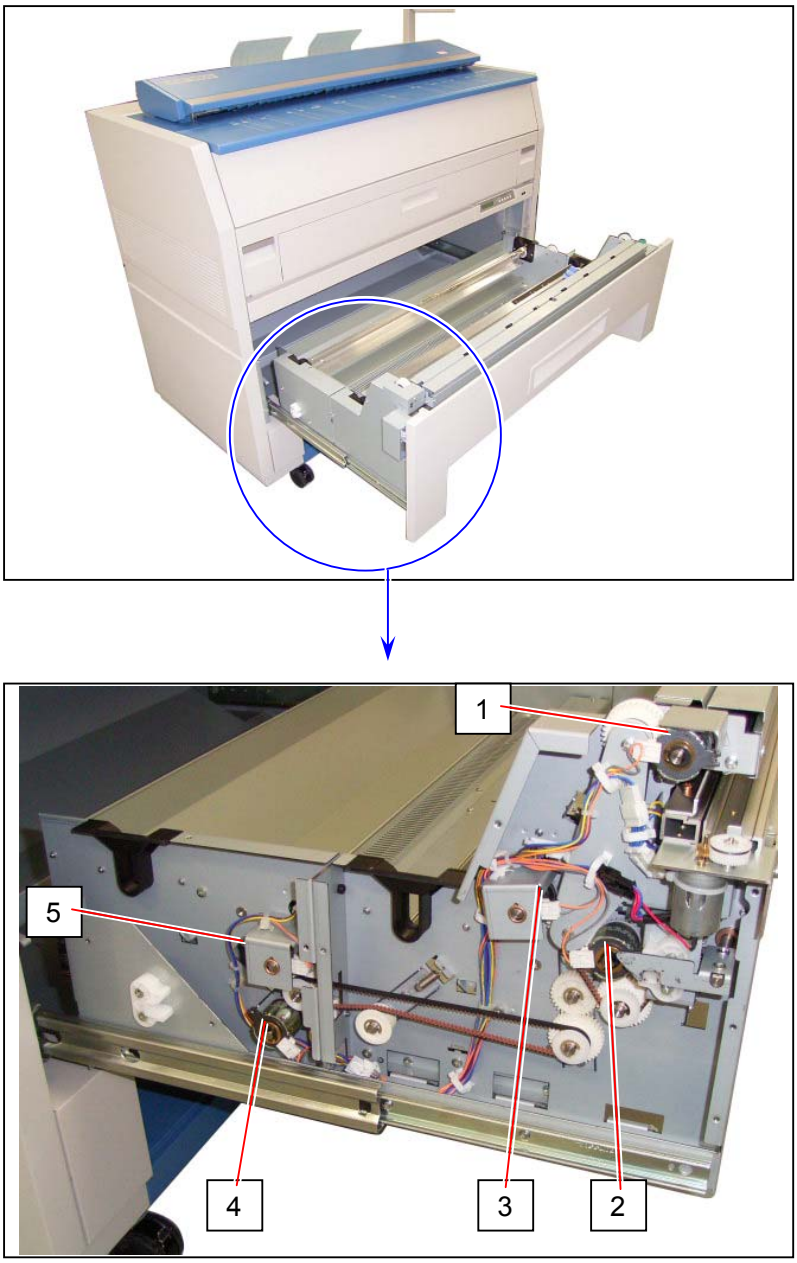


Item	Symbol	Signal name	Name	Type	Function
1	TS1		Thermostat	2450RC-S26-004-181	Preventing over-heat
2	TH2	TH2	Thermistor 2	FS-K0114	Detecting the temperature on the right area of Fuser Roller
3	TH1	TH1	Thermistor	FS-K0113	Detecting the temperature on the central area of Fuser Roller
4	TH3	TH3	Thermistor 3		Detecting the temperature on the left area of Fuser Roller

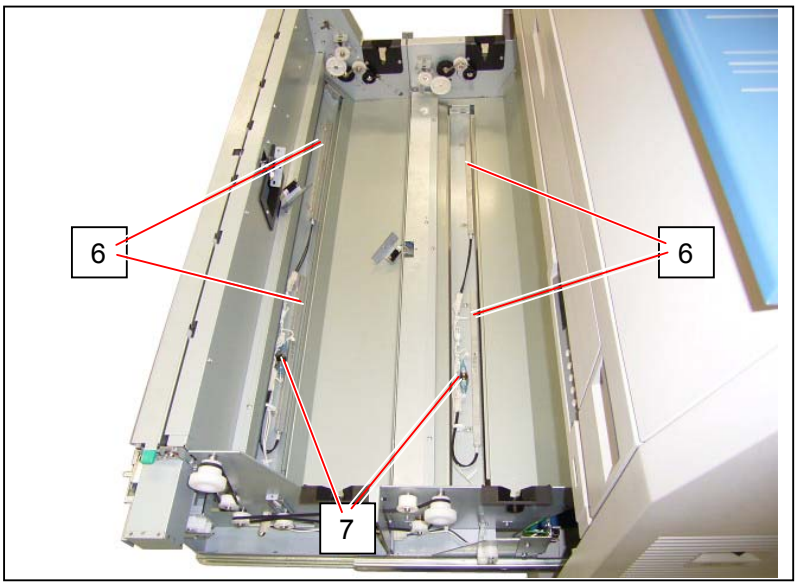


Item	Symbol	Signal name	Name	Type	Function
5	H1		Lamp 120V : Z056800010 100V : Z056800020 230V : Z056800030		Heating up the Fuser Roller
6	PH3	HEAT_EXIT	Sensor	GP1A73A000J	Detecting the paper mis-feed at the exit area

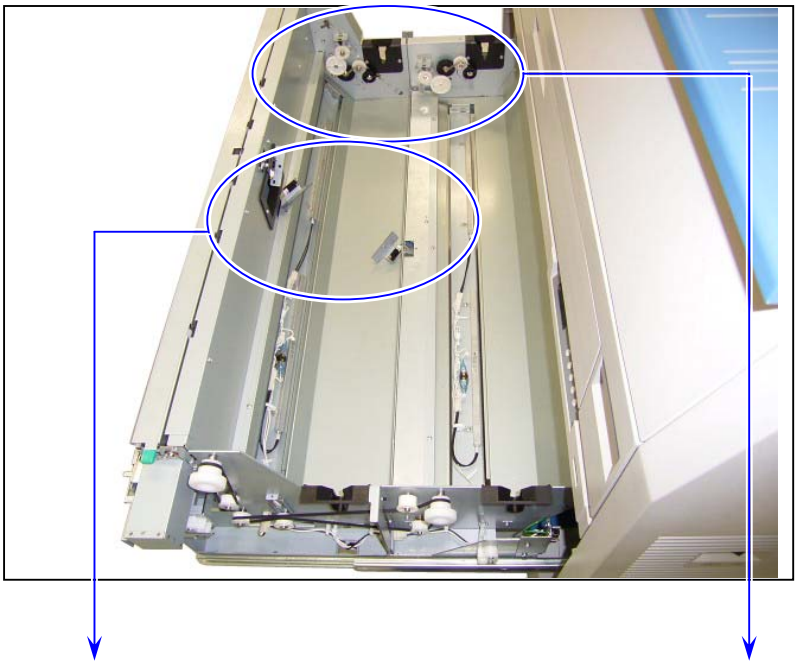
4. 2. 9 Roll Deck

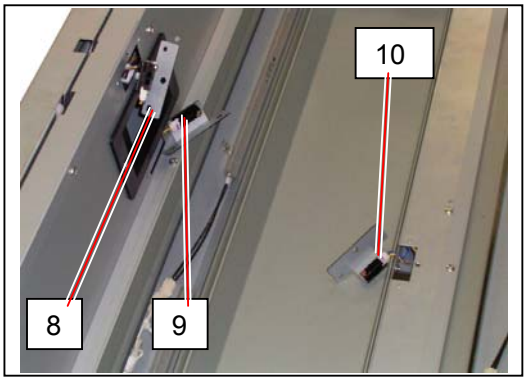


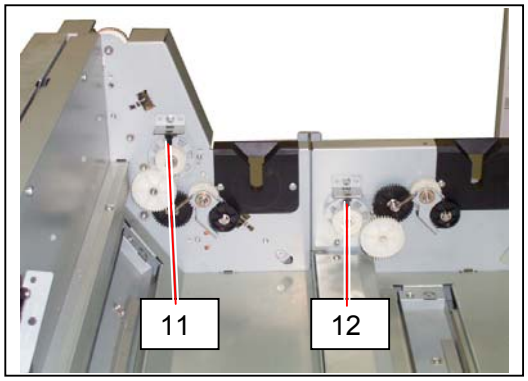
Item	Symbol	Signal name	Name	Type	Function
1	CL3	FEED_CL	Clutch	MIC5NE-45	Feeding the roll paper from both Roll 1 and Roll 2
2	CL4	R1FD_CL	Clutch	MIC5NE-45	Feeding the Roll 1 forward
3	CL5	R1BK_CL	Clutch	MIC8NE-09	Rewinding the Roll 1
4	CL6	R2FD_CL	Clutch	MIC5NE-45	Feeding the Roll 2 forward
5	CL7	R2BK_CL	Clutch	MIC8NE-09	Rewinding the Roll 2



Item	Symbol	Signal name	Name	Type	Function
6	H3, H4, H5 & H6		Resister	120V 1K 15W	Dehumidifying the roll paper
7	TS3 & TS4		Thermostat	2455RM-158-37	Controlling the temperature of Resister (The Resisters turn on when the Thermostat detects some decided temperature, and they turn off when it detects another decided temperature.)

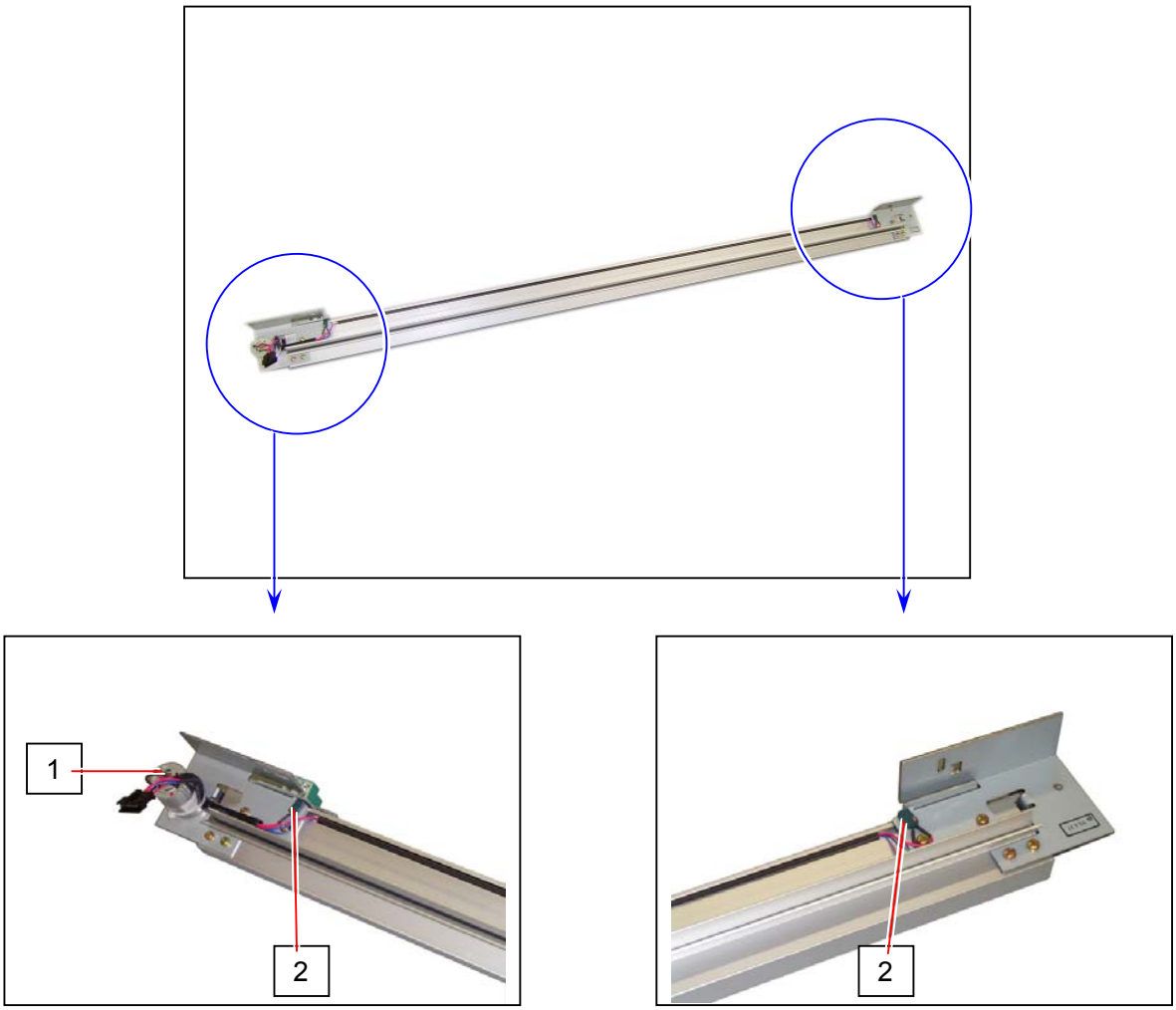






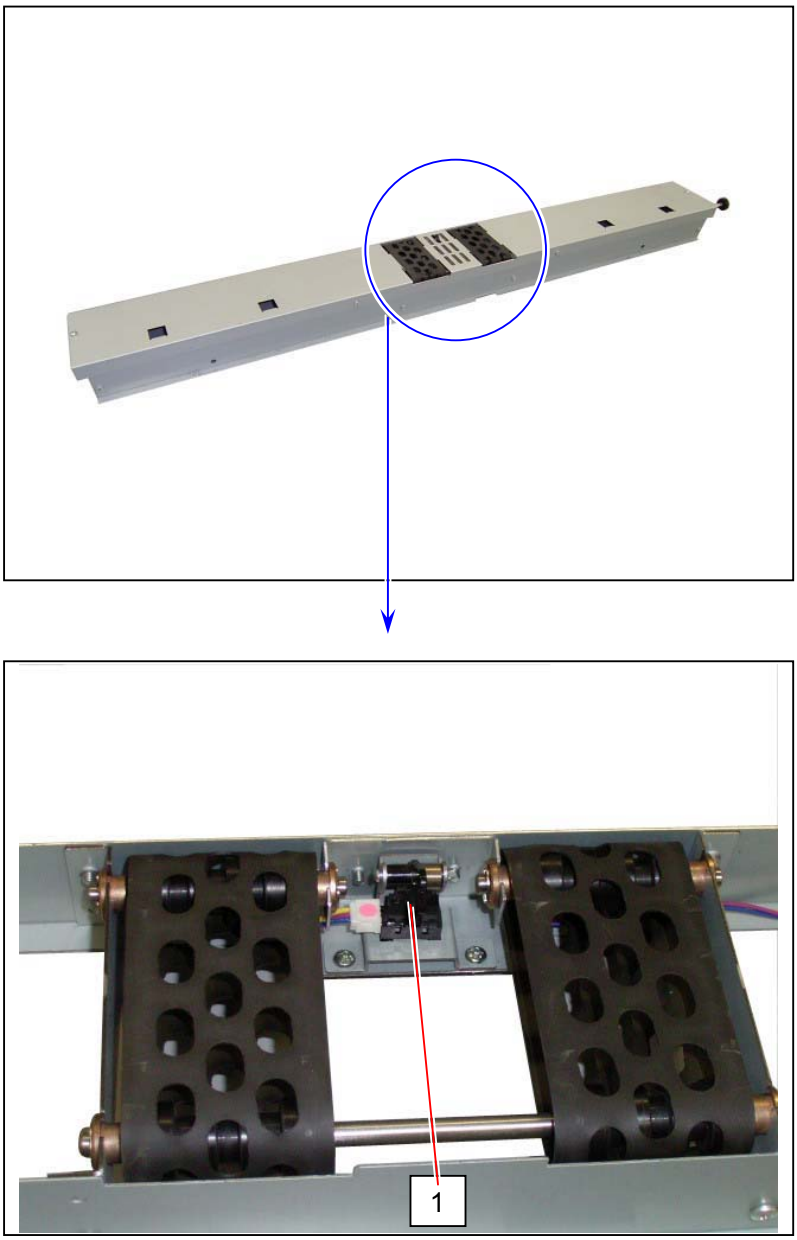
Item	Symbol	Signal name	Name	Type	Function
8	PH6	R_EDGE	Sensor	PS117ED1	Detecting the trailing edge of the roll paper
9	PH7	R1SET_S	Sensor	PS117ED1	Detecting the set of Roll 1
10	PH9	R2SET_S	Sensor	PS117ED1	Detecting the set of Roll 2
11	PH8	R1ENC_S	Sensor	GP1A73A000J	Detecting “paper end” of Roll 1
12	PH10	R2ENC_S	Sensor	GP1A73A000J	Detecting “paper end” of Roll 2

4. 2.10 Cutter Unit



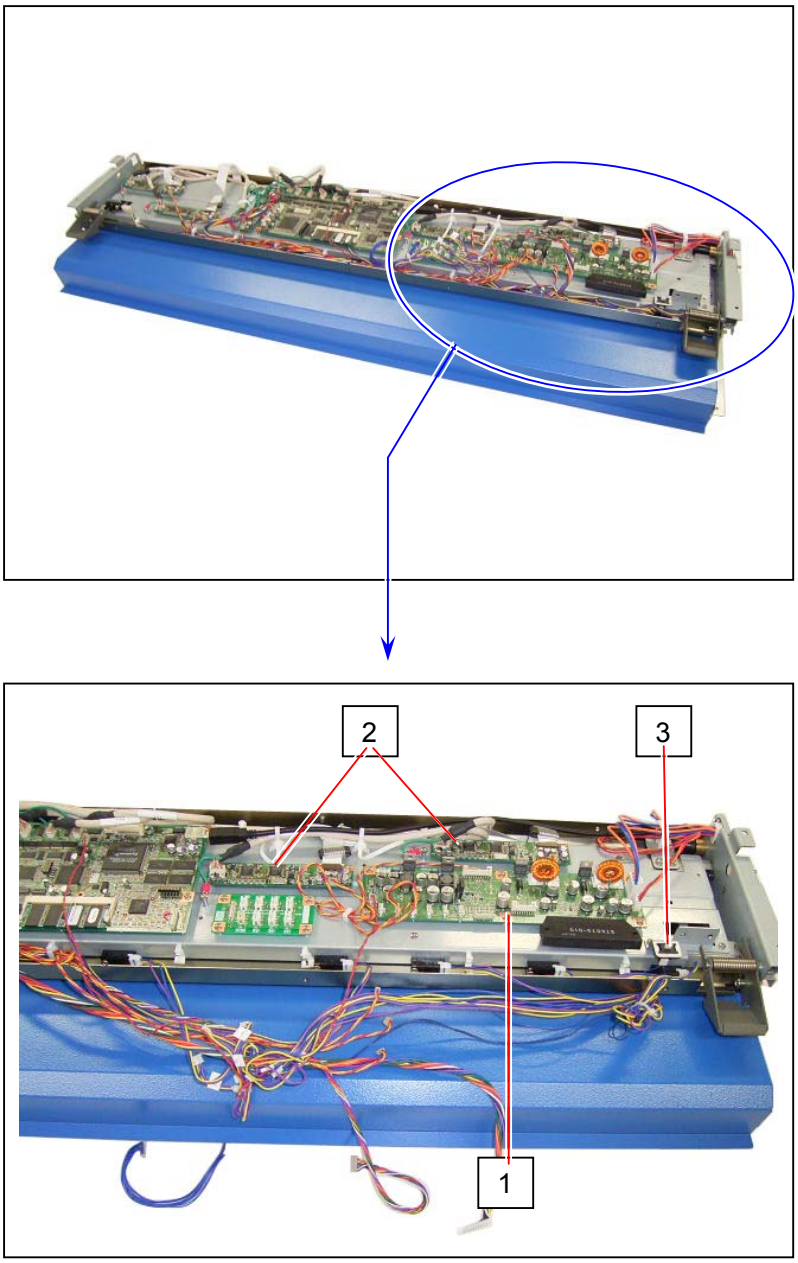
Item	Symbol	Signal name	Name	Type	Function
1	M5		Cutter Motor	-	Moving the Cutter Blade
2	MS6 & MS7		Cutter Home Position Sensor	-	Detecting the Home Position of Cutter Blade.

4. 2.11 Inner Transport Unit

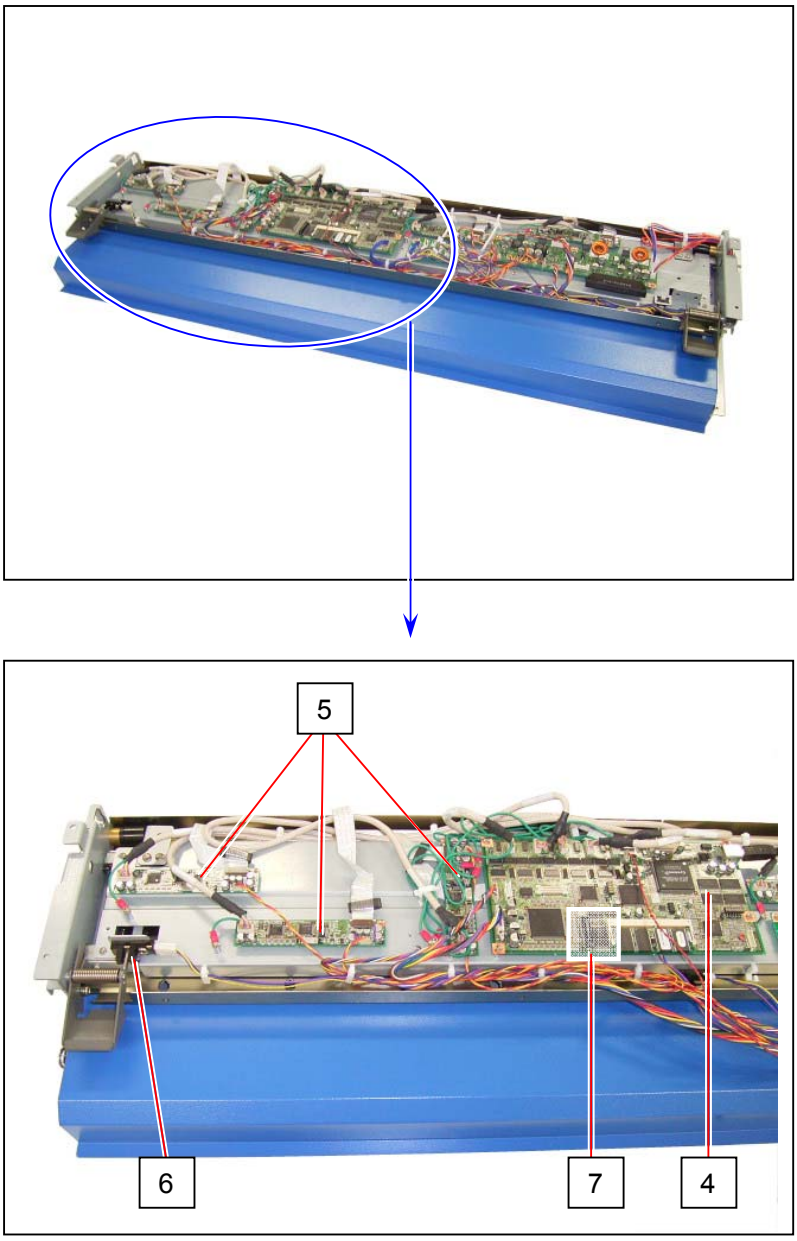


Item	Symbol	Signal name	Name	Type	Function
1	PH2	STRIP_S	Sensor	GP1A73A000J	Detecting the paper mis-feed at the Separation Area

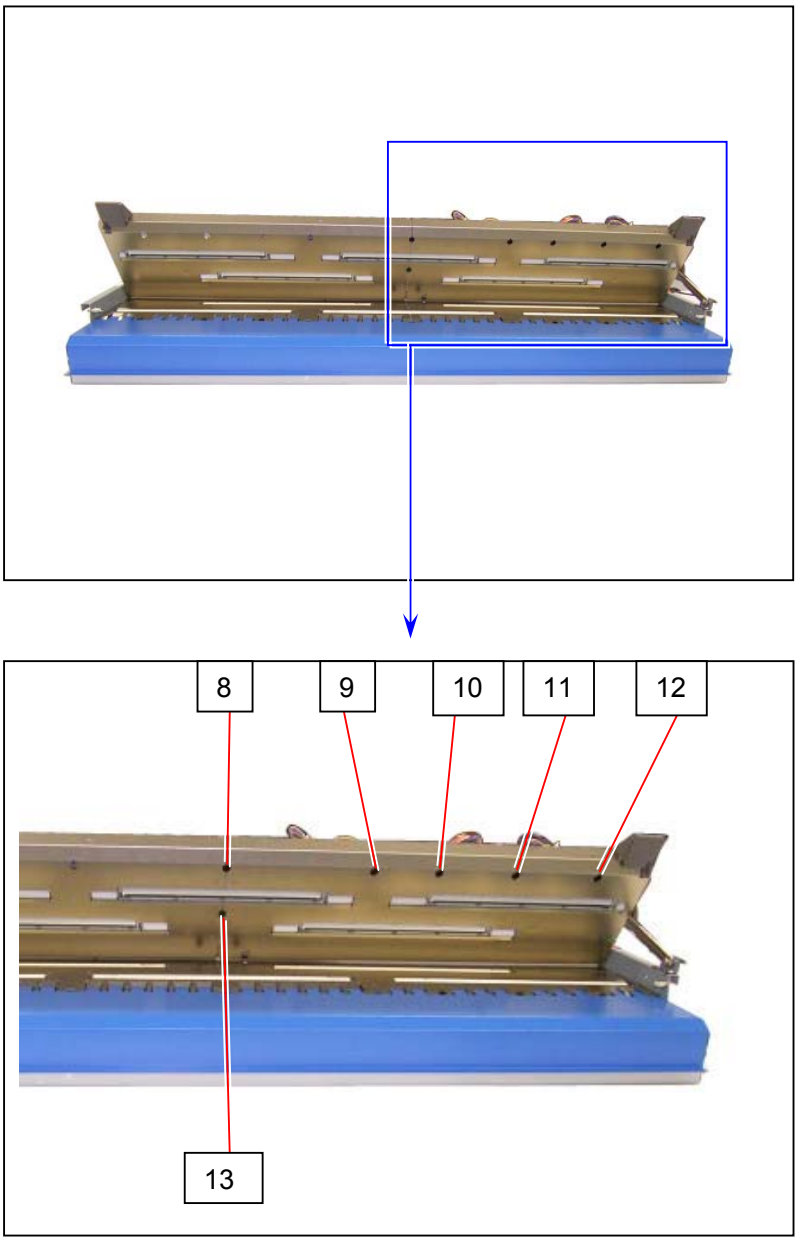
4. 2.12 Scanner Unit



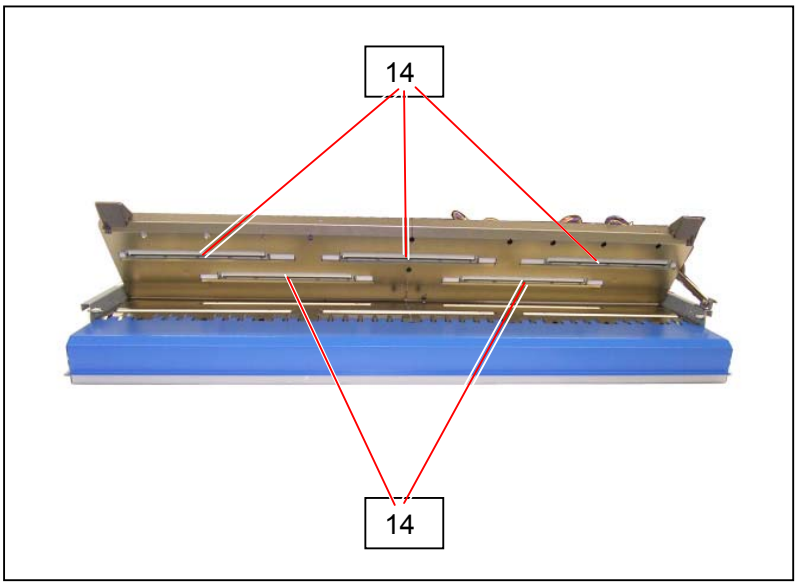
Item	Symbol	Signal name	Name	Type	Function
1			Power Board		Power Board converts the +24V to each +12V, +5V and +3.3V. Also it is the Driver Circuit of the Motor.
2			CIS Controller Board		Converting the analog data read by the CIS to the digital data
3			Switch	CS1A-B2CA	Emergent stop button



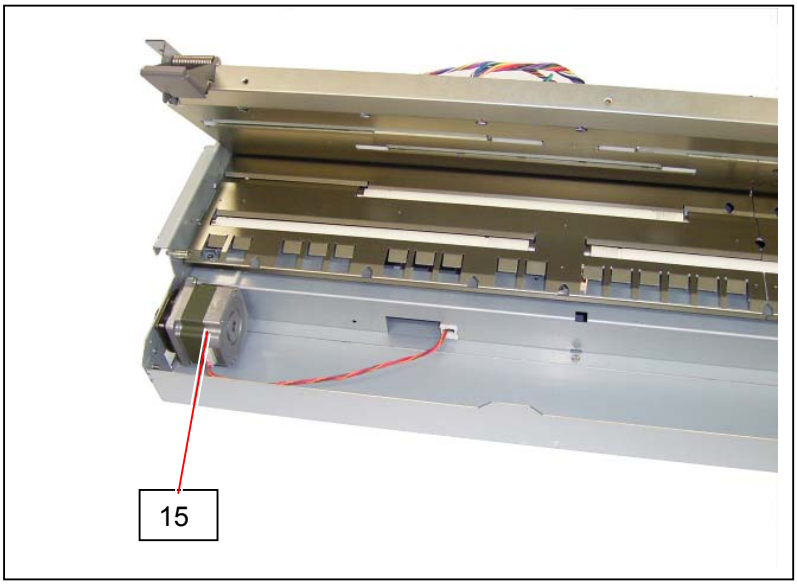
Item	Symbol	Signal name	Name	Type	Function
4			Data Controller Board		Data Controller Board makes several image processes to the digital data sent from the CIS Controller Board. And then it sends the processed image data to the controller.
5			CIS Controller Board		Converting the analog data read by the CIS to the digital data
6			Sensor	TLP1201A	Detecting whether or not the Scanner Upper Unit is opened.
7			Color Module		(installed to machines after S/N 10510001)



Item	Symbol	Signal name	Name	Type	Function
8			Sensor	PS117ND1	It detects the insertion of original. Also it detects original widths A4, 11” and 12”.
9			Sensor	PS117ND1	It detects original widths A3, 17” and 18”.
10			Sensor	PS117ND1	It detects original widths A2, 22” and 24”.
11			Sensor	PS117ND1	It detects original widths A1 and 30”.
12			Sensor	PS117ND1	It detects original widths A0, 34” and 36”.
13			Sensor	PS117ND1	It detects the original mis-feed. It is also used to detect the leading edge when the original is returned.



Item	Symbol	Signal name	Name	Type	Function
14			CIS Unit	CIPS218CF601	CIS Units read the image of original, and then send the analog data to the CIS Controller Board



Item	Symbol	Signal name	Name	Type	Function
15			Motor Assembly		Transporting the original.

4. 3 Check & Adjustment of Analog Output from HV Power Supply

4. 3. 1 Situations necessary to check the analog output

It is necessary to check the analog output from High Voltage Power Supply after replacing the following parts.

1. PW10520 PCB (DC Controller)
2. HV Power Supply PCB (EUKG845HA)
3. HV Power Supply PCB (AHKG-067)

Please check the analog output for each of the following part, and please adjust if it is out of the specified range.
Each “Reference page” in the list shows how to check and adjust each item.

Check Item	Reference page
Analog Voltage to the Image Corona	4-31
Analog Voltage to the Transfer Corona	4-33
AC Component to the Separation Corona	4-35
DC Component to the Separation Corona	4-37
Negative Developer Bias to the Developer Roller	4-39
Positive Developer Bias to the Developer Roller	4-41
Bias gap between Developer Roller and Toner Supply Roller	4-43
Bias gap between Developer Roller and Regulation Roller	4-45
Positive Cleaning Roller Bias (Print Cycle)	4-47
Negative Cleaning Roller Bias (Toner Collection Process)	4-49

Reference

Please try to replace the PW10520 PCB or HV Power Supply PCB if you have the following kinds of problem.

PW10520 PCB
(1) When the UI indicates abnormal indication although the UI has no problem.
(2) When the electric component such as motor or lamp does not work properly although such component has no problem.

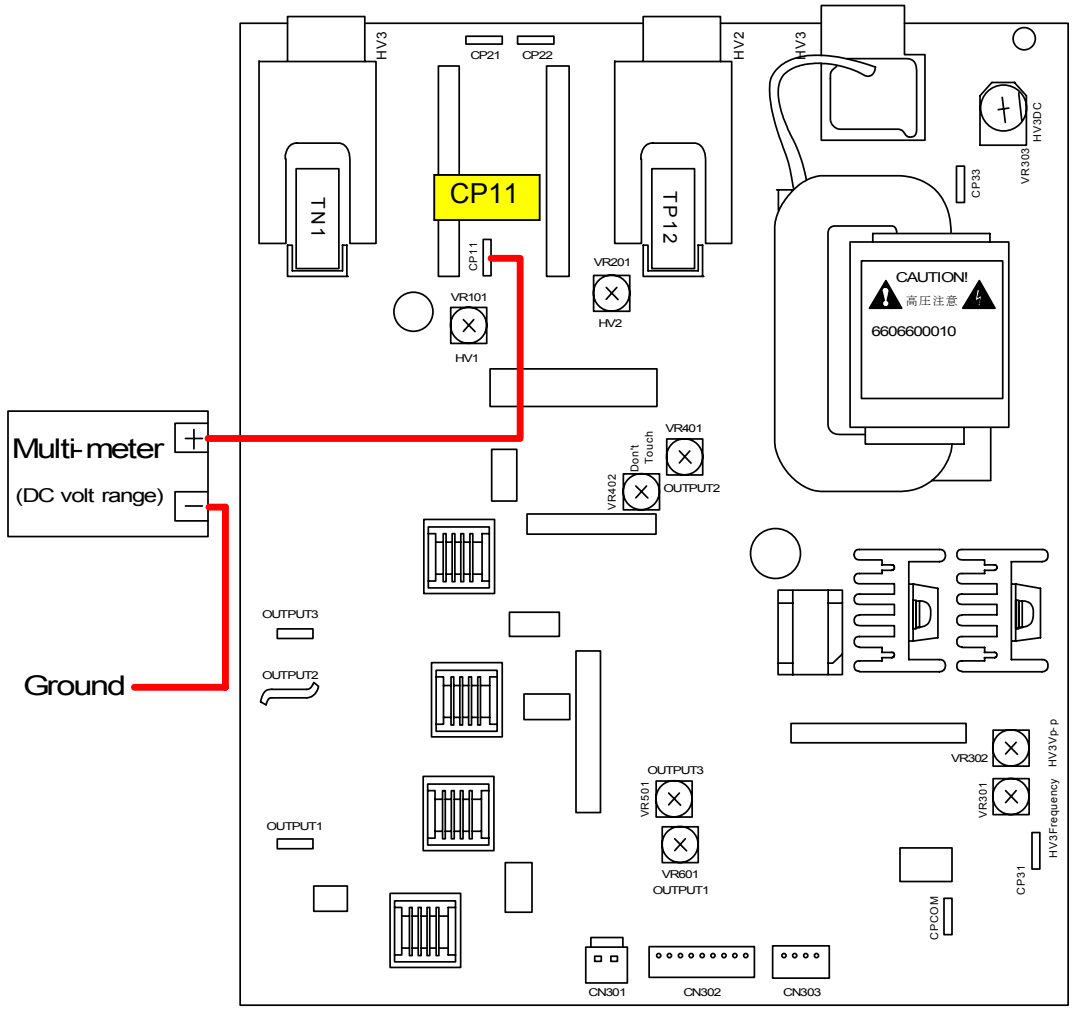
HV Power Supply PCB (EUKG845HA)
(1) When the output to each Image Corona, Transfer Corona, Separation Corona Developer Roller, Toner Supply Roller and Regulation Roller is abnormal.

HV Power Supply PCB (AHKG-067)
(1) When the output to the Cleaning Roller is abnormal.

4. 3. 2 Check & Adjustment of Analog Voltage to the Image Corona

The standard value of the voltage outputted from the HV Power Supply PCB to the Image Corona is **1.30 +/-0.05V**.
Check and adjust the output current in the following way.

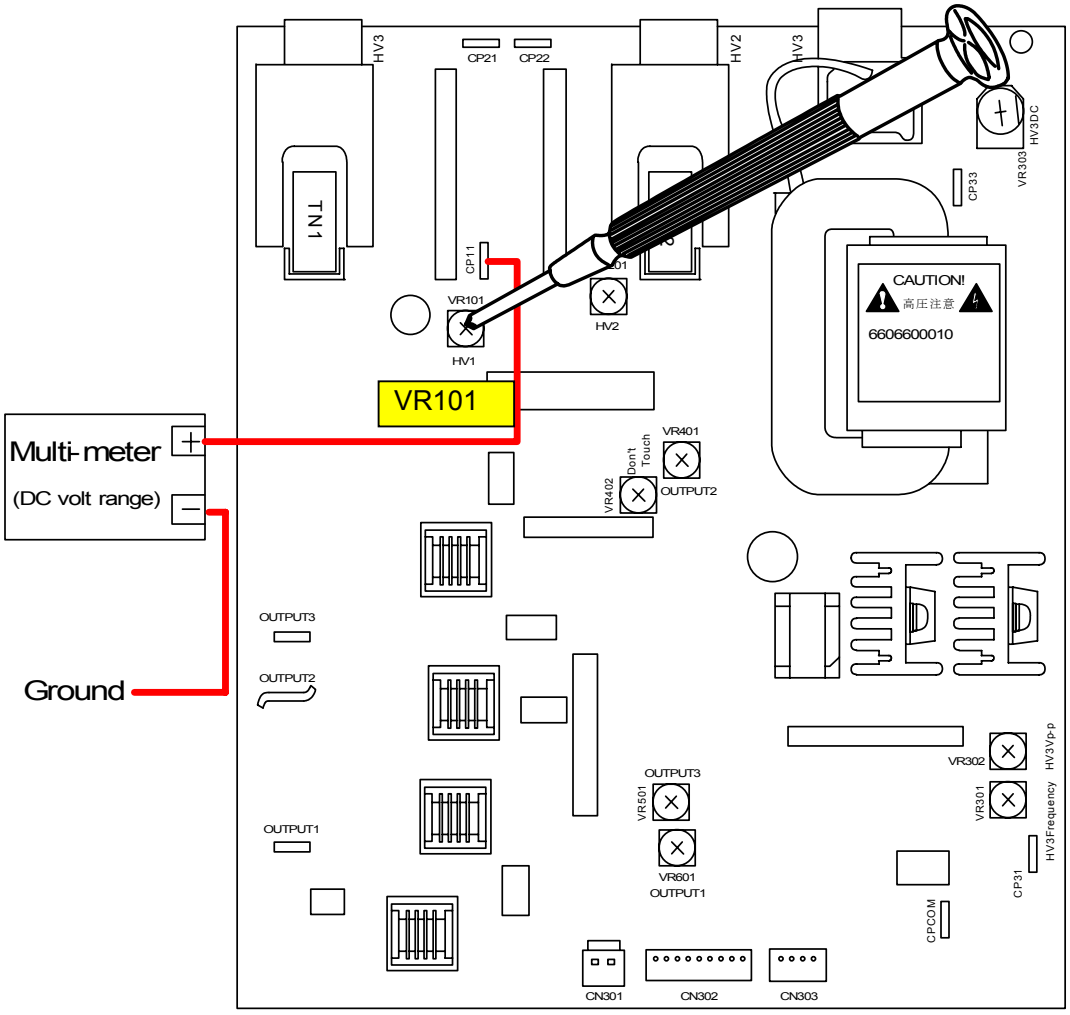
1. Connect the “+” cable of the multi-meter to the “CP11” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the ground.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the high voltage is supplied to the Image Corona during the Test Print, check the voltage with the multi-meter.

   Standard value of the output voltage to the Image Corona is **1.30 +/-0.05V**.

3. Adjust the output voltage if it does not satisfy **1.30 +/-0.05V**.
   To adjust it, rotate the VR101 with a screwdriver.



4. 3. 3 Check & Adjustment of Analog Voltage to the Transfer Corona

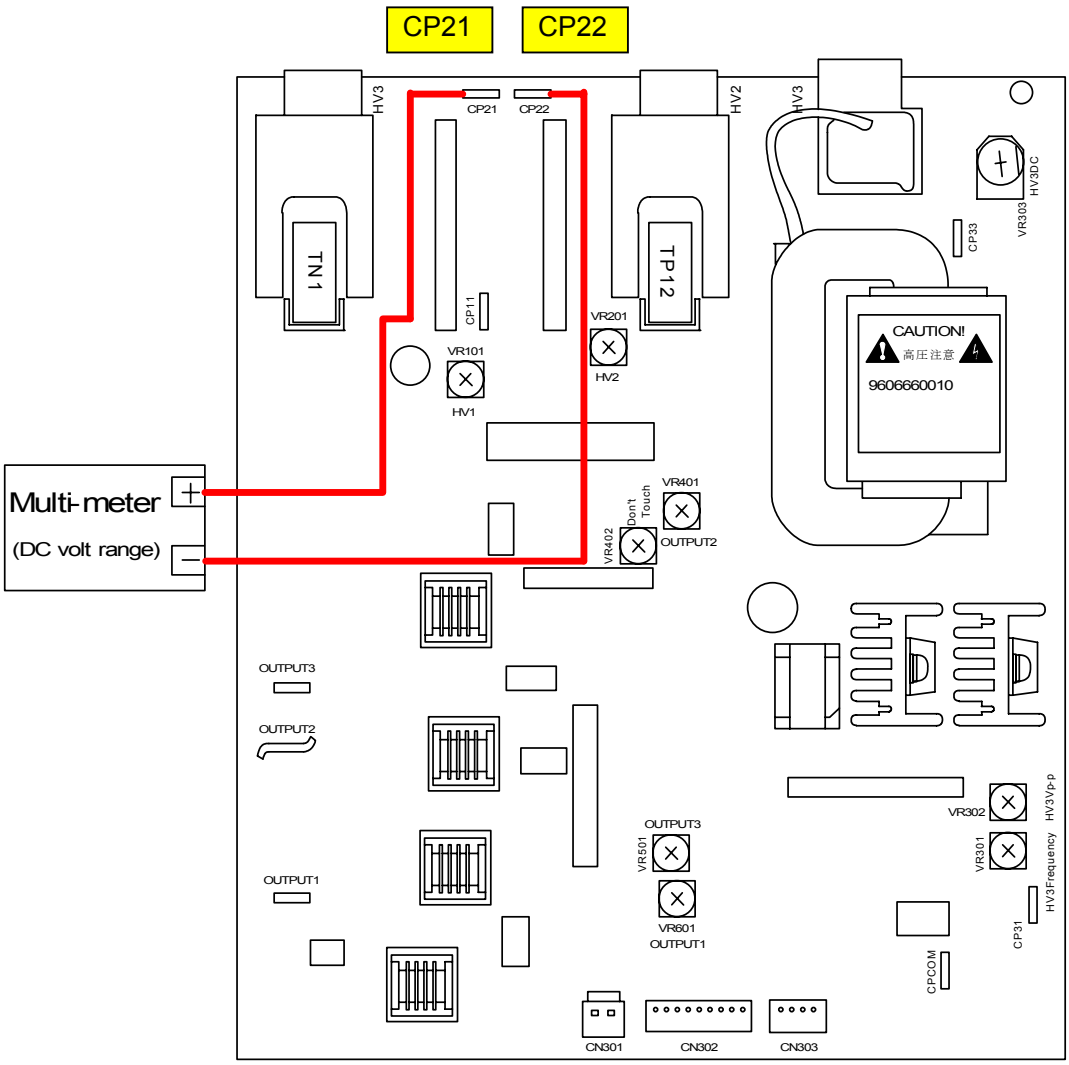
The standard value of the voltage outputted from the HV Power Supply PCB to the Transfer Corona is specified to each type of paper as follows.

Plain paper	**1.00 +/-0.05V**
Tracing paper	**1.00 +/-0.05V**
Film	**1.00 +/-0.05V**

Check and adjust the output current in the following way.

> **NOTE**
>
> The above values are just the standard values we have adjusted at the time of shipment.
> Of course you may change these values according to the usage condition.

1. Connect the “+” cable of the multi-meter to the “CP21” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the “CP22” pin.
   And then, select the DC volt range on the multi-meter.



2. Select the Test Print Mode, and make a test print using each type of paper (plain paper, tracing paper & Film) making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the high voltage is supplied to the Transfer Corona during the Test Print, check the voltage with the multi-meter.

   Standard values of the output voltages to the Transfer Corona are:
   Plain paper ..... **1.00 +/-0.05V**
   Tracing paper ..... **1.00 +/-0.05V**
   Film ..... **1.00 +/-0.05V**

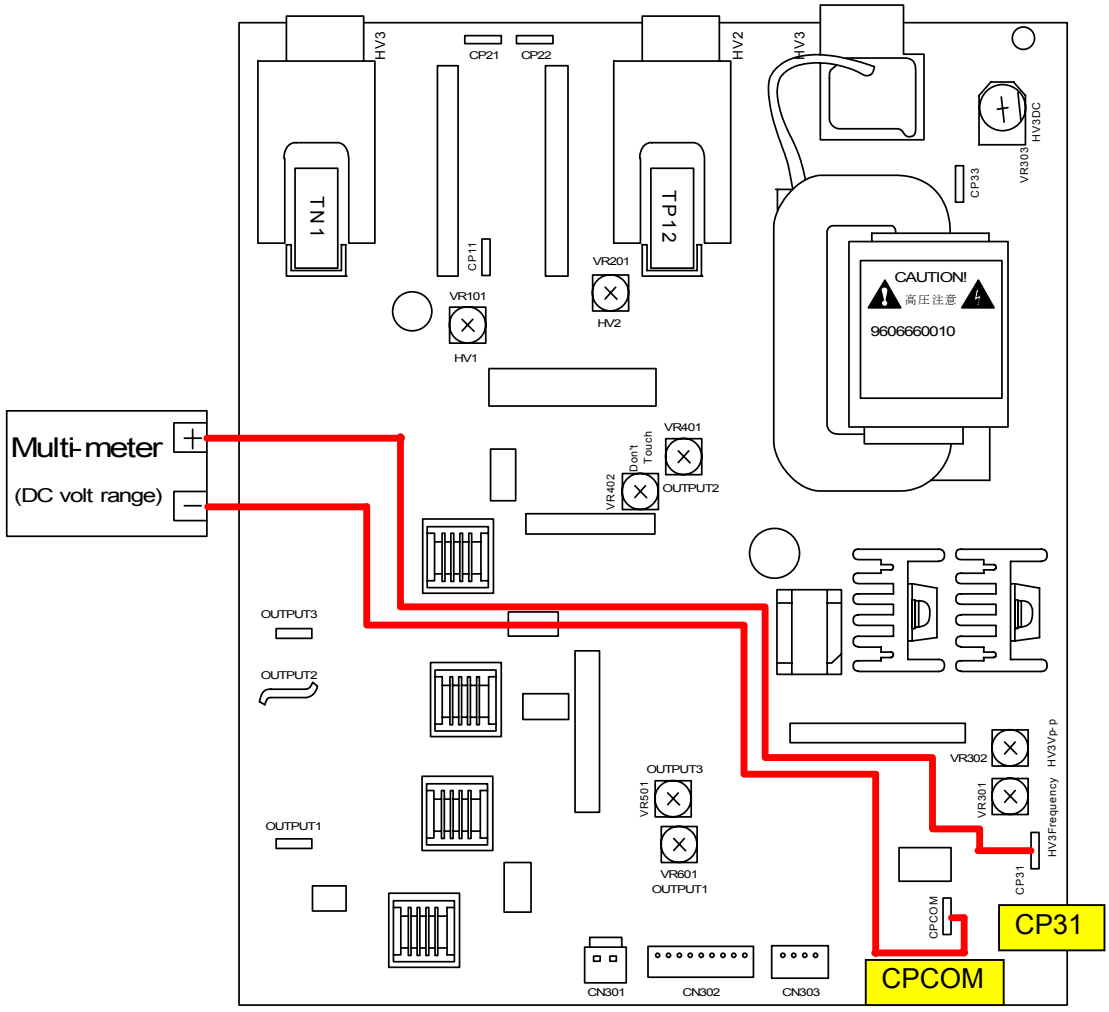
3. Adjust the output voltage if it does not satisfy **1.00 +/-0.05V**.
   Select the Adjustment Mode (Mode No.4), select each of following Sub Mode Numbers, and change the setting value so that the output voltage satisfies 1.00 +/-0.05V.
   (Refer to [8. 5. 4.12 Transfer Voltage (No.029 to 034)] on the page 8-45 for the detail.)

Sub Mode No.	Contents
029	Transfer Voltage (Plain paper)
030	Transfer Voltage (Tracing paper)
031	Transfer Voltage (Film)
032	Transfer Voltage (Plain paper : Special)
033	Transfer Voltage (Tracing paper : Special)
034	Transfer Voltage (Film : Special)

4. 3. 4 Check & Adjustment of AC Component to the Separation Corona

The standard value of the AC Component outputted from the HV Power Supply PCB to the Separation Corona is **5.00 +/-0.05V**.
Check and adjust the AC Component in the following way.

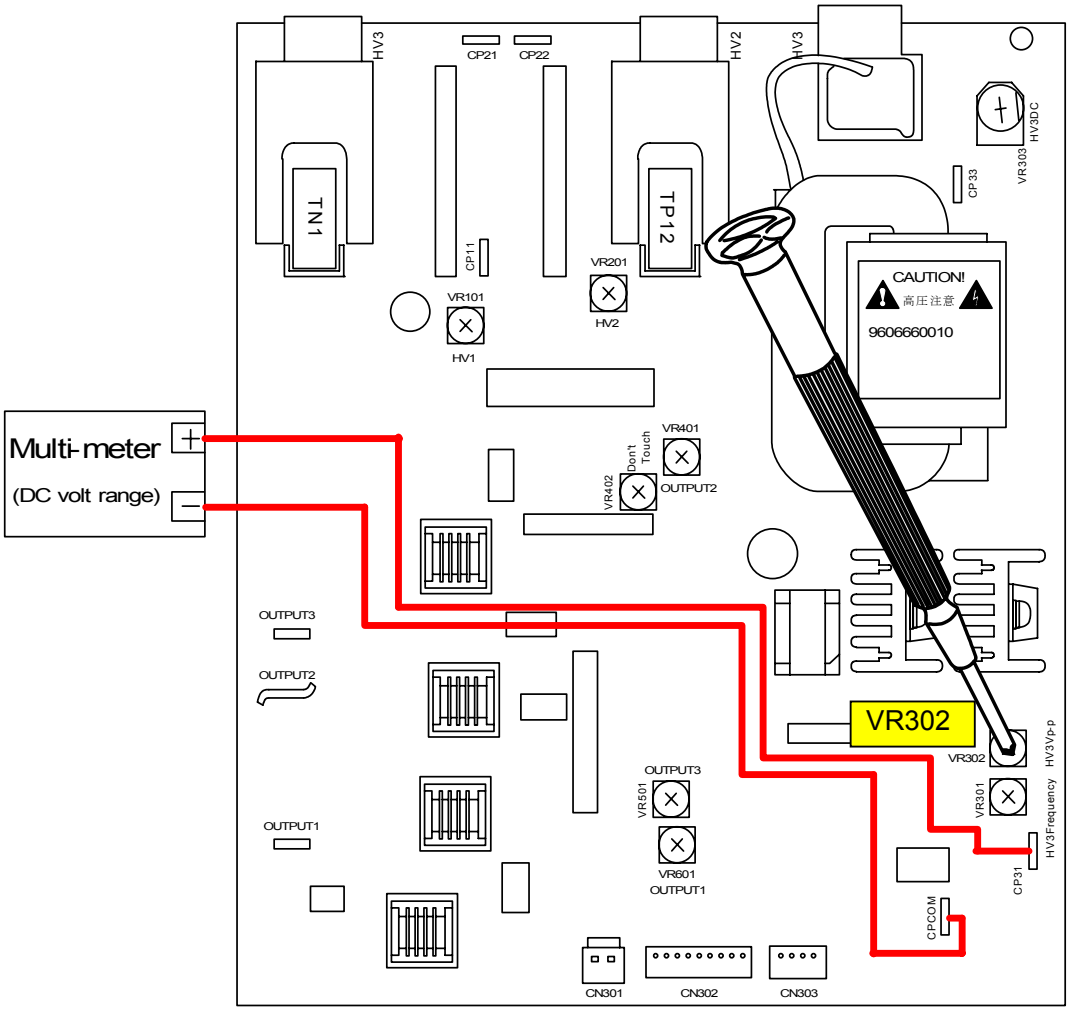
1. Connect the “+” cable of the multi-meter to the “CP31” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the “CPCOM” pin.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the high voltage is supplied to the Image Corona during the Test Print, check the voltage with the multi-meter.

   Standard value of the AC Component to the Separation Corona is **5.00 +/-0.05V**.

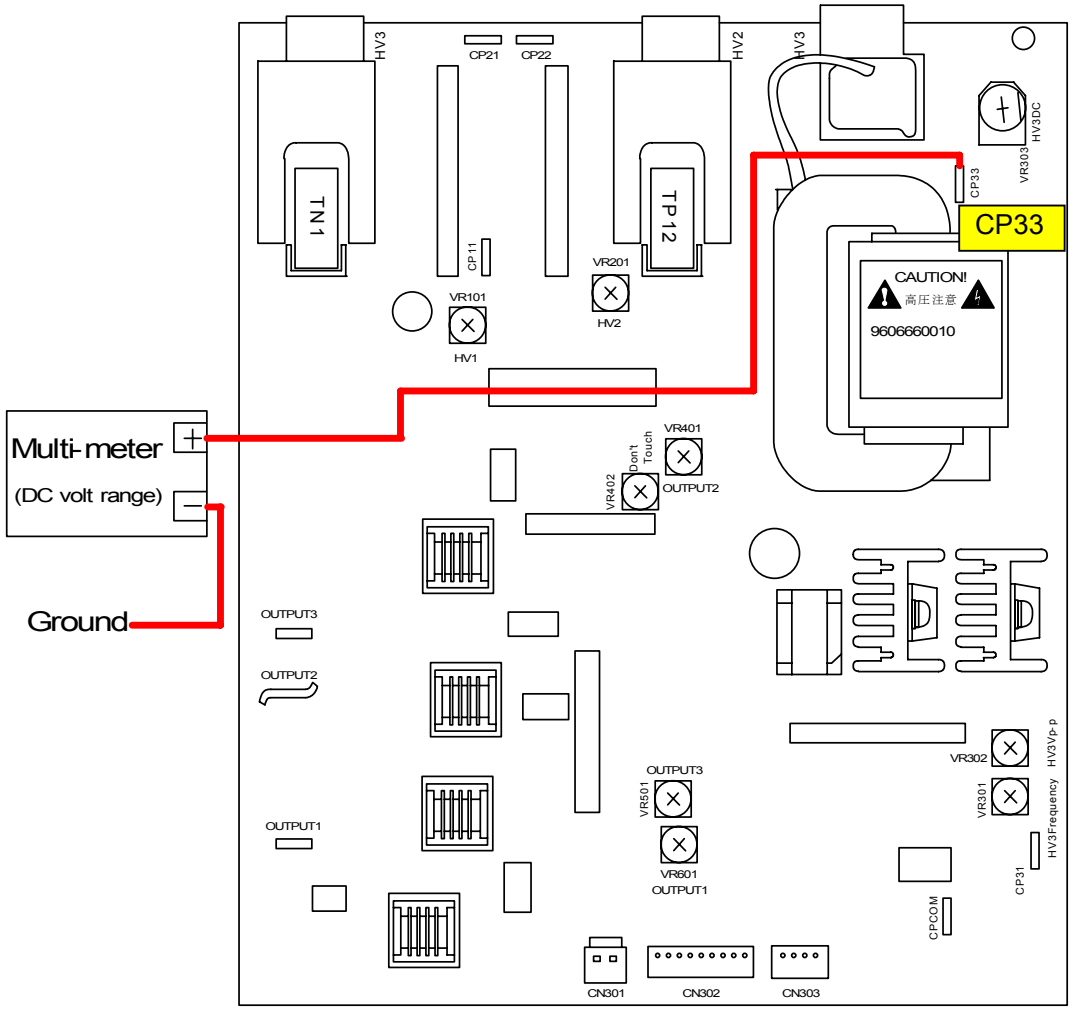
3. Adjust the AC Component if it does not satisfy **5.00 +/-0.05V**.
   To adjust it, rotate the VR302 with a screwdriver.



4. 3. 5 Check & Adjustment of DC Component to the Separation Corona

The standard value of the DC Component outputted from the HV Power Supply PCB to the Separation Corona is **-250 +/-5V**.
Check and adjust the DC Component in the following way.

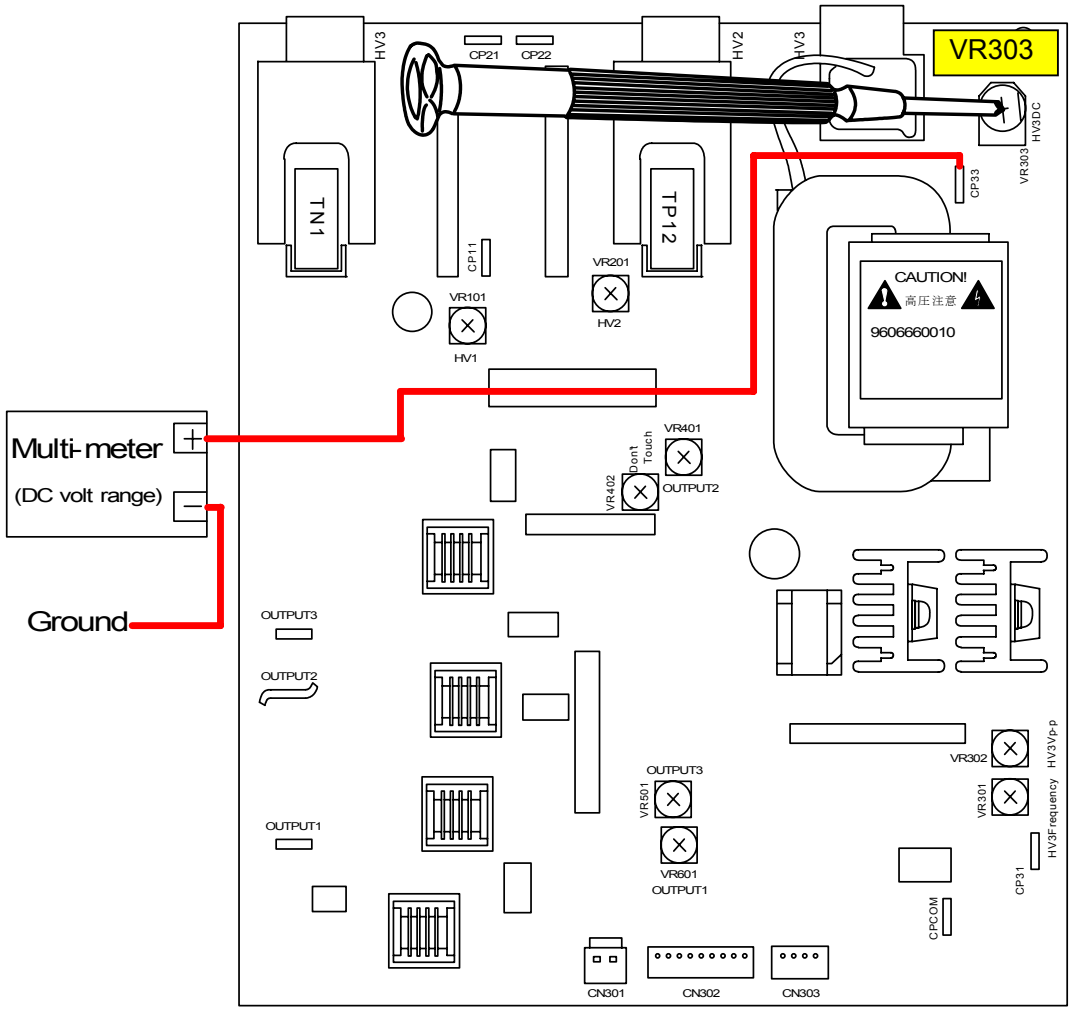
1. Connect the “+” cable of the multi-meter to the “CP33” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the ground.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the high voltage is supplied to the Image Corona during the Test Print, check the voltage with the multi-meter.

   Standard value of the DC Component to the Separation Corona is **-250 +/-5V**.

3. Adjust the DC Component if it does not satisfy **-250 +/-5V**.
   To adjust it, rotate the VR303 with a screwdriver.



4. 3. 6 Check & Adjustment of Negative Developer Bias to the Developer Roller

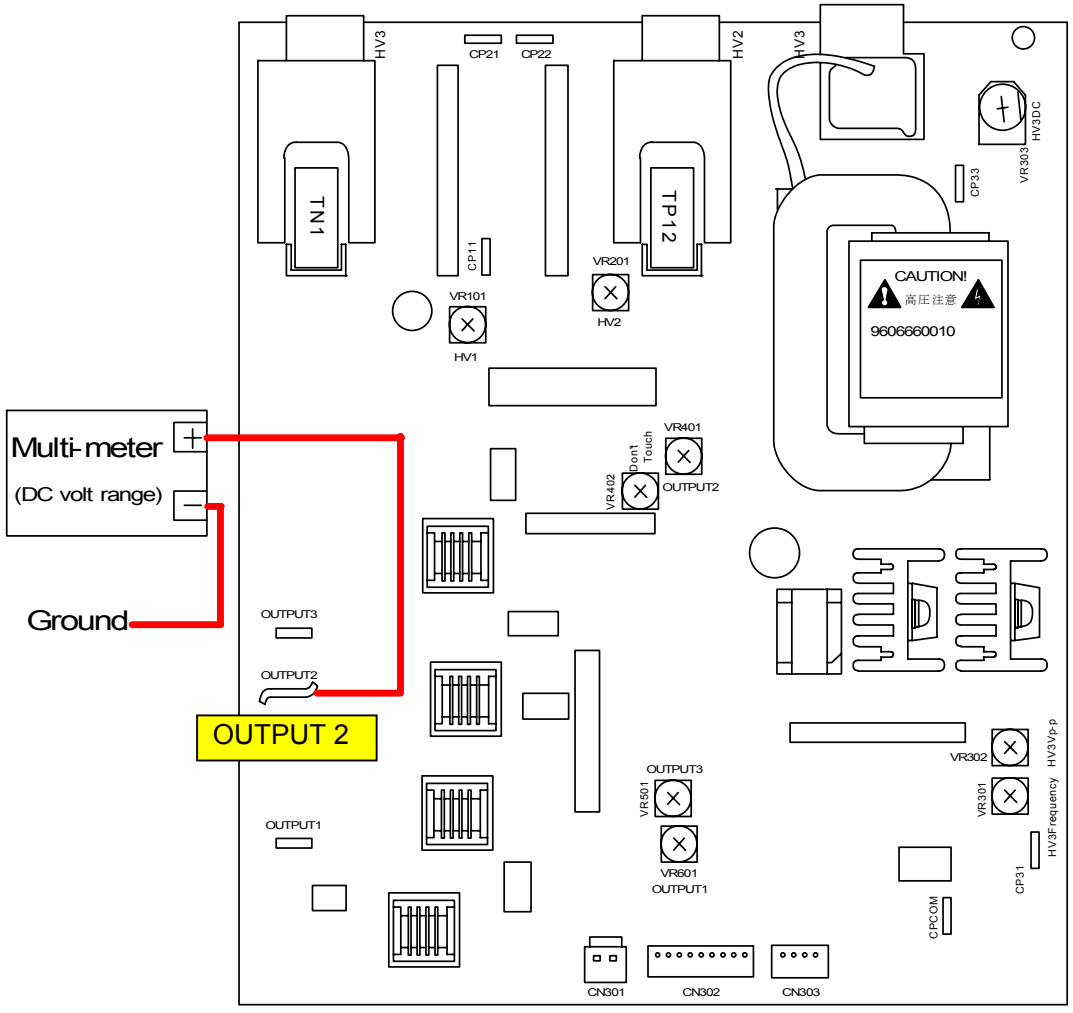
The Negative Developer Bias means the voltage supplied to the Developer Roller during the Print Cycle.
The standard value of the Negative Developer Bias is as follows for each type of paper.

Plain paper	**-230 +/-5V against the ground**
Tracing paper	**-230 +/-5V against the ground**
Film	**-230 +/-5V against the ground**

Check and adjust the Negative Developer Bias in the following way.

> **NOTE**
>
> The above values are just the standard values we have adjusted at the time of shipment.
> Of course you may change these values according to the usage condition.

1. Connect the “+” cable of the multi-meter to the “OUTPUT2” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the ground.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the Negative Developer Bias is supplied to the Developer Roller during the Test Print, check the voltage with the multi-meter.

   The standard value of the Negative Developer Bias for each type of media is:

   Plain paper ..... **-230 +/-5V against the ground**
   Tracing paper ..... **-230 +/-5V against the ground**
   Film ..... **-230 +/-5V against the ground**

   If the above values are not satisfied, go to the next step 8 for the adjustment.

3. Select the Adjustment Mode (Mode No.4), select each of following Sub Mode Numbers, and change the setting value so that the output voltage satisfies **-230 +/-5V against the ground**. (Refer to [8. 5. 4.10 Developer Bias (No.022 to 027)] on the page 8-44 for the detail.)

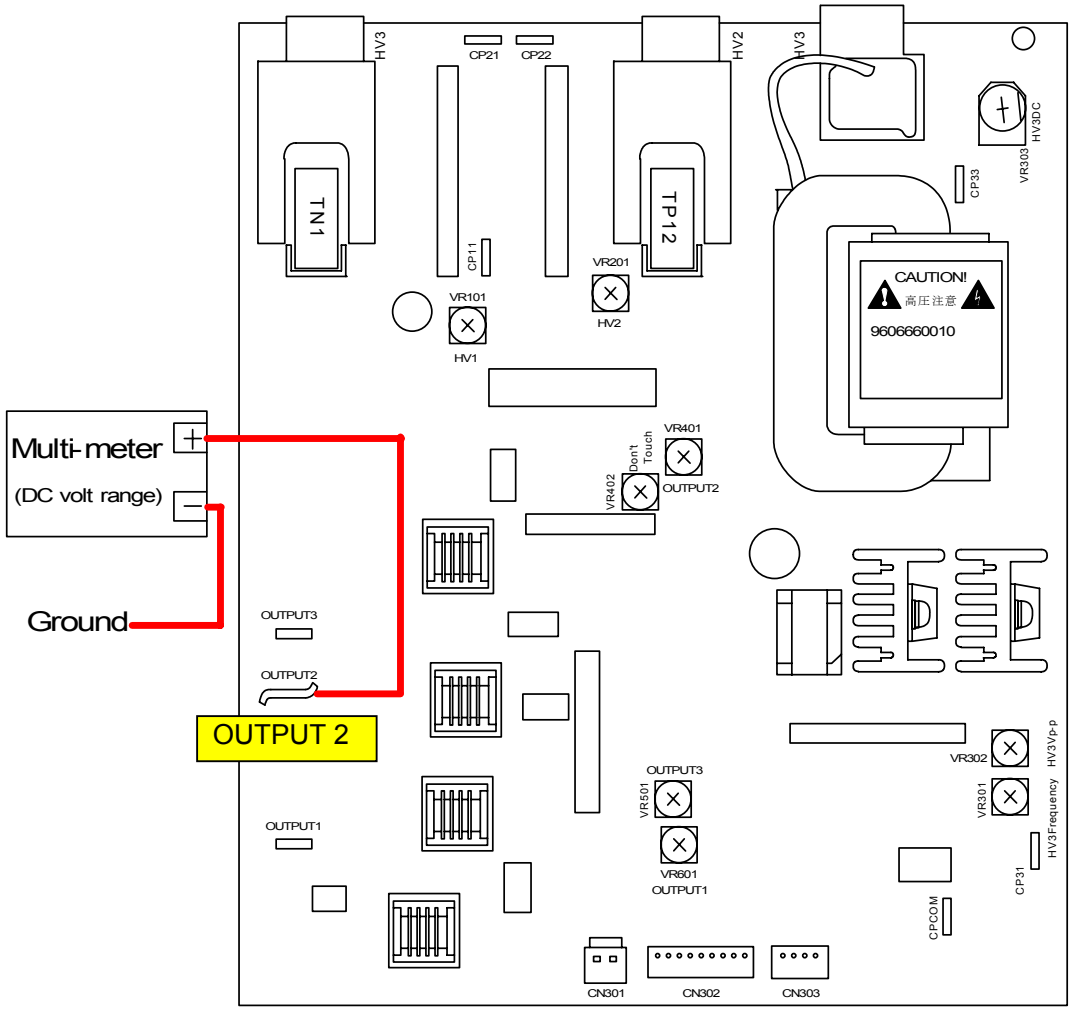
Sub Mode No.	Contents
022	Developer Bias (Plain paper)
023	Developer Bias (Tracing paper)
024	Developer Bias (Film)
025	Developer Bias (Plain paper : Special)
026	Developer Bias (Tracing paper : Special)
027	Developer Bias (Film : Special)

4. 3. 7 Check & Adjustment of Positive Developer Bias to the Developer Roller

The Positive Developer Bias means the voltage supplied to the Developer Roller during the Cleaning Cycle.
The standard value of the Positive Developer Bias is **+350 +/-5V against the ground**.

Check and adjust the Negative Developer Bias in the following way.

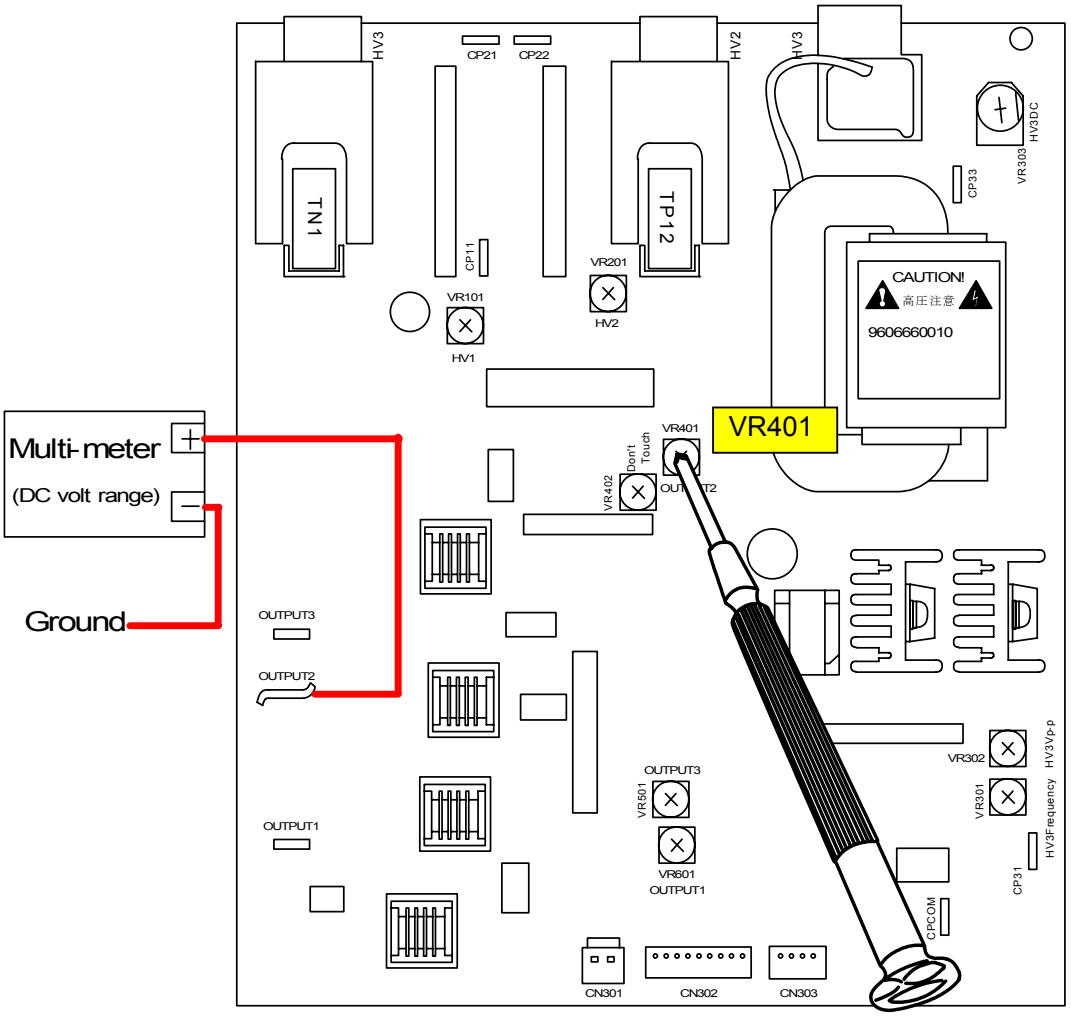
1. Connect the “+” cable of the multi-meter to the “OUTPUT2” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the ground.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   The Positive Developer Bias is supplied to the Developer Roller for some seconds after the printed paper has been ejected.
   Check the voltage with the multi-meter during that period.

   The standard value of the Positive Developer Bias is **+350 +/-5V against the ground**.
   If this is not satisfied, go to the next step 8 for the adjustment.

3. Adjust the Positive Developer Bias rotating the VR401, so that it should satisfy **+350 +/-5V against the ground**.



4. 3. 8 Check & Adjustment of the Bias gap between Developer Roller and Toner Supply Roller

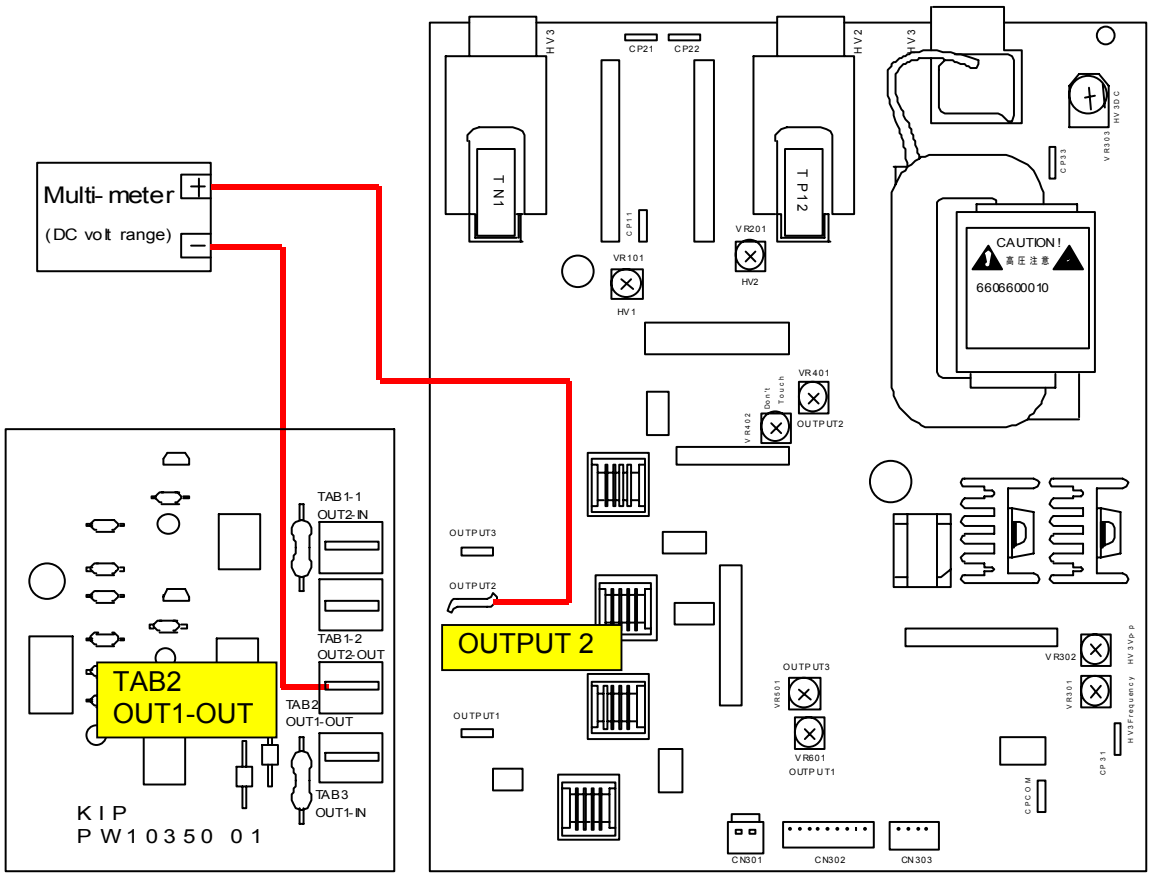
(This section is applied to machines containing sponge type Developer Unit only.)

The standard value of the Bias gap between Developer Roller and Toner Supply Roller is as follows.

On printing ..... **150 +/-5V**
Interval of print ..... **50 +/-5V**

Check and adjust it in the following way.

1. Connect the “+” cable of the multi-meter to the “OUTPUT2” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the “TAB2 OUT1-OUT” Pin on the PW10350 PCB.
   And then, select the DC volt range on the multi-meter.



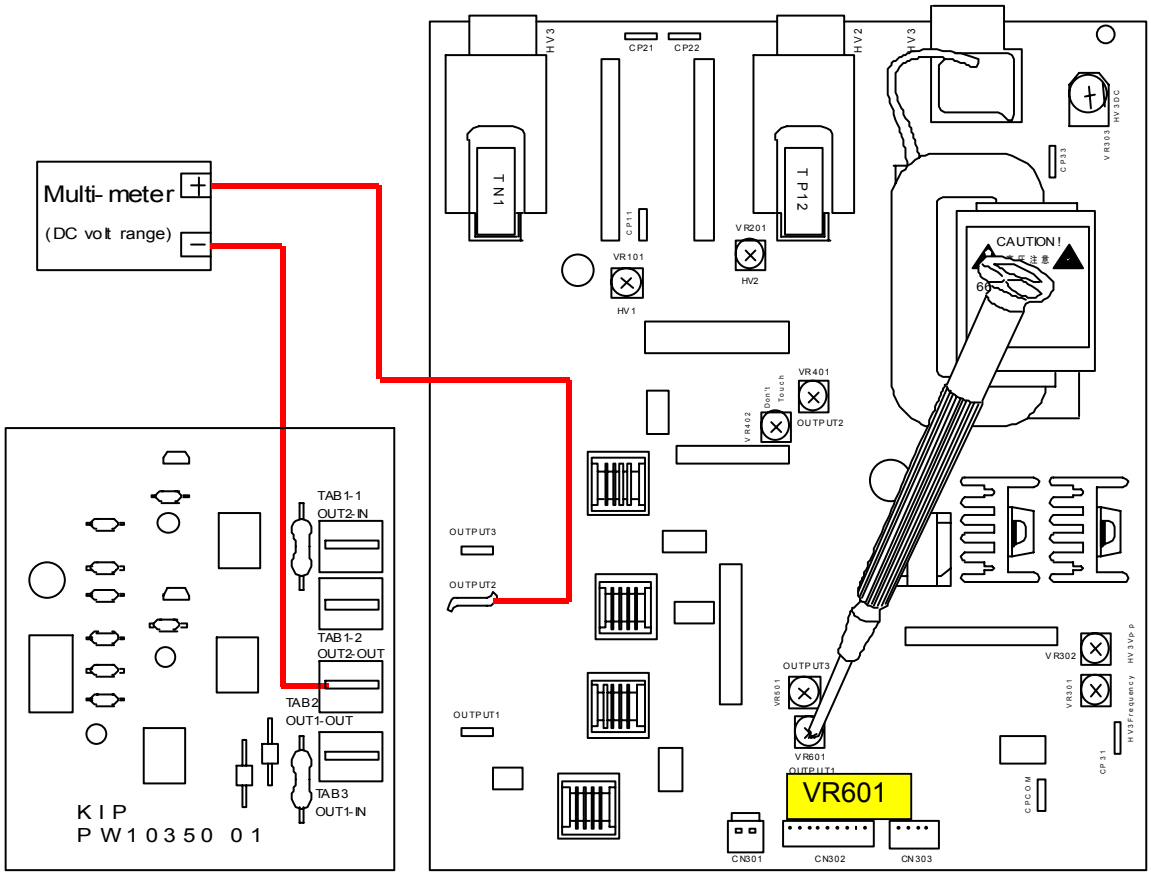
2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the Bias is supplied to both the Developer Roller and the Toner Supply Roller, check the Bias gap between them with the multi-meter.

   The standard value of the Bias gap between Developer Roller and Toner Supply Roller is as follows.

   On printing ..... **150 +/-5V**
   Interval of print ..... **50 +/-5V**

3. Adjust the Bias gap if it does not satisfy the standard value.
   On printing ..... **150 +/-5V**
   Interval of print ..... **50 +/-5V**

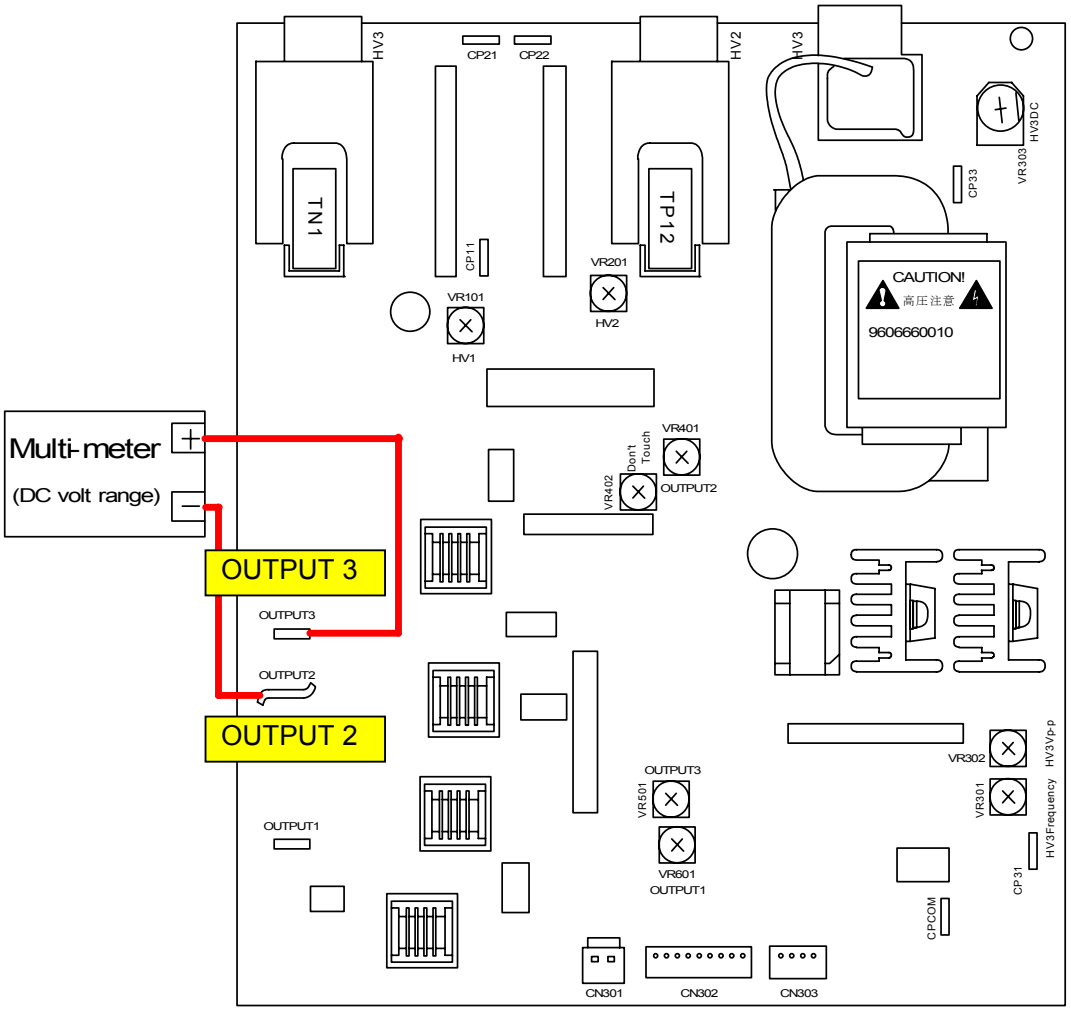
   To adjust it, rotate the VR601 with a screwdriver.



4. 3. 9 Check & Adjustment of the Bias gap between Developer Roller and Regulation Roller

The standard value of the Bias gap between Developer Roller and Toner Supply Roller is **40 +/-5V**.
Check and adjust it in the following way.

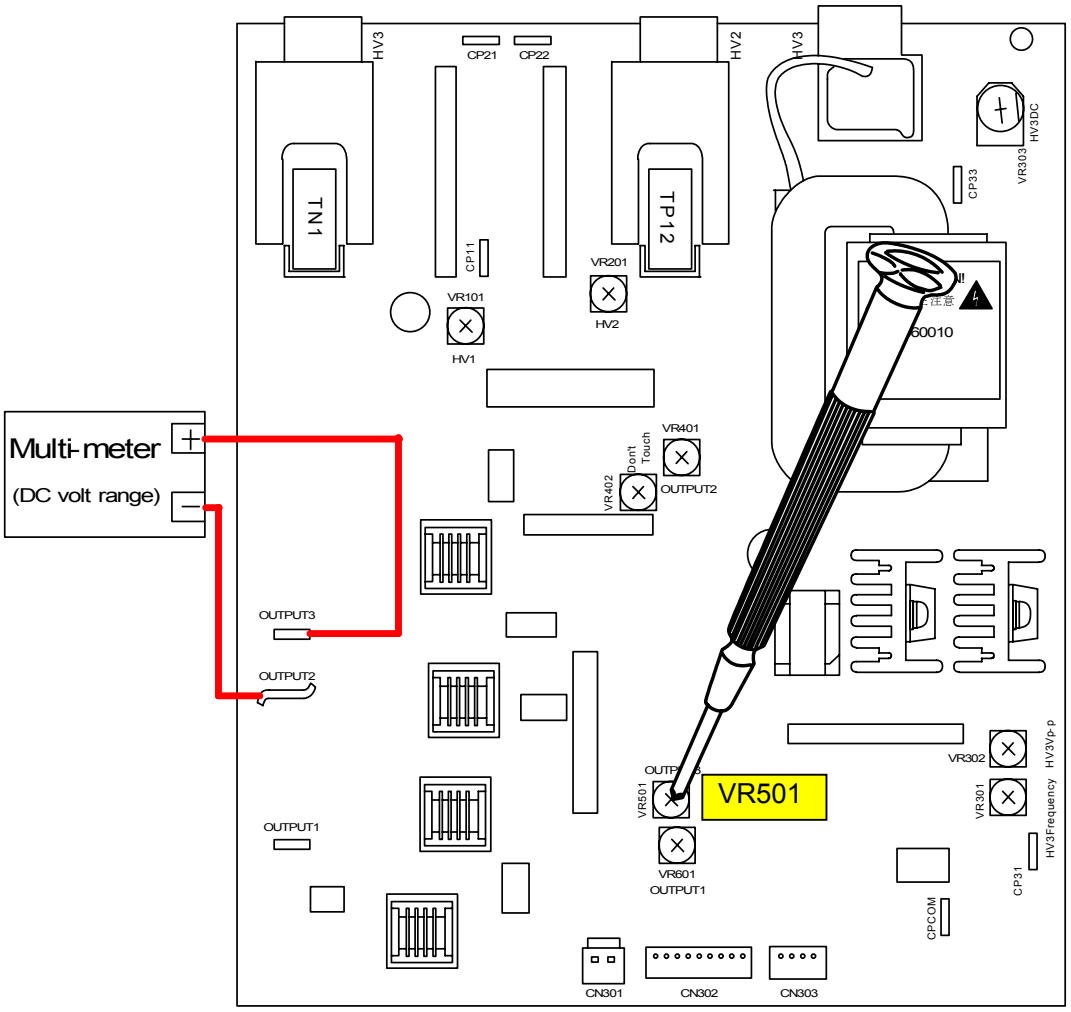
1. Connect the “+” cable of the multi-meter to the “OUTPUT3” pin on the HV Power Supply PCB (EUKG845HA).
   Also connect the “-” one to the “OUTPUT2” Pin.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the Bias is supplied to both the Developer Roller and the Toner Supply Roller, check the Bias gap between them with the multi-meter.

   The standard value of the Bias gap between Developer Roller and Regulation Roller is **40 +/-5V**.

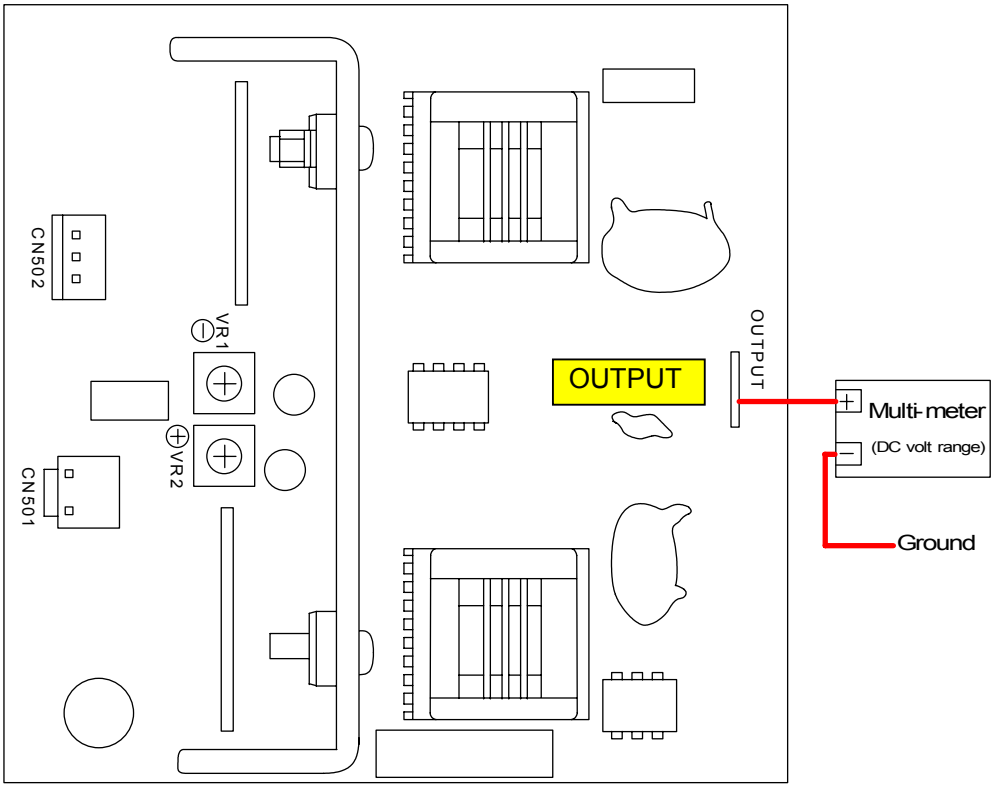
3. Adjust the Bias gap if it does not satisfy **40 +/-5V**.
   To adjust it, rotate the VR501 with a screwdriver.



4. 3.10 Check & Adjustment of Positive Cleaning Roller Bias (Print Cycle)

The Positive Cleaning Roller Bias means the voltage supplied to the Cleaning Roller during the Print Process.
The standard value of the Positive Cleaning Roller Bias is **+450 +/-5V**.
Check and adjust it in the following way.

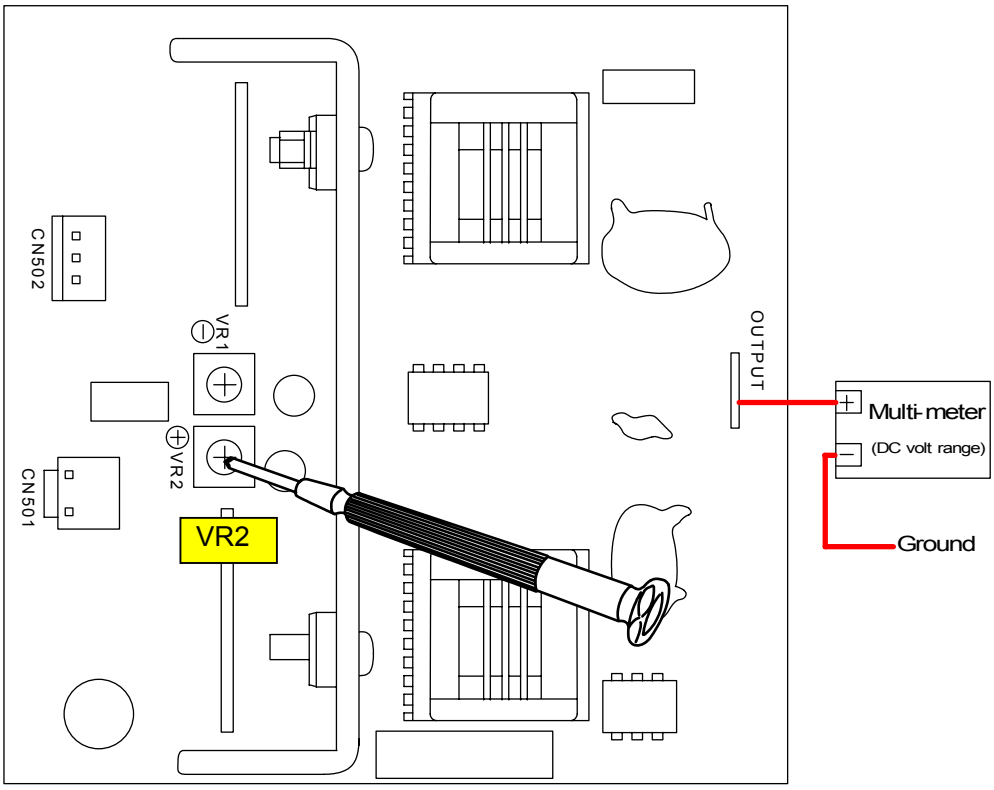
1. Connect the “+” cable of the multi-meter to the “OUTPUT” pin on the HV Power Supply PCB (AHKG-067).
   Also connect the “-” one to the ground.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   As the Positive Cleaning Roller Bias is supplied during the Test Print, check the voltage value with the multi-meter.

   Standard value of the Positive Cleaning Roller Bias is **+450 +/-5V**.

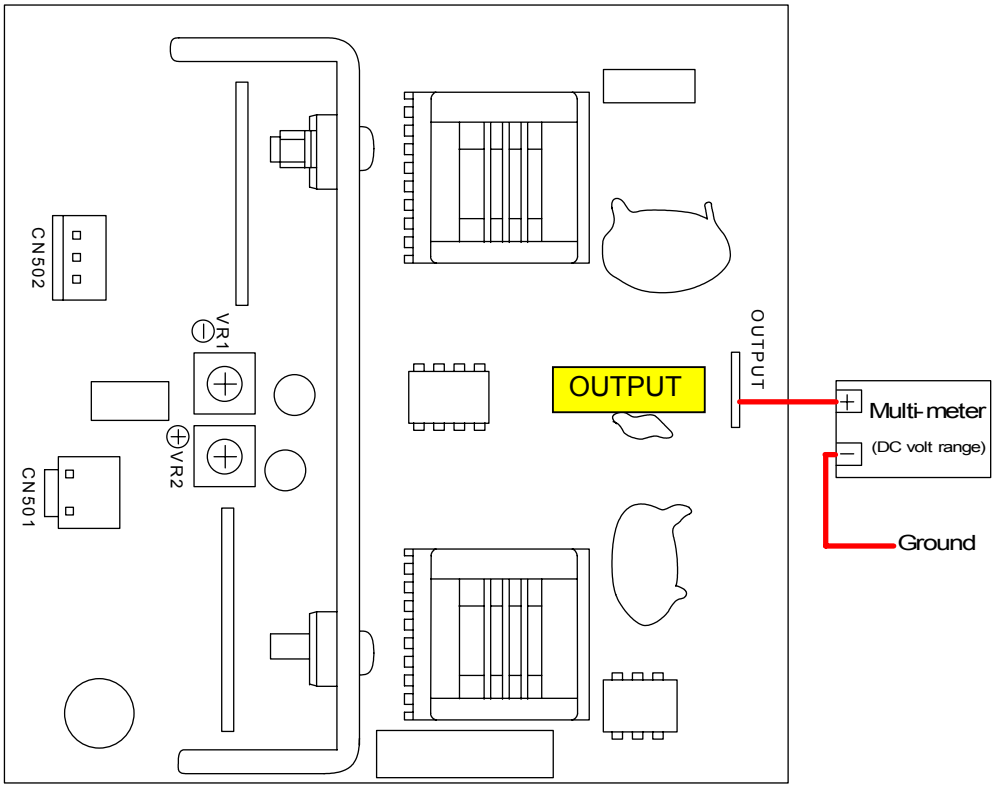
3. Adjust the Positive Cleaning Roller Bias if it does not satisfy **+450 +/-5V**.
   To adjust it, rotate the VR2 with a screwdriver.



4. 3.11 Check & Adjustment of Negative Cleaning Roller Bias (Toner Collection Process)

The Negative Cleaning Roller Bias means the voltage supplied to the Cleaning Roller during the Toner Collection Process, which is done after the completion of Print Process.
The standard value of the Negative Cleaning Roller Bias is **-550 +/-5V**.
Check and adjust it in the following way.

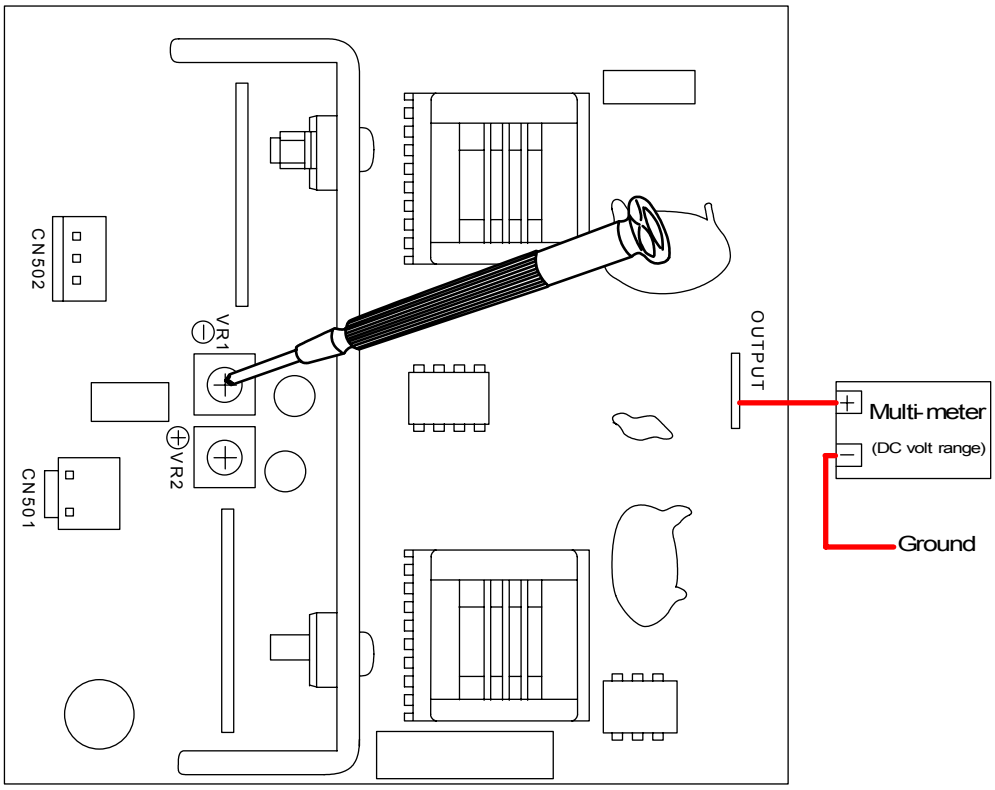
1. Connect the “+” cable of the multi-meter to the “OUTPUT” pin on the HV Power Supply PCB (AHKG-067).
   Also connect the “-” one to the ground.
   And then, select the DC volt range on the multi-meter.



2. Make a Test Print making reference to [8. 8 Test Print Mode] on and after the page 8-130.
   The Toner Collection Process works for some seconds after the printed paper has been ejected.
   Check the voltage value with the multi-meter during that period.

   Standard value of the Negative Cleaning Roller Bias is **-550 +/-5V**.

3. Adjust the Negative Cleaning Roller Bias if it does not satisfy **-550 +/-5V**.
   To adjust it, rotate the VR1 with a screwdriver.



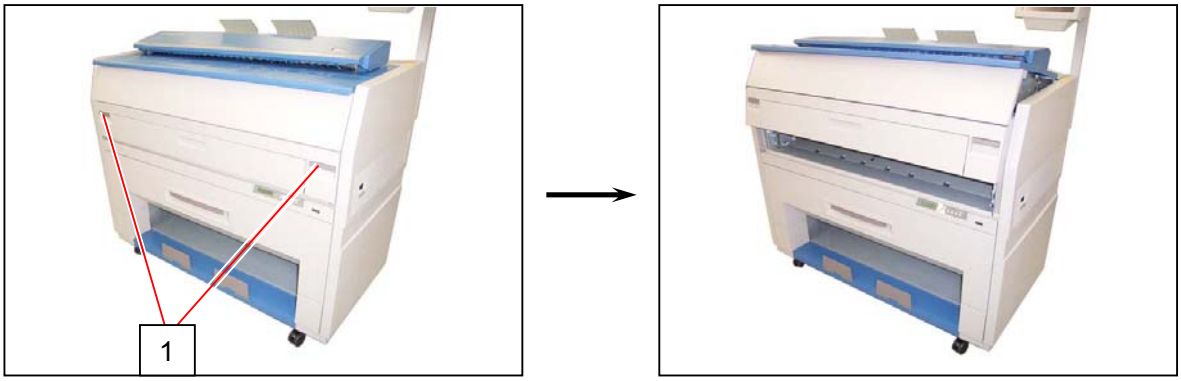
Chapter 5

Mechanical

5. 1 Outer Covers

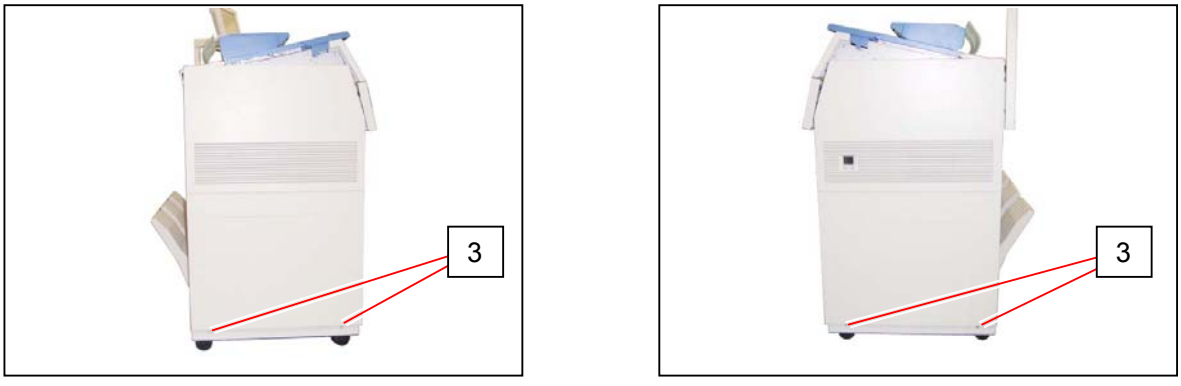
5. 1. 1 Removal of Side Covers

1. Pull up the Lever 2 (1) to open the Engine Unit.

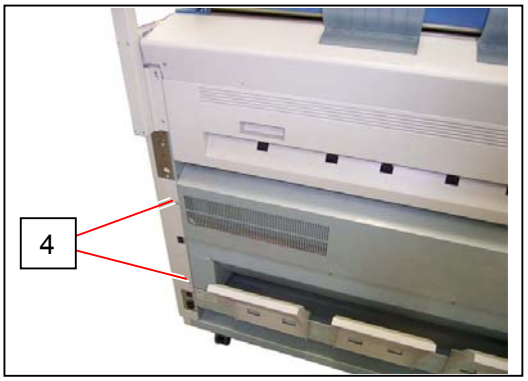


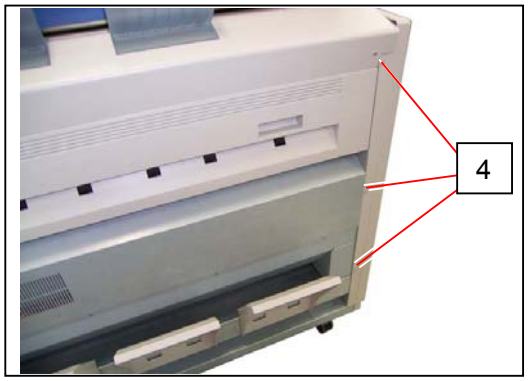
2. Remove the screws (2) at both sides.

3. Remove 4 pieces of screw (3) at both sides.

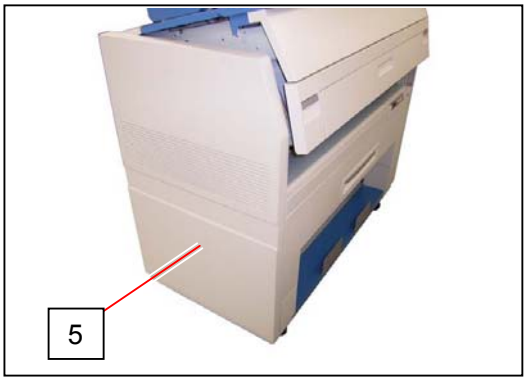


4. Remove 5 pieces of screw (4) at both sides.
   (2 pieces on the right and 3 pieces on the left)



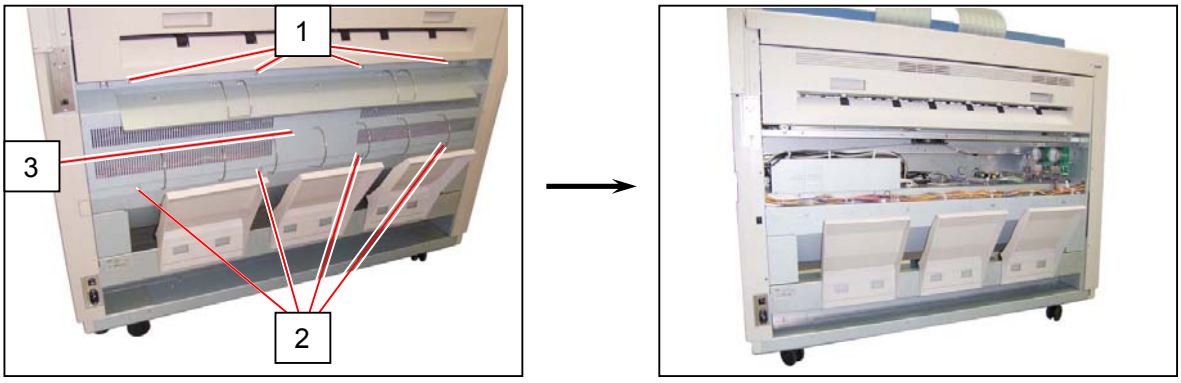


5. Remove both **Cover 2** (5) and **Cover 3** (6).



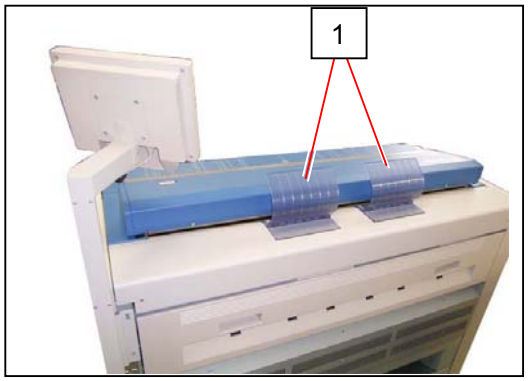
5. 1. 2 Removal of Cover 15

1. Remove 4 pieces of screw (1), loosen 4 pieces of screw (2), and then remove the Cover 15 (3).

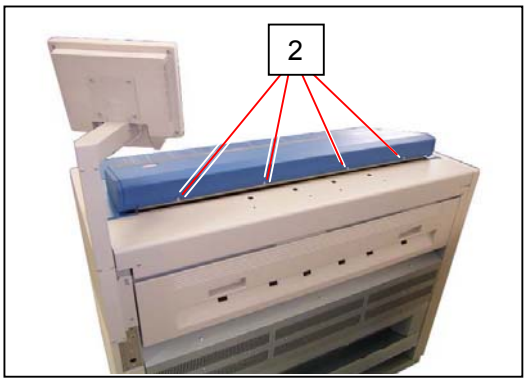


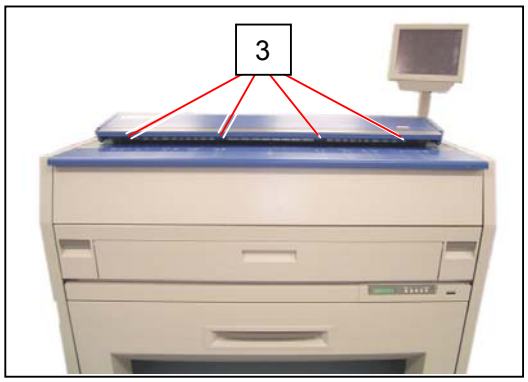
5. 1. 3 Removal of Cover 14

1. Remove 2 pieces of Guide 3 (1).

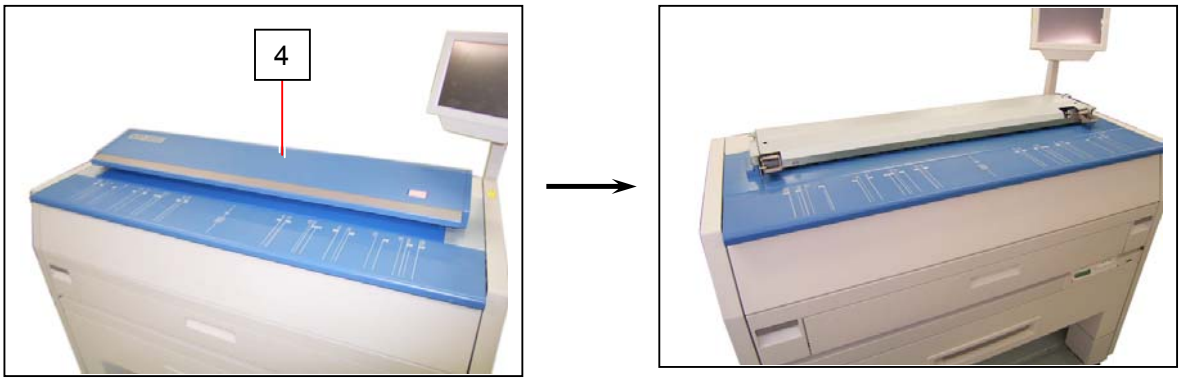


2. Loosen 4 pieces of screw (2) on the back, and remove 4 pieces of screw (3) on the front.

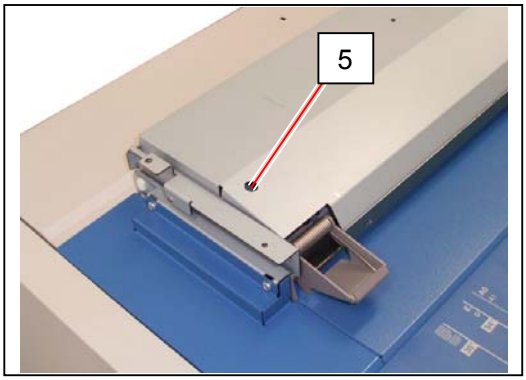


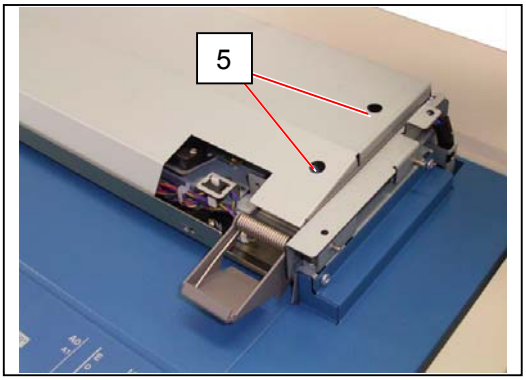


3. Remove Cover 14 (4).

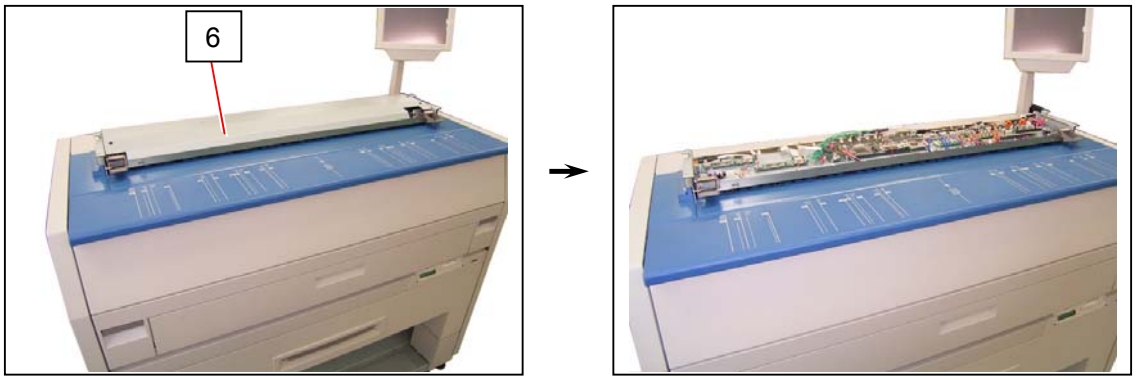


4. Remove 3 screws (5).





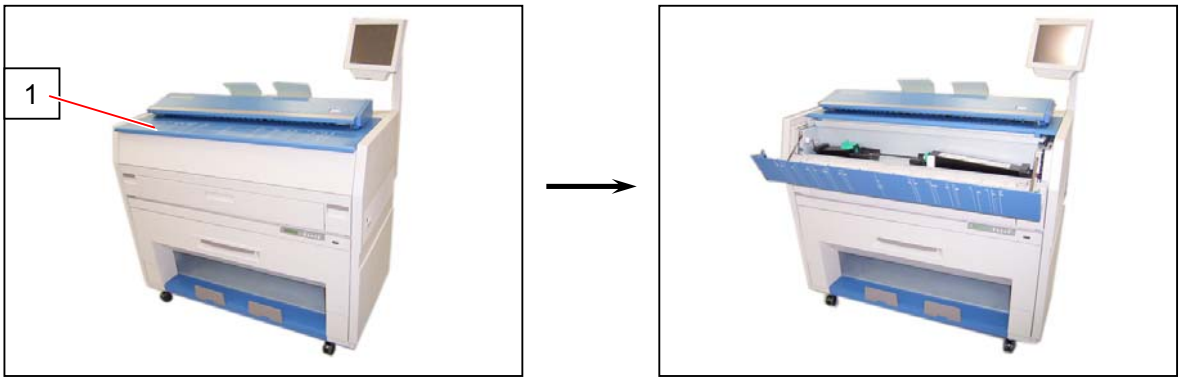
5. Remove Shield Cover N (6).



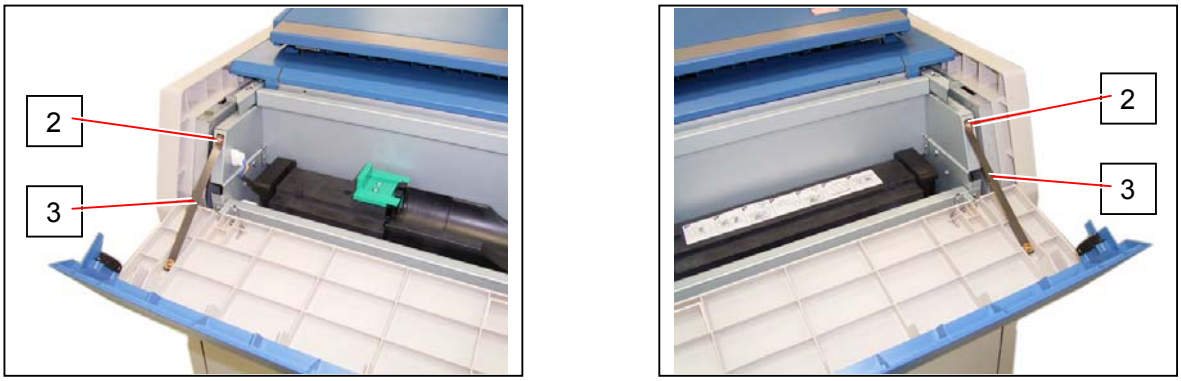
5. 2 Developer Unit

5. 2. 1 Removal of the Developer Unit

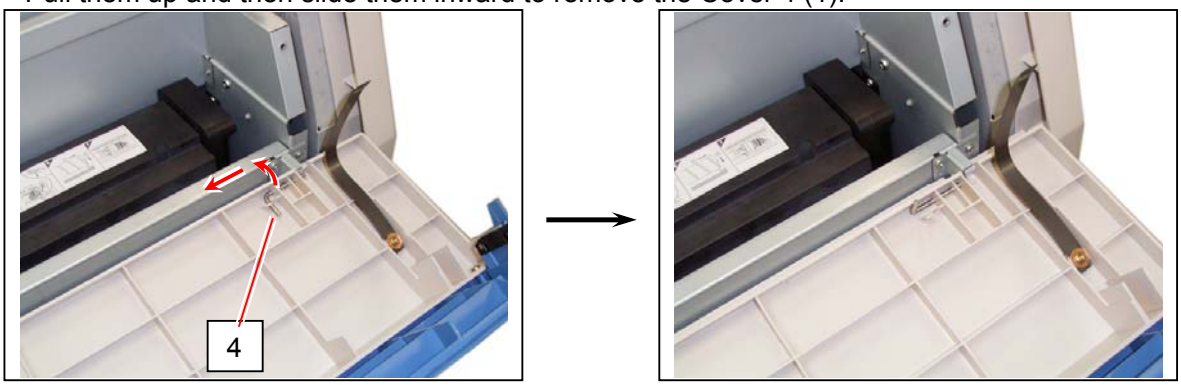
1. Open the Cover 4 (1).

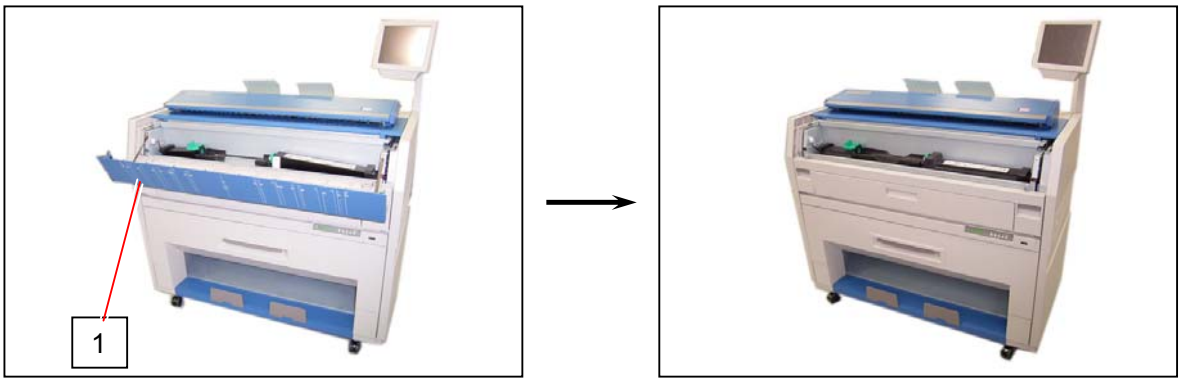


2. Remove the 4x6 screws and washers (2) at both sides to make the Bands (3) free.

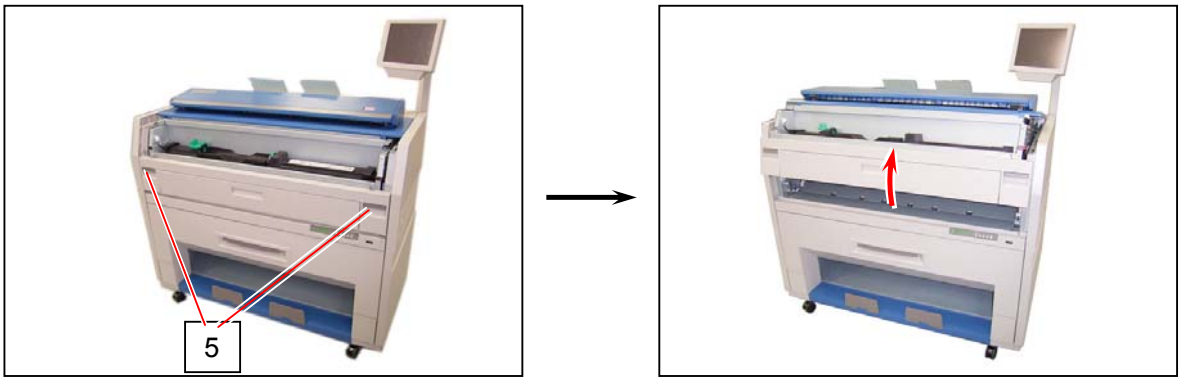


3. There are Pins (4) at both sides.
   Pull them up and then slide them inward to remove the Cover 4 (1).



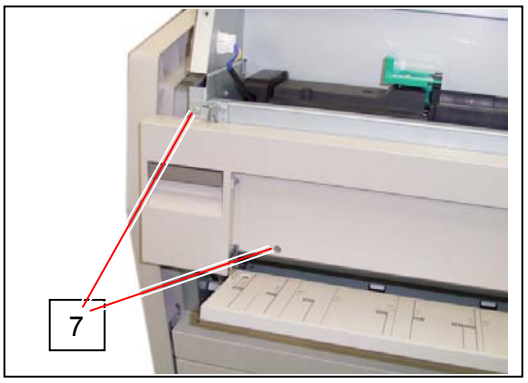


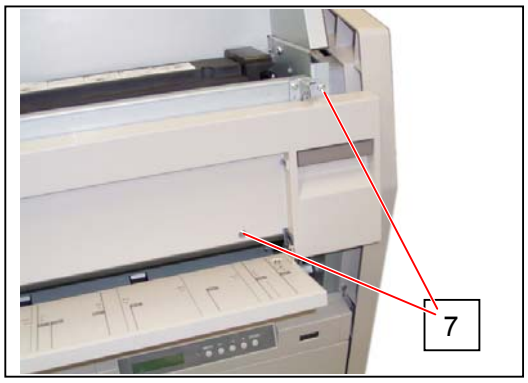
4. Pull up the Lever 2 (5) to open the Engine Unit.



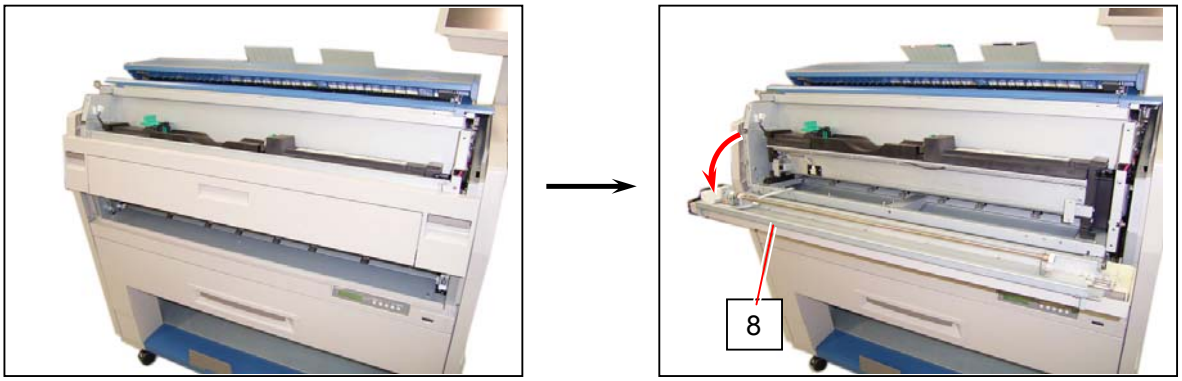
5. Open the Bypass Feeder (6).

6. Remove 4 pieces of 4x8 screw (7).

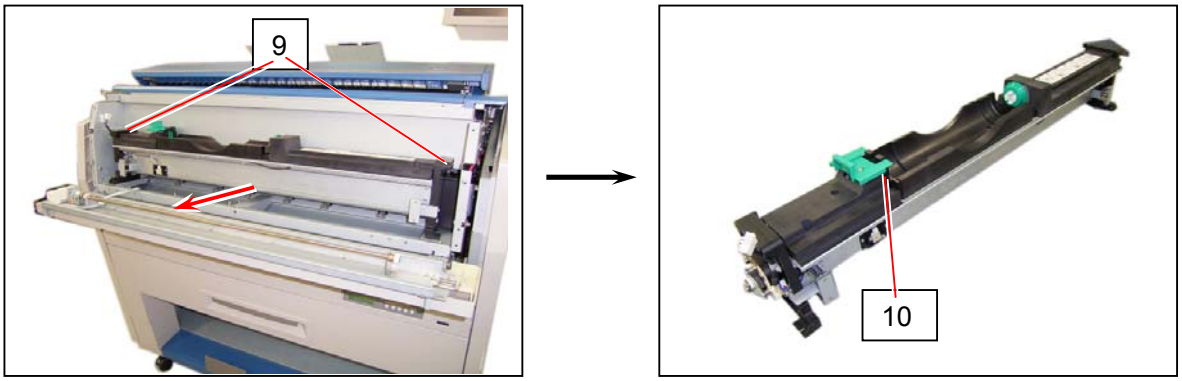




7. Close the Bypass Feeder, and then open the Developer Press Unit (8).



8. Holding both Side Plates (9), remove the **Developer Unit** (10) from the machine.



NOTE

If you replace the whole Developer Unit, it is necessary to adjust the space between developer driving gears.
Refer to [5. 2. 7 Adjustment of the space between gears (Necessary to adjust after replacing the Developer Unit)] on page 5-66.

5. 2. 2 Replacement of Developer Unit Components (after S/N 10510001)

NOTE

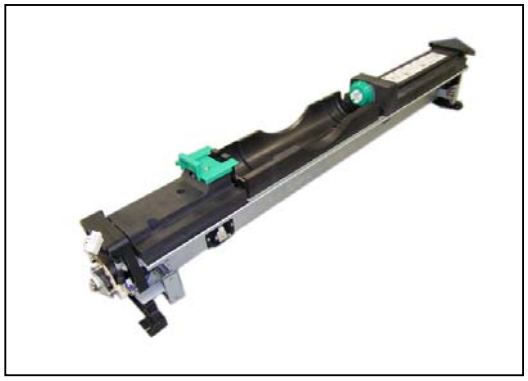
(1) This section applies to brush type Developer Unit (after S/N 10510001).

(2) The following parts are Developer Unit components.
A periodic replacement for the following parts is recommended.
This section describes how to replace all of them in one sequent operation.

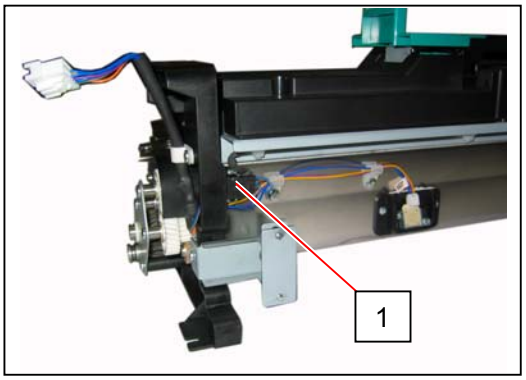
Item	Number of article	Remarks
Roller Developer	1	All of these parts are contained in "Developer Maintenance Kit E" (Z050980280).
Sheet 3	2	
Sheet 4	2	
Seal 1	2	
Seal 3	2	
Seal 4	2	
Scraper	1	
Toner Supply Roller	1	
Sheet 5	2	
Sheet 6	2	

(3) Remove all the toner from Developer Unit before replacing the above parts.

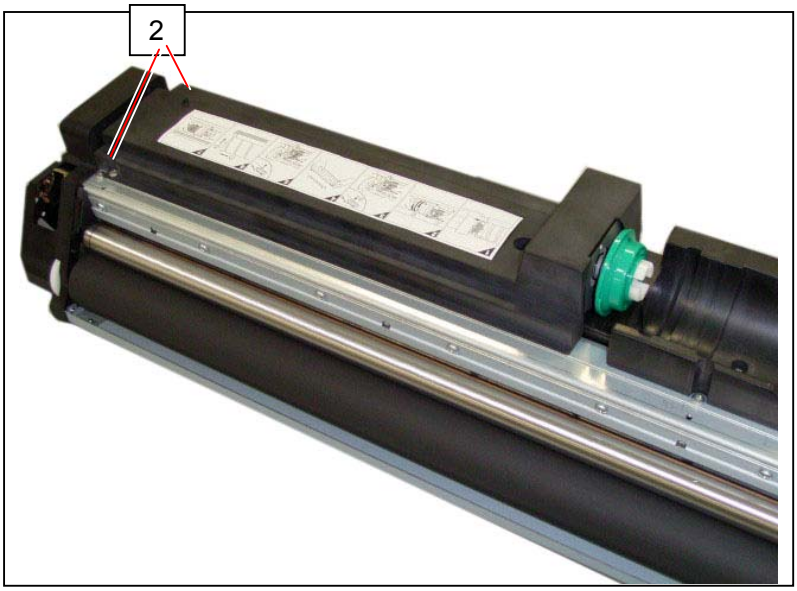
1. Remove the Developer Unit from the machine making reference to [5. 2. 1 Removal of the Developer Unit] on the page 5-8.

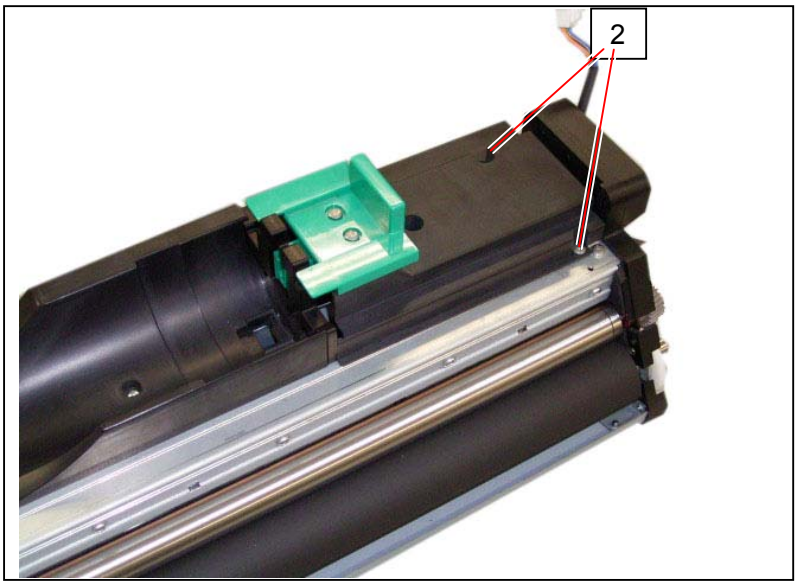


2. Disconnect the connector (1).

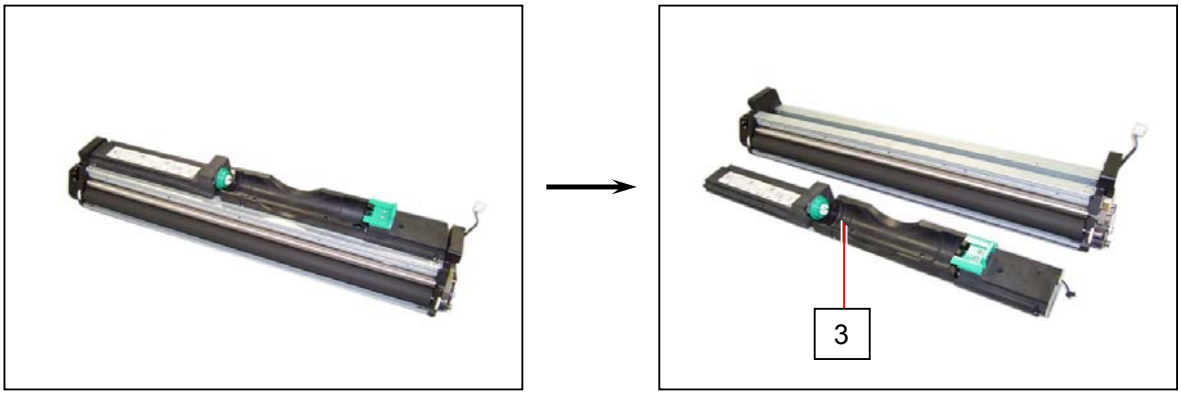


3. Remove 4 pieces of 4x6 screws (2) which fix the Hopper Assembly.

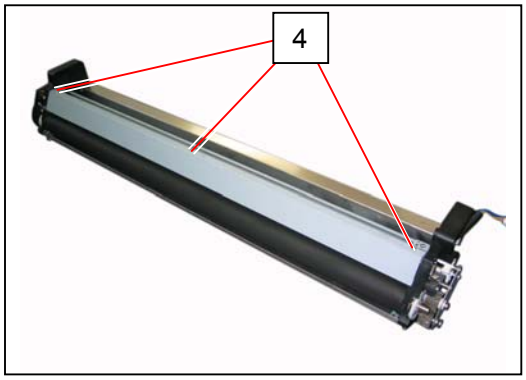


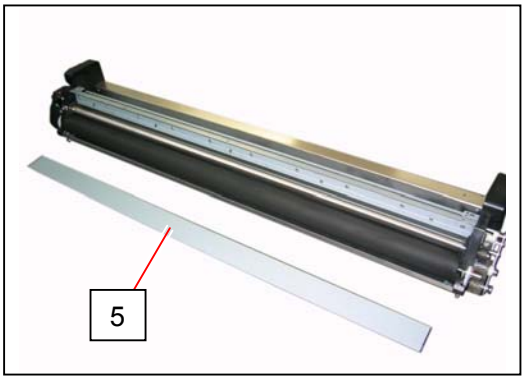


4. Remove the Hopper Assembly (3).

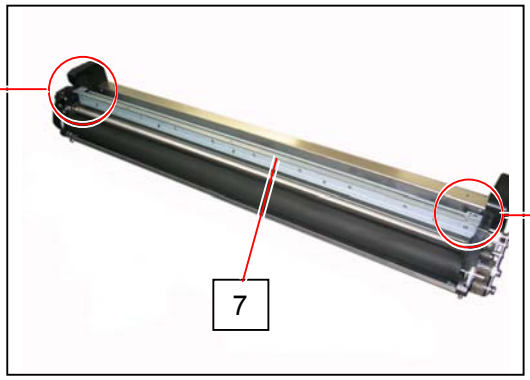


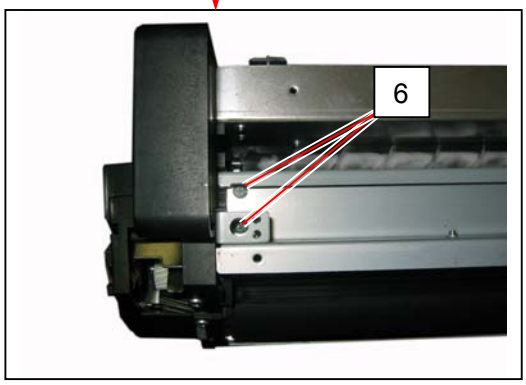
5. Remove 3 pieces of M4x6 screws (4) to remove the Cover (5).

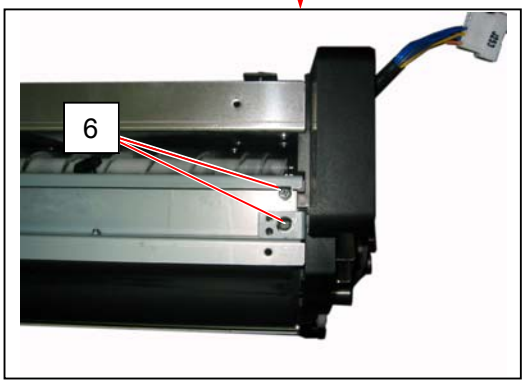


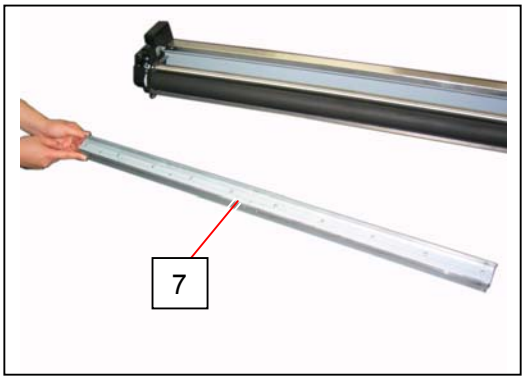


6. Remove 4 pieces of 4x6 screw (6), and then remove the Scraper Assembly (7).

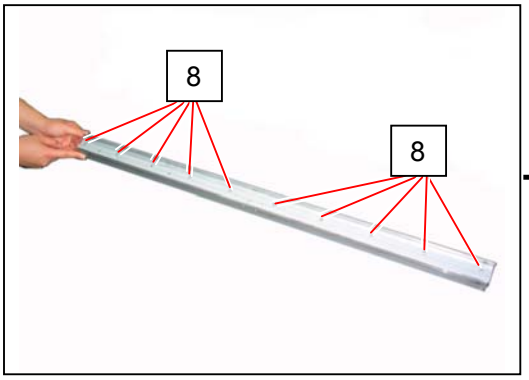


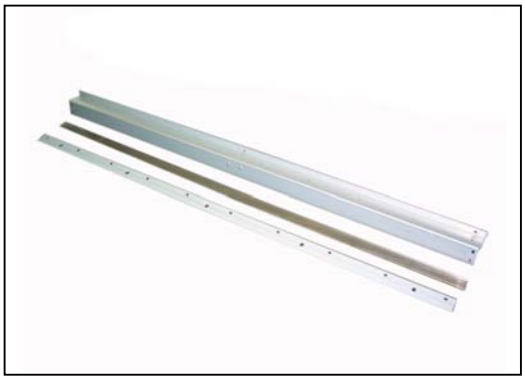


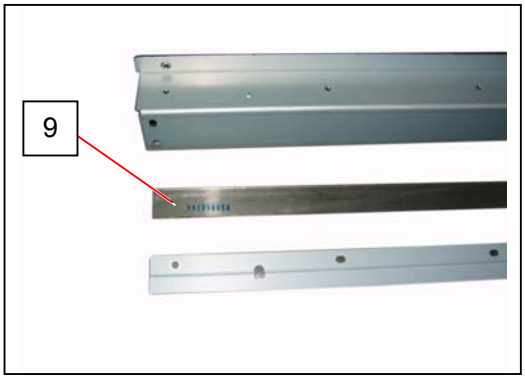




7. Remove 10 pieces of screw (8), and then disassemble the Scraper Assembly. Replace **Scraper** (9) with a new one.





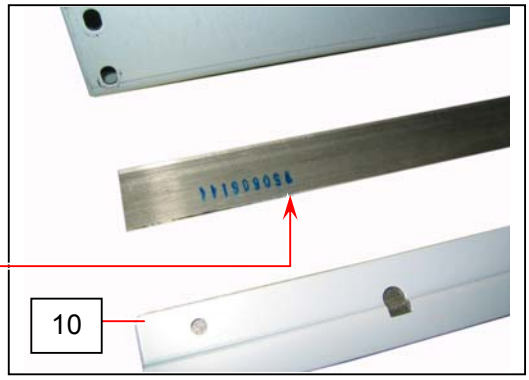


NOTE

(1) Please install the new Scraper so that one of its 4 edges pointed by an arrow mark should touch the surface of Regulation Roller.

(2) The edge must be straight after the installation. Otherwise the toner will not be scraped off well.

Arrow mark



(3) Carry Scraper Assembly ends so that the touching edge to Regulation Roller is in downward direction.

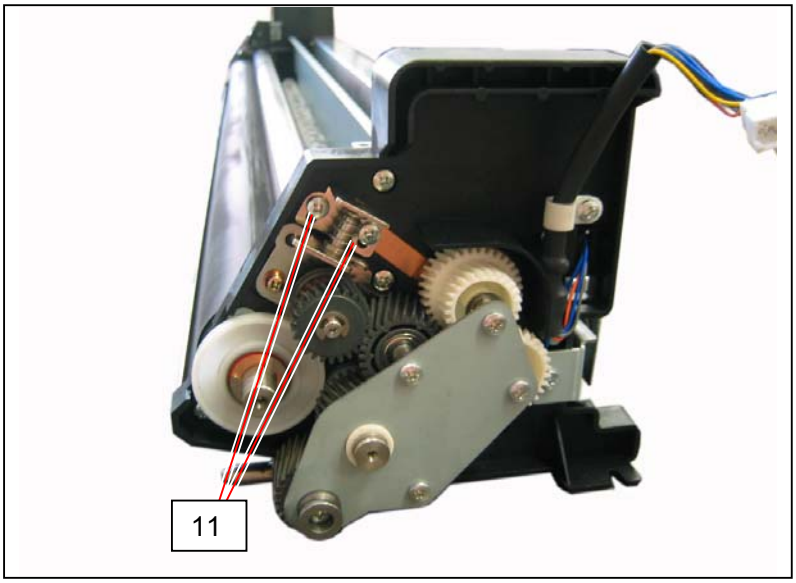
If Scraper falls or slips, Seal 5 (P/N: Z054601260) should be applied on Bracket 14 (10) so that Scraper Assembly housing catches Scraper firmly.

8. Remove all the toner from Developer Unit.

NOTE

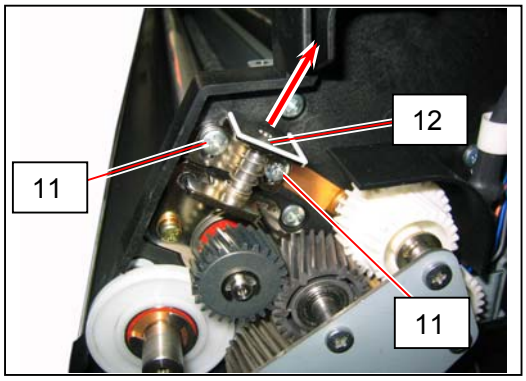
Do not reuse the removed toner.

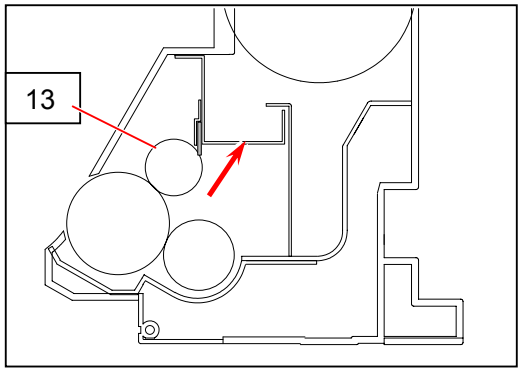
9. Loosen 2 pieces of 4x6 screw (11) to release the Regulation Roller.



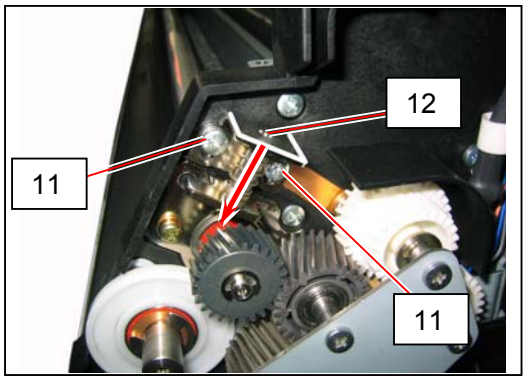
NOTE

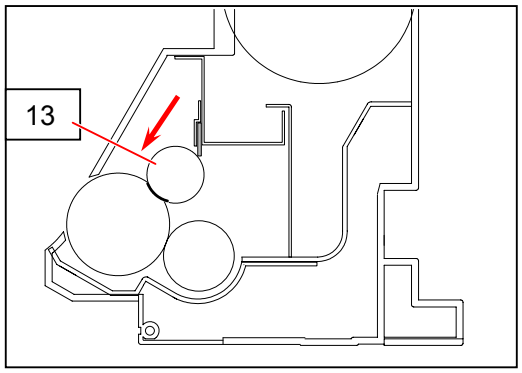
The Bracket 4 (12) is moved up by the spring if you loosen the screws (11).
The Regulation Roller (13) is released at this time.



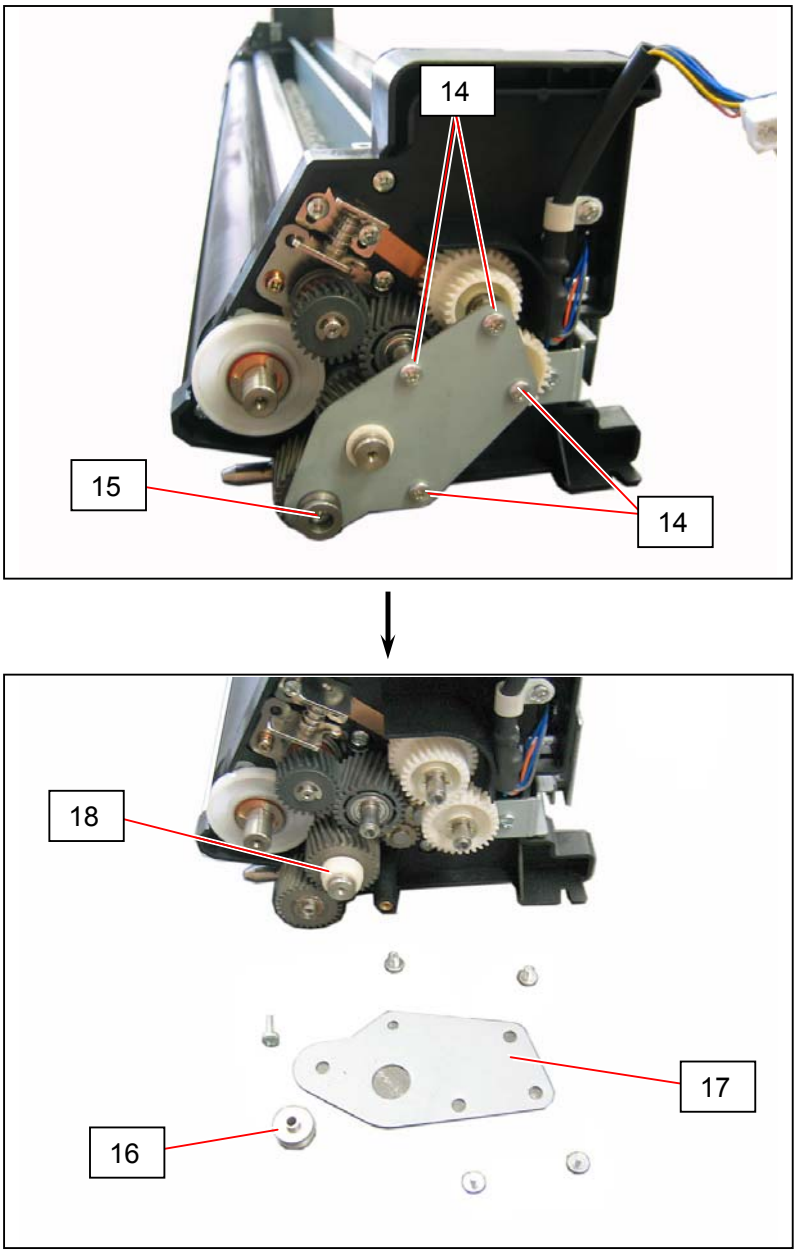


When reassemble, make sure to tighten the screws (11) with pressing the Bracket 4 (12) fully to the arrow direction.

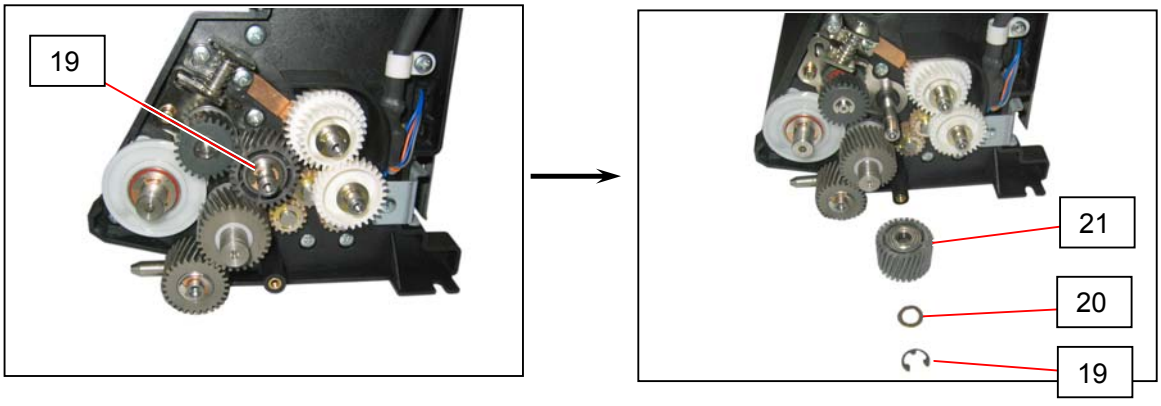




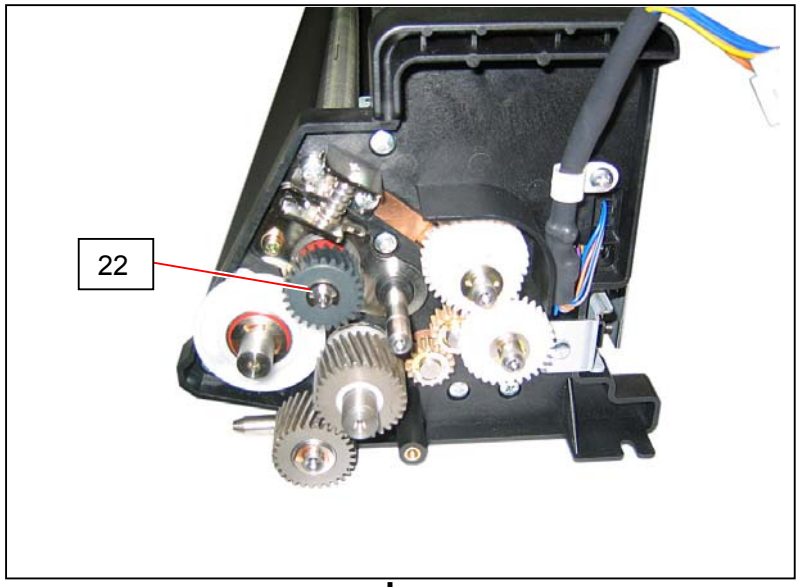
10. Remove 4 pieces of 4x6 screws (14), 1 piece of 4x8 screw (15) and Pin 4 (16). Also remove the Bracket 9 (17) and Collar (18).

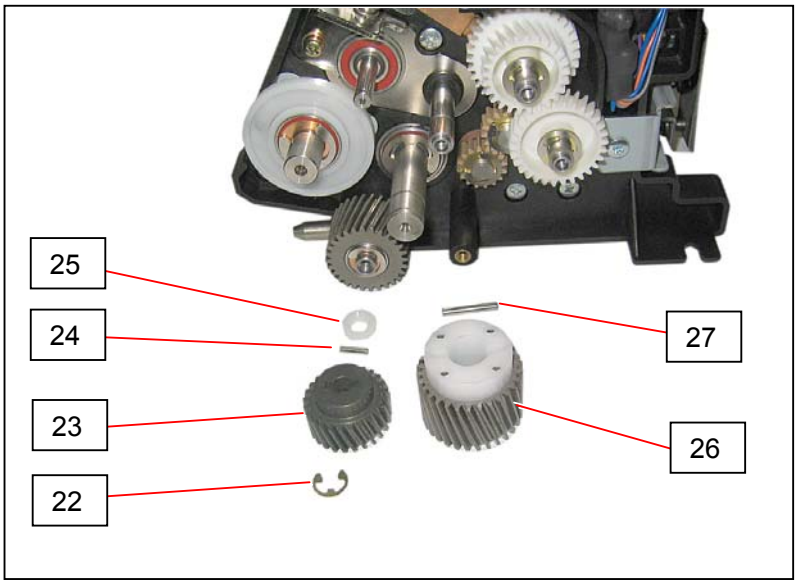


11. Remove the Retaining Ring-E (19 : E7) to remove Thrust Washer (20 : 8.1x14x0.5) and Gear Helical 28T (21).

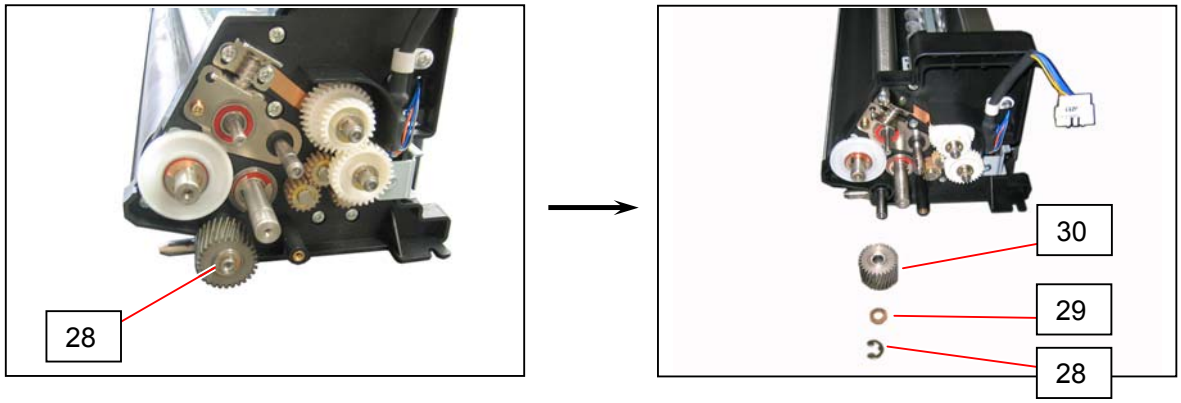


12. Remove the Retaining Ring-E (22 : E5) to remove Gear Helical 25T (23), Parallel Pin (24 : 2.5 x 12) and Collar 3 (25) from the shaft of Regulation Roller.
Also remove the Gear Helical 30T (26) and Parallel Pin (27: 3x14) from the shaft of Roller Supply.

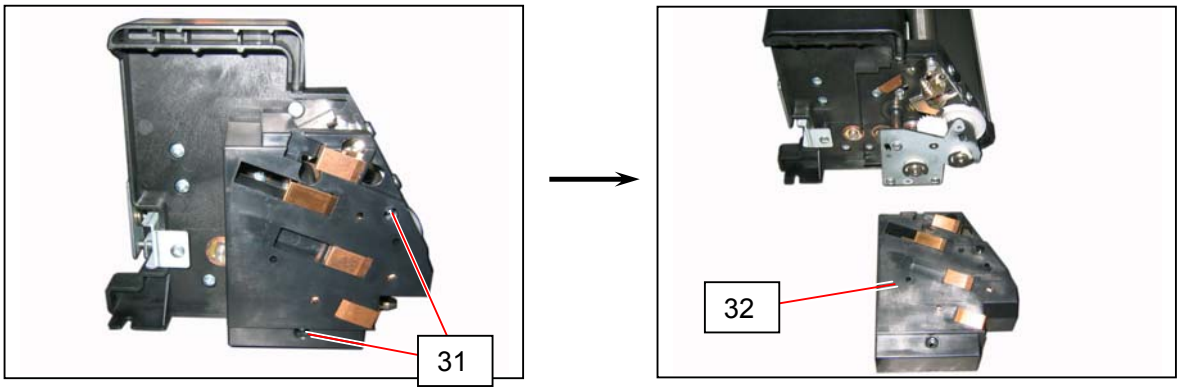




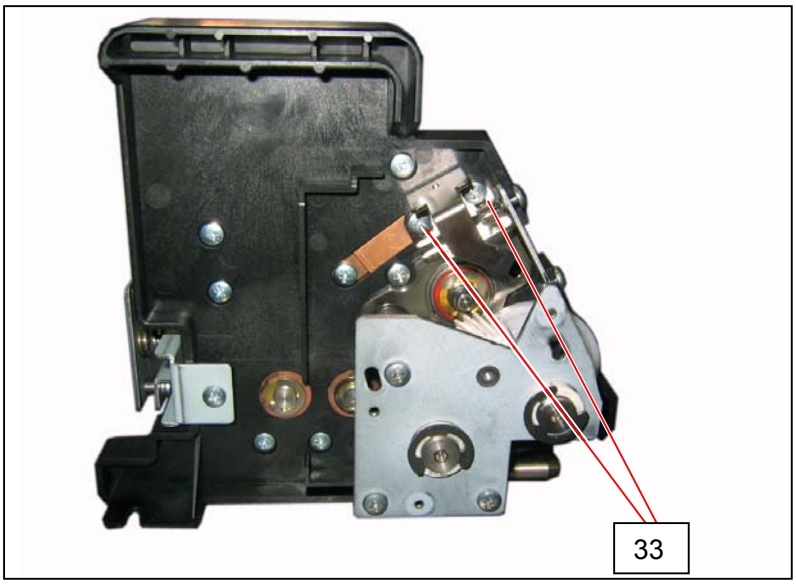
13. Remove the Retaining Ring-E (28 : E7) to remove Thrust Washer (29 : 8.1x14x0.5) and Gear Helical 28T Assembly (30).



14. Remove 2 pieces of 3x6 screw (31) to remove the Holder 2 Assembly (32).

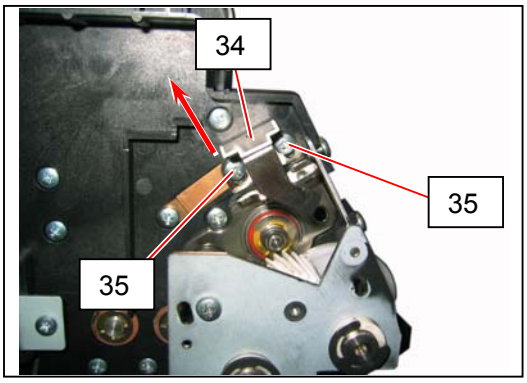


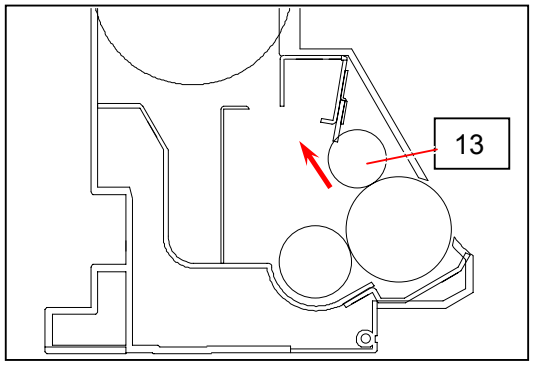
15. Loosen 2 pieces of 4x6 screw (33) to release the Regulation Roller.



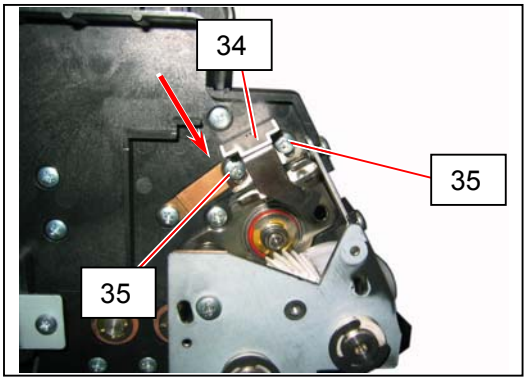
NOTE

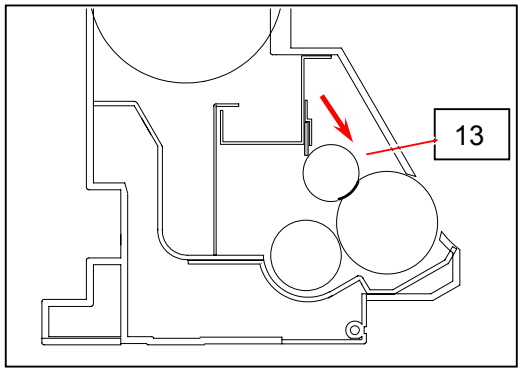
The Bracket 5 (34) is moved up by the spring if you loosen the screws (35).
The Regulation Roller (13) is released at this time.



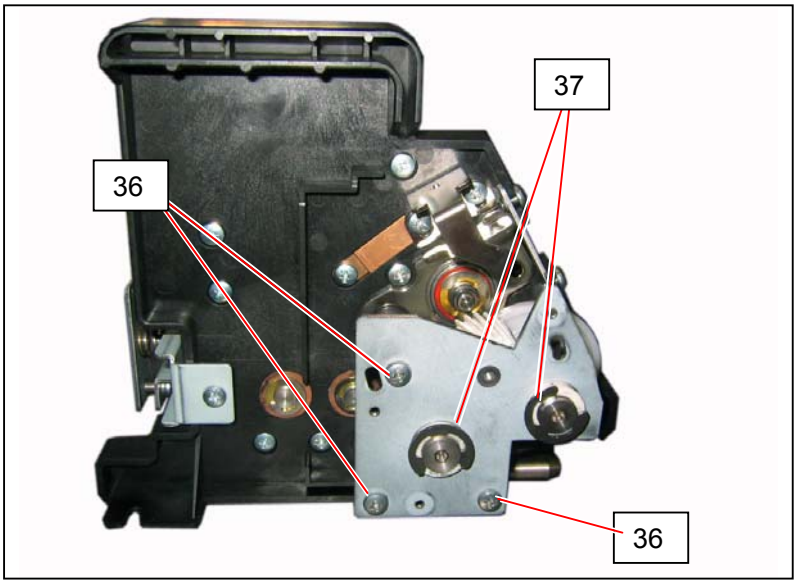


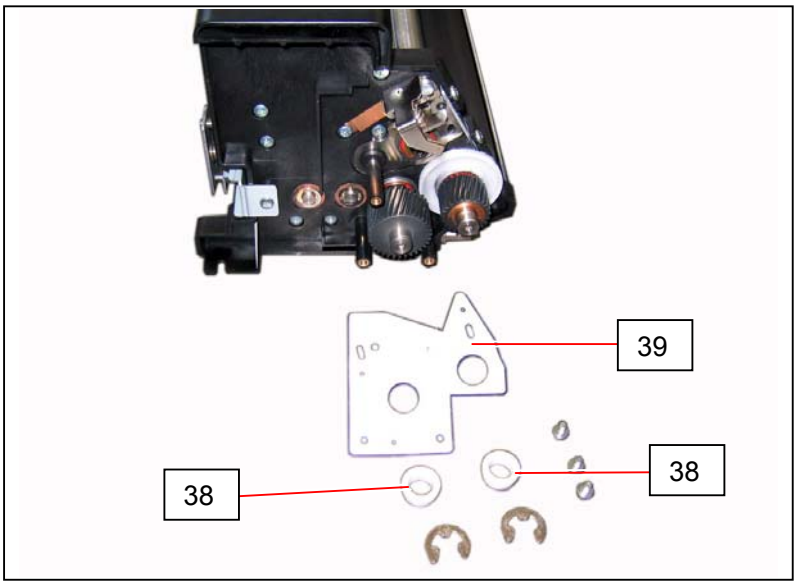
When reassemble, make sure to tighten the screws (35) with pressing the Bracket 5 (34) fully to the arrow direction.



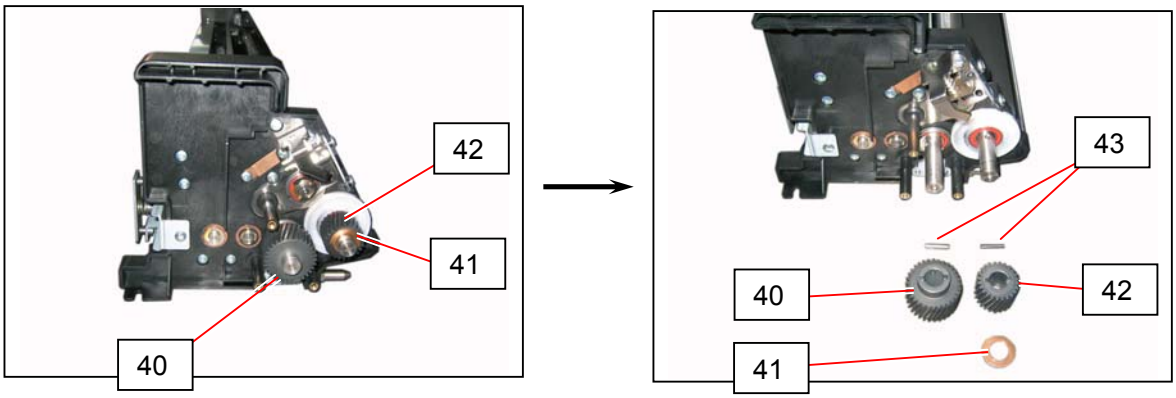


16. Remove 3 pieces of 4x6 screw (36) and 2 pieces of Retaining Ring-E (37 : E10). Then, remove the Collars (38) and the Bracket 10 Assembly (39).

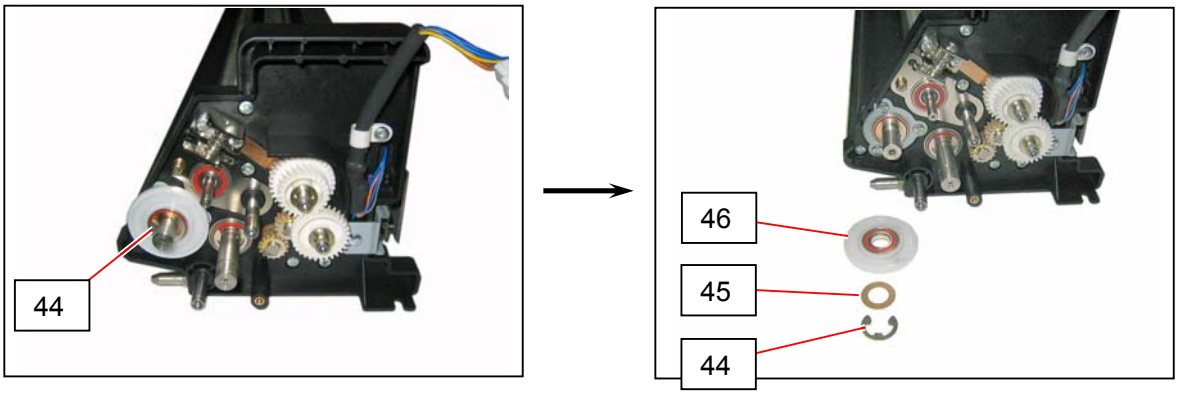




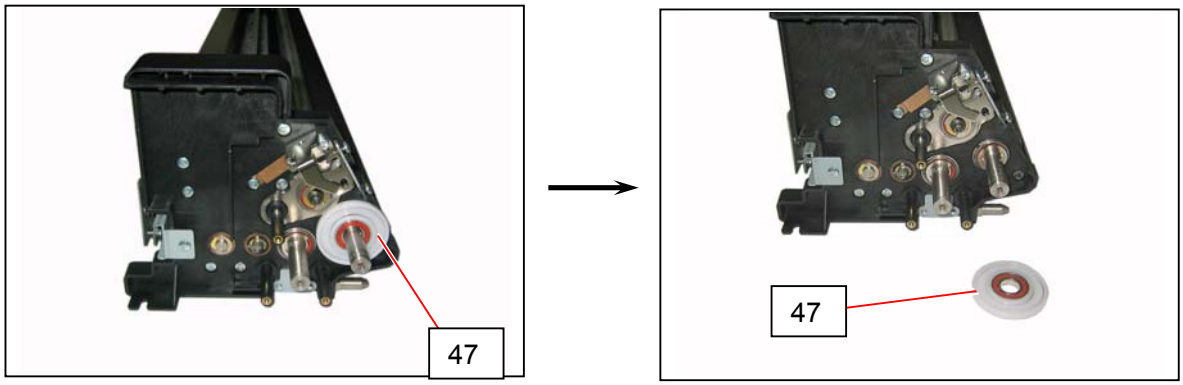
17. Remove the Gear Helical 32T (40), the Thrust Washer (41:12.1x20x0.2), the Gear Helical 24T (42) and the Parallel Pins (43 : 3x16).



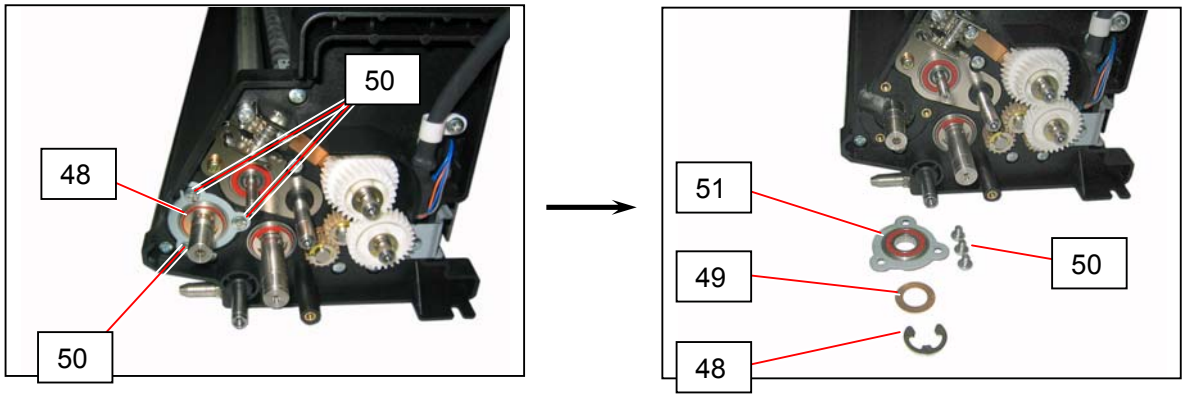
18. Remove the Retaining Ring-E (44 : E10) to remove Thrust Washer (45 : 12.2x20x0.5) and Counter Roller (46) on the driving side.



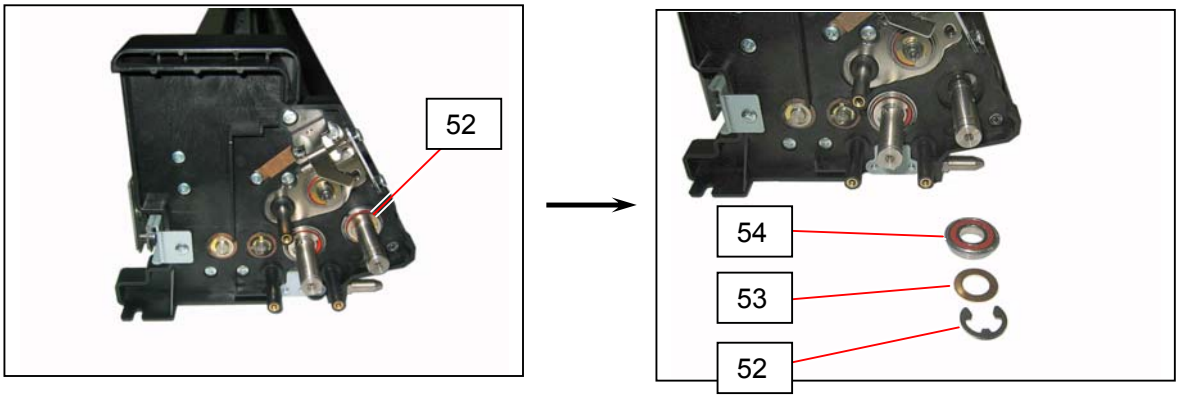
19. Also remove the Counter Roller (47) on the electrode plate side.



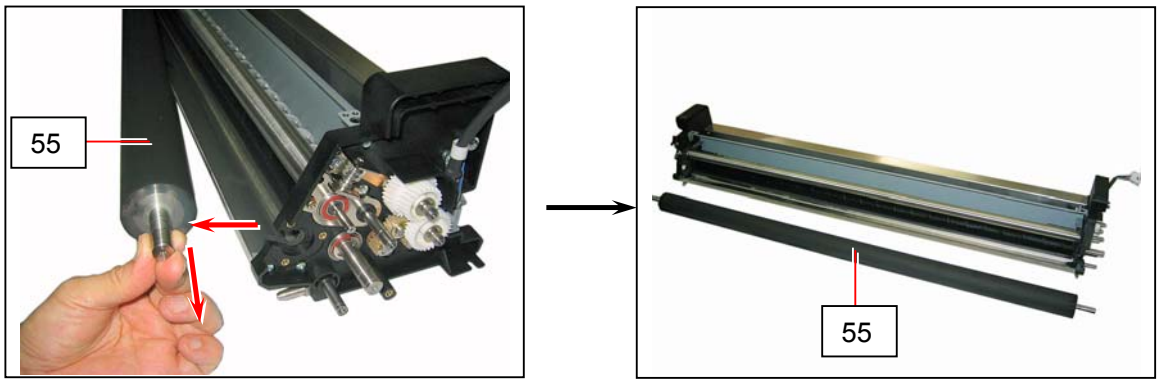
20. Remove the Retaining Ring-E (48 : E10) and the Thrust Washers (49 : 12.2x20x0.5). Remove 3 pieces of 4x6 screw(50) to remove the Bracket 8 Assembly (51).

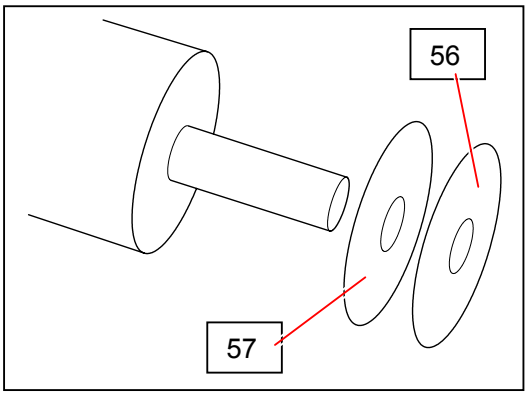


21. Remove the Retaining Ring-E (52 : E10) to remove the Thrust Washer (53 : 12.2x20x0.5) and the Bearing (54).



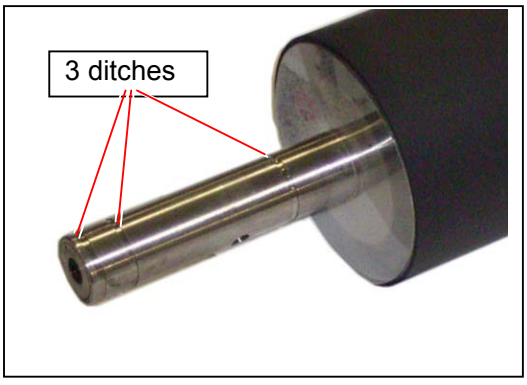
22. Remove the **Roller Developer** (55), and replace it with the new one.
Paste the **Sheet 3** (56 : outside) and **Sheet 4** (57 : inside / with double-face tape) to both side faces of Roller Developer at this time.



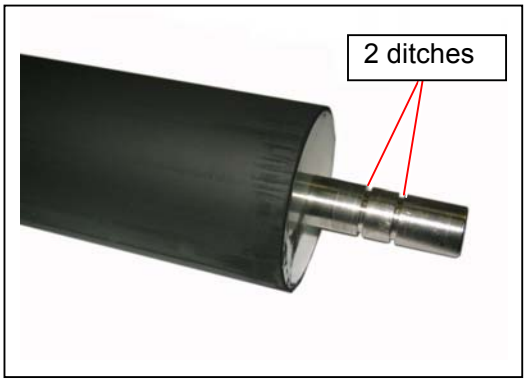


NOTE

You need to care about the direction of Roller Developer.
The Electrode Plate side has 3 ditches on the shaft, and the driving side has 2 ditches.

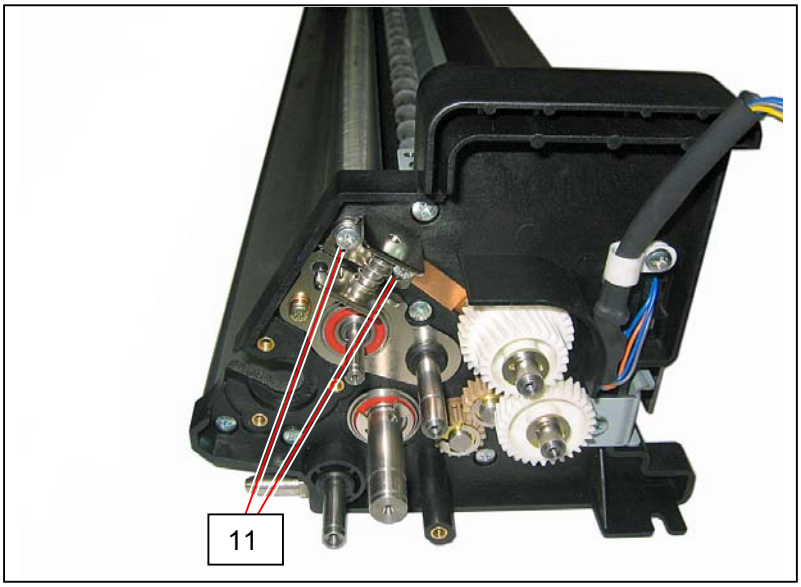


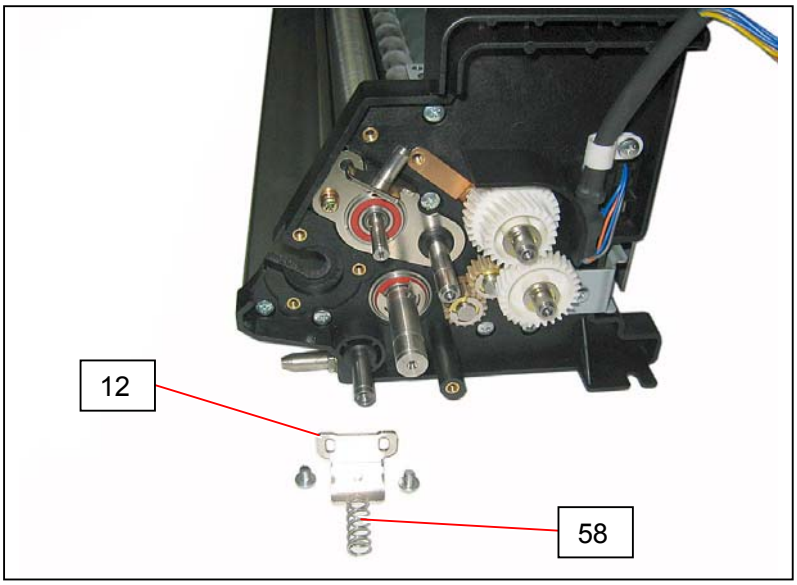
Electrode Plate side



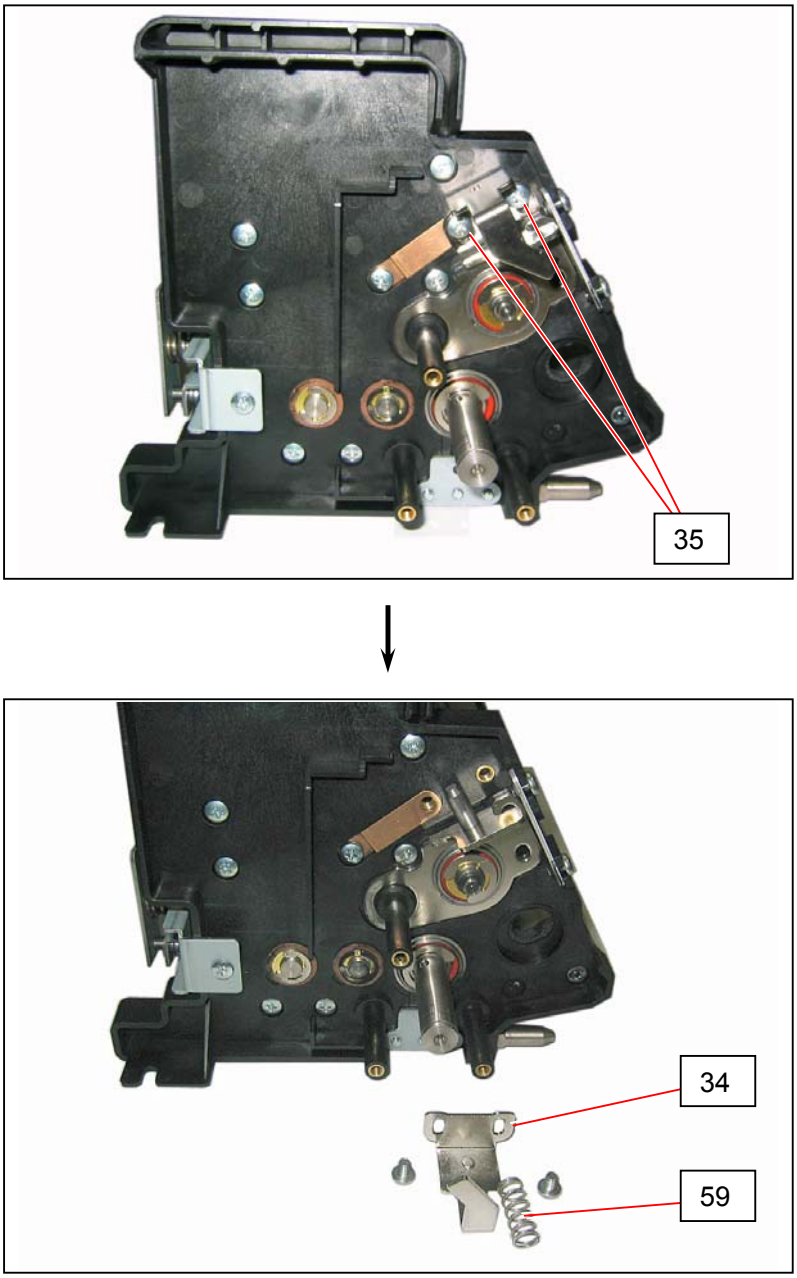
Driving side

23. Remove 2 pieces of 4x6 screw (11) to remove the Bracket 4 (12) and the Spring (58).

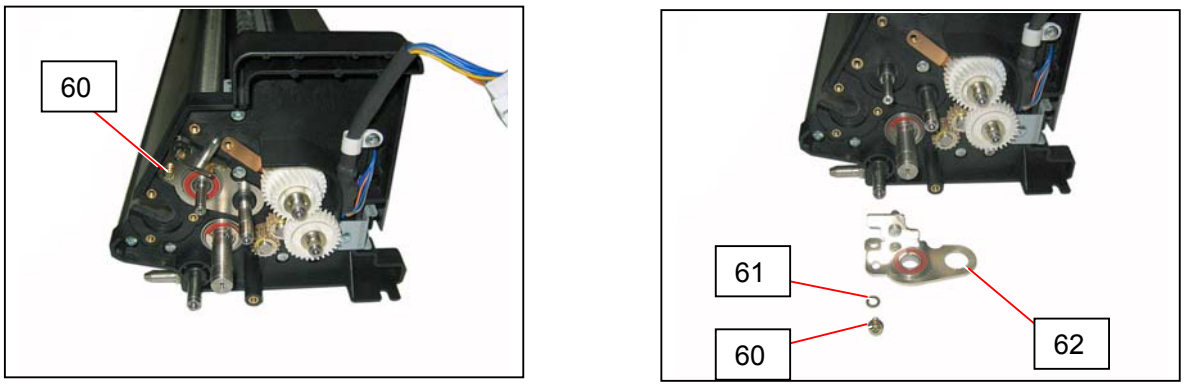




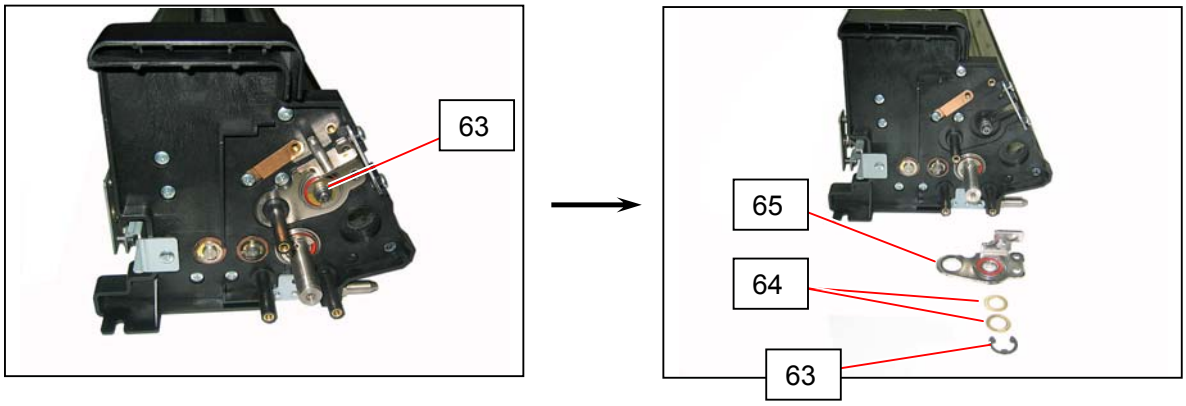
24. Remove 2 pieces of 4x6 screw (35) to remove the Bracket 5 (34) and the Spring (56).



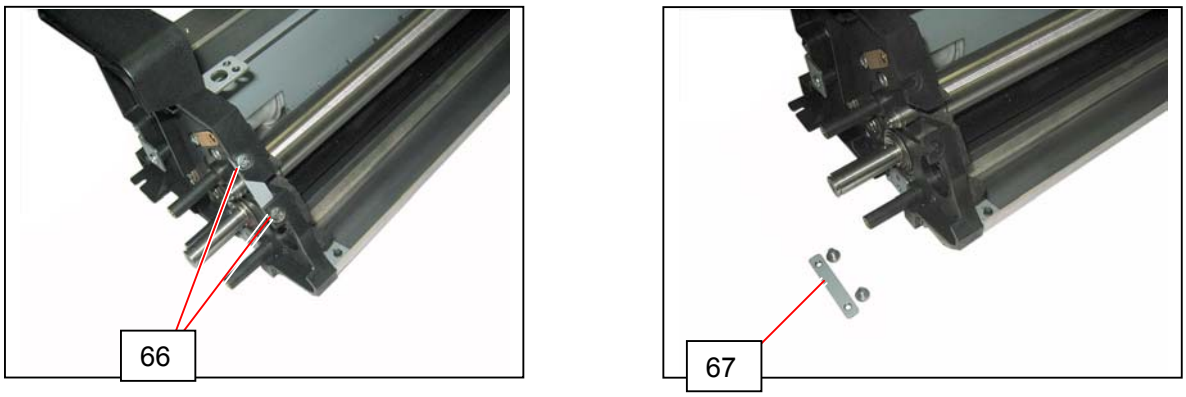
25. Remove the 4x8 Pan Head screw (60) to remove the Flat Washer (61 : M4) and the Bracket 6 Assembly (62)



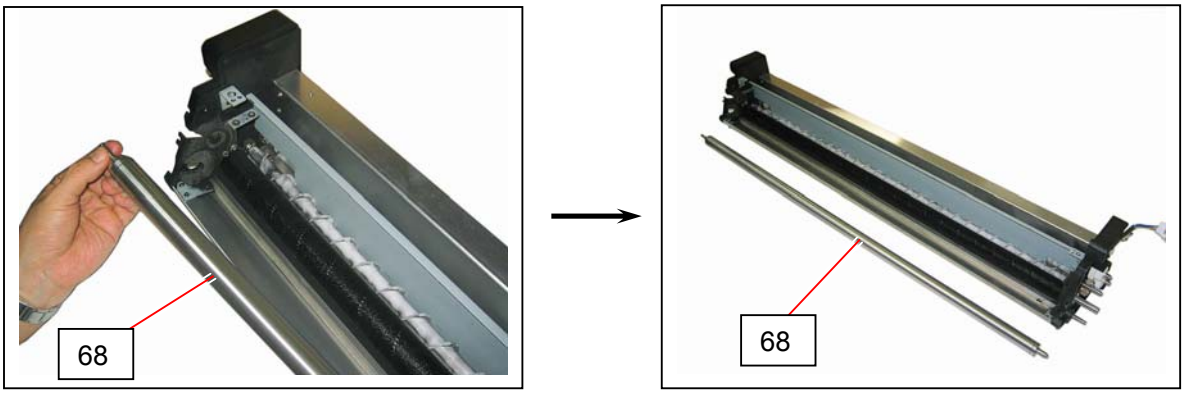
26. Remove the Retaining Ring-E (63 : E8) to remove the Thrust Washers (59 : 10.1x16x0.5)(64) and Bracket 7 Assembly (65) on the Electrode Plate side.



27. Remove 2 pieces of 4x6 screw (66) to remove the Bracket 19 (67).



28. Remove the Regulation Roller (68).



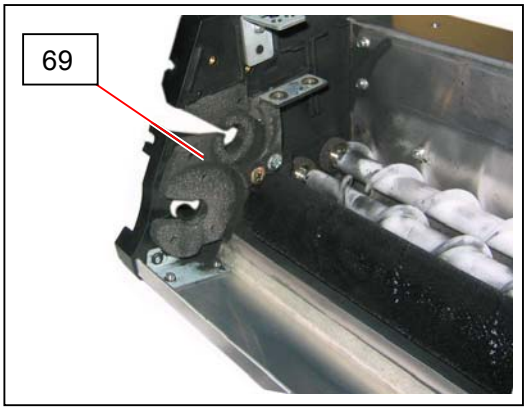
NOTE

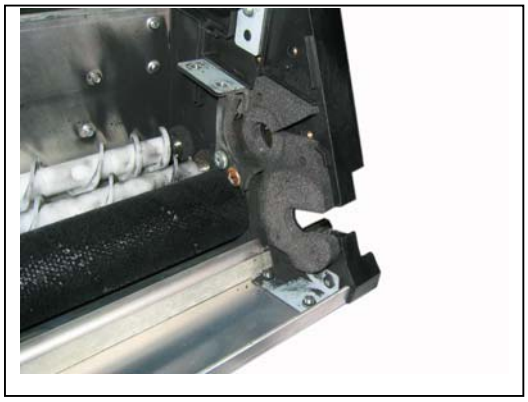
You need to care about the direction of Regulation Roller.
The longer shaft should be on the driving side.

Electrode Plate side

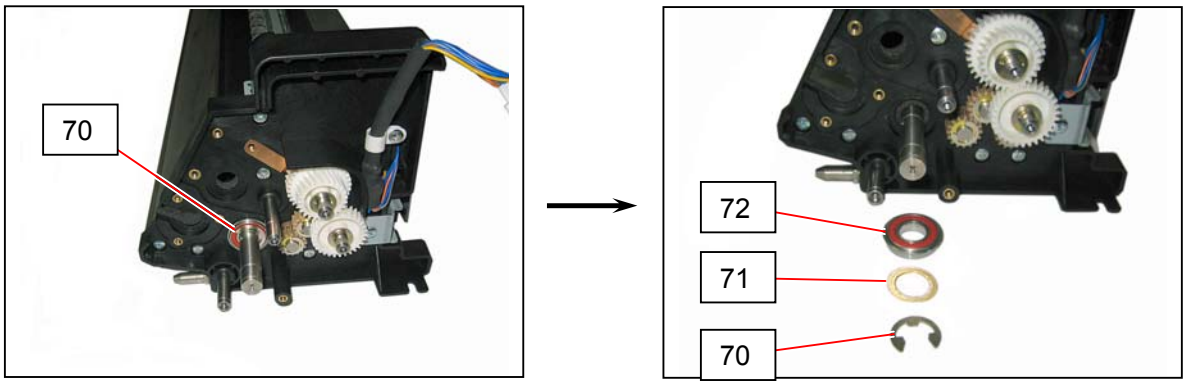
Driving side

29. Remove the **Seals 1** (69) at both sides.
Replace the **Seals 1** (69) with the new ones.

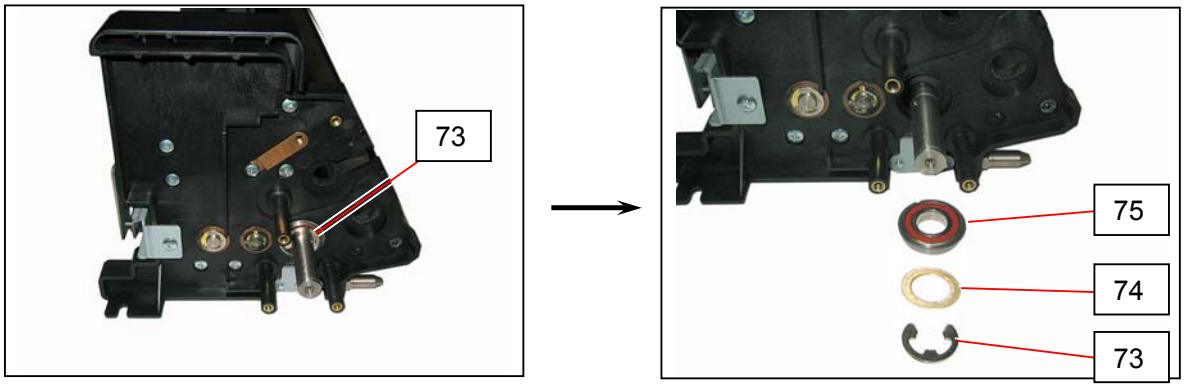




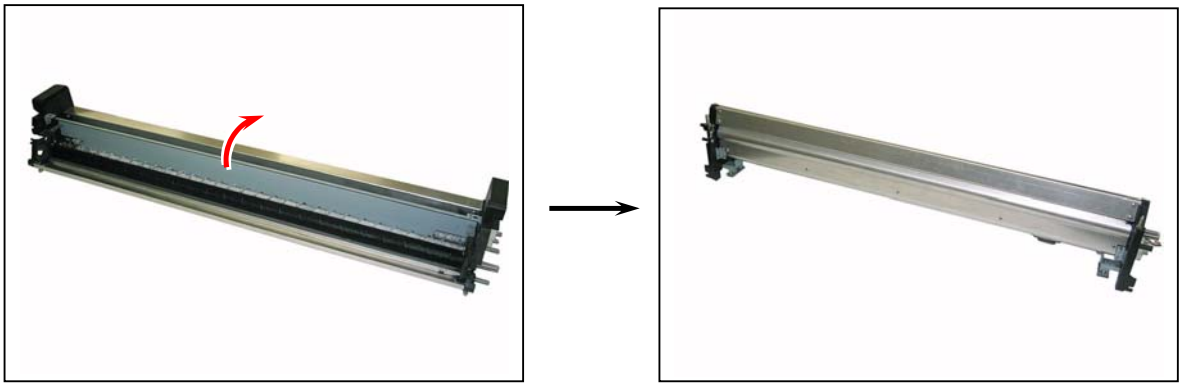
30. Remove the Retaining Ring-E (70 : E10) to remove Thrust Washer (71 : 12.2x20x0.5) and Bearing (72) on the driving side.



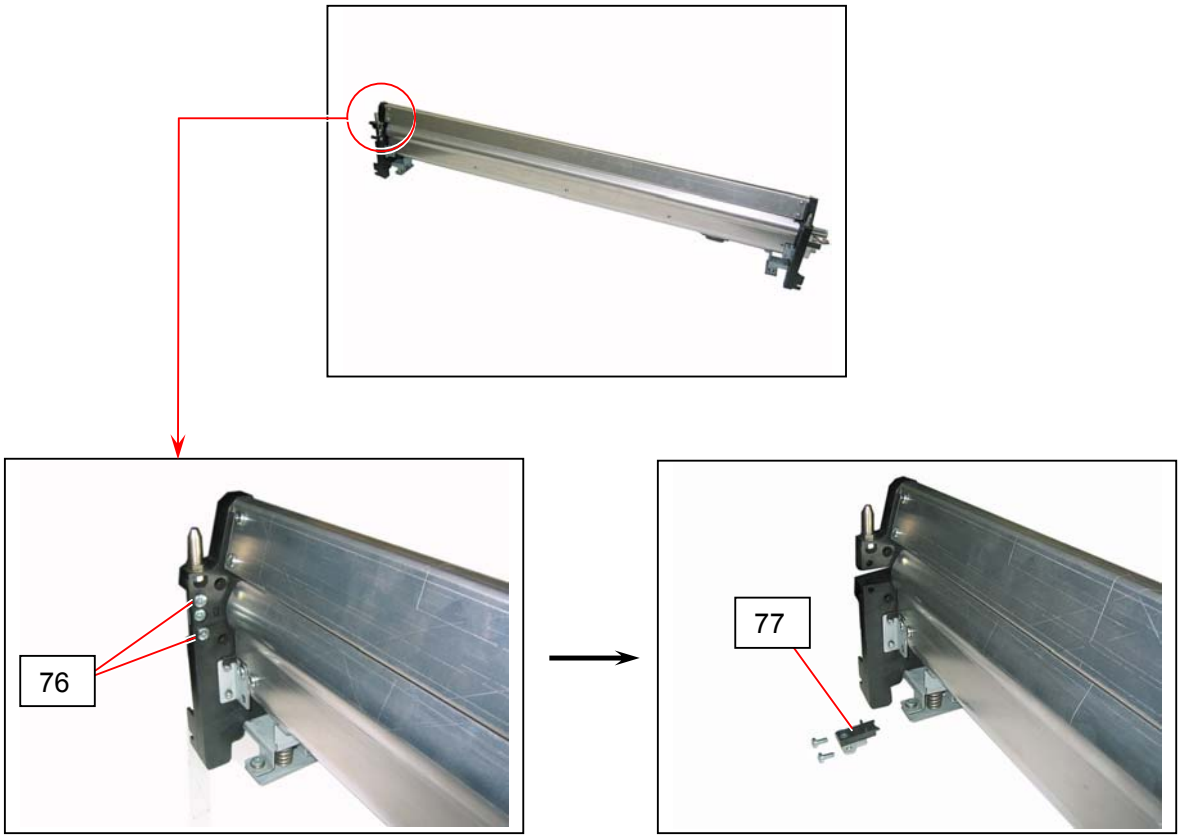
31. Remove the Retaining Ring-E (73 : E10) to remove Thrust Washer (74 : 12.2x20x0.5) and Bearing (75) on the Electrode Plate side.



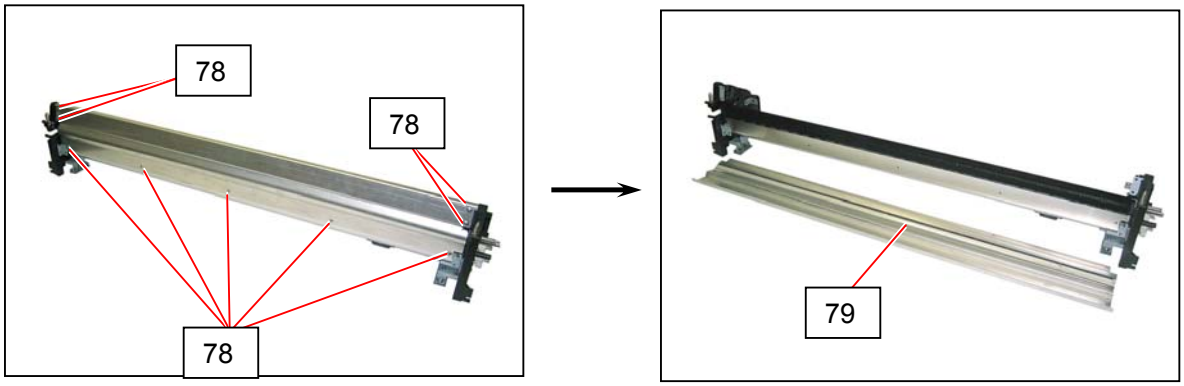
32. Turn the whole Developer Unit to the arrow mark so that you can see the bottom of the unit.



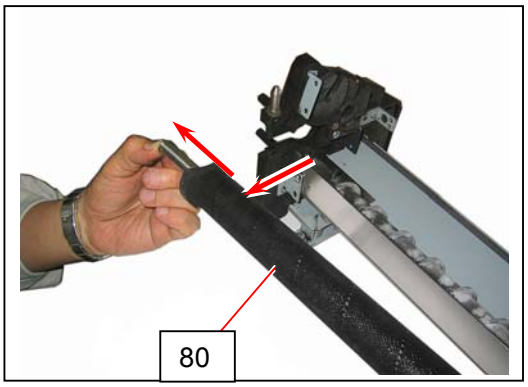
33. Remove 2 pieces of 4x6 screws (76) to remove the Bracket Assembly (77).

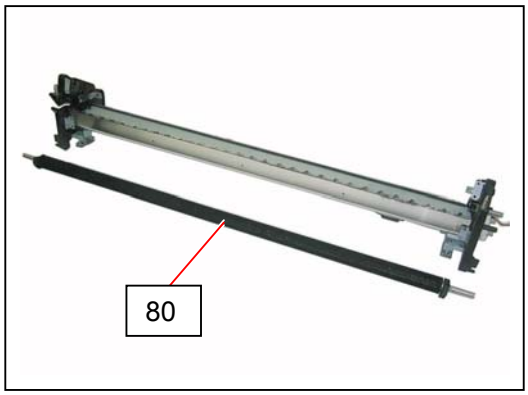


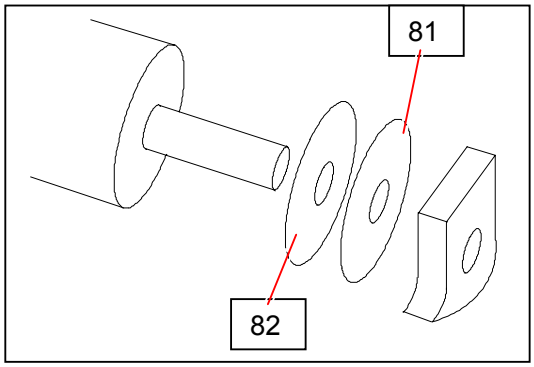
34. Remove 9 pieces of 4x6 screws (78) to remove the Frame 2 (79).



35. Remove the **Roller Supply** (80) sliding to the arrow direction, and replace it with the new one. Paste the **Sheet 5** (81 : outside) and **Sheet 6** (82 : inside / with double-face tape) to both side faces of Toner Supply Roller at this time.

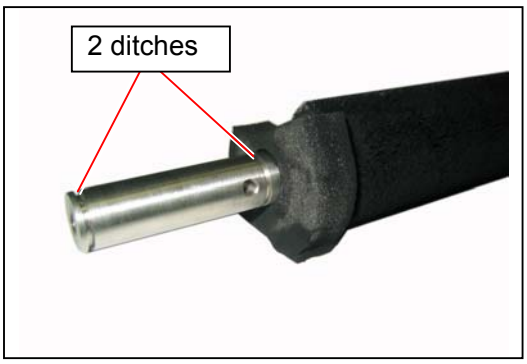




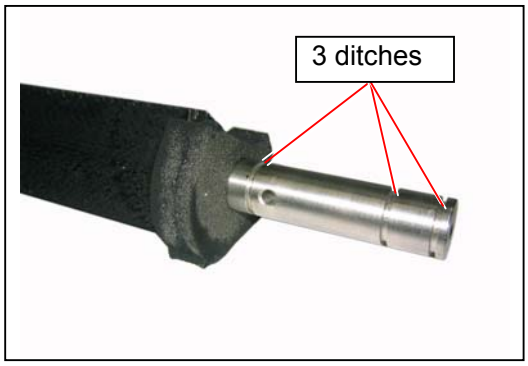


⚠ NOTE

(1) You need to care about the direction of Roller Supply.
The Electrode Plate side has 2 ditches on the shaft, and the driving side has 3 ditches.

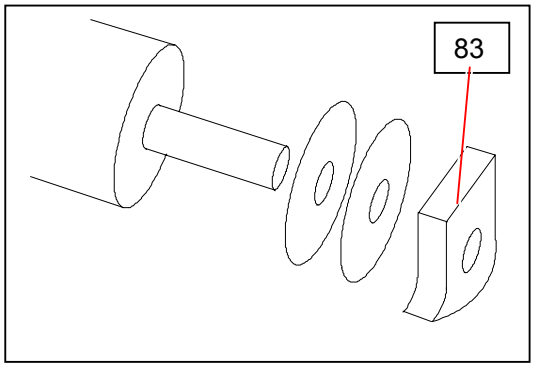


Electrode Plate side

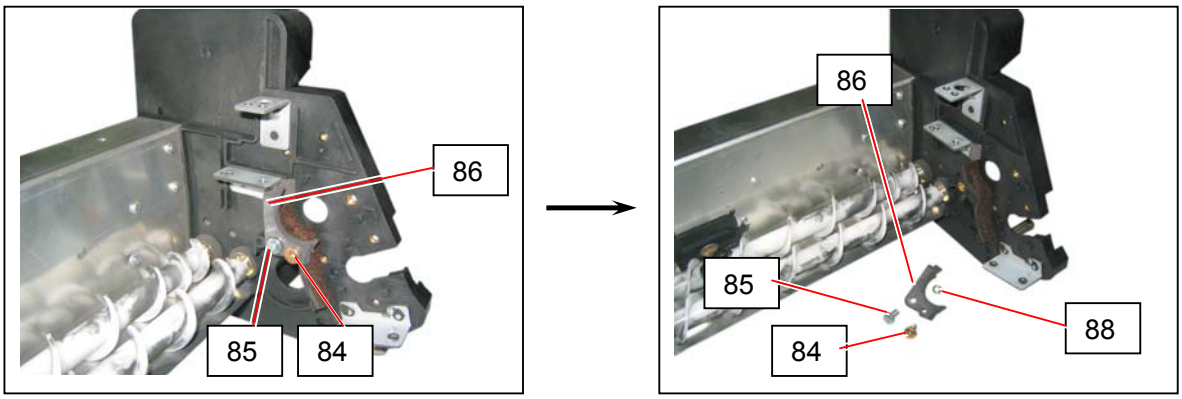


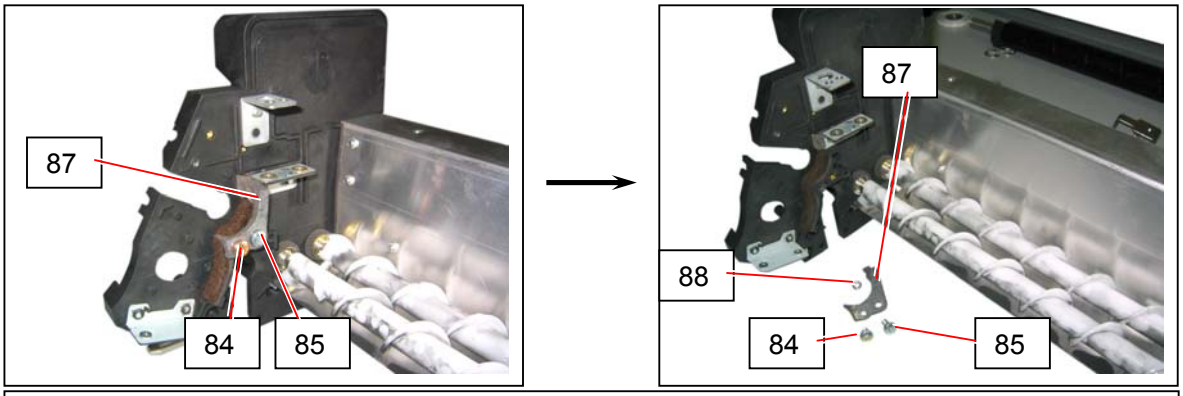
Driving side

(2) There are Seal 4 (85) at both sides of the Roller Supply.
Remove them from the old Roller Supply and then install them to the new Roller Supply.
(Be careful not to dispose them.)



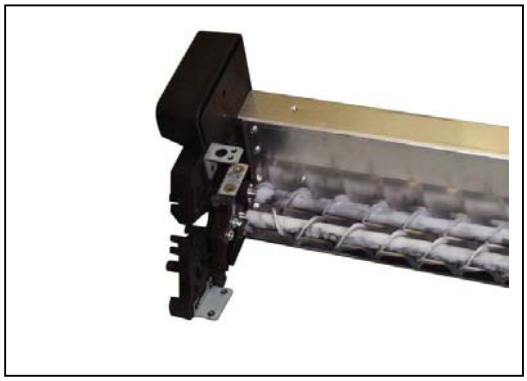
36. Remove the 4x8 tapping screws (84) and 4x8 bind screws (85) at both sides, and remove each Seal L Assembly (86), Seal R Assembly (87) and Collars (88).

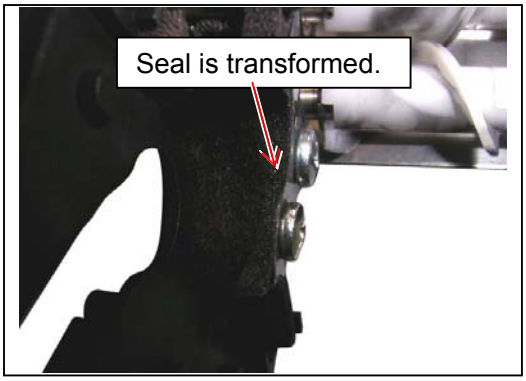




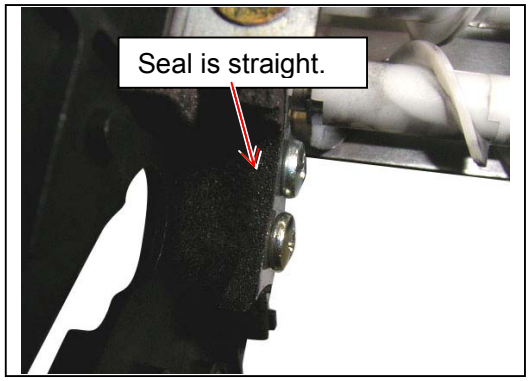
NOTE

When you reinstall both the Seal L Assembly (86), Seal R Assembly (87), do not tighten the 4x8 tapping screws (84) so much as the seals will be transformed as the following bad example.



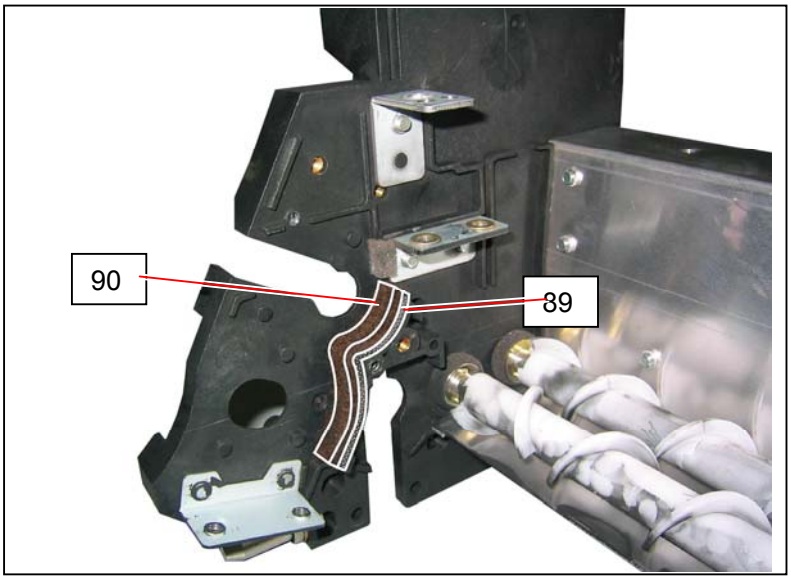


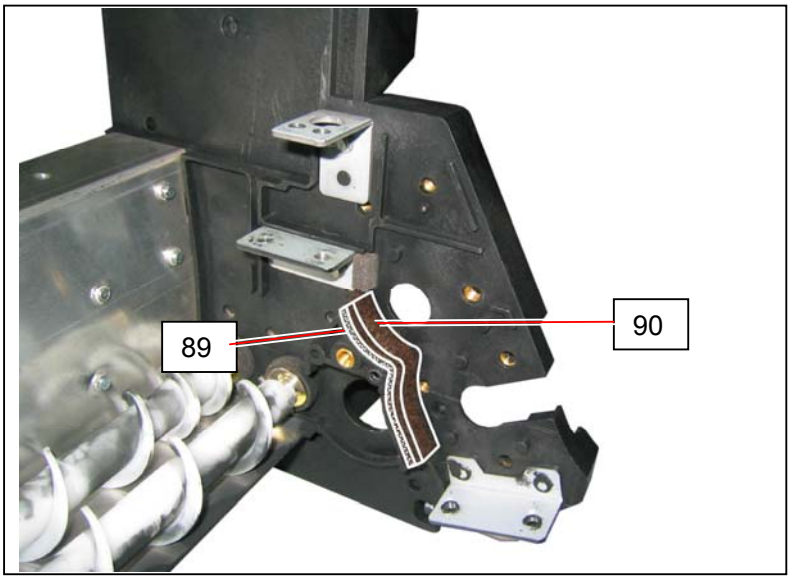
Bad example



Good example

37. There are **Seals 3** (89) and **Seals 4** (90) at both sides.
Strip them off, and replace them with the new ones.





NOTE

Align both the **Seals 3** (89) and **Seals 4** (90) at the bottom side.

5. 2. 3 Replacement of Developer Unit Components (before S/N 10510001)

NOTE

(1) This section applies to sponge type Developer Unit (before S/N 10510001).

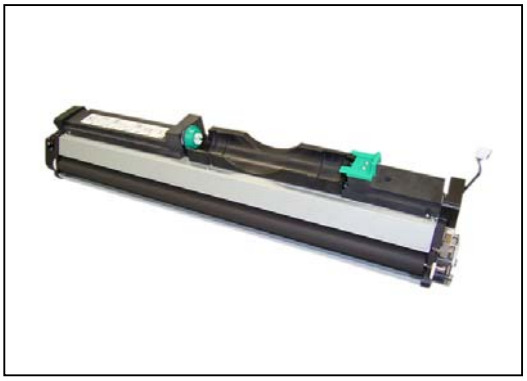
(2) The following parts are Developer Unit components.
A periodic replacement for the following parts is recommended.
This section describes how to replace all of them in one sequent operation.

Item	Number of article	Remarks
Roller Developer	1	All of these parts are contained in "Developer Roller Kit" (Z050980020).
Sheet 3	2	
Sheet 4	2	
Seal 1	2	
Seal 3	2	
Seal 4	2	
Scraper	1	

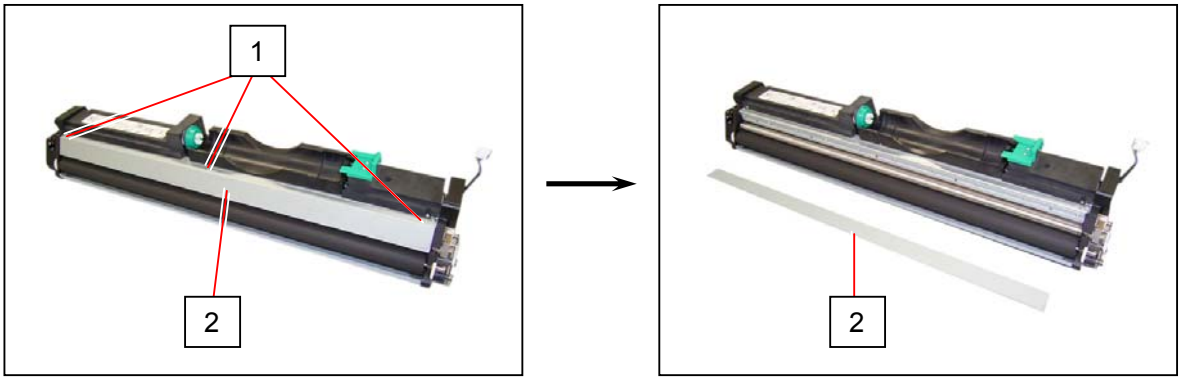
Item	Number of article	Remarks
Toner Supply Roller	1	All of these parts are contained in "Supply Roller Kit" (Z050980030).
Sheet 5	2	
Sheet 6	2	

(3) Remove all the toner from the Developer Unit before replacing the above parts.

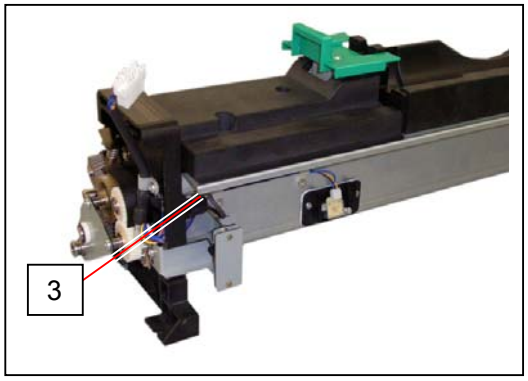
1. Remove the Developer Unit from the machine making reference to [5. 2. 1 Removal of the Developer Unit] on the page 5-8.



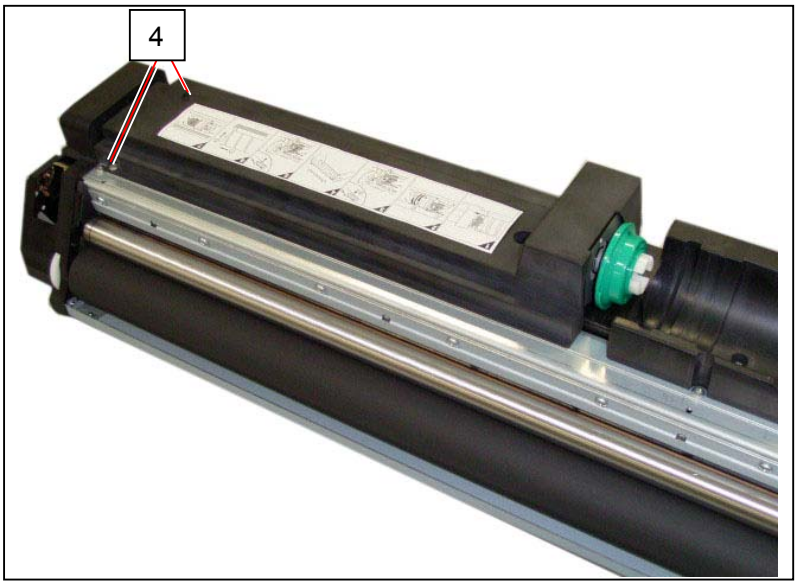
2. Remove 3 pieces of 4x6 screw (1) to remove the Cover (2).

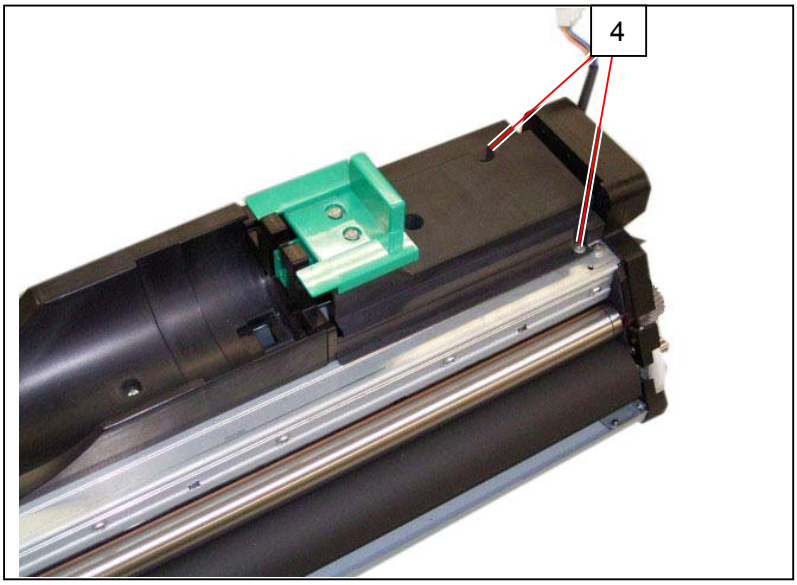


3. Disconnect the connector (3).

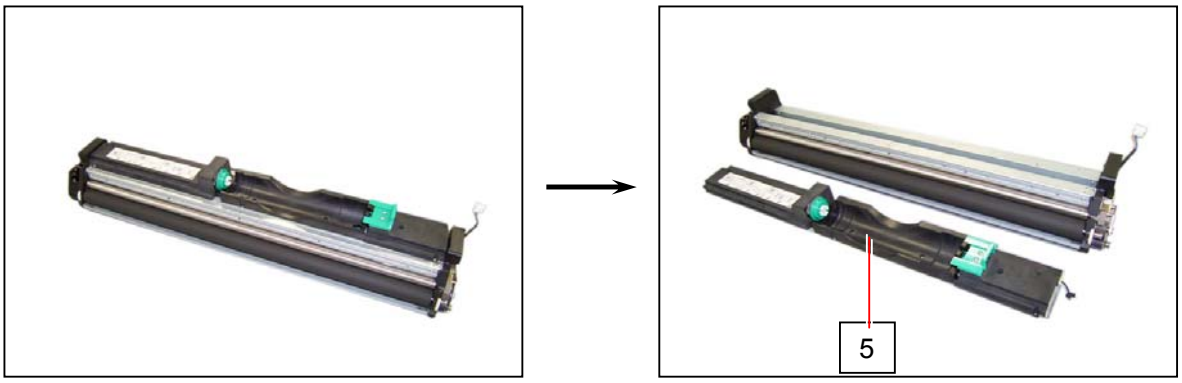


4. Remove 4 pieces of 4x6 screws (4) which fix the Hopper Assembly.



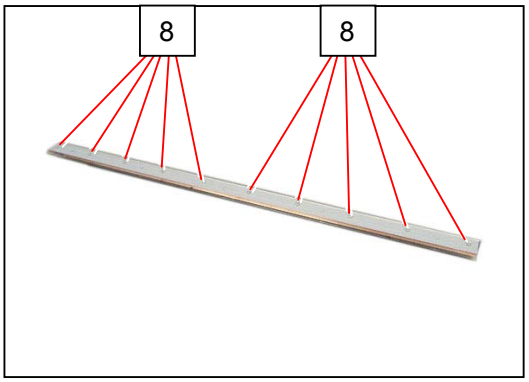


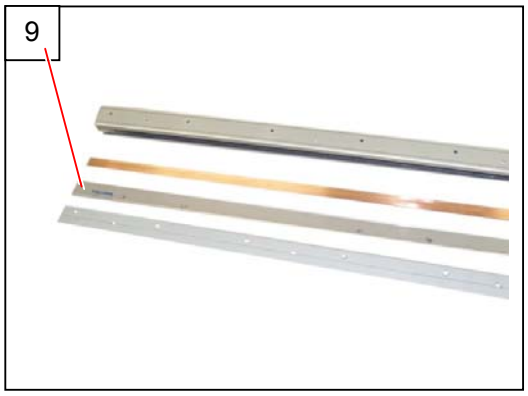
5. Remove the Hopper Assembly (5).



6. Remove the 4x6 screws (6) at both sides, and then remove the Scraper Assembly (7).

7. Remove 10 pieces of screw (8), and then disassemble the Scraper Assembly. Replace the **Scraper** (9) with the new one.



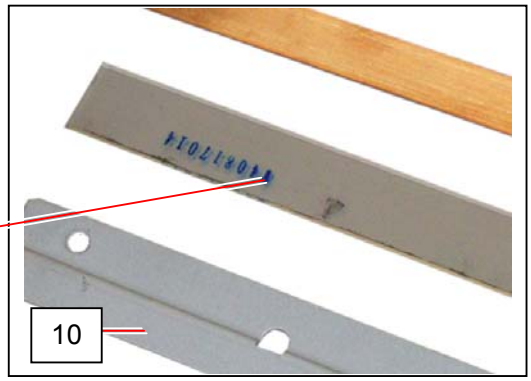


NOTE

(1) Please install the new Scraper so that one of its 4 edges pointed by an arrow mark should touch the surface of Regulation Roller.

(2) The edge must be straight after the installation. Otherwise the toner will not be scraped off well.

Arrow mark



(3) Carry Scraper Assembly ends so that the touching edge to Regulation Roller is in downward direction.

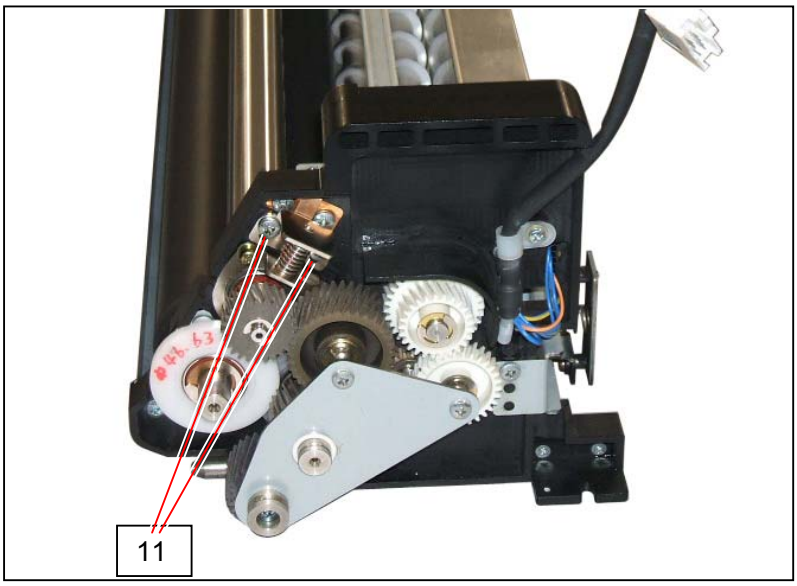
If Scraper falls or slips, Seal 5 (P/N: Z054601260) should be applied on Bracket 14 (10) so that Scraper Assembly housing catches Scraper firmly.

8. Remove all the toner from Developer Unit.

NOTE

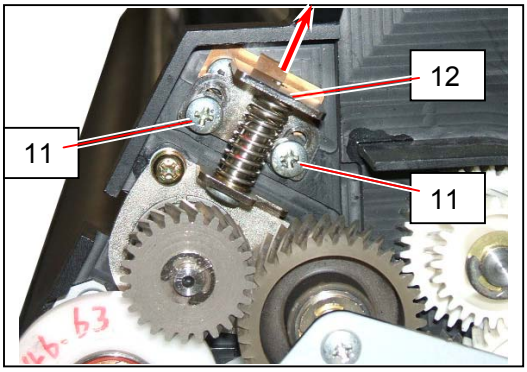
Do not reuse the removed toner.

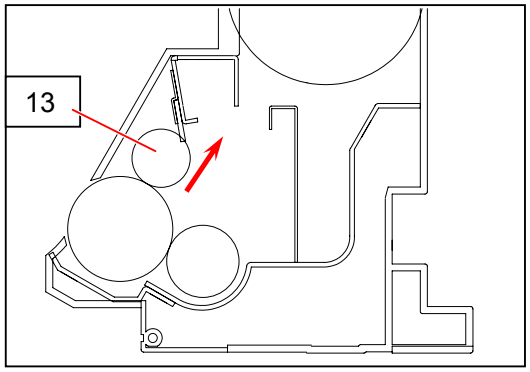
9. Loose 2 pieces of 4x6 screw (11) to release the Regulation Roller.



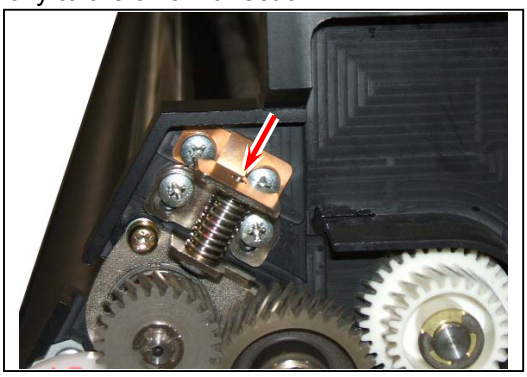
NOTE

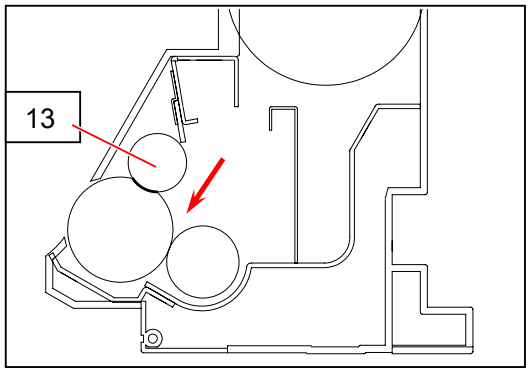
The Bracket 4 (12) is moved up by the spring if you loosen the screws (11).
The Regulation Roller (13) is released at this time.



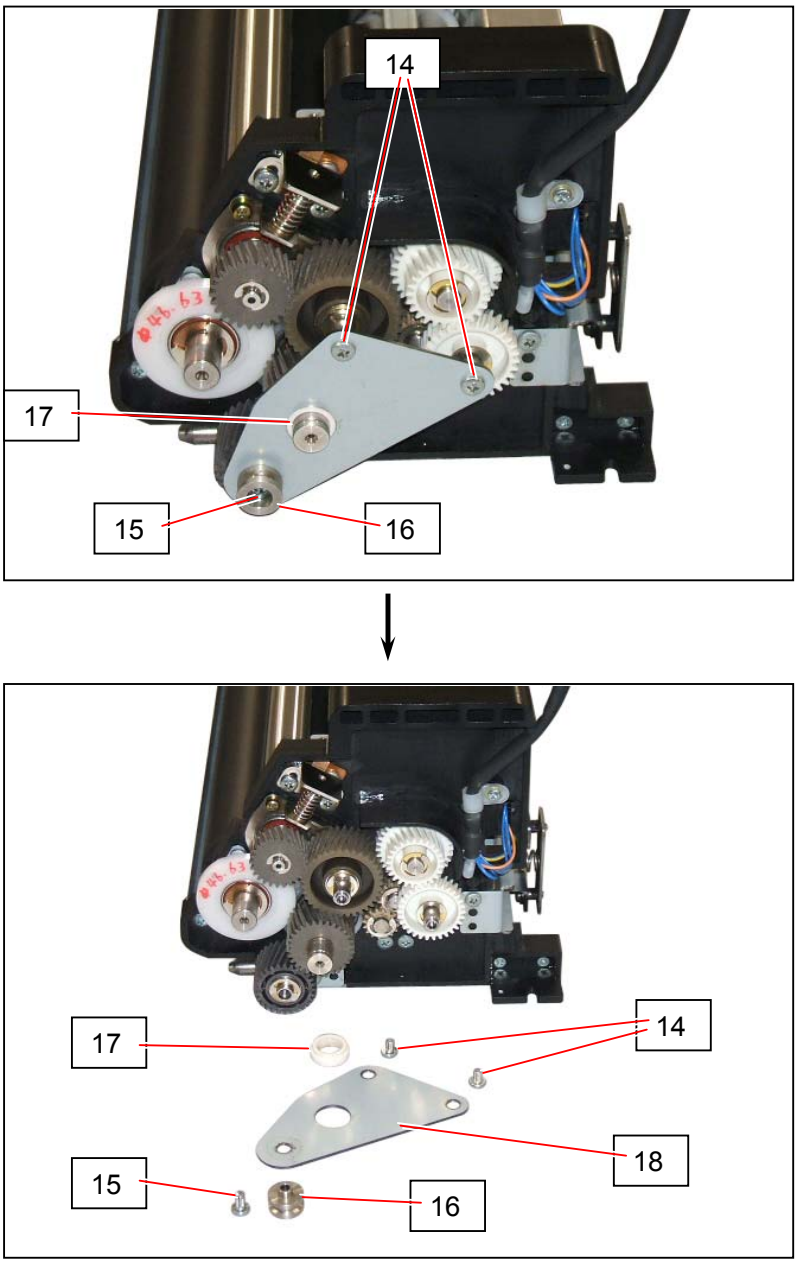


When reassemble, make sure to tighten the screws (11) with pressing the Bracket 4 (12) fully to the arrow direction.



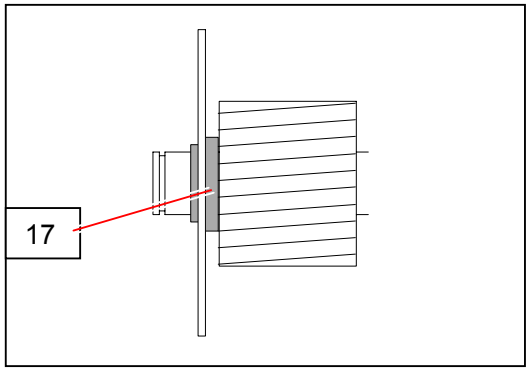


10. Remove 2 pieces of 4x6 screw (14) and 1 piece of 4x10 screw (15), and remove the Pin 4 (16), Collar (17) and Bracket 9 (18).

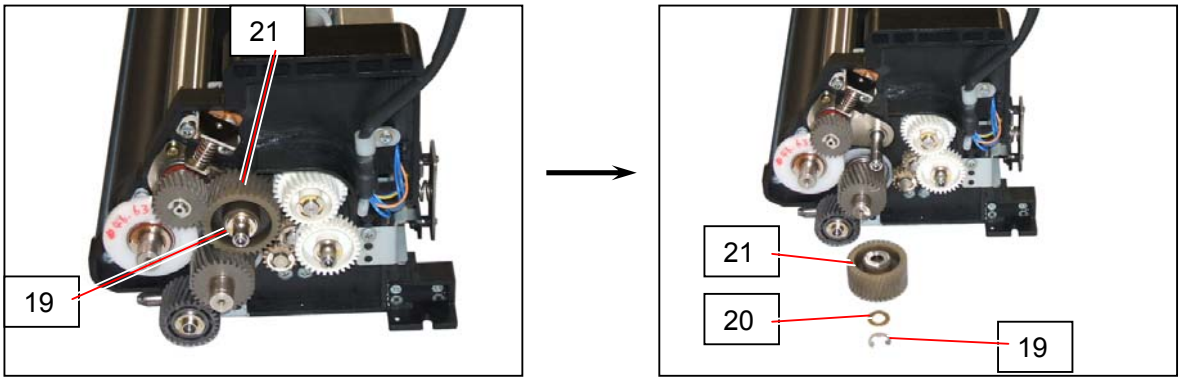


NOTE

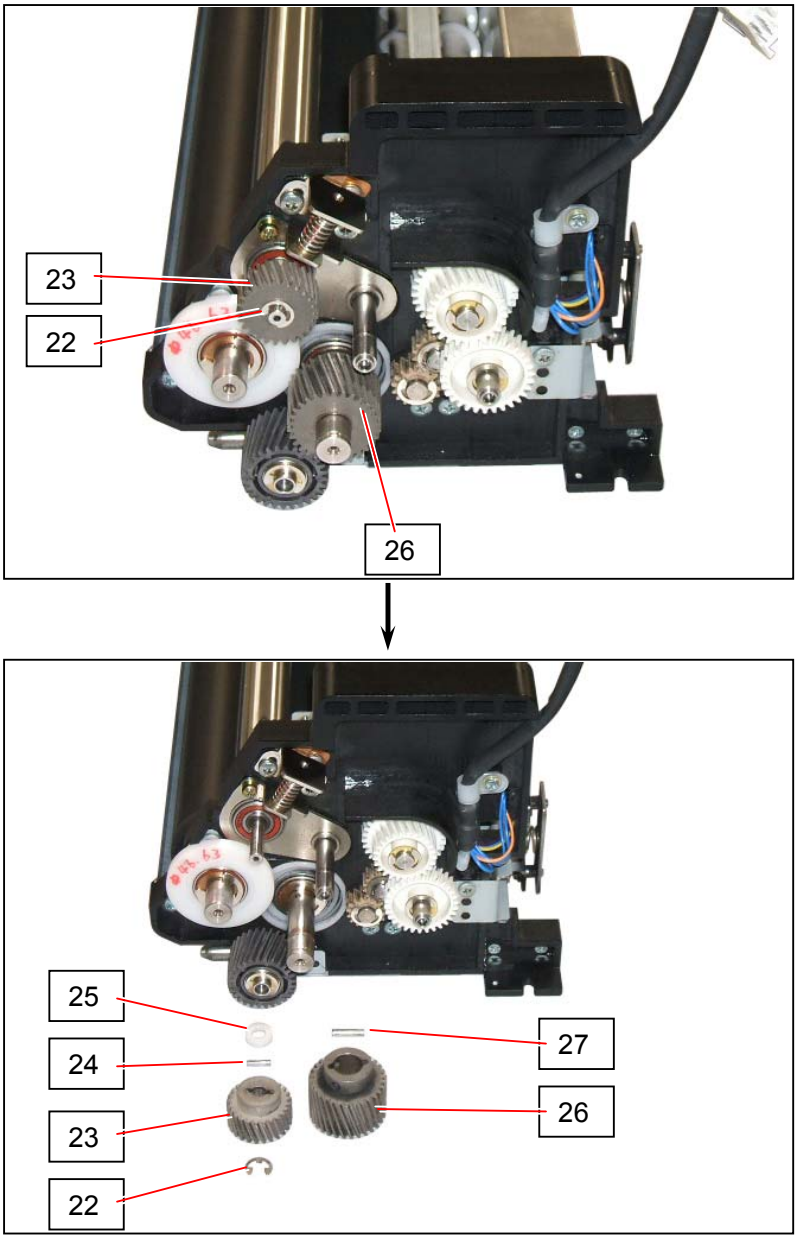
The direction of Collar (17) is as shown.



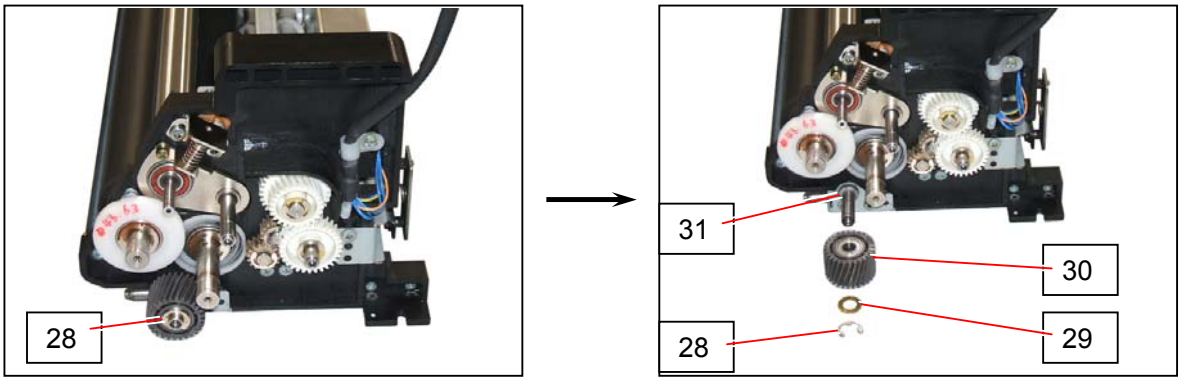
11. Remove the Retaining Ring-E (19 : E7) to remove Thrust Washer (20 : 8.1x14x0.5) and Gear Helical 35T (21).



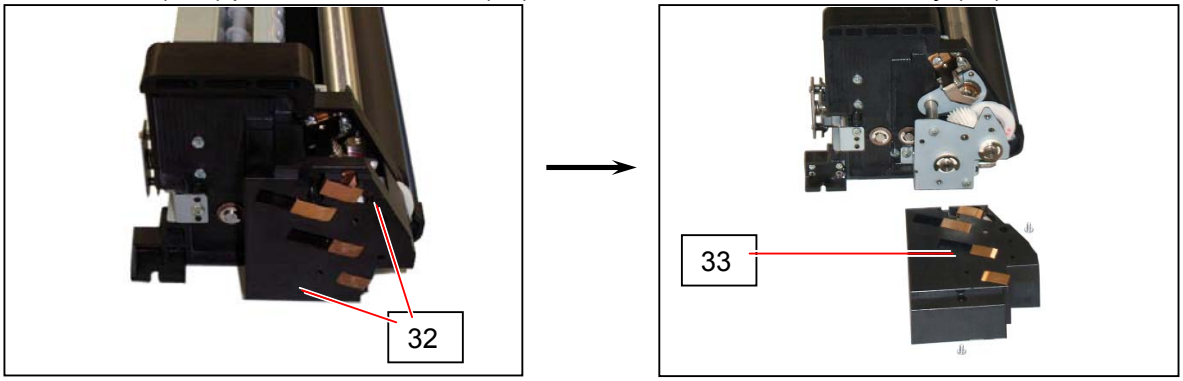
12. Remove the Retaining Ring-E (22 : E5) to remove Gear Helical 25T (23), Parallel Pin (24 : 2.5 x 10) and Collar 3 (25).
Also remove Gear Helical 30T (26) and Parallel Pin (27 : 3x16).



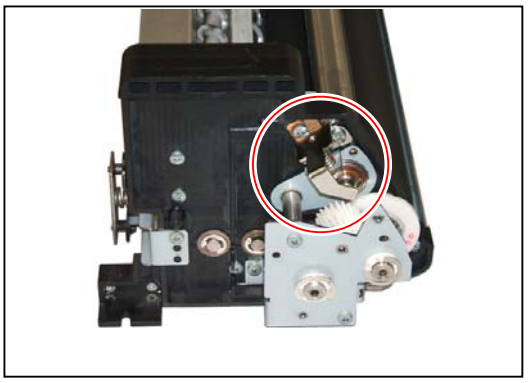
13. Remove the Retaining Ring-E (28 : E7) to remove Thrust Washer (29 : 8.1x14x0.5), 28T Gear Assembly (30) and Collar (31).

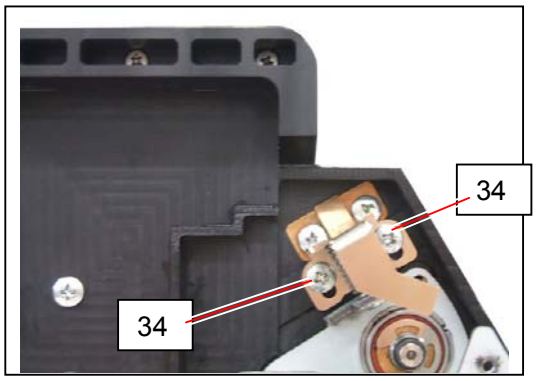


14. Remove 2 (or 3) pieces of 3x6 screw (32) to remove the Holder 2 Assembly (33).



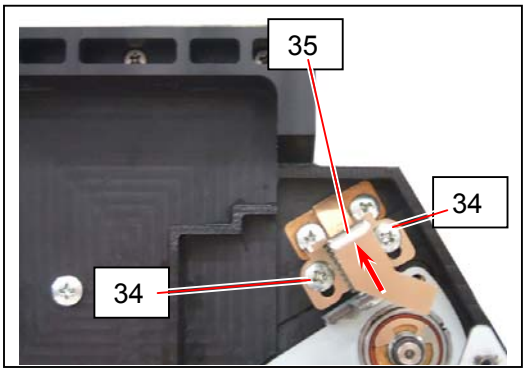
15. Loose 2 pieces of 4x6 screw (34) to release the Regulation Roller.

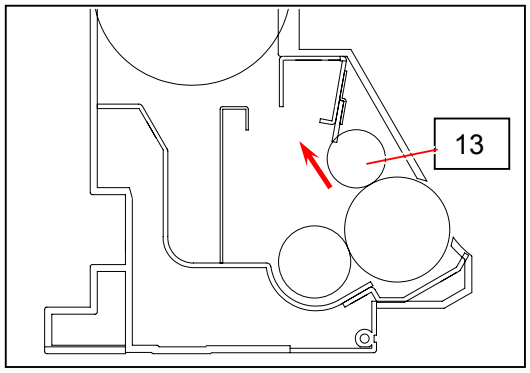




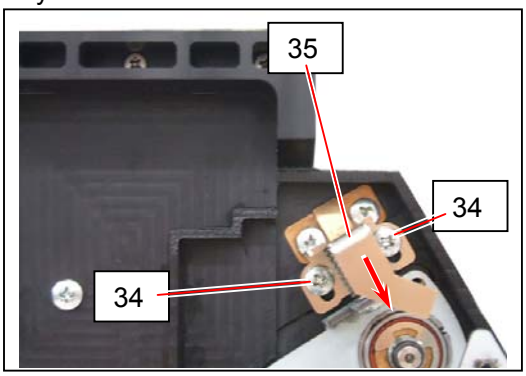
NOTE

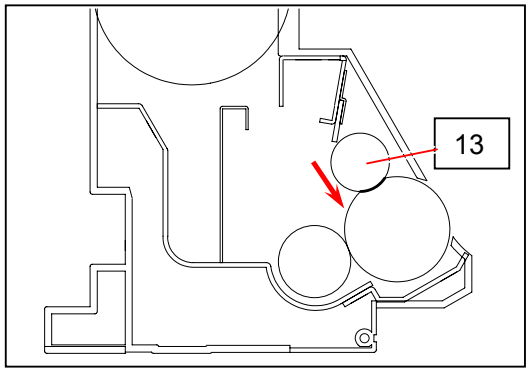
The Bracket 5 (35) is moved up by the spring if you loosen the screws (34).
The Regulation Roller (13) is released at this time.



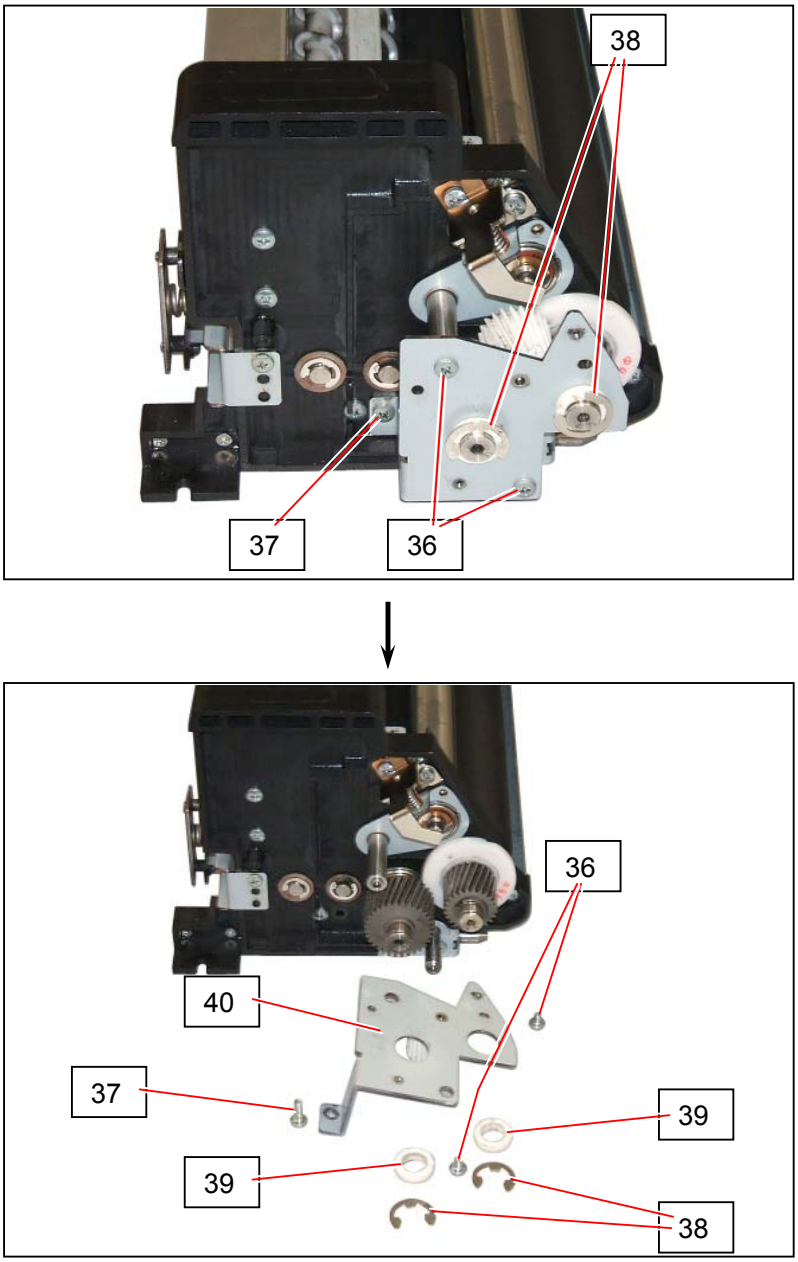


When reassemble, make sure to tighten the screws (34) with pressing the Bracket 5 (35) fully to the arrow direction.



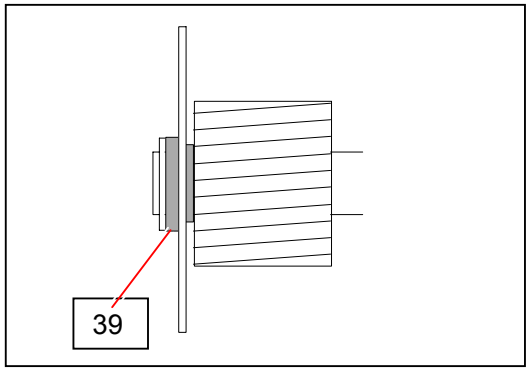


16. Remove 2 pieces of 4x6 screw (36), 1 piece of 4x12 screw (37) and 2 pieces of Retaining Ring-E (38 : E10), and remove Collars (39) and Bracket 10 Assembly (40).

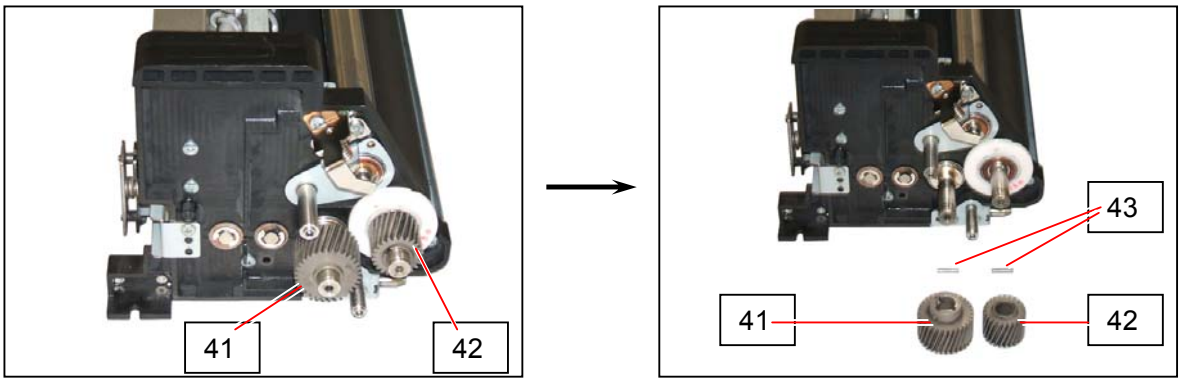


NOTE

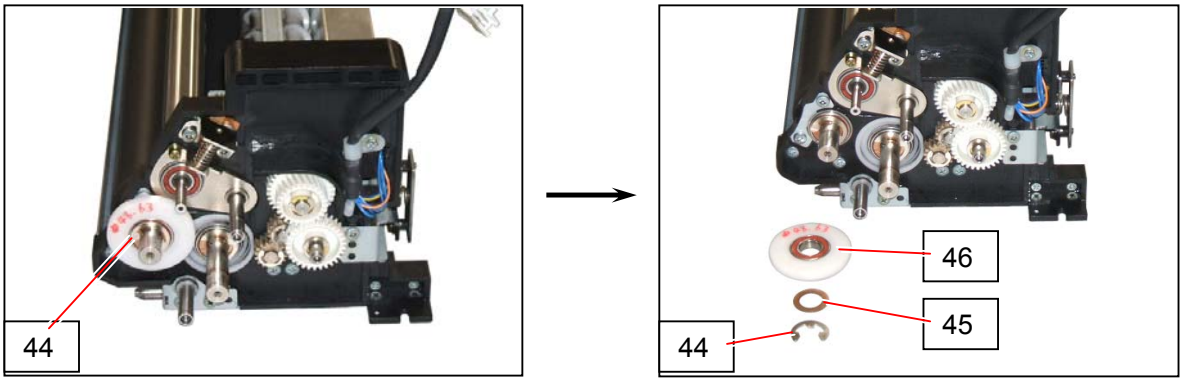
The direction of Collars (39) is as shown.



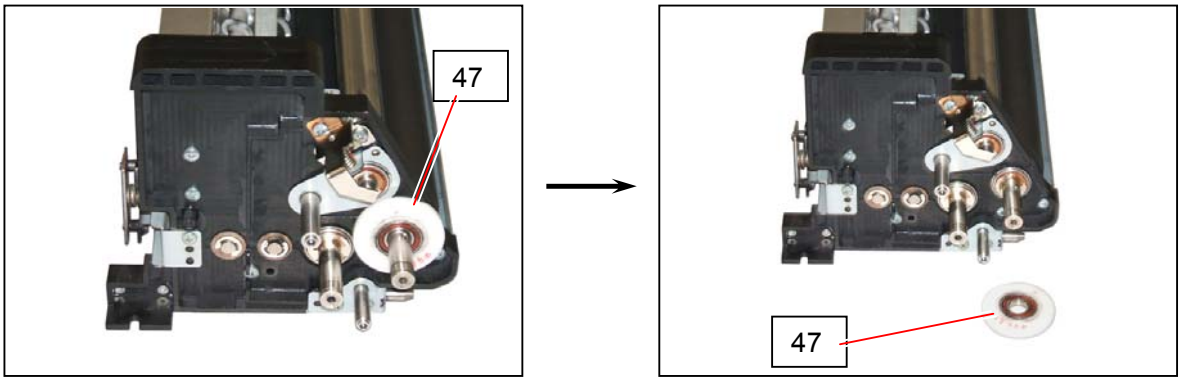
17. Remove Gear Helical 32T (41), Gear Helical 24T (42) and Parallel Pins (43 : 3x16).



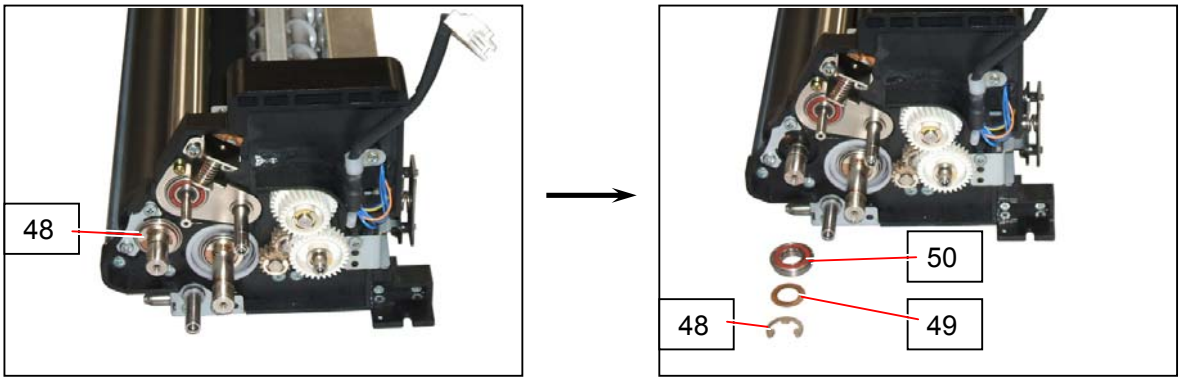
18. Remove the Retaining Ring-E (44 : E10) to remove Thrust Washer (45 : 12.2x20x0.5) and Counter Roller (46) on the driving side.

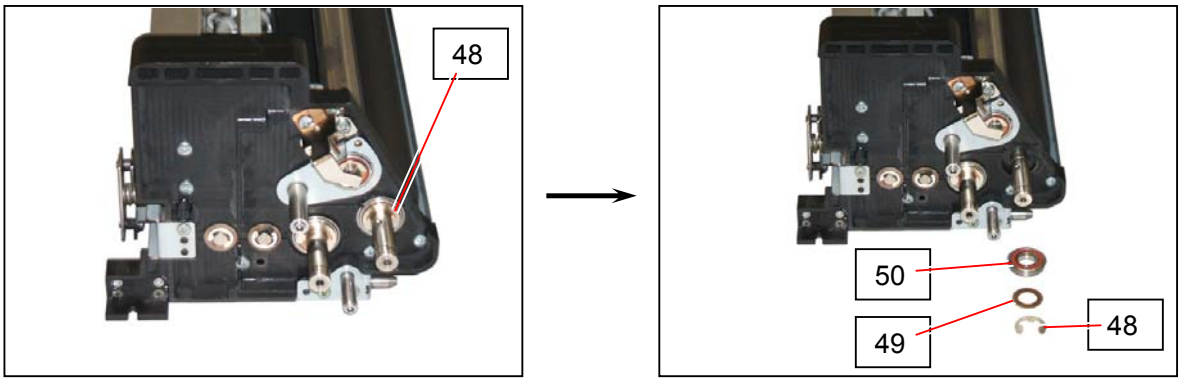


19. Also remove the Counter Roller (47) on the electrode plate side.

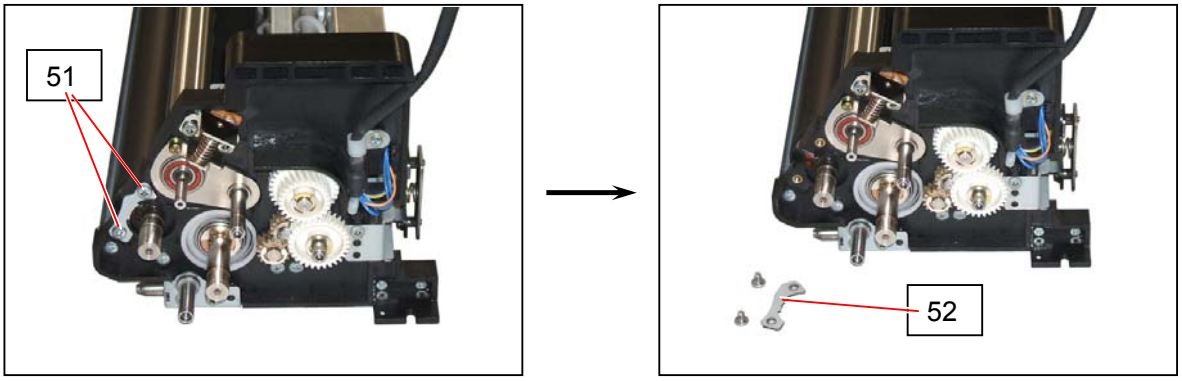


20. Remove the Retaining Ring-E (48 : E10) to remove Thrust Washers (49 : 12.2x20x0.5) and Bearings (50) at both sides.

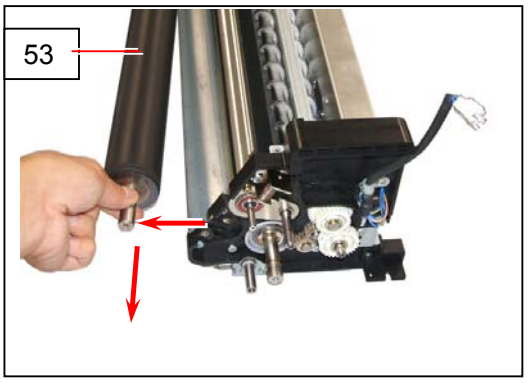


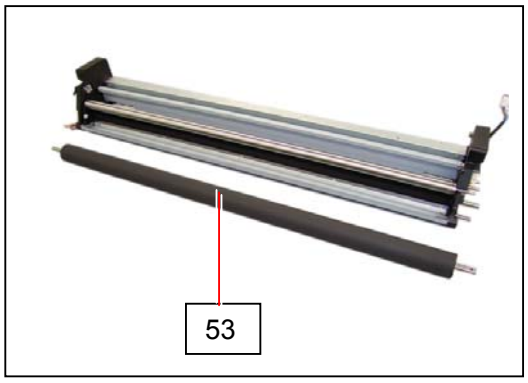


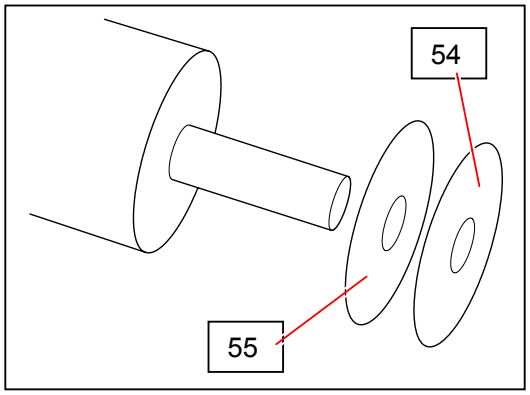
21. Remove 2 pieces of 4x6 screw (51) to remove the Bracket 8 (52).



22. Remove the **Roller Developer** (53), and replace it with the new one.
Paste the **Sheet 3** (54 : outside) and **Sheet 4** (55 : inside / with double-face tape) to both side faces of Roller Developer at this time.

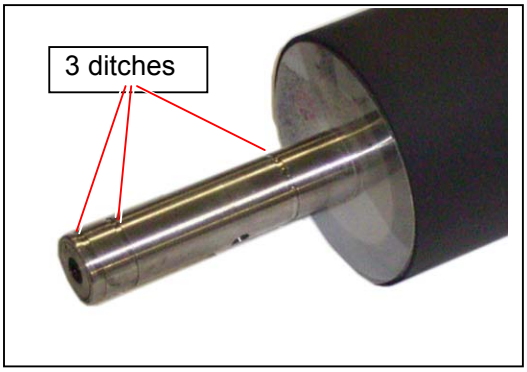




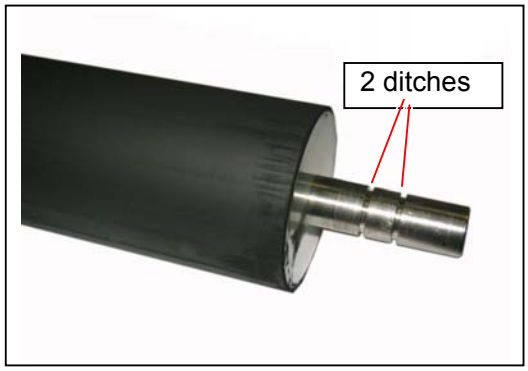


NOTE

You need to care about the direction of Roller Developer.
The Electrode Plate side has 3 ditches on the shaft, and the driving side has 2 ditches.
(The shaft of the Electrode Plate side is longer than that of driving side.)

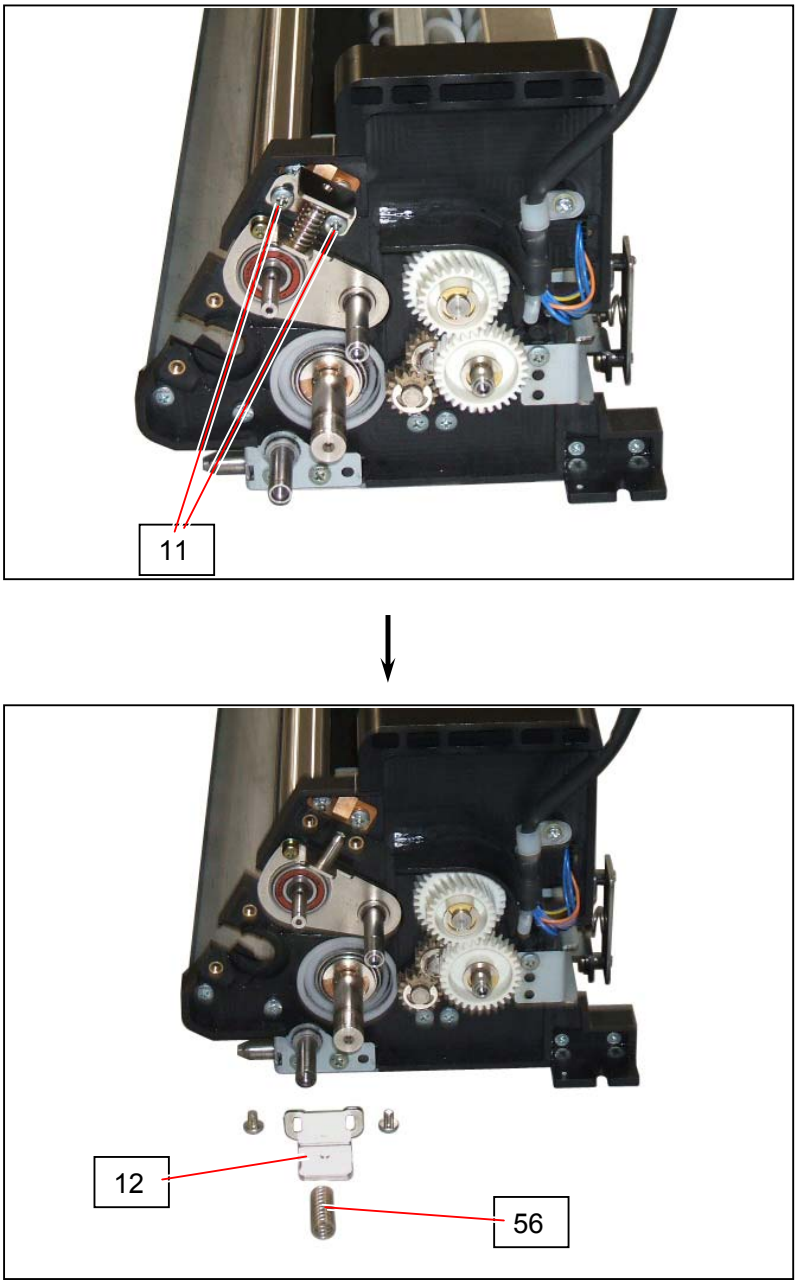


Electrode Plate side

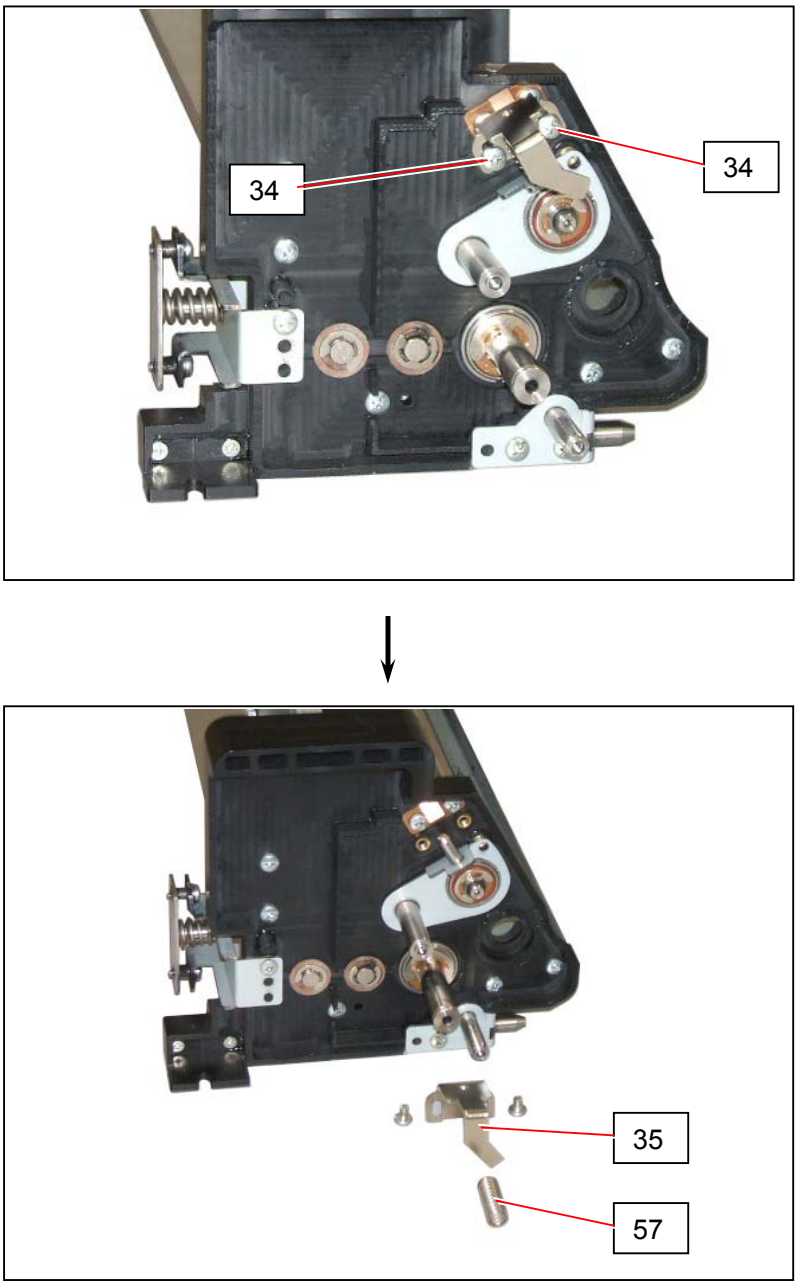


Driving side

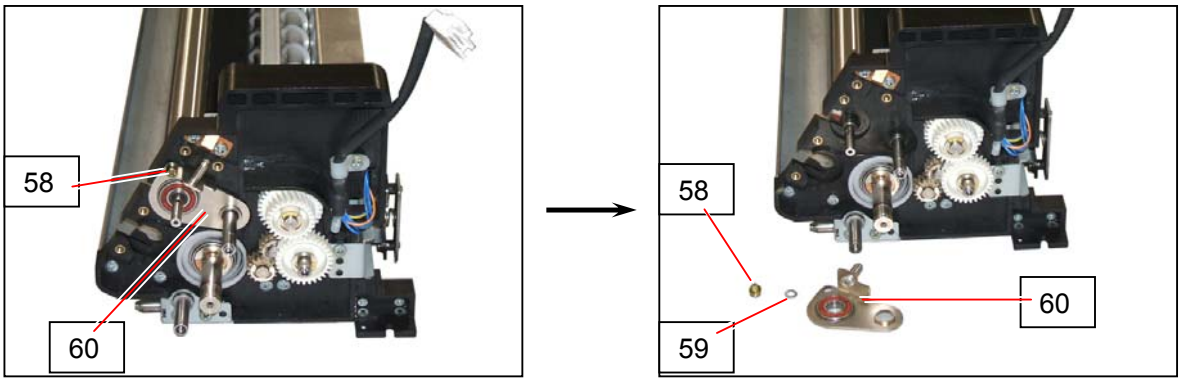
23. Remove 2 pieces of 4x6 screw (11) to remove the Bracket 4 (12) and the Spring (56).



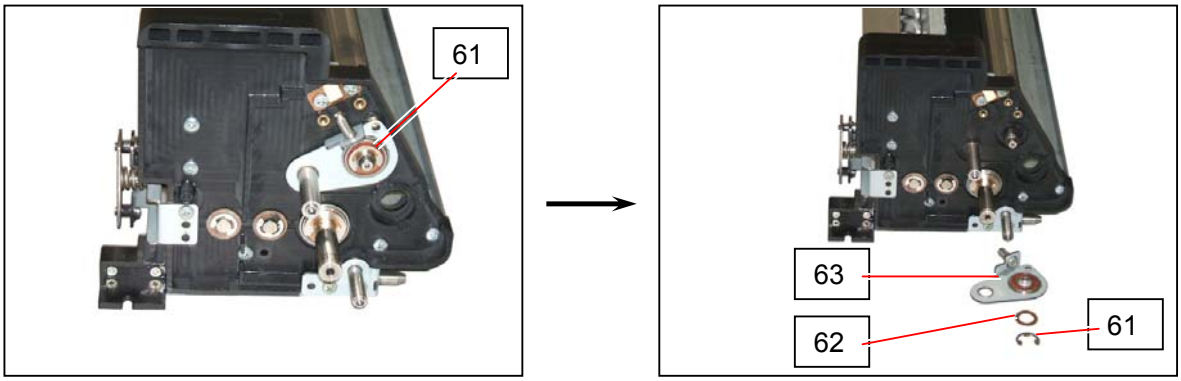
24. Remove 2 pieces of 4x6 screw (34) to remove the Bracket 5 (35) and the Spring (57).



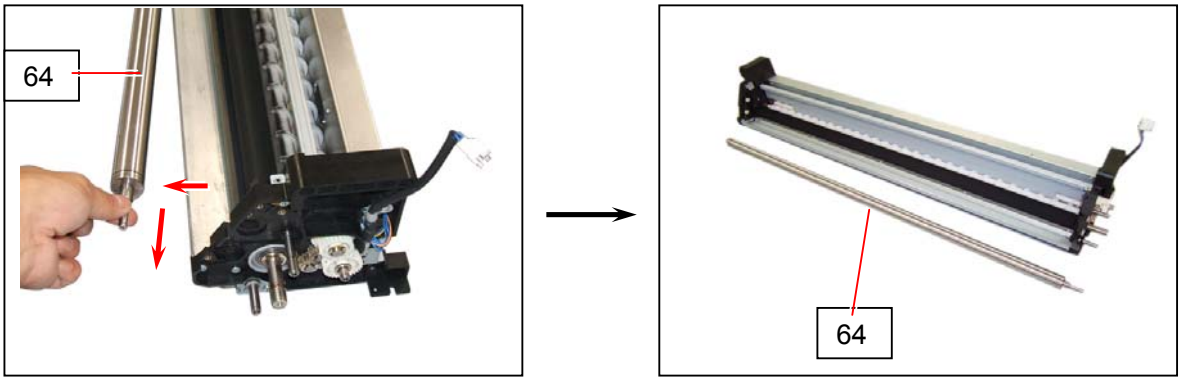
25. Remove the Pan Head Screw (58 : 4x8) and the Flat Washer (59 : M4), and remove the Bracket 6 Assembly (60) on the driving side.



26. Remove the Retaining Ring-E (61 : E9) to remove the Thrust Washer (62 : 10.1x16x0.5) and Bracket 7 Assembly (63) on the Electrode Plate side.

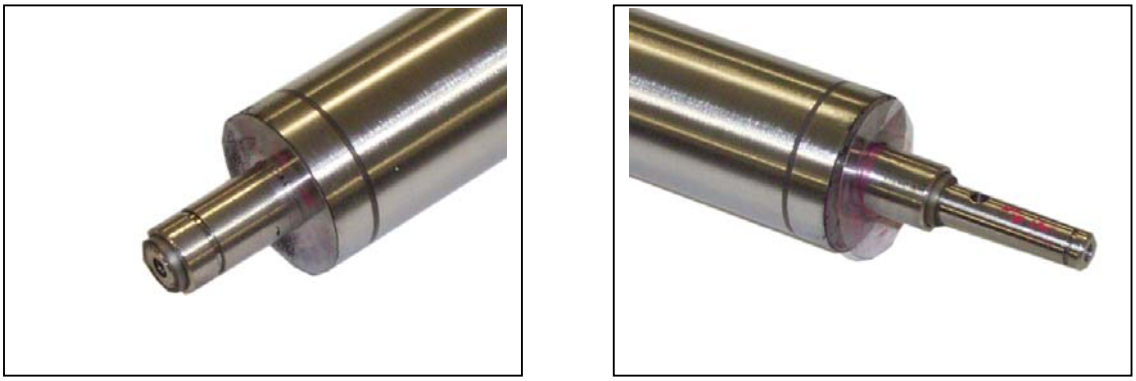


27. Remove the Regulation Roller (64).



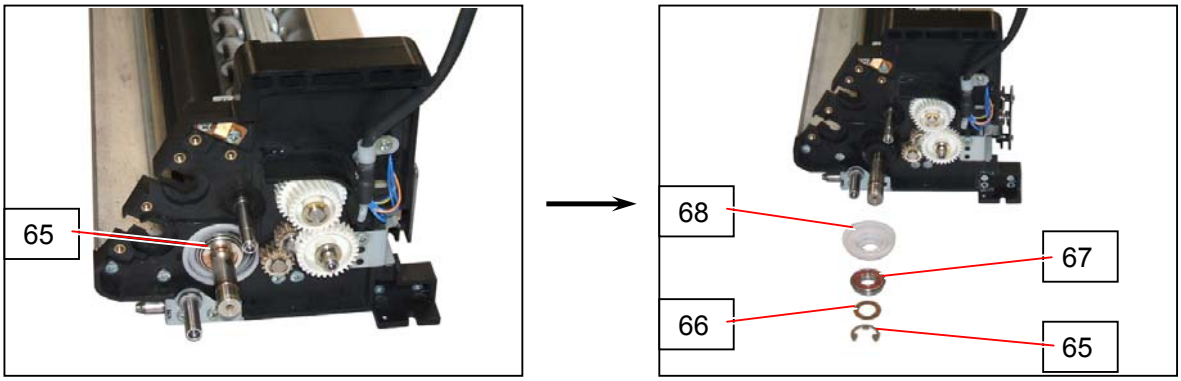
NOTE

You need to care about the direction of Regulation Roller.
The longer shaft should be on the driving side.

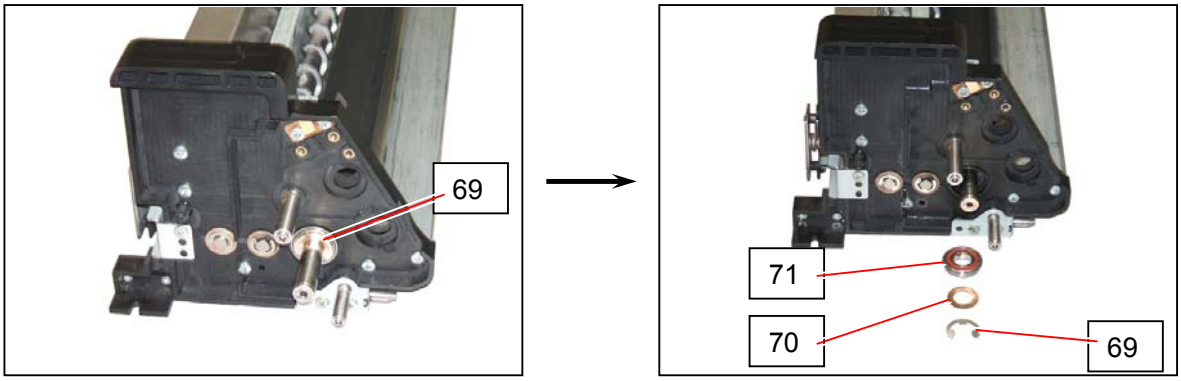


Electrode Plate side　　Driving side

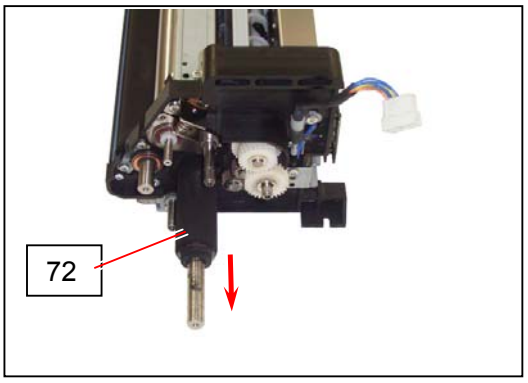
28. Remove the Retaining Ring-E (65 : E10) to remove Thrust Washer (66 : 12.2x20x0.5), Bearing (67) and Collar 2 (68) on the driving side.

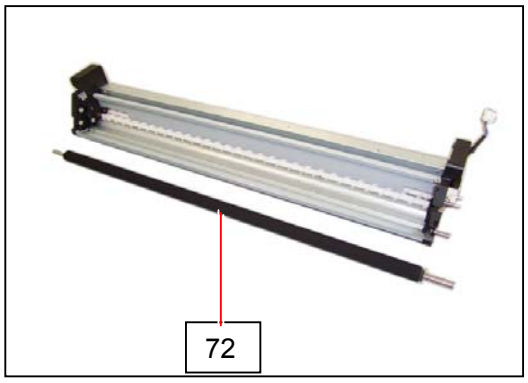


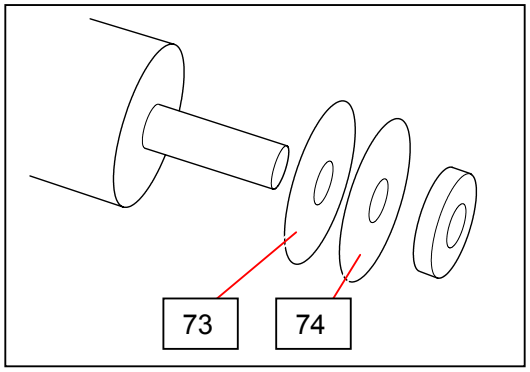
29. Remove the Retaining Ring-E (69 : E10) to remove Thrust Washer (70 : 12.2x20x0.5), Bearing (71) on the Electrode Plate side.



30. Remove the **Roller Supply** (72) sliding to the arrow direction, and replace it with the new one. Paste the **Sheet 5** (73 : outside) and **Sheet 6** (74 : inside / with double-face tape) to both side faces of Toner Supply Roller at this time.

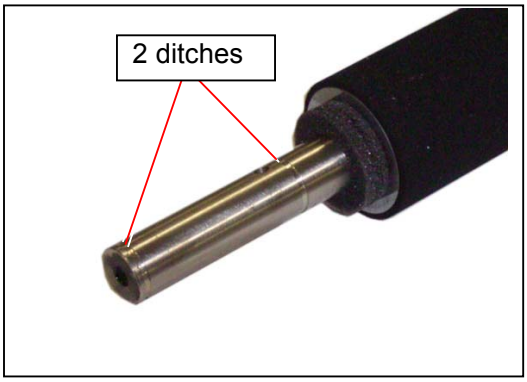




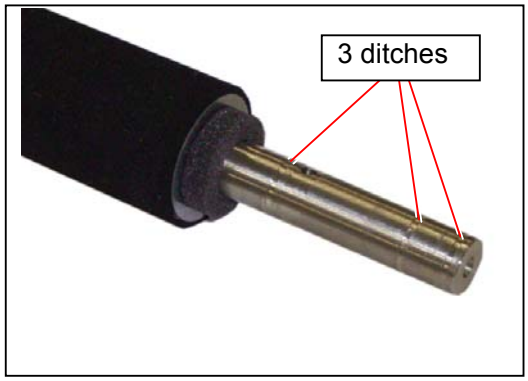


⚠ NOTE

(1) You need to care about the direction of Developer Roller.
The Electrode Plate side has 2 ditches on the shaft, and the driving side has 3 ditches.

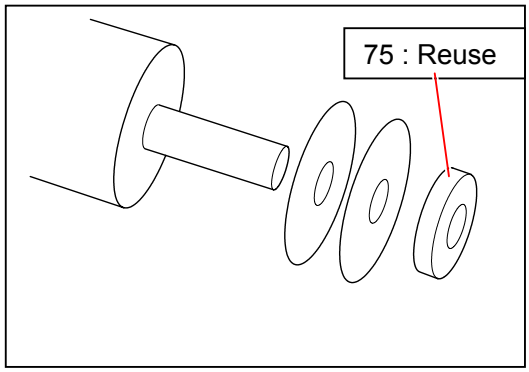


Electrode Plate side

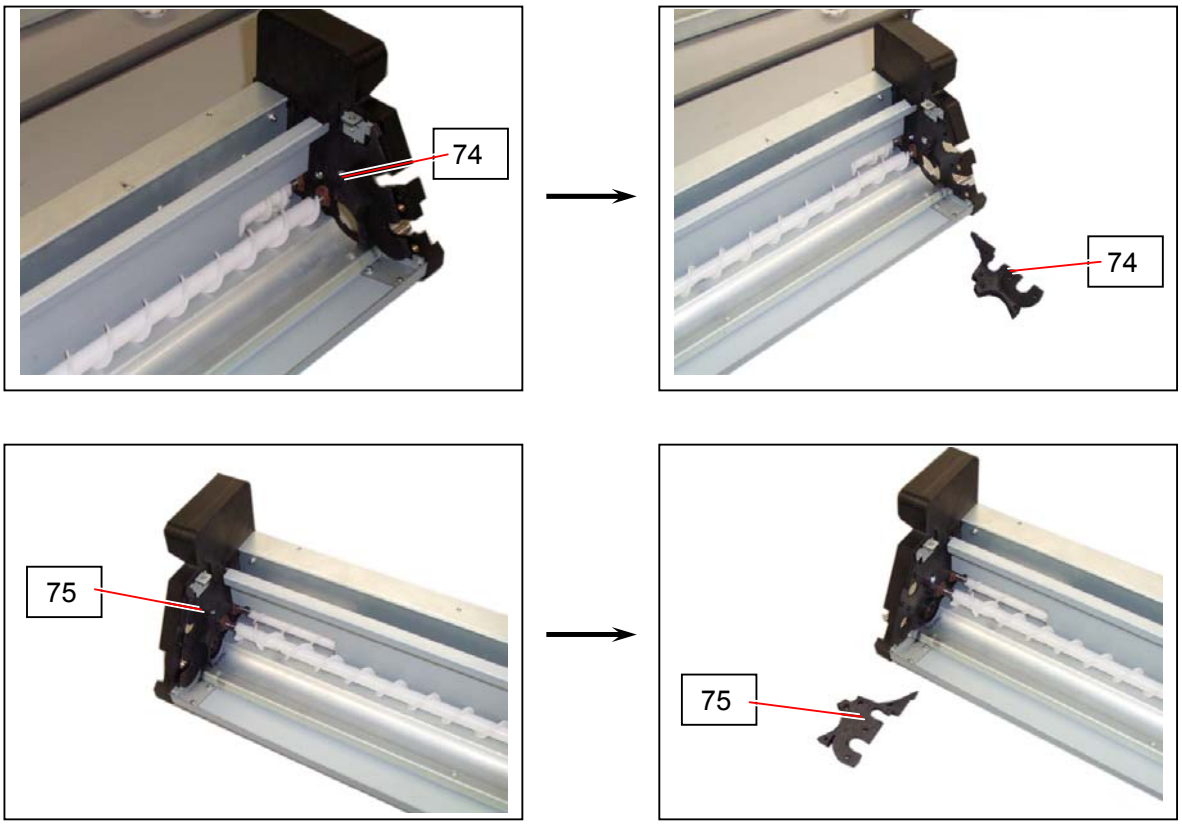


Driving side

(2) There are Seal 4 (75) at both sides of the Roller Supply.
Remove them from the old Roller Supply and then install them to the new Roller Supply.
(Be careful not to dispose them.)



31. Remove both the **Seal L Assembly** (74) and **Seal R Assembly** (75), and replace them with the new one.



32. Put back all the parts in the reversed order.

5. 2. 4 Replacement of Toner Supply Roller for Developer Unit (before S/N 10510001)

NOTE

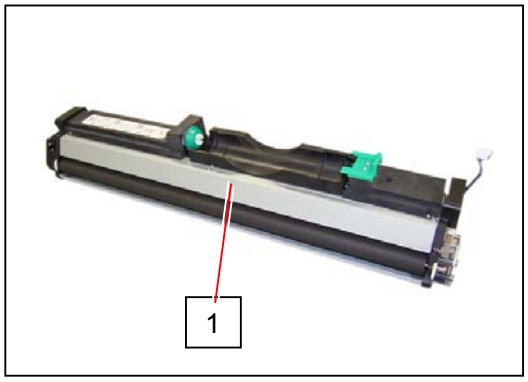
(1) This section applies to sponge type Developer Unit (before S/N 10510001).

(2) This section describes how to replace all of the following parts in one operation. A periodic replacement for them is recommended.

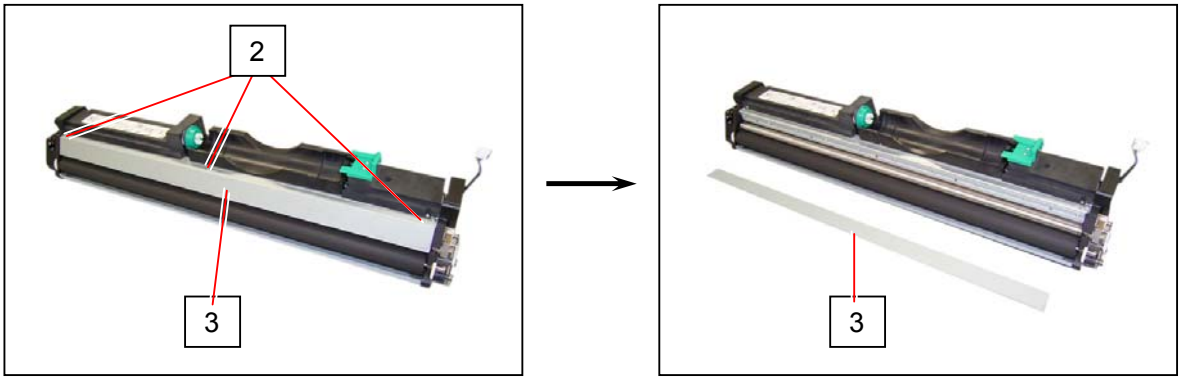
Item	Number of article	Remarks
Toner Supply Roller	1	All of these parts are contained in "Supply Roller Kit" (Z050980030).
Sheet 5	2	
Sheet 6	2	

(3) Remove all the toner from the Developer Unit before replacing the above parts.

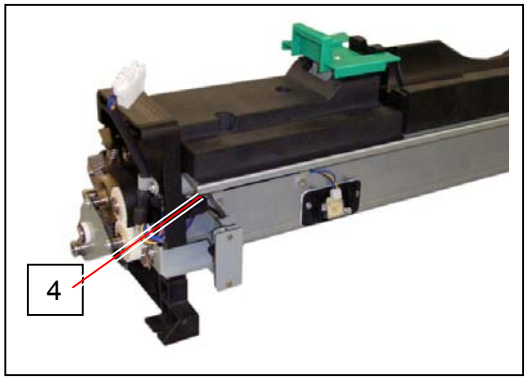
1. Remove the Developer Unit (1) from the machine making reference to [5. 2. 1 Removal of the Developer Unit] on the page 5-8.



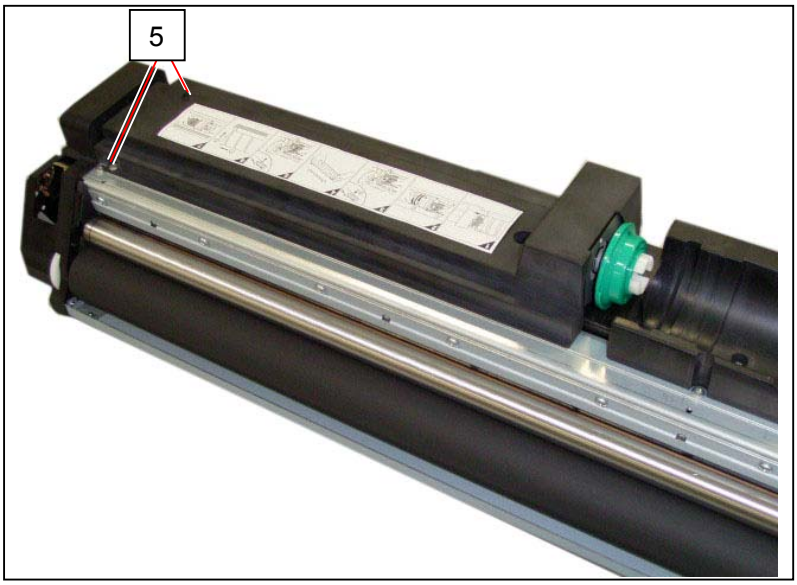
2. Remove 3 pieces of 4x6 screw (2) to remove the Cover (3).

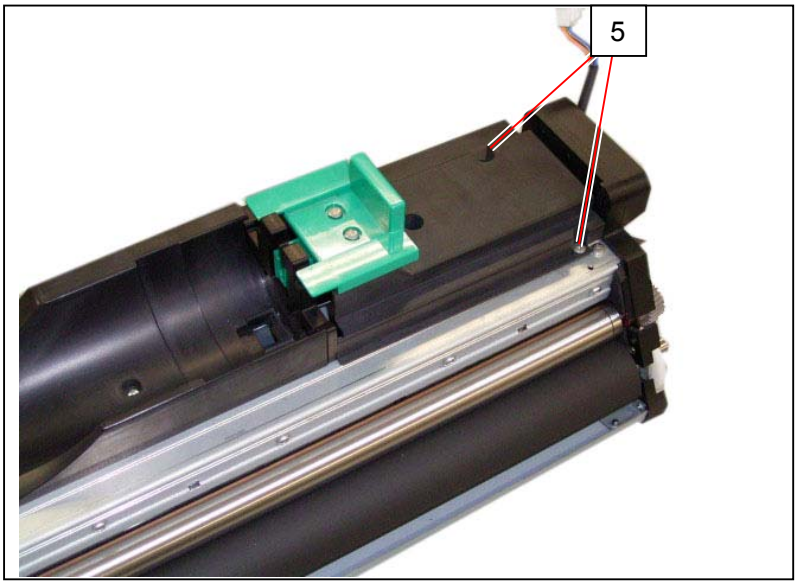


3. Disconnect the connector (4).

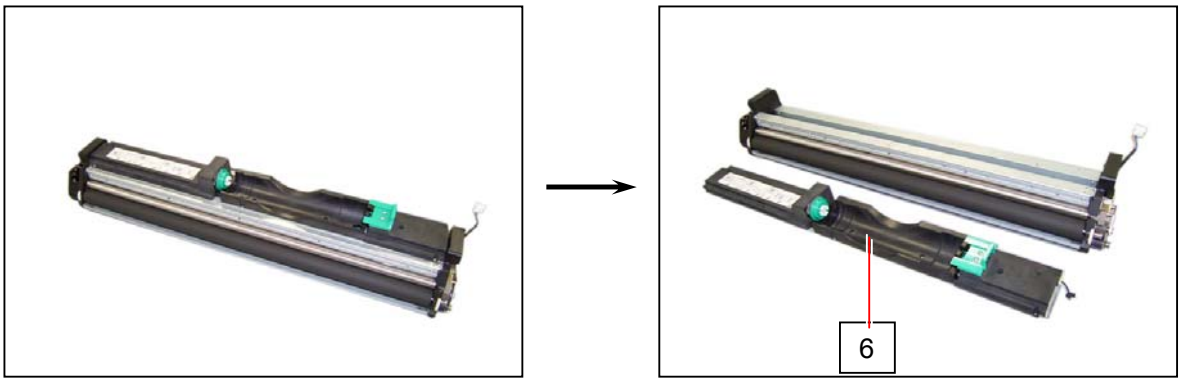


4. Remove 4 pieces of 4x6 screws (5) which fix the Hopper Assembly.





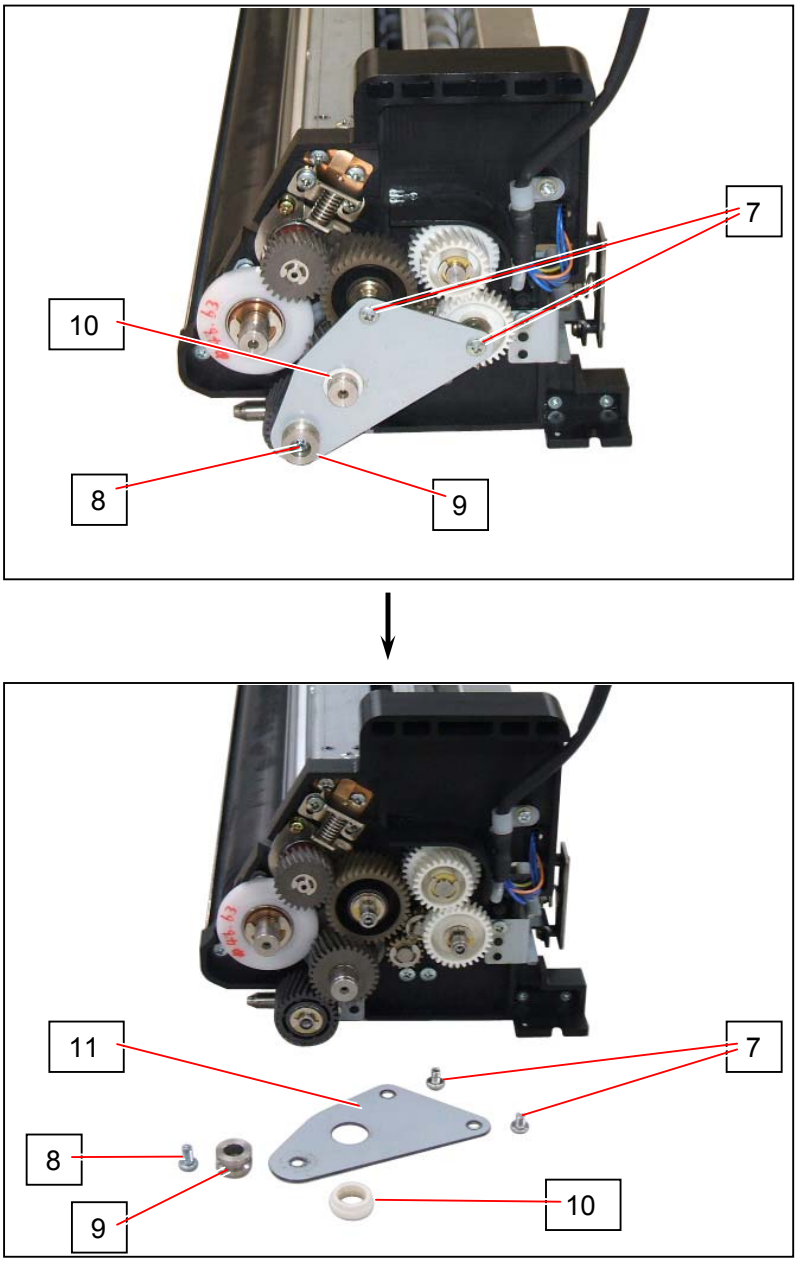
5. Remove the Hopper Assembly (6).



6. Remove all the toner from the Developer Unit.

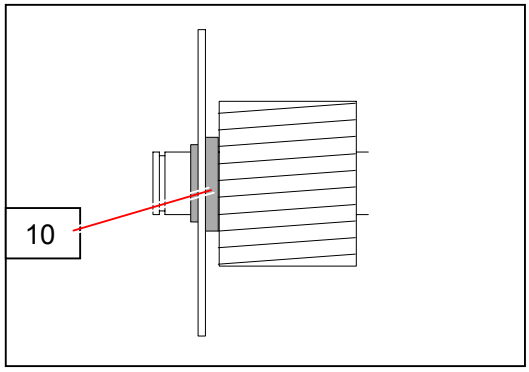
> **NOTE**
>
> Do not reuse the removed toner.

7. Remove 2 pieces of 4x6 screw (7) and 1 piece of 4x10 screw (8), and remove the Pin 4 (9), Collar (10) and Bracket 9 (11).

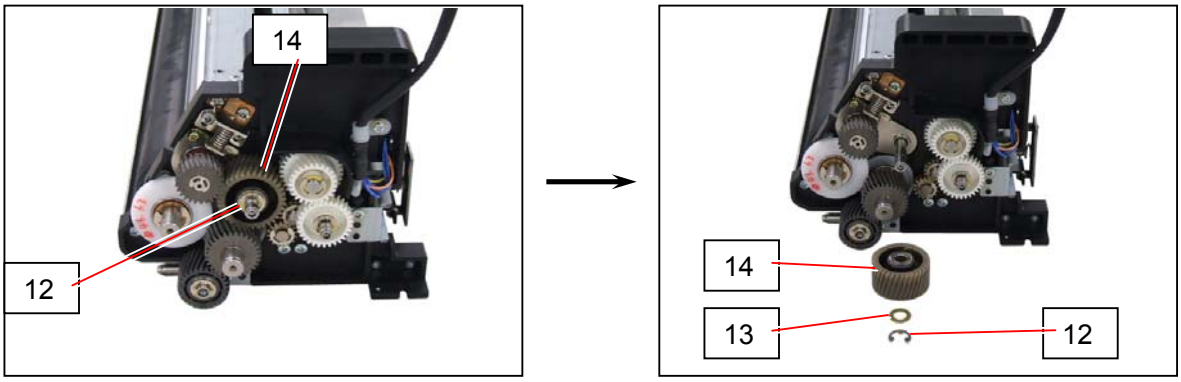


NOTE

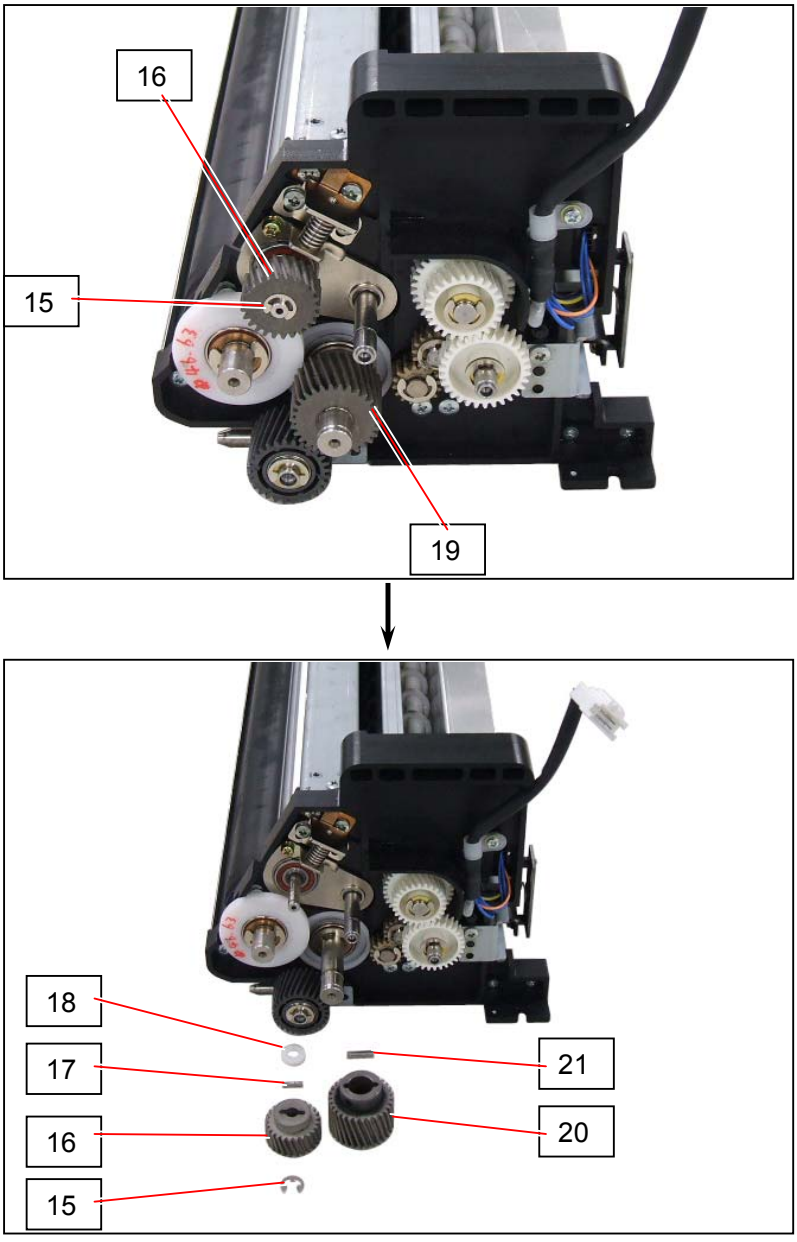
The direction of Collar (10) is as shown.



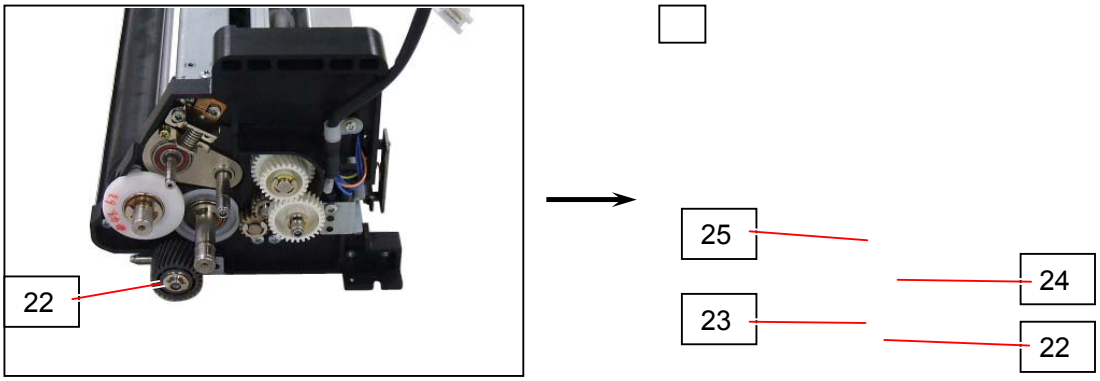
8. Remove the Retaining Ring-E (12 : E7) to remove Thrust Washer (13 : 8.1x14x0.5) and Gear Helical 35T (14).



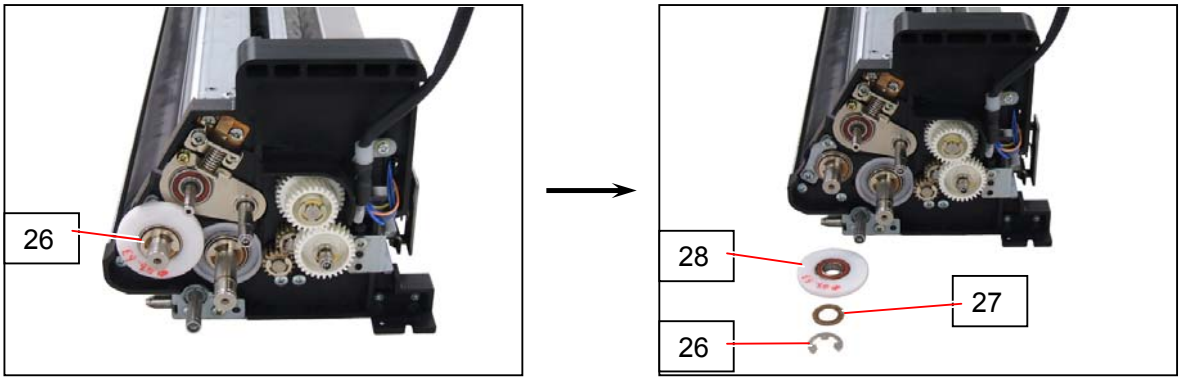
9. Remove the Retaining Ring-E (15 : E5) to remove Gear Helical 25T (16), Parallel Pin (17 : 2.5 x 10) and Collar 3 (18).
Also remove Gear Helical 30T (19) and Parallel Pin (20 : 3x16).



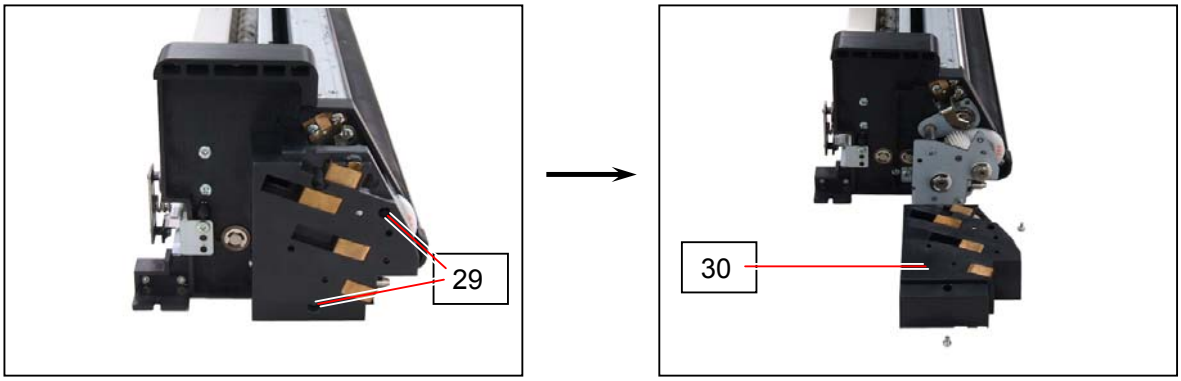
10. Remove the Retaining Ring-E (22 : E7) to remove Thrust Washer (23 : 8.1x14x0.5), 28T Gear Assembly (24) and Collar (25).



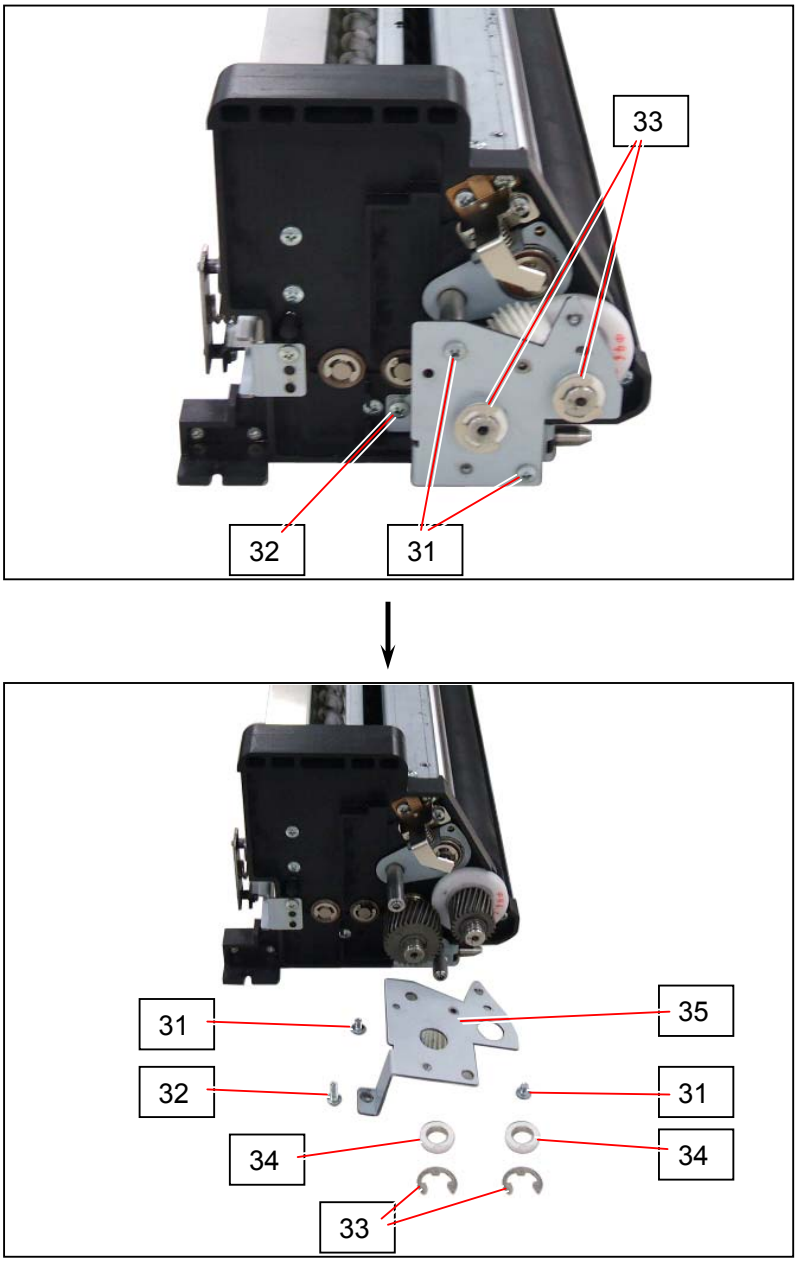
11. Remove the Retaining Ring-E (26 : E10) to remove Thrust Washer (27 : 12.2x20x0.5) and Counter Roller (28) on the driving side.



12. Remove 2 (or 3) pieces of 3x6 screw (29) to remove the Holder 2 Assembly (30).

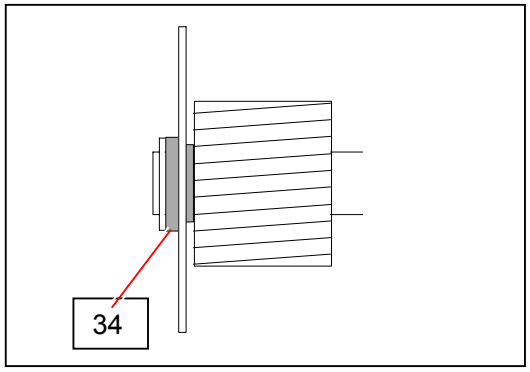


13. Remove 2 pieces of 4x6 screw (31), 1 piece of 4x12 screw (32) and 2 pieces of Retaining Ring-E (33 : E10), and remove Collars (34) and Bracket 10 Assembly (35).

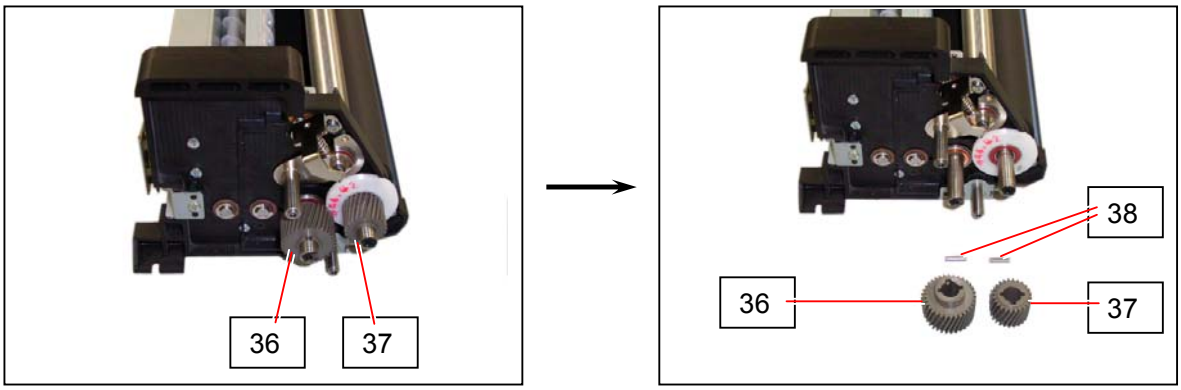


NOTE

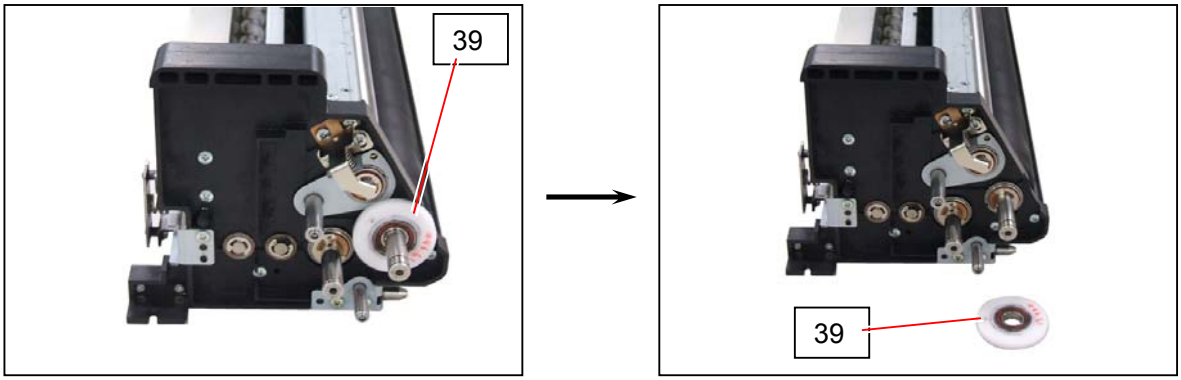
The direction of Collars (34) is as shown.



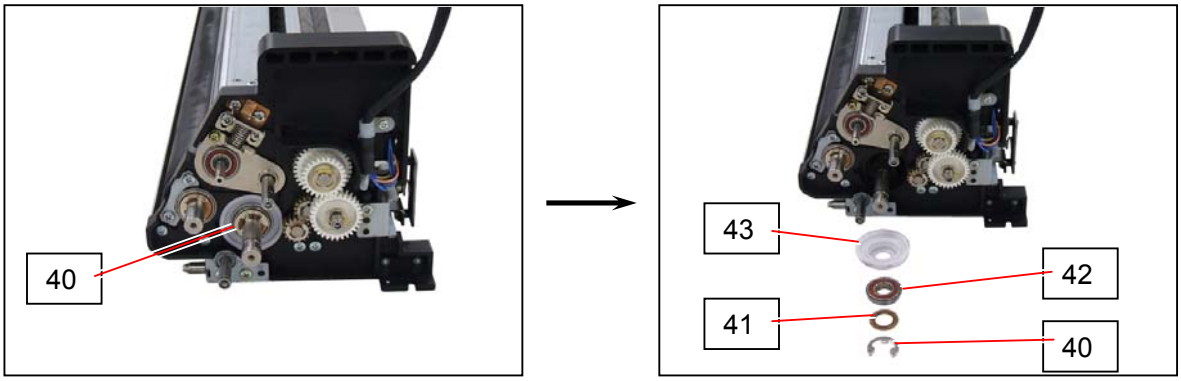
14. Remove Gear Helical 32T (36), Gear Helical 24T (37) and Parallel Pins (38 : 3x16).



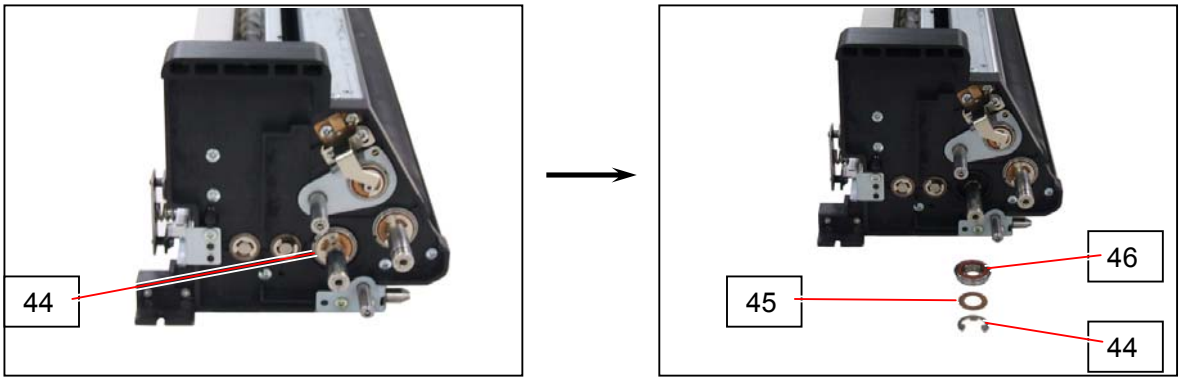
15. Also remove the Counter Roller (39) on the electrode plate side.



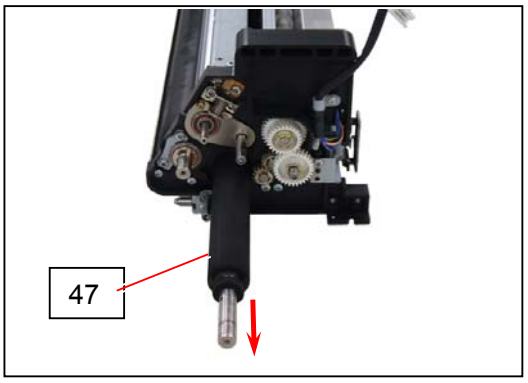
16. Remove the Retaining Ring-E (40 : E10) to remove Thrust Washer (41 : 12.2x20x0.5), Bearing (42) and Collar 2 (43) on the driving side.

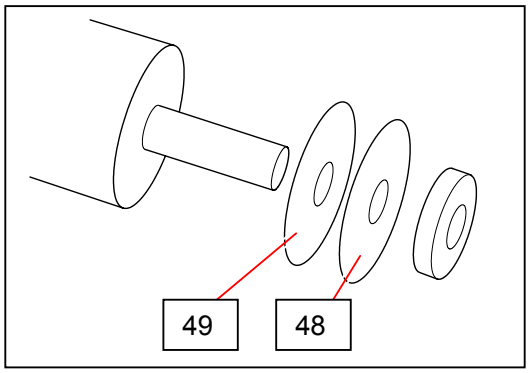


17. Remove the Retaining Ring-E (44 : E10) to remove Thrust Washer (45 : 12.2x20x0.5), Bearing (46) on the Electrode Plate side.



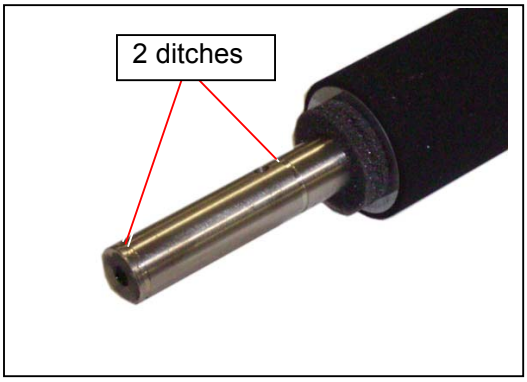
18. Remove the **Roller Supply** (47) sliding to the arrow direction, and replace it with the new one. Paste the **Sheet 5** (48 : outside) and **Sheet 6** (49 : inside / with double-face tape) to both side faces of Toner Supply Roller at this time.



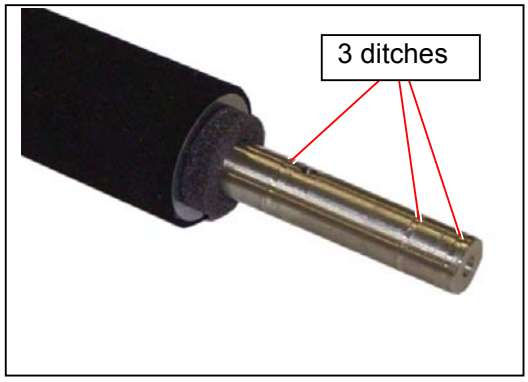


NOTE

(1) You need to care about the direction of Developer Roller.
The Electrode Plate side has 2 ditches on the shaft, and the driving side has 3 ditches.

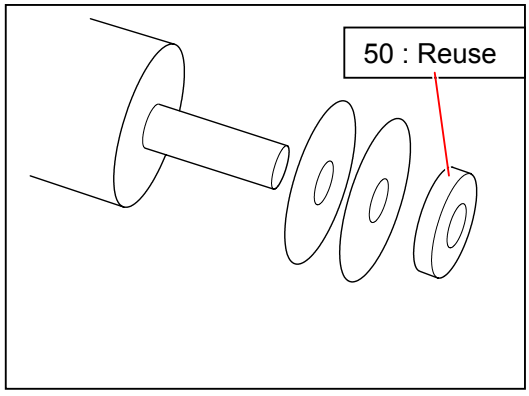


Electrode Plate side



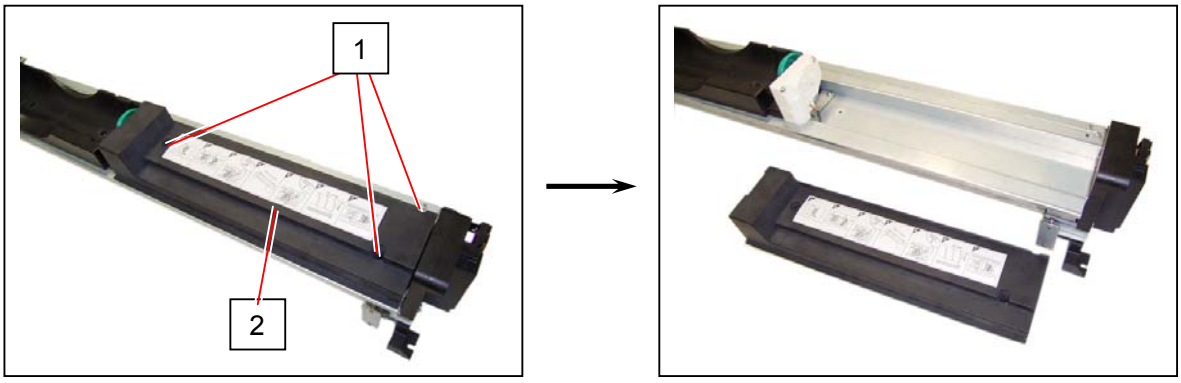
Driving side

(2) There are Seal 4 (50) at both sides of the Roller Supply.
Remove them from the old Roller Supply and then install them to the new Roller Supply.
(Be careful not to dispose them.)

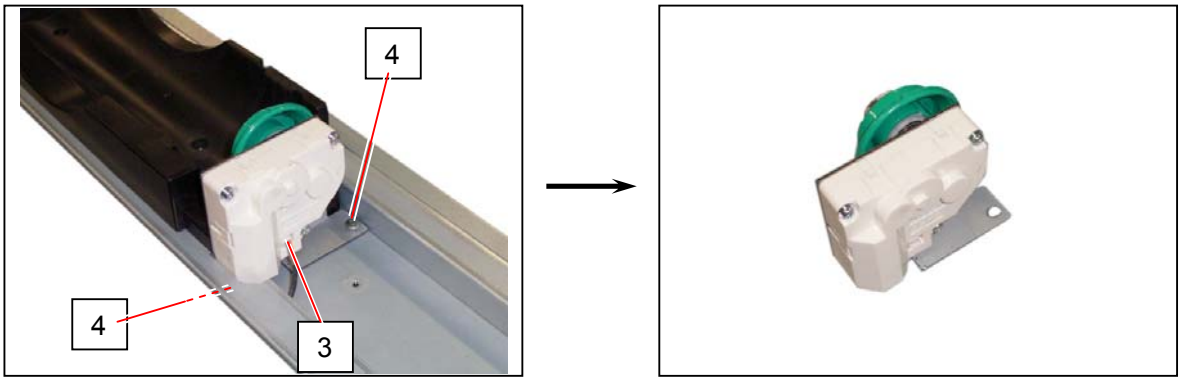


5. 2. 5 Replacement of DC Motor

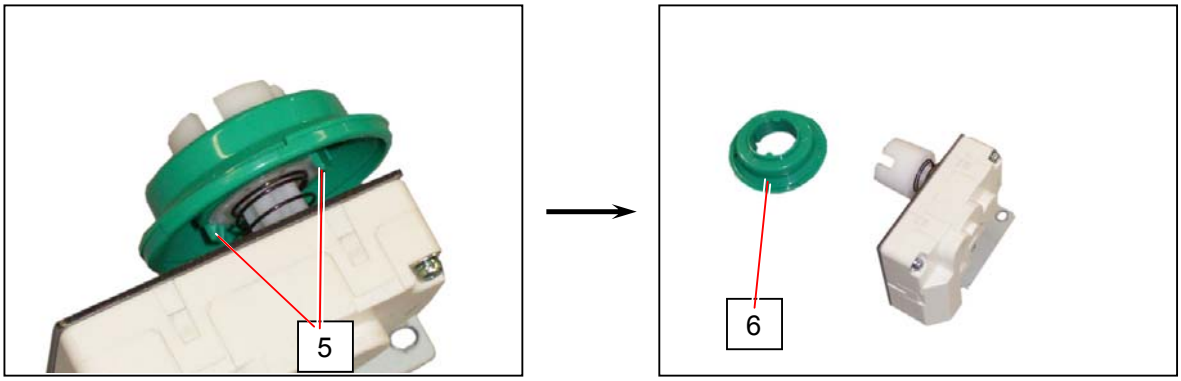
1. Remove 3 pieces of 4x6 screw (1) to remove the Cover 2 (2).



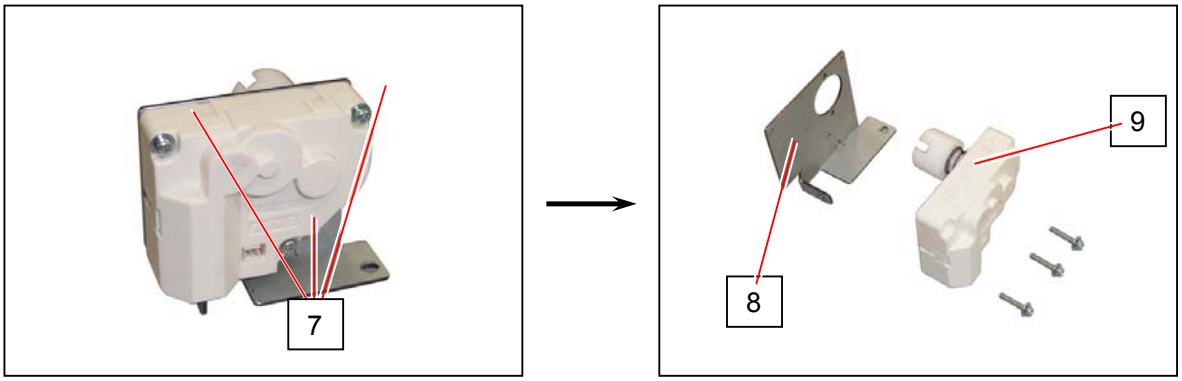
2. Disconnect the connector (3), remove 2 pieces of 4x6 screw (4), and then remove the motor assembly.



3. Pressing the stoppers (5) inside, remove the Joint R (6).

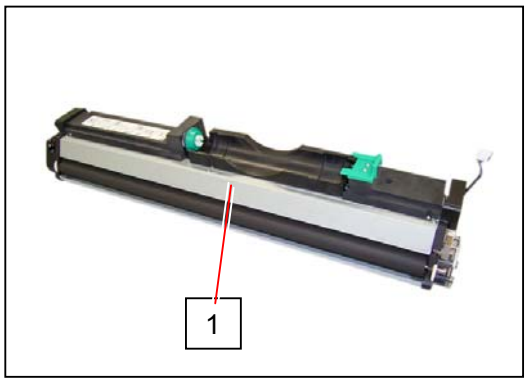


4. Remove 3 pieces of 3x20 screw (7) to remove the Bracket 19 (8).
   Replace the **DC Motor** (9) with the new one.

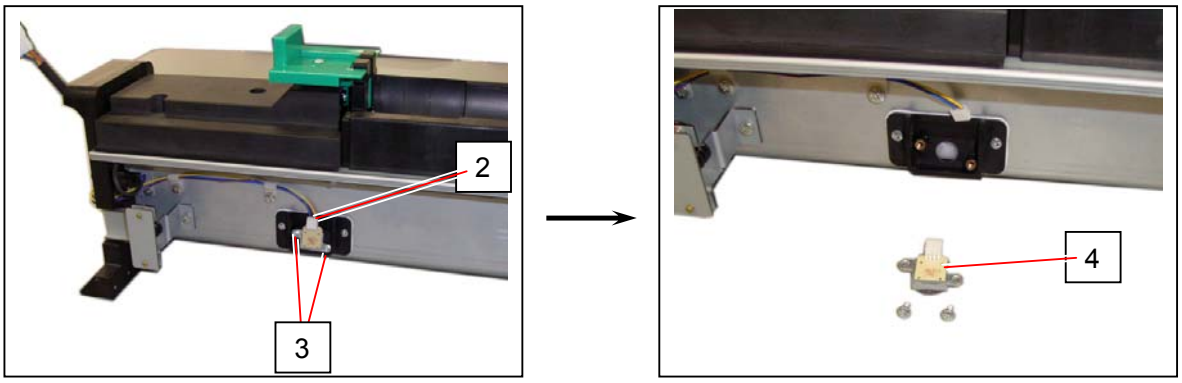


5. 2. 6 Replacement of Sensor (TLS1)

1. Remove the Developer Unit (1) from the machine making reference to [5. 2. 1 Removal of the Developer Unit] on the page 5-8.



2. Disconnect the connector (2), and then remove 2 pieces of 3x6 screw (3) to remove the **Sensor** (4).
   Replace the **Sensor** (4) with the new one.

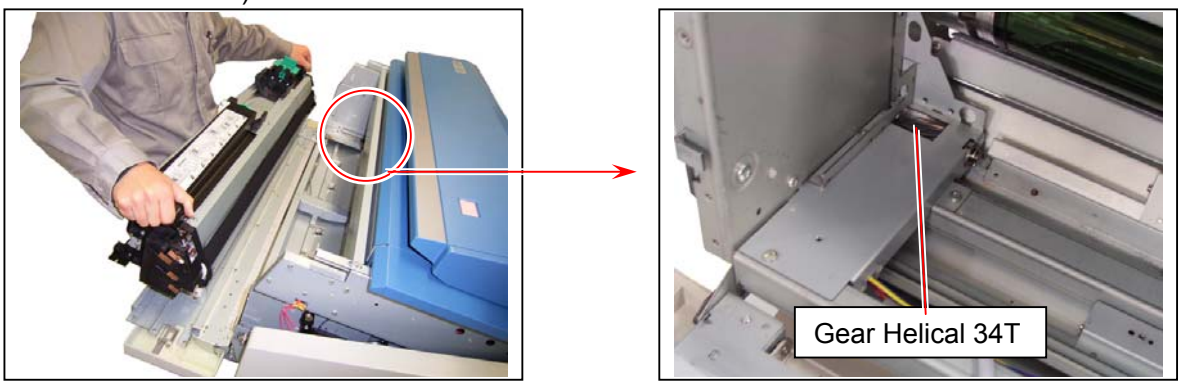


5. 2. 7 Adjustment of the space between gears (Necessary to adjust after replacing the Developer Unit)

NOTE

You do not have to adjust the space between gears basically as it has been adjusted in the factory.
But please do it only when you replace the whole Developer Unit.

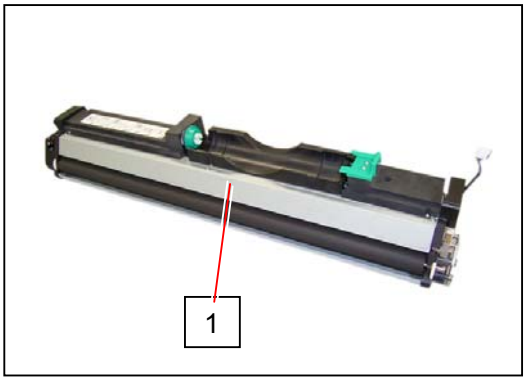
The Developer Unit is driven by the Gear Helical 34T on the machine and the Gear Helical 28T on the Developer Unit.
There must be a little mechanical play between these gears. (In another word there must be a little space between them.)



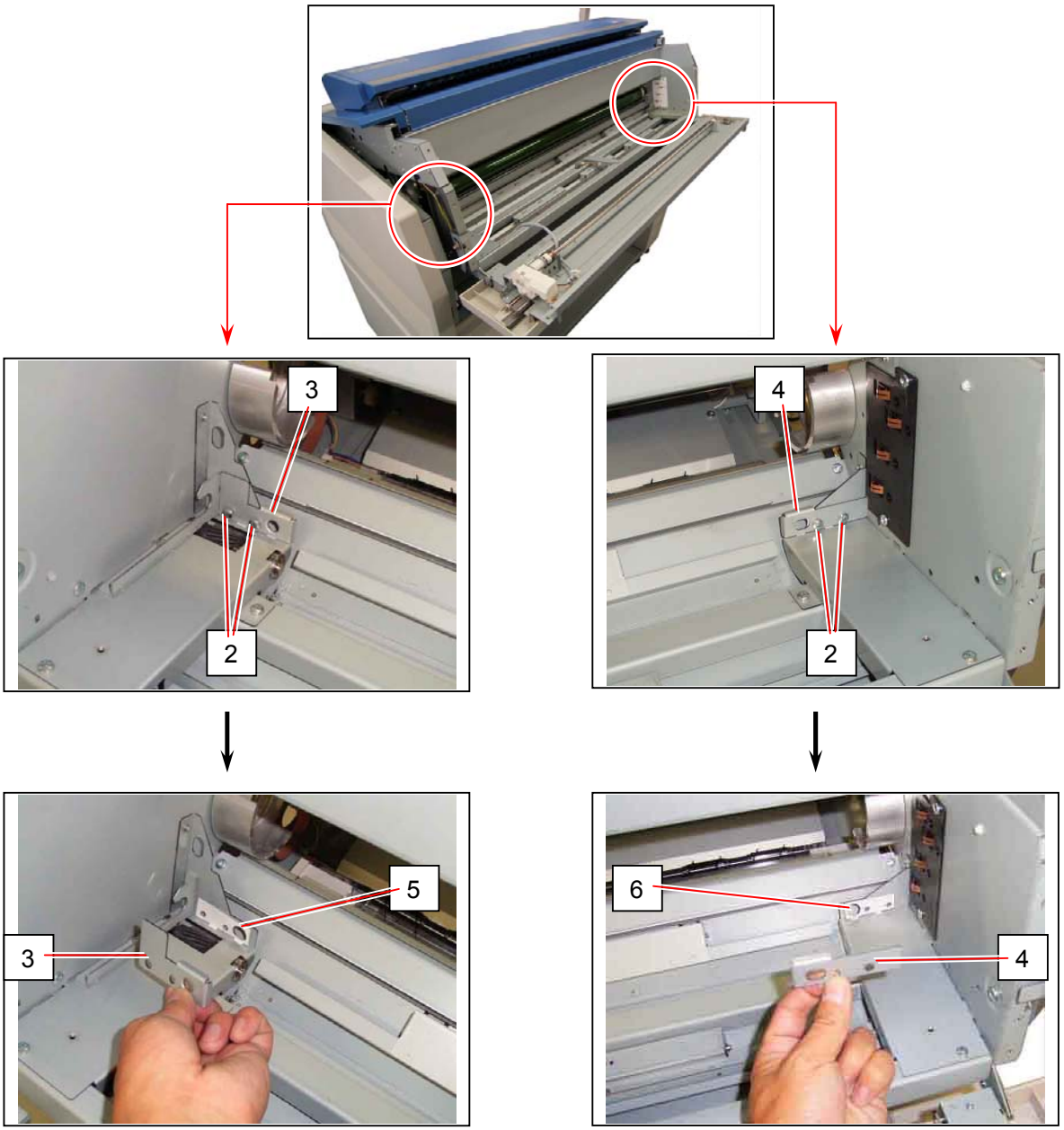
If there is no space between these gears, **the gear may be broken.**
In this case it is necessary to add Adjustment Plates to keep a space.

Refer to the next page how to add the Adjustment Plates.

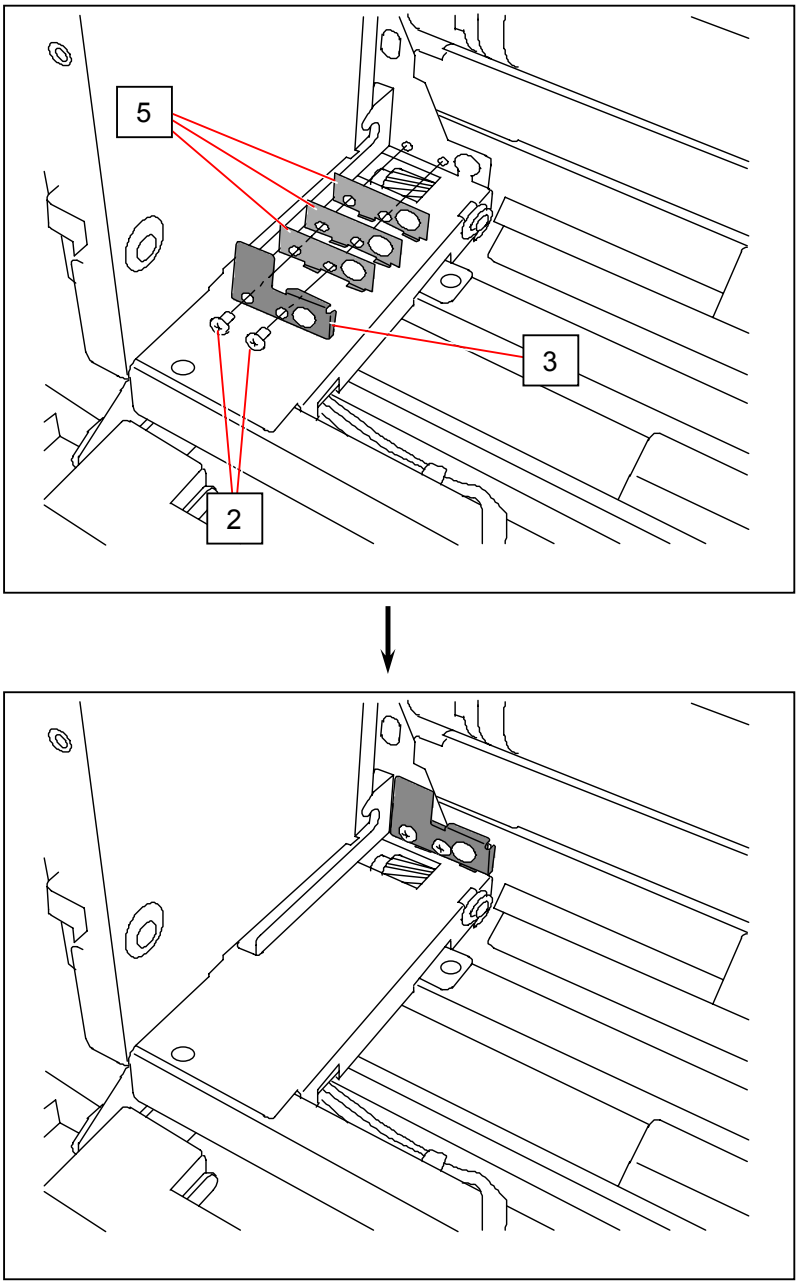
1. Remove the Developer Unit (1) from the machine making reference to [5. 2. 1 Removal of the Developer Unit] on the page 5-8.



2. Remove 2 screws (2) to remove each Bracket 32 (3) on the left and Bracket 33 (4) on the right. You will find Adjustment Plate (5) and Adjustment Plate 2 (6).



3. On the left side, add (or remove) as many Adjustment Plate (5) as required, cover them with the Bracket 32 (3), and then fix with 2 screws (2).

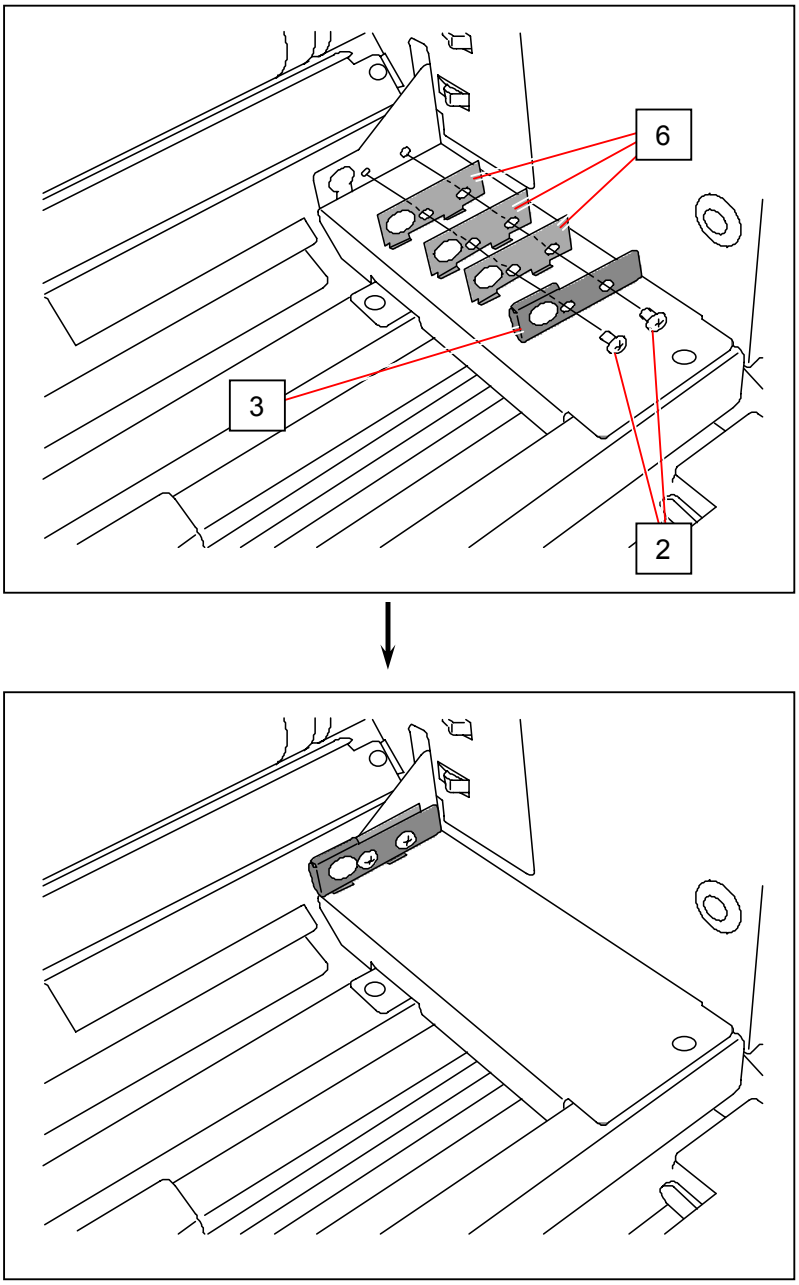


NOTE

The following 3 kinds of Spacers are used on the left side of the machine.

Spacer	Z053101200 (thickness is 0.05mm)
Spacer 5	Z053101350 (0.1mm)
Spacer 3	Z053101330 (0.2mm)

4. On the right side, add (or remove) as many Adjustment Plate 2 (6) as required, cover them with the Bracket 33 (4), and then fix with 2 screws (2).

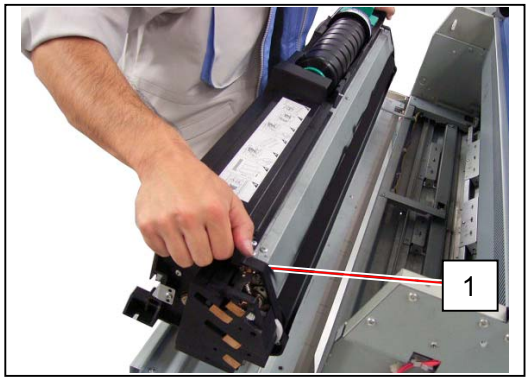


NOTE

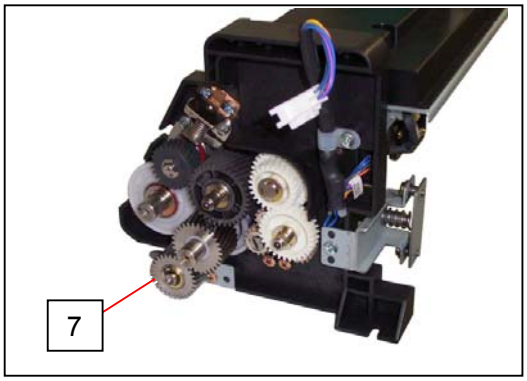
The following 3 kinds of Spacers are used on the left side of the machine.

Spacer 2	Z053101210 (thickness is 0.05mm)
Spacer 6	Z053101360 (0.1mm)
Spacer 4	Z053101340 (0.2mm)

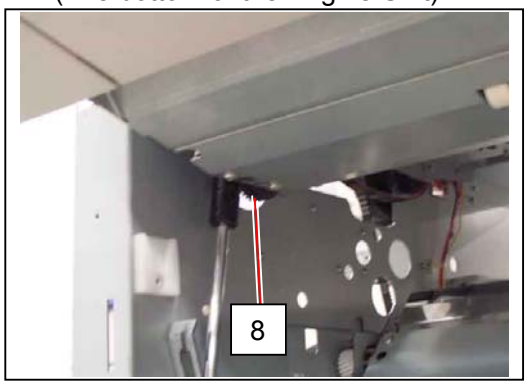
5. Put back the Developer Unit (1) to the machine.



6. There is the Gear Helical 28T (7) on the Developer Unit side, and also there is the Gear Helical 34T (8) on the machine side.
(They are contacted each other when the Developer Unit is on the machine.)

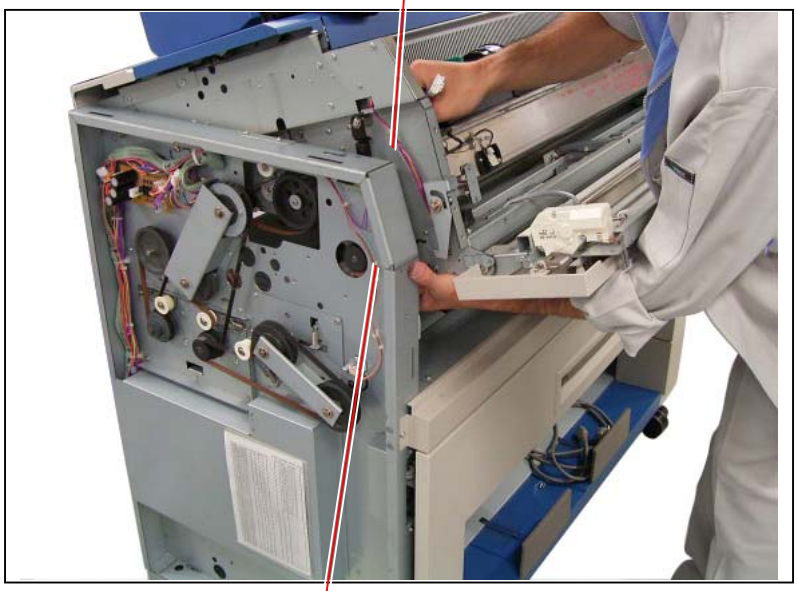


(The bottom of the Engine Unit)



Holding the Gear Helical 28T (7) firmly with one hand, move the Gear Helical 34T (8) with another hand whether there is any mechanical play between these gears.

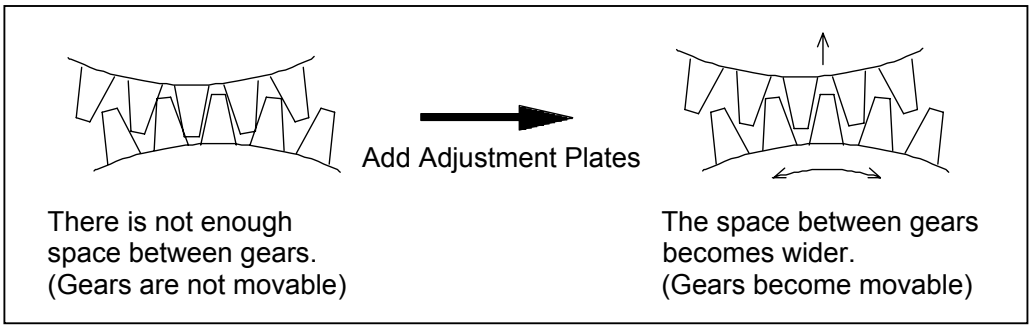
Hold the Gear Helical 28T with one hand.



Move the Gear Helical 34T with another hand.

7. There must be a little mechanical play between Gear Helical 28T (7) and Gear Helical 34T (8). (In another word there must be a little space between them.)

   If the gear could not be moved at all when you check them on the former procedure 6, it means there is not enough space between gears. **The gear may be broken in this case.**
   In this case, add more Adjustment Plates by the way instructed at the procedures 3 and 4.

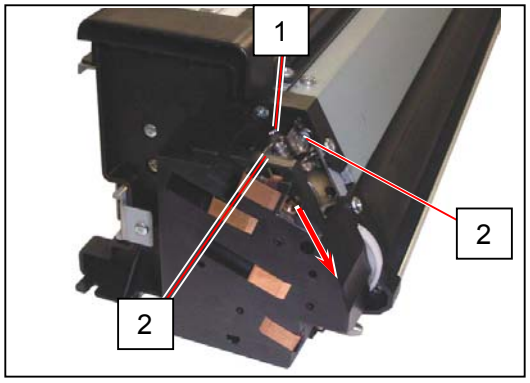


5. 2. 8 Readjustment of the pressure of Regulation Roller

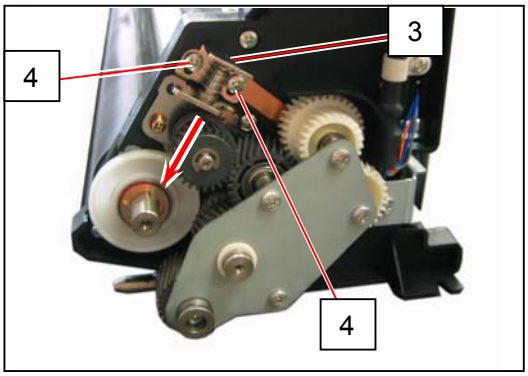
If the pressure of Regulation Roller is weak, the toner layer on the Developer Unit will be much thicker than required when you rotate the Developer Roller in the above procedure 27.
Pressurize the Regulation Roller in the correct way as shown below in this case.
(You will not be able to pressurize it successfully by the usual way of pressurization.)

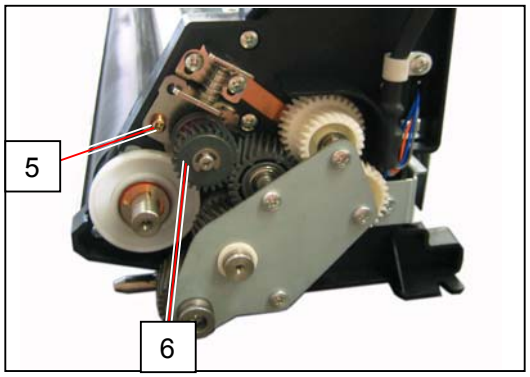
(Brush type Developer Unit is shown for illustration.)

1. **On the right side (Electrode Plate side)** of the unit, press and hold the Bracket 5 (1) to the arrow direction completely, and fix it with the screws (2).

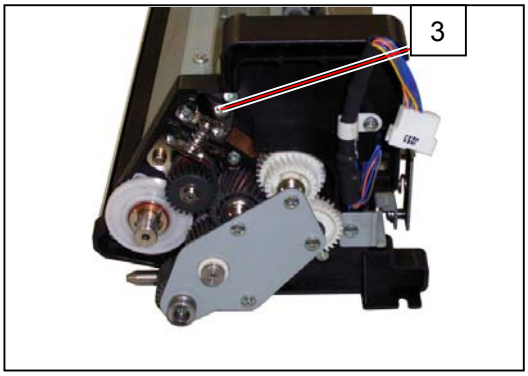


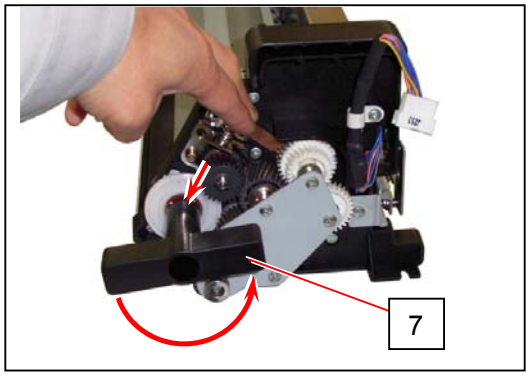
2. **On the left side of the unit (gear side),** confirm that the Bracket 4 (3) is fixed with the screws (4) being completely pressed to the arrow direction.
Also confirm that **the screw (5) is loosened and the Gear Helical 20T (6) is installed.**



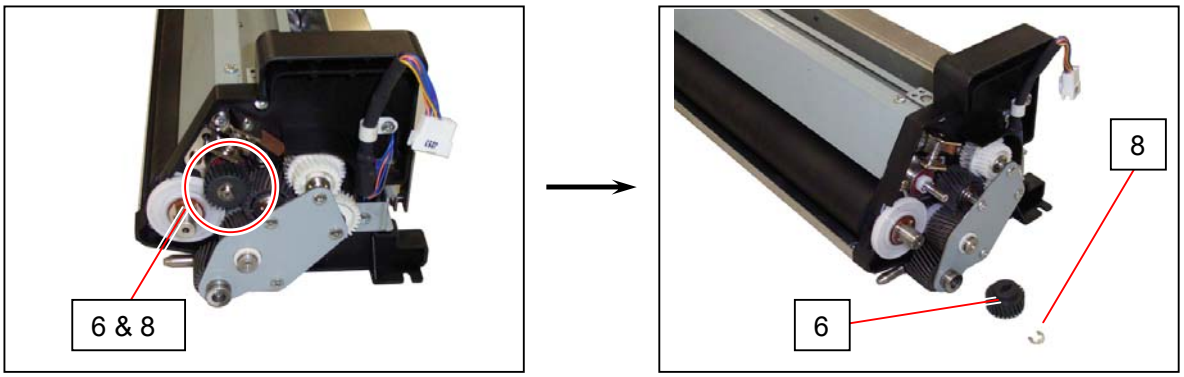


3. Fully press down and hold the top of the Bracket 4 (3).
With holding, rotate the Developer Roller **twice** with the Developer Handle (7).
Check that the toner layer on the Developer Roller gets thinner.

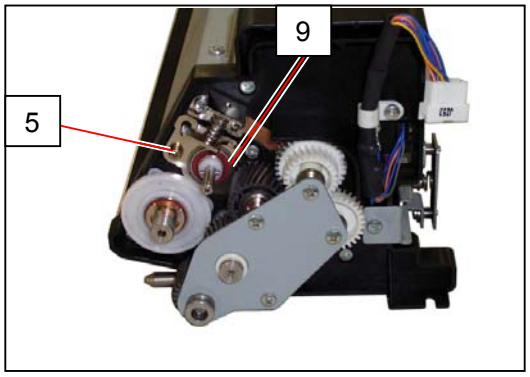




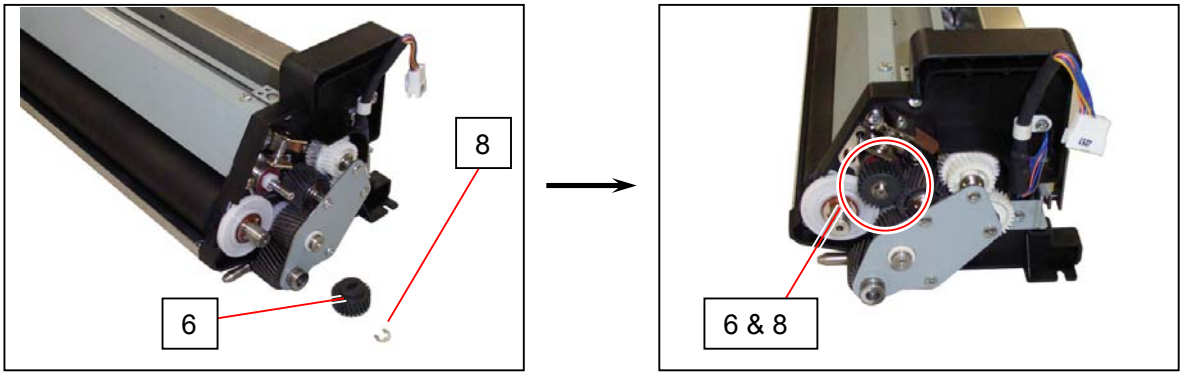
4. Remove both the Retaining Ring-E (8) and the Gear Helical 20T (6).



5. Tighten the screw (5) to fix the Bracket 6 (9).



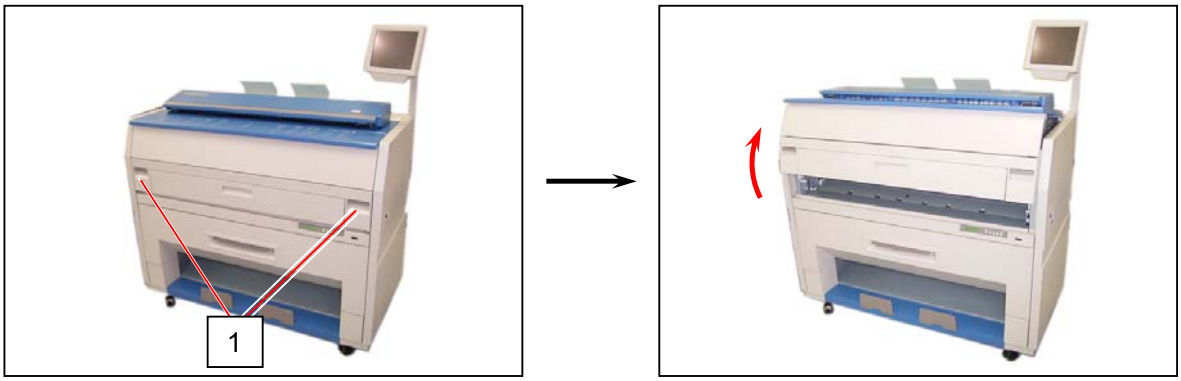
6. Reinstall the Gear Helical 20T (6) and the Retaining Ring-E (8).



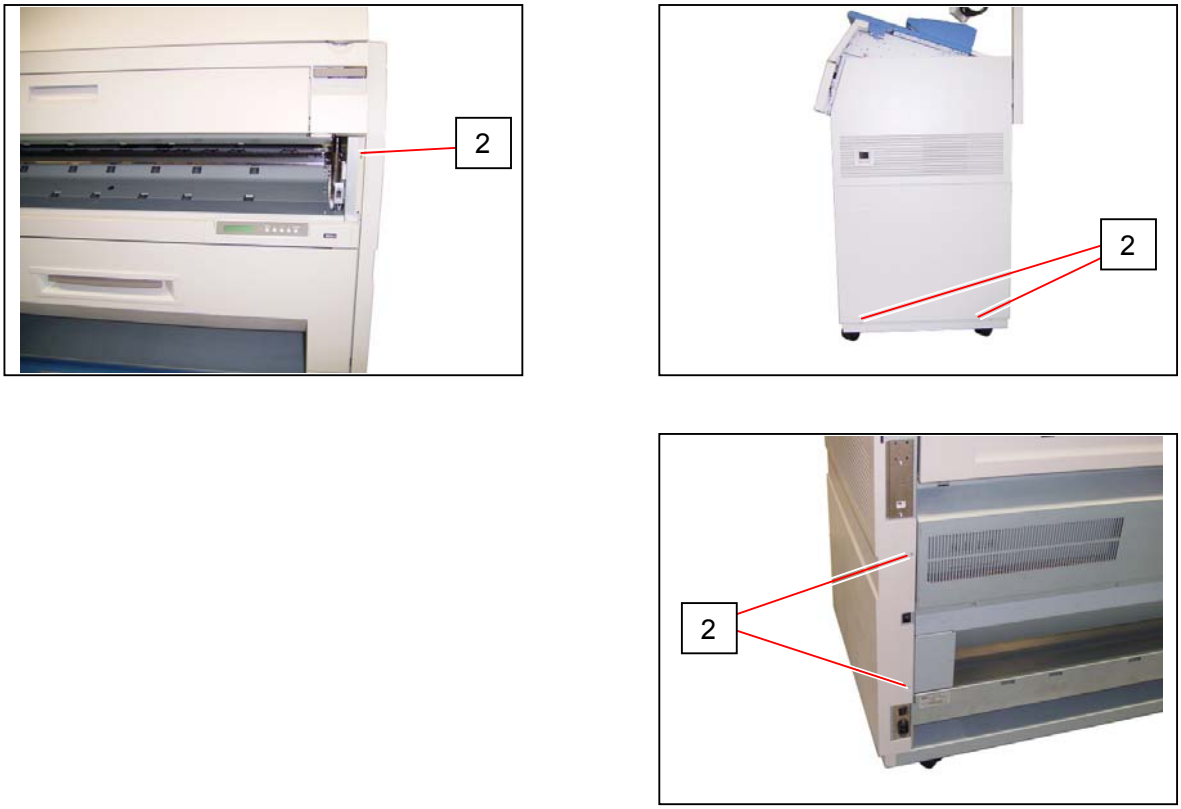
5. 3 Fuser Unit

5. 3. 1 Removal of the Fuser Unit

1. Pull up the Lever 2 (1) to open the Engine Unit.

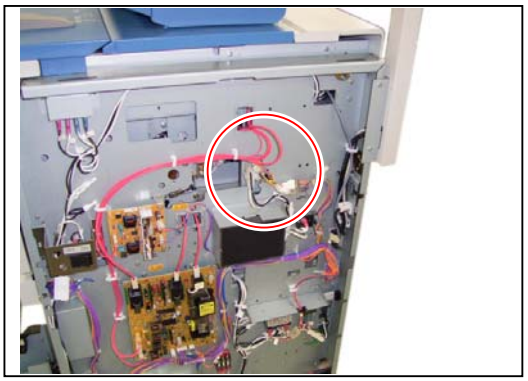


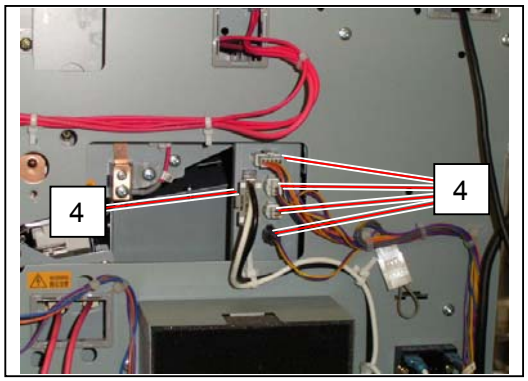
2. Remove 5 pieces of screw (2) which fix the Cover 3.



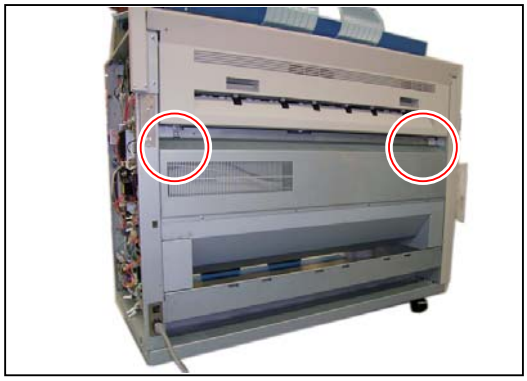
3. Remove the Cover 3 (3).

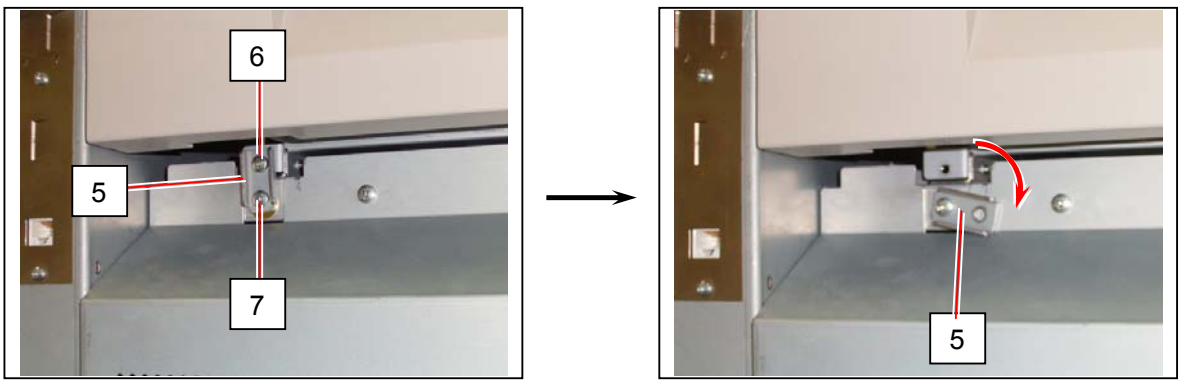
4. Disconnect 5 connectors (4).





5. There are 2 pieces of Bracket (5) on the back of the machine.
Remove the upper 4x6 screw (6) and loosen the lower 4x6 screw (7), then turn the Bracket (5) as the following photo.



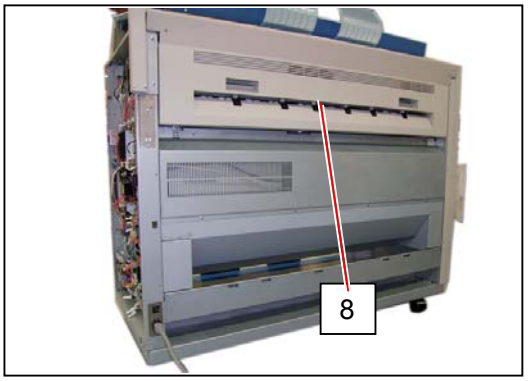


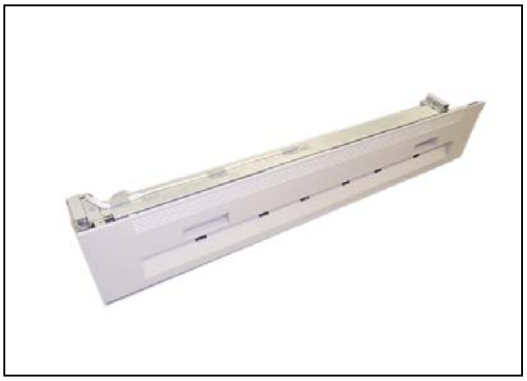
6. Close the Engine Unit.

NOTE

It is impossible to remove the Fuser Unit if the Engine Unit is open.

6. Remove the **Fuser Unit** (8).





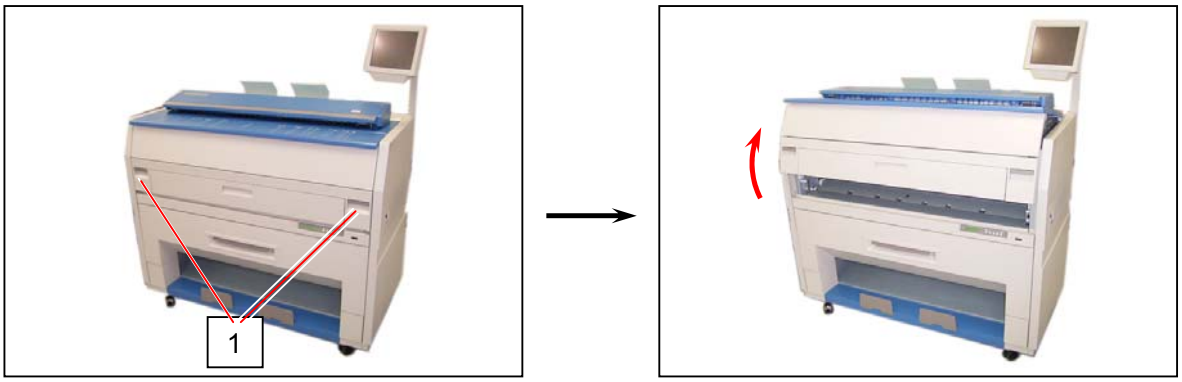
5. 3. 2 Replacement of Fuser Unit Components

NOTE

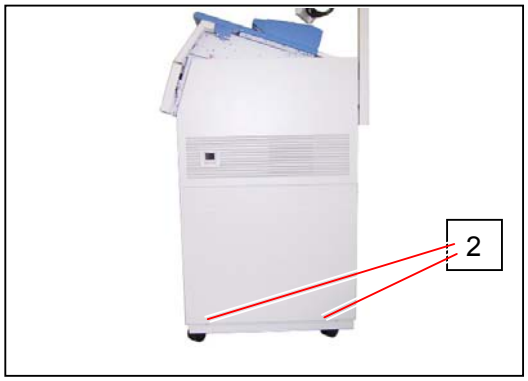
The following parts are Fuser Unit components.
A periodic replacement for them is recommended.
This section describes how to replace all of them in one sequent operation.

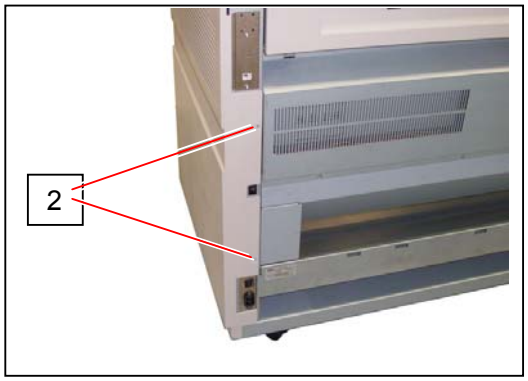
Roller Fusing	1	All of these parts are contained in "Fuser Maintenance Kit" (Z050980060)
Bush	2	
Nail Stripping (Upper)	13	
Nail Lower	6	

1. Pull up the Lever 2 (1) to open the Engine Unit.



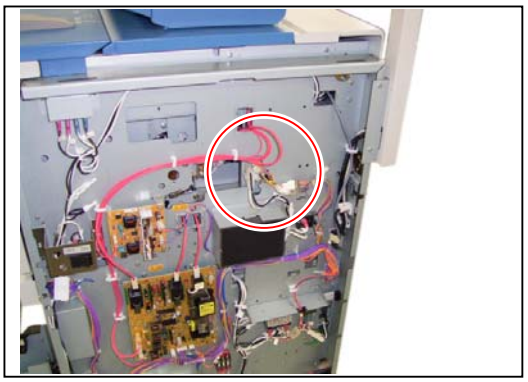
2. Remove 5 pieces of screw (2) which fix the Cover 3.

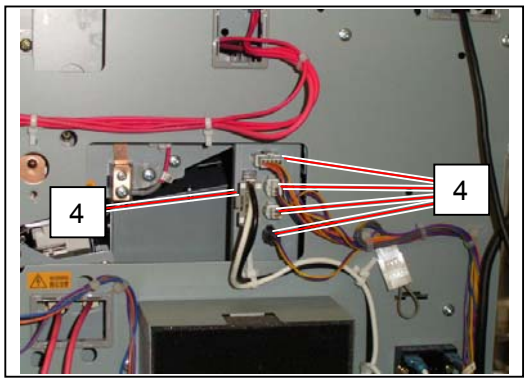




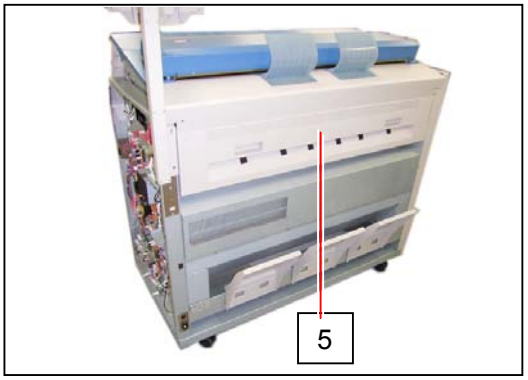
3. Remove the Cover 3 (3).

4. Disconnect 5 connectors (4).

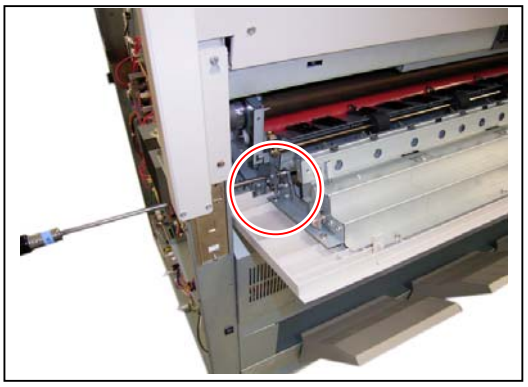


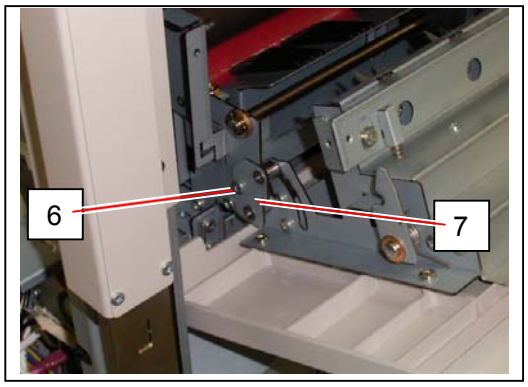


5. Open the Cover Assembly (5)



6. Remove the 4x6 screw (6) to remove the Plate 2 (7) on the right of machine.



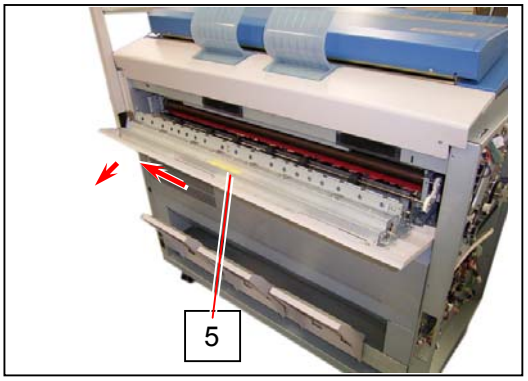


NOTE

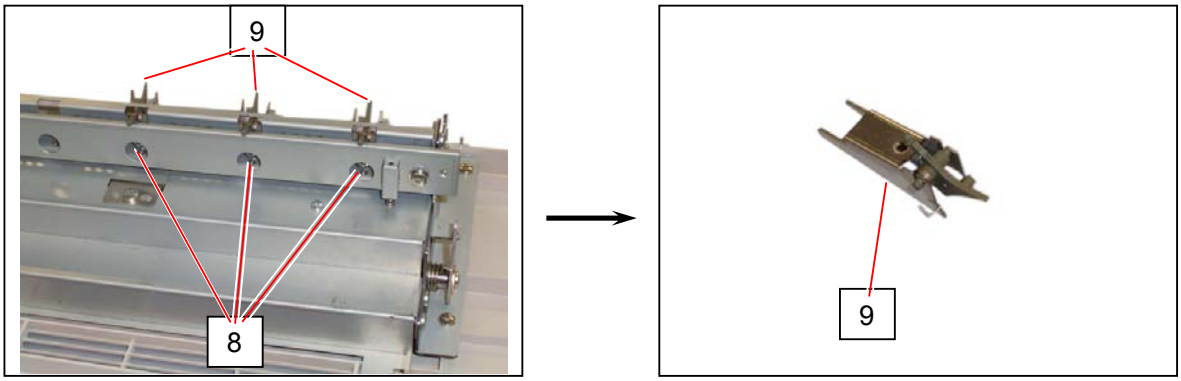
(1) Please remove the Plate 2 (7) while holding the Cover Assembly.
Otherwise you may drop the Cover Assembly.

(2) There is the Plate on the left side of machine, which is a symmetric part of Plate 2.
You may remove it instead of Plate 2 (7).

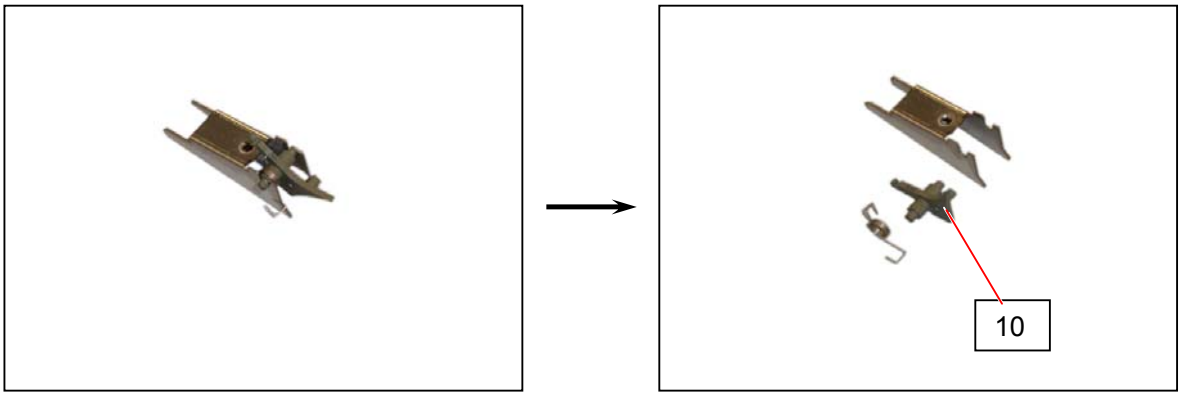
7. Remove the Cover Assembly (5).



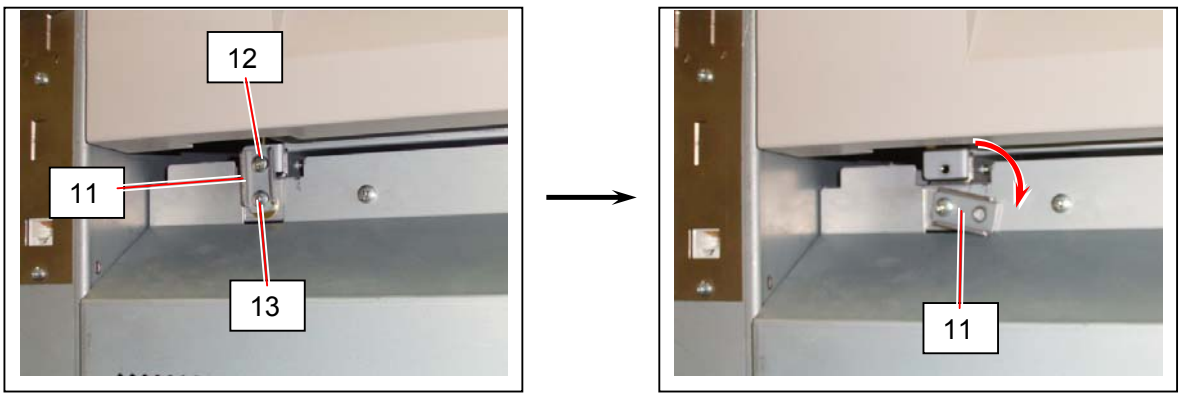
8. Remove the 4x6 screw (8) to remove each Nail Stripping Assembly (9).



9. Disassemble the Nail Stripping Assembly as the following photo.
Replace the **Nail Stripping** (10) with the new one.



10. There are 2 pieces of Bracket (11) on the back of the machine.
Remove the upper 4x6 screw (12) and loosen the lower 4x6 screw (13), then turn the Bracket (11) as the following photo.

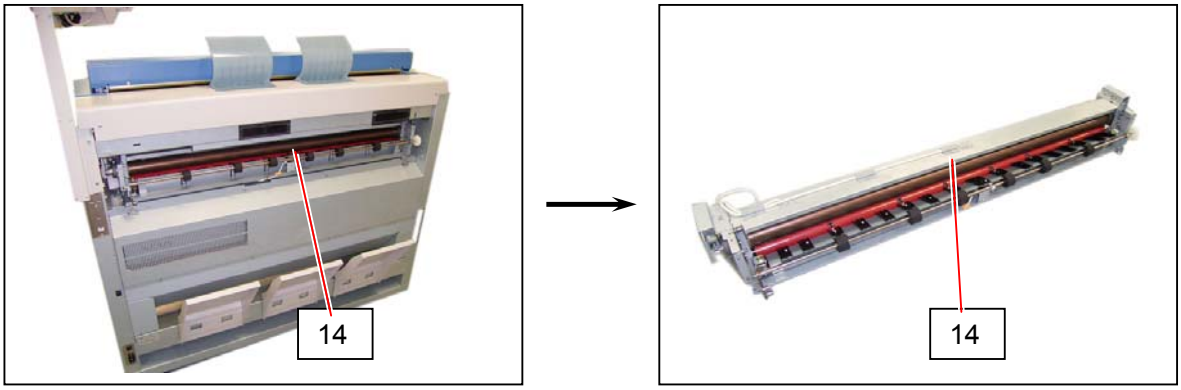


11. Close the Engine Unit.

NOTE

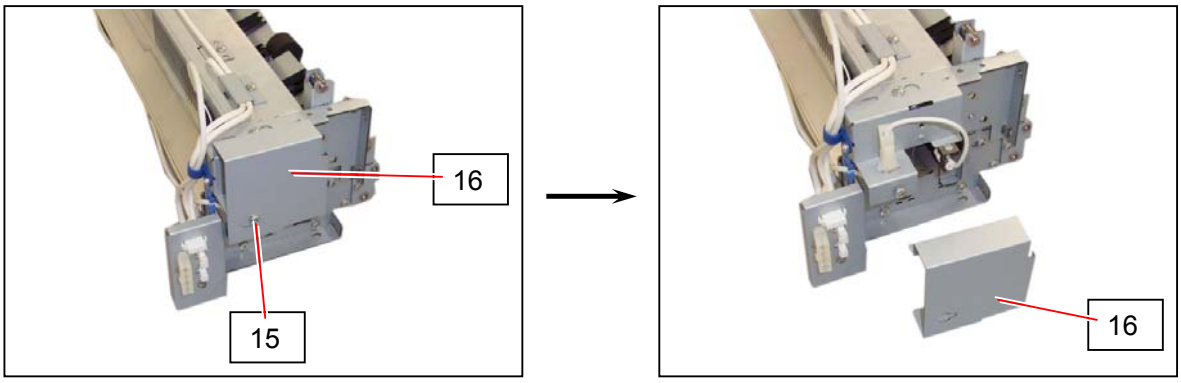
It is impossible to remove the Fuser Unit if the Engine Unit is open.

12. Remove the Fuser Unit (14) from the machine.



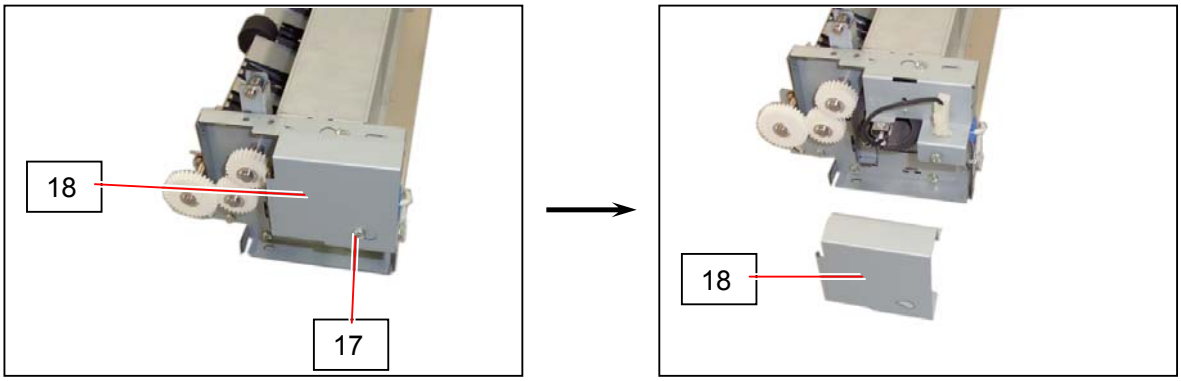
13. Loosen the 4x6 screw (15), and then remove the Cover 4 (16) on the connector side.

(Connector side)



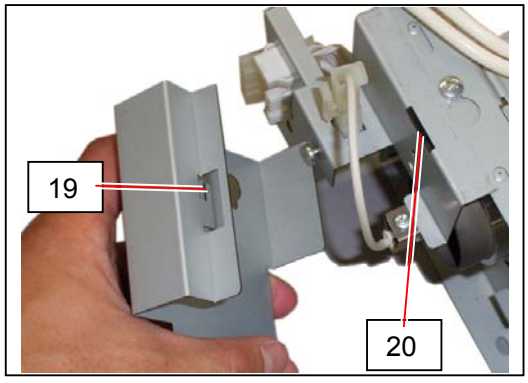
14. Loosen the 4x6 screw (17), and then remove the Cover 5 (18) on the connector side.

(Gear side)



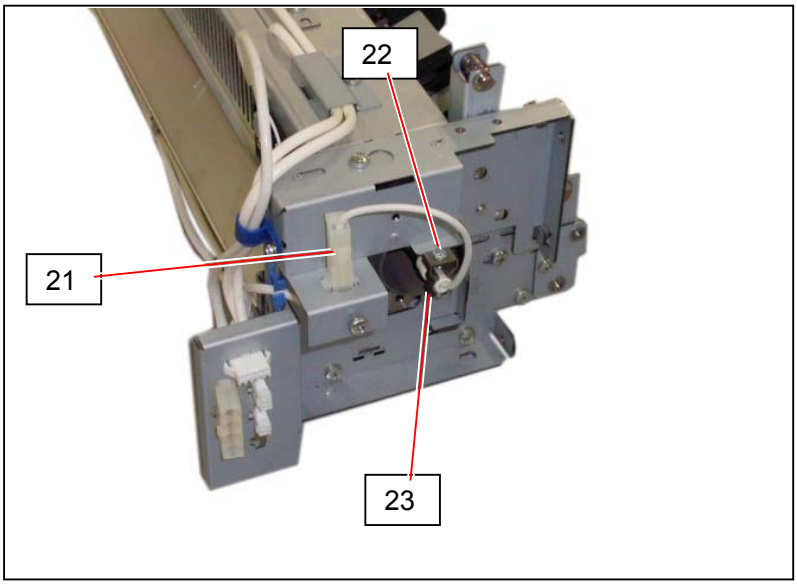
NOTE

Make sure to fit the hook (19) of each Cover 4 (16) and Cover 5 (18) to the notch (20) when reassemble.

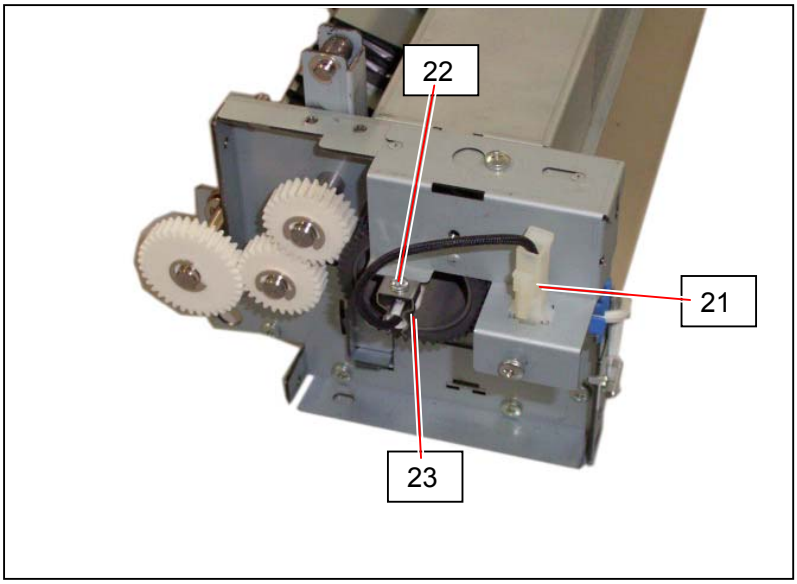


15. Disconnect the connectors (21) at both sides.
Remove the 4x6 screws (22) to remove the Heater Lamp Holders (23)

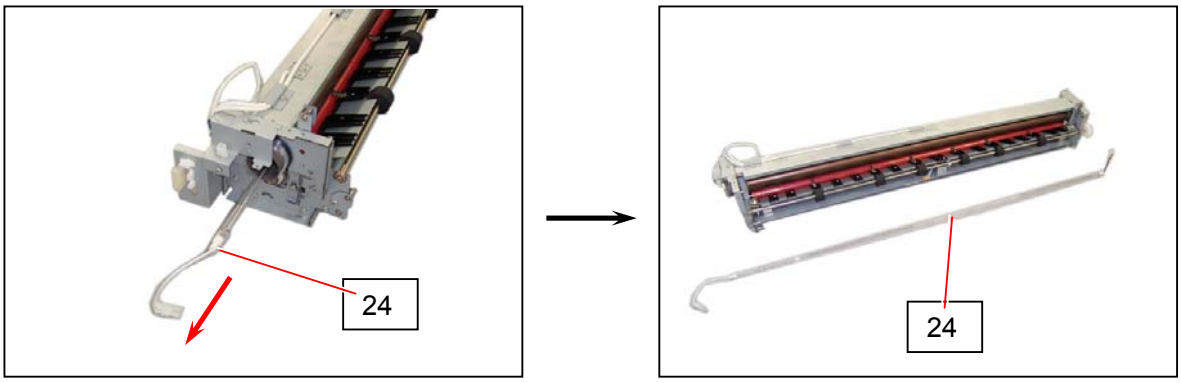
(Connector side)



(Gear side)



16. Carefully pull out the Lamp (24).

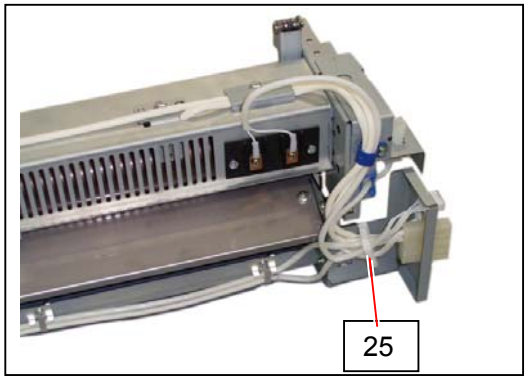


NOTE

(1) You do not have to care about the direction (left and right) of the Lamp.

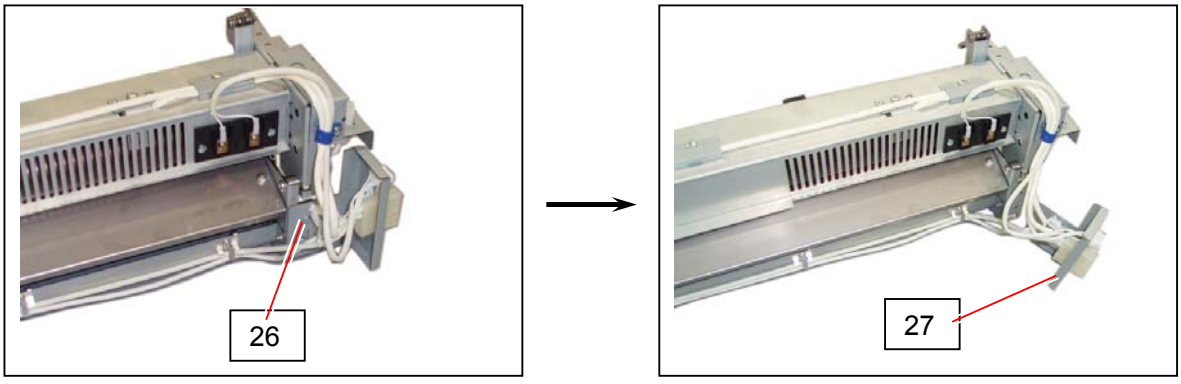
(2) Do not touch the glass part of the Lamp with bare hand.

17. Open the Wire Saddle (25) to release the wires. (Connector side)



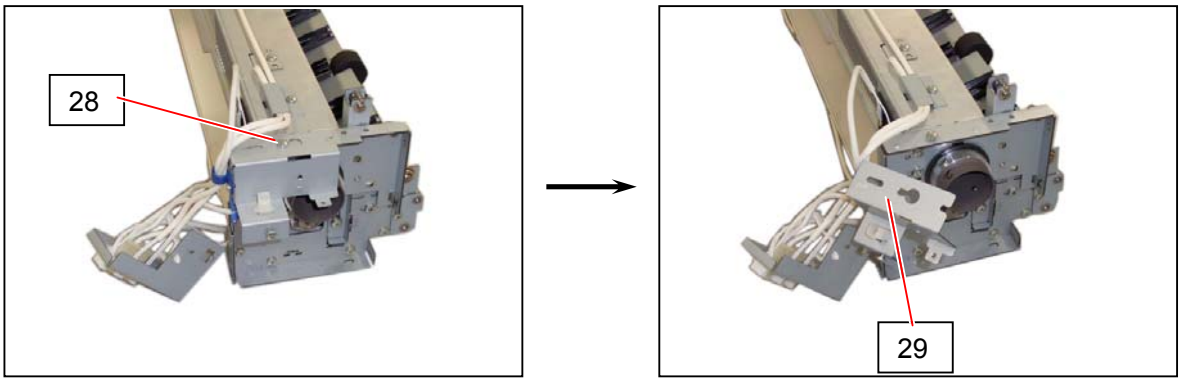
18. Remove the 3x6 screw (26) to release the Holder 5 (27).

(Connector side)



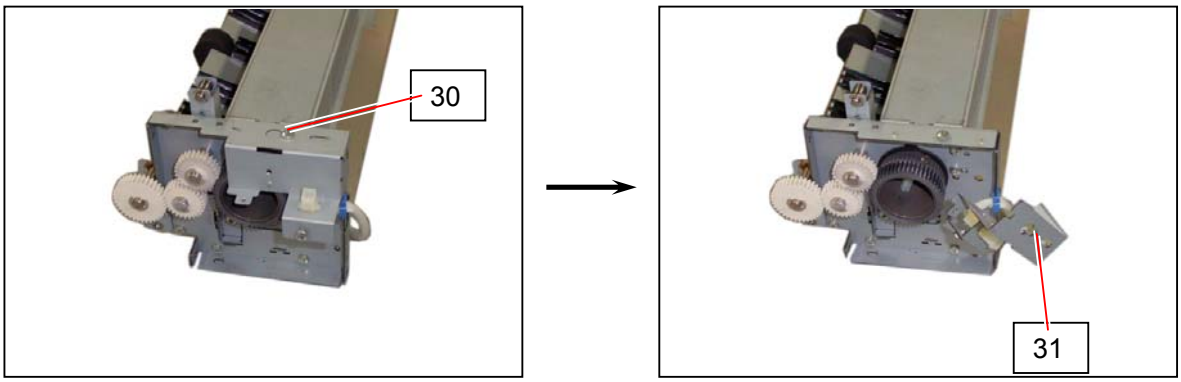
19. Loosen the 4x6 screw (28) on the connector side to release the Cover 2 (29).

(Connector side)



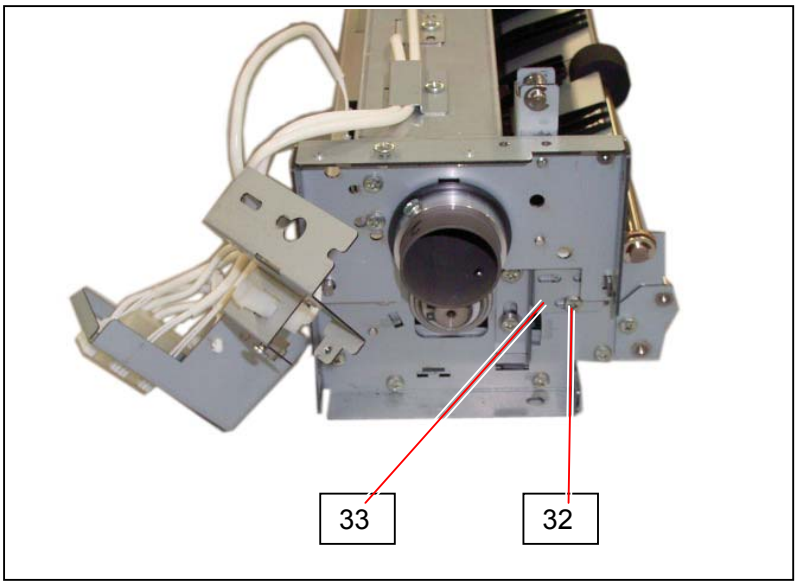
20. Also loosen the 4x6 screw (30) on the gear side to release the Cover 1 (31).

(Gear side)



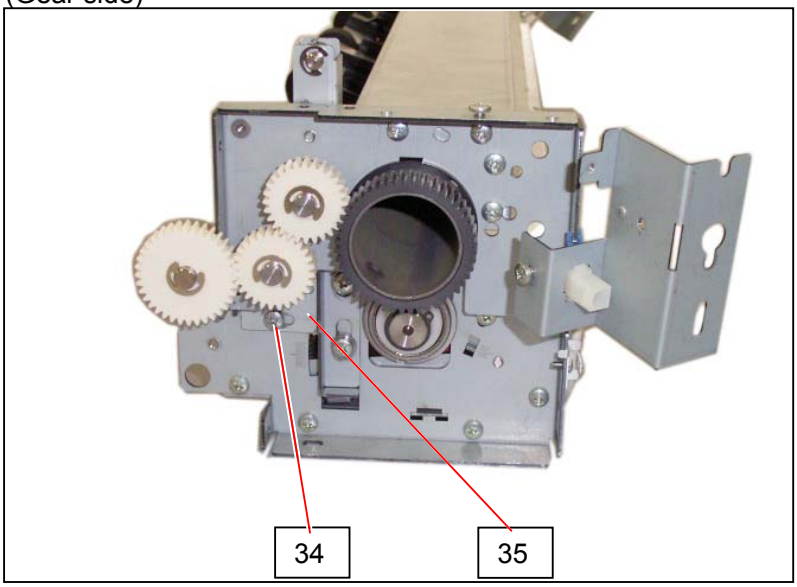
21. Remove the 4x6 screw (32) to remove the Bracket 6 (33) on the connector side.

(Connector side)



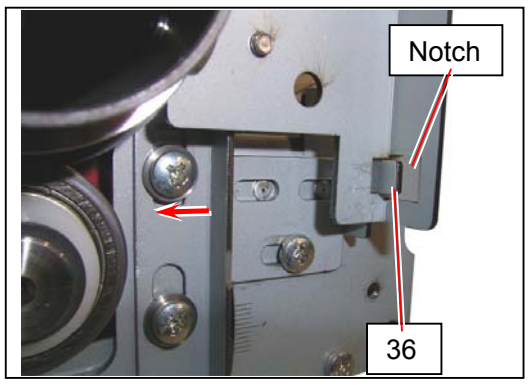
22. Remove the 4x6 screw (34) to remove the Bracket 5 (35) on the connector side.

(Gear side)

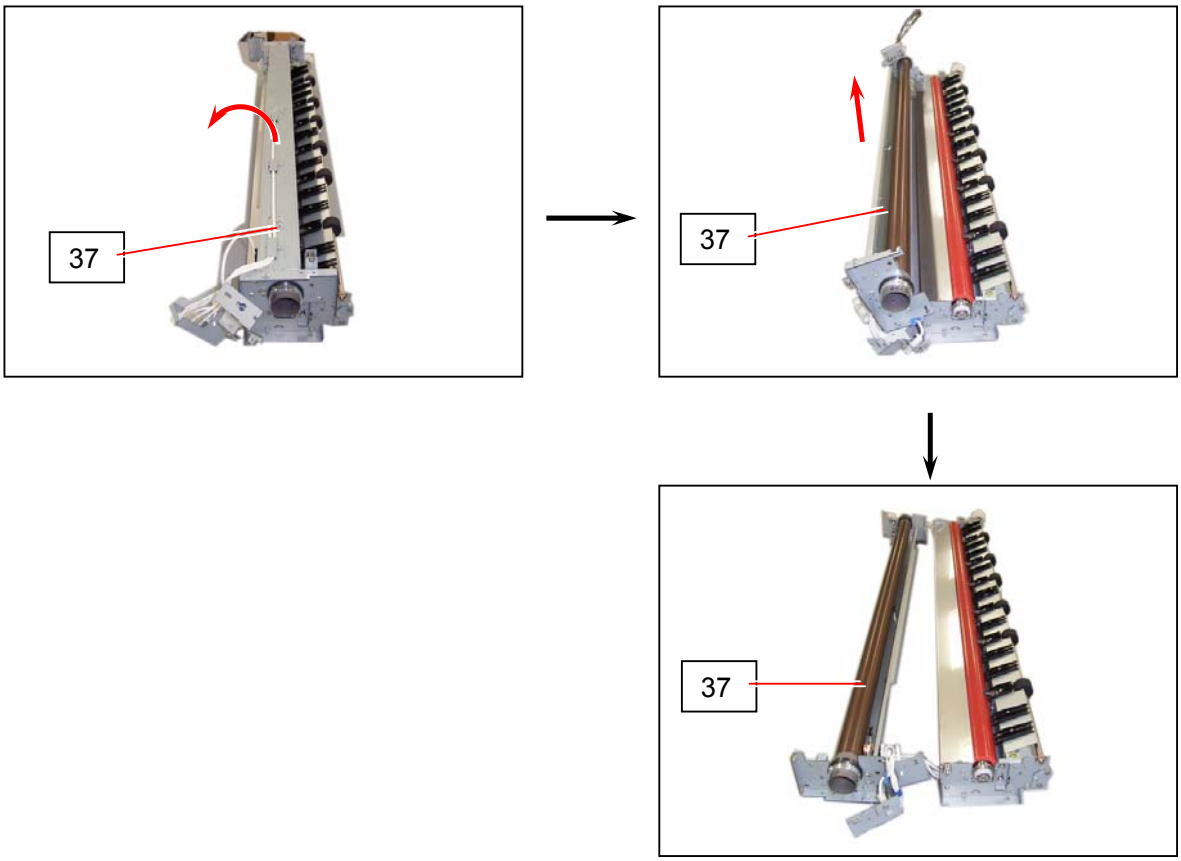


NOTE

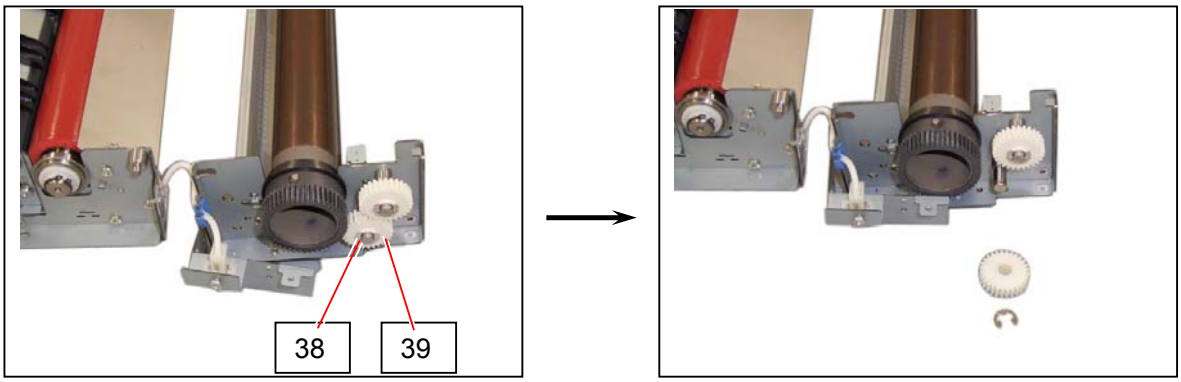
When reassemble, make sure to slide each Bracket 6 (33) and Bracket 5 (35) fully to the arrow direction.
The folded plate part (36) must be fitted into the notch as the right photo.



23. Open the Fuser Upper Unit (37), and then bring it up to separate from the Fuser Lower Unit.

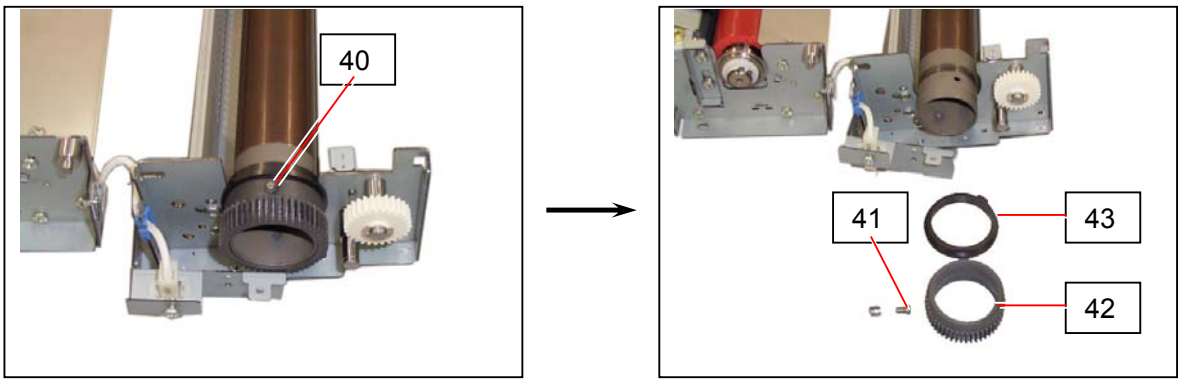


24. Remove the Retaining Ring-E (38 : E7) to remove the Gear 28T (39).



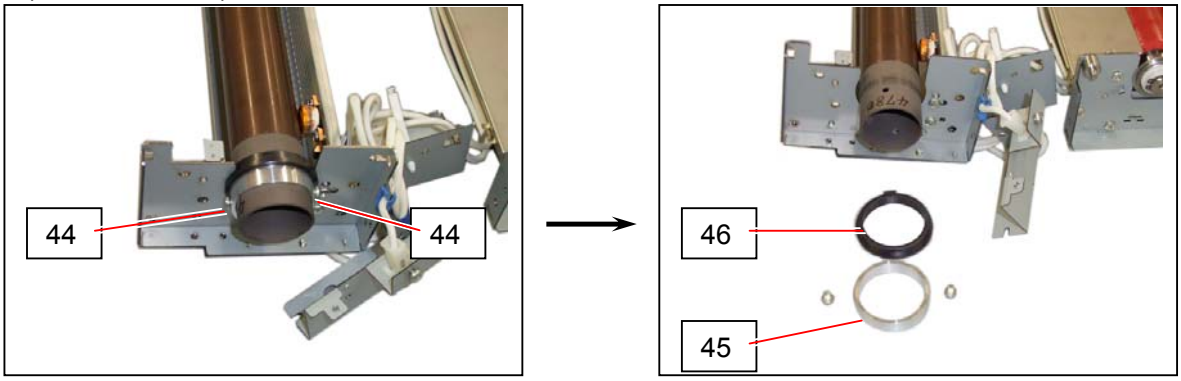
25. On the gear side, remove the KL Clip (40) and then remove Pin 11 (41), Gear 48T (42) and **Bush** (43).
Replace the **Bush** (43) with the new one.

(Gear side)



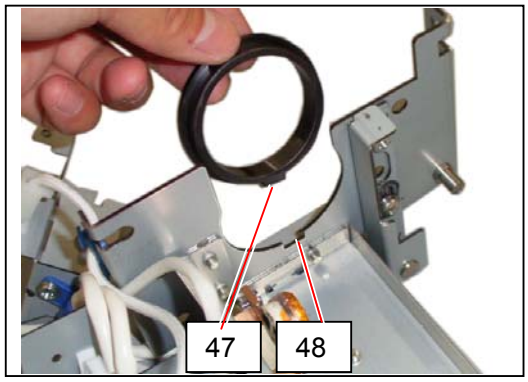
26. On the connector side, remove 2 pieces of 4x6 screw (44) to remove Collar (45) and **Bush** (46).
Replace the **Bush** (47) with the new one.

(Connector side)

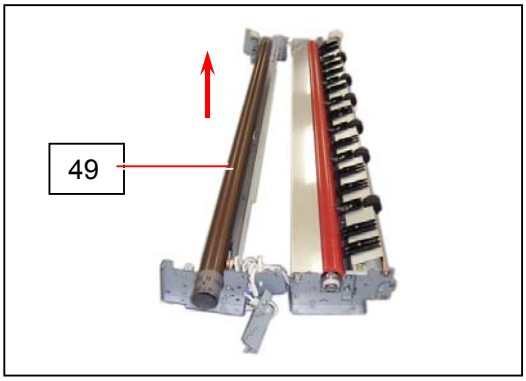


NOTE

Please fit the projected part (47) of the Bush to the notch (48) at the time of reassembly.

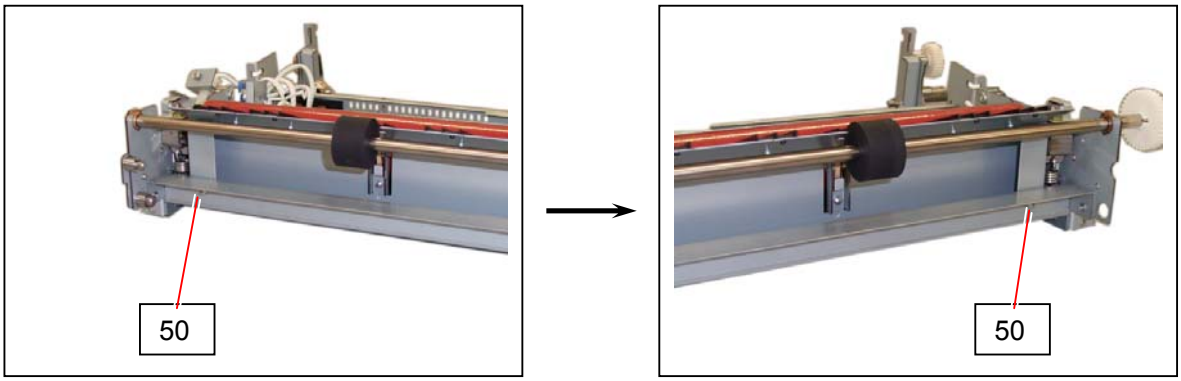


27. Remove the **Roller Fusing** (49), and replace it with the new one.

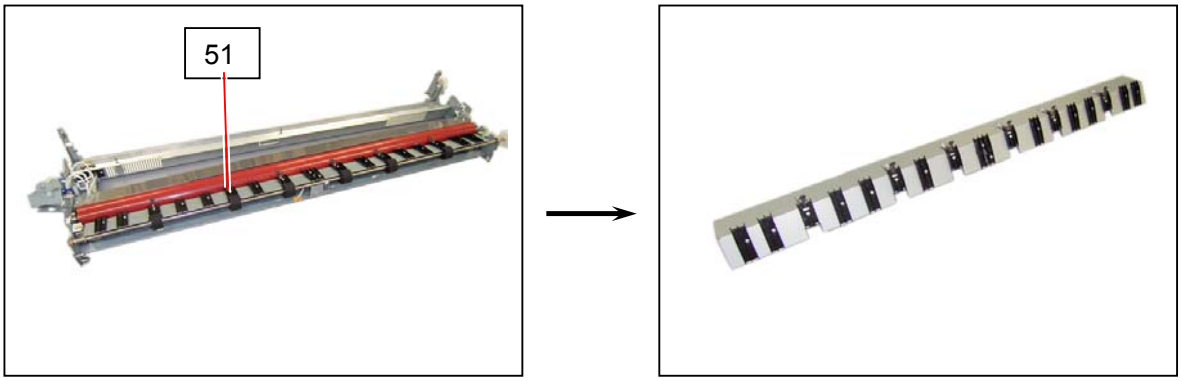


> **NOTE**
>
> You do not have to care about the direction (left and right) of the Roller Fusing.

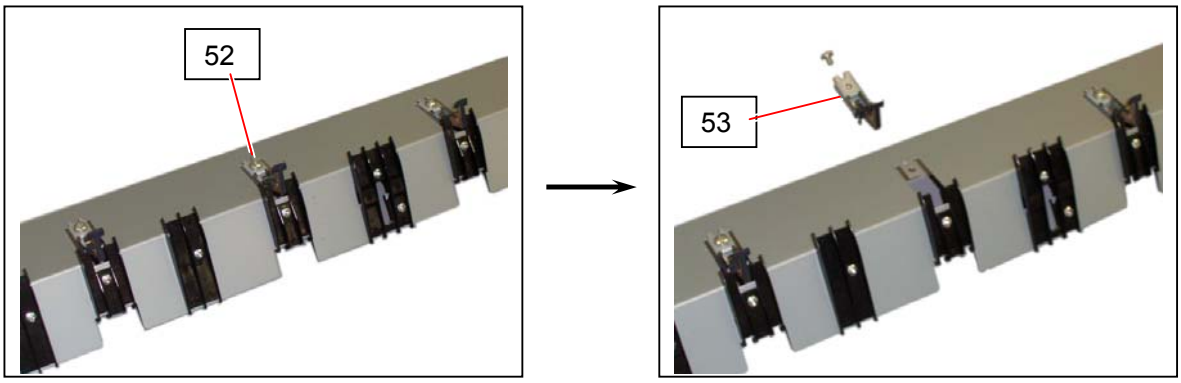
28. Remove the 4x6 screws (50) at both sides.



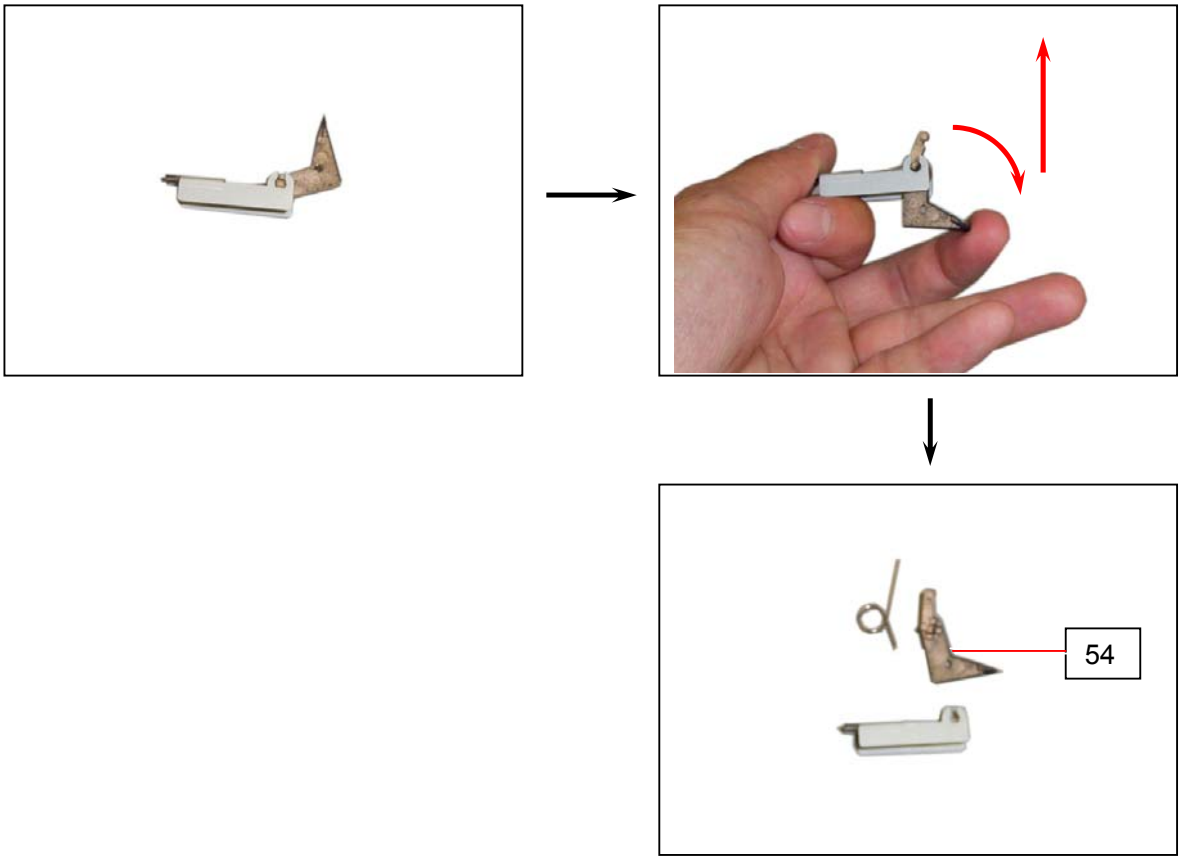
29. Remove the Guide Plate 2 Assembly (51).



30. Remove the 4x6 screw (52) to remove each Nail Lower Assembly (53).



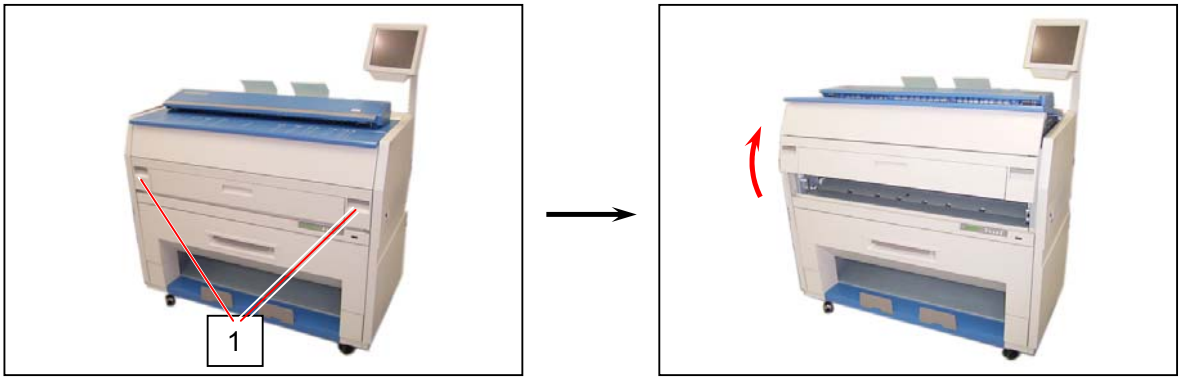
31. Rotate the **Nail Lower** (54) quarter evolution, and then remove it from the bracket.
Replace the **Nail Lower** (54) with the new one.



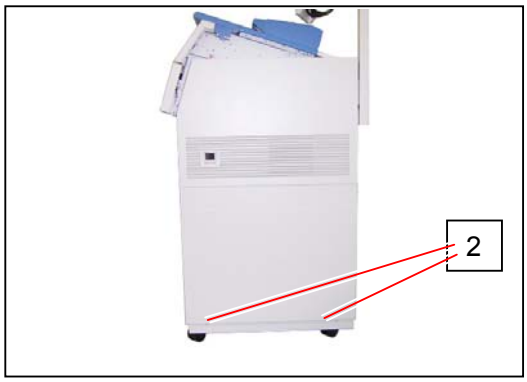
32. Replace all the parts in reverse order.

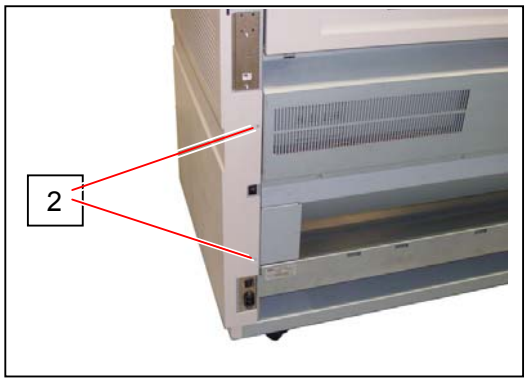
5. 3. 3 Replacement of Roller Pressure

1. Pull up the Lever 2 (1) to open the Engine Unit.



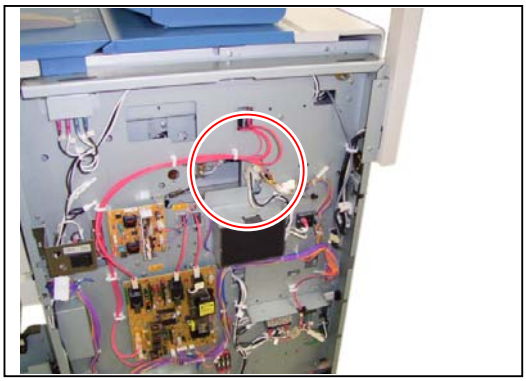
2. Remove 5 pieces of screw (2) which fix the Cover 3.

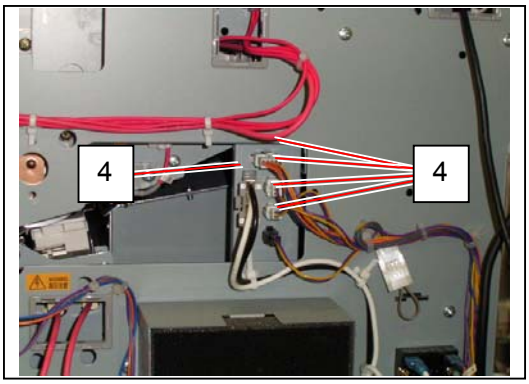




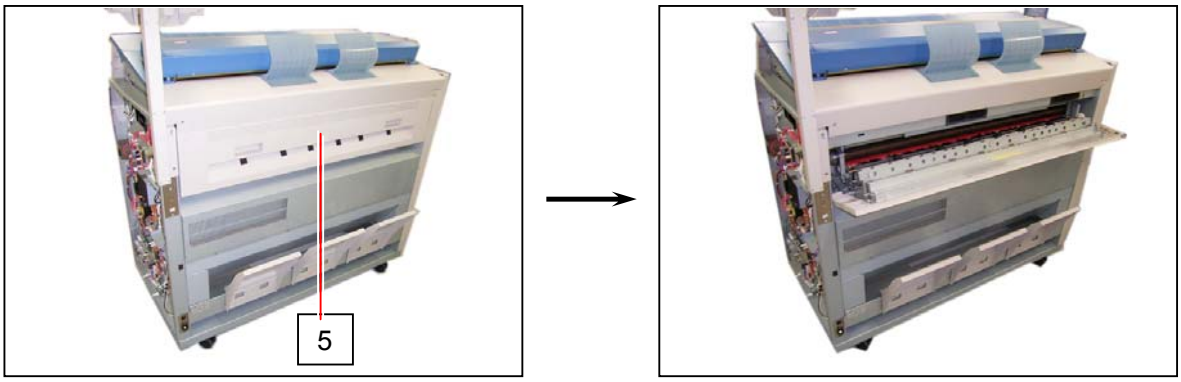
3. Remove the Cover 3 (3).

4. Disconnect 5 connectors (4).

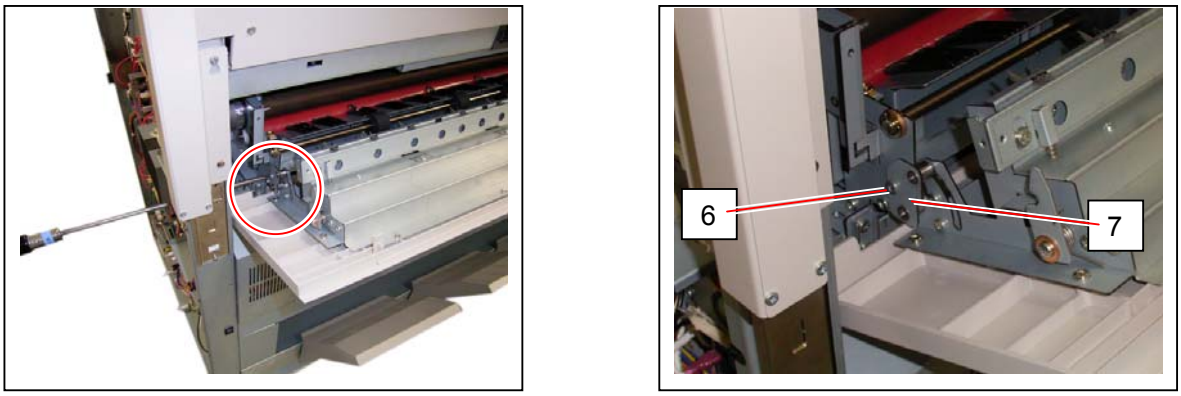




5. Open the Cover Assembly (5)



6. Remove the 4x6 screw (6) to remove the Plate 2 (7) on the right of machine.

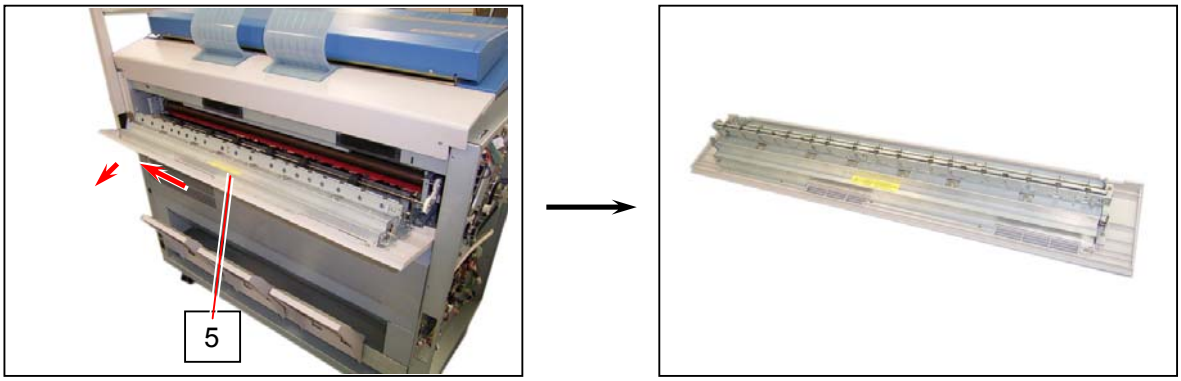


⚠ NOTE

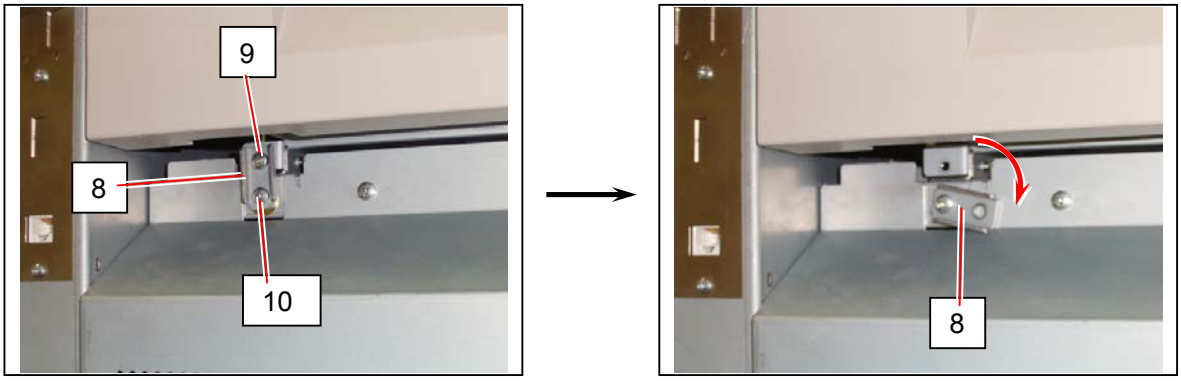
(1) Please remove the Plate 2 (7) while holding the Cover Assembly.
Otherwise you may drop the Cover Assembly.

(2) There is the Plate on the left side of machine, which is a symmetric part of Plate 2.
You may remove it instead of Plate 2 (7).

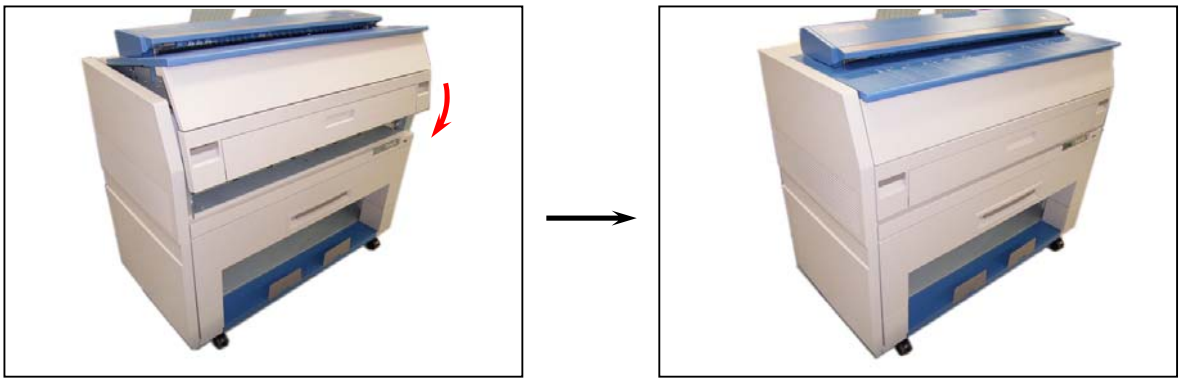
7. Remove the Cover Assembly (5).



8. There are 2 pieces of Bracket (8) on the back of the machine.
Remove the upper 4x6 screw (9) and loosen the lower 4x6 screw (10), then turn the Bracket (8) as the following photo.



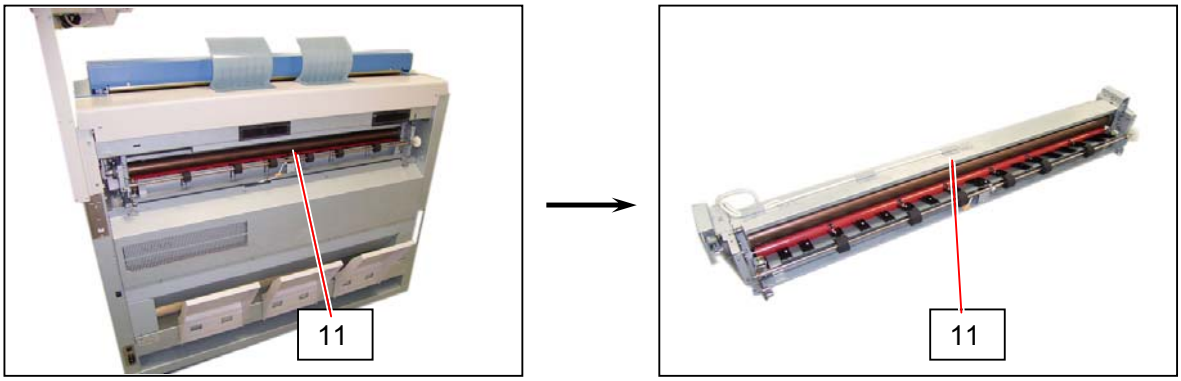
9. Close the Engine Unit.



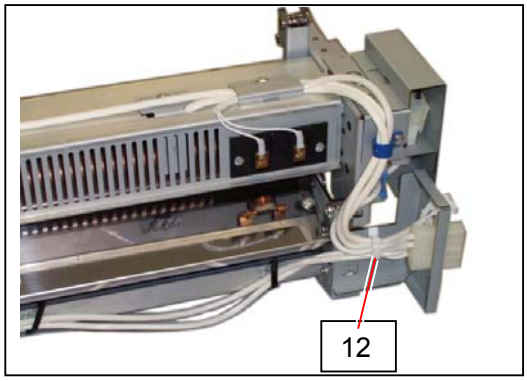
NOTE

It is impossible to remove the Fuser Unit if the Engine Unit is open.

10. Remove the Fuser Unit (11) from the machine.

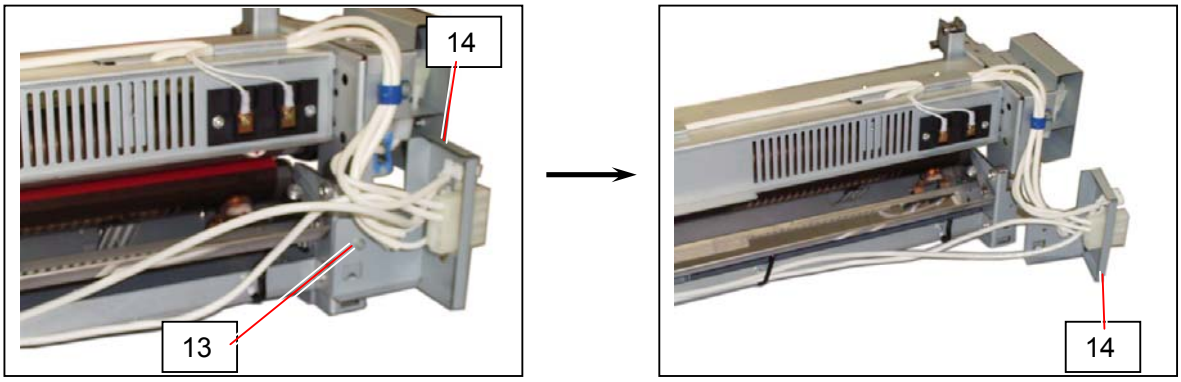


11. Open the Wire Saddle (12) to release the wires. (Connector side)



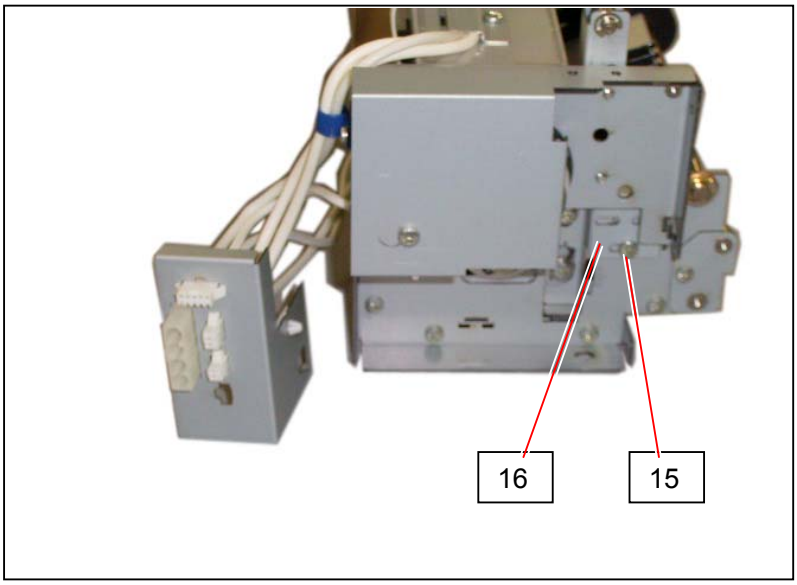
12. Remove the 3x6 screw (13) to release the Holder 5 (14).

(Connector side)



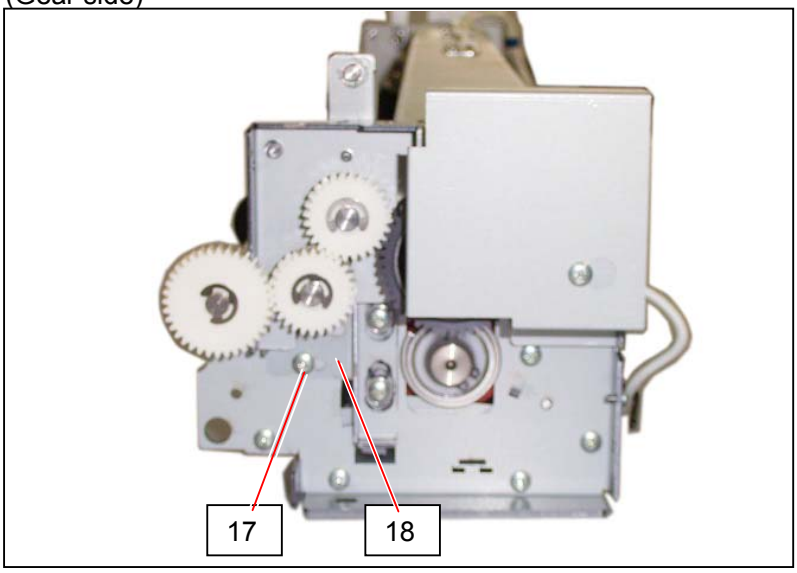
13. Remove the 4x6 screw (15) to remove the Bracket 6 (16) on the connector side.

(Connector side)



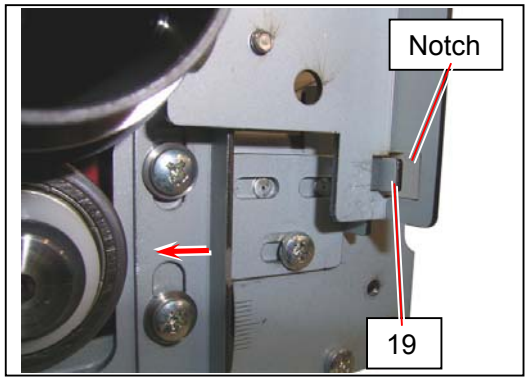
14. Remove the 4x6 screw (17) to remove the Bracket 5 (18) on the connector side.

(Gear side)

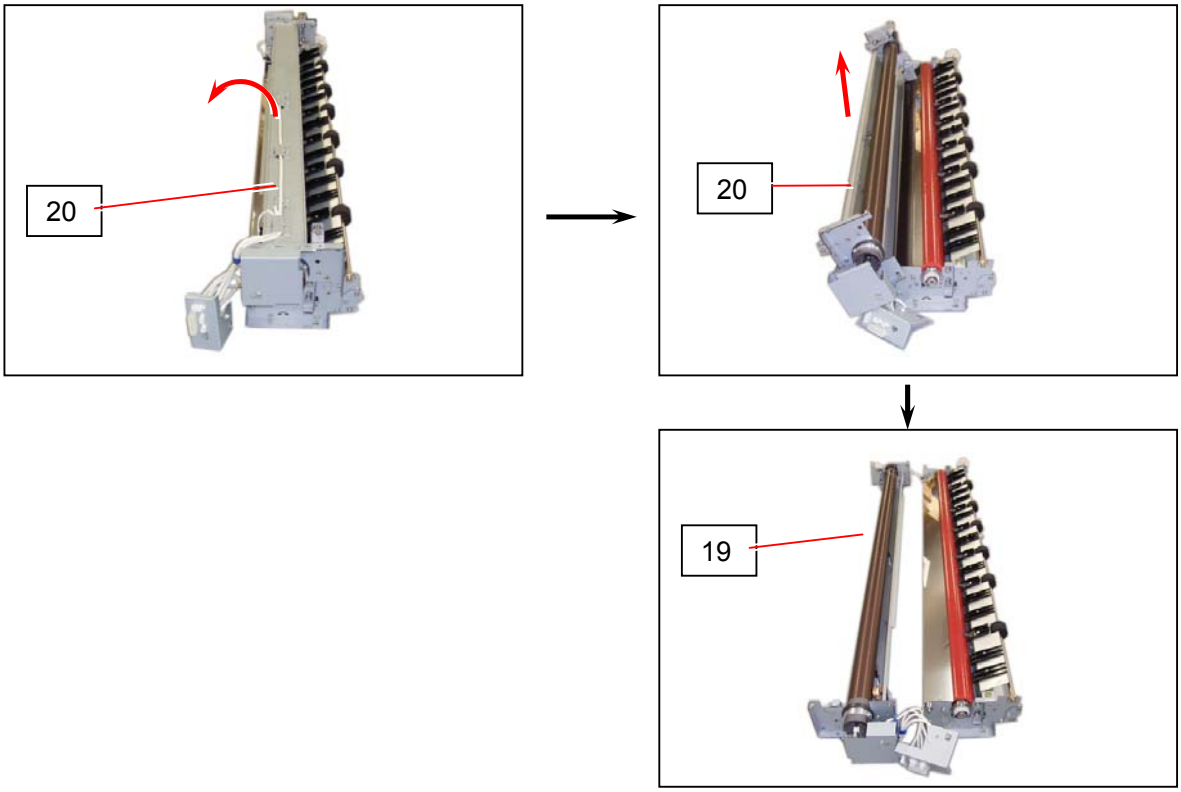


NOTE

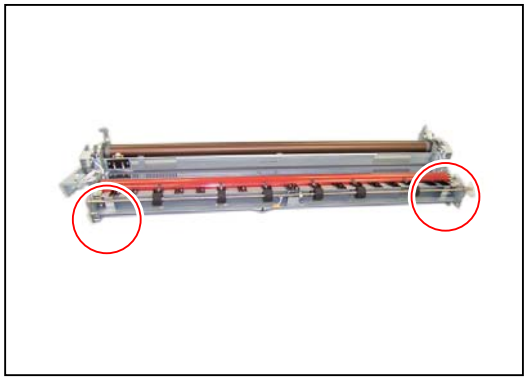
When reassemble, make sure to slide each Bracket 6 (16) and Bracket 5 (18) fully to the arrow direction.
The folded plate part (19) must be fitted into the notch as the right photo.

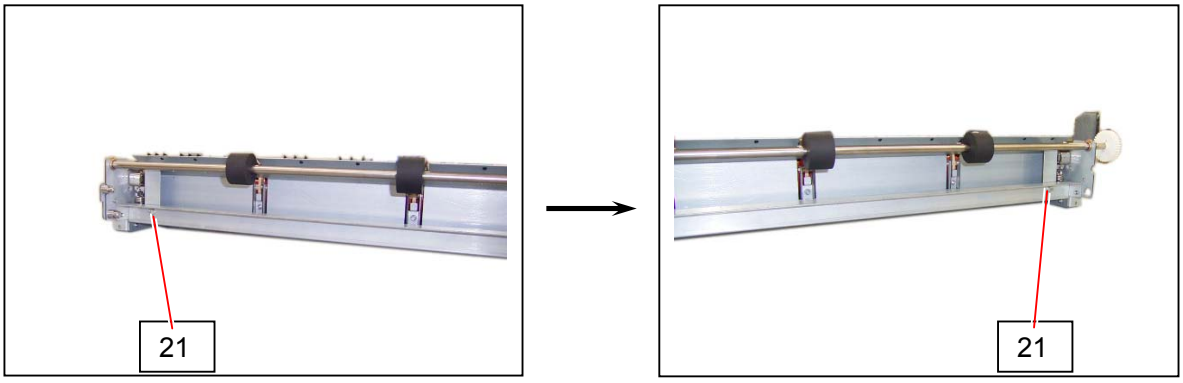


15. Open the Fuser Upper Unit (20), and then bring it up to separate from the Fuser Lower Unit.

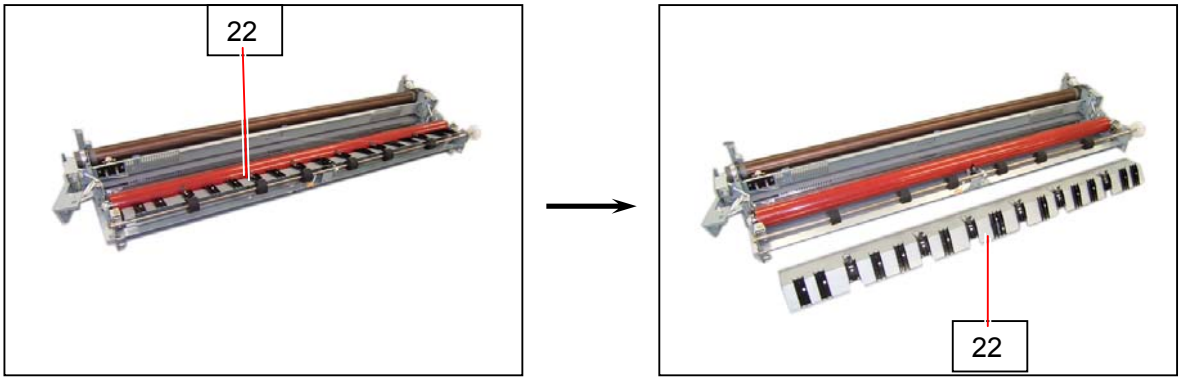


16. Remove the 4x6 screws (21) at both sides.

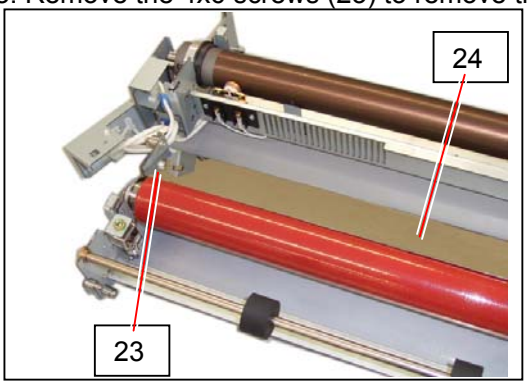


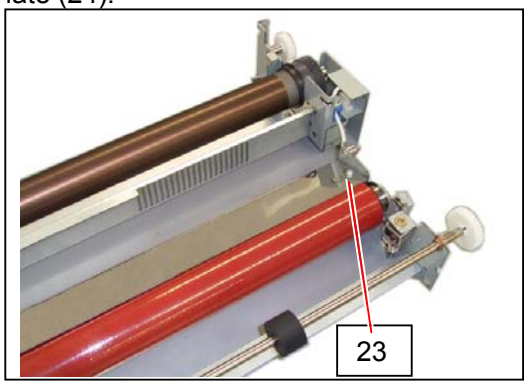


17. Remove Guide Plate 2 Assembly (22).



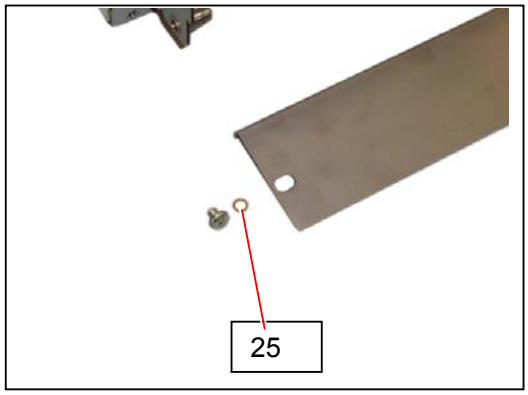
18. Remove the 4x6 screws (23) to remove the Guide Plate (24).



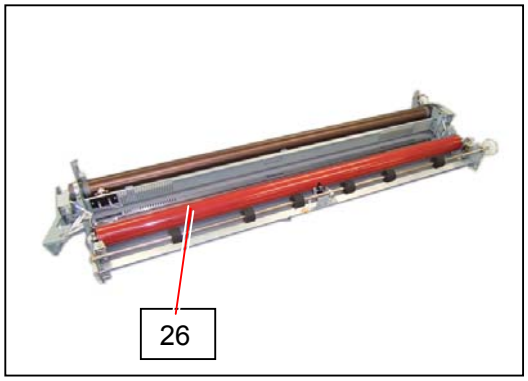


NOTE

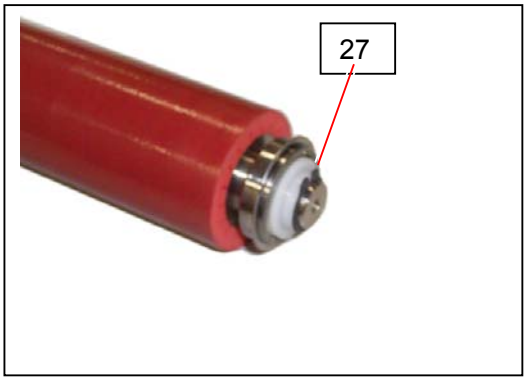
4x6 screws (23) are attached with the Collar (25).

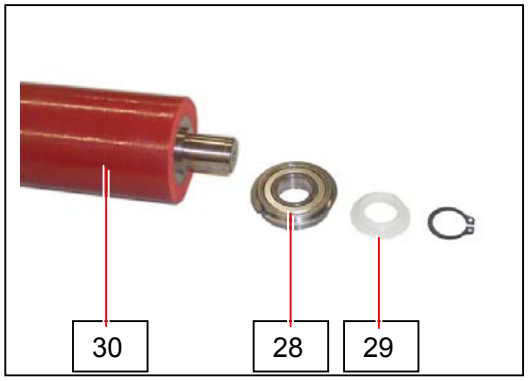


19. Remove the Roller Pressure Assembly (26).



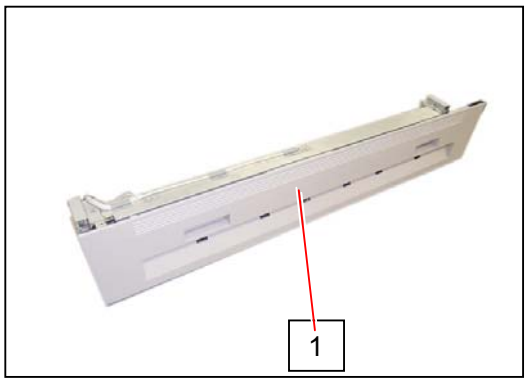
19. Remove the Retaining Ring-C (27 : C15) to remove the Collars (28) and Bearings (29) from both sides.
Replace the **Roller Pressure** (30) with the new one.



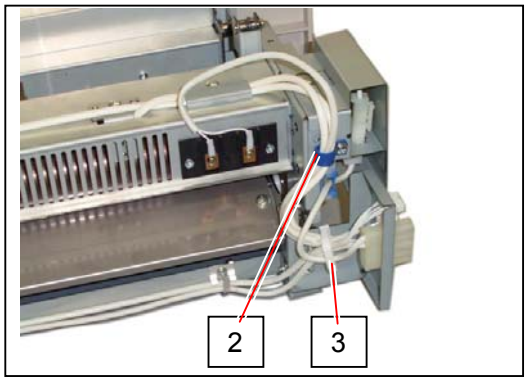


5. 3. 4 Replacement of Thermistors

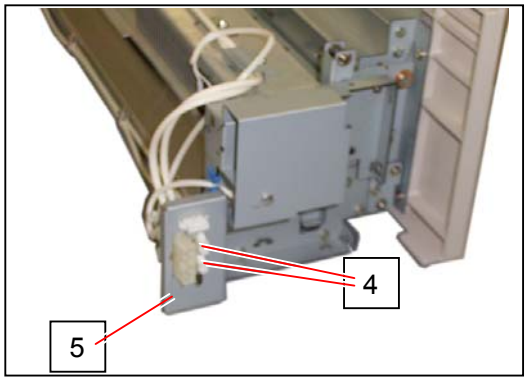
1. Remove the Fuser Unit (1) from the machine making reference to [5. 3. 1 Removal of the Fuser Unit] on the page 5-74.



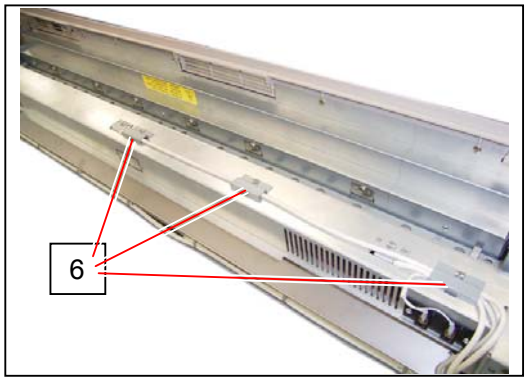
2. Remove the Clump (2) removing the 4x6 screw. Also open the Wire Saddle (3) to release the wires.



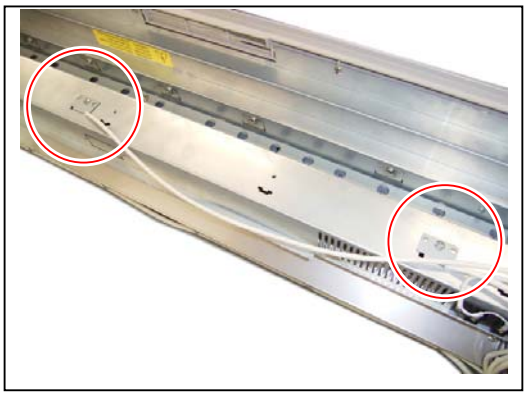
3. Pull out 2 connectors (4) from the Holder 5 (5).

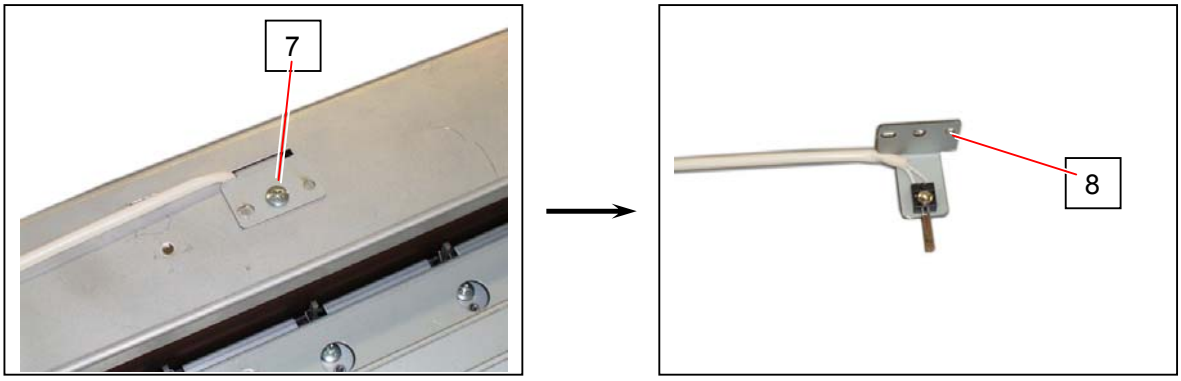


4. Remove 3 pieces of Wire Stopper Brackets (6) removing 1 piece of 4x6 screw for each.

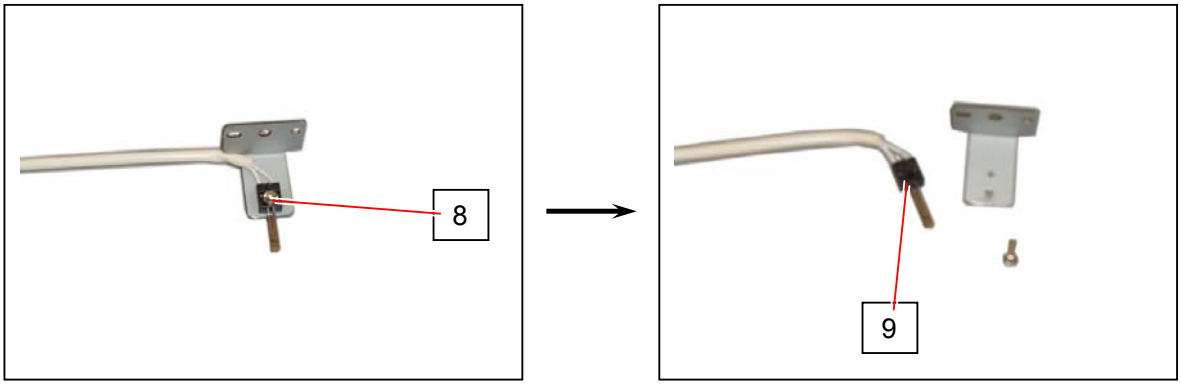


5. Remove the 4x6 screw (7) to remove each Bracket Assembly (8) with Thermistor.



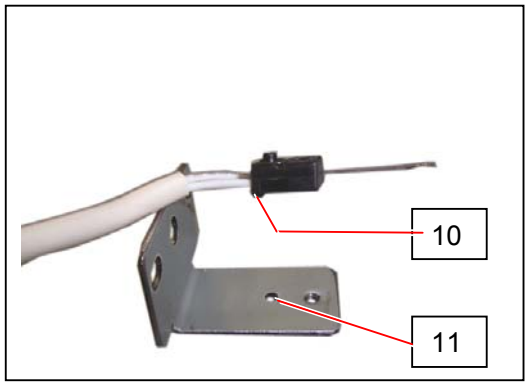


6. Remove the 3x8 screw (9) to remove the **Thermistor** (10).
Replace the **Thermistor** (10) with the new one.



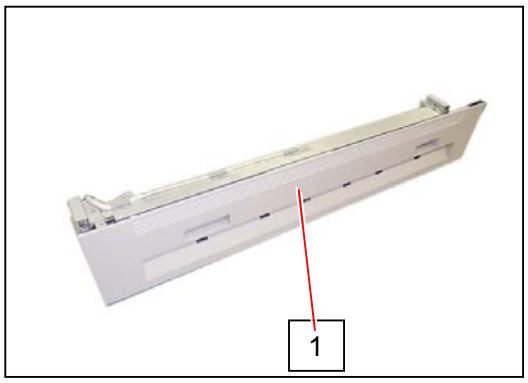
NOTE

Be careful of the direction of Thermistor when reassemble.
The projection (11) nearer to the harness should be inserted to the positioning hole (12).

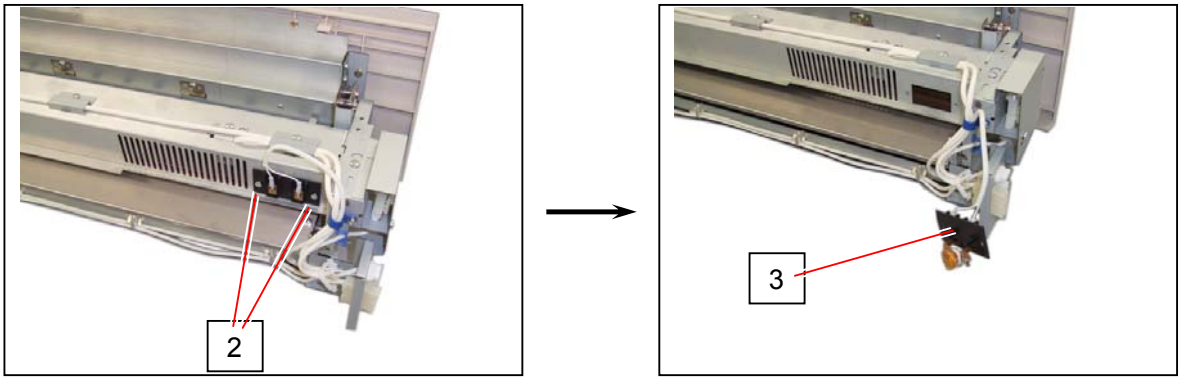


5. 3. 5 Replacement of Thermostat

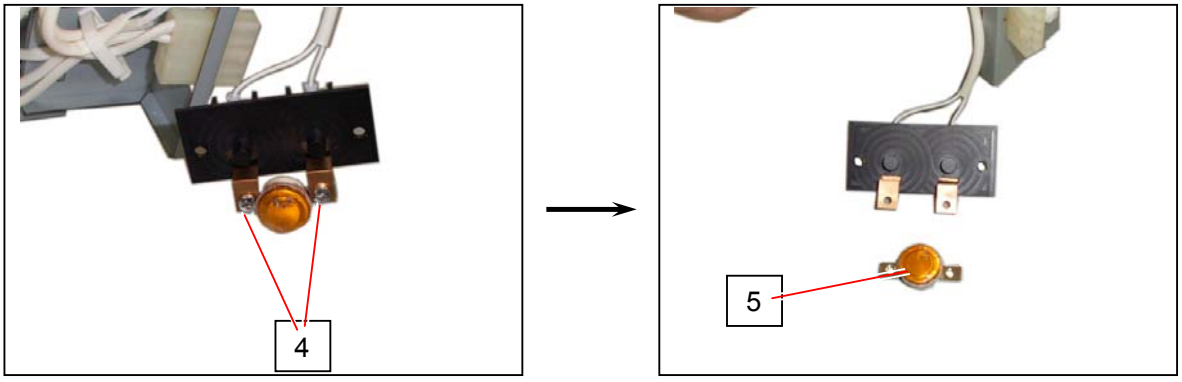
1. Remove the Fuser Unit (1) from the machine making reference to [5. 3. 1 Removal of the Fuser Unit] on the page 5-74.



2. Remove 2 pieces of 3x6 screw (2) to remove the Holder (3) with the Thermostat.

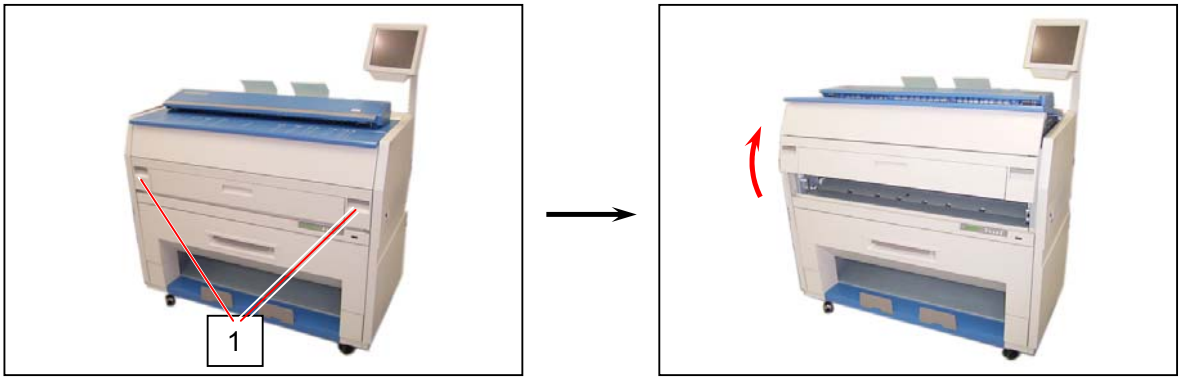


3. Remove 2 pieces of 3x4 screw (4) to remove the **Thermostat** (5).
Replace the **Thermostat** (5) with the new one.

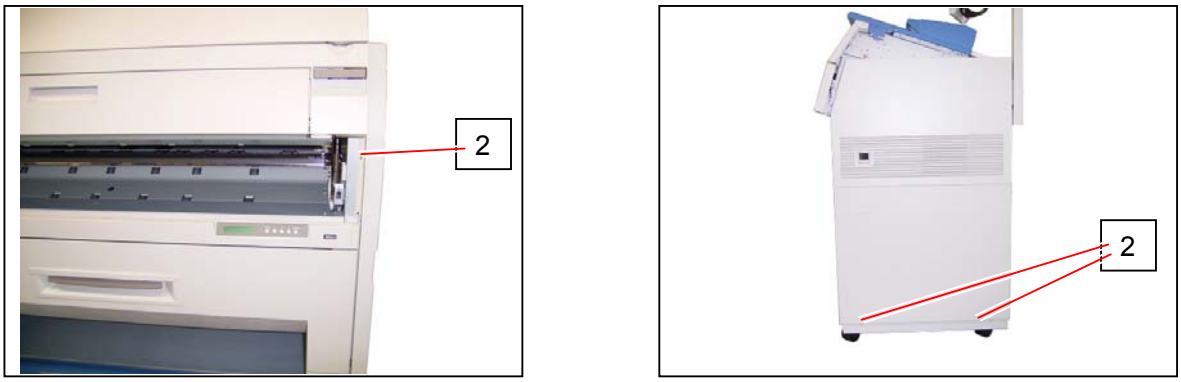


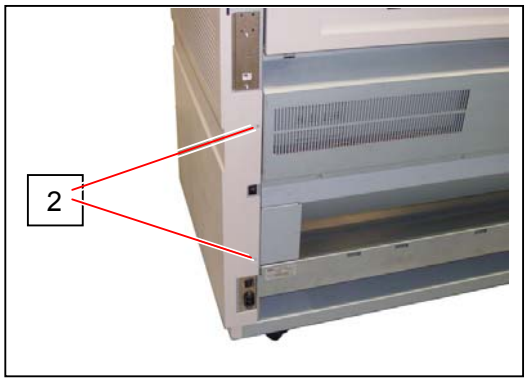
5. 3. 6 Replacement of Exit Sensor

1. Pull up the Lever 2 (1) to open the Engine Unit.



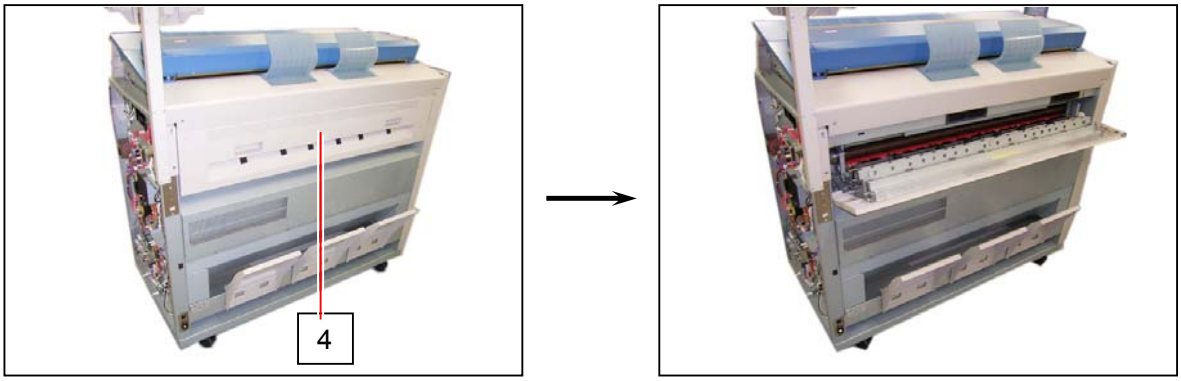
2. Remove 5 pieces of screw (2) which fix the Cover 3.



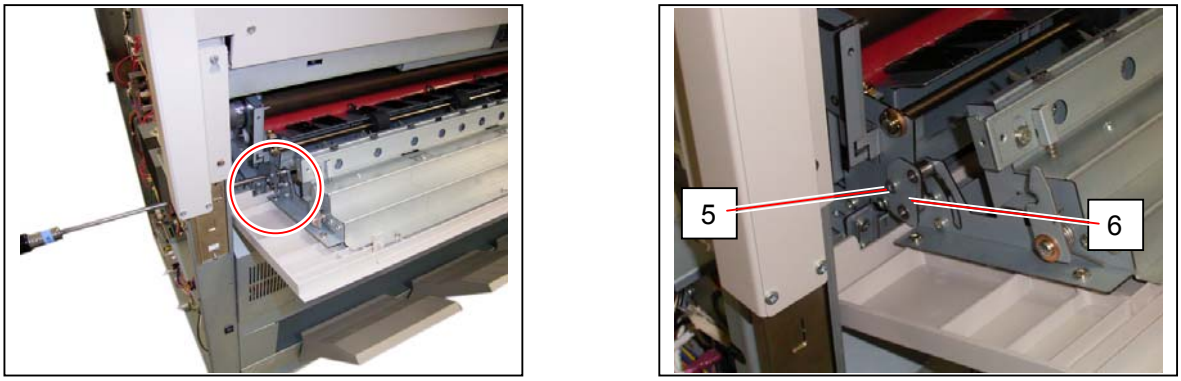


3. Remove the Cover 3 (3).

4. Open the Cover Assembly (4)



5. Remove the 4x6 screw (5) to remove the Plate 2 (6) on the right of machine.

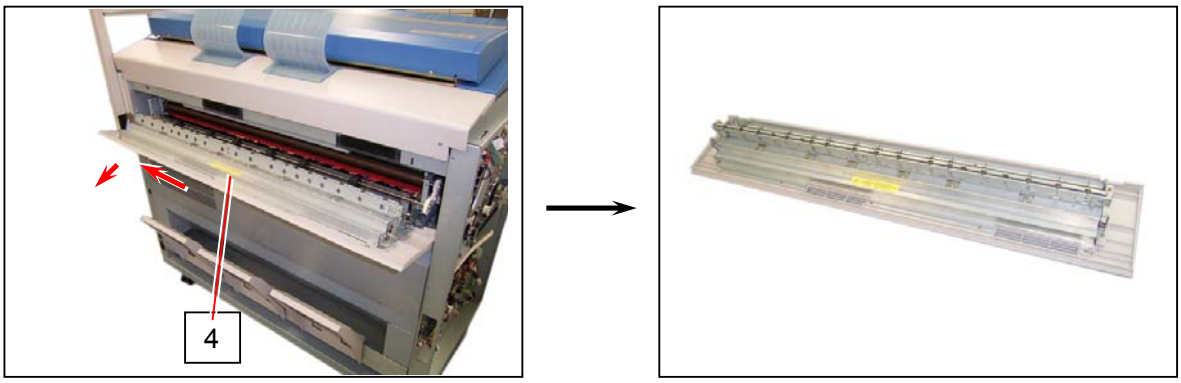


NOTE

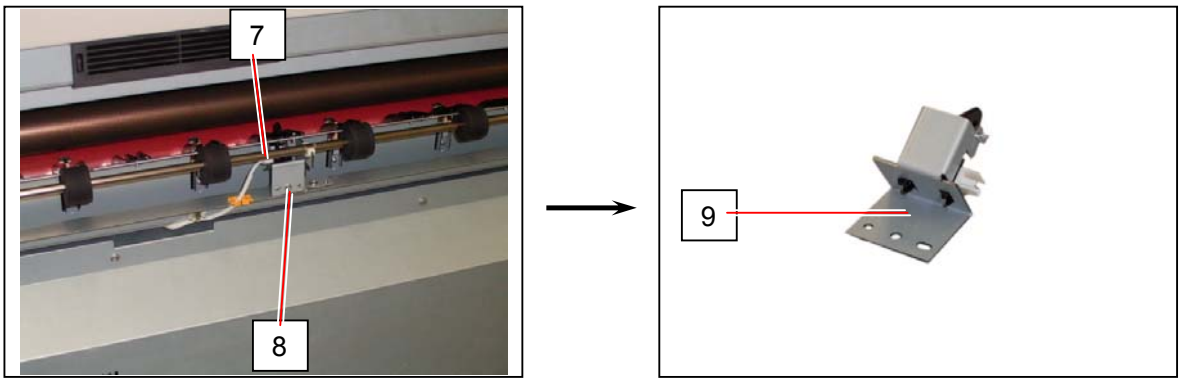
(1) Please remove the Plate 2 (6) while holding the Cover Assembly.
Otherwise you may drop the Cover Assembly.

(2) There is the Plate on the left side of machine, which is a symmetric part of Plate 2.
You may remove it instead of Plate 2 (6).

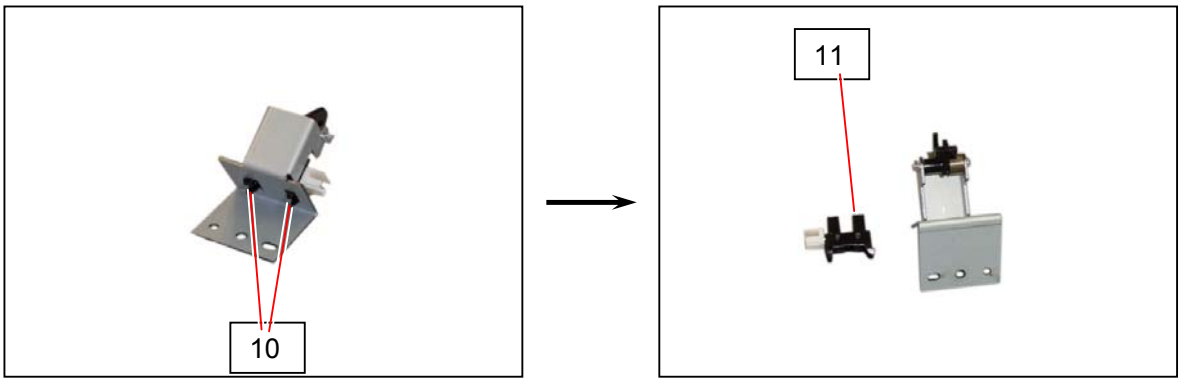
6. Remove the Cover Assembly (4).



7. Disconnect the connector (7), and then remove the screw (8) to remove the Exit Sensor Assembly (9).



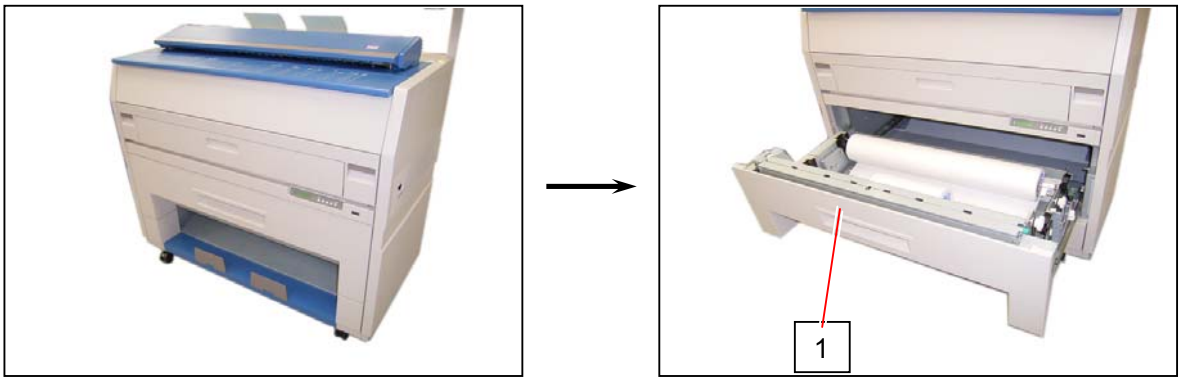
8. Pressing the stoppers (10) inside, remove the **Exit Sensor** (11) from the bracket. Replace the **Exit Sensor** (11) with the new one.



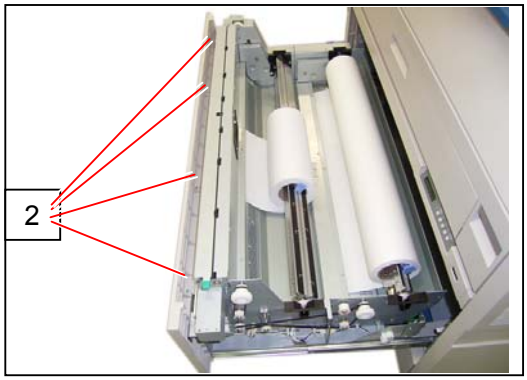
5. 4 Roll Deck

5. 4. 1 Replacement of Cutter Assembly

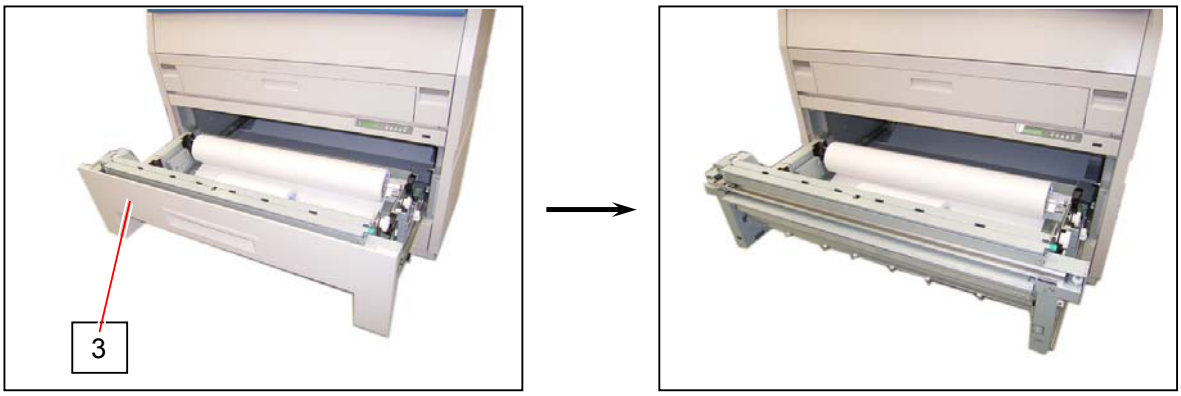
1. Draw out the Roll Deck (1).



2. Loosen 4 pieces of 4x6 screw (2).

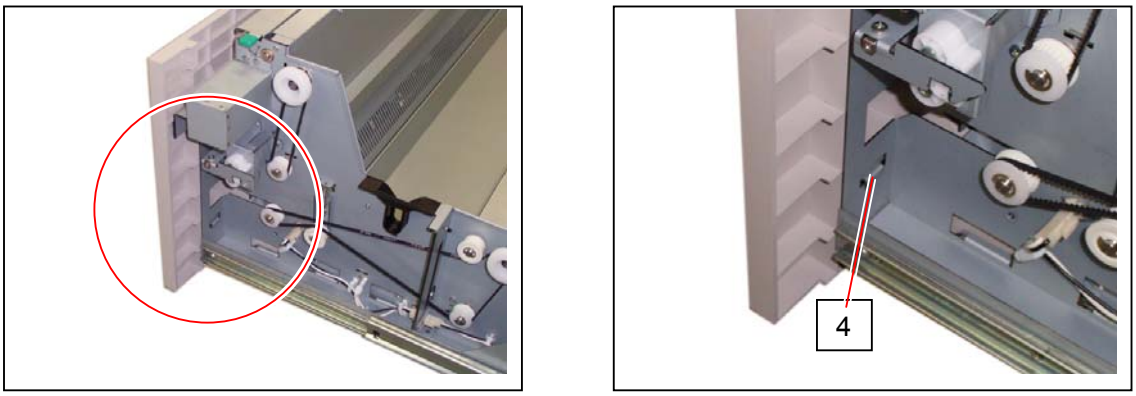


3. Remove the Cover 1 (3).

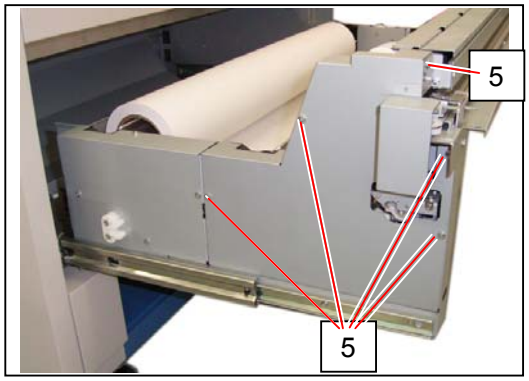


NOTE

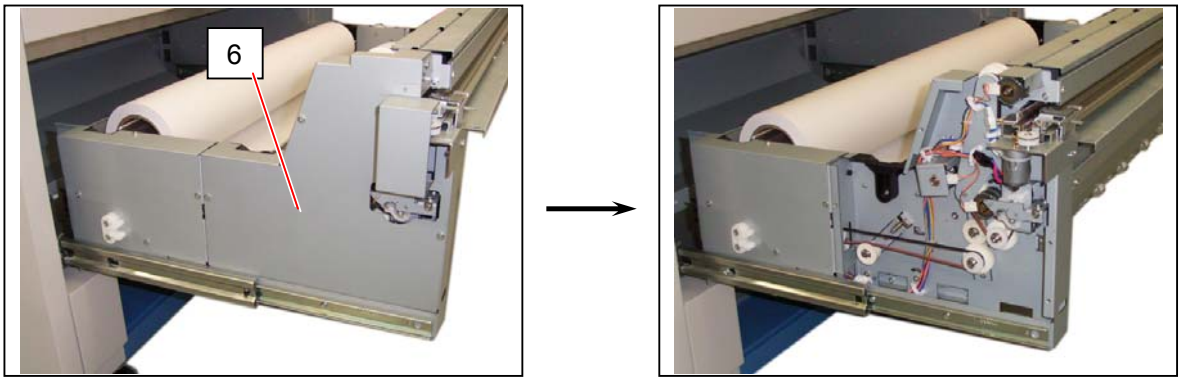
Make sure to insert the hooking part (4) to the slit as the following photo when you put back the Cover 1 (3).



4. Remove 5 pieces of 4x6 screw (5).

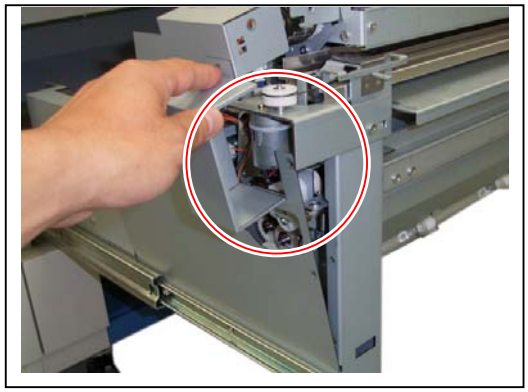


5. Remove the Cover 3 (6).

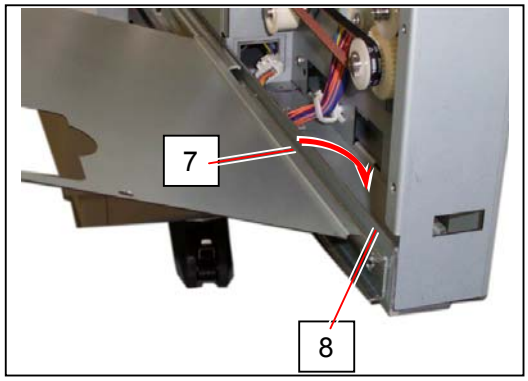


NOTE

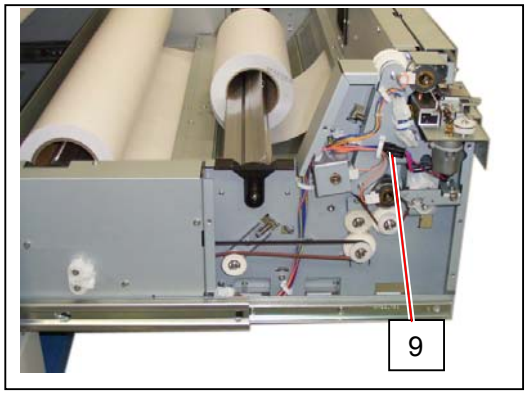
(1) Be careful not to catch the wires of Cutter Motor when you put back the Cover 3 (6).



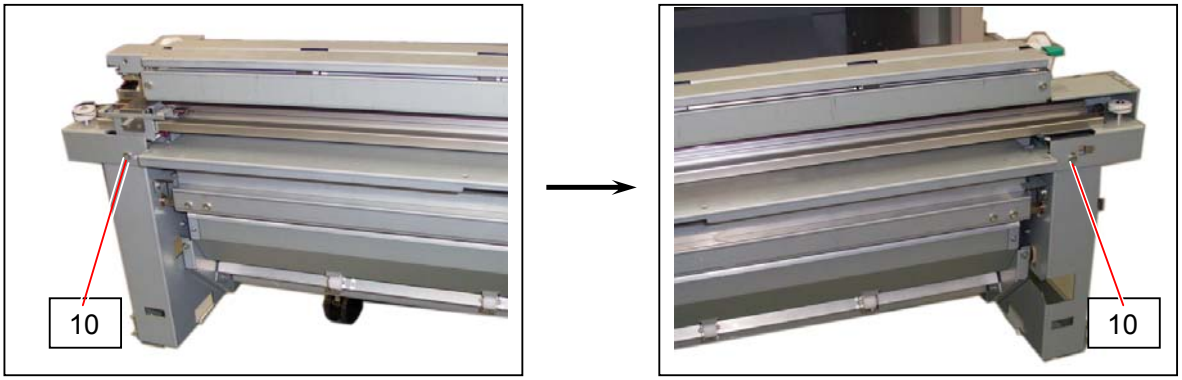
(2) Make sure that the step part (7) on the lower side of the Cover 3 (6) is inside of the plate (8).



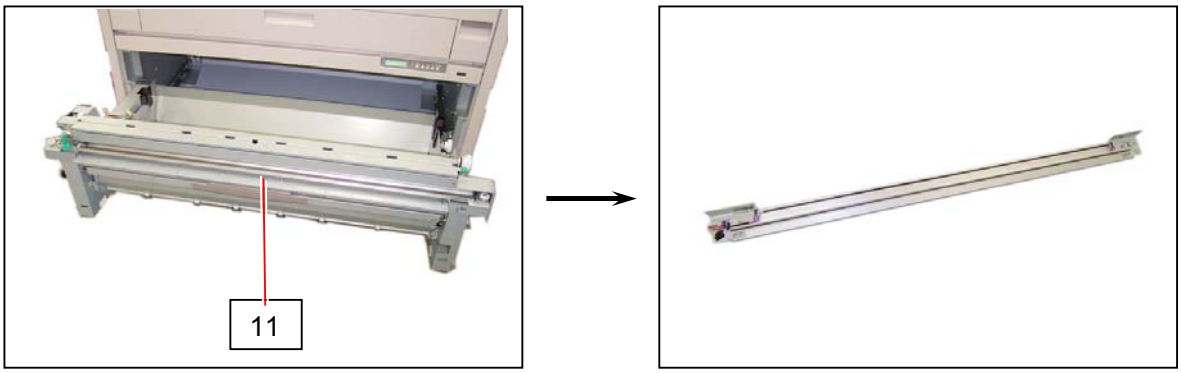
6. Disconnect the connector (9) of the Cutter Motor.



7. Remove the 4x6 screws (10) at both sides.

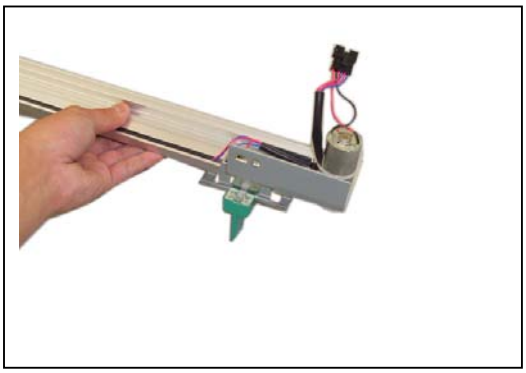


8. Remove the **Cutter Assembly** (11), and then replace it with the new one.

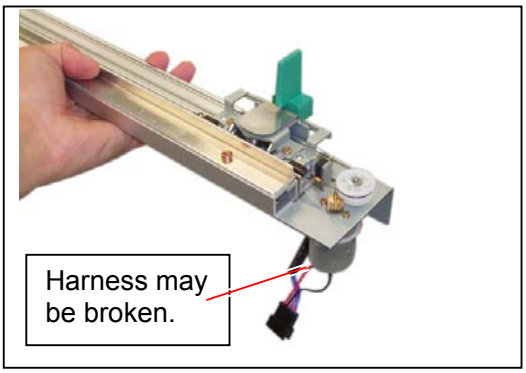


NOTE

(1) Put the Cutter Assembly with the Cutter Motor up.
If you put it with the Cutter Motor down, you will break the Cutter Motor Harness.

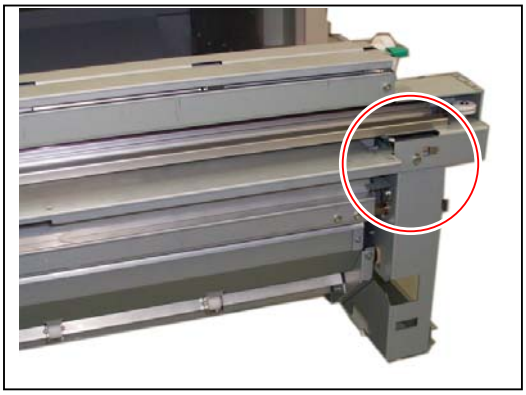


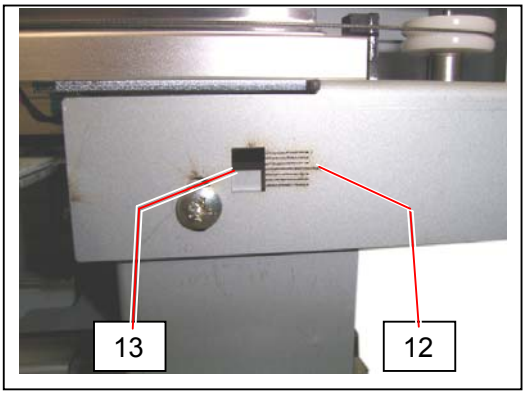
Good



No good

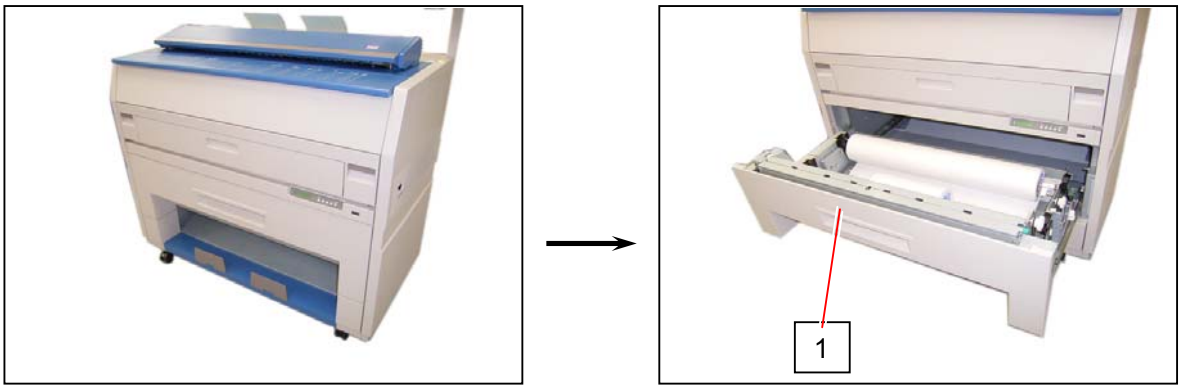
(2) There is the Height Guide (12) on the right side.
Please fix the Cutter Assembly aligning the plate (13) and the central line of Height Guide (12) each other.



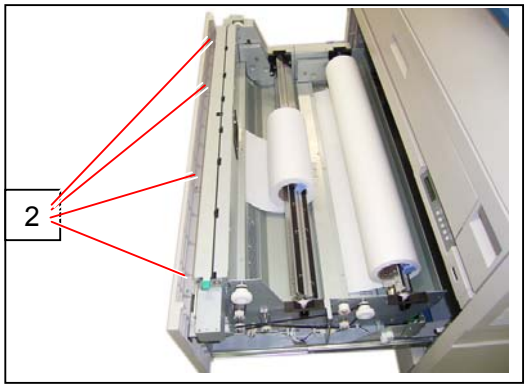


5. 4. 2 Replacement of Clutches (CL3, CL4 & CL5) of Roll 1

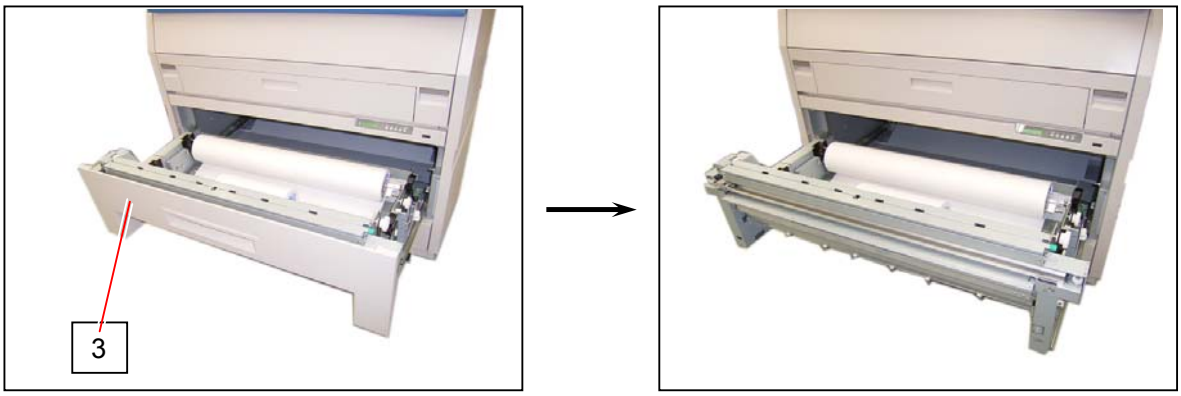
1. Draw out the Roll Deck (1).



2. Loosen 4 pieces of 4x6 screw (2).

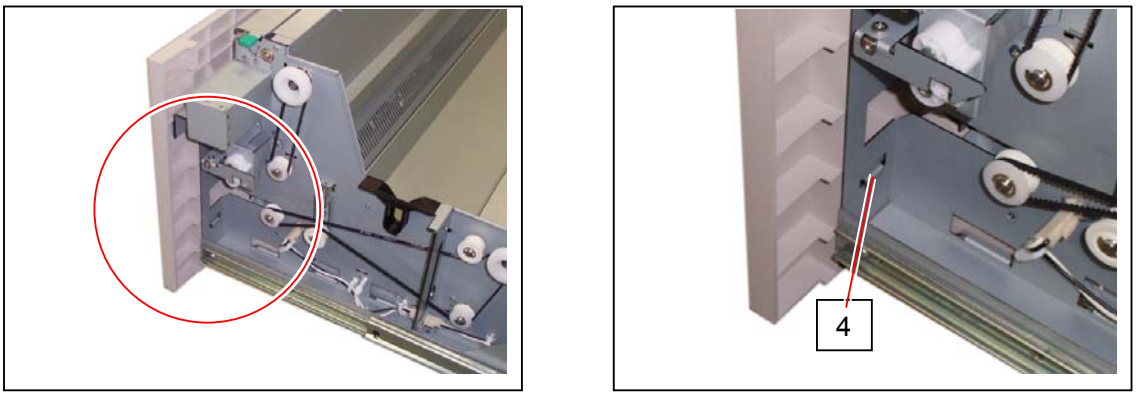


3. Remove the Cover 1 (3).

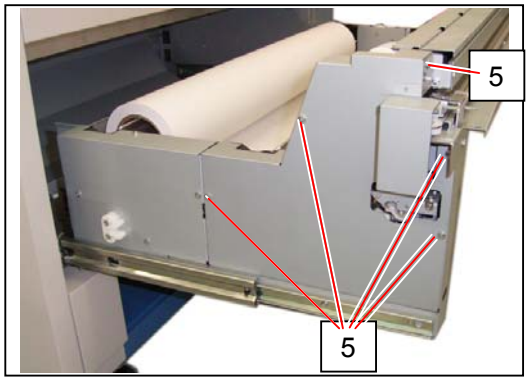


NOTE

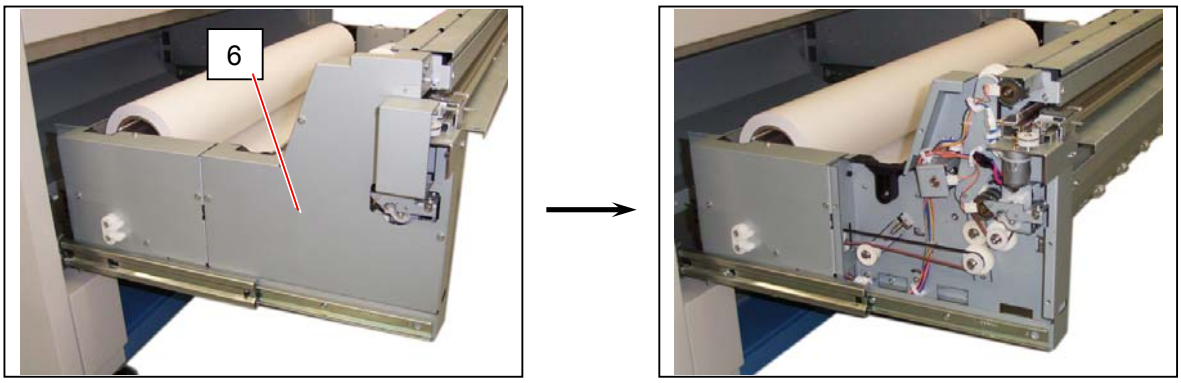
Make sure to insert the hooking part (4) to the slit as the following photo when you put back the Cover 1 (3).



4. Remove 5 pieces of 4x6 screw (5).

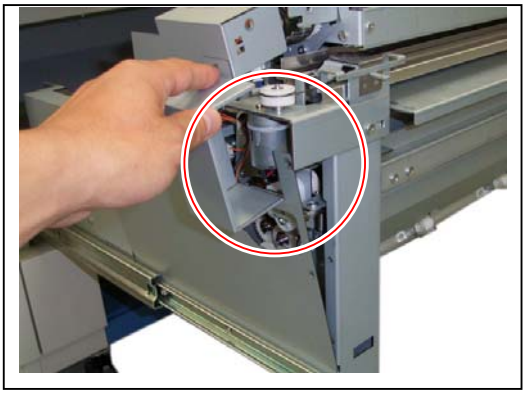


5. Remove the Cover 3 (6).

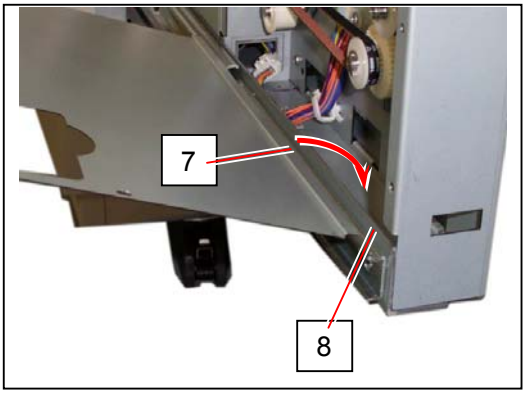


NOTE

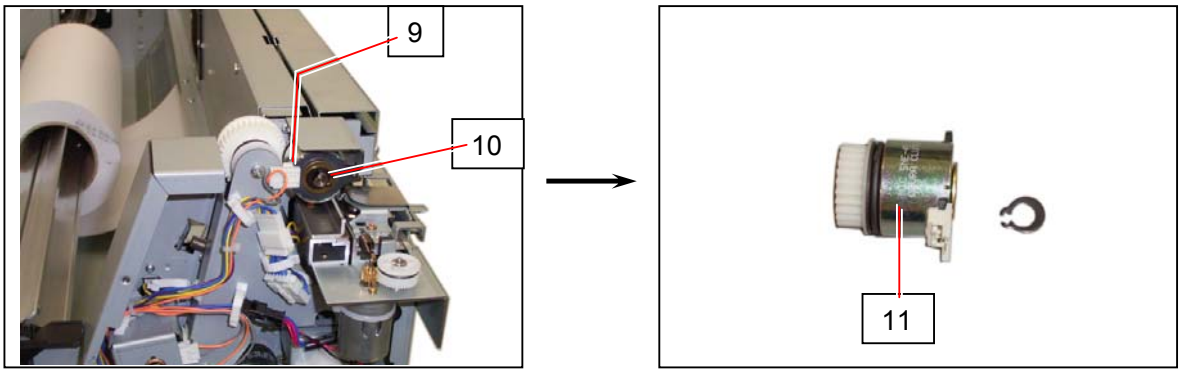
(1) Be careful not to catch the wires of Cutter Motor when you put back the Cover 3 (6).



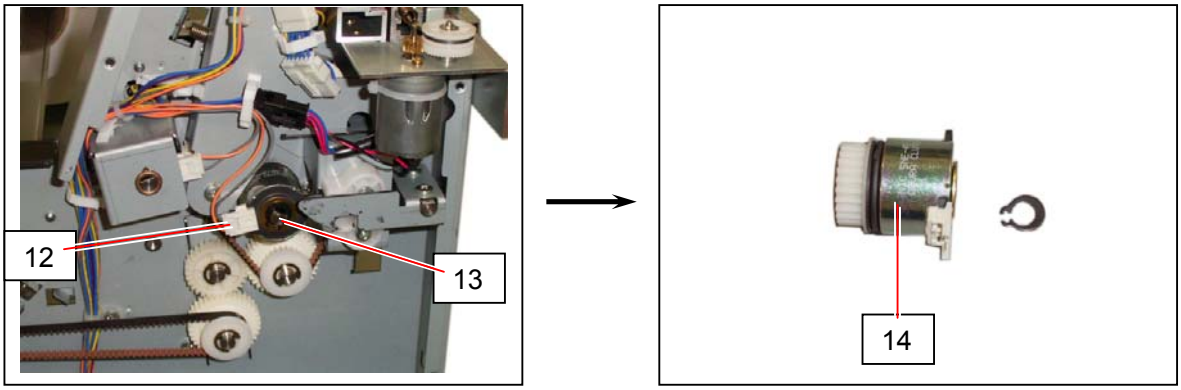
(2) Make sure that the step part (7) on the lower side of the Cover 3 (6) is inside of the plate (8).



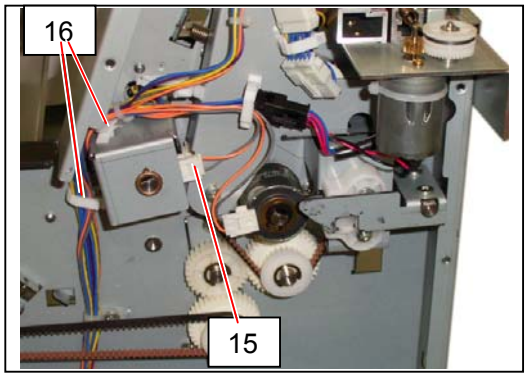
6. Disconnect the connector (9), and then remove the Grip Ring (10) to remove the **Clutch** (11 : CL3).
   Replace the **Clutch** (11 : CL3) with the new one.



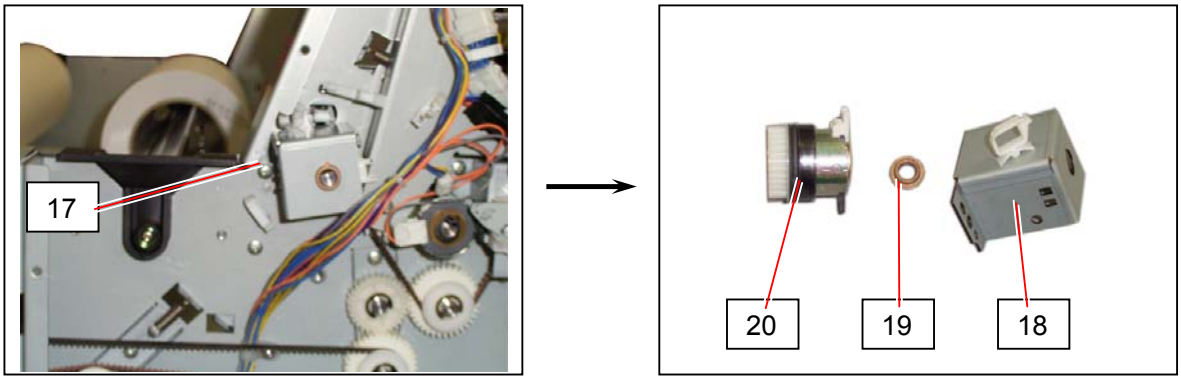
7. Disconnect the connector (12), and then remove the Grip Ring (13) to remove the **Clutch** (14 : CL4).
   Replace the **Clutch** (14 : CL4) with the new one.



8. Disconnect the connector (15), and open the Wire Saddles (16) to release the wires.

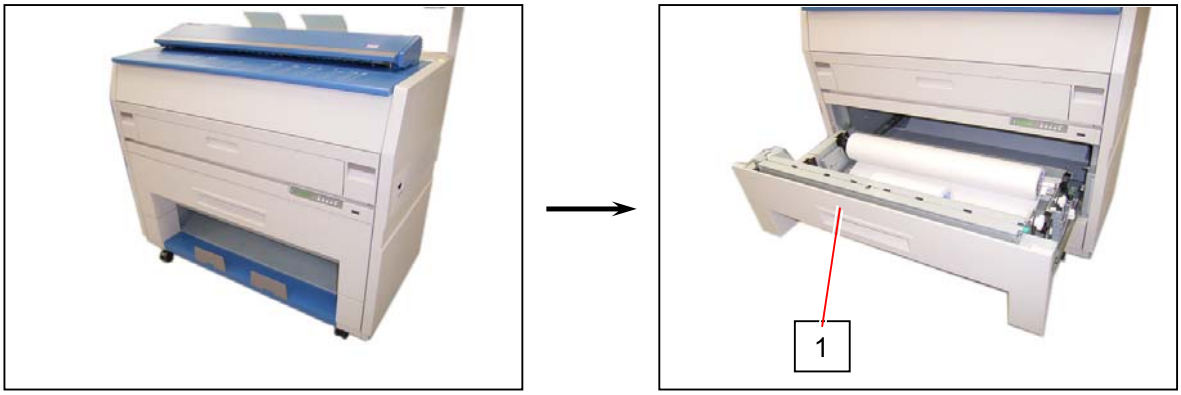


9. Remove 4x6 the screw (17) to remove the Bracket 8 (18), Bush (19) and **Clutch** (20 : CL5).
   Replace the **Clutch** (20 : CL5) with the new one.

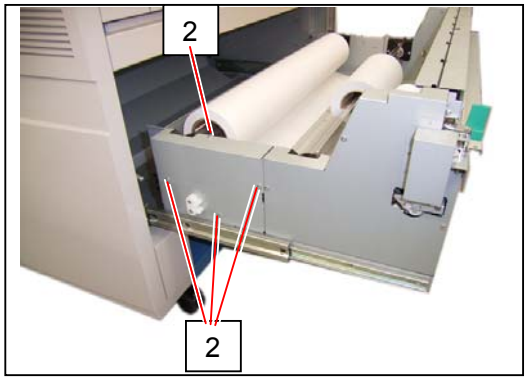


5. 4. 3 Replacement of Clutches (CL6 & CL7) of Roll 2

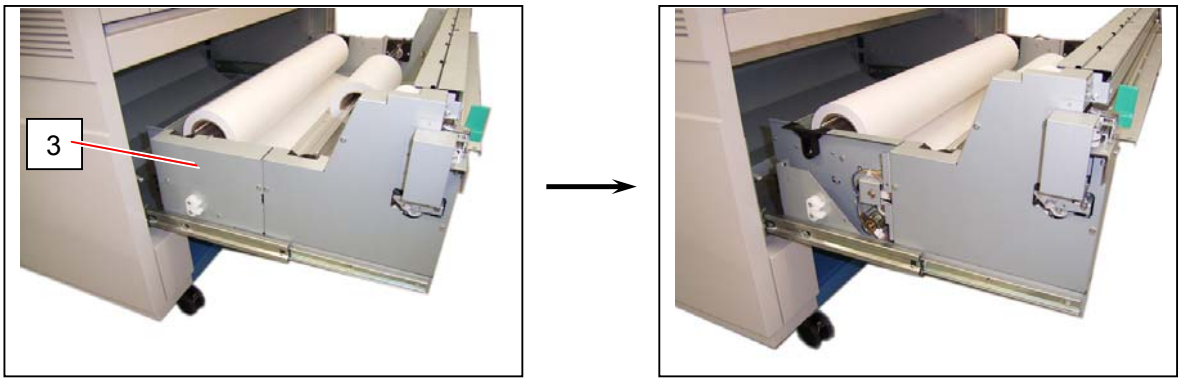
1. Draw out the Roll Deck (1).



2. Remove 4 pieces of 4x6 screw (2).

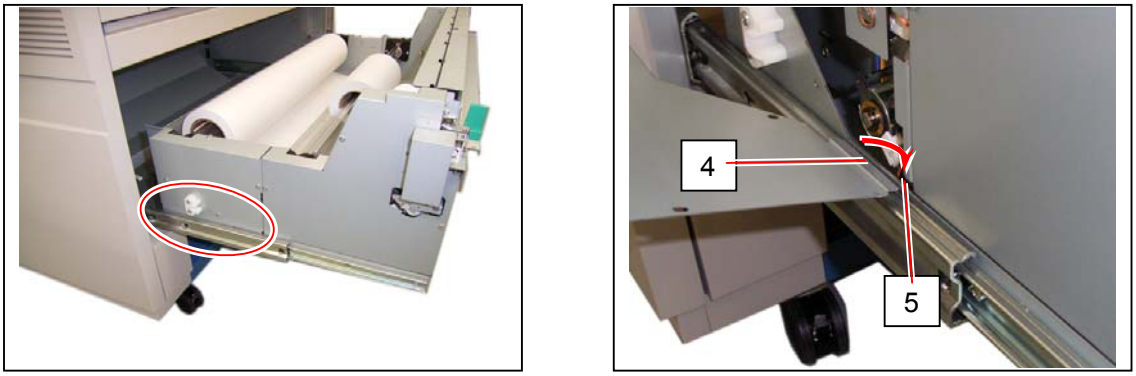


3. Remove the Cover 7 (3).

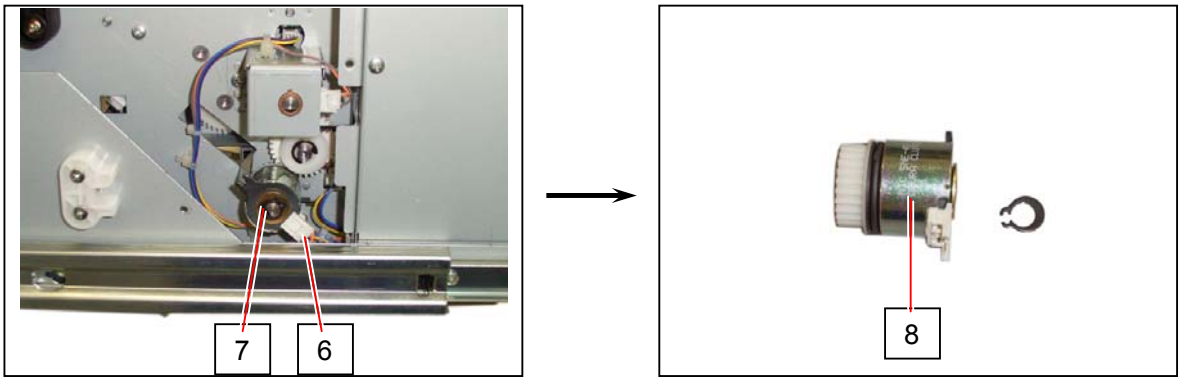


NOTE

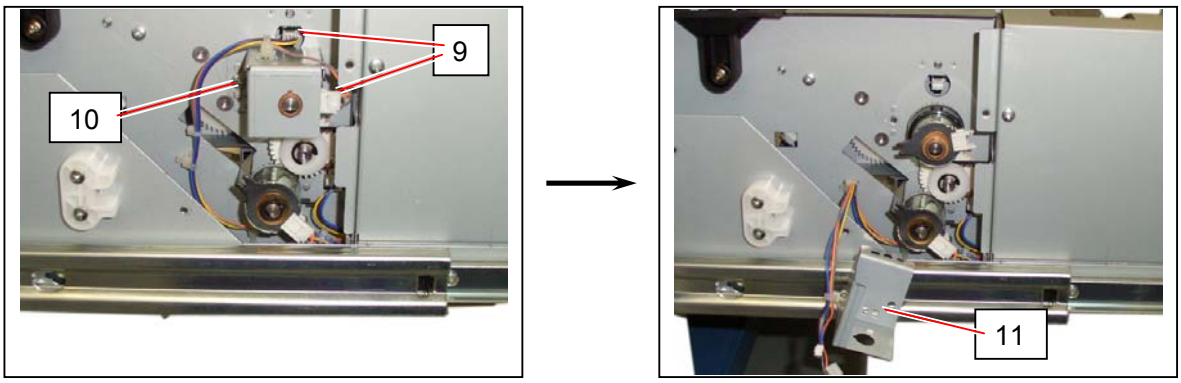
Make sure that the step part (4) on the lower side of the Cover 7 (3) is inside of the plate (5).



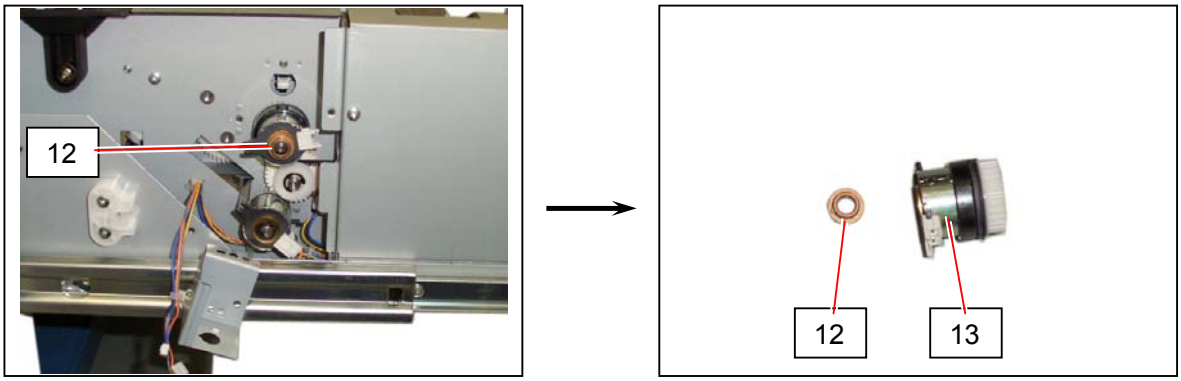
4. Disconnect the connector (6), and then remove the Grip Ring (7) to remove the **Clutch** (8 : CL6).
   Replace the **Clutch** (8 : CL6) with the new one.



5. Disconnect 2 connectors (9), and remove the 4x6 screw (10).
   Pull out the Bracket 8 (11) from the shaft.

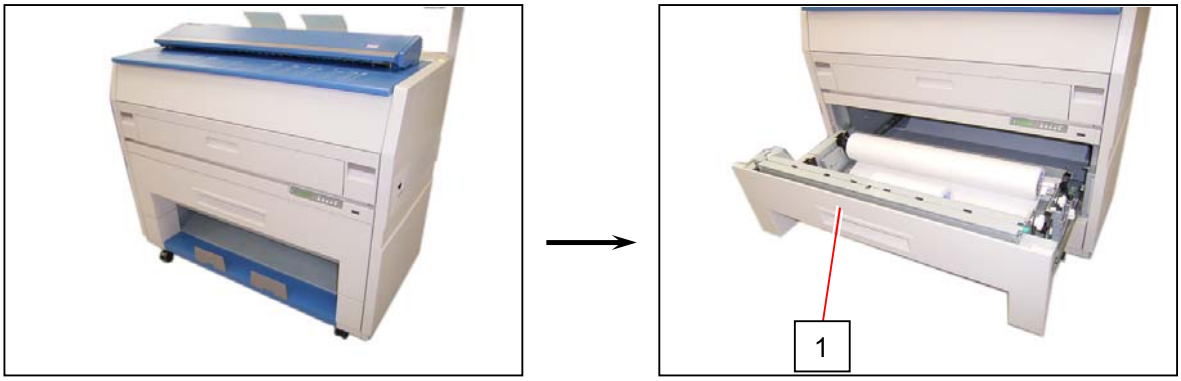


6. Pull out both the Bush (12) and the **Clutch** (13 : CL7).
   Replace the **Clutch** (13 : CL7) with the new one.

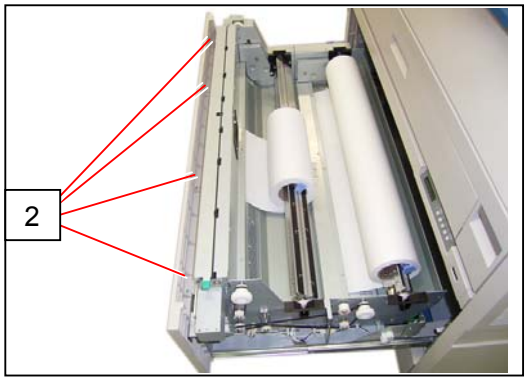


5. 4. 4 Replacement of Timing Belt (480) for Roll 2

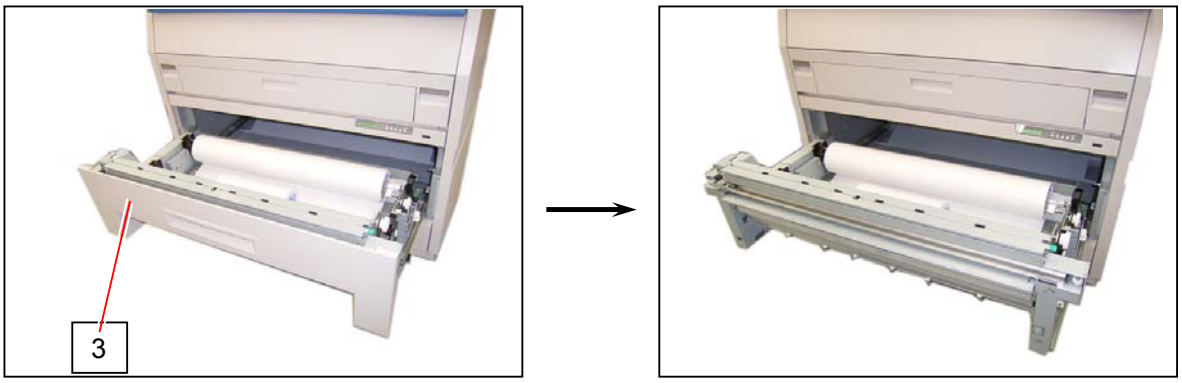
1. Draw out the Roll Deck (1).



2. Loosen 4 pieces of 4x6 screw (2).

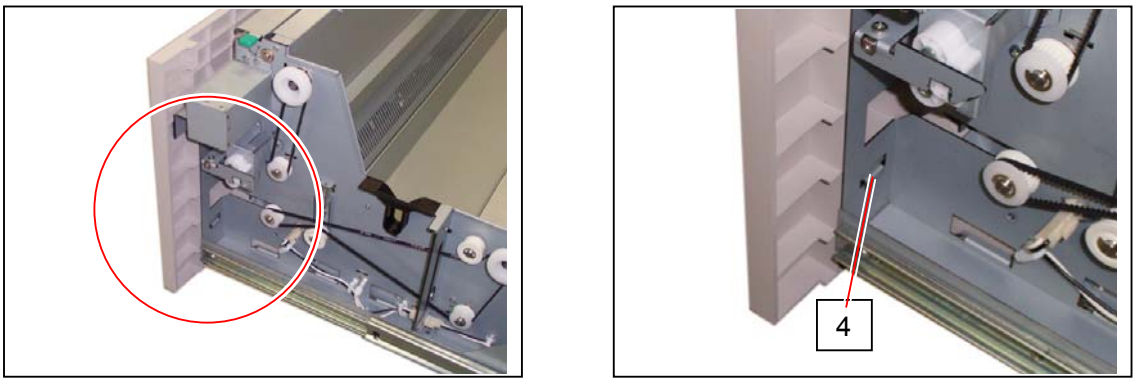


3. Remove the Cover 1 (3).

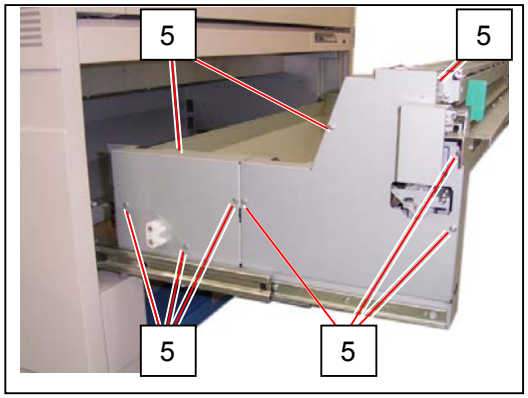


NOTE

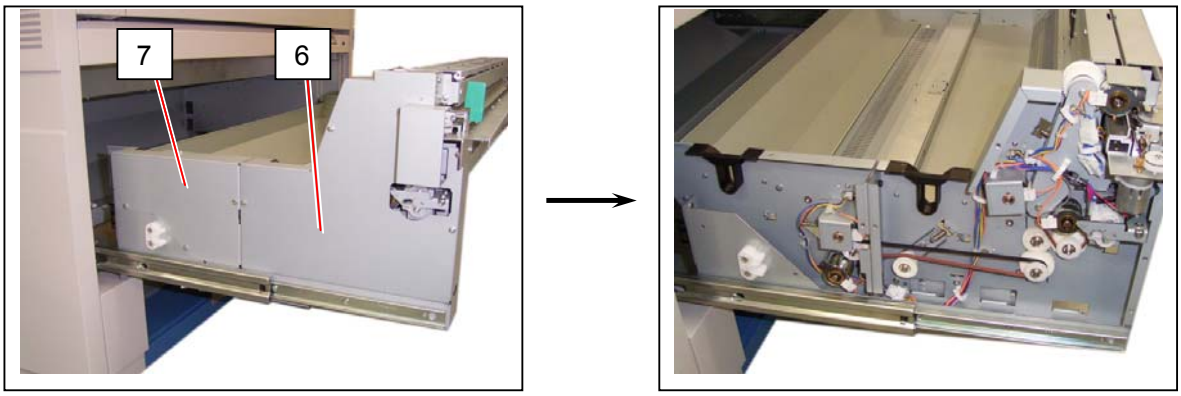
Make sure to insert the hooking part (4) to the slit as the following photo when you put back the Cover 1 (3).



4. Remove 9 pieces of 4x6 screw (5).

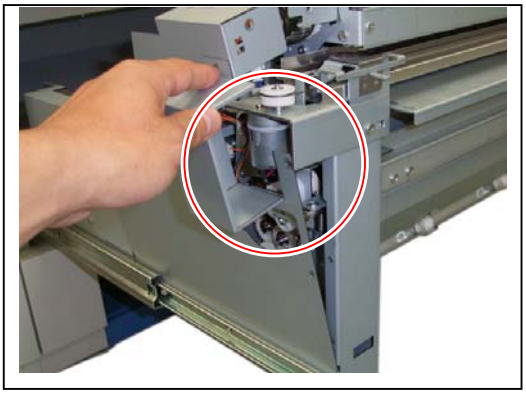


5. Remove the Cover 3 (6) and the Cover 7 (7).

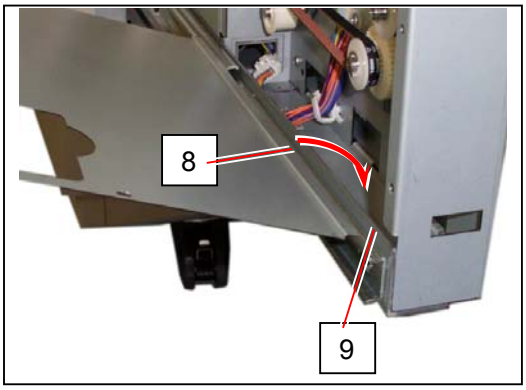


NOTE

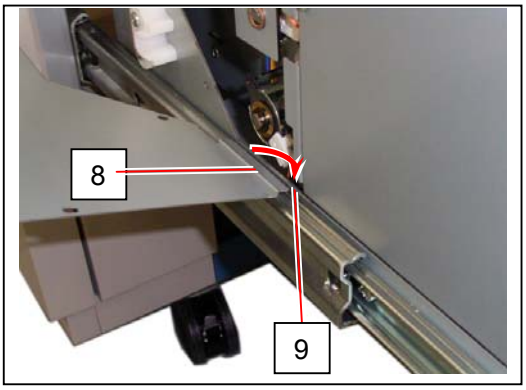
(1) Be careful not to catch the wires of Cutter Motor when you put back the Cover 3 (6).



(2) Make sure that the step part (8) on the lower side of each Cover 3 (6) and Cover 7 (7) is inside of the plate (9).

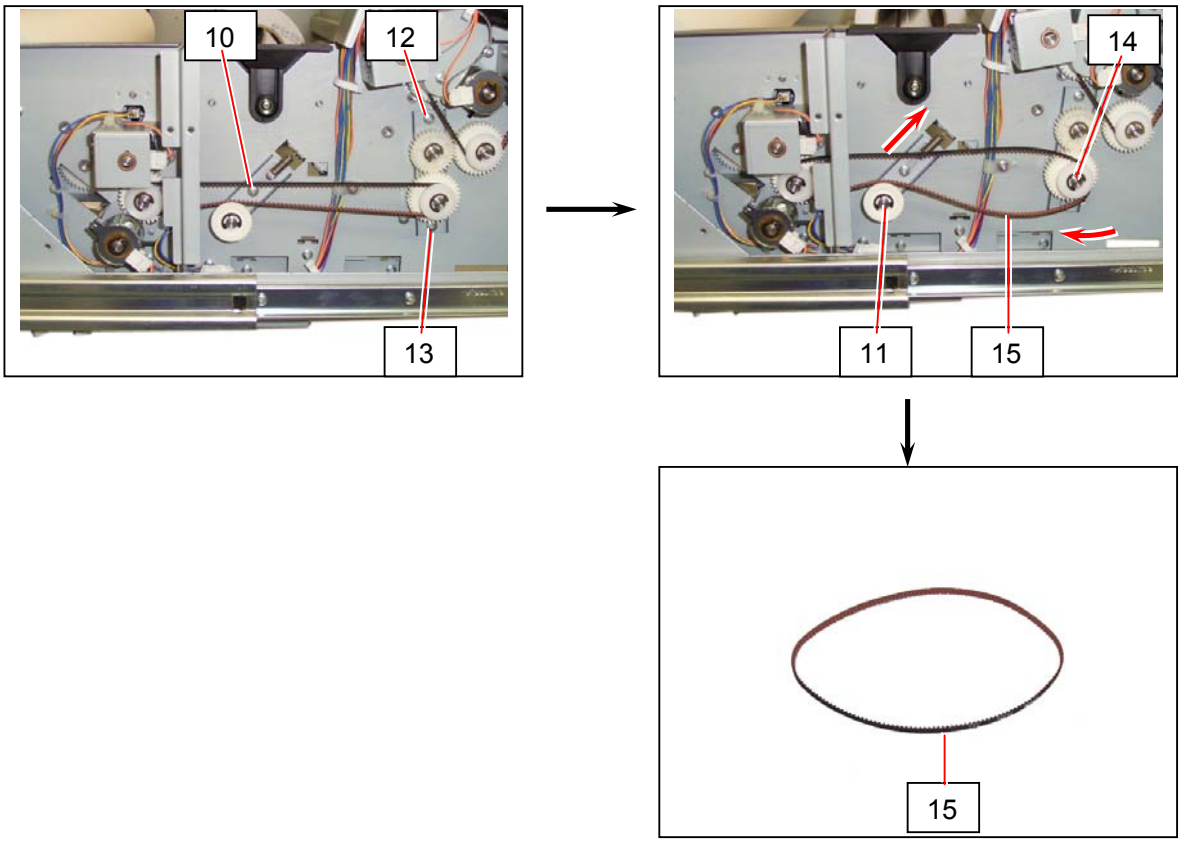


Cover 3's side



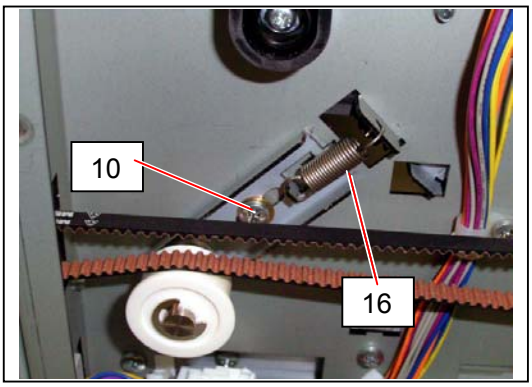
Cover 7's side

6. Loosen the 4x6 screw (10) to make the Pulley 3 (11) movable.
   Also loosen the upper 4x6 screw (12) and remove the lower 4x6 screw (13) to make the Bracket 17 Assembly (14) movable.
   Remove the **Timing Belt 480** (15) and replace it with the new one.



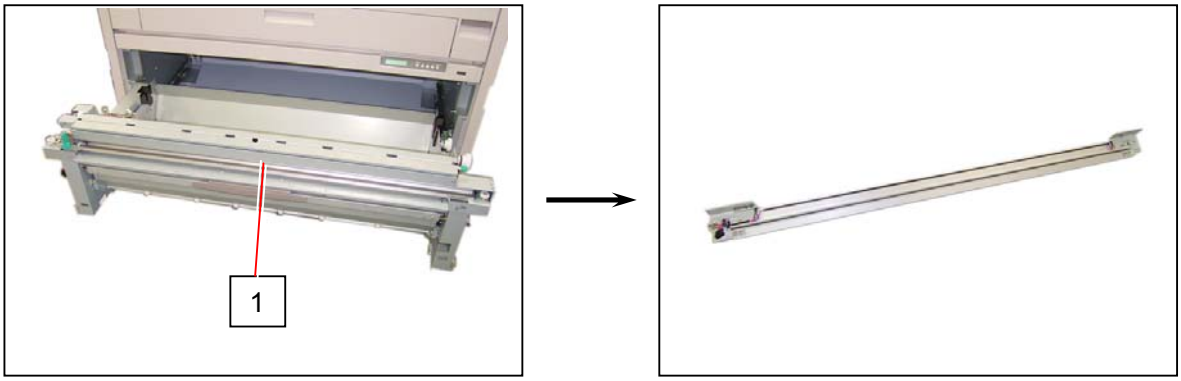
NOTE

You do not have to adjust the belt tension.
As the Spring 7 (16) gives a proper tension to the Timing Belt 480, tighten the screw (10).

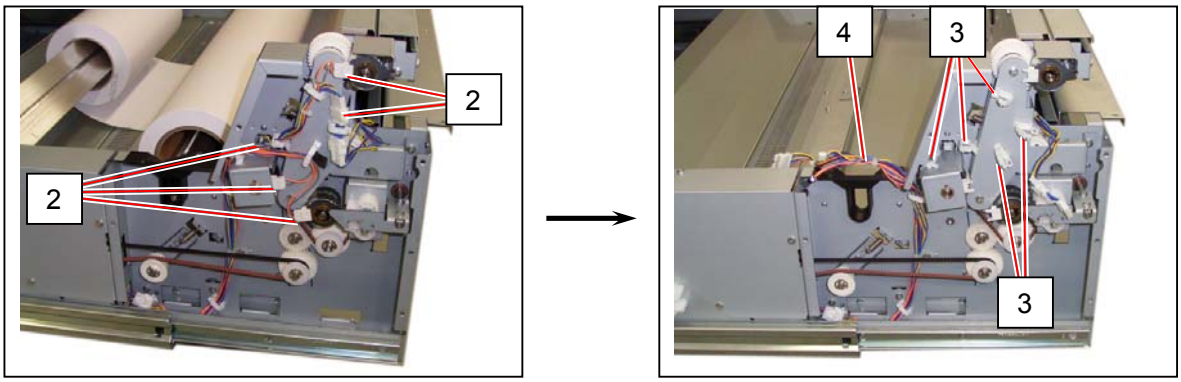


5. 4. 5 Replacement of Timing Belt (480) for Roll 1

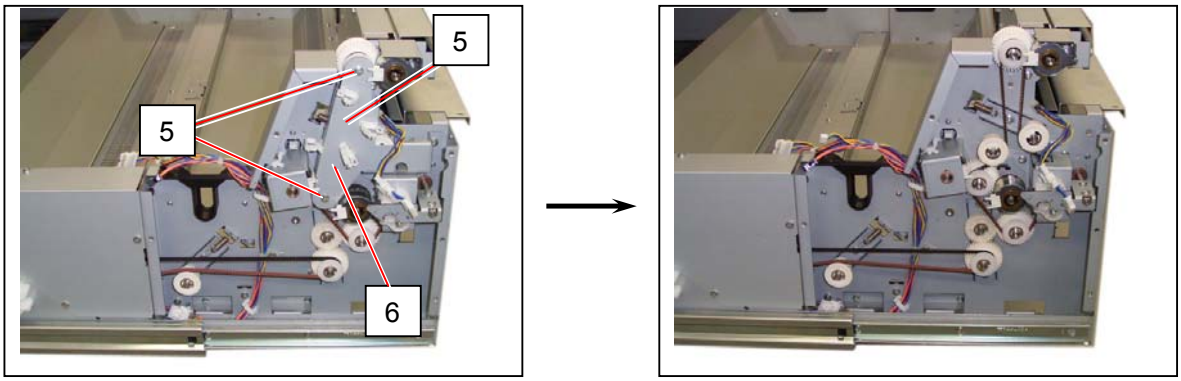
1. Remove the Cutter Assembly (1) making reference to [5. 4. 1 Replacement of Cutter Assembly] on the page 5-105.



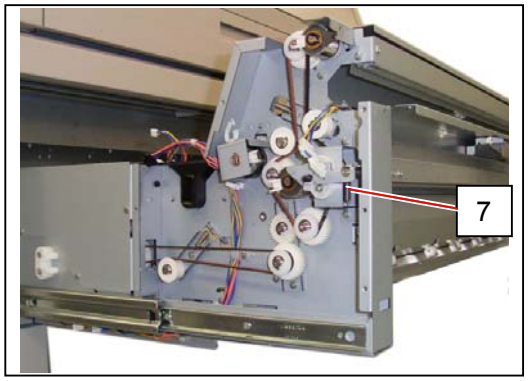
2. Disconnect 5 connectors (2), open 5 Wire Saddles (3), and then put the harness (4) aside.



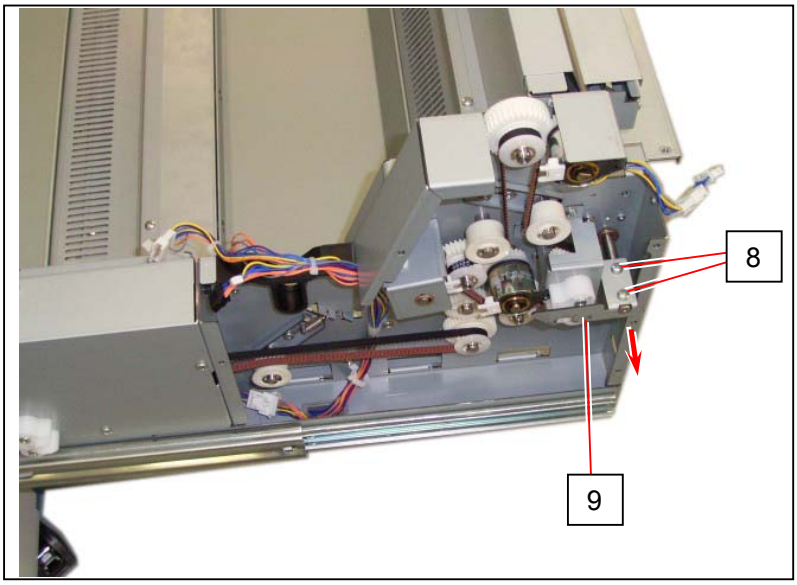
3. Remove 3 pieces of 4x6 screw (5) to remove the Bracket (6).



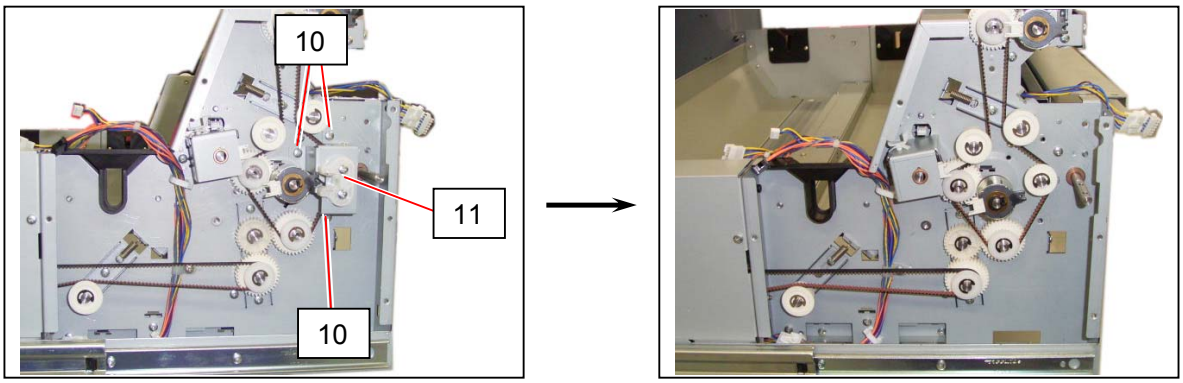
4. Remove the Spring Coil (7).



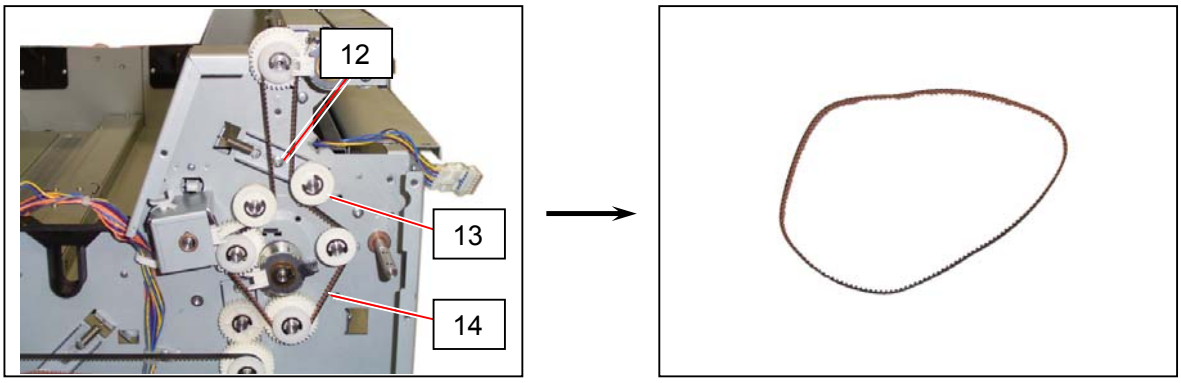
5. Remove 2 pieces of 4x6 screw (8), and then pull out the Bracket 13 (9).



6. Remove 3 pieces of 4x6 screw (10) to remove the Bracket 9 (11).

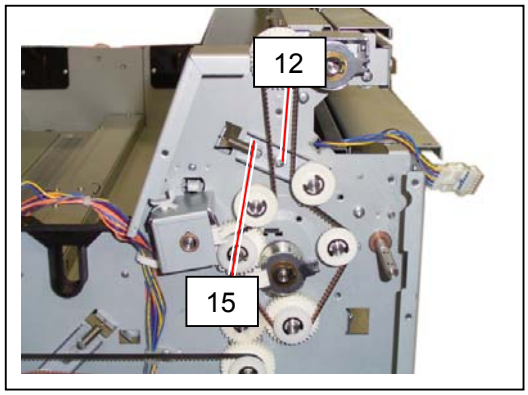


7. Loosen the 4x6 screw (12), slide the Pulley 3 (13) to the arrow mark, and then remove the **Timing Belt 480** (14).
   Replace the **Timing Belt 480** (14) with the new one.



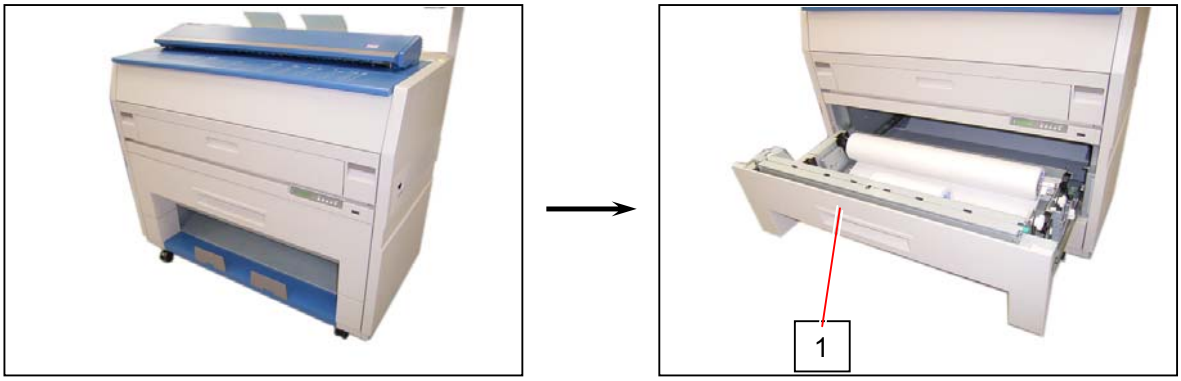
NOTE

You do not have to adjust the belt tension.
As the Spring Coil 6 (15) gives a proper tension to the Timing Belt 480, tighten the screw (12).

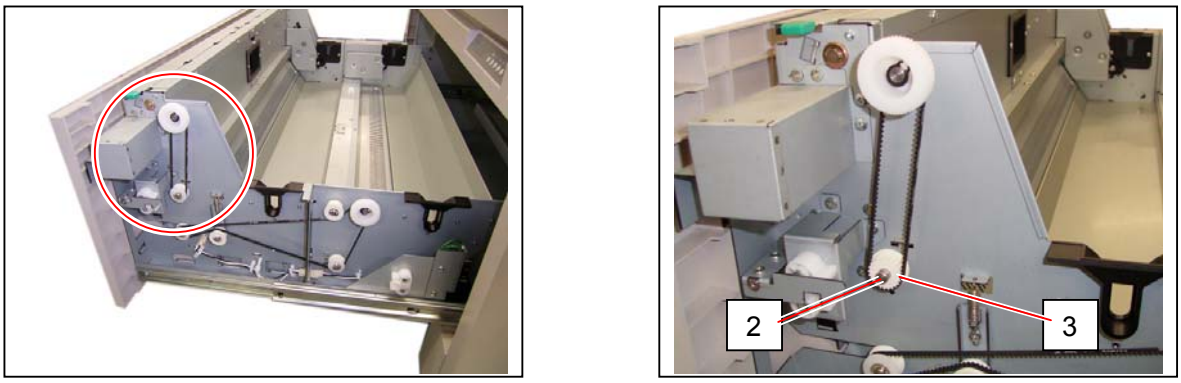


5. 4. 6 Replacement of Timing Belt (330)

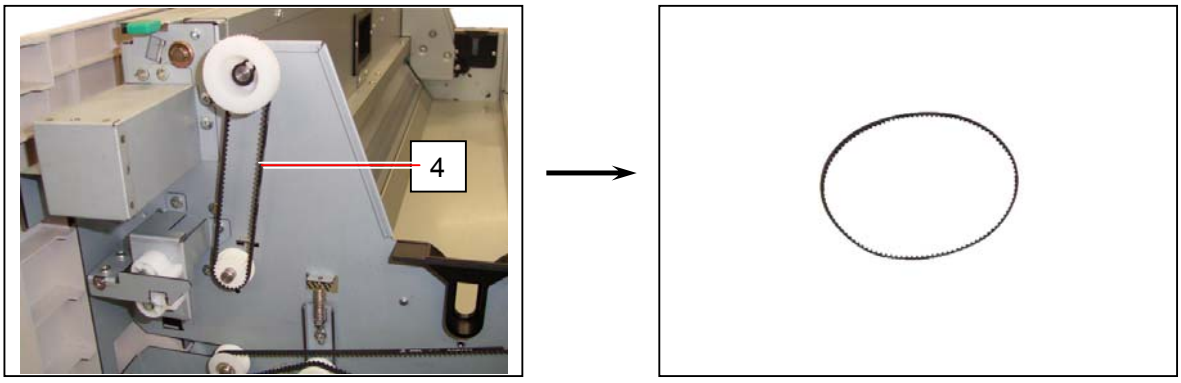
1. Draw out the Roll Deck (1).



2. Remove the Retaining Ring-E (2 : E7) to remove the Collar (3).

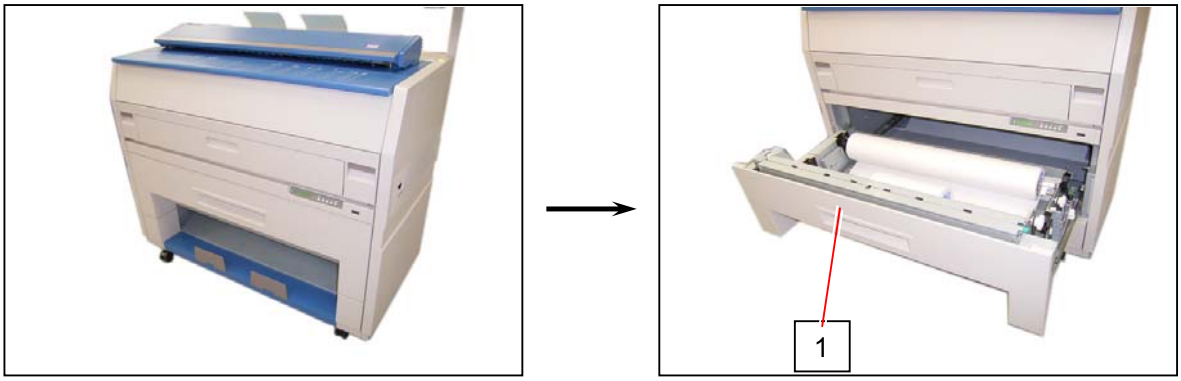


3. Remove the **Timing Belt 330** (4), and replace it with the new one.

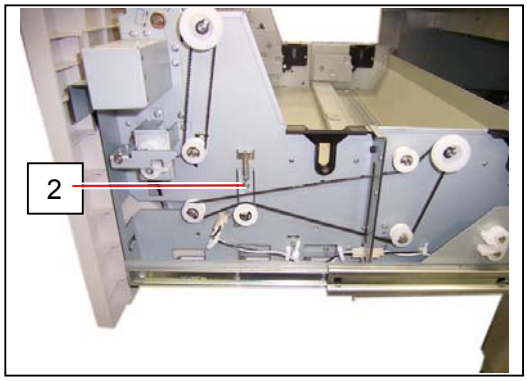


5. 4. 7 Replacement of Timing Belt (753)

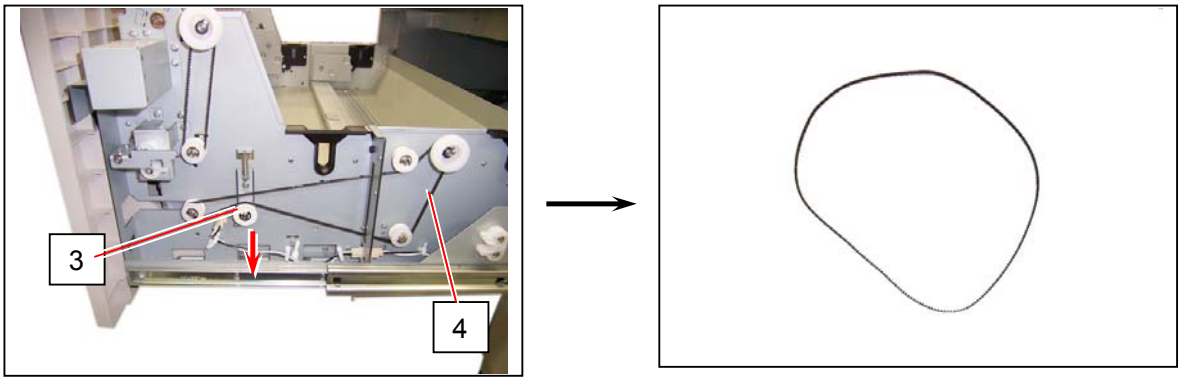
1. Draw out the Roll Deck (1).



2. Loosen the 4x6 screw (2).

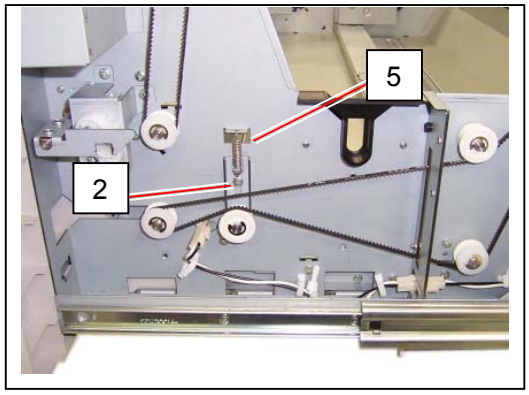


3. Pressing down the Pulley 3 (3), remove the **Timing Belt 753** (4).
   Replace the **Timing Belt 753** (4) with the new one.



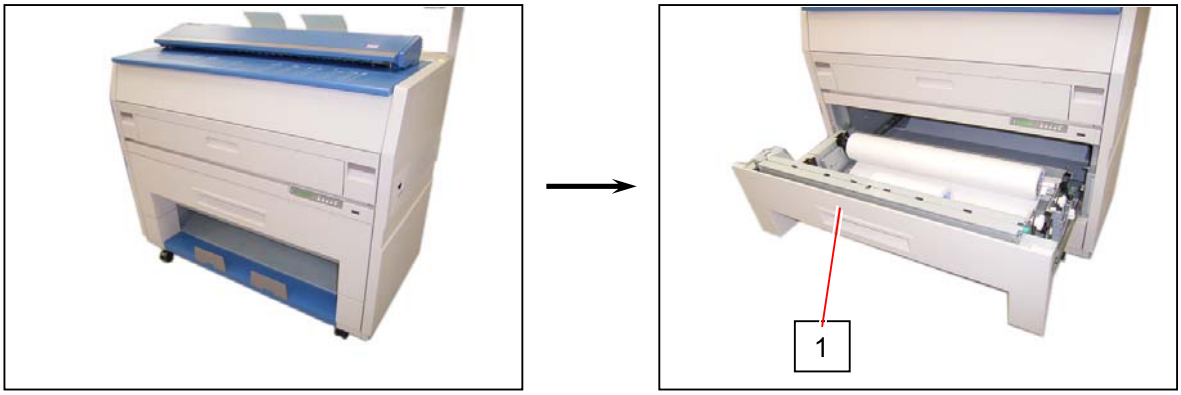
NOTE

You do not have to adjust the belt tension.
As the Spring 7 (5) gives a proper tension to the Timing Belt 753, tighten the screw (2).

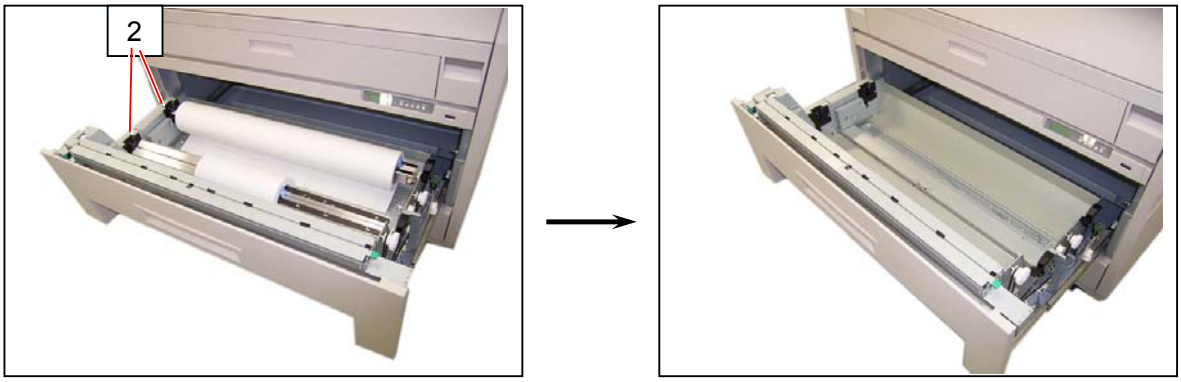


5. 4. 8 Replacement of Sensors (PH6, PH7 & PH9)

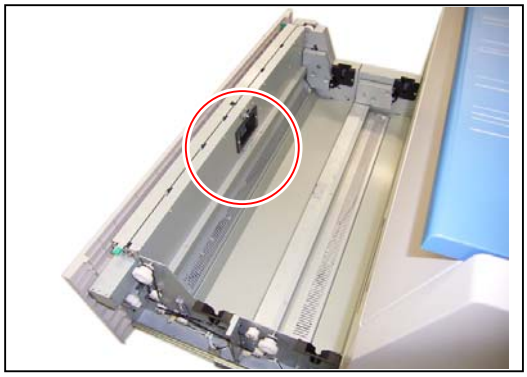
1. Draw out the Roll Deck (1).

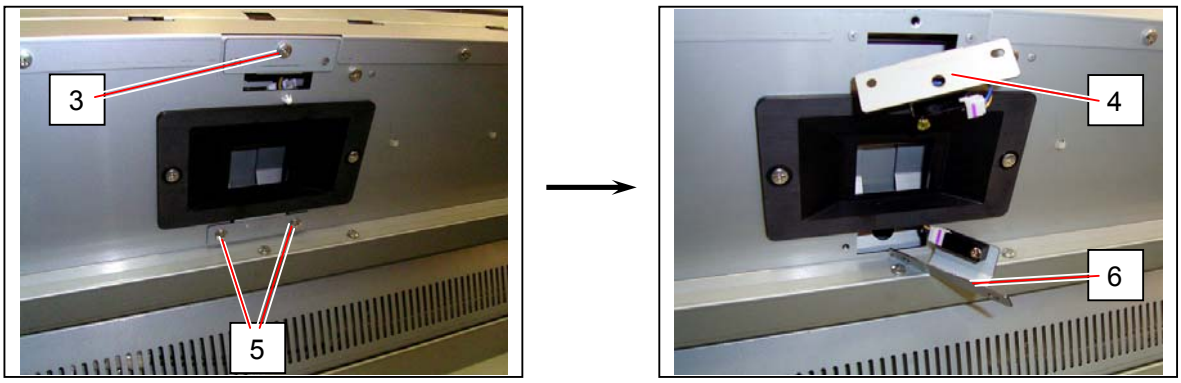


2. Remove both Spool Assemblies (2).

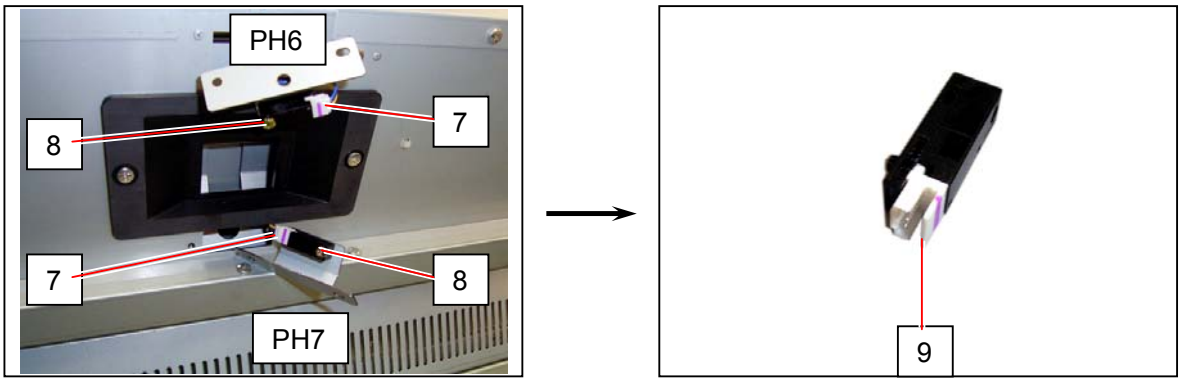


3. Remove the 4x6 screw (3) to remove the Bracket 5 (4).
   Also remove 2 pieces of 4x6 screw (5) to remove the Bracket 4 (6).

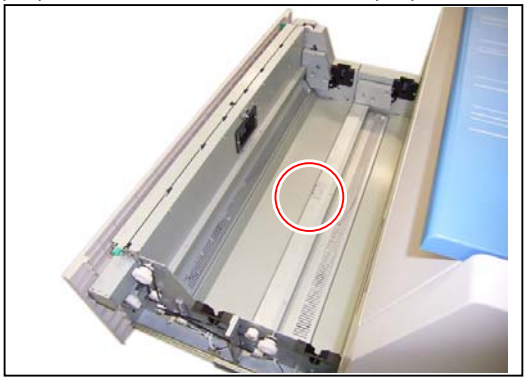


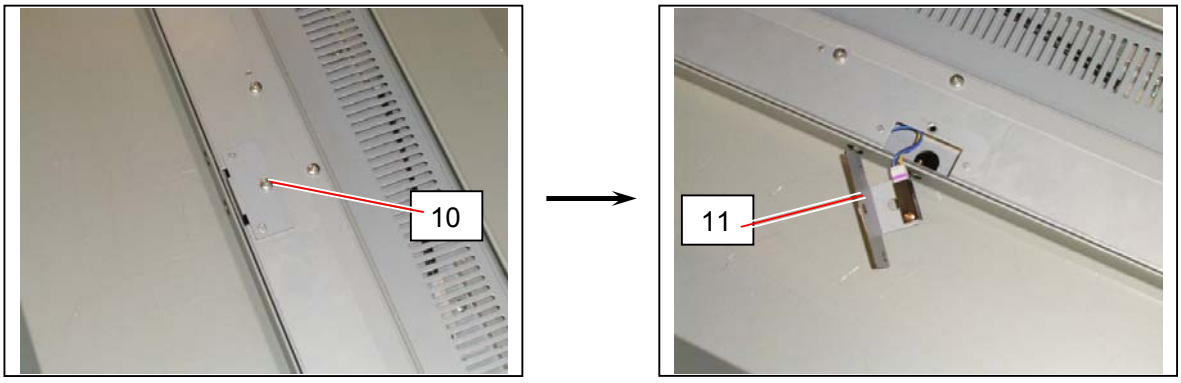


4. Disconnect the connectors (7) and remove the 3x12 screws (8) to remove each **Sensor** (9 : PH6 & PH7).
   Replace each **Sensor** (9 : PH6 & PH7) with the new one.



5. Remove the 4x6 screw (10) to remove the Bracket 20 (11).

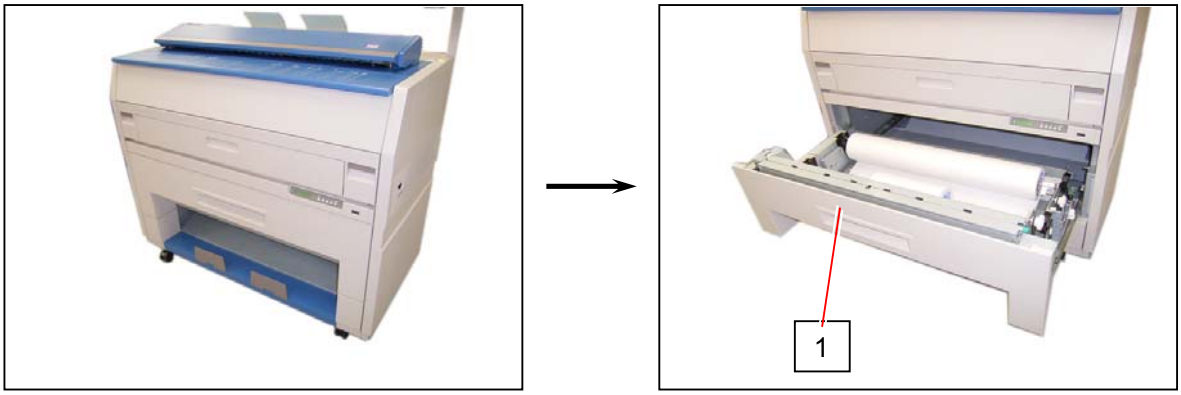




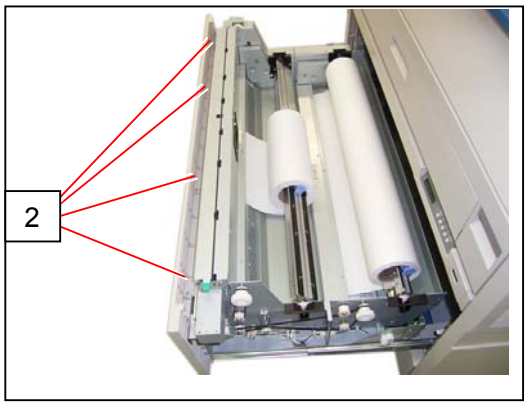
6. Disconnect the connectors (12) and remove the 3x12 screws (13) to remove the **Sensor** (14 : PH9).
   Replace the **Sensor** (14 : PH9) with the new one.

5. 4. 9 Replacement of Sensors (PH8 & PH10)

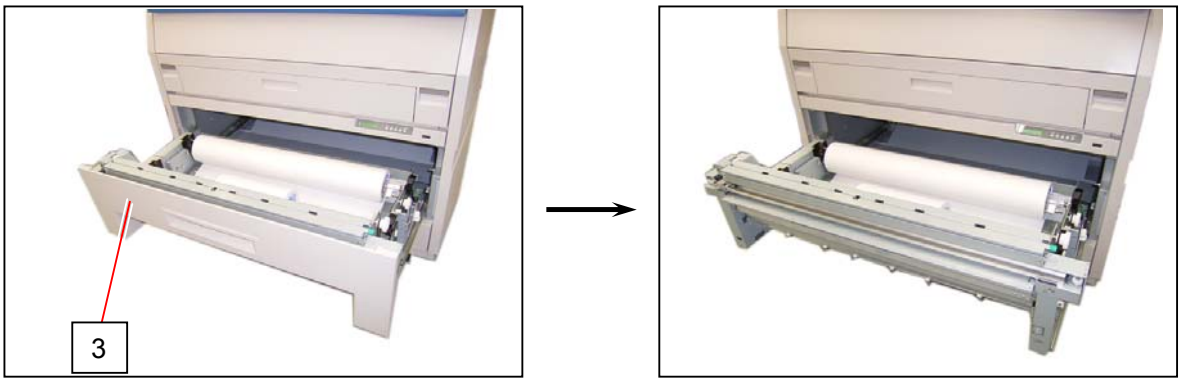
1. Draw out the Roll Deck (1).



2. Loosen 4 pieces of 4x6 screw (2).

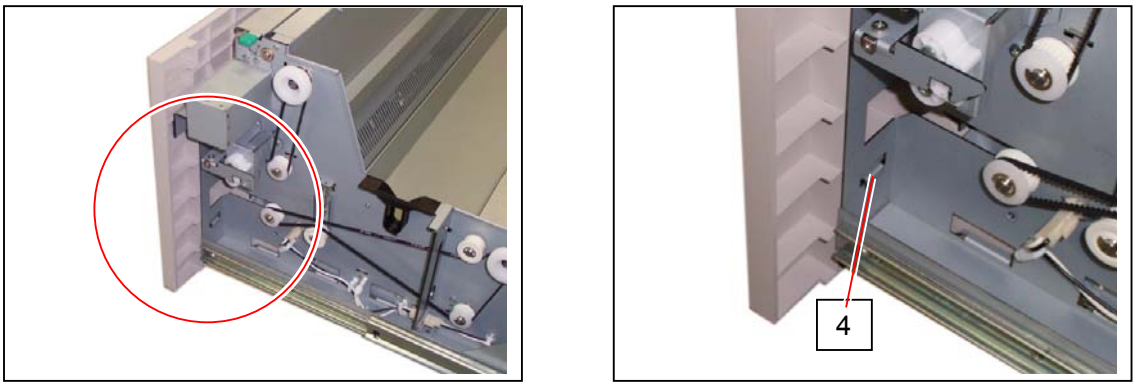


3. Remove the Cover 1 (3).

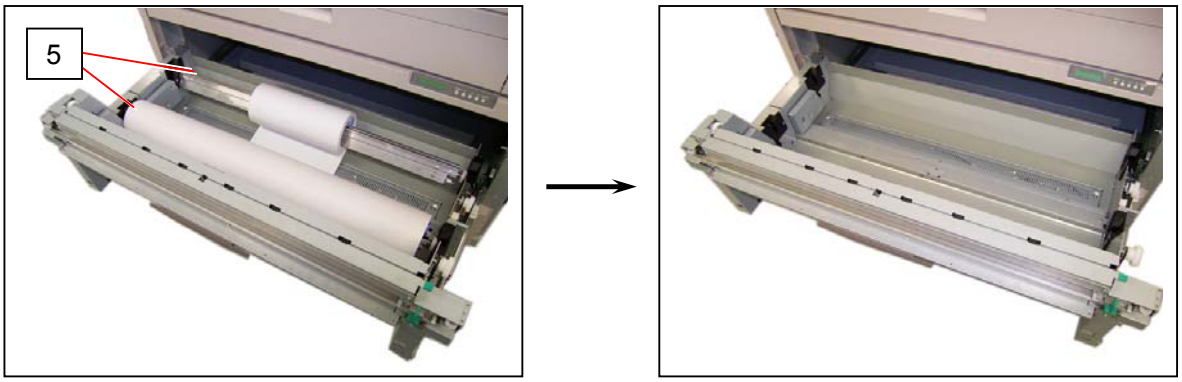


NOTE

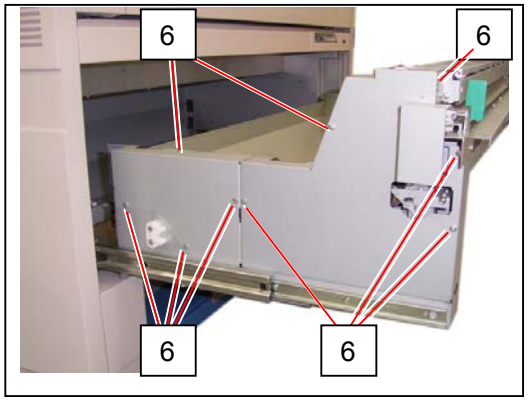
Make sure to insert the hooking part (4) to the slit as the following photo when you put back the Cover 1 (3).



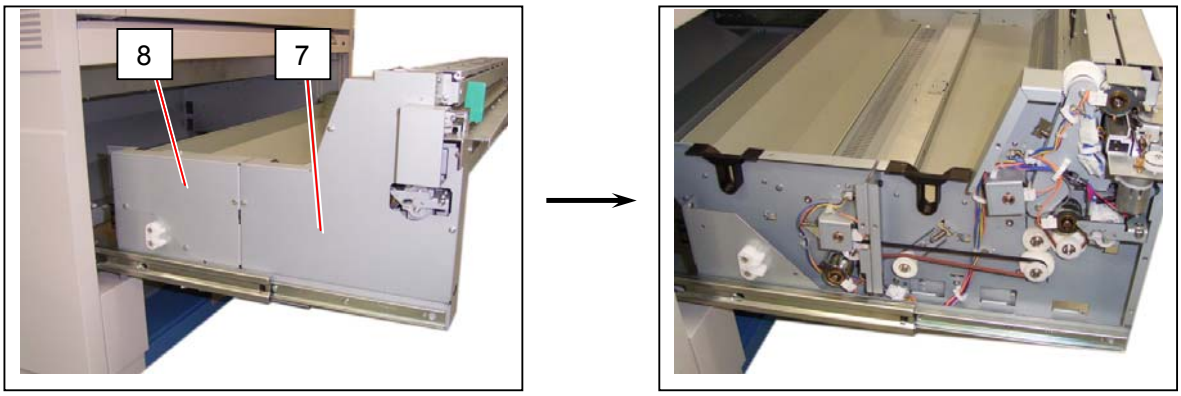
4. Remove both Spool Assemblies (5).



5. Remove 9 pieces of 4x6 screw (6).

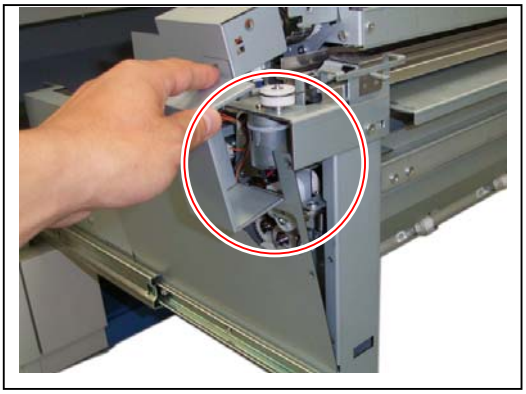


6. Remove the Cover 3 (7) and the Cover 7 (8).

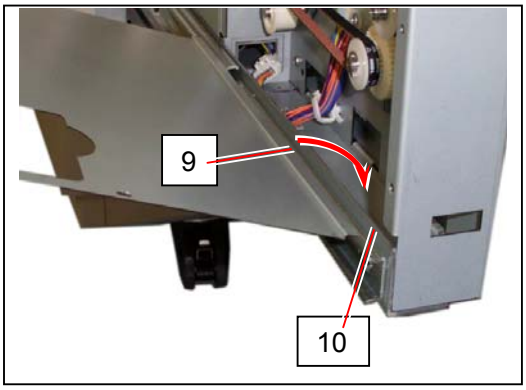


NOTE

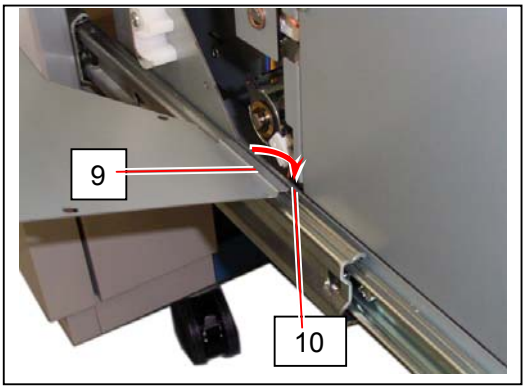
(1) Be careful not to catch the wires of Cutter Motor when you put back the Cover 3 (7).



(2) Make sure that the step part (9) on the lower side of each Cover 3 (7) and Cover 7 (8) is inside of the plate (10).

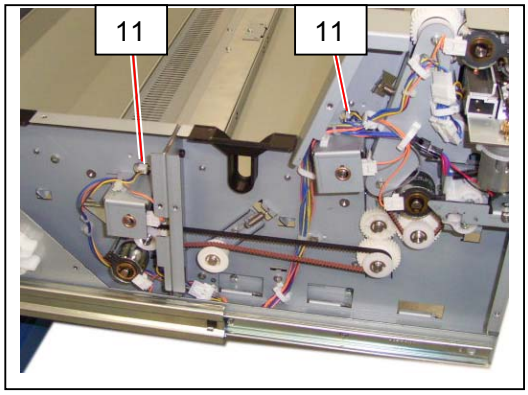


Cover 3's side

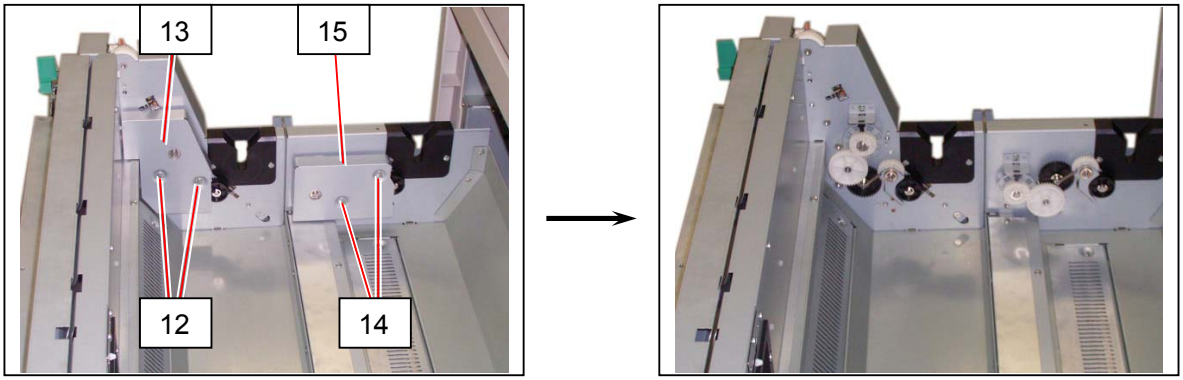


Cover 7's side

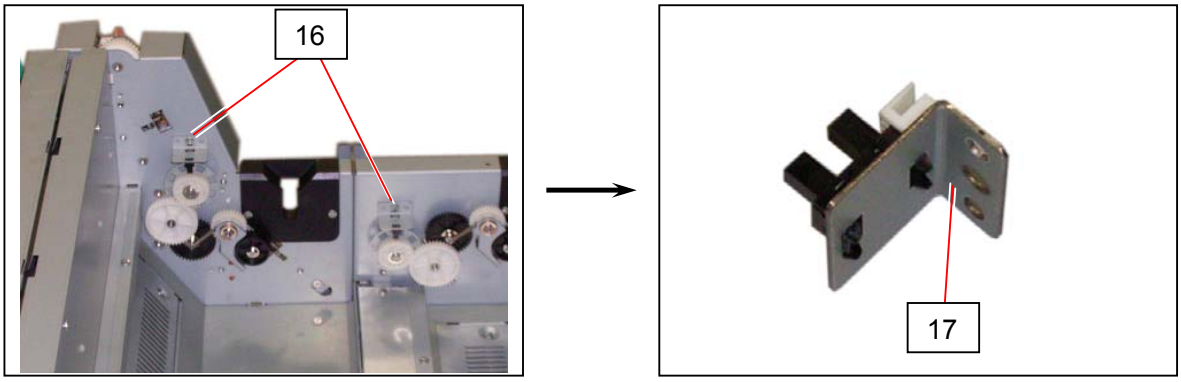
7. Disconnect the connectors (11).



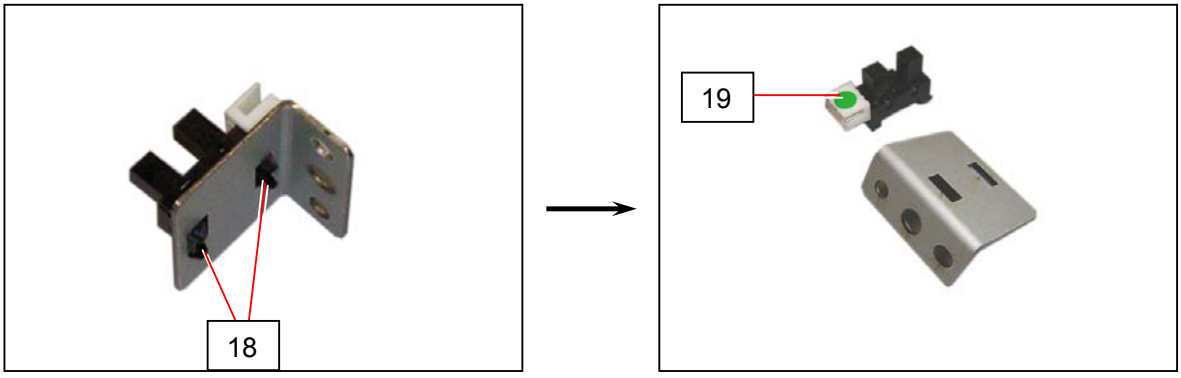
8. Remove 2 pieces of 4x6 screw (12) to remove the Cover 5 (13).
   Also remove 2 pieces of 4x6 screw (14) to remove the Cover 8 (15).



9. Remove the 4x6 screw (16) to remove each Bracket 12 (17).

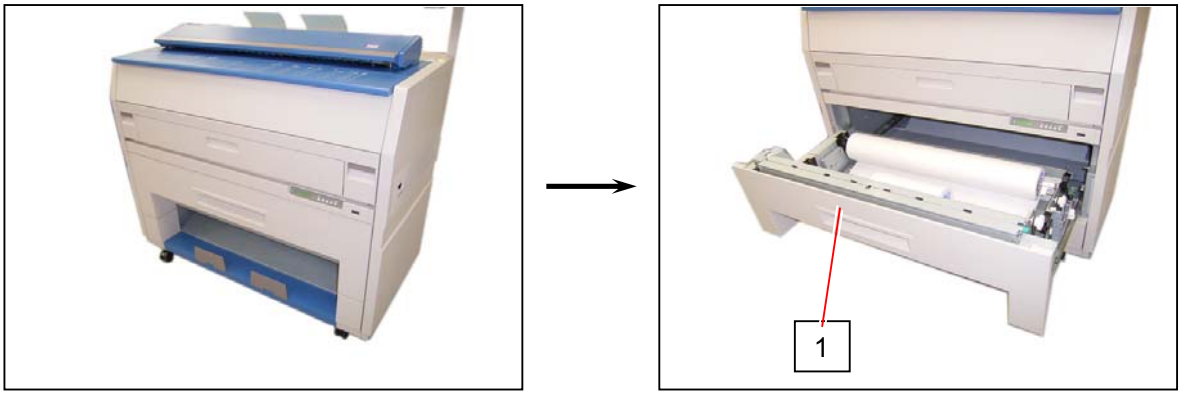


10. Pressing the stoppers (18) inside, remove each **Sensor** (19 : PH8 & PH10).
    Replace the **Sensor** (19 : PH8 & PH10) with the new one.

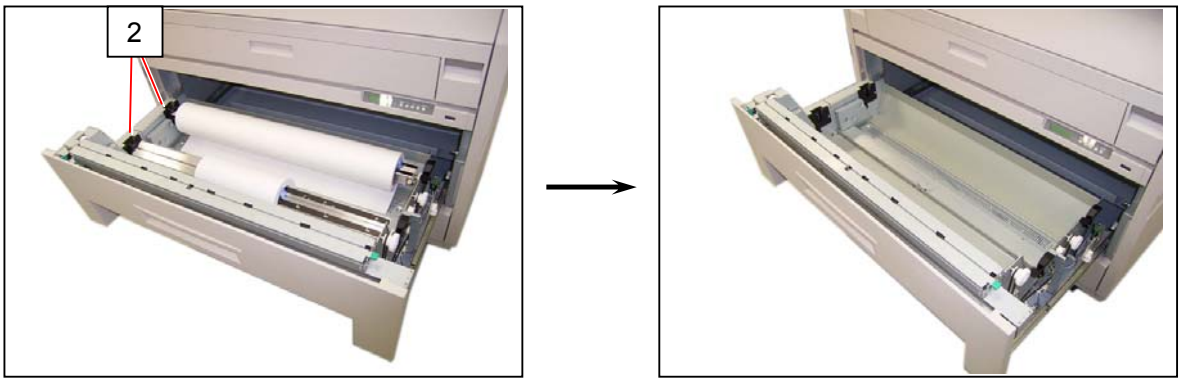


5. 4.10 Replacement of Dehumidify Heater

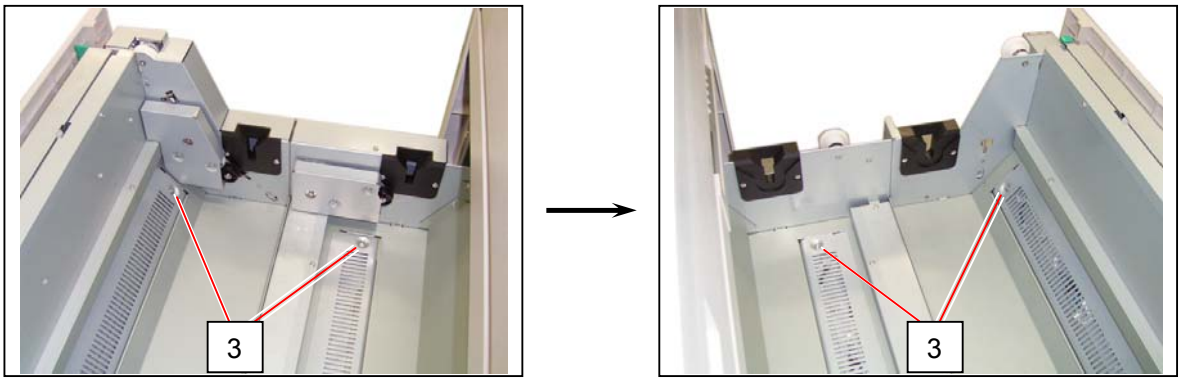
1. Draw out the Roll Deck (1).



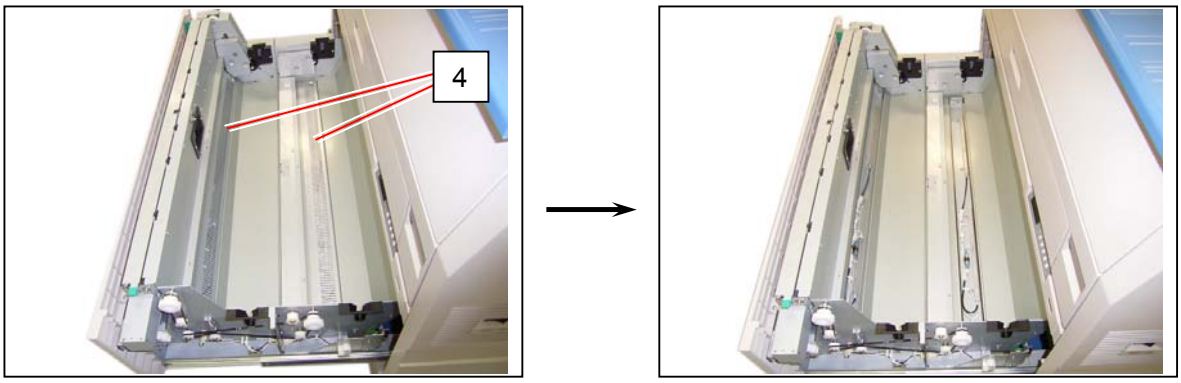
2. Remove both Spool Assemblies (2).



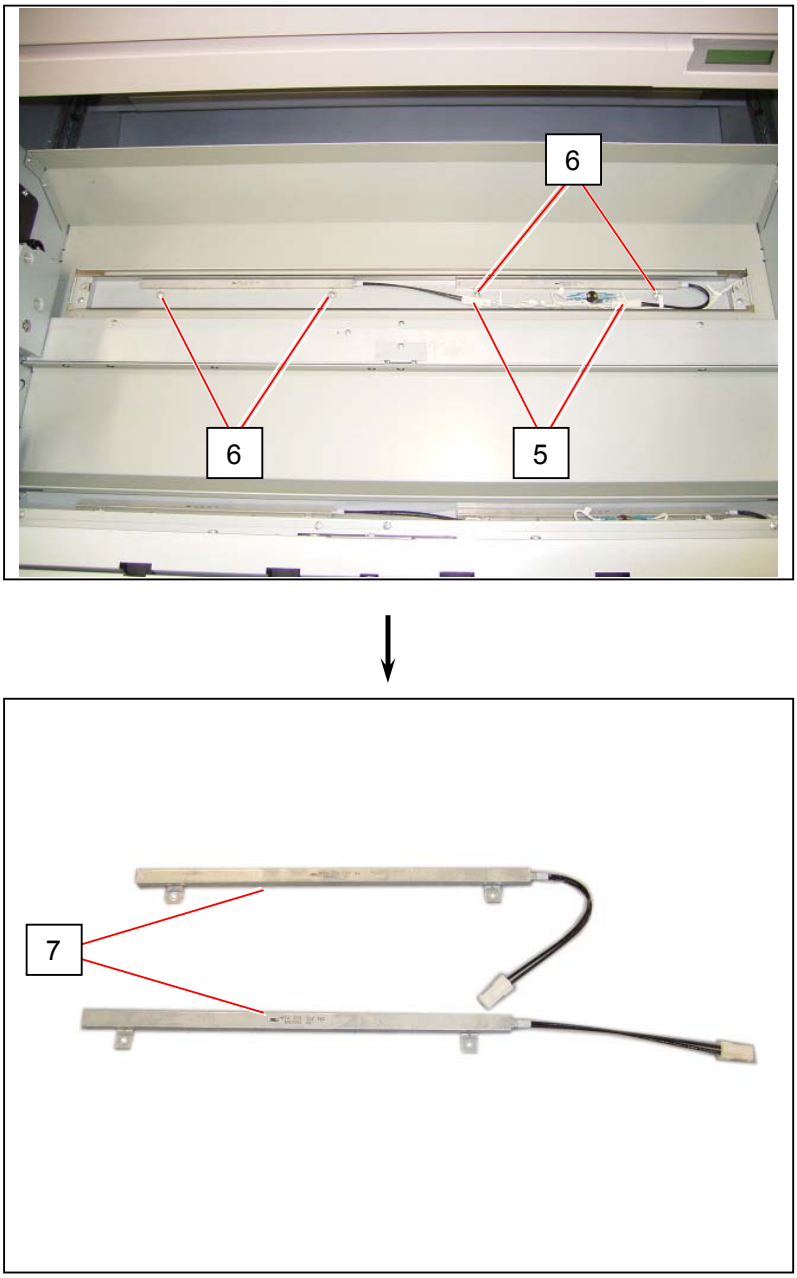
3. Remove 4 pieces of 4x6 screws (3).



4. Remove each Cover 2 (4).



5. Disconnect the connectors (5) and remove 4x6 screws (6), and then remove each **Dehumidify Heater** (7).
Replace the **Dehumidify Heater** (7) with the new one.



5. 4.11 Installation of Dehumidify Heater Kit (Optional in USA)

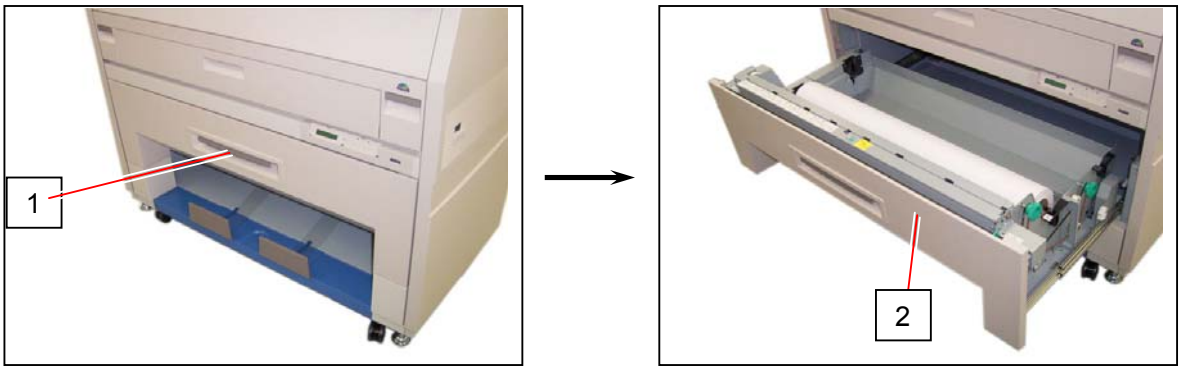
5. 4. 11. 1 Installation of 1 Roll Dehumidify Kit (P/N :Z058080020)

1. Confirm the following parts are included in the kit.

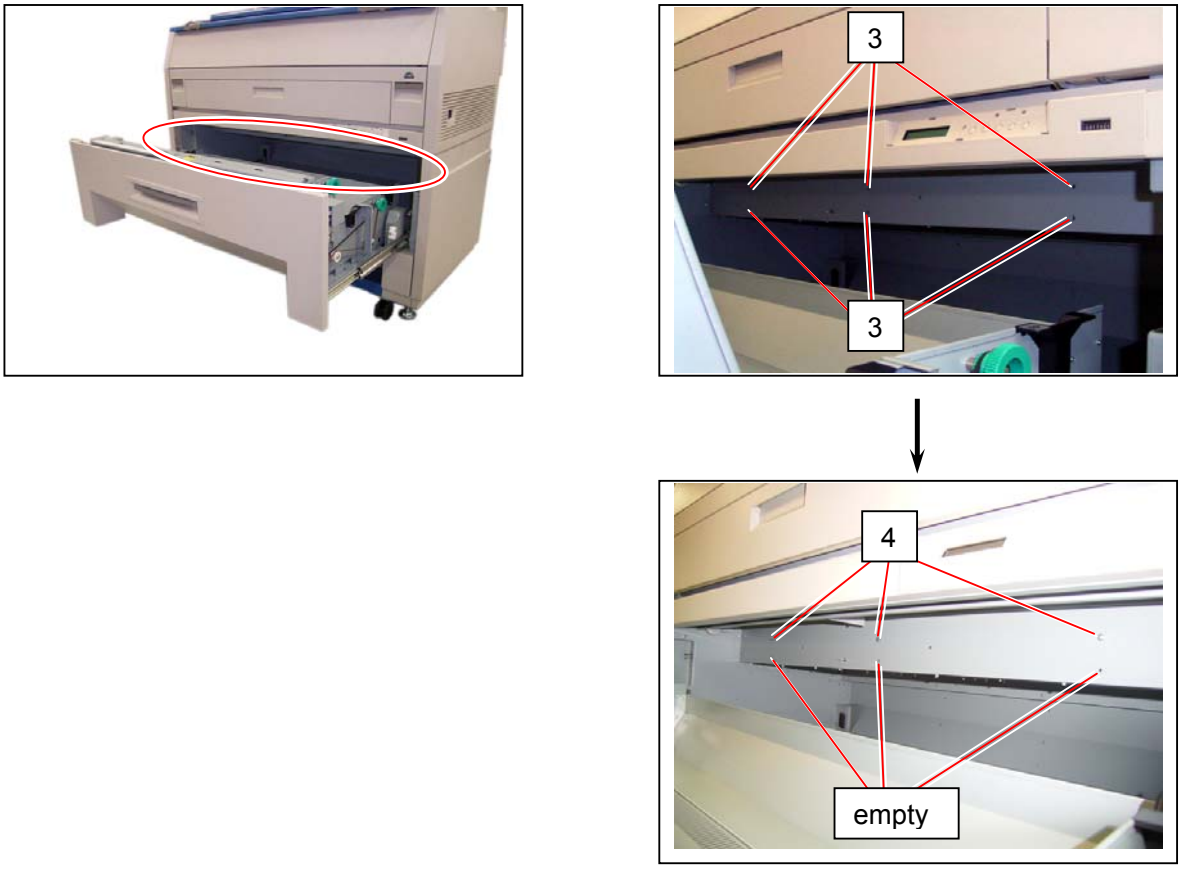
Item	Number of article	Item	Number of article
Cover 6 Assembly 	1	Cover 4 Assembly 	1
Case Assembly 	1	Seal	1
Seal 2 	2	Switch Label Label 	1 1
Bracket 23 Assembly 	1	Bracket Connector 2 Assembly 	1
Cover 	1	Switch 	1

Item	Number of article	Item	Number of article
Relay 	1	Bush 	2
4x6 Tooth Washer Screw 	2	Snap Band 	4
4x6 Bind Screw (Fe+Ni) Tooth Washer 	2 2	4x6 Bind Screw 	20
3x6 Bind Screw 	5	Wire Saddle 	1

2. Pull up the Lever (1), and draw out the Roll Deck (2).



3. There are 6 screw holes (3) inside of the machine.
   Put 3 pieces of 4x6 bind screw (4) to the upper 3 screw holes.

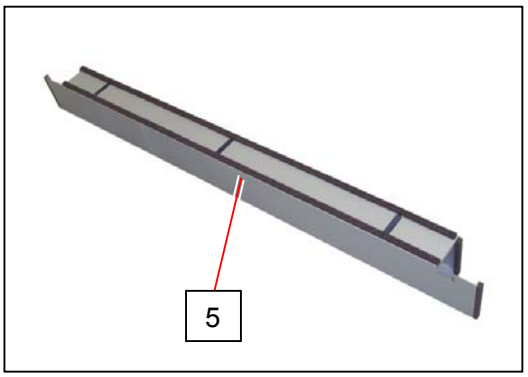


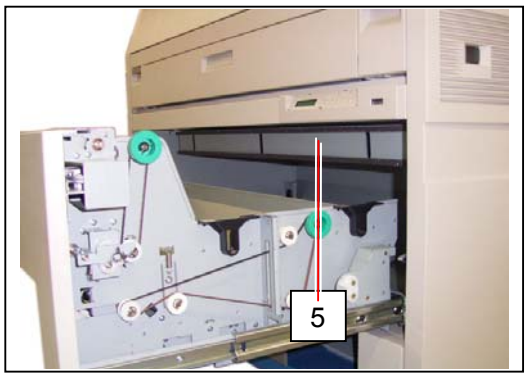
NOTE

(1) Do not tighten the screws but loosen them as far as possible at this time, because you will hang the Cover 4 Assembly to these screws on the next procedure.

(2) The lower 3 screws holes should be empty at this time.
You will put the screws there on the later procedure.

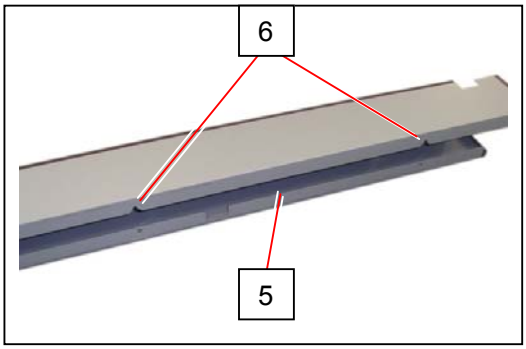
4. Hang the Cover 4 Assembly (5) to 3 pieces of 4x6 bind screws you have put at the former procedure 3.

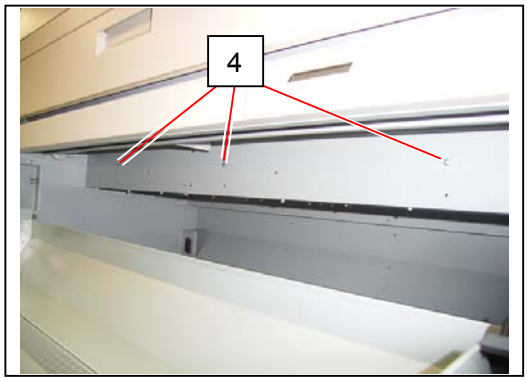




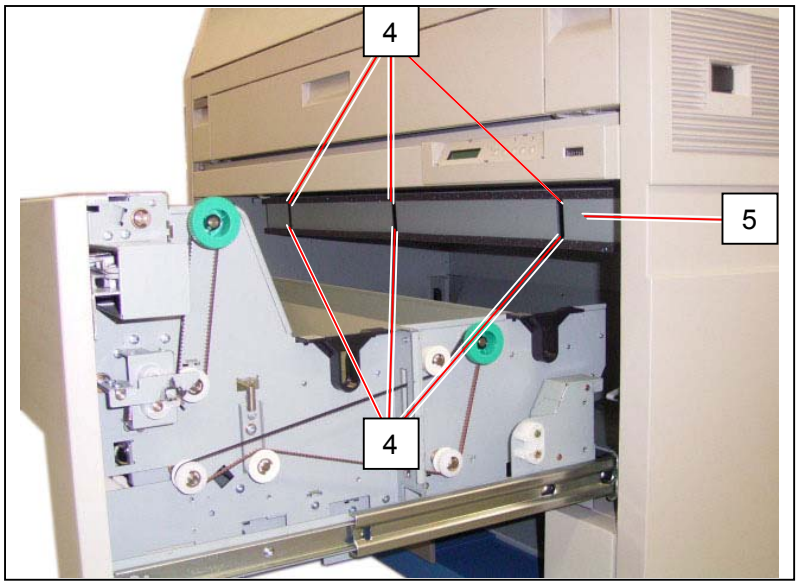
NOTE

There are 3 pieces of “open” screw holes (6) on the Cover 4 Assembly (5).
Please fit these “open” screw holes (6) to the 4x6 bind screws (4).

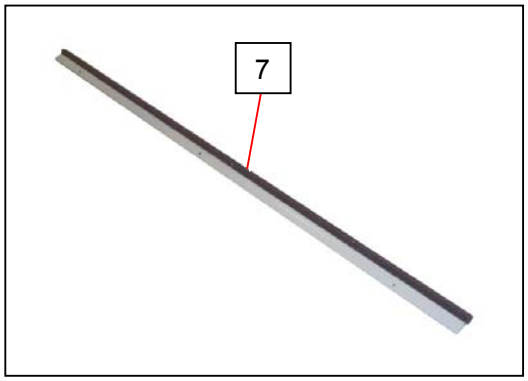


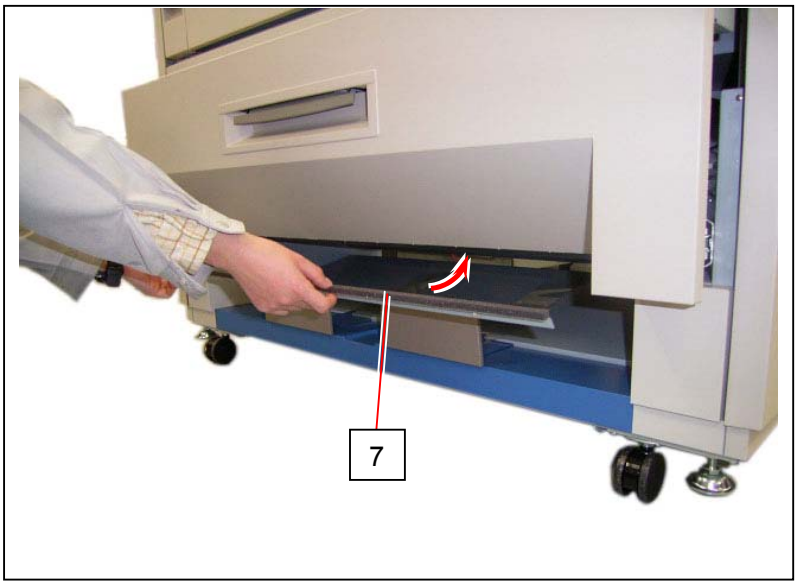


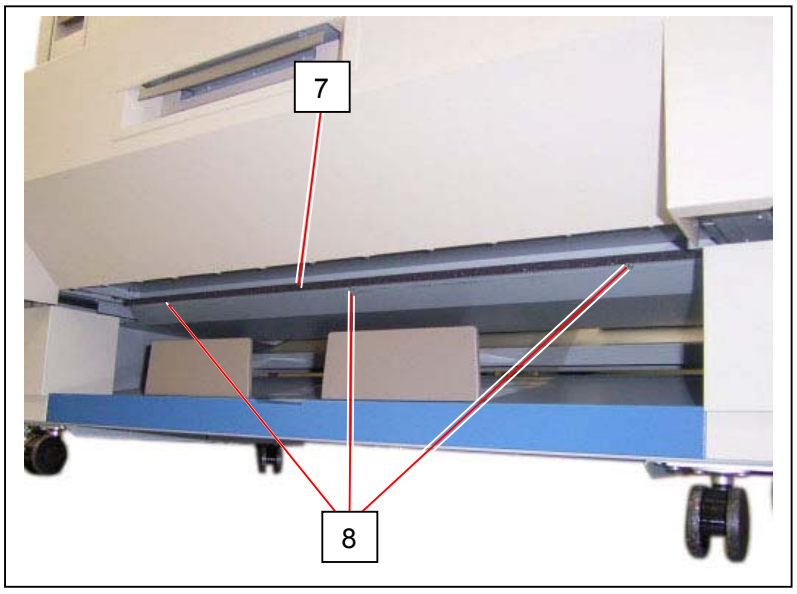
5. Put 3 more pieces of 4x6 screws (4) to the lower 3 pieces of screw holes.
Then tighten 6 pieces of 4x6 screws (4) to fix the Cover 4 Assembly (5).



6. Install the Cover 6 Assembly (7) to the plate under the Roll Deck with 3 pieces of 3x6 bind screws (8).

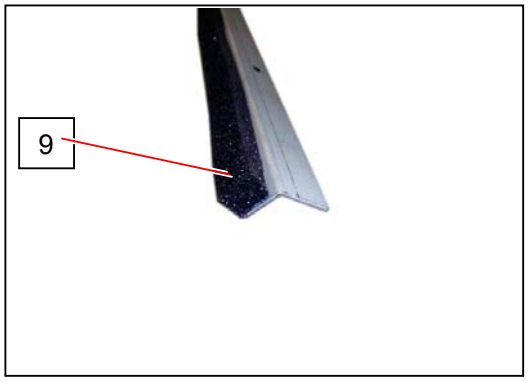




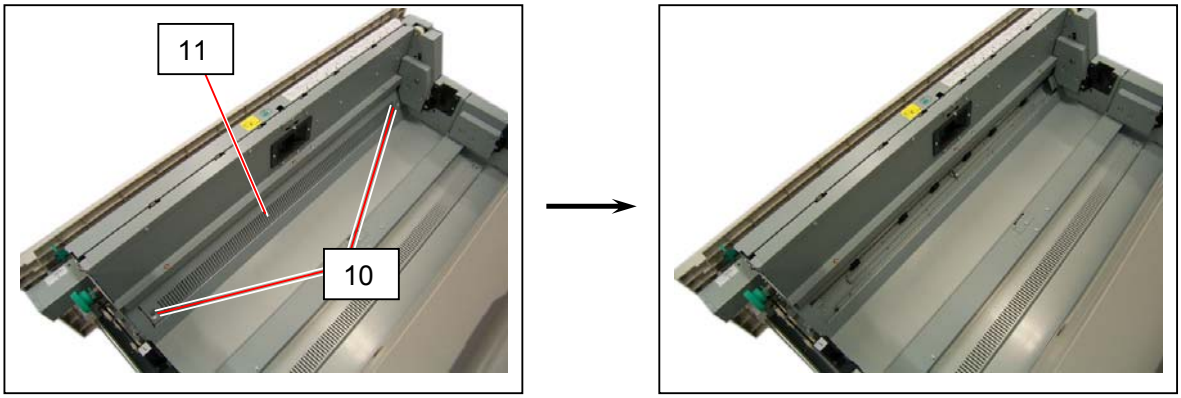


NOTE

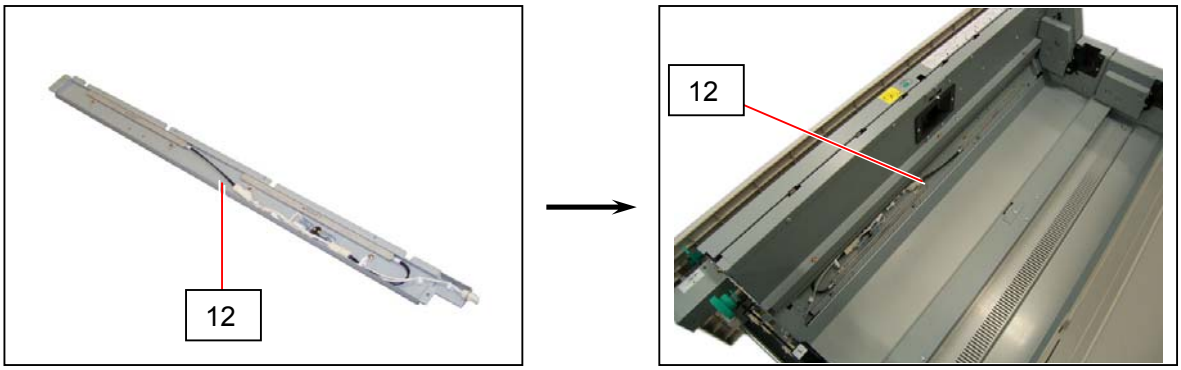
Install the Cover 6 with its sponge side (9) directing upside as the right photo.



7. Remove 2 pieces of 4x6 Tooth Washer Screw (10), and remove the Cover 2 (11).

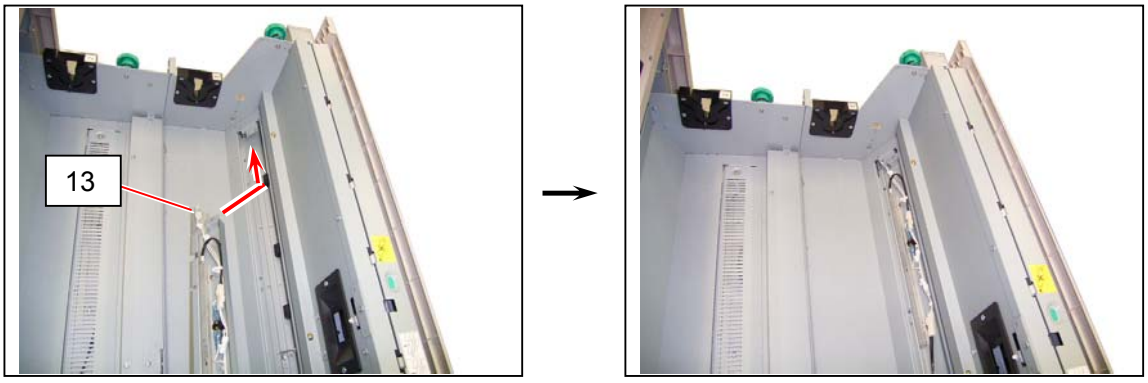


8. Put the Case Assembly (12).

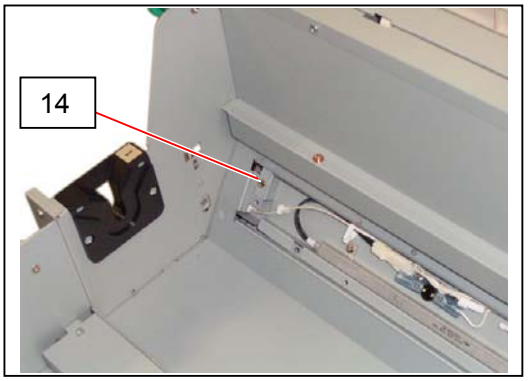


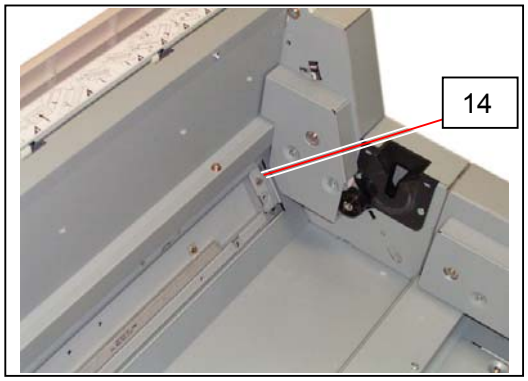
NOTE

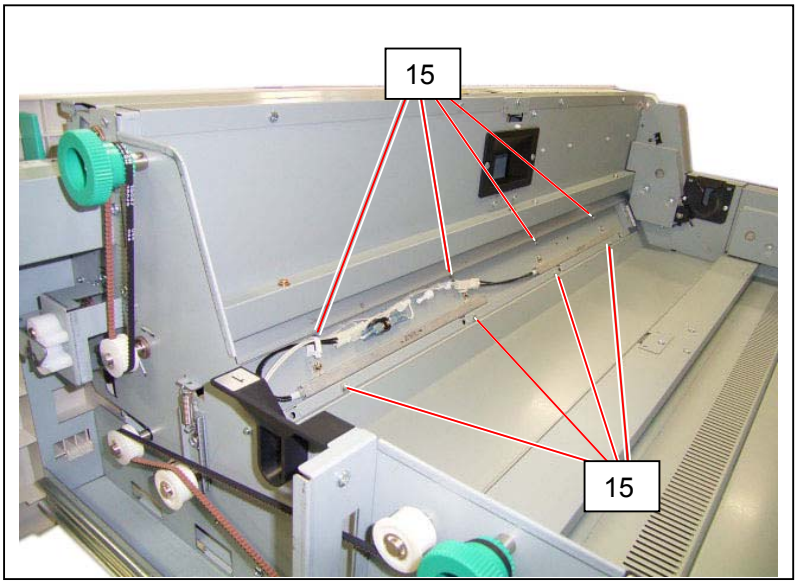
Insert the connector (13) of the Case Assembly under the plate.



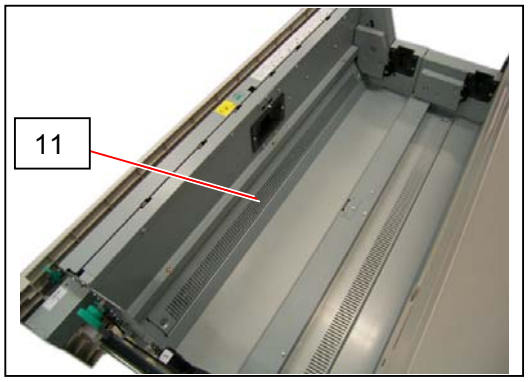
9. Fix the Case Assembly (12) with 2 pieces of 4x6 Tooth Washer Screw (14) and 8 pieces of 4x6 Bind Screw (15).



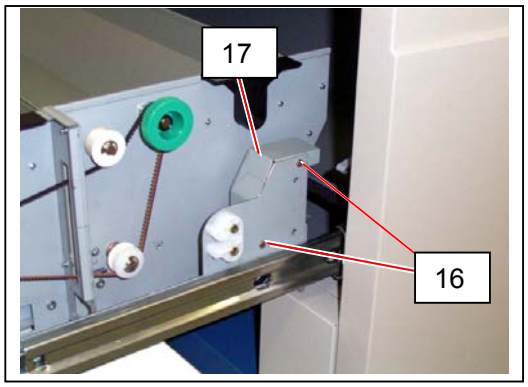


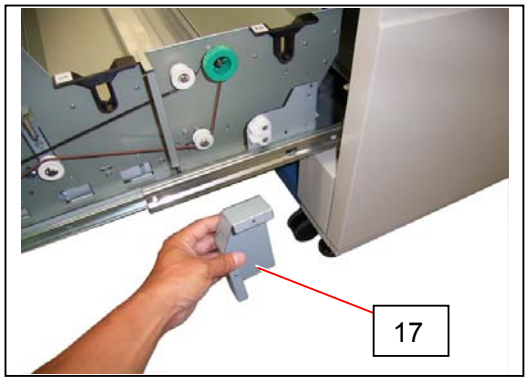


10. Replace the Cover 2 (11).

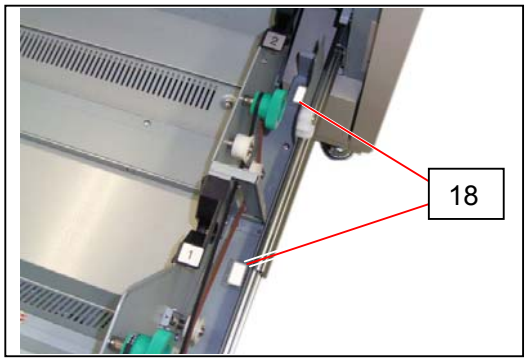


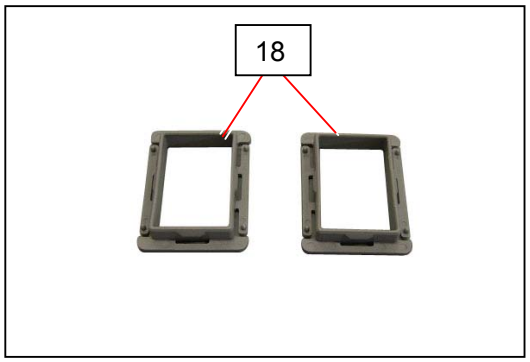
11. Remove 2 pieces of 3x6 Bind Screw (16), and remove the Cover 9 (17).



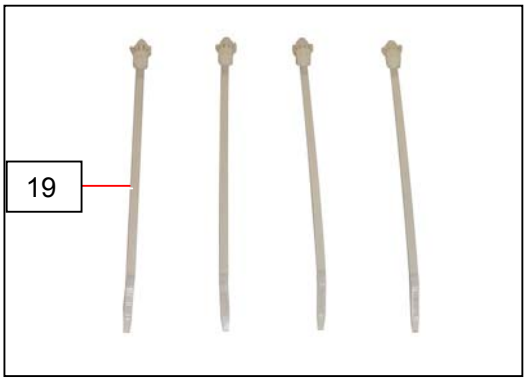


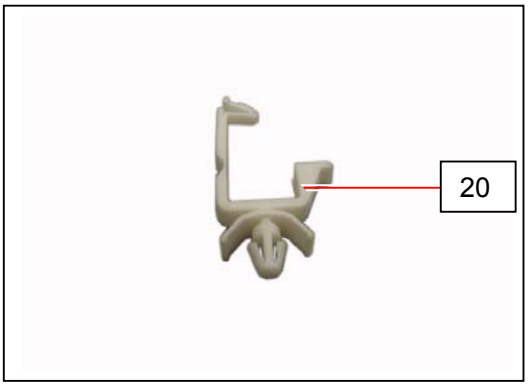
12. Fit 2 pieces of Bush (18) to the square holes on the right.

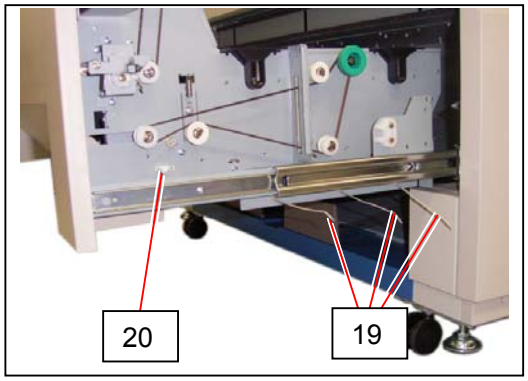


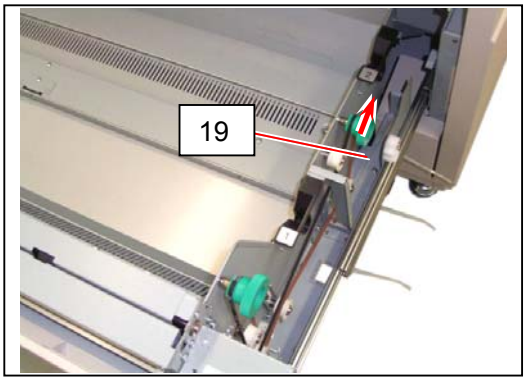


13. Fit 4 pieces of Snap Band (19) to the concerning holes on the Slide Rail.
Also fit the Wire Saddle (20) to the Side Plate.

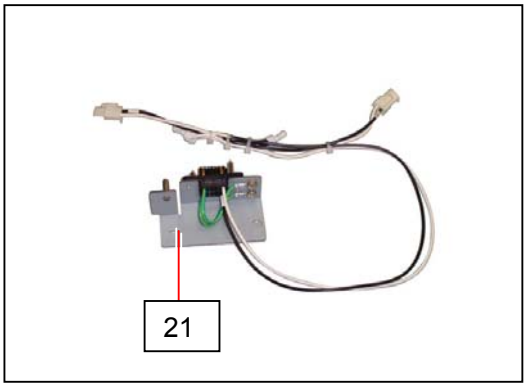


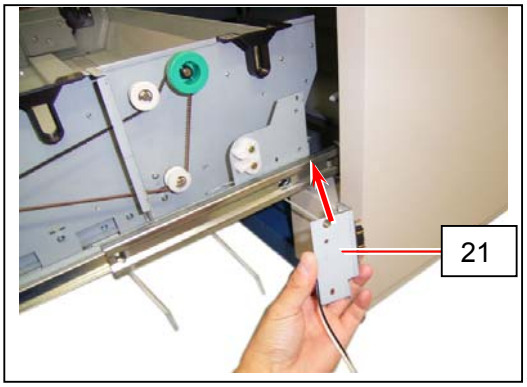


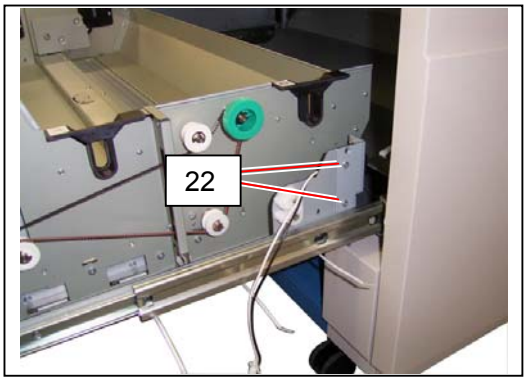




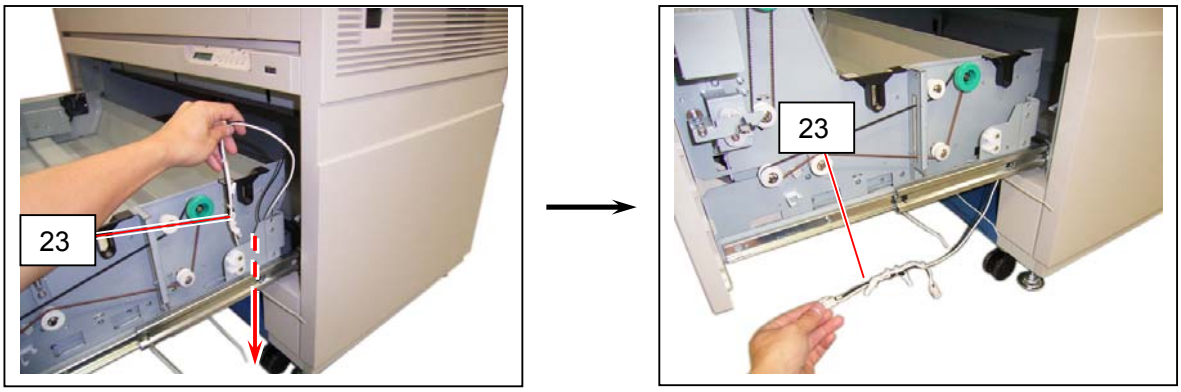
14. Install the Bracket 23 Assembly (21) with 2 pieces of 4x6 Bind Screw (22).



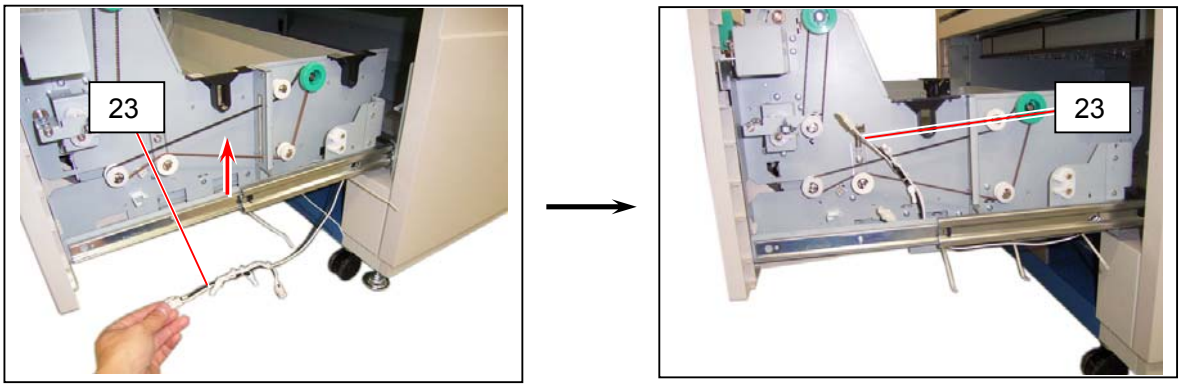




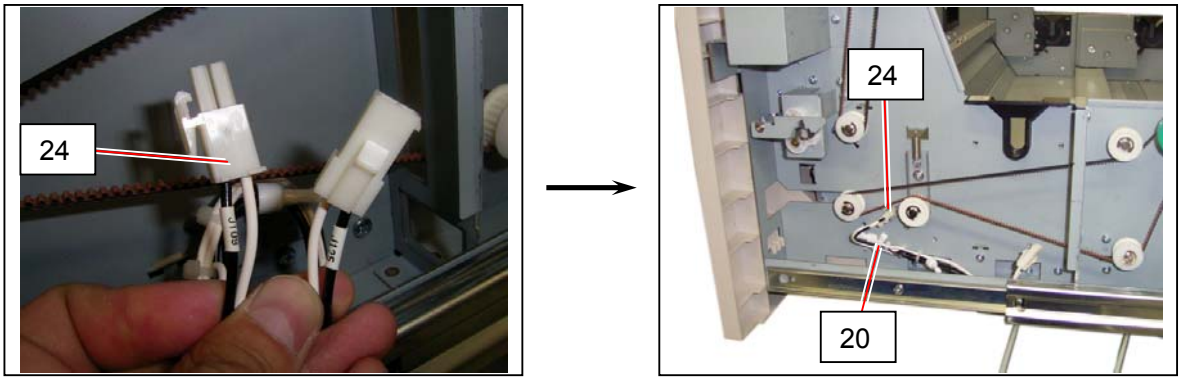
15. Put the harness (23) through the square hole, from the upper side to the bottom side.



16. Put the harness (23) through the square hole, from the bottom side to the upper side.



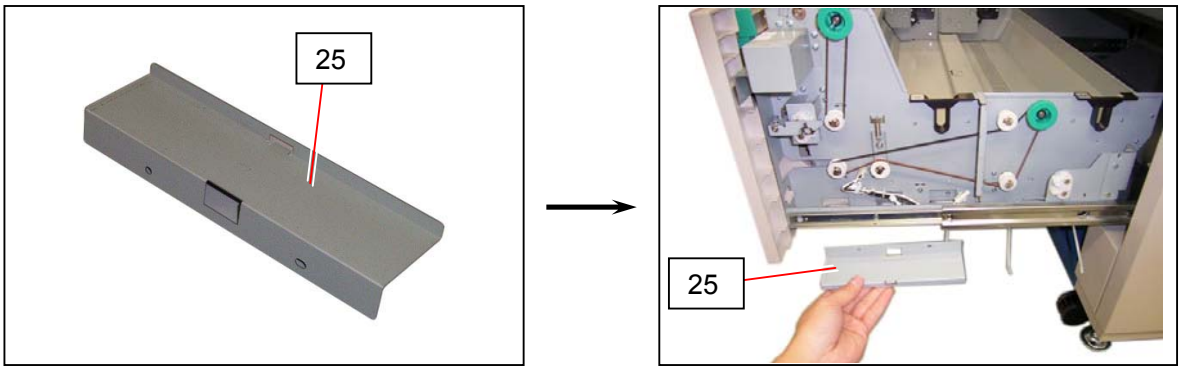
17. There are connectors “J109” (24) and “J125”.
Connect the connector “J109” (24) to the Dehumidify Heater, and hold the harness with the Wire Saddle (20).

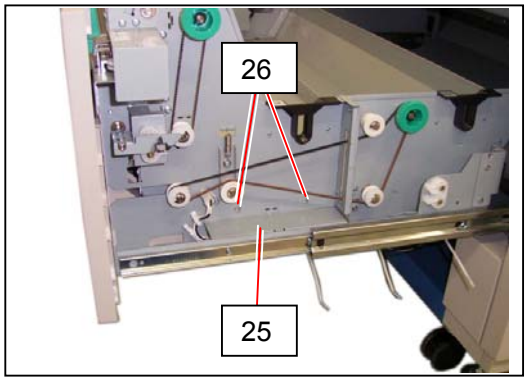


NOTE

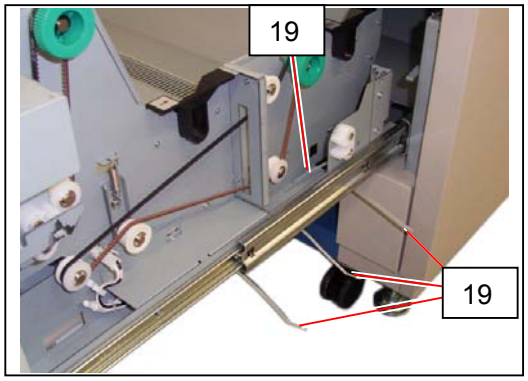
Another connector “J125” will be used if you install “2 Roll Dehumidify Kit”.

18. Install the Cover (25) with 2 pieces of 4x6 Bind Screw (26) to hide the harness.

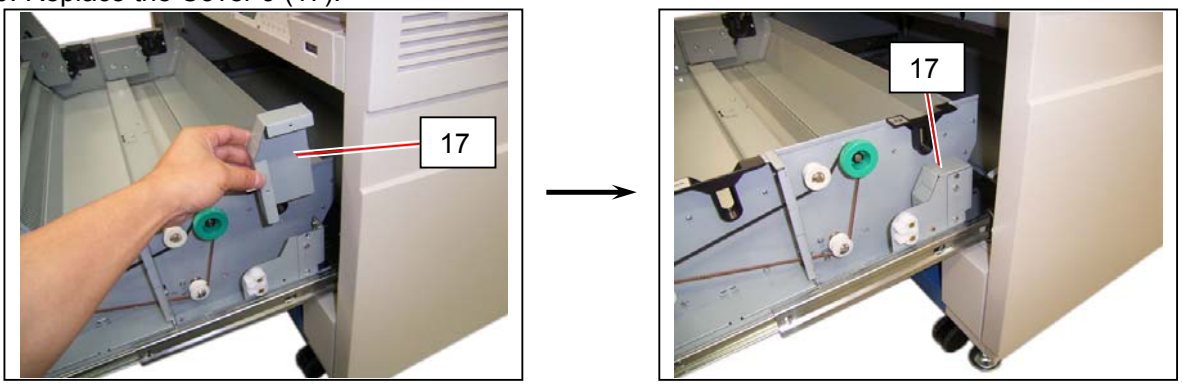




19. Tie the Harness firmly with Snap Bands (19).

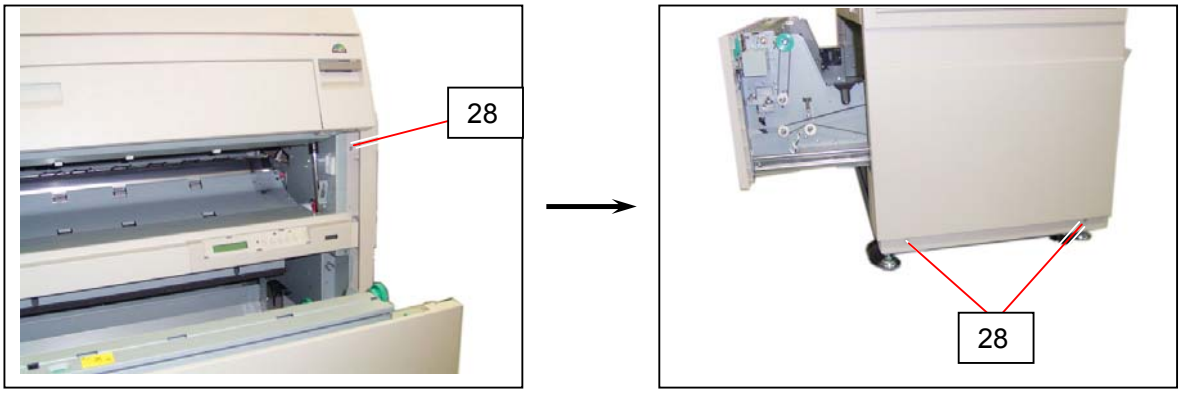


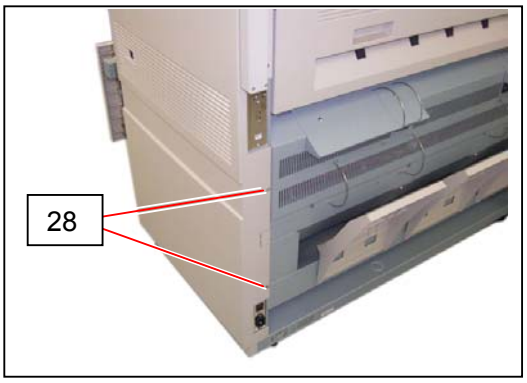
20. Replace the Cover 9 (17).



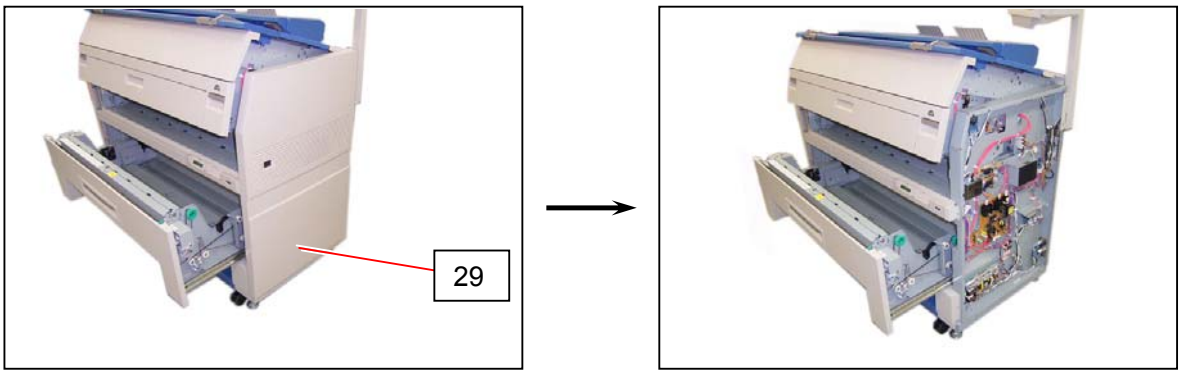
21. Pull up the Levers (27) to open the Engine Unit.
(Please leave the Roll Deck open.)

22. Remove 5 pieces of 4x6 Bind Head Screw (28).

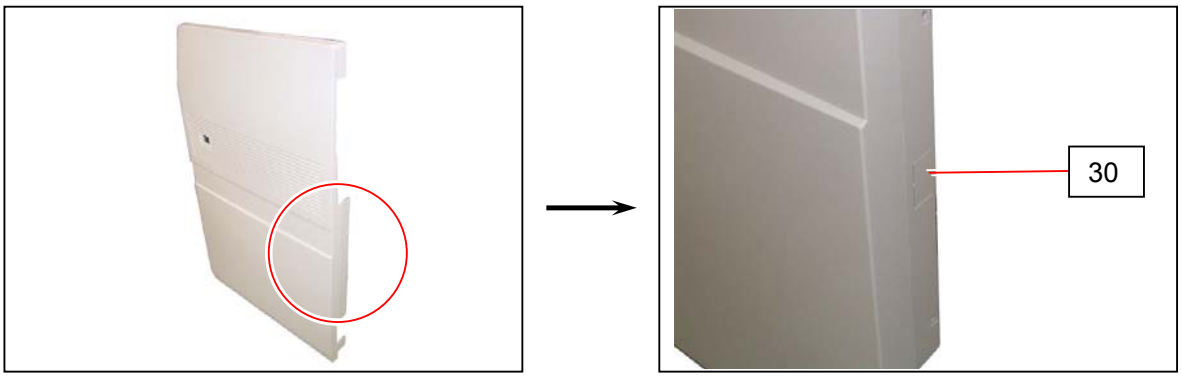




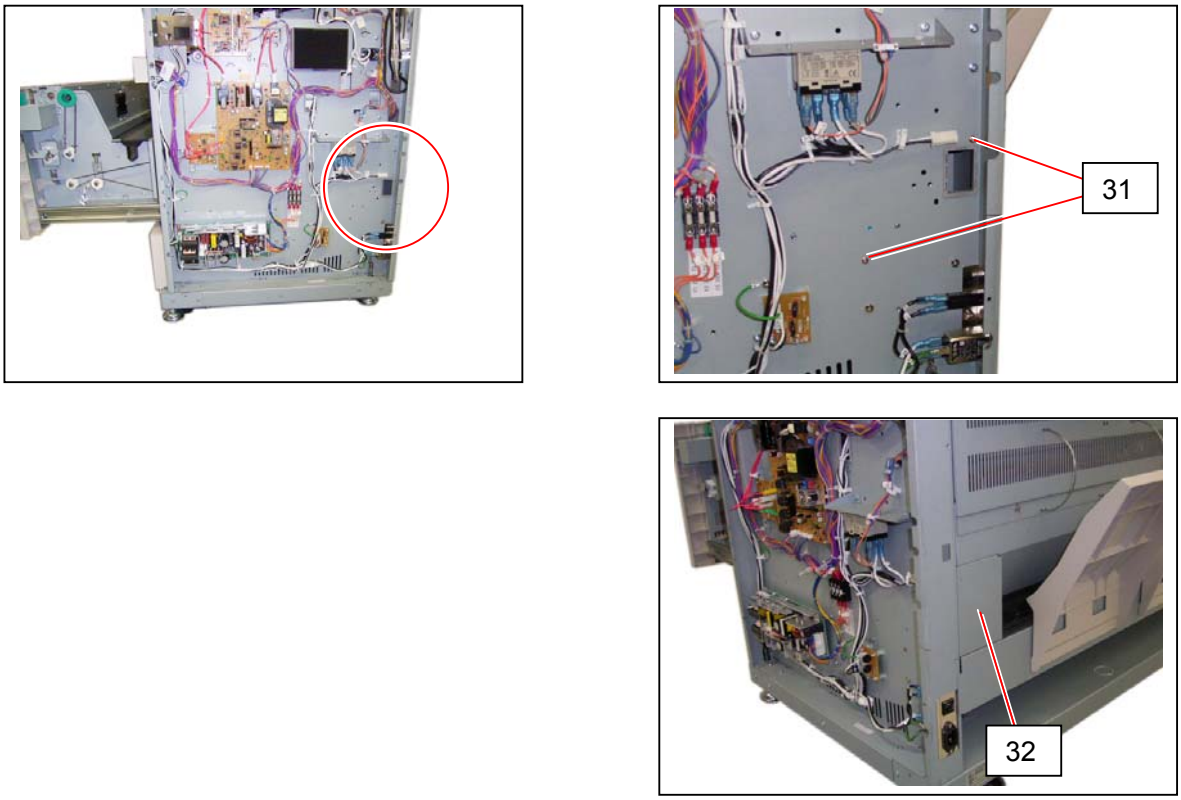
23. Remove the Right Side Cover (29).



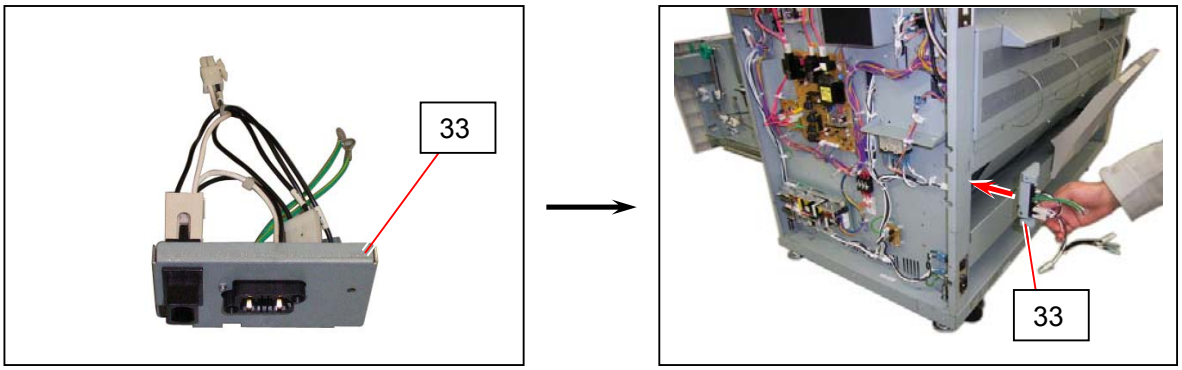
24. Cut off the following part (30) of the Right Side Plate to make a notch for the Dehumidify Heater Switch.

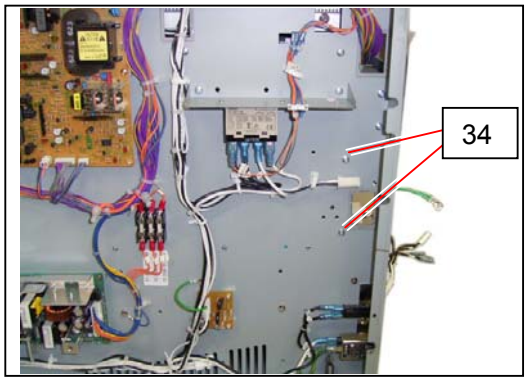


25. Remove 2 pieces of 3x6 Bind Screw (31) to remove the Cover 5 (32).

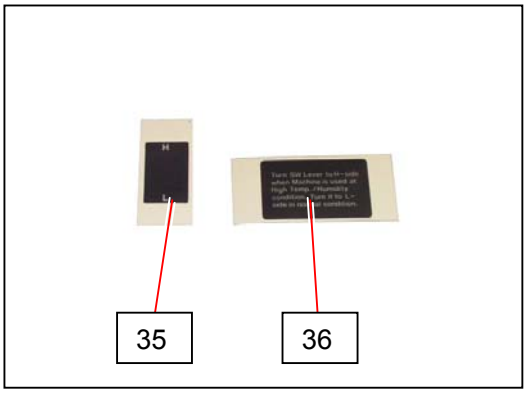


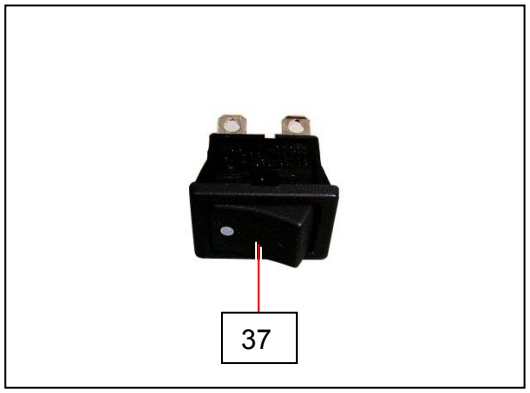
26. Install the Bracket Connector 2 Assembly (33) with 2 pieces of 4x6 Bind Screws (34).

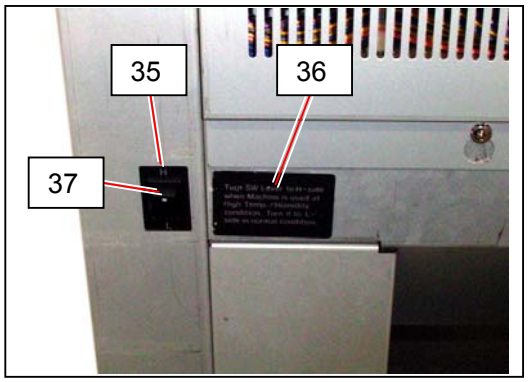




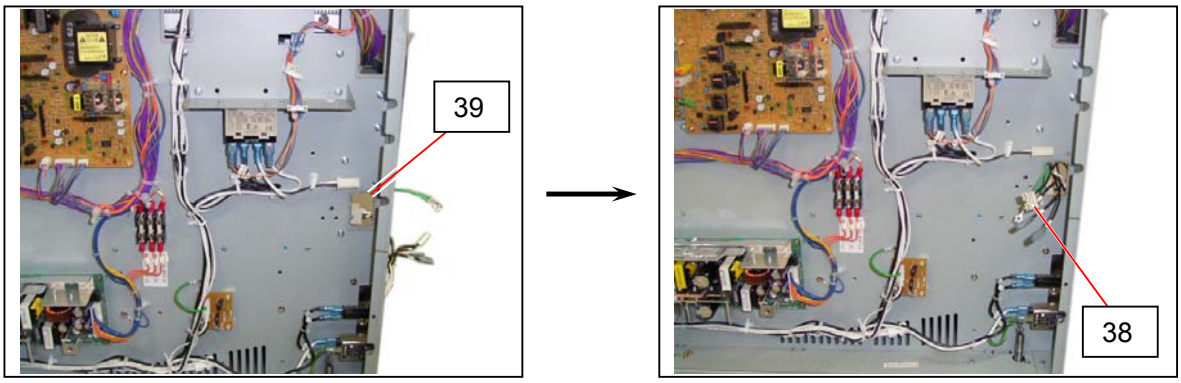
27. Apply both the Switch Label (35) and Label (36).
After that fit the Switch (37) to the square hole. (The white dot should be upside.)



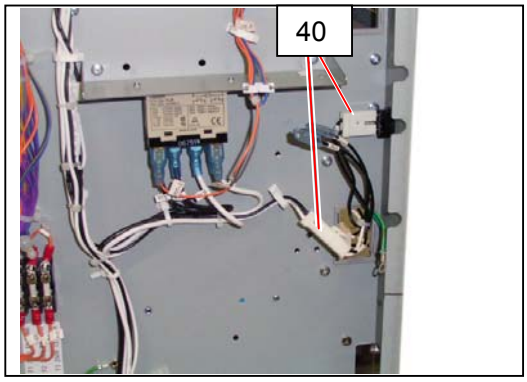




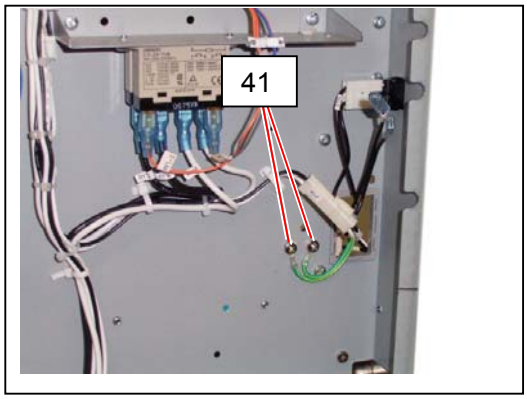
28. Put all the harness (38) of the Bracket Connector 2 Assembly through the square hole (39), from the inside to the out side.



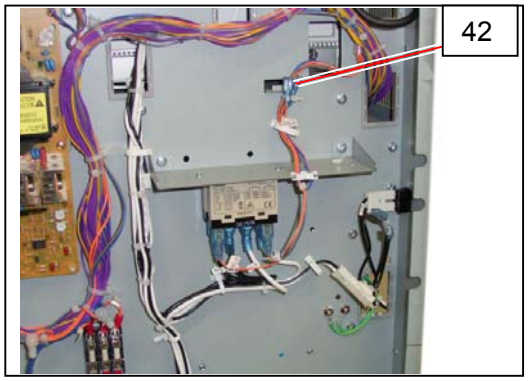
29. Connect the connectors (40).



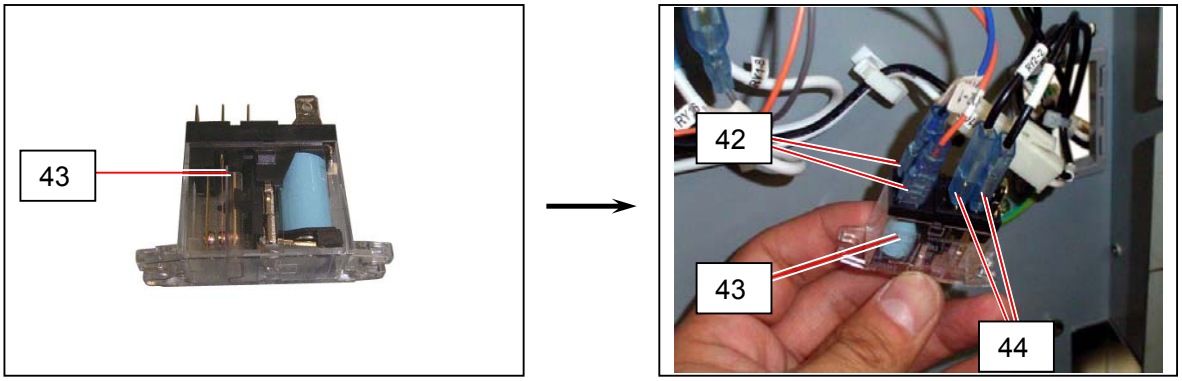
30. Fix the Ground Wires with 2 pieces of Tooth Washer Screw (41)



31. There are 2 Relay Cables (42) to which nothing is connected.
Release them from the Edge Saddle.

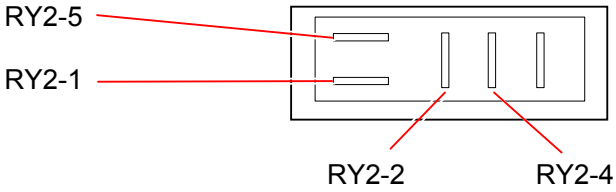


34. Connect the above mentioned Relay Cables (42) to the Relay (43).
Also connect 2 more Relay Cables (44) which come from the Bracket Connector 2 Assembly.

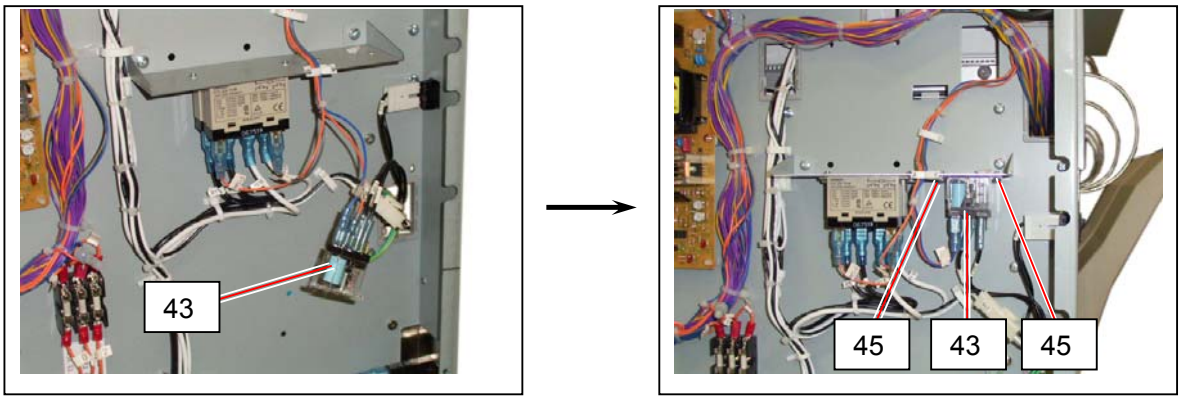


NOTE

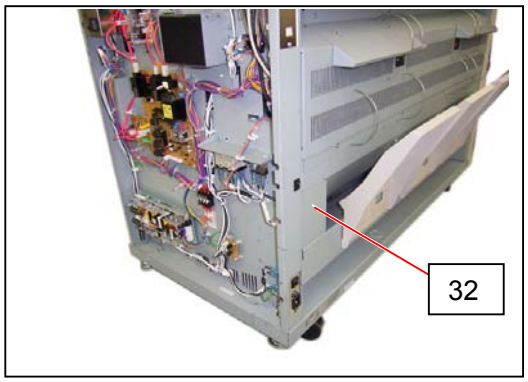
You need to connect each Relay Cable to the designated terminal.
Refer to the following picture.



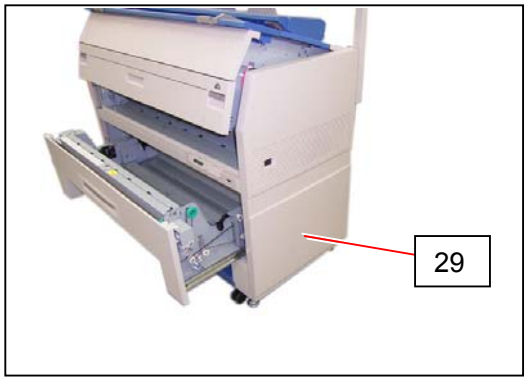
35. Fix the Relay (43) with 2 pieces of 3x6 Bind Screw (45)



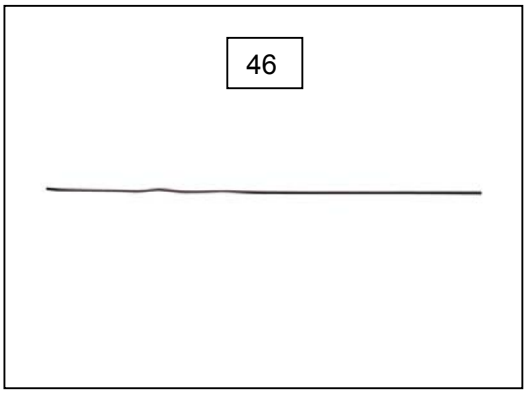
36. Replace the Cover 5 (32).

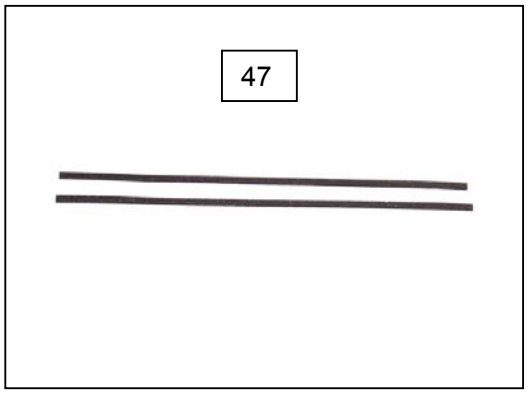


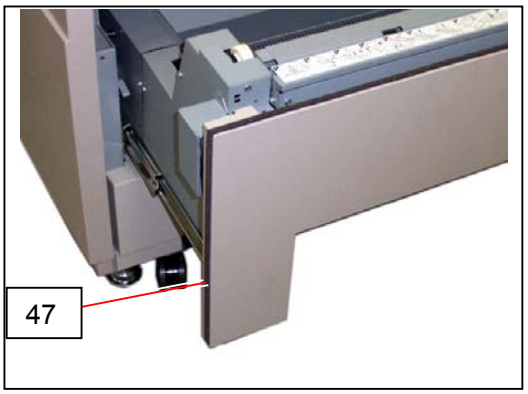
37. Replace the Right Side Cover (29).
Close the Engine Unit.

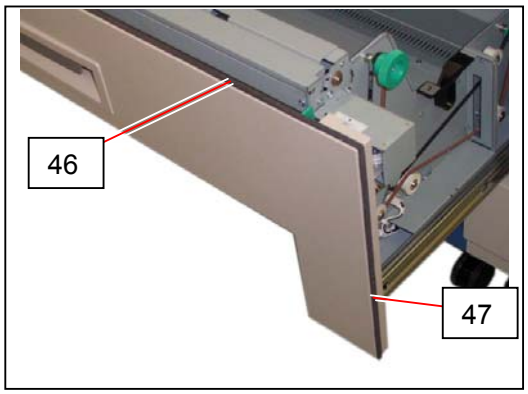


38. Apply the Seal (46) to the upper edge of Roll Deck Cover.
Also apply 2 pieces of Seal 2 (47) to both side edges.







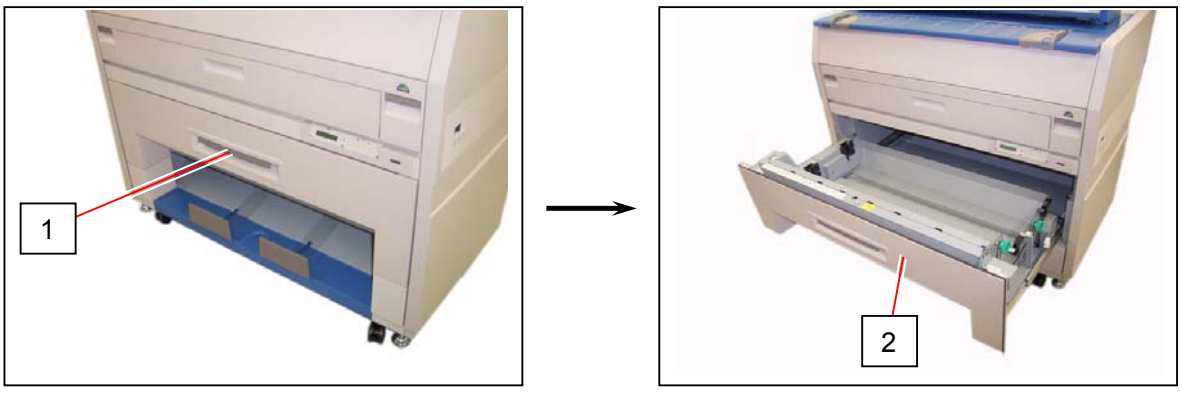


5. 4. 11. 2 Installation of 2 Roll Dehumidify Kit (P/N :Z058080050)

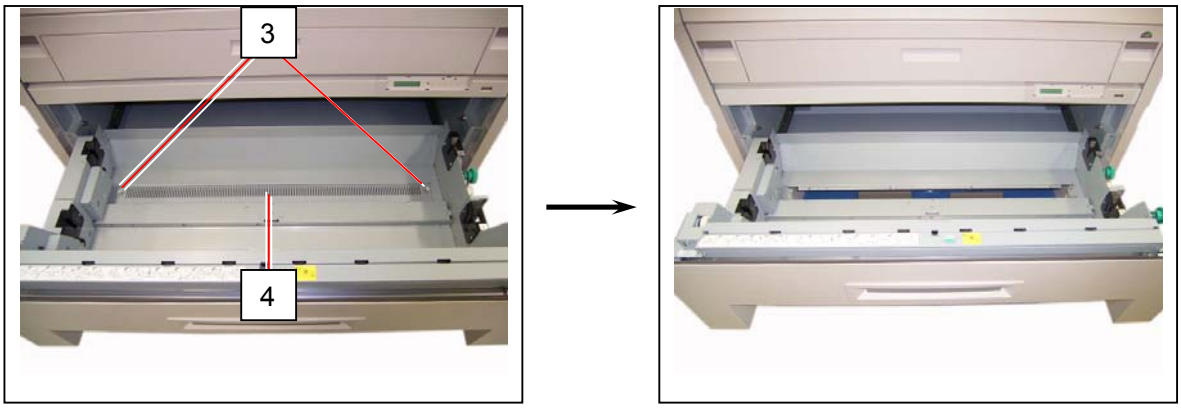
1. Confirm the following parts are included in the kit.

Item	Number of article	Item	Number of article
Cover 5 	1	Case Assembly 	1
AC Paper Harness 2 	1	Bush 	1
Cover 2 		4x6 Bind Screw 	10
4x6 Tooth Washer Screw 	2	3x6 Pan Head Screw 	4

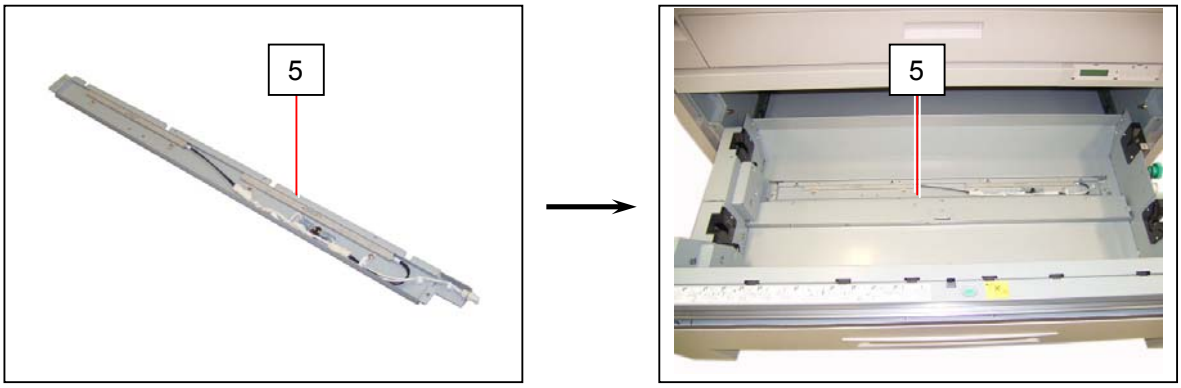
2. Pull up the Lever (1), and draw out the Roll Deck (2).



3. Remove 2 pieces of 4x6 Tooth Washer Screw (3), and remove the Cover 2 (4).

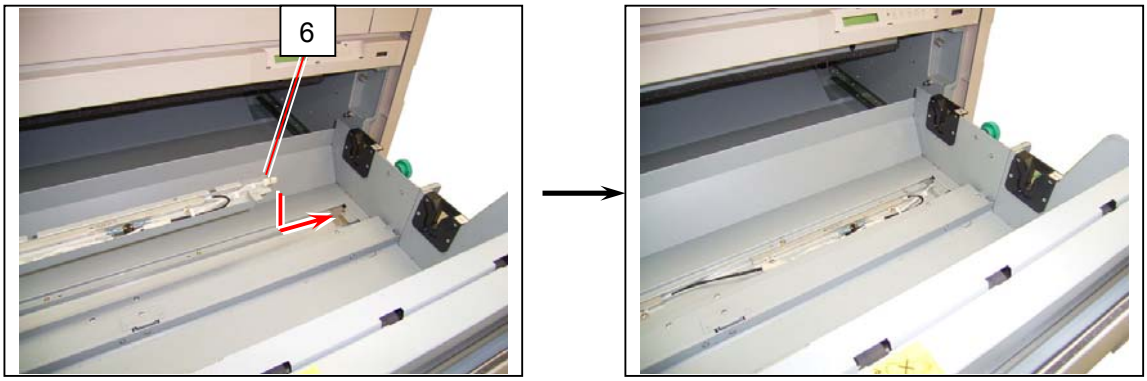


4. Put the Case Assembly (5).

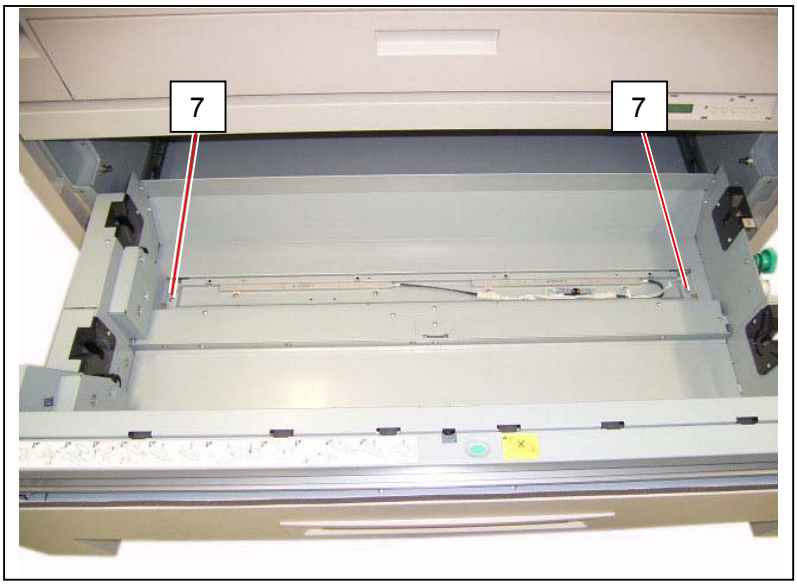


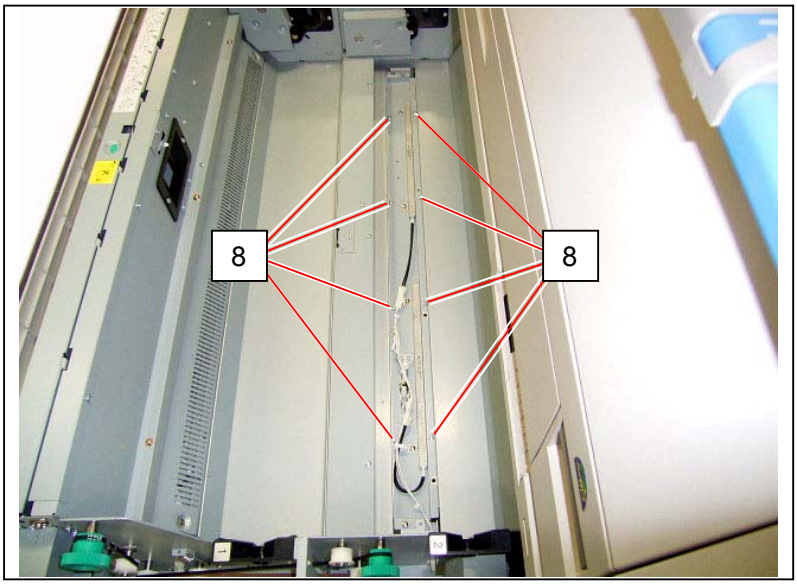
NOTE

Insert the connector (6) of the Case Assembly under the plate.

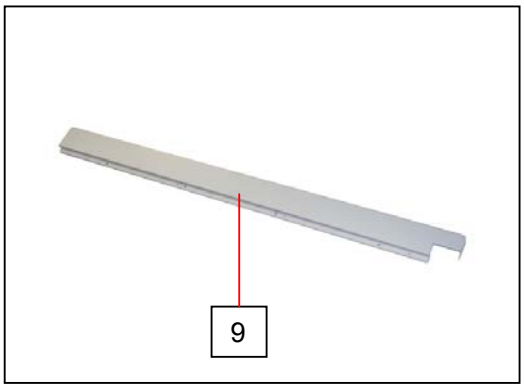


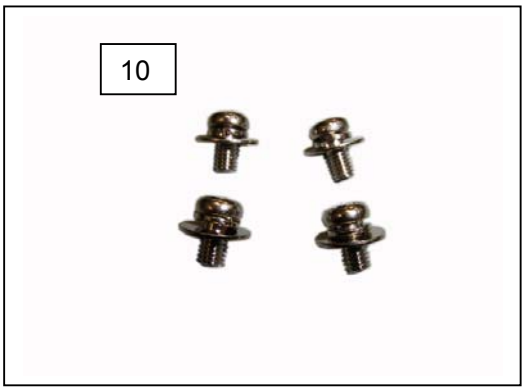
5. Fix the Case Assembly (6) with 2 pieces of 4x6 Tooth Washer Screw (7) and 8 pieces of 4x6 Bind Screw (8).

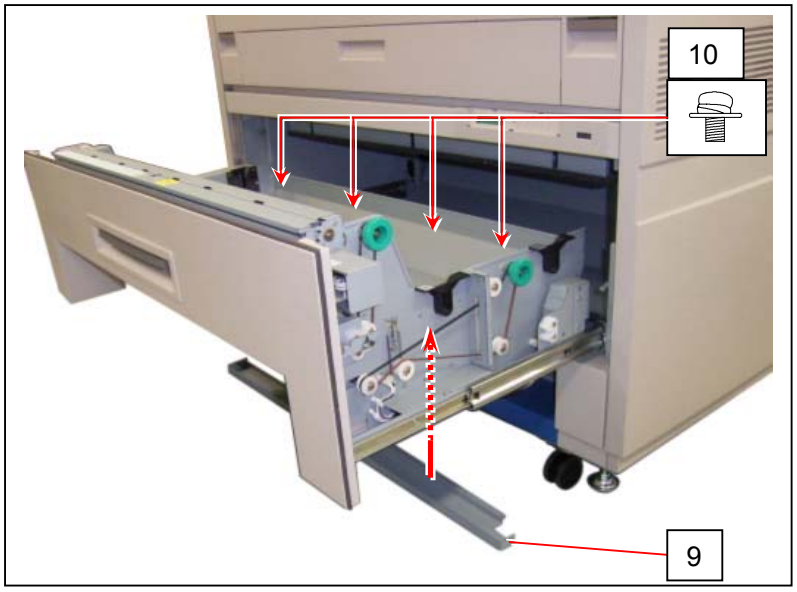


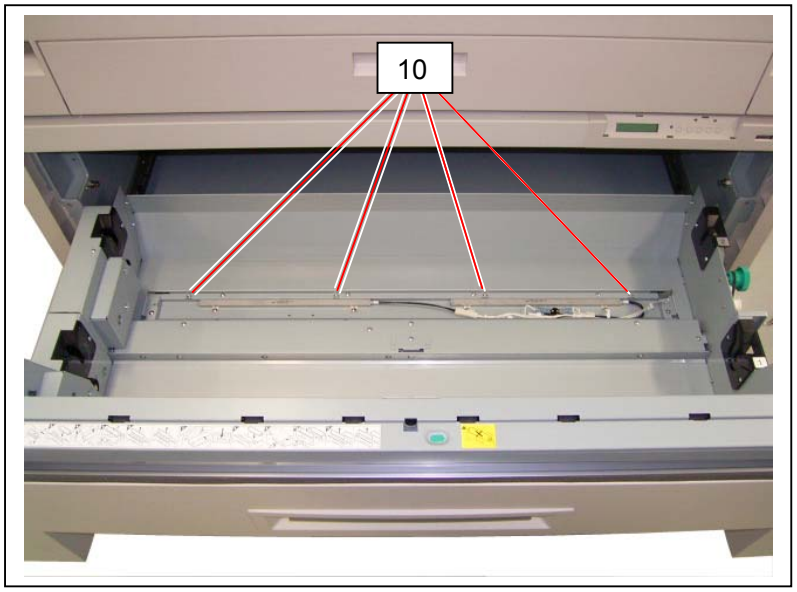


6. Fix the Cover 5 (9) under the under the Case Assembly with 4 pieces of 3x6 Pan Head Screw (10).

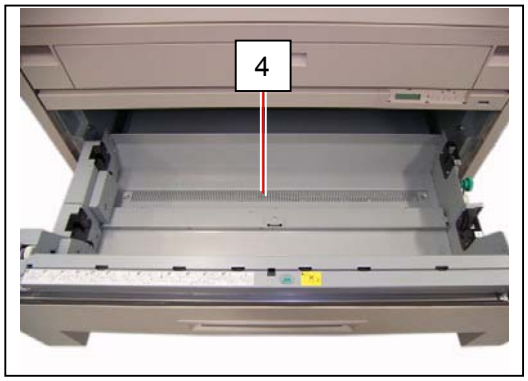




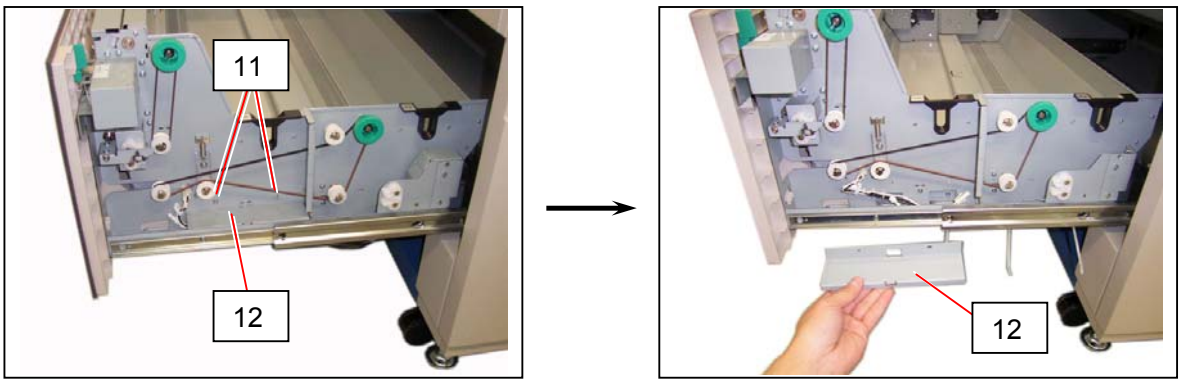




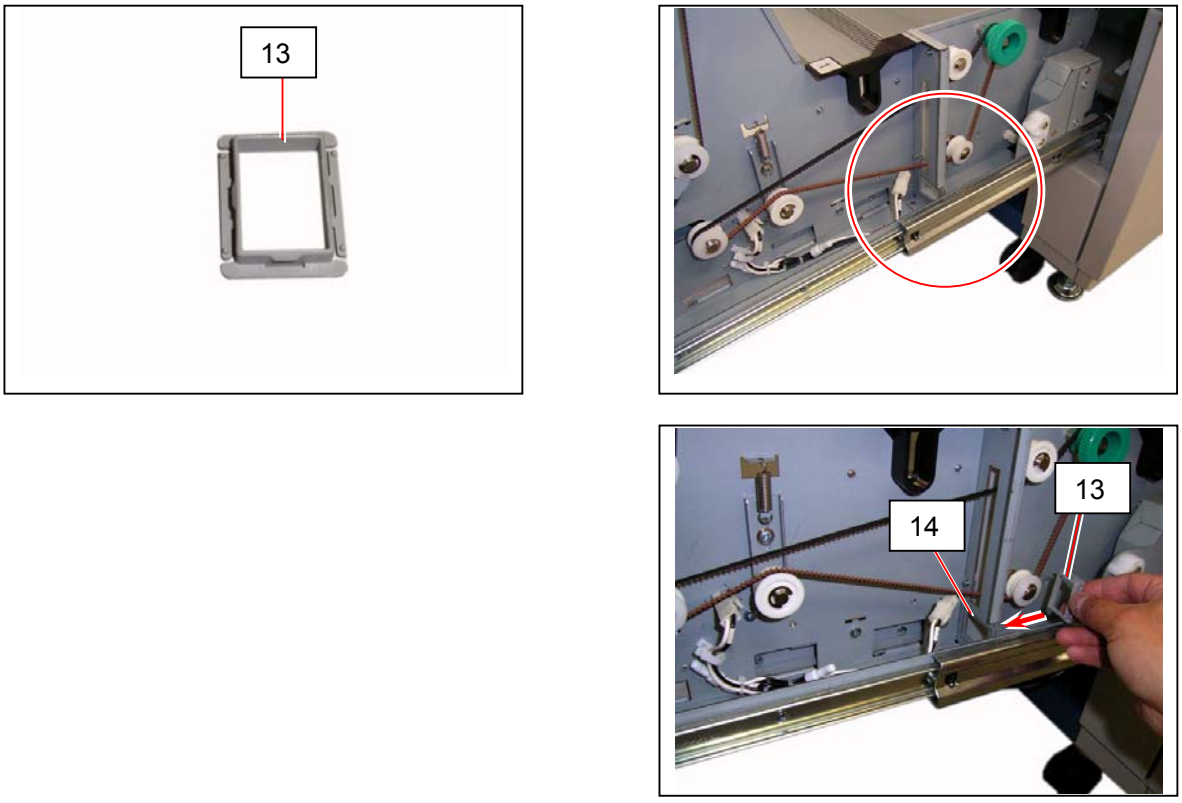
6. Replace the Cover 2 (4).



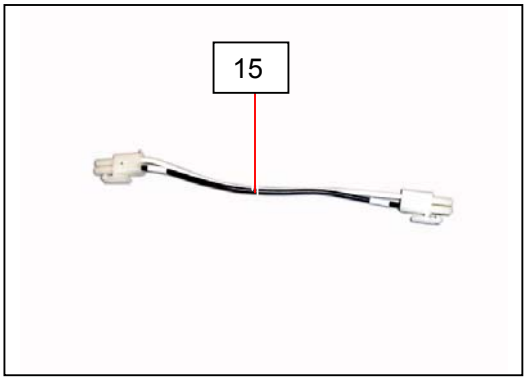
7. Remove 2 pieces of 4x6 Bind Screw (11) to remove the Cover (12).

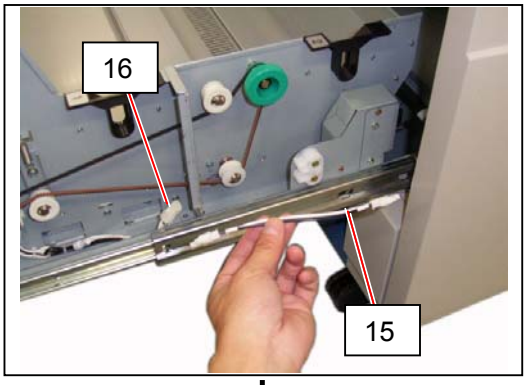


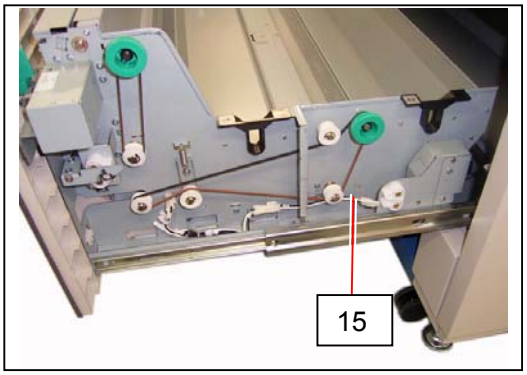
8. Fit the Bush (13) to the square hole (14) from rear to front.



9. Connect the AC Paper Harness 2 (15) to the connector (16).

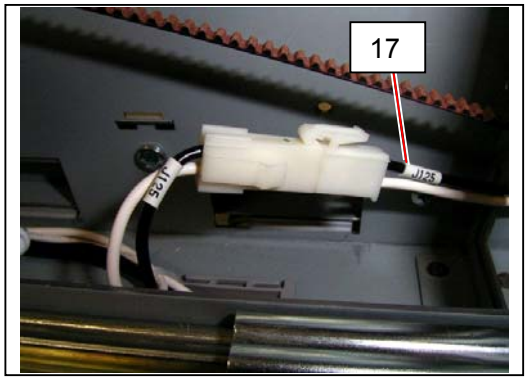




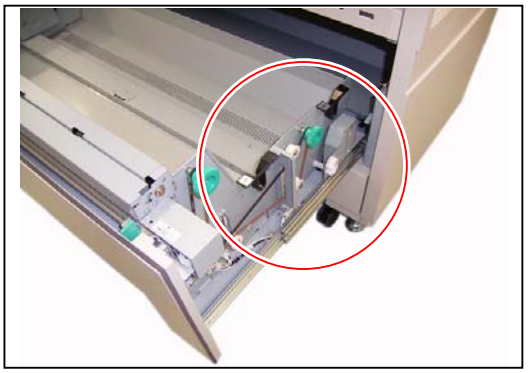


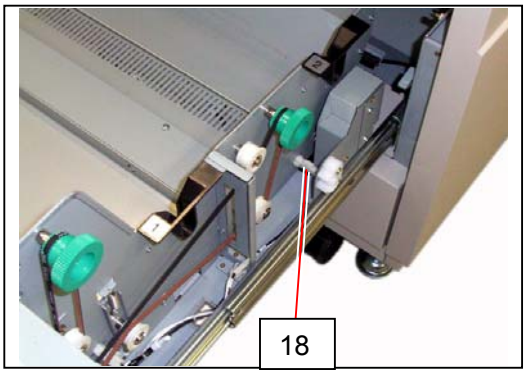
NOTE

There are labels at both sides of the AC Paper Harness 2.
Please connect “J125” side (17) to the connector.

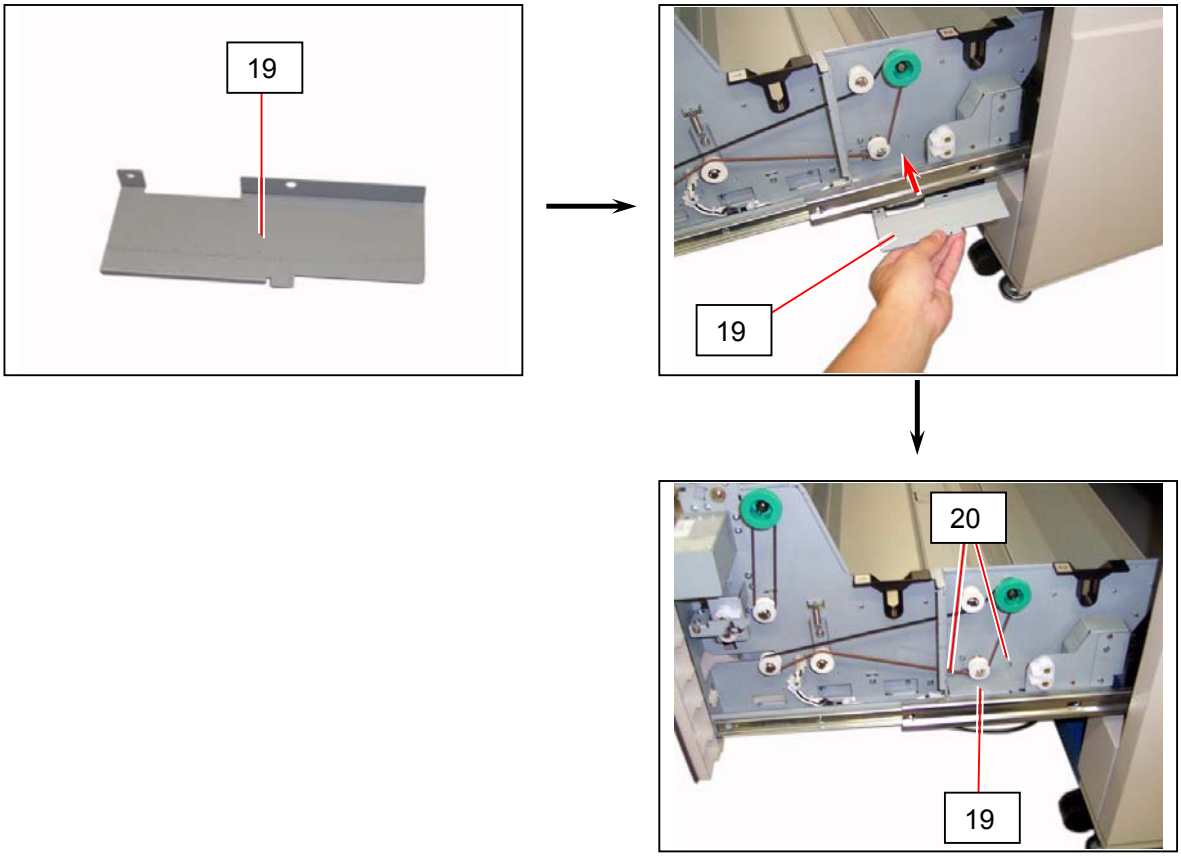


10. Connect “J114” side (18) of the AC Paper Harness 2 to the Dehumidify Heater.

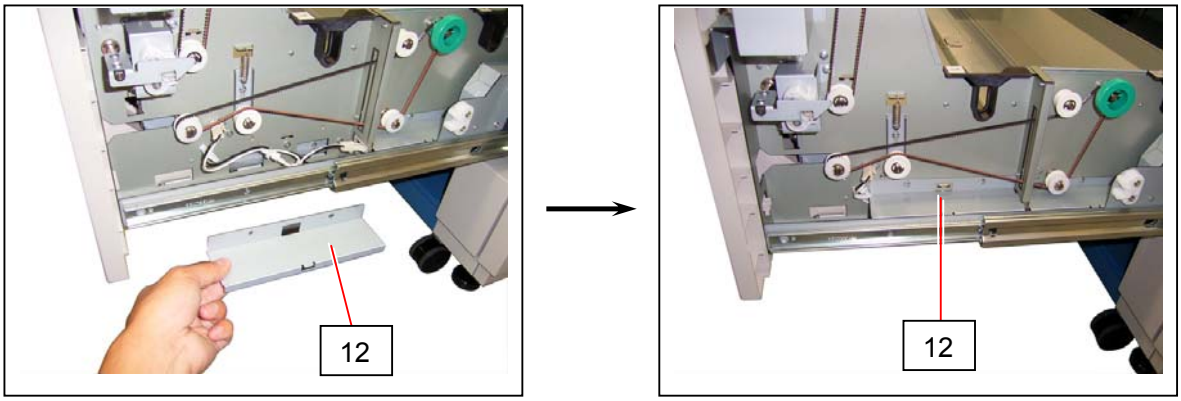




11. Install the Cover 2 (19) with 2 pieces of 4x6 Bind Screw (20) to hide the harness.



12. Finally replace the Cover (12) to hide the harness.

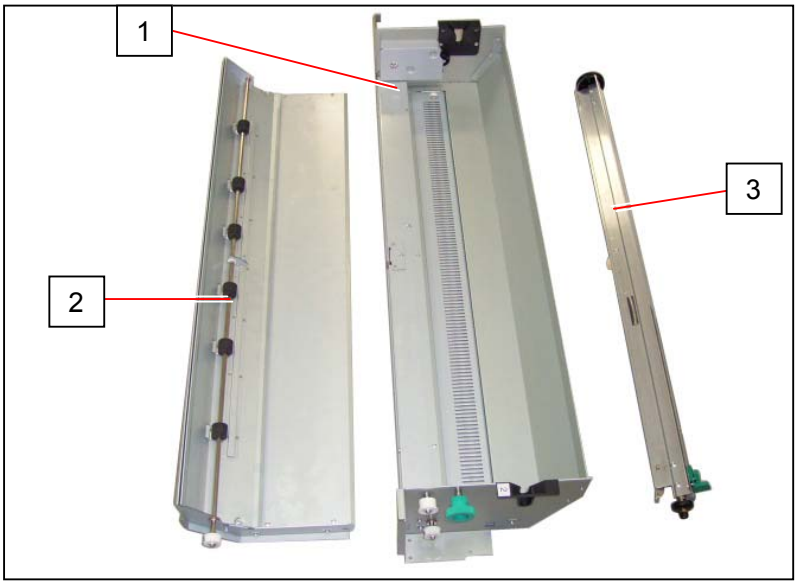


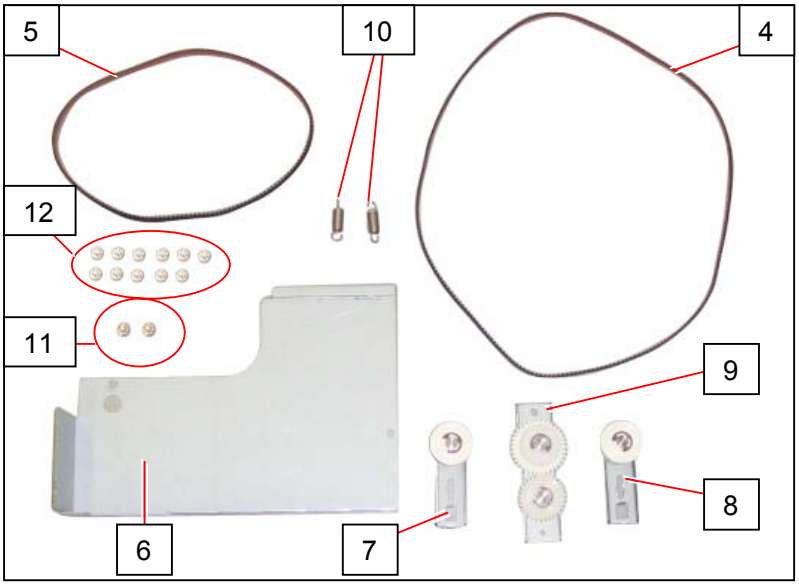
5. 4.12 Installation of Roll Deck 2 Kit (Optional in USA)

It is possible to install two Roll Deck Units to the KIP 3000 in maximum.
If your KIP 3000 is installed with only one unit, it is possible to add one more unit optionally.

> **NOTE**
>
> After installing the Kit it is necessary to make the KIP 3000 recognize the Roll Deck 2 in the Service Mode, which you can do in the Item Number 058 of the Adjustment Mode.
> Refer to [8.5.4.29 Recognition of Roll Deck 2 (No.058)] on the page 8-56.

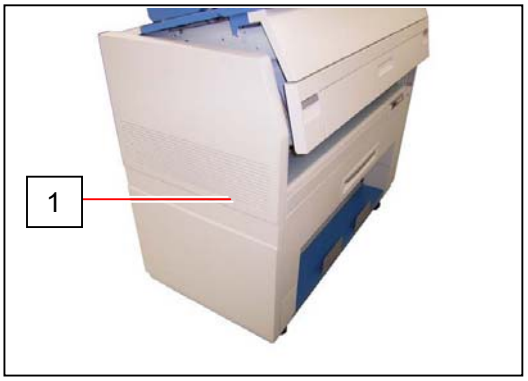
1. Confirm that Roll Deck 2 Kit includes the following parts.



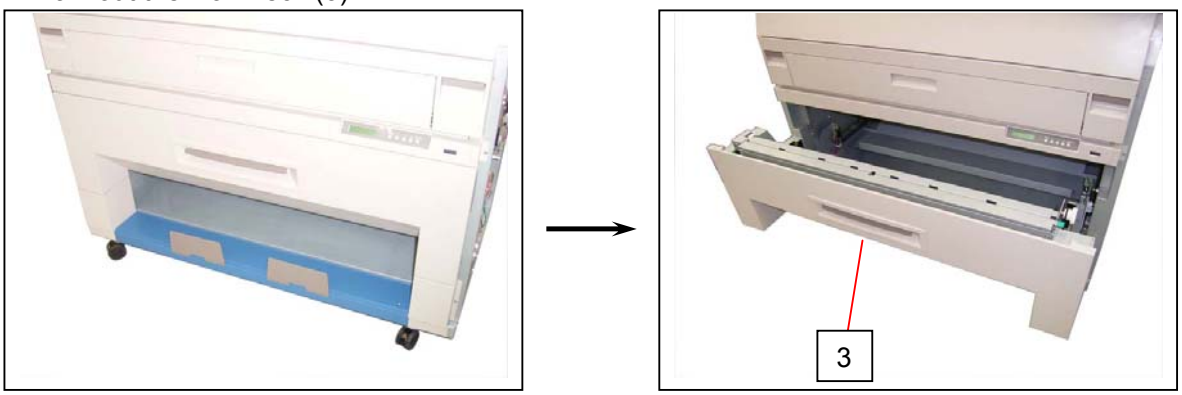


Roll Deck 2 Kit					
Item	Part name	Number of article	Item	Part name	Number of article
1	Roll Deck 2 Assembly	1	7	Plate 9 Assembly 1	1
2	Roll Deck 2 Drive Assembly	1	8	Plate 9 Assembly 2	1
3	Spool Assembly	1	9	Bracket 17 Assembly	1
4	Timing Belt 753	1	10	Spring 7	2
5	Timing Belt 480	1	11	4x6 Tooth Washer Screw	2
6	Cover 7	1	12	4x6 Bind Screws	11

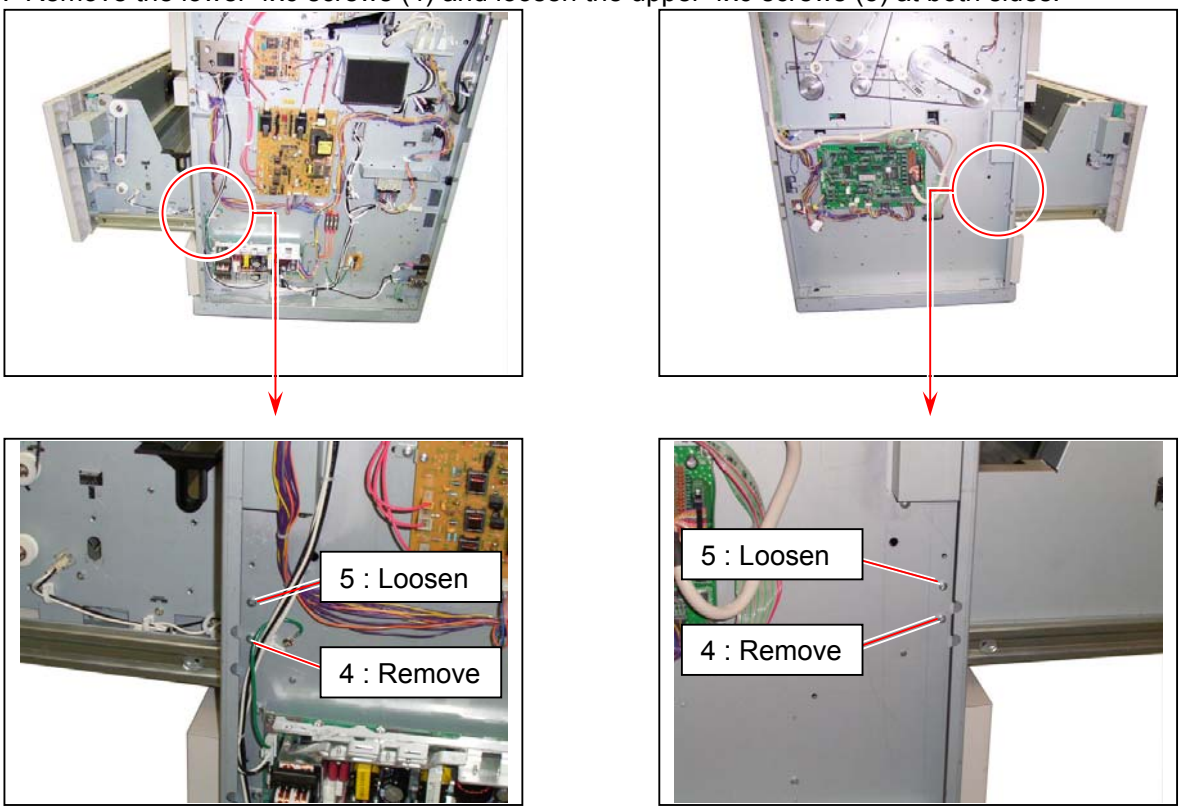
2. Remove both Cover 2 (1) and Cover 3 (2) making reference to [5. 1. 1 Removal of Side Covers] on the page 5-3. Close the Engine Unit.



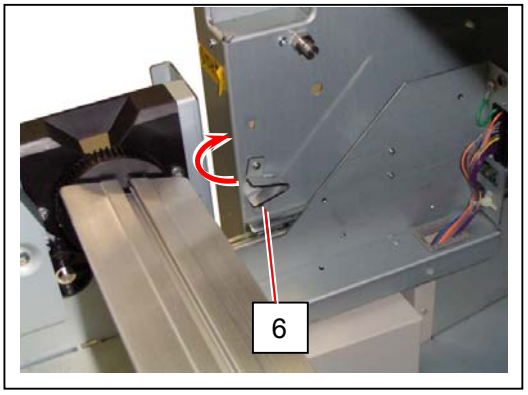
3. Draw out the Roll Deck (3).



4. Remove the lower 4x6 screws (4) and loosen the upper 4x6 screws (5) at both sides.

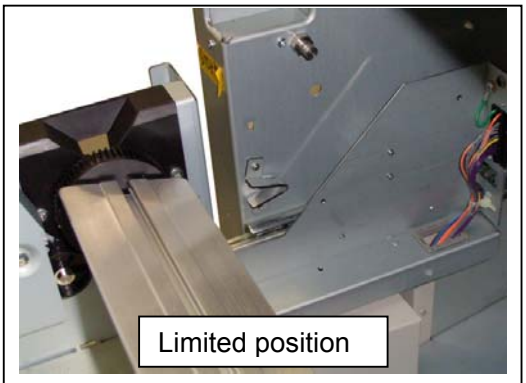


5. Rotate both the Brackets 26 (6) in a 180 degrees arc as the arrow mark.

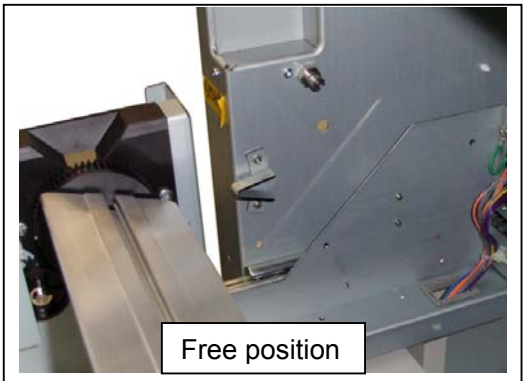


NOTE

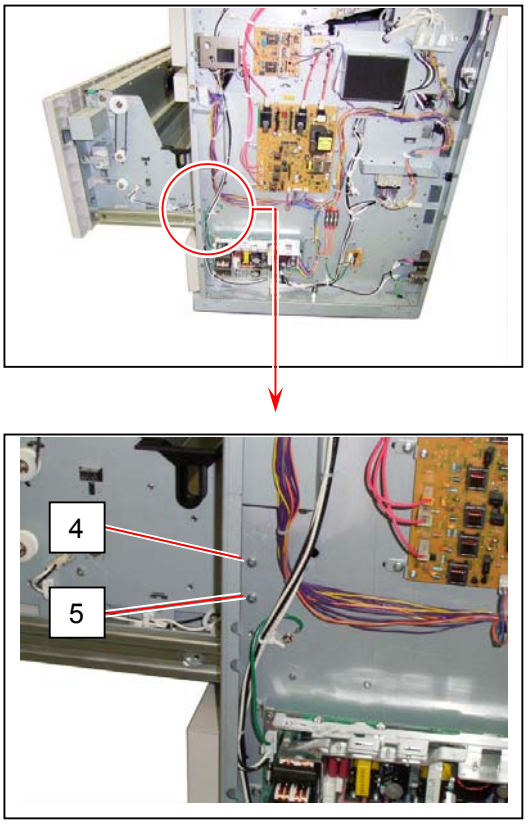
This is the “limited position” of Bracket 26 (6). You can not open the Roll Deck so widely in this situation because the Stopper restricts to do so.

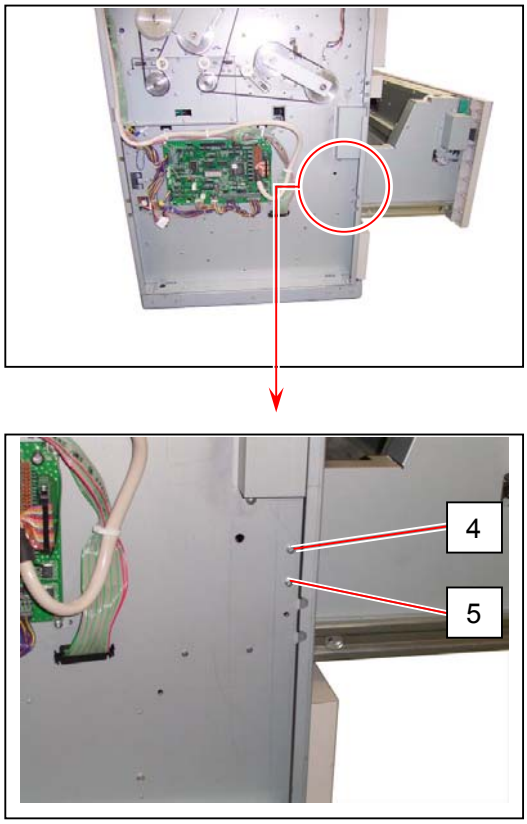


This is the “free position” of Bracket 26 (6). You can open the Roll Deck widely in this situation.



6. Fix the Brackets 26 (6) at the “free position” with the 4x6 screws (4) and (5) you have removed or loosened at the former step 3.

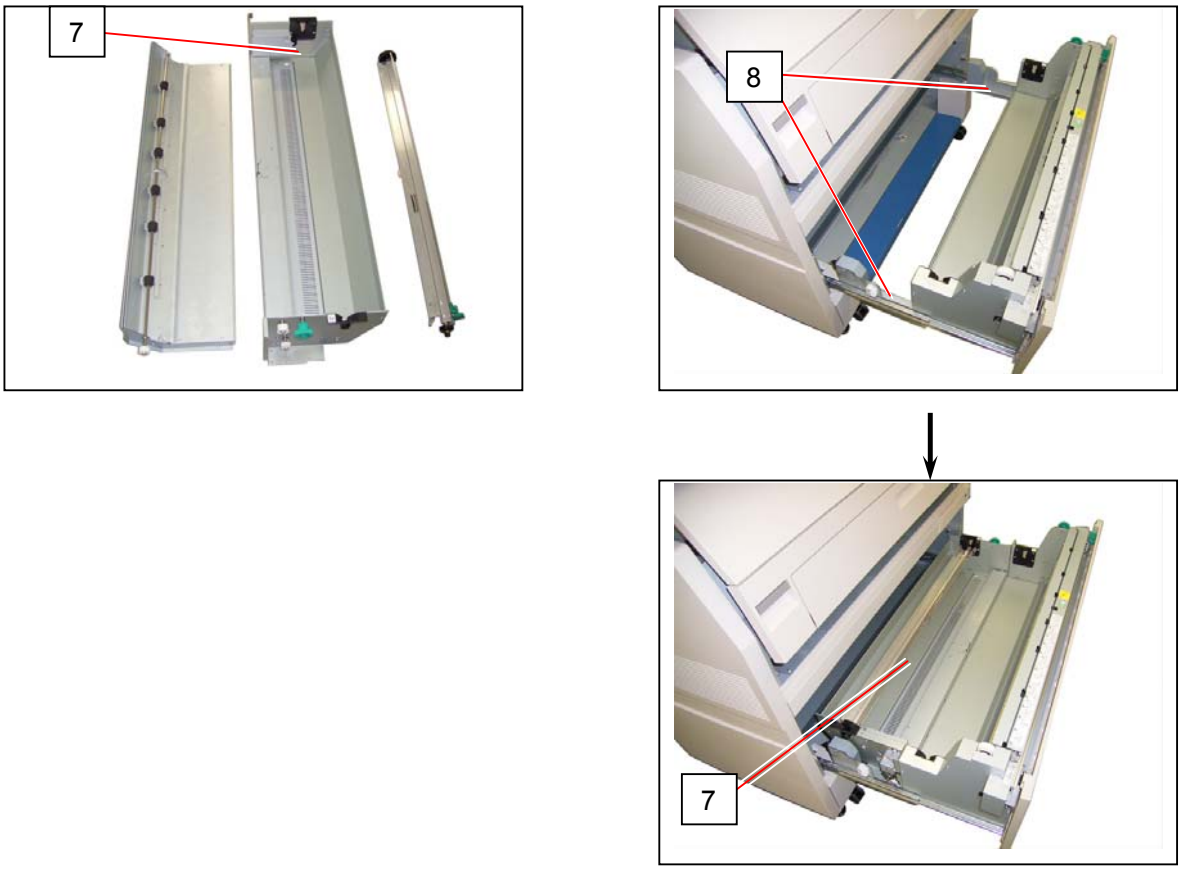




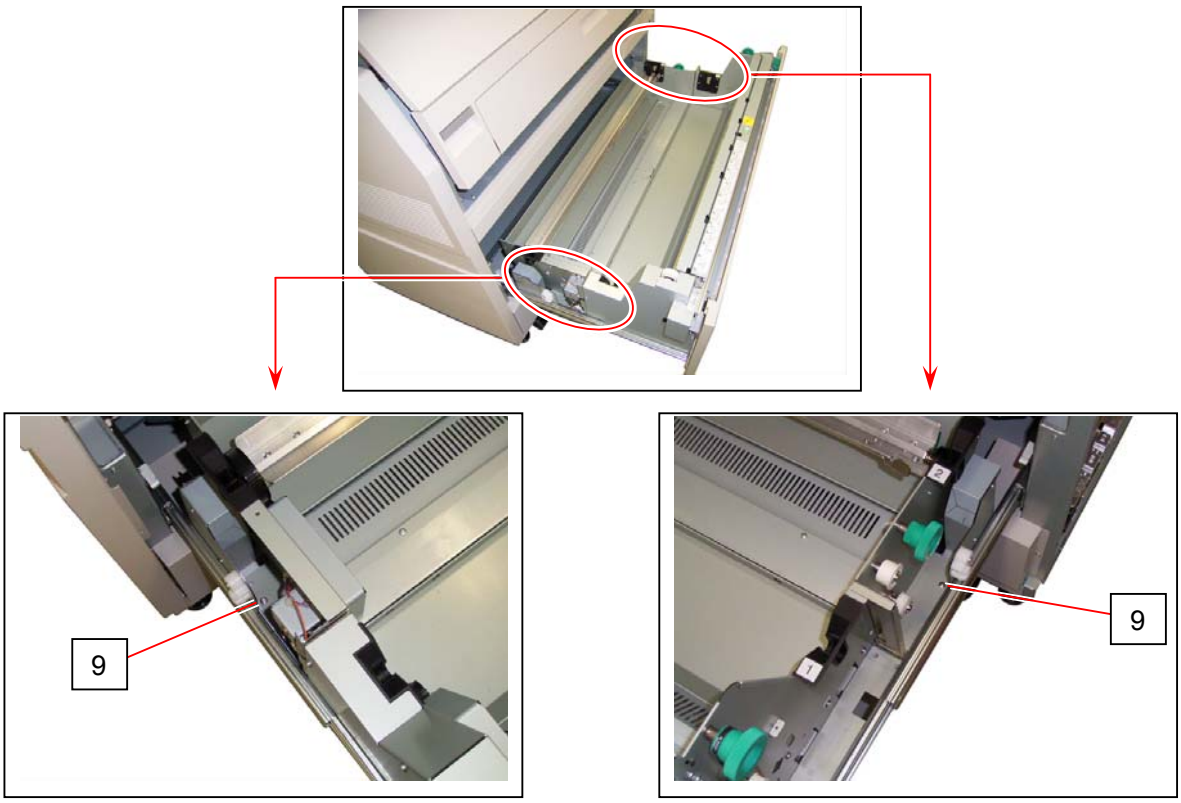
NOTE

Please note that the position of 4x6 screws (4) varies if you change from “limited position” to “free position”.

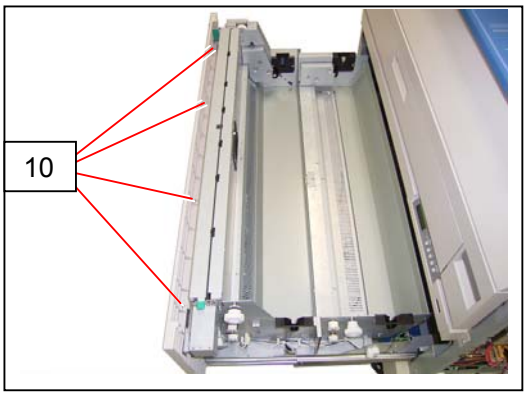
7. Mount the Roll Deck 2 Assembly (7) onto the Rails (8).

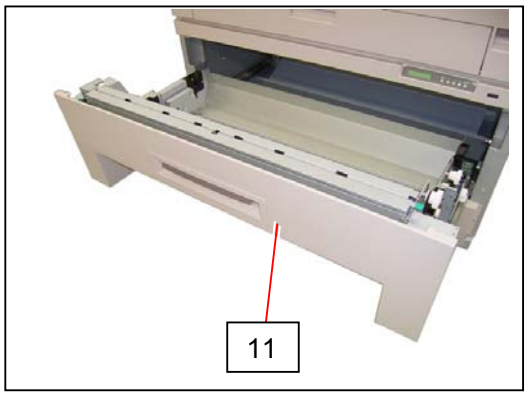


8. Fix the Roll Deck 2 Assembly to both Rails with 2 pieces of 4x6 Tooth Washer Screw (9).

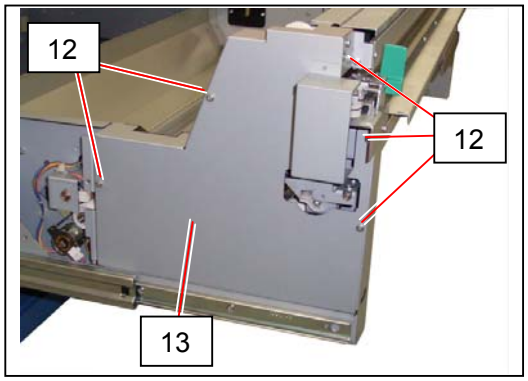


9. Loosen 4 pieces of 4x6 screw (10), and then remove the Cover 1 (11).

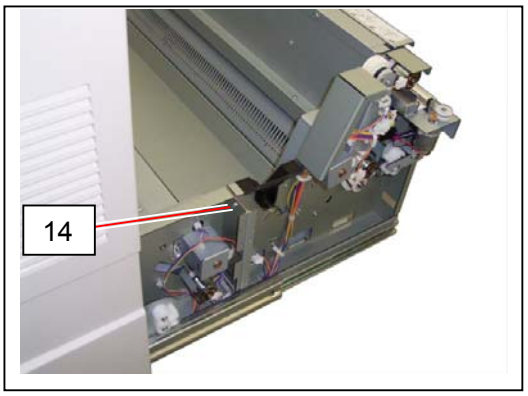


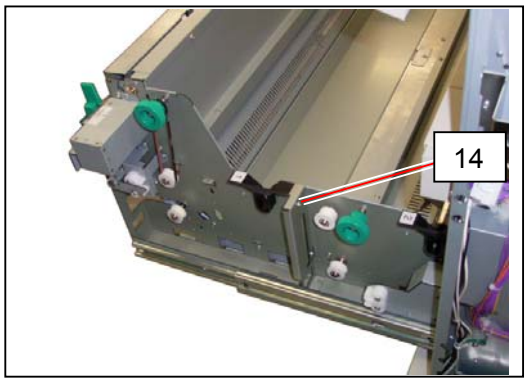


10. Remove 5 pieces of 4x6 screw (12), and then remove the Cover 3 (13).

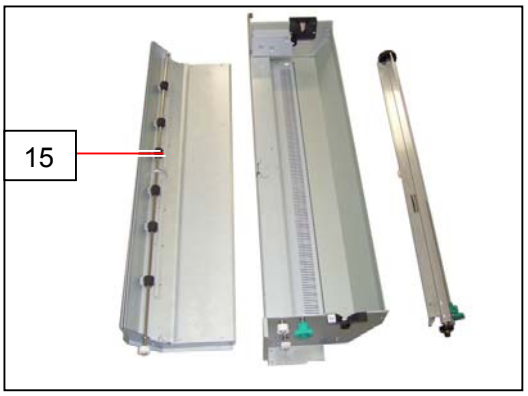


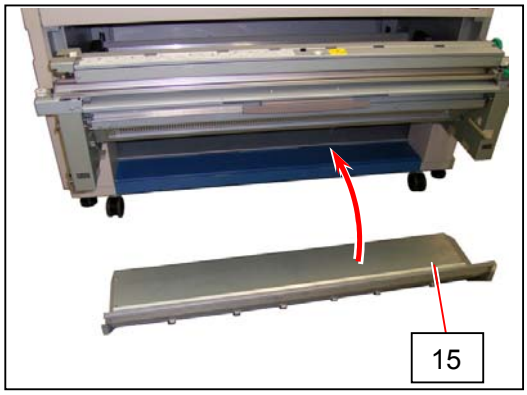
11. Joint both the Roll Deck 1 Assembly and Roll Deck 2 Assembly with 2 pieces of 4x6 screw (14).

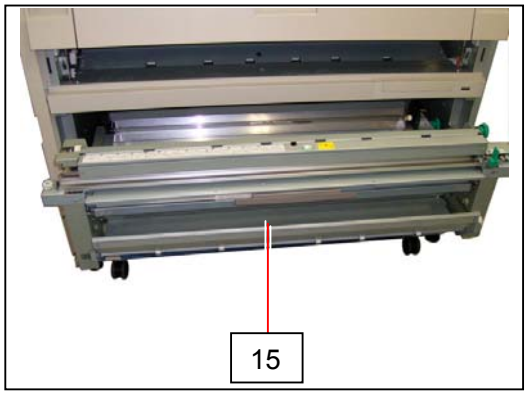




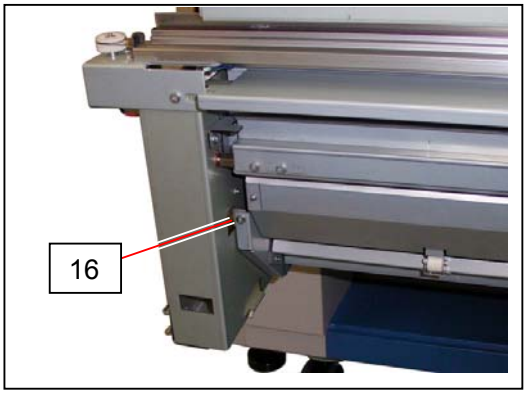
12. Mount the Roll Deck 2 Drive Assembly (15) onto the Roll Deck.

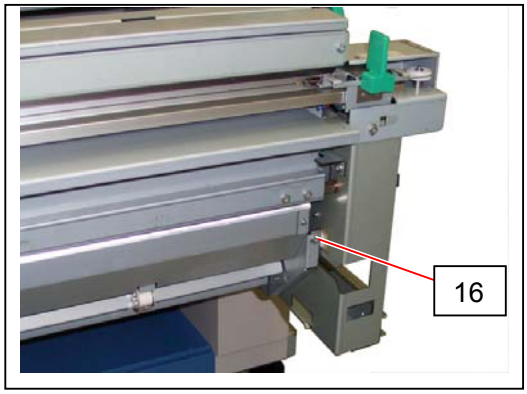




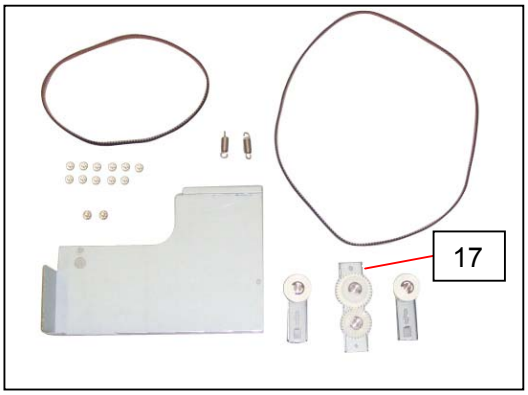


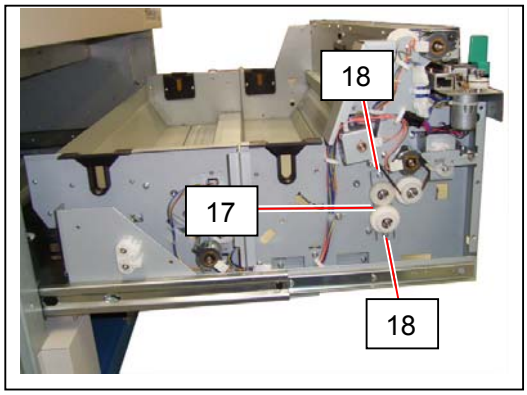
13. Fix the Roll Deck 2 Drive Assembly (15) with 2 pieces of 4x6 screw (16),



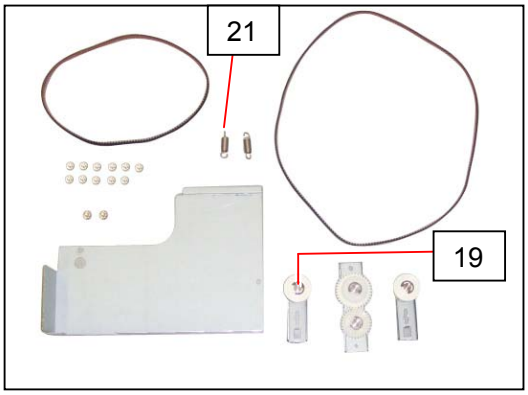


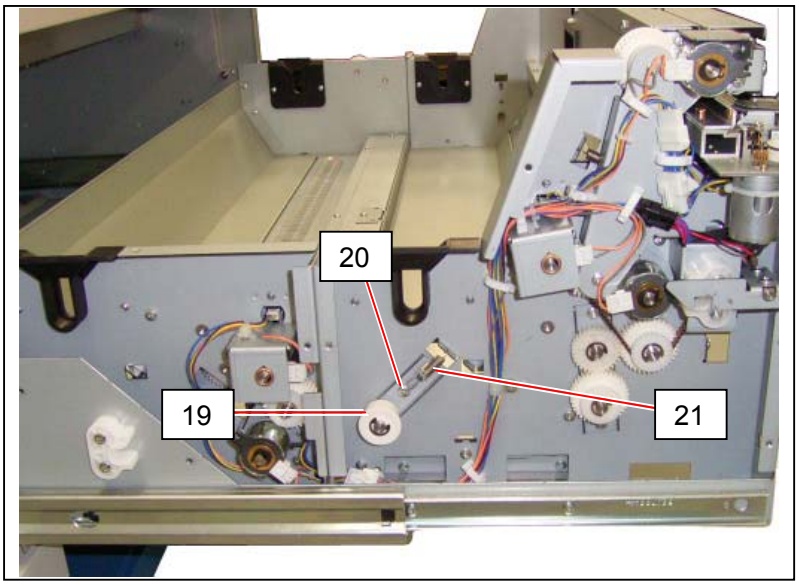
14. Attach the Bracket 17 Assembly (17) with 2 pieces of 4x6 screw (18).





15. Attach the Plate 9 Assembly 1 (19) with one piece of 4x6 Bind Screw (20). Then hook the Spring 7 (21).





NOTE

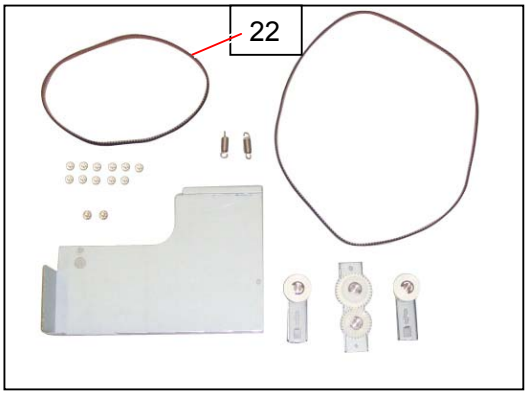
(1) Do not tighten the screw (20) at this time because the Plate 9 Assembly 1 (19) must be movable when you stretch the Belt in the next step.

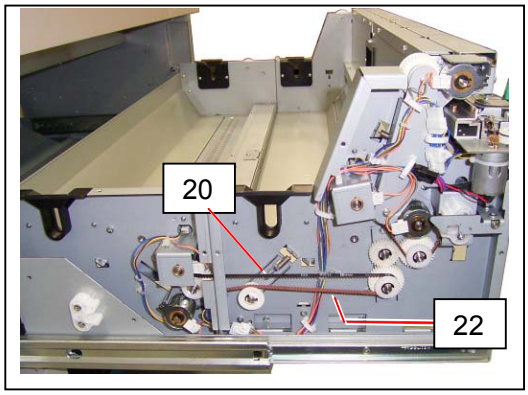
(2) Plate 9 Assembly 1 and Plate 9 Assembly 2 look similar, but you can distinguish between them because the Plate 9 Assembly 1 has a longer shaft than Plate 9 Assembly 2.

Plate 9 Assembly 1 (Longer shaft)

Plate 9 Assembly 2 (Shorter shaft)

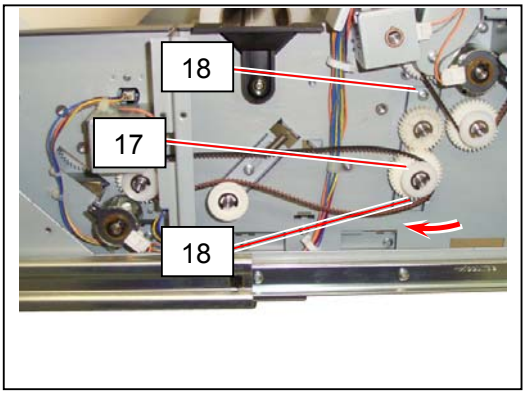
16. Stretch the Timing Belt 480 (22) between gears.
Then, tighten the 4x6 screw (20) to fix the Plate 9 Assembly 1.



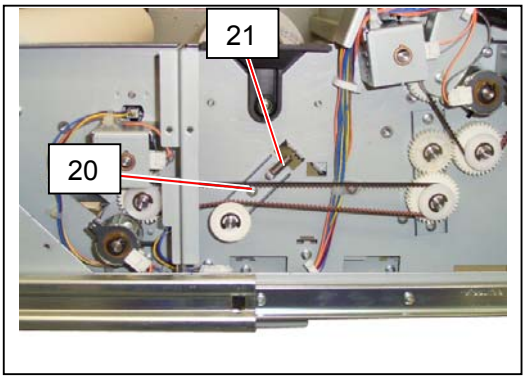


NOTE

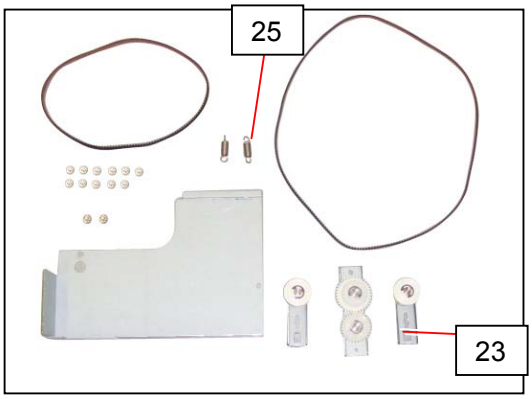
(1) If it is hard to stretch the Timing Belt 480 (22), loosen the upper one of screw (18) and remove the lower one (18) to make the Bracket 17 Assembly (17) movable.
You will be able to stretch the belt if you do so.

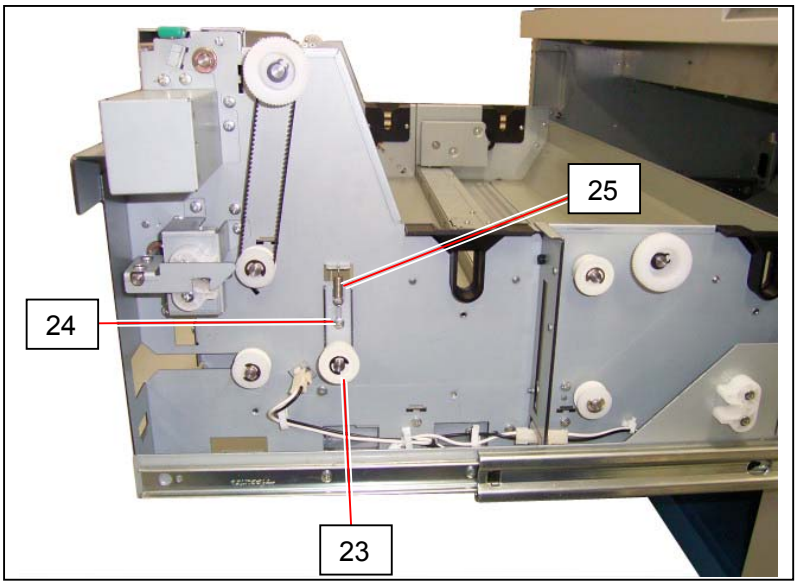


(2) You do not have to adjust the belt tension especially.
As the Spring 7 (21) gives enough tension to the Timing Belt 480, just tighten the screw (20).



17. Attach the Plate 9 Assembly 2 (23) with the 4x6 screw (24).
Then hook another piece of Spring 7 (25).





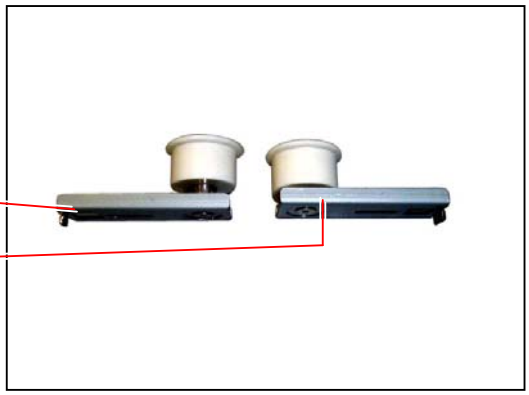
NOTE

(1) Do not tighten the screw (24) at this time because the Plate 9 Assembly 2 (23) must be movable when you stretch the Belt in the next step.

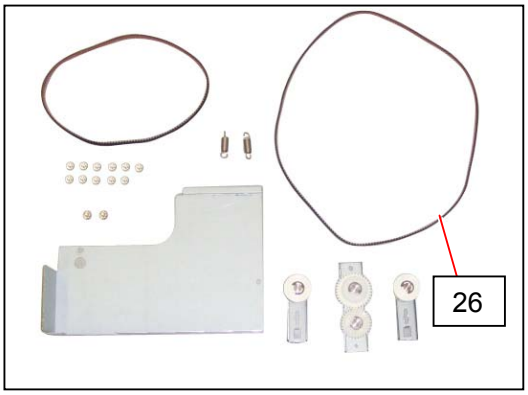
(2) Plate 9 Assembly 1 and Plate 9 Assembly 2 look similar, but you can distinguish between them because the Plate 9 Assembly 1 has a longer shaft than Plate 9 Assembly 2.

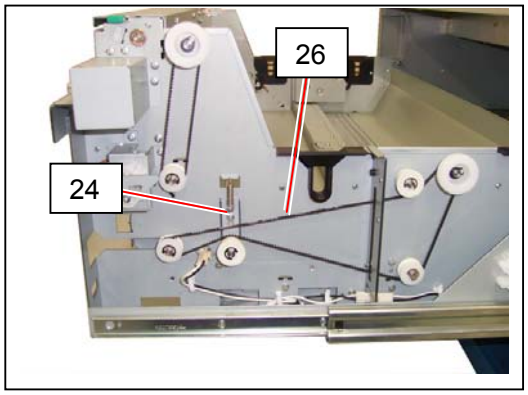
Plate 9 Assembly 1 (Longer shaft)

Plate 9 Assembly 2 (Shorter shaft)



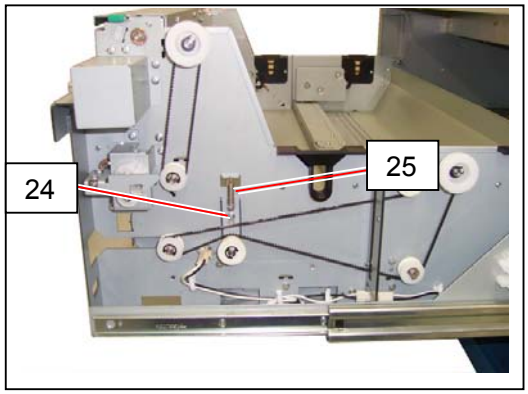
18. Stretch the Timing Belt 753 (26) among gears and pulleys.
    Then, tighten the screw (24) to fix the Plate 9 Assembly 2.



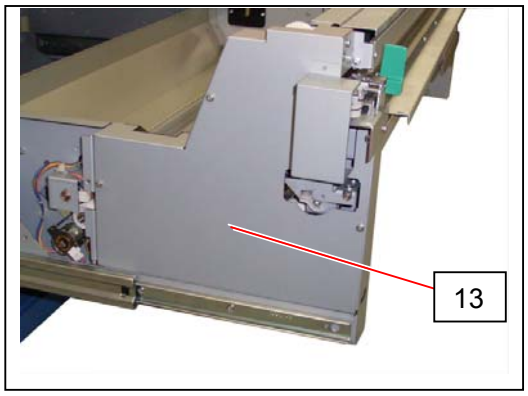


NOTE

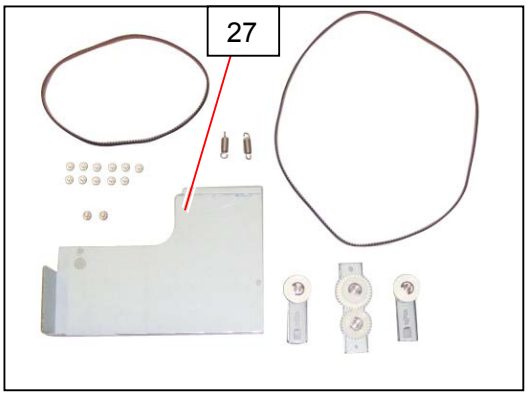
You do not have to adjust the belt tension especially.
As the Spring 7 (25) gives enough tension to the Timing Belt 753, just tighten the screw (24).

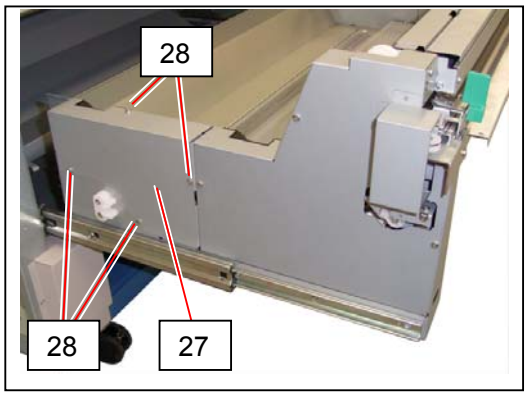


19. Put back the Cover 3 (13).



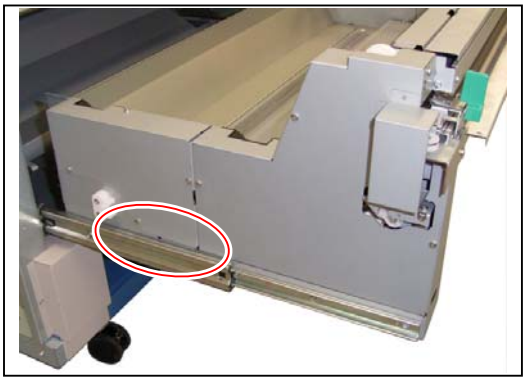
20. Attach the Cover 7 (27) with 4 pieces of 4x6 screw (28).

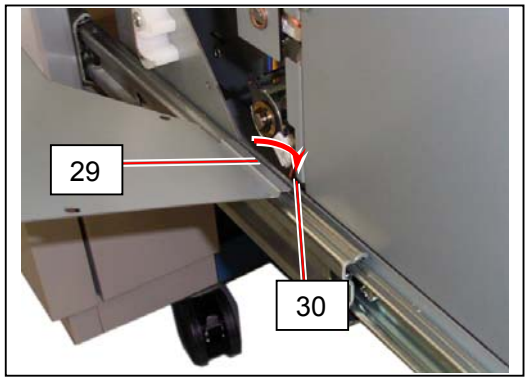




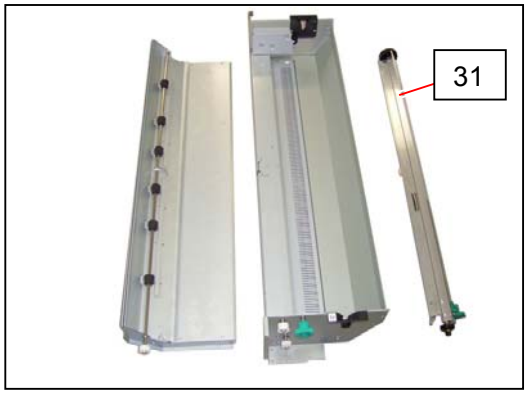
NOTE

Make sure that the step part (29) on the lower side of the Cover 7 (27) is inside of the plate (30).





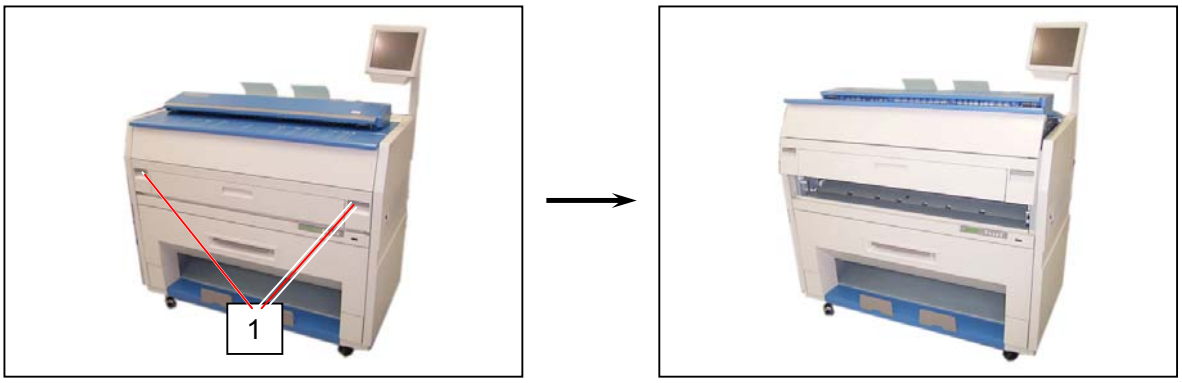
21. Set the Roll Spool (31) to the Roll Deck Unit finally.



5. 5 Photoconductive Drum

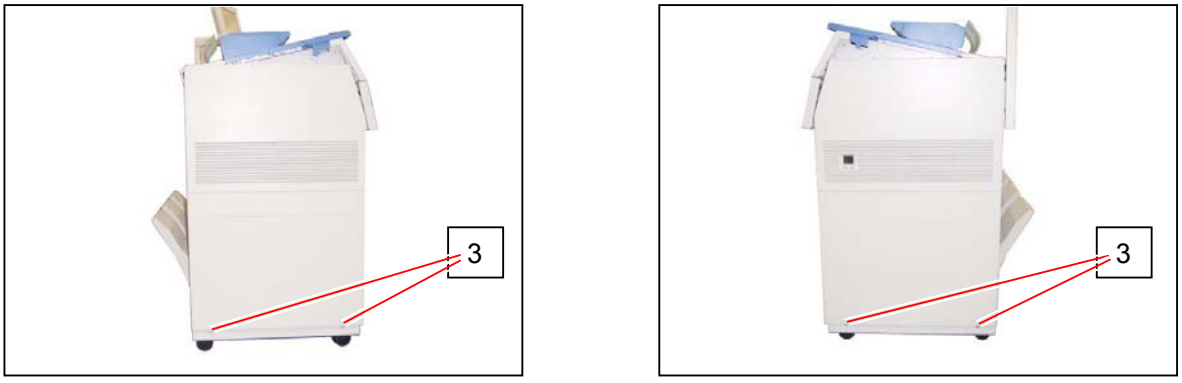
5. 5. 1 Replacement of the Photoconductive Drum

1. Pull up the Lever 2 (1) to open the Engine Unit.

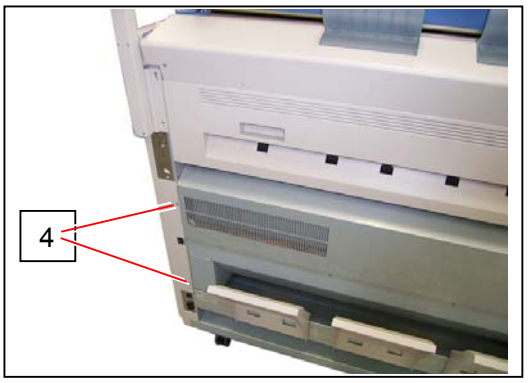


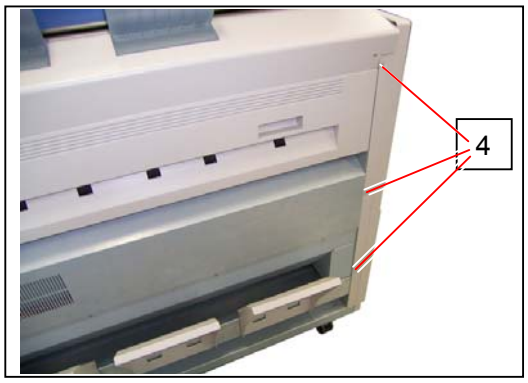
2. Remove the 4x6 screws (2) at both sides.

3. Remove 4 pieces of 4x6 screw (3) at both sides.

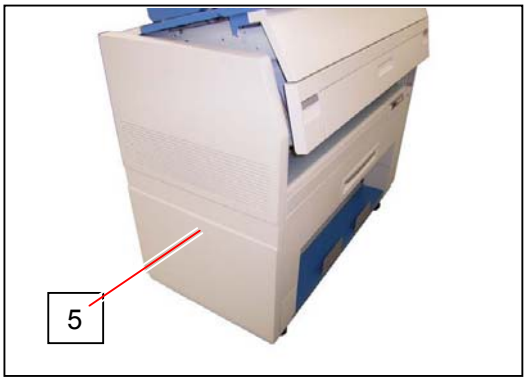


4. Remove 5 pieces of 4x6 screw (4) at both sides.
   (2 pieces on the right and 3 pieces on the left)



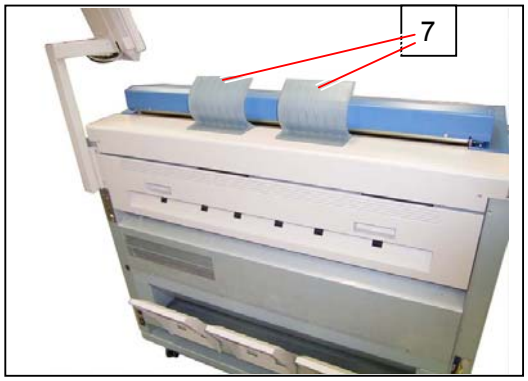


5. Remove the Cover 2 (5) and the Cover 3 (6).

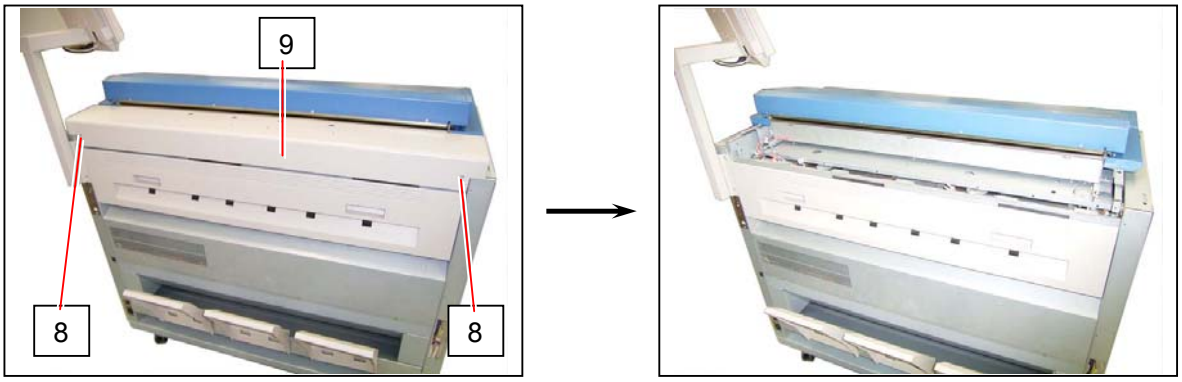


6. Close the Engine Unit.

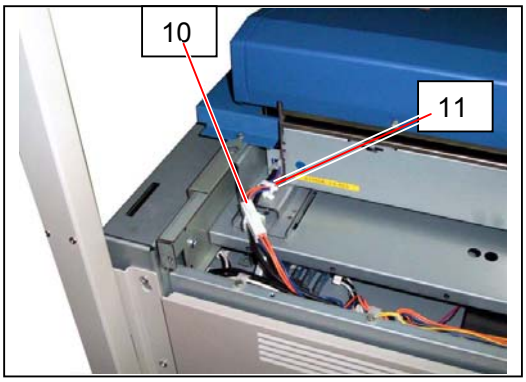
7. Remove the Guides 3 (7).



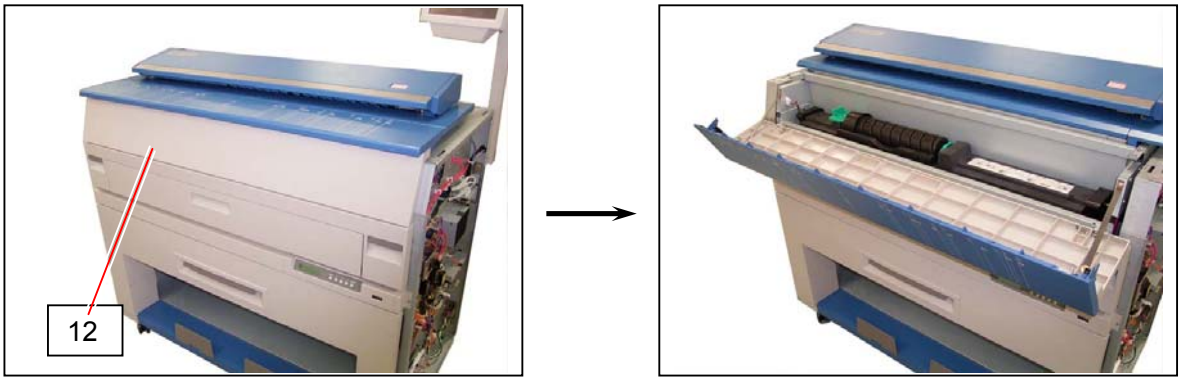
8. Remove 2 pieces of 4x6 screw (8) to remove the Cover 10 (9).



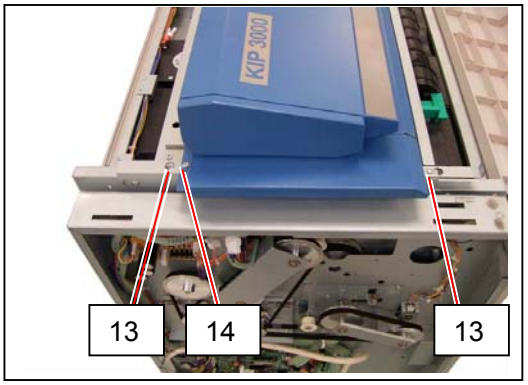
9. Disconnect the connector (10), and open the Wire Saddle (11) to release the harness.

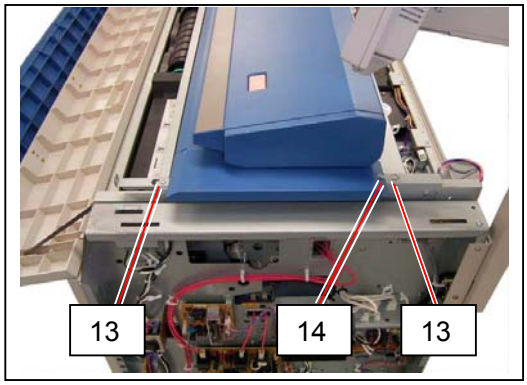


10. Open the Cover 4 (12).

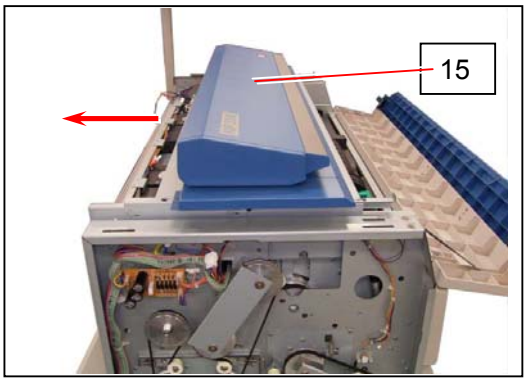


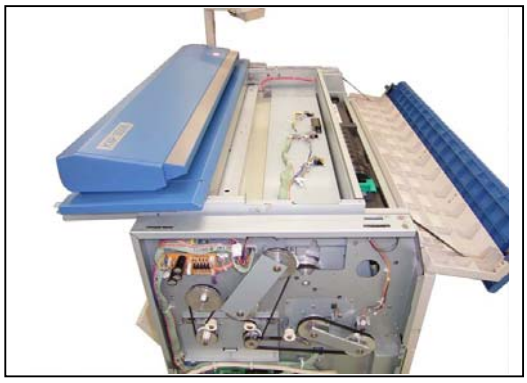
11. Remove 4 pieces of 4x6 screw (13) and 2 pieces of washer screw (14).



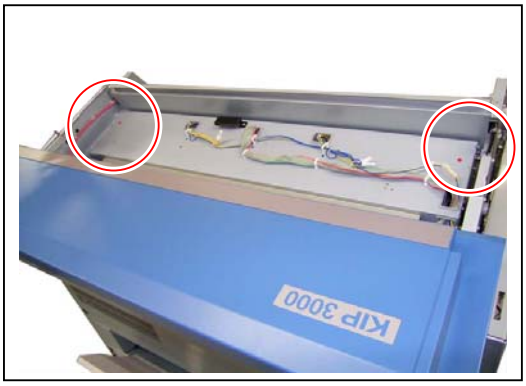


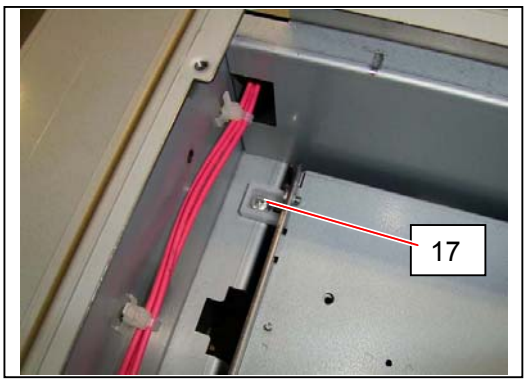
12. Slide the Scanner Unit (15) fully backward.



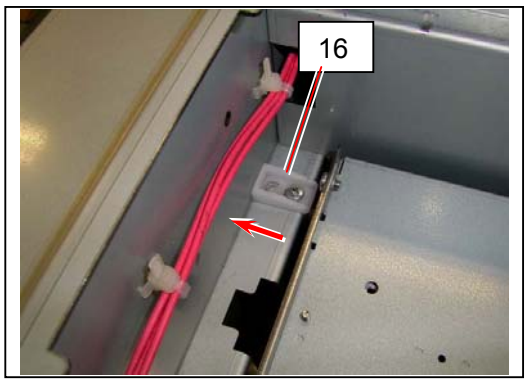


13. There are 2 pieces of Stopper (16) at both sides, which lock the LED Head Frame.
Loosen the screw (17) and then slide the Stoppers (16) outside to unlock the LED Head Frame.



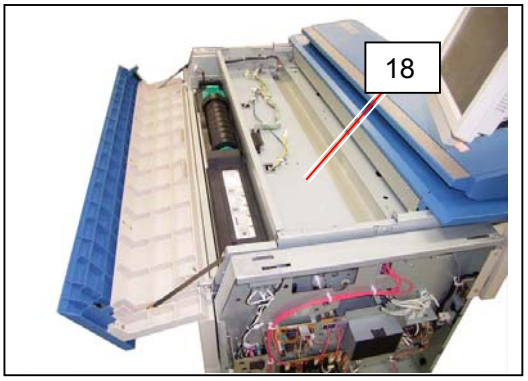


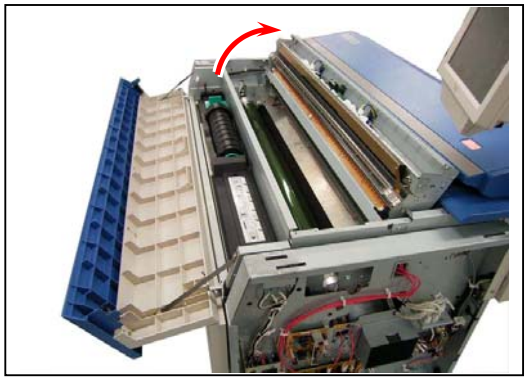
Lock position



Unlock position

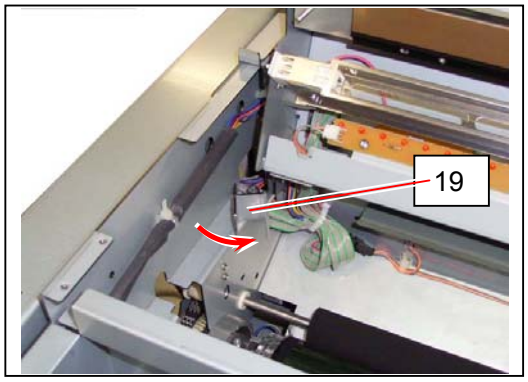
14. Open the LED Head Frame (18).



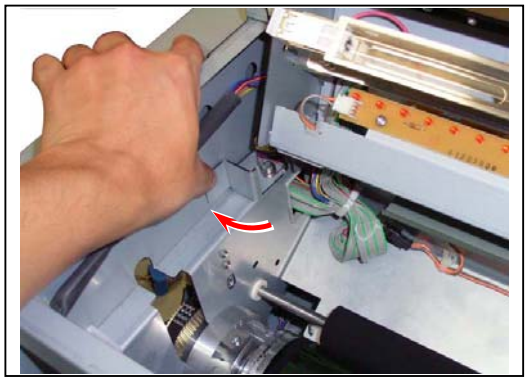


NOTE

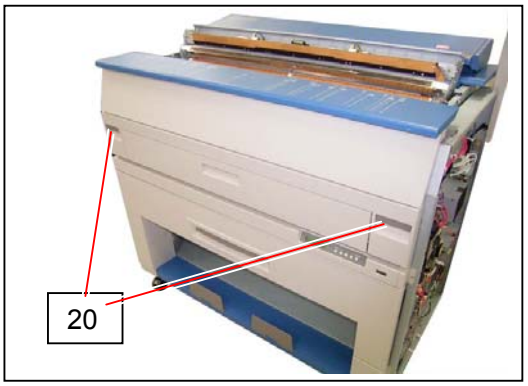
The Stopper 2 (19) comes out automatically to prevent the LED Head Frame from falling down.



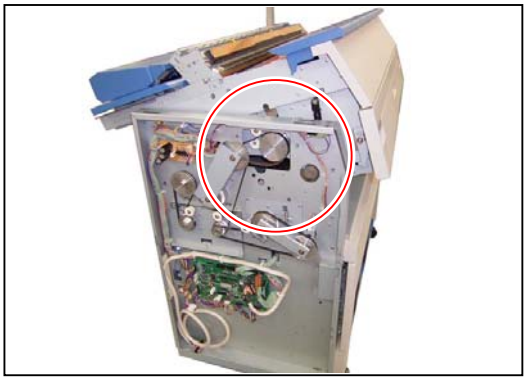
Press the Stopper 2 as the right photo if you will close the LED Head Frame.

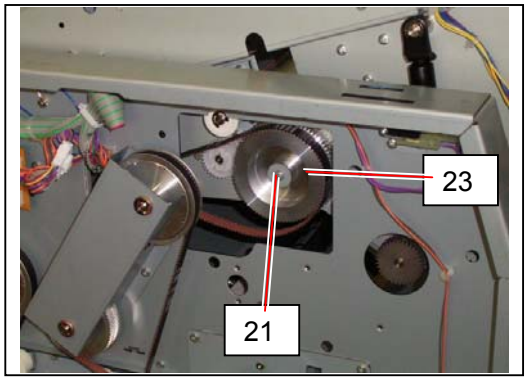


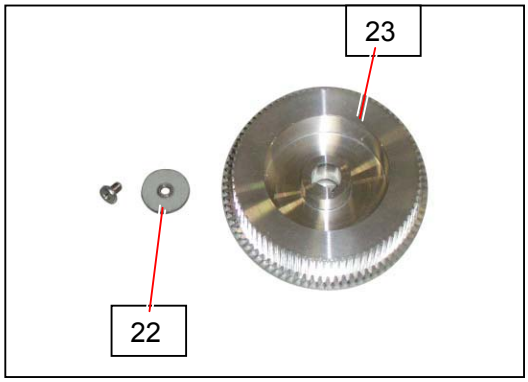
15. Pull up the Lever 2 (20) to open the Engine Unit.



16. Remove the 4x6 screw (21), and remove the Plate (22) and Pulley Gear (23).

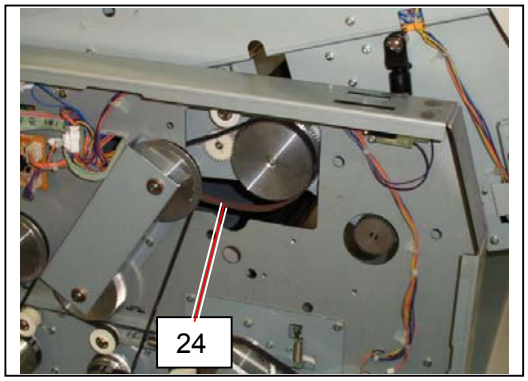




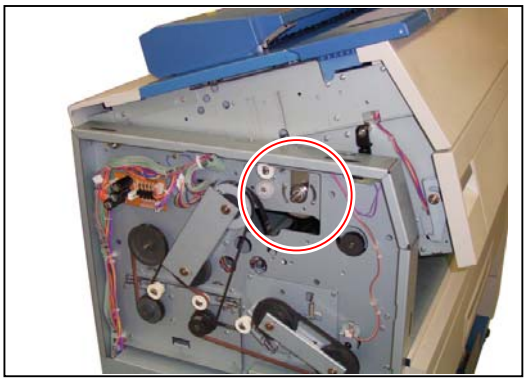


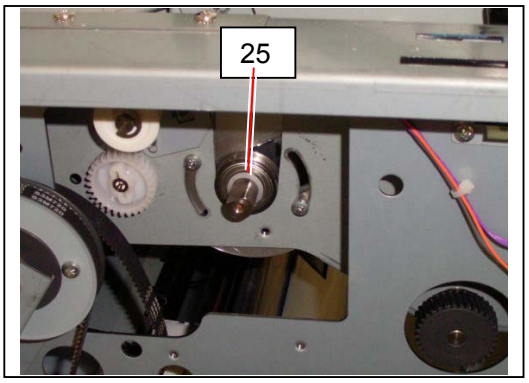
NOTE

The Belt 4 (24) is automatically loosed if you open the Engine Unit.
It will be strained if you close the Engine Unit.



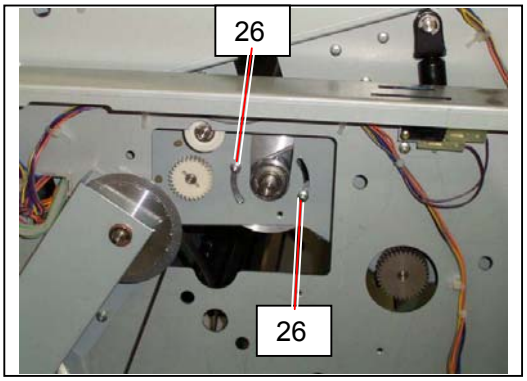
17. Remove the Collar (25) from the left Drum Shaft.

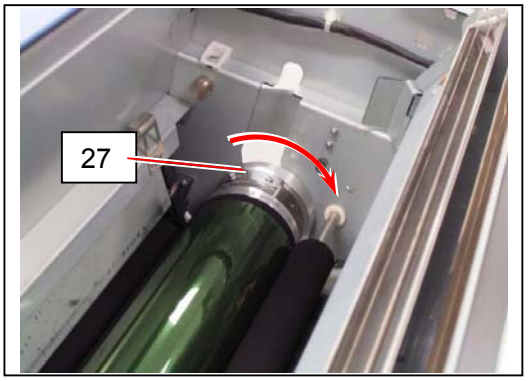


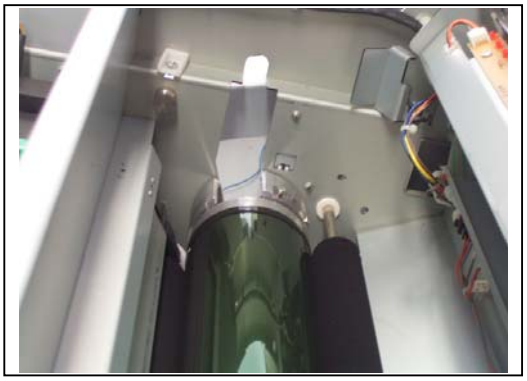


> **NOTE**
>
> The new (spare) Drum Assembly does not include the Collar (25).
> So please reuse it.

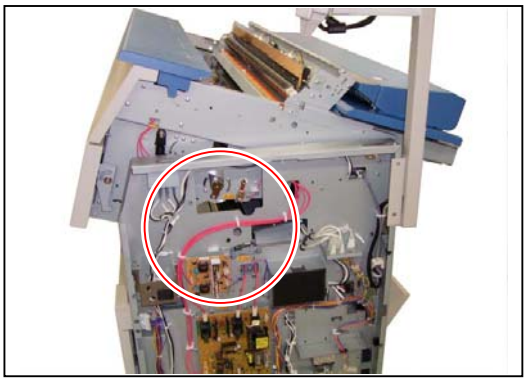
18. There are 2 pieces of screw (26) on the left which fix the Block (27).
    Loosen these screws and rotate the Block (27) as the arrow marks.

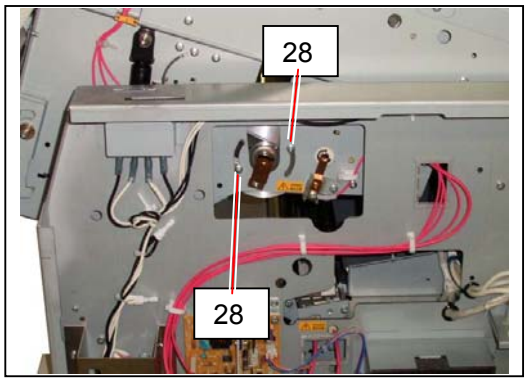


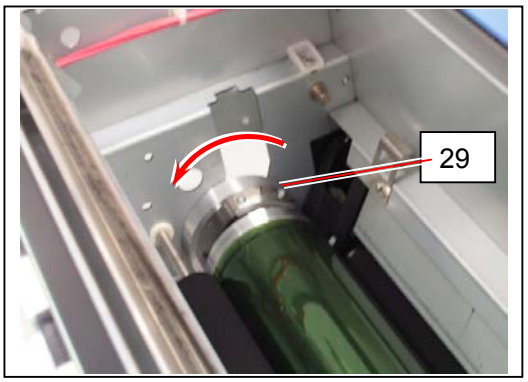


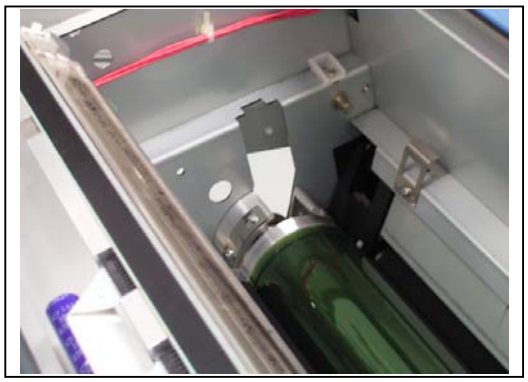


19. Similarly loosen 2 pieces of screw (28) on the right and rotate the Block 2 (29) as the arrow marks.

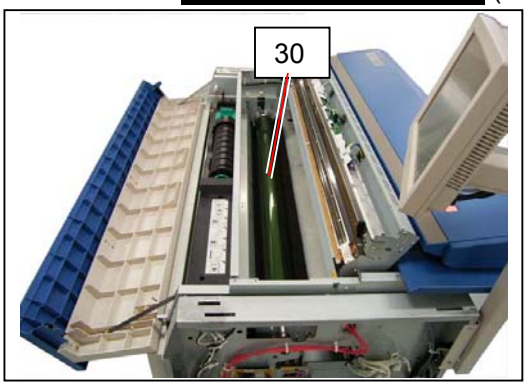








20. Remove the **Photoconductive Drum** (30), and replace it with the new one.

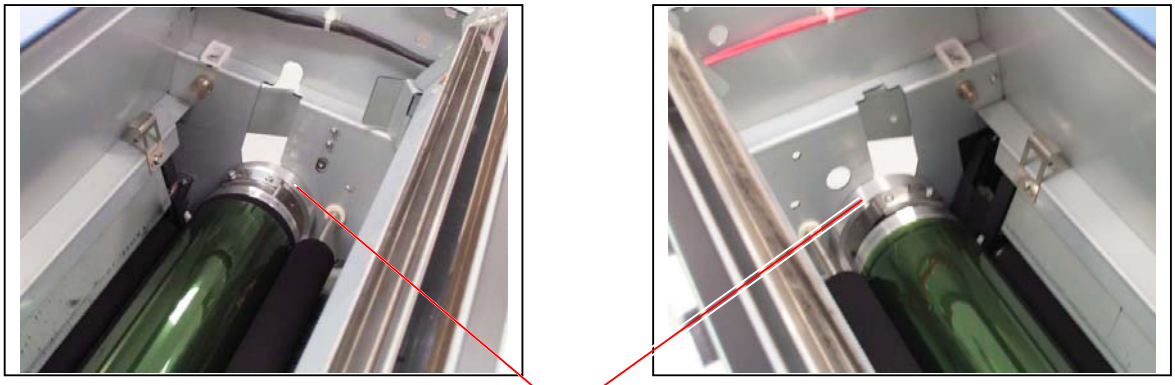


⚠ NOTE

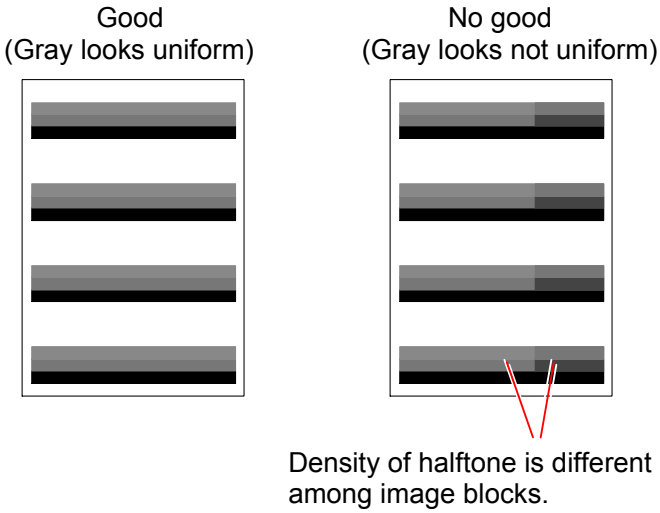
The Aluminium Block (27) and (29) maintain the focus of the LED Head.
Therefore it is necessary to re-position them correctly after replacing the Photoconductive Drum.
Please fix them making reference to [5.5.2 How to fix the Aluminium Blocks] on the page 5-178.

5. 5. 2 How to fix the Aluminium Blocks

There are Aluminium Blocks at both sides of the Drum Shaft.
As they maintain the focus of LED Head, it is necessary to re-position them correctly after replacing the Photoconductive Drum.



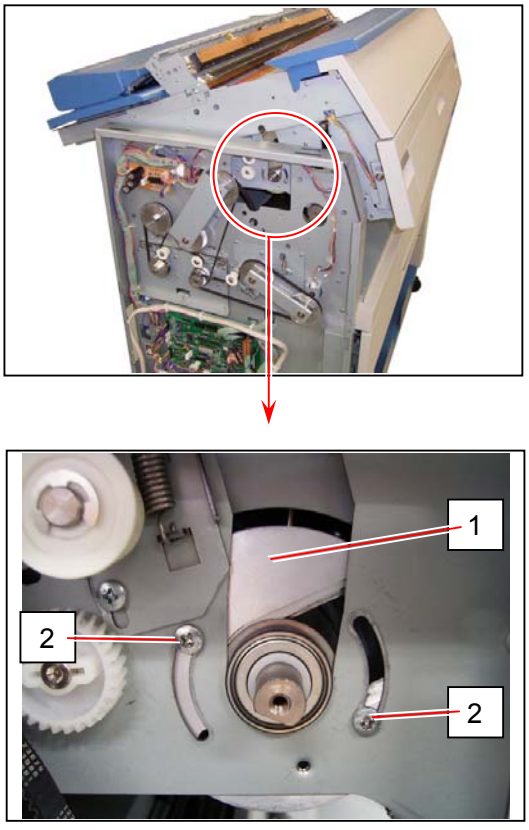
Print out the Test Pattern No.3 to check if the Aluminium Blocks are fixed at the correct position.
The density of halftone is uniform as the following left image if the Aluminium Blocks are fixed at the correct positions (focus is good).
But the density of halftone is different among image blocks as the following right image if blocks are not fixed correctly (focus is not good).



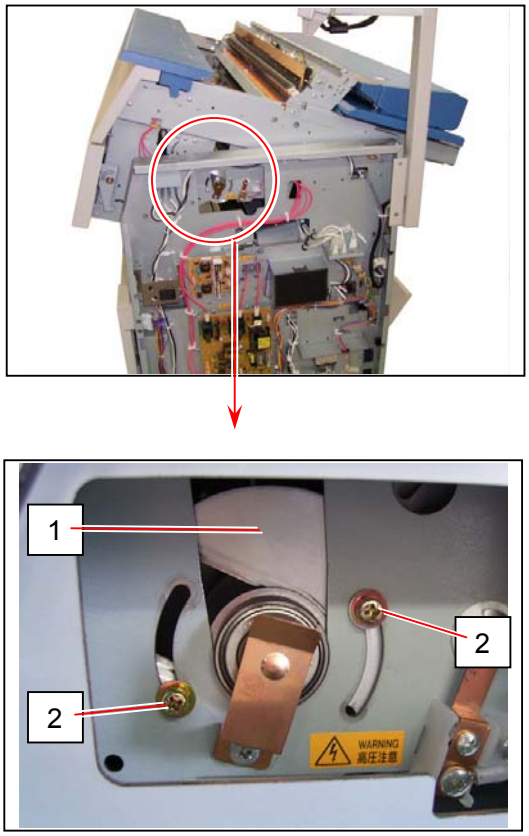
If the focus of LED Head is not good, fix the Aluminium Blocks properly making reference to the next page.

There are Aluminium Blocks (1) at both sides, and each of them is fixed with 2 screws (2).

Left side



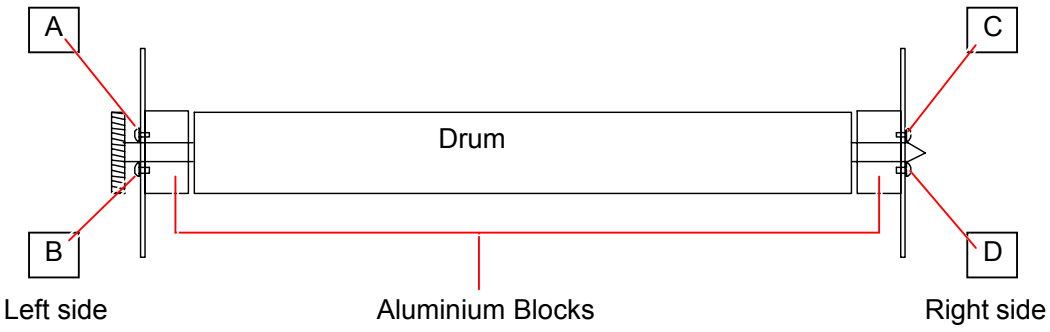
Right side



Do as follows to fix the Aluminium Blocks correctly.

a) Always fix the Aluminium Block of the **left side first, and then that of the right side**.
b) When you tighten 2 screws (2) to fix each Aluminium Block, always tighten **the upper one first, and then the lower one**.

The following picture shows the order to tighten the screws. **Tighten in the order as A, B, C and D necessarily**.



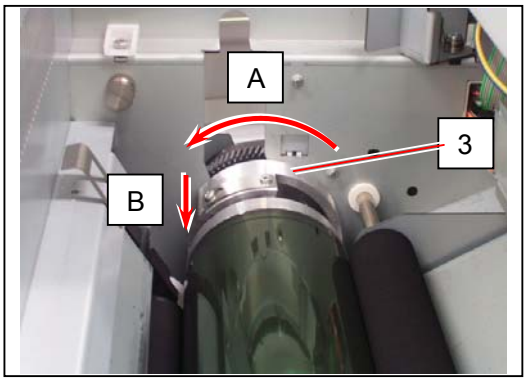
NOTE

The focus of LED Head will become defective if you do not satisfy the above requirements.

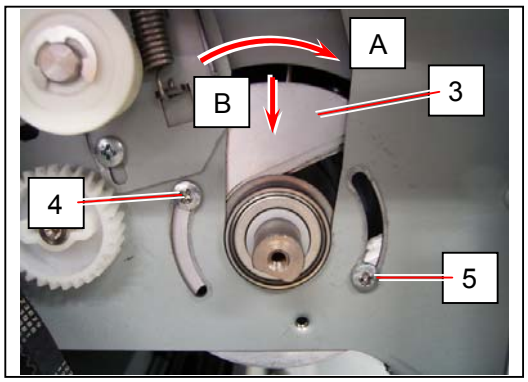
Go to the next page as the above method is shown.

1. Rotate the Left Aluminium Block (3) fully to the arrow direction (A) and also press it down as the arrow (B), and then tighten the upper screws (4) firstly and then the lower one (5) secondary.

Left side



(Seen from the inside of machine)

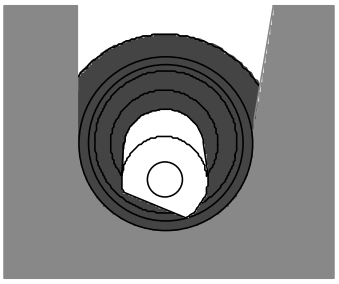


(Seen from the outside of machine)

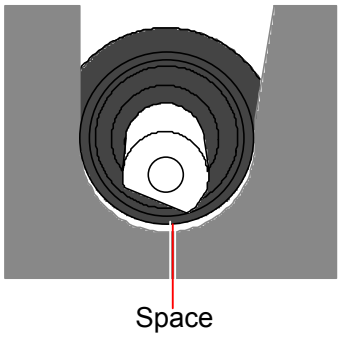
NOTE

There should be no space between the Bearing and U-shape notch.
The LED focus will become defective if there is any space.

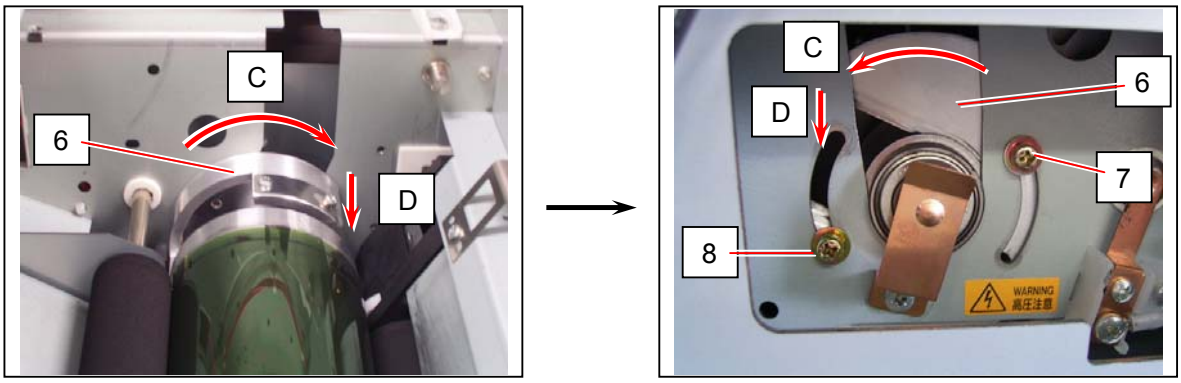
Correct



Incorrect

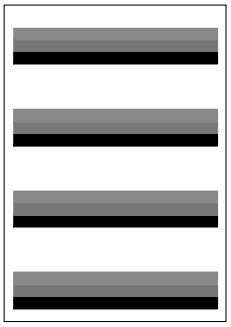


2. Similarly rotate the Right Aluminium Block (6) fully to the arrow direction (C) and also press it down as the arrow (D), and then tighten the upper screws (7) firstly and then the lower one (8) secondary.



3. Print out the Test Pattern No.3, and confirm that the density of halftone is uniform.
If it is still not uniform, fix the Aluminium Blocks again.

Good
(Gray looks uniform)



No good
(Gray looks not uniform)

5. 5. 3 Cleaning of Photoconductive Drum

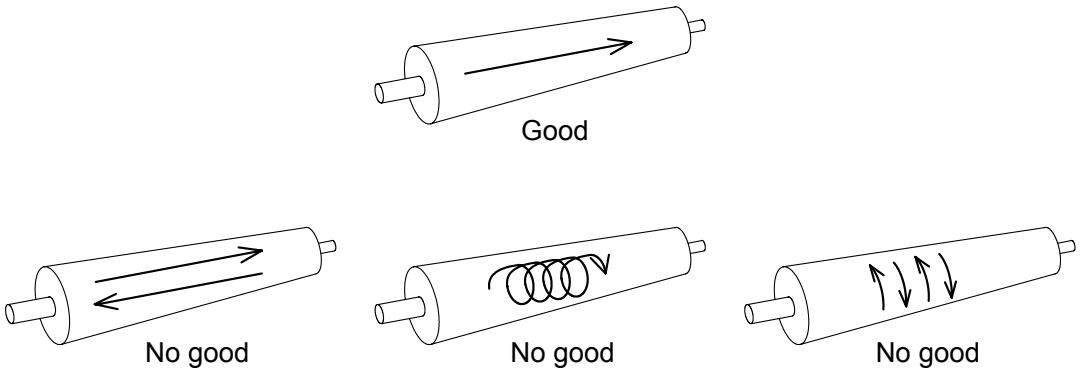
1. Remove the Photoconductive Drum from the machine making reference to [5. 5. 1 Replacement of the Photoconductive Drum] on the page 5-170.

2. Wipe the surface of Photoconductive Drum with a dry cloth.
3. If the toner strongly sticks on the surface and it is impossible to remove it, wipe with the cloth impregnated with the alcohol.
4. After using the alcohol, wipe all surface of Drum with a cloth impregnated with water so that there should be no unevenness of cleaning.
5. Wipe all surface of Drum with a dry cloth, and dry the Drum leaving in a dark place for about 10 minutes.
6. Put back the Drum to the machine.

⚠ NOTE

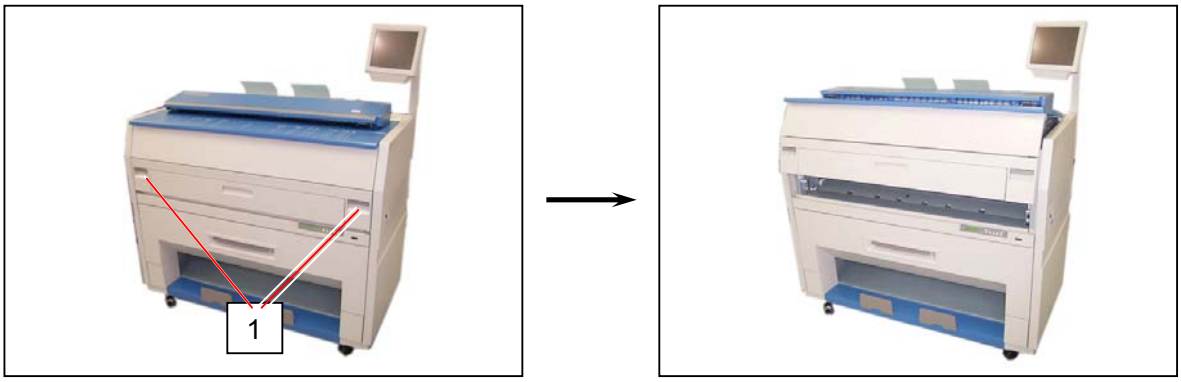
(1) A defective image may be printed right after the cleaning (about 10 to 20 sheets of A0), but it will be fixed naturally as the time passes.

(2) Wipe the surface always to one direction.
You will damage the Drum if you wipe in other ways.

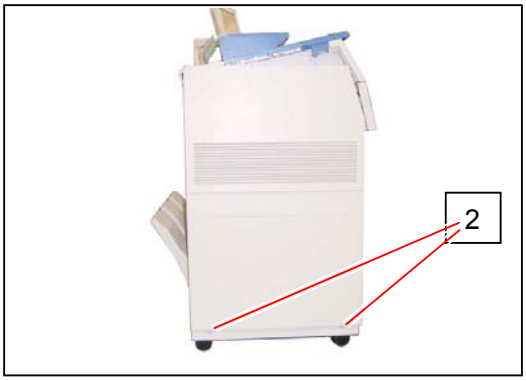


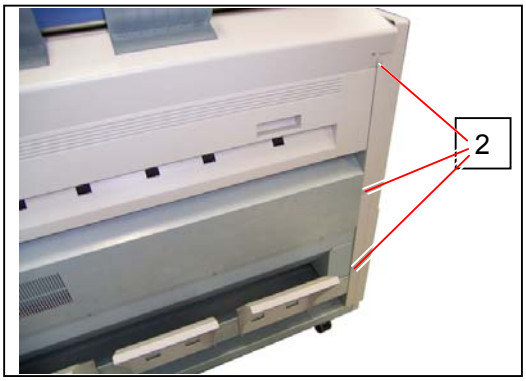
5. 5. 4 Replacement of Belt 4

1. Pull up the Lever 2 (1) to open the Engine Unit.

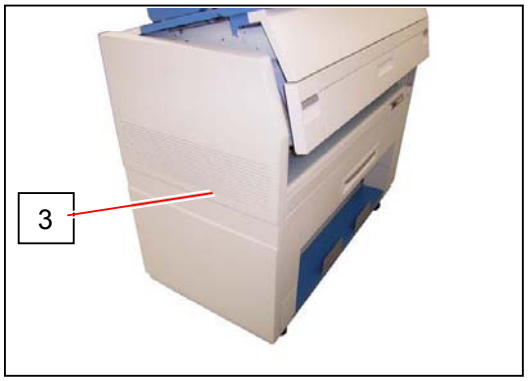


2. Remove 6 pieces of 4x6 screw (2) which fix the Cover2.

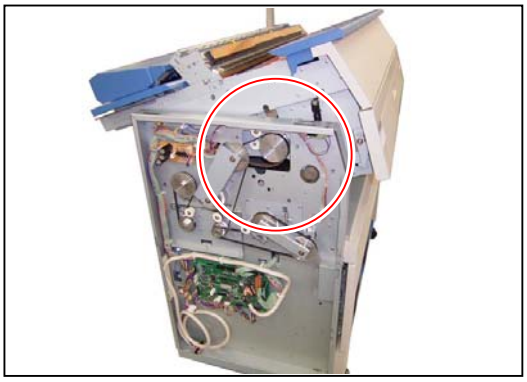


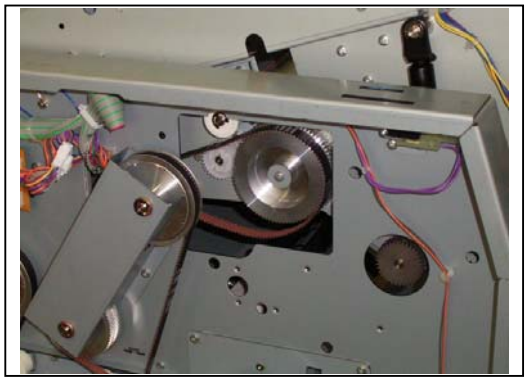


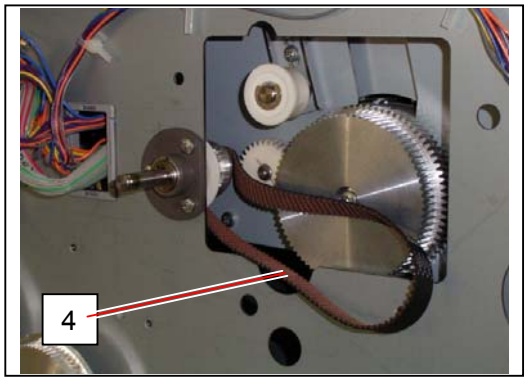
3. Remove the Cover 2 (3).



4. Remove the **Belt 4** (4).







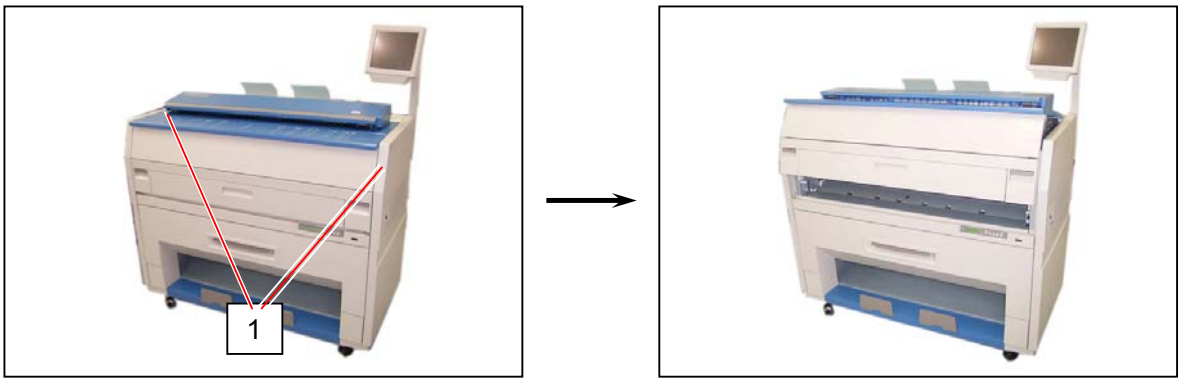
NOTE

Belt 4 is automatically unfastened if only you open the Engine Unit.

5. 6 LED Head

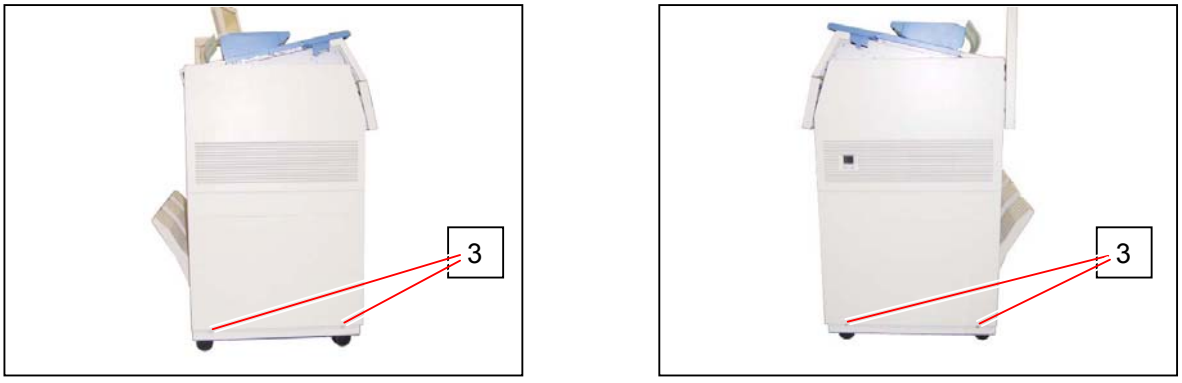
5. 6. 1 Replacement of the LED Head Unit

1. Pull up the Lever 2 (1) to open the Engine Unit.

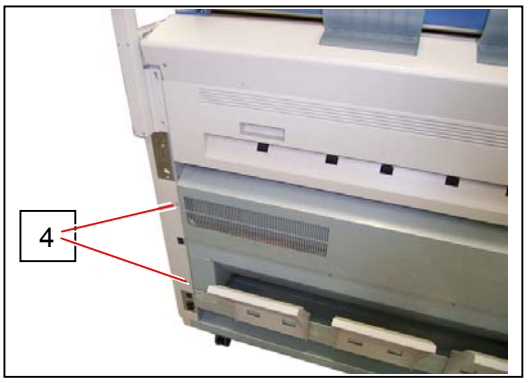


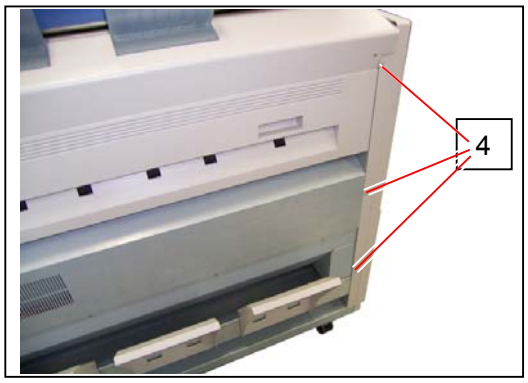
2. Remove the 4x6 screws (2) at both sides.

3. Remove 4 pieces of 4x6 screw (3) at both sides.

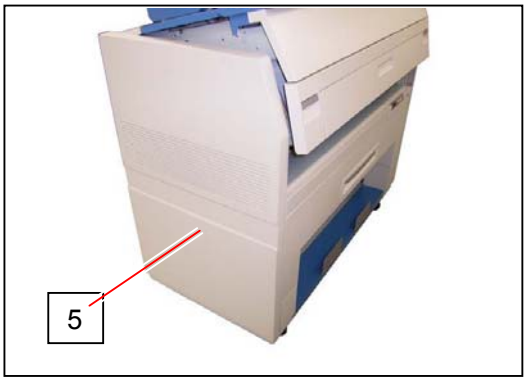


4. Remove 5 pieces of 4x6 screw (4) at both sides.
   (2 pieces on the right and 3 pieces on the left)



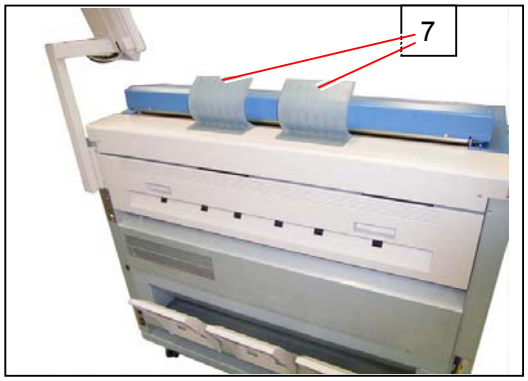


5. Remove the Cover 2 (5) and the Cover 3 (6).

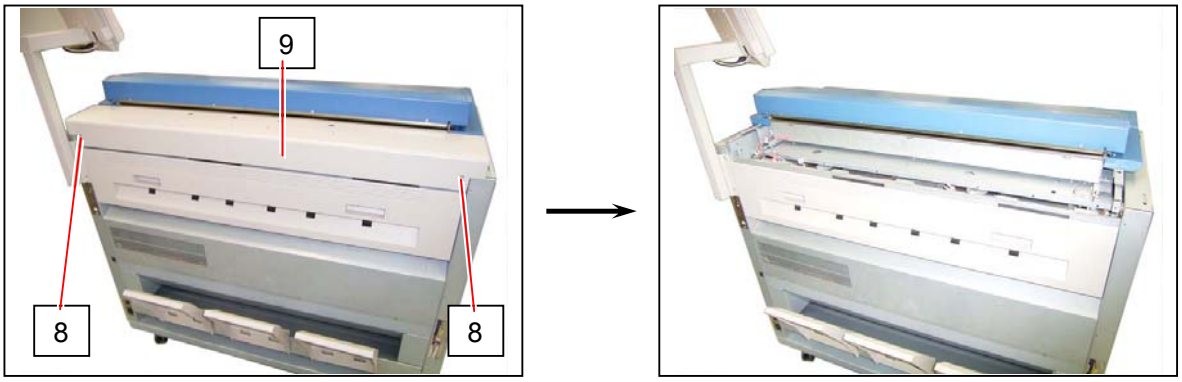


6. Close the Engine Unit.

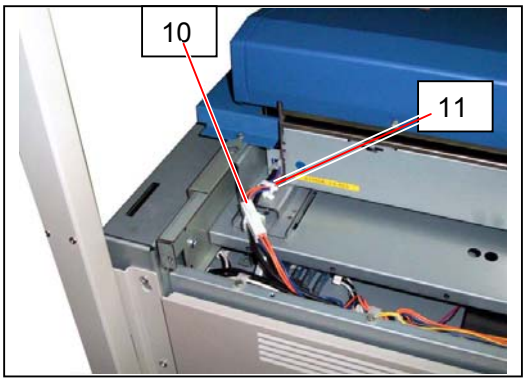
7. Remove the Guides 3 (7).



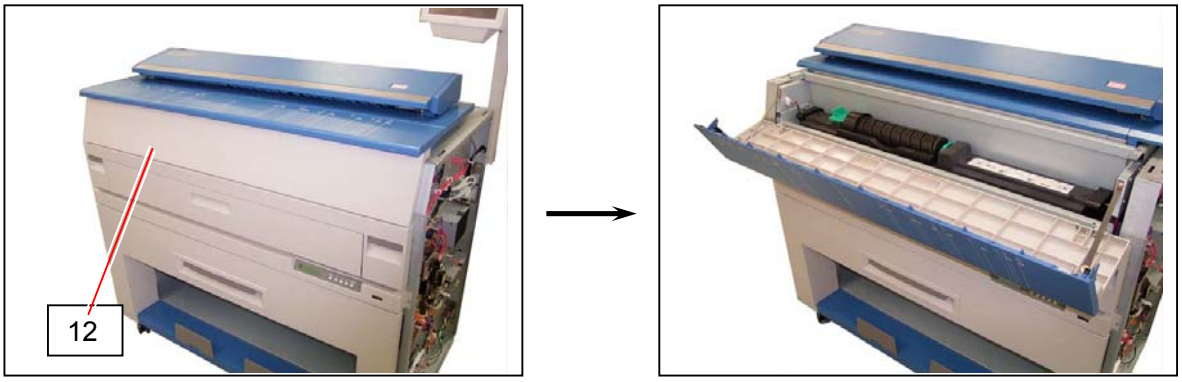
8. Remove 2 pieces of 4x6 screw (8) to remove the Cover 10 (9).



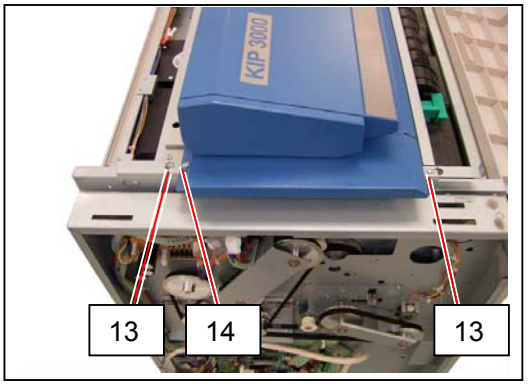
9. Disconnect the connector (10), and open the Wire Saddle (11) to release the harness.

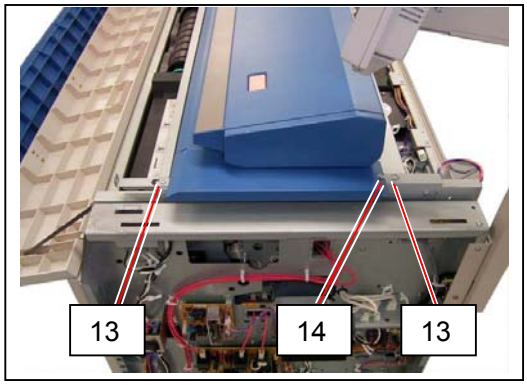


10. Open the Cover 4 (12).

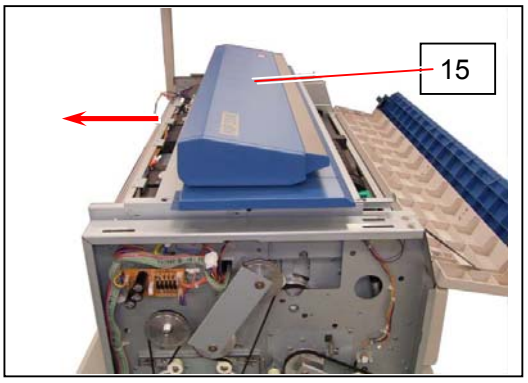


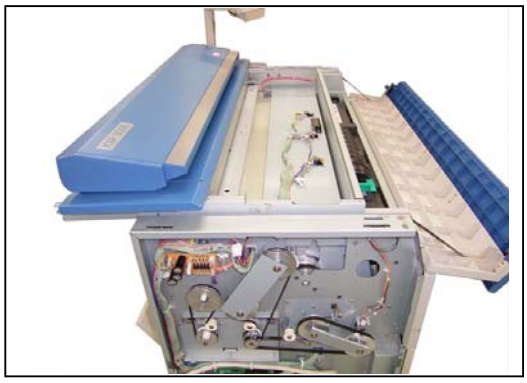
11. Remove 4 pieces of 4x6 screw (13) and 2 pieces of washer screw (14).



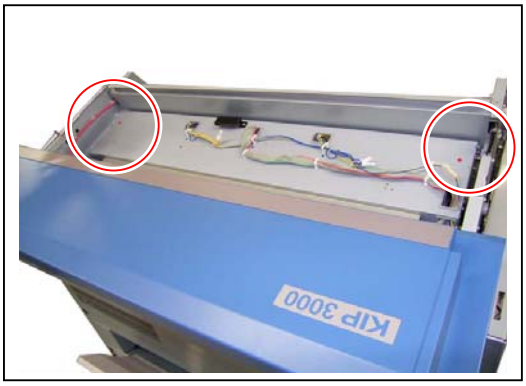


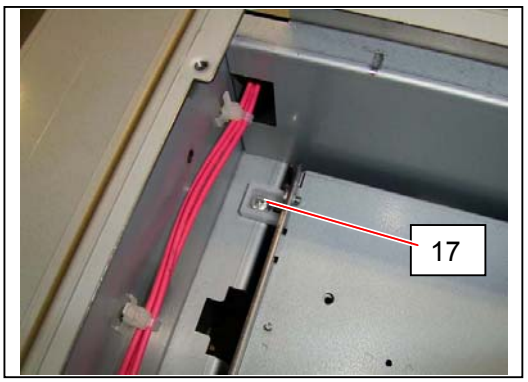
12. Slide the Scanner Unit (15) fully backward.



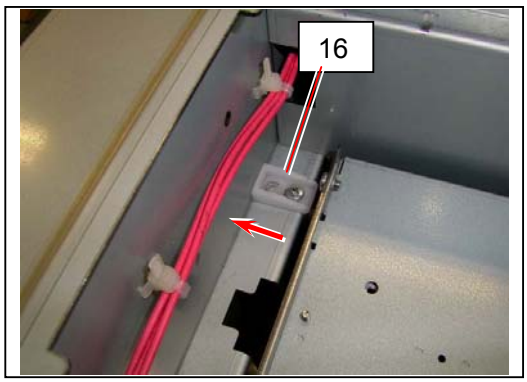


13. There are 2 pieces of Stopper (16) at both sides, which lock the LED Head Frame.
Loosen the screw (17) and then slide the Stoppers (16) outside to unlock the LED Head Frame.



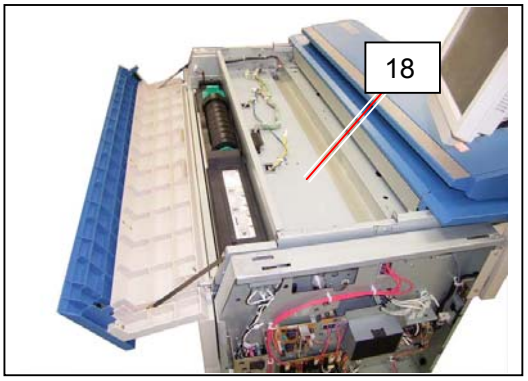


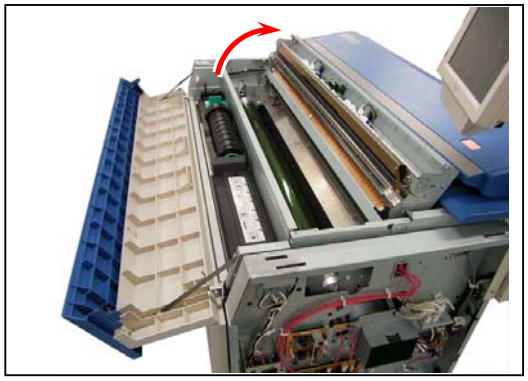
Lock position



Unlock position

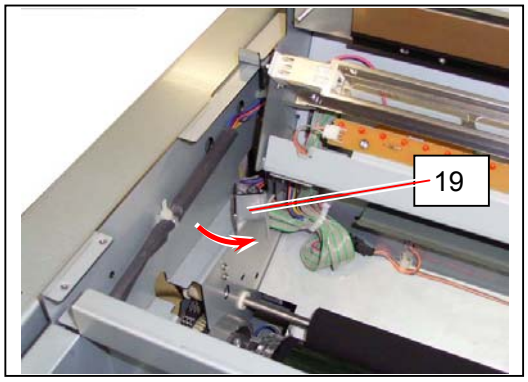
14. Open the LED Head Frame (18).



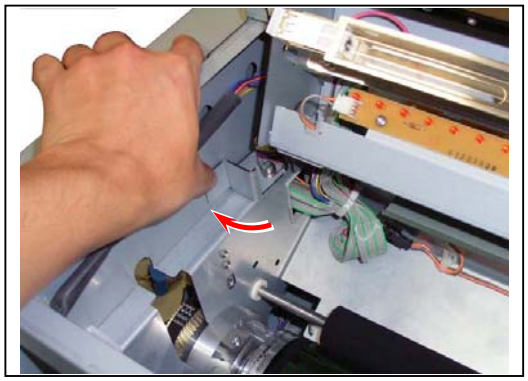


NOTE

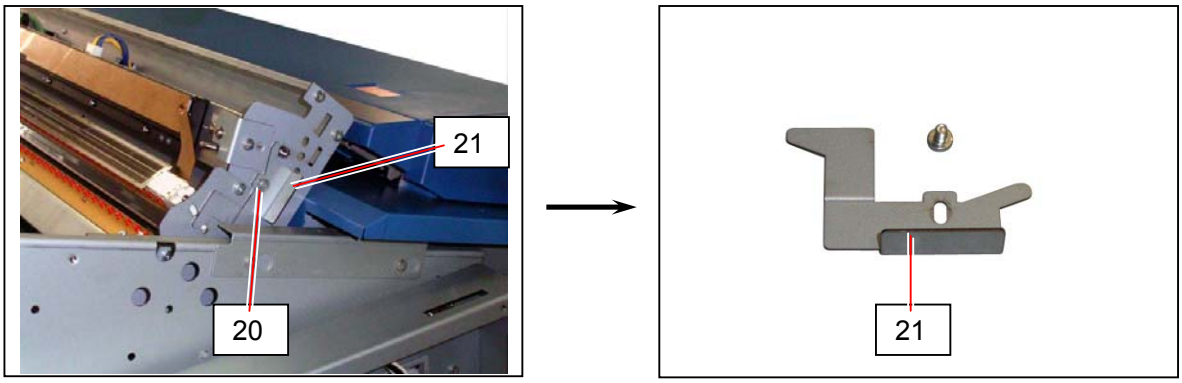
The Stopper 2 (19) comes out automatically to prevent the LED Head Frame from falling down.



Press the Stopper 2 as the right photo if you will close the LED Head Frame.



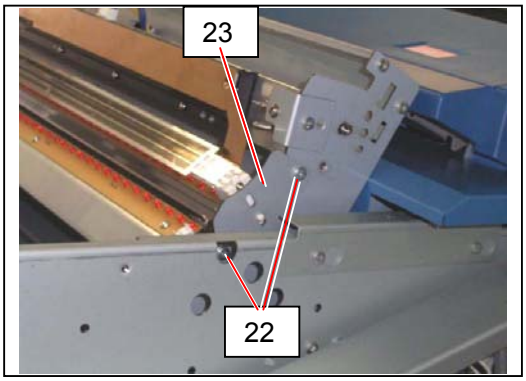
15. Remove the 4x6 screw (20) to remove the Fixing Bracket (21) on the right.



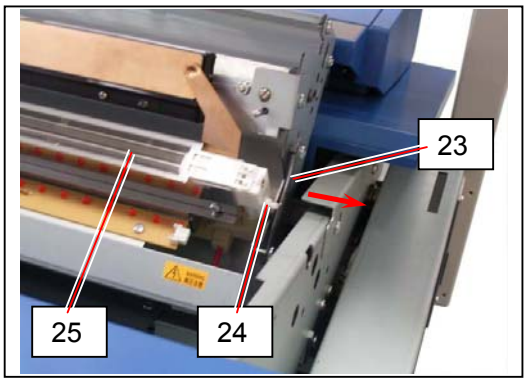
NOTE

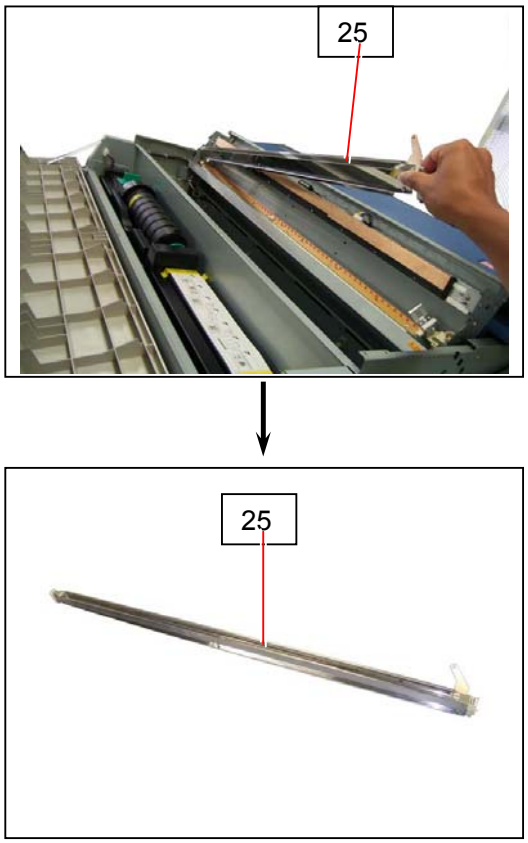
You do not have to put back the Fixing Bracket (21) at the time of reassembly, because it is a part required only before the delivery of machine.

16. Loosen 2 pieces of 4x10 screw (22) to make the Plate (23) enough movable.

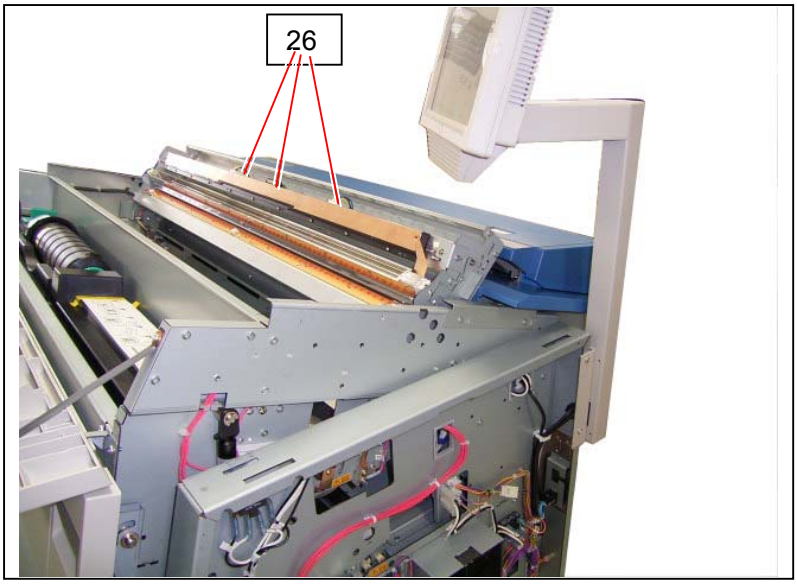


17. Move the Plate (23) to the right to release the pin (24) of Corona Block.
Then remove the Image Corona Unit (25).

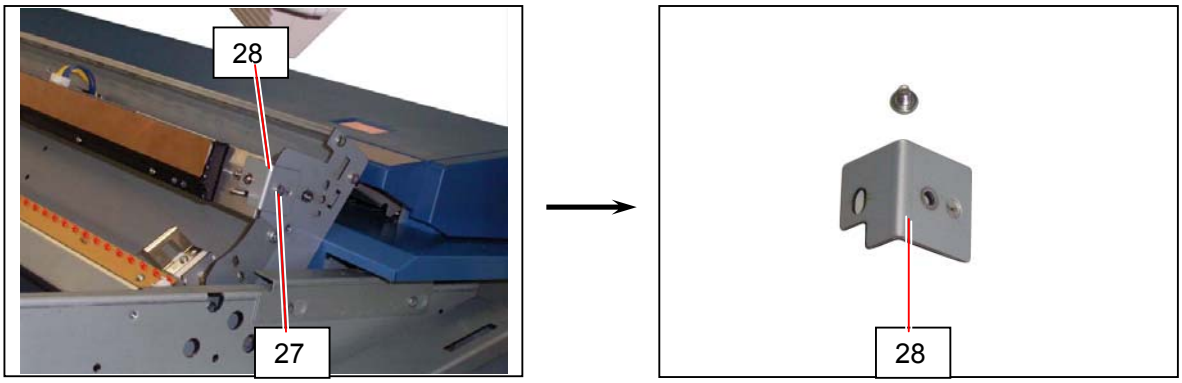




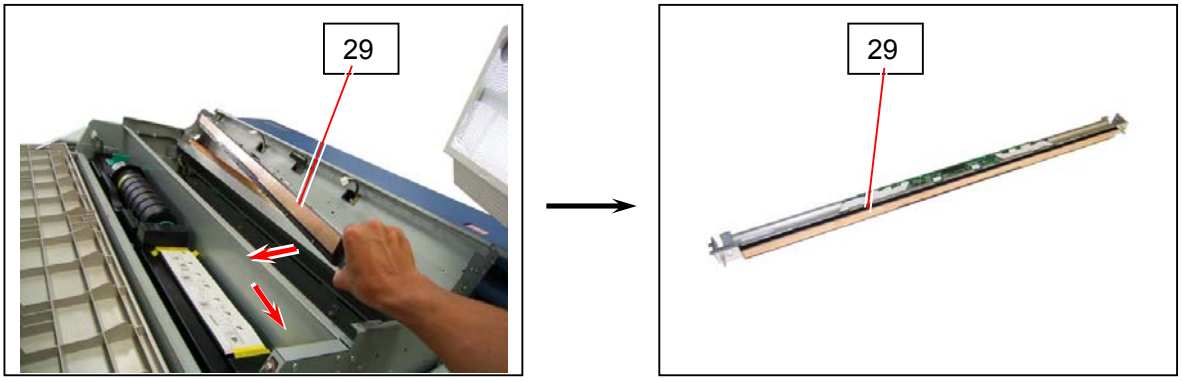
18. Disconnect 3 connectors (26).



19. Remove the screw (27) to remove the Bracket 2 (28).



20. Move the right end of **LED Head Unit** (29) a little to the front side, and then slide the whole unit to the right.
Replace the **LED Head Unit** (29) with the new one.



NOTE

It is necessary to check and adjust the focus of LED Head after its replacement.
Refer to [5. 6. 2 LED focus adjustment] on the page 5-193.

5. 6. 2 LED focus adjustment

Please adjust the focus of LED Head after the replacement of LED Head.
Also adjust it if you have lost the correct focus by some reason.

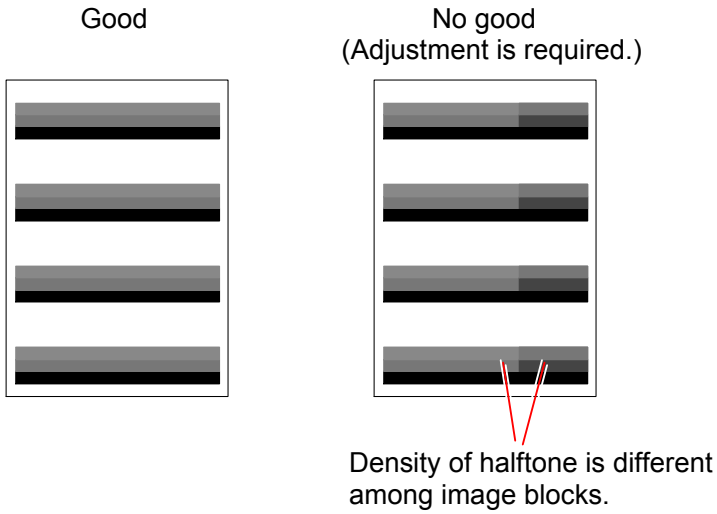
Adjust the focus by the following 3 steps.
(1) Check of the Test Pattern Image
(2) Positioning of the Aluminium Blocks
(3) Focus Adjustment with Spacers

5. 6. 2. 1 Check of the Test Pattern Image

Print out the Test Pattern No.3 in the Service Mode, and check its halftone image.

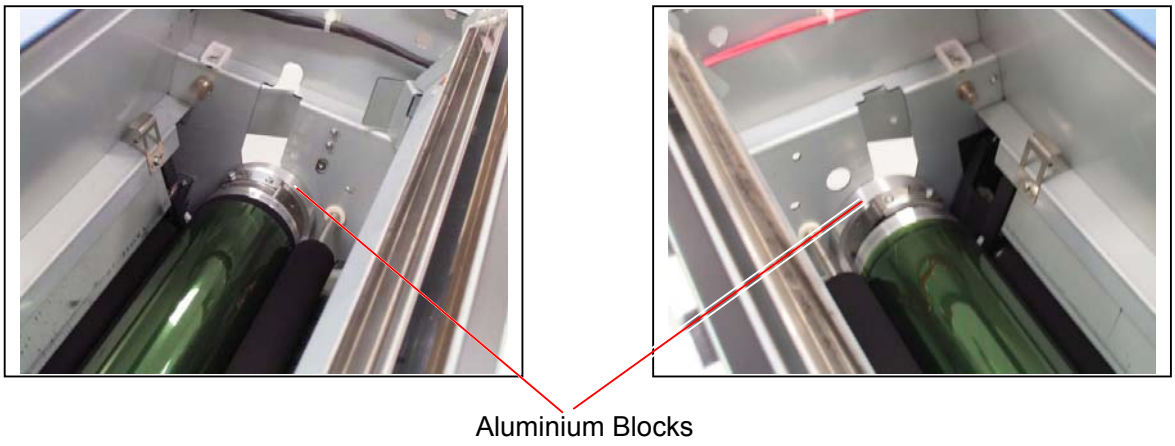
If the density of halftone is uniform as the following left image, you do not have to make anything because the focus is correctly adjusted.

But it is different among image blocks as the following right image, it is necessary to adjust the focus.
Go to [5. 6. 2. 2 Positioning of the Aluminium Blocks] on the next page in this case.

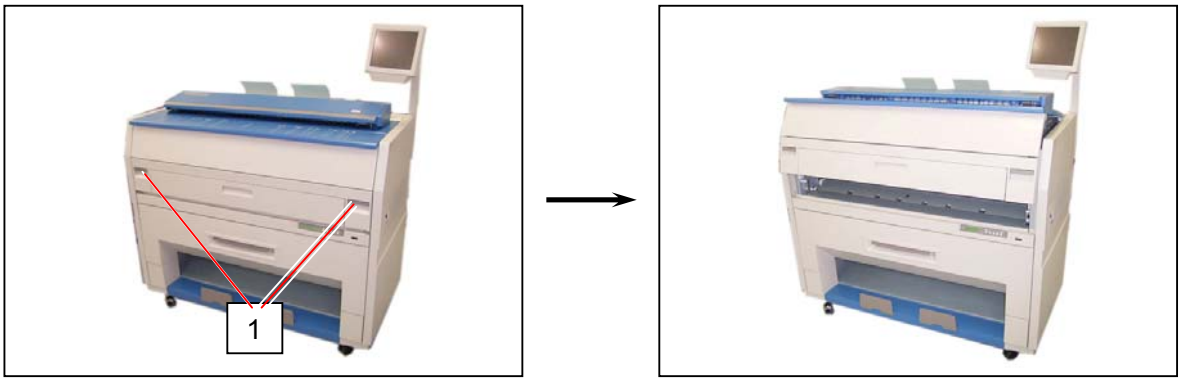


5. 6. 2. 2 Positioning of the Aluminium Blocks

There are Aluminium Blocks at both sides of the Drum Shaft, which adjust the distance between LED Head and Drum.
If the LED focus is not correct, at first it is necessary to place them at the correct positions in the following way.

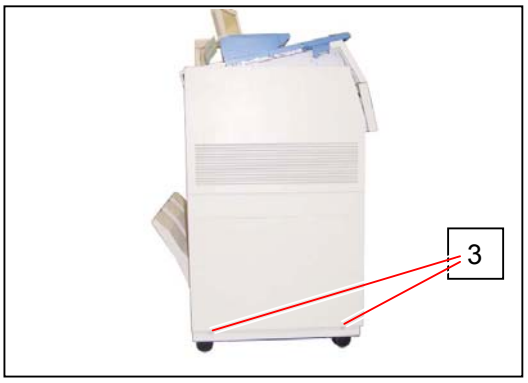


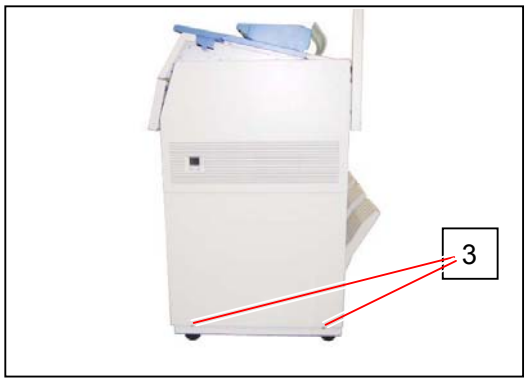
1. Pull up the Lever 2 (1) to open the Engine Unit.



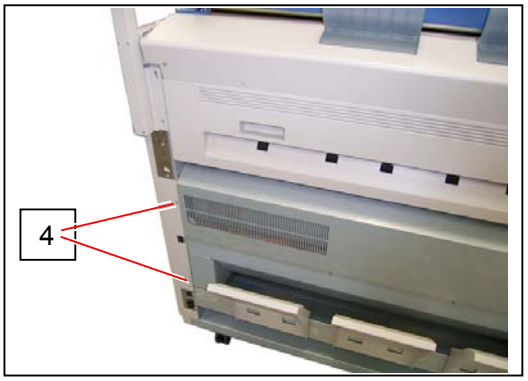
2. Remove the 4x6 screws (2) at both sides.

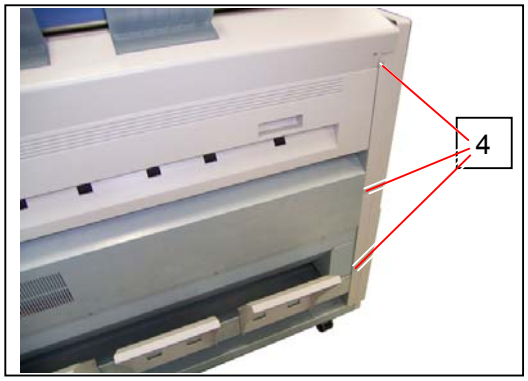
3. Remove 4 pieces of 4x6 screw (3) at both sides.



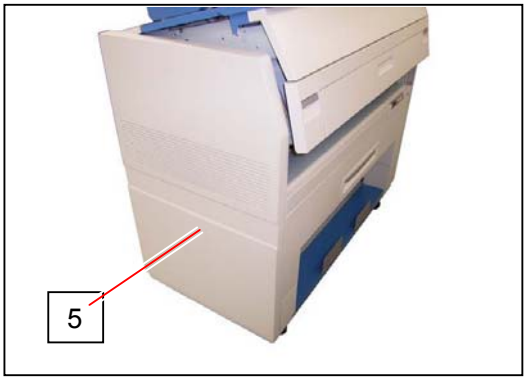


4. Remove 5 pieces of 4x6 screw (4) at both sides.
(2 pieces on the right and 3 pieces on the left)



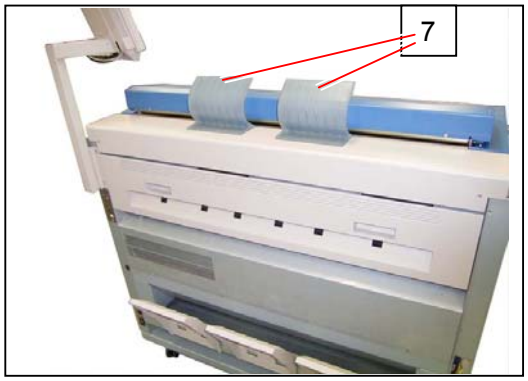


5. Remove the Cover 2 (5) and the Cover 3 (6).

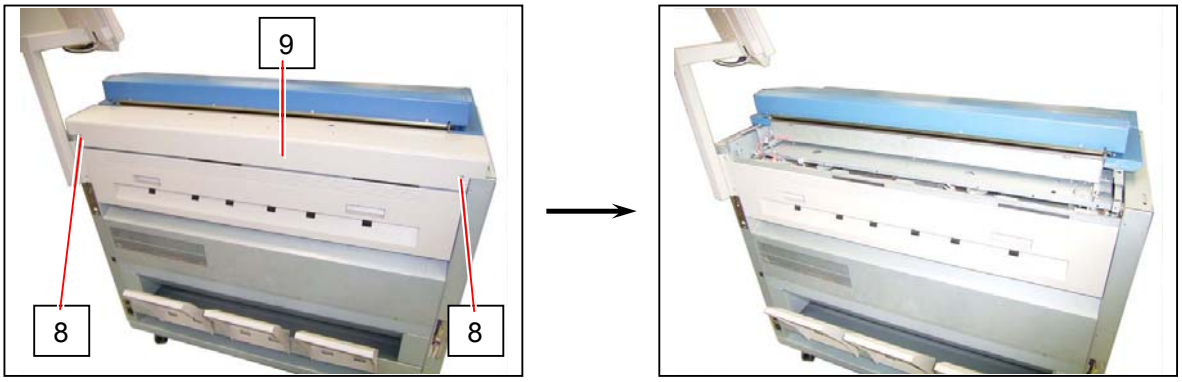


6. Close the Engine Unit.

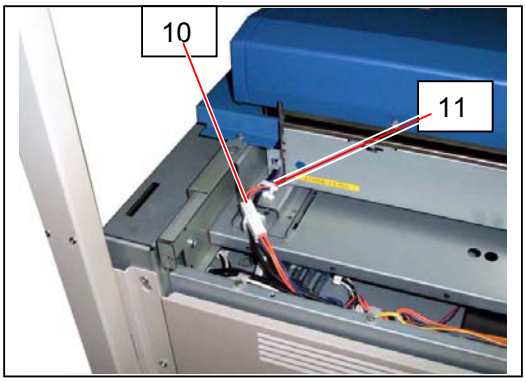
7. Remove the Guides 3 (7).



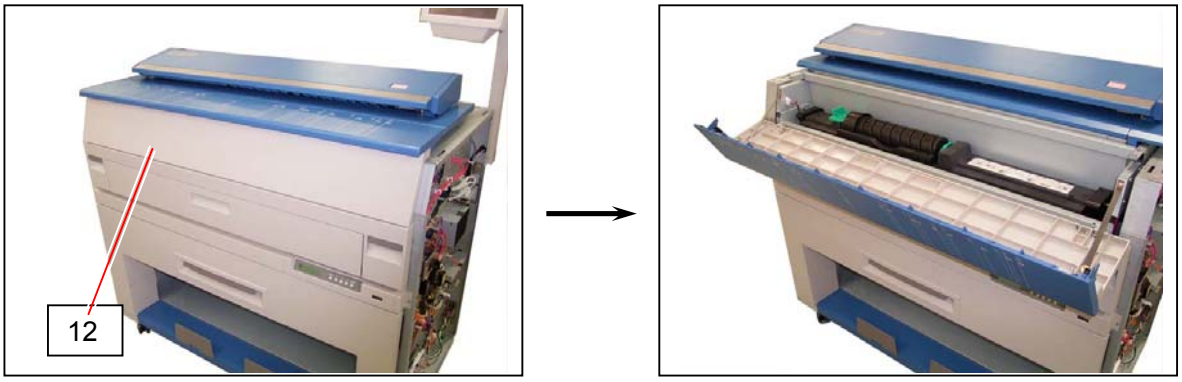
8. Remove 2 pieces of 4x6 screw (8) to remove the Cover 10 (9).



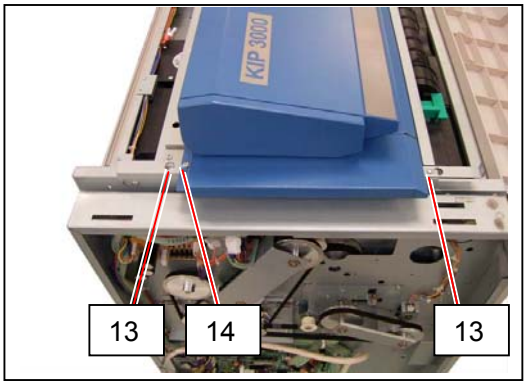
9. Disconnect the connector (10), and open the Wire Saddle (11) to release the harness.

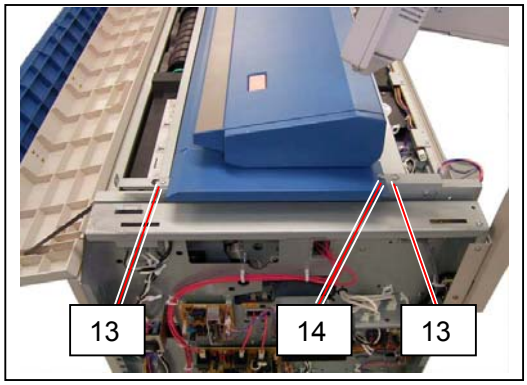


10. Open the Cover 4 (12).

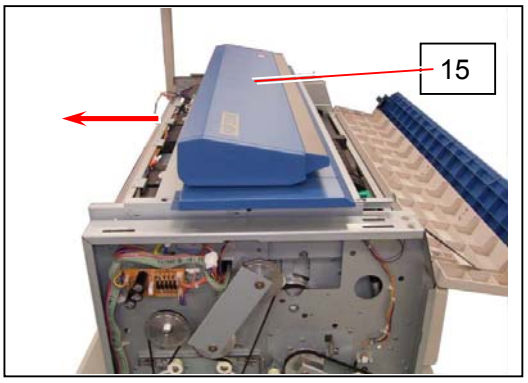


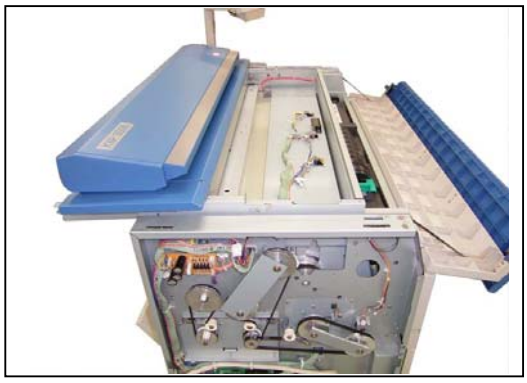
11. Remove 4 pieces of 4x6 screw (13) and 2 pieces of washer screw (14).



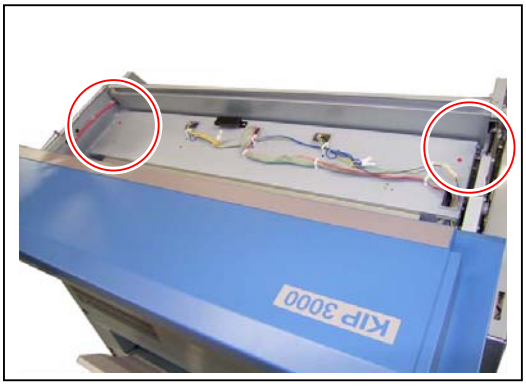


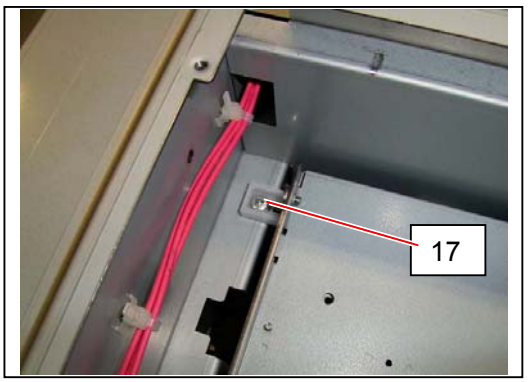
12. Slide the Scanner Unit (15) fully backward.



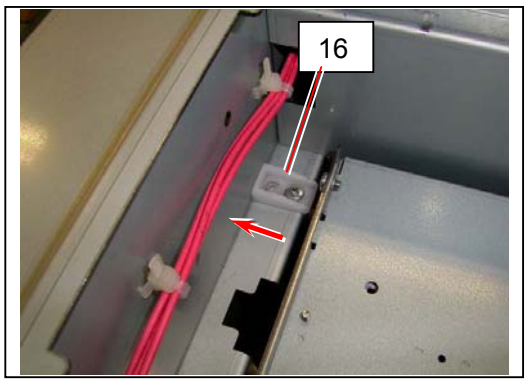


13. There are 2 pieces of Stopper (16) at both sides, which lock the LED Head Frame.
Loosen the screw (17) and then slide the Stoppers (16) outside to unlock the LED Head Frame.



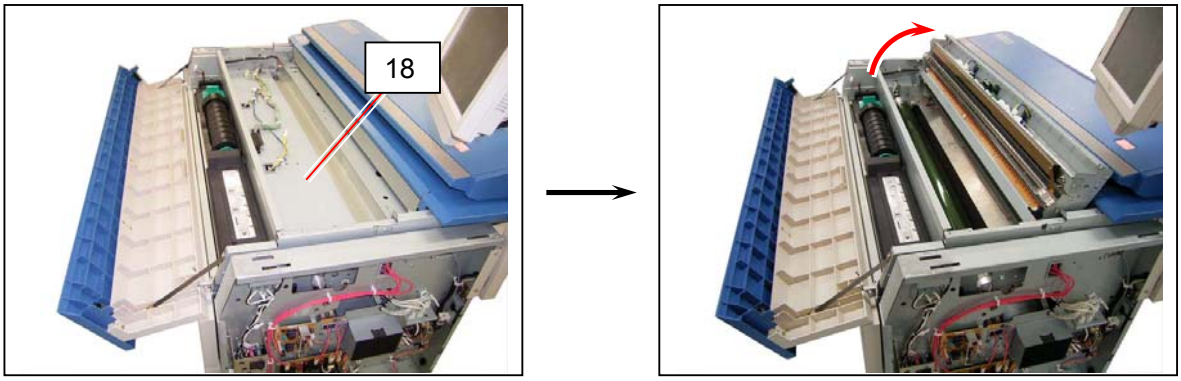


Lock position



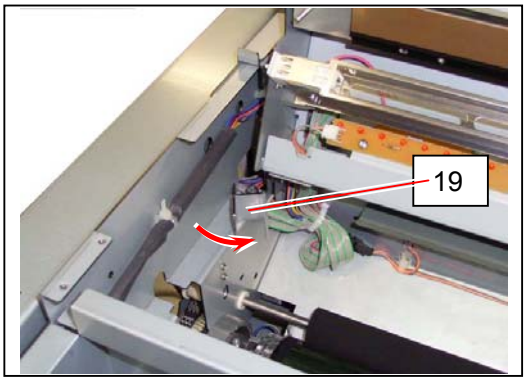
Unlock position

14. Open the LED Head Frame (18).

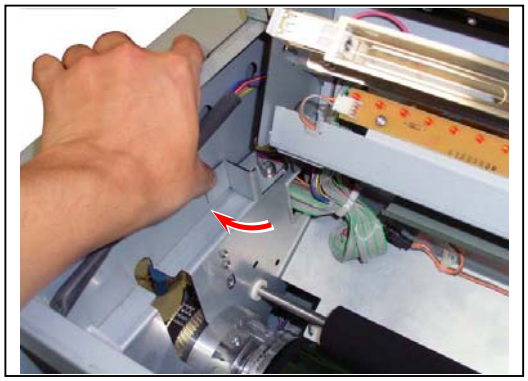


NOTE

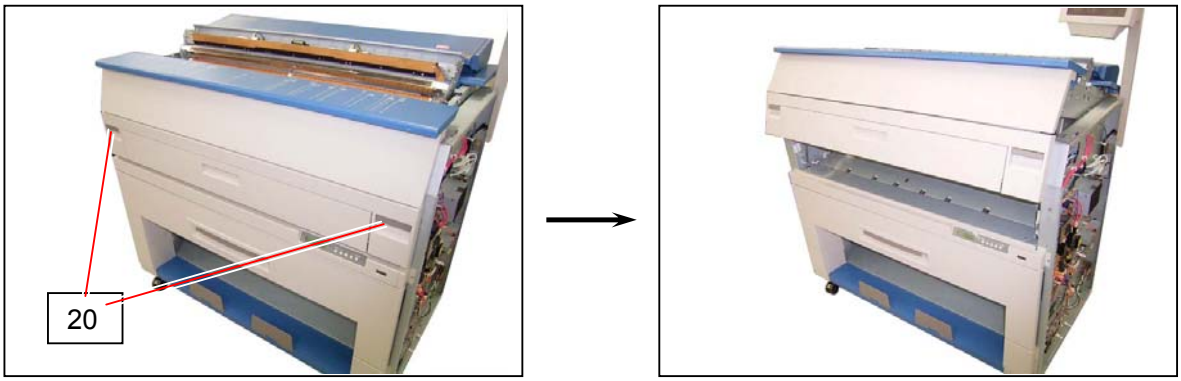
The Stopper 2 (19) comes out automatically to prevent the LED Head Frame from falling down.



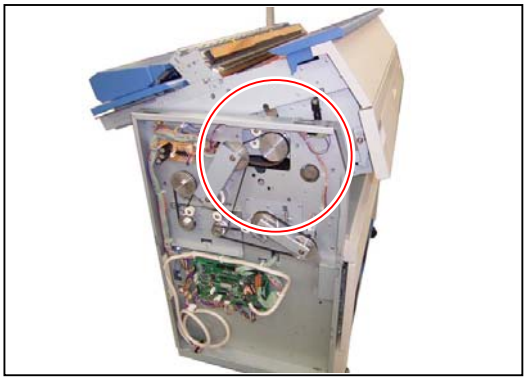
Press the Stopper 2 as the right photo if you will close the LED Head Frame.

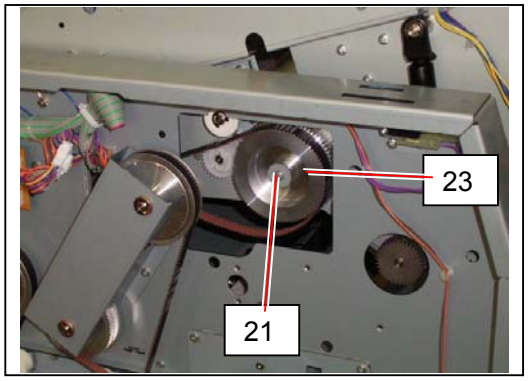


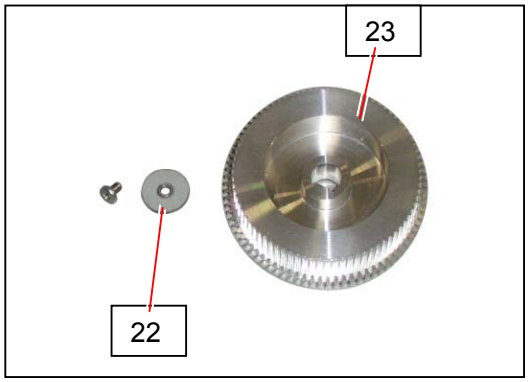
15. Pull up the Lever 2 (20) to open the Engine Unit.



16. Remove the 4x6 screw (21), and remove the Plate (22) and Pulley Gear (23).

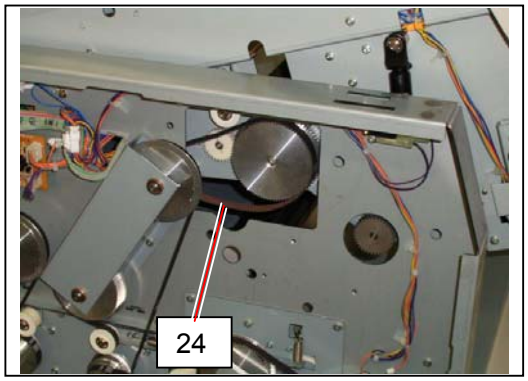






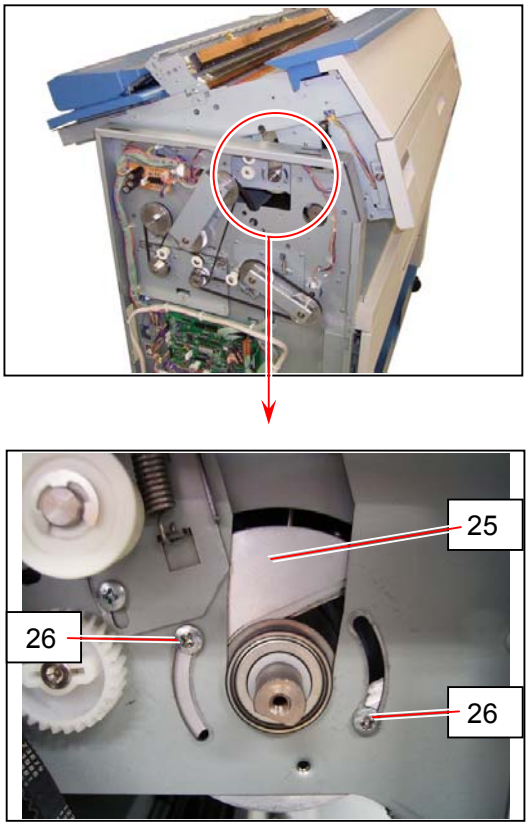
NOTE

The Belt 4 (24) is automatically loosed if you open the Engine Unit.
It will be strained if you close the Engine Unit.

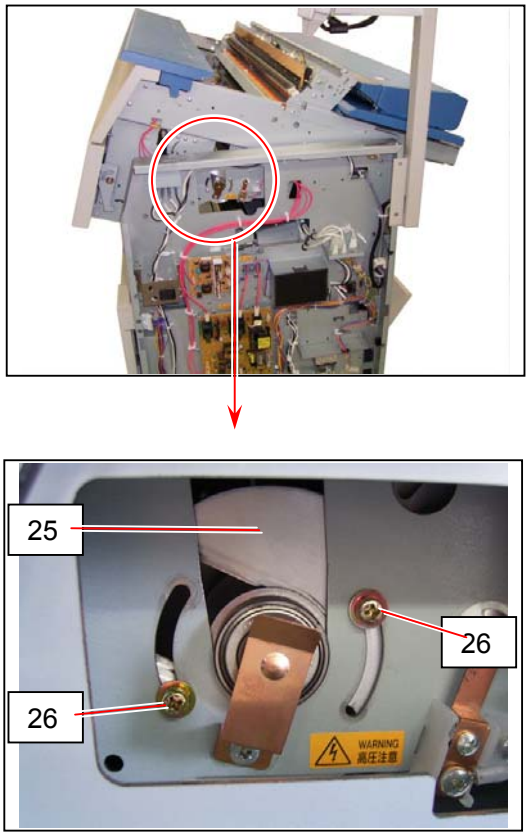


17. There are Aluminium Blocks (25) at both sides, and each of them is fixed with 2 screws (26).

Left side



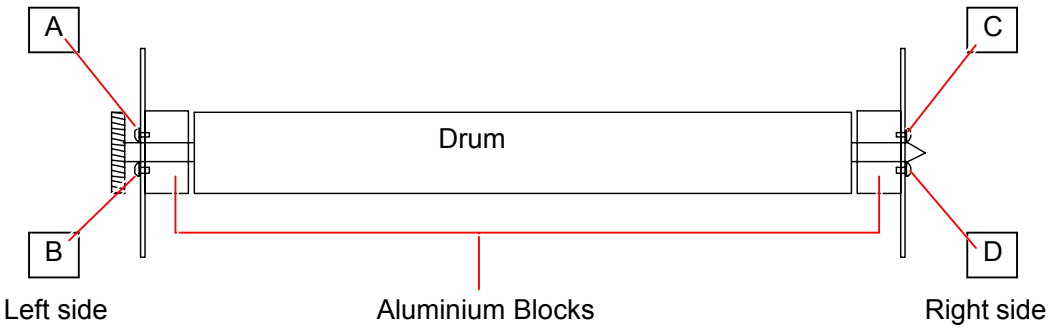
Right side



Do as follows to fix the Aluminium Blocks correctly.

a) Always fix the Aluminium Block of the **left side first, and then that of the right side**.
b) When you tighten 2 screws (26) to fix each Aluminium Block, always tighten **the upper one first, and then the lower one**.

The following picture shows the order to tighten the screws. **Tighten in the order as A, B, C and D necessarily**.



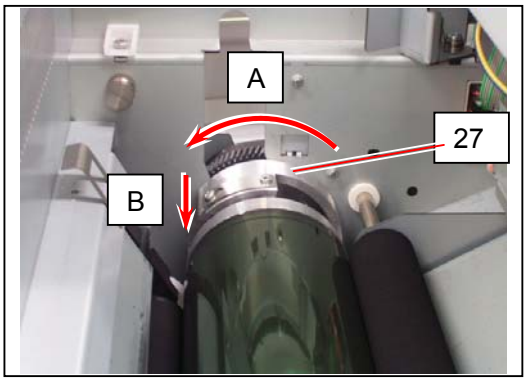
NOTE

The focus of LED Head will become defective if you do not satisfy the above requirements.

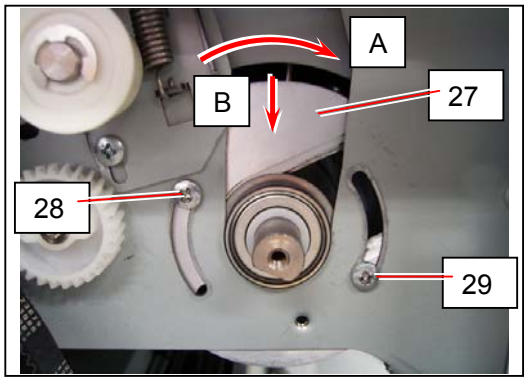
Go to the next page as the above method is shown.

17-1. Rotate the Left Aluminium Block (27) fully to the arrow direction (A) and also press it down as the arrow (B), and then tighten the upper screws (28) firstly and then the lower one (29) secondary.

Left side



(Seen from the inside of machine)

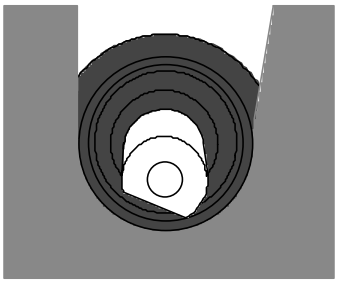


(Seen from the outside of machine)

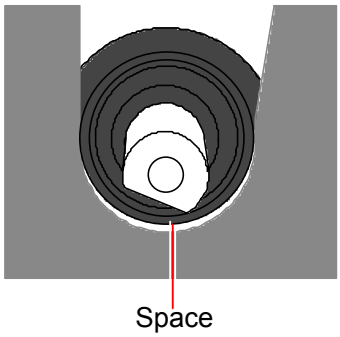
NOTE

There should be no space between the Bearing and U-shape notch.
The LED focus will become defective if there is any space.

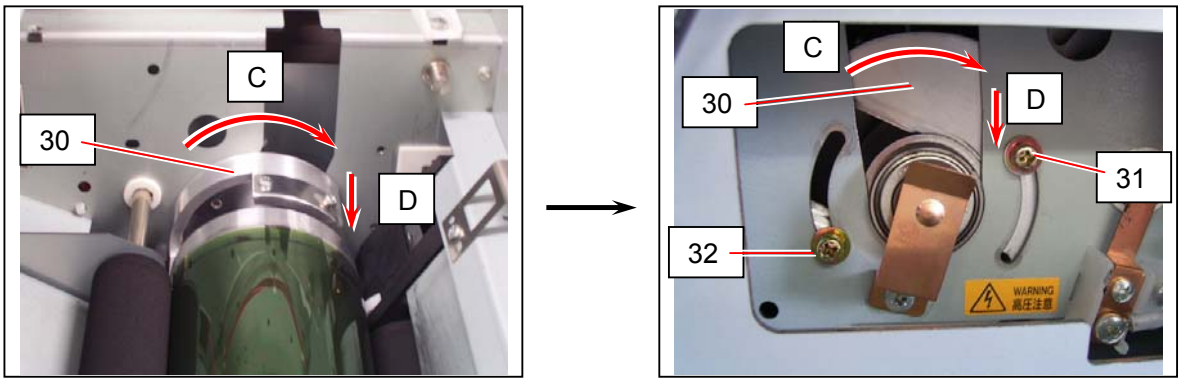
Correct



Incorrect



17-2. Similarly rotate the Right Aluminium Block (30) fully to the arrow direction (C) and also press it down as the arrow (D), and then tighten the upper screws (31) firstly and then the lower one (32) secondary.



18. Reassemble the machine in the reversed order.

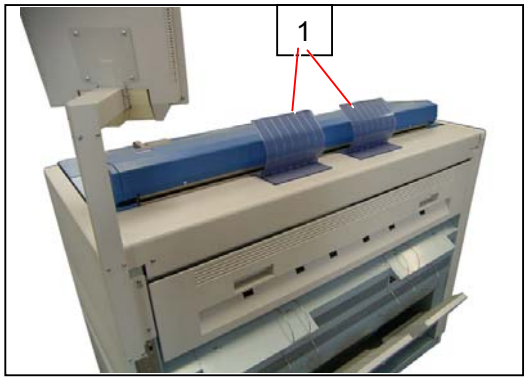
19. Print out the Test Pattern No.3, and confirm that the density of halftone is uniform.

If it is still not uniform although you have fixed the Aluminium Blocks correctly, it is necessary to make focus adjustment with Spacers.
Go to [5. 6. 2. 3 Focus Adjustment with Spacers] on the next page in this case.

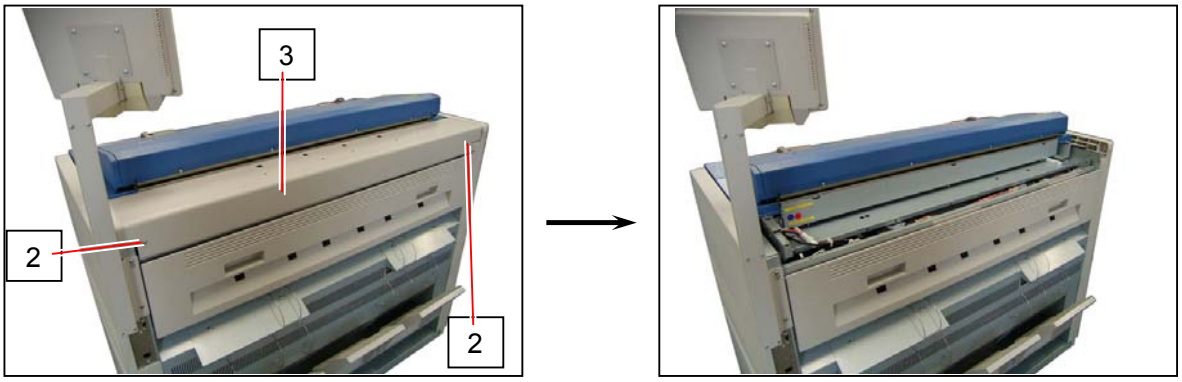
5. 6. 2. 3 Focus Adjustment with Spacers

There may be the case that the focus of LED is not correct even if you have placed the Aluminium Blocks at both sides of the Drum Shaft correctly.
This is because the height of the LED is mechanically different between left and right by some reason.
In this case adjust the height by adding or removing the Spacers.

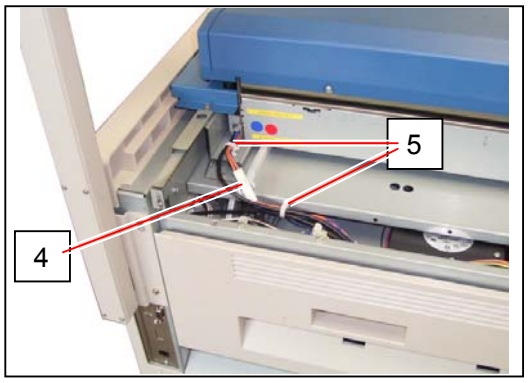
1. Remove the Guides 3 (1).



2. Remove 2 pieces of 4x6 screw (2) to remove the Cover 10 (3).

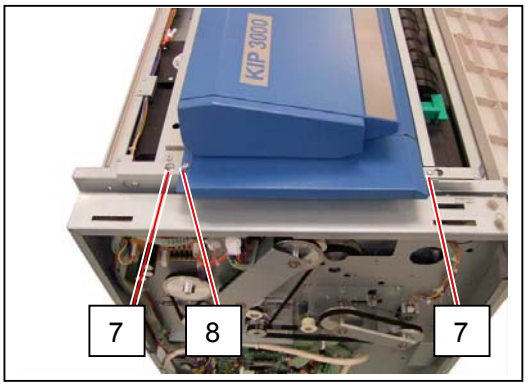


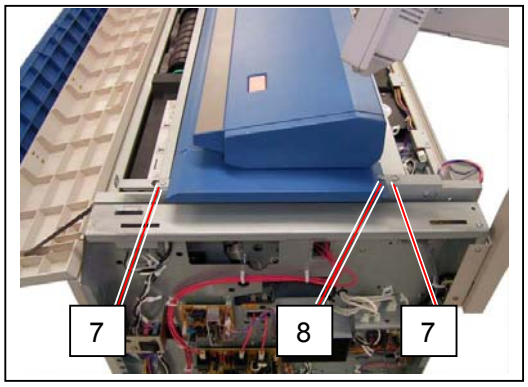
3. Disconnect the connector (4), and open the Wire Saddles (5) to release the harness.



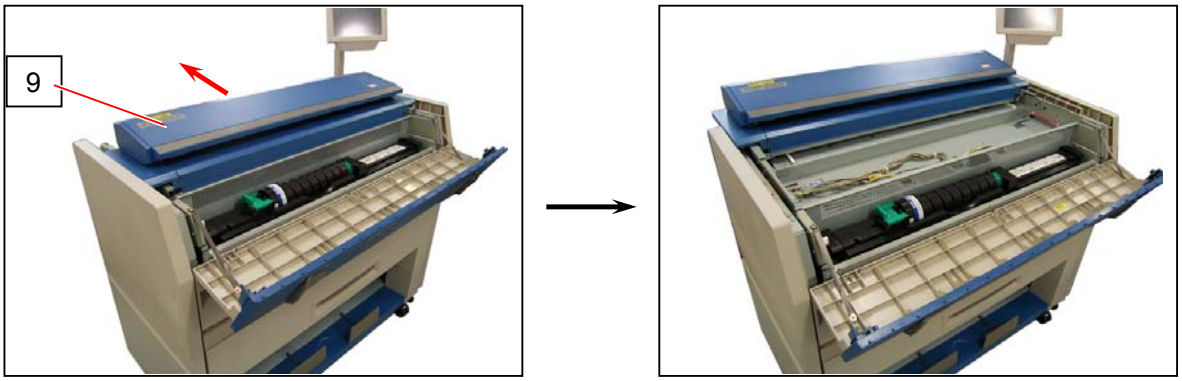
4. Open the Cover 4 (6).

5. Remove 4 pieces of 4x6 screw (7) and 2 pieces of washer screw (8).

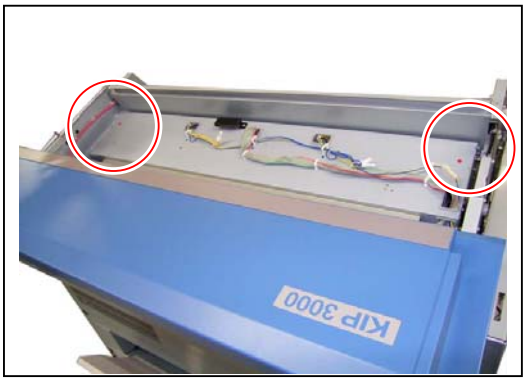


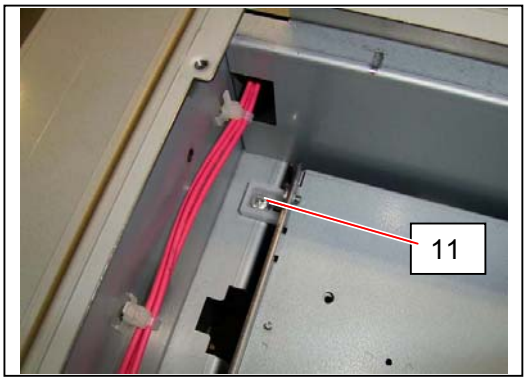


6. Slide the Scanner Unit (9) fully backward.

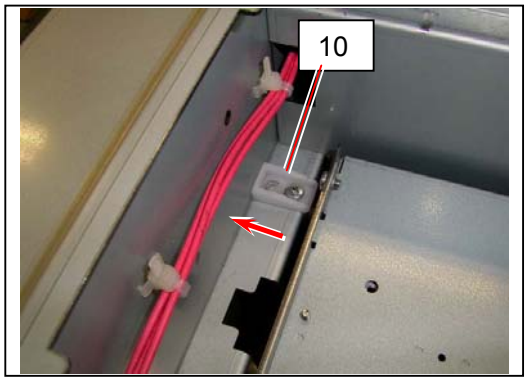


7. There are 2 pieces of Stopper (10) at both sides, which lock the LED Head Frame.
   Loosen the screw (11) and then slide the Stoppers (10) outside to unlock the LED Head Frame.



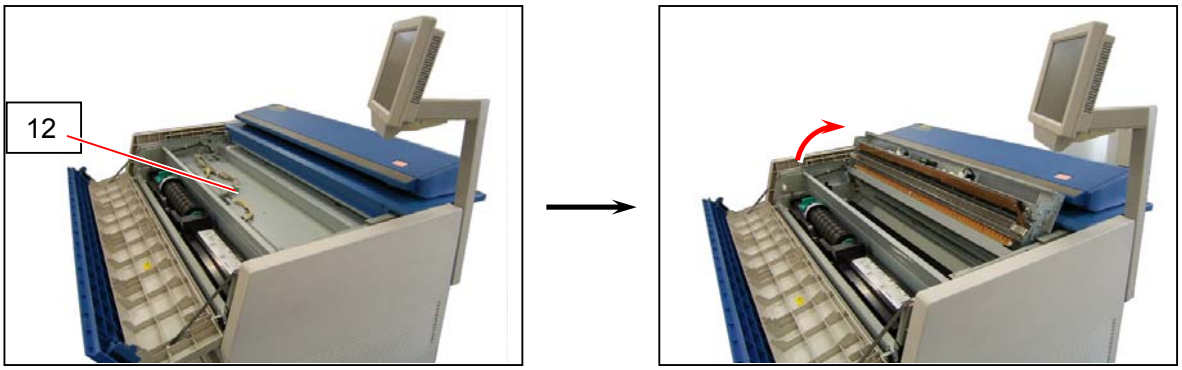


Lock position



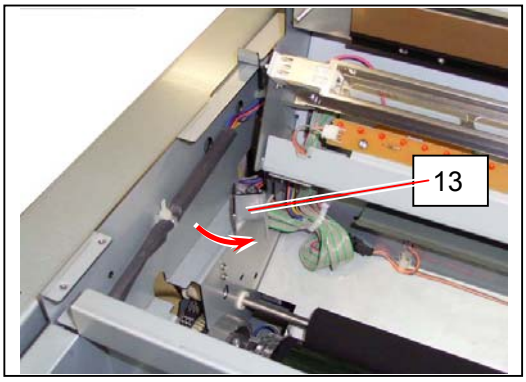
Unlock position

8. Open the LED Head Frame (12).

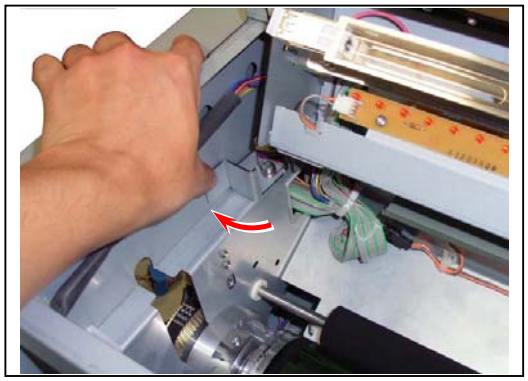


NOTE

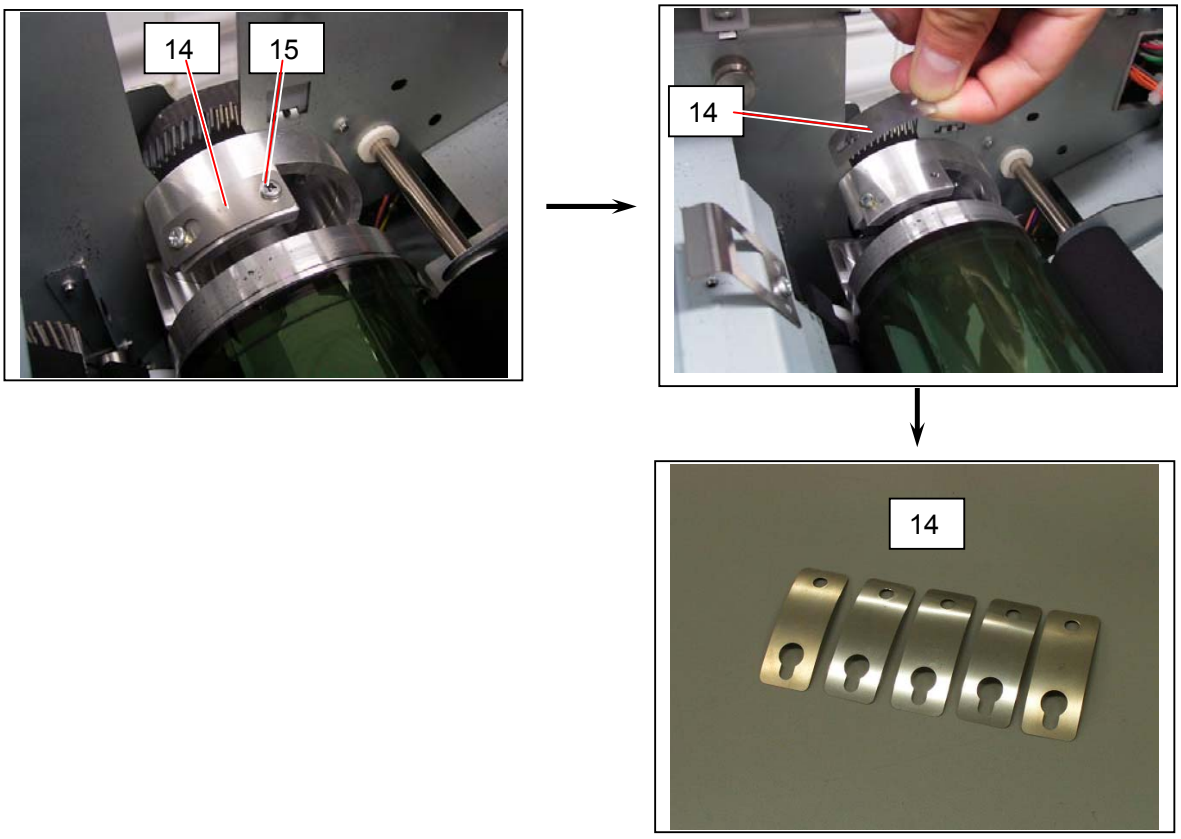
The Stopper 2 (13) comes out automatically to prevent the LED Head Frame from falling down.



Press the Stopper 2 as the right photo if you will close the LED Head Frame.



9. There are Spacers (14) on each Aluminium Block at both sides.
   The height of the LED Head can be adjusted by adding more Spacer or removing some of them.
   Remove the screw (15), and remove all Spacers (14) at first.
   And then adjust the height of LED Head adding or removing the Spacers (14).

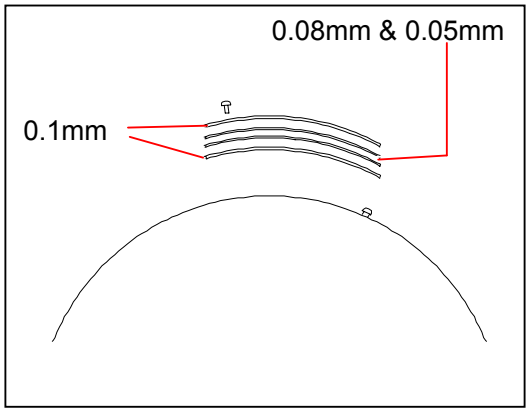


⚠ NOTE

(1) The number of Spacers initially installed is individually different machine to machine.

(2) There are 3 kinds of spacers such as “0.1mm”, “0.08mm” and “0.05mm” in thickness. Please find the best combination by making several times of trial.

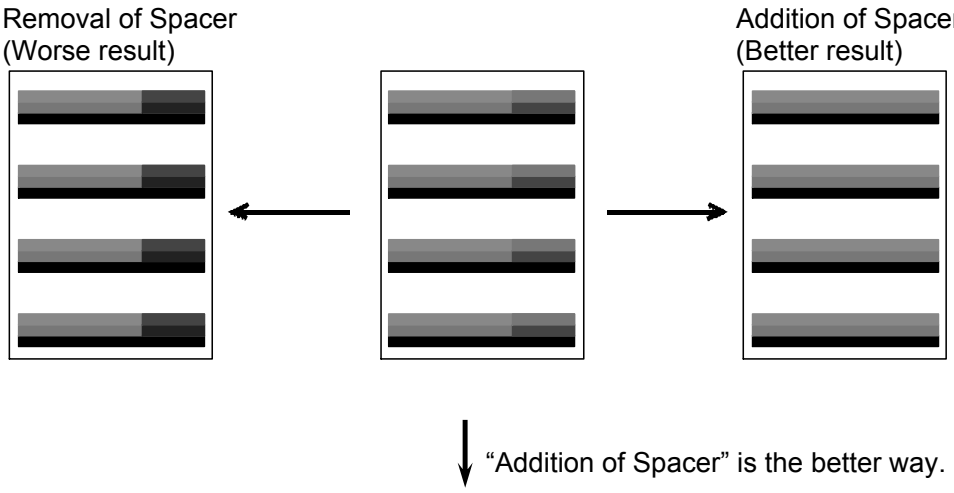
(3) Basically thinner Spacers (0.08mm & 0.05mm ones) must be held between the 0.1mm Spacer as the right picture.



⚠ NOTE

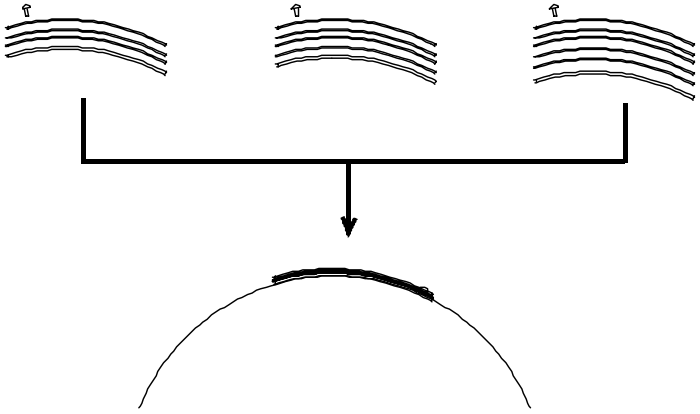
(4) It is quite not clear which of “addition” or “removal” of Spacer is effective to solve the focus problem.
(Even if the defective image caused by the focus problem looks same, for example, it is fixed by “addition” in some case but in another case it is fixed by “removal”.

Only the way to find the best focus is just “trial”.
Please try both “removal” and “addition” to find which way the image becomes better.
After finding the better way, try several combinations of Spacers to find the best height.



“Addition of Spacer” is the better way.

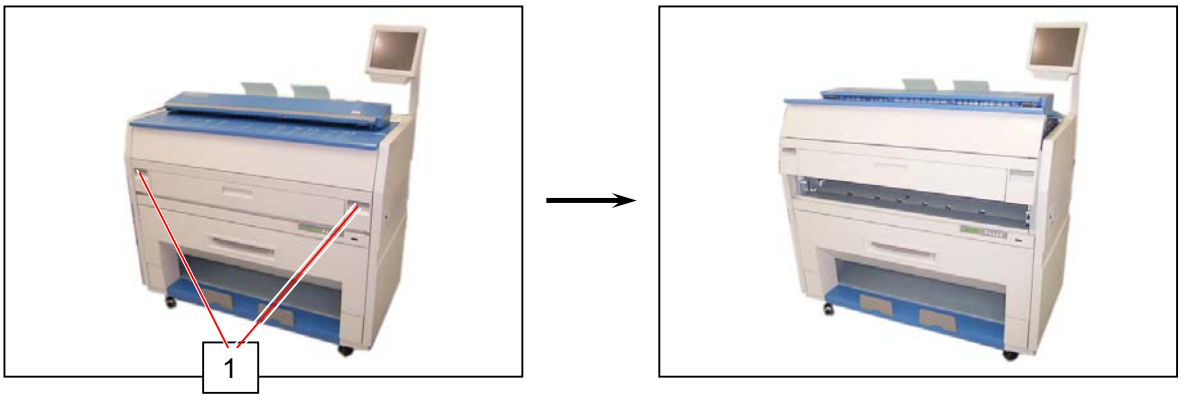
Try several combinations of Spacers by adding the Spacers gradually.



5. 7 Image Corona

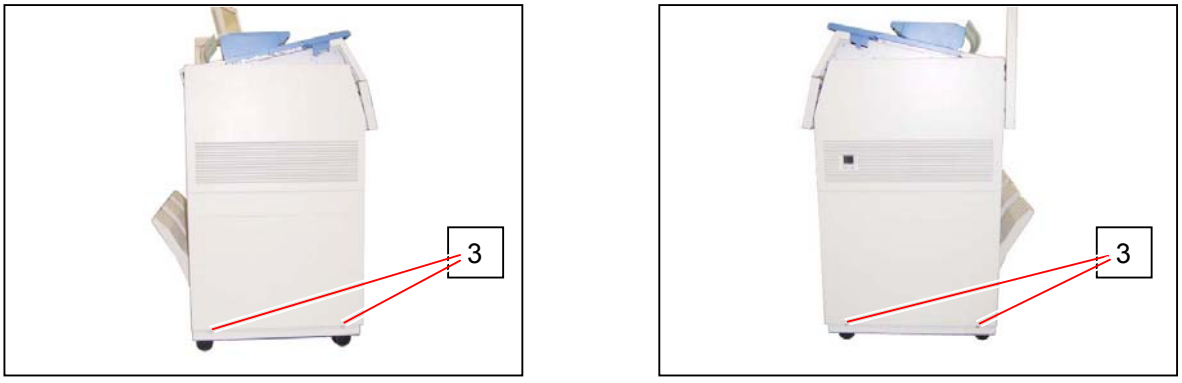
5. 7. 1 Removal of the Image Corona Unit

1. Pull up the Lever 2 (1) to open the Engine Unit.

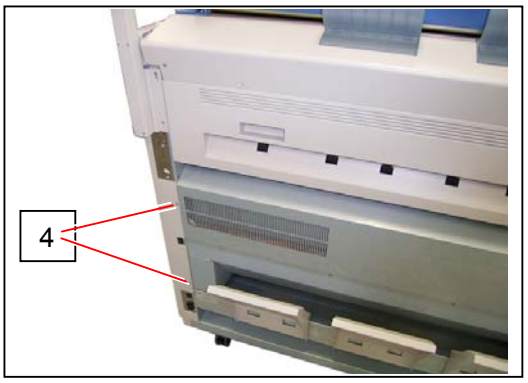


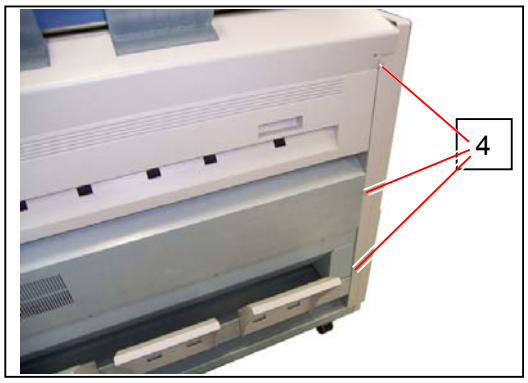
2. Remove the 4x6 screws (2) at both sides.

3. Remove 4 pieces of 4x6 screw (3) at both sides.

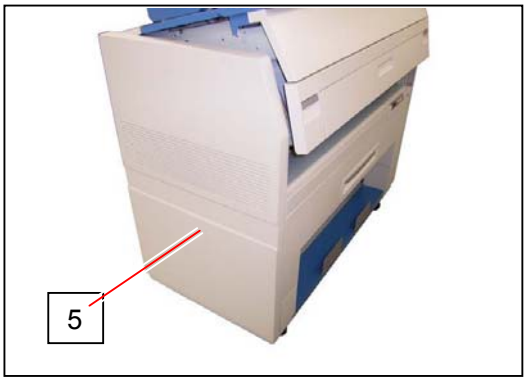


4. Remove 5 pieces of 4x6 screw (4) at both sides.
   (2 pieces on the right and 3 pieces on the left)



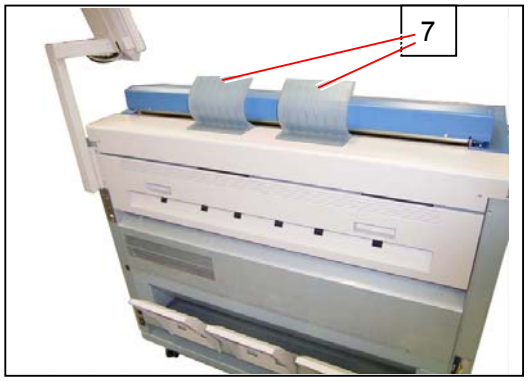


5. Remove the Cover 2 (5) and the Cover 3 (6).

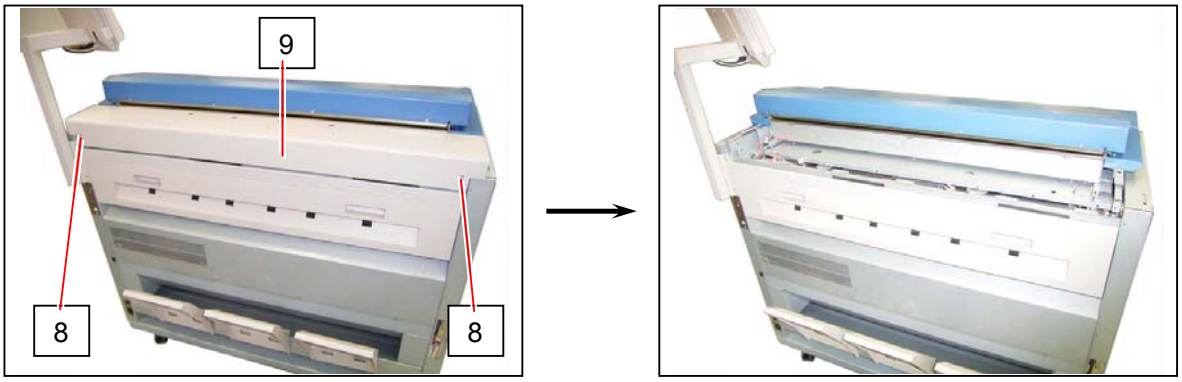


6. Close the Engine Unit.

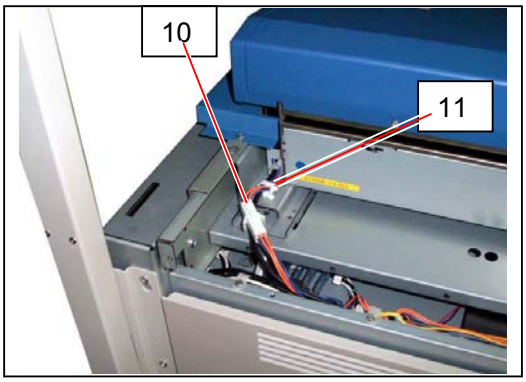
7. Remove the Guides 3 (7).



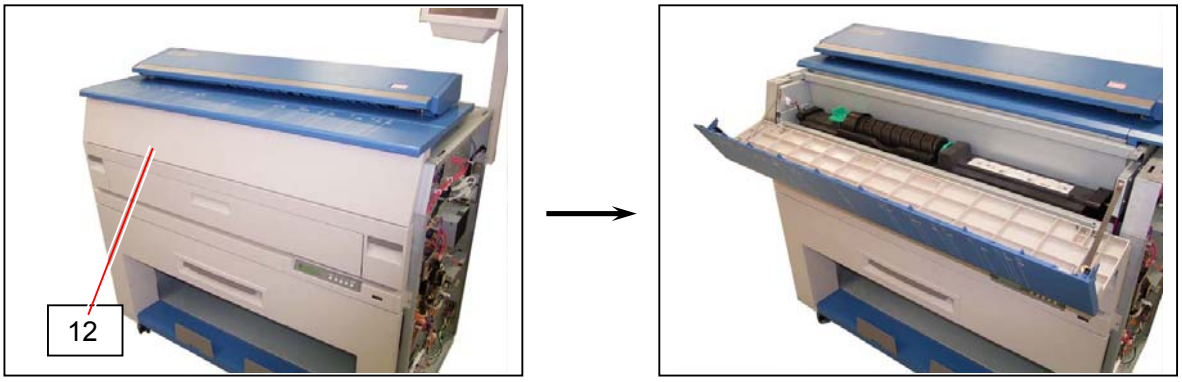
8. Remove 2 pieces of 4x6 screw (8) to remove the Cover 10 (9).



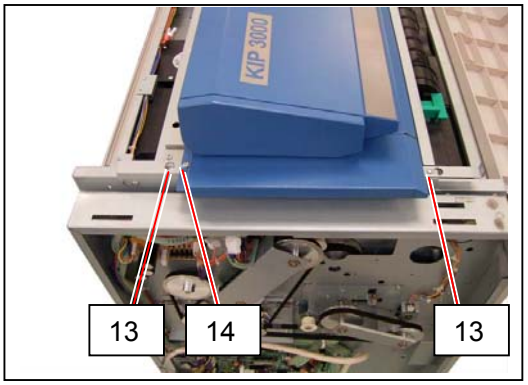
9. Disconnect the connector (10), and open the Wire Saddle (11) to release the harness.

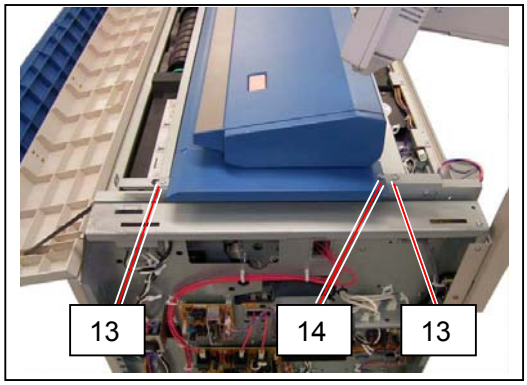


10. Open the Cover 4 (12).

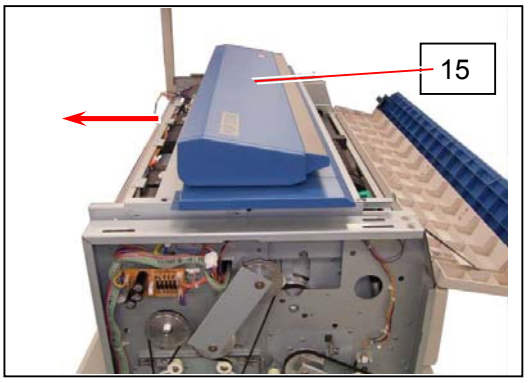


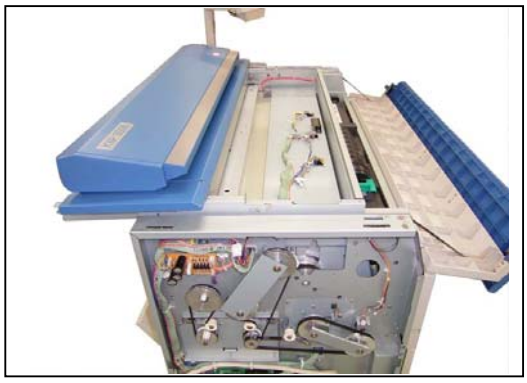
11. Remove 4 pieces of 4x6 screw (13) and 2 pieces of washer screw (14).



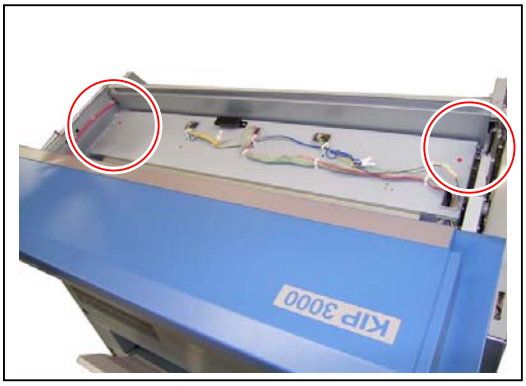


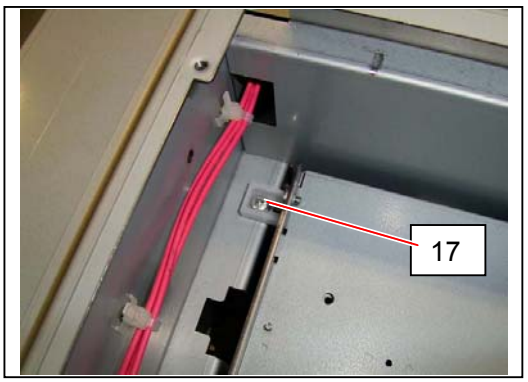
12. Slide the Scanner Unit (15) fully backward.



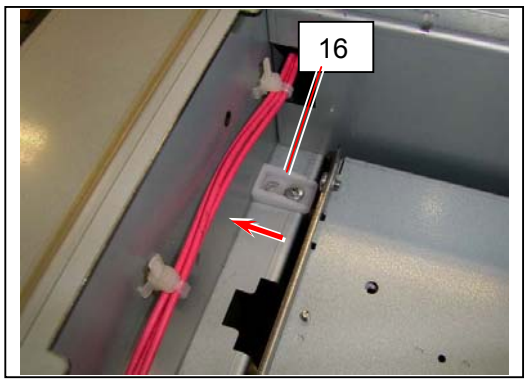


13. There are 2 pieces of Stopper (16) at both sides, which lock the LED Head Frame.
Loosen the screw (17) and then slide the Stoppers (16) outside to unlock the LED Head Frame.



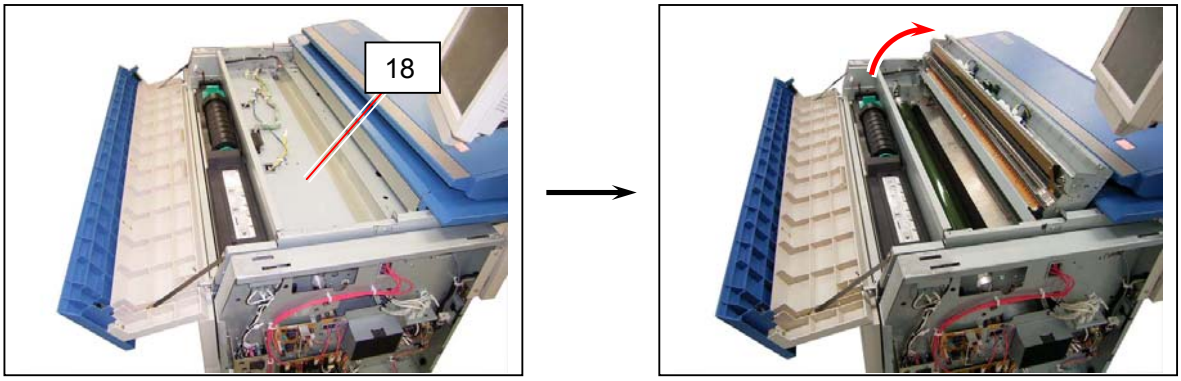


Lock position



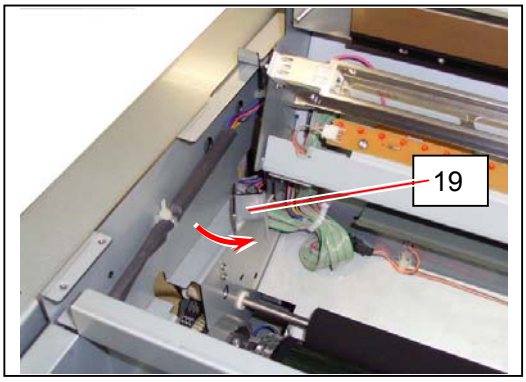
Unlock position

14. Open the LED Head Frame (18).

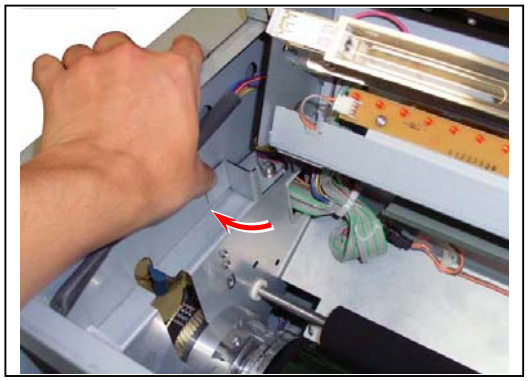


NOTE

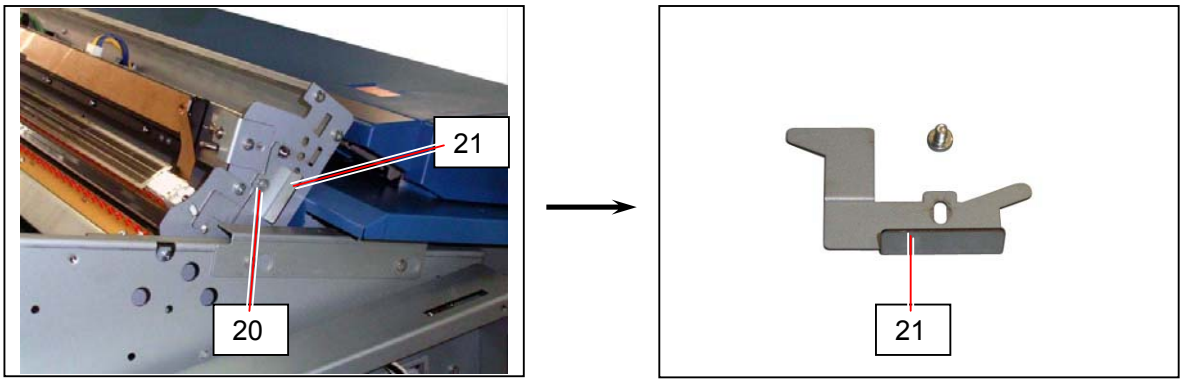
The Stopper 2 (19) comes out automatically to prevent the LED Head Frame from falling down.



Press the Stopper 2 as the right photo if you will close the LED Head Frame.



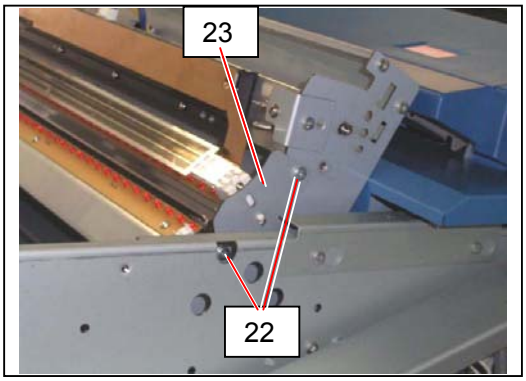
15. Remove the 4x6 screw (20) to remove the Fixing Bracket (21) on the right.



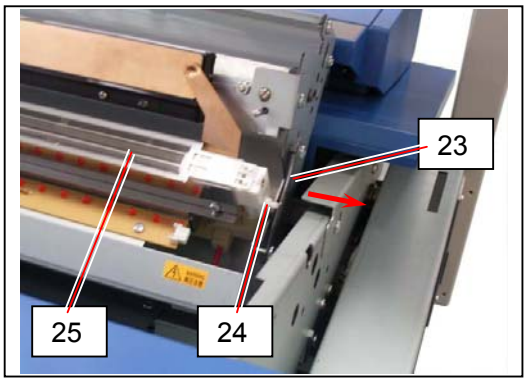
NOTE

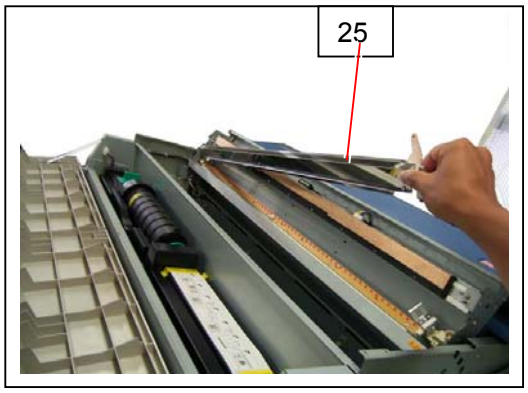
You do not have to put back the Fixing Bracket (21) at the time of reassembly, because it is a part required only before the delivery of machine.

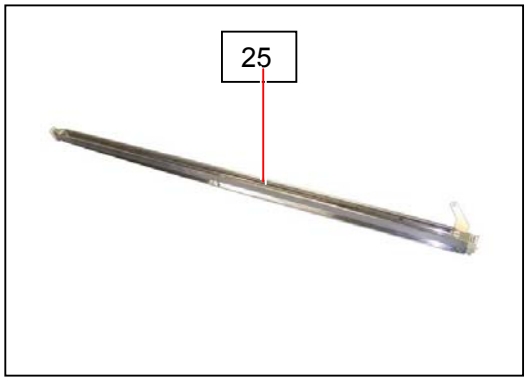
16. Loosen 2 pieces of 4x10 screw (22) to make the Plate (23) enough movable.



17. Move the Plate (23) to the right to release the pin (24) of Corona Block.
Move the right end of Image Corona (25) a little to the front side, and then slide the whole unit to the right.

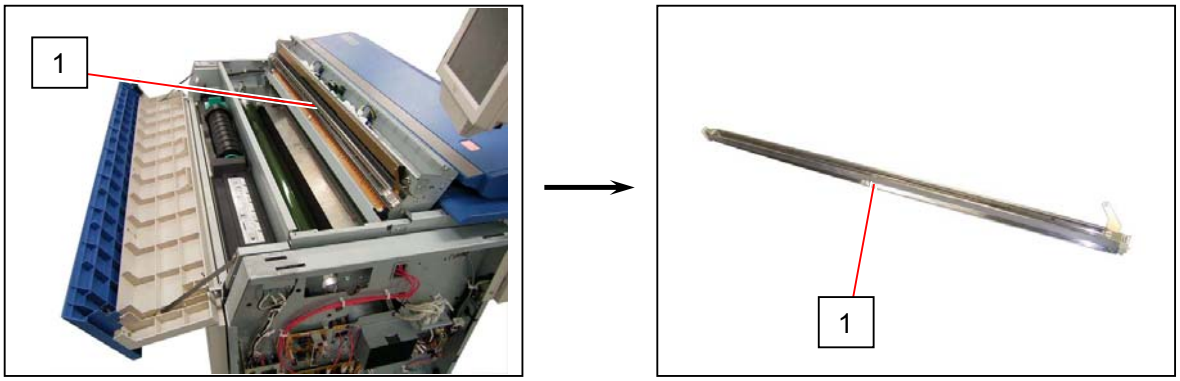




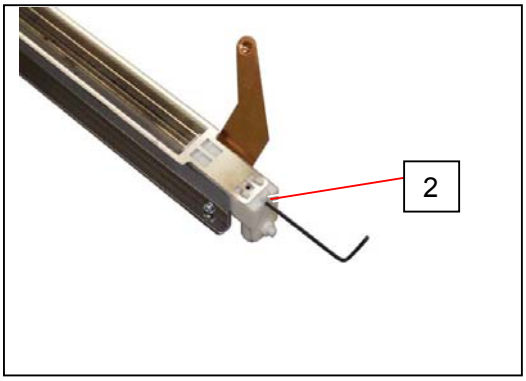


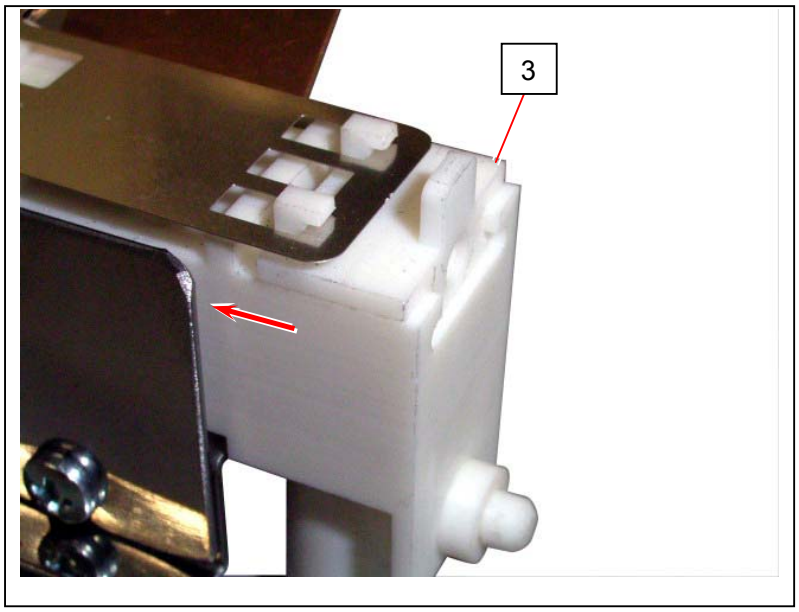
5. 7. 2 Replacement of the Corona Wire

1. Remove the Image Corona Unit (1) from the machine making reference to [5. 7. 1 Removal of the Image Corona Unit] on the page 5-209.



2. Loosen the Set Screw (2) with hexagon wrench.
The Block 3 (3) moves to the arrow mark and the Grid Plate is unfastened.

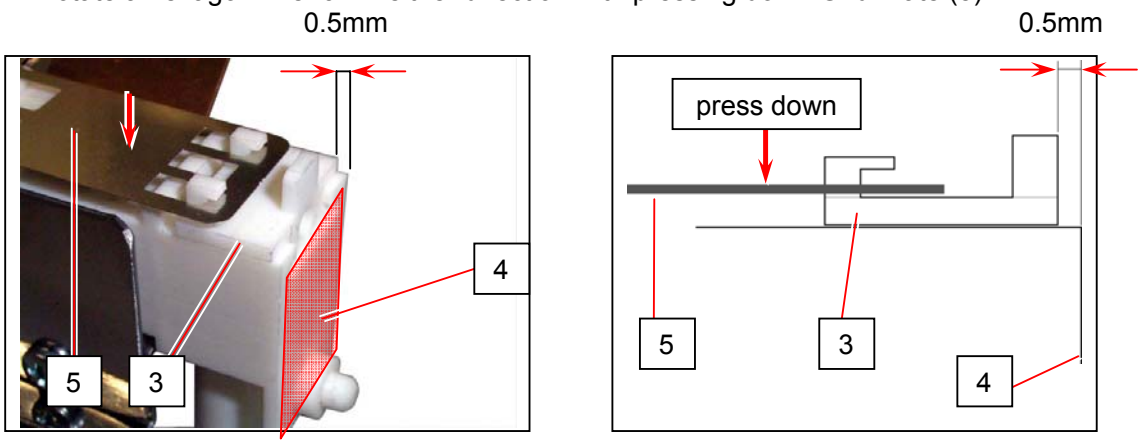




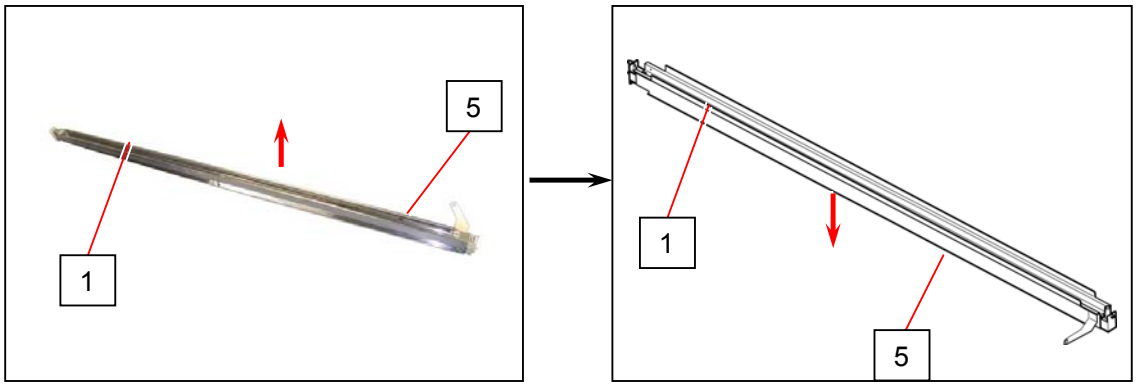
NOTE

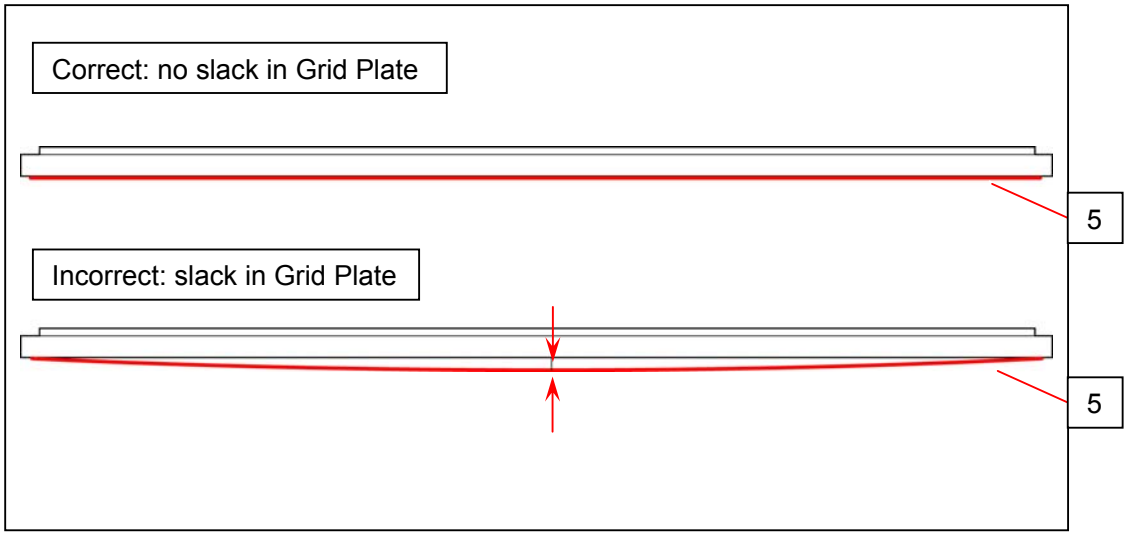
Check the following when reassembling.

(1) The side edge of Block 3 (3) should stop at 0.5mm short of the side face (4) of the corona block for a proper tension.
Rotate a hexagon wrench in either direction with pressing down Grid Plate (5).

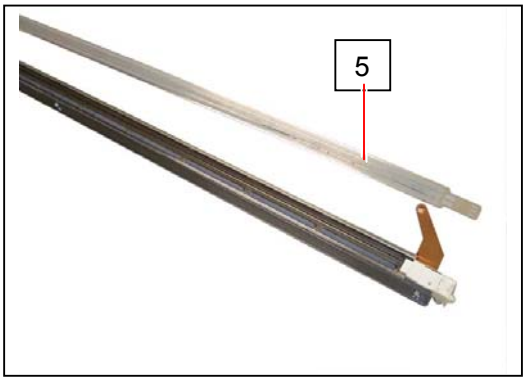


(2) Carry Image Corona Unit (1) by both corona blocks so that Grid Plate (5) faces the floor. Make sure that Grid Plate (5) has no excess slack (in less than 1mm) on the middle of the housing.





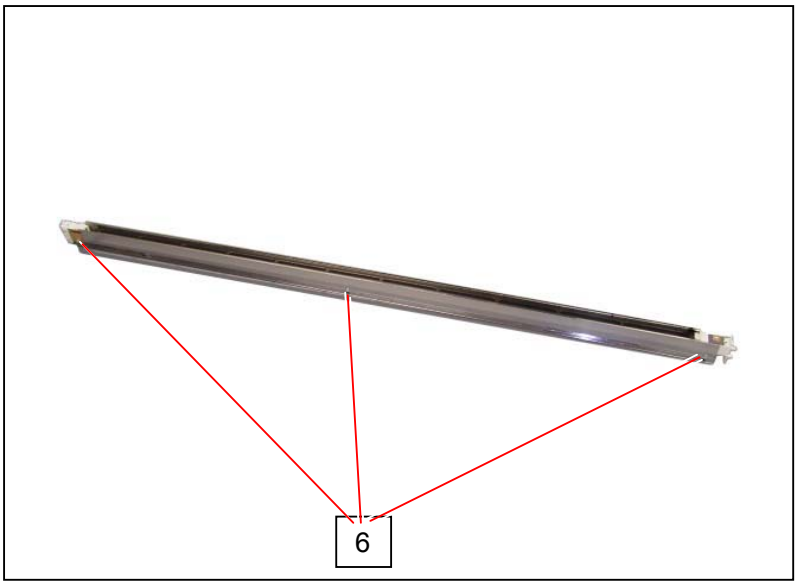
3. Remove the Grid Plate (5).

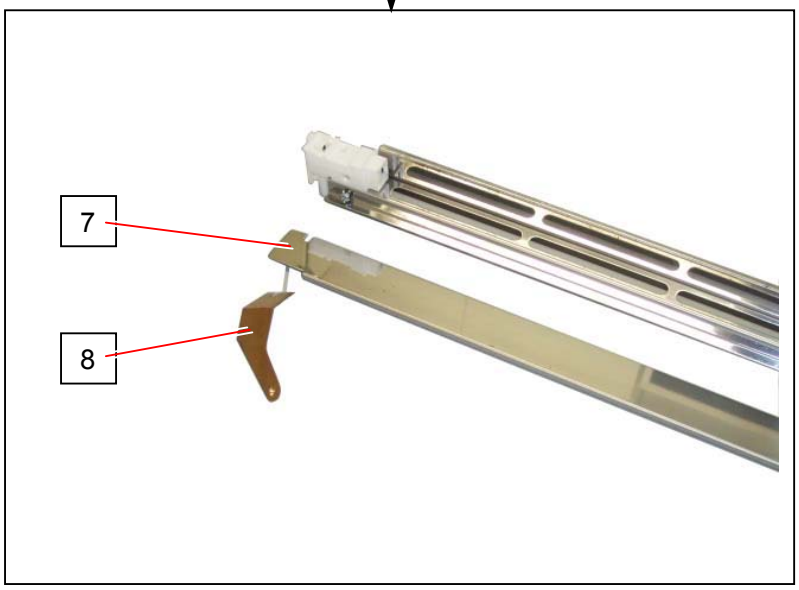


NOTE

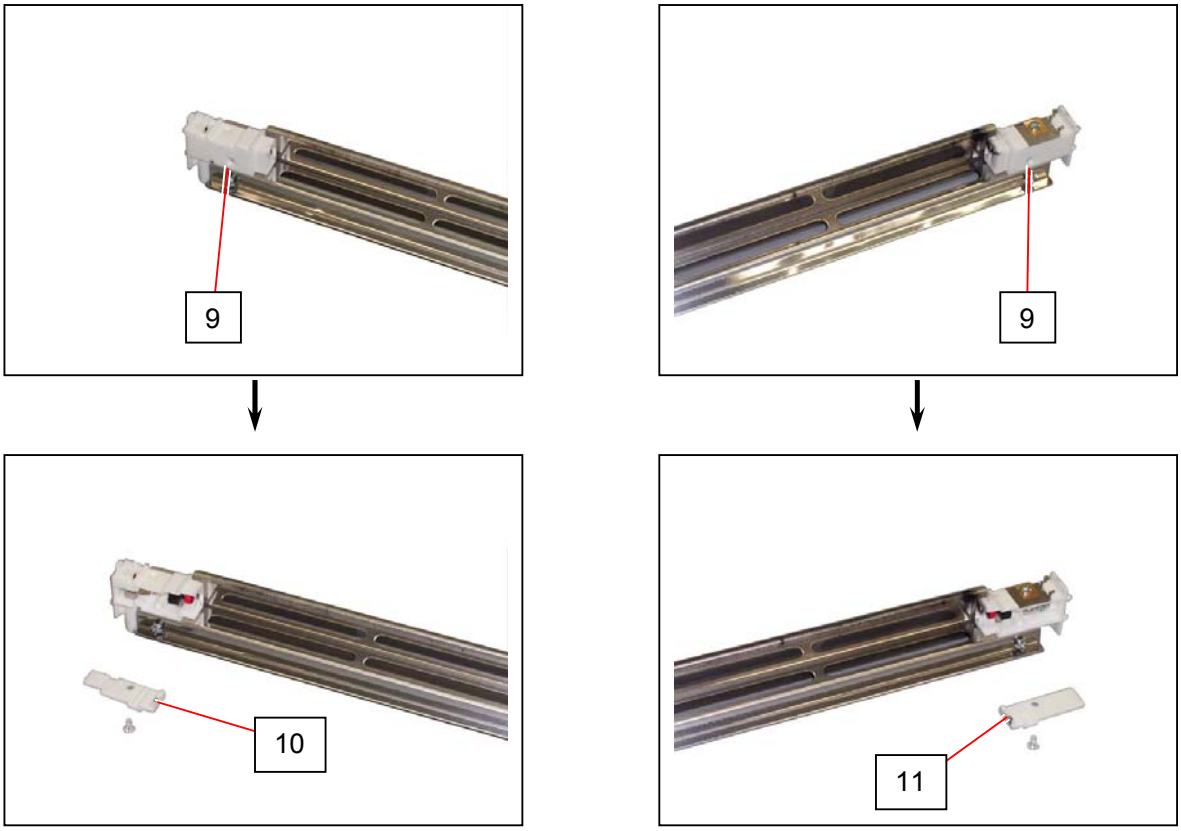
If Grid Plate is dirty, wash it with the neutral detergent and then with water. Dry it well after washing.

4. Loosen 3 pieces of 3x6 screw (6), and then remove Corona Housing (7) and Plate Electrode (8).

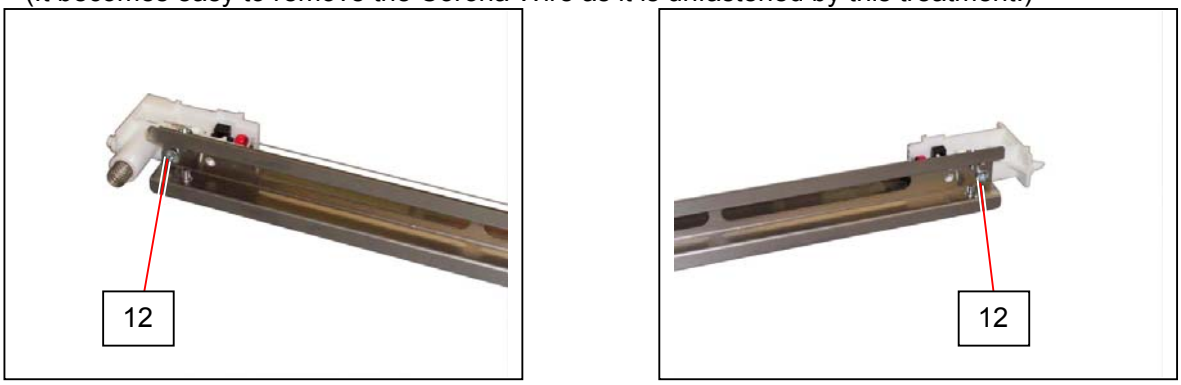




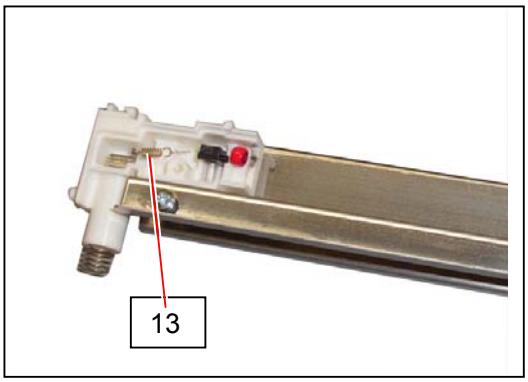
5. Remove the Flush Head Screw (9), and remove each Cover (10) and Cover 2 (11).

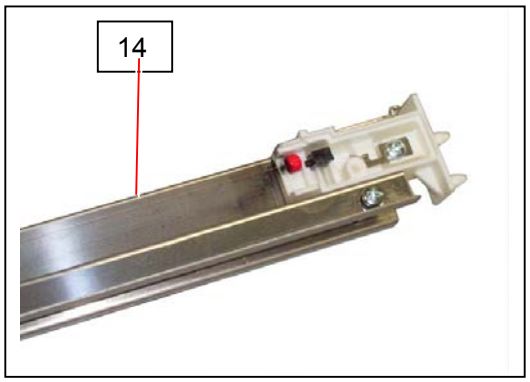


6. Loosen the screws (12) to lower the Height Adjuster.
   (It becomes easy to remove the Corona Wire as it is unfastened by this treatment.)



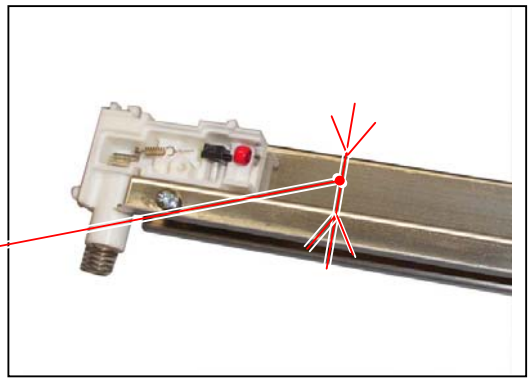
7. Remove the Spring (13), and remove the **Corona Wire** (14).
   Replace the **Corona Wire** (14) with the new one.



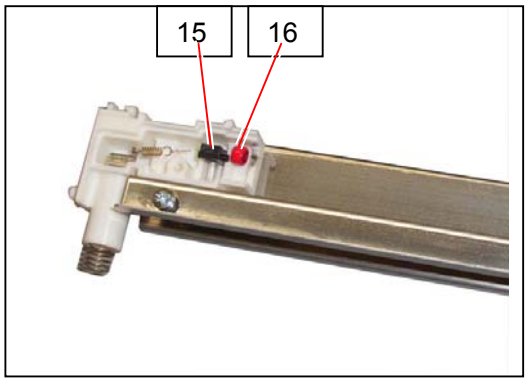


NOTE

(1) Please keep 11mm between Corona Wire (14) and bottom plate of the Corona Unit after the replacement.



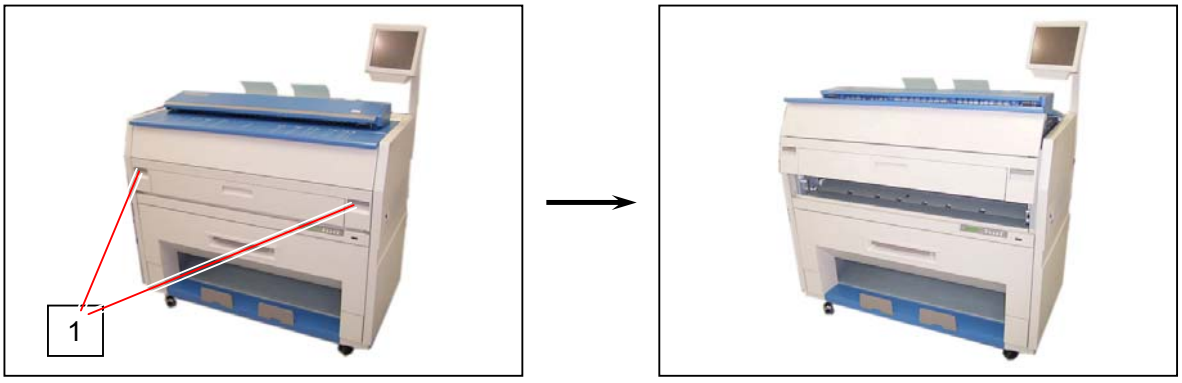
(2) Fit the Corona Wire into the groove of Height Adjuster (15).
Also fit the beads (16) into the correct positions.



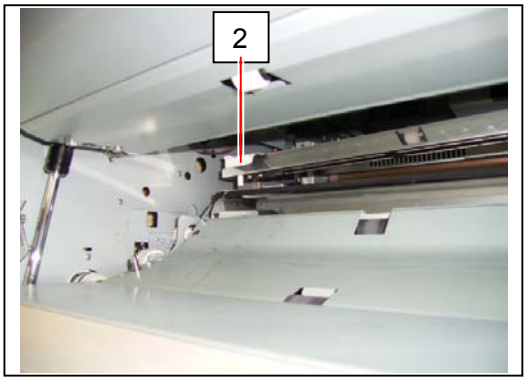
5. 8 Transfer / Separation Corona

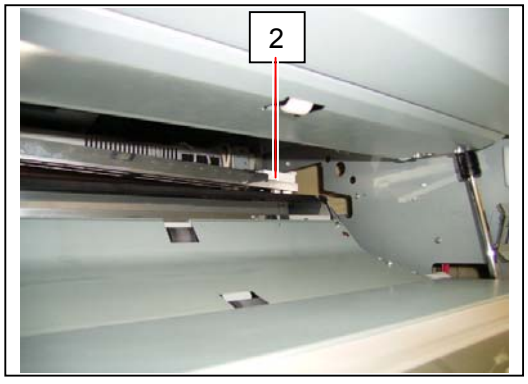
5. 8. 1 Removal of the Transfer / Separation Corona

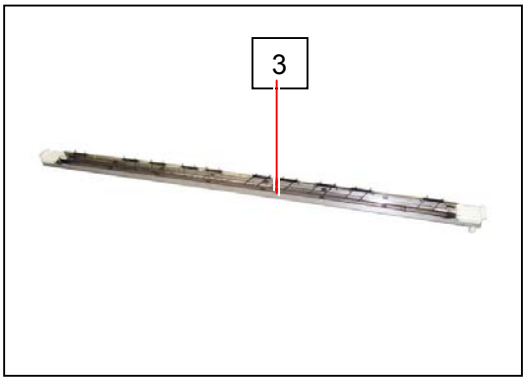
1. Pull up the Lever 2 (1) to open the Engine Unit.



2. Holding both Corona Blocks (2), remove the **Transfer / Separation Corona** (3) from the machine.





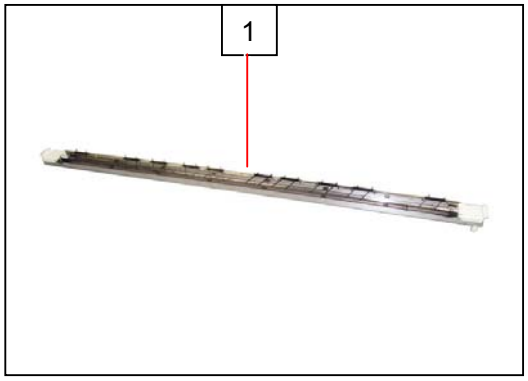


NOTE

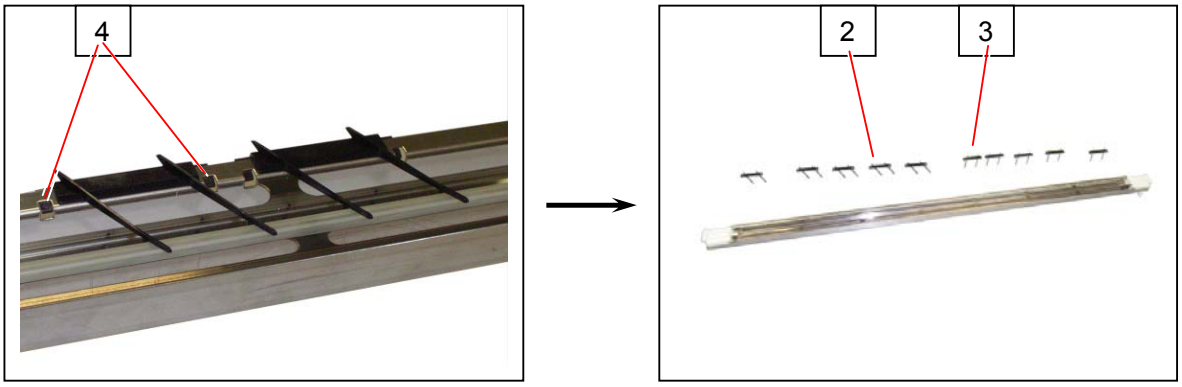
There is the Drum above the Transfer / Separation Corona.
Do not touch it.

5. 8. 2 Replacement of Corona Wires

1. Remove the Transfer / Separation Corona (1) making reference to [5. 8. 1 Removal of the Transfer / Separation Corona] on the page 5-212.



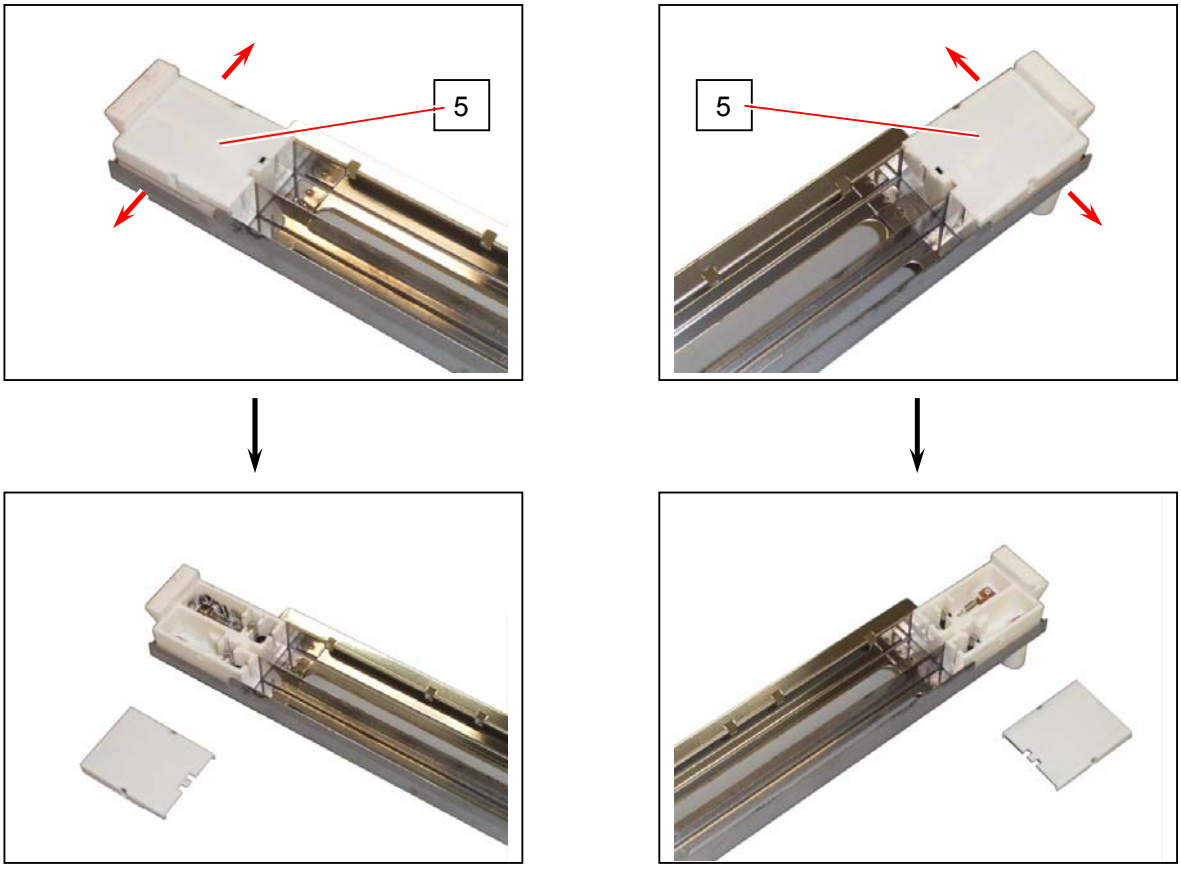
2. There are 5 pieces of Corona Guards A (2) and Corona Guards B (3) on the housing. Remove them pressing the stoppers (4) with such tool as a screwdriver.



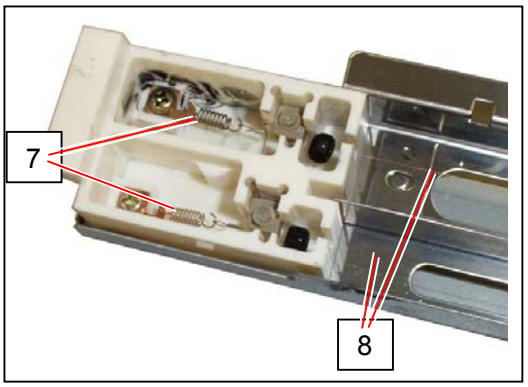
NOTE

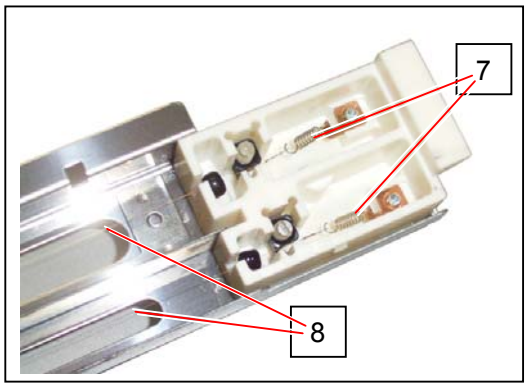
Do not replace the position of Corona Guards A (2) and Corona Guards B (3) at the time of reassembly.

3. Remove both Covers 3 (5) pulling their sides outward.



4. Remove the Wire Springs (7), and remove the **Corona Wires** (8).
Replace the **Corona Wires** (8) with the new ones.

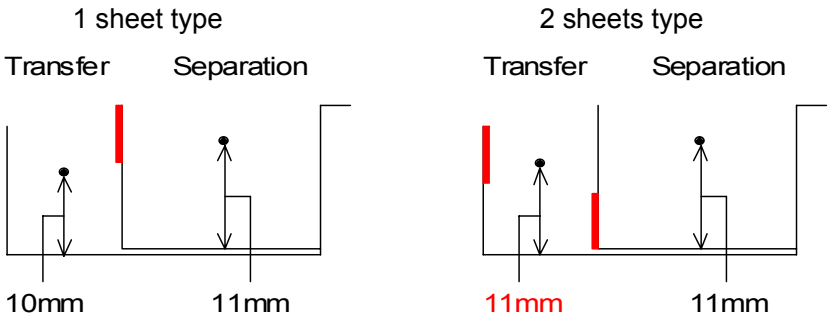




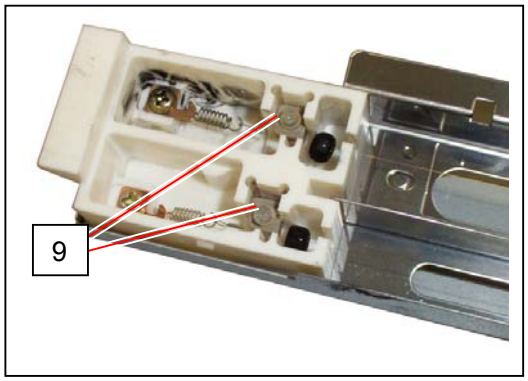
NOTE

(1) Keep a specified distance between each Corona Wire and bottom plate of the housing.

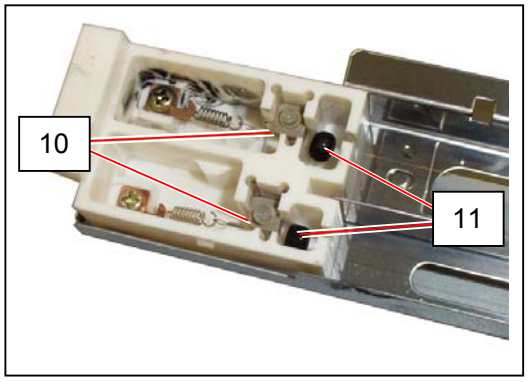
There are 2 types of Tr/St Corona Assy, they differs from the position and the number of plastic sheets on the housing.
A specified distance depends on the Assy type.



To adjust the distance, rotate the screws (9) with a flathead screwdriver.



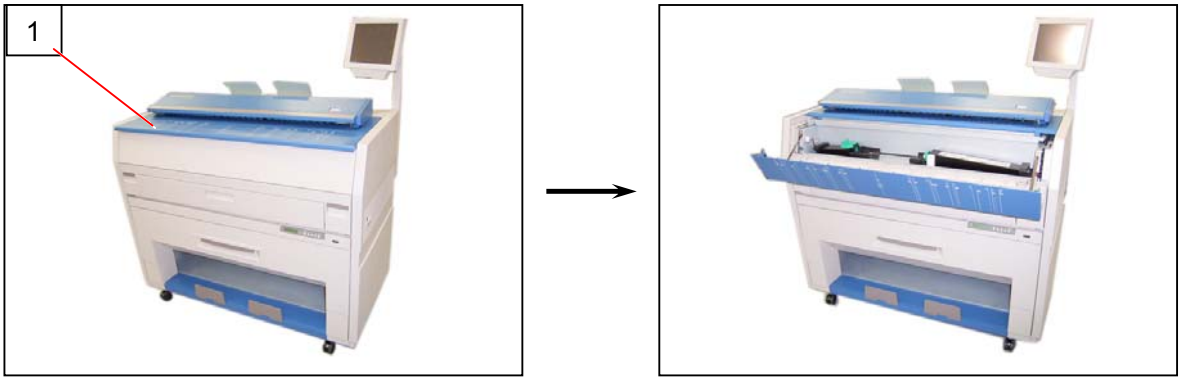
(2) Fit the Corona Wire into the groove of Height Adjuster (10).
Also fit the beads (11) into the correct positions.



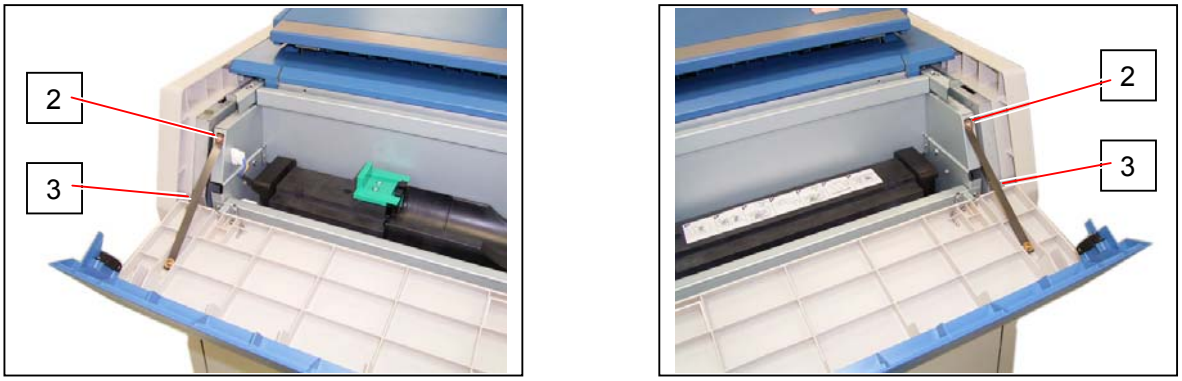
5. 9 Engine Frame

5. 9. 1 Replacement of DC Motor (M4) and Developer Press Sensor (PH4)

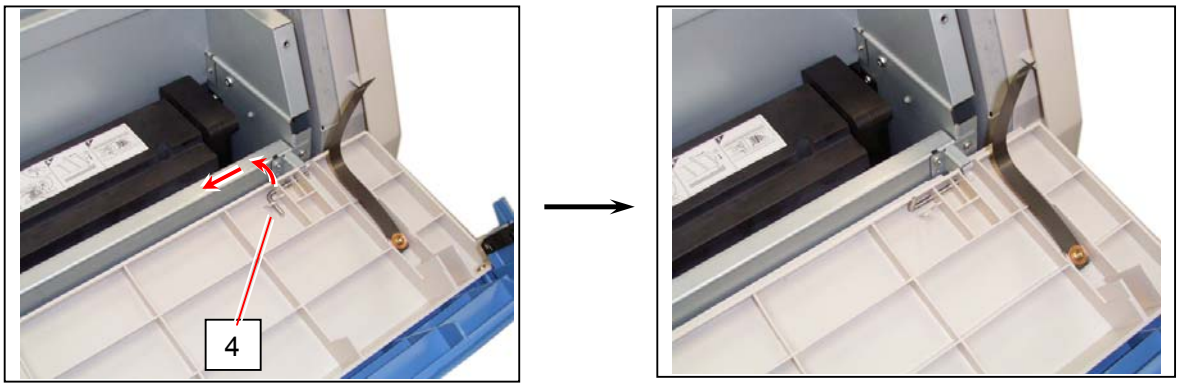
1. Open the Cover 4 (1).

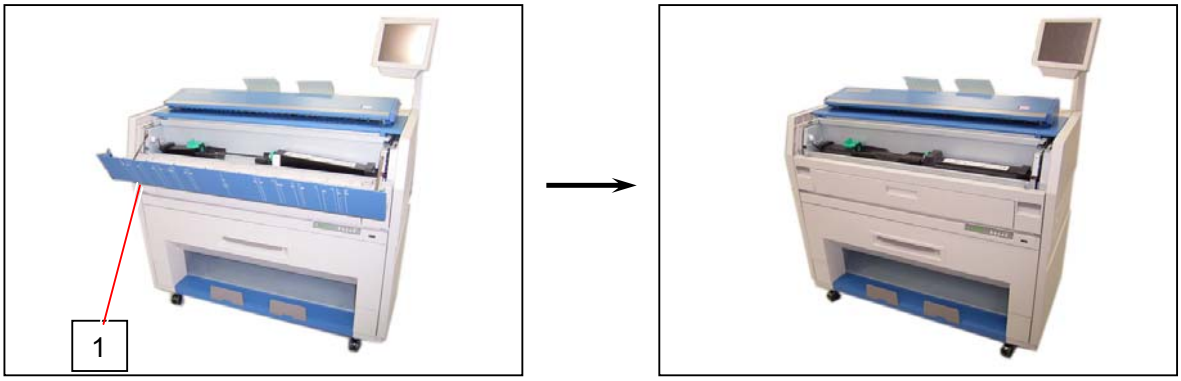


2. Remove the 4x6 screws and washers (2) at both sides to make the Bands (3) free.



3. There are Pins (4) at both sides.
   Slide them inside to remove the Cover 4 (1).

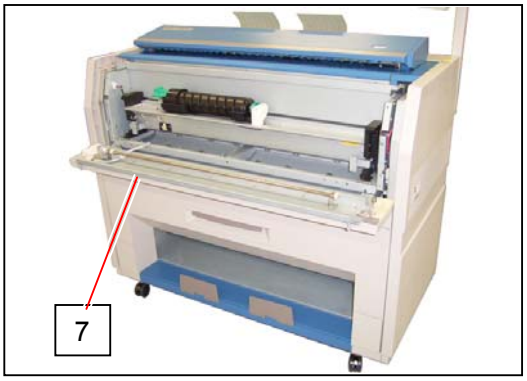




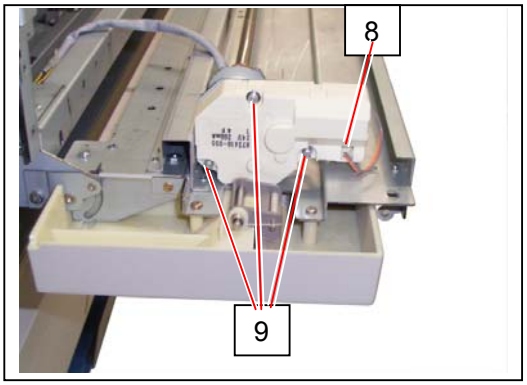
4. Open the Bypass Feeder (5).

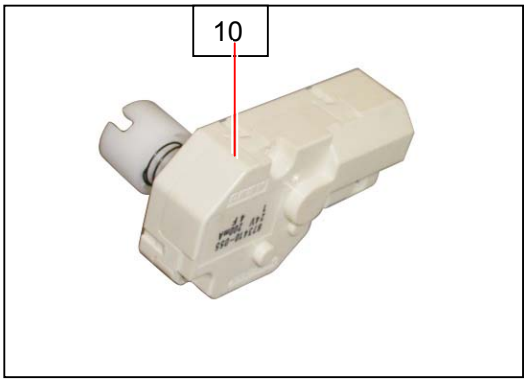
5. Remove 4 pieces of 4x8 screw (6).

6. Close the Bypass Feeder, and then open the Developer Press Unit (7).

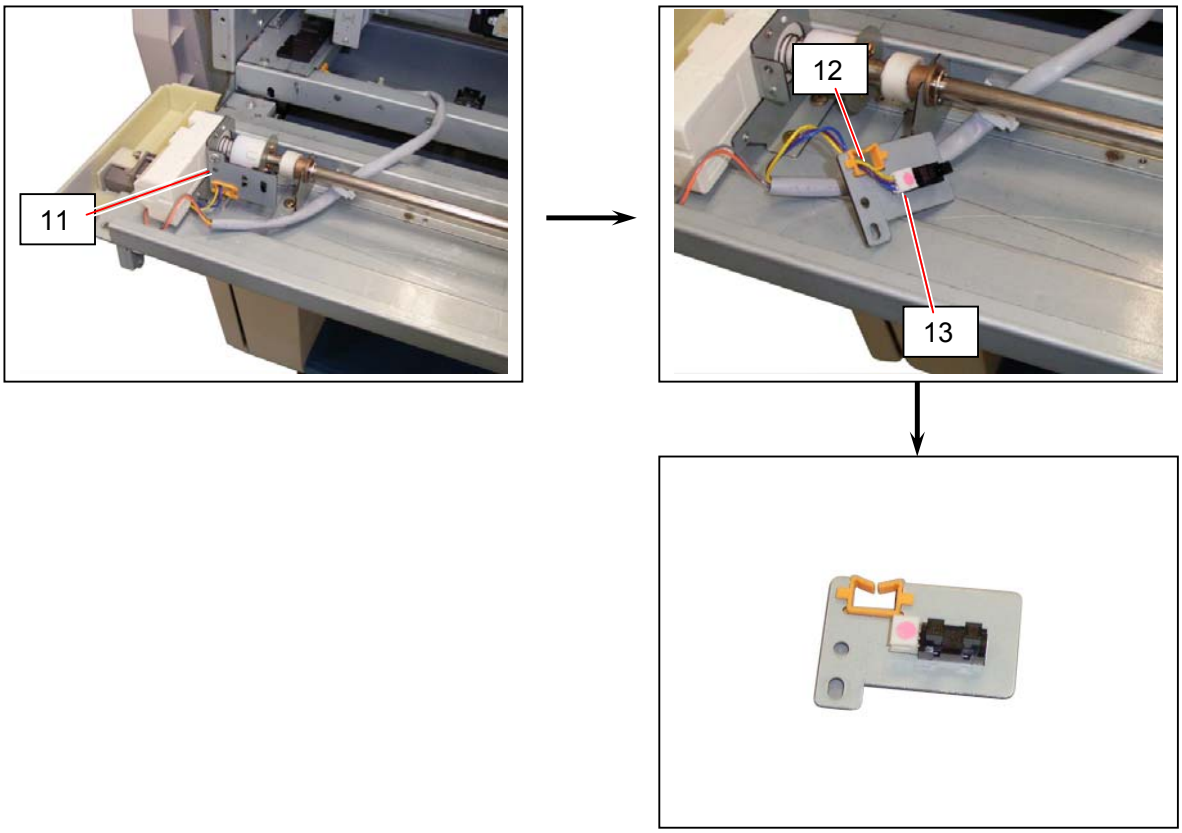


7. Disconnect the connector (8) and remove 3 pieces of screw (9), and remove the **DC Motor** (10).
   Replace the **DC Motor** (10) with the new one.

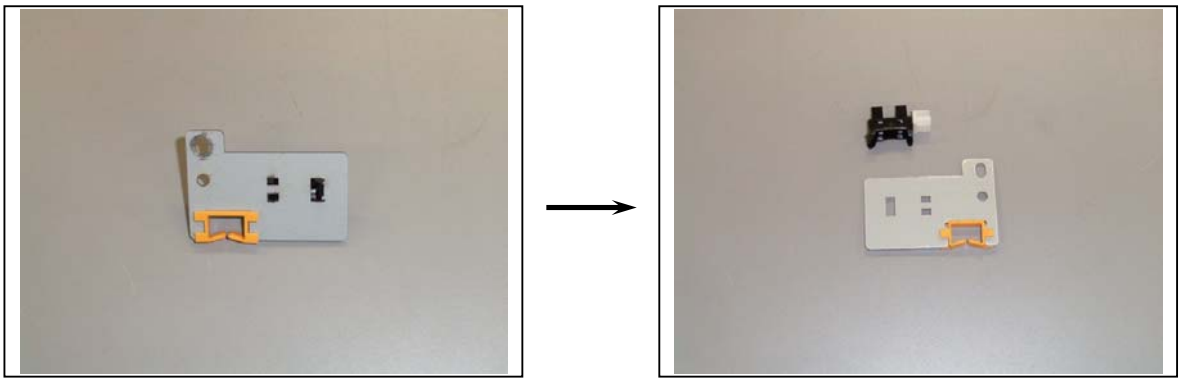




8. Remove the 4x6 screw (11), release the harness from the Edge Saddle (12), and disconnect the connector (13).

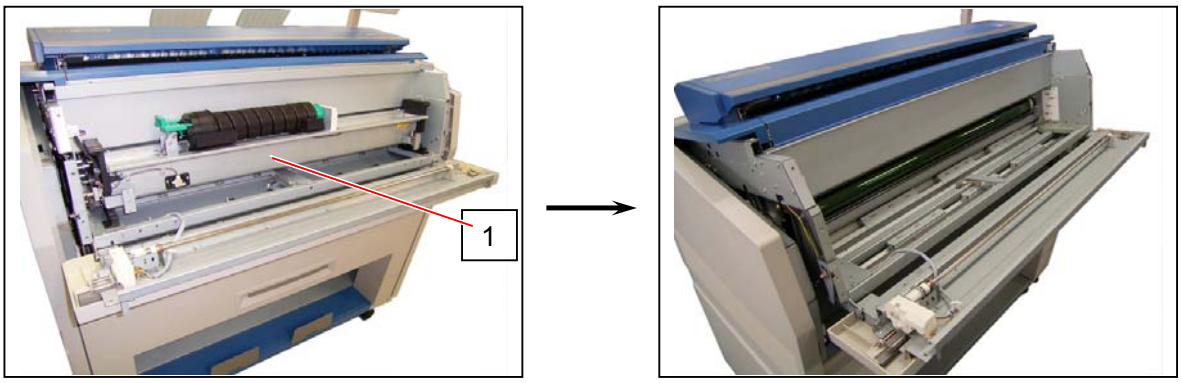


9. Pressing the stoppers (14) with such tool as a screwdriver, remove the **Developer Press Sensor** (15).
   Replace the **Developer Press Sensor** (15) with the new one.

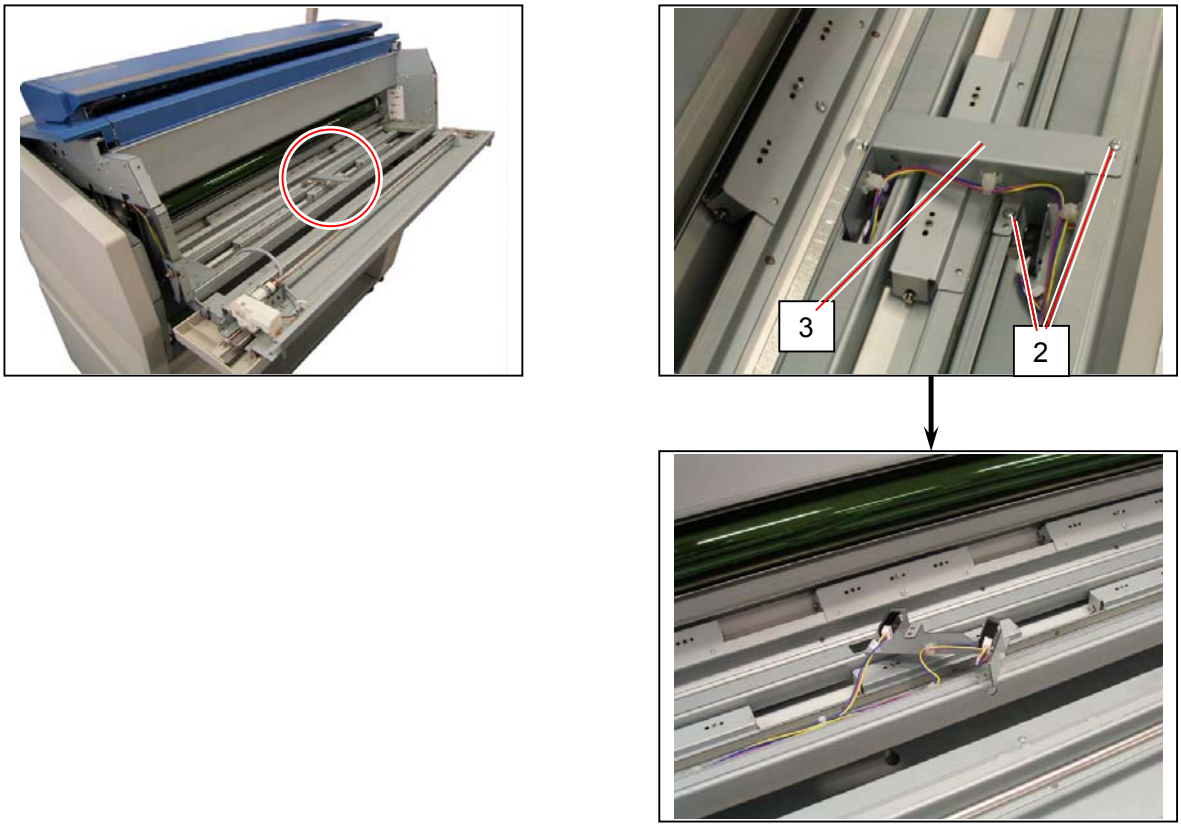


5. 9. 2 Replacement of Manual Set Sensor (PH5) & Registration Sensor (PH1)

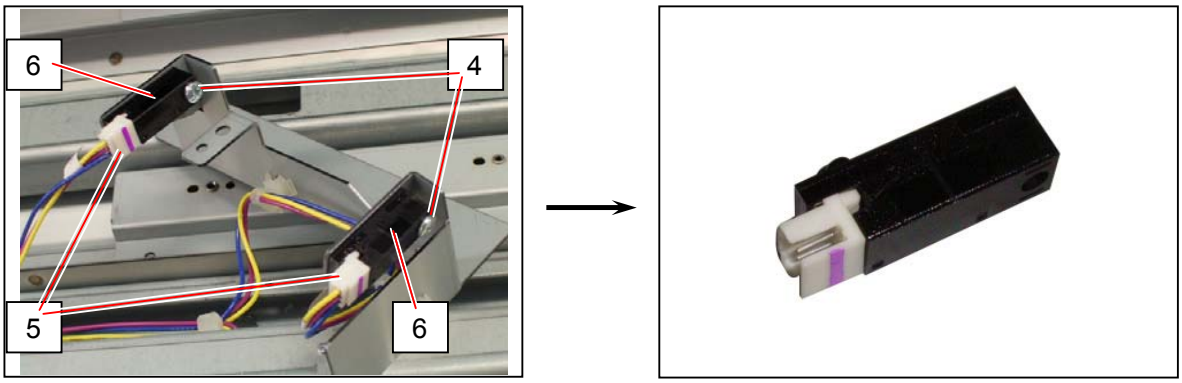
1. Remove the Developer Unit (1) from the machine making reference to [5. 2. 1 Removal of the Developer Unit] on the page 5-8.



2. Remove 2 pieces of 3x6 screw (2), and then turn over the Bracket 11 (3).

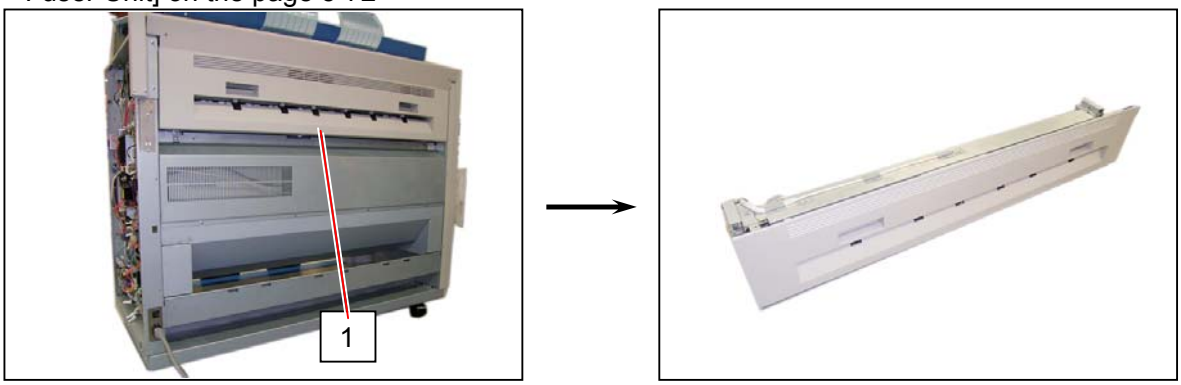


3. Remove the screw (4) and disconnect the connector (5) to remove each **Sensor** (6 : Manual Set Sensor or Registration Sensor).
   Replace the **Sensor** (15) with the new one.

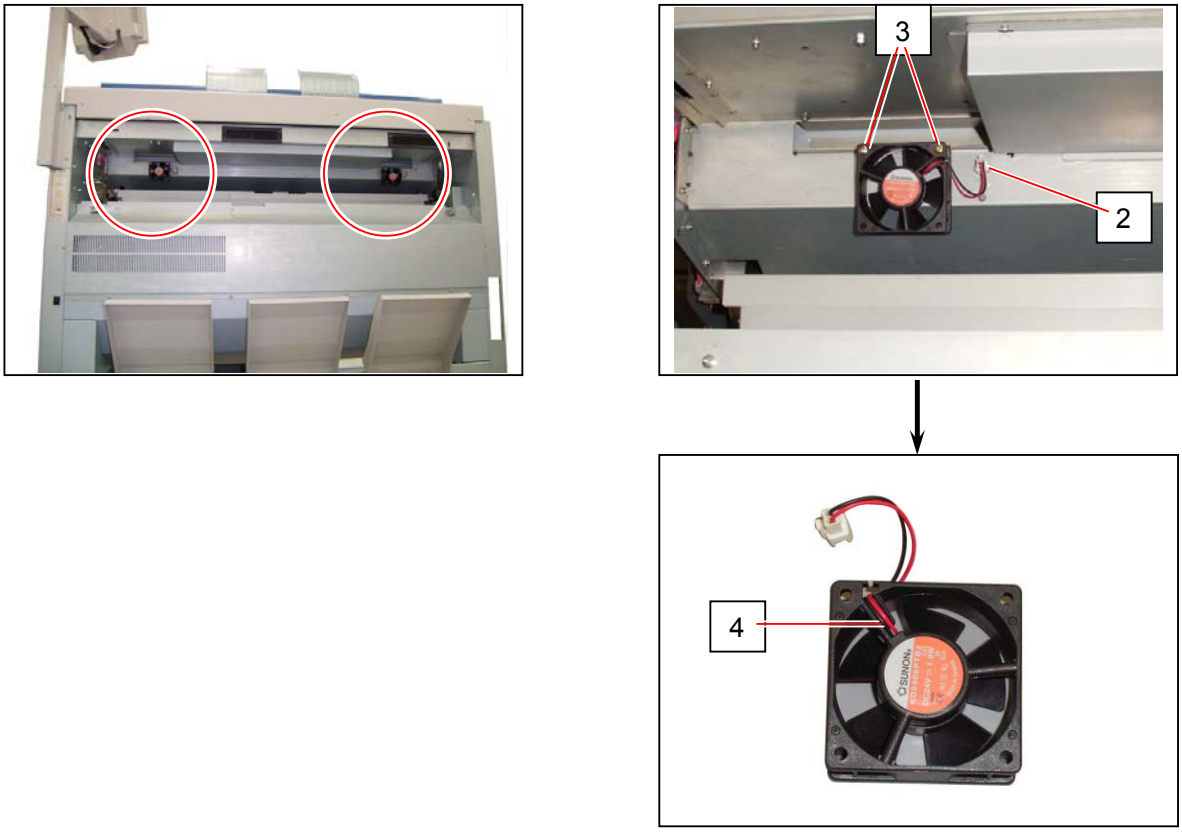


5. 9. 3 Replacement of Fans (BL5 & BL6)

1. Remove the Fuser Unit (1) from the machine making reference to [5. 3. 1 Removal of the Fuser Unit] on the page 5-72

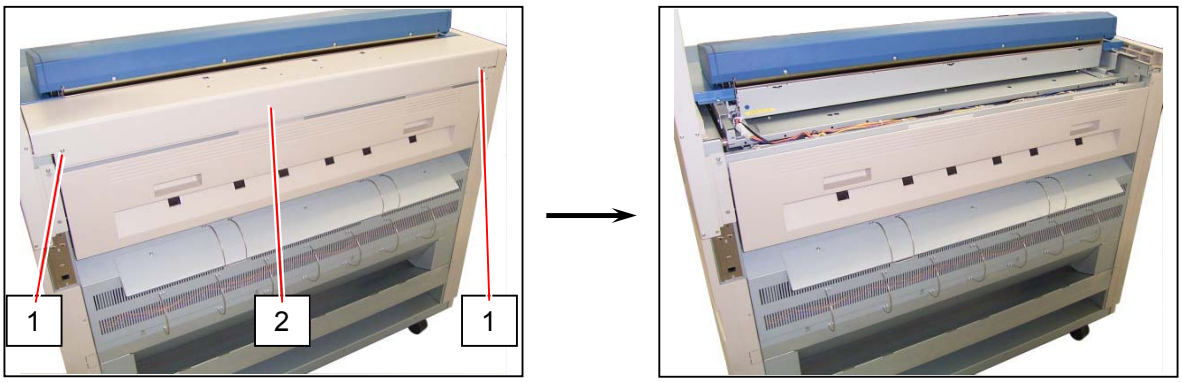


2. Disconnect the connector (2), remove 2 pieces of screw (3), and remove each **Fan** (4 : BL5 & BL6).
   Replace the **Fan** (4 : BL5 & BL6) with the new one.

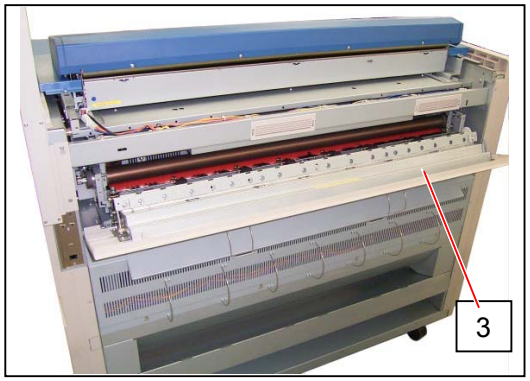


5. 9. 4 Replacement of Blowers (BL3 & BL4)

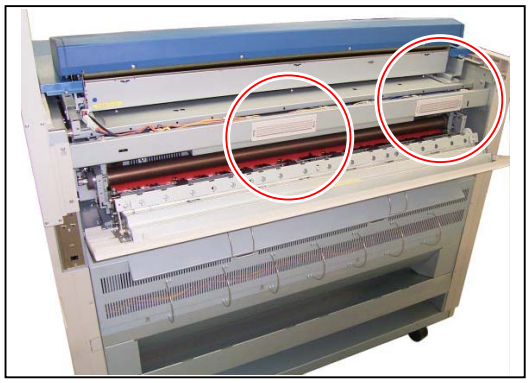
1. Remove 2 pieces of 4x6 screw (1) to remove the Cover 10 (2).

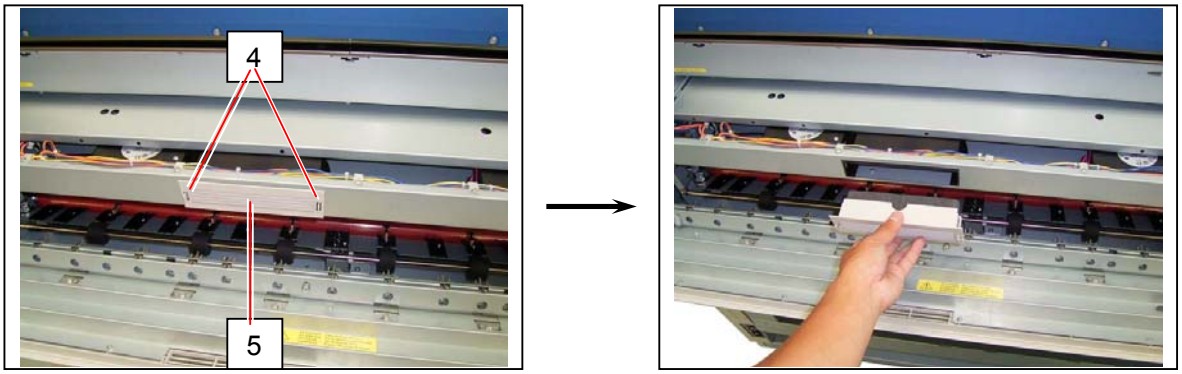


2. Open the Cover Assembly (3).

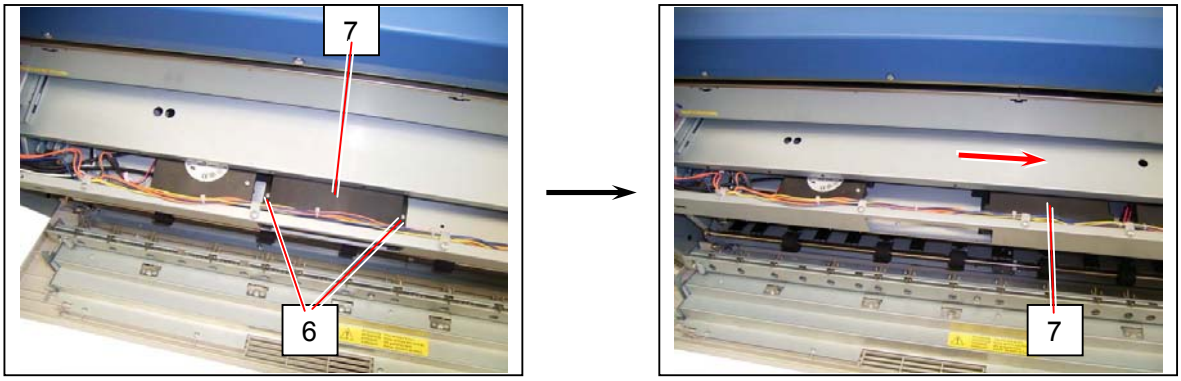


3. Moving the stopper levers (4) to the inside, remove each Duct 5 (5) with Filter 2.

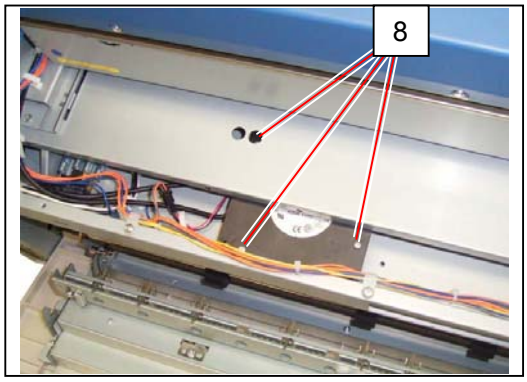




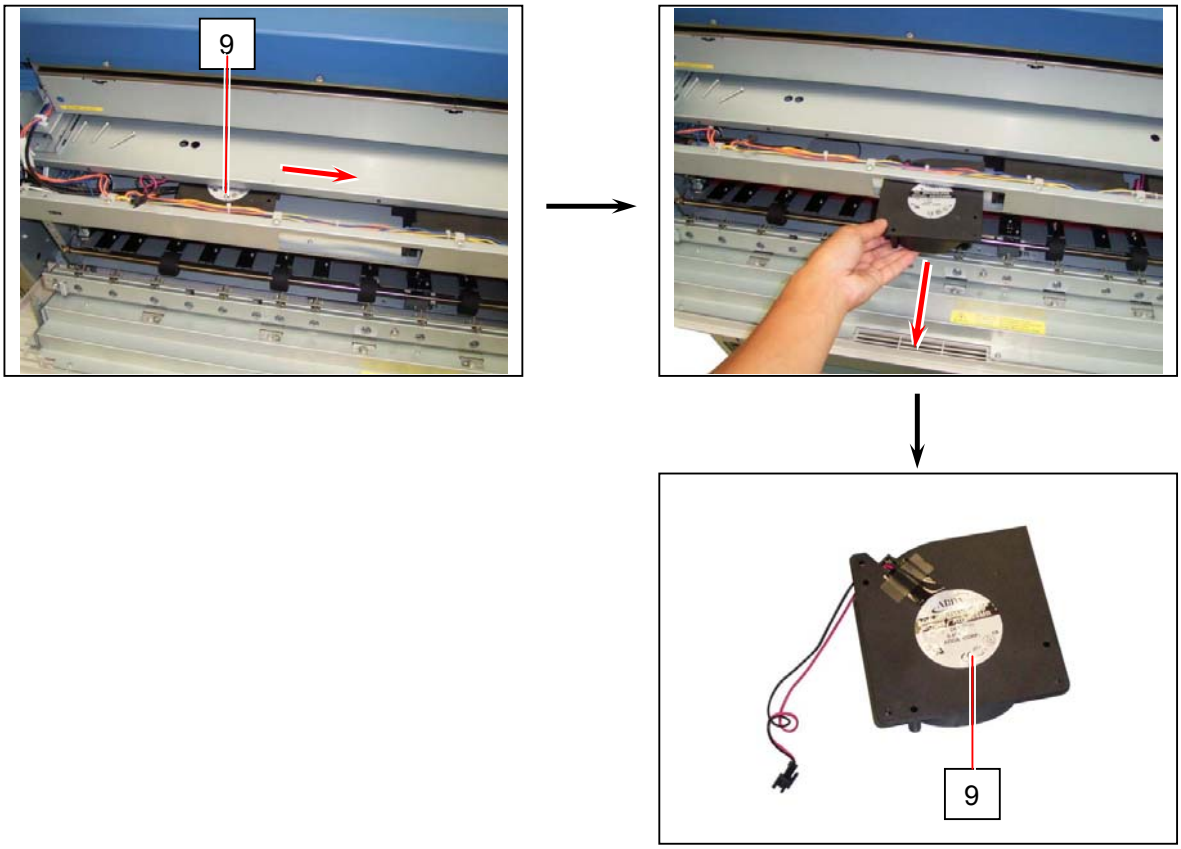
4. Remove 2 pieces of 4x6 screw (6), and then slide the Duct 6 (7) to the left.



5. Remove 3 pieces of 4x35 screw (8).



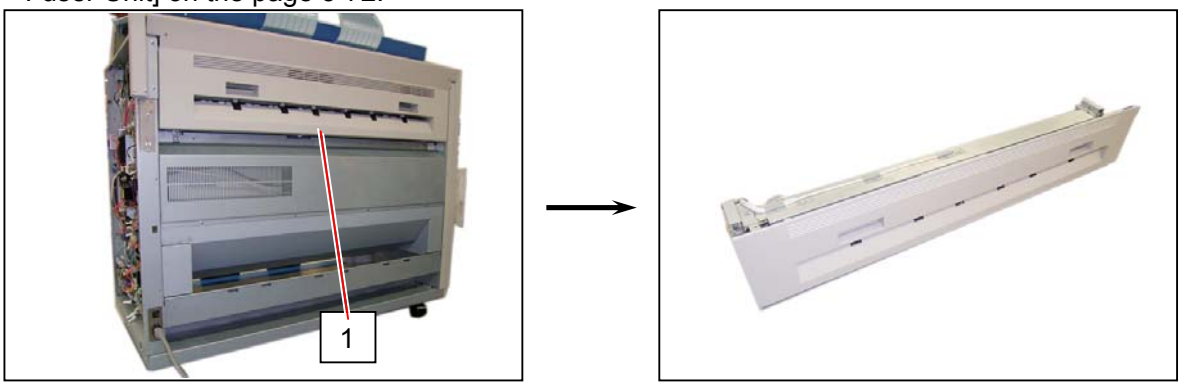
6. Remove the Blower (9 : BL3 & BL4) moving as the following photos.



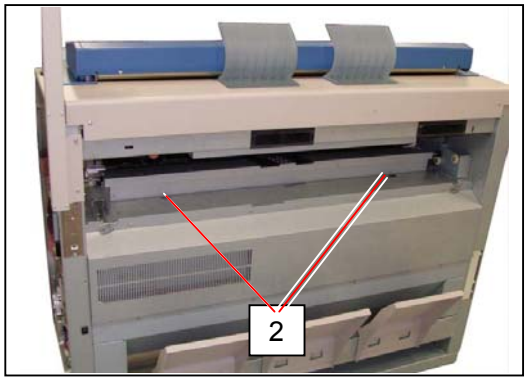
5.10 Inner Transport Unit

5.10. 1 Removal of the Inner Transport Unit

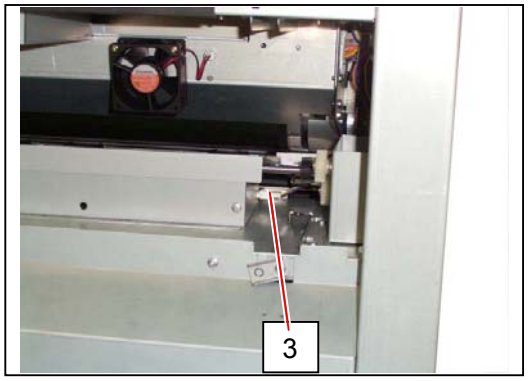
1. Remove the Fuser Unit (1) from the machine making reference to [5. 3. 1 Removal of the Fuser Unit] on the page 5-72.

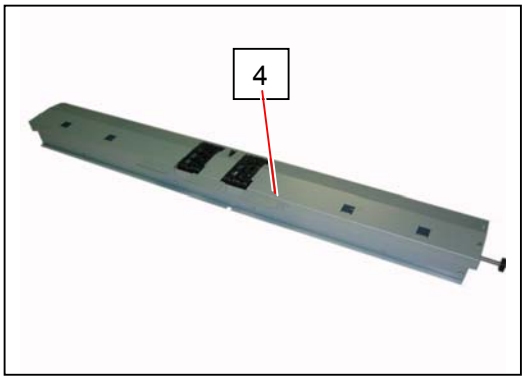


2. Remove 2 pieces of 4x6 screw (2).



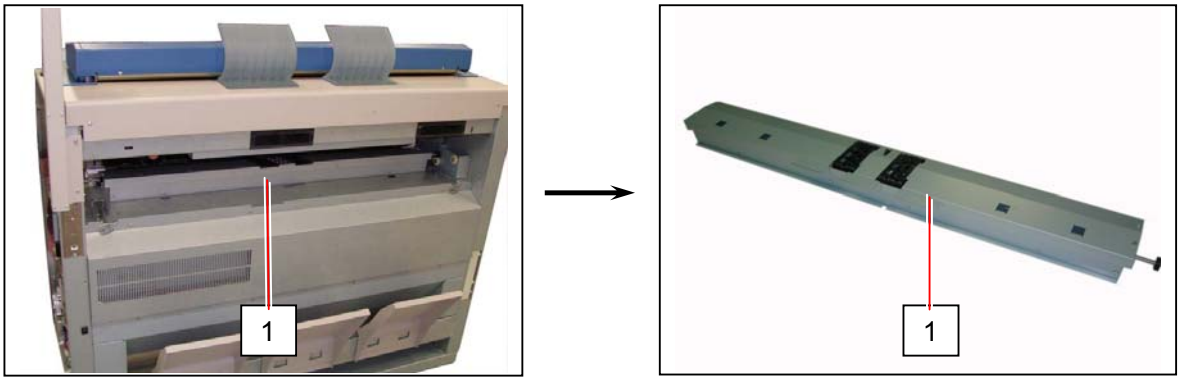
3. Disconnect the connector on the left (3), and then remove the **Inner Transport Unit** (4).



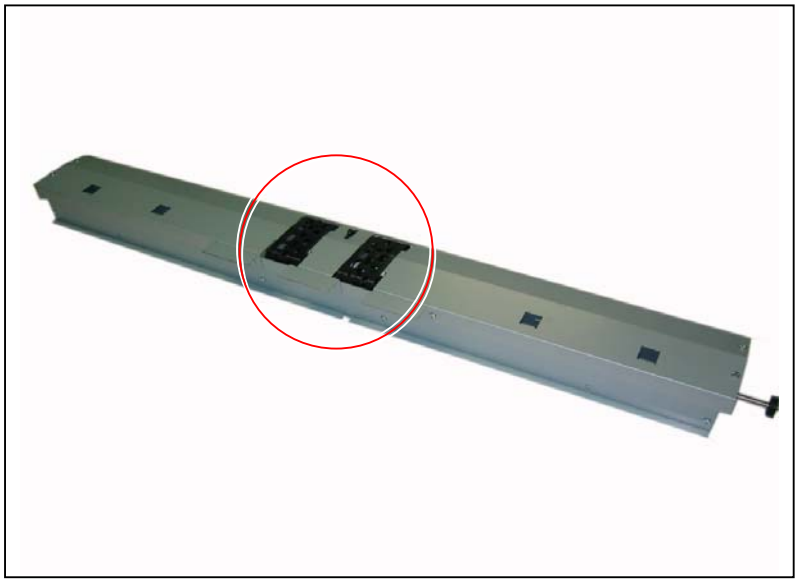


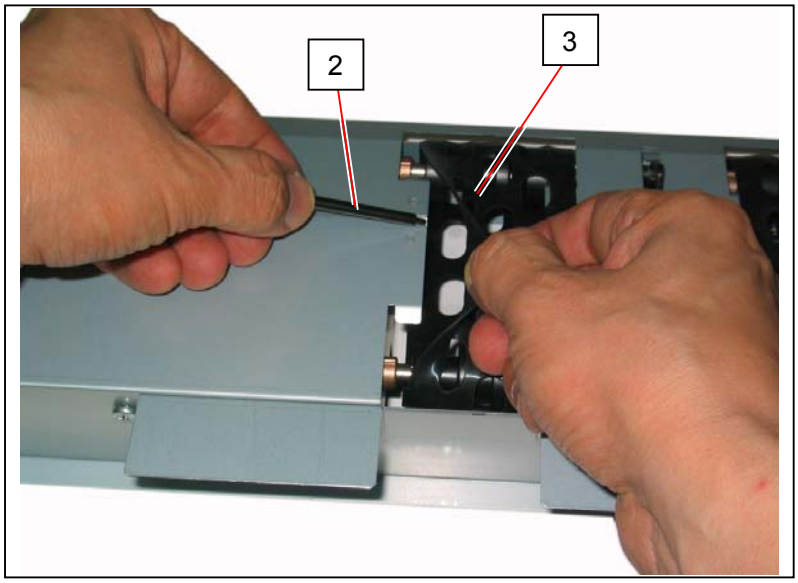
5.10. 2 Replacement of Sensor (PH2) & Belt

1. Remove the Inner Transport Unit (1) from the machine making reference to [5.10. 1 Removal of the Inner Transport Unit] on the page 5-235.

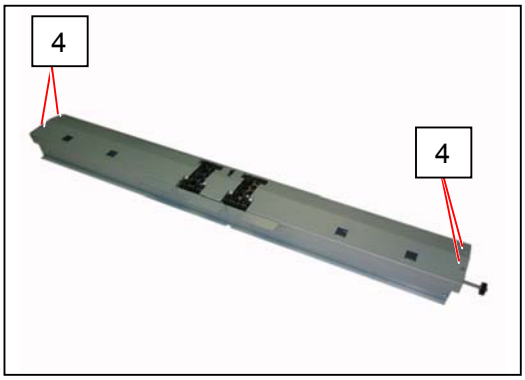


2. There are Shafts (2) under the Belt (3). Remove these Shafts (2).

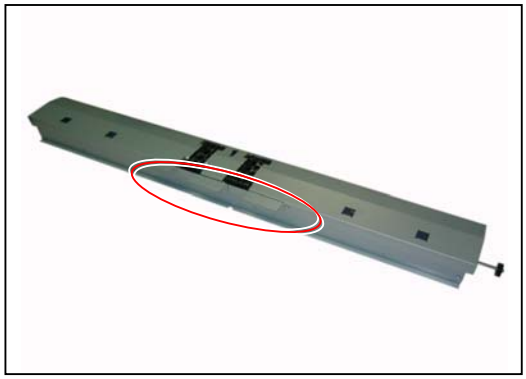


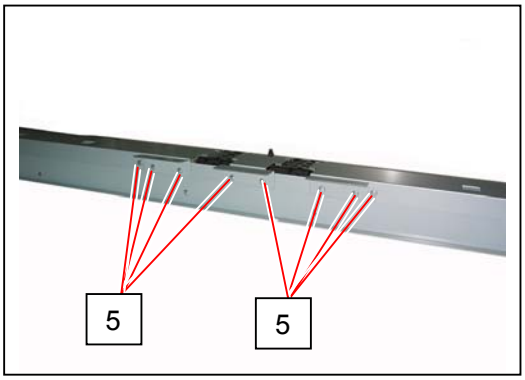


3. Remove 4 pieces of 4x6 screw (4).

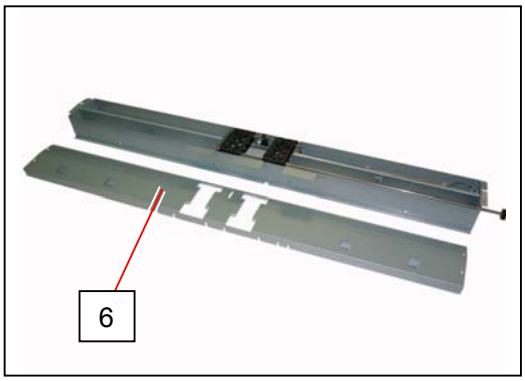


4. Loosen 8 pieces of 4x6 screw (5).

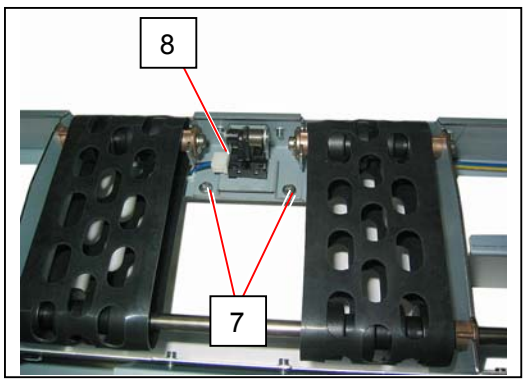


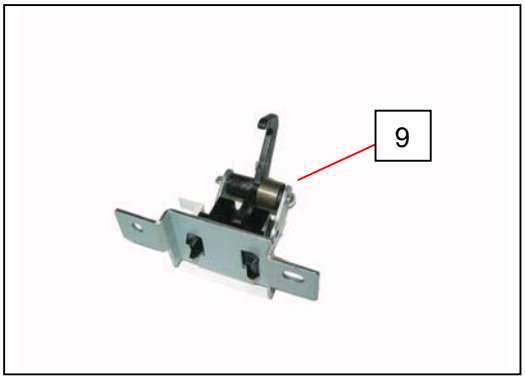


5. Remove the Guide Plate(6).

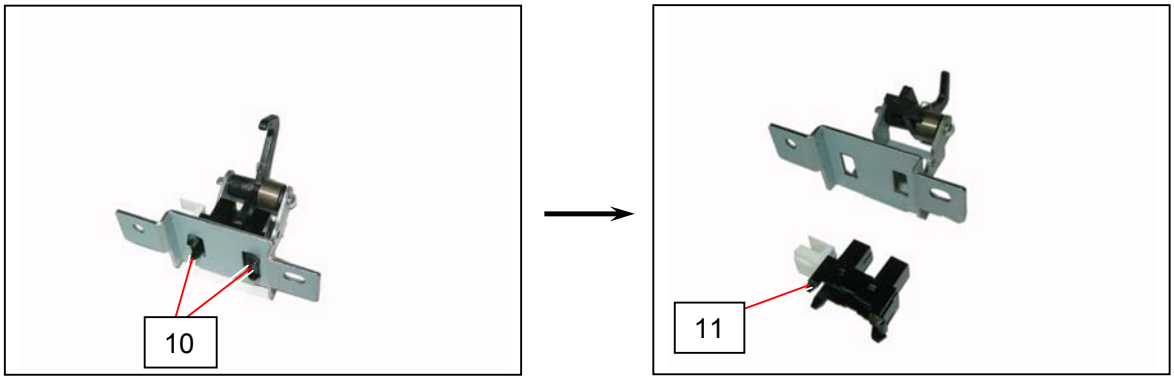


6. Remove 2 pieces of 3x6 screw (7) and disconnect the connector (8) to remove the Exit Sensor Assembly (9).

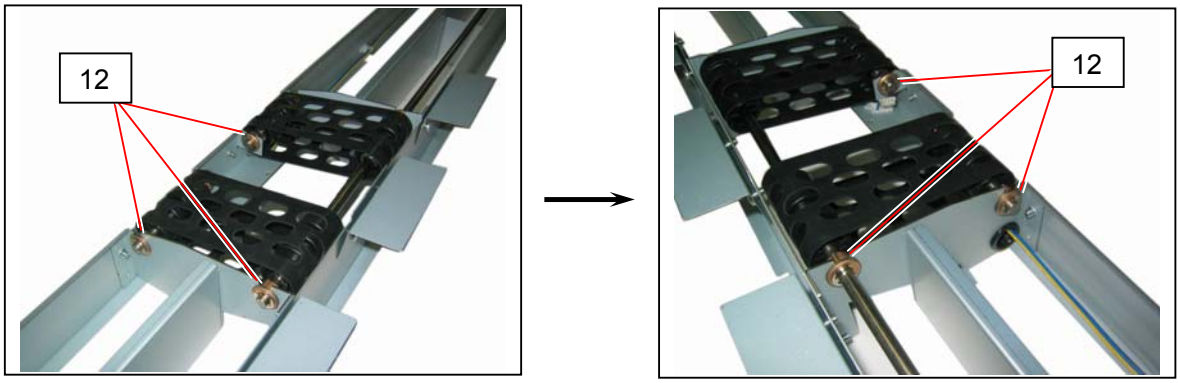




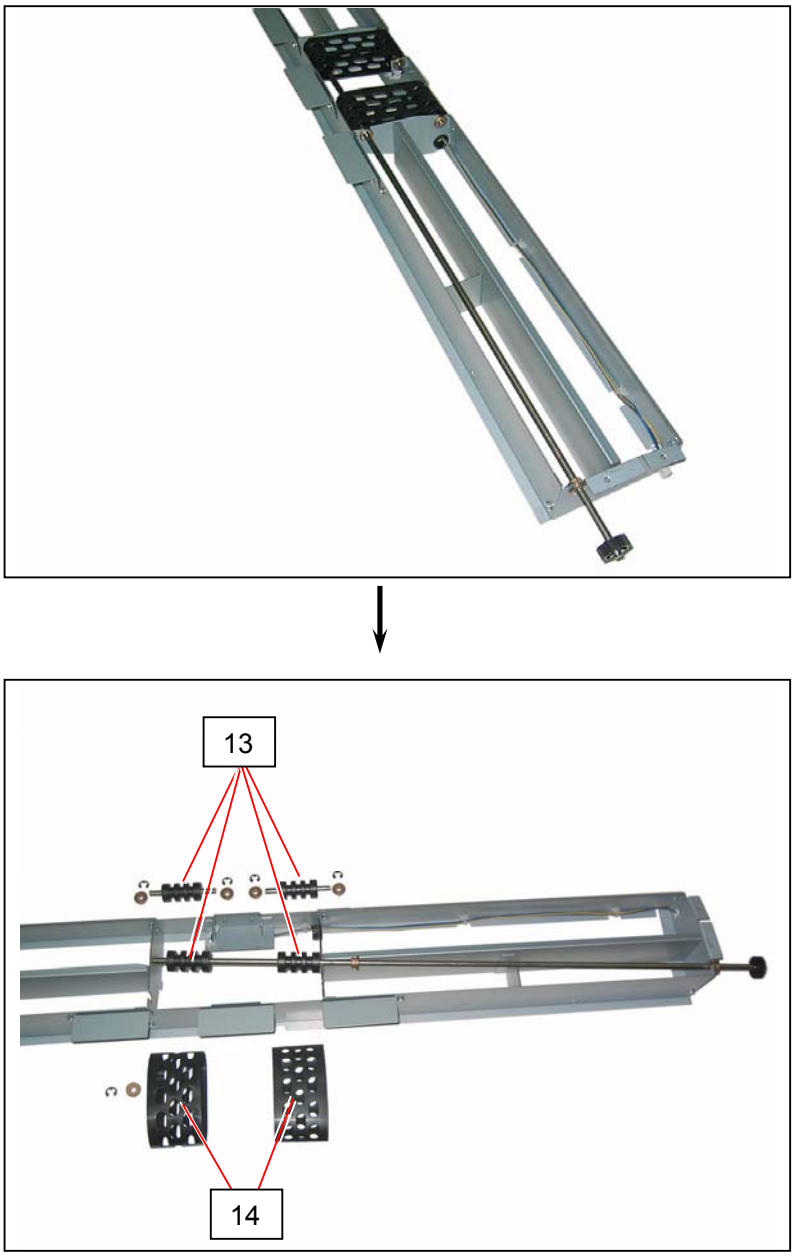
7. Pressing the Stoppers (10) inward, remove the **Sensor** (11) from the Sensor Bracket.
Replace the **Sensor** (11) with the new one.



8. Remove 6 pieces of Retaining Ring-E and Bush (12 : E5).

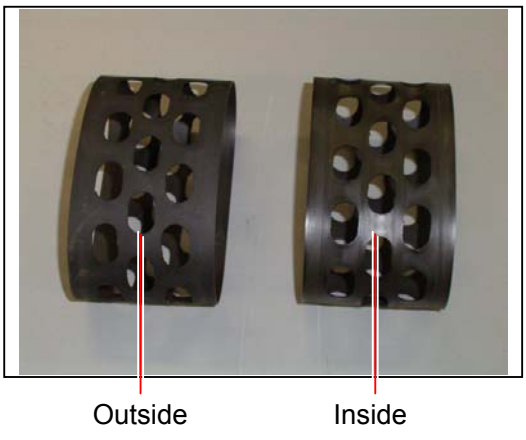


9. Remove the Rollers (13), and remove the **Belts** (14).
   Replace the **Belts** (14) with the new ones.



⚠ NOTE

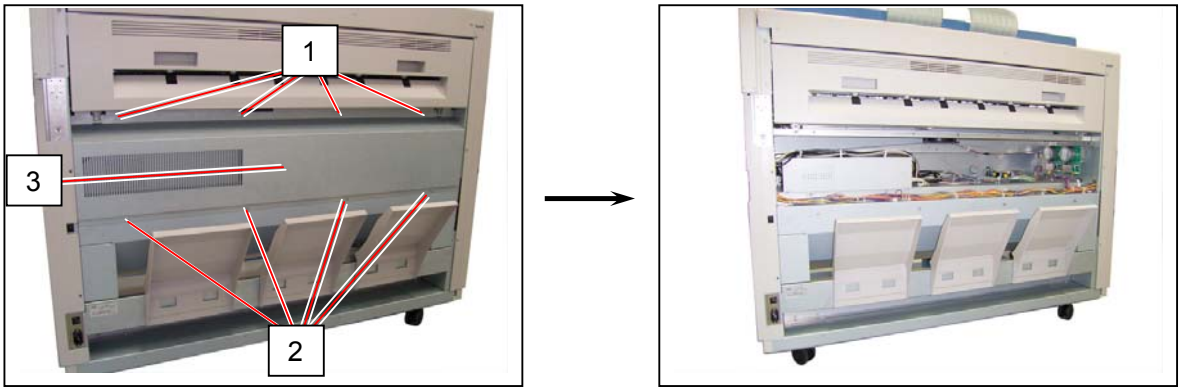
Be careful of the outside/inside of the Belt (14).
The smooth and shiny side of it should be inside.



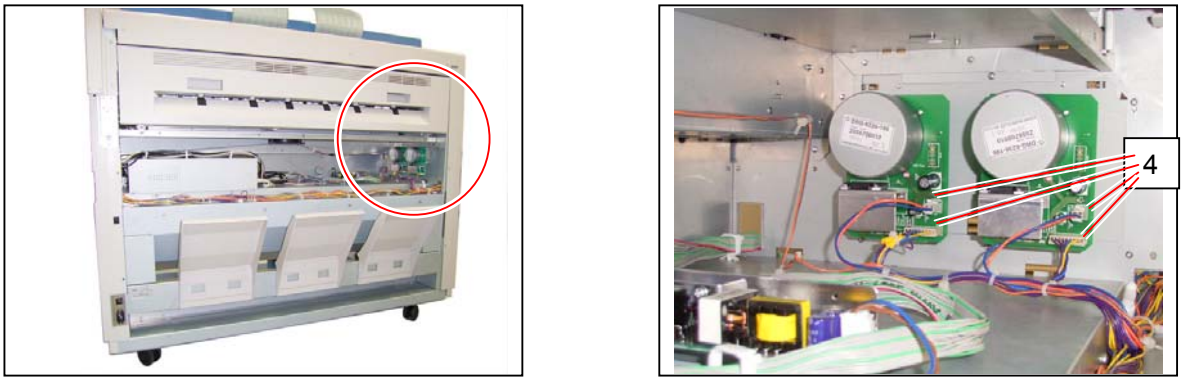
5.11 Main Frame

5.11. 1 Replacement of DC Motors (M1 & M2), Belt1 & Belt 3

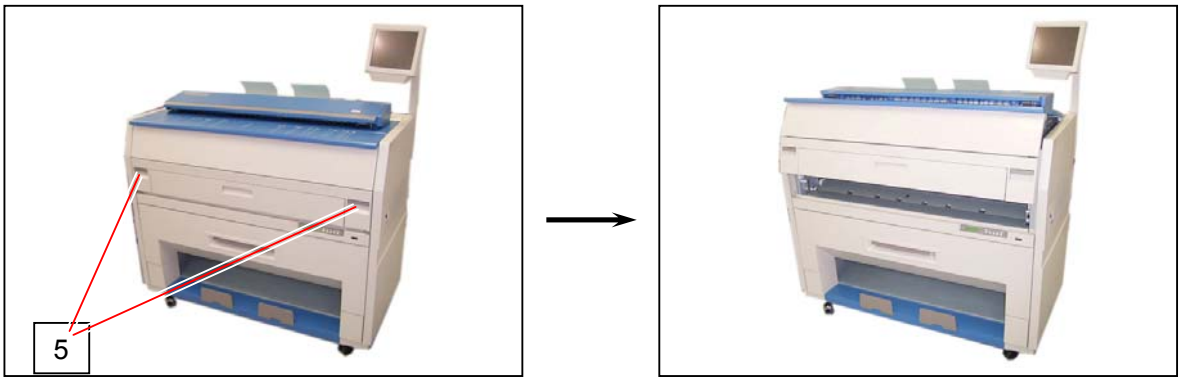
1. Remove 4 pieces of 4x6 screw (1), loosen 4 pieces of 4x6 screw (2), and then remove the Cover 15 (3).



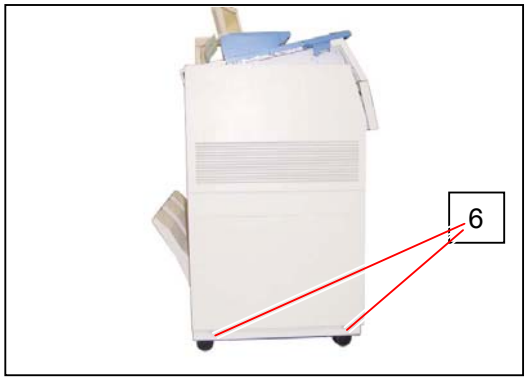
2. Disconnect 4 connectors (4).

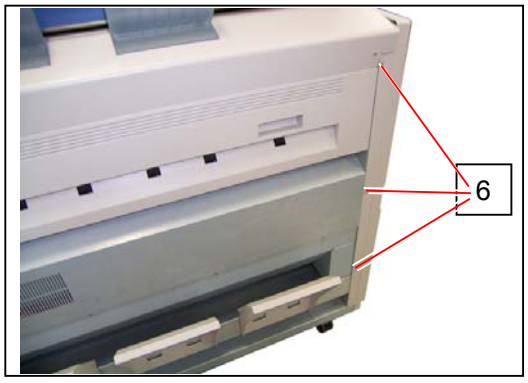


3. Pull up the Lever 2 (5) to open the Engine Unit.

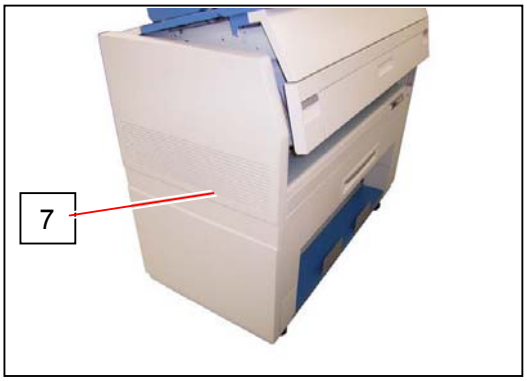


4. Remove 6 pieces of 4x6 screw (6) which fix the Cover 2.

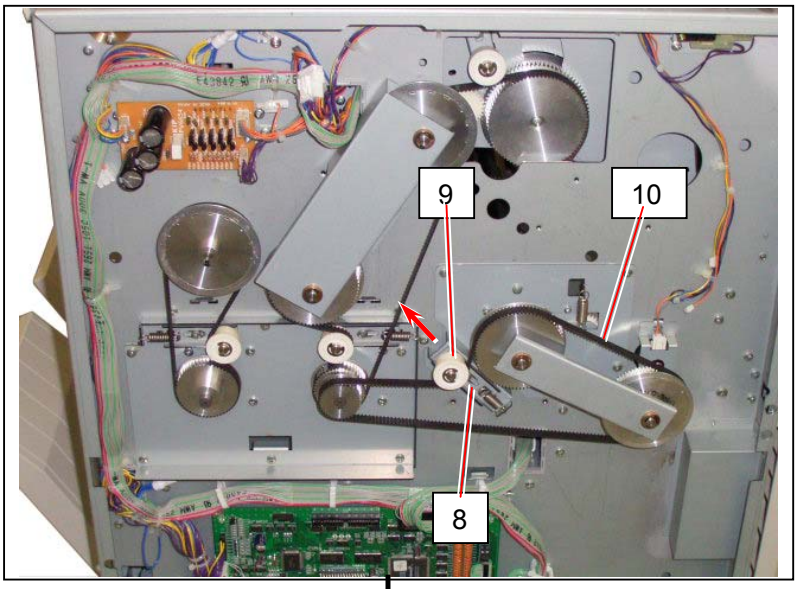


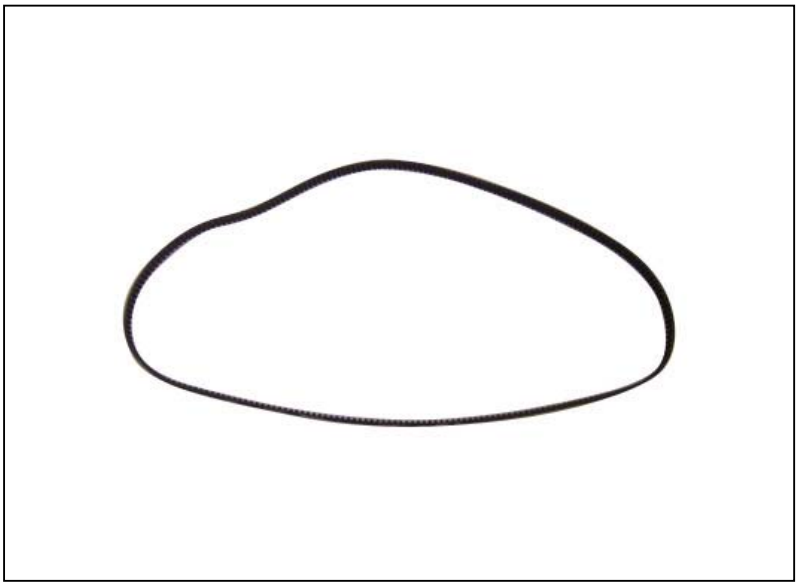


5. Remove the Cover 2 (7).



6. Loosen the 4x6 screw (8), move the Pulley 3 (9) toward the arrow mark, and then remove the **Belt 1** (10).
   Replace the **Belt 1** (10) with the new one.





NOTE

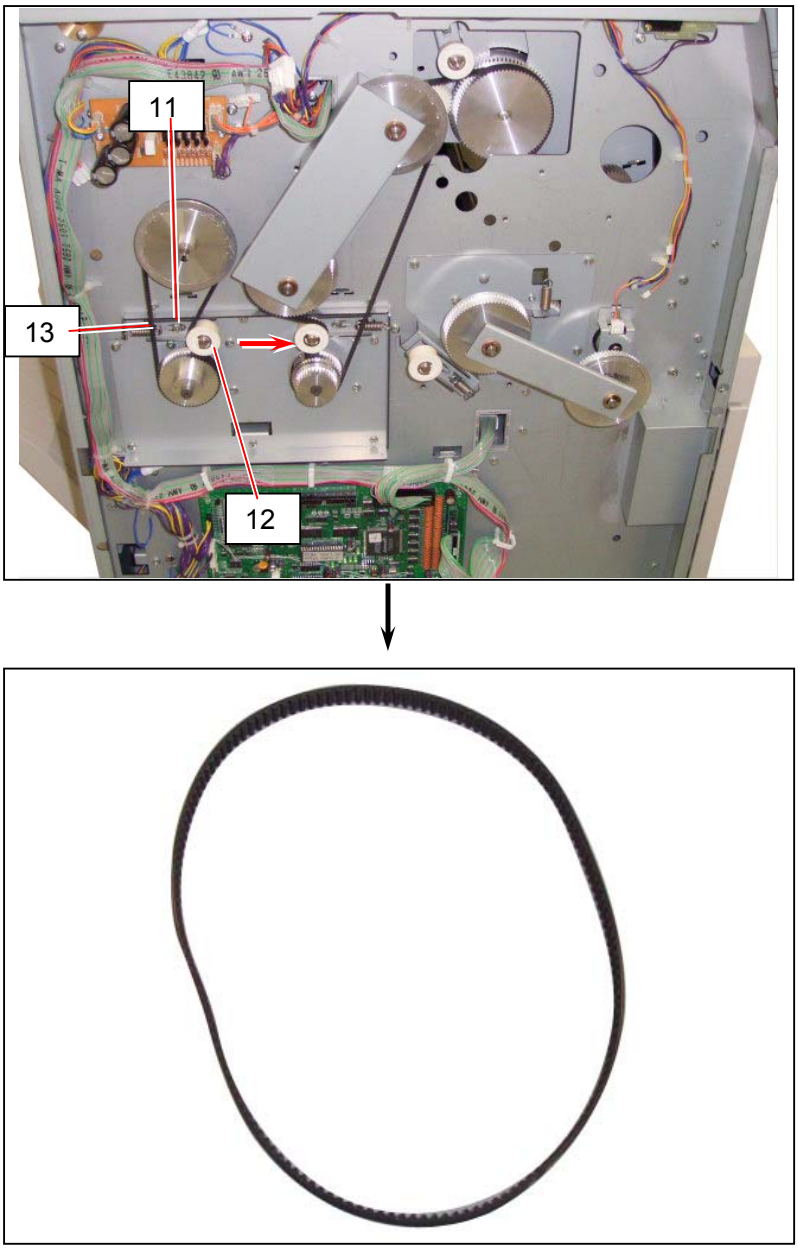
To adjust the tension of the Belt 1, do as follows.
If you do not make the following works, the Belt 1 may slip because the tension is not correct.

a) Giving the spring tension to the Belt 1, tighten the screw of each Pulley 3.

b) Turn on the machine, and then turn it off some seconds later.
   The Belt 1 is driven by the motor, and it may be slackened around the Pulley 3 at this time.

c) Loosen the screw to release the Pulley 3.
   The slack of Belt 1 generated by the above b) is removed because the Tension Spring pulls the Pulley 3.
   Then tighten the screw again.

7. Loosen the 4x6 screw (11), move the Pulley 3 (12) toward the arrow mark, and then remove the **Belt 3** (13).
   Replace the **Belt 3** (13) with the new one.



NOTE

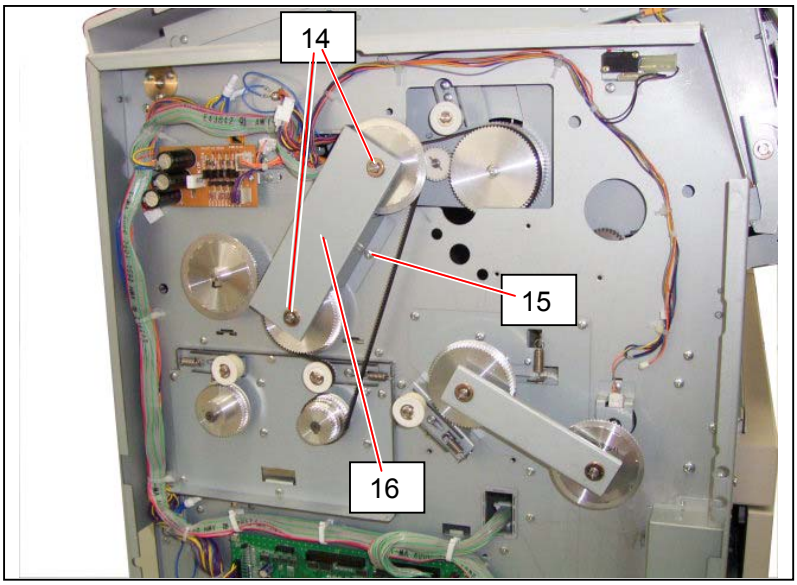
To adjust the tension of the Belt 3, do as follows.
If you do not make the following works, the Belt 3 may slip because the tension is not correct.

a) Giving the spring tension to the Belt 3, tighten the screw of each Pulley 3.

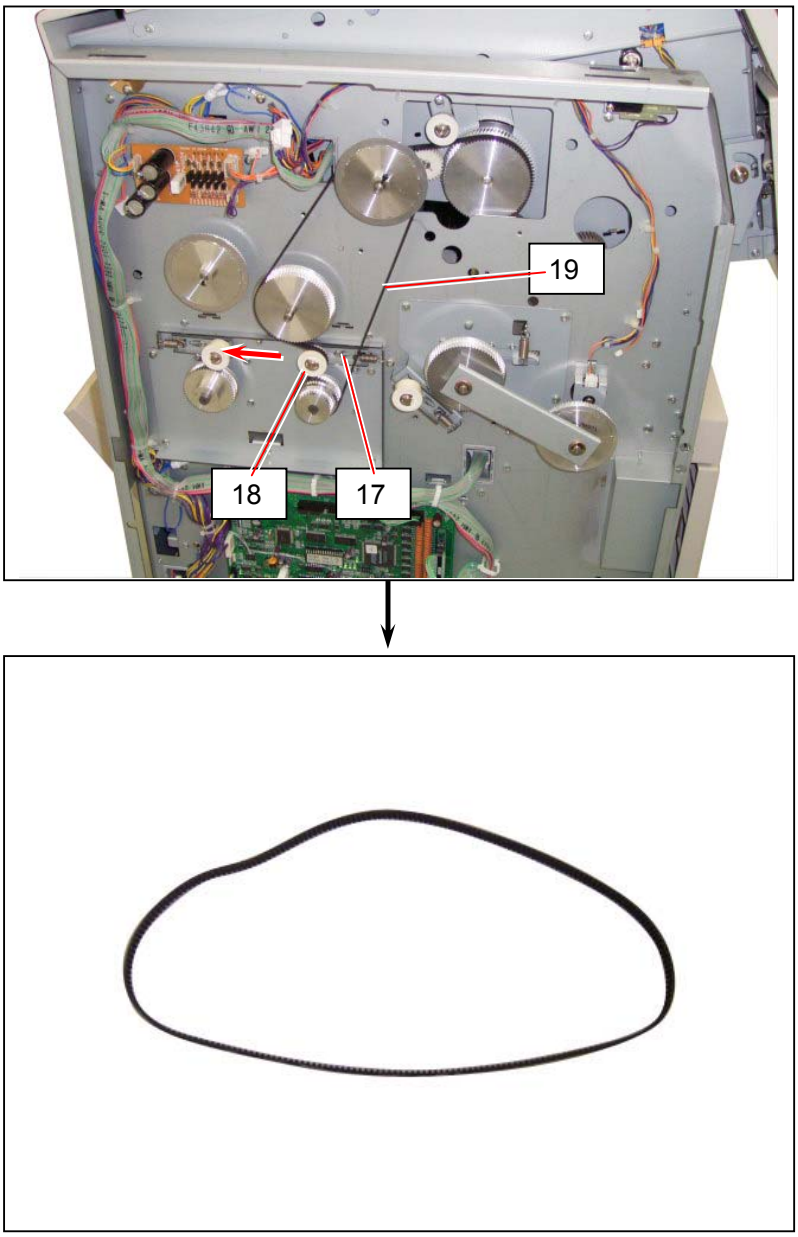
b) Turn on the machine, and then turn it off some seconds later.
   The Belt 3 is driven by the motor, and it may be slackened around the Pulley 3 at this time.

c) Loosen the screw to release the Pulley 3.
   The slack of Belt 3 generated by the above b) is removed because the Tension Spring pulls the Pulley 3.
   Then tighten the screw again.

8. Remove 2 pieces of each Retaining Ring-E (E7) and Bush (14), remove the 4x6 screw (15), and then remove the Plate 7 (16).



9. Loosen the 4x6 screw (17), move the Pulley 3 (18) toward the arrow mark, and then remove one more piece of **Belt 1** (19).
   Replace the **Belt 1** (19) with the new one.



NOTE

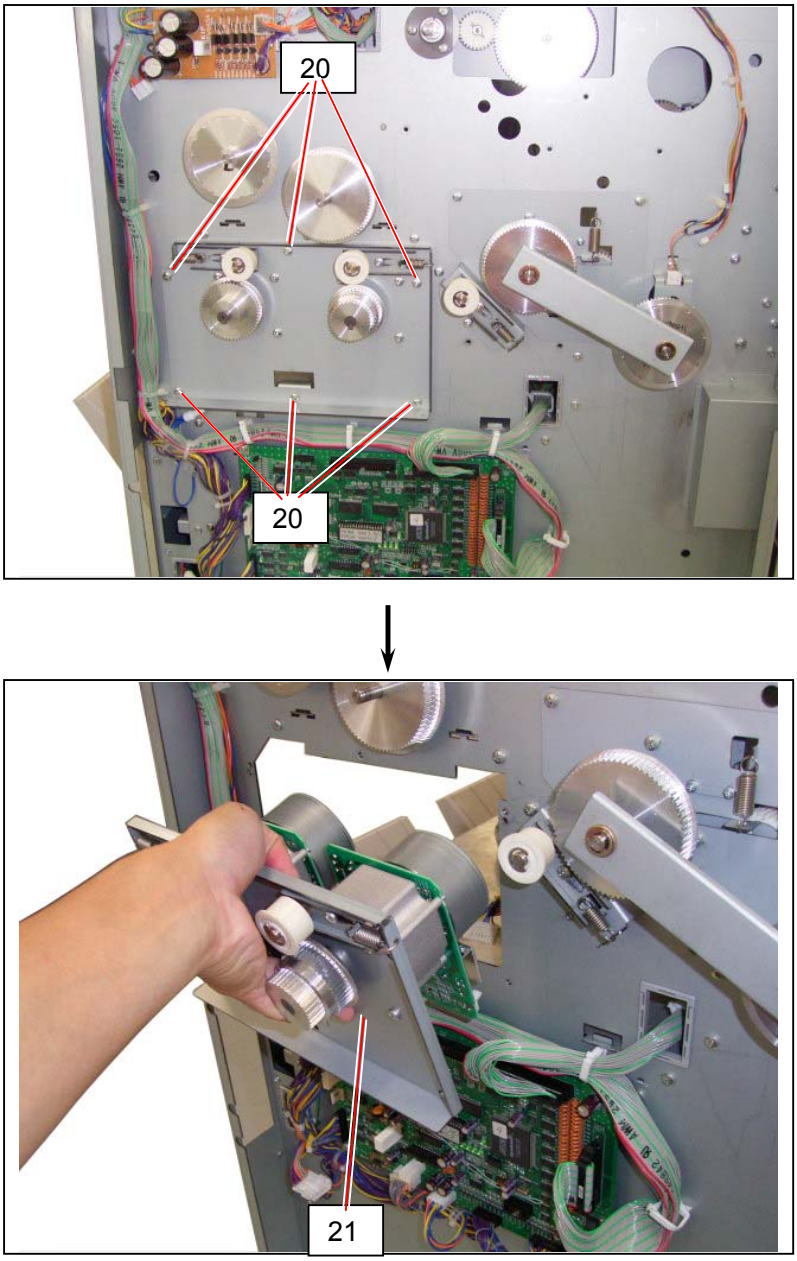
To adjust the tension of the Belt 1, do as follows.
If you do not make the following works, the Belt 1 may slip because the tension is not correct.

a) Giving the spring tension to the Belt 1, tighten the screw of each Pulley 3.

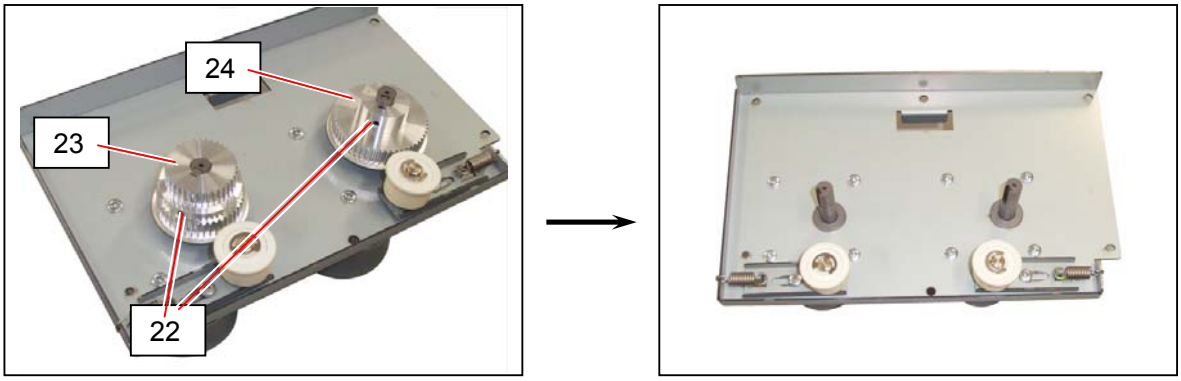
b) Turn on the machine, and then turn it off some seconds later.
   The Belt 1 is driven by the motor, and it may be slackened around the Pulley 3 at this time.

c) Loosen the screw to release the Pulley 3.
   The slack of Belt 1 generated by the above b) is removed because the Tension Spring pulls the Pulley 3.
   Then tighten the screw again.

10. Remove 6 pieces of 4x10 screw (20) to remove the Plate 6 Assembly (21).



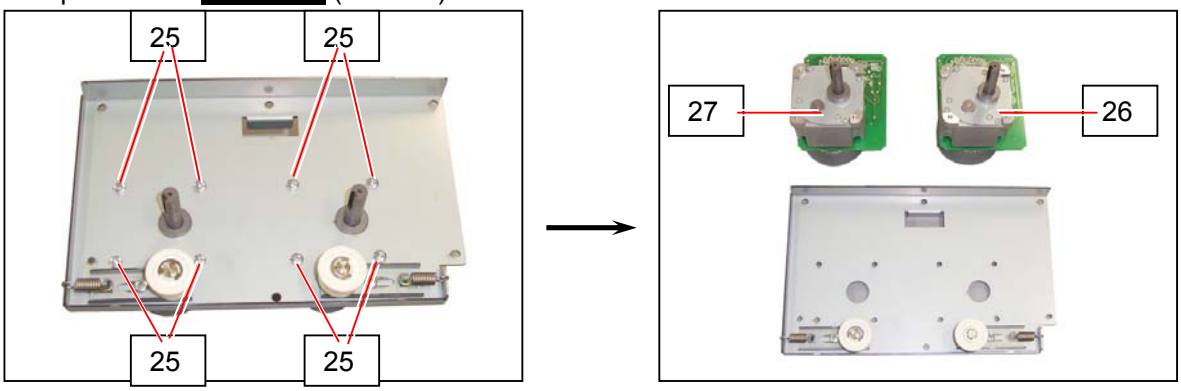
11. Remove the Set Screws (22) to remove each Pulley 5 (23) and Pulley 4 (24).



NOTE

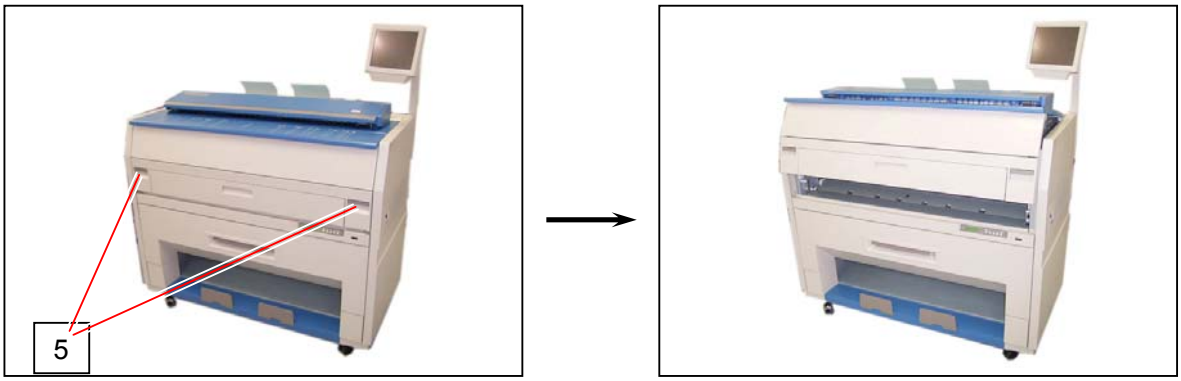
Keep 8.9mm between the bracket and each Pulley 5 (21) and Pulley 4 (22) at the time of reassembly.

12. Remove 4 pieces of 4x10 screws (25) to remove each **DC Motor** (26 : Main) (27 : Fuser). Replace each **DC Motor** (26 & 27) with the new one.

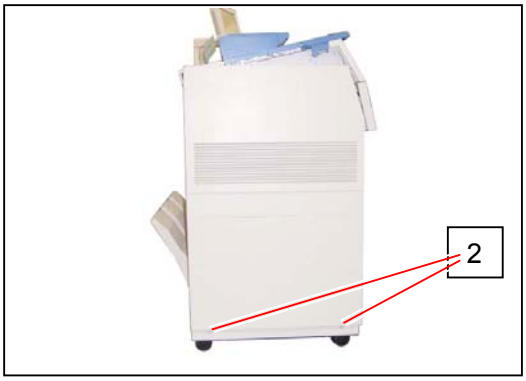


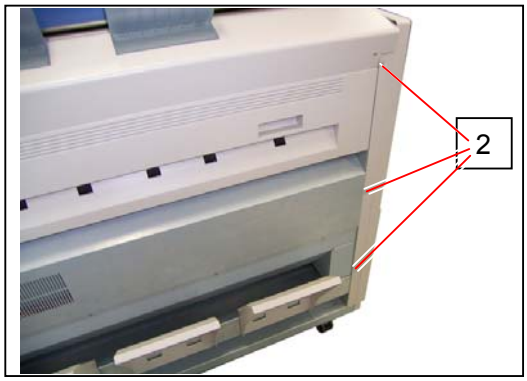
5.11. 2 Replacement of Clutch (CL1)

1. Pull up the Lever 2 (1) to open the Engine Unit.

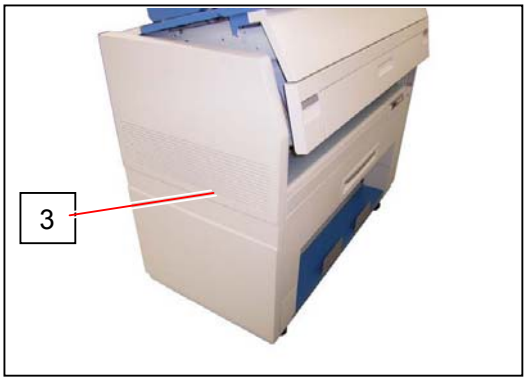


2. Remove 6 pieces of 4x6 screw (2).

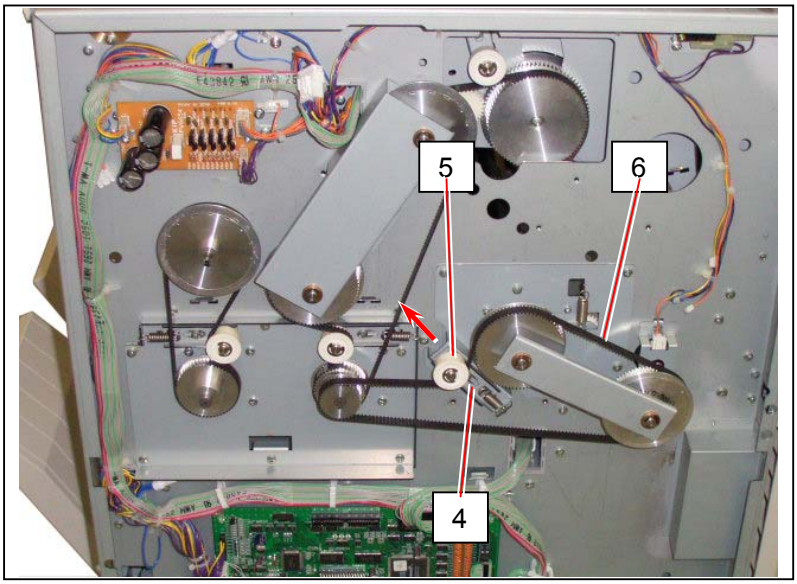


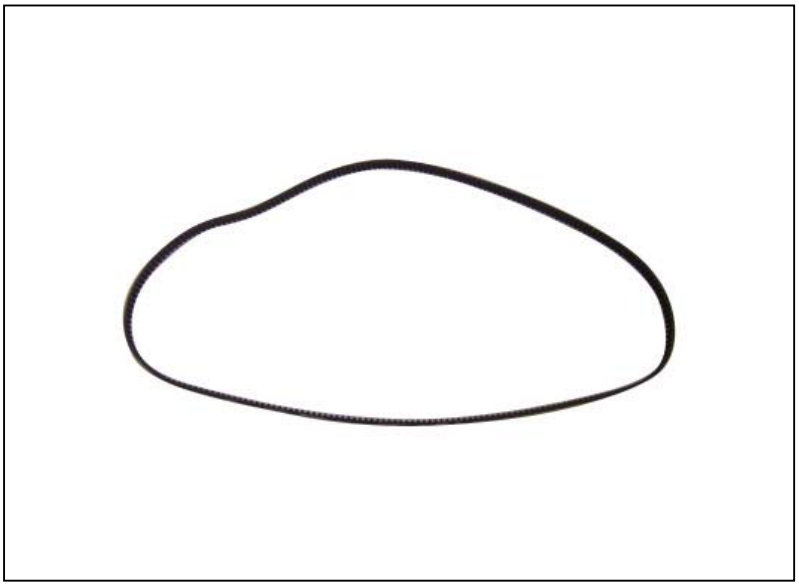


3. Remove the Cover 2 (3).

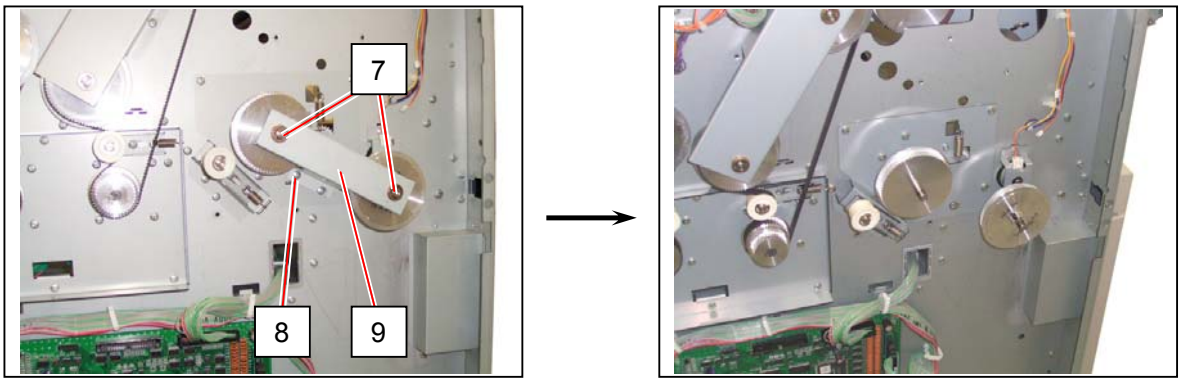


4. Loosen the 4x6 screw (4), move the Pulley 3 (5) toward the arrow mark, and then remove the **Belt 1** (6).
Replace the **Belt 1** (6) with the new one.

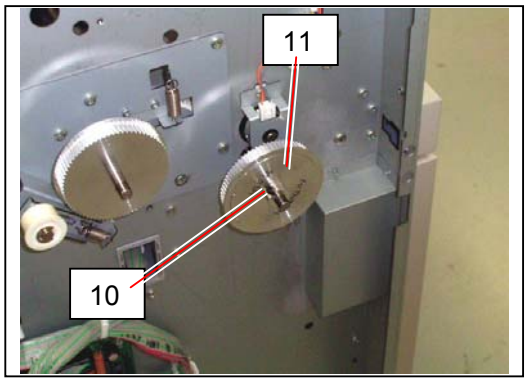




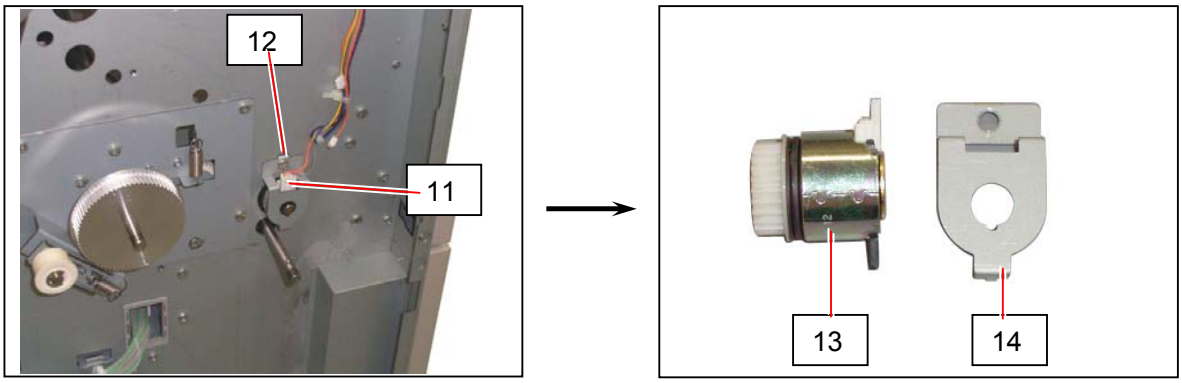
5. Remove 2 places each Retaining Ring-E (E7) and Bush (7), remove the 4x6 screws (8), and then remove the Plate 8 (9).



6. Remove the Hex. Cap Screw (10) to remove the Pulley 13 (11).

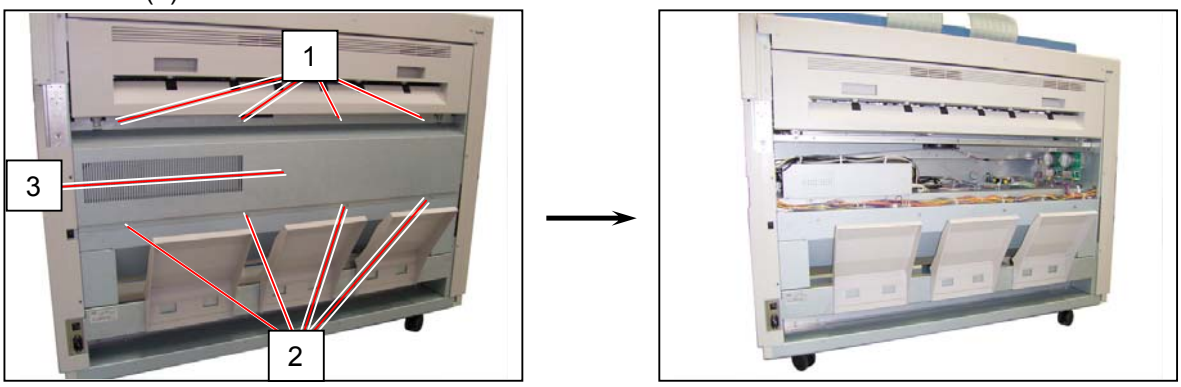


7. Disconnect the connector (12), and remove the 4x6 screw (13) to remove both the **Clutch** (14) and the Bracket Clutch (15).
Replace the **Clutch** (14) with the new one.

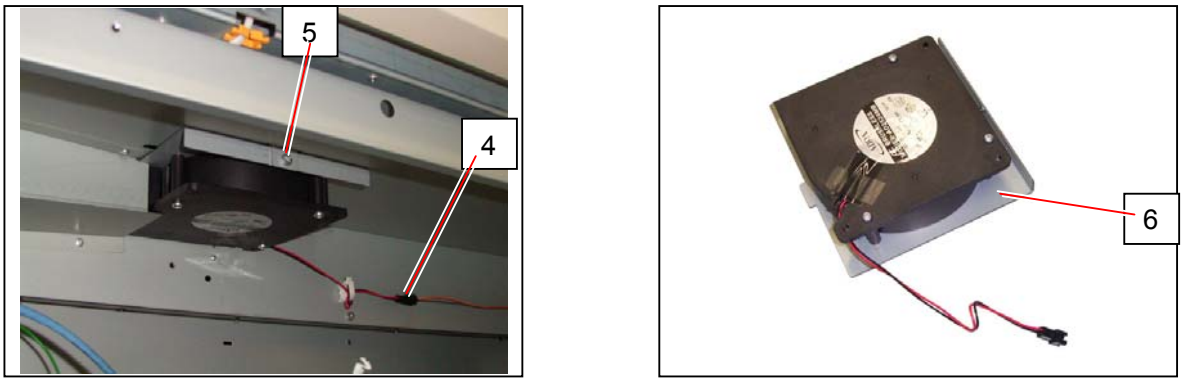


5.11. 3 Replacement of Blower (BL7)

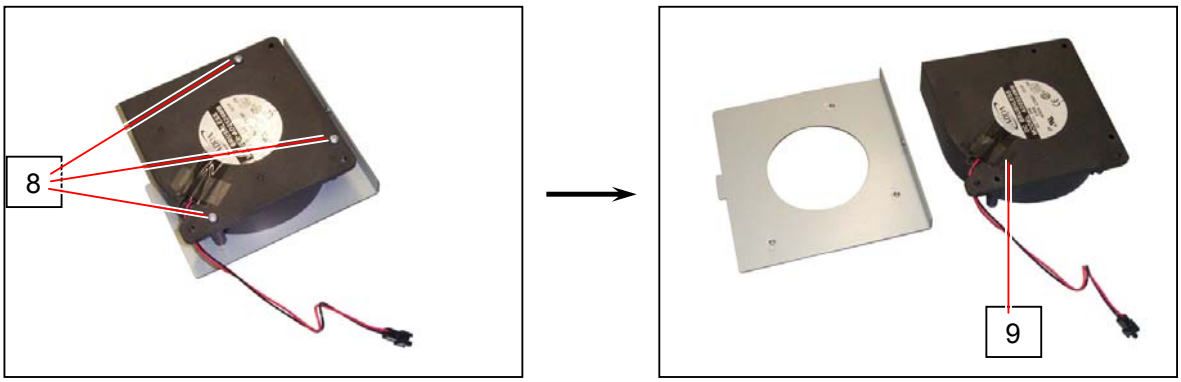
1. Remove 4 pieces of 4x6 screw (1), loosen 4 pieces of 4x6 screw (2), and then remove the Cover 15 (3).



2. Disconnect the connector (4), remove the 4x6 screw (5), and then remove the Bracket Blower (6).



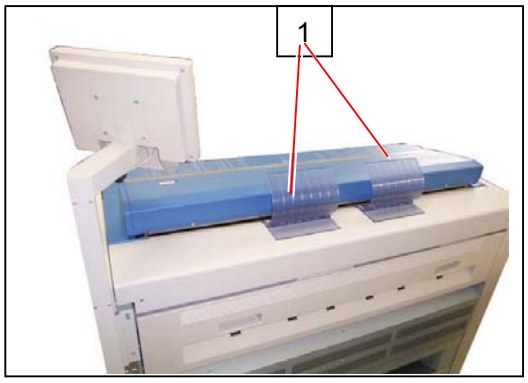
3. Remove 3 pieces of 4x35 screw (8) to remove the **Blower** (9).
Replace the **Blower** (9) with the new one.



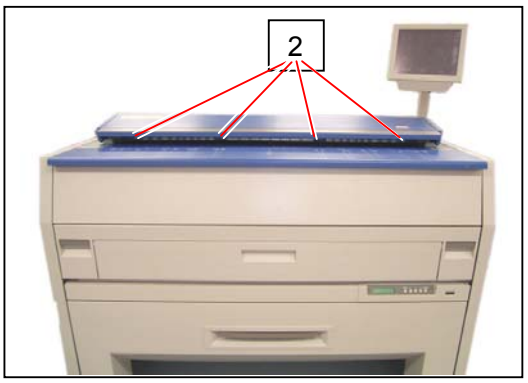
5.12 Scanner Unit

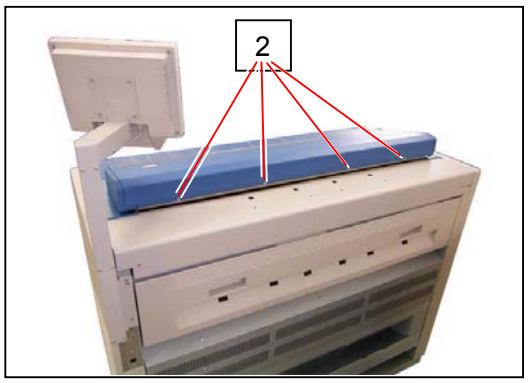
5.12. 1 Removal of the Scanner Unit

1. Remove the Guides 3 (1).

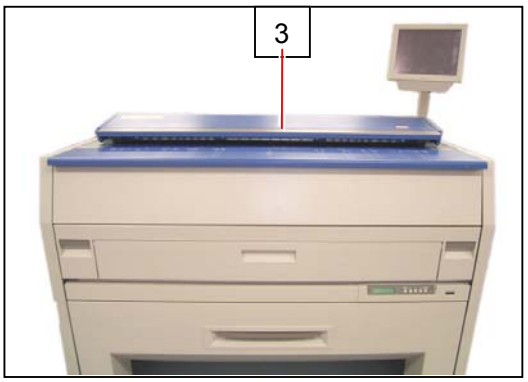


2. Remove 8 screws (2) on both front and rear side of the machine.

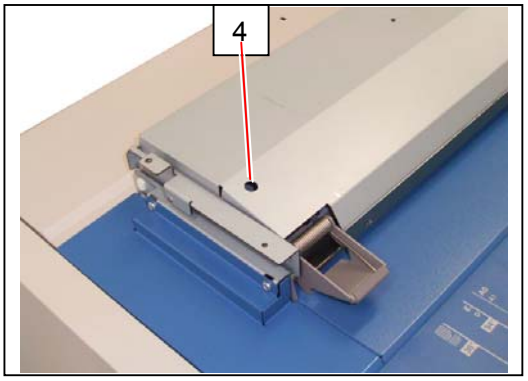


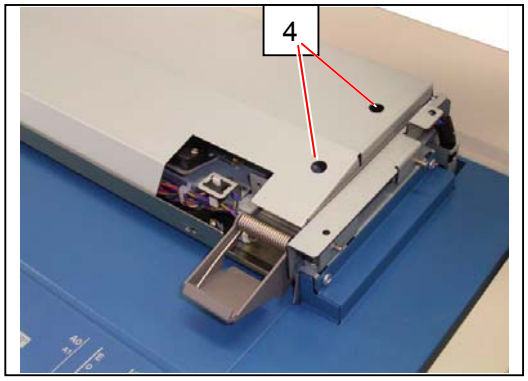


3. Remove Cover 14 (3).

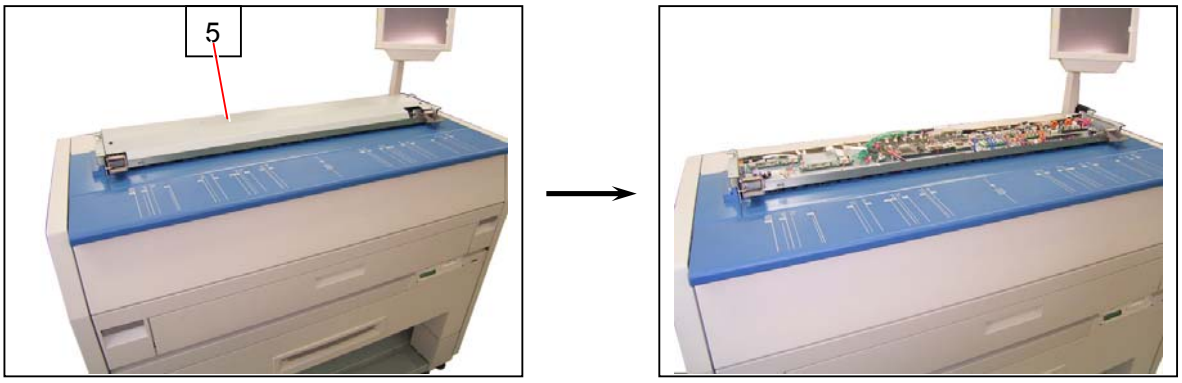


4. Remove 3 screws (4).

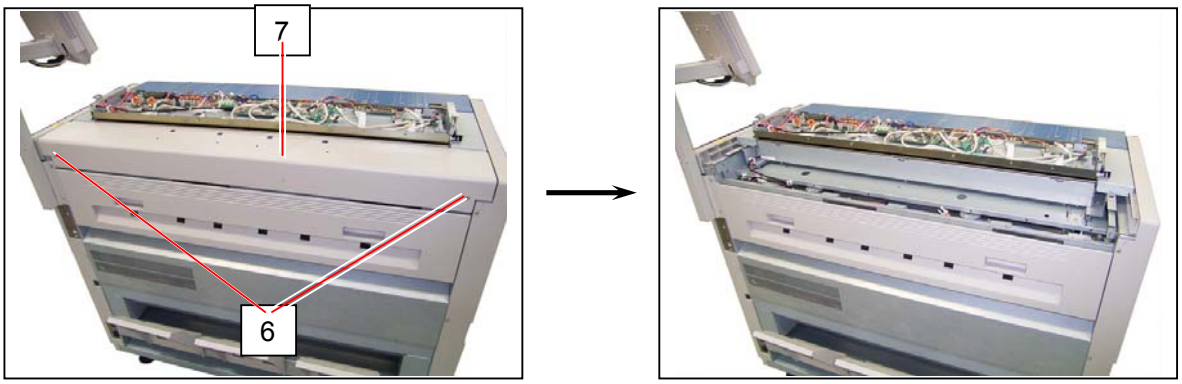




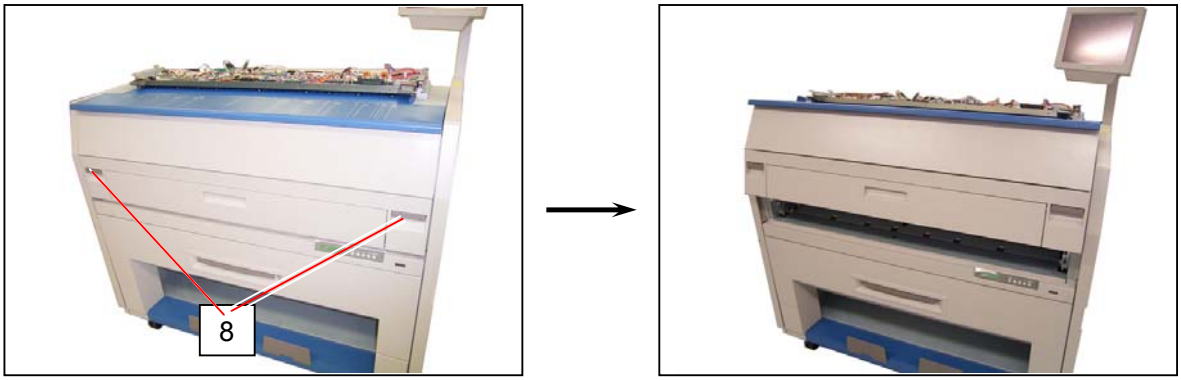
5. Remove Shield Cover N (5).



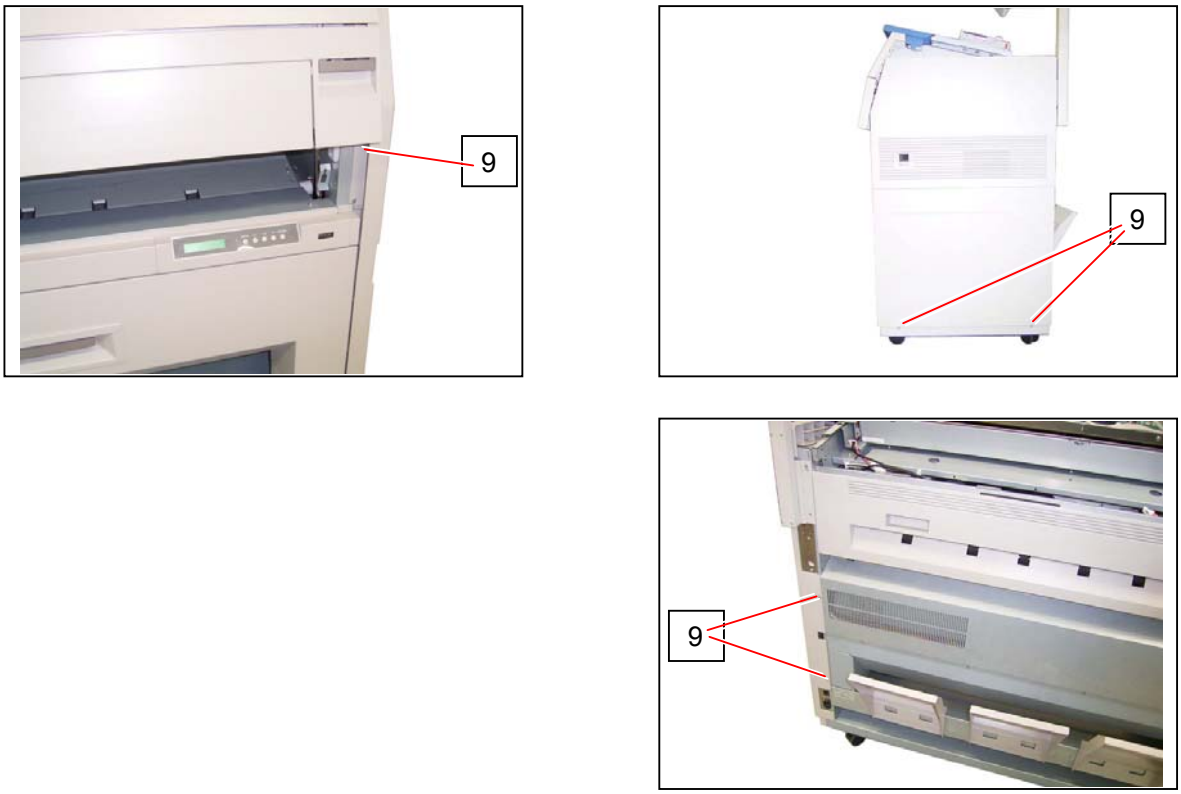
6. Remove 2 screws (6) to remove Cover 10 (7)



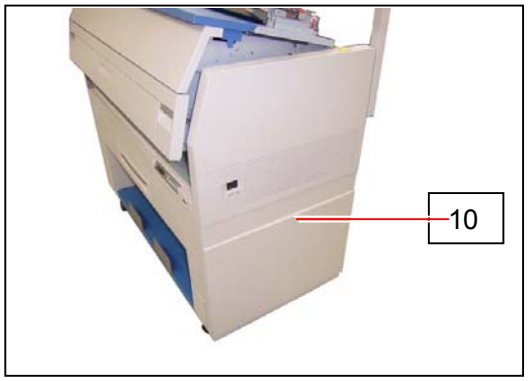
7. Pull up Lever 2 (8) to open the Engine Unit.



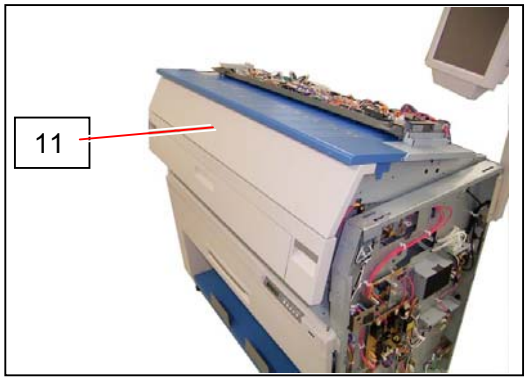
8. Remove 5 screws (9).



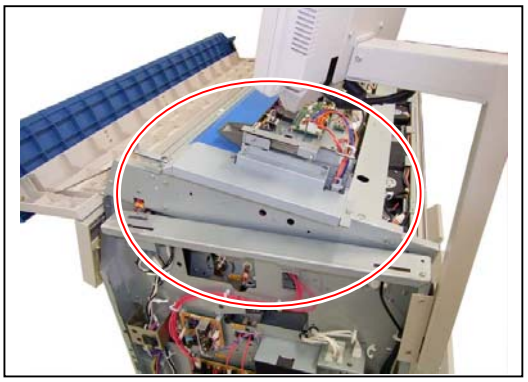
9. Remove Cover 2 (10).

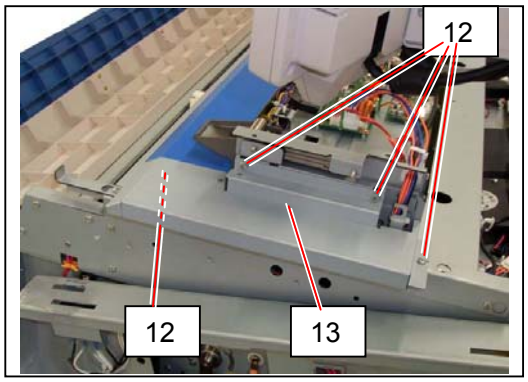


10. Open Cover 4 (11).

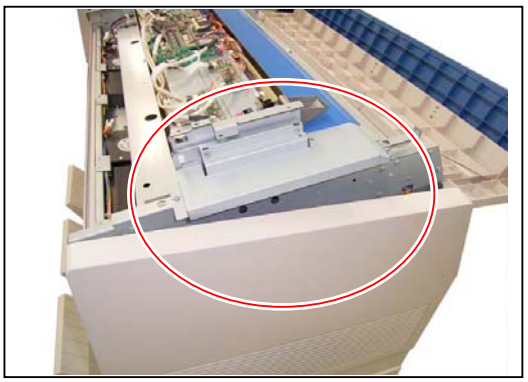


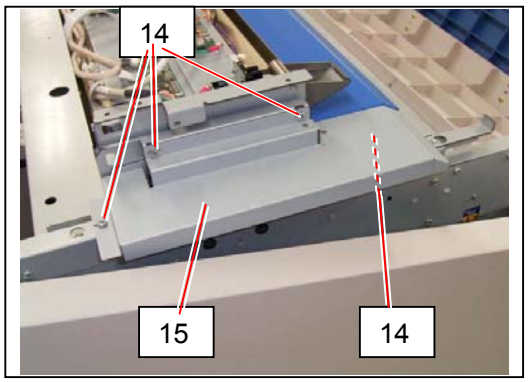
11. Remove 4 screws (12) to remove Bracket Right (13) on the right.



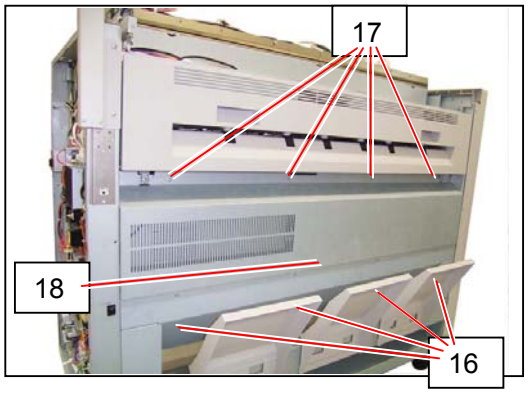


12. Remove 4 screws (14) to remove Bracket Left (15) on the left.

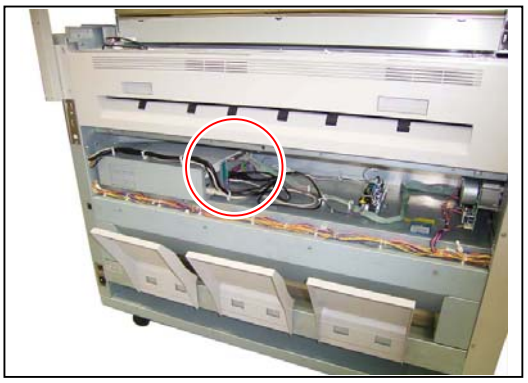


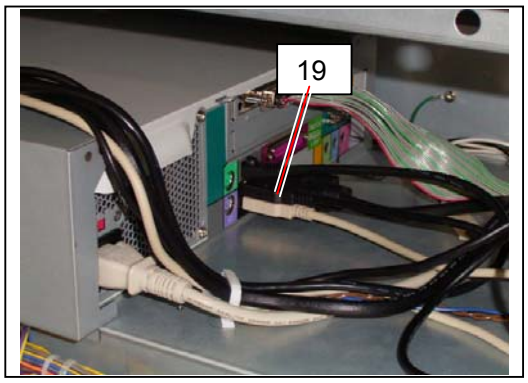


13. Loosen 4 screws (16) and remove 4 screws (17) to remove Cover 15 (18).

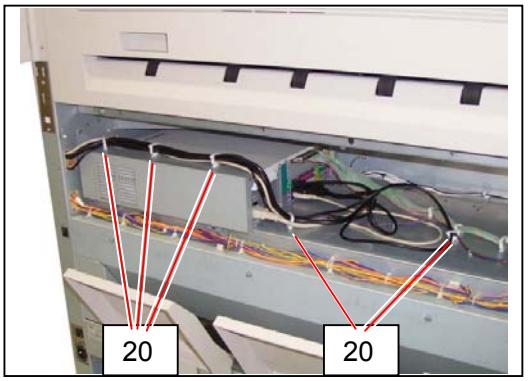


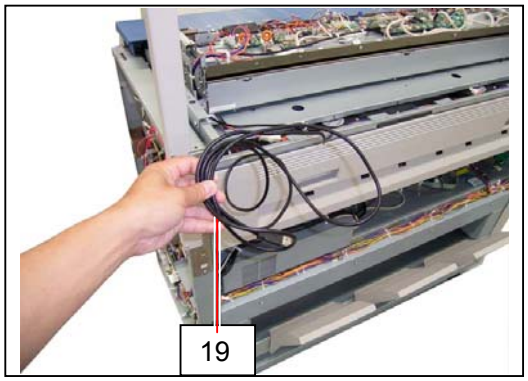
14. Disconnect the USB Connector (19) from the IPS, which runs from the Scanner Unit.



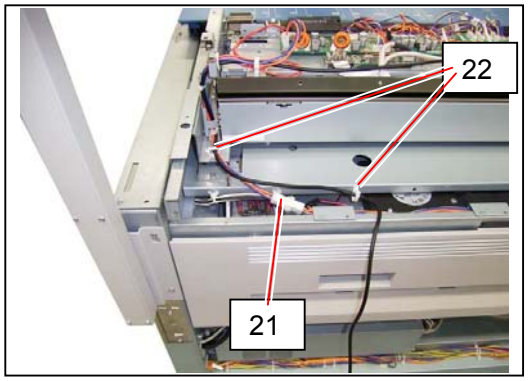


15. Open the Wire Saddles (20) to release the USB Cable (19).

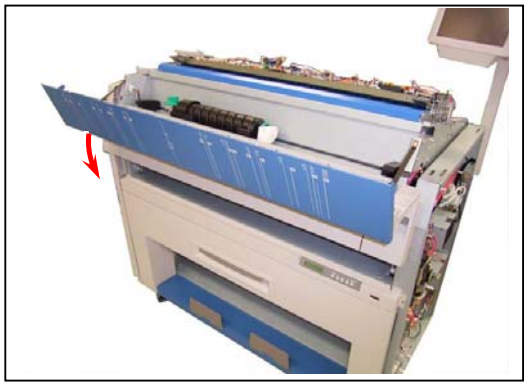




16. Disconnect the connector (21), and open the Wire Saddles (22) to release the USB Cable and the DC harness.



17. Close the Engine Unit.

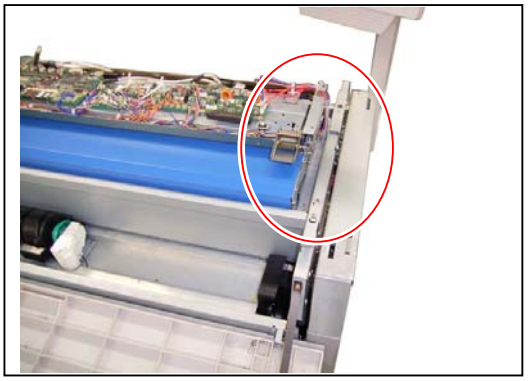


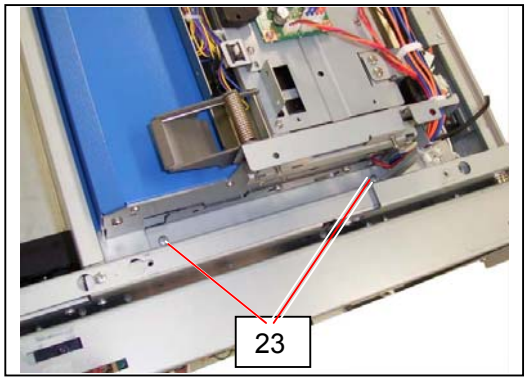
CAUTION

Be sure to close the Engine Unit before removing the screws which fix the Scanner Unit. Otherwise the Scanner Unit may fall down and damage.

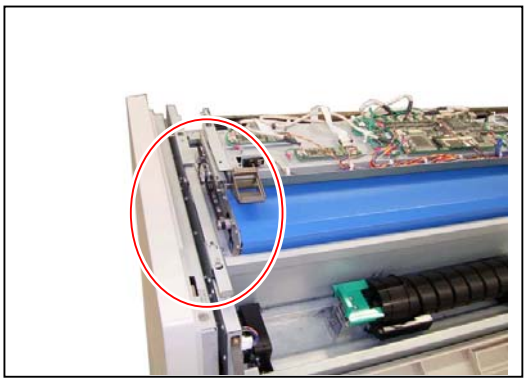
18. Remove 4 screws (23) which fix the Scanner Unit.

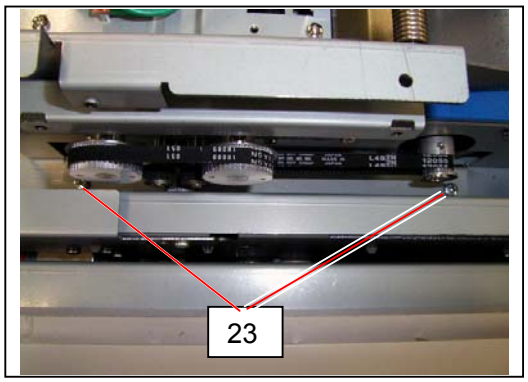
(Right side)



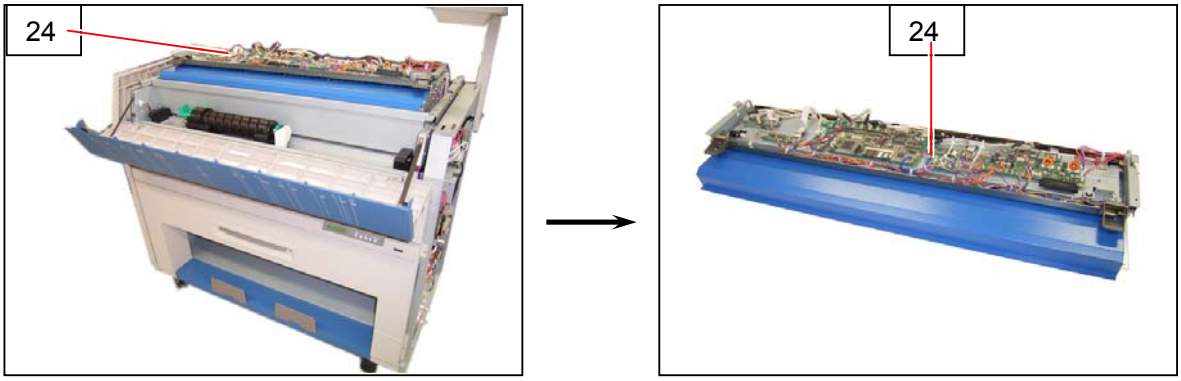


(Left side)





19. Remove the Scanner Unit (24) from the machine.

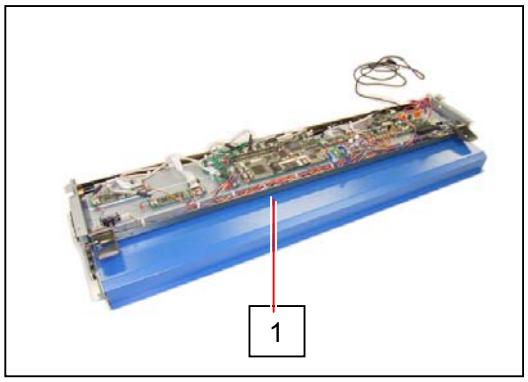


CAUTION

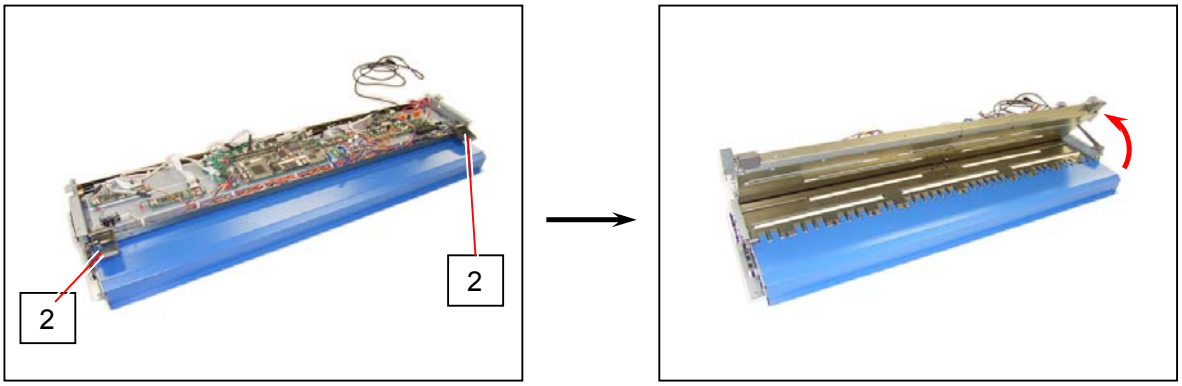
Please carry the Scanner Unit by 2 persons as it is heavy.

5.12. 2 Replacement of Motor

1. Remove the Scanner Unit (1) from the machine making reference to [5.12. 1 Removal of the Scanner Unit] on the page 5-253.

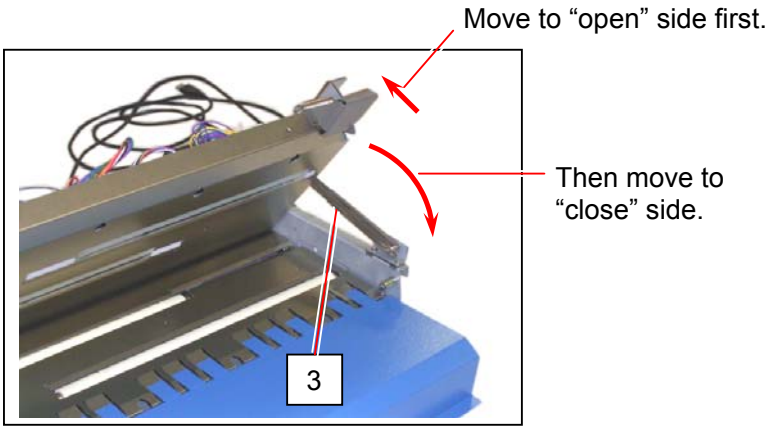


2. Pull up the Levers (2) and open the Scanner Upper Unit.

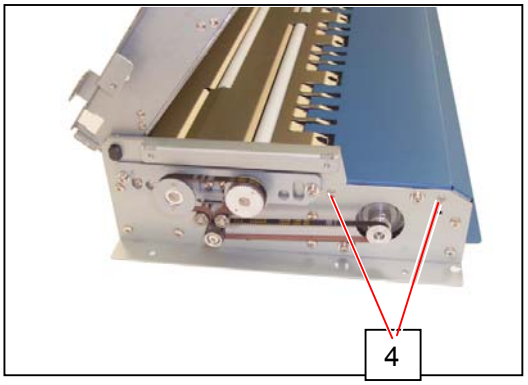


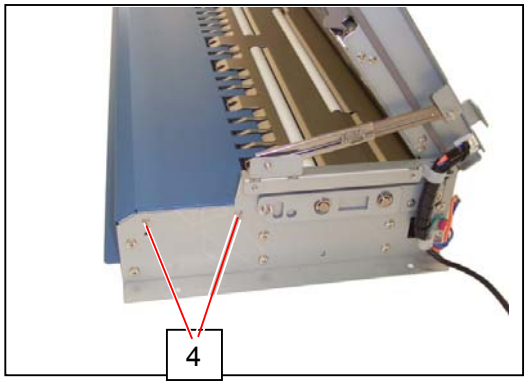
NOTE

The Flap Stay (3) holds the Scanner Upper Unit when opened.
If you will close the Scanner Upper Unit, move it a little to “open” side first, and then move to “close” side.

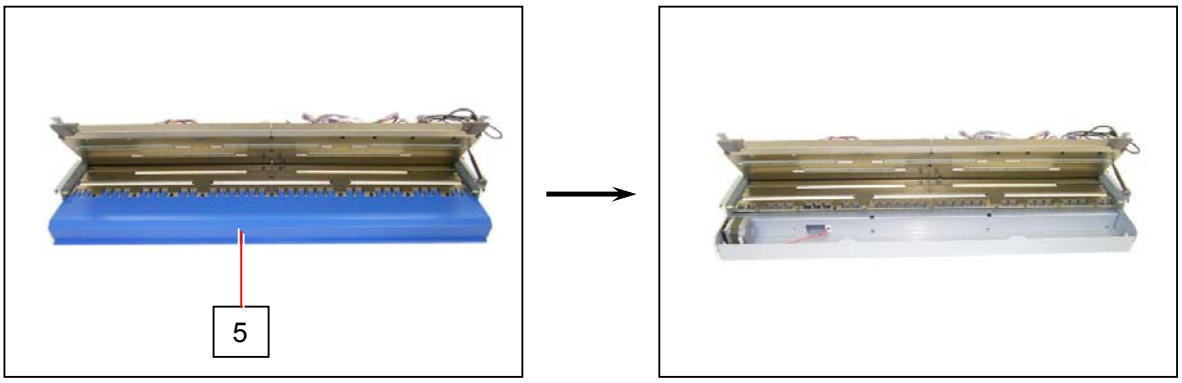


3. Remove 4 pieces of 3x6 screw (4).

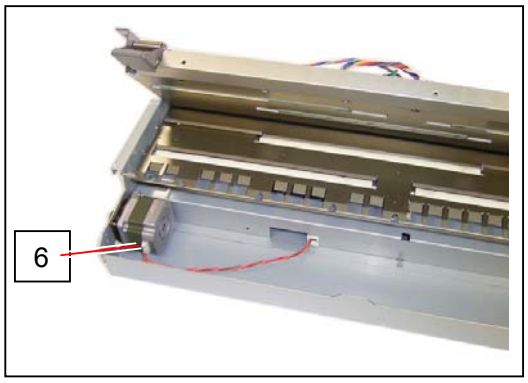




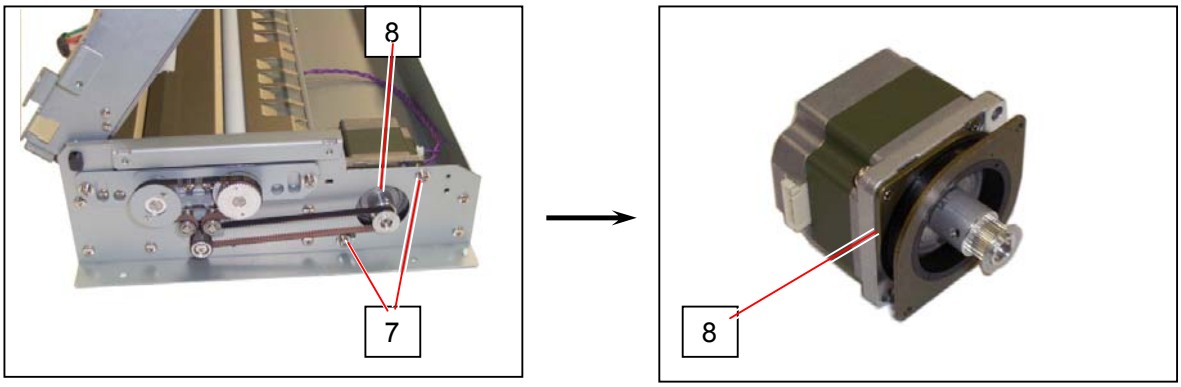
4. Remove P1 Sheet Guide (5).



5. Disconnect the connector (6)



6. Remove 2 pieces of 4x6 screw (7) to remove the **Motor Assembly** (8).
   Replace the **Motor Assembly** (8) with the new one.



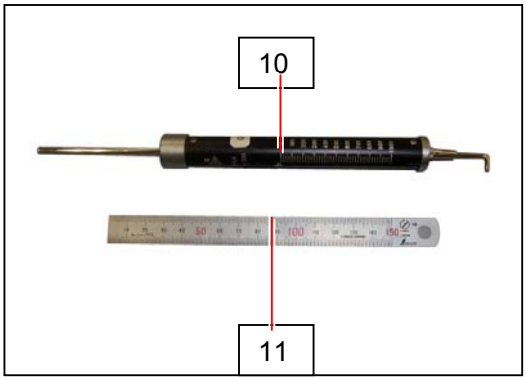
NOTE

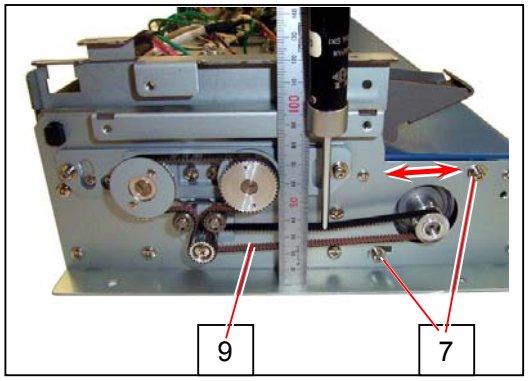
It is possible to adjust the tension of Belt 60S2M284 (9) by moving the motor left and right. (Screws (7) must be loosed at this time.)

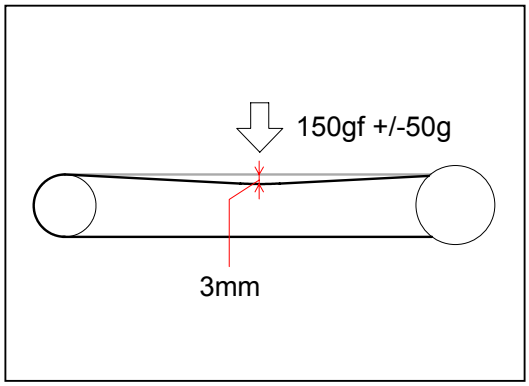
Prepare the Tension Gage (10) and the Scale (11) like the following photo, and adjust the tension so that the bend of belt becomes 3mm when 150gf +/-50g is given.
Please satisfy the following requirements when you adjust the tension.

1. Confirm that the Belt 60S2M284 (9) and Motor Pulley are surely in gear with each other. If you adjust the tension although they are not in gear, the Belt 60S2M284 (9) may be too much loosed as soon as you start machine operation.

2. Adjust the tension when the Scanner Upper Unit is closed.
   You can not adjust the tension properly if it is opened.

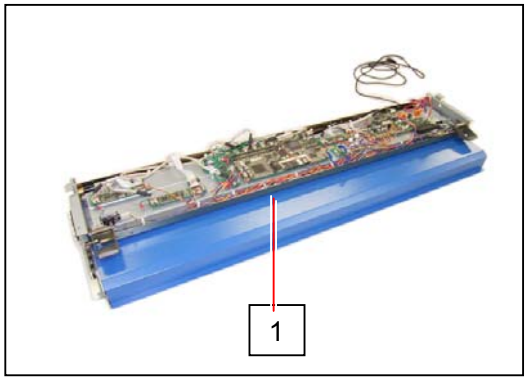




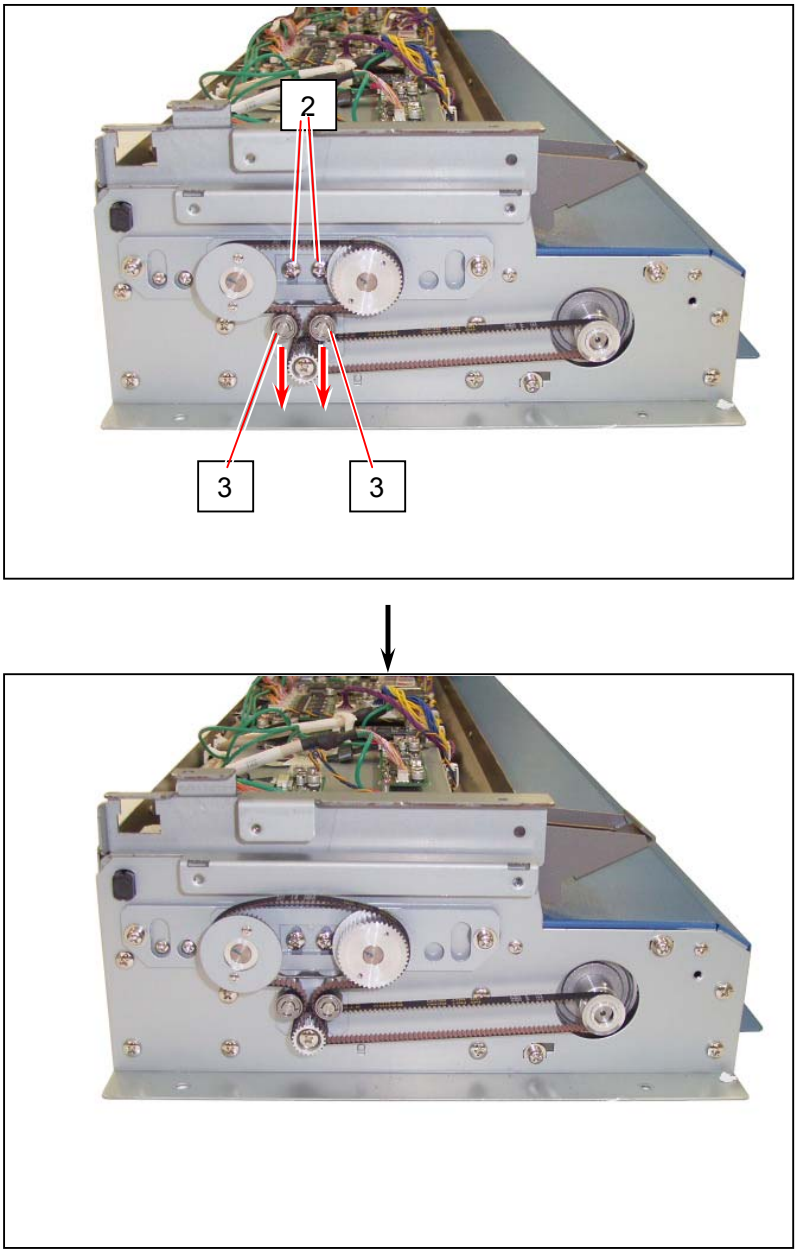


5.12. 3 Replacement of Belt 60S2M250 and Belt 60S2M284

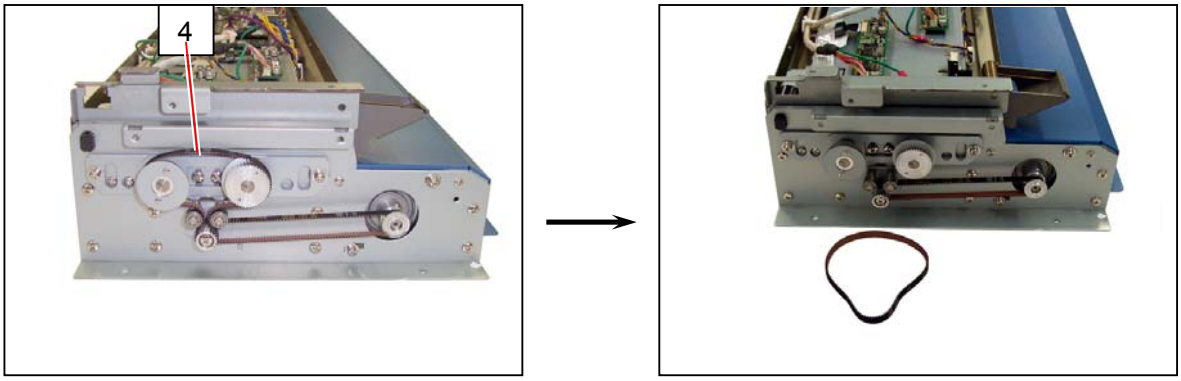
1. Remove the Scanner Unit (1) from the machine making reference to [5.12. 1 Removal of the Scanner Unit] on the page 5-253.



2. Loosen 2 piecers of screw (2), and then bring down the Tension Pulleys (3) to unfasten the Belt.



3. Remove the **Belt 60S2N250** (4), and replace it with the new one.



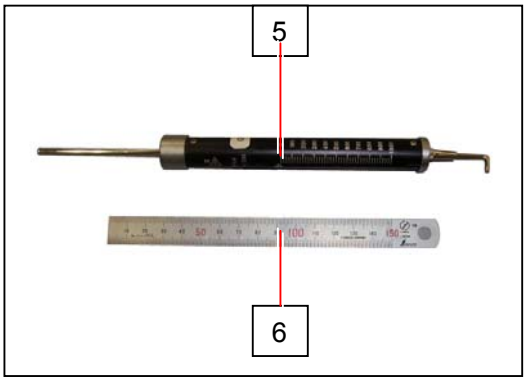
NOTE

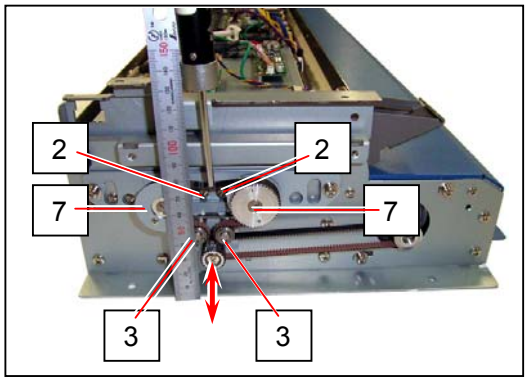
It is possible to adjust the tension of Belt 60S2M250 (4) by moving the Tension Pulleys (3) up and down.
(Screws (2) must be loosed at this time.)

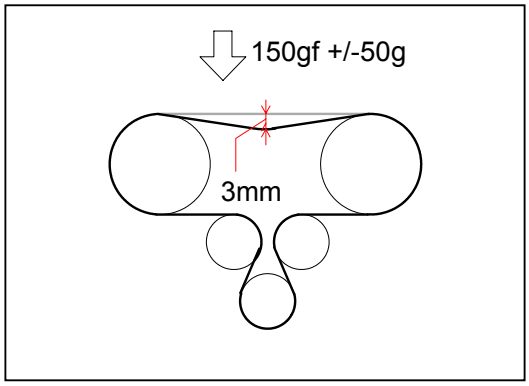
Prepare the Tension Gage (5) and the Scale (6) like the following photo, and adjust the tension so that the bend of belt becomes 3mm when 150gf +/-50g is given.
Please satisfy the following requirements when you adjust the tension.

1. Confirm that the Drive the Belt 60S2M250 (4) and Pulley Assemblies (7) are surely in gear with each other.
   If you adjust the tension although they are not in gear, the Belt 60S2M250 (4) may be too much loosed as soon as you start machine operation.

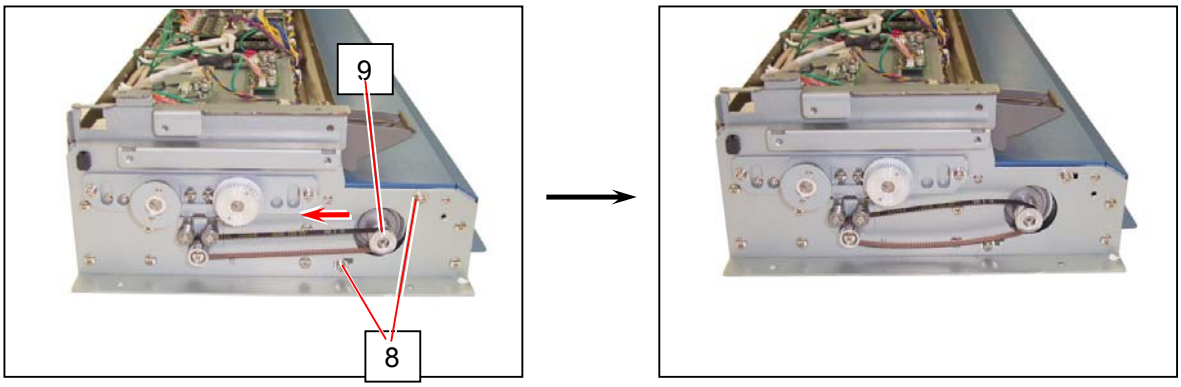
2. Adjust the tension when the Scanner Upper Unit is closed.
   You can not adjust the tension properly if it is opened.



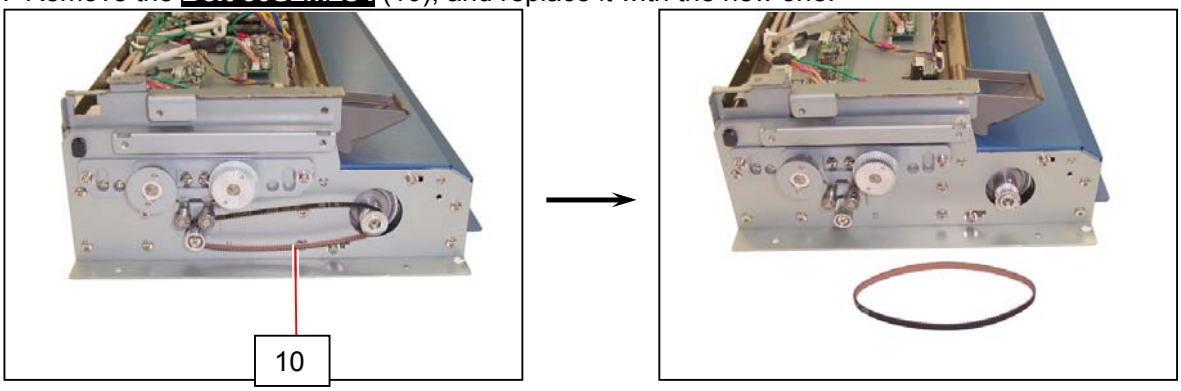




4. Loosen 2 pieces of 4x6 screw (8), and then slide the Motor Pulley (9) to the arrow direction to unfasten the Belt.



5. Remove the **Belt 60S2M284** (10), and replace it with the new one.



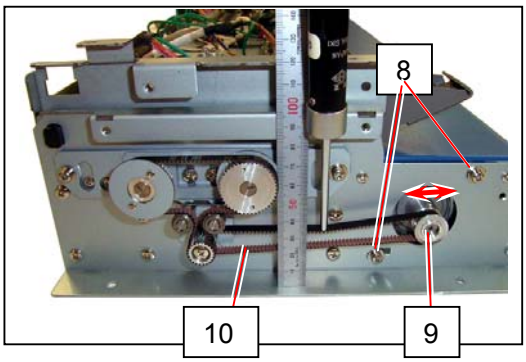
NOTE

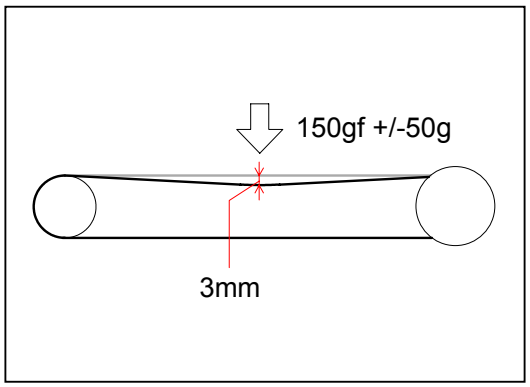
It is possible to adjust the tension of Belt 60S2M284 (10) by moving the Motor Pulley (9) left and right.
(Screws (8) must be loosed at this time.)

Adjust the tension so that the bend of belt becomes 3mm when 150gf +/-50g is given.
Please satisfy the following requirements when you adjust the tension.

1. Confirm that the Drive the Belt 60S2M284 (10) and Motor Pulley (9) are surely in gear with each other.
   If you adjust the tension although they are not in gear, the Belt 60S2M284 (10) may be too much loosed as soon as you start machine operation.

2. Adjust the tension when the Scanner Upper Unit is closed.
   You can not adjust the tension properly if it is opened.



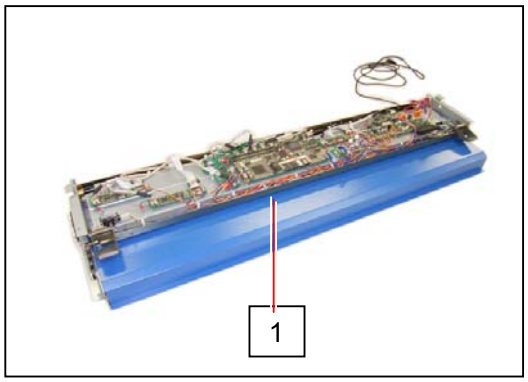


5.12. 4 Replacement of Drive Rollers 1 and 2

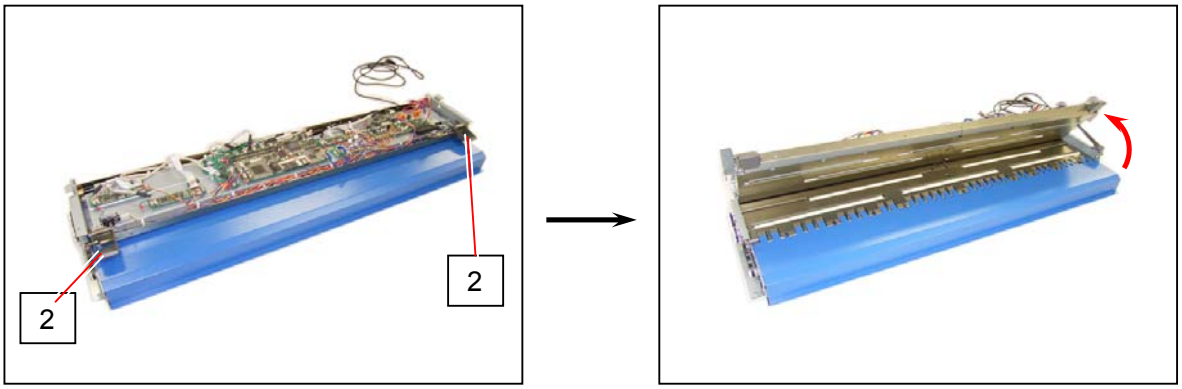
NOTE

If you will clean the Drive Rollers 1 and 2, use alcohol.
Water is not recommended because it is not good for the rubber roller.

1. Remove the Scanner Unit (1) from the machine making reference to [5.12. 1 Removal of the Scanner Unit] on the page 5-253.

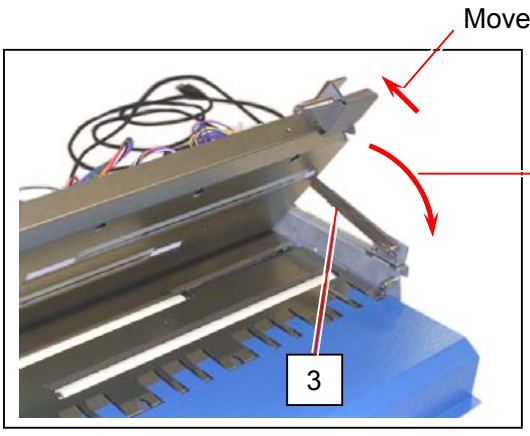


2. Pull up the Levers (2) and open the Scanner Upper Unit.

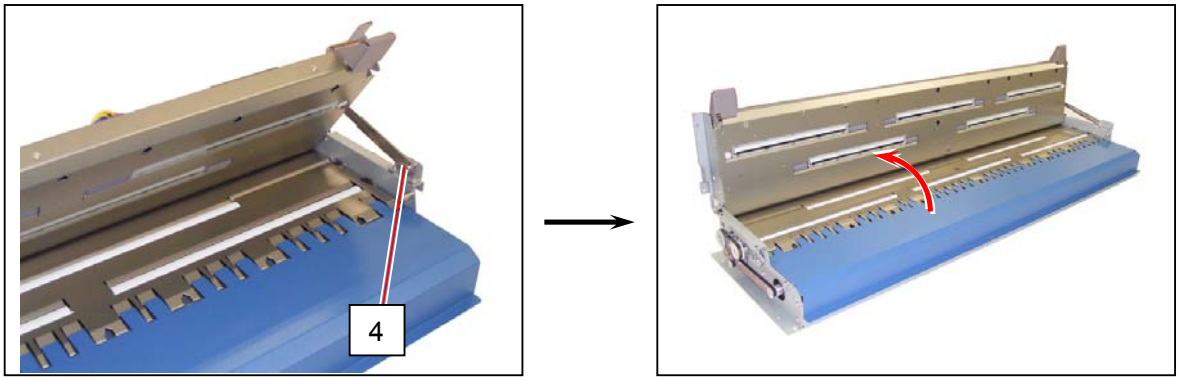


NOTE

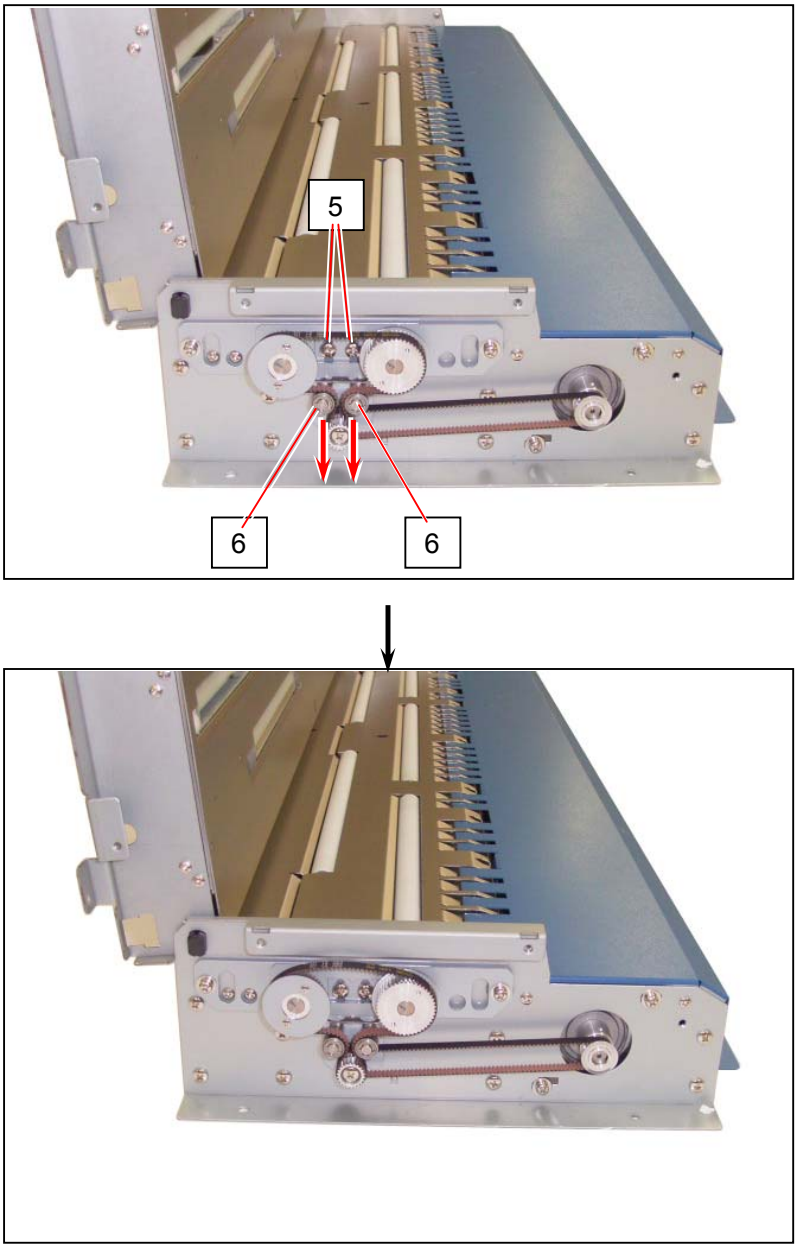
The Flap Stay (3) holds the Scanner Upper Unit when opened.
If you will close the Scanner Upper Unit, move it a little to “open” side first, and then move to “close” side.



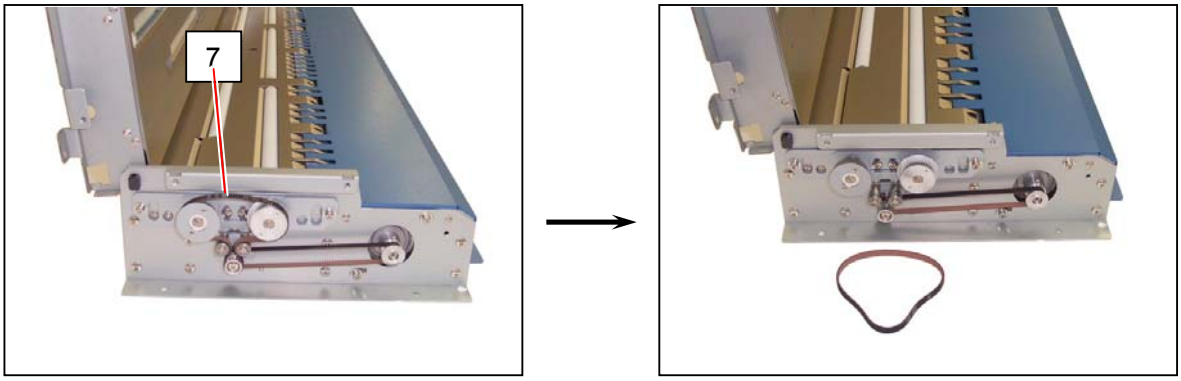
3. Remove the screw (4) of the Flap Stay, and then open the Scanner Upper Unit fully.



4. Loosen 2 pieces of screw (5), and then bring down the Tension Pulleys (6) to unfasten the Belt.



5. Remove the Belt 60S2N250 (7).



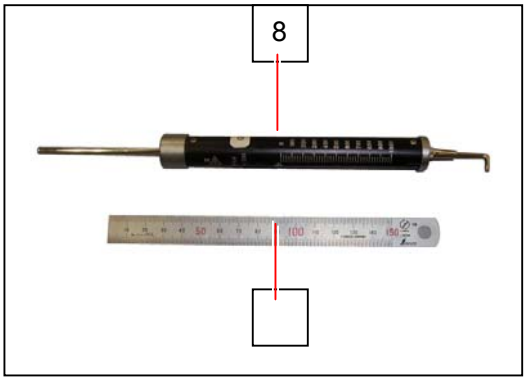
NOTE

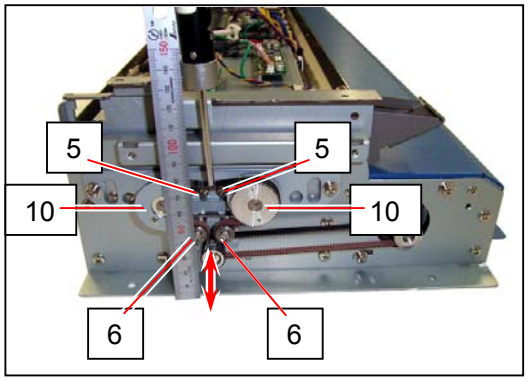
It is possible to adjust the tension of Belt 60S2M250 (7) by moving the Tension Pulleys (6) up and down.
(Screws (5) must be loosed at this time.)

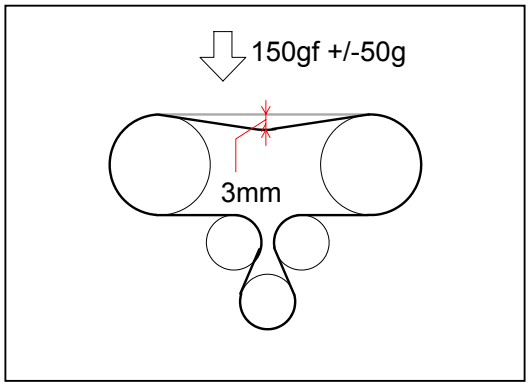
Prepare the Tension Gage (8) and the Scale (9) like the following photo, and adjust the tension so that the bend of belt becomes 3mm when 150gf +/-50g is given.
Please follow the following requirements when you adjust the tension.

1. Confirm that the Drive the Belt 60S2M250 (7) and Pulley Assemblies (10) are surely in gear with each other.
   If you adjust the tension although they are not in gear, the Belt 60S2M250 (7) may be too much loosed as soon as you start machine operation.

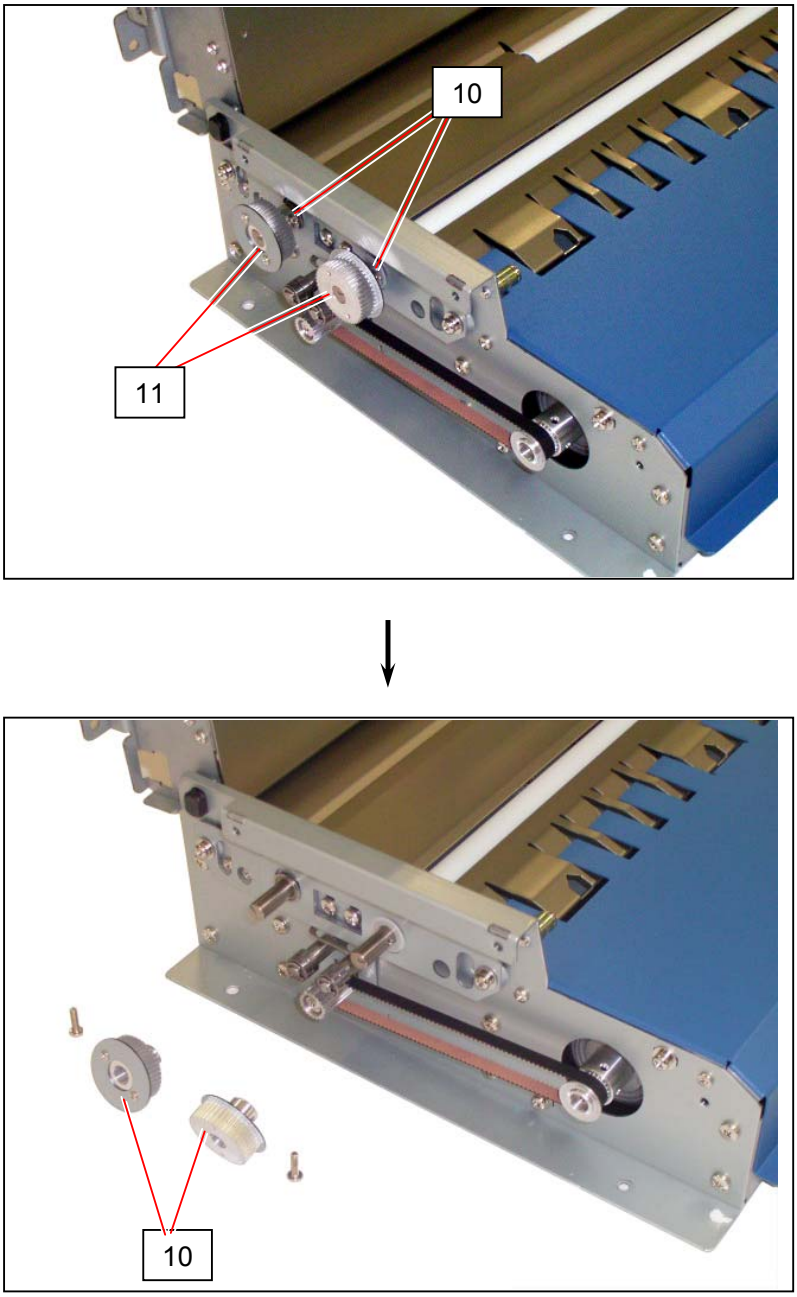
2. Adjust the tension when the Scanner Upper Unit is closed.
   You can not adjust the tension properly if it is opened.







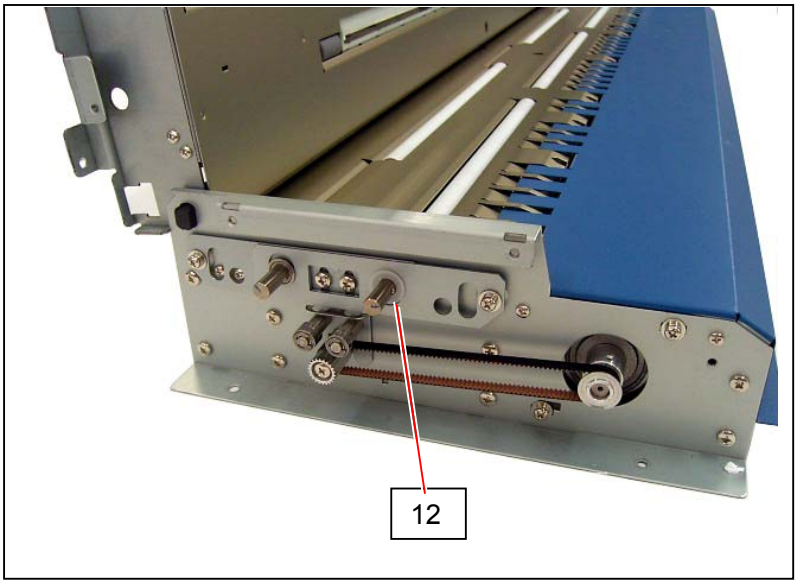
6. Remove the 3x12 screw (11) to remove each Pulley Assembly (10).



NOTE

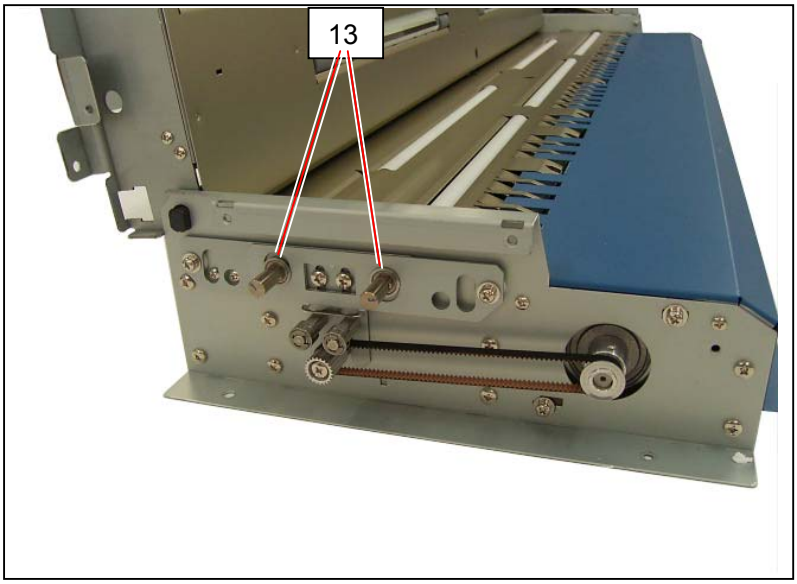
Be careful of the direction of Pulley Assemblies.

7. Remove the POM Washer (12).

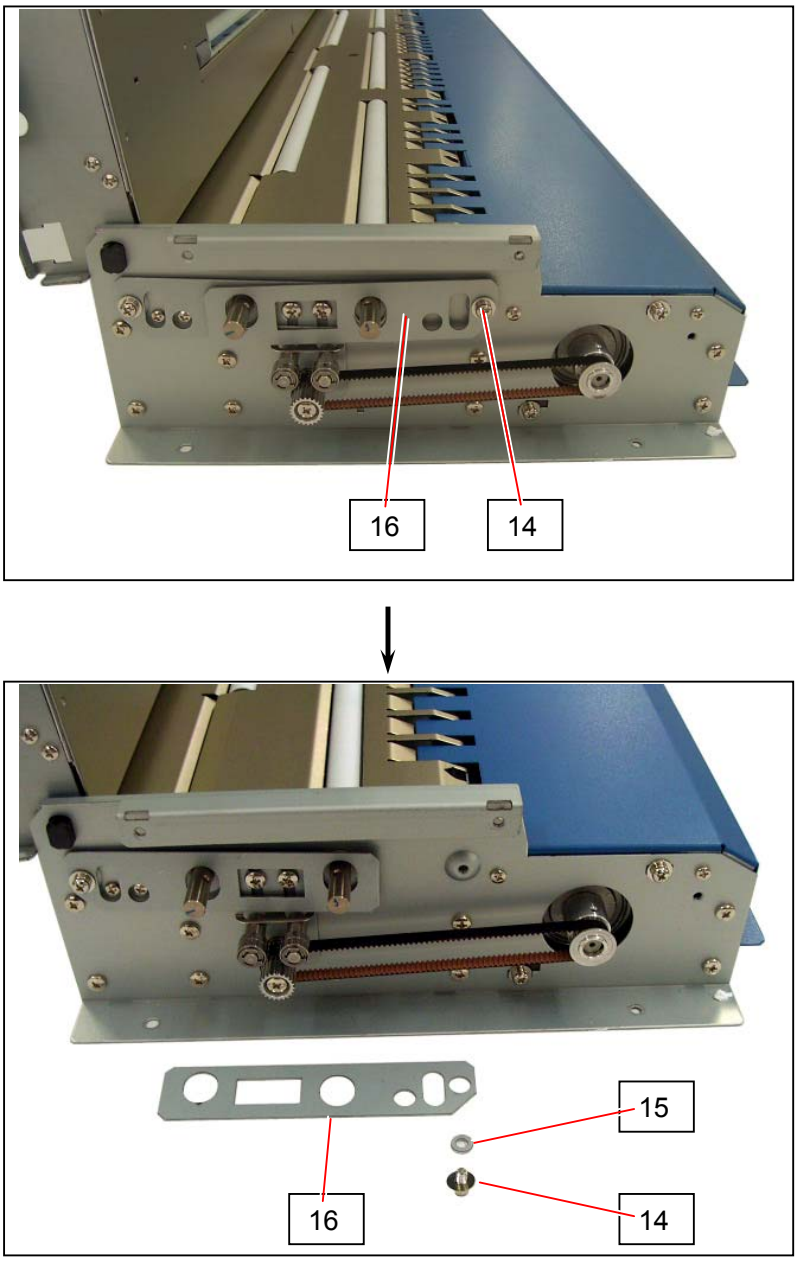


NOTE
The POM Washer is used only on the shaft of Drive Roller 1.

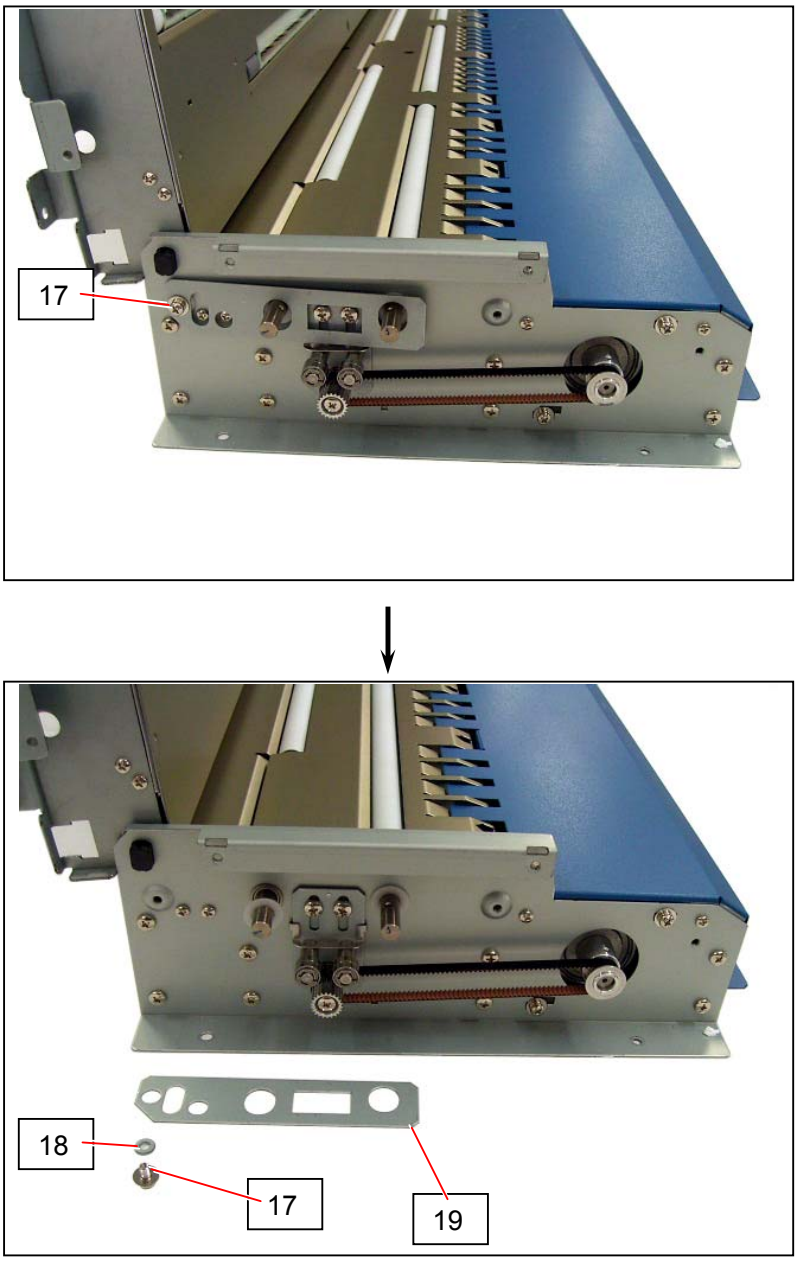
8. Remove 2 pieces of Bearing (13).



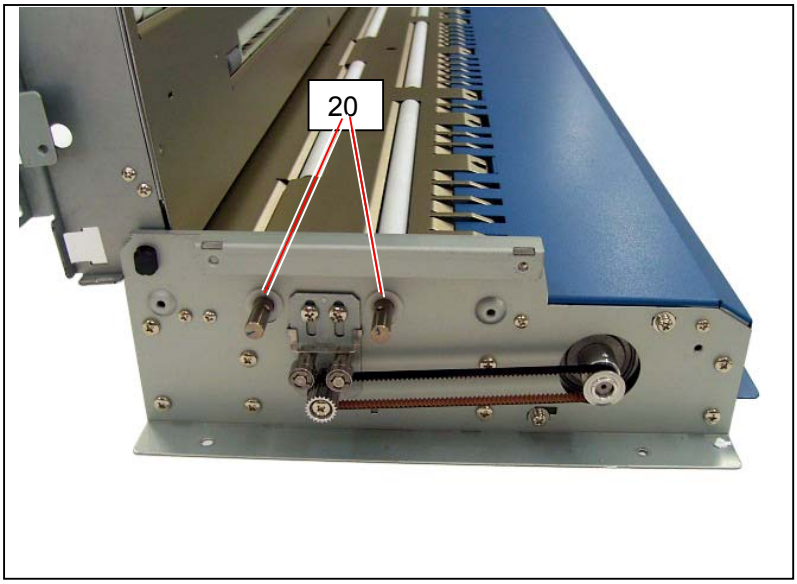
9. Remove the Pan Head Screw 4x8 (14) to remove P4 Pivot Washer (15) and P4 Twin Link 1 (16).



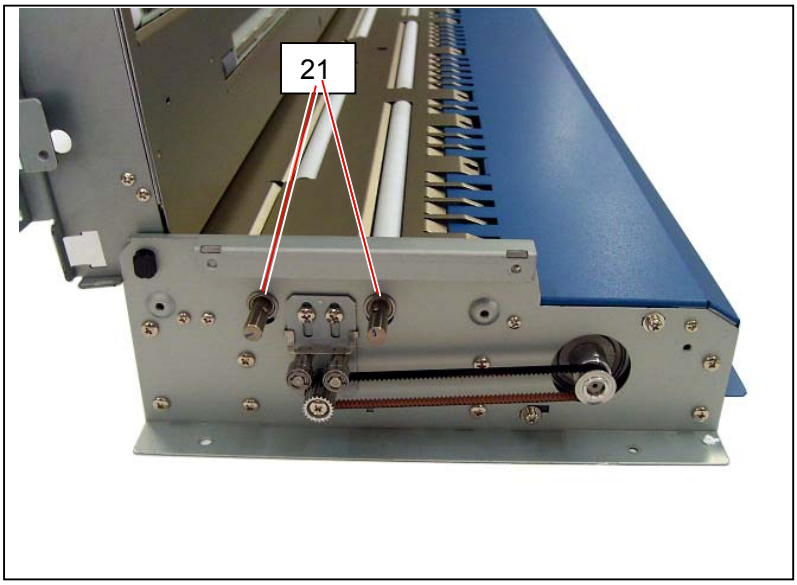
10. Remove the Pan Head Screw 4x8 (17) to remove P4 Pivot Washer (18) and P4 Twin Link 1 (19).



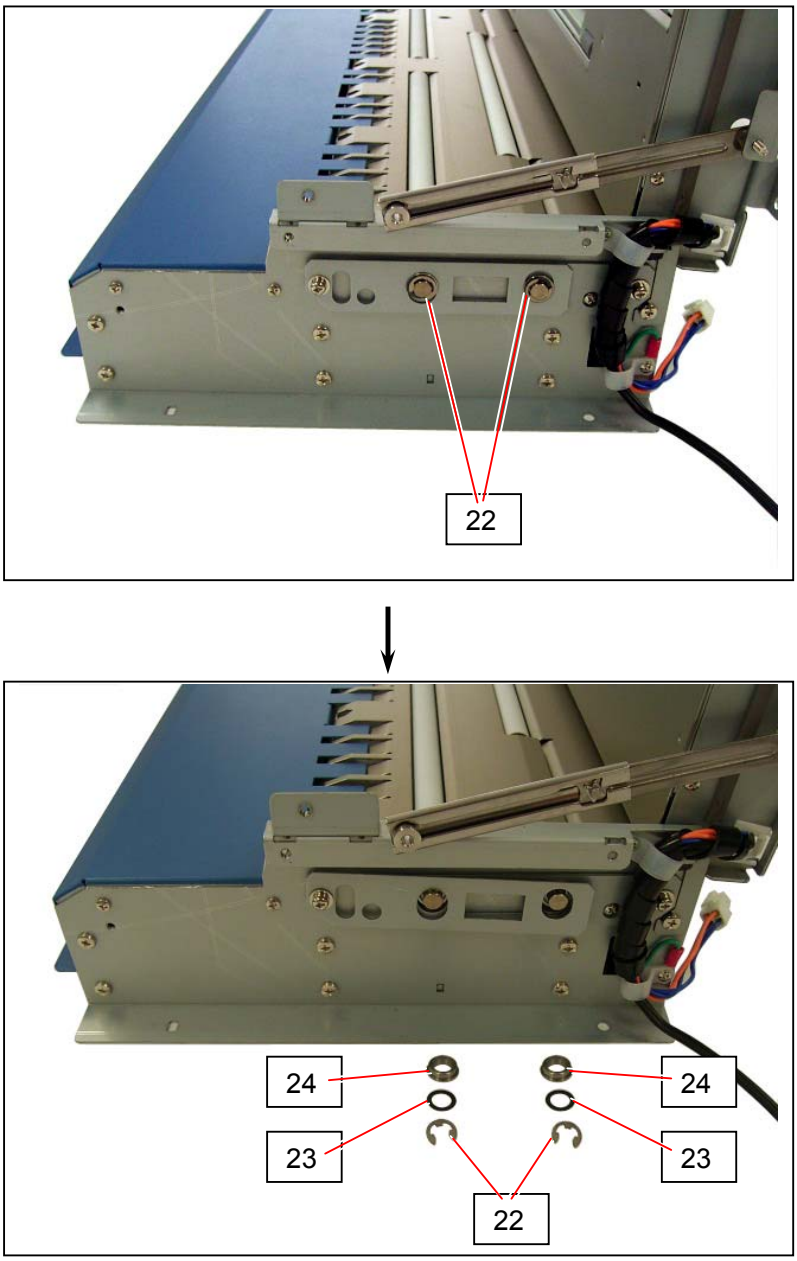
11. Remove 2 pieces of POM Washer (20).



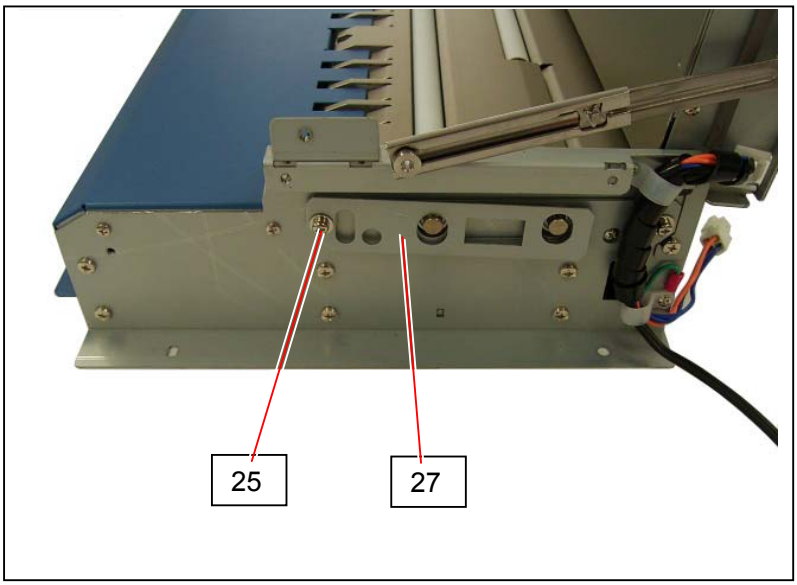
12. Remove 2 pieces of Bearing (21).

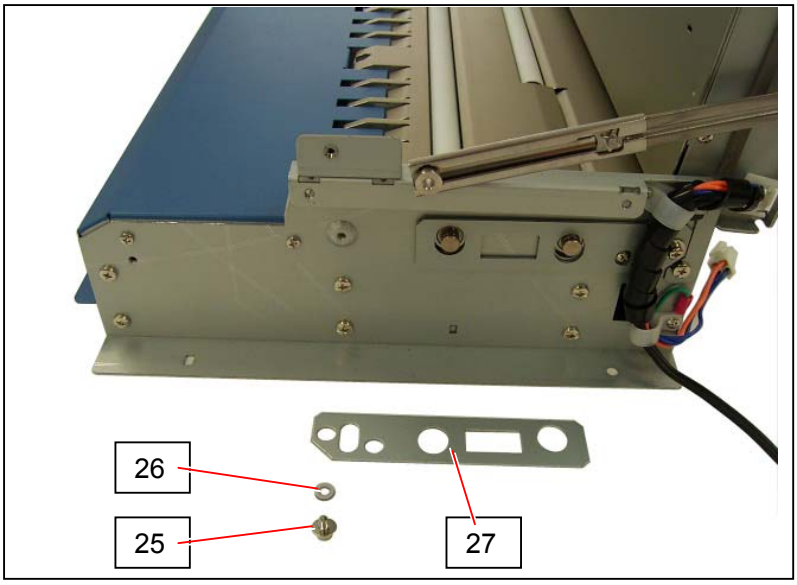


13. Remove the 2 pieces of each Retaining Ring-E (22 : E6), Polyslider Washer (23) and Bearing (24) on the right of the scanner unit.

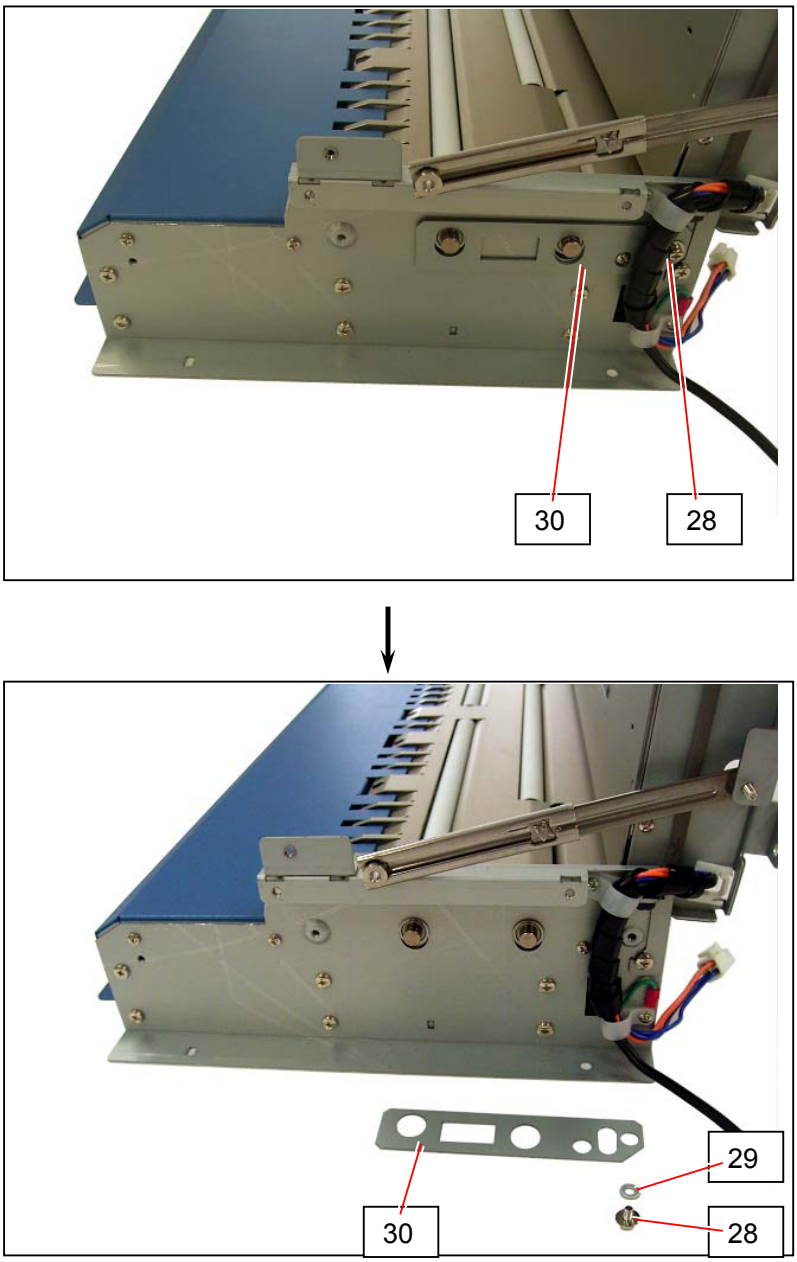


14. Remove the Pan Head Screw 4x8 (25) to remove P4 Pivot Washer (26) and P4 Twin Link 1 (27).

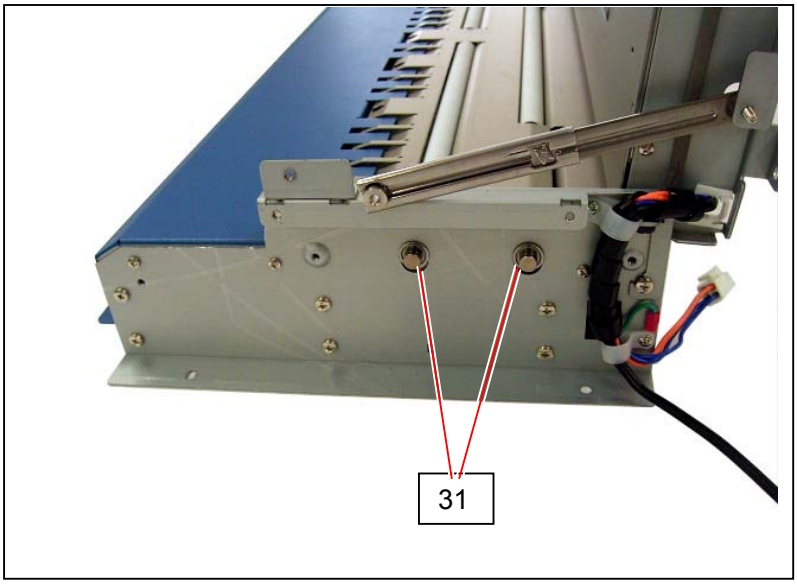




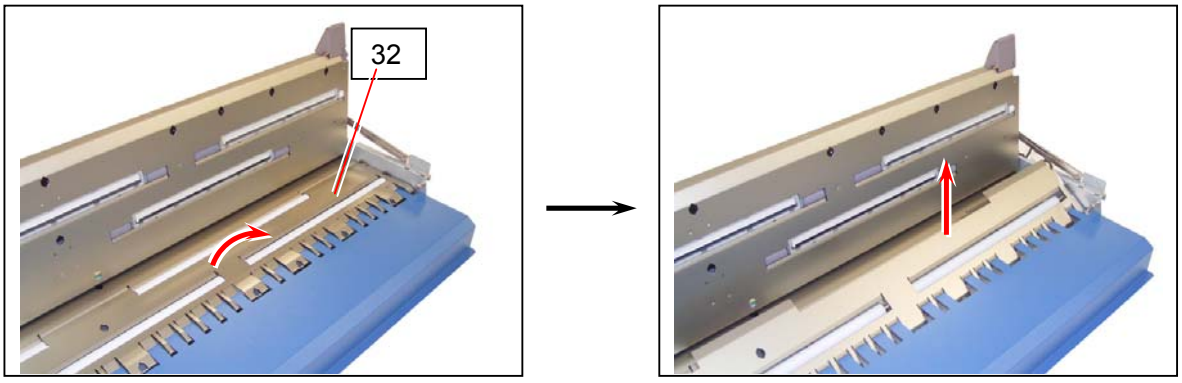
15. Remove the Pan Head Screw 4x8 (28) to remove P4 Pivot Washer (29) and P4 Twin Link 1 (30).



16. Remove 2 pieces of Bearing (31).

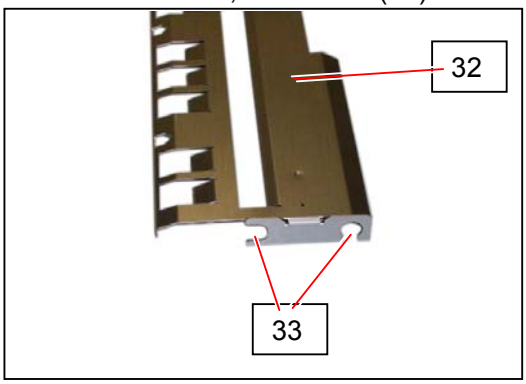


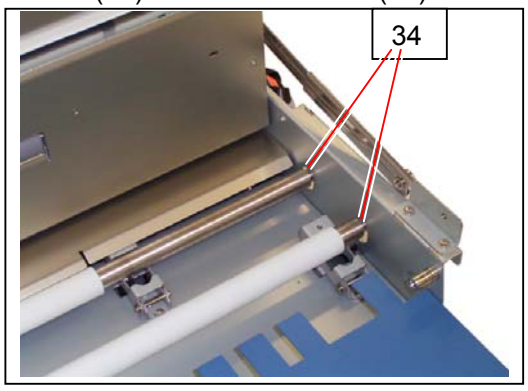
17. Remove the P4 Sheet Guide (32).



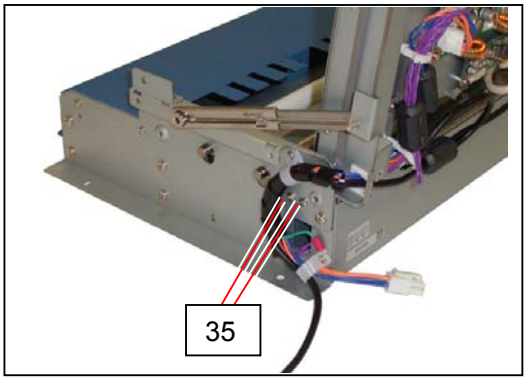
NOTE

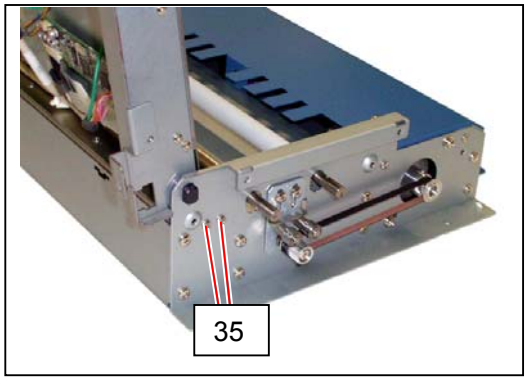
When reassemble, fit notches (33) of the P4 Sheet Guide (32) to the roller shafts (34).

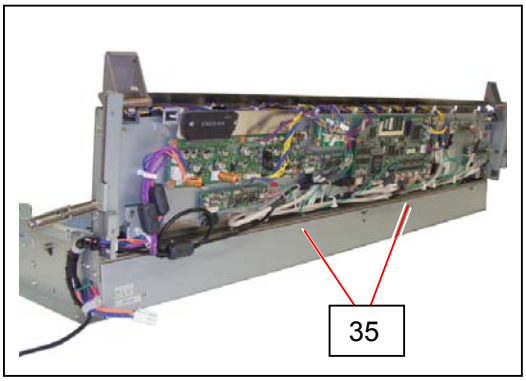




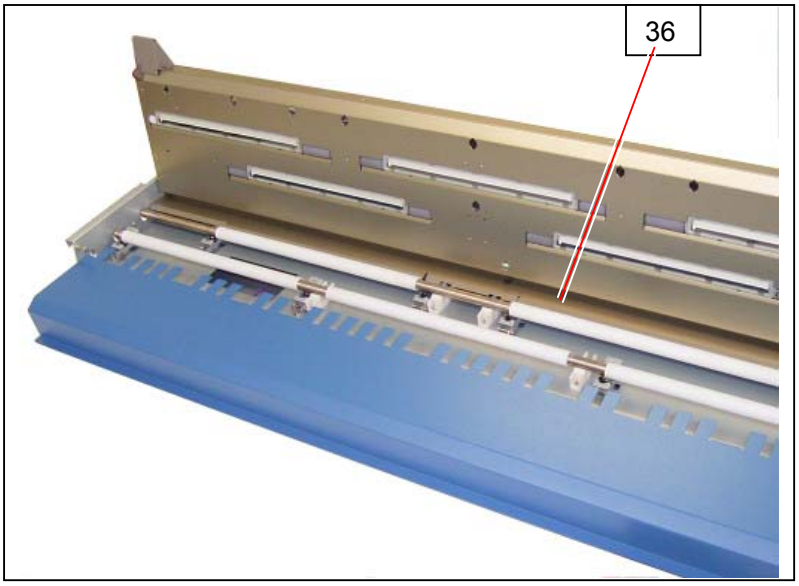
18. Remove 6 pieces of screw (35).



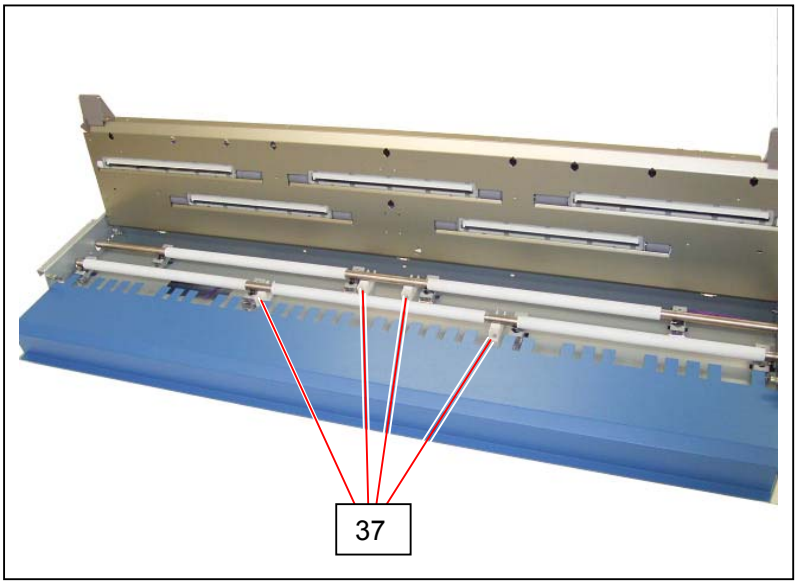


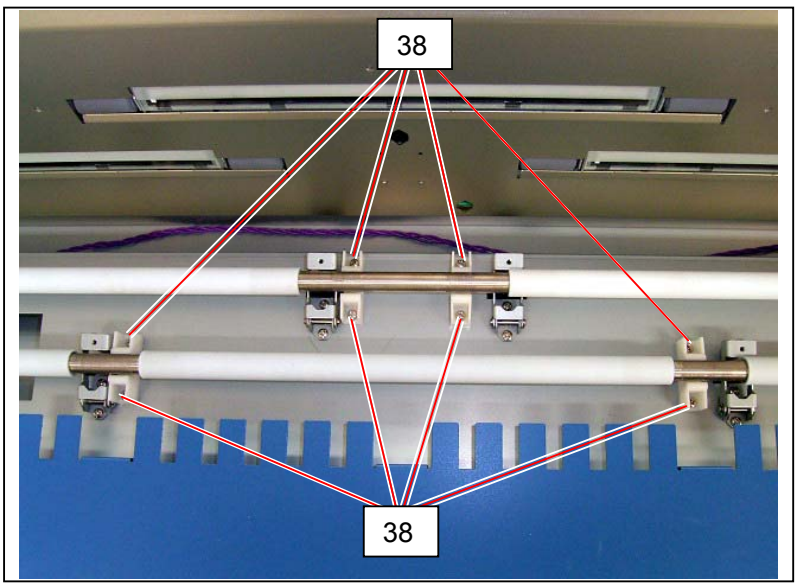


19. Remove the P2 Sheet Guide (36).

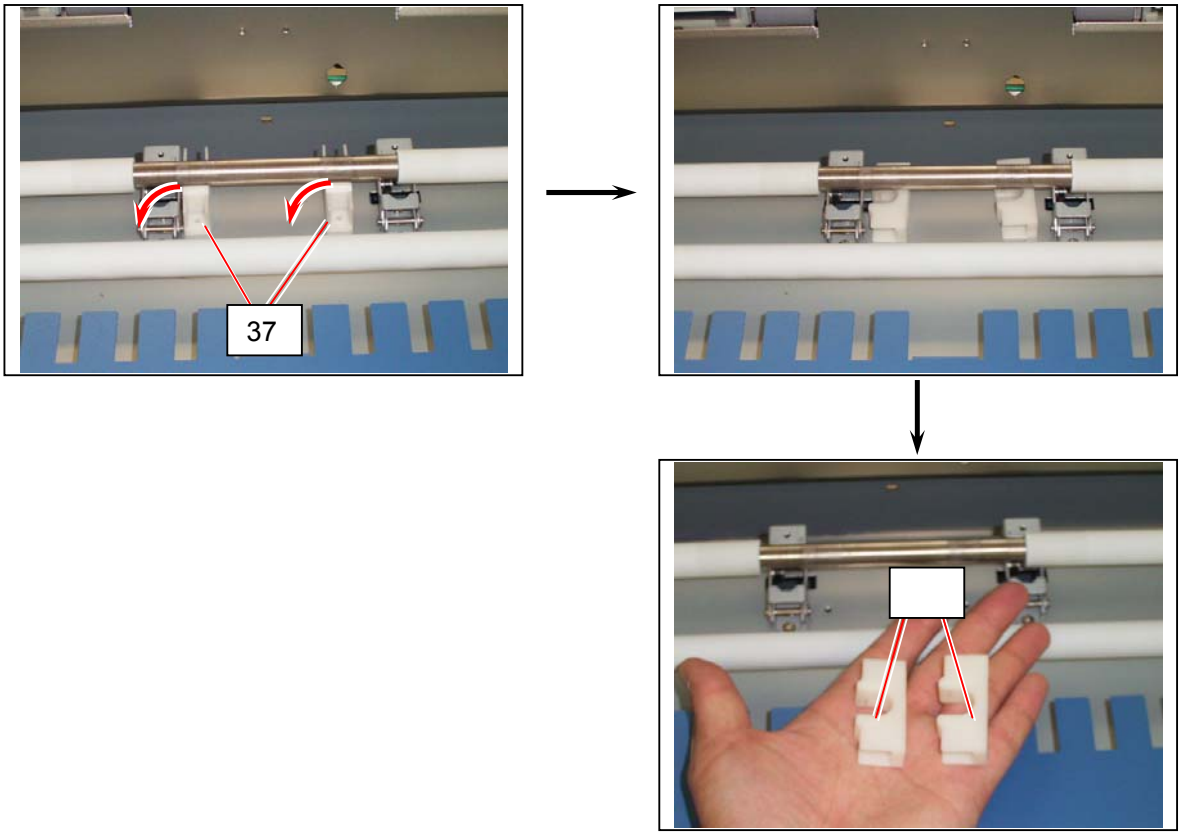


20. There are 4 pieces of Holders (37) which hold the Drive Rollers 1 & 2.
Remove 2 pieces of screw (38) from each Holder (37).

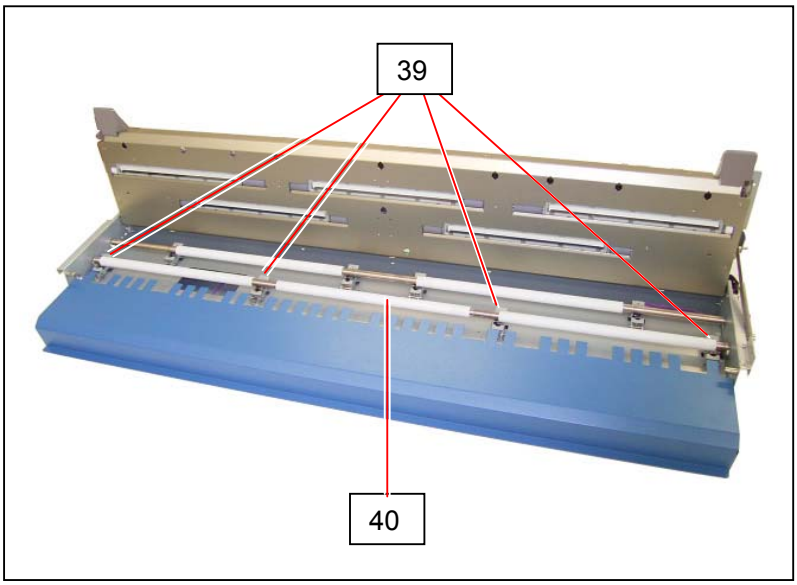


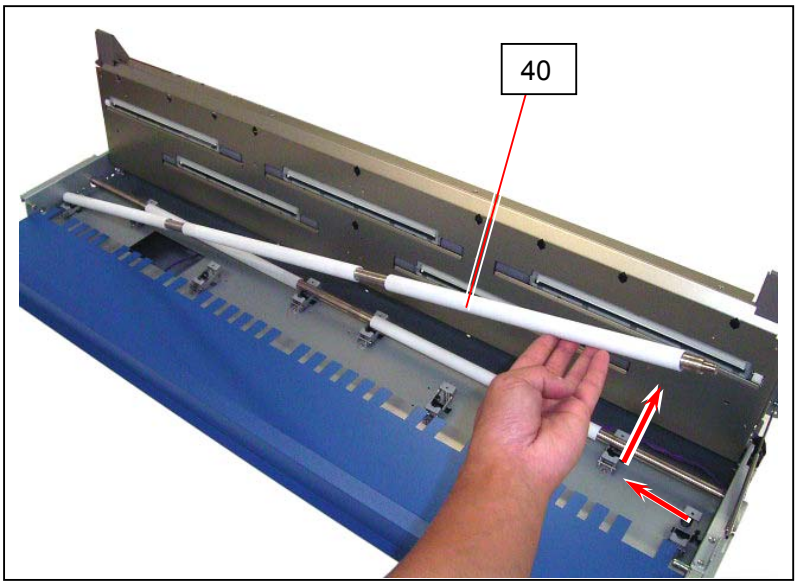


21. Rotate 4 pieces of Holder (37) 90 degrees arc revolution, and remove them.



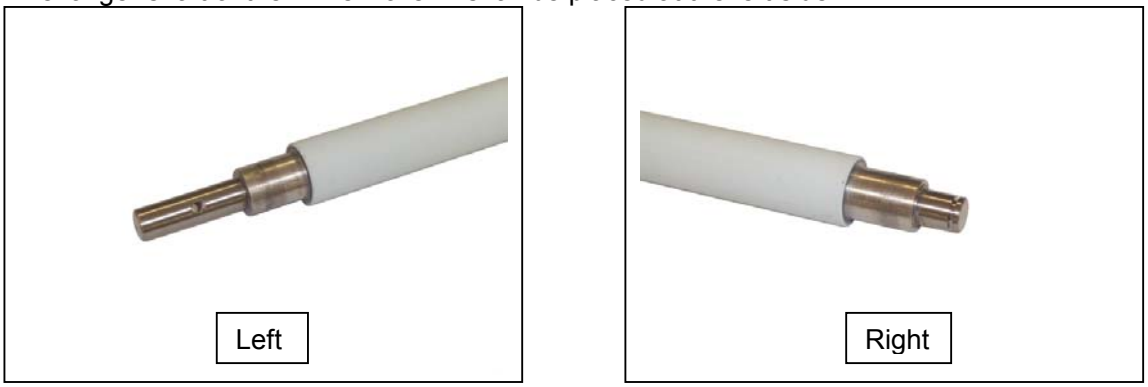
22. Pressing down Roller Holder Assy (39), slide the **Drive Roller 1** (40) to the left, and then remove it.
Replace the **Drive Roller 1** (39) with the new one.



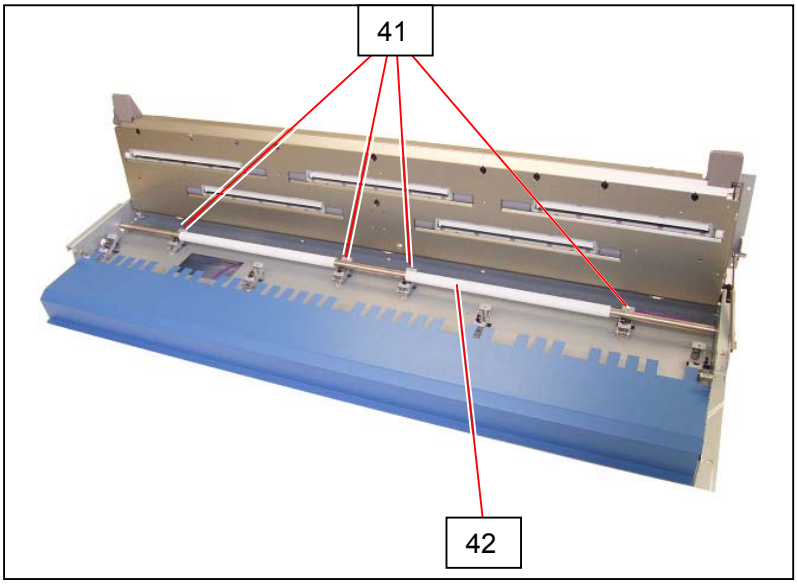


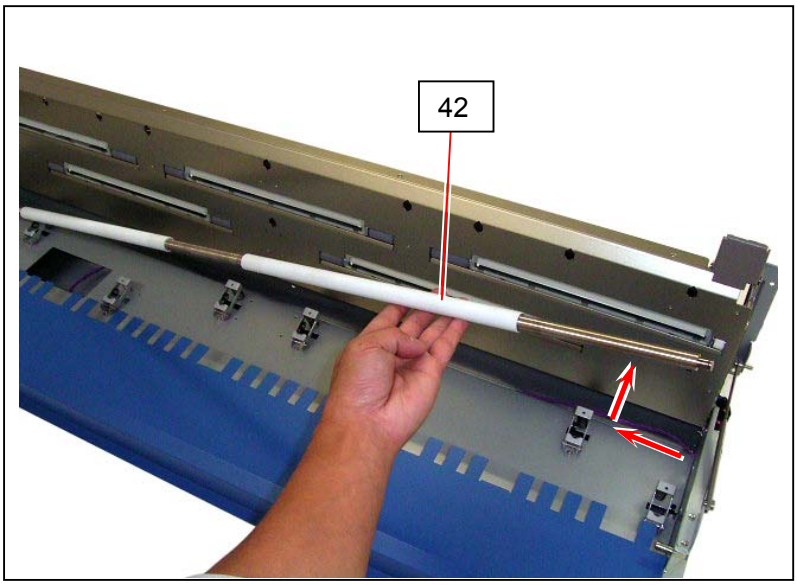
NOTE

The longer shaft of the Drive Roller 1 shall be placed at the left side.



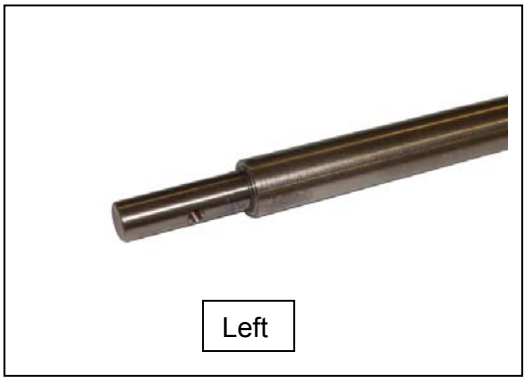
23. Pressing down Roller Holder Assy (41), slide the **Drive Roller 2** (42) to the left, and then remove it.
Replace the **Drive Roller 2** (43) with the new one.

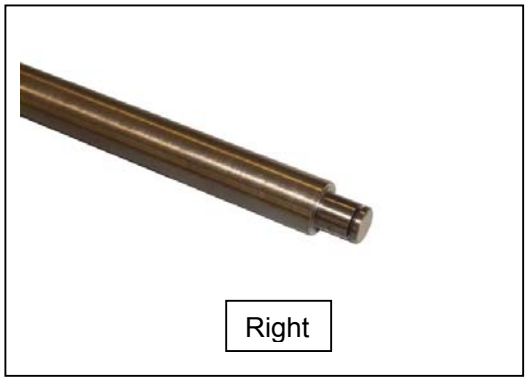




NOTE

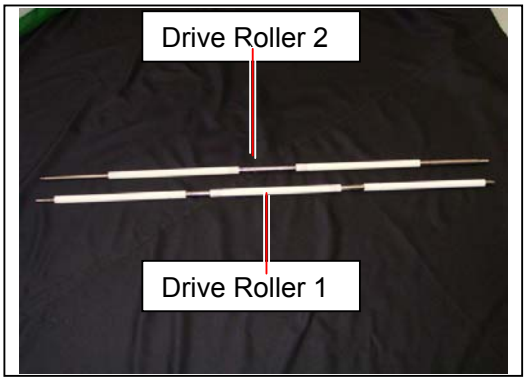
(1) The longer shaft of the Drive Roller 1 shall be placed at the left side.





NOTE

(2) The pattern of Drive Rollers 1 and 2 are different.
Do not replace their position each other.



5.12. 5 Replacement of CIS Assembly

NOTE

(Before S/N 10510001)

P/N for CIS Assembly is **Z058300800**.

(After S/N 10510001)

CIS Assembly is classified into 4 classes depending on wavelength variations of their LED.

Class C: (P/N: Z058300860)
Class D: (P/N: Z058300830)
Class G: (P/N: Z058300840)
Class H: (P/N: Z058300850)

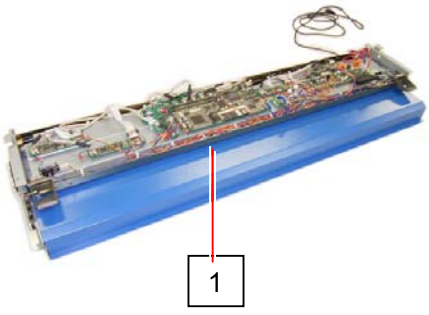
All the 5 pieces of CIS Assembly on a certain scanner should be the same class to assure even image quality (brightness, color quality and etc) among image blocks.

Be sure to check which CIS class is used to the scanner before replacing to avoid class mixing. Otherwise even image quality can not be expected.

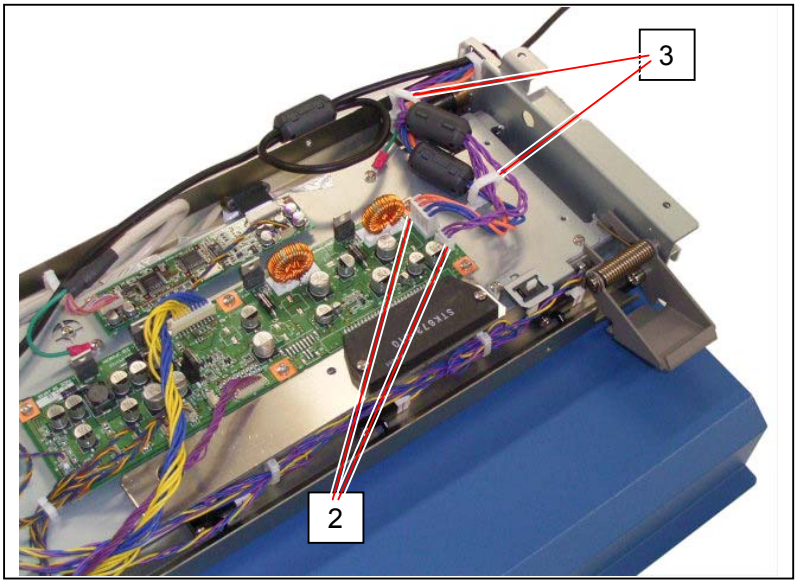
Installed CIS class can be checked with a label on the rear of the scanner.

Label

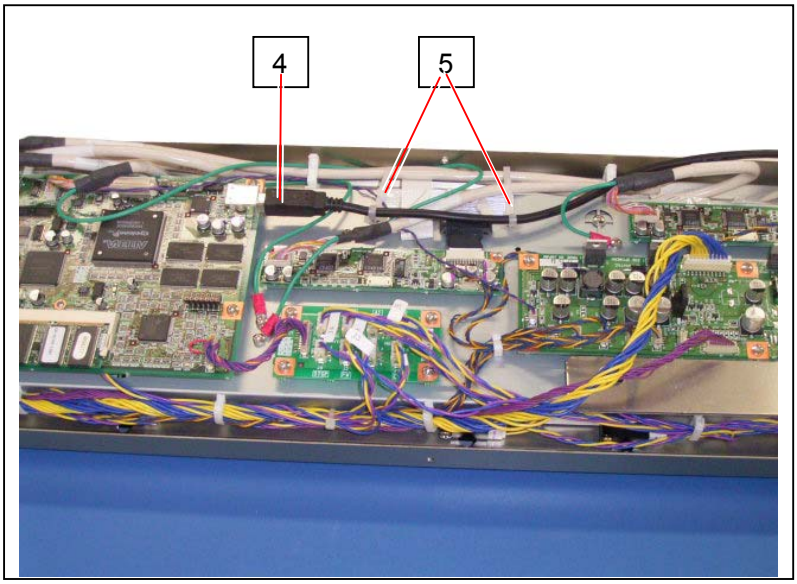
1. Remove the Scanner Unit (1) from the machine making reference to [5.12. 1 Removal of the Scanner Unit] on the page 5-253.



2. Disconnect 2 connectors (2), open the Wire Saddles (3) to release the harnesses.

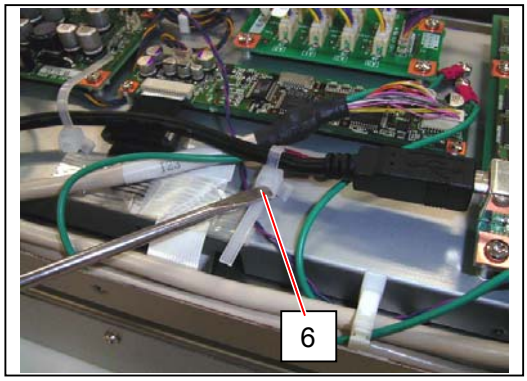


3. Disconnect the USB Connector (4), and open the Nylon Bands (5) to release the USB Cable.

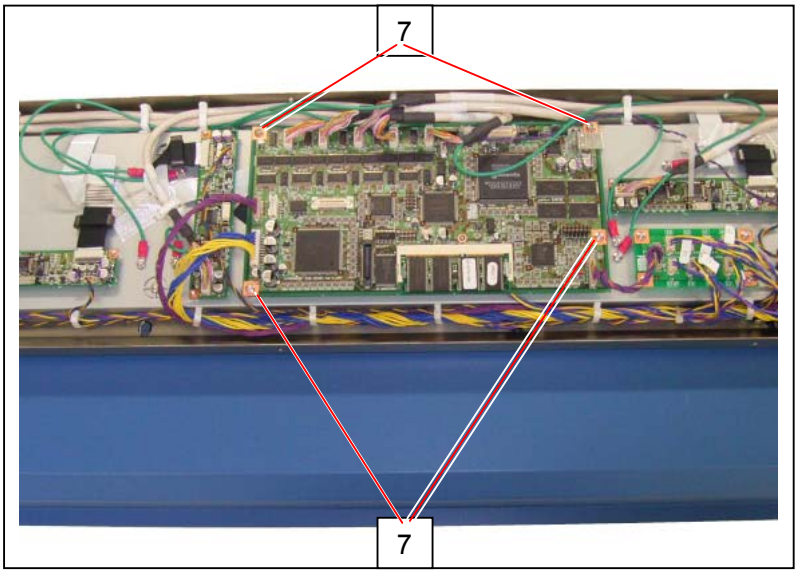


NOTE

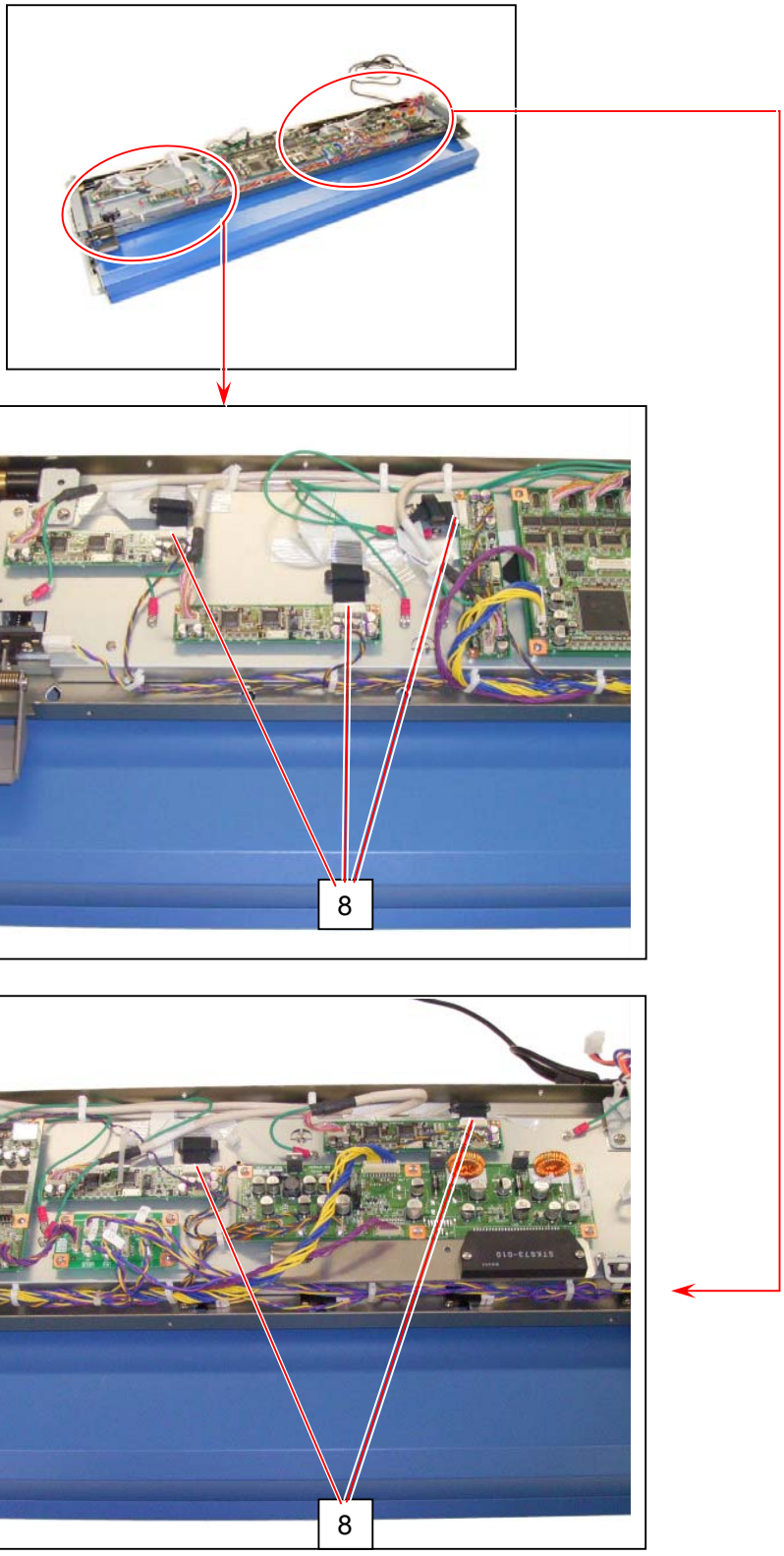
To open the Nylon Band (5), move up the stopper (6) with such tool as a minus screwdriver.



4. Remove 4 screws (7) to release Data Controller PCB.
   (You do not have to disconnect any connector from Data Controller PCB.)

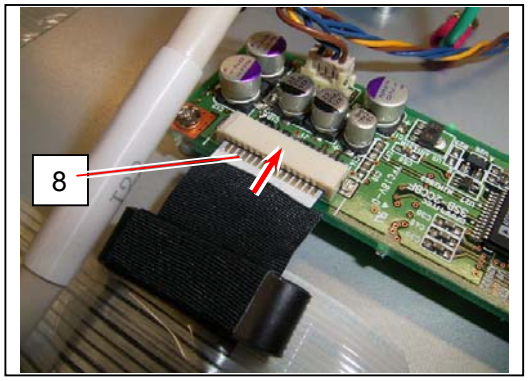


5. Disconnect all of the Flexible Cables (8) from each CIS Controller Board.
(Handle with great care not to break the Flexible Cable at this time!)

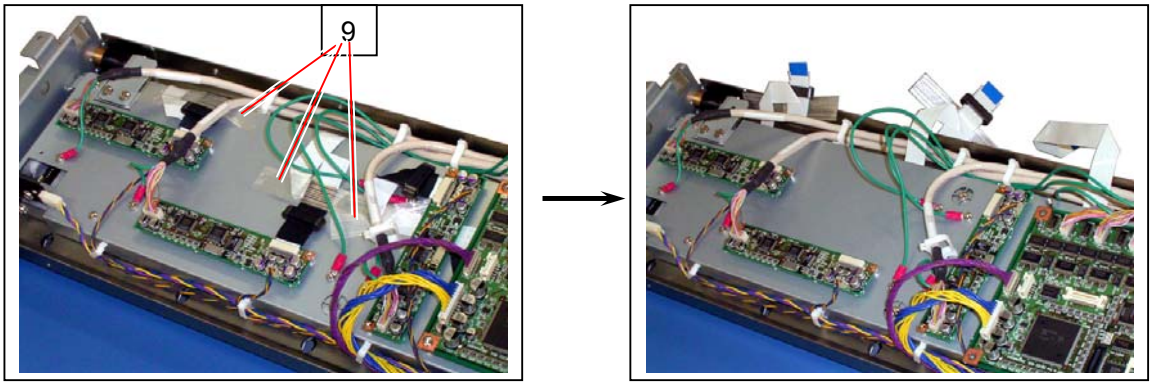


NOTE

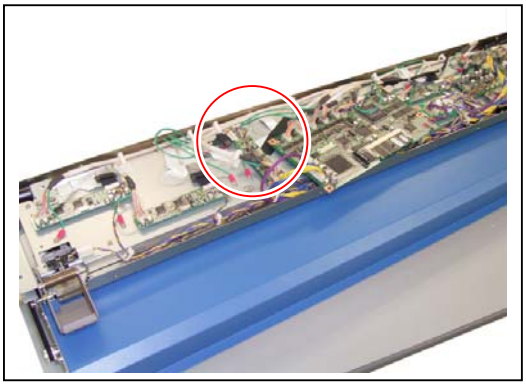
(1) Insert Flexible Cable (8) fully to the CIS Controller PCB terminal when you connect it. If not connected firmly, the scan image may go wrong.
(But be sure to handle it with great care as it is easily broken.

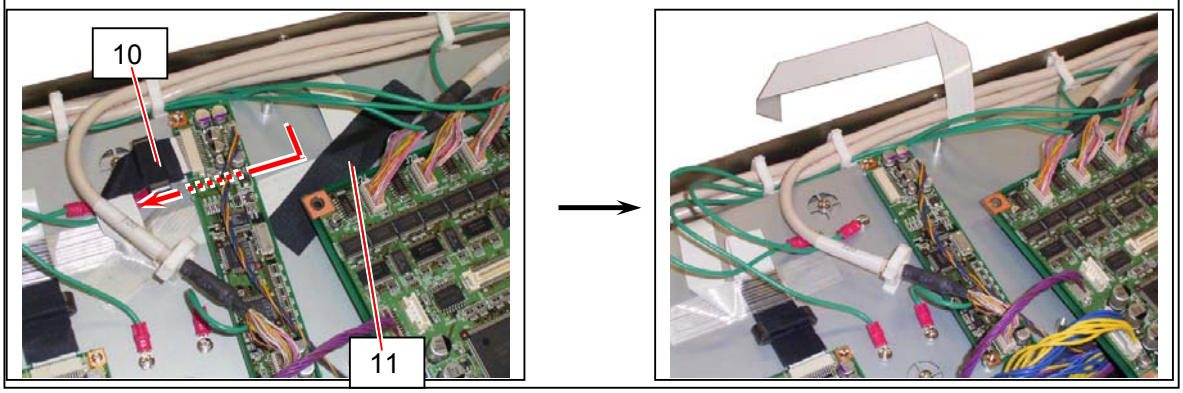


(2) Each Flexible Cable is fixed with the tapes (9).
Strip off the tape (9) to make the Flexible Cable free.

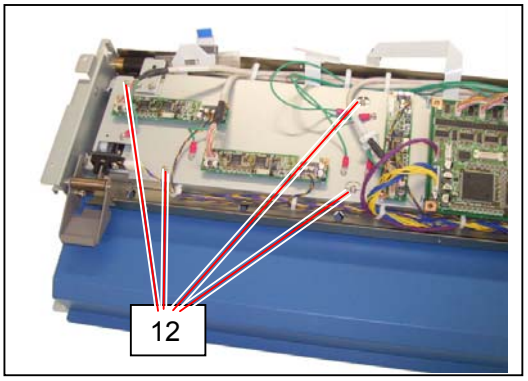


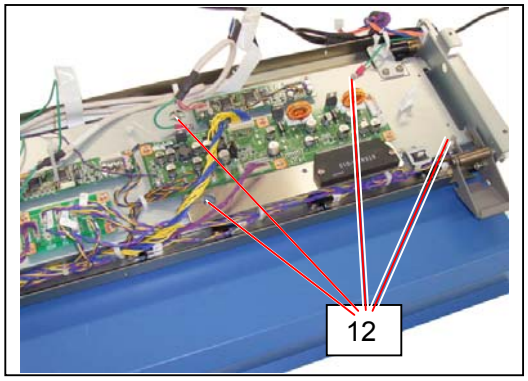
(3) The central one of Flexible Cable is running under the Data Controller PCB and the CIS Controller PCB. Remove the Ring (10), strip off the tape (11) under the Data Controller PCB, and then put the Flexible Cable aside.



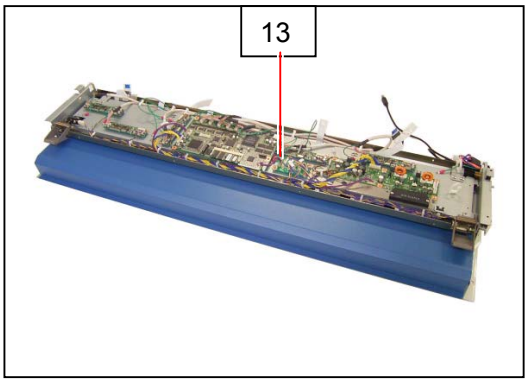


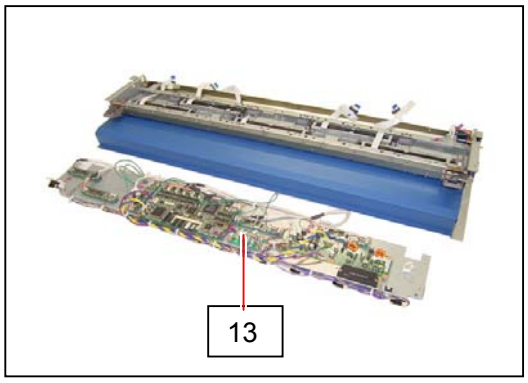
6. Remove 8 pieces of 3x6 screw (12).





7. Remove Base Plate (13).

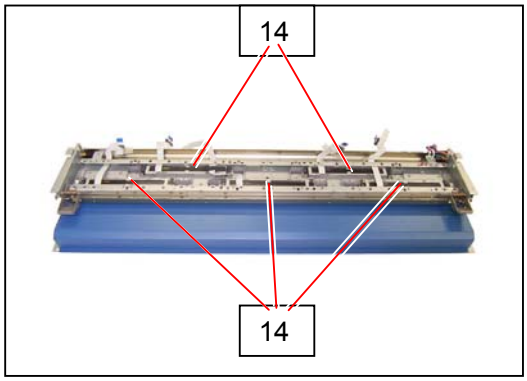




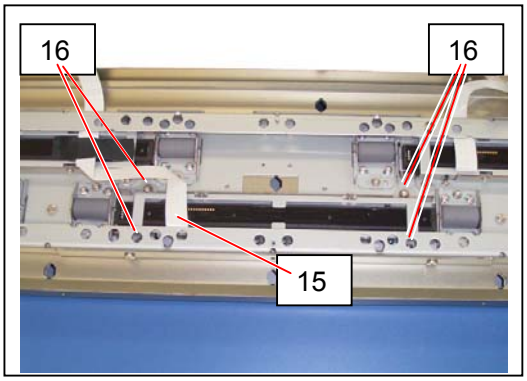
NOTE

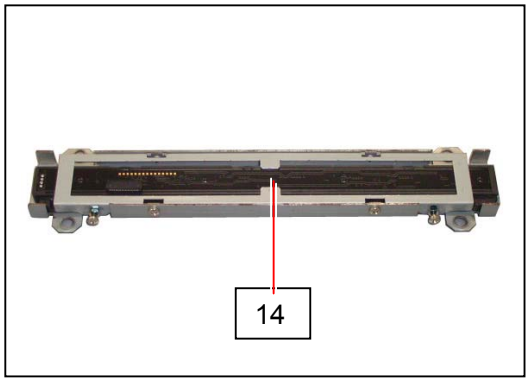
Carefully remove Base Plate (13) not to damage Flexible Cables at this time!

8. Carefully remove Flexible Cables (15) from CIS Assembly (14).



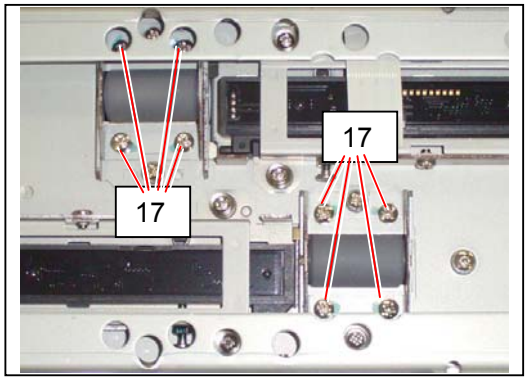
9. Remove 4 screws (16) and remove **CIS Assembly** (14).
   Replace **CIS Assembly** (14) with a new one.





NOTE

There are screws (17) around the Counter Roller, which are locked with the paint.
Do not loosen or tighten these screws (17), as they maintain the focus adjustment!
(Focus has been adjusted in the factory.)
You will spoil the focus adjustment if you loosen or tighten it!



10. Replace all the parts in position.

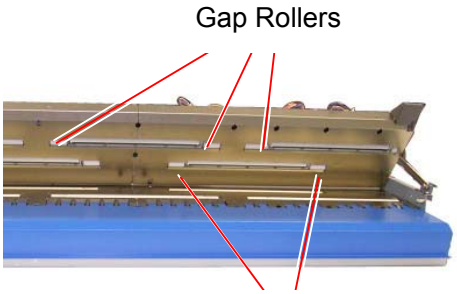
NOTE

Be sure to perform scanner adjustments (Shading, Calibration (if supported), Feed Distance and Position) after replacing CIS Assembly.
See [8.12 Scanner Utility] on page 8-172 for adjustment.

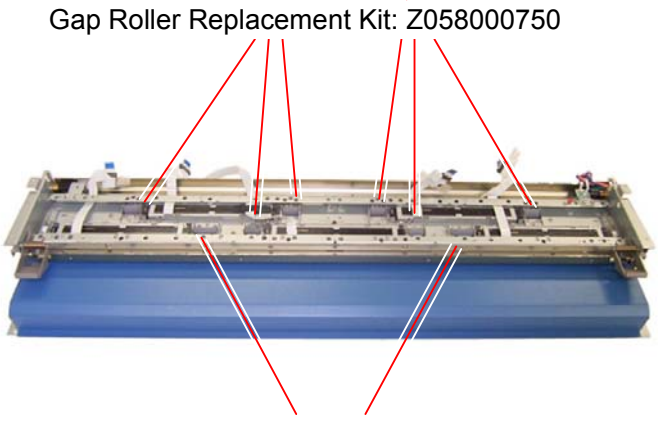
5.12. 6 Replacement of Gap Roller

NOTE

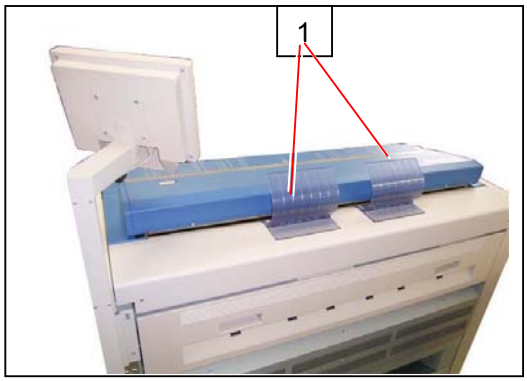
(1) Fine adjustment is required after replacing Gap Roller.
Please follow the instruction as good image can not be expected if the adjustment is not successful.



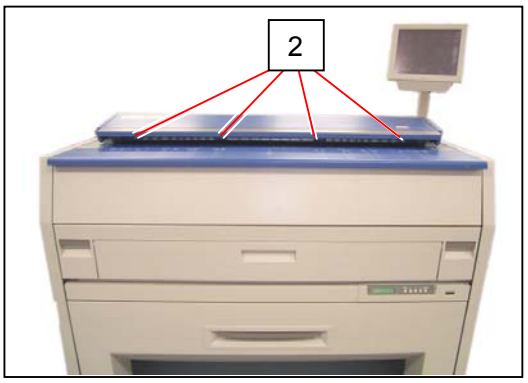
(2) 2 of all the 8 Gap Rollers are slightly wider, 2 types of Gap Roller replacement kits are provided.

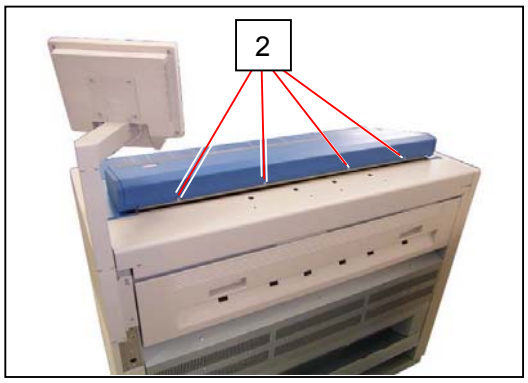


1. Remove the Guides 3 (1).

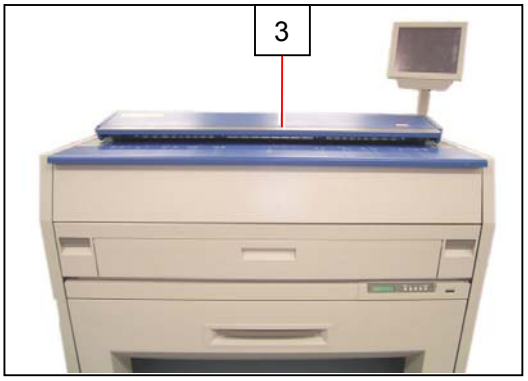


2. Remove 8 pieces of 4x6 screw (2) on both front side and back side of machine.

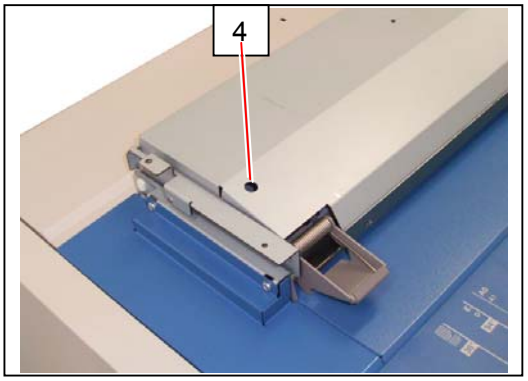


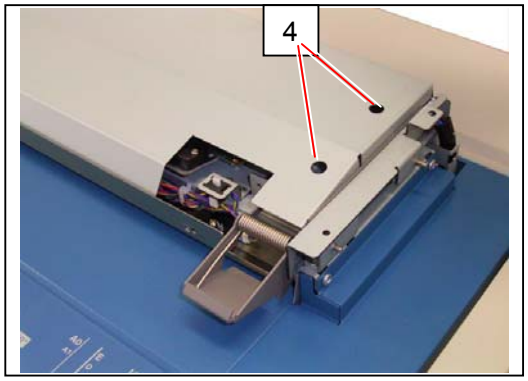


3. Remove the Cover 14 (3).

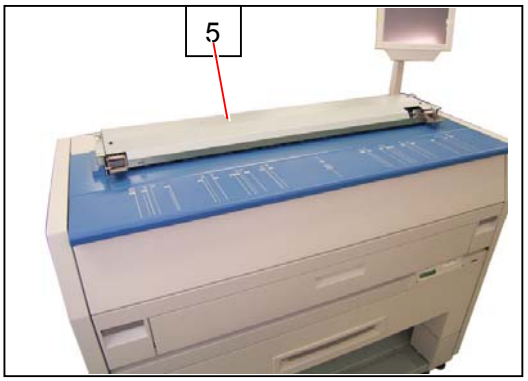


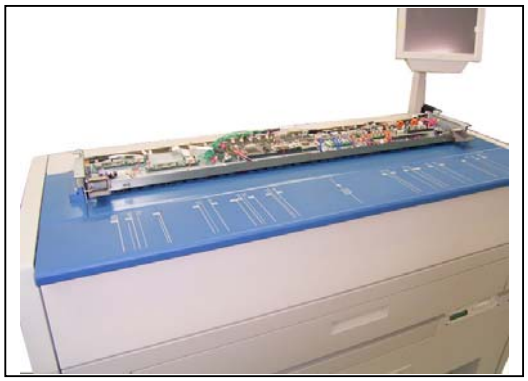
4. Remove 3 pieces of screw (4).



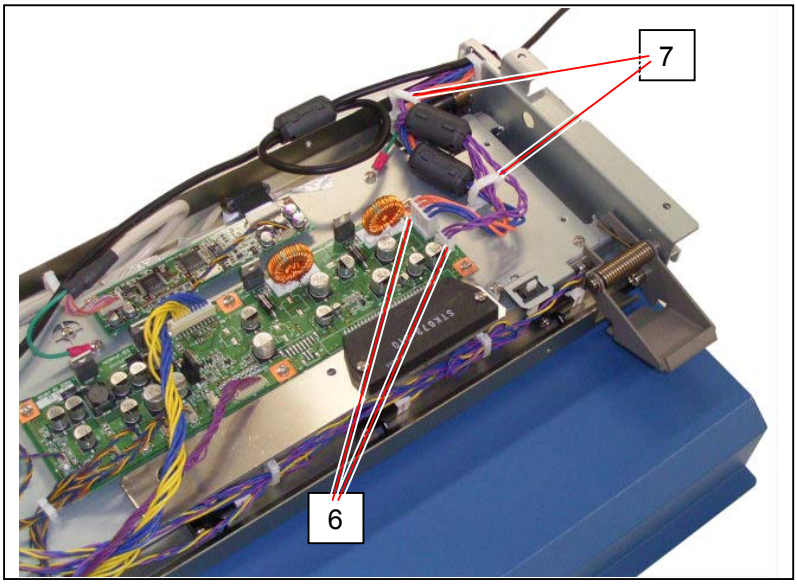


5. Remove the Shield Cover N (5).

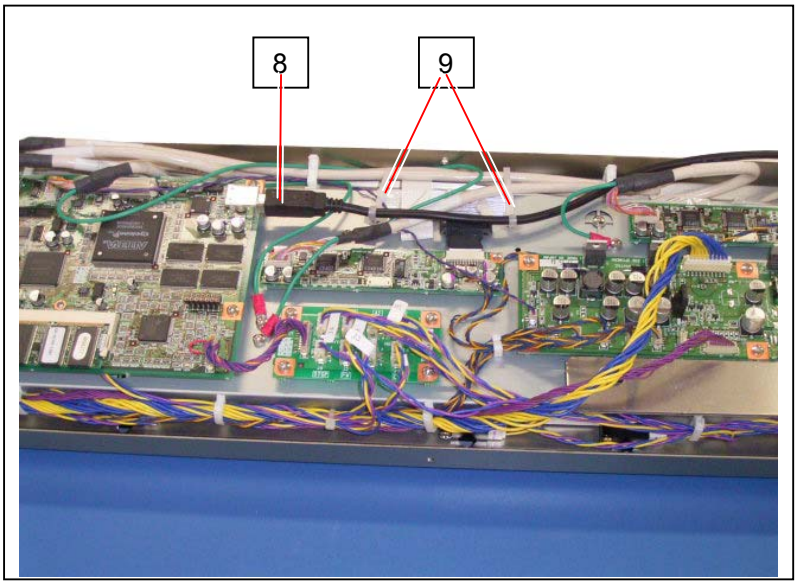




6. Disconnect 2 connectors (6) of the DC Harness, and open the Wire Saddles (7) to release the harness.

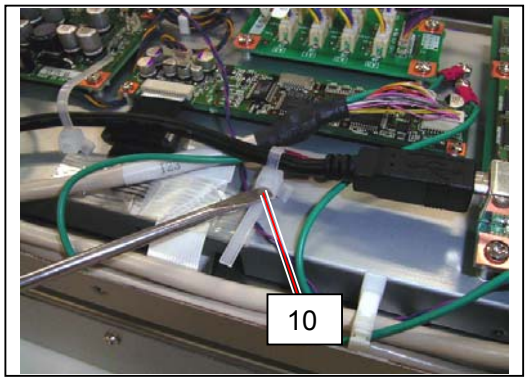


7. Disconnect the USB Cable (8), and open the Nylon Bands (9) to release the USB Cable.

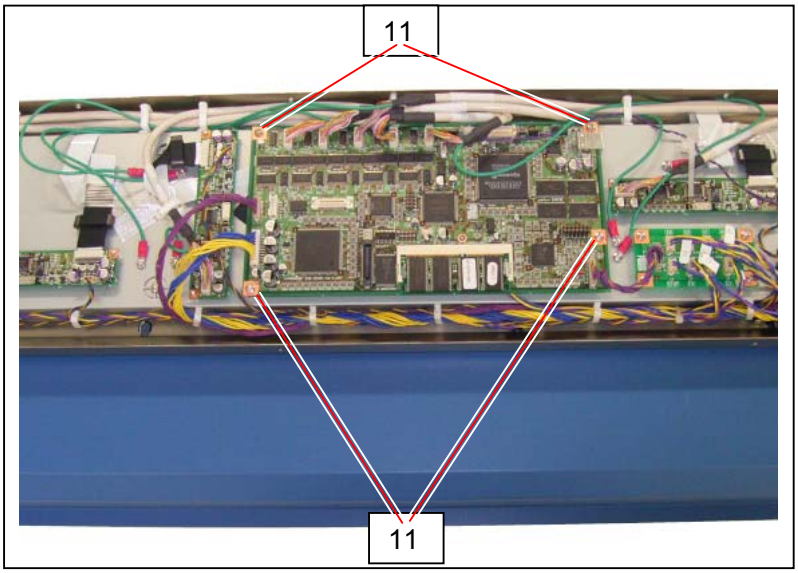


NOTE

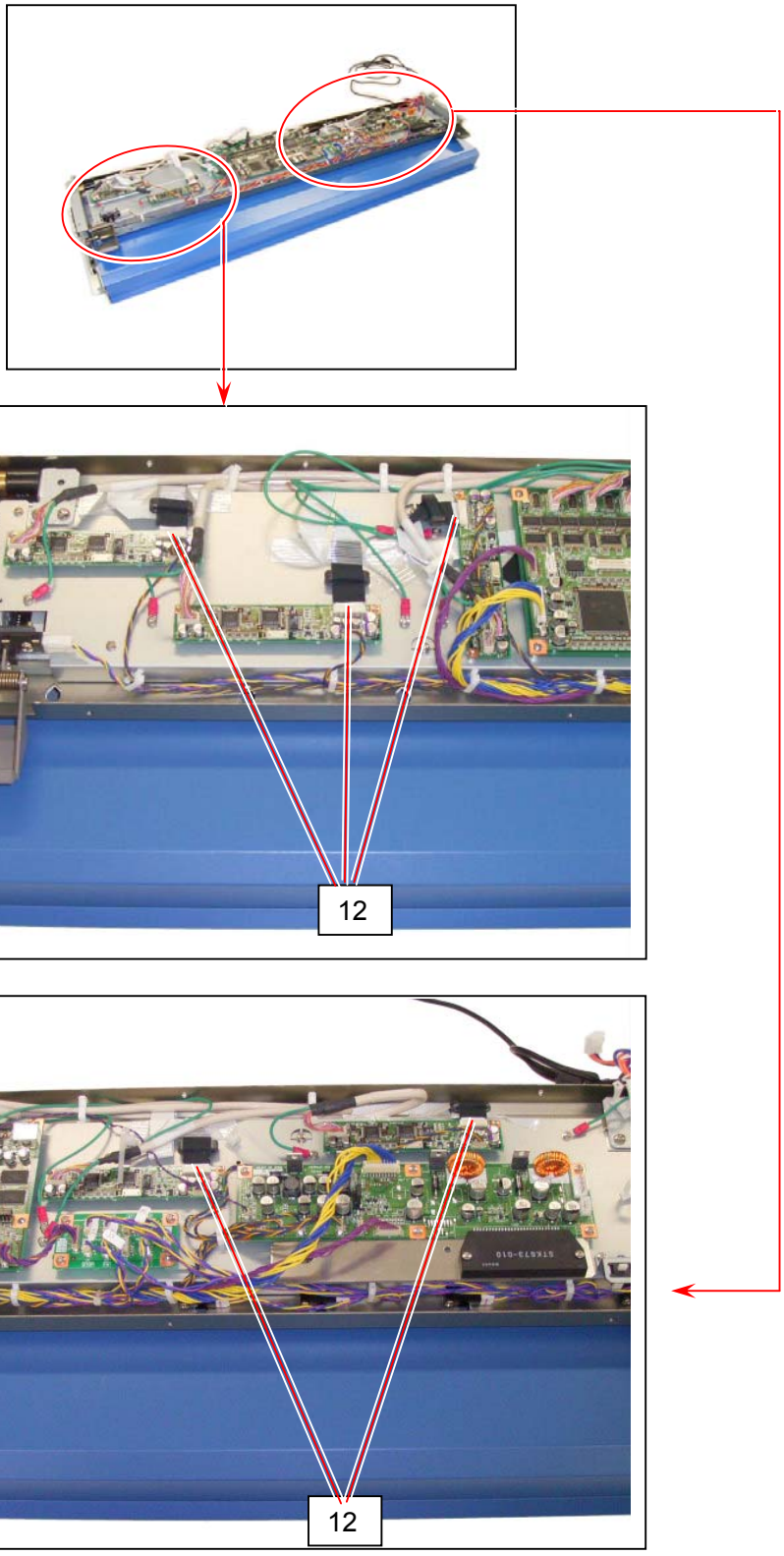
To open the Nylon Band (9), move up the stopper (10) with such tool as a minus screwdriver.



8. Remove 4 pieces of screw (11) to unfix the Data Controller PCB.
   (You do not have to disconnect any connector from the Data Controller PCB.)

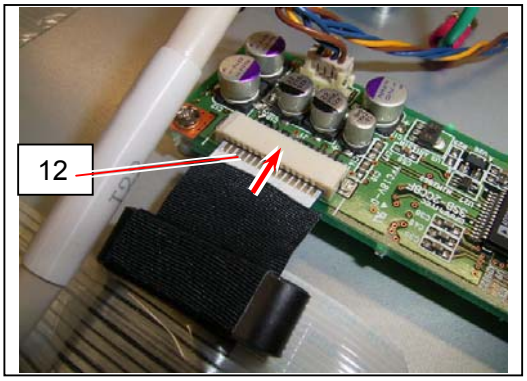


9. Disconnect the 5 pieces of Flexible Cable (12) from each CIS Controller Board.
(Handle with great care not to break the Flexible Cable at this time!)

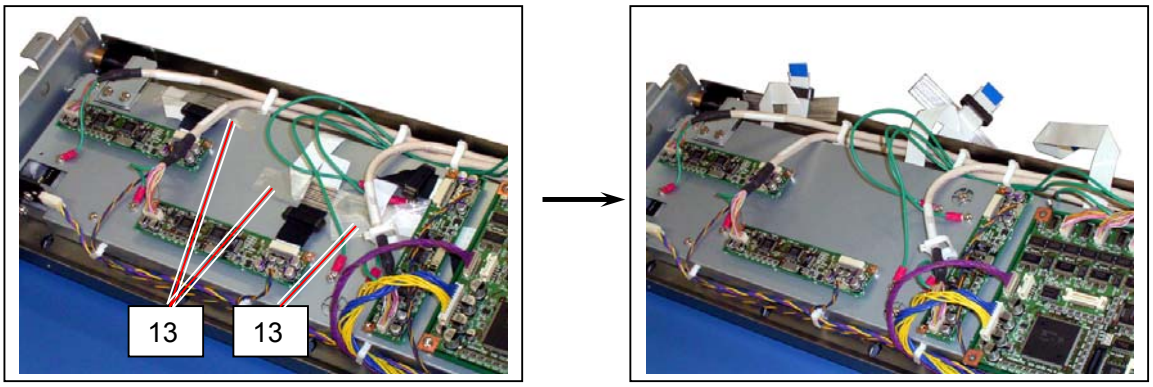


NOTE

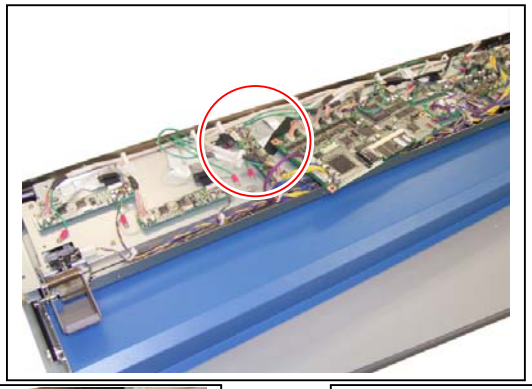
(1) Insert the Flexible Cable (12) fully to the terminal when you connect it.
If not connected firmly, the scan image may become abnormal.
(But make sure to handle it with great care as it is easily broken.

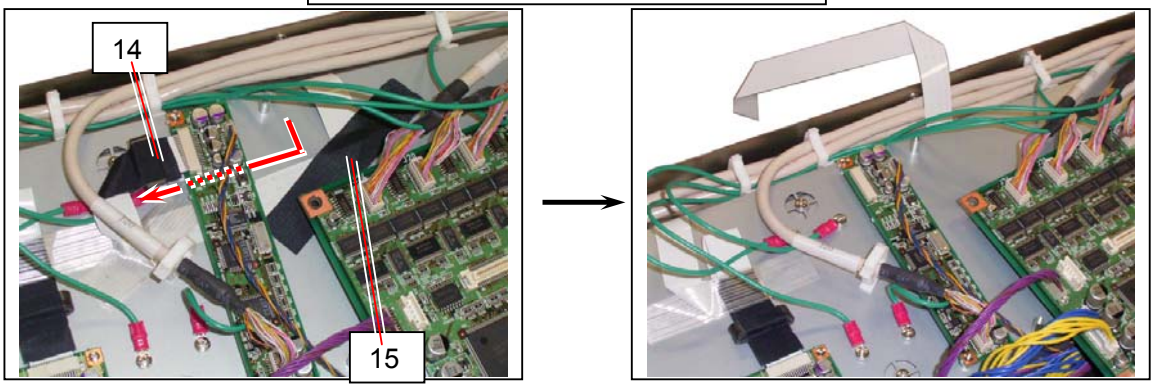


(2) Each Flexible Cable is fixed with the tapes (13).
Strip off the tape (13) to make the Flexible Cable free.

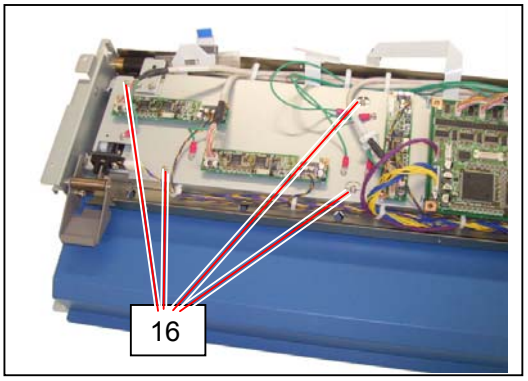


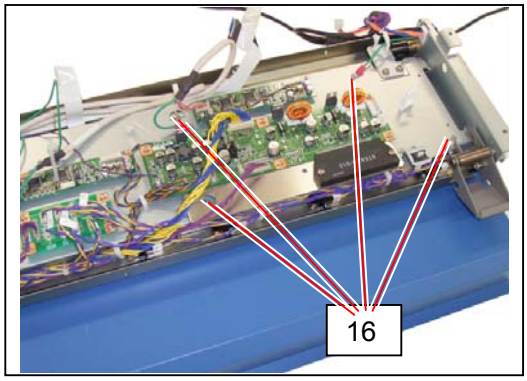
(3) The central one of Flexible Cable is running under the Data Controller PCB and the CIS Controller PCB. Remove the Ring (14), strip off the tape (15) under the Data Controller PCB, and then put the Flexible Cable aside.



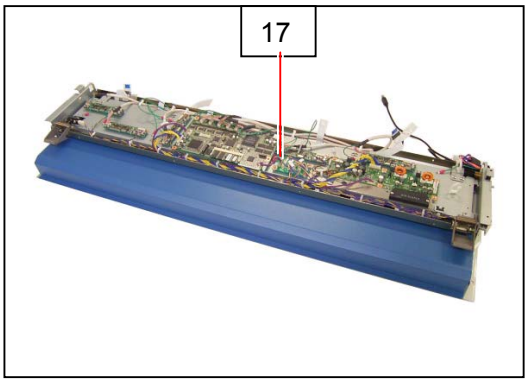


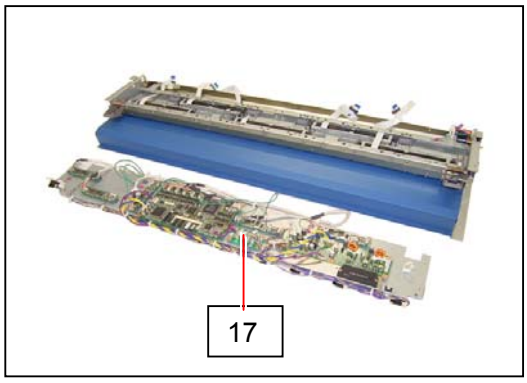
10. Remove 8 pieces of 3x6 screw (16).





11. Remove the Base Plate (17).

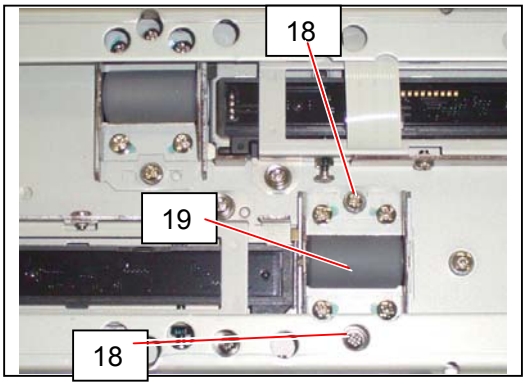




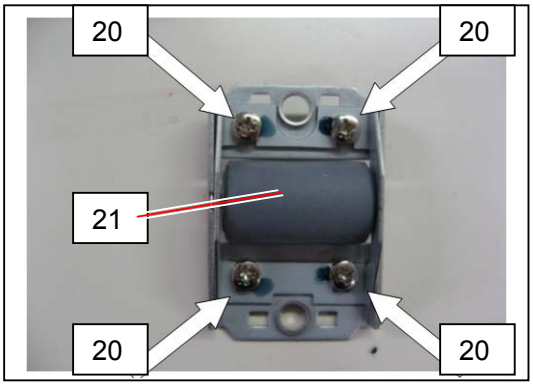
NOTE

Carefully remove the Base Plate (17) not to break the Flexible Cable at this time!

12. Remove 2 screws (18) and remove the Gap Roller Assembly (19).



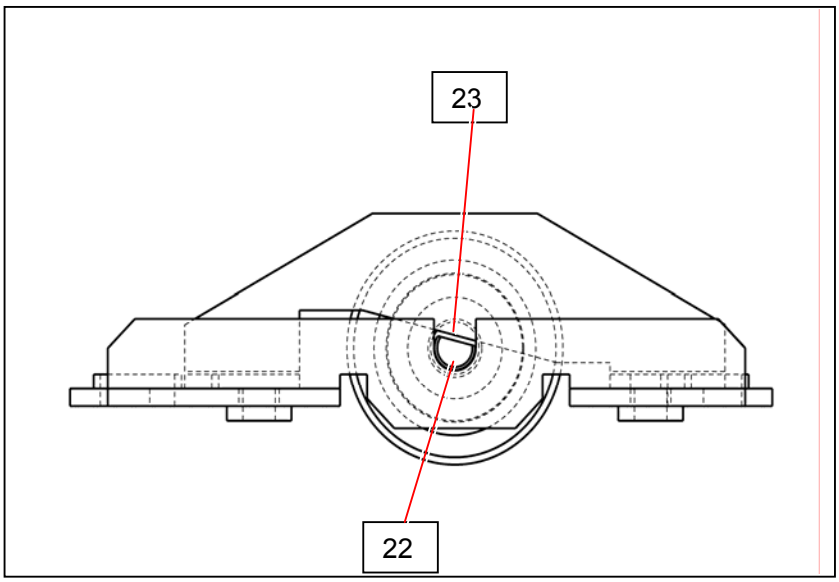
13. Remove 4 screws (20), and replace the Gap Roller (21) with the new one.



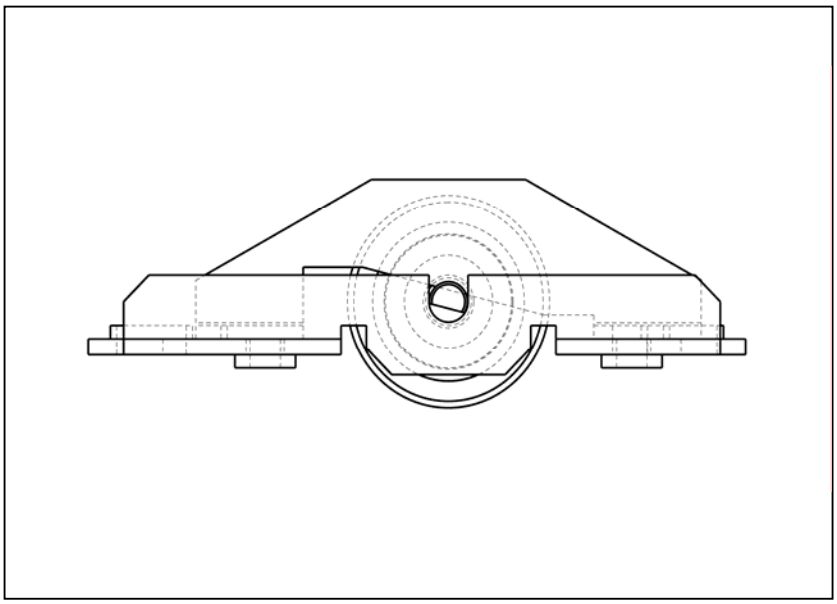
NOTE

Gap Roller's shaft (22) is shaped like "D", and its flat face should be aligned with the sloping edge (23) of the bracket as the following "Correct" case.

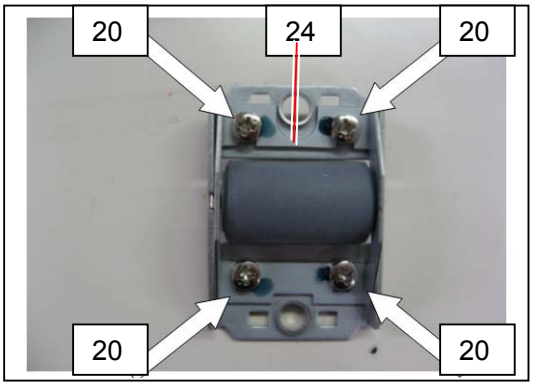
(Correct)



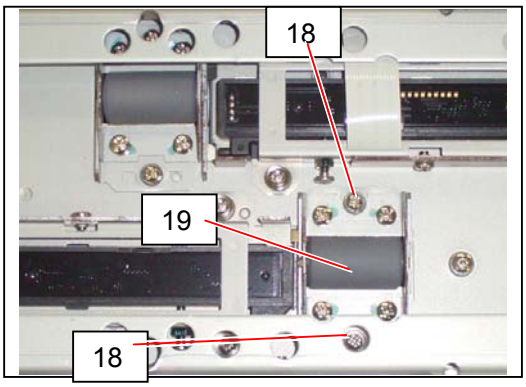
(Wrong: Flat face and sloping edge are not aligned with each other.)



14. Turn 4 screws (20) lightly just to hold the Inside Bracket (24) temporarily.
(Inside Bracket (24) must be slid to front and rear by hand.)

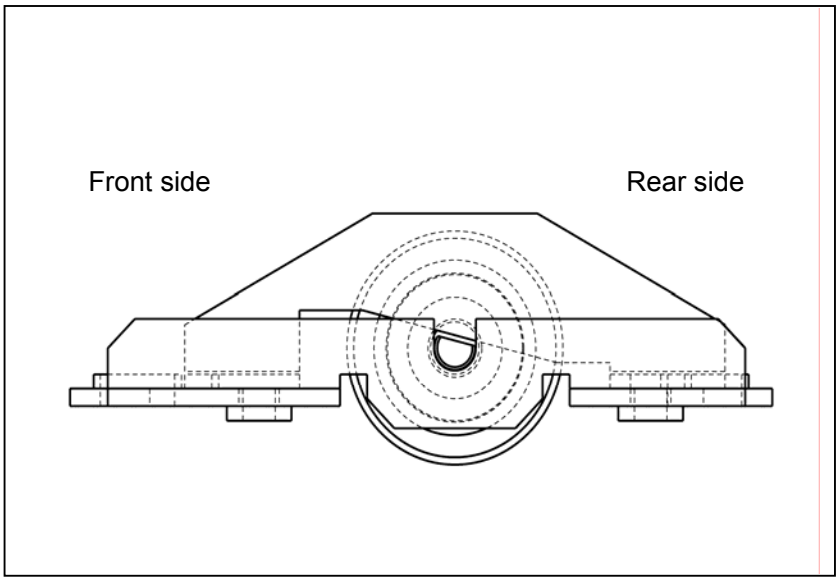


15. Install the Gap Roller Assembly (19) to the scanner unit with 2 screws (18).
(Turn these screws tightly.)



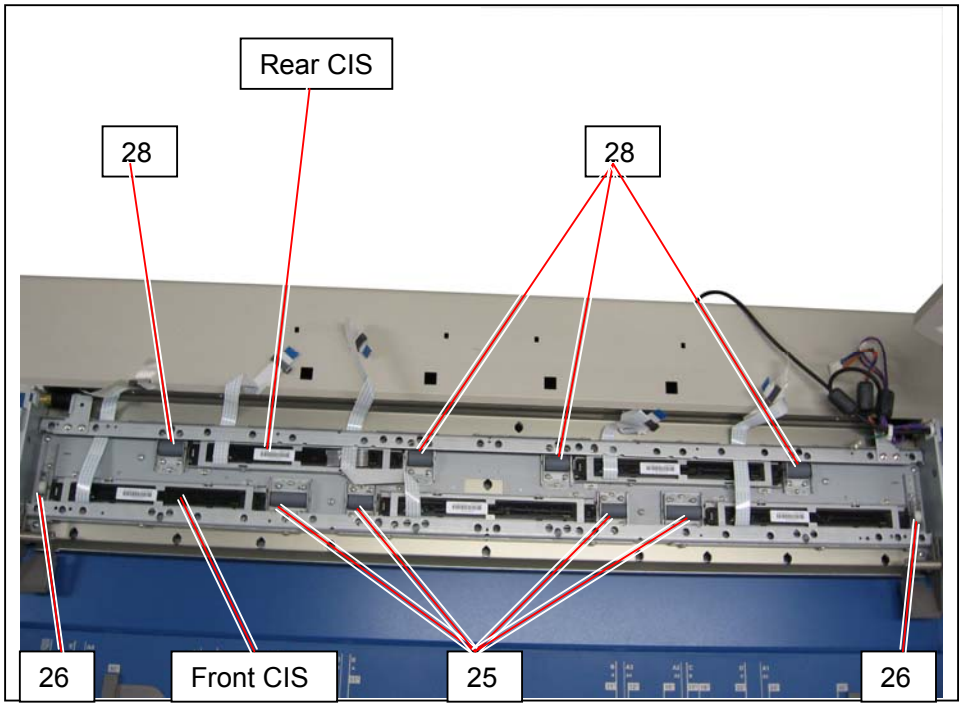
NOTE

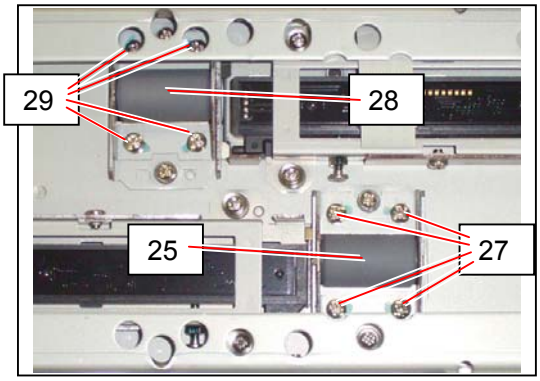
Be careful of the direction of Gap Roller Assembly (19).

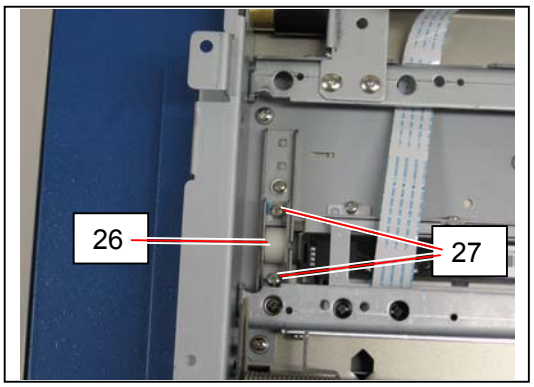


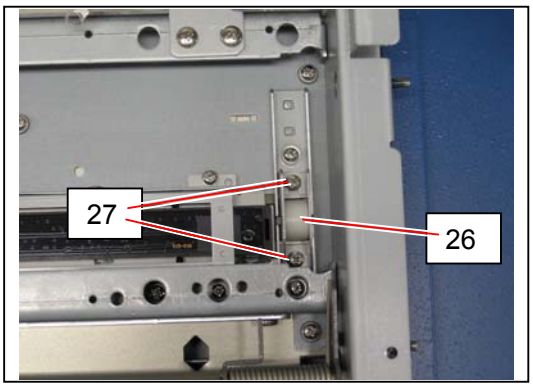
16. 4 Gap Roller Assemblies (25) and 2 POM Roller Assemblies (26) belong to 3 front CIS.
If you replaced any of these 4 Gap Roller Assemblies (25) on the front, you must adjust the rest of 3 Gap Roller Assemblies (25) and 2 POM Roller Assemblies (26).
Therefore loosen the screws (27) of all these assemblies.
(Do not loosen screws so much. Just holding the Inside Bracket temporarily is enough.)

And 4 Gap Roller Assemblies (28) belong to 2 rear CIS.
If you replaced any of these 4 Gap Roller Assemblies (28) on the front, you must adjust the rest of 3 Gap Roller Assemblies (28).
Similarly loosen the screws (29) of all other assemblies.





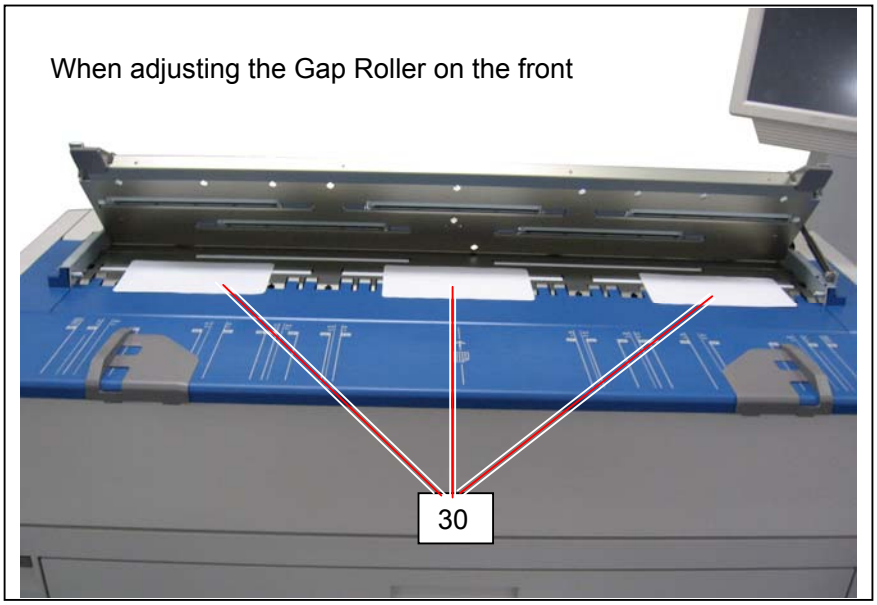




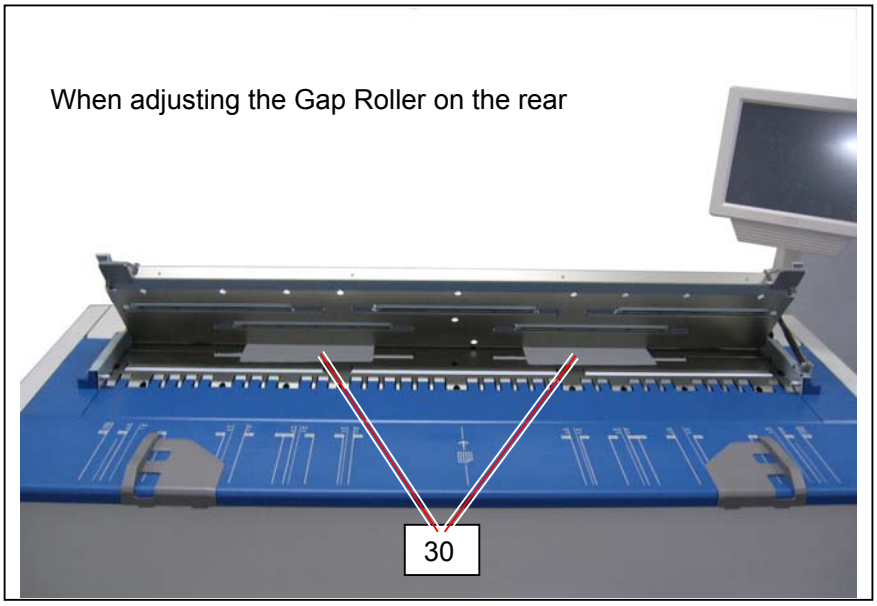
17. Open the scanner upper unit.

18. Put 3 pieces (for the front) or 2 pieces (for the rear) of Adjustment Plastic Sheet (30: 0.3mm thick) between Feed Roller and Scan Glass.

When adjusting the Gap Roller on the front



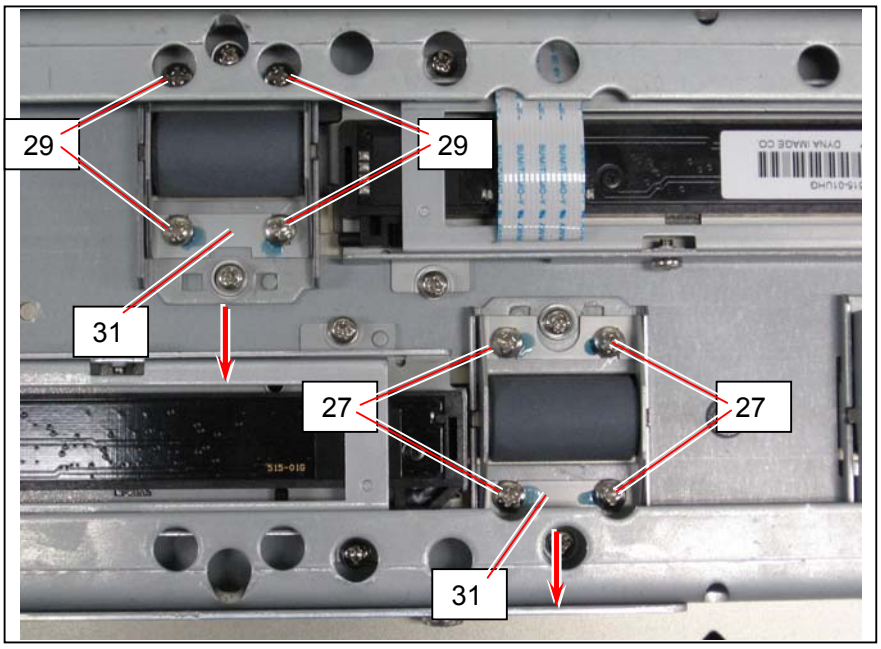
When adjusting the Gap Roller on the rear



NOTE

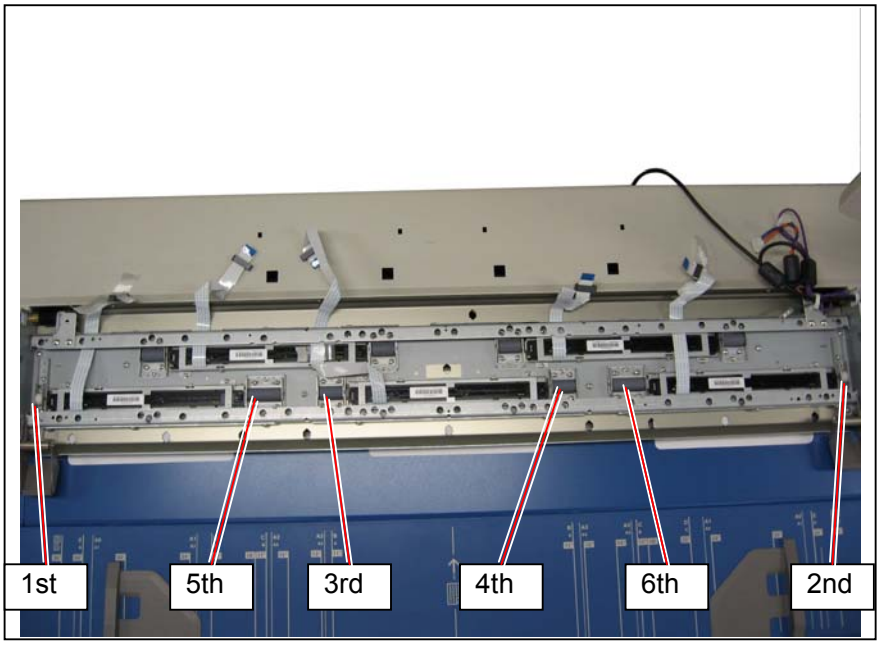
Do not put the Adjustment Plastic Sheet (30) under the Gap Roller!

19. Slide the Inside Bracket (31) gently in the direction of arrow until it is stopped. When stopped, turn the screws (27) or (29) to fix the Inside Bracket (31).



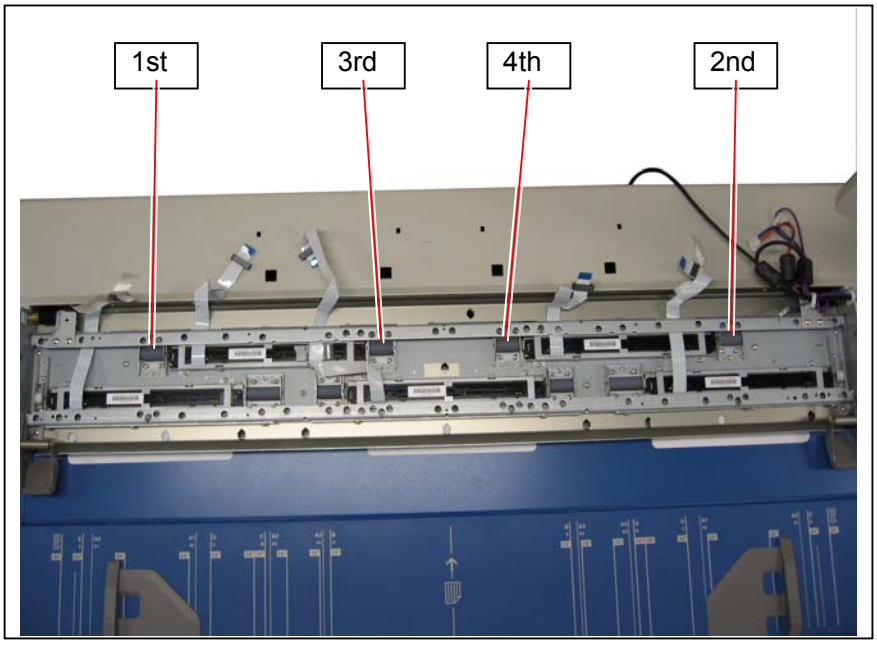
NOTE

(1) Fix the Inside Bracket of Gap Roller Assemblies and POM Roller Assemblies on the front side in the following order.

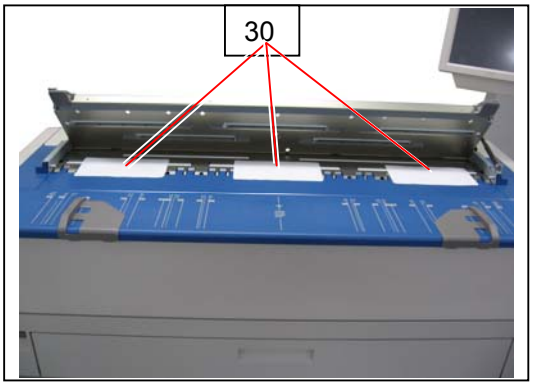


NOTE

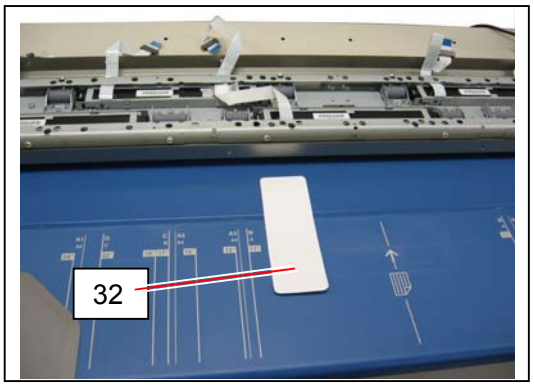
(2) Fix the Inside Bracket of Gap Roller Assemblies on the rear side in the following order.

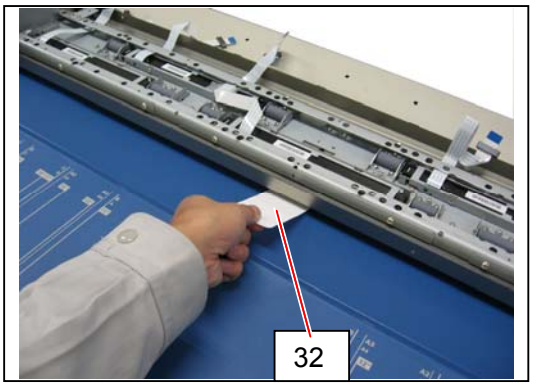


20. Open the scanner upper unit and remove Adjustment Plastic Sheets (30).
    Close the scanner upper unit.



21. Insert the Confirmation Plastic Sheet (32: 0.1mm thick) between Feed Roller and Scan Glass to check if the gap is correct at everywhere.
If not correct, repeat from the step 16.





22. Replace all the parts in position.

> **NOTE**
>
> Be sure to perform scanner adjustments (Shading, Calibration (if supported), Feed Distance and Position) after replacing Gap Rollers.
> See [8.12 Scanner Utility] on page 8-172 for adjustment.

Chapter 6

Maintenance

KIP 3000 PM Schedule

r2

-Please keep this form with the KIP 3000 ; Please perform PMs as scheduled

-As the PM comes due and items replaced or cleaned, please denote with an "X" in the Confirmation box. Please note nomenclature below.

Part / Description	Qty	Part Number	Square Feet X 1000																			
			Code	40	Complete	80	Complete	120	Complete	160	Complete	200	Complete	240	Complete	280	Complete	320	Complete	360	Complete	400	Complete
Document Glass (scanner)			#	C		C		C		C		C		C		C		C		C		C	
Document Rollers (scanner)			#			C				C				C				C				C	
Photoreceptor	1	SUP3000-101																R					
Main Charge Wire	1	SUP9810-104	#	C		C		C		R		C		C		C		R		C		C	
Transfer Wire	1	SUP3820-106	#	C		C		C		R		C		C		C		R		C		C	
Separation Wire	1	SUP3000-106	#	C		C		C		R		C		C		C		R		C		C	
Grid Screen			#			C				C				C				C				C	
LED Head			#	C		C		C		C		C		C		C		C		C		C	
Developer Space Discs			#			C				C				C				C				C	
Developer Roller - Kit	1	Z050980020								C								R					
Supply Roller - Kit	1	Z050980030								R								R					
Roll Compartment & Interior			@	C		C		C		C		C		C		C		C		C		C	
Knife			@							C								C					
Filters - Kit	1	Z050980050	@	C		C		C		C		C		C		C		R		C		C	
Fuser - Kit	1	Z050980060								C								R					
Fuser Fingers				C		C		C		C		C		C		C				C		C	
Pressure Roller										C								C					
Thermostat										C								C					
Thermistor										C								C					
Exterior Covers / GUI			#	C		C		C		C		C		C		C		C		C		C	

# = Clean with glass cleaner and wipe dry	C = Clean	R = Replace	L = Lubricate
@ = Clean with vacuum	I = Inspect	A = Adjust position	

Subject to change without notice

KIP 3000 PM Schedule

r2

-Please keep this form with the KIP 3000 ; Please perform PMs as scheduled

-As the PM comes due and items replaced or cleaned, please denote with an "X" in the Confirmation box. Please note nomenclature below.

Part / Description	Qty	Part Number	Square Feet X 1000																			
			Code	440	Complete	480	Complete	520	Complete	560	Complete	600	Complete	640	Complete	680	Complete	720	Complete	760	Complete	800	Complete
Document Glass (scanner)			#	C		C		C		C		C		C		C		C		C		C	
Document Rollers (scanner)			#			C				C				C				C				C	
Photoreceptor	1	SUP3000-101												R									
Main Charge Wire	1	SUP9810-104	#	C		R		C		C		C		R		C		C		C		R	
Transfer Wire	1	SUP3820-106	#	C		R		C		C		C		R		C		C		C		R	
Separation Wire	1	SUP3000-106	#	C		R		C		C		C		R		C		C		C		R	
Grid Screen			#			C				C				C				C				C	
LED Head			#	C		C		C		C		C		C		C		C		C		C	
Developer Space Discs			#			C				C				C				C				C	
Developer Roller - Kit	1	Z050980020				C								R								C	
Supply Roller - Kit	1	Z050980030				R								R								R	
Roll Compartment & Interior			@	C		C		C		C		C		C		C		C		C		C	
Knife			@			C								C								C	
FilterS - Kit	1	Z050980050	@	C		C		C		C		C		R		C		C		C		C	
Fuser - Kit	1	Z050980060				C								R								C	
Fuser Fingers				C		C		C		C		C				C		C		C		C	
Pressure Roller						C								C								C	
Thermostat						C								C								C	
Thermistor						C								C								C	
Exterior Covers / GUI			#	C		C		C		C		C		C		C		C		C		C	

# = Clean with glass cleaner and wipe dry	C = Clean	R = Replace	L = Lubricate
@ = Clean with vacuum	I = Inspect	A = Adjust position	

Subject to change without notice

KIP 3000 Plus - PM Schedule - SN 10510000 and higher

r1

-Please keep this form with the KIP 3000 ; Please perform PMs as scheduled

-As the PM comes due and items replaced or cleaned, please denote with an "X" in the Confirmation box. Please note nomenclature below.

Part / Description	Qty	Part Number	Square Feet X 1000																			
			Code	40	Complete	80	Complete	120	Complete	160	Complete	200	Complete	240	Complete	280	Complete	320	Complete	360	Complete	400	Complete
Document Glass (scanner)			#	C		C		C		C		C		C		C		C		C		C	
Document Rollers (scanner)			#			C				C				C				C				C	
Photoreceptor	1	SUP3000-101																R					
Main Charge Wire	1	SUP9810-104	#	C		C		C		R		C		C		C		R		C		C	
Transfer Wire	1	SUP3820-106	#	C		C		C		R		C		C		C		R		C		C	
Separation Wire	1	SUP3820-106	#	C		C		C		R		C		C		C		R		C		C	
Grid Screen			#			C				C				C				C				C	
LED Head			#	C		C		C		C		C		C		C		C		C		C	
Developer Space Discs			#			C				C				C				C				C	
Developer Roller - Kit	1	Z050980280										R										R	
Roll Compartment & Interior			@	C		C		C		C		C		C		C		C		C		C	
Knife			@							C								C					
Filters - Kit	1	Z050980050	@	C		C		C		C		C		C		C		R		C		C	
Fuser - Kit	1	Z050980060								C								R					
Fuser Fingers				C		C		C		C		C		C		C				C		C	
Pressure Roller										C								C					
Thermostat										C								C					
Thermistor										C								C					
Exterior Covers / GUI			#	C		C		C		C		C		C		C		C		C		C	

# = Clean with glass cleaner and wipe dry	C = Clean	R = Replace	L = Lubricate
@ = Clean with vacuum	I = Inspect	A = Adjust position	

Subject to change without notice

KIP 3000 Plus - PM Schedule - SN 10510000 and higher

r1

-Please keep this form with the KIP 3000 ; Please perform PMs as scheduled

-As the PM comes due and items replaced or cleaned, please denote with an "X" in the Confirmation box. Please note nomenclature below.

Part / Description	Qty	Part Number	Square Feet X 1000																			
			Code	440	Complete	480	Complete	520	Complete	560	Complete	600	Complete	640	Complete	680	Complete	720	Complete	760	Complete	800	Complete
Document Glass (scanner)			#	C		C		C		C		C		C		C		C		C		C	
Document Rollers (scanner)			#			C				C				C				C				C	
Photoreceptor	1	SUP3000-101												R									
Main Charge Wire	1	SUP9810-104	#	C		R		C		C		C		R		C		C		C		R	
Transfer Wire	1	SUP3820-106	#	C		R		C		C		C		R		C		C		C		R	
Separation Wire	1	SUP3820-106	#	C		R		C		C		C		R		C		C		C		R	
Grid Screen			#			C				C				C				C				C	
LED Head			#	C		C		C		C		C		C		C		C		C		C	
Developer Space Discs			#			C				C				C				C				C	
Developer Roller - Kit	1	Z050980280				C						R										R	
Roll Compartment & Interior			@	C		C		C		C		C		C		C		C		C		C	
Knife			@			C								C								C	
FilterS - Kit	1	Z050980050	@	C		C		C		C		C		R		C		C		C		C	
Fuser - Kit	1	Z050980060				C								R								C	
Fuser Fingers				C		C		C		C		C				C		C		C		C	
Pressure Roller						C								C								C	
Thermostat						C								C								C	
Thermistor						C								C								C	
Exterior Covers / GUI			#	C		C		C		C		C		C		C		C		C		C	

# = Clean with glass cleaner and wipe dry	C = Clean	R = Replace	L = Lubricate
@ = Clean with vacuum	I = Inspect	A = Adjust position	

Subject to change without notice

6. 3 Service Kit

The following service kits are assigned taking the serviceability into consideration.

Kit Name (Part Number)	Contained Parts	Quantity	Remarks
Start Up Kit (Z050980010)	Toner Cartridge Kit	1	during installation
	Starting Toner (500g)	1	
Developer Maintenance Kit E (Z050980280)	Roller Developer	1	Developer Unit: Brush Type (after S/N 10510001)
	Sheet 3	2	
	Sheet 4	2	
	Seal 1	2	
	Seal 3	2	
	Seal 4	2	
	Scraper	1	
	Roller Supply	1	
	Sheet 5	2	
	Sheet 6	2	
Developer Seal Kit B (Z050980160)	Sheet 3	2	
	Sheet 4	2	
	Seal 1	2	
	Seal 3	2	
	Seal 4	2	
	Sheet 5	2	
	Sheet 6	2	
Developer Roller Kit (Z050980020)	Roller Developer	1	Developer Unit: Sponge Type (before S/N 10510001)
	Sheet 3	2	
	Sheet 4	2	
	Seal L Assy	1	
	Seal R Assy	1	
	Scraper	1	
Supply Roller Kit (Z050980030)	Roller Supply	1	
	Sheet 5	2	
	Sheet 6	2	
Developer Seal Kit (Z050980070)	Sheet 3	2	
	Sheet 4	2	
	Seal L Assy	1	
	Seal R Assy	1	
	Sheet 5	2	
	Sheet 6	2	
Corona Wire Kit (Z050980040)	Corona Wire 1 Assy	1	
	Corona Wire	2	
Filter Kit (Z050980050)	Filter	1	
	Filter 2	2	
Fuser Maintenance Kit (Z050980060)	Roller Fusing	1	
	Bush	2	
	Nail Stripping	13	
	Nail Lower	6	
Toner Cartridge Kit (Z050970010)	Toner Cartridge (300g)	2	
Photoconductive Drum (Z054700010)	Photoconductive Drum	1	

KIP 3000 Preventative Maintenance
Procedure every 40,000 square feet

Step #1 - Prepare Machine.

- ❑ Ask User on Printer Performance / Image Quality
- ❑ Run Test Print
- ❑ Locate the “KIP 3000 PM Schedule” Form
  And check as each item completed.
  Replace noted items as this procedure progresses.
- ❑ Remove Drum (into Box)
- ❑ Remove side and top covers.

Step #2 - Corona Units

- ❑ Clean Grid Screen (Simple Green, then rinse with water) let dry on paper towel.
- ❑ Clean 1st Charge wires and case (Glass cleaner)
- ❑ Clean transfer / separation wires and case. (Glass cleaner)

Step #3 - LED Print Head.

- ❑ Clean Selfoc lens. (Glass cleaner.)

Step #4 - Clean Interior of Printer.

- ❑ Separation fans / air guides.
- ❑ Transport belts.
- ❑ Transfer guide plates etc.

Step #5 - Development Unit.

- ❑ Clean spacing rollers.
- ❑ Vacuum any toner dust from ends of developer unit.
- ❑ Vacuum around toner hopper inlet.
- ❑ Clean /` lube gears (only as needed with G501 grease / Lithium grease.)

Step #6 - Paper Decks.

- ❑ Vacuum paper dust.
- ❑ Inspect media spools.

Step #7 - Air Flow.

- ❑ Vacuum Ozone Filters.
- ❑ Confirm all fans and blowers are clean.

Step #8 - Fuser Section.

- ❑ Clean upper Nails.
- ❑ Clean lower Nails.
- ❑ Clean and lube gears. (as needed with High temp. grease)

Step #9 - Cutter Assembly.

- ❑ Clean paper dust.

Step #10 Run test pattern #1 and #3 and verify print quality. (save prints)

Step #11 Scanner

- ❑ Clean all glass
- ❑ Clean original rollers

Step #12 Clean Panels and Covers.

Step #13 Make copies

Step #14 Speak with key operator on your evaluation / status.

Chapter 7

Troubleshooting

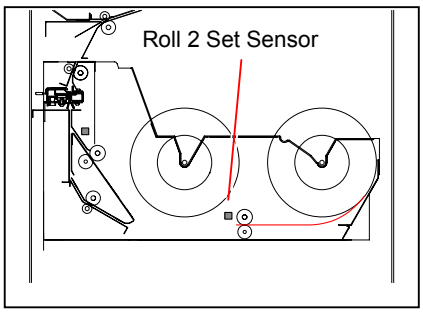
7. 1 Troubleshooting - Printer Errors

7. 1. 1 Countermeasures - Call Operator Errors

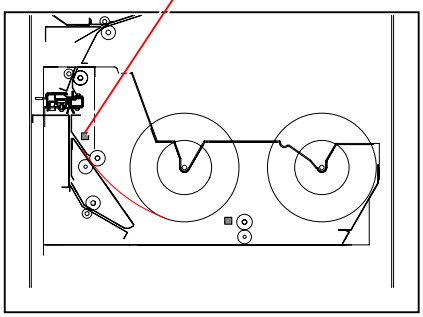
7. 1. 1. 1 Roll 2 Feeding Jam “Delay” (J-0101)

Reference

Delay : Paper arrives the sensor much later than required timing.
Stay : Paper exists on the sensor for longer time than required.
Early : Paper arrives the sensor much earlier than required timing.
Remained : Paper has already existed on the sensor when turning on the machine.

Cause	Checking order	Checking	Result	Treatment
Installation of roll paper	1	Is the roll paper correctly installed to the Roll Deck 2?	No	Install it correctly.
Roll 2 Set Sensor (PH9)	2	Check the status of Roll 2 Set Sensor in the Device Status Mode of the Service Mode. Signal Code : 090 (Roll 2 Set Sensor) Is the status “H” when the roll paper is set? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Is there any problem with the Drawer Connector which connects the machine and the Roll Deck. 2. Check if there is any problem with the wire connected to the Roll 2 Set Sensor. 3. Replace the Roll 2 Set Sensor if there is no problem with the wire.
Roll 2 Feed Clutch (CL6)	3	Check the operation of Roll 2 Feed Clutch in the Device Operation Mode of the Service Mode. Signal Code : 08 (Roll 2 Feed Clutch) Does the clutch operate when you change the output signal from “L” to “H”? (Refer to the page 8-16 as for the Device Operation Mode.)	No	1. Check if there is any problem with the wire connected to the Roll 2 Feed Clutch. 2. Replace the Roll 2 Feed Clutch if there is no problem with the wire.
Main Motor (M1)	4	Check the status of Roll 2 Set Sensor in the Device Status Mode of the Service Mode while making the following operation. (Signal Code : 090) 1. Set the leading edge of roll 2 between feeding rollers. (Leading edge must not pass over the Roll 2 Set Sensor.) 2. Close the Roll Deck. Does the status change from “L” to “H” when the machine is transporting the paper? 	No	1. Check the driving belts of the Roll Deck. 2. Check if there is any problem with the wire connected to the Main Motor. 3. Replace the Main Motor if there is no problem with the wire.
			Yes	1. Remove the whole Roll Deck, and then re-install it to the machine correctly.

7. 1. 1. 2 Roll 1 Feeding Jam “Delay” (J-0102)

Cause	Checking order	Checking	Result	Treatment
Installation of roll paper	1	Is the roll paper correctly installed to the Roll Deck 2?	No	Install it correctly.
Roll 1 Set Sensor (PH7)	2	Check the status of Roll 1 Set Sensor in the Device Status Mode of the Service Mode. Signal Code : 089 (Roll 1 Set Sensor) Is the status “H” when the roll paper is set? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Is there any problem with the Drawer Connector which connects the machine and the Roll Deck. 2. Check if there is any problem with the wire connected to the Roll 1 Set Sensor. 3. Replace the Roll 1 Set Sensor if there is no problem with the wire.
Roll 1 Feed Clutch (CL4)	3	Check the operation of Roll 1 Feed Clutch in the Device Operation Mode of the Service Mode. Signal Code : 06 (Roll 1 Feed Clutch) Does the clutch operate when you change the output signal from “L” to “H”? (Refer to the page 8-16 as for the Device Operation Mode.)	No	1. Check if there is any problem with the wire connected to the Roll 1 Feed Clutch. 2. Replace the Roll 1 Feed Clutch if there is no problem with the wire.
Main Motor (M1)	4	Check the status of Roll 1 Set Sensor in the Device Status Mode of the Service Mode while making the following operation. (Signal Code : 089) 1. Set the leading edge of roll 1 between feeding rollers. (Leading edge must not pass over the Roll 1 Set Sensor.) 2. Close the Roll Deck. Does the status change from “L” to “H” when the machine is transporting the paper? Roll 1 Set Sensor 	No	1. Check the driving belts of the Roll Deck. 2. Check if there is any problem with the wire connected to the Main Motor. 3. Replace the Main Motor if there is no problem with the wire.
			Yes	1. Remove the whole Roll Deck, and then re-install it to the machine correctly.

7. 1. 1. 3 Feeding Jam “Delay” (J-0103) & “Early” (L-0303)

Cause	Checking order	Checking	Result	Treatment
Mis-feed of paper	1	Does the paper mis-fed occur between Roll 1 Set Sensor and Feed Sensor?	Yes	Remove the mis-fed paper.
Feed Sensor (PH6)	2	Check the status of Feed Sensor in the Device Status Mode of the Service Mode. Signal Code : 092 (Feed Sensor) Is the status “L” when the paper is not passing beside the sensor? And is it “H” when the paper is passing beside the sensor? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Is there any problem with the Drawer Connector which connects the machine and the Roll Deck. 2. Check if there is any problem with the wire connected to the Feed Sensor. 3. Replace the Feed Sensor if there is no problem with the wire.
Cutter Home Position Sensor (MS6 & MS7)	3	Check the status of Cutter Home Position Sensors in the Device Status Mode of the Service Mode. Signal Code 078 (Cutter Home Position Sensor Right) 079 (Cutter Home Position Sensor Left) Is the status “H” when the Cutter is at each home position? And is it “L” when the Cutter is not at the home position? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Cutter Home Position Sensor. 2. Replace the Cutter Home Position Sensors if there is no problem with the wire.
Driving mechanism	4	Check the operation of Feed Clutch in the Device Operation Mode of the Service Mode. Signal Code : 10 (Feed Clutch) Also open and close the Roll Deck, and check if the Main Motor rotates correctly. Does each Feed Clutch and Main Motor operate correctly? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Feed Clutch or Main Motor if it is defective.

7. 1. 1. 4 Reg. Jam “Delay” (J-0104), “Stay” (J-0204) “Early” (J-0304), “Remained” (J-1004)

Cause	Checking order	Checking	Result	Treatment
Mis-feed of paper	1	Does the paper mis-fed occur around the Registration Roller?	Yes	Remove the mis-fed paper.
Registration Sensor (PH1)	2	Check the status of Registration Sensor in the Device Status Mode of the Service Mode. Signal Code : 084 (Registration Sensor) Is the status “L” when the paper is not passing beside the sensor? And is it “H” when the paper is passing beside the sensor? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Registration Sensor. 2. Replace the Registration Sensor if there is no problem with the wire.
Engine Unit	3	Is the Engine Unit closed firmly until it is locked? (Is the pressure around the Registration Roller correct?)	No	1. Close the Engine Unit firmly. 2. Adjust the pressure around the Registration Roller.
Driving mechanism	4	Check the operation of Registration Clutch in the Device Operation Mode of the Service Mode. Signal Code : 11 (Registration Clutch) Also open and close the Roll Deck, and check if the Main Motor rotates correctly. Does each Registration Clutch and Main Motor operate correctly? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Registration Clutch or Main Motor if it is defective.

7. 1. 1. 5 Internal Jam “Delay” (J-0106), “Stay” (J-0206) “Early” (J-0306), “Remained” (J-1006)

Cause	Checking order	Checking	Result	Treatment
Mis-feed of paper	1	Does the paper mis-fed occur around the separation area?	Yes	Remove the mis-fed paper.
Separation Sensor (PH2)	2	Check the status of Separation Sensor in the Device Status Mode of the Service Mode. Signal Code : 010 (Separation Sensor) Is the status “L” when the paper is not passing beside the sensor? And is it “H” when the paper is passing beside the sensor? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Separation Sensor. 2. Replace the Separation Sensor if there is no problem with the wire.
Transfer / Separation Corona	3	Is the Transfer / Separation Corona Unit installed to the machine correctly?	Yes	Install the Transfer / Separation Corona Unit correctly.
		Is the Corona Wire broken?	Yes	Replace the Corona Wire.
HV Power Supply	4	Is the output from the HV Power Supply to the Separation Corona correct?	No	Replace the HV Power Supply.

7. 1. 1. 6 Fuser Jam “Delay” (J-0107), “Stay” (J-0207) “Early” (J-0307), “Remained” (J-1007)

Cause	Checking order	Checking	Result	Treatment
Mis-feed of paper	1	Does the paper mis-fed occur around the fuser area?	Yes	Remove the mis-fed paper.
Exit Sensor (PH3)	2	Check the status of Exit Sensor in the Device Status Mode of the Service Mode. Signal Code : 011 (Exit Sensor) Is the status “L” when the paper is not passing beside the sensor? And is it “H” when the paper is passing beside the sensor? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Exit Sensor. 2. Replace the Exit Sensor if there is no problem with the wire.

7. 1. 1. 7 Paper jam by opening the Roll Deck during printing (J-1100)

Cause	Checking order	Checking	Result	Treatment
Opening the Roll Deck	1	Did you open the Roll Deck before the completion of printing? (Roll paper will be rewound after printing. J-1100 will be indicated if you open the deck at that time.)	Yes	Wait until the roll paper is completely rewound.
Lock of Roll Deck	2	Is the Roll Deck firmly locked?	No	Close it firmly.

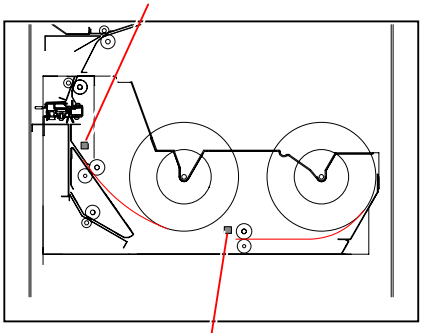
7. 1. 1. 8 Paper jam by opening the Exit Cover during printing (J-1200)

Cause	Checking order	Checking	Result	Treatment
Opening the Exit Cover	1	Did you open the Exit Cover during printing?	Yes	Do not open it during printing.

7. 1. 1. 9 Deck Open

Cause	Checking order	Checking	Result	Treatment
Roll Deck	1	Is the Roll Deck opened?	Yes	Close it firmly.
Switch (MS5)	2	Check the status of the following signal in the Device Status Mode of the Service Mode. Signal Code : 009 (Roll Deck Open Signal) Is the status “L” when the Roll Deck is closed? And is it “H” when the Roll Deck is opened? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Switch (MS5). 2. Replace the Switch (MS5) if there is no problem with the wire.

7. 1. 1.10 Deck Jam

Cause	Checking order	Checking	Result	Treatment
Mis-feed of paper	1	Does the paper mis-fed occur in the Roll Deck?	Yes	Remove the mis-fed paper.
Installation of roll paper	2	Is the roll paper correctly installed to the Roll Deck 2?	No	Install it correctly.
Roll 1 Set Sensor (PH7) Roll 2 Set Sensor (PH9)	3	Check the status of Roll 1 Set Sensor and Roll 2 Set Sensor in the Device Status Mode of the Service Mode. Signal Code : 089 (Roll 1 Set Sensor) 090 (Roll 2 Set Sensor) Is the status of each sensor “H” when you set the roll paper? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Is there any problem with the Drawer Connector which connects the machine and the Roll Deck. 2. Check if there is any problem with the wire connected to each sensor. 3. Replace the concerning sensor if there is no problem with the wire.
Roll 1 Feed Clutch (CL4) Roll 2 Feed Clutch (CL6) Roll 1 Back Clutch (CL5) Roll 2 Back Clutch (CL7)	4	Check the operation of the following clutches in the Device Operation Mode of the Service Mode. Signal Code 06 (Roll 1 Feed Clutch) 07 (Roll 1 Back Clutch) 08 (Roll 2 Feed Clutch) 09 (Roll 2 Back Clutch) Does each clutch operate correctly? (Refer to the page 8-16 as for the Device Operation Mode.)	No	1. Check if there is any problem with the wire connected to each clutch. 2. Replace the concerning clutch if there is no problem with the wire.
Main Motor (M1)	5	Check the status of Roll 1 Set Sensor and Roll 2 Set Sensor in the Device Status Mode of the Service Mode while making the following operation. Signal Code : 089 (Roll 1 Set Sensor) 090 (Roll 2 Set Sensor) 1. Set the leading edge of each roll paper between the concerning feeding rollers. (Leading edge must not pass over each Roll 1 (2) Set Sensor.) 2. Close the Roll Deck. Does the status change from “L” to “H” when the machine is transporting the paper? Roll 1 Set Sensor  Roll 2 Set Sensor	No	1. Check the driving belts of the Roll Deck. 2. Check if there is any problem with the wire connected to the Main Motor. 3. Replace the Main Motor if there is no problem with the wire.
			Yes	1. Remove the whole Roll Deck, and then re-install it to the machine correctly.

7. 1. 1.11 Manual Set NG

Cause	Checking order	Checking	Result	Treatment
Mis-feed	1	Have you already set the cut sheet paper to the Bypass Feeder before you turned on the machine?	Yes	Remove the paper.
Manual Set Sensor	2	Check the status of Manual Feed Sensor in the Device Status Mode of the Service Mode. Signal Code : 008 (Manual Set Sensor) Is the status “L” when the paper is not passing beside the sensor? And is it “H” when the paper is passing beside the sensor? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Manual Set Sensor. 2. Replace the Manual Set Sensor if there is no problem with the wire.
Registration Sensor	3	Check the status of Registration Sensor in the Device Status Mode of the Service Mode. Signal Code : 084 (Registration Sensor) Is the status “L” when the paper is not passing beside the sensor? And is it “H” when the paper is passing beside the sensor? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Registration Sensor. 2. Replace the Registration Sensor if there is no problem with the wire.
Engine Unit	4	Is the Engine Unit closed firmly until it is locked? (Is the pressure around the Registration Roller correct?)	No	1. Close the Engine Unit firmly. 2. Adjust the pressure around the Registration Roller.
Driving mechanism	5	Check the operation of Registration Clutch in the Device Operation Mode of the Service Mode. Signal Code : 11 (Registration Clutch) Also open and close the Roll Deck, and check if the Main Motor rotates correctly. Does each Registration Clutch and Main Motor operate correctly? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Registration Clutch or Main Motor if it is defective.

7. 1. 1.12 Toner Empty

Cause	Checking order	Checking	Result	Treatment
Toner Cartridge	1	Is there enough toner in the Toner Cartridge?	No	Replace the Toner Cartridge.
Toner Supply Motor (M3)	2	Check the operation of Toner Supply Motor by the following 2 ways. 1. Turn on the machine, and check the action of Toner Supply Motor at that time. 2. Select the Factory Adjustment Mode, and carry out the Sub Mode No.05. Press the [*] Key when the machine is operating. (The Toner Supply Motor rotates when you are pressing the [*] Key.) Does the Toner Supply Motor operate correctly in both cases? (Refer to the page 8-141 as for the Factory Adjustment Mode.)	No	1. Check if there is any problem with the wires among Toner Supply Motor, Driver PCB B and PW10520 PCB. 2. Replace the Toner Supply Motor if there is no problem with the wire.
Toner Sensor (TLS1)	3	Confirm that the Toner Sensor is not buried in the toner. Then check the status of Toner Sensor in the Input/Output Mode of the Service Mode. Signal Code : 091 (Toner Sensor) Is the status “H” when the Toner Sensor is covered with the toner? And is it “L” when the sensor is not covered? (Refer to the page 8-9 as for the Device Status Mode.)	No Yes	Replace the Toner Sensor. Replace the PW10520 PCB.

7. 1. 1.13 The door opened during the print

Cause	Checking order	Checking	Result	Treatment
Mis-feed of paper	1	Is there a paper anywhere in the machine?	Yes	Open the Exit Cover and the Engine Unit, and then remove the paper. (Cut the paper manually if it has not been cut yet.)
Switch (MS5)	2	Check the status of the following signal in the Device Status Mode of the Service Mode. Signal Code : 009 (Roll Deck Open Signal) Is the status “L” when the Roll Deck is closed? And is it “H” when the Roll Deck is opened? (Refer to the page 8-9 as for the Device Status Mode.)	No	1. Check if there is any problem with the wire connected to the Switch (MS5). 2. Replace the Switch (MS5) if there is no problem with the wire.

7. 1. 2 Countermeasures - Call Service Errors

The followings are the names of Service Call Errors and the conditions that those errors occur.

Error Code	Error Indication	Conditions
E-000	Fuser Temperature Rising Error	The temperature of Fuser does not rise up to 50°C.
E-001	Fuser Over Temperature Error	The temperature of fuser rises over 230°C.
E-002	Fuser Low Temperature Error	1. The temperature of fuser at the time of turning on was 50 to 100°C, but it does not rise up to 100°C within 80 seconds after that. 2. The temperature of fuser at the time of turning on was higher than 100°C, but it does not rise up to the setting temperature within 150 seconds after that.
E-003	Fuser Temperature Abnormal Fall Error	The difference of temperature between center and side of fuser becomes 50°C or more.
E-004	Fuser Temperature Abnormal Fall Error	The Lamp of fuser lights (Signal HEAT1 is “H”) to heat up the Fuser Roller in the ready condition, but even 1°C of temperature rise can not be accomplished within 15 seconds.
E-010	Main Motor Error	The Main Motor Output Detection Signal (MAINM_LD) continues to be “H” for 3 seconds or longer when the Main Motor is rotating.
E-011	Fuser Motor Error	The Fuser Motor Output Detection Signal (HEATM_LD) continues to be “H” for 3 seconds or longer when the Fuser Motor is rotating.
E-012	Developer Press Motor Error	The Developer Press Sensor Signal (PRESS_S) does not change to “L” within 30 seconds after turning on.
E-020	Counter Error	The Counter Connection Detection Signal (COUNT_OPN) continues to be “L” for 1 second or longer after turning on.
E-031	Image Corona Output Error	The Image Corona Output Detection Signal (IM_LD) continues to be “L” for 1 second or longer when the Image Corona is ON.
E-032	Separation Corona Output Error	The Separation Corona Output Detection Signal (AC_LD) continues to be “L” for 1 second or longer when the Separation Corona is ON.
E-033	Transfer Corona Output Error	The Transfer Corona Output Detection Signal (TR_LD) continues to be “L” for 1 second or longer when the Transfer Corona is ON.

Error Code	Error Indication	Conditions
E-034	Developer Bias Output Error	The Developer Bias Output Detection Signal (BIAS_LD) continues to be “L” for 1 second or longer when the Developer Bias is supplied to the Developer Unit.
E-040	Cutter Error	1. The Cutter Home Sensor Signal (MSCUT_L or MSCUT_R) does not change to “H” within 100 millisecond since the Cutter has started the operation. 2. The Cutter Home Sensor Signal (MSCUT_L or MSCUT_R) does not change to “L” within 1 second since the Cutter has started the operation.
E-050	FPGA Error	Initialization of FPGA is failed after turning on.
E-070	Developer Error	1. The Connector J-253 is not connected. 2. The Switch (MS4) is “open” condition, which detects open/close of Engine Unit or Toner Hatch.

7. 1. 2. 1 Fuser Error (E-000, E-002 & E-004)

E-000 : Fuser Temperature Rising Error
E-002 : Fuser Low Temperature Error
E-004 : Fuser Temperature Abnormal Fall Error

Cause	Checking order	Checking	Result	Treatment
Error clearance	1	Have you cleared the fuser error in the Error Clear Mode? (Refer to the page 8-145 as for the Error Clear Mode.)	Yes	Wait until the Fuser Unit is enough cooled down. Then select the Error Clear Mode and clear the concerning error.
Wires	2	Are wires among Lamp (H1), Solid State Relay (SSR1) and Thermistors (TH1 & TH2) connected properly?	No	Connect them properly.
Lamp (H1)	3	Unplug the machine, and then check the resistance of Lamp (H1) with the multi-meter. Is it 15 ohm or lower?	No	Replace the Lamp.
Thermistors (TH1 & TH2)	4	Select the Information Mode, and then check the temperature of fuser detected by Thermistors (TH1 & TH2). Item No. : 00 (Fuser temperature 1) 01 (Fuser temperature 2) Is each temperature normal? (Refer to the page 8-12 as for the Information Mode.)	No	Replace the concerning Thermistor.
DC Power Supply (DCP1) or Fuse	5	Confirm that the machine is turned on, and then check the voltage of the orange line (J220-4). Is it 24V?	No	Replace the DC Power Supply if there is no problem with the wires.
		Confirm that the machine is turned off, and then check whether or not each Fuse is broken. Is any Fuse broken?	Yes	Replace the Fuse.
Relay (RY1)	6	Select the Device Operation Mode, and then change the signal of the following signal to “H”. Signal Code : 22 (Fuser Relay) And check the resistance between the following points. Between RY1-2 and RY1-4 Between RY1-6 and RY1-8 Is the each resistance almost 0 ohm? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Relay.

Cause	Checking order	Checking	Result	Treatment
Solid State Relay (SSR1)	7	Select the Device Operation Mode, and then change the signal of the following signals to "H". Signal Code : 22 (Fuser Relay) 21 (Fuser Lamp 1) Then check the voltage between J105-1 and J105-2. Is it 0V? Refer to the page 8-16 as for the Device Operation Mode.) **CAUTION** **Change the signal of "21" (Fuser Lamp 1) to "L" after checking!**	Yes	Replace the Solid State Relay
			No	Replace the PW10520 PCB.

7. 1. 2. 2 Fuser Error (E-001)

Cause	Checking order	Checking	Result	Treatment
Error clearance	1	Have you cleared the fuser error in the Error Clear Mode? (Refer to the page 8-145 as for the Error Clear Mode.)	Yes	Wait until the Fuser Unit is enough cooled down. Then select the Error Clear Mode and clear the concerning error.
Wires	2	Are wires among Lamp (H1), Solid State Relay (SSR1) and Thermistors (TH1 & TH2) connected properly?	No	Connect them properly.
Solid State Relay (SSR1)	3	Does the error occur again even if you have cleared it in the Error Clear Mode?	Yes	Replace the Solid State Relay.
Thermistors (TH1 & TH2)	4	Select the Information Mode, and then check the temperature of fuser detected by Thermistors (TH1 & TH2). Item No. : 00 (Fuser temperature 1) 01 (Fuser temperature 2) Is each temperature normal? (Refer to the page 8-12 as for the Information Mode.)	No	Replace the concerning Thermistor.

7. 1. 2. 3 Fuser Error (E-003)

Cause	Checking order	Checking	Result	Treatment
Error clearance	1	Have you cleared the fuser error in the Error Clear Mode? (Refer to the page 8-145 as for the Error Clear Mode.)	Yes	Wait until the Fuser Unit is enough cooled down. Then select the Error Clear Mode and clear the concerning error.
Wires	2	Are wires among Lamp (H1), Solid State Relay (SSR1) and Thermistors (TH1 & TH2) connected properly?	No	Connect them properly.
Thermistors (TH1 & TH2)	3	Select the Information Mode, and then check the temperature of fuser detected by Thermistors (TH1 & TH2). Item No. : 00 (Fuser temperature 1) 01 (Fuser temperature 2) Is each temperature normal? (Refer to the page 8-12 as for the Information Mode.)	No	Replace the concerning Thermistor.

7. 1. 2. 4 Main Motor Error (E-010)

Cause	Checking order	Checking	Result	Treatment
Wires	1	Is the wire between Main Motor and PW10520 PCB connected properly?	No	Connect it properly.
DC Power Supply (DCP1) or Fuse	2	Confirm that the machine is turned on, and then check the voltage of the orange line (J220-4). Is it 24V?	No	Replace the DC Power Supply if there is no problem with the wires.
		Confirm that the machine is turned off, and then check whether or not each Fuse is broken. Is any Fuse broken?	Yes	Replace the Fuse.
Main Motor (M1)	3	Check the operation of Main Motor in the Device Operation Mode of the Service Mode. Signal Code : 00 (Main Motor) Does the Main Motor operate correctly? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Main Motor.

7. 1. 2. 5 Fuser Motor Error (E-011)

Cause	Checking order	Checking	Result	Treatment
Wires	1	Is the wire between Fuser Motor and PW10520 PCB connected properly?	No	Connect it properly.
DC Power Supply (DCP1) or Fuse	2	Confirm that the machine is turned on, and then check the voltage of the orange line (J220-4). Is it 24V?	No	Replace the DC Power Supply if there is no problem with the wires.
		Confirm that the machine is turned off, and then check whether or not each Fuse is broken. Is any Fuse broken?	Yes	Replace the Fuse.
Fuser Motor (M2)	3	Check the operation of Fuser Motor in the Device Operation Mode of the Service Mode. Signal Code : 01 (Fuser Motor) Does the Fuser Motor operate correctly? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Fuser Motor.

7. 1. 2. 6 Developer Press Motor Error (E-012)

Cause	Checking order	Checking	Result	Treatment
Wires	1	Are the wires among Developer Press Sensor (PH4), PW10520 PCB, Driver PCB B (PW6654) and Developer Press Motor (M4) connected properly?	No	Connect them properly.
Developer Press Motor (M4) Driver PCB B (PW6654)	2	Turn off the machine, and then turn it on again. Is the Developer Unit moved to the Drum side?	No	Replace the Developer Press Motor or Driver PCB B.
Developer Press Sensor (PH4)	3	Select the Signal Code “088” (Developer Press Sensor Signal) in the Device Status Mode, and then turn on the machine again. Does the status change from “H” to “L” after turning on? (Refer to the page 8-9 as for the Device Status Mode.)	No	Replace the Developer Press Sensor.

7. 1. 2. 7 Counter Error (E-020)

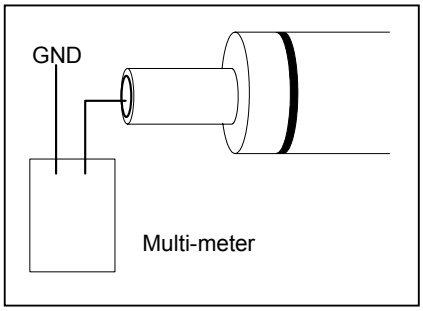
Cause	Checking order	Checking	Result	Treatment
Wires	1	Is the wire between Counter and PW10520 PCB connected properly?	No	Connect it properly.
DC Power Supply (DCP1) or Fuse	2	Confirm that the machine is turned on, and then check the voltage of the orange line (J220-5). Is it 24V?	No	Replace the DC Power Supply if there is no problem with the wires.
		Confirm that the machine is turned off, and then check whether or not each Fuse is broken. Is any Fuse broken?	Yes	Replace the Fuse.
Counter	3	Check the operation of Counter in the Device Operation Mode of the Service Mode. Signal Code : 26 (Counter) Does the Counter operate correctly? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Counter.

7. 1. 2. 8 High Voltage Output Error (E-031, E-032 & E-033)

E-031 : Image Corona Output Error
E-032 : Separation Corona Output Error
E-033 : Transfer Corona Output Error

Cause	Checking order	Checking	Result	Treatment
Wires	1	Are wires among Image Corona, HV Power Supply PCB and PW10520 PCB connected properly?	No	Connect them properly.
Image Corona	2	Is the Image Corona dirty?	Yes	Clean each Corona Wire, Grid Plate and housing.
		Is the Corona Wire broken?	Yes	Replace the Corona Wire.
Transfer Corona	3	Is the Transfer Corona dirty?	Yes	Clean each Corona Wire and housing.
		Is the Corona Wire broken?	Yes	Replace the Corona Wire.
Separation Corona	4	Is the Separation Corona dirty?	Yes	Clean each Corona Wire and housing.
		Is the Corona Wire broken?	Yes	Replace the Corona Wire.
HV Power Supply	5	Can you fix the problem if you replace the HV Power Supply?	Yes	OK

7. 1. 2. 9 Developer Bias Output Error (E-034)

Cause	Checking order	Checking	Result	Treatment
Wires	1	Are wires among Developer Unit, HV Power Supply PCB and PW10520 PCB connected properly?	No	Connect them properly.
Developer Unit	2	Is the toner spill out from the Developer Unit? (Or is there any similar problem?)	Yes	Clean each Corona Wire, Grid Plate and housing.
		Is the high voltage of Regulation Roller leaking? (The resistance between the central part of Regulation Roller and the Ground is 5 mega ohm or smaller if leaking.)  	Yes	Replace the Regulation Roller.
HV Power Supply	3	Can you fix the problem if you replace the HV Power Supply?	Yes	OK

7. 1. 2.10 Cutter Error (E-040)

Cause	Checking order	Checking	Result	Treatment
Wires	1	Is the wire between Cutter Unit and PW10520 PCB connected properly?	No	Connect it properly.
Cutter Home Position Sensors (MS6 & MS7)	2	Check the status of the following signals in the Device Status Mode of the Service Mode. Signal Code : 078 (Cutter Home Position Right) 079 (Cutter Home Position Left) Is the status “L” when the Cutter is at each home position? (Refer to the page 8-9 as for the Device Status Mode.)	No	Replace the Cutter Unit.
Developer Press Sensor (PH4)	3	Check the operation of Cutter in the Device Operation Mode of the Service Mode. Signal Code : 27 (Cutter Motor 1) 28 (Cutter Motor 2) Does the Cutter operate? (Refer to the page 8-16 as for the Device Operation Mode.)	No	Replace the Cutter Unit.

7. 1. 2.11 FPGA Error (E-050)

Cause	Checking order	Checking	Result	Treatment
PW10520 PCB	1	Can you fix the problem if you replace the PW10520 PCB?	Yes	OK

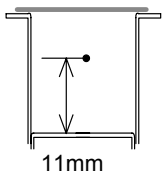
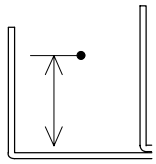
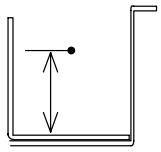
7. 1. 2.12 Developer Error (E-070)

Cause	Checking order	Checking	Result	Treatment
Wires	1	Is the wire between Developer Unit and PW10520 PCB connected properly?	No	Connect it properly.
Switch (MS4)	2	Is the actuator of Switch correctly pressed down when you close the Engine Unit or Toner Hatch?	No	Adjust the positions of Switch (or Toner Hatch and Engine Unit).

7. 2 Troubleshooting - Image Quality

7. 2. 1 Basic Image Adjustment

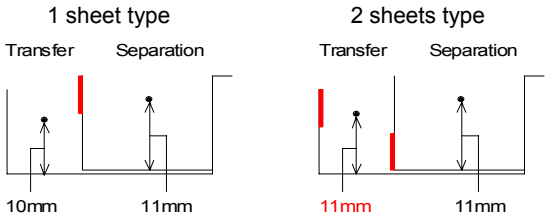
The followings are the settings specified to the image creation components.
When a defective image is printed out, please check whether or not these settings are satisfied for the beginning.

Component	Checking point	Designated voltage	Way of adjustment		Height of Corona Wire
Image Corona	CP11 (+) CPCOM (-)	1.3 +/-0.05VDC	VR101		
Transfer Corona	CP21 (+) CP22 (-)	1.0 +/-0.05VDC	VR201	Service Mode 04-029 (Plain) 04-030(Tracing) 04-031(Film)	
Separation Corona (AC)	CP31 (+) CPCOM (-)	5.0 +/-0.05V	VR302		
Separation Corona (DC)	CP33 (+) Ground (-)	-250 +/-5VDC	VR303		
Negative Developer Roller Bias	OUTPUT2 (+) Ground (-)	-230 +/-5VDC	Service Mode 04-022 (Plain) 04-023(Tracing) 04-024(Film)		
Positive Developer Roller Bias	OUTPUT2 (+) Ground (-)	+350 +/-5VDC	VR401		
Toner Supply Roller Bias (On printing)	TAB2 OUT1-OUT (+) OUTPUT2 (-)	(Brush type) Same voltage with Developer Roller Bias	-		
		(Sponge type) -150 +/-5VDC	VR601		
Toner Supply Roller Bias (print interval)	TAB2 OUT1-OUT (+) OUTPUT2 (-)	(Brush type) Same voltage with Developer Roller Bias	-		
		(Sponge type) -50 +/-5VDC	VR601		
Regulation Roller Bias	OUTPUT3 (+) OUTPUT2 (-)	-40 +/-5VDC	VR501		
Positive Cleaning Roller Bias	OUTPUT (+) Ground (-)	+450 +/-5VDC	VR2		
Negative Cleaning Roller Bias	OUTPUT (+) Ground (-)	-550 +/-5VDC	VR1		

NOTE

There are 2 types of Tr/St Corona Assy, they differs from the position and the number of plastic sheets on the housing.

A specified height for a corona wire depends on the Assy type.



7. 2. 2 Countermeasures - Image Quality

7. 2. 2. 1 Halftone is too light

Check the following matters with the Test Pattern No.1 and No.3.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
	1	Try to readjust each image creation component according to [7.2.1 Basic Image Adjustment] on the page 7-20. Is the problem fixed?	Yes	OK
LED Head	2	Is the Lens Array of LED Head dirty?	Yes	Clean it.
Paper	3	Can you fix the problem if you use a newly unpacked paper?	Yes	1. If the paper was humidified, instruct the customer of the way store the paper. 2. If the paper was not the specified one, explain the customer that some image problem may occur in that case.
Image Corona	4	Is the Image Corona dirty?	Yes	Clean each Corona Wire, Grid Plate and housing, or replace the Corona Wire if it is too dirty.
		Is the input voltage to the Image Corona correct?	No	Readjust the input voltage making reference to [4. 3. 2 Check & Adjustment of Analog Voltage to the Image Corona] on the page 4-31. Or replace the HV Power Supply PCB.
Eraser Lamp	5	Does the Eraser Lamp light properly?	No	1. Check the wire connected to the Eraser Lamp. 2. Check or replace the Eraser Lamp.
Separation Lamp	6	Does the Separation Lamp light properly?	No	1. Check the wire connected to the Separation Lamp. 2. Check or replace the Separation Lamp.
Transfer Corona	7	Is the Transfer / Separation Corona dirty?	Yes	Clean each Corona Wire and housing, or replace the Corona Wire if it is too dirty.
		Is the input voltage to the Transfer Corona correct?	No	Readjust the input voltage making reference to [4. 3. 3 Check & Adjustment of Analog Voltage to the Transfer Corona] on the page 4-33. Or replace the HV Power Supply PCB.
Contact points of Developer Bias	8	Is each Electrode Plate on the right of the Developer Unit surely contacted to the Electrode Plate on the machine side?	No	Try to install the Developer Unit so that they are contacted each other. And supply the conductive grease to the Electrode Plates.
HV Power Supply PCB	9	Can you fix the problem if you replace the HV Power Supply PCB?	Yes	OK

Cause	Checking order	Checking	Result	Treatment
Installation of Developer Unit	10	Is the driving gear on the left of the Developer Unit surely fitted to the driving mechanism on machine side?	No	Check whether or not the Cam of Developer Press Unit surely presses the Developer Unit. Check the concerning gears.
Developer Unit	11	Is the Developer Roller evenly covered with the toner?	No	Check the whole Developer Unit to find the cause.
			Yes	Replace the Photoconductive Drum.

7. 2. 2. 2 Halftone and solid black are too light

Check the following matters with the Test Pattern No.1 and No.3.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
	1	Try to readjust each image creation component according to [7.2.1 Basic Image Adjustment] on the page 7-20. Is the problem fixed?	Yes	OK
	2	Turn off the machine in the middle of printing, and then check the toner image on the Drum. Is the toner image looks normal?	Yes	Go on to the step 3.
			No	Go on to the step 7.
Transfer Corona	3	Is the Transfer/Separation Corona installed to the machine correctly?	No	Install it correctly.
		Is the high voltage of Transfer Corona leaking?	Yes	Clean the Transfer Corona.
Paper	4	Can you fix the problem if you use a newly unpacked paper?	Yes	1. If the paper was humidified, instruct the customer of the way store the paper. 2. If the paper was not the specified one, explain the customer that some image problem may occur in that case.
Lead Wire	5	Is the resistance of Lead Wire about 10 kilo ohm, which connects the HV Power Supply and the Transfer Corona?	No	Replace the Lead Wire.
Input voltage to the Transfer Corona	6	Is a correct voltage supplied from the HV Power Supply to the Transfer Corona?	No	Readjust the input voltage making reference to [4. 3. 3 Check & Adjustment of Analog Voltage to the Transfer Corona] on the page 4-33. Or replace the HV Power Supply PCB.
Dirt of the LED Head	7	Is the LED Head dirty?	Yes	Clean it.
Developer Unit	8	Is the Developer Roller evenly covered with the toner?	No	Check the whole Developer Unit to find the cause.
	9	Is the Developer Unit firmly pressed toward the Drum? (Are Counter Rollers at both sides of the Developer Roller touch the Drum Unit?)	No	Remove the Developer Unit, and then install it to the machine correctly. Check the Developer Press Unit.
Installation of Developer Unit	10	Is the driving gear on the left of the Developer Unit surely fitted to the driving mechanism on machine side?	No	Check whether or not the Cam of Developer Press Unit surely presses the Developer Unit. Check the concerning gears.
Toner Sensor	11	Is there enough toner in the Developer Unit?	No	1. Check the wire or the connector connected to the Toner Sensor. 2. Check the Toner Sensor.
			Yes	Replace the Photoconductive Drum.

7. 2. 2. 3 The whole image is extremely light

Check the following matters with the Test Pattern No.1 and No.3.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
	1	Try to readjust each image creation component according to [7.2.1 Basic Image Adjustment] on the page 7-20. Is the problem fixed?	Yes	OK
Paper	2	Can you fix the problem if you use a newly unpacked paper?	Yes	1. If the paper was humidified, instruct the customer of the way store the paper. 2. If the paper was not the specified one, explain the customer that some image problem may occur in that case.
		Do you have the problem only when you use a film?	Yes	Change the setting of Item No.067 (Transfer Assist Setting) in the Adjustment Mode of Service Mode, so that the Separation Lamp works for the film.
	3	Turn off the machine in the middle of printing, and then check the toner image on the Drum. Is the toner image looks normal?	Yes	Go on to the step 4.
			No	Go on to the step 8.
Transfer Corona	4	Is the Transfer/Separation Corona installed to the machine correctly?	No	Install it correctly.
		Is the high voltage of Transfer Corona leaking?	Yes	Clean the Transfer Corona.
Lead Wire	5	Is the resistance of Lead Wire about 10 kilo ohm, which connects the HV Power Supply and the Transfer Corona?	No	Replace the Lead Wire.
Input voltage to the Transfer Corona	6	Is a correct voltage inputted from the HV Power Supply to the Transfer Corona?	No	Readjust the input voltage making reference to [4. 3. 3 Check & Adjustment of Analog Voltage to the Transfer Corona] on the page 4-33. Or replace the HV Power Supply PCB.
Driving mechanism of Developer Unit	7	Is the Developer Unit driving normally?	No	Check the driving mechanism.
Developer Unit	8	Is the Developer Unit firmly pressed toward the Drum? (Are Counter Rollers at both sides of the Developer Roller touch the Drum Unit?)	No	Remove the Developer Unit, and then install it to the machine correctly.
Lead Wire	9	Is the Lead Wire to supply the Developer Bias correctly connected?	No	Connect the Lead Wire correctly.
Developer Bias	10	Is the Developer Unit supplied with the Developer Bias correctly?	No	Check the contact points of Developer Bias, and also check the HV Power Supply.

7. 2. 2. 4 Density is uneven

Check the following matters with the Test Pattern No.1 and No.3.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Image Corona	1	Is the Image Corona dirty?	Yes	Clean the Image Corona, or replace the Corona Wire.
		Is the height of Corona Wire different between left and right?	Yes	Adjust the height properly.
Installation of Developer Unit	2	Is the Developer Unit firmly pressed toward the Drum? (Are Counter Rollers at both sides of the Developer Roller touch the Drum Unit?)	No	Remove the Developer Unit, and then install it to the machine correctly. Check the Developer Press Unit.
LED Head	3	Is the Lens Array dirty	Yes	Clean it.
Eraser Lamp	4	Are all LED of the Eraser Lamp light properly during the print?	No	1. Replace the Eraser Lamp. 2. Replace the PW10520 PCB.
Developer Unit	5	Is the Developer Roller evenly covered with the toner?	No	Clean the Regulation Roller.
		Is the toner accumulating evenly in the Developer Unit?	No	Level the machine correctly.

7. 2. 2. 5 Totally appeared foggy image

Check the following matters with the Test Pattern No.1 and No.4.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
	1	Try to readjust each image creation component according to [7.2.1 Basic Image Adjustment] on the page 7-20. Is the problem fixed?	Yes	OK
Developer Unit	2	Is the Developer Roller insulated from the ground?	No	Check the Developer Roller and connector.
Image Corona	3	Is the foggy image printed even if you print a completely white pattern?	Yes	Check the output voltage from the HV Power Supply to the Image Corona. If it is not correct, readjust it.
Developer Bias	4	Is the Developer Unit supplied with a correct Developer Bias during the print?	No	Check the output voltage from the HV Power Supply to the Developer Unit. If it is not correct, readjust it. Or replace the HV Power Supply PCB
Photoconductive Drum	5	Have you used the Photoconductive Drum longer than its part life?	Yes	Replace the Photoconductive Drum.

7. 2. 2. 6 Foggy image or blurred black wide line (vertical)

Check the following matters with the Test Pattern No.1 and No.4.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Light from the outside	1	Is any light from the outside thrown onto the Drum?	Yes	Install the outer cover correctly.
Image Corona	2	Is the Image Corona dirty?	Yes	Clean the Image Corona, or replace the Corona Wire.
Developer Unit	3	Is the Developer Roller evenly covered with the toner?	No	Check if the Regulation Roller is fixed at the proper position. If not, fix it at the correct position.

7. 2. 2. 7 Clear black thin line (vertical)

Check the following matters with the Test Pattern No.1 and No.4.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Image Corona	1	Is there something like filament on the Grid Plate, which is contacted to the Drum?	Yes	Remove it.
		Is the Image Corona dirty?	Yes	Clean the Image Corona, or replace the Corona Wire.
Foreign substance	2	Is there some foreign substance on each Corona Unit or LED Head, which is contacted to the Drum?	Yes	Remove it.
Photoconductive Drum	3	Is there any black line or damage on the Drum, of which position corresponds with the black line on the print?	Yes	Clean the Drum making reference to [5. 5. 2 Cleaning of Photoconductive Drum]. Replace the Drum if it is damaged. Be sure to find the cause of the damage.

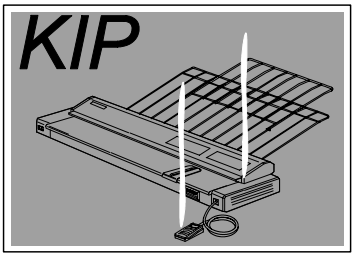
7. 2. 2. 8 White line (Vertical)

Check the following matters with the Test Pattern No.1 and No.3.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Image Corona	1	Is there something like filament on the Grid Plate, which is contacted to the Drum?	Yes	Remove it.
Dirt of the LED Head	2	Can you fix the problem if you clean the LED Head?	Yes	OK
Transfer/Separation Corona	3	Is there any foreign substance or dirt on the Transfer/Separation Corona?	Yes	Clean the Transfer / Separation Corona.
Developer Unit	4	Is the Developer Roller evenly covered with the toner?	No	Check whether or not there is damage or foreign substance on the Regulation Roller.
Entrance of Fuser Unit	5	Is there any foreign substance or dirt around the entrance area of the Fuser Unit?	Yes	Clean it off
Photoconductive Drum	6	Is there any damage on the Drum, which runs to the direction of Drum rotation.	Yes	Clean the Drum making reference to [5. 5. 2 Cleaning of Photoconductive Drum]. Replace the Drum if it is damaged. Be sure to find the cause of the damage.

7. 2. 2. 9 Void of image

Check the following matters with the Test Pattern No.1 and No.7.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
	1	Print out the Test Patter No.7 (halftone). Can you find void of image on the print?	Yes	Go to the step 2.
Paper	2	Can you fix the problem if you use a newly unpacked paper?	Yes	1. If the paper was humidified, instruct the customer of the way store the paper. 2. If the paper was not the specified one, explain the customer that some image problem may occur in that case.
Developer Unit	3	Does the void of image appear on the print constantly Keeping about 144mm of interval?	Yes	1. Clean the Counter Rollers at both sides of the Developer Roller. 2. Wipe the Developer Roller with a dry cloth. 3. Replace the Developer Roller if it is damaged.
		Is the void of image mainly runs vertically as follows? 	Yes	1. Check if there is enough toner in the Developer Unit. 2. Also select the Device Status Mode and check the Toner Sensor Signal (Signal Code : 091). It must be “L” when the toner is not covering the Toner Sensor. If not, replace the Toner Sensor.
Photoconductive Drum	4	Does the void of image appear on the print constantly Keeping about 251mm of interval?	Yes	Clean the Drum making reference to [5. 5. 2 Cleaning of Photoconductive Drum]. Replace the Drum I it is damaged. Be sure to find the cause of the damage.

7. 2. 2.10 Dirt on the back of the print

Check the following matters with the Test Pattern No.1 and No.4.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
	1	Try to readjust each image creation component according to [7.2.1 Basic Image Adjustment] on the page 7-20. Is the problem fixed?	Yes	OK
Transfer Guides	2	Are Transfer Guides of the Transfer / Separation Corona dirty with the toner?	Yes	Clean them. After that, check the distance between Transfer Guide and Drum. (It should be 0.6 to 0.7mm.)
Developer Unit	3	Is too much toner accumulating under the Developer Roller?	Yes	Clean the Developer Unit.
Inner Transport Unit	4	Is the Inner Transport Unit dirty with the toner?	Yes	Clean it, and also find where the toner came.
Fuser Unit	5	Is the Guide Plate at the entrance of Fuser Unit dirty with the toner?	Yes	Clean it.
		Are Fuser Roller and Pressure Roller dirty with the toner?	Yes	Clean them

7. 2. 2.11 Defective fusing

Check the following matters with the Test Pattern No.1 and No.3.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Fuser Unit	1	Is the Fuser Roller properly heated up after turning on the machine?	No	Refer to [7. 1. 2. 1 Fuser Error (E-001, E-002 & E-004)] to check the Fuser Unit.
Paper	2	Is the type of paper selected on the UI same with that of actually installed paper?	No	Select the correct paper type on the UI.
		Can you fix the problem if you use a newly unpacked paper?	Yes	1. If the paper was humidified, instruct the customer of the way store the paper. 2. If the paper was not the specified one, explain the customer that some image problem may occur in that case.
Fusing temperature setting	3	Does the fusing temperature specified in the Service Mode suits with the weight (gram/square meter) of paper?	Yes	1. Is there any part which is burnt? Replace that part if burnt. 2. Check if the Pressure Roller correctly pressed to the Fuser Roller.
			No	Adjust the fusing temperature correctly.

7. 2. 2.12 Defective image placement, No Leading Edge

Correct leading margin is 5mm (+/-2mm).
Check the following matters with the Test Pattern No.1 and No.6.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Setting of Leading Registration	1	Is the Leading Registration properly adjusted in the Service Mode?	No	Adjust it properly.
Feed rollers	2	Have you used the feeding rollers for very long term?	Yes	Replace them.
Registration Clutch	3	Does the Registration Clutch operate correctly without slipping?	No	Replace the Registration Clutch.

7. 2. 2.13 Jitter

Check the following matters with the Test Pattern No.1 and No.6.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Photoconductive Drum and its driving mechanism	1	Does the jitter appear on the print constantly Keeping about 251mm of interval?	Yes	1. Check if there is any damage or foreign substance on the driving gears (80T & 50T). 2. Check if there is any foreign substance between Drum and Counter Rollers of Developer Unit.
Developer Roller	2	Does the void of image appear on the print constantly Keeping about 144mm of interval?	Yes	If the Developer Roller is damaged, replace it.
Developer Unit	3	Does the jitter appear on the print constantly Keeping about 6.0mm of interval?	Yes	Check if there is any damage or foreign substance on the driving gears (32T, 22T & 24T) on the right side.
		Does the jitter appear on the print constantly Keeping about 6.4mm of interval?	Yes	Check if there is any damage or foreign substance on the driving gears (28T, 30T, 35T & 25T) on the left side.
		Does the jitter appear on the print constantly Keeping about 8.6mm of interval?	Yes	Check if there is any damage or foreign substance on the driving gears (25/34T & 16/30T) on the left side.
		Does the jitter appear on the print constantly Keeping about 16.1mm of interval?	Yes	Check if there is any damage or foreign substance on the driving gears (16T) on the left side.

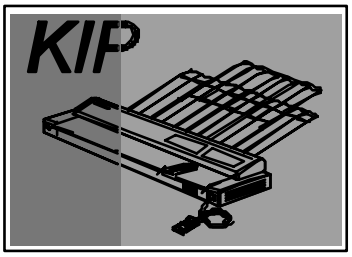
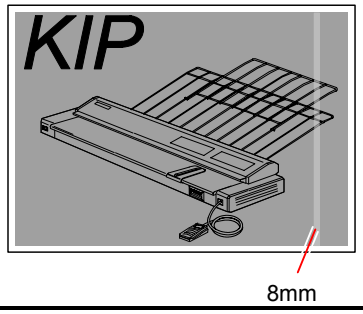
7. 2. 2.14 Image looks not sharp

Check the following matters with the Test Pattern No.1 and No.8.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Dirt of the LED Head	1	Is the LED Head dirty?	Yes	Clean it.
Installation of LED Head	2	Remove the LED Head, and then re-install it to the machine. Is the problem fixed?	Yes	OK
			No	Adjust the gap between LED Head and Drum by adding or removing the thin plates on the Aluminium Block at both sides of the Drum.
Transfer / Separation Corona	3	Is the Transfer / Separation Corona dirty?	Yes	Clean it.

7. 2. 2.15 Uneven image density (vertical)

Check the following matters with the Test Pattern No.1 and No.6.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Image Corona	1	Is the Image Corona dirty?	Yes	Clean it.
Transfer/Separation Corona	2	Is the Transfer/Separation Corona dirty?	Yes	Clean it.
Installation of LED Head	3	Remove the LED Head, and then re-install it to the machine. Is the problem fixed?	Yes	OK
	4	Is the density of any image block different from that of other blocks? 	Yes	Adjust the gap between LED Head and Drum by adding or removing the Spacers on the Aluminium Block.
	5	Is the width of abnormal density area about 8mm as follows? 	Yes	Replace the LED Head.

7. 2. 2.16 Completely white (No image)

Check the following matters with the Test Pattern No.1.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Developer Press Unit	1	Is the Developer Unit correctly pressed to the Drum?	No	Check the Developer Press Unit.
Driving mechanism of Developer Unit	2	Does the Developer Roller rotate during the print?	No	Check the driving mechanism of Process Unit.
Developer Bias	3	Is each Electrode Plate on the right of the Developer Unit surely contacted to the Electrode Plate on the machine side?	No	Try to install the Developer Unit so that they are contacted each other. And supply the conductive grease to the Electrode Plates.
LED Head	4	Are connectors of signal cable firmly connected to the LED Head?	No	Connect them firmly.
		Turn off the machine in the middle of printing, and then check the toner image on the Drum. Is there any toner image on the Drum?	No	Replace the LED Head.
Transfer/Separation Corona	5	Is the Transfer Corona Wire broken?	Yes	Replace it.
		Is the Transfer/Separation Corona Unit correctly installed to the machine?	No	Install it correctly.
		If the high voltage leaking from the Transfer Corona?	Yes	Check the Transfer / Separation Corona to find the cause for leaking.
Lead Wire of Transfer Corona	6	Is the connection of Lead Wire correct?	No	Connect it correctly.
		Is the resistance of Lead Wire about 10 kilo ohm, which connects the HV Power Supply and the Transfer Corona?	No	Replace the Lead Wire.
HV Power Supply	7	Can you fix the problem if you replace the HV Power Supply?	Yes	OK
PW10520 PCB	8	Can you fix the problem if you replace the PW10520 PCB?	Yes	OK

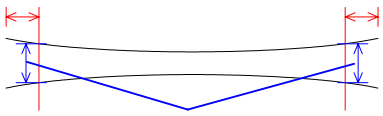
7. 2. 2.17 Completely black

Check the following matters with the Test Pattern No.1 and No.4.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Image Corona or HV Power Supply PCB	1	Is the Image Corona Wire broken?	Yes	Replace it.
		Is the tension of the Corona Wire correct?	No	Replace it.
		Is the Corona Wire correctly stretched with the spring?	No	Check whether or not the spring is transformed.
		Is a proper high voltage supplied to the Image Corona?	No	Adjust the high voltage, or replace the HV Power Supply PCB
		Is the housing of Image Corona insulated from the ground?	No	Replace the Zener PCB.
PW10520 PCB	2	Can you fix the problem if you replace the PW10520 PCB?	Yes	OK

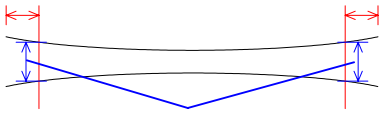
7. 2. 2.18 Crease of paper

Check the following matters with the Test Pattern No.1 and No.8.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
	1	Make a continuous printing. Can you find the crease on the 2nd or later prints?	Yes	Go to the following “8”.
Paper	2	Is the type of paper selected on the UI same with that of actually installed paper?	No	Select the correct paper type on the UI.
		Can you fix the problem if you use a newly unpacked paper?	Yes	1. If the paper was humidified, instruct the customer of the way store the paper. 2. If the paper was not the specified one, explain the customer that some image problem may occur in that case.
		Is the Dehumidify Heater ON although the air is not humid.	Yes	Turn off the Dehumidify Heater.
Lamp (H1) of Fuser	3	Does the Lamp light correctly?	No	Replace it.
Blower (Separation)	4	Is the Blower working properly during the print to help paper transportation?	No	Replace it.
Blower (Fuser Cooler)	5	Is the Blower working properly during the print to cool down the Fuser?	No	Replace it.
Fuser Entrance Guide	6	Is the Fuser Entrance Guide transformed? Or Is there anything on the Fuser Entrance Guide?	Yes	Clean or replace it.
Fusing pressure (Nip)	7	Print the Test Patter No.20 with a tracing paper (36” or A0), and turn off the machine in the middle of printing. Remove the print from the machine and check the “nip width”. Is it 7.0 +/-0.5mm? (Measure at 2 mm from the edge.) 2mm 2mm  7.0 +/-0.5mm		
Fuser Motor speed	8	Is the paper slackened during the transportation when you make a long print?	Yes	Make the Fuser Motor speed faster.

7. 2. 2.19 Double image

Check the following matters with the Test Pattern No.1.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Paper	1	Is the type of paper selected on the UI same with that of actually installed paper?	No	Select the correct paper type on the UI.
		Can you fix the problem if you use a newly unpacked paper?	Yes	1. If the paper was humidified, instruct the customer of the way store the paper. 2. If the paper was not the specified one, explain the customer that some image problem may occur in that case.
Lamp (H1) of Fuser	2	Does the Lamp light correctly?	No	Replace it.
Blower (Separation)	3	Is the Blower working properly during the print to help paper transportation?	No	Replace it.
Blower (Fuser Cooler)	4	Is the Blower working properly during the print to cool down the Fuser?	No	Replace it.
Fuser Entrance Guide	6	Is the Fuser Entrance Guide transformed? Or Is there anything on the Fuser Entrance Guide?	Yes	Clean or replace it.
Fusing pressure (Nip)	7	Print the Test Patter No.20 with a tracing paper (36” or A0), and turn off the machine in the middle of printing. Remove the print from the machine and check the “nip width”. Is it 7.0 +/-0.5mm? (Measure at 2 mm from the edge.) 2mm 2mm  7.0 +/-0.5mm		

7. 2. 2.20 Dirt on the print (Offset)

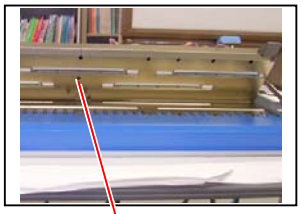
Check the following matters with the Test Pattern No.2.
If necessary use other Test Patterns.

Cause	Checking order	Checking	Result	Treatment
Paper	1	Is the type of paper selected on the UI same with that of actually installed paper?	No	Select the correct paper type on the UI.
Developer Unit or Transfer/Separation Corona	2	Does the paper has dirt before it enters the Fuser Unit?	Yes	Check the Developer Unit or Transfer/Separation Corona to find the cause.
Fuser Unit	3	Clean the Fuser Roller. Do you still have the problem even after the cleaning?	Yes	Decrease the setting value of fusing temperature (-3 to -5).
			No	OK

7. 3 Troubleshooting - Scanner Defects

7. 3. 1 Countermeasures - Scanner operation

7. 3. 1. 1 Original can not be set (Scanner does not transport)

Cause	Checking order	Checking	Result	Treatment
Sensor	1	Is the original detected? (Is it shown on the UI?)	No	Check the sensor which detects the leading edge of original. If broken replace it.  Check this sensor.
USB Cable	2	Is the USB Cable connected correctly?	No	Connect it correctly.
Data Controller Board	3	Can you fix the problem if you replace the Data Controller Board?	Yes	OK

7. 3. 1. 2 Scanner does not start scanning from the original set position

Cause	Checking order	Checking	Result	Treatment
Foreign substance	1	Is there any foreign substance under the Upper Unit?	Yes	Remove it.
Motor	2	Does the Motor rotate?	No	Check the Motor, and replace it if broken.
+24VDC	3	Is +24VDC supplied to the scanner?	No	Check the DC Power Supply on the printer part. Replace it if broken.
Data Controller Board	4	Can you fix the problem if you replace the Data Controller Board?	Yes	OK

7. 3. 1. 3 Original can not be set (Original feeding does not stop)

Cause	Checking order	Checking	Result	Treatment
Sensor	1	Is any sensor broken?	Yes	Replace it.

7. 3. 1. 4 Original is mis-fed

Cause	Checking order	Checking	Result	Treatment
Foreign substance	1	Is there any foreign substance under the Upper Unit?	Yes	Remove it.

7. 3. 1. 5 Motor rotates endlessly at the time of turning on

Cause	Checking order	Checking	Result	Treatment
Foreign substance	1	Is there any foreign substance under the Upper Unit, which blocks the light of sensor?	Yes	Remove it.

7. 3. 1. 6 Scanner is not recognized

Cause	Checking order	Checking	Result	Treatment
USB Driver	1	Does the PC recognize USB?	1	Check the USB Driver in Device Manager.
USB Cable	2	Is there any problem with the USB cable, such as breakage, short-circuit and damage of connector pin?	Yes	Replace the USB Cable.
DC Power Supply	3	Is the DC Power Supply on the printer part normal?	No	Replace the DC Power Supply.
Data Controller Board	4	Prepare another PC which can recognize another type of USB Scanner. Is it also impossible to recognize the scanner (of KIP 3000) with this PC?	Yes	Replace the Data Controller PCB.

7. 3. 2 Countermeasures – Scan Image Quality

7. 3. 2. 1 Completely black

Cause	Checking order	Checking	Result	Treatment
Calibration	1	Can you fix the problem if you make Shading and Calibration? (Refer to [8.12.4.1 Shading] and [8.12.4.2 Calibration].)	Yes	OK
Cable of CIS	2	Is the cable of each CIS connected properly?	No	Connect it properly, or replace the cable if it is broken.
LED of CIS	3	Is the LED of each CIS lighting?	No	1. Check the DC Power Supply (+24V) of the printer part. Replace it if broken. 2. Replace the CIS. 3. Replace the Data Controller Board.

7. 3. 2. 2 Vertical black lines

Cause	Checking order	Checking	Result	Treatment
Scan Glass	1	Is there any dirt or damage on the Scan Glass?	Yes	Clean it. If damaged, replace the whole CIS unit with a new one.
Calibration	2	Can you fix the problem if you make Shading and Calibration? (Refer to [8.12.4.1 Shading] and [8.12.4.2 Calibration].)	Yes	OK
Feeding rollers	3	Are feeding rollers dirty?	Yes	Clean them.
CIS	4	Can you fix the problem if you replace the CIS?	Yes	OK

7. 3. 2. 3 Vertical white lines

Cause	Checking order	Checking	Result	Treatment
Scan Glass	1	Is there any dirt or damage on the Scan Glass?	Yes	Clean it. If damaged, replace the whole CIS unit with a new one.
Calibration	2	Can you fix the problem if you make Shading and Calibration? (Refer to [8.12.4.1 Shading] and [8.12.4.2 Calibration].)	Yes	OK
Feeding rollers	3	Are feeding rollers dirty?	Yes	Clean them.
CIS	4	Can you fix the problem if you replace the CIS?	Yes	OK

7. 3. 2. 4 Some image is lost at the boundary of Image Blocks

Cause	Checking order	Checking	Result	Treatment
Calibration	1	Can you fix the problem if you make Position? (Refer to [8.12. 4. 4 Position].)	Yes	OK

7. 3. 2. 5 Vertical image gap between Image Blocks

Cause	Checking order	Checking	Result	Treatment
Calibration	1	Can you fix the problem if you make Position? (Refer to [8.12. 4. 4 Position].)	Yes	OK

7. 3. 2. 6 Image quality is not good

Cause	Checking order	Checking	Result	Treatment
Scan Glass	1	Is there any dirt or damage on the Scan Glass?	Yes	Clean it. If damaged, replace the whole CIS unit with a new one.
Resolution	2	Is the resolution setting proper?	No	Adjust it properly.

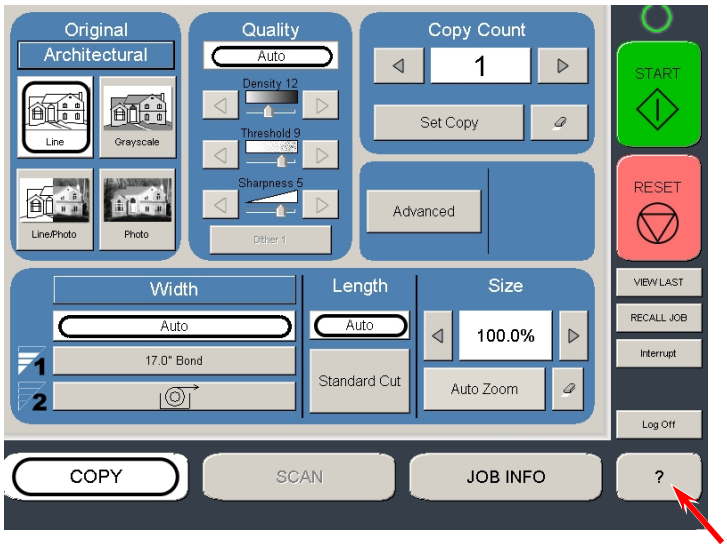
7. 3. 2. 7 Density is different between left and right

Cause	Checking order	Checking	Result	Treatment
Calibration	1	Can you fix the problem if you make Shading and Calibration? (Refer to [8.12.4.1 Shading] and [8.12.4.2 Calibration].)	Yes	OK

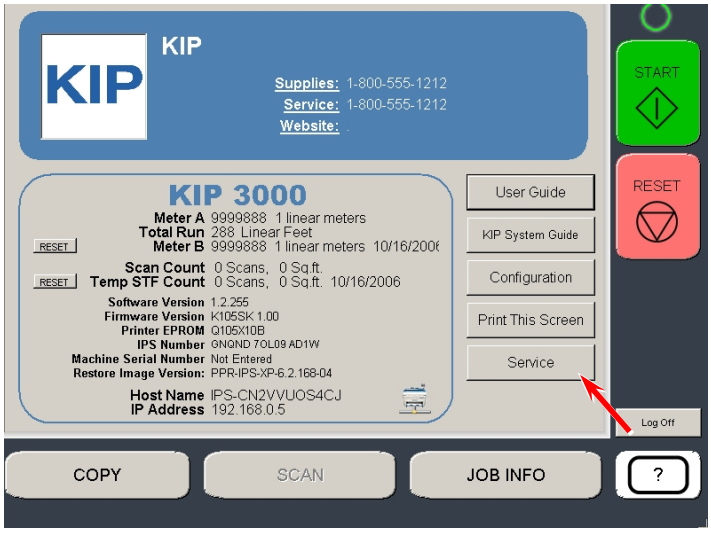
7. 4 Touch Screen Calibration

If the cursor position in the screen does not correctly match the tapped position on the panel, the touch screen should be calibrated so that the cursor is located directly underneath your finger or a stylus.

1. Press [?] at the bottom right on the screen.

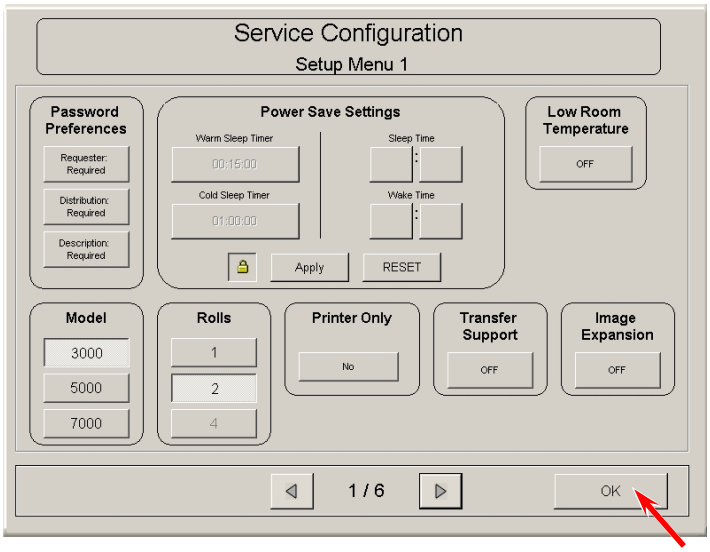


2. Press [Service] to enter Service Configuration screen.

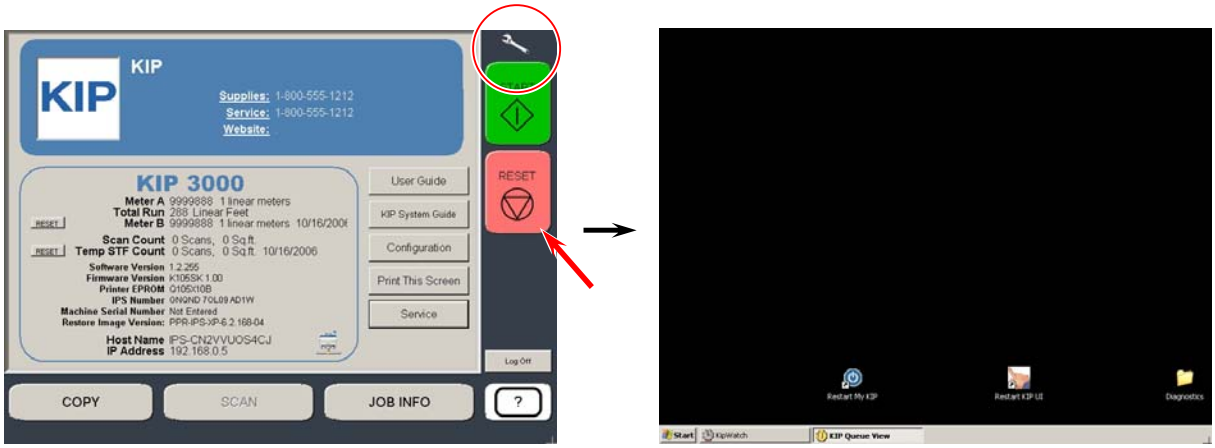


3. A password entry window will pop up.
   Type “8495107” and press [Enter].

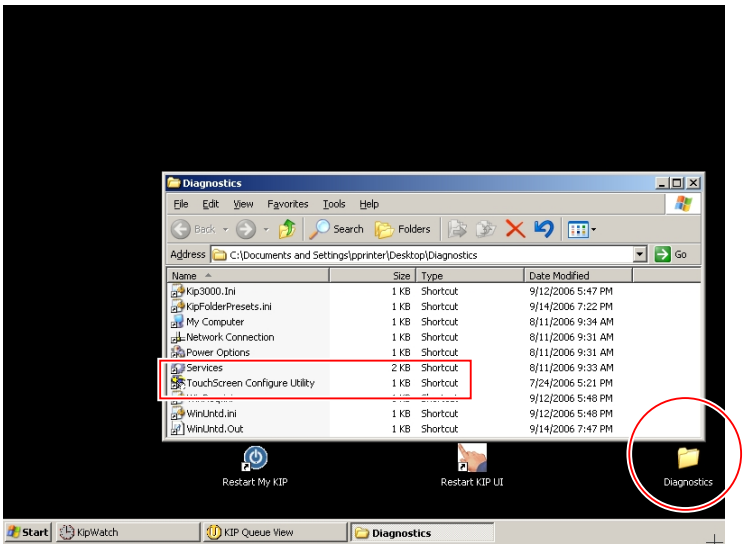
4. Service Configuration screen is displayed. Press [OK].

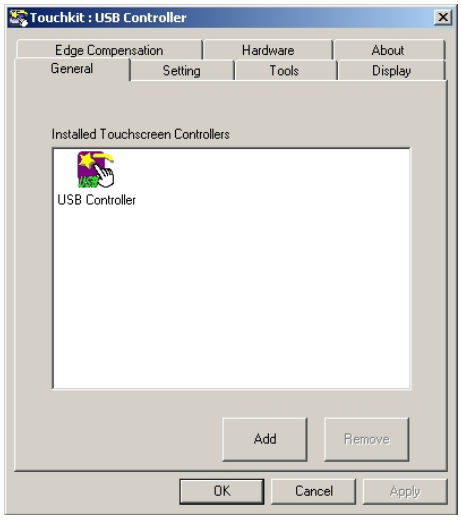


5. Make sure that a wrench symbol is indicated at the top right of the screen.
   Press [Reset] to close UI operation window.

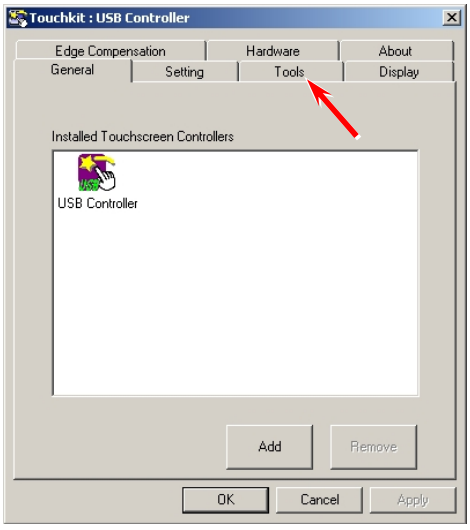


6. Tap Diagnostics folder twice as a double-click.
   Run the shortcut “TouchScreen Configure Utility” for touch screen calibration.

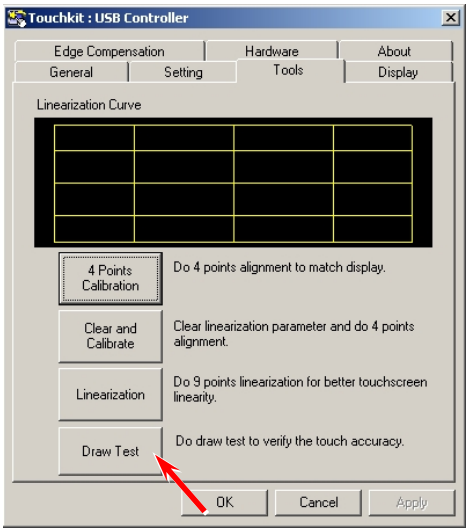




7. Select [Tools] tab.



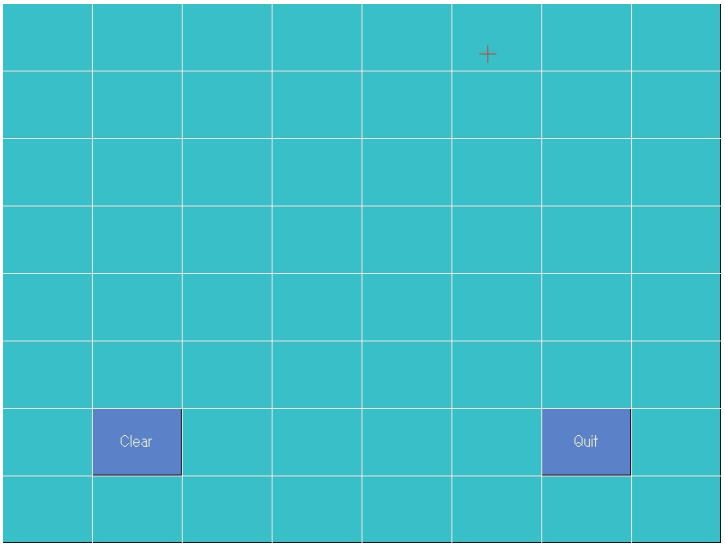
8. Press [Draw Test] to check that the touch screen correctly detects a tapped position.



NOTE

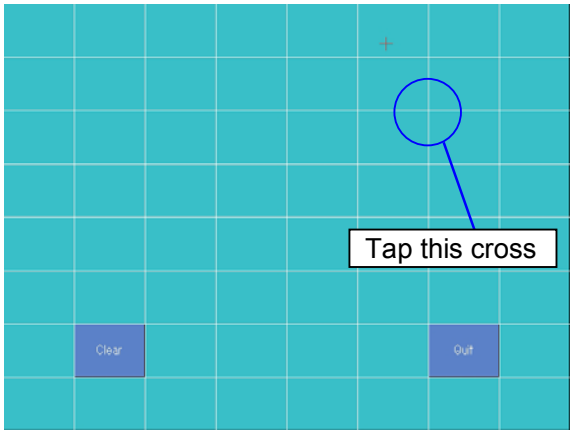
Using a stylus is recommended for easy and accurate touch screen calibration.
Do not use any sharp instrument.

9. Test screen will appear.

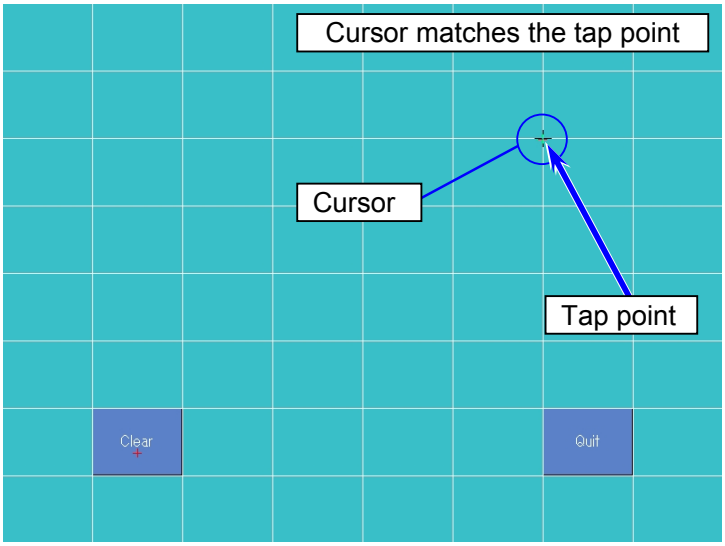


10. Tap a certain point and check the cursor appears directly underneath a stylus.

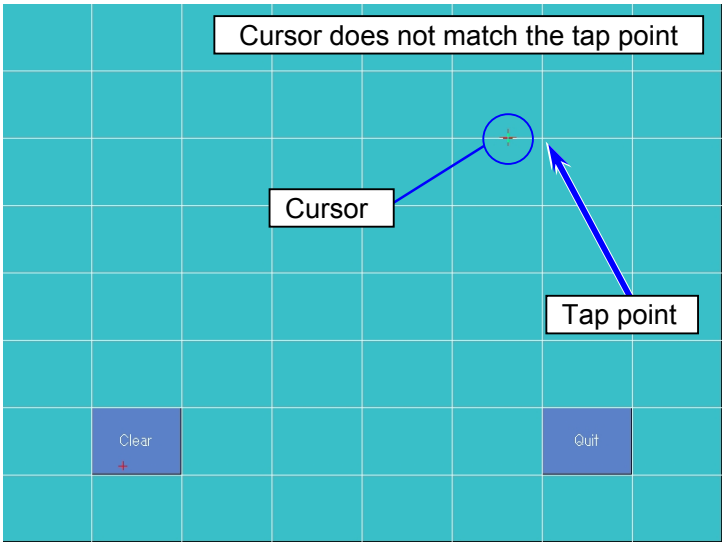
For example, suppose you tap the point shown the next figure.



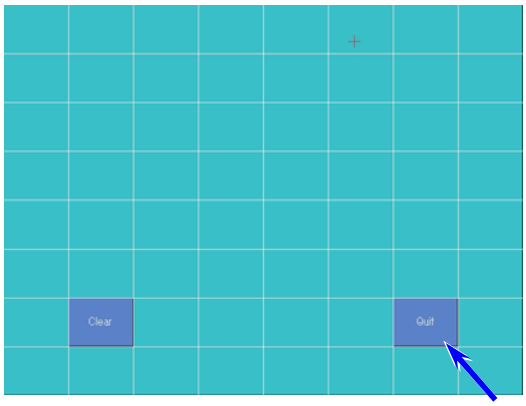
The cursor will appear just underneath the tapped point in a correct condition (calibration is not necessary).



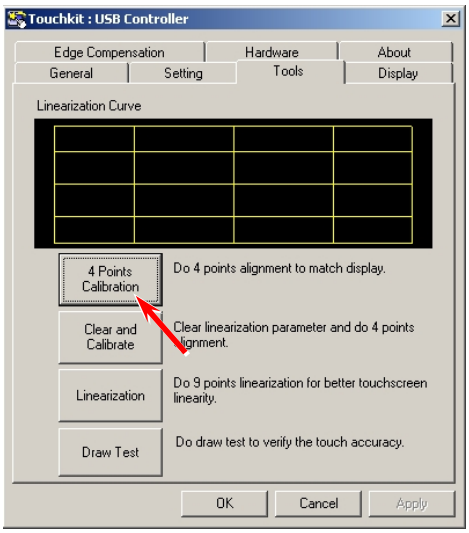
If the cursor appears an unintended position, the touch screen should be calibrated.



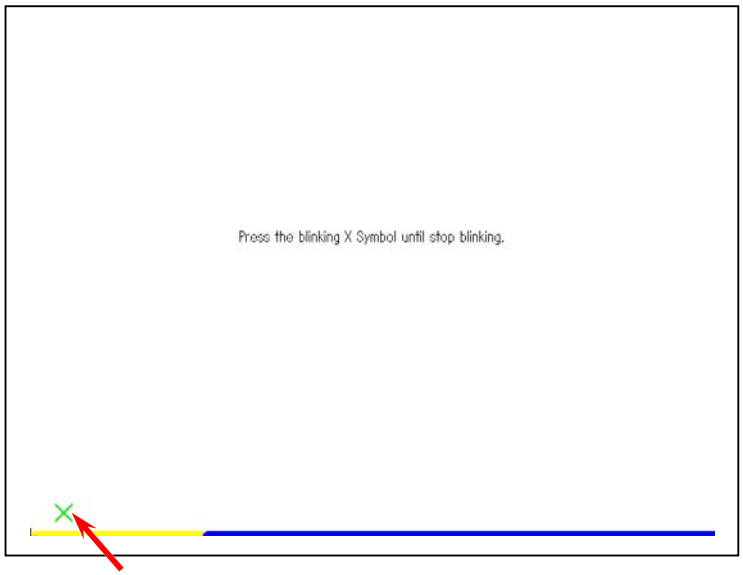
11. Tap [Quit] to close Test screen.



12. Press [4 Points Calibration].



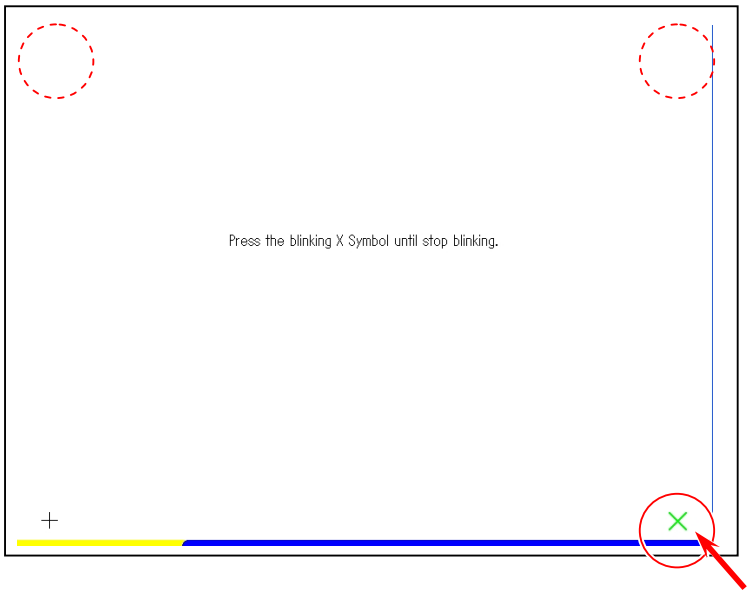
13. On Calibration screen, a blinking X symbol on the bottom left can be seen.
Press the X until it stops blinking with a beep.



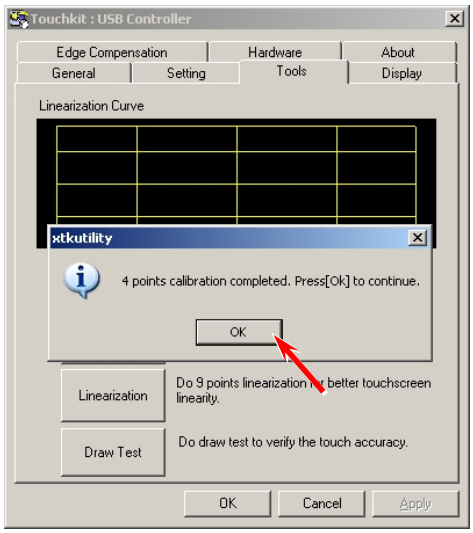
NOTE

Press the X symbol for several seconds before the progress bar at the bottom reaches the end.

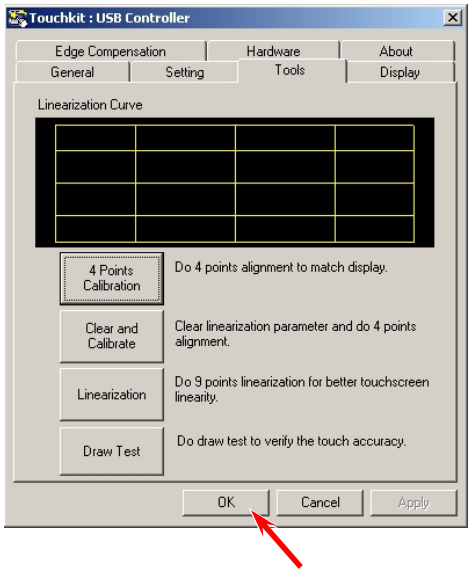
14. The X disappears and the next one will come in the following order:
    bottom right, top right, top left.
    Perform the same way for the other 3 points.



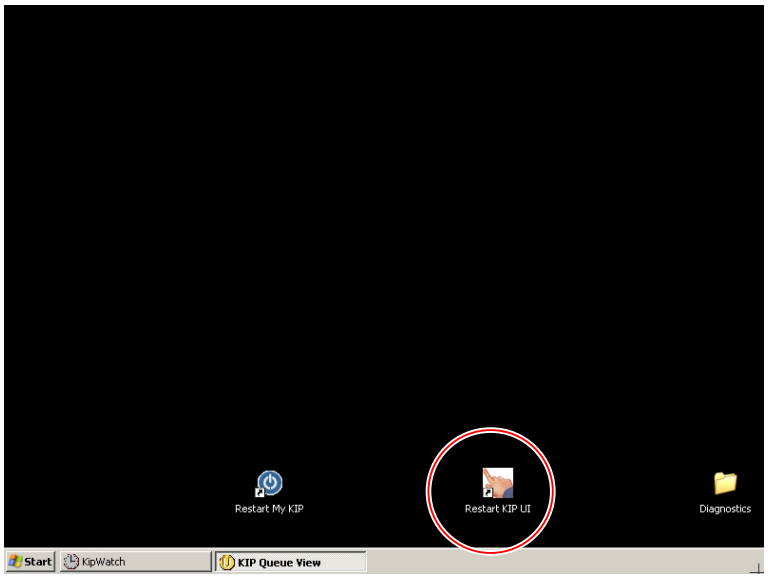
15. When all the 4 points are pressed successfully, Calibration screen disappears and the following dialog appears. Press [OK].



16. Press [OK] to finish touch screen calibration.



17. Run the shortcut “Restart KIP UI” for KIP UI operation.



Chapter 8

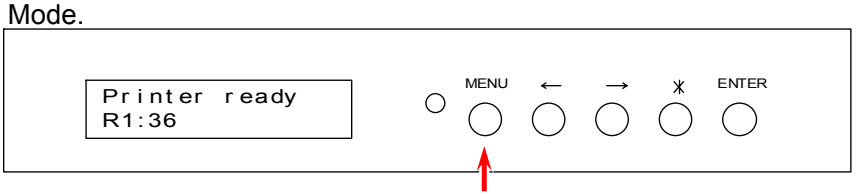
Service Mode and Utility Software

8. 1 Outline of Service Mode

8. 1. 1 Entering Service Mode

1. Remove the cover from the front face of the machine to access the Sub UI.

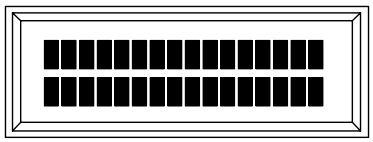
2. Confirm that the machine is OFF.
   Then turn on the machine while pressing the [MENU] Key.
   You can unlock the key operation of Sub UI by this operation, so it becomes possible to enter the Service Mode.



> **NOTE**
>
> It is impossible to enter the Service Mode if the key operation is locked.

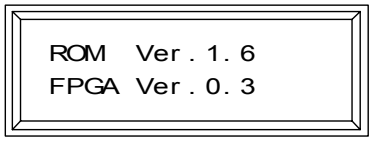
3. Press and hold the [*] key, and then press the keys in the order as [←], [←], [→] and [←] to enter the Service Mode.
   All segments on the LCD light when you enter the Service Mode.

All segments light.



4. Keep your finger away from the [*] key, and the ROM version is indicated.

ROM version is indicated.



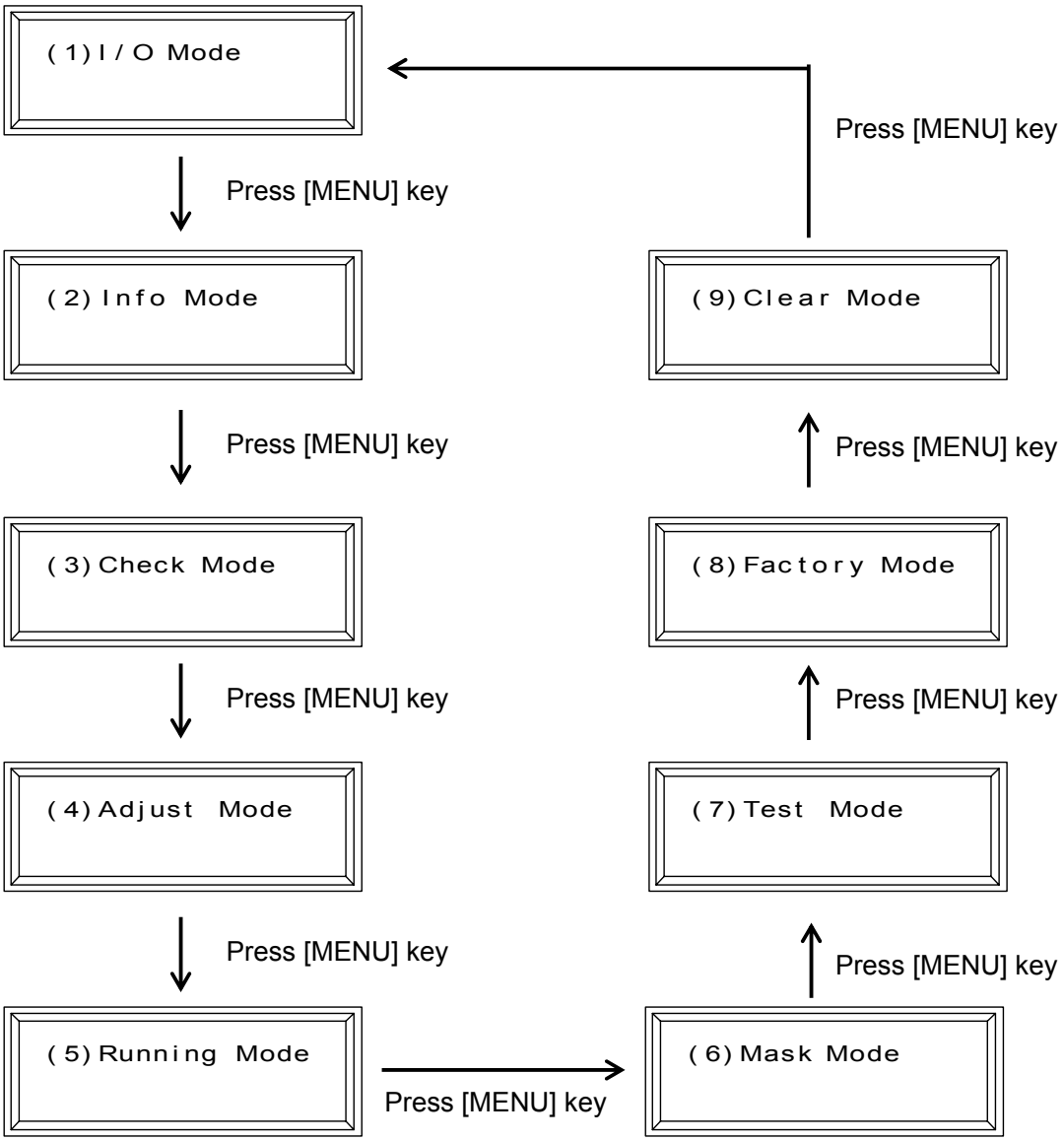
5. Then, select the necessary Sub Mode making reference to [1. 2 Selecting each Sub Mode] on the next page.

8. 1. 2 Selecting each Sub Mode

Service Mode consists of the following 9 sub modes.

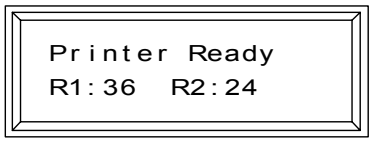
	Service Mode Name
1	Device Status Mode
2	Information Mode
3	Device Operation Mode
4	Adjustment Mode
5	Running Mode
6	Jam/Error Masking Mode
7	Test Print Mode
8	Factory Adjustment Mode
9	Clear Mode

You can select each sub mode orderly whenever you press the [MENU] key.



8. 1. 3 Cancelling the Service Mode

Press and hold the [MENU] key, and then press the [*] key to cancel the Service Mode.
The LCD indicates printer's status after the cancellation.



NOTE

The key operation of Sub UI is automatically locked if you turn off the machine.

8. 2 Device Status Mode

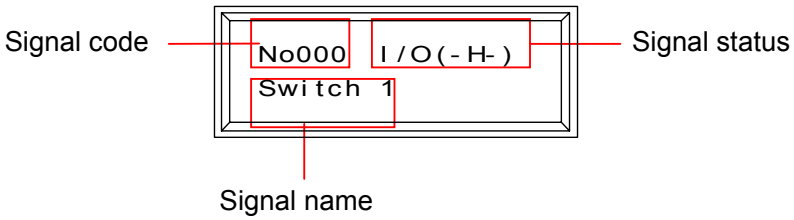
8. 2. 1 Function

It is possible to observe the status of each signal (input and output) independently.

8. 2. 2 Indication and Operation

1. Indicate “(1) I/O Mode” on the LCD pressing the [MENU] key.

2. Press the [ENTER] key, and you can enter the Device Status Mode.
   The LCD indicates signal code, signal name and signal status.



3. Pressing [←] key or [→] key, indicate the necessary signal code on the LCD.
   The LCD also indicates the signal name and its status according to the selected signal code.

8. 2. 3 Device Signal List

Signal Code	Symbol	IC Port	Connector	Signal Name	Input / Output	Status
000	SW1	IC18 D1	J205-17	Input Switch 1	Input	L : ON
001	SW2	IC18 D2	J205-18	Input Switch 2	Input	L : ON
002	SW3	IC18 D3	J205-19	Input Switch 3	Input	L : ON
003	SW4	IC18 D4	J205-20	Input Switch 4	Input	L : ON
004	SW5	IC18 D5	J205-21	Input Switch 5	Input	L : ON
005		IC18 D6	J202-7			
006		IC18 D7	J202-8			
007	SCI_DATA	IC18 D8		Serial Data Input	Input	
008	MAN_S	IC19 D1	J204-20	Manual Feed Sensor	Input	H : Paper detected
009	DOOR_OPN	IC19 D2	J204-21	Roll Deck Open	Input	H : Open
010	SEP_S	IC19 D3	J204-22	Separation Sensor	Input	L : Paper detected
011	HEAT_EXIT	IC19 D4	J204-23	Exit Sensor	Input	L : Paper detected
012	INPORT1	IC19 D5	J204-24	Input Port 1	Input	Not used
013	HEAT_DOOR	IC19 D6	J204-25	Heater Hatch Open	Input	L : Open
014		IC19 D7	J207-5			
015	SIG_IN	IC19 D8	J204-27	Stacker Input	Input	
016	ONLINE_LED	IC20 Q1	J205-15	Online LED	Output	H : ON
017	COOL_BL_L	IC20 Q2	J207-14	Fuser Cooling Fan (Left)	Output	H : Rotate
018	SCI_LD	IC20 Q3		Serial LD		
019	SCI_CLK	IC20 Q4		Serial Clock		
020	COOL_BLW_R	IC20 Q5	J207-13	Fuser Cooling Fan (Right)	Output	H : Rotate
021	SIG_OUT	IC20 Q6	J204-28	Stacker Output	Output	
022	HEAT_BL_L	IC20 Q7	J207-12	Fuser Blower (Low)	Output	H : ON
023	HEAT_BL_H	IC20 Q8	J207-12	Fuser Blower (High)	Output	H : ON
024	MAMTR	IC21 Q1	J206-7	Main Motor	Output	H : Rotate
025	HEAT_M	IC21 Q2	J206-8	Fuser Motor	Output	H : Rotate
026	HV_1ST	IC21 Q3	J206-9	Image Corona	Output	H : Output
027	HV_TR	IC21 Q4	J206-10	Transfer Corona	Output	H : Output
028	HV_AC	IC21 Q5	J206-11	Separation Corona	Output	H : Output
029	BIAS_TRG	IC21 Q6	J206-12	Developer Bias	Output	H : Output
030	BIAS_SW	IC21 Q7	J206-13	Developer Bias Polarity Switch	Output	L : Positive Bias
031		IC21 Q8	J206-14			
032	H1_CW_CCW	IC22 Q1	J206-15	Fuser Motor Reversal Rotation	Output	H : Reverse
033	PRESS_M	IC22 Q2	J206-16	Developer Press Motor	Output	H : Rotate
034	TONER_M	IC22 Q3	J206-17	Hopper Motor	Output	H : Rotate
035	CLEAN_SW	IC22 Q4	J206-18	Cleaning Roller Voltage Polarity Switch	Output	L : Positive
036	FEED_BL	IC22 Q5	J206-22	Blower (BL7) Control	Output	H : Rotate
037	HEAT1	IC22 Q6	J206-25	SSR ON/OFF Signal 1	Output	H : Heater Lamp lights
038	COOL_BL_C	IC22 Q7	J206-26	Fuser Cooling Fan (Center)	Output	H : Rotate
039	POWER_OFF	IC22 Q8	J206-27	Power Switch Output	Output	H : OFF
040	ER2	IC23 Q1	J207-3	Separation Lamp Control	Output	H : Lighting
041	COUNT	IC23 Q2	J207-4	Counter	Output	H : Counting up
042	HEAT_RY	IC23 Q3	J207-5	Fuser Relay	Output	H : ON
043	SLCT_CL	IC23 Q4		Clutch Selection (Roll 1 or 2)	Output	H : Roll 1
044	FOWE_CL	IC23 Q5	J207-6(R1) J207-8(R2)	Roll 1&2 Feed Clutch	Output	H : ON
045	BACK_CL	IC23 Q6	J207-9(R1) J208-9(R2)	Roll 1&2 Back Clutch	Output	H : ON
046	FEED_CL	IC23 Q7	J207-10	Feed Clutch	Output	H : ON
047	REGIST_CL	IC23 Q8	J207-11	Registration Clutch	Output	H : ON
048	M_LD	IC24 H	J203-14	Main Motor Output Detection	Input	
049	FUMTR_LD	IC24 G	J203-15	Fuser Motor Output Detection	Input	
050	DIS_CN	IC24 F	J203-16	Developer Connection Detection	Input	
051	HV1_LD	IC24 E	J203-17	Image Corona Output Detection	Input	
052	TR_LD	IC24 D	J203-18	Transfer Corona Output Detection	Input	
053	AC_LD	IC24 C	J203-19	Separation Corona Output Detection	Input	

Signal Code	Symbol	IC Port	Connector	Signal Name	Input / Output	Status
054	BIAS_LD	IC24 B	J203-20	Developer Bias Output Detection	Input	
055	COUNT_OPEN	IC24 A	J207-4	Counter Connection Detection	Input	
056	IBUSY_H	IC1-P10		Data Output Busy	Output	H : Busy
057	IPRADY_L	IC1-P11		Printer Ready	Output	L : Ready
058	IPREQ_L	IC1-P12		Print Request	Output	L : Requested
059	PAGEBL	IC1-P13		Print Request	Output	L : Print ON
060	TEST_H	IC1-P14		Test Print	Output	H : Test Printing
061	I_POW_ON_A	IC1-P15			Output	
062	I_POW_ON_B	IC1-P16			Output	
063		IC1-P17				
064	LCD_CLK	IC1-P20		LCD Clock	Output	
065	LCD_DATA	IC1-P21		LCD Data	Output	
066	LCD_EN	IC1-P23	J205-6	LCD Enable	Output	
067	LCD_RW	IC1-P24	J205-5	Data Read / Write Selection	Output	
068	LCD_RS	IC1-P22	J205-4	LCD Input Selection	Output	
069	CLEAN BIAS	IC1-P25	J206-5	Cleaning Roller Bias	Output	H : Output
070		IC1-P26	J206-6			
071	RESET_SIG	IC1-P27		Reset Signal	Output	
072	RXD0	IC1-P32		Serial 0 Input	Input	
073	RXD1	IC1-P33		Serial 1 Input	Input	
074	RXD2	IC1-P51		Serial 2 Input	Input	
075	TXD0	IC1-P30		Serial 0 Output	Output	
076	TXD1	IC1-P31		Serial 1 Output	Output	
077	TXD2	IC1-P50		Serial 2 Output	Output	
078	MSCUTR	IC1-P60	J204-5	Cutter Home Position Sensor (Right)	Input	L : Staying at Home Position
079	MSCUTL	IC1-P61	J204-6	Cutter Home Position Sensor (Left)	Input	L : Staying at Home Position
080	MCUTL	IC1-P63	J207-1	Cutter Motor 1	Output	H : Rotate
081	MCUTR	IC1-P62	J207-2	Cutter Motor 2	Output	H : Rotate
082	IPRINT_L	IC1-P34		Print Request	Input	L : Requested
083	IPCUT_L	IC1-P64		Paper Cut Request	Input	L : Cutting
084	REGIST_S	IC1-P65	J204-7	Registration Sensor	Input	H : Paper detected
085	R1_ENC_S	IC1-P66	J204-8	Roll 1 Encoder	Input	
086	R2_ENC_S	IC1-P67	J204-9	Roll 2 Encoder	Input	
087	VLC_OFF	IC1-PG0		LCD Indication ON/OFF	Output	H : Indicating
088	PRESS_S	IC1-PA5	J204-10	Developer Press Sensor	Input	L : Detecting
089	R1_SET_S	IC1-PA6	J204-11	Roll 1 Set Sensor	Input	H : Paper detected
090	R2_SET_S	IC1-PA7	J204-12	Roll 2 Set Sensor	Input	H : Paper detected
091	TONER_S	AN5		Toner Sensor	Input	H : Toner detected
092	R_EDGE	IC1-PF7	J204-13	Feed Sensor	Input	H : Paper detected
093						
094						
095						

8. 3 Information Mode

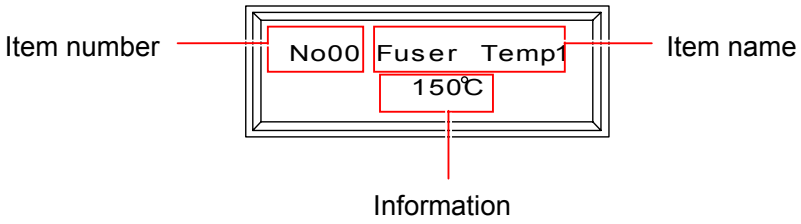
8. 3. 1 Function

It is possible to monitor several kinds of information like analog data, operation time of each electric component and some other information.

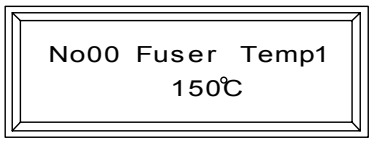
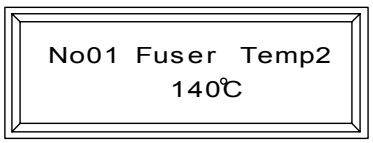
8. 3. 2 Indication and Operation

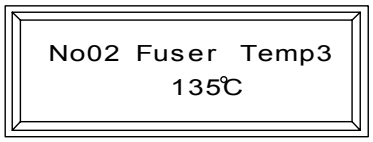
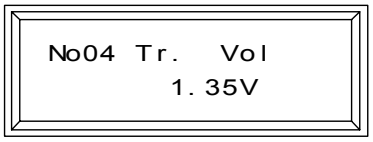
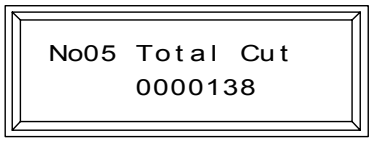
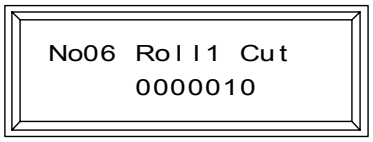
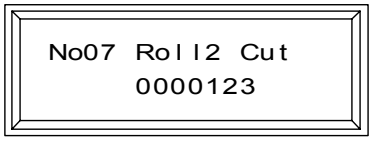
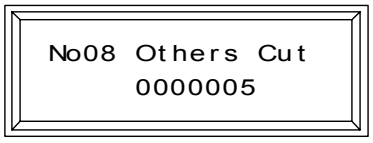
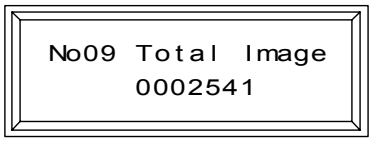
1. Indicate “(2) Info Mode” on the LCD pressing the [MENU] key.

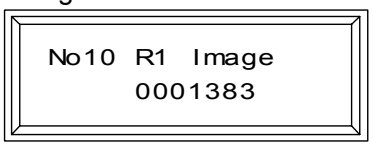
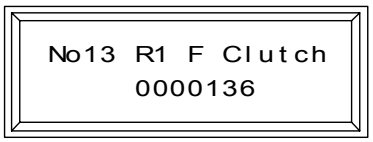
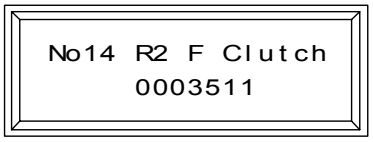
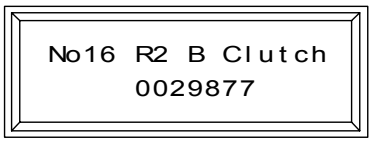
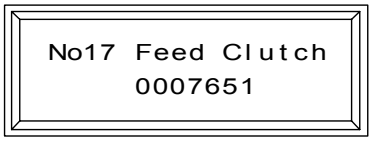
2. Press the [ENTER] key, and you can enter the Information Mode.
   The LCD indicates item number, item name and information.

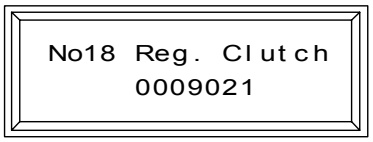
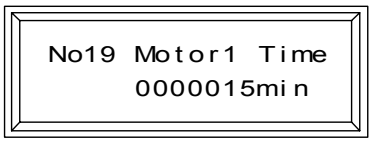
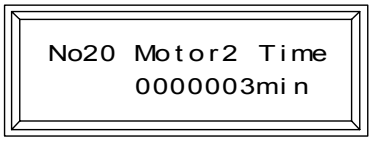
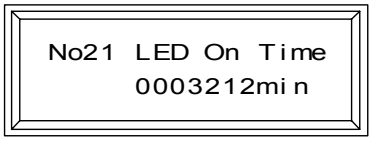
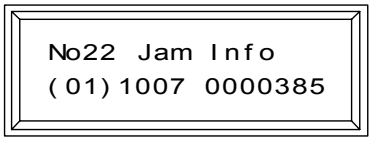


3. Indicate the necessary item number pressing [←] key or [→] key, and you can check the concerning information.
   The following list shows the item number, item name and the concerning information.

Item Number	Item Name (Indication)	Information
00	Fuser Temp 1 	This item indicates the temperature of the central part of Fuser Roller.
01	Fuser Temp 2 	This item indicates the temperature of the right side of Fuser Roller.

Item Number	Item Name (Indication)	Information
02	Fuser Temp 3 	This item indicates the temperature of the left side of Fuser Roller.
03	Bias Vol 	This item indicates the analog output voltage for the Developer Bias.
04	Tr. Vol 	This item indicates the analog output voltage for the Transfer Corona.
05	Total Cut 	This item indicates how many times the Cutter has operated totally for cutting the paper supplied from every source.
06	Roll 1 Cut 	This item indicates how many times the Cutter has operated totally for cutting the paper supplied from Roll 1.
07	Roll 2 Cut 	This item indicates how many times the Cutter has operated totally for cutting the paper supplied from Roll 2.
08	Others cut 	This item indicates how many times the Cutter has operated when the machine was not on printing.
09	Total Image 	This item indicates how many times the printer has made printing operation totally.

Item Number	Item Name (Indication)	Information
10	R1 Image 	This item indicates how many times the printer has made printing operation with the Roll 1.
11	R2 Image 	This item indicates how many times the printer has made printing operation with the Roll 2.
12	M Image 	This item indicates how many times the printer has made printing operation with the cut sheet paper from Bypass Feeder.
13	R1 F Clutch 	This item indicates how many times the Roll 1 Feed Clutch has operated up to the present.
14	R2 F Clutch 	This item indicates how many times the Roll 2 Feed Clutch has operated up to the present.
15	R1 B Clutch 	This item indicates how many times the Roll 1 Back Clutch has operated up to the present.
16	R2 B Clutch 	This item indicates how many times the Roll 2 Back Clutch has operated up to the present.
17	Feed Clutch 	This item indicates how many times the Feed Clutch has operated up to the present.

Item Number	Item Name (Indication)	Information
18	Reg. Clutch 	This item indicates how many times the Registration Clutch has operated up to the present.
19	Motor 1 Time 	This item indicates how long minutes the Main Motor has operated up to the present.
20	Motor 2 Time 	This item indicates how long minutes the Fuser Motor has operated up to the present.
21	LED On Time 	It indicates how long minutes the LED Head has lighted up to the present.
22	JAM Info 	This item indicates the record of jams. The information indicated on the second line is “JAM History No.”, “Jam Code” and “Counter Value (at the time of jam)”. The latest 20 jams can be indicated in succession whenever you press the ENTER Key.
23	Error Info 	This item indicates the record of errors. The information indicated on the second line is “Error History No.”, “Error Code” and “Counter Value (at the time of error)”. The latest 20 errors can be indicated in succession whenever you press the ENTER Key.

8. 4 Device Operation Mode

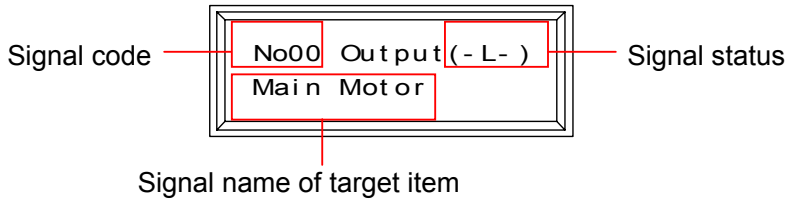
8. 4. 1 Function

It is possible to operate several electrical components independently, such as motor, clutch, & fans. By this you can check whether or not the DC Controller PCB (PW10520) correctly outputs the signal to each component, and also you can check whether or not such electrical component operates correctly.

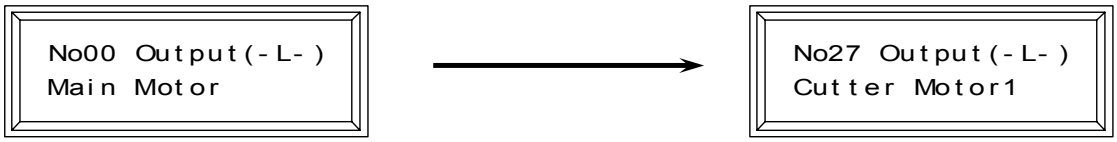
8. 4. 2 Indication and Operation

1. Indicate “(3) Check Mode” on the LCD pressing the [MENU] key.

2. Press the [ENTER] key, and you can enter the Device Operation Mode.
   The LCD indicates signal code, signal name of target item and signal status.

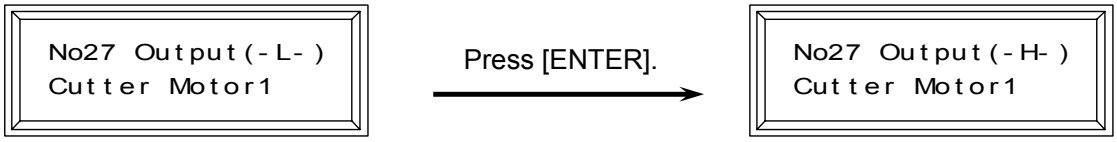


3. Pressing the [←] key or [→] key, indicate the signal code of which target item you would like to operate.
   (Example : You will check the operation of Cutter Motor 1.)



Signal Code	Signal Name	Target item	Signal Code	Signal Name	Target item
00	Main Motor	Main Motor	18	Clean +/- SW	Positive/Negative selection of Cleaning Roller Voltage
01	Fuser Motor	Fuser Motor	19	Cooler Blower (R)	Cooling Fan (Right)
02	Fuser Rev Motor	Fuser Motor (Reversal rotation)	20	Tr Assist LED	Transfer Assist LED
03	Press Motor	Developer Press Motor	21	Heater Lamp 1	Fuser Lamp 1
04	Supply Motor	Toner Supply Motor	22	Heater Relay	Fuser Relay
05	Reserve	Reserved	23	Heater Blower (L)	Fuser Blower (Low speed)
06	Roll 1 Feed CL	Roll 1 Feed Clutch	24	Heater Blower (H)	Fuser Blower (High speed)
07	Roll 1 Back CL	Roll 1 Back Clutch	25	Feed Blower	Paper Feed Blower
08	Roll 2 Feed CL	Roll 2 Feed Clutch	26	Counter	Counter
09	Roll 2 Back CL	Roll 2 Back Clutch	27	Cutter Motor 1	Cutter Motor 1
10	Feed CL	Feed Clutch	28	Cutter Motor 2	Cutter Motor 2
11	Reg. CL	Registration Clutch	29	Main Switch	Main Switch
12	1st Corona	Image Corona	30	Cooler Blower (L)	Cooling Fan (Left)
13	Tr Corona	Transfer Corona	31	Cooler Blower (C)	Cooling Fan (Center)
14	Sep Corona	Separation Corona			
15	Bias	Developer Bias			
16	Bias +/- Select	Positive/Negative selection of Developer Bias			
17	Clean Bias	Cleaning Roller Bias			

4. When you press the [ENTER] key, the status of output signal changes from “L” to “H” and the selected target item operates independently.



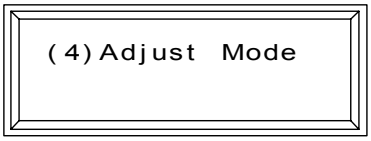
8. 5 Adjustment Mode

8. 5. 1 Function

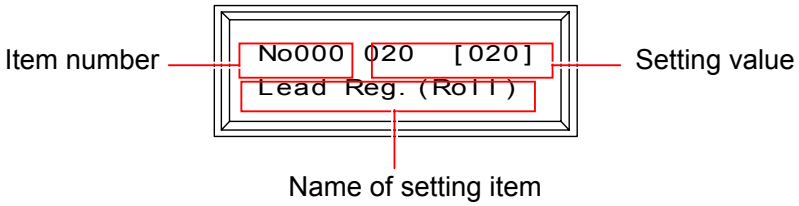
It is possible to adjust the fundamental settings of the printer.

8. 5. 2 Indication and Operation

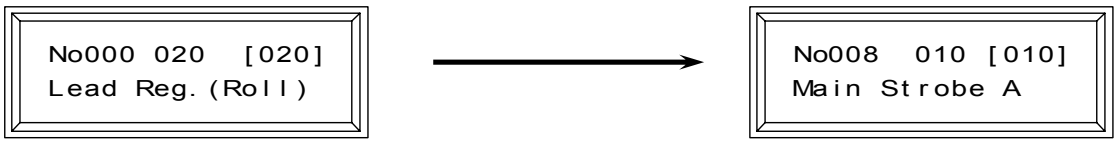
1. Indicate “(4) Adjust Mode” on the LCD pressing the [MENU] key.



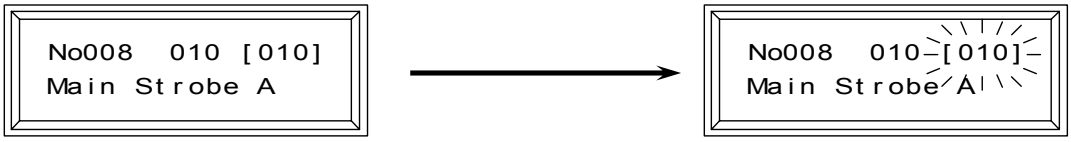
2. Press the [ENTER] key, and you can enter the Adjustment Mode.
   The LCD indicates item number, name of setting item and setting value.



3. Pressing the [←] key or [→] key, indicate the Item Number of which Setting Value you will change.
   Please refer to [8.5.3 Setting item list] on and after the page 8-20 for the detail of each setting item.
   (Example: You will change “Main Strobe A”.)

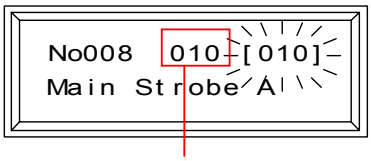


4. Press the [ENTER] key.
   The setting value in the parenthesizes starts flashing and it becomes possible to change it.



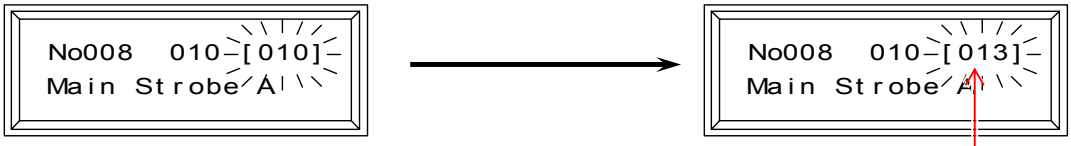
NOTE

The LCD indicates another value that is not in the parenthesises. This is the current setting value.



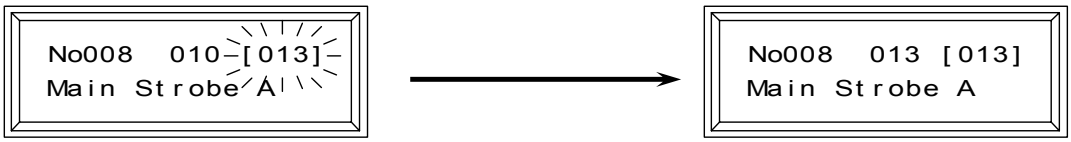
Current setting value

5. Change the setting value pressing [←] key or [→] key.



Change the value.

6. Press the [ENTER] key.
   New value stops flashing and it is validated.



NOTE

Some Setting Items may require another way of operation.
This kind of special operation is written in each explanation in [5.3 Explanation for each Setting Item].

8. 5. 3 Setting Item list

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
000	Leading Registration (Roll paper)	1mm	17	19	1 to 40	8-34
001	Leading Registration (Cut sheet paper)	1mm	18	20	1 to 40	8-34
002	Trailing Margin (Roll paper)	1mm	9	10	1 to 40	8-34
003	Trailing Margin (Cut sheet paper)	1mm	9	10	1 to 40	8-34
004	Side Margin (Left and right)	1mm	0	0	0 to 20	8-35
005	Reserved					
006	Reserved					
007	Reserved					
008	LED Strobe Time for Main Pixel (Block A)	1 microsecond	10	10	0 to 13	8-36
009	LED Strobe Time for Main Pixel (Block B)	1 microsecond	10	10	0 to 13	8-36
010	LED Strobe Time for Main Pixel (Block C)	1 microsecond	10	10	0 to 13	8-36
011	LED Strobe Time for IST (Supplemental Pixel) (Block A)	1 microsecond	0	0	0 to 13	8-38
012	LED Strobe Time for IST (Supplemental Pixel) (Block B)	1 microsecond	0	0	0 to 13	8-38
013	LED Strobe Time for IST (Supplemental Pixel) (Block C)	1 microsecond	0	0	0 to 13	8-38
014	Horizontal Alignment of Pixels between Image Blocks A & B	-	8	8	2 to 14	8-40
015	Horizontal Alignment of Pixels between Image Blocks B & C	-	8	8	2 to 14	8-40
016	Cut Length 1 (length information provided)	1mm	43	43	0 to 100	8-41
017	Cut Length 2 (length information not provided)	1mm	50	50	0 to 100	8-41
018	Cut Length 3 (Compensation of the length of a long print)	0.1mm	500	500	0 to 999	8-42
019	Reserved	-				
020	Reserved	-				
021	Reserved	-				
022	Developer Bias (Plain Paper)	-	135	135	0 to 255	8-44
023	Developer Bias (Tracing Paper)	-	135	135	0 to 255	8-44
024	Developer Bias (Film)	-	135	135	0 to 255	8-44
025	Developer Bias (Special Media/Plain Paper)	-	135	135	0 to 255	8-44
026	Developer Bias (Special Media/Tracing Paper)	-	135	135	0 to 255	8-44
027	Developer Bias (Special Media/Film)	-	135	135	0 to 255	8-44
028	Developer Bias compensation - 1st Drum revolution	-	155	155	0 to 255	8-45
029	Transfer Voltage (Plain Paper)	-	243	243	3 to 255	8-45
030	Transfer Voltage (Tracing Paper)	-	243	243	3 to 255	8-45
031	Transfer Voltage (Film)	-	243	243	3 to 255	8-45
032	Transfer Voltage (Special Media/Plain Paper)	-	175	175	3 to 255	8-45
033	Transfer Voltage (Special Media/Tracing Paper)	-	175	175	3 to 255	8-45
034	Transfer Voltage (Special Media/Film)	-	175	175	3 to 255	8-45
035	Separation Corona ON Timing	1mm	50	50	0 to 100	8-46
036	Reserved					
037	Transfer Corona ON Timing	1mm	50	48	0 to 100	8-46
038	Transfer Corona OFF Timing	1mm	35	23	0 to 100	8-47
039	Fuser Temperature (Plain Paper)	1°C	165	165	120 to 180	8-48
040	Fuser Temperature (Tracing paper)	1°C	164	165	120 to 180	8-48
041	Fuser Temperature (Film)	1°C	170	160	120 to 180	8-48
042	Fuser Temperature (Special Media/Plain Paper)	1°C	165	165	120 to 180	8-48
043	Fuser Temperature (Special Media/Tracing Paper)	1°C	165	165	120 to 180	8-48
044	Fuser Temperature (Special Media/Film)	1°C	160	160	120 to 180	8-48
045	Fuser temperature to Start Idling	1°C	120	120	100 to 140	8-49
046	Warm Sleep - Fuser Temperature	1°C	100	100	100 to 160	8-49
047	Fuser Temperature Overshoot Value	1°C	0	10	0 to 30	8-50
048	Fuser Temperature Control Range (In the print cycle)	1°C	1	1	1 to 20	8-51
049	Fuser Temperature Control Range (Stand by)	1°C	2	2	1 to 20	8-51
050	Reaction Time of Toner Supply Motor	1 Second	15	15	1 to 30	8-52
051	Toner Supply Motor Time	1 Second	10	10	1 to 15	8-52
052	Dot Enhancement Level (Dither)	-	1	1	1 to 3	8-53
053	Feed Clutch OFF Time applied to long print	1msec.	130	130	80 to 180	8-54
054	Switch timing of Toner Supply Roller Bias	1mm	45	45	0 to 220	8-55
055	Metric or Inch	-	1	0	0 to 1	8-56
056	Language	-	1	1	0 to 1	8-56
057	Interface Communication Setting	-	2	2	0 to 2	8-56

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
058	Recognition of Roll Deck 2	-	1	1	0 to 1	8-56
059	Counter Value	-	5	0	0 to 5	8-57
060	Maximum Length	-	0	0	0 to 1	8-57
061	Stacking Device Setting		0	0	0 to 1	8-57
062	Operation of Fuser Roller		0	0	0 to 1	8-58
063	Operation of Central Fuser Fan (Tracing paper)	1°C	167	168	130 to 170	8-58
064	Operation of Central Fuser Fan (Special tracing paper)	1°C	143	143	130 to 170	8-58
065	Drum ReverseTime	1 millisecond	50	50	10 to 70	8-58
066	Reserved					
067	Operation of Separation Lamp		4	4	1 to 7	8-59
068	Reserved					
069	Automatic Adjustment of Cut Length	-			-	8-60
070	Fuser Motor 1st Speed (Roll) (Plain Paper / A3, 12" & 11")	-	25	23	0 to 40	8-61
071	Switch Timing to Fuser Motor 1st Speed (Roll) (Plain Paper / A3, 12" & 11")	1 second	1	1	0 to 400	8-61
072	Fuser Motor 2nd Speed (Roll) (Plain Paper / A3, 12" & 11")	-	27	25	0 to 40	8-61
073	Switch Timing to Fuser Motor 2nd Speed (Roll) (Plain Paper / A3, 12" & 11")	1 second	2	2	0 to 400	8-61
074	Fuser Motor 3rd Speed (Roll) (Plain Paper / A3, 12" & 11")	-	20	21	0 to 40	8-61
075	Switch Timing to Fuser Motor 3rd Speed (Roll) (Plain Paper / A3, 12" & 11")	1 second	2	2	0 to 400	8-61
076	Fuser Motor 1st Speed (Roll) (Tracing / A3, 12" & 11")	-	23	23	0 to 40	8-63
077	Switch Timing to Fuser Motor 1st Speed (Roll) (Tracing / A3, 12" & 11")	1 second	1	1	0 to 400	8-63
078	Fuser Motor 2nd Speed (Roll) (Tracing / A3, 12" & 11")	-	23	23	0 to 40	8-63
079	Switch Timing to Fuser Motor 2nd Speed (Roll) (Tracing / A3, 12" & 11")	1 second	2	2	0 to 400	8-63
080	Fuser Motor 3rd Speed (Roll) (Tracing / A3, 12" & 11")	-	23	23	0 to 40	8-63
081	Switch Timing to Fuser Motor 3rd Speed (Roll) (Tracing / A3, 12" & 11")	1 second	3	3	0 to 400	8-63
082	Fuser Motor 1st Speed (Roll) (Film / A3, 12" & 11")	-	25	22	0 to 40	8-64
083	Switch Timing to Fuser Motor 1st Speed (Roll) (Film / A3, 12" & 11")	1 second	1	1	0 to 400	8-64
084	Fuser Motor 2nd Speed (Roll) (Film / A3, 12" & 11")	-	25	22	0 to 40	8-64
085	Switch Timing to Fuser Motor 2nd Speed (Roll) (Film / A3, 12" & 11")	1 second	2	2	0 to 400	8-64
086	Fuser Motor 3rd Speed (Roll) (Film / A3, 12" & 11")	-	20	20	0 to 40	8-64
087	Switch Timing to Fuser Motor 3rd Speed (Roll) (Film / A3, 12" & 11")	1 second	0	0	0 to 400	8-64
088	Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A3, 12" & 11")	-	20	20	0 to 40	8-65
089	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A3, 12" & 11")	1 second	0	0	0 to 400	8-65
090	Fuser Motor 2nd Speed Setting (Roll) (Special Media / Plain Paper / A3, 12" & 11")	-	20	20	0 to 40	8-65
091	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / A3, 12" & 11")	1 second	0	0	0 to 400	8-65
092	Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A3, 12" & 11")	-	20	20	0 to 40	8-65
093	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A3, 12" & 11")	1 second	0	0	0 to 400	8-65

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
094	Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A3, 12" & 11")	-	20	20	0 to 40	8-66
095	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A3, 12" & 11")	1 second	0	0	0 to 400	8-66
096	Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A3, 12" & 11")	-	20	20	0 to 40	8-66
097	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A3, 12" & 11")	1 second	0	0	0 to 400	8-66
098	Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A3, 12" & 11")	-	20	20	0 to 40	8-66
099	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A3, 12" & 11")	1 second	0	0	0 to 400	8-66
100	Fuser Motor 1st Speed (Roll) (Special Media / Film / A3, 12" & 11")	-	20	20	0 to 40	8-67
101	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Film / A3, 12" & 11")	1 second	0	0	0 to 400	8-67
102	Fuser Motor 2nd Speed (Roll) (Special Media / Film / A3, 12" & 11")	-	20	20	0 to 40	8-67
103	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Film / A3, 12" & 11")	1 second	0	0	0 to 400	8-67
104	Fuser Motor 3rd Speed (Roll) (Special Media / Film / A3, 12" & 11")	-	20	20	0 to 40	8-67
105	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Film / A3, 12" & 11")	1 second	0	0	0 to 400	8-67
106	Fuser Motor 1st Speed (Roll) (Plain Paper / A2, 18" & 17")	-	23	22	0 to 40	8-68
107	Switch Timing to Fuser Motor 1st Speed (Roll) (Plain Paper / A2, 18" & 17")	1 second	1	1	0 to 400	8-68
108	Fuser Motor 2nd Speed (Roll) (Plain Paper / A2, 18" & 17")	-	24	24	0 to 40	8-68
109	Switch Timing to Fuser Motor 2nd Speed (Roll) (Plain Paper / A2, 18" & 17")	1 second	3	3	0 to 400	8-68
110	Fuser Motor 3rd Speed (Roll) (Plain Paper / A2, 18" & 17")	-	23	22	0 to 40	8-68
111	Switch Timing to Fuser Motor 3rd Speed (Roll) (Plain Paper / A2, 18" & 17")	1 second	5	5	0 to 400	8-68
112	Fuser Motor 1st Speed (Roll) (Tracing / A2, 18" & 17")	-	23	23	0 to 40	8-69
113	Switch Timing to Fuser Motor 1st Speed (Roll) (Tracing / A2, 18" & 17")	1 second	1	1	0 to 400	8-69
114	Fuser Motor 2nd Speed (Roll) (Tracing / A2, 18" & 17")	-	24	24	0 to 40	8-69
115	Switch Timing to Fuser Motor 2nd Speed (Roll) (Tracing / A2, 18" & 17")	1 second	3	3	0 to 400	8-69
116	Fuser Motor 3rd Speed (Roll) (Tracing / A2, 18" & 17")	-	24	24	0 to 40	8-69
117	Switch Timing to Fuser Motor 3rd Speed (Roll) (Tracing / A2, 18" & 17")	1 second	3	3	0 to 400	8-69
118	Fuser Motor 1st Speed (Roll) (Film / A2, 18" & 17")	-	25	22	0 to 40	8-70
119	Switch Timing to Fuser Motor 1st Speed (Roll) (Film / A2, 18" & 17")	1 second	1	1	0 to 400	8-70
120	Fuser Motor 2nd Speed (Roll) (Film / A2, 18" & 17")	-	25	22	0 to 40	8-70
121	Switch Timing to Fuser Motor 2nd Speed (Roll) (Film / A2, 18" & 17")	1 second	3	3	0 to 400	8-70
122	Fuser Motor 3rd Speed (Roll) (Film / A2, 18" & 17")	-	20	20	0 to 40	8-70
123	Switch Timing to Fuser Motor 3rd Speed (Roll) (Film / A2, 18" & 17")	1 second	0	0	0 to 400	8-70

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
124	Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A2, 18" & 17")	-	20	20	0 to 40	8-71
125	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A2, 18" & 17")	1 second	0	0	0 to 400	8-71
126	Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / A2, 18" & 17")	-	20	20	0 to 40	8-71
127	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / A2, 18" & 17")	1 second	0	0	0 to 400	8-71
128	Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A2, 18" & 17")	-	20	20	0 to 40	8-71
129	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A2, 18" & 17")	1 second	0	0	0 to 400	8-71
130	Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A2, 18" & 17")	-	20	20	0 to 40	8-72
131	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A2, 18" & 17")	1 second	0	0	0 to 400	8-72
132	Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A2, 18" & 17")	-	20	20	0 to 40	8-72
133	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A2, 18" & 17")	1 second	0	0	0 to 400	8-72
134	Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A2, 18" & 17")	-	20	20	0 to 40	8-72
135	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A2, 18" & 17")	1 second	0	0	0 to 400	8-72
136	Fuser Motor 1st Speed (Roll) (Special Media / Film / A2, 18" & 17")	-	20	20	0 to 40	8-73
137	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Film / A2, 18" & 17")	1 second	0	0	0 to 400	8-73
138	Fuser Motor 2nd Speed (Roll) (Special Media / Film / A2, 18" & 17")	-	20	20	0 to 40	8-73
139	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Film / A2, 18" & 17")	1 second	0	0	0 to 400	8-73
140	Fuser Motor 3rd Speed (Roll) (Special Media / Film / A2, 18" & 17")	-	20	20	0 to 40	8-73
141	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Film / A2, 18" & 17")	1 second	0	0	0 to 400	8-73
142	Fuser Motor 1st Speed (Roll) (Plain Paper / A1, 24" & 22")	-	22	21	0 to 40	8-74
143	Switch Timing to Fuser Motor 1st Speed (Roll) (Plain Paper / A1, 24" & 22")	1 second	1	1	0 to 400	8-74
144	Fuser Motor 2nd Speed (Roll) (Plain Paper / A1, 24" & 22")	-	21	22	0 to 40	8-74
145	Switch Timing to Fuser Motor 2nd Speed (Roll) (Plain Paper / A1, 24" & 22")	1 second	7	7	0 to 400	8-74
146	Fuser Motor 3rd Speed (Roll) (Plain Paper / A1, 24" & 22")	-	21	21	0 to 40	8-74
147	Switch Timing to Fuser Motor 3rd Speed (Roll) (Plain Paper / A1, 24" & 22")	1 second	8	8	0 to 400	8-74
148	Fuser Motor 1st Speed (Roll) (Tracing / A1, 24" & 22")	-	22	22	0 to 40	8-75
149	Switch Timing to Fuser Motor 1st Speed (Roll) (Tracing / A1, 24" & 22")	1 second	1	1	0 to 400	8-75
150	Fuser Motor 2nd Speed (Roll) (Tracing / A1, 24" & 22")	-	23	24	0 to 40	8-75
151	Switch Timing to Fuser Motor 2nd Speed (Roll) (Tracing / A1, 24" & 22")	1 second	7	7	0 to 400	8-75
152	Fuser Motor 3rd Speed (Roll) (Tracing / A1, 24" & 22")	-	22	23	0 to 40	8-75
153	Switch Timing to Fuser Motor 3rd Speed (Roll) (Tracing / A1, 24" & 22")	1 second	5	5	0 to 400	8-75

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
154	Fuser Motor 1st Speed (Roll) (Film / A1, 24" & 22")	-	21	21	0 to 40	8-76
155	Switch Timing to Fuser Motor 1st Speed (Roll) (Film / A1, 24" & 22")	1 second	1	1	0 to 400	8-76
156	Fuser Motor 2nd Speed (Roll) (Film / A1, 24" & 22")	-	21	21	0 to 40	8-76
157	Switch Timing to Fuser Motor 2nd Speed (Roll) (Film / A1, 24" & 22")	1 second	7	7	0 to 400	8-76
158	Fuser Motor 3rd Speed (Roll) (Film / A1, 24" & 22")	-	20	20	0 to 40	8-76
159	Switch Timing to Fuser Motor 3rd Speed (Roll) (Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-76
160	Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A1, 24" & 22")	-	20	20	0 to 40	8-77
161	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A1, 24" & 22")	1 second	0	0	0 to 400	8-77
162	Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / A1, 24" & 22")	-	20	20	0 to 40	8-77
163	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / A1, 24" & 22")	1 second	0	0	0 to 400	8-77
164	Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A1, 24" & 22")	-	20	20	0 to 40	8-77
165	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A1, 24" & 22")	1 second	0	0	0 to 400	8-77
166	Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A1, 24" & 22")	-	20	20	0 to 40	8-78
167	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A1, 24" & 22")	1 second	0	0	0 to 400	8-78
168	Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A1, 24" & 22")	-	20	20	0 to 40	8-78
169	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A1, 24" & 22")	1 second	0	0	0 to 400	8-78
170	Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A1, 24" & 22")	-	20	20	0 to 40	8-78
171	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A1, 24" & 22")	1 second	0	0	0 to 400	8-78
172	Fuser Motor 1st Speed (Roll) (Special Media / Film / A1, 24" & 22")	-	20	20	0 to 40	8-79
173	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-79
174	Fuser Motor 2nd Speed (Roll) (Special Media / Film / A1, 24" & 22")	-	20	20	0 to 40	8-79
175	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-79
176	Fuser Motor 3rd Speed (Roll) (Special Media / Film / A1, 24" & 22")	-	20	20	0 to 40	8-79
177	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-79
178	Fuser Motor 1st Speed (Roll) (Plain Paper / A0, 36" & 34")	-	19	18	0 to 40	8-80
179	Switch Timing to Fuser Motor 1st Speed (Roll) (Plain Paper / A0, 36" & 34")	1 second	1	1	0 to 400	8-80
180	Fuser Motor 2nd Speed (Roll) (Plain Paper / A0, 36" & 34")	-	19	19	0 to 40	8-80
181	Switch Timing to Fuser Motor 2nd Speed (Roll) (Plain Paper / A0, 36" & 34")	1 second	12	12	0 to 400	8-80
182	Fuser Motor 3rd Speed (Roll) (Plain Paper / A0, 36" & 34")	-	20	18	0 to 40	8-80
183	Switch Timing to Fuser Motor 3rd Speed (Roll) (Plain Paper / A0, 36" & 34")	1 second	11	11	0 to 400	8-80

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
184	Fuser Motor 1st Speed (Roll) (Tracing / A0, 36" & 34")	-	19	20	0 to 40	8-81
185	Switch Timing to Fuser Motor 1st Speed (Roll) (Tracing / A0, 36" & 34")	1 second	1	1	0 to 400	8-81
186	Fuser Motor 2nd Speed (Roll) (Tracing / A0, 36" & 34")	-	20	21	0 to 40	8-81
187	Switch Timing to Fuser Motor 2nd Speed (Roll) (Tracing / A0, 36" & 34")	1 second	12	12	0 to 400	8-81
188	Fuser Motor 3rd Speed (Roll) (Tracing / A0, 36" & 34")	-	20	19	0 to 40	8-81
189	Switch Timing to Fuser Motor 3rd Speed (Roll) (Tracing / A0, 36" & 34")	1 second	5	5	0 to 400	8-81
190	Fuser Motor 1st Speed (Roll) (Film / A0, 36" & 34")	-	22	20	0 to 40	8-82
191	Switch Timing to Fuser Motor 1st Speed (Roll) (Film / A0, 36" & 34")	1 second	1	1	0 to 400	8-82
192	Fuser Motor 2nd Speed (Roll) (Film / A0, 36" & 34")	-	25	23	0 to 40	8-82
193	Switch Timing to Fuser Motor 2nd Speed (Roll) (Film / A0, 36" & 34")	1 second	12	12	0 to 400	8-82
194	Fuser Motor 3rd Speed (Roll) (Film / A0, 36" & 34")	-	20	20	0 to 40	8-82
195	Switch Timing to Fuser Motor 3rd Speed (Roll) (Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-82
196	Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A0, 36" & 34")	-	20	20	0 to 40	8-83
197	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / A0, 36" & 34")	1 second	0	0	0 to 400	8-83
198	Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / A0, 36" & 34")	-	20	20	0 to 40	8-83
199	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / A0, 36" & 34")	1 second	0	0	0 to 400	8-83
200	Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A0, 36" & 34")	-	20	20	0 to 40	8-83
201	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / A0, 36" & 34")	1 second	0	0	0 to 400	8-83
202	Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A0, 36" & 34")	-	20	20	0 to 40	8-84
203	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Tracing / A0, 36" & 34")	1 second	0	0	0 to 400	8-84
204	Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A0, 36" & 34")	-	20	20	0 to 40	8-84
205	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / A0, 36" & 34")	1 second	0	0	0 to 400	8-84
206	Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A0, 36" & 34")	-	20	20	0 to 40	8-84
207	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / A0, 36" & 34")	1 second	0	0	0 to 400	8-84
208	Fuser Motor 1st Speed (Roll) (Special Media / Film / A0, 36" & 34")	-	20	20	0 to 40	8-85
209	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-85
210	Fuser Motor 2nd Speed (Roll) (Special Media / Film / A0, 36" & 34")	-	20	20	0 to 40	8-85
211	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-85
212	Fuser Motor 3rd Speed (Roll) (Special Media / Film / A0, 36" & 34")	-	20	20	0 to 40	8-85
213	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-85

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
214	Compensation of cut length (11" / Plain paper)	-	50	50	0 to 100	8-86
215	Compensation of cut length (11" / Tracing paper)	-	50	50	0 to 100	8-86
216	Compensation of cut length (11" / Film)	-	50	50	0 to 100	8-86
217	Compensation of cut length (11" / Special plain paper)	-	50	50	0 to 100	8-86
218	Compensation of cut length (11" / Special tracing paper)	-	50	50	0 to 100	8-86
219	Compensation of cut length (11" / Special film)	-	50	50	0 to 100	8-86
220	Compensation of cut length (12" / Plain paper)	-	50	50	0 to 100	8-86
221	Compensation of cut length (12" / Tracing paper)	-	50	50	0 to 100	8-86
222	Compensation of cut length (12" / Film)	-	50	50	0 to 100	8-86
223	Compensation of cut length (12" / Special plain paper)	-	50	50	0 to 100	8-86
224	Compensation of cut length (12" / Special tracing paper)	-	50	50	0 to 100	8-86
225	Compensation of cut length (12" / Special film)	-	50	50	0 to 100	8-86
226	Compensation of cut length (15" / Plain paper)	-	50	50	0 to 100	8-87
227	Compensation of cut length (15" / Tracing paper)	-	50	50	0 to 100	8-87
228	Compensation of cut length (15" / Film)	-	50	50	0 to 100	8-87
229	Compensation of cut length (15" / Special plain paper)	-	50	50	0 to 100	8-87
230	Compensation of cut length (15" / Special tracing paper)	-	50	50	0 to 100	8-87
231	Compensation of cut length (15" / Special film)	-	50	50	0 to 100	8-87
232	Compensation of cut length (17" / Plain paper)	-	50	50	0 to 100	8-87
233	Compensation of cut length (17" / Tracing paper)	-	50	50	0 to 100	8-87
234	Compensation of cut length (17" / Film)	-	50	50	0 to 100	8-87
235	Compensation of cut length (17" / Special plain paper)	-	50	50	0 to 100	8-87
236	Compensation of cut length (17" / Special tracing paper)	-	50	50	0 to 100	8-87
237	Compensation of cut length (17" / Special film)	-	50	50	0 to 100	8-87
238	Compensation of cut length (18" / Plain paper)	-	50	50	0 to 100	8-88
239	Compensation of cut length (18" / Tracing paper)	-	50	50	0 to 100	8-88
240	Compensation of cut length (18" / Film)	-	50	50	0 to 100	8-88
241	Compensation of cut length (18" / Special plain paper)	-	50	50	0 to 100	8-88
242	Compensation of cut length (18" / Special tracing paper)	-	50	50	0 to 100	8-88
243	Compensation of cut length (18" / Special film)	-	50	50	0 to 100	8-88
244	Compensation of cut length (22" / Plain paper)	-	50	50	0 to 100	8-88
245	Compensation of cut length (22" / Tracing paper)	-	50	50	0 to 100	8-88
246	Compensation of cut length (22" / Film)	-	50	50	0 to 100	8-88
247	Compensation of cut length (22" / Special plain paper)	-	50	50	0 to 100	8-88
248	Compensation of cut length (22" / Special tracing paper)	-	50	50	0 to 100	8-88
249	Compensation of cut length (22" / Special film)	-	50	50	0 to 100	8-88
250	Compensation of cut length (24" / Plain paper)	-	50	50	0 to 100	8-89
251	Compensation of cut length (24" / Tracing paper)	-	50	50	0 to 100	8-89
252	Compensation of cut length (24" / Film)	-	50	50	0 to 100	8-89
253	Compensation of cut length (24" / Special plain paper)	-	50	50	0 to 100	8-89
254	Compensation of cut length (24" / Special tracing paper)	-	50	50	0 to 100	8-89
255	Compensation of cut length (24" / Special film)	-	50	50	0 to 100	8-89
256	Compensation of cut length (30" / Plain paper)	-	50	50	0 to 100	8-89
257	Compensation of cut length (30" / Tracing paper)	-	50	50	0 to 100	8-89
258	Compensation of cut length (30" / Film)	-	50	50	0 to 100	8-89
259	Compensation of cut length (30" / Special plain paper)	-	50	50	0 to 100	8-89
260	Compensation of cut length (30" / Special tracing paper)	-	50	50	0 to 100	8-89
261	Compensation of cut length (30" / Special film)	-	50	50	0 to 100	8-89
262	Compensation of cut length (34" / Plain paper)	-	50	50	0 to 100	8-90
263	Compensation of cut length (34" / Tracing paper)	-	50	50	0 to 100	8-90
264	Compensation of cut length (34" / Film)	-	50	50	0 to 100	8-90
265	Compensation of cut length (34" / Special plain paper)	-	50	50	0 to 100	8-90
266	Compensation of cut length (34" / Special tracing paper)	-	50	50	0 to 100	8-90
267	Compensation of cut length (34" / Special film)	-	50	50	0 to 100	8-90
268	Compensation of cut length (36" / Plain paper)	-	50	50	0 to 100	8-90
269	Compensation of cut length (36" / Tracing paper)	-	50	50	0 to 100	8-90
270	Compensation of cut length (36" / Film)	-	54	54	0 to 100	8-90
271	Compensation of cut length (36" / Special plain paper)	-	50	50	0 to 100	8-90
272	Compensation of cut length (36" / Special tracing paper)	-	50	50	0 to 100	8-90
273	Compensation of cut length (36" / Special film)	-	50	50	0 to 100	8-90

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Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
274	Compensation of cut length (A3 / Plain paper)	-	50	50	0 to 100	8-91
275	Compensation of cut length (A3 / Tracing paper)	-	50	50	0 to 100	8-91
276	Compensation of cut length (A3 / Film)	-	50	50	0 to 100	8-91
277	Compensation of cut length (A3 / Special plain paper)	-	50	50	0 to 100	8-91
278	Compensation of cut length (A3 / Special tracing paper)	-	50	50	0 to 100	8-91
279	Compensation of cut length (A3 / Special film)	-	50	50	0 to 100	8-91
280	Compensation of cut length (A2 / Plain paper)	-	50	50	0 to 100	8-91
281	Compensation of cut length (A2 / Tracing paper)	-	50	50	0 to 100	8-91
282	Compensation of cut length (A2 / Film)	-	50	50	0 to 100	8-91
283	Compensation of cut length (A2 / Special plain paper)	-	50	50	0 to 100	8-91
284	Compensation of cut length (A2 / Special tracing paper)	-	50	50	0 to 100	8-91
285	Compensation of cut length (A2 / Special film)	-	50	50	0 to 100	8-91
286	Compensation of cut length (A1 / Plain paper)	-	50	50	0 to 100	8-92
287	Compensation of cut length (A1 / Tracing paper)	-	50	52	0 to 100	8-92
288	Compensation of cut length (A1 / Film)	-	50	50	0 to 100	8-92
289	Compensation of cut length (A1 / Special plain paper)	-	50	50	0 to 100	8-92
290	Compensation of cut length (A1 / Special tracing paper)	-	50	50	0 to 100	8-92
291	Compensation of cut length (A1 / Special film)	-	50	50	0 to 100	8-92
292	Compensation of cut length (A0 / Plain paper)	-	50	50	0 to 100	8-92
293	Compensation of cut length (A0 / Tracing paper)	-	50	54	0 to 100	8-92
294	Compensation of cut length (A0 / Film)	-	50	50	0 to 100	8-92
295	Compensation of cut length (A0 / Special plain paper)	-	50	50	0 to 100	8-92
296	Compensation of cut length (A0 / Special tracing paper)	-	50	50	0 to 100	8-92
297	Compensation of cut length (A0 / Special film)	-	50	50	0 to 100	8-92
298	Compensation of cut length (B1 / Plain paper)	-	50	50	0 to 100	8-93
299	Compensation of cut length (B1 / Tracing paper)	-	50	50	0 to 100	8-93
300	Compensation of cut length (B1 / Film)	-	50	50	0 to 100	8-93
301	Compensation of cut length (B1 / Special plain paper)	-	50	50	0 to 100	8-93
302	Compensation of cut length (B1 / Special tracing paper)	-	50	50	0 to 100	8-93
303	Compensation of cut length (B1 / Special film)	-	50	50	0 to 100	8-93
304	Compensation of cut length (880 / Plain paper)	-	50	50	0 to 100	8-93
305	Compensation of cut length (880 / Tracing paper)	-	50	50	0 to 100	8-93
306	Compensation of cut length (880 / Film)	-	50	50	0 to 100	8-93
307	Compensation of cut length (880 / Special plain paper)	-	50	50	0 to 100	8-93
308	Compensation of cut length (880 / Special tracing paper)	-	50	50	0 to 100	8-93
309	Compensation of cut length (880 / Special film)	-	50	50	0 to 100	8-93
310	Main Motor Speed (Plain paper)	-	21	21	0 to 40	8-94
311	Main Motor Speed (Tracing paper)	-	21	21	0 to 40	8-94
312	Main Motor Speed (Film)	-	24	21	0 to 40	8-94
313	Main Motor Speed (Special plain paper)	-	20	20	0 to 40	8-94
314	Main Motor Speed (Special tracing paper)	-	20	20	0 to 40	8-94
315	Main Motor Speed (Special film)	-	20	20	0 to 40	8-94
316	Fuser Motor Speed (Plain paper)	-	25	18	0 to 40	8-94
317	Fuser Motor Speed (Tracing paper)	-	24	31	0 to 40	8-94
318	Fuser Motor Speed (Film paper)	-	25	24	0 to 40	8-94
319	Fuser Motor Speed (Special plain paper)	-	20	20	0 to 40	8-94
320	Fuser Motor Speed (Special tracing paper)	-	20	20	0 to 40	8-94
321	Fuser Motor Speed (Special film)	-	20	20	0 to 40	8-94
322	Separation Corona OFF Timing (Plain paper)	1mm	45	45	0 to 100	8-94
323	Separation Corona OFF Timing (tracing paper)	1mm	45	45	0 to 100	8-94
324	Separation Corona OFF Timing (Film)	1mm	22	22	0 to 100	8-94
325	Separation Corona OFF Timing (Special plain paper)	1mm	58	58	0 to 100	8-94
326	Separation Corona OFF Timing (Special tracing paper)	1mm	58	58	0 to 100	8-94
327	Separation Corona OFF Timing (Special film)	1mm	58	58	0 to 100	8-94
328	Fuser Motor 1st Speed (Cut sheet) (Plain Paper / A3, A2, 12", 11", 18" & 17")	-	23	22	0 to 40	8-95
329	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Plain Paper / A3, A2, 12", 11", 18" & 17")	1 second	1	1	0 to 400	8-95
330	Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / A3, A2, 12", 11", 18" & 17")	-	24	24	0 to 40	8-95
331	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / A3, A2, 12", 11", 18" & 17")	1 second	3	3	0 to 400	8-95
332	Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / A3, A2, 12", 11", 18" & 17")	-	23	22	0 to 40	8-95
333	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / A3, A2, 12", 11", 18" & 17")	1 second	5	5	0 to 400	8-95

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Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
334	Fuser Motor 1st Speed (Roll) (Tracing / A3, 12" & 11")	-	23	23	0 to 40	8-96
335	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Tracing / A3, A2, 12", 11", 18" & 17")	1 second	1	1	0 to 400	8-96
336	Fuser Motor 2nd Speed (Cut sheet) (Tracing / A3, A2, 12", 11", 18" & 17")	-	24	24	0 to 40	8-96
337	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Tracing / A3, A2, 12", 11", 18" & 17")	1 second	3	3	0 to 400	8-96
338	Fuser Motor 3rd Speed (Cut sheet) (Tracing / A3, A2, 12", 11", 18" & 17")	-	24	24	0 to 40	8-96
339	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Tracing / A3, A2, 12", 11", 18" & 17")	1 second	3	3	0 to 400	8-96
340	Fuser Motor 1st Speed (Cut sheet) (Film / A3, A2, 12", 11", 18" & 17")	-	25	22	0 to 40	8-97
341	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Film / A3, A2, 12", 11", 18" & 17")	1 second	1	1	0 to 400	8-97
342	Fuser Motor 2nd Speed (Cut sheet) (Film / A3, A2, 12", 11", 18" & 17")	-	25	22	0 to 40	8-97
343	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Film / A3, A2, 12", 11", 18" & 17")	1 second	3	3	0 to 400	8-97
344	Fuser Motor 3rd Speed (Cut sheet) (Film / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-97
345	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Film / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-97
346	Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-98
347	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-98
348	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-98
349	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-98
350	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-98
351	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-98
352	Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-99
353	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-99
354	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-99
355	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-99
356	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-99
357	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-99
358	Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-100
359	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-100
360	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-100
361	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-100
362	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / A3, A2, 12", 11", 18" & 17")	-	20	20	0 to 40	8-100
363	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / A3, A2, 12", 11", 18" & 17")	1 second	0	0	0 to 400	8-100
364	Fuser Motor 1st Speed (Cut sheet) (Plain Paper / A1, 24" & 22")	-	22	21	0 to 40	8-101
365	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Plain Paper / A1, 24" & 22")	1 second	1	1	0 to 400	8-101
366	Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / A1, 24" & 22")	-	21	22	0 to 40	8-101
367	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / A1, 24" & 22")	1 second	7	7	0 to 400	8-101
368	Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / A1, 24" & 22")	-	21	21	0 to 40	8-101
369	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / A1, 24" & 22")	1 second	8	8	0 to 400	8-101

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Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
370	Fuser Motor 1st Speed (Cut sheet) (Tracing / A1, 24" & 22")	-	22	22	0 to 40	8-102
371	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Tracing / A1, 24" & 22")	1 second	1	1	0 to 400	8-102
372	Fuser Motor 2nd Speed (Cut sheet) (Tracing / A1, 24" & 22")	-	23	24	0 to 40	8-102
373	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Tracing / A1, 24" & 22")	1 second	7	7	0 to 400	8-102
374	Fuser Motor 3rd Speed (Cut sheet) (Tracing / A1, 24" & 22")	-	22	23	0 to 40	8-102
375	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Tracing / A1, 24" & 22")	1 second	5	5	0 to 400	8-102
376	Fuser Motor 1st Speed (Cut sheet) (Film / A1, 24" & 22")	-	21	21	0 to 40	8-103
377	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Film / A1, 24" & 22")	1 second	1	1	0 to 400	8-103
378	Fuser Motor 2nd Speed (Cut sheet) (Film / A1, 24" & 22")	-	21	21	0 to 40	8-103
379	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Film / A1, 24" & 22")	1 second	7	7	0 to 400	8-103
380	Fuser Motor 3rd Speed (Cut sheet) (Film / A1, 24" & 22")	-	20	20	0 to 40	8-103
381	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-103
382	Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / A1, 24" & 22")	-	20	20	0 to 40	8-104
383	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / A1, 24" & 22")	1 second	0	0	0 to 400	8-104
384	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / A1, 24" & 22")	-	20	20	0 to 40	8-104
385	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / A1, 24" & 22")	1 second	0	0	0 to 400	8-104
386	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / A1, 24" & 22")	-	20	20	0 to 40	8-104
387	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / A1, 24" & 22")	1 second	0	0	0 to 400	8-104
388	Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / A1, 24" & 22")	-	20	20	0 to 40	8-105
389	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / A1, 24" & 22")	1 second	0	0	0 to 400	8-105
390	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / A1, 24" & 22")	-	20	20	0 to 40	8-105
391	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / A1, 24" & 22")	1 second	0	0	0 to 400	8-105
392	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / A1, 24" & 22")	-	20	20	0 to 40	8-105
393	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / A1, 24" & 22")	1 second	0	0	0 to 400	8-105
394	Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / A1, 24" & 22")	-	20	20	0 to 40	8-106
395	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-106
396	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / A1, 24" & 22")	-	20	20	0 to 40	8-106
397	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-106
398	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / A1, 24" & 22")	-	20	20	0 to 40	8-106
399	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / A1, 24" & 22")	1 second	0	0	0 to 400	8-106

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Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
400	Fuser Motor 1st Speed (Cut sheet) (Plain Paper / A0, 36" & 34")	-	18	18	0 to 40	8-107
401	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Plain Paper / A0, 36" & 34")	1 second	1	1	0 to 400	8-107
402	Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / A0, 36" & 34")	-	19	19	0 to 40	8-107
403	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / A0, 36" & 34")	1 second	12	12	0 to 400	8-107
404	Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / A0, 36" & 34")	-	18	18	0 to 40	8-107
405	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / A0, 36" & 34")	1 second	11	11	0 to 400	8-107
406	Fuser Motor 1st Speed (Cut sheet) (Tracing / A0, 36" & 34")	-	19	20	0 to 40	8-108
407	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Tracing / A0, 36" & 34")	1 second	1	1	0 to 400	8-108
408	Fuser Motor 2nd Speed (Cut sheet) (Tracing / A0, 36" & 34")	-	19	21	0 to 40	8-108
409	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Tracing / A0, 36" & 34")	1 second	12	12	0 to 400	8-108
410	Fuser Motor 3rd Speed (Cut sheet) (Tracing / A0, 36" & 34")	-	18	19	0 to 40	8-108
411	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Tracing / A0, 36" & 34")	1 second	5	5	0 to 400	8-108
412	Fuser Motor 1st Speed (Cut sheet) (Film / A0, 36" & 34")	-	22	20	0 to 40	8-109
413	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Film / A0, 36" & 34")	1 second	1	1	0 to 400	8-109
414	Fuser Motor 2nd Speed (Cut sheet) (Film / A0, 36" & 34")	-	25	23	0 to 40	8-109
415	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Film / A0, 36" & 34")	1 second	12	12	0 to 400	8-109
416	Fuser Motor 3rd Speed (Cut sheet) (Film / A0, 36" & 34")	-	20	20	0 to 40	8-109
417	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-109
418	Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / A0, 36" & 34")	-	20	20	0 to 40	8-110
419	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / A0, 36" & 34")	1 second	0	0	0 to 400	8-110
420	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / A0, 36" & 34")	-	20	20	0 to 40	8-110
421	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / A0, 36" & 34")	1 second	0	0	0 to 400	8-110
422	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / A0, 36" & 34")	-	20	20	0 to 40	8-110
423	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / A0, 36" & 34")	1 second	0	0	0 to 400	8-110
424	Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / A0, 36" & 34")	-	20	20	0 to 40	8-111
425	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / A0, 36" & 34")	1 second	0	0	0 to 400	8-111
426	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / A0, 36" & 34")	-	20	20	0 to 40	8-111
427	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / A0, 36" & 34")	1 second	0	0	0 to 400	8-111
428	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / A0, 36" & 34")	-	20	20	0 to 40	8-111
429	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / A0, 36" & 34")	1 second	0	0	0 to 400	8-111

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
430	Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / A0, 36" & 34")	-	20	20	0 to 40	8-112
431	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-112
432	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / A0, 36" & 34")	-	20	20	0 to 40	8-112
433	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-112
434	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / A0, 36" & 34")	-	20	20	0 to 40	8-112
435	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / A0, 36" & 34")	1 second	0	0	0 to 400	8-112
436	Fuser Motor 1st Speed (Roll) (Plain Paper / 30")	-	21	20	0 to 40	8-113
437	Switch Timing to Fuser Motor 1st Speed (Roll) (Plain Paper / 30")	1 second	1	1	0 to 400	8-113
438	Fuser Motor 2nd Speed (Roll) (Plain Paper / 30")	-	20	20	0 to 40	8-113
439	Switch Timing to Fuser Motor 2nd Speed (Roll) (Plain Paper / 30")	1 second	12	12	0 to 400	8-113
440	Fuser Motor 3rd Speed (Roll) (Plain Paper / 30")	-	22	20	0 to 40	8-113
441	Switch Timing to Fuser Motor 3rd Speed (Roll) (Plain Paper / 30")	1 second	11	11	0 to 400	8-113
442	Fuser Motor 1st Speed (Roll) (Tracing / 30")	-	22	23	0 to 40	8-114
443	Switch Timing to Fuser Motor 1st Speed (Roll) (Tracing / 30")	1 second	1	1	0 to 400	8-114
444	Fuser Motor 2nd Speed (Roll) (Tracing / 30")	-	21	22	0 to 40	8-114
445	Switch Timing to Fuser Motor 2nd Speed (Roll) (Tracing / 30")	1 second	12	12	0 to 400	8-114
446	Fuser Motor 3rd Speed (Roll) (Tracing / 30")	-	23	21	0 to 40	8-114
447	Switch Timing to Fuser Motor 3rd Speed (Roll) (Tracing / 30")	1 second	5	5	0 to 400	8-114
448	Fuser Motor 1st Speed (Roll) (Film / 30")	-	22	20	0 to 40	8-115
449	Switch Timing to Fuser Motor 1st Speed (Roll) (Film / 30")	1 second	1	1	0 to 400	8-115
450	Fuser Motor 2nd Speed (Roll) (Film / 30")	-	25	23	0 to 40	8-115
451	Switch Timing to Fuser Motor 2nd Speed (Roll) (Film / 30")	1 second	12	12	0 to 400	8-115
452	Fuser Motor 3rd Speed (Roll) (Film / 30")	-	20	20	0 to 40	8-115
453	Switch Timing to Fuser Motor 3rd Speed (Roll) (Film / 30")	1 second	0	0	0 to 400	8-115
454	Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / 30")	-	20	20	0 to 40	8-116
455	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Plain Paper / 30")	1 second	0	0	0 to 400	8-116
456	Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / 30")	-	20	20	0 to 40	8-116
457	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Plain Paper / 30")	1 second	0	0	0 to 400	8-116
458	Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / 30")	-	20	20	0 to 40	8-116
459	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Plain Paper / 30")	1 second	0	0	0 to 400	8-116

NOTE: All items grayed are not generally for field technician use

Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
460	Fuser Motor 1st Speed (Roll) (Special Media / Tracing / 30")	-	20	20	0 to 40	8-117
461	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Tracing / 30")	1 second	0	0	0 to 400	8-117
462	Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / 30")	-	20	20	0 to 40	8-117
463	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Tracing / 30")	1 second	0	0	0 to 400	8-117
464	Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / 30")	-	20	20	0 to 40	8-117
465	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Tracing / 30")	1 second	0	0	0 to 400	8-117
466	Fuser Motor 1st Speed (Roll) (Special Media / Film / 30")	-	20	20	0 to 40	8-118
467	Switch Timing to Fuser Motor 1st Speed (Roll) (Special Media / Film / 30")	1 second	0	0	0 to 400	8-118
468	Fuser Motor 2nd Speed (Roll) (Special Media / Film / 30")	-	20	20	0 to 40	8-118
469	Switch Timing to Fuser Motor 2nd Speed (Roll) (Special Media / Film / 30")	1 second	0	0	0 to 400	8-118
470	Fuser Motor 3rd Speed (Roll) (Special Media / Film / 30")	-	20	20	0 to 40	8-118
471	Switch Timing to Fuser Motor 3rd Speed (Roll) (Special Media / Film / 30")	1 second	0	0	0 to 400	8-118
472	Fuser Motor 1st Speed (Cut sheet) (Plain Paper / 30")	-	20	18	0 to 40	8-119
473	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Plain Paper / 30")	1 second	1	1	0 to 400	8-119
474	Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / 30")	-	20	19	0 to 40	8-119
475	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Plain Paper / 30")	1 second	12	12	0 to 400	8-119
476	Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / 30")	-	20	18	0 to 40	8-119
477	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Plain Paper / 30")	1 second	11	11	0 to 400	8-119
478	Fuser Motor 1st Speed (Cut sheet) (Tracing / 30")	-	22	20	0 to 40	8-120
479	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Tracing / 30")	1 second	1	1	0 to 400	8-120
480	Fuser Motor 2nd Speed (Cut sheet) (Tracing / 30")	-	20	21	0 to 40	8-120
481	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Tracing / 30")	1 second	12	12	0 to 400	8-120
482	Fuser Motor 3rd Speed (Cut sheet) (Tracing / 30")	-	21	19	0 to 40	8-120
483	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Tracing / 30")	1 second	5	5	0 to 400	8-120
484	Fuser Motor 1st Speed (Cut sheet) (Film / 30")	-	22	20	0 to 40	8-121
485	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Roll) (Film / 30")	1 second	1	1	0 to 400	8-121
486	Fuser Motor 2nd Speed (Roll) (Cut sheet) (Film / 30")	-	25	23	0 to 40	8-121
487	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Film / 30")	1 second	12	12	0 to 400	8-121
488	Fuser Motor 3rd Speed (Cut sheet) (Film / 30")	-	20	20	0 to 40	8-121
489	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Film / 30")	1 second	0	0	0 to 400	8-121

NOTE: All items grayed are not generally for field technician use

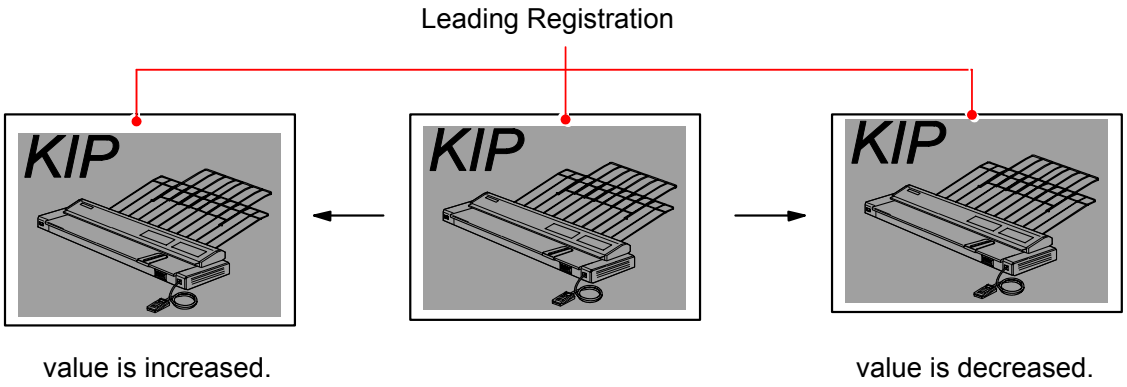
Item No.	Setting Item	Unit	Default Value		Setting range	Refer to page ;
			USA	EUR / AS		
490	Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / 30”)	-	20	20	0 to 40	8-122
491	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Plain Paper / 30”)	1 second	0	0	0 to 400	8-122
492	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / 30”)	-	20	20	0 to 40	8-122
493	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Plain Paper / 30”)	1 second	0	0	0 to 400	8-122
494	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / 30”)	-	20	20	0 to 40	8-122
495	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Plain Paper / 30”)	1 second	0	0	0 to 400	8-122
496	Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / 30”)	-	20	20	0 to 40	8-123
497	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Tracing / 30”)	1 second	0	0	0 to 400	8-123
498	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / 30”)	-	20	20	0 to 40	8-123
499	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Tracing / 30”)	1 second	0	0	0 to 400	8-123
500	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / 30”)	-	20	20	0 to 40	8-123
501	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Tracing / 30”)	1 second	0	0	0 to 400	8-123
502	Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / 30”)	-	20	20	0 to 40	8-123
503	Switch Timing to Fuser Motor 1st Speed (Cut sheet) (Special Media / Film / 30”)	1 second	0	0	0 to 400	8-123
504	Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / 30”)	-	20	20	0 to 40	8-123
505	Switch Timing to Fuser Motor 2nd Speed (Cut sheet) (Special Media / Film / 30”)	1 second	0	0	0 to 400	8-123
506	Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / 30”)	-	20	20	0 to 40	8-123
507	Switch Timing to Fuser Motor 3rd Speed (Cut sheet) (Special Media / Film / 30”)	1 second	0	0	0 to 400	8-123
508	Transfer Voltage applied at 100mm from trailing edge (Plain paper)	-	255	255	-	8-124
509	Transfer Voltage applied at 100mm from trailing edge (Tracing paper)	-	255	255	-	8-124
510	Transfer Voltage applied at 100mm from trailing edge (Film)	-	255	255	-	8-124
511	Transfer Voltage applied at 70mm from trailing edge (Plain paper)	-	33	33	0 to 510	8-124
512	Transfer Voltage applied at 70mm from trailing edge (Tracing paper)	-	33	33	0 to 510	8-124
513	Transfer Voltage applied at 70mm from trailing edge (Film)	-	255	255	0 to 510	8-124
514	Fuser Motor Speed applied at 30mm from trailing edge (Plain paper)	-	16	16	0 to 40	8-124
515	Fuser Motor Speed applied at 30mm from trailing edge (Tracing paper)	-	16	16	0 to 40	8-124
516	Fuser Motor Speed applied at 30mm from trailing edge (Film)	-	0	0	0 to 40	8-124

8. 5. 4 Explanation for each Setting Item

8. 5. 4. 1 Leading Registration (No. 000 & 001)

It is possible to specify where to start printing the image at the leading edge of the media.
If you increase the setting value by “+1 “, the head of image is shifted 1mm downward toward the trailing edge As a result the leading margin becomes larger.

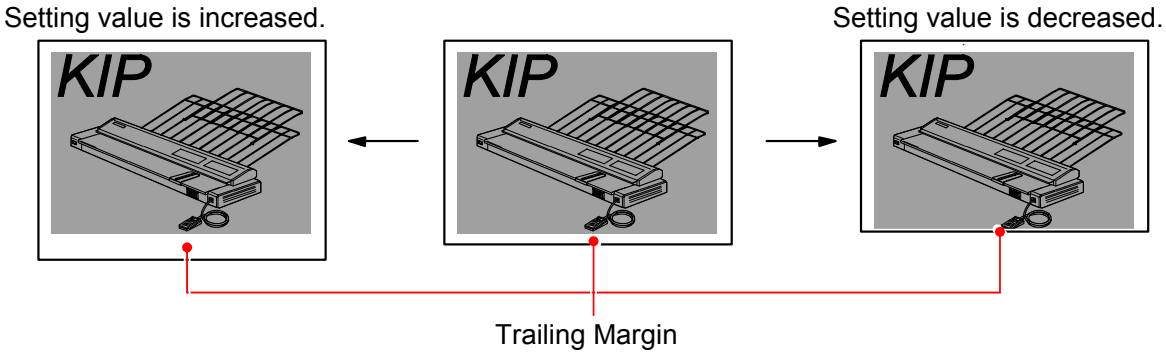
Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
000	Leading Registration (Roll paper)	17	19	1 to 40	1mm
001	Leading Registration (Cut sheet paper)	18	20	1 to 40	1mm



8. 5. 4. 2 Trailing Margin (No. 002 & 003)

It is possible to adjust the length of trailing margin.
The length of trailing margin becomes 1mm longer if you Increase the setting value by “+1 “.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
002	Trailing Margin (Roll paper)	9	10	1 to 40	1mm
003	Trailing Margin (Cut sheet paper)	9	10	1 to 40	1mm



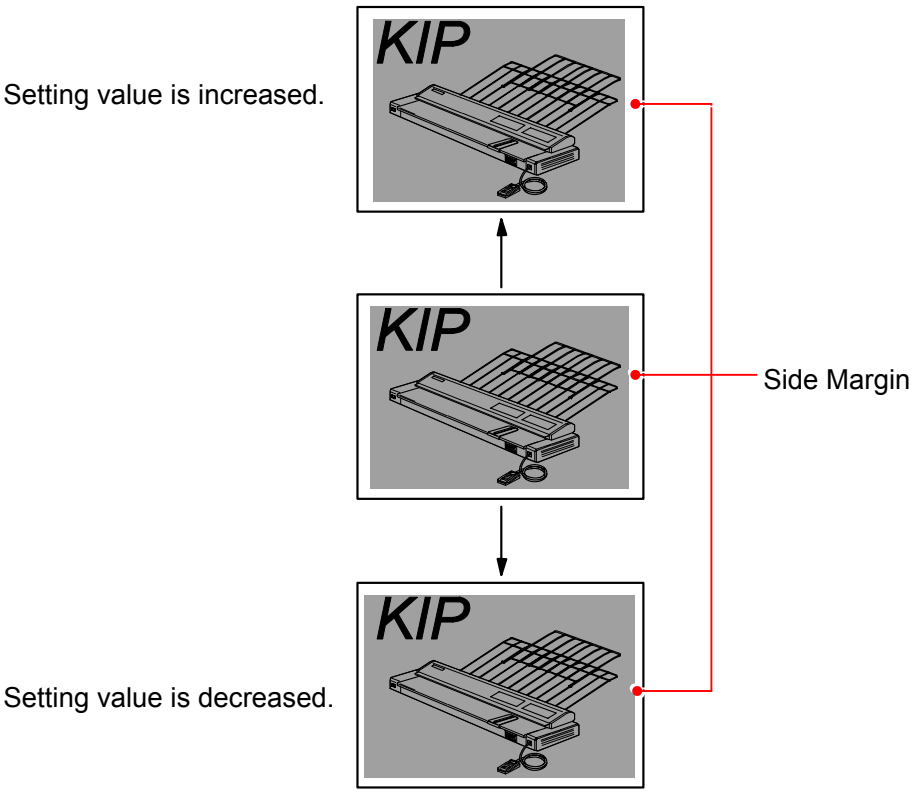
NOTE

Some trailing image may be lost if you decrease the value too much.

8. 5. 4. 3 Side Margin (Left & right) (Sub Mode No. 004)

It is possible to adjust the amount of side margin. (Both left and right)
Each side margin becomes 1mm wider if you increase the setting value.
(As a result the width of print image becomes 2mm narrower.)

Default value		Setting range	Step of increment
USA	EUR/ASIA		
0	0	0 to 20	1mm



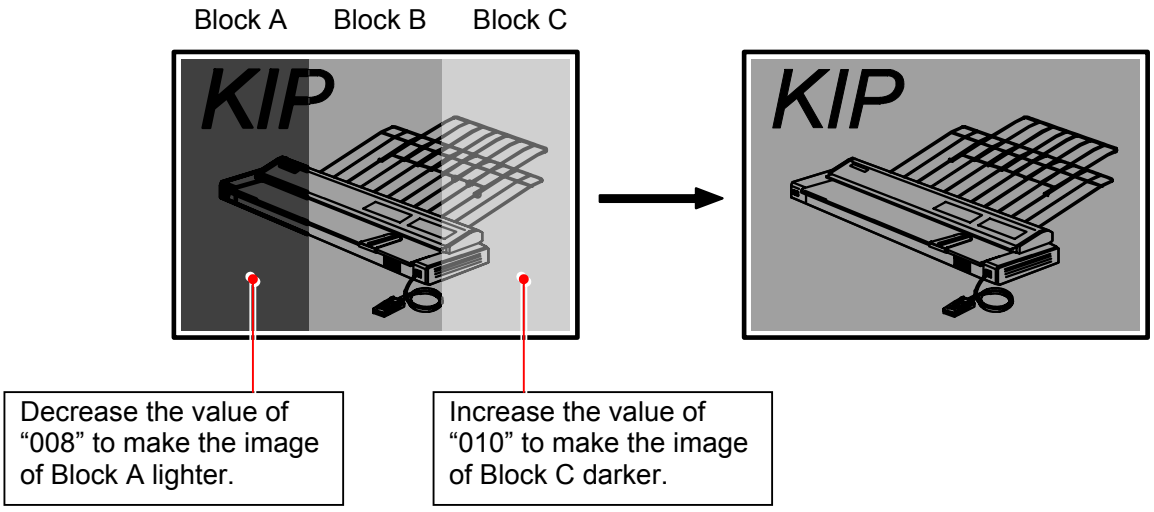
NOTE

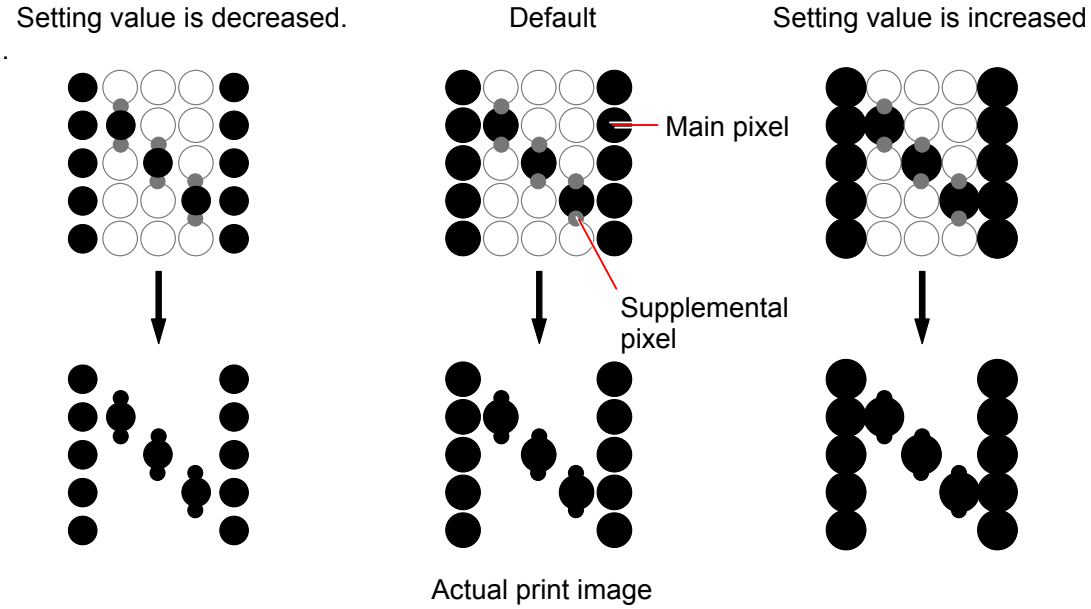
Each print is compulsively provided with 3mm of side margins on both sides regardless of this setting.

8. 5. 4. 4 LED Strobe Time for Main Pixel of each Block (No.008 to 010)

It is possible to make the whole image of each Image Block (A, B and C) darker or lighter independently by changing the LED Strobe Time for the Main Pixels.
As a result an even image density can be accomplished among 3 Image Blocks.
The whole image of the concerning Image Block becomes darker if you increase the setting value.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
008	LED Strobe Time for Main Pixel (Image Block A : Left)	10	10	0 to 13	1 micro second
009	LED Strobe Time for Main Pixel (Image Block B : Center)	10	10	0 to 13	1 micro second
010	LED Strobe Time for Main Pixel (Image Block C : Right)	10	10	0 to 13	1 micro second





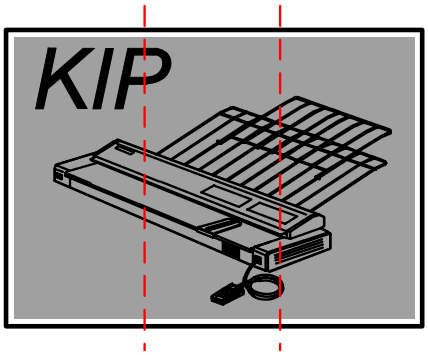
Please read [REFERENCE] on the page 8-39 for the explanation about "Main Pixel" and "Supplemental Pixel".

NOTE

(1) The LED Strobe Times specified in these 008, 009 and 010 are directly applied to the Test Print.
If the setting values are 10 (for 008), 11 (for 009) and 12 (for 010), for example, the actual LED Strobe Times are also 10 (for block A), 11 (for block B) and 12 (for block C).

In case of Test Print
008: 10 microseconds
009: 11 microseconds
010: 12 microseconds

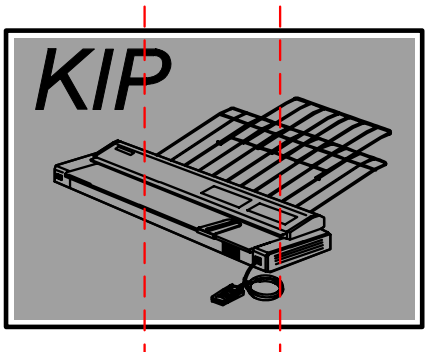
Block A (10) Block B (11) Block C (12)



But in case of a copy or a plot, the density command (LED Strobe Time) sent from the output device (image scanner or controller) is applied to the Image Block A.
And only the difference of setting values among 008, 009 and 010 are applied to the actual LED Strobe Time.
If the density command from the output device is 8 microsecond and the setting values are 10 (for 008), 11 (for 009) and 12 (for 010), for example, the actual LED Strobe Times are 8 (for block A), 9 (for block B) and 10 (for block C).

In case of copy or plot
Density command from output device: 8 microseconds
008: 10 microseconds
009: 11 microseconds
010: 12 microseconds

Block A (8) Block B (9) Block C (10)

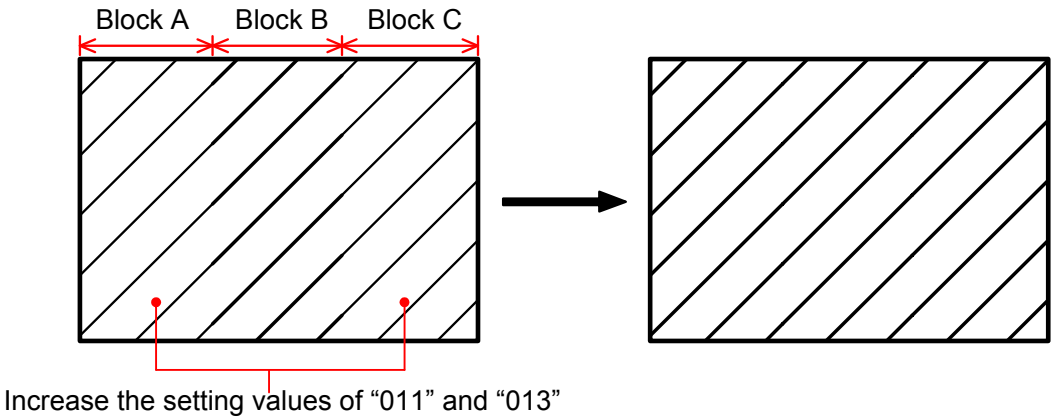


(2) If the value of density command (LED Strobe Time) sent from the output device is larger than “13 microsecond” (Max.), it is automatically corrected to “13 microsecond”.
If it is smaller than “0 microsecond” (Min.), it is corrected to “0 microsecond” similarly.

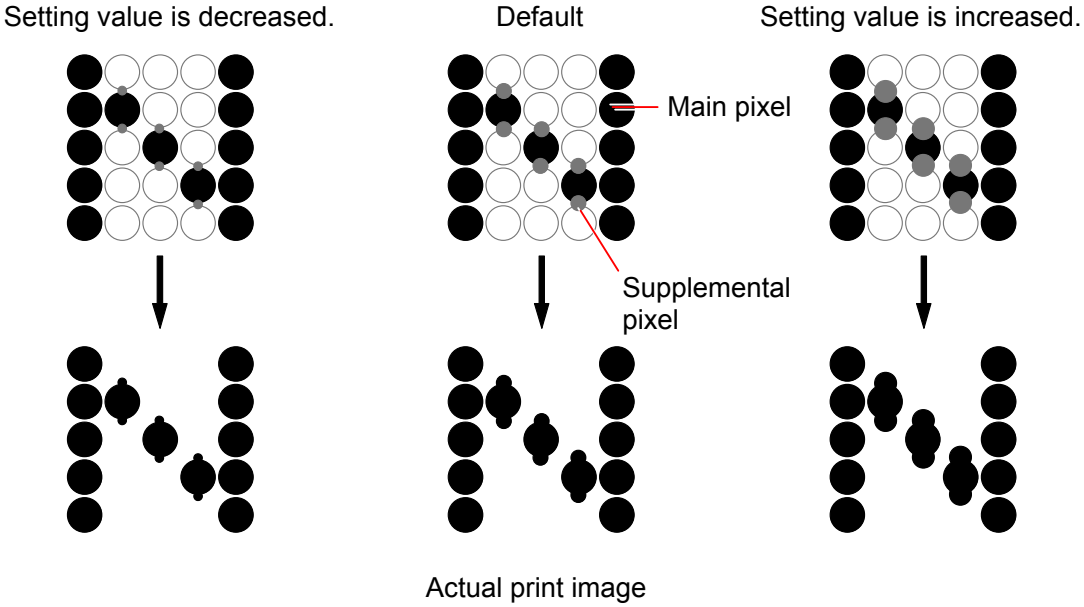
8. 5. 4. 5 LED Strobe Time for IST (Supplemental Pixel) of each Block (No.011 to 013)

If such image as a diagonal line looks too weak, you can make it clearer by changing the LED Strobe Time for the Supplemental Pixels.
The adjustment is available for each Image Block independently.
A diagonal line comes to look clearer if you increase the setting value, as the LED Strobe Time for the Supplemental Pixels becomes longer.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
011	LED Strobe Time for Supplemental Pixel (Image Block A : Left)	0	0	0 to 13	1 micro second
012	LED Strobe Time for Supplemental Pixel (Image Block B : Center)	0	0	0 to 13	1 micro second
013	LED Strobe Time for Supplemental Pixel (Image Block C : Right)	0	0	0 to 13	1 micro second



Increase the setting values of “011” and “013” to make the images of these blocks clearer.



Actual print image

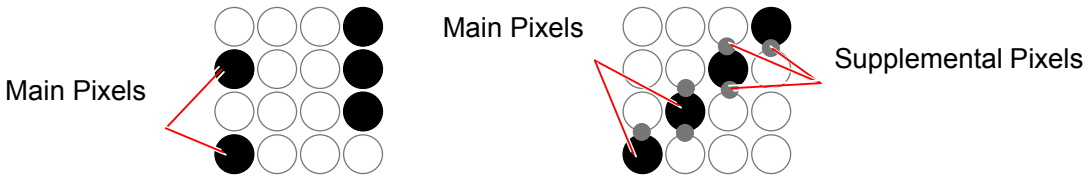
Please read [REFERENCE] on the page 8-39 for the explanation about “Main Pixel” and “Supplemental Pixel”.

Reference

Normally the KIP3000 takes 600 times of image exposure per inch for the vertical direction as its resolution is 600DPI. Pixels created by this normal timing are called [Main Pixel]. When a specific image pattern (like a diagonal line) is printed, however, the KIP3000 will make additional image exposure between vertically neighboring 2 Main Pixels. This additional image exposure is completed within a very short time. The pixel created by this additional process is called [Supplemental Pixel].

Normal image pattern

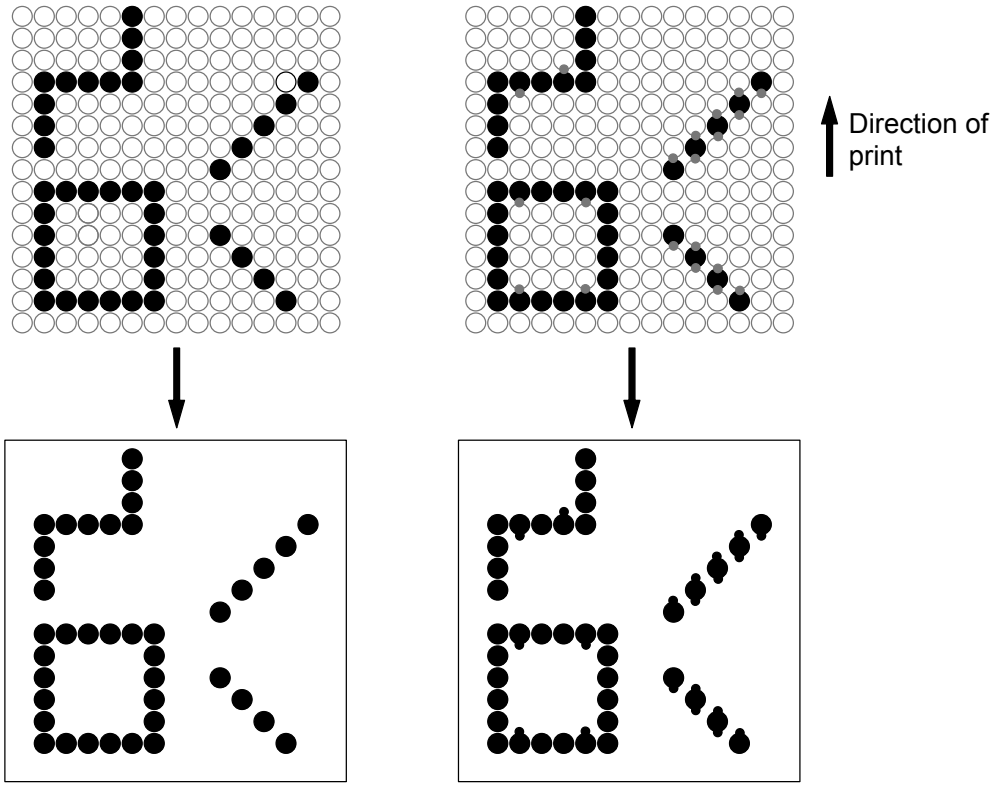
In case of a certain image pattern



Supplemental Pixels are provided so as to fill the space between Main Pixels.
When we compare a vertical / horizontal 1 dot line and a diagonal 1 dot line, for example, the diagonal one looks vague and rough although the vertical / horizontal one looks clear and smooth.
This is because the diagonal line has a wider space between Main Pixels than the vertical / horizontal one.
If this space is filled with the Supplemental Pixel, diagonal line comes to look smoother and clearer.

No Supplemental Pixel

Supplemental Pixels are provided.



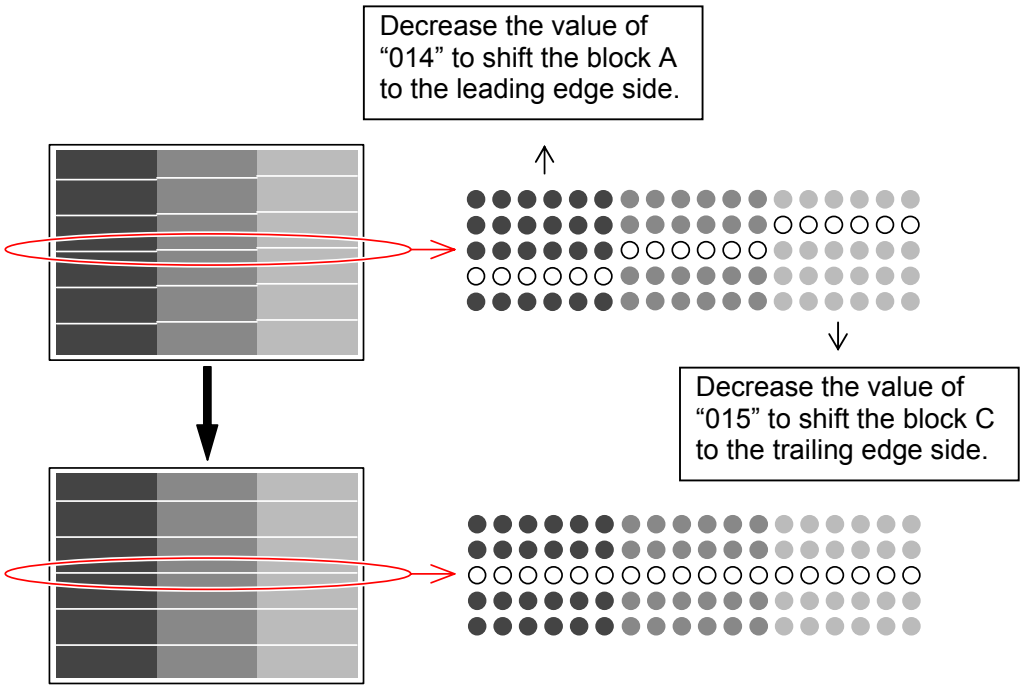
Print image
(Diagonal line looks vague and rough.)

Print image
(Diagonal Line looks clear and smooth)

8. 5. 4. 6 Horizontal Alignment of Pixels between Image Blocks (No.014 & 015)

It is possible to align the pixels between Image Blocks if there is a gap of pixels.
The Image Block B is the standard, and both the Image Blocks A and C can be shifted vertically.
If you increase the setting value by “+1”, the whole pixels of the concerning Image Block is shifted “1 line (pixel)” to the trailing edge side.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
014	Horizontal Alignment of Pixels between Image Blocks A & B	8	8	2 to 14	1 pixel
015	Horizontal Alignment of Pixels between Image Blocks B & C	8	8	2 to 14	1 pixel

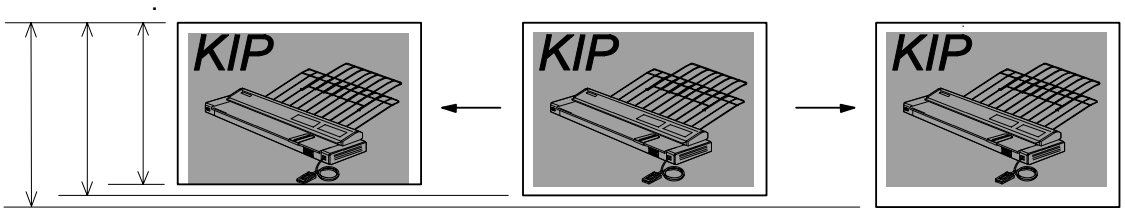


8. 5. 4. 7 Cut Length 1 (length information provided) (No.016)

It is possible to make the print length longer or shorter.
This setting is applied when the print command (plot & copy) is provided with the length information. **(this is command used on all standard pages printed from the IPS)**
If you increase the setting value by “+1”, the print length becomes 1mm longer.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
43	43	0 to 100	1mm

Setting value is increased. Setting value is decreased



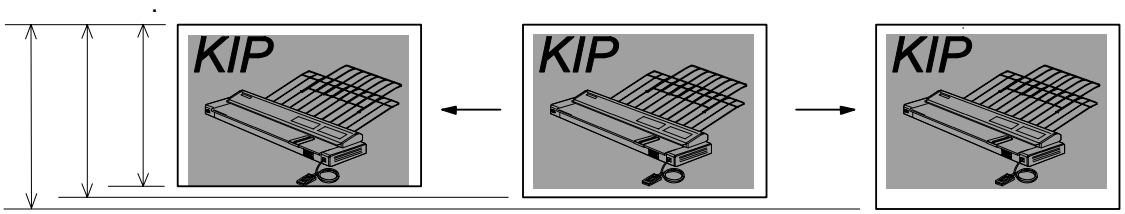
Cut length

8. 5. 4. 8 Cut Length 2 (length information not provided) (No.017)

It is possible to make the print length longer or shorter.
This setting is applied when the print command (plot & copy) is not provided with the length information. **(This is may only be used on LONG prints over 6 meters on the IPS)**
If you increase the setting value by “+1”, the print length becomes 1mm longer.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
50	50	0 to 100	1mm

Setting value is increased. Setting value is decreased



Cut length

8. 5. 4. 9 Cut Length 3 (Compensation of the length of a long print) (No.018)

When you make a long print, the actual print length may become shorter than expected because the paper is likely to shrink. It is possible in this mode to compensate the print length manually.

The length of long print is not compensated directly, but it is indirectly compensated by correcting the length of A1 print.
If you increase the setting value by “+1”, the length of A1 print length becomes 0.1mm longer per 10mm.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
500	500	0 to 999	0.1mm

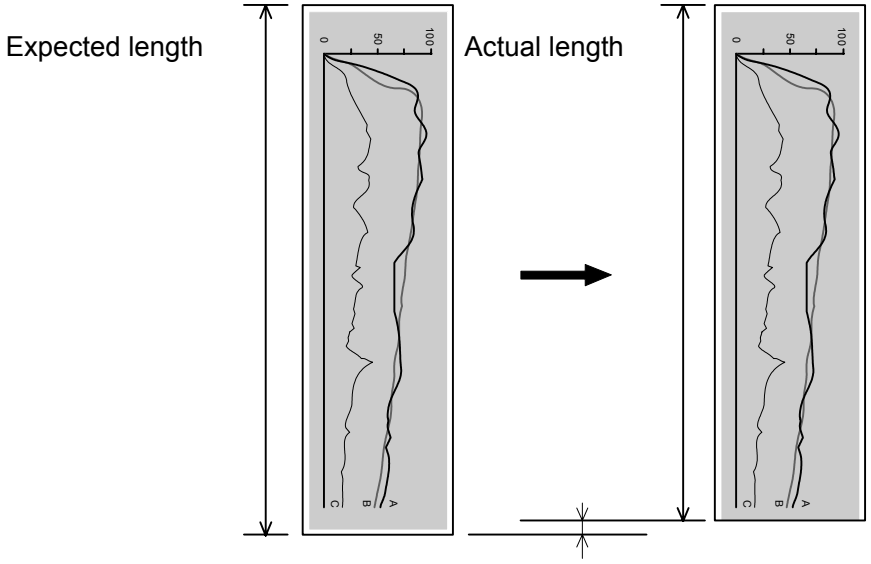
⚠ NOTE

(1) It is necessary to finish the adjustment of Cut Length 1 (No.016) before starting the adjustment in this Cut Length 3 (No.018).

(2) This No.018 is the manual adjustment of the length **of long print**.
But you can make the same adjustment in automatic way in the No.069.
Refer to [8. 5. 4.36 Automatic Adjustment of Cut Length (Long print) (No.069)] on the page 8-60.

[Example of adjustment]

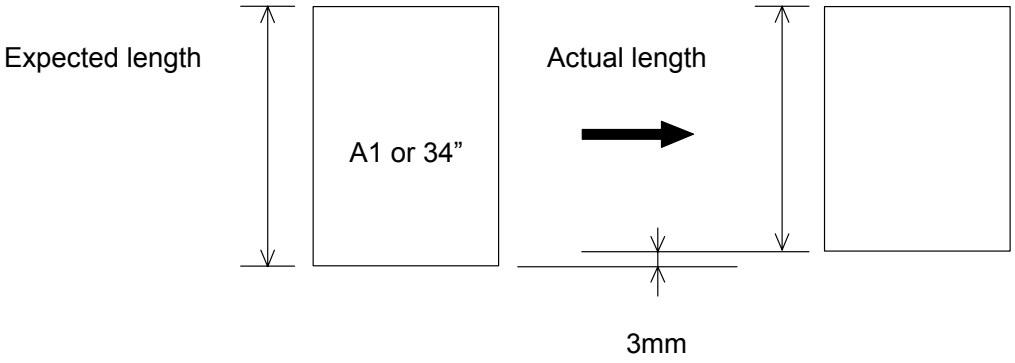
1. Supposing the actual length of a long print is shorter than expected.



Actual length is shorter than expected.

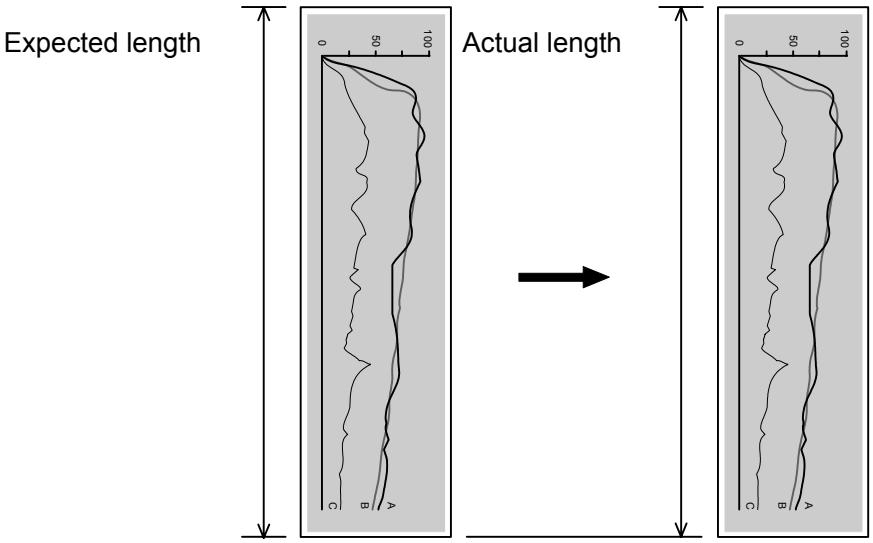
2. Make an A1 (841mm long) or 34” long print.
   Measure the actual length of this A1 or 34” print to know how long millimeter it is shorter than expected.

   (Example: Print out is 838mm, so it is 3mm shorter than expected.)



3. Necessary value for the compensation is 10 times as long as the difference between actual length and expected length.
   It is “30” in this example. (3mm x 10 = 30)
   Specify “30” as the setting value of No.018.

4. Make a long print.
   The actual print out will be as long as expected.

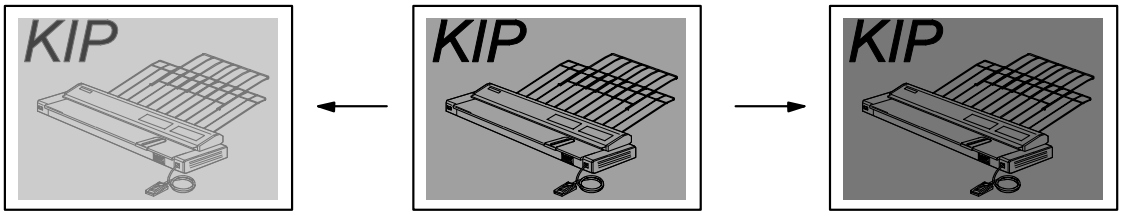


8. 5. 4.10 Developer Bias (No.022 to 027)

It is possible to make the print density darker or lighter by adjusting the Developer Bias (Negative Developer Roller Bias).
The print density becomes lighter if you increase the setting value.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
022	Developer Bias (Plain paper)	135	135	0 to 255	1
023	Developer Bias (Tracing paper)	135	135	0 to 255	1
024	Developer Bias (Film)	135	135	0 to 255	1
025	Developer Bias (Special media / Plain paper)	135	135	0 to 255	1
026	Developer Bias (Special media / Tracing paper)	135	135	0 to 255	1
027	Developer Bias (Special media / Film)	135	135	0 to 255	1

Setting value is increased. Setting value is decreased.



NOTE

Please adjust the Developer Bias while checking the actual voltage with the multi-meter.

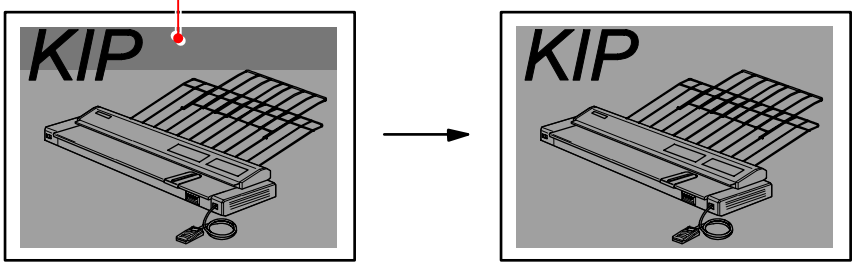
8. 5. 4.11 Developer Bias compensation - 1st Drum revolution (No.028)

It is possible to compensate the Developer Bias only for the 1st Drum revolution.
The print density becomes lighter if you increase the setting value.
(Developer Bias is not compensated at all if the setting value is “0”)

Default value		Setting range	Step of increment
USA	EUR/ASIA		
155	155	0 to 255	1

Density of leading area is darker.

Setting value is increased.
(Even density)



NOTE

There may be the case that the density of leading area, which corresponds to the 1st revolution of Drum, is darker than other area.
In this case compensate the Developer Bias to have even density on both areas.

8. 5. 4.12 Transfer Voltage (No.029 to 034)

It is possible to adjust the analog voltage outputted to the Transfer Corona during the print cycle.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
029	Transfer Corona Analog Voltage (Plain paper)	175	175	3 to 255	1
030	Transfer Corona Analog Voltage (Tracing paper)	175	175	3 to 255	1
031	Transfer Corona Analog Voltage (Film)	175	175	3 to 255	1
032	Transfer Corona Analog Voltage (Special media / Plain paper)	175	175	3 to 255	1
033	Transfer Corona Analog Voltage (Special media / Tracing paper)	175	175	3 to 255	1
034	Transfer Corona Analog Voltage (Special media / Film)	175	175	3 to 255	1

NOTE

Please adjust the Transfer Corona Analog Voltage while checking the actual voltage with the multi-meter.

8. 5. 4.13 Separation Corona ON Timing (No.035)

It is possible to adjust the timing that the Separation Corona starts discharging during the print cycle.
If you increase the setting value by “+1”, the timing to start discharging is 1mm delayed.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
50	50	0 to 100	1mm

8. 5. 4.14 Transfer Corona ON Timing (No.037)

It is possible to adjust the timing that the Transfer Corona starts discharging during the print cycle.
If you increase the setting value by “+1”, the timing to start discharging is 1mm delayed.

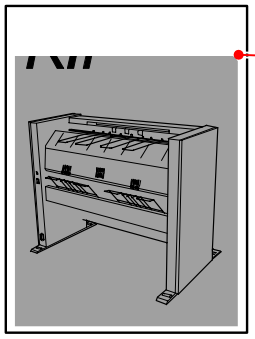
Default value		Setting range	Step of increment
USA	EUR/ASIA		
50	48	0 to 100	1mm

NOTE

You may lose some leading image as the following example if you increase the setting value too much, because the timing to start discharging is too much delayed.

Normal

Setting value is increased too much.



Transfer Corona starts discharging at this point.

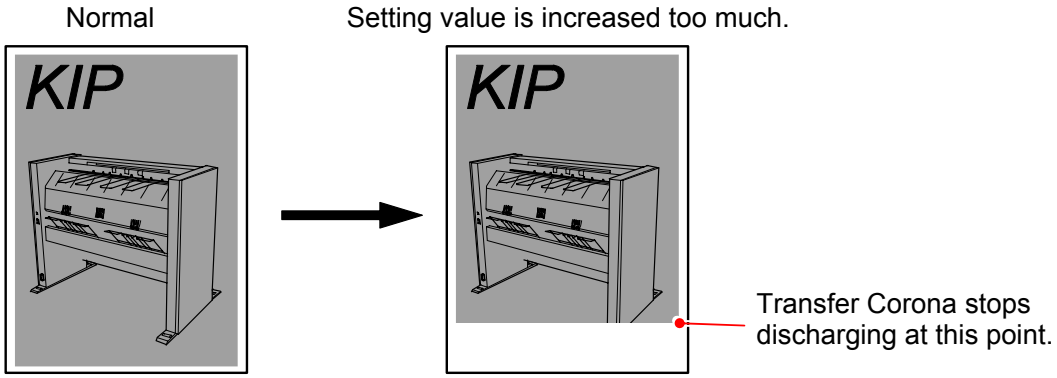
8. 5. 4.15 Transfer Corona OFF Timing (No.038)

It is possible to adjust the timing that the Transfer Corona stops discharging during the print cycle. If you increase the setting value by “+1”, the timing to stop discharging is 1mm delayed.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
40	23	0 to 100	1mm

NOTE

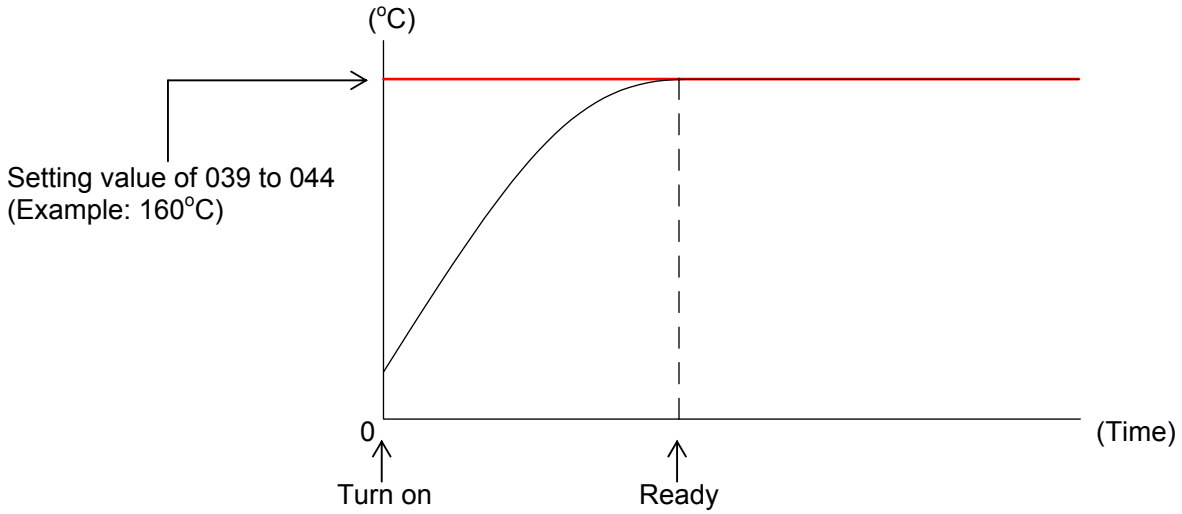
You may lose some trailing image as the following example if you decrease the setting value too much, because the Transfer Corona stops discharging too early.



8. 5. 4.16 Fuser Temperature (No.039 to 044)

It is possible to adjust the Fuser Temperature which is maintained after the machine gets ready
You can specify the temperature for each type of media separately.
The Fuser Temperature becomes 1 degree higher if you increase the setting value by “+1”.

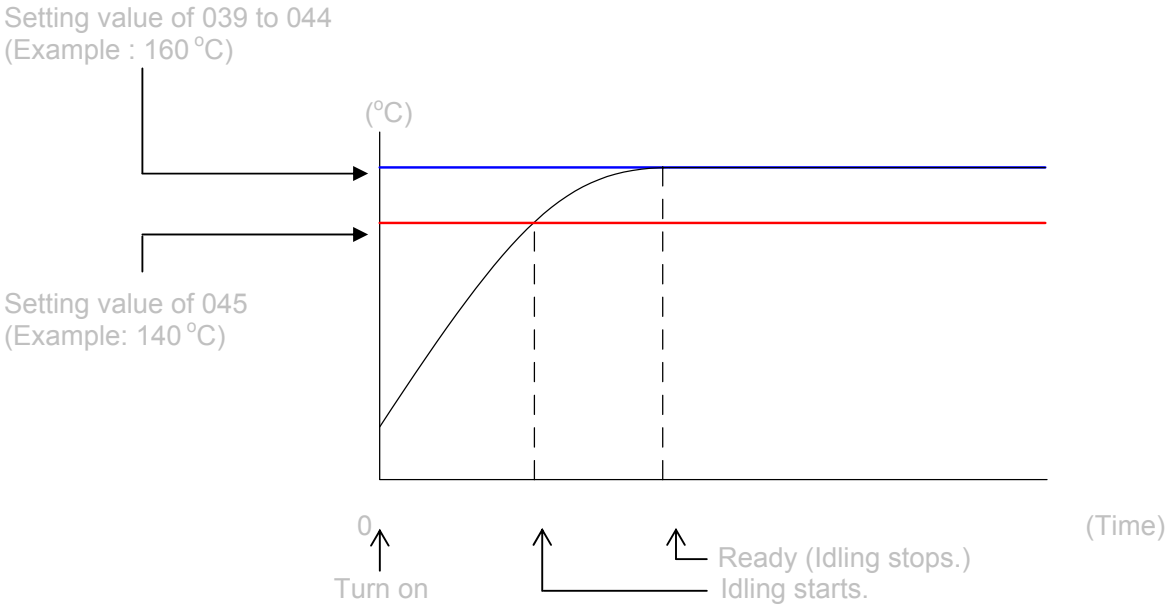
Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
039	Fuser Temperature (Plain paper)	165	165	120 to 180	1°C
040	Fuser Temperature (Tracing paper)	164	165	120 to 180	1°C
041	Fuser Temperature (Film)	170	160	120 to 180	1°C
042	Fuser Temperature (Special media / Plain paper)	165	165	120 to 180	1°C
043	Fuser Temperature (Special media / Tracing paper)	165	165	120 to 180	1°C
044	Fuser Temperature (Special media / Film)	160	160	120 to 180	1°C



8. 5. 4.17 Fuser Temperature to start idling (No.045)

It is possible to decide the temperature to start idling.
When the Fuser Temperature reaches the value specified in this No.045 during the warming up, the Fuser Motor starts rotating to drive the Fuser Roller (idling).

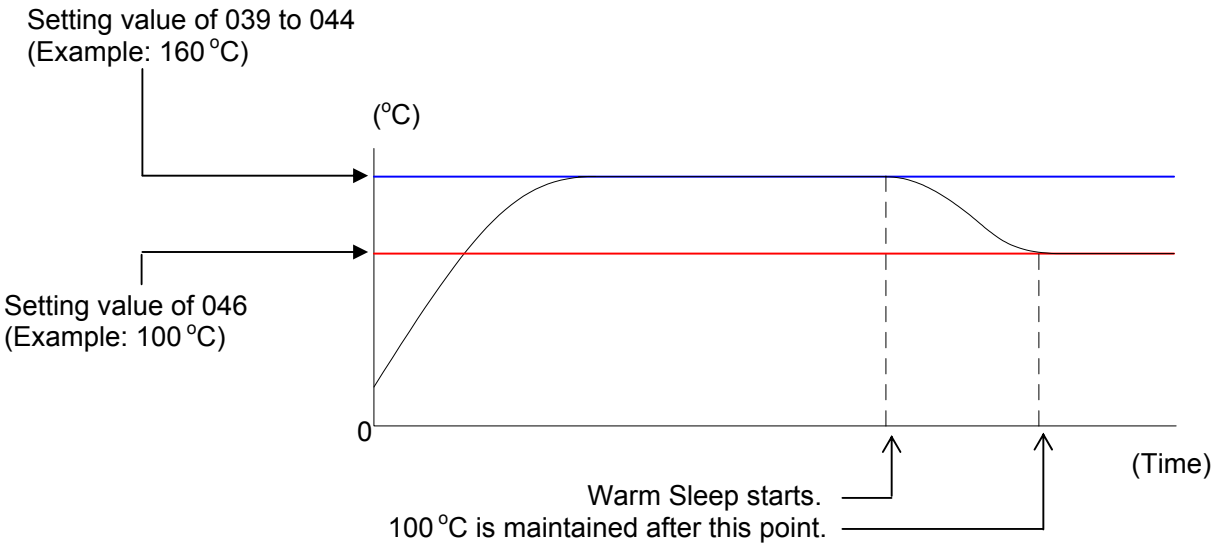
Default value		Setting range	Step of increment
USA	EUR/ASIA		
120	120	100 to 140	1°C



8. 5. 4.18 Warm Sleep – Fuser Temperature (No.046)

It is possible to decide the temperature which is maintained in the Warm Sleep.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
100	100	100 to 160	1°C

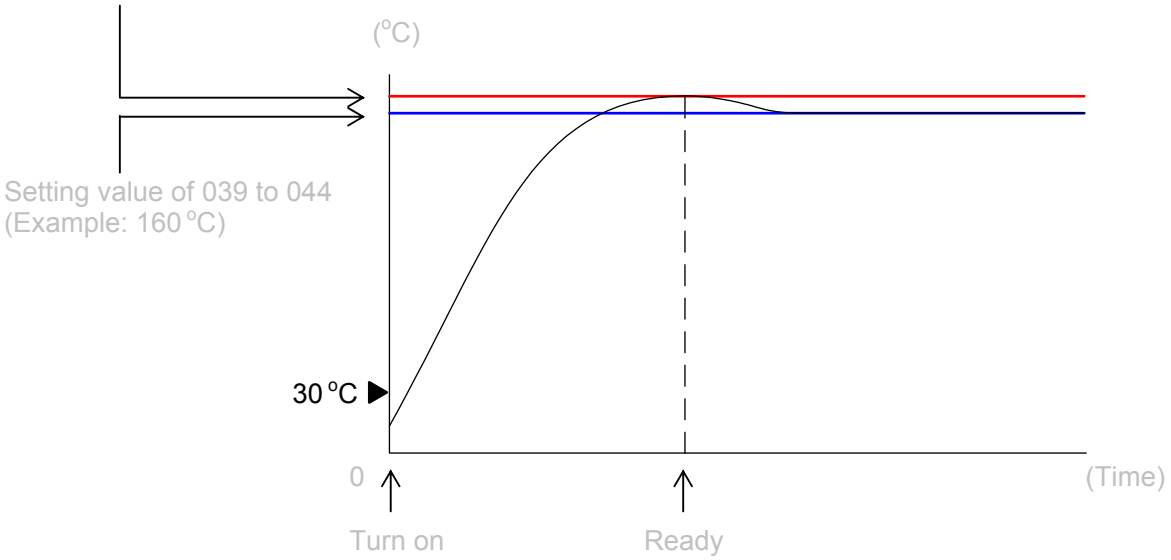


8. 5. 4.19 Fuser Temperature Overshoot Value (No.047)

"Overshoot" means that the Fuser Roller is heated up beyond the regular temperature ("Fuser Temperature" specified in No.039 to 044) when the temperature of Fuser Roller is very low like in the morning.
In this No.047 you can specify how much degree the temperature of Fuser Roller overshoots the value of "Fuser Temperature".

Default value		Setting range	Step of increment
USA	EUR/ASIA		
0	10	0 to 30	1°C

Setting value of 047
(Example: Setting value is "10")



NOTE

(1) "Overshoot" works only when the temperature of Fuser Roller is colder than 30 °C.

(2) When "Overshoot" works, the machine gets ready when the temperature of Fuser Roller reaches the sum value of "Fuser Temperature" and "Overshoot".
(The machine will get ready when the temperature of Fuser Roller reaches 170 °C in case of the above example.)

(3) The purpose of "Overshoot" is to stabilize the image fusing even right after turning on.

8. 5. 4.20 Fuser Temperature Control Range (No.048 & 049)

It is possible to specify the control range of temperature of Fuser Roller.

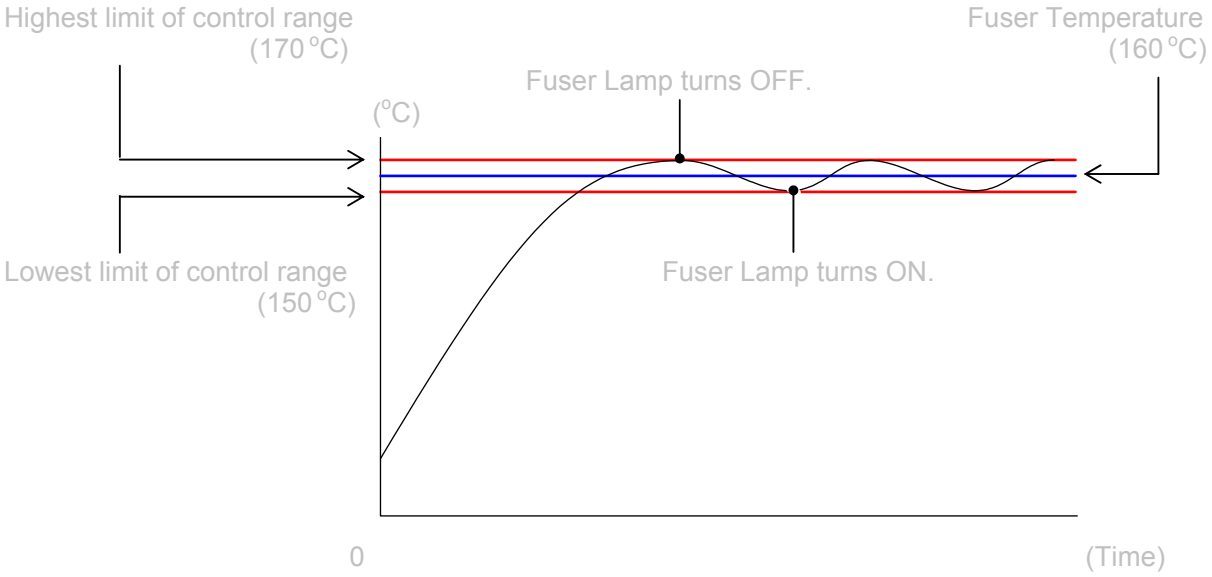
If you specify some setting value “X” on these No.048 and 049, for example, you can decide the highest limit and the lowest one of the control range of temperature.
The highest limit is “Fuser Temperature (Decided in No.039 to 044)” plus the setting value “X”.
And the lowest one is “Fuser Temperature” minus “X”.

The Fuser Lamp continues to light up when the temperature of Fuser Roller is colder than the highest limit, and it is put out when the temperature reaches the highest limit.
The Fuser Roller gradually gets colder after that, and the Fuser Lamp lights again when the temperature reaches the lowest limit.

Control range can be decided separately to each condition “in the print cycle” and “stand by”.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
048	Fuser Temperature Control Range (In the print cycle)	1	1	1 to 20	1°C
049	Fuser Temperature Control Range (Stand by)	2	2	1 to 20	1°C

Example: Value of No.048 (Fuser Temperature Control Range) is “10”
Value of No.039 (Fuser Temperature) is “160”



8. 5. 4.21 Reaction Time of Toner Supply Motor (No.050)

It is possible to change the reaction time of Toner Supply Motor.
“Reaction time” is the time taken until the Toner Supply Motor starts working since “Toner Low” has been detected.
The reaction time becomes 1 second longer if you increase the setting value by “+1”.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
15	15	1 to 30	1 second

Setting value of No.050

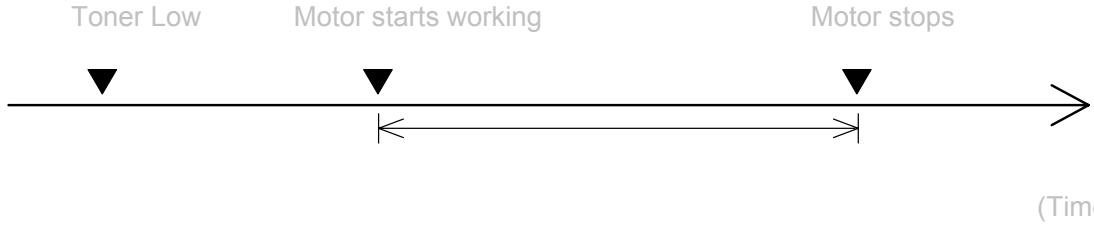
⚠ NOTE

The reaction time may be too long if the image gets lighter and lighter when you make large volume prints continuously.
In this case try to decrease the setting value of No.050 to shorten the reaction time.

8. 5. 4.22 Toner Supply Motor ON Time (No.051)

It is possible change the time the Toner Supply Motor works (ON time).
The ON time becomes 1 second longer if you increase the setting value.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
10	10	1 to 15	1 second



Setting value of No.051

⚠ NOTE

The ON time may be too short if the image gets lighter and lighter when you make large volume prints continuously.
In this case try to increase the setting value of No.051 to make the ON time longer.

8. 5. 4.23 Dot Enhancement Level (Dither) (No.052)

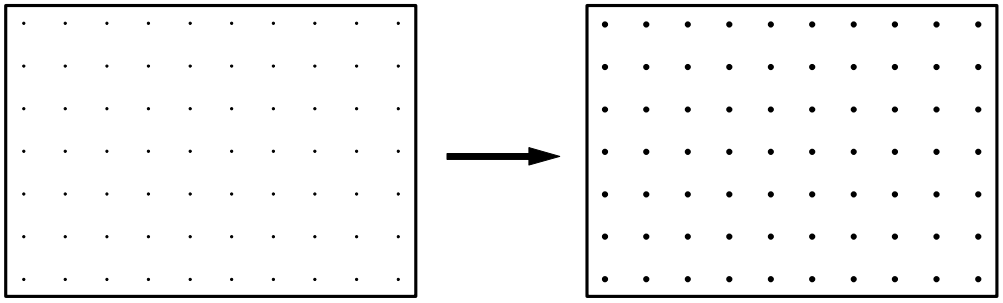
It is possible to validate the Dot Enhancement function which makes an isolated dot look clearer. An isolated dot image is more emphasized if you increase the setting value.

Setting value	Contents
1 (Default in USA, EUR & ASIA)	Emphasized
2	More emphasized
3	Most emphasized

Reference

(1) An isolated dot image tends to look so weak.
The Dot Enhancement function emphasizes the isolated dot so that it looks clear.
(Dot Enhancement function emphasizes only the isolated dot. It will not emphasize the dots coming together some degree.)

Dot Enhancement function is OFF. Dot Enhancement function is ON.

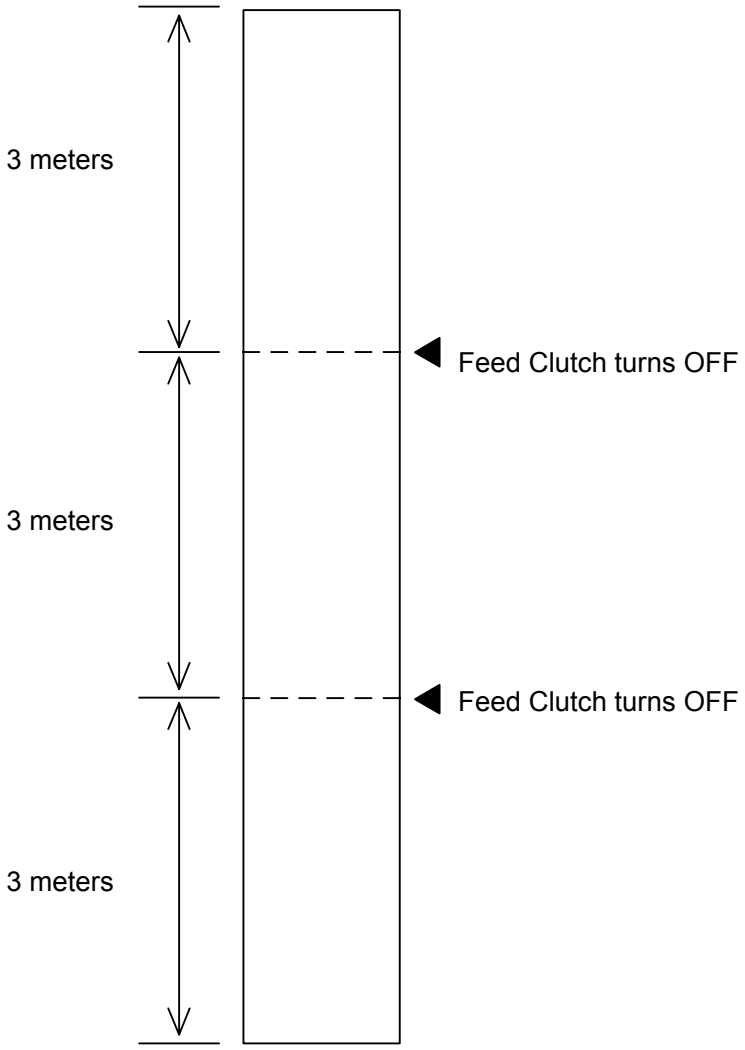


(2) The Dot Enhancement function can be validated in the User Mode.
It will not work if not validated.

8. 5. 4.24 Feed Clutch (CL3) OFF time applied to long print (No.053)

The Feed Clutch turns OFF for a very short period whenever the machine transports the paper 3 meters long, so as to remove the paper slack in a long printing.
It is possible in this No.053 to specify how long period the Feed Clutch continues to be OFF.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
130	130	80 to 180	1msec.

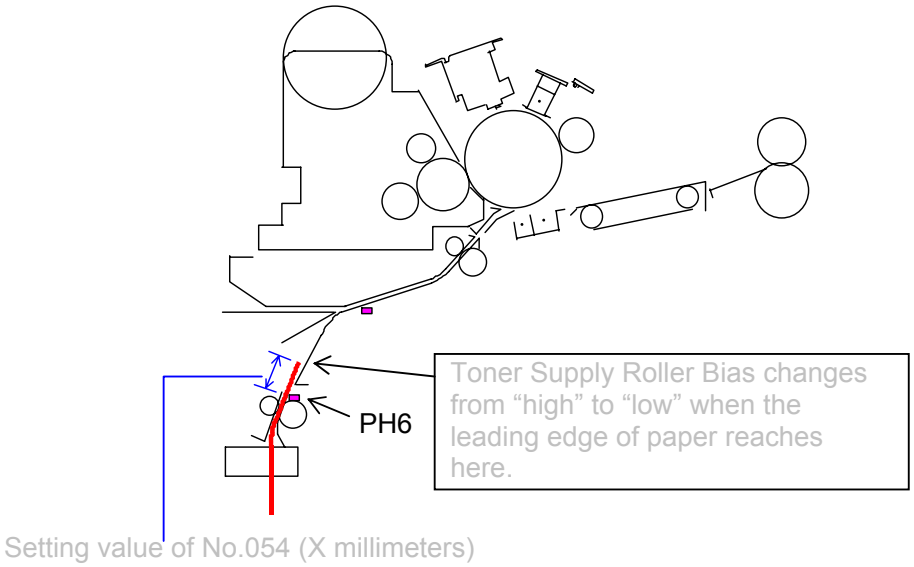


8. 5. 4.25 Switch timing of Toner Supply Roller Bias (No.054)

It is possible to specify the timing to switch the Toner Supply Roller Bias from “high” to “low”.
The setting unit is “1mm”, and the setting range is from 0 to 220mm.

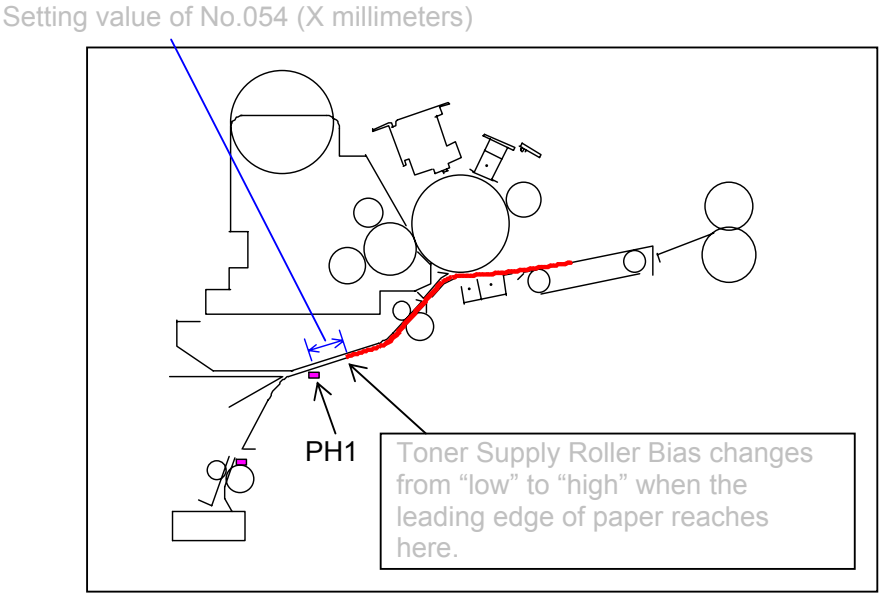
Default value		Setting range	Step of increment
USA	EUR/ASIA		
45	45	0 to 220	1mm

The Toner Supply Roller Bias is “high” (-50 +/-5V against the Developer Roller Bias) right after starting the print.
When the leading edge reaches the position at X millimeters from the sensor (PH6), which you have specified in the No.054, the Toner Supply Roller Bias changes to “low” (-150 +/-5V against the Developer Roller Bias).



Reference

Toner Supply Roller Bias changes from “low” to “high” when the trailing edge of paper reaches the position at X millimeters from the sensor (PH1).



8. 5. 4.26 Metric or Inch (No.055)

It is possible to decide the base format of the print.

Setting value	Contents
0 (Default in EUR & ASIA)	Metric
1 (Default in USA)	Inch

8. 5. 4.27 Language (No.056)

It is possible to specify the indication language of User Interface.

Setting value	Contents
0	Japanese
1 (Default in USA, EUR & ASIA)	English

8. 5. 4.28 Interface Communication Setting (No.057)

It is possible to specify the communication of Interface.

Setting value	Contents
0	Both the A Channel and the B Channel are used alternately. Interface Board communicates with both the image scanner (through A Channel) and the controller (through B Channel) alternately.
1	The A Channel only is used. Interface Board communicates with image scanner through the A Channel.
2 (Default in USA, EUR & ASIA)	The B Channel only is used. Interface Board communicates with controller through the B Channel.

8. 5. 4.29 Recognition of Roll Deck 2 (No.058)

It is possible to make the machine recognize the optional Roll Deck 2 if it is installed.

Setting value	Contents
0	Optional Roll Deck 2 is not installed.
1 (Default in USA, EUR & ASIA)	Optional Roll Deck 2 is installed.

8. 5. 4.30 Counter Value (No.059)

It is possible to specify the counting unit of Counter.

Setting value	Contents
0 (Default in EUR & ASIA)	1 linear meter
1	0.1 linear meter
2	1 square meter
3	0.1 square meter
4	1 linear foot
5 (Default in USA)	1 square foot

8. 5. 4.31 Maximum Length (No.060)

It is possible to specify the maximum cut length.

Setting value	Contents
0 (Default in USA, EUR & ASIA)	Maximum cut length is 3.6m.
1	Maximum cut length is 24m.

⚠ NOTE

We will not guarantee the print quality if the print is longer than the following sizes.

36” plain paper	3.6m
Other sizes of plain paper	3 times as long as each standard size
Tracing paper	Twice as long as each standard size
Film	Standard sizes

8. 5. 4.32 Stacking Device setting (No.061)

It is possible to make the KIP3000 recognize the optional device (stacker or folder) if connected.

Setting value	Contents
0 (Default in USA, EUR & ASIA)	Optional device is not connected.
1	Auto Stacker (K-76)

8. 5. 4.33 Operation of Fuser Roller (No.062)

It is possible to decide whether or not the Fuser Roller should rotate periodically in the stand by condition.

Setting value	Contents
0 (Default in USA, EUR & ASIA)	Fuser Roller rotates periodically in the stand by condition.
1	Fuser Roller does not rotate at all in the stand by condition.

Reference

The Fuser Roller periodically rotates and then stops when the machine is ready, so as to equalize the temperature at every point of Fuser Roller.
But if you feel it is so noisy to rotate it, select the setting value “1”.
In this case please note that the fusing quality may not be so good because the temperature of Fuser Roller is not equalized.

8. 5. 4.34 Operation of Central Fuser Fan (No.063 & 064)

A tracing paper wider than A2 (22”) is likely to be creased when both sides of the Fuser Roller are relatively cold.
When such a large tracing paper is used in the specific condition, the Central Fuser Fan works to cool down the central area of Fuser Roller.
As the Fuser Lamp lights to heat up the central area of Fuser Roller, both sides are also heated up.
As a result you can avoid the crease of paper.

No.063 is applied when you select the tracing paper, and No.064 is applied when you select the special tracing paper.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
063	Operation of Central Fuser Fan (Applied when tracing paper is used)	167	168	130 to 170	1°C
064	Operation of Central Fuser Fan (Applied when special tracing paper is used)	143	143	130 to 170	1°C

Reference

The Central Fuser Fan starts or stops working in the following conditions.

Starts working : The right side of Fuser Roller becomes 1°C colder than the setting value of No.063 (or No.064), and also the central area of it becomes hotter than that of No.040 (or No.043).
Stops working : The right side of Fuser Roller becomes 1°C hotter than the setting value of No.063 (or No.064), or the central area of it becomes 5°C colder than that of No.040 (or No.043).

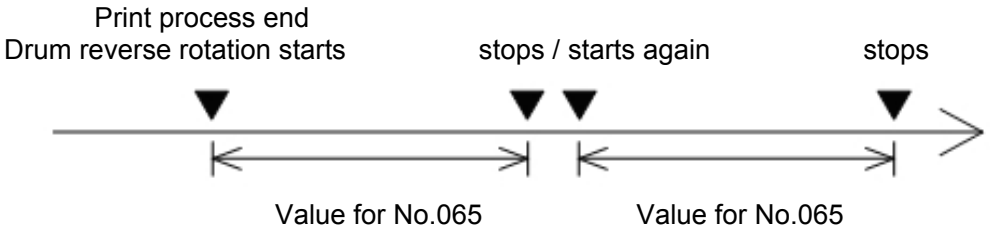
8. 5. 4.35 Drum Reverse Time (No.065)

It is possible to change the period for the Drum reverse rotation.

Developer Roller is strongly pressed to the Drum and that may cause an indentation on Developer Roller's surface. The indentation may result in defective imaging.
The Drum makes a reverse rotation in a given period twice after finishing a job.

Setting a bigger value for No.065 makes the reverse rotation period longer.

Default value		Setting range	Step of increment
USA	EUR/ASIA		
50	50	10 to 70	1 millisecond



Reference

(1) The Drum reverse rotation may produce a slight amount of toner sticking on the Drum's surface. This causes a black line at 50mm below the leading registration on a print. Setting a smaller value will reduce such a line.

(2) Setting an extremely small value may cause an indentation on Developer Roller.

8. 5. 4.36 Operation of Separation Lamp (No.067)

There may be the case that some type of printing paper has a difficulty in paper separation.
In this case it is possible to assist paper separation by lighting the Separation Lamp.
It is possible in this No.067 to decide to which type of paper the Separation Lamp should light.
Selectable values are from 1 to 7

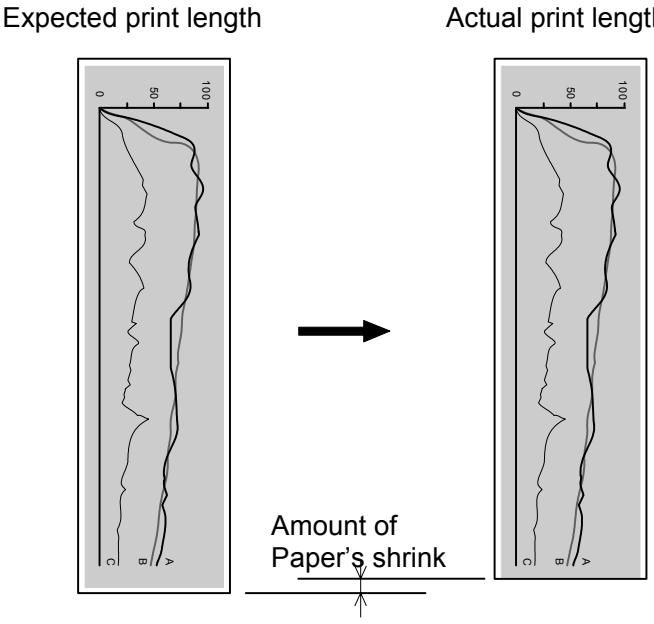
Setting value	Contents
1	Separation Lamp lights for plain paper.
2	Separation Lamp lights for tracing paper.
3	Separation Lamp lights for plain paper and tracing paper.
4 (Default in USA, EUR & ASIA)	Separation Lamp lights for film.
5	Separation Lamp lights for plain paper and film.
6	Separation Lamp lights for tracing paper and film.
7	Separation Lamp lights for all kinds of paper.

Reference

Sometimes you can avoid "defect of transfer (light image)" by making the Separation Lamp work.
So if you feel the print image is too light, try to make it work.
You may be able to fix the problem.

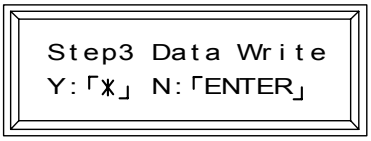
8. 5. 4.37 Automatic Adjustment of Cut Length (Long print) (No.069)

The printing paper may shrink very much if you make a long print, but it is possible to compensate the print length automatically in this No.069.



[Way of adjustment]

1. Select the Item Number 069 in the Adjustment Mode.
2. Set an A1 roll paper to the Roll Deck 1.
3. Press the [ENTER] Key.
4. The machine takes 4 sheets of 210mm long prints automatically.
5. Then, the machine also takes 4 sheets of 840mm prints automatically.
6. The machine automatically calculates the best compensation data from those 8 sheets of print.
   Press the [*] Key to write this data into the memory.
   (It will not be written in the memory if you press the [ENTER] Key.)



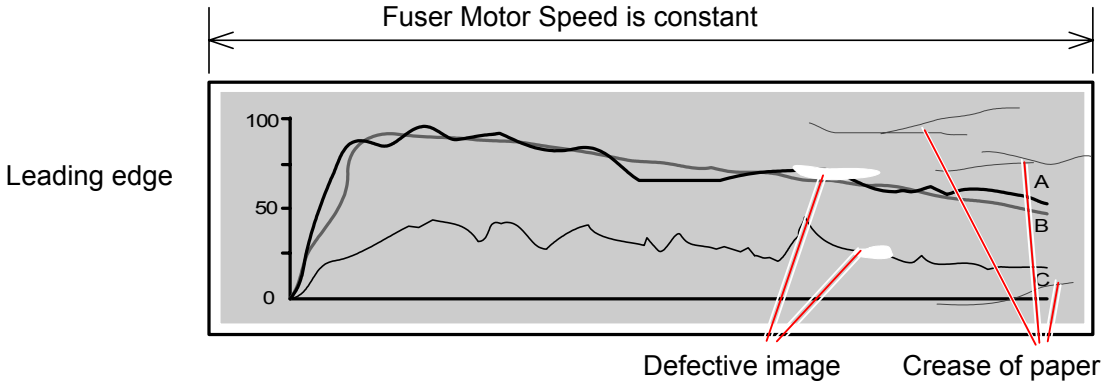
8. 5. 4.38 Compensation of Fuser Motor Speed for roll paper (Plain paper / A3, 12” & 11”) (No.070 to 075)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of A3, 12” and 11” sizes by roll paper feeding.

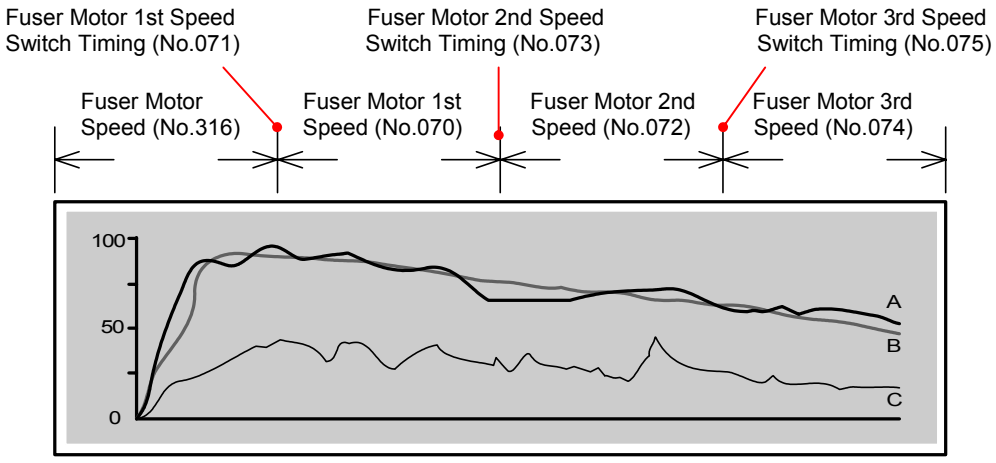
Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
070	Fuser Motor 1st Speed (Roll / Plain paper / A3, 12” & 11”)	25	23	0 to 40	
071	Switch Timing to Fuser Motor 1st Speed (Roll / Plain paper / A3, 12” & 11”)	1	1	0 to 400	1 second
072	Fuser Motor 2nd Speed (Roll / Plain paper / A3, 12” & 11”)	27	25	0 to 40	
073	Switch Timing to Fuser Motor 2nd Speed (Roll / Plain paper / A3, 12” & 11”)	2	2	0 to 400	1 second
074	Fuser Motor 3rd Speed (Roll / Plain paper / A3, 12” & 11”)	20	21	0 to 40	
075	Switch Timing to Fuser Motor 3rd Speed (Roll / Plain paper / A3, 12” & 11”)	2	2	0 to 400	1 second

Reference

Sometimes “crease of paper” or “defective image” may occur when you make a very long print with a constant Fuser Motor Speed.

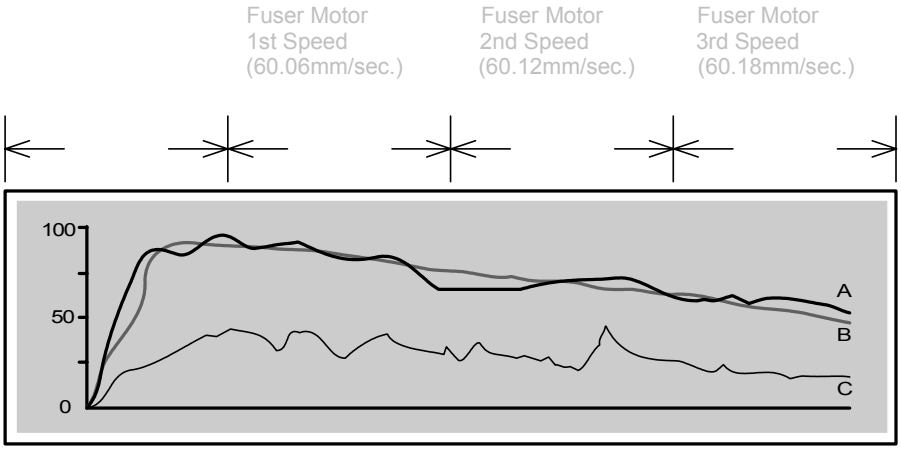


It is effective to fix these problems if we change the Fuser Motor Speed step by step during 1 sheet of print.
The Fuser Motor speed can be changed 3 times in maximum for 1 sheet of print.
At first the Fuser Motor rotates obeying the setting of “Fuser Motor Speed” (specified in No.316 to 321).
After that it changes its rotation speed step by step obeying the settings of No.070 to 075.



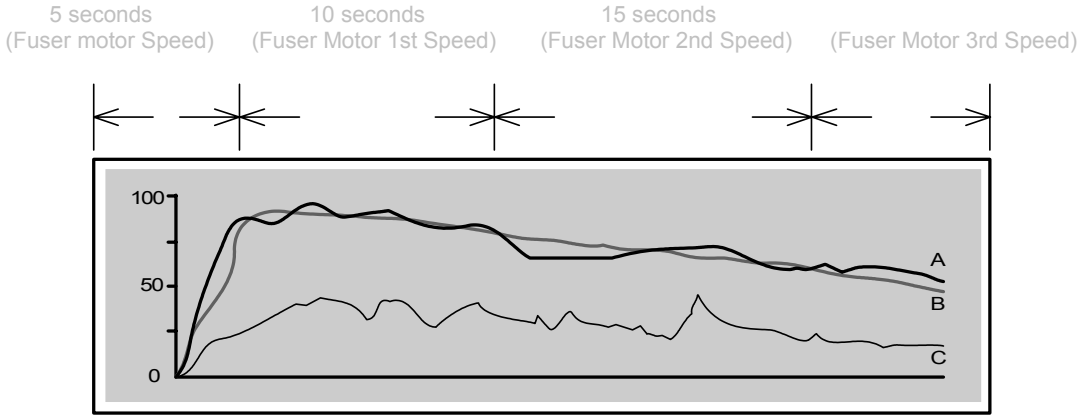
You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.070, 072 and 074.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster. (The default setting value “20” corresponds to 60mm/second.)

(Example)
Setting value of 070 is “21” → Fuser Motor 1st Speed is 60.06mm/sec.
Setting value of 072 is “22” → Fuser Motor 2nd Speed is 60.12mm/sec.
Setting value of 074 is “23” → Fuser Motor 3rd Speed is 60.18mm/sec.



You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.071, 073 and 075.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed. (If you specify “0”, the Fuser Motor Speed does not change.)

(Example)
Setting value of 071 is “5” → Fuser Motor 1st Speed starts 5 seconds after the Registration Sensor detects the leading edge.
Setting value of 073 is “10” → Fuser Motor 2nd Speed starts 10 seconds after the start of Fuser Motor 1st Speed.
Setting value of 075 is “15” → Fuser Motor 2nd Speed starts 15 seconds after the start of Fuser Motor 1st Speed.



8. 5. 4.39 Compensation of Fuser Motor Speed for roll paper (Tracing paper / A3, 12” & 11”) (No.076 to 081)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of A3, 12” and 11” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
076	Fuser Motor 1st Speed (Roll / Tracing / A3, 12” & 11”)	23	23	0 to 40	
077	Switch Timing to Fuser Motor 1st Speed (Roll / Tracing / A3, 12” & 11”)	1	1	0 to 400	1 second
078	Fuser Motor 2nd Speed (Roll / Tracing / A3, 12” & 11”)	23	23	0 to 40	
079	Switch Timing to Fuser Motor 2nd Speed (Roll / Tracing / A3, 12” & 11”)	2	2	0 to 400	1 second
080	Fuser Motor 3rd Speed (Roll / Tracing / A3, 12” & 11”)	23	23	0 to 40	
081	Switch Timing to Fuser Motor 3rd Speed (Roll / Tracing / A3, 12” & 11”)	3	3	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.076, 078 and 080.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.077, 079 and 081.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.40 Compensation of Fuser Motor Speed for roll paper (Film / A3, 12” & 11”) (No.082 to 087)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of A3, 12” and 11” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
082	Fuser Motor 1st Speed (Roll / Film / A3, 12” & 11”)	25	22	0 to 40	
083	Switch Timing to Fuser Motor 1st Speed (Roll / Film / A3, 12” & 11”)	1	1	0 to 400	1 second
084	Fuser Motor 2nd Speed (Roll / Film / A3, 12” & 11”)	25	22	0 to 40	
085	Switch Timing to Fuser Motor 2nd Speed (Roll / Film / A3, 12” & 11”)	2	2	0 to 400	1 second
086	Fuser Motor 3rd Speed (Roll / Film / A3, 12” & 11”)	20	20	0 to 40	
087	Switch Timing to Fuser Motor 3rd Speed (Roll / Film / A3, 12” & 11”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.082, 084 and 086.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.083, 085 and 087.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.41 Compensation of Fuser Motor Speed for roll paper (Special plain paper / A3, 12” & 11”) (No.088 to 093)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of A3, 12” and 11” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
088	Fuser Motor 1st Speed (Roll / Special plain paper / A3, 12” & 11”)	20	20	0 to 40	
089	Switch Timing to Fuser Motor 1st Speed (Roll / Special plain paper / A3, 12” & 11”)	0	0	0 to 400	1 second
090	Fuser Motor 2nd Speed Setting (Roll / Special plain paper / A3, 12” & 11”)	20	20	0 to 40	
091	Switch Timing to Fuser Motor 2nd Speed (Roll / Special plain paper / A3, 12” & 11”)	0	0	0 to 400	1 second
092	Fuser Motor 3rd Speed (Roll / Special plain paper / A3, 12” & 11”)	20	20	0 to 40	
093	Switch Timing to Fuser Motor 3rd Speed (Roll / Special plain paper / A3, 12” & 11”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.088, 090 and 092.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.089, 091 and 093.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.42 Compensation of Fuser Motor Speed for roll paper (Special tracing paper / A3, 12” & 11”) (No.094 to 099)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of A3, 12” and 11” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
094	Fuser Motor 1st Speed (Roll/ Special Media / Tracing / A3, 12” & 11”)	20	20	0 to 40	
095	Switch Timing to Fuser Motor 1st Speed (Roll/ Special Media / Tracing / A3, 12” & 11”)	0	0	0 to 400	1 second
096	Fuser Motor 2nd Speed (Roll/ Special Media / Tracing / A3, 12” & 11”)	20	20	0 to 40	
097	Switch Timing to Fuser Motor 2nd Speed (Roll/ Special Media / Tracing / A3, 12” & 11”)	0	0	0 to 400	1 second
098	Fuser Motor 3rd Speed (Roll/ Special Media / Tracing / A3, 12” & 11”)	20	20	0 to 40	
099	Switch Timing to Fuser Motor 3rd Speed (Roll/ Special Media / Tracing / A3, 12” & 11”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.094, 096 and 098.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.095, 097 and 099.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.43 Compensation of Fuser Motor Speed for roll paper (Special film / A3, 12” & 11”) (No.100 to 105)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of A3, 12” and 11” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
100	Fuser Motor 1st Speed (Roll / Special film / A3, 12” & 11”)	20	20	0 to 40	
101	Switch Timing to Fuser Motor 1st Speed (Roll / Special film / A3, 12” & 11”)	0	0	0 to 400	1 second
102	Fuser Motor 2nd Speed (Roll / Special film / A3, 12” & 11”)	20	20	0 to 40	
103	Switch Timing to Fuser Motor 2nd Speed (Roll / Special film / A3, 12” & 11”)	0	0	0 to 400	1 second
104	Fuser Motor 3rd Speed (Roll / Special film / A3, 12” & 11”)	20	20	0 to 40	
105	Switch Timing to Fuser Motor 3rd Speed (Roll / Special film / A3, 12” & 11”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.100, 102 and 104.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.101, 103 and 105.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.44 Compensation of Fuser Motor Speed for roll paper (Plain paper / A2, 18” & 17”) (No.106 to 111)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of A2, 18” and 17” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
106	Fuser Motor 1st Speed (Roll / Plain paper / A2, 18” & 17”)	23	22	0 to 40	
107	Switch Timing to Fuser Motor 1st Speed (Roll / Plain paper / A2, 18” & 17”)	1	1	0 to 400	1 second
108	Fuser Motor 2nd Speed (Roll / Plain paper / A2, 18” & 17”)	24	24	0 to 40	
109	Switch Timing to Fuser Motor 2nd Speed (Roll / Plain paper / A2, 18” & 17”)	3	3	0 to 400	1 second
110	Fuser Motor 3rd Speed (Roll / Plain paper / A2, 18” & 17”)	23	22	0 to 40	
111	Switch Timing to Fuser Motor 3rd Speed (Roll / Plain paper / A2, 18” & 17”)	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.106, 108 and 110.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.107, 109 and 111.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.45 Compensation of Fuser Motor Speed for roll paper (Tracing paper / A2, 18” & 17”) (No.112 to 117)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of A2, 18” and 17” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
112	Fuser Motor 1st Speed (Roll / Tracing / A2, 18” & 17”)	23	23	0 to 40	
113	Switch Timing to Fuser Motor 1st Speed (Roll / Tracing / A2, 18” & 17”)	1	1	0 to 400	1 second
114	Fuser Motor 2nd Speed (Roll / Tracing / A2, 18” & 17”)	24	24	0 to 40	
115	Switch Timing to Fuser Motor 2nd Speed (Roll / Tracing / A2, 18” & 17”)	3	3	0 to 400	1 second
116	Fuser Motor 3rd Speed (Roll / Tracing / A2, 18” & 17”)	24	24	0 to 40	
117	Switch Timing to Fuser Motor 3rd Speed (Roll / Tracing / A2, 18” & 17”)	3	3	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.112, 114 and 116.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.113, 115 and 117.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.46 Compensation of Fuser Motor Speed for roll paper (Film / A2, 18” & 17”) (No.118 to 123)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of A2, 18” and 17” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
118	Fuser Motor 1st Speed (Roll / Film / A2, 18” & 17”)	25	22	0 to 40	
119	Switch Timing to Fuser Motor 1st Speed (Roll / Film / A2, 18” & 17”)	1	1	0 to 400	1 second
120	Fuser Motor 2nd Speed (Roll / Film / A2, 18” & 17”)	25	22	0 to 40	
121	Switch Timing to Fuser Motor 2nd Speed (Roll / Film / A2, 18” & 17”)	3	3	0 to 400	1 second
122	Fuser Motor 3rd Speed (Roll / Film / A2, 18” & 17”)	20	20	0 to 40	
123	Switch Timing to Fuser Motor 3rd Speed (Roll / Film / A2, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.118, 120 and 122.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.119, 121 and 123.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.47 Compensation of Fuser Motor Speed for roll paper (Special plain paper / A2, 18” & 17”) (No.124 to 129)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of A2, 18” and 17” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
124	Fuser Motor 1st Speed (Roll / Special plain paper / A2, 18” & 17”)	20	20	0 to 40	
125	Switch Timing to Fuser Motor 1st Speed (Roll / Special plain paper / A2, 18” & 17”)	0	0	0 to 400	1 second
126	Fuser Motor 2nd Speed (Roll / Special plain paper / A2, 18” & 17”)	20	20	0 to 40	
127	Switch Timing to Fuser Motor 2nd Speed (Roll / Special plain paper / A2, 18” & 17”)	0	0	0 to 400	1 second
128	Fuser Motor 3rd Speed (Roll / Special plain paper / A2, 18” & 17”)	20	20	0 to 40	
129	Switch Timing to Fuser Motor 3rd Speed (Roll / Special plain paper / A2, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.124, 126 and 128.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.125, 127 and 129.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.48 Compensation of Fuser Motor Speed for roll paper (Special tracing paper / A2, 18” & 17”) (No.130 to 135)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of A2, 18” and 17” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
130	Fuser Motor 1st Speed (Roll / Special tracing / A2, 18” & 17”)	20	20	0 to 40	
131	Switch Timing to Fuser Motor 1st Speed (Roll / Special tracing / A2, 18” & 17”)	0	0	0 to 400	1 second
132	Fuser Motor 2nd Speed (Roll / Special tracing / A2, 18” & 17”)	20	20	0 to 40	
133	Switch Timing to Fuser Motor 2nd Speed (Roll / Special tracing / A2, 18” & 17”)	0	0	0 to 400	1 second
134	Fuser Motor 3rd Speed (Roll / Special tracing / A2, 18” & 17”)	20	20	0 to 40	
135	Switch Timing to Fuser Motor 3rd Speed (Roll / Special tracing / A2, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.130, 132 and 134.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.131, 133 and 135.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.49 Compensation of Fuser Motor Speed for roll paper (Special film / A2, 18” & 17”) (No.136 to 141)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of A2, 18” and 17” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
136	Fuser Motor 1st Speed (Roll / Special film / A2, 18” & 17”)	20	20	0 to 40	
137	Switch Timing to Fuser Motor 1st Speed (Roll / Special film / A2, 18” & 17”)	0	0	0 to 400	1 second
138	Fuser Motor 2nd Speed (Roll / Special film / A2, 18” & 17”)	20	20	0 to 40	
139	Switch Timing to Fuser Motor 2nd Speed (Roll / Special film / A2, 18” & 17”)	0	0	0 to 400	1 second
140	Fuser Motor 3rd Speed (Roll / Special film / A2, 18” & 17”)	20	20	0 to 40	
141	Switch Timing to Fuser Motor 3rd Speed (Roll / Special film / A2, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.136, 138 and 140.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.137, 139 and 141.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.50 Compensation of Fuser Motor Speed for roll paper (Plain paper / A1, 24” & 22”) (No.142 to 147)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of A1, 24” and 22” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
142	Fuser Motor 1st Speed (Roll / Plain paper / A1, 24” & 22”)	22	21	0 to 40	
143	Switch Timing to Fuser Motor 1st Speed (Roll / Plain paper / A1, 24” & 22”)	1	1	0 to 400	1 second
144	Fuser Motor 2nd Speed (Roll / Plain paper / A1, 24” & 22”)	21	22	0 to 40	
145	Switch Timing to Fuser Motor 2nd Speed (Roll / Plain paper / A1, 24” & 22”)	7	7	0 to 400	1 second
146	Fuser Motor 3rd Speed (Roll / Plain paper / A1, 24” & 22”)	21	21	0 to 40	
147	Switch Timing to Fuser Motor 3rd Speed (Roll / Plain paper / A1, 24” & 22”)	8	8	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.142, 144 and 146.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.143, 145 and 147.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.51 Compensation of Fuser Motor Speed for roll paper (Tracing paper / A1, 24” & 22”) (No.148 to 153)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of A1, 24” and 22” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
148	Fuser Motor 1st Speed (Roll / Tracing / A1, 24” & 22”)	22	22	0 to 40	
149	Switch Timing to Fuser Motor 1st Speed (Roll / Tracing / A1, 24” & 22”)	1	1	0 to 400	1 second
150	Fuser Motor 2nd Speed (Roll / Tracing / A1, 24” & 22”)	23	24	0 to 40	
151	Switch Timing to Fuser Motor 2nd Speed (Roll / Tracing / A1, 24” & 22”)	7	7	0 to 400	1 second
152	Fuser Motor 3rd Speed (Roll / Tracing / A1, 24” & 22”)	22	23	0 to 40	
153	Switch Timing to Fuser Motor 3rd Speed (Roll / Tracing / A1, 24” & 22”)	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.148, 150 and 152.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.149, 151 and 153.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.52 Compensation of Fuser Motor Speed for roll paper (Film / A1, 24” & 22”) (No.154 to 159)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of A1, 24” and 22” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
154	Fuser Motor 1st Speed (Roll / Film / A1, 24” & 22”)	21	21	0 to 40	
155	Switch Timing to Fuser Motor 1st Speed (Roll / Film / A1, 24” & 22”)	1	1	0 to 400	1 second
156	Fuser Motor 2nd Speed (Roll / Film / A1, 24” & 22”)	21	21	0 to 40	
157	Switch Timing to Fuser Motor 2nd Speed (Roll / Film / A1, 24” & 22”)	7	7	0 to 400	1 second
158	Fuser Motor 3rd Speed (Roll / Film / A1, 24” & 22”)	20	20	0 to 40	
159	Switch Timing to Fuser Motor 3rd Speed (Roll / Film / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.154, 156 and 158.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.155, 157 and 159.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.53 Compensation of Fuser Motor Speed for roll paper (Special plain paper / A1, 24 & 22”) (No.160 to 165)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of A1, 24” and 22” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
160	Fuser Motor 1st Speed (Roll / Special plain paper / A1, 24” & 22”)	20	20	0 to 40	
161	Switch Timing to Fuser Motor 1st Speed (Roll / Special plain paper / A1, 24” & 22”)	0	0	0 to 400	1 second
162	Fuser Motor 2nd Speed (Roll / Special plain paper / A1, 24” & 22”)	20	20	0 to 40	
163	Switch Timing to Fuser Motor 2nd Speed (Roll / Special plain paper / A1, 24” & 22”)	0	0	0 to 400	1 second
164	Fuser Motor 3rd Speed (Roll / Special plain paper / A1, 24” & 22”)	20	20	0 to 40	
165	Switch Timing to Fuser Motor 3rd Speed (Roll / Special plain paper / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.160, 162 and 164.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.161, 163 and 165.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.54 Compensation of Fuser Motor Speed for roll paper (Special tracing paper / A1, 24” & 22”) (No.166 to 171)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of A1, 24” and 22” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
166	Fuser Motor 1st Speed (Roll / Special tracing / A1, 24” & 22”)	20	20	0 to 40	
167	Switch Timing to Fuser Motor 1st Speed (Roll / Special tracing / A1, 24” & 22”)	0	0	0 to 400	1 second
168	Fuser Motor 2nd Speed (Roll / Special tracing / A1, 24” & 22”)	20	20	0 to 40	
169	Switch Timing to Fuser Motor 2nd Speed (Roll / Special tracing / A1, 24” & 22”)	0	0	0 to 400	1 second
170	Fuser Motor 3rd Speed (Roll / Special tracing / A1, 24” & 22”)	20	20	0 to 40	
171	Switch Timing to Fuser Motor 3rd Speed (Roll / Special tracing / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.166, 168 and 170.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.167, 169 and 171.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.55 Compensation of Fuser Motor Speed for roll paper (Special film / A1, 24” & 22”) (No.172 to 177)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of A1, 24” and 22” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
172	Fuser Motor 1st Speed (Roll / Special film / A1, 24” & 22”)	20	20	0 to 40	
173	Switch Timing to Fuser Motor 1st Speed (Roll / Special film / A1, 24” & 22”)	0	0	0 to 400	1 second
174	Fuser Motor 2nd Speed (Roll / Special film / A1, 24” & 22”)	20	20	0 to 40	
175	Switch Timing to Fuser Motor 2nd Speed (Roll / Special film / A1, 24” & 22”)	0	0	0 to 400	1 second
176	Fuser Motor 3rd Speed (Roll / Special film / A1, 24” & 22”)	20	20	0 to 40	
177	Switch Timing to Fuser Motor 3rd Speed (Roll / Special film / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.172, 174 and 176.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.173, 175 and 177.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.56 Compensation of Fuser Motor Speed for roll paper (Plain paper / A0, 36” & 34”) (No.178 to 183)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of A0, 36” and 34” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
178	Fuser Motor 1st Speed (Roll / Plain paper / A0, 36” & 34”)	19	18	0 to 40	
179	Switch Timing to Fuser Motor 1st Speed (Roll / Plain paper / A0, 36” & 34”)	1	1	0 to 400	1 second
180	Fuser Motor 2nd Speed (Roll / Plain paper / A0, 36” & 34”)	19	19	0 to 40	
181	Switch Timing to Fuser Motor 2nd Speed (Roll / Plain paper / A0, 36” & 34”)	12	12	0 to 400	1 second
182	Fuser Motor 3rd Speed (Roll / Plain paper / A0, 36” & 34”)	20	18	0 to 40	
183	Switch Timing to Fuser Motor 3rd Speed (Roll / Plain paper / A0, 36” & 34”)	11	11	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.178, 180 and 182.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.179, 181 and 183.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.57 Compensation of Fuser Motor Speed for roll paper (Tracing paper / A0, 36” & 34”) (No.184 to 189)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of A0, 36” and 34” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
184	Fuser Motor 1st Speed (Roll / Tracing / A0, 36” & 34”)	19	20	0 to 40	
185	Switch Timing to Fuser Motor 1st Speed (Roll / Tracing / A0, 36” & 34”)	1	1	0 to 400	1 second
186	Fuser Motor 2nd Speed (Roll / Tracing / A0, 36” & 34”)	20	21	0 to 40	
187	Switch Timing to Fuser Motor 2nd Speed (Roll / Tracing / A0, 36” & 34”)	12	12	0 to 400	1 second
188	Fuser Motor 3rd Speed (Roll / Tracing / A0, 36” & 34”)	20	19	0 to 40	
189	Switch Timing to Fuser Motor 3rd Speed (Roll / Tracing / A0, 36” & 34”)	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.184, 186 and 188.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.185, 187 and 189.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.58 Compensation of Fuser Motor Speed for roll paper (Film / A0, 36” & 34”) (No.190 to 195)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of A0, 36” and 34” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
190	Fuser Motor 1st Speed (Roll / Film / A0, 36” & 34”)	22	20	0 to 40	
191	Switch Timing to Fuser Motor 1st Speed (Roll / Film / A0, 36” & 34”)	1	1	0 to 400	1 second
192	Fuser Motor 2nd Speed (Roll / Film / A0, 36” & 34”)	25	23	0 to 40	
193	Switch Timing to Fuser Motor 2nd Speed (Roll / Film / A0, 36” & 34”)	12	12	0 to 400	1 second
194	Fuser Motor 3rd Speed (Roll / Film / A0, 36” & 34”)	20	20	0 to 40	
195	Switch Timing to Fuser Motor 3rd Speed (Roll / Film / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.190, 192 and 194.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.191, 193 and 195.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.59 Compensation of Fuser Motor Speed for roll paper (Special plain paper / A0, 36 & 34”) (No.196 to 201)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of A0, 36” and 34” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
196	Fuser Motor 1st Speed (Roll / Special plain paper / A0, 36” & 34”)	20	20	0 to 40	
197	Switch Timing to Fuser Motor 1st Speed (Roll / Special plain paper / A0, 36” & 34”)	0	0	0 to 400	1 second
198	Fuser Motor 2nd Speed (Roll / Special plain paper / A0, 36” & 34”)	20	20	0 to 40	
199	Switch Timing to Fuser Motor 2nd Speed (Roll / Special plain paper / A0, 36” & 34”)	0	0	0 to 400	1 second
200	Fuser Motor 3rd Speed (Roll / Special plain paper / A0, 36” & 34”)	20	20	0 to 40	
201	Switch Timing to Fuser Motor 3rd Speed (Roll / Special plain paper / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.196, 198 and 200.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.197, 199 and 201.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.60 Compensation of Fuser Motor Speed for roll paper (Special tracing paper / A0, 36” & 34”) (No.202 to 207)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of A0, 36” and 34” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
202	Fuser Motor 1st Speed (Roll / Special tracing / A0, 36” & 34”)	20	20	0 to 40	
203	Switch Timing to Fuser Motor 1st Speed (Roll / Special tracing / A0, 36” & 34”)	0	0	0 to 400	1 second
204	Fuser Motor 2nd Speed (Roll / Special tracing / A0, 36” & 34”)	20	20	0 to 40	
205	Switch Timing to Fuser Motor 2nd Speed (Roll / Special tracing / A0, 36” & 34”)	0	0	0 to 400	1 second
206	Fuser Motor 3rd Speed (Roll / Special tracing / A0, 36” & 34”)	20	20	0 to 40	
207	Switch Timing to Fuser Motor 3rd Speed (Roll / Special tracing / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.202, 204 and 206.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.203, 205 and 207.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.61 Compensation of Fuser Motor Speed for roll paper (Special film / A0, 36” & 34”) (No.208 to 213)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of A0, 24” and 22” sizes by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
208	Fuser Motor 1st Speed (Roll / Special film / A0, 36” & 34”)	20	20	0 to 40	
209	Switch Timing to Fuser Motor 1st Speed (Roll / Special film / A0, 36” & 34”)	0	0	0 to 400	1 second
210	Fuser Motor 2nd Speed (Roll / Special film / A0, 36” & 34”)	20	20	0 to 40	
211	Switch Timing to Fuser Motor 2nd Speed (Roll / Special film / A0, 36” & 34”)	0	0	0 to 400	1 second
212	Fuser Motor 3rd Speed (Roll / Special film / A0, 36” & 34”)	20	20	0 to 40	
213	Switch Timing to Fuser Motor 3rd Speed (Roll / Special film / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.208, 210 and 212.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.209, 211 and 213.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.62 Compensation of cut length for roll width 11” (No.214 to 219)

It is possible to compensate the cut length of 11” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
214	Compensation of cut length (11” / Plain paper)	50	50	0 to 100	1mm
215	Compensation of cut length (11” / Tracing paper)	50	50	0 to 100	1mm
216	Compensation of cut length (11” / Film)	50	50	0 to 100	1mm
217	Compensation of cut length (11” / Special plain paper)	50	50	0 to 100	1mm
218	Compensation of cut length (11” / Special tracing paper)	50	50	0 to 100	1mm
219	Compensation of cut length (11” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.214 to 219.

8. 5. 4.63 Compensation of cut length for roll width 12” (No.220 to 225)

It is possible to compensate the cut length of 12” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
220	Compensation of cut length (12” / Plain paper)	50	50	0 to 100	1mm
221	Compensation of cut length (12” / Tracing paper)	50	50	0 to 100	1mm
222	Compensation of cut length (12” / Film)	50	50	0 to 100	1mm
223	Compensation of cut length (12” / Special plain paper)	50	50	0 to 100	1mm
224	Compensation of cut length (12” / Special tracing paper)	50	50	0 to 100	1mm
225	Compensation of cut length (12” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.220 to 225.

8. 5. 4.64 Compensation of cut length for roll width 15” (No.226 to 231)

It is possible to compensate the cut length of 15” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
226	Compensation of cut length (15” / Plain paper)	50	50	0 to 100	1mm
227	Compensation of cut length (15” / Tracing paper)	50	50	0 to 100	1mm
228	Compensation of cut length (15” / Film)	50	50	0 to 100	1mm
229	Compensation of cut length (15” / Special plain paper)	50	50	0 to 100	1mm
230	Compensation of cut length (15” / Special tracing paper)	50	50	0 to 100	1mm
231	Compensation of cut length (15” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.226 to 231.

8. 5. 4.65 Compensation of cut length for roll width 17” (No.232 to 237)

It is possible to compensate the cut length of 17” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
232	Compensation of cut length (17” / Plain paper)	50	50	0 to 100	1mm
233	Compensation of cut length (17” / Tracing paper)	50	50	0 to 100	1mm
234	Compensation of cut length (17” / Film)	50	50	0 to 100	1mm
235	Compensation of cut length (17” / Special plain paper)	50	50	0 to 100	1mm
236	Compensation of cut length (17” / Special tracing paper)	50	50	0 to 100	1mm
237	Compensation of cut length (17” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.232 to 237.

8. 5. 4.66 Compensation of cut length for roll width 18” (No.238 to 243)

It is possible to compensate the cut length of 18” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
238	Compensation of cut length (18” / Plain paper)	50	50	0 to 100	1mm
239	Compensation of cut length (18” / Tracing paper)	50	50	0 to 100	1mm
240	Compensation of cut length (18” / Film)	50	50	0 to 100	1mm
241	Compensation of cut length (18” / Special plain paper)	50	50	0 to 100	1mm
242	Compensation of cut length (18” / Special tracing paper)	50	50	0 to 100	1mm
243	Compensation of cut length (18” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.238 to 243.

8. 5. 4.67 Compensation of cut length for roll width 22” (No.244 to 249)

It is possible to compensate the cut length of 22” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
244	Compensation of cut length (22” / Plain paper)	50	50	0 to 100	1mm
245	Compensation of cut length (22” / Tracing paper)	50	50	0 to 100	1mm
246	Compensation of cut length (22” / Film)	50	50	0 to 100	1mm
247	Compensation of cut length (22” / Special plain paper)	50	50	0 to 100	1mm
248	Compensation of cut length (22” / Special tracing paper)	50	50	0 to 100	1mm
249	Compensation of cut length (22” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.244 to 249.

8. 5. 4.68 Compensation of cut length for roll width 24” (No.250 to 255)

It is possible to compensate the cut length of 24” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
250	Compensation of cut length (24” / Plain paper)	50	50	0 to 100	1mm
251	Compensation of cut length (24” / Tracing paper)	50	50	0 to 100	1mm
252	Compensation of cut length (24” / Film)	50	50	0 to 100	1mm
253	Compensation of cut length (24” / Special plain paper)	50	50	0 to 100	1mm
254	Compensation of cut length (24” / Special tracing paper)	50	50	0 to 100	1mm
255	Compensation of cut length (24” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.250 to 255.

8. 5. 4.69 Compensation of cut length for roll width 30” (No.256 to 261)

It is possible to compensate the cut length of 30” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
256	Compensation of cut length (30” / Plain paper)	50	50	0 to 100	1mm
257	Compensation of cut length (30” / Tracing paper)	50	50	0 to 100	1mm
258	Compensation of cut length (30” / Film)	50	50	0 to 100	1mm
259	Compensation of cut length (30” / Special plain paper)	50	50	0 to 100	1mm
260	Compensation of cut length (30” / Special tracing paper)	50	50	0 to 100	1mm
261	Compensation of cut length (30” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.256 to 261.

8. 5. 4.70 Compensation of cut length for roll width 34” (No.262 to 267)

It is possible to compensate the cut length of 34” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
262	Compensation of cut length (34” / Plain paper)	50	50	0 to 100	1mm
263	Compensation of cut length (34” / Tracing paper)	50	50	0 to 100	1mm
264	Compensation of cut length (34” / Film)	50	50	0 to 100	1mm
265	Compensation of cut length (34” / Special plain paper)	50	50	0 to 100	1mm
266	Compensation of cut length (34” / Special tracing paper)	50	50	0 to 100	1mm
267	Compensation of cut length (34” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.262 to 267.

8. 5. 4.71 Compensation of cut length for roll width 36” (No.268 to 273)

It is possible to compensate the cut length of 36” roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
268	Compensation of cut length (36” / Plain paper)	50	50	0 to 100	1mm
269	Compensation of cut length (36” / Tracing paper)	50	50	0 to 100	1mm
270	Compensation of cut length (36” / Film)	54	54	0 to 100	1mm
271	Compensation of cut length (36” / Special plain paper)	50	50	0 to 100	1mm
272	Compensation of cut length (36” / Special tracing paper)	50	50	0 to 100	1mm
273	Compensation of cut length (36” / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.268 to 273.

8. 5. 4.72 Compensation of cut length for roll width A3 (No.274 to 279)

It is possible to compensate the cut length of A3 roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
274	Compensation of cut length (A3 / Plain paper)	50	50	0 to 100	1mm
275	Compensation of cut length (A3 / Tracing paper)	50	50	0 to 100	1mm
276	Compensation of cut length (A3 / Film)	50	50	0 to 100	1mm
277	Compensation of cut length (A3 / Special plain paper)	50	50	0 to 100	1mm
278	Compensation of cut length (A3 / Special tracing paper)	50	50	0 to 100	1mm
279	Compensation of cut length (A3 / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.274 to 279.

8. 5. 4.73 Compensation of cut length for roll width A2 (No.280 to 285)

It is possible to compensate the cut length of A2 roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
280	Compensation of cut length (A2 / Plain paper)	50	50	0 to 100	1mm
281	Compensation of cut length (A2 / Tracing paper)	50	50	0 to 100	1mm
282	Compensation of cut length (A2 / Film)	50	50	0 to 100	1mm
283	Compensation of cut length (A2 / Special plain paper)	50	50	0 to 100	1mm
284	Compensation of cut length (A2 / Special tracing paper)	50	50	0 to 100	1mm
285	Compensation of cut length (A2 / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.280 to 285.

8. 5. 4.74 Compensation of cut length for roll width A1 (No.286o 291)

It is possible to compensate the cut length of A1 roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
286	Compensation of cut length (A1 / Plain paper)	50	50	0 to 100	1mm
287	Compensation of cut length (A1 / Tracing paper)	50	52	0 to 100	1mm
288	Compensation of cut length (A1 / Film)	50	50	0 to 100	1mm
289	Compensation of cut length (A1 / Special plain paper)	50	50	0 to 100	1mm
290	Compensation of cut length (A1 / Special tracing paper)	50	50	0 to 100	1mm
291	Compensation of cut length (A1 / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.286 to 291.

8. 5. 4.75 Compensation of cut length for roll width A0 (No.292 to 297)

It is possible to compensate the cut length of A0 roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
292	Compensation of cut length (A0 / Plain paper)	50	50	0 to 100	1mm
293	Compensation of cut length (A0 / Tracing paper)	50	54	0 to 100	1mm
294	Compensation of cut length (A0 / Film)	50	50	0 to 100	1mm
295	Compensation of cut length (A0 / Special plain paper)	50	50	0 to 100	1mm
296	Compensation of cut length (A0 / Special tracing paper)	50	50	0 to 100	1mm
297	Compensation of cut length (A0 / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.292 to 297.

8. 5. 4.76 Compensation of cut length for roll width B1 (No.298 to 303)

It is possible to compensate the cut length of B1 roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
298	Compensation of cut length (B1 / Plain paper)	50	50	0 to 100	1mm
299	Compensation of cut length (B1 / Tracing paper)	50	50	0 to 100	1mm
300	Compensation of cut length (B1 / Film)	50	50	0 to 100	1mm
301	Compensation of cut length (B1 / Special plain paper)	50	50	0 to 100	1mm
302	Compensation of cut length (B1 / Special tracing paper)	50	50	0 to 100	1mm
303	Compensation of cut length (B1 / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.298 to 303.

8. 5. 4.77 Compensation of cut length for roll width 880 (No.304 to 309)

It is possible to compensate the cut length of 880 roll paper if it is not correct.
The setting range is from 0 to 100, and the cut length becomes 1mm longer if you increase the setting value by “+1”.
Adjustment can be done for each type of paper separately.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
304	Compensation of cut length (880 / Plain paper)	50	50	0 to 100	1mm
305	Compensation of cut length (880 / Tracing paper)	50	50	0 to 100	1mm
306	Compensation of cut length (880 / Film)	50	50	0 to 100	1mm
307	Compensation of cut length (880 / Special plain paper)	50	50	0 to 100	1mm
308	Compensation of cut length (880 / Special tracing paper)	50	50	0 to 100	1mm
309	Compensation of cut length (880 / Special film)	50	50	0 to 100	1mm

⚠ NOTE

Please finish the basic adjustment of cut length (Cut Length 1 [No.016] and Cut Length 3 [No.018]) before starting to adjust these settings from No.304 to 309.

8. 5. 4.78 Main Motor Speed (No.310 to 315)

It is possible to adjust the speed of Main Motor for each type of paper separately.
If you increase the setting value by “+1”, the motor speed becomes 0.06mm/second faster.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
310	Main Motor Speed (Plain paper)	21	21	0 to 40	-
311	Main Motor Speed (Tracing paper)	21	21	0 to 40	-
312	Main Motor Speed (Film)	24	21	0 to 40	-
133	Main Motor Speed (Special plain paper)	20	20	0 to 40	-
314	Main Motor Speed (Special tracing paper)	20	20	0 to 40	-
315	Main Motor Speed (Special film)	20	20	0 to 40	-

⚠ CAUTION

The Main Motor Speed is the basis for many other print settings.
So you have to re-adjust all of these print settings if you change the Main Motor Speed.

8. 5. 4.79 Fuser Motor Speed (No.316 to 321)

It is possible to adjust the speed of Fuser Motor for each type of paper separately.
If you increase the setting value by “+1”, the motor speed becomes 0.06mm/second faster.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
316	Fuser Motor Speed (Plain paper)	25	18	0 to 40	-
317	Fuser Motor Speed (Tracing paper)	24	31	0 to 40	-
318	Fuser Motor Speed (Film paper)	25	24	0 to 40	-
319	Fuser Motor Speed (Special plain paper)	20	20	0 to 40	-
320	Fuser Motor Speed (Special tracing paper)	20	20	0 to 40	-
321	Fuser Motor Speed (Special film)	20	20	0 to 40	-

8. 5. 4.80 Separation Corona OFF Timing (No.322 to 327)

It is possible to adjust the timing that the Separation Corona stops discharging during the print cycle.
You can specify the timing for each type of paper separately.
If you increase the setting value by “+1”, the timing to start discharging is 1mm delayed.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
322	Separation Corona OFF Timing (Plain paper)	58	18	0 to 100	1mm
323	Separation Corona OFF Timing (tracing paper)	58	18	0 to 100	1mm
324	Separation Corona OFF Timing (Film)	58	18	0 to 100	1mm
325	Separation Corona OFF Timing (Special plain paper)	58	58	0 to 100	1mm
326	Separation Corona OFF Timing (Special tracing paper)	58	58	0 to 100	1mm
327	Separation Corona OFF Timing (Special film)	58	58	0 to 100	1mm

8. 5. 4.81 Compensation of Fuser Motor Speed for cut sheet paper (Plain paper / A3, A2, 12", 11", 18" & 17") (No.328 to 333)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of A2, 18" and 17" sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
328	Fuser Motor 1st Speed (Cut sheet / Plain paper / A3, A2, 12", 11", 18" & 17")	23	22	0 to 40	
329	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Plain paper / A3, A2, 12", 11", 18" & 17")	1	1	0 to 400	1 second
330	Fuser Motor 2nd Speed (Cut sheet / Plain paper / A3, A2, 12", 11", 18" & 17")	24	24	0 to 40	
331	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Plain paper / A3, A2, 12", 11", 18" & 17")	3	3	0 to 400	1 second
332	Fuser Motor 3rd Speed (Cut sheet / Plain paper / A3, A2, 12", 11", 18" & 17")	23	22	0 to 40	
333	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Plain paper / A3, A2, 12", 11", 18" & 17")	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.328, 330 and 332.
If you increase the setting value by "+1", each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.329, 331 and 333.
If you increase the setting value by "+1", the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.82 Compensation of Fuser Motor Speed for cut sheet paper (Tracing paper / A3, A2, 12”, 11”, 18” & 17”) (No.334 to 339)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of A2, 18” and 17” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
334	Fuser Motor 1st Speed (Cut sheet / Tracing / A3, A2, 12”, 11”, 18” & 17”)	23	23	0 to 40	
335	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Tracing / A3, A2, 12”, 11”, 18” & 17”)	1	1	0 to 400	1 second
336	Fuser Motor 2nd Speed (Cut sheet / Tracing / A3, A2, 12”, 11”, 18” & 17”)	24	24	0 to 40	
337	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Tracing / A3, A2, 12”, 11”, 18” & 17”)	3	3	0 to 400	1 second
338	Fuser Motor 3rd Speed (Cut sheet / Tracing / A3, A2, 12”, 11”, 18” & 17”)	24	24	0 to 40	
339	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Tracing / A3, A2, 12”, 11”, 18” & 17”)	3	3	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.334, 336 and 338.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.335, 337 and 339.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.83 Compensation of Fuser Motor Speed for cut sheet paper (Film / A3, A2, 12”, 11”, 18” & 17”) (No.340 to 345)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of A2, 18” and 17” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
340	Fuser Motor 1st Speed (Cut sheet / Film / A3, A2, 12”, 11”, 18” & 17”)	25	22	0 to 40	
341	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Film / A3, A2, 12”, 11”, 18” & 17”)	1	1	0 to 400	1 second
342	Fuser Motor 2nd Speed (Cut sheet / Film / A3, A2, 12”, 11”, 18” & 17”)	25	22	0 to 40	
343	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Film / A3, A2, 12”, 11”, 18” & 17”)	3	3	0 to 400	1 second
344	Fuser Motor 3rd Speed (Cut sheet / Film / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
345	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Film / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.340, 342 and 344.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.341, 343 and 345.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.84 Compensation of Fuser Motor Speed for cut sheet paper (Special plain paper / A3, A2, 12”, 11”, 18” & 17”) (No.346 to 351)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of A2, 18” and 17” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
346	Fuser Motor 1st Speed (Cut sheet / Special plain paper / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
347	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special plain paper / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second
348	Fuser Motor 2nd Speed (Cut sheet / Special plain paper / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
349	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special plain paper / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second
350	Fuser Motor 3rd Speed (Cut sheet / Special plain paper / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
351	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special plain paper / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.346, 348 and 350.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.347, 349 and 351.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.85 Compensation of Fuser Motor Speed for cut sheet paper (Special tracing paper / A3, A2, 12”, 11”, 18” & 17”) (No.352 to 357)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of A2, 18” and 17” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
352	Fuser Motor 1st Speed (Cut sheet / Special tracing / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
353	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special tracing / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second
354	Fuser Motor 2nd Speed (Cut sheet / Special tracing / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
355	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special tracing / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second
356	Fuser Motor 3rd Speed (Cut sheet / Special tracing / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
357	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special tracing / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.352, 354 and 356.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.353, 355 and 357.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.86 Compensation of Fuser Motor Speed for cut sheet paper (Special film / A3, A2, 12”, 11”, 18” & 17”) (No.358 to 363)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of A2, 18” and 17” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
358	Fuser Motor 1st Speed (Cut sheet / Special film / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
359	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special film / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second
360	Fuser Motor 2nd Speed (Cut sheet / Special film / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
361	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special film / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second
362	Fuser Motor 3rd Speed (Cut sheet / Special film / A3, A2, 12”, 11”, 18” & 17”)	20	20	0 to 40	
363	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special film / A3, A2, 12”, 11”, 18” & 17”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.358, 360 and 362.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.359, 361 and 363.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.87 Compensation of Fuser Motor Speed for cut sheet paper (Plain paper / A1, 24” & 22”) (No.364 to 369)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of A1, 24” and 22” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
364	Fuser Motor 1st Speed (Cut sheet / Plain paper / A1, 24” & 22”)	22	21	0 to 40	
365	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Plain paper / A1, 24” & 22”)	1	1	0 to 400	1 second
366	Fuser Motor 2nd Speed (Cut sheet / Plain paper / A1, 24” & 22”)	21	22	0 to 40	
367	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Plain paper / A1, 24” & 22”)	7	7	0 to 400	1 second
368	Fuser Motor 3rd Speed (Cut sheet / Plain paper / A1, 24” & 22”)	21	21	0 to 40	
369	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Plain paper / A1, 24” & 22”)	8	8	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.364, 366 and 368.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.365, 367 and 369.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.88 Compensation of Fuser Motor Speed for cut sheet paper (Tracing paper / A1, 24” & 22”) (No.370 to 375)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of A1, 24” and 22” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
370	Fuser Motor 1st Speed (Cut sheet / Tracing / A1, 24” & 22”)	22	22	0 to 40	
371	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Tracing / A1, 24” & 22”)	1	1	0 to 400	1 second
372	Fuser Motor 2nd Speed (Cut sheet / Tracing / A1, 24” & 22”)	23	24	0 to 40	
373	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Tracing / A1, 24” & 22”)	7	7	0 to 400	1 second
374	Fuser Motor 3rd Speed (Cut sheet / Tracing / A1, 24” & 22”)	22	23	0 to 40	
375	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Tracing / A1, 24” & 22”)	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.370, 372 and 374.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.371, 373 and 375.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.89 Compensation of Fuser Motor Speed for cut sheet paper (Film / A1, 24” & 22”) (No.376 to 381)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of A1, 24” and 22” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
376	Fuser Motor 1st Speed (Cut sheet / Film / A1, 24” & 22”)	21	21	0 to 40	
377	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Film / A1, 24” & 22”)	1	1	0 to 400	1 second
378	Fuser Motor 2nd Speed (Cut sheet / Film / A1, 24” & 22”)	21	21	0 to 40	
379	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Film / A1, 24” & 22”)	7	7	0 to 400	1 second
380	Fuser Motor 3rd Speed (Cut sheet / Film / A1, 24” & 22”)	20	20	0 to 40	
381	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Film / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.376, 378 and 380.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.377, 379 and 381.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.90 Compensation of Fuser Motor Speed for cut sheet paper (Special plain paper / A1, 24” & 22”) (No.382 to 387)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of A1, 24” and 22” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
382	Fuser Motor 1st Speed (Cut sheet / Special plain paper / A1, 24” & 22”)	20	20	0 to 40	
383	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special plain paper / A1, 24” & 22”)	0	0	0 to 400	1 second
384	Fuser Motor 2nd Speed (Cut sheet / Special plain paper / A1, 24” & 22”)	20	20	0 to 40	
385	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special plain paper / A1, 24” & 22”)	0	0	0 to 400	1 second
386	Fuser Motor 3rd Speed (Cut sheet / Special plain paper / A1, 24” & 22”)	20	20	0 to 40	
387	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special plain paper / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.382, 384 and 386.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.383, 385 and 387.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.91 Compensation of Fuser Motor Speed for cut sheet paper (Special tracing paper / A1, 24” & 22”) (No.388 to 393)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of A1, 24” and 22” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
388	Fuser Motor 1st Speed (Cut sheet / Special tracing / A1, 24” & 22”)	20	20	0 to 40	
389	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special tracing / A1, 24” & 22”)	0	0	0 to 400	1 second
390	Fuser Motor 2nd Speed (Cut sheet / Special tracing / A1, 24” & 22”)	20	20	0 to 40	
391	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special tracing / A1, 24” & 22”)	0	0	0 to 400	1 second
392	Fuser Motor 3rd Speed (Cut sheet / Special tracing / A1, 24” & 22”)	20	20	0 to 40	
393	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special tracing / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.388, 390 and 392.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.389, 391 and 393.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.92 Compensation of Fuser Motor Speed for cut sheet paper (Special film / A1, 24” & 22”) (No.394 to 399)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of A1, 24” and 22” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
394	Fuser Motor 1st Speed (Cut sheet / Special film / A1, 24” & 22”)	20	20	0 to 40	
395	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special film / A1, 24” & 22”)	0	0	0 to 400	1 second
396	Fuser Motor 2nd Speed (Cut sheet / Special film / A1, 24” & 22”)	20	20	0 to 40	
397	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special film / A1, 24” & 22”)	0	0	0 to 400	1 second
398	Fuser Motor 3rd Speed (Cut sheet / Special film / A1, 24” & 22”)	20	20	0 to 40	
399	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special film / A1, 24” & 22”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.394, 396 and 398.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.395, 397 and 399.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.93 Compensation of Fuser Motor Speed for cut sheet paper (Plain paper / A0, 36” & 34”) (No.400 to 405)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of A0, 36” and 34” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
400	Fuser Motor 1st Speed (Cut sheet / Plain paper / A0, 36” & 34”)	18	18	0 to 40	
401	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Plain paper / A0, 36” & 34”)	1	1	0 to 400	1 second
402	Fuser Motor 2nd Speed (Cut sheet / Plain paper / A0, 36” & 34”)	19	19	0 to 40	
403	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Plain paper / A0, 36” & 34”)	12	12	0 to 400	1 second
404	Fuser Motor 3rd Speed (Cut sheet / Plain paper / A0, 36” & 34”)	18	18	0 to 40	
405	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Plain paper / A0, 36” & 34”)	11	11	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.400, 402 and 404.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.401, 403 and 405.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.94 Compensation of Fuser Motor Speed for cut sheet paper (Tracing paper / A0, 36” & 34”) (No.406 to 411)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of A0, 36” and 34” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
406	Fuser Motor 1st Speed (Cut sheet / Tracing / A0, 36” & 34”)	19	20	0 to 40	
407	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Tracing / A0, 36” & 34”)	1	1	0 to 400	1 second
408	Fuser Motor 2nd Speed (Cut sheet / Tracing / A0, 36” & 34”)	19	21	0 to 40	
409	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Tracing / A0, 36” & 34”)	12	12	0 to 400	1 second
410	Fuser Motor 3rd Speed (Cut sheet / Tracing / A0, 36” & 34”)	18	19	0 to 40	
411	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Tracing / A0, 36” & 34”)	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.406, 408 and 410.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.407, 409 and 411.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.95 Compensation of Fuser Motor Speed for cut sheet paper (Film / A0, 36” & 34”) (No.412 to 417)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of A0, 36” and 34” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
412	Fuser Motor 1st Speed (Cut sheet / Film / A0, 36” & 34”)	22	20	0 to 40	
413	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Film / A0, 36” & 34”)	1	1	0 to 400	1 second
414	Fuser Motor 2nd Speed (Cut sheet / Film / A0, 36” & 34”)	25	23	0 to 40	
415	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Film / A0, 36” & 34”)	12	12	0 to 400	1 second
416	Fuser Motor 3rd Speed (Cut sheet / Film / A0, 36” & 34”)	20	20	0 to 40	
417	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Film / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.412, 414 and 416.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.413, 415 and 417.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.96 Compensation of Fuser Motor Speed for cut sheet paper (Special plain paper / A0, 36 & 34”) (No.418 to 423)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of A0, 36” and 34” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
418	Fuser Motor 1st Speed (Cut sheet / Special plain paper / A0, 36” & 34”)	20	20	0 to 40	
419	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special plain paper / A0, 36” & 34”)	0	0	0 to 400	1 second
420	Fuser Motor 2nd Speed (Cut sheet / Special plain paper / A0, 36” & 34”)	20	20	0 to 40	
421	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special plain paper / A0, 36” & 34”)	0	0	0 to 400	1 second
422	Fuser Motor 3rd Speed (Cut sheet / Special plain paper / A0, 36” & 34”)	20	20	0 to 40	
423	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special plain paper / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.418, 420 and 422.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.419, 421 and 423.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.97 Compensation of Fuser Motor Speed for cut sheet paper (Special tracing paper / A0, 36” & 34”) (No.424 to 429)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of A0, 36” and 34” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
424	Fuser Motor 1st Speed (Cut sheet / Special tracing / A0, 36” & 34”)	20	20	0 to 40	
425	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special tracing / A0, 36” & 34”)	0	0	0 to 400	1 second
426	Fuser Motor 2nd Speed (Cut sheet / Special tracing / A0, 36” & 34”)	20	20	0 to 40	
427	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special tracing / A0, 36” & 34”)	0	0	0 to 400	1 second
428	Fuser Motor 3rd Speed (Cut sheet / Special tracing / A0, 36” & 34”)	20	20	0 to 40	
429	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special tracing / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.424, 426 and 428.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.425, 427 and 429.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.98 Compensation of Fuser Motor Speed for cut sheet paper (Special film / A0, 36” & 34”) (No.430 to 435)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of A0, 24” and 22” sizes by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
430	Fuser Motor 1st Speed (Cut sheet / Special film / A0, 36” & 34”)	20	20	0 to 40	
431	Switch Timing to Fuser Motor 1st Speed (Cut sheet / Special film / A0, 36” & 34”)	0	0	0 to 400	1 second
432	Fuser Motor 2nd Speed (Cut sheet / Special film / A0, 36” & 34”)	20	20	0 to 40	
433	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / Special film / A0, 36” & 34”)	0	0	0 to 400	1 second
434	Fuser Motor 3rd Speed (Cut sheet / Special film / A0, 36” & 34”)	20	20	0 to 40	
435	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / Special film / A0, 36” & 34”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.430, 432 and 434.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.431, 433 and 435.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.99 Compensation of Fuser Motor Speed for roll paper (Plain paper / 30”) (No.436 to 441)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of 30” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
436	Fuser Motor 1st Speed (Roll / plain paper / 30”)	21	20	0 to 40	
437	Switch Timing to Fuser Motor 1st Speed (Roll / plain paper / 30”)	1	1	0 to 400	1 second
438	Fuser Motor 2nd Speed (Roll / plain paper / 30”)	20	20	0 to 40	
439	Switch Timing to Fuser Motor 2nd Speed (Roll / plain paper / 30”)	12	12	0 to 400	1 second
440	Fuser Motor 3rd Speed (Roll / plain paper / 30”)	22	20	0 to 40	
441	Switch Timing to Fuser Motor 3rd Speed (Roll / plain paper / 30”)	11	11	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.436, 438 and 440.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.437, 439 and 441.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.100 Compensation of Fuser Motor Speed for roll paper (Tracing paper / 30”) (No.442 to 447)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of 30” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
442	Fuser Motor 1st Speed (Roll / tracing / 30”)	22	23	0 to 40	
443	Switch Timing to Fuser Motor 1st Speed (Roll / tracing / 30”)	1	1	0 to 400	1 second
444	Fuser Motor 2nd Speed (Roll / tracing / 30”)	21	22	0 to 40	
445	Switch Timing to Fuser Motor 2nd Speed (Roll / tracing / 30”)	12	12	0 to 400	1 second
446	Fuser Motor 3rd Speed (Roll / tracing / 30”)	23	21	0 to 40	
447	Switch Timing to Fuser Motor 3rd Speed (Roll / tracing / 30”)	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.442, 444 and 446.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.443, 445 and 447.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.101 Compensation of Fuser Motor Speed for roll paper (Film / 30”) (No.448 to 453)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of 30” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
448	Fuser Motor 1st Speed (Roll / film / 30”)	22	20	0 to 40	
449	Switch Timing to Fuser Motor 1st Speed (Roll / film / 30”)	1	1	0 to 400	1 second
450	Fuser Motor 2nd Speed (Roll / film / 30”)	25	23	0 to 40	
451	Switch Timing to Fuser Motor 2nd Speed (Roll / film / 30”)	12	12	0 to 400	1 second
452	Fuser Motor 3rd Speed (Roll / film / 30”)	20	20	0 to 40	
453	Switch Timing to Fuser Motor 3rd Speed (Roll / film / 30”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.448, 450 and 452.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.449, 451 and 453.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.102 Compensation of Fuser Motor Speed for roll paper (Special plain paper / 30”) (No.454 to 459)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of 30” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
454	Fuser Motor 1st Speed (Roll / special plain paper / 30”)	20	20	0 to 40	
455	Switch Timing to Fuser Motor 1st Speed (Roll / special plain paper / 30”)	0	0	0 to 400	1 second
456	Fuser Motor 2nd Speed (Roll / special plain paper / 30”)	20	20	0 to 40	
457	Switch Timing to Fuser Motor 2nd Speed (Roll / special plain paper / 30”)	0	0	0 to 400	1 second
458	Fuser Motor 3rd Speed (Roll / special plain paper / 30”)	20	20	0 to 40	
459	Switch Timing to Fuser Motor 3rd Speed (Roll / special plain paper / 30”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.454, 456 and 458.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.455, 457 and 459.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.103 Compensation of Fuser Motor Speed for roll paper (Special tracing paper / 30”) (No.460 to 465)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of 30” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
460	Fuser Motor 1st Speed (Roll / special tracing / 30”)	20	20	0 to 40	
461	Switch Timing to Fuser Motor 1st Speed (Roll / special tracing / 30”)	0	0	0 to 400	1 second
462	Fuser Motor 2nd Speed (Roll / special tracing / 30”)	20	20	0 to 40	
463	Switch Timing to Fuser Motor 2nd Speed (Roll / special tracing / 30”)	0	0	0 to 400	1 second
464	Fuser Motor 3rd Speed (Roll / special tracing / 30”)	20	20	0 to 40	
465	Switch Timing to Fuser Motor 3rd Speed (Roll / special tracing / 30”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.460, 462 and 464.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.461, 463 and 465.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.104 Compensation of Fuser Motor Speed for roll paper (Special film / 30”) (No.466 to 471)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of 30” size by roll paper feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
466	Fuser Motor 1st Speed (Roll / special film / 30”)	20	20	0 to 40	
467	Switch Timing to Fuser Motor 1st Speed (Roll / special film / 30”)	0	0	0 to 400	1 second
468	Fuser Motor 2nd Speed (Roll / special film / 30”)	20	20	0 to 40	
469	Switch Timing to Fuser Motor 2nd Speed (Roll / special film / 30”)	0	0	0 to 400	1 second
470	Fuser Motor 3rd Speed (Roll / special film / 30”)	20	20	0 to 40	
471	Switch Timing to Fuser Motor 3rd Speed (Roll / special film / 30”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.466, 468 and 470.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.467, 469 and 471.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.105 Compensation of Fuser Motor Speed for cut sheet paper (Plain paper / 30”) (No.472 to 477)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper of 30” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
472	Fuser Motor 1st Speed (Cut sheet / plain paper / 30”)	20	18	0 to 40	
473	Switch Timing to Fuser Motor 1st Speed (Cut sheet / plain paper / 30”)	1	1	0 to 400	1 second
474	Fuser Motor 2nd Speed (Cut sheet / plain paper / 30”)	20	19	0 to 40	
475	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / plain paper / 30”)	12	12	0 to 400	1 second
476	Fuser Motor 3rd Speed (Cut sheet / plain paper / 30”)	20	18	0 to 40	
477	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / plain paper / 30”)	11	11	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.472, 474 and 476.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.473, 475 and 477.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.106 Compensation of Fuser Motor Speed for cut sheet paper (Tracing paper / 30”) (No.478 to 483)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper of 30” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
478	Fuser Motor 1st Speed (Cut sheet / tracing / 30”)	22	20	0 to 40	
479	Switch Timing to Fuser Motor 1st Speed (Cut sheet / tracing / 30”)	1	1	0 to 400	1 second
480	Fuser Motor 2nd Speed (Cut sheet / tracing / 30”)	20	21	0 to 40	
481	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / tracing / 30”)	12	12	0 to 400	1 second
482	Fuser Motor 3rd Speed (Cut sheet / tracing / 30”)	21	19	0 to 40	
483	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / tracing / 30”)	5	5	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.478, 480 and 482.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.479, 481 and 483.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.107 Compensation of Fuser Motor Speed for cut sheet paper (Film / 30”) (No.484 to 489)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film of 30” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
484	Fuser Motor 1st Speed (Cut sheet / film / 30”)	22	20	0 to 40	
485	Switch Timing to Fuser Motor 1st Speed (Cut sheet / film / 30”)	1	1	0 to 400	1 second
486	Fuser Motor 2nd Speed (Cut sheet / film / 30”)	25	23	0 to 40	
487	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / film / 30”)	12	12	0 to 400	1 second
488	Fuser Motor 3rd Speed (Cut sheet / film / 30”)	20	20	0 to 40	
489	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / film / 30”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.484, 486 and 488.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.485, 487 and 489.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.108 Compensation of Fuser Motor Speed for cut sheet paper (Special plain paper / 30”) (No.490 to 495)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a plain paper (special media) of 30” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
490	Fuser Motor 1st Speed (Cut sheet / special plain paper / 30”)	20	20	0 to 40	
491	Switch Timing to Fuser Motor 1st Speed (Cut sheet / special plain paper / 30”)	0	0	0 to 400	1 second
492	Fuser Motor 2nd Speed (Cut sheet / special plain paper / 30”)	20	20	0 to 40	
493	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / special plain paper / 30”)	0	0	0 to 400	1 second
494	Fuser Motor 3rd Speed (Cut sheet / special plain paper / 30”)	20	20	0 to 40	
495	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / special plain paper / 30”)	0	0	0 to 400	1 second

You can specify the Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.490, 492 and 494.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.491, 493 and 495.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.109 Compensation of Fuser Motor Speed for cut sheet paper (Special tracing paper / 30”) (No.496 to 501)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a tracing paper (special media) of 30” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
496	Fuser Motor 1st Speed (Cut sheet / special tracing / 30”)	20	20	0 to 40	
497	Switch Timing to Fuser Motor 1st Speed (Cut sheet / special tracing / 30”)	0	0	0 to 400	1 second
498	Fuser Motor 2nd Speed (Cut sheet / special tracing / 30”)	20	20	0 to 40	
499	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / special tracing / 30”)	0	0	0 to 400	1 second
500	Fuser Motor 3rd Speed (Cut sheet / special tracing / 30”)	20	20	0 to 40	
501	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / special tracing / 30”)	0	0	0 to 400	1 second

You can specify Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.496, 498 and 500.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.497, 499 and 501.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.110 Compensation of Fuser Motor Speed for cut sheet paper (Special film / 30”) (No.502 to 507)

It is possible to compensate the Fuser Motor speed specifying each Fuser Motor 1st, 2nd and 3rd Speed.
It is also possible to specify when to switch the speed. (Switch timing)
These settings become effective when you use a film (special media) of 30” size by cut sheet bypass feeding.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
502	Fuser Motor 1st Speed (Cut sheet / special film / 30”)	20	20	0 to 40	
503	Switch Timing to Fuser Motor 1st Speed (Cut sheet / special film / 30”)	0	0	0 to 400	1 second
504	Fuser Motor 2nd Speed (Cut sheet / special film / 30”)	20	20	0 to 40	
505	Switch Timing to Fuser Motor 2nd Speed (Cut sheet / special film / 30”)	0	0	0 to 400	1 second
506	Fuser Motor 3rd Speed (Cut sheet / special film / 30”)	20	20	0 to 40	
507	Switch Timing to Fuser Motor 3rd Speed (Cut sheet / special film / 30”)	0	0	0 to 400	1 second

You can specify Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.502, 504 and 506.
If you increase the setting value by “+1”, each Fuser Motor Speed becomes 0.06mm/second faster.

You can specify the switch timing to each Fuser Motor 1st Speed, 2nd one and 3rd one in each Item No.503, 505 and 507.
If you increase the setting value by “+1”, the timing to switch the speed is 1 second delayed.

Please refer to the explanation on the pages 8-61 and 8-62 for the details of these settings.

8. 5. 4.111 Transfer Voltage applied at 100mm from trailing edge (Plain paper / Tracing paper / Film) (No.508 to 510)

It is possible to adjust the analog voltage to Transfer Corona on 100mm end of a print.
This section does not function and is reserved for future update.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
508	Transfer Voltage applied at 100mm from trailing edge (Plain paper)	255	255	-	-
509	Transfer Voltage applied at 100mm from trailing edge (Tracing paper)	255	255	-	-
510	Transfer Voltage applied at 100mm from trailing edge (Film)	255	255	-	-

⚠ NOTE

Keep the setting values unchanged from each default “255”.

8. 5. 4.112 Transfer Voltage applied at 70mm from trailing edge (Plain paper / Tracing paper / Film) (No.511 to 513)

It is possible to adjust the analog voltage to Transfer Corona on 70mm end of a print.
A setting combination among No.511 to No.516 can reduce ghost images on the bottom area of a print in some cases.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
511	Transfer Voltage applied at 70mm from trailing edge (Plain paper)	33	33	0 to 510	-
512	Transfer Voltage applied at 70mm from trailing edge (Tracing paper)	33	33	0 to 510	-
513	Transfer Voltage applied at 70mm from trailing edge (Film)	255	255	0 to 510	-

⚠ NOTE

Please adjust the Transfer Corona Analog Voltage while checking the actual voltage with the multi-meter.

8. 5. 4.113 Fuser Motor Speed applied at 30mm from trailing edge (Plain paper / Tracing paper / Film) (No.514 to 516)

It is possible to adjust the speed of Fuser Motor driving on 30mm end of a print.
A setting combination among No.511 to No.516 can reduce ghost images on the bottom area of a print in some cases.

Item No.	Setting Item	Default value		Setting range	Step of increment
		USA	EUR/ASIA		
514	Fuser Motor Speed applied at 30mm from trailing edge (Plain paper)	16	16	0 to 40	-
515	Fuser Motor Speed applied at 30mm from trailing edge (Tracing paper)	16	16	0 to 40	-
516	Fuser Motor Speed applied at 30mm from trailing edge (Film)	0	0	0 to 40	-

8. 6 Running Mode (Factory Mode)

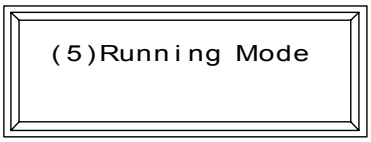
> **⚠ NOTE**
>
> The Running Mode is prepared for factory use.
> **Do not take the following operation because it is meaningless to do it in the field.**

8. 6. 1 Function

In the Running Mode the machine takes usual printing operation even if no paper is installed. (If you install any paper it is transported and ejected from the printer as usual. But note that the printer continues printing endlessly.)

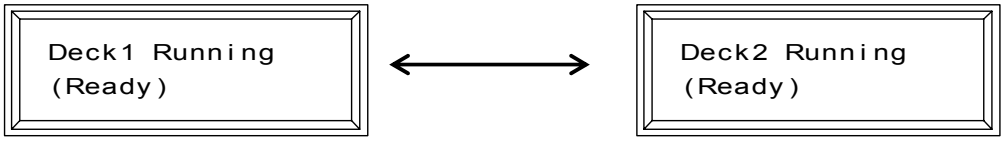
8. 6. 2 Indication and Operation

1. Indicate "(5) Running Mode" on the LCD pressing the [MENU] key.



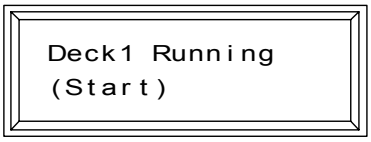
2. Press the [ENTER] key, and you can enter the Running Mode.

3. In case the machine is provided with 2 Roll Decks, you can select either of them pressing the [*] Key.



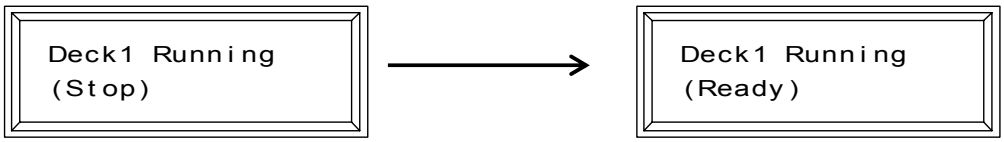
You can select Deck 1 and 2 alternately pressing the [*] Key.

4. Press the [ENTER] key, and the printer starts the printing operation. (This is called "Running Operation".)
"(Start)" is indicated when you start the Running Operation.



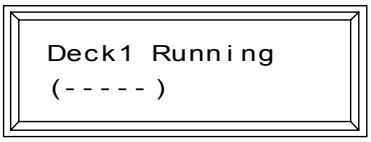
> **⚠ NOTE**
>
> (1) You can not go to other sub modes of the Service Mode unless you cancel the Running Operation.
>
> (2) Cut length and the image pattern rely on the settings specified in the Test Print Mode.

5. Press the [ENTER] key again to cancel the Running Operation.
   The indication changes to “(Stop)”, and after that “(Ready)” is indicated when the Printing Operation has been completed.



NOTE

“(-----)” is indicated if the Running Operation is not available.
It will be indicated in the following cases.



1. Any of paper jam, error or warning condition occurs.
2. Printer is not ready.

8. 7 Jam/Error Mask Mode

8. 7. 1 Function

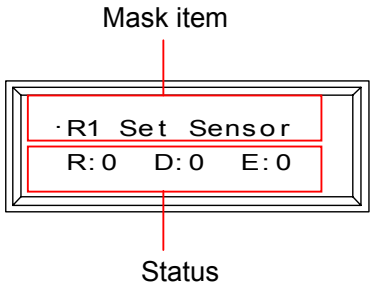
If the printer has any paper jam or other error, it is possible to mask (ignore) it in the Jam/Error Masking Mode.
The jam or error is not detected when it is masked, you can operate the printer as usual even if the cause of jam or error is not removed.

> **NOTE**
>
> Masking condition will be cancelled if you cancel it manually in the Jam/Error Masking Mode or if you cancel the Service Mode.

8. 7. 2 Indication and Operation

1. Indicate “(6) Mask Mode” on the LCD pressing the [MENU] key.

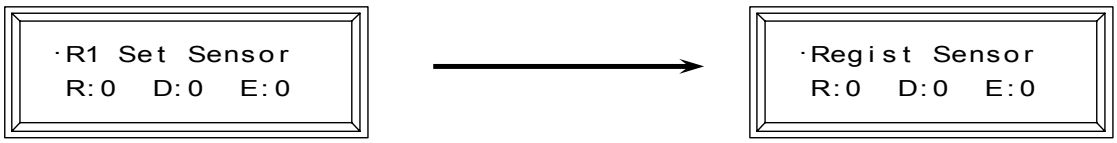
2. Press the [ENTER] key, and you can enter the Jam/Error Masking Mode.
   The LCD indicates mask item (sensor name or error name) and status.



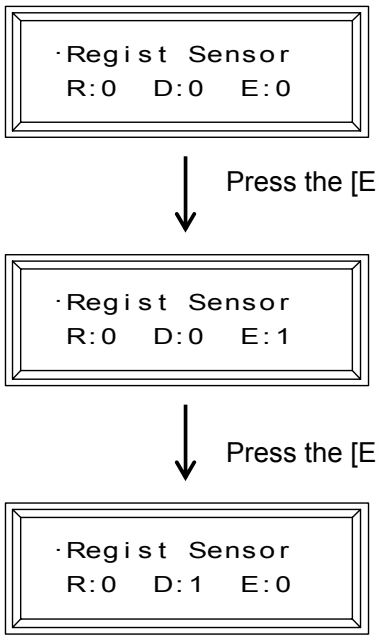
3. Pressing [←] key or [→] key, indicate the necessary mask item on the LCD.
   If you will mask any paper jam, go to the following step 4.
   If you will mask any error, go to the following step 6.

Mask item (Indication on the LCD)		Contents of mask
Paper jam	R1 Set Sensor	Roll Deck 1 Jam
	R2 Set Sensor	Roll Deck 2 Jam
	Feed Sensor	Feeding Jam
	Regist Sensor	Registration Jam
	Manual Sensor	Bypass Feeder Jam
	Sep Sensor	Internal Jam
	Exit Sensor	Fuser Jam
Error	M Motor Error	Main Motor Error
	F Motor Error	Fuser Motor Error
	P Motor Error	Paper Feed Motor Error
	Dev Motor Error	Developer Motor Error
	Counter Error	Counter Error
	1st Error	Image Corona Output Error
	Tr Error	Transfer Corona Output Error
	AC Error	Separation Corona Output Error
	Bias Error	Developer Bias Output Error
	FPGA Error	FPGA Configuration Error

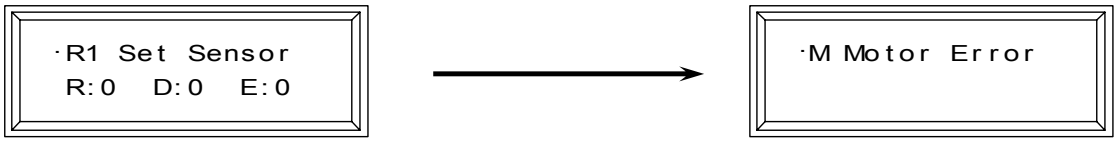
4. In case you will mask any paper jam, press the [ENTER] Key several times to indicate the necessary mask item.
   (Example: You will mask the Registration Jam.)



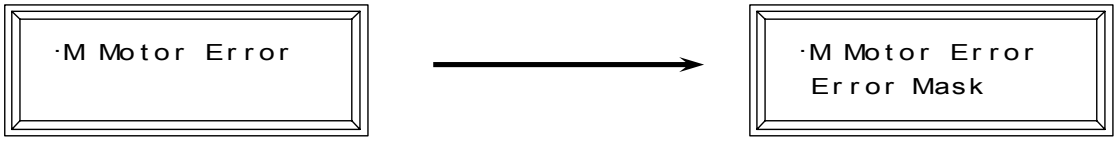
5. Each paper jam occurs being related with 3 factors such as R (Remain), D (Delay) and E (Early arrival), which can be masked separately.
   The value “0” beside each factor means “not masked”, and “1” means “masked”.
   Press the [ENTER] Key several times until the necessary factor is masked.



6. In case you will mask any error, press the [ENTER] Key several times to indicate the necessary mask item.
   (Example: You will mask the Main Motor Error.)



7. Press the [ENTER] Key, and you can mask the selected mask item.
   “Error Mask” will be indicated when the selected mask item is in the mask condition.



⚠ NOTE

You can cancel the mask condition if you press the [ENTER] Key once more.

8. 8 Test Print Mode

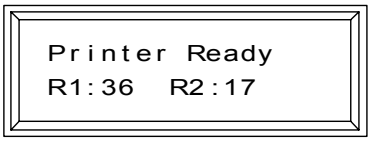
8. 8. 1 Function

Test Print Mode is available to make the printer perform printing operation by all alone (no output device is connected).
The image patterns printed in the Test Print Mode are memorized in the printer.

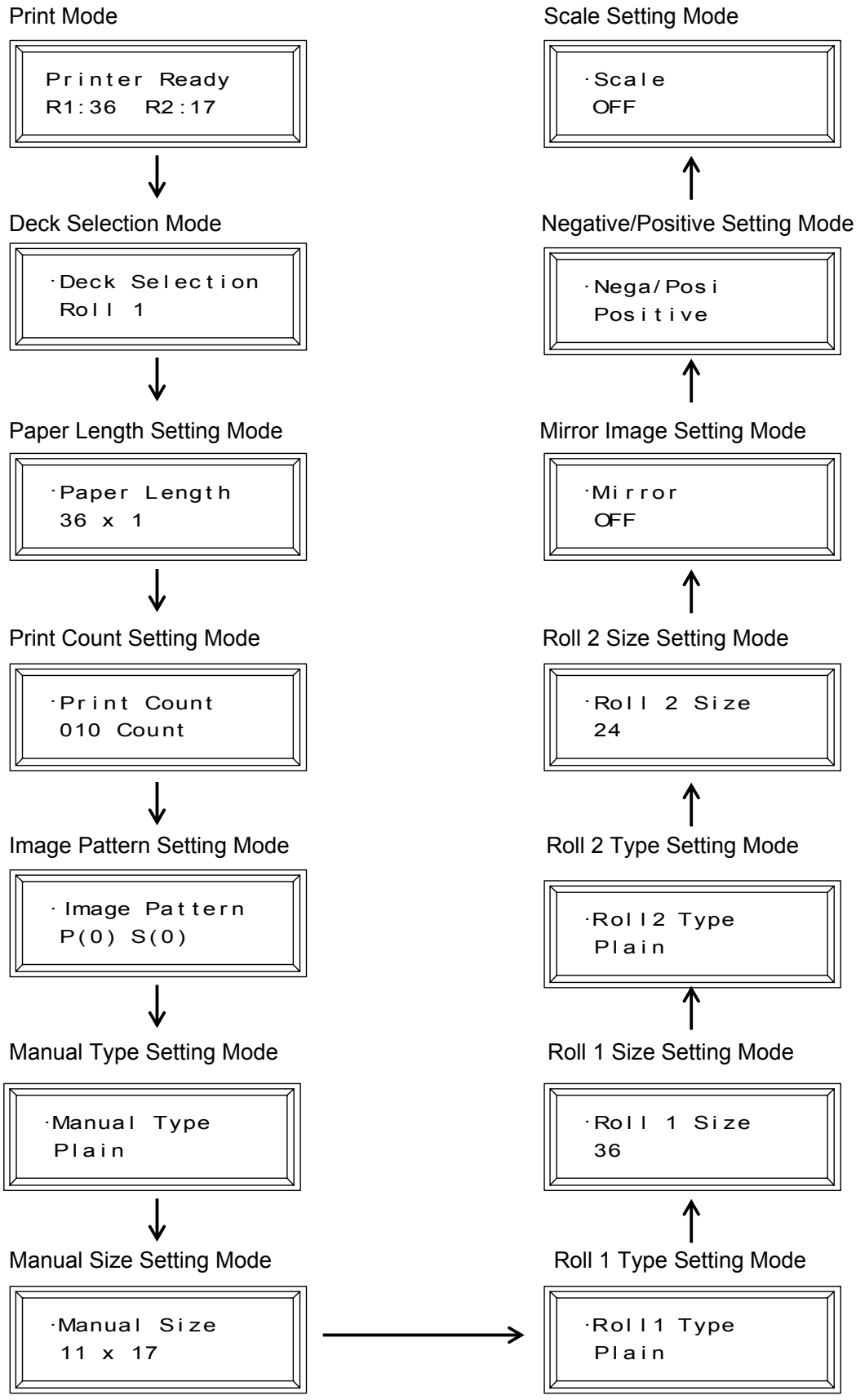
8. 8. 2 Indication and Operation

1. Indicate “(7) Test Mode” on the LCD pressing the [MENU] key.

2. Press the [ENTER] key, and you can enter the Test Print Mode.

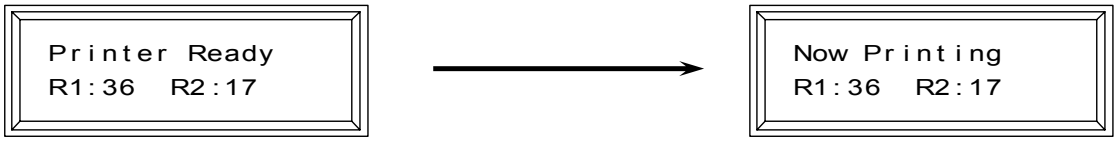


3. There are some kinds of Sub Item in the Test Print Mode.
   Please select the necessary Sub Item pressing [←] and [→] Keys.
   Please refer to the later pages as each Sub Mode is explained precisely.

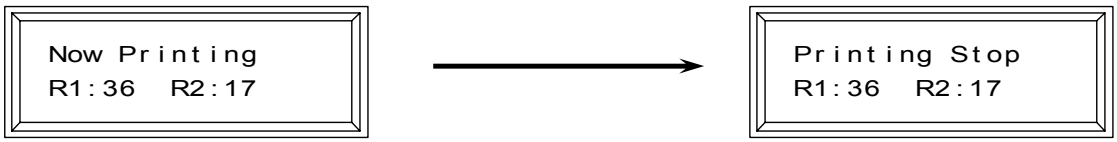


8. 8. 2. 1 Print Start Mode

Press the [ENTER] Key to start test printing.
“Now Printing” is indicated during Test Print.



Press the [ENTER] key again if you want to stop the Test Print in the middle.
“Printing Stop” is indicated.



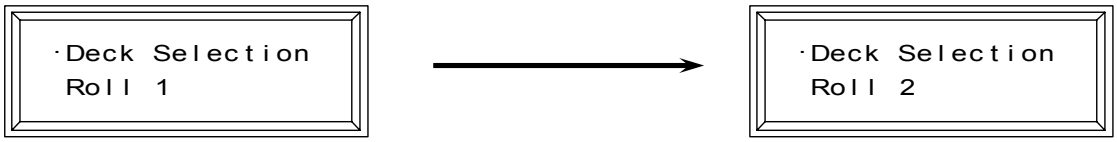
⚠ NOTE

In addition to the above indications, you will find such indications as “Warming up”, “Printer stops.”, “Warm Sleep”, “Cold Sleep” and so on according to the condition of printer.

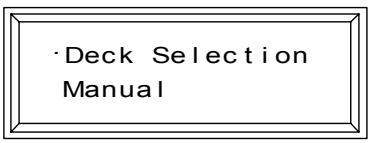
8. 8. 2. 2 Deck Selection

You can specify which paper source should be used for Test Print.

Select either “Roll 1” or “Roll 2” pressing the [ENTER] Key.



The Bypass Feeder is selected as the paper source automatically if only you set the cut sheet paper.
“Manual” is indicated in this case.
(It becomes impossible to make Test Print with Roll 1 or Roll 2.)



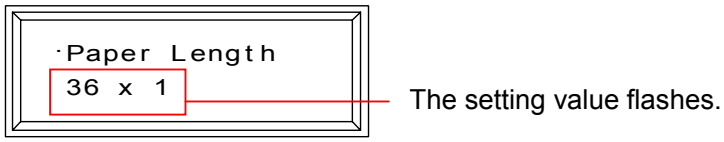
8. 8. 2. 3 Paper Length

You can specify the paper length (cut length) of the Test Print.
The following standard paper lengths are selectable.

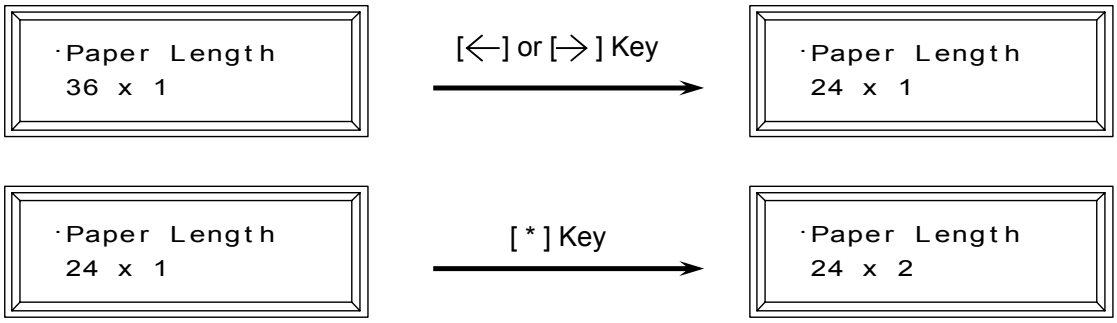
Metric : A0, A1, A2, A3, A4, A5, B1, B2, B3, B4 and B5
Inch : 48, 44, 42, 36, 34, 24, 22, 18, 17, 12, 11, 9 and 8.5

If you press the [*] key several times, you can magnify the standard size by the integral number. (For example the cut length becomes A0 x 2 (2378mm) if you press the [*] key once when A0 is selected. It will become A0 x 3 (3567mm) if you press twice.)

1. Indicate “Paper Length” on the LCD, and then press the [ENTER] key.
   The setting value (“36x1” in this case) starts flashing showing that you can change the setting now.



2. Change the paper length pressing [←] key or [→] key.
   And change the magnification pressing the [*] Key.



NOTE

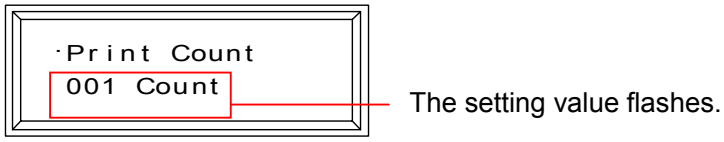
Even if you specify a longer paper length than the maximum cut length, it is automatically corrected to the maximum cut length.
(The maximum cut length relies on the paper size or the “maximum cut length” setting.)

3. Press the [ENTER] key to decide the setting.
   The setting value stops flashing when decided.

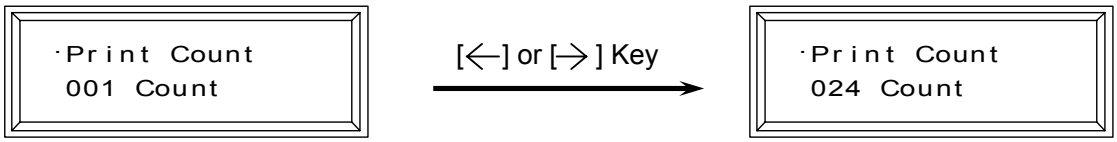
8. 8. 2. 4 Print Count

It is possible to specify how many sheets of test print should be done.

1. Indicate “Print Count” on the LCD, and then press the [ENTER] key.
   The setting value (“001 Count” in this case) starts flashing showing that you can change the setting now.



2. Indicate the necessary print count pressing [←] key or [→] key.

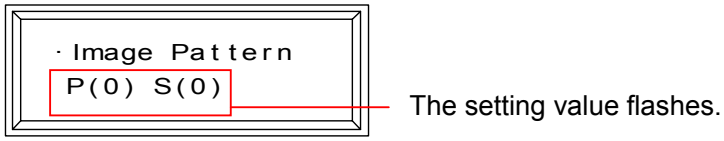


3. Press the [ENTER] key to decide the setting.
   The setting value stops flashing when decided.

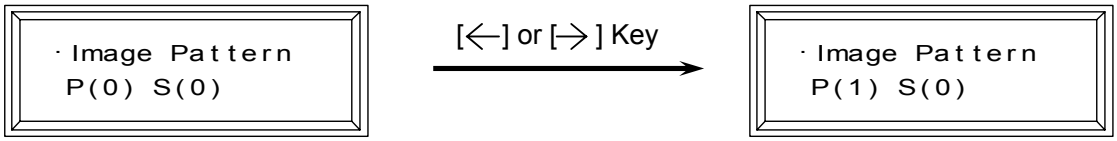
8. 8. 2. 5 Image Pattern

You can choose which image pattern should be printed in the Test Print.

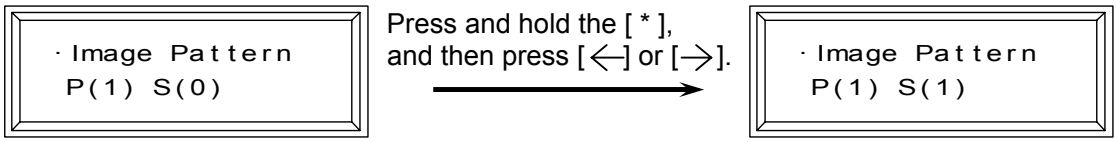
1. Indicate “Image Pattern” on the LCD, and then press the [ENTER] key.
   The setting value (“P(0) S(0)” in this case) starts flashing showing that you can change the setting now.



2. “P(X)” of the setting value means the Test Pattern Number
   Select the necessary Test Pattern Number pressing [←] key or [→] key.



3. “S(X)” of the setting value means the size (enlargement or reduction of image pattern).
   Press and hold the [*] Key, and then press [←] or [→] Key to change the size.

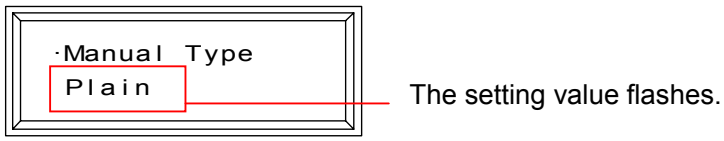


4. Press the [ENTER] key to decide the setting.
   The setting value stops flashing when decided.

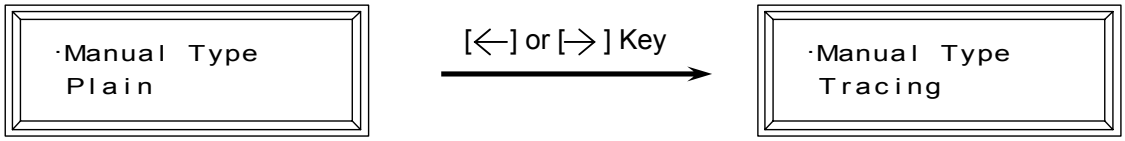
8. 8. 2. 6 Manual Type

It is possible to make the printer recognize the type of cut sheet paper you will use.

1. Indicate “Manual Type” on the LCD, and press the [ENTER] key.
   The setting value (“Plain” in this case) starts flashing showing that you can change the setting now.



2. Pressing [←] key or [→] key, indicate the type of the cut sheet paper you will use.

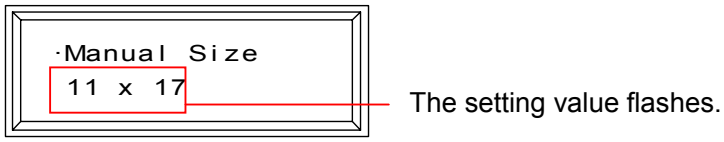


3. Press the [ENTER] key to decide the setting.
   The indication stops flashing when decided.

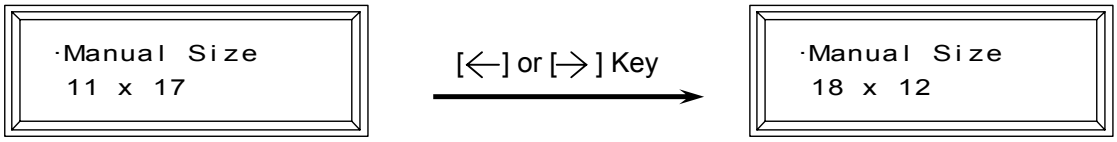
8. 8. 2. 7 Manual Size

It is possible to make the printer recognize the size of cut sheet paper you will use.

1. Indicate “Manual Size” on the LCD, and press the [ENTER] key.
   The setting value (“11x17” in this case) starts flashing showing that you can change the setting now.



2. Indicate the same size with the used cut sheet paper pressing [←] key or [→] key.

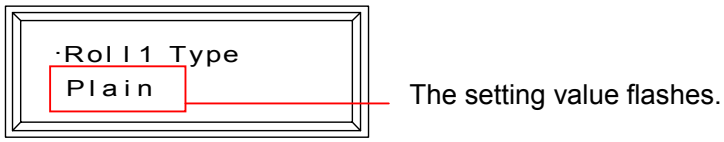


3. Press the [ENTER] key to decide the setting.
   The indication stops flashing when decided.

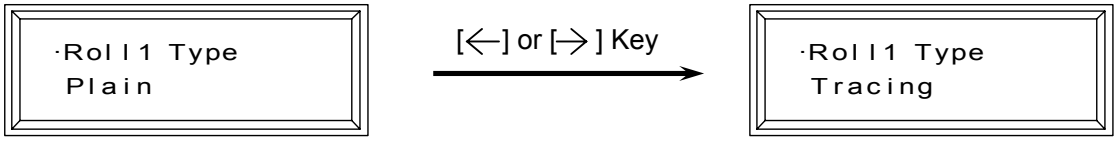
8. 8. 2. 8 Roll 1 Type

It is possible to make the printer recognize the type of roll paper in the Roll Deck 1.

1. Indicate “Roll 1 Type” on the LCD, and press the [ENTER] key.
   The setting value (“Plain” in this case) starts flashing showing that you can change the setting now.



2. Pressing [←] key or [→] key, indicate the type of the roll paper installed in the Roll 1.

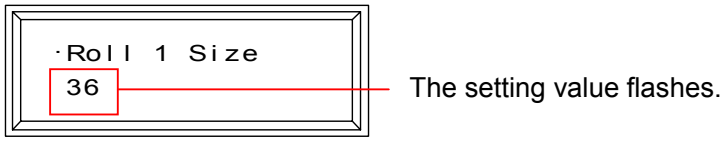


3. Press the [ENTER] key to decide the setting.
   The indication stops flashing when decided.

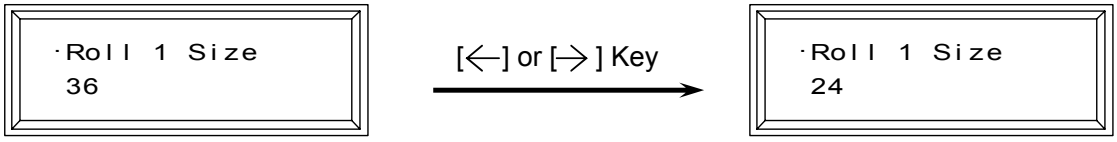
8. 8. 2. 9 Roll 1 Size Setting

It is possible to make the printer recognize the size of roll paper in the Roll Deck 1.

1. Indicate either “Roll 1 Size” on the LCD, and press the [ENTER] key.
   The setting value (“36” in this case) starts flashing showing that you can change the setting now.



2. Indicate the same size with the roll paper in the Roll Deck 1 pressing [←] key or [→] key.

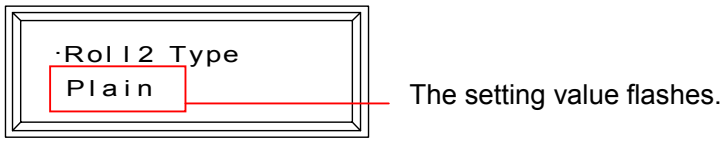


3. Press the [ENTER] key to decide the setting.
   The setting value stops flashing when decided.

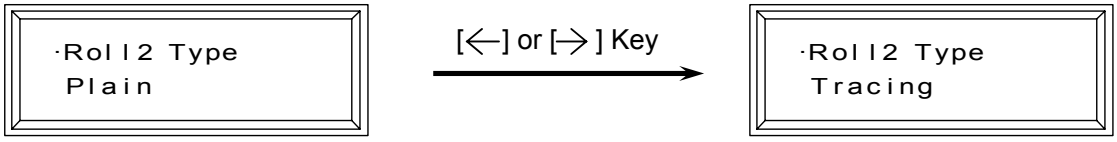
8. 8. 2.10 Roll 2 Type

It is possible to make the printer recognize the type of roll paper in the Roll Deck 2.

1. Indicate “Roll 2 Type” on the LCD, and press the [ENTER] key.
   The setting value (“Plain” in this case) starts flashing showing that you can change the setting now.



2. Pressing [←] key or [→] key, indicate the type of the roll paper installed in the Roll 2.

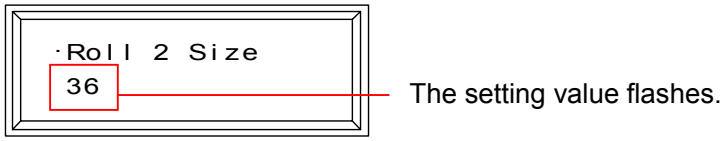


3. Press the [ENTER] key to decide the setting.
   The indication stops flashing when decided.

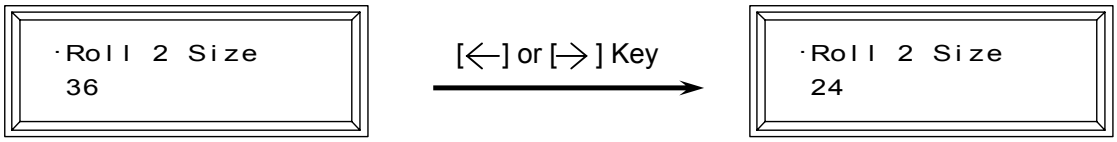
8. 8. 2.11 Roll 2 Size Setting

It is possible to make the printer recognize the size of roll paper in the Roll Deck 2.

1. Indicate either “Roll 2 Size” on the LCD, and press the [ENTER] key.
   The setting value (“36” in this case) starts flashing showing that you can change the setting now.



2. Indicate the same size with the roll paper in the Roll Deck 2 pressing [←] key or [→] key.

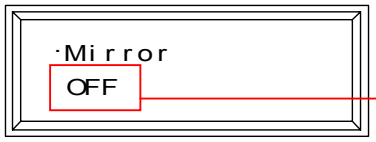


3. Press the [ENTER] key to decide the setting.
   The setting value stops flashing when decided.

8. 8. 2.12 Mirror

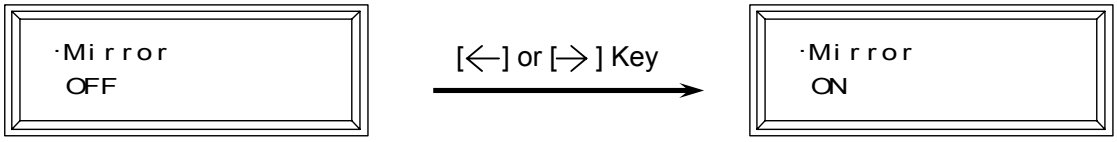
It is possible to print a mirror image.

1. Indicate “Mirror” on the LCD, and press the [ENTER] key.
   The setting value (“OFF” in this case) starts flashing showing that you can change the setting now.



The setting value flashes.

2. Switch between ON and OFF pressing [←] key or [→] key.



3. Press the [ENTER] key to decide the setting.
   The setting value stops flashing when decided.

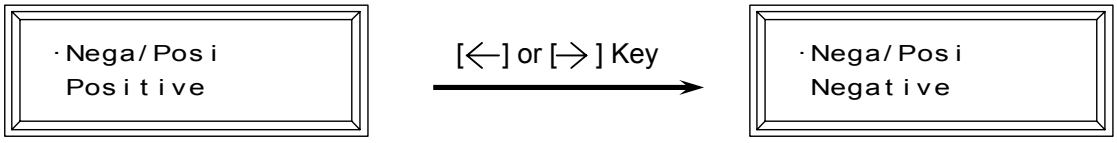
8. 8. 2.13 Nega/Posi

It is possible to print a negative image.

1. Indicate “Nega/Posi” on the LCD, and press the [ENTER] key.
   The setting value (“Positive” in this case) starts flashing showing that you can change the setting now.

The setting value flashes.

2. Switch between Positive and Negative pressing [←] key or [→] key.

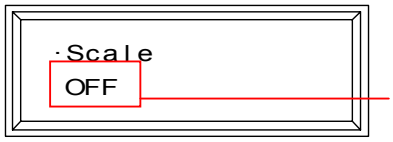


3. Press the [ENTER] key to decide the setting.
   The setting value stops flashing when decided.

8. 8. 2.14 Scale

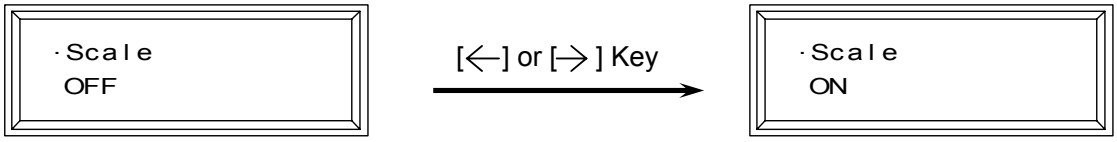
It is possible to print an image of “scale” on the printed paper for measuring purpose.

1. Indicate “Scale” on the LCD, and press the [ENTER] key.
   The setting value (“OFF” in this case) starts flashing showing that you can change the setting now.



The setting value flashes.

2. Switch between ON and OFF pressing [←] key or [→] key.



3. Press the [ENTER] key to decide the setting.
   The indication stops flashing when decided.

8. 9 Factory Adjustment Mode (Factory Use Only)

8. 9. 1 Function

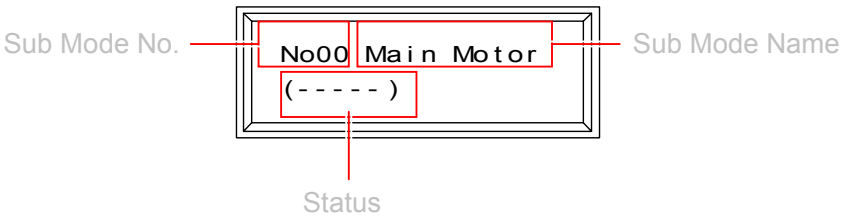
This mode is used mainly in the Factory to adjust several units before shipment.
The followings are available operations.

Sub Mode No.	Available operation
00	Main Motor rotates for 3 minutes.
01	Drum rotates for 1 revolution. Also the Image Corona takes discharging when the Drum is rotating.
02	Drum rotates for 1 revolution. Also the Transfer Corona takes discharging when the Drum is rotating.
03	Drum rotates for 1 revolution. Also the Separation Corona takes discharging when the Drum is rotating.
04	Main Motor rotates first, and then Bias is outputted for 3 minutes.
05	The machine makes the same operation with the normal printing.

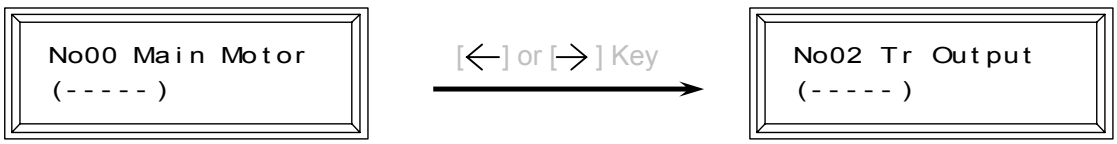
8. 9. 2 Indication and Operation

1. Indicate “(8) Factory Mode” on the LCD pressing the [MENU] key.

2. Press the [ENTER] key, and you can enter the Factory Adjustment Mode.
The LCD indicates Sub Mode Number, Sub Mode Name and the status.



3. Select the necessary Sub Mode pressing [←] key or [→] key.
(Example: You will make the Transfer Corona operate.)



4. Press the [ENTER] key, and the selected object starts operating.
   “Start” is indicated when the selected object is operating.
   Press the [ENTER] key again to stop the operation in the middle.

8.10 Clear Mode

8.10. 1 Function

It is possible to clear several kinds of information.
The following modes are available.

Name of mode	Contents
RAM Clear Mode	You can initialize all settings of Adjustment Mode and some other initial information memorized in the RAM.
Error Clear Mode	You can clear the error caused by the problem of Fuser Unit.
Jam Record Clear Mode	You can clear the record of jams memorized in the memory.
Error Record Clear Mode	You can clear the record of errors memorized in the memory.
Software Counter Setting Mode	You can input the value of Software Counter.
Total Counter Setting Mode	You can input the value of Total Counter which is a kind of Software Counter.

⚠ NOTE

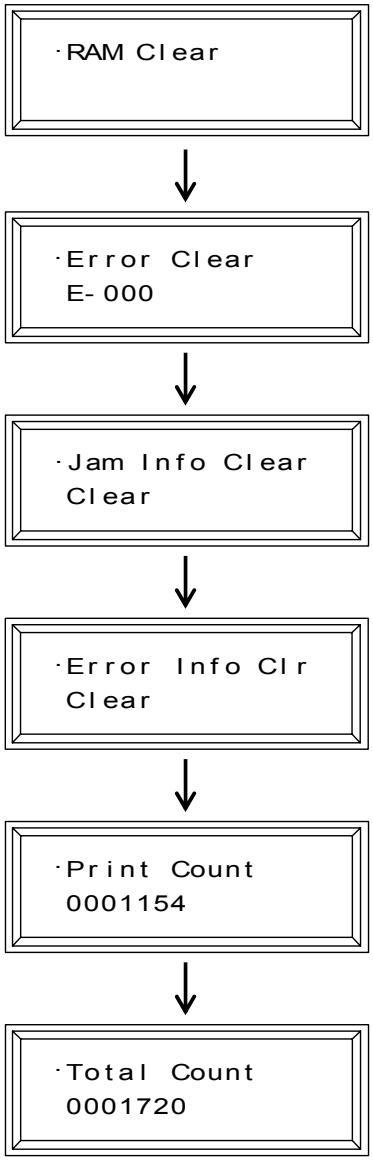
Record all the present data for the safety before you make RAM Clear.

8.10. 2 Indication and Operation

1. Indicate “(9) Clear Mode” on the LCD pressing the [MENU] key.

2. Press the [ENTER] key, and you can enter the Clear Mode.

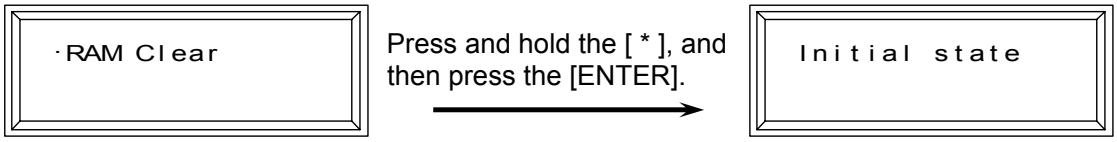
3. Select any subordinate mode pressing [←] key or [→] key.
   Please read the later pages for the explanation about each mode.



8.10. 2. 1 RAM Clear Mode

You can initialize all setting values of Adjustment Mode and some other initial information memorized in the RAM.

To make RAM Clear, press and hold the [*] Key, and then press the [ENTER] Key.
“Initial state” is indicated after the clearance.
Press any key after the RAM Clear, and you can cancel the Service Mode.



8.10. 2. 2 Error Clear Mode

You can clear the error caused by the problem of Fuser Unit.

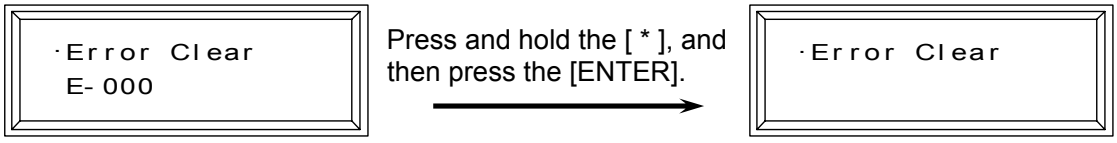
⚠ NOTE

The followings are possible errors caused by the problem of Fuser Unit.

E-000: Fuser Temperature Rising Error 1
E-001: Fuser Over Temperature Error
E-002: Fuser Temperature Rising Error 2
E-003: Fuser Low Temperature Error 1
E-004: Fuser Low Temperature Error 2

Once anyone of the above occurs, it is impossible to make copy, plot and scan unless you clear it in the Error Clear Mode!

If the Fuser has any error, its error code is indicated in the LCD.
To make Error Clear, press and hold the [*] key and then press the [ENTER] key.
No error code will be indicated after the Error Clear.



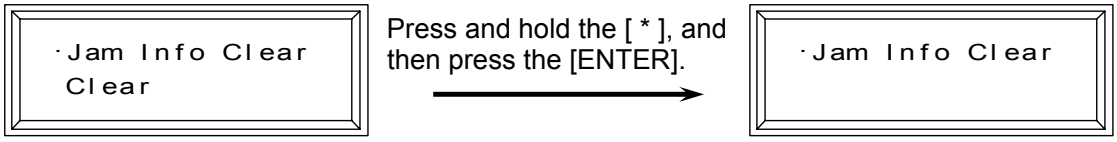
⚠ NOTE

Before you make Error Clear, please wait until the Fuser is enough cooled down.

8.10. 2. 3 Jam History Clear Mode

You can clear the record of jams memorized in the memory.

“Clear” is indicated on the LCD before the clearance.
Press and hold the [*] key and then press the [ENTER] key to clear the history of jams.
“Clear” disappears from the LCD after the clearance.

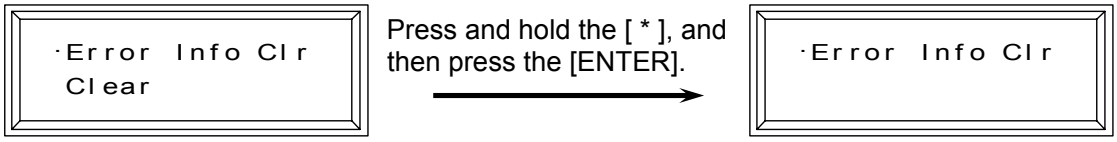


No jam code will be indicated in the No.22 (Jam Info) of the Information Mode.

8.10. 2. 4 Error History Clear Mode

You can clear the record of errors memorized in the memory.

“Clear” is indicated on the LCD before the clearance.
Press and hold the [*] key and then press the [ENTER] key to clear the history of errors.
“Clear” disappears from the LCD after the clearance.



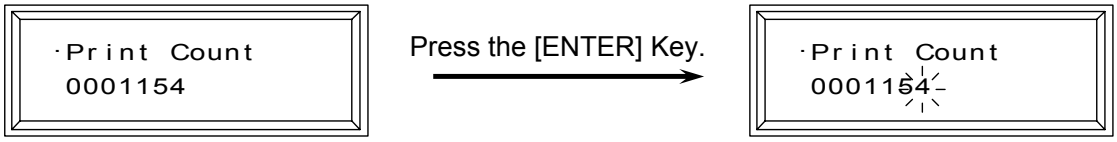
No error code will be indicated in the No.23 (Error Info) of the Information Mode.

8.10. 2. 5 Software Counter Setting Mode

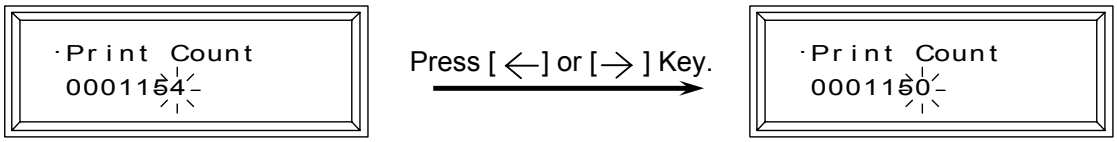
You can input the value of Software Counter.

> **⚠ NOTE**
>
> The KIP3000 has a Software Counter which was synchronized with the Hardware Counter. These are displayed in the UI.
> It is not necessary to change the value unless the PW10520 PCB is replaced or value lost to reset. In this case set the value in this mode.

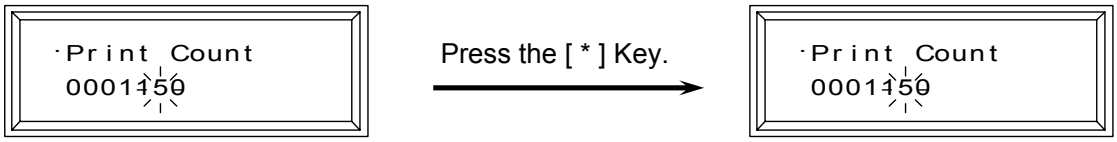
1. Indicate the Software Counter Setting Mode, and then press the [ENTER] Key.
   The 1st digit of the counted value starts flashing and it becomes possible to change it.



2. Change the setting value pressing [←] key or [→] key.



3. If you press the [*] Key, one more upper digit flashes.
   Change the value in the same way.



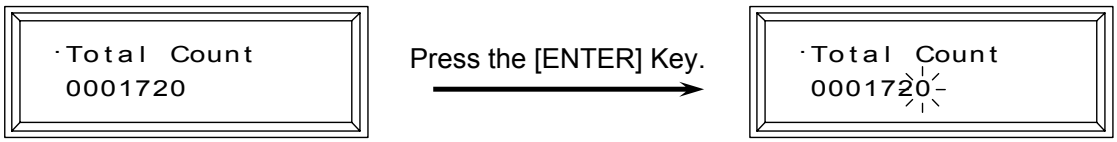
4. Press the [ENTER] key to decide the setting.
   The indication stops flashing when decided.

8.10. 2. 6 Total Counter Setting Mode

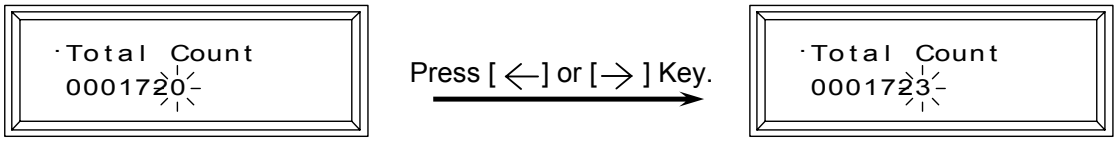
You can input the value of Total Counter which is a kind of Software Counter.

> **⚠ NOTE**
>
> The counting unit of Total Counter is always “linear meter”.
> Note that you can not change it.

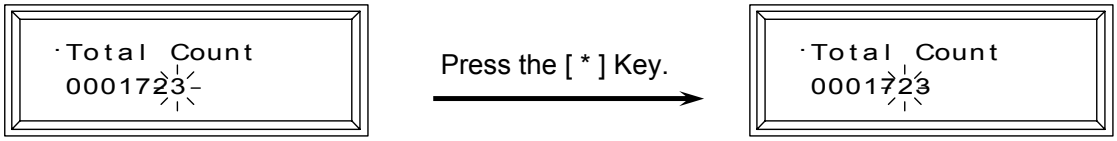
1. Indicate the Total Counter Setting Mode, and then press the [ENTER] Key.
   The 1st digit of the counted value starts flashing and it becomes possible to change it.



2. Change the setting value pressing [←] key or [→] key.



3. If you press the [*] Key, one more upper digit flashes.
   Change the value in the same way.



4. Press the [ENTER] key to decide the setting.
   The indication stops flashing when decided.

8.11 User Mode

8.11. 1 Construction of the User Mode

The User Mode consists of following 5 sub modes.

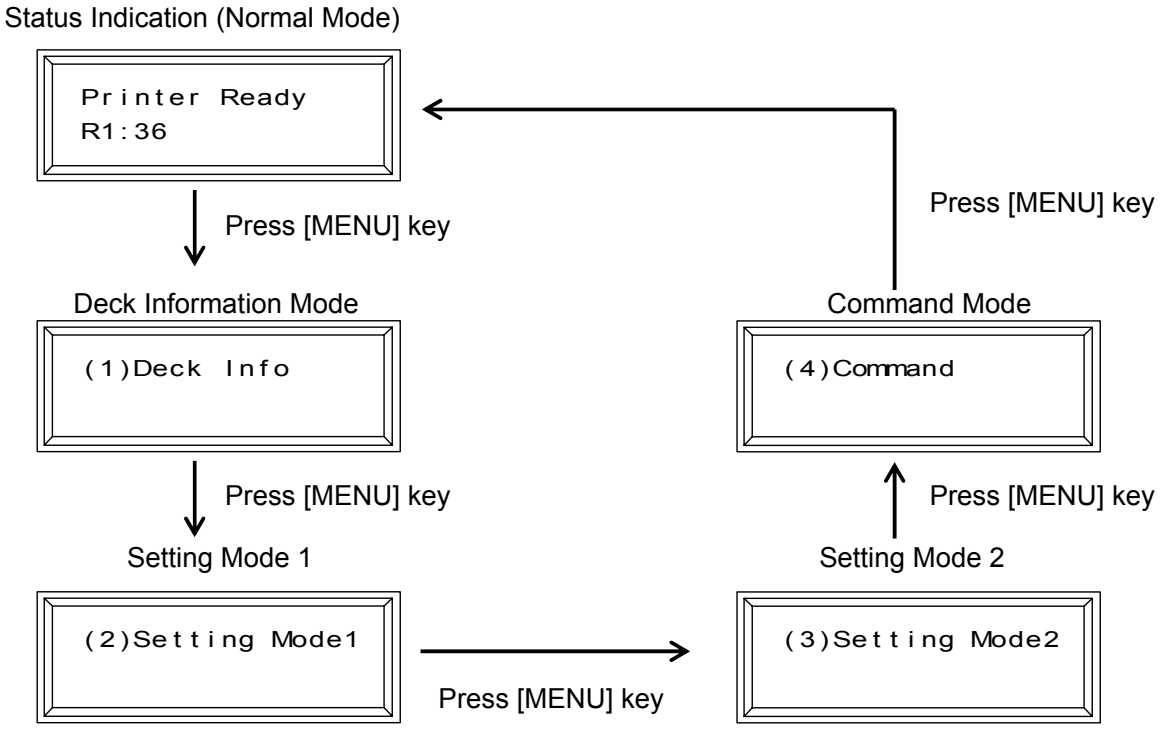
(1) Status Indication (Normal Mode)
(2) Deck Information Mode
(3) Setting Mode 1
(4) Setting Mode 2
(5) Command Mode

8.11. 2 Selecting each sub mode

1. Confirm that the machine is OFF.
   Then turn on the machine while pressing the [MENU] Key.
   You can unlock the key operation of Sub UI by this operation, so it becomes possible to select each sub mode of the User Mode.

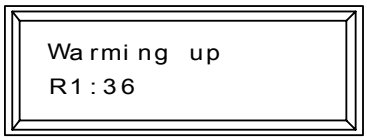
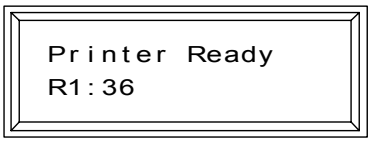
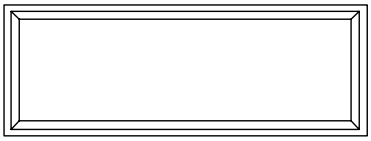
> **⚠ NOTE**
>
> It is impossible to select the sub mode if the key operation is locked.

2. Select each sub mode pressing the [MENU] key.
   The name of selected sub mode is indicated on the LCD.



8.11. 3 Status Indication (Normal Mode)

Normally the LCD indicates the status of printer.
The following list shows the possible indication and the status of printer.

LCD Indication	Status of printer
	Printer is in warming up.
	Printer is ready for printing.
	Printer is now on printing.
	Printing is stopped in the middle.
	Printer is stopped by some abnormal condition.
	Printer is in the Warm Sleep.
	Printer is in the Cold Sleep.

8.11. 4 Deck Information Mode

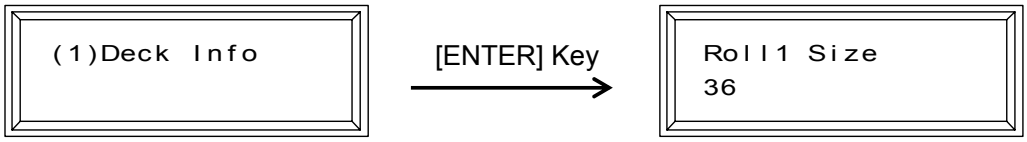
8.11. 4. 1 Function

It is possible to indicate the information about the roll paper (size, type and remaining level).

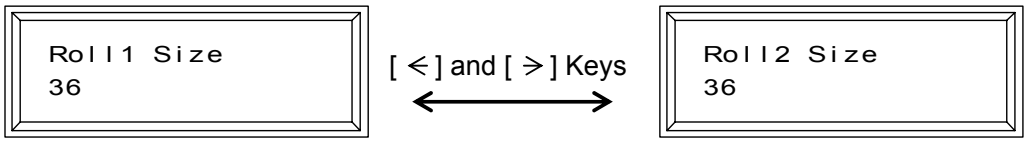
8.11. 4. 2 Indication and Operation

1. Indicate “(1) Deck Info” on the LCD pressing the [MENU] Key.

2. Press the [ENTER] key to enter the Deck Information Mode.



3. If you press [⩽] and [⩾] Keys, you can indicate either “Roll 1 Size” or “Roll 2 Size” on the LCD.
   You check the information about the Roll1 when “Roll 1 Size” is indicated, and you can check that of Roll 2 when “Roll 2 Size” is indicated.
   So select either Roll Deck of which information you will check.

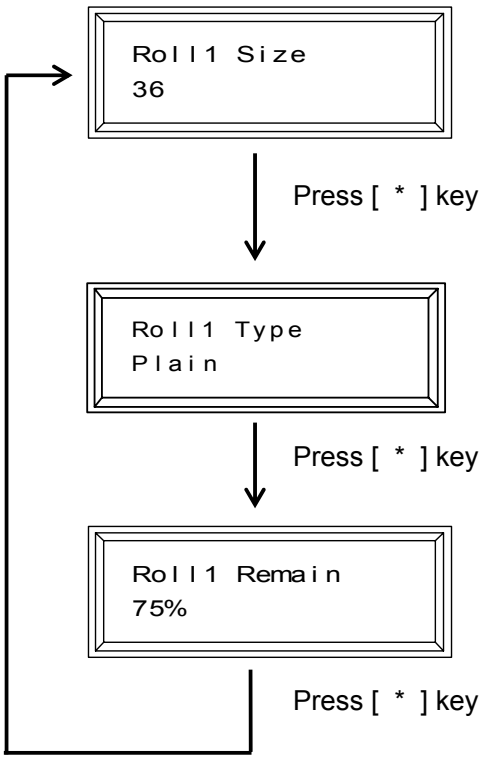


Roll 1 information　　Roll 2 information

⚠ NOTE

You can indicate “Roll 2 Size” only when the machine is equipped with the Roll Deck 2.

4. After selecting the Roll Deck, press the [*] key several times to indicate the information about the selected Roll Deck.
   The LCD indicates “Size (Width)”, “Type” and “Remain (Remaining level of roll)” orderly whenever you press the [*] Key.



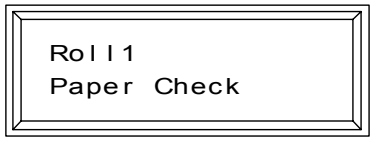
Reference

(1) Each indication in “Roll Remain” means as follows.

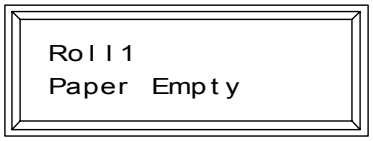
100%	.....	From 100 to 75%
75%	.....	From 75 to 50%
50%	.....	From 50 to 10%
10%	.....	Smaller than 10%

(2) The following messages are also indicated according to the situation.

Machine is checking the paper.



Selected roll paper is empty.



8.11. 5 Setting Mode 1

8.11. 5. 1 Function

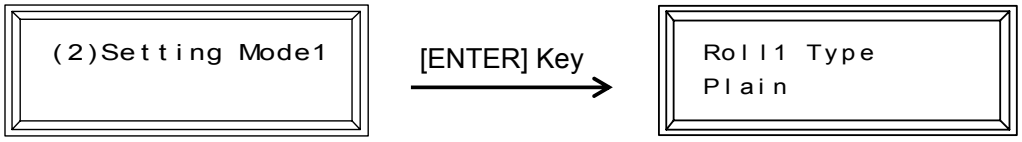
This is a setting mode to make the machine recognize the size and the type of roll paper.

8.11. 5. 2 Indication and Operation

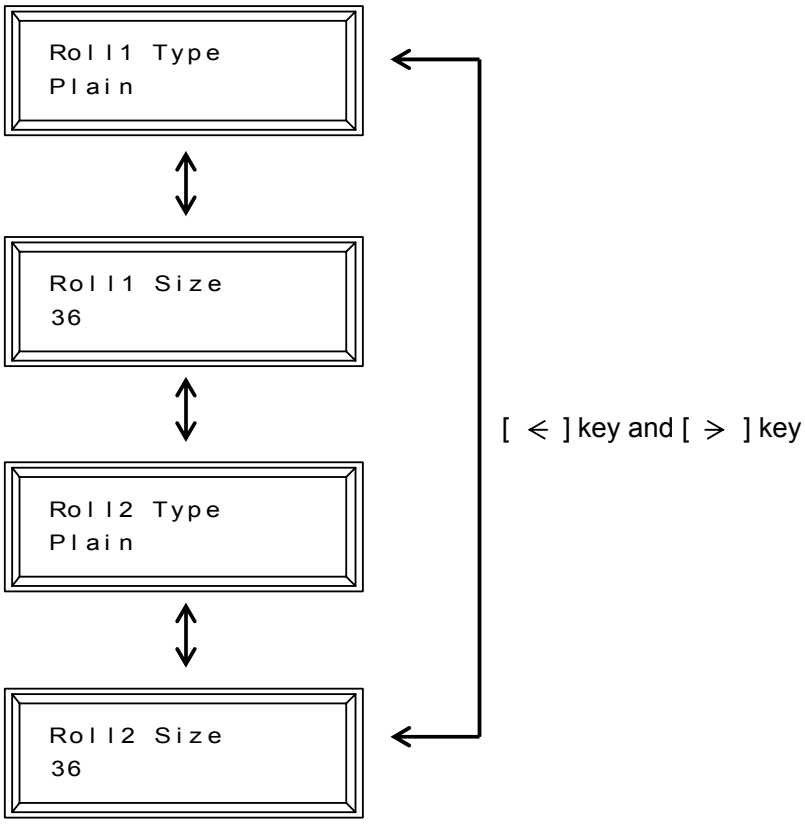
(1) Roll type setting

1. Indicate “(2) Setting Mode 1” on the LCD pressing the [MENU] Key.

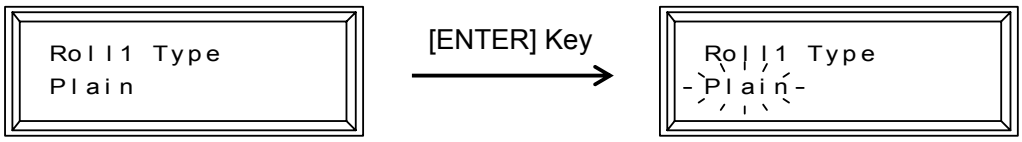
2. Press the [ENTER] key to enter the Setting Mode 1.
   The LCD initially indicates “Roll 1 Type”.



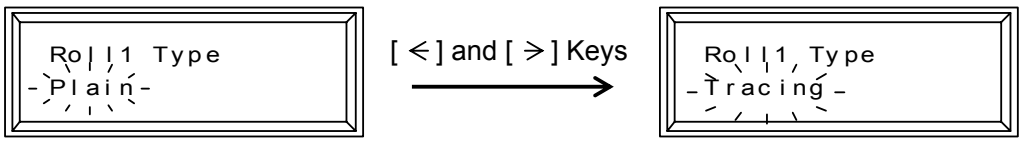
3. There are 2 setting items “Roll Type” and “Roll Size” in the Setting Mode, which you can specify for each Roll Deck 1 and 2 respectively.
   To specify the type of roll paper, indicate either “Roll 1 Type” or “Roll 2 Type” pressing the [⇐] key and [⇒] key.



4. Press the [ENTER] Key when you will change the paper type.
   The paper type indicated on the 2nd line starts flashing, which means now you can change the setting.

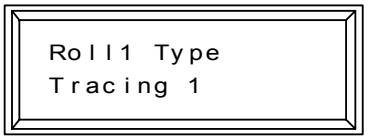


5. Pressing the [⇐] and [⇒] Keys, select the type of the roll paper installed on the concerning Roll Deck.

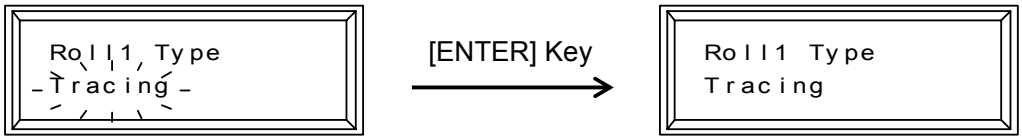


⚠ NOTE

"1" is indicated after the paper type if you press the [*] Key at this time.
It means the special paper.
(Tracing 1 in this example means "Tracing paper of special paper".)



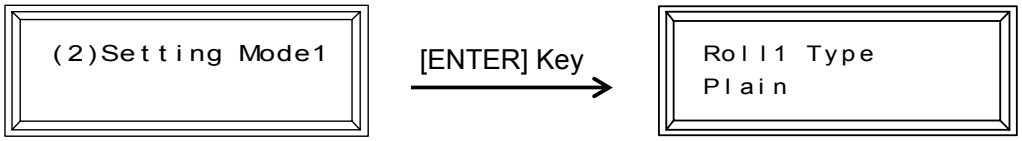
6. Press the [ENTER] Key finally to decide the setting.
   The selected setting ("Tracing" in this example) stops flashing when decided.



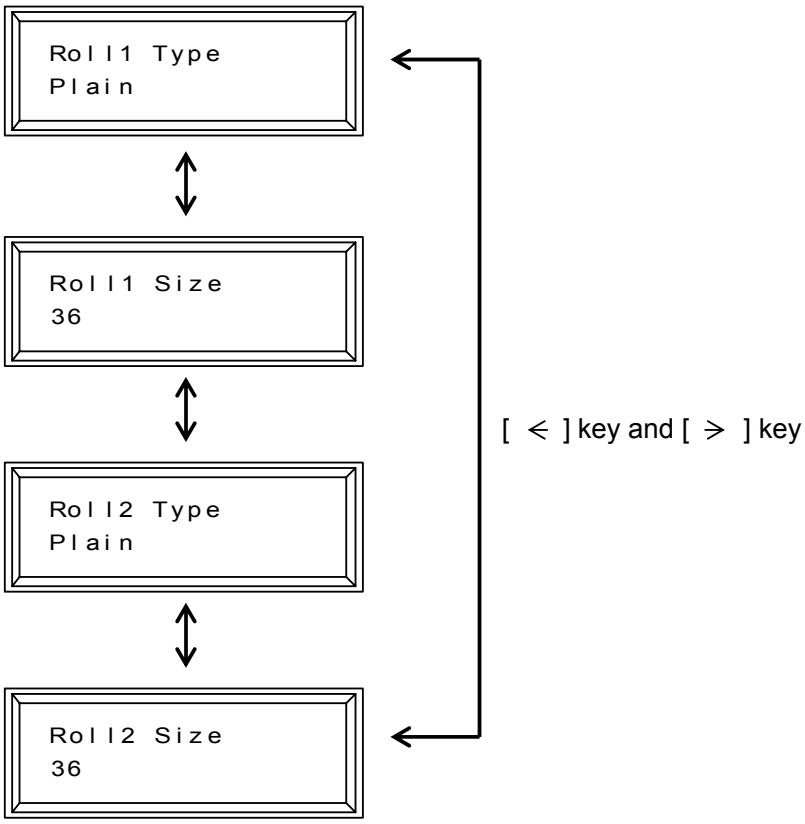
(2) Size setting

1. Indicate “(2) Setting Mode 1” on the LCD pressing the [MENU] Key.

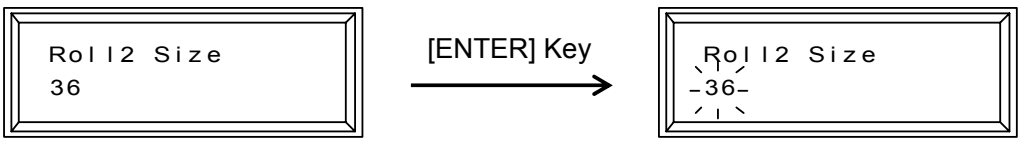
2. Press the [ENTER] key to enter the Setting Mode 1.
   The LCD initially indicates “Roll 1 Type”.



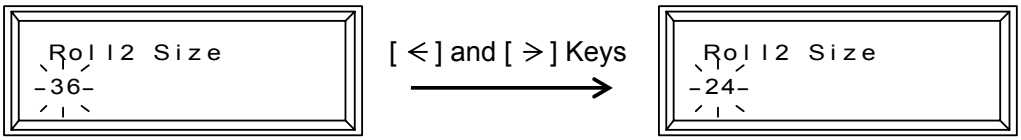
3. There are 2 setting items “Roll Type” and “Roll Size” in the Setting Mode, which you can specify for each Roll Deck 1 and 2 respectively.
   To specify the size of roll paper, indicate either “Roll 1 Size” or “Roll 2 Size” pressing the [∢] key and [∣>] key.



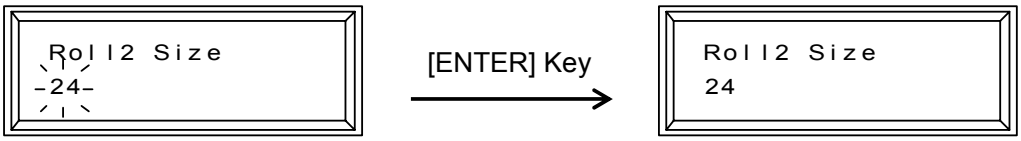
4. Press the [ENTER] Key when you will change the size setting.
   The size indicated on the 2nd line starts flashing, which means now you can change the setting.



5. Pressing the [⇐] and [⇒] Keys, select the size of the roll paper installed on the concerning Roll Deck.



6. Press the [ENTER] Key finally to decide the setting.
   The selected setting (“24” in this example) stops flashing when decided.



8.11. 6 Setting Mode 2

8.11. 6. 1 Function

It is possible to validate several power saving functions or to change its timer setting.
Also it is possible to validate several functions related with image process.

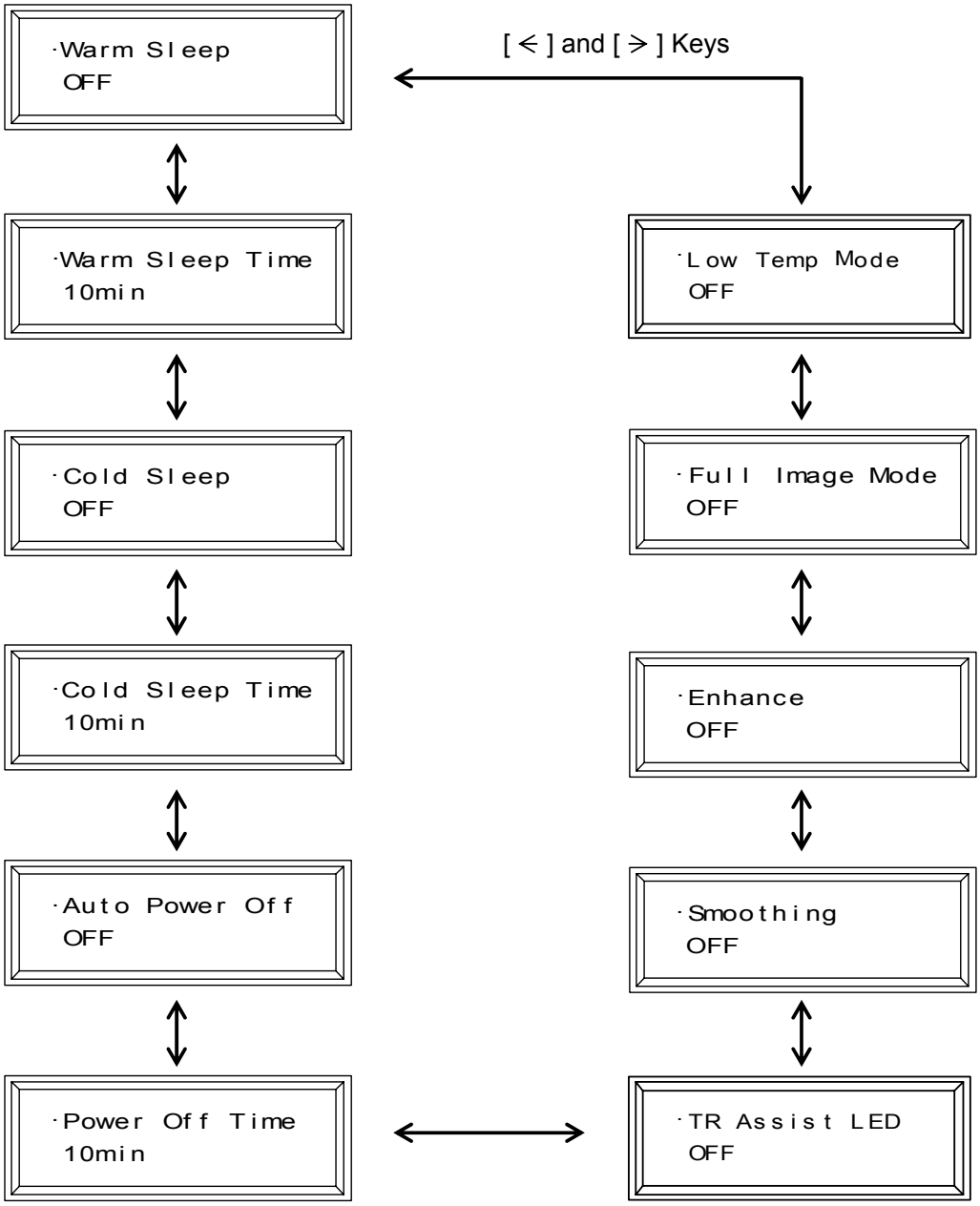
8.11. 6. 2 Indication and Operation

(1) Selection of each Sub Mode

1. Press the [MENU] key to indicate “(3) Setting Mode 2”.

2. Press the [ENTER] key to enter the Setting Mode 2.
   The LCD initially indicates “Warm Sleep”.

3. As there are 10 Sub Modes in the Setting Mode 2, select the necessary one pressing the [≤] and [≥] Key.



(2) ON / OFF setting of Warm Sleep Mode

It is possible to validate the Warm Sleep Mode which is a kind of power saving function.
(You can set the timer of the Warm Sleep Mode in another Sub Mode. Refer to [(3) Timer setting of Warm Sleep Mode] on the page 8-160.)

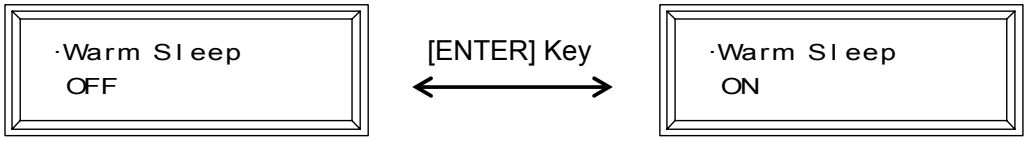
Reference

The purpose of Warm Sleep Mode is to reduce the power consumption by falling down the temperature of heater some degrees.
The temperature of the heater unit is about 160 -170 degrees Centigrade when the KIP3000 is ready.
But if no print job or copy job is sent for a long time, it is better for saving the power to fall down the temperature of heater.
(Temperature is kept about 100 degrees Centigrade.)

The Warm Sleep Mode will be cancelled automatically if only you send a print job or a copy job from the outer device.
However, please understand it takes some minutes to recover from the Warm Sleep Mode because it is necessary to raise the temperature again up to about 160 - 170 degrees Centigrade. (Print starts when the KIP3000 gets ready.)

1. Select “Warm Sleep” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Warm Sleep Mode will work if you select “ON”.



(3) Timer setting of Warm Sleep Mode

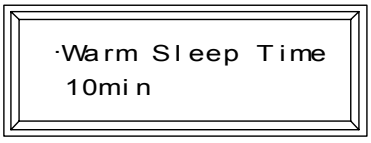
It is possible to set a timer of the Warm Sleep Mode.
If the KIP3000 receives no job for the time you have specified here, the Warm Sleep Mode works.
(It is necessary to validate the Warm Sleep Mode in another Sub Mode if you would like to work it.
Refer to [(2) ON / OFF setting of Warm Sleep Mode] on the page 8-159.)

Reference

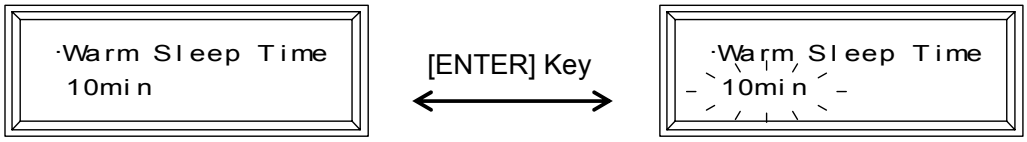
The purpose of Warm Sleep Mode is to reduce the power consumption by falling down the temperature of heater some degrees.
The temperature of the heater unit is about 160 -170 degrees Centigrade when the KIP3000 is ready.
But if no print job or copy job is sent for a long time, it is better for saving the power to fall down the temperature of heater. (Temperature is kept about 100 degrees Centigrade.)

The Warm Sleep Mode will be cancelled automatically if only you send a print job or a copy job from the outer device.
However, please understand it takes some minutes to recover from the Warm Sleep Mode because it is necessary to raise the temperature again up to about 160 - 170 degrees Centigrade. (Print starts when the KIP3000 gets ready.)

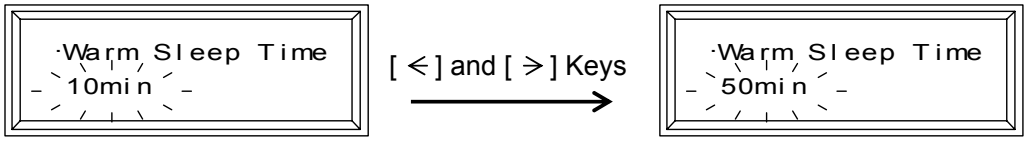
1. Select “Warm Sleep Time” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)



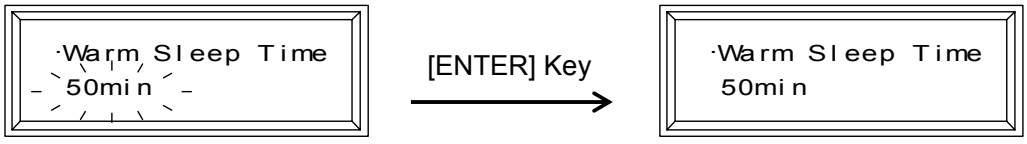
2. Press the [ENTER] Key when you will change the timer setting.
   The value indicated on the 2nd line starts flashing, which means now you can change the setting.



3. Change the timer value pressing the [<] and [>] Keys.
   The setting range is from 10 minutes to 4 hours.



4. Press the [ENTER] Key finally to decide the timer setting.
   The timer value stops flashing when decided.



(4) ON / OFF setting of Cold Sleep Mode

It is possible to validate the Cold Sleep Mode which is a kind of power saving function.
(You can set the timer of the Cold Sleep Mode in another Sub Mode. Refer to [(5) Timer setting of Cold Sleep Mode] on the page 8-162.)

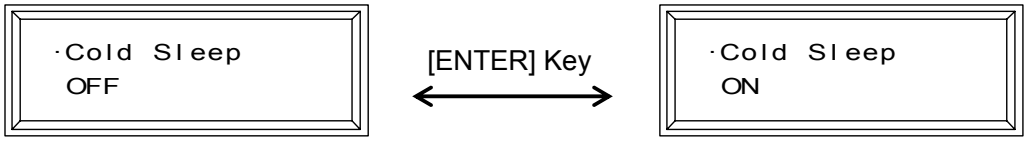
Reference

The purpose of Cold Sleep Mode is not to consume as much power as possible by shutting off supplying the power to the heater unit.
It can save more power than Warm Sleep Mode.
The temperature of the heater unit is about 160 - 170 degrees Centigrade when the KIP3000 is ready.
But if the KIP3000 does not receive any print job or copy job for a long time, it is the best way for saving the power to stop supplying the power to the heater unit completely.

The Cold Sleep Mode will be cancelled automatically if only you send a print job or a copy job from the outer device.
However, please understand it takes a little long time to recover from the Cold Sleep Mode because it is necessary to raise the temperature again up to about 160 -170 degrees Centigrade. (Print starts when the KIP3000 gets ready.)

1. Select “Cold Sleep” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Cold Sleep Mode will work if you select “ON”.



(5) Timer setting of Cold Sleep Mode

It is possible to set a timer of the Cold Sleep Mode.
If the KIP3000 receives no job for the time you have specified here, the Cold Sleep Mode works.
(It is necessary to validate the Cold Sleep Mode in another Sub Mode if you would like to work it.
Refer to [(4) ON / OFF setting of Cold Sleep Mode] on the page 8-161.)

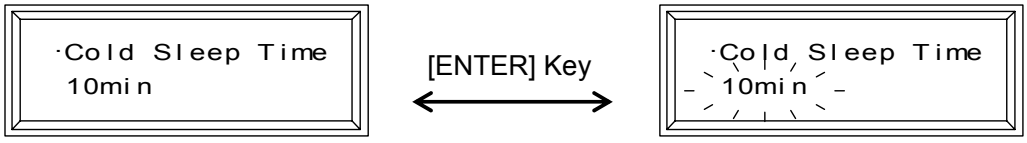
Reference

The purpose of Cold Sleep Mode is not to consume as much power as possible by shutting off supplying the power to the heater unit.
It can save more power than Warm Sleep Mode.
The temperature of the heater unit is about 160 - 170 degrees Centigrade when the KIP3000 is ready.
But if the KIP3000 does not receive any print job or copy job for a long time, it is the best way for saving the power to stop supplying the power to the heater unit completely.

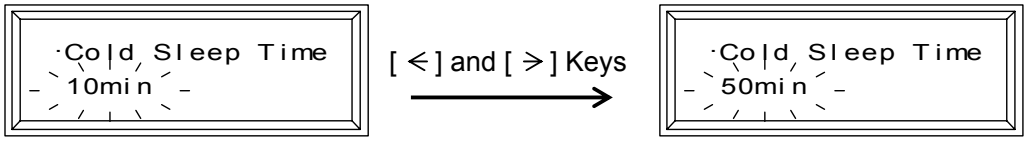
The Cold Sleep Mode will be cancelled automatically if only you send a print job or a copy job from the outer device.
However, please understand it takes a little long time to recover from the Cold Sleep Mode because it is necessary to raise the temperature again up to about 160 -170 degrees Centigrade. (Print starts when the KIP3000 gets ready.)

1. Select “Cold Sleep Time” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

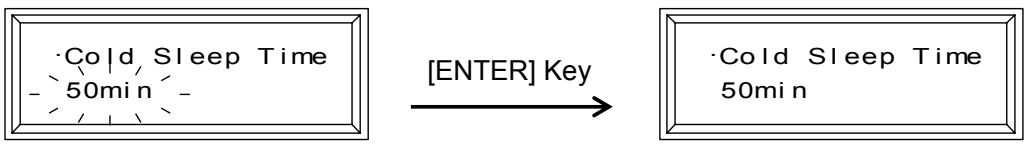
2. Press the [ENTER] Key when you will change the timer setting.
   The value indicated on the 2nd line starts flashing, which means now you can change the setting.



3. Change the timer value pressing the [＜] and [＞] Keys.
   The setting range is from 10 minutes to 4 hours.



4. Press the [ENTER] Key finally to decide the timer setting.
   The timer value stops flashing when decided.



(6) ON / OFF setting of Auto Power OFF

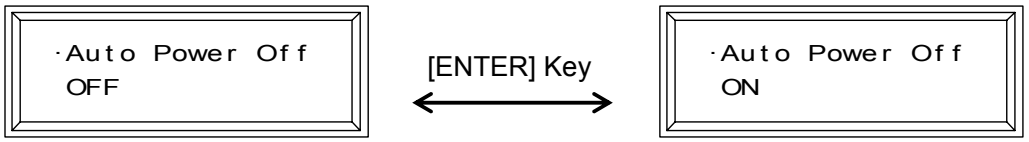
It is possible to validate the Auto Power OFF which is a kind of power saving function.
(You can set the timer of the Auto Power OFF in another Sub Mode. Refer to [(7) Timer setting of Auto Power OFF] on the page 8-164.)

Reference

The Auto Power OFF is the function to switch off the KIP3000 automatically if no print job or copy job is sent for the time you have specified in advance (timer).
If the KIP3000 is turned off by the Auto Power OFF, the operator needs to turn it on again pressing the Power Switch. (It is impossible to turn it on automatically.)

1. Select “Auto Power Off” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Auto Power OFF will work if you select “ON”.



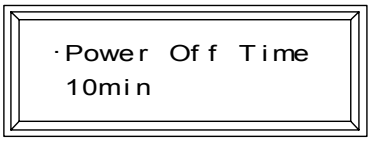
(7) Timer setting of Auto Power OFF

It is possible to set a timer of the Auto Power OFF.
If the KIP3000 receives no job for the time you have specified here, the Auto Power OFF works.
(It is necessary to validate the Auto Power OFF in another Sub Mode if you would like to work it.
Refer to [(6) ON / OFF setting of Auto Power OFF] on the page 8-163.)

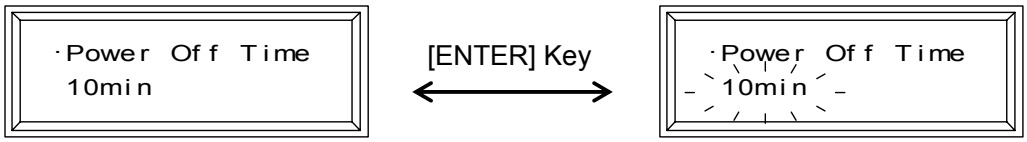
Reference

The Auto Power OFF is the function to switch off the KIP3000 automatically if no print job or copy job is sent for the time you have specified in advance (timer).
If the KIP3000 is turned off by the Auto Power OFF the operator needs to turn it on again pressing the Power Switch. (It is impossible to turn it on automatically.)

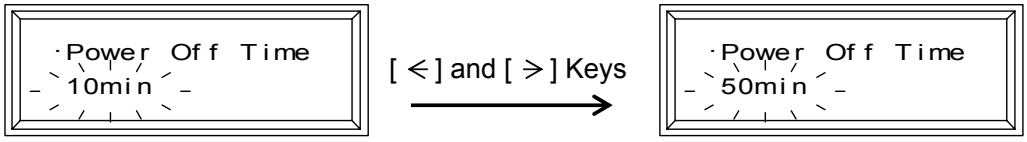
1. Select “Power Off Time” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)



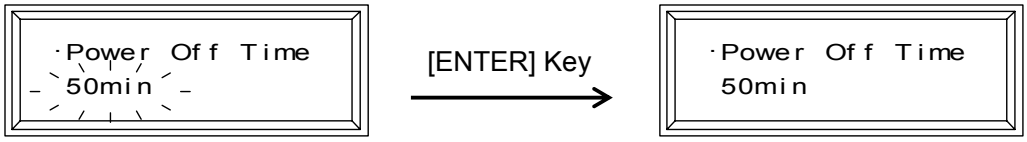
2. Press the [ENTER] Key when you will change the timer setting.
   The value indicated on the 2nd line starts flashing, which means now you can change the setting.



3. Change the timer value pressing the [<] and [>] Keys.
   The setting range is from 10 minutes to 4 hours.



4. Press the [ENTER] Key finally to decide the timer setting.
   The timer value stops flashing when decided.



(8) Transfer Assist setting

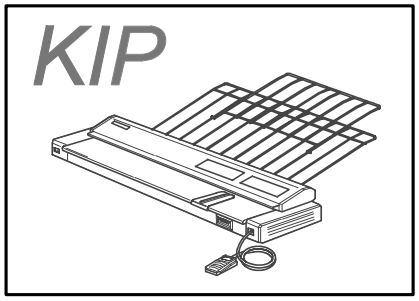
To print the image clearer, it is possible to make the Transfer Assist LED (Separation Lamp) work.

Reference

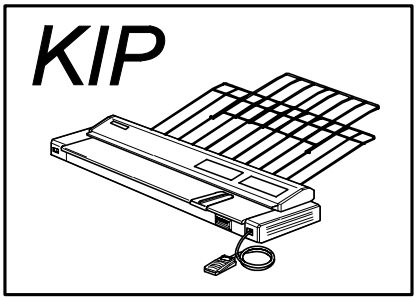
There may be the case that the print image looks so light (not so clear) although the density setting is proper or higher than required.
This kind of problem may occur when the used printing paper is special, because it is difficult to transfer the toner image fully onto it.

The Transfer Assist LED (Separation Lamp) is the solution for this kind of problem as it helps to transfer the toner image.
Try to make it work if you feel the print image is so light.

Transfer Assist LED is OFF.
(Image looks not so clear.)



Transfer Assist LED is ON.
(Image looks clear with enough density.)

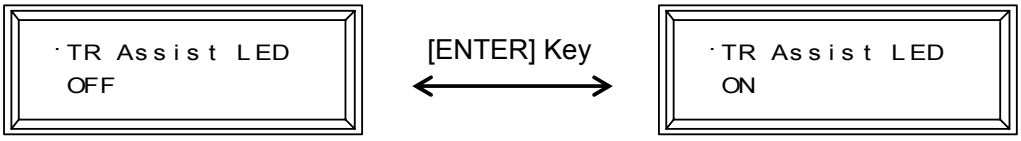


⚠NOTE

You can specify to which type of paper the Transfer Assist LED (Separation Lamp) should work.
It can be specified in the Service Mode.
Refer to [8. 5. 4.35 Operation of Separation Lamp (No.067)] on the page 8-59.

1. Select “TR Assist LED” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Transfer Assist LED will work if you select “ON”.



(9) Smoothing setting

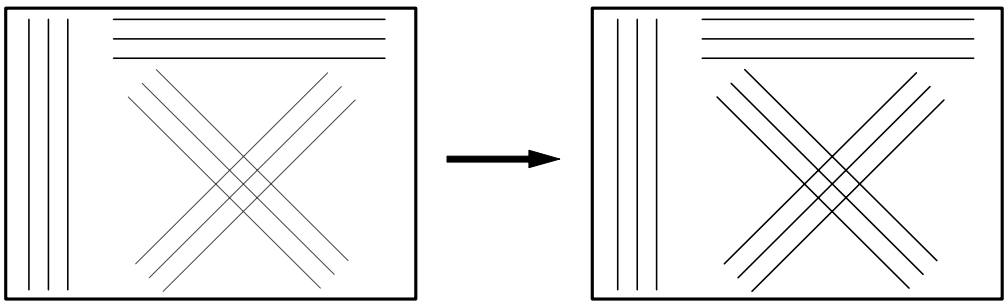
It is possible to validate the Smoothing function which makes a diagonal line look clearer.

Reference

A diagonal line tends to look weaker than vertical one or horizontal one.
The Smoothing function emphasizes the diagonal one so that it becomes as clear as vertical and horizontal ones.

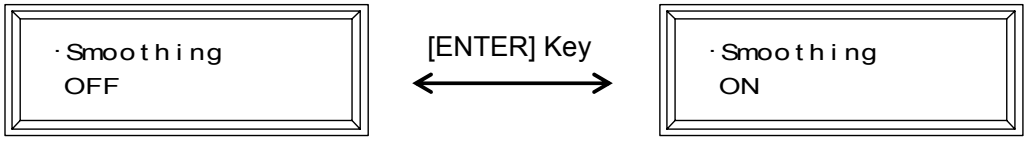
Smoothing function is OFF.
(Diagonal line looks so weak.)

Smoothing function is ON.
(Diagonal line looks clear.)



1. Select “Smoothing” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Smoothing function is validated if you select “ON”.



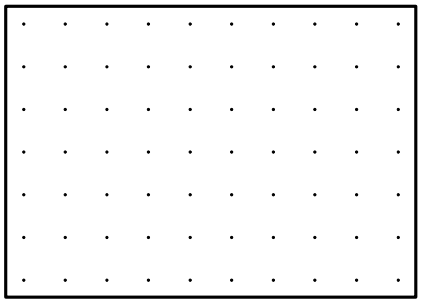
(10) Dot Enhancement ON/OFF setting

It is possible to validate the Dot Enhancement function which makes an isolated dot look clearer.

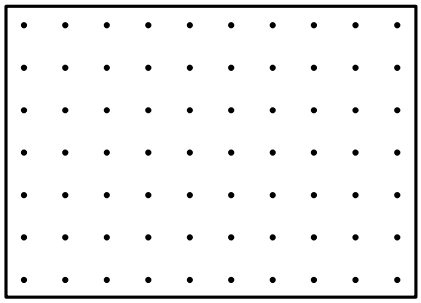
Reference

An isolated dot image tends to look so weak.
The Dot Enhancement function emphasizes the isolated dot so that it looks clear.
(Dot Enhancement function emphasizes only the isolated dot. It will not emphasize the dots coming together some degree.)

Dot Enhancement function is OFF.
(Diagonal line looks so weak.)



Dot Enhancement function is ON.
(Diagonal line looks clear.)

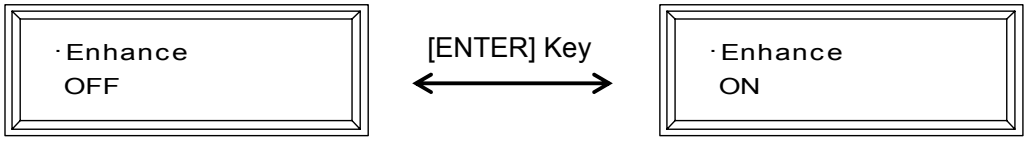


⚠ NOTE

The Dot Enhancement function is validated if you select ON in the User Mode.
At this time the Level (degree) of Dot Enhancement Function relies on the setting in the Service Mode.
Refer to [8. 5. 4.23 Dot Enhancement Level (Dither) (No.052)] on the page 8-53 for this setting.

1. Select “Enhance” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Dot Enhancement function is validated if you select “ON”.



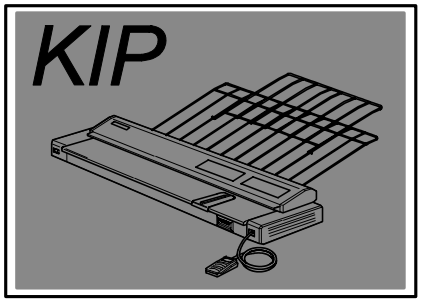
(11) Full Image Mode setting

Full Image Mode can be validated, which makes it possible to print the image in the trailing margin area.

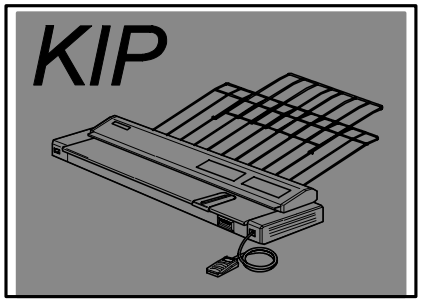
Reference

Usually each print is compulsively provided with a trailing margin of 3mm long regardless of the image size.
But the image can be printed even in the trailing margin area if you validate the Full Image Mode.

Full Image Mode is OFF.
(Print is provided with trailing margin.)



Full Image Mode is OFF.
(No trailing margin is provided.)

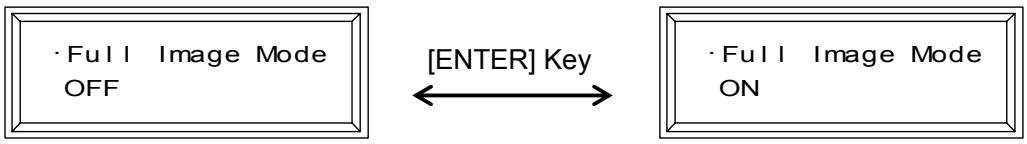


NOTE

The interval between each sheet of print becomes longer than usual if you validate the Full Image Mode, because it requires a cleaning operation between each sheet.

1. Select “Full Image Mode” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)

2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Full Image Mode is validated if you select “ON”.



(12) Low Temperature Mode setting

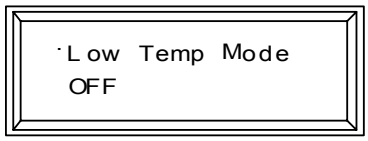
Low Temperature Mode can be validated to secure the fusing quality in the cold environment.

Reference

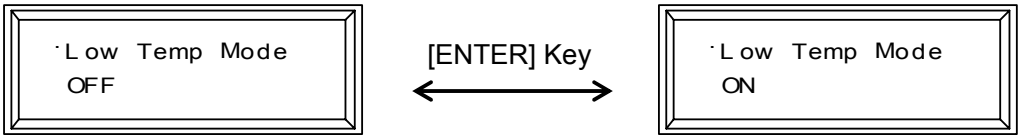
The toner image may not be fixed firmly onto the paper if you make a copy or plot right after turning on the machine (in the morning especially) in very cold environment.
But it is possible to avoid this kind of fusing problem by the Low Temperature Mode.
It works as follows.

1. If both the center and sides of the Fuser Roller are colder than 30 degrees centigrade when you turn on the machine (or when you cancel the Sleep Mode), the Low Temperature Mode is validated.
2. The Fuser Roller is heated up to 10 degrees higher than the setting temperature. (If the setting temperature is 170 degrees, it is heated up to 180 degrees.)
3. The machine does not get ready even if the Fuser Roller is heated up to 10 degrees higher than the setting temperature.
   Instead of that the Fuser Roller continues rotating for 360 seconds.
   (Setting temperature plus 10 degrees is kept during this period.)
4. When 360 seconds has passed, the machine gets ready.

1. Select “Low Temp Mode” in the Setting Mode 2.
   (Refer to [(1) Selection of each Sub Mode] on the page 8-157 how to select it.)



2. Switch between “ON” and “OFF” pressing the [ENTER] Key.
   The Full Image Mode is validated if you select “ON”.



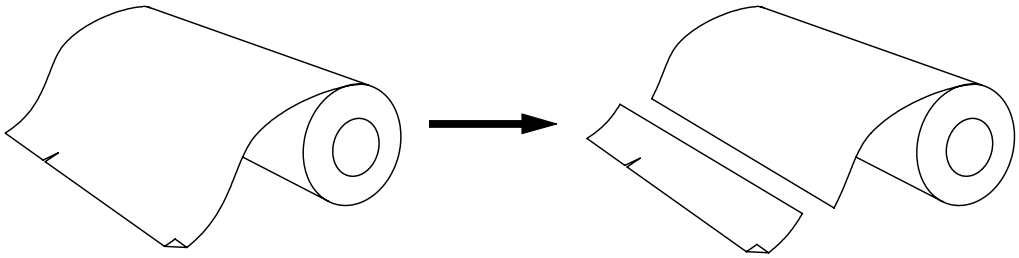
8.11. 7 Command Mode

8.11. 7. 1 Function

This is a mode to make Initial Cut for the roll media.

Reference

The leading edge of the new roll media may be rough or folded.
To straighten the leading edge easily, the KIP3000 has a convenient function called “Initial Cut”.
If you select one roll media and make the Initial Cut, the leading part (210mm from the leading edge) of roll media is cut off.
The leading edge of that roll media is straight after the Initial Cut.

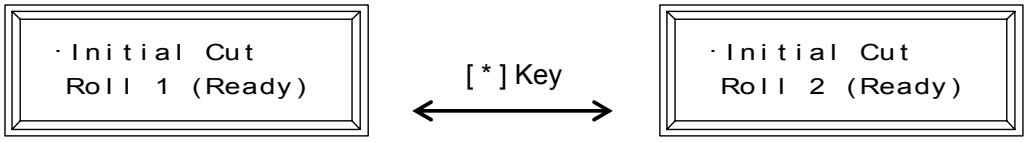


8.11. 7. 2 Indication and Operation

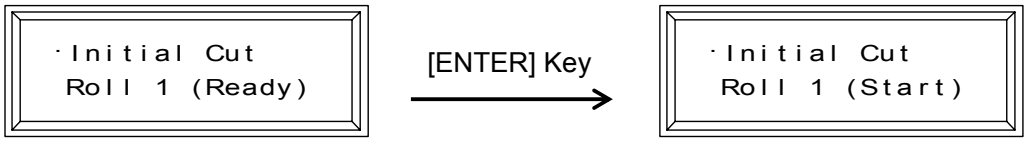
1. Press the [MENU] key to indicate “(4) Command”.

2. Press the [ENTER] key to enter the Command Mode.
   The LCD indicates “Initial Cut”.

3. Pressing the [*] Key, select either “Roll 1” or “Roll 2” to which you will make Initial Cut.

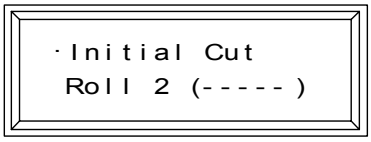


4. Press the [ENTER] Key to make Initial Cut.
   The LCD indicates “(Start)” during the Initial Cut.



NOTE

The LCD indicates “(- - - - -)” is it is impossible to make Initial Cut by some reason like an error of machine.



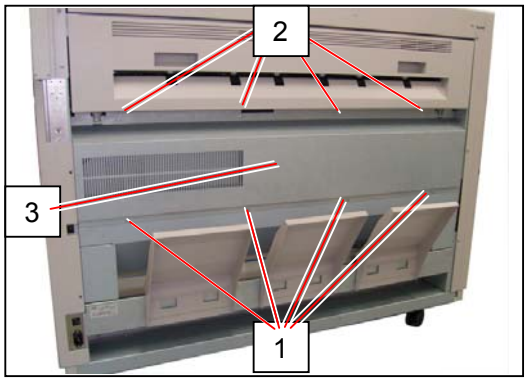
8.12 Scanner Utility

8.12. 1 Installation

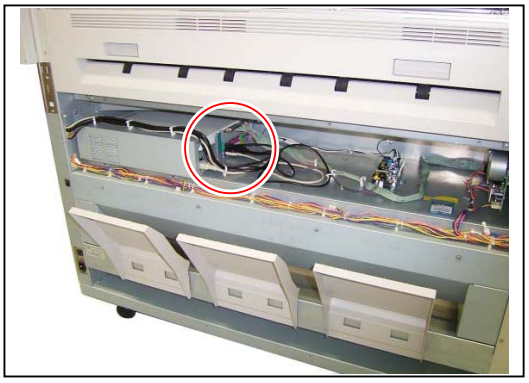
> **NOTE**
>
> Below are the system requirements to operate Scanner Utility.
> - Windows 2000 / XP operating system
> - USB 2.0 support

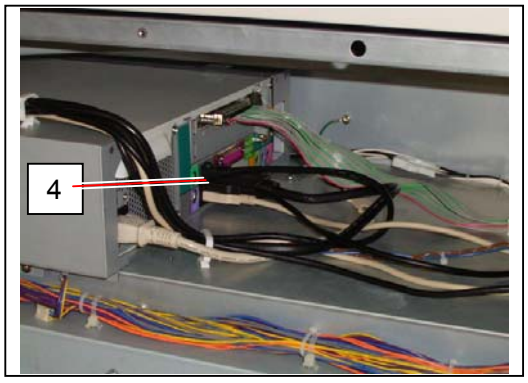
8.12. 1. 1 Installing USB Driver

1. Loosen 4 screws (1), remove 4 screws (2) to remove Cover 10 (3).



2. Disconnect the USB Cable (4), and connect it to the USB Terminal to **your service PC**.



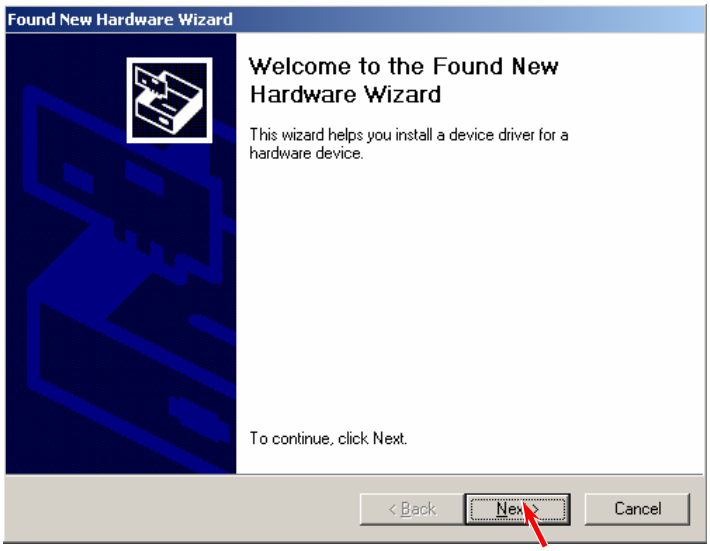


3. Turn on both your PC and the KIP 3000.

   [Found New Hardware Wizard] starts automatically. Click [Next].

Reference

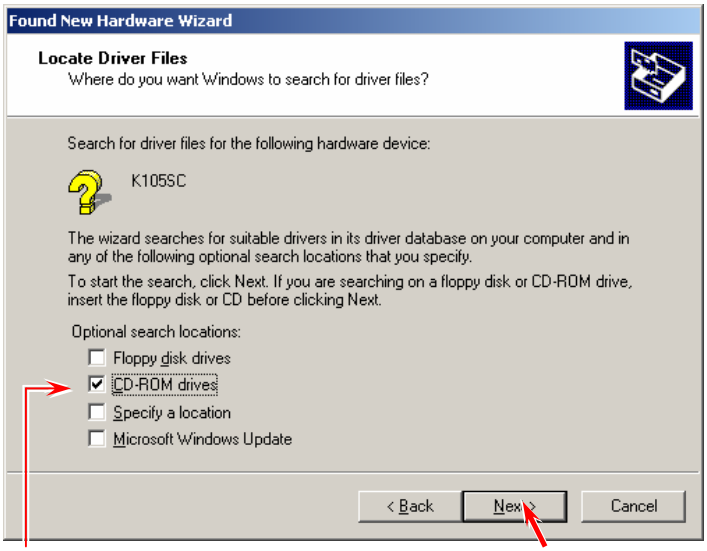
"KIP K105SC" is shown as example in this section.
"K105SK" is displayed for machines before S/N 10510001.



4. Choose "Search for a suitable driver for my device [recommended]". Click [Next].

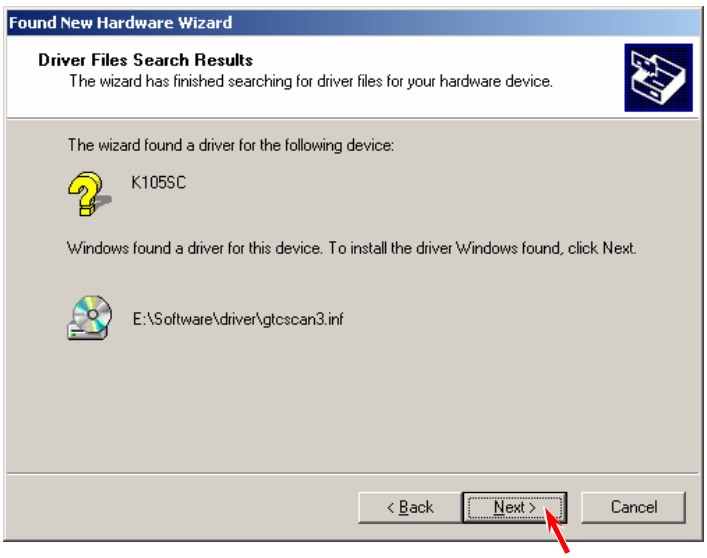
Choose this.

5. Set Technical CD-ROM to your optical disk drive.
   Mark “CD-ROM drives” and click [Next].

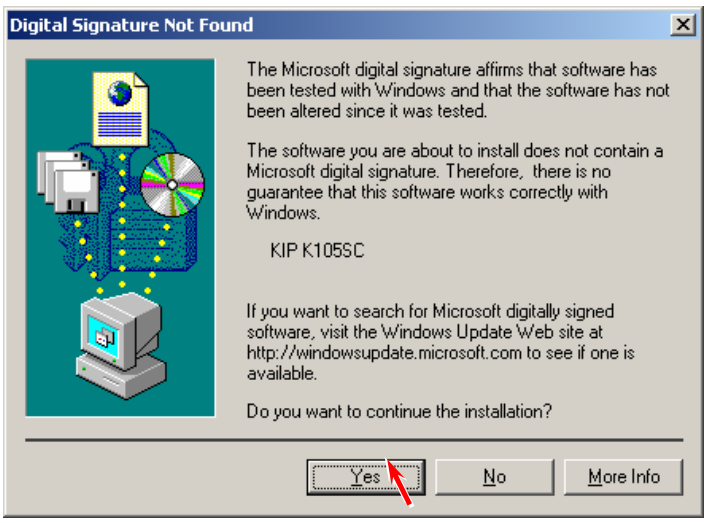


Mark this.

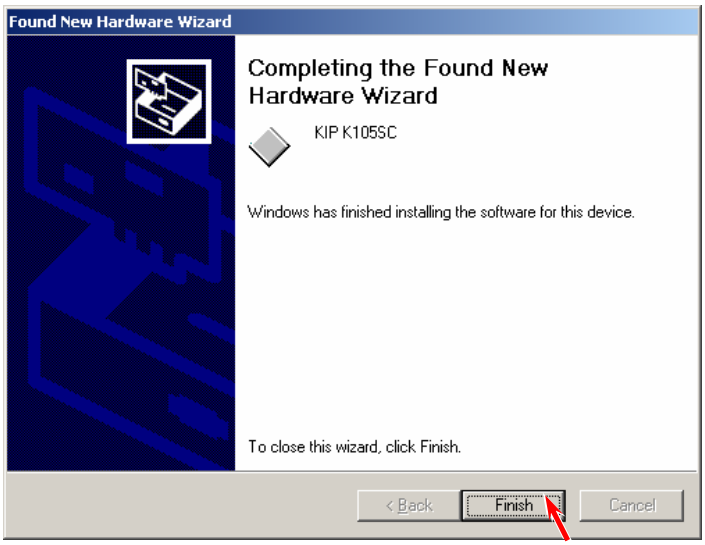
6. The following message is indicated when the necessary driver is found. Click [Next].



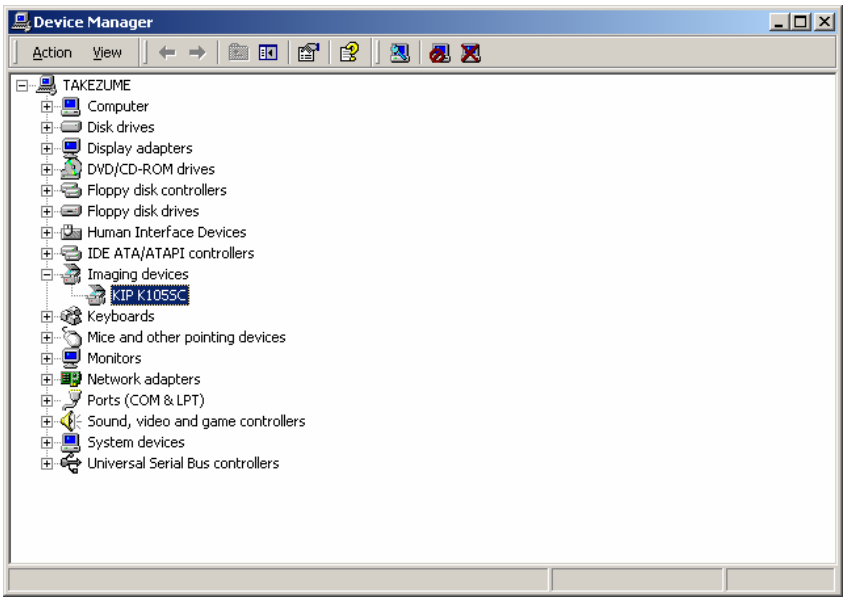
7. Click [Next] when the following message is indicated.



8 Complete the [Found New Hardware Wizard] clicking [Finish].



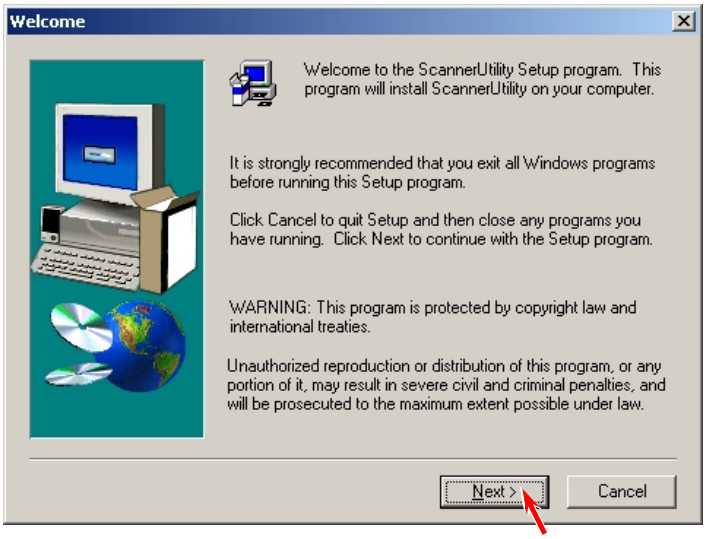
9. Open Device Manager, and confirm that [KIP K105SC] is operating properly.



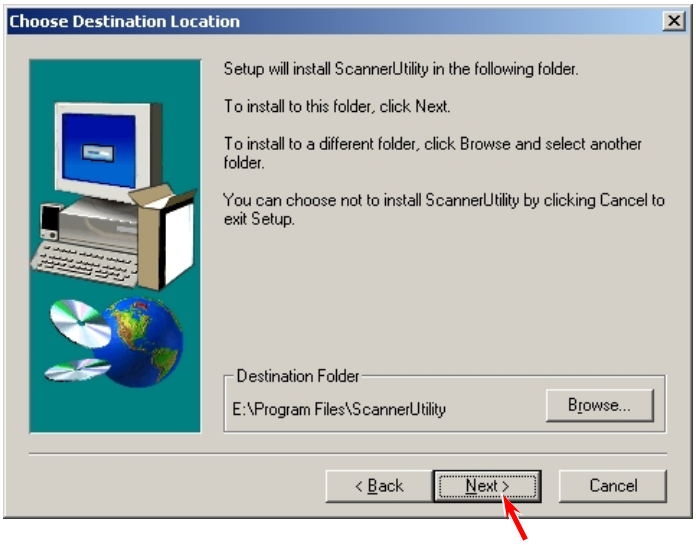
8.12. 1. 2 Installing Scanner Utility

1. Set Technical CD-ROM to your optical disk drive
   Locate Scanner Utility setup file and run SETUP.EXE.

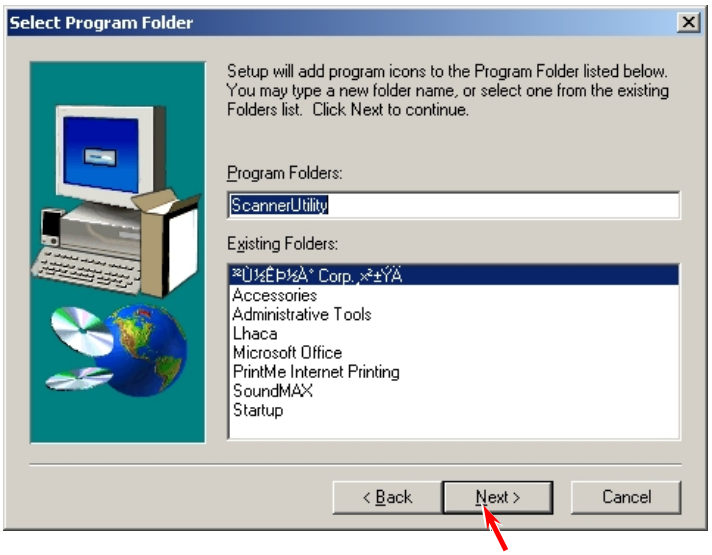
2. The Setup Program starts. Click [Next].



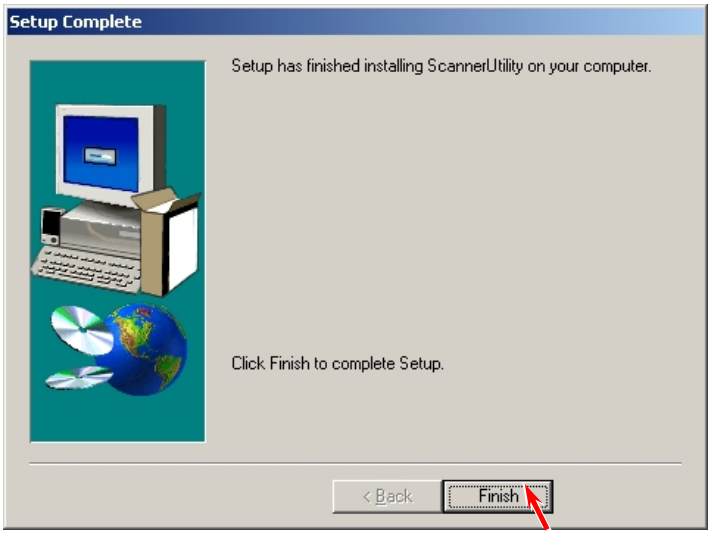
3. The destination of the software can be changed. Click [Next].



4. The name of the program folder can be changed. Click [Next].

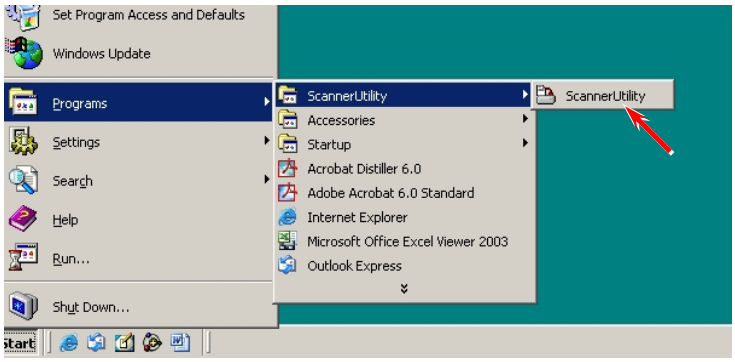


5. The following message is indicated when all files have been copied. Click [Finish].

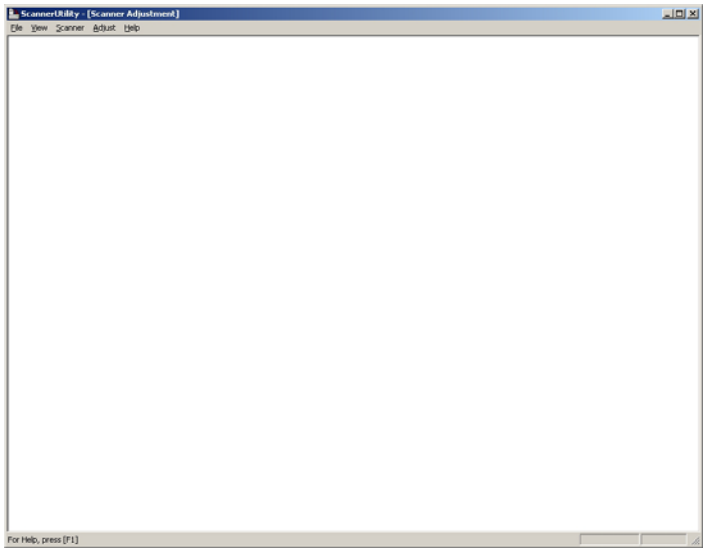


8.12. 2 Starting Scanner Utility

Start Scanner Utility by;
“Start” _”Program” _ “ScannerUtility” _ “ScannerUtility”



(Scanner Utility’s initial screen)



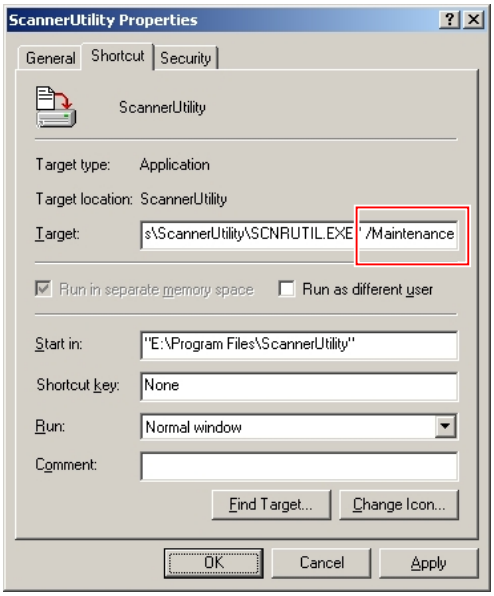
NOTE

To use the entire adjustment menu, follow the instruction below.
(A command line option switch to be set.)

(1) Open the properties panel for a Scanner Utility shortcut.

(2) Add the following text to the end of a path name.

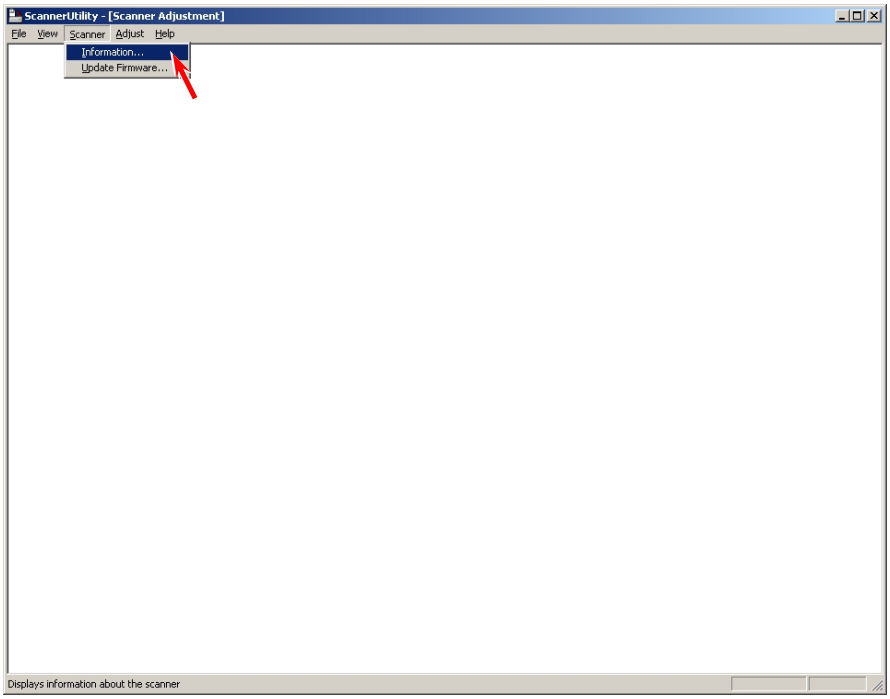
“(en quad)/Maintenance”



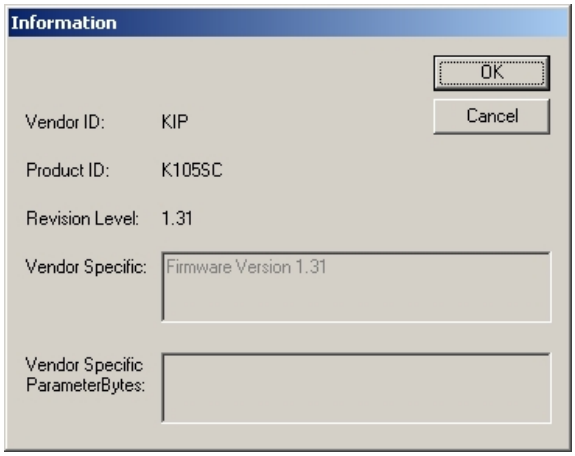
8.12. 3 Displaying Scanner Information

It is possible to display the scanner information in the following way.

1. Select [Information] under [Scanner].



2. Scanner Utility acquires the scanner information and displays it.



8.12. 4 Scanner Adjustment

It is possible to make the following scanner adjustment with Scanner Utility.

- Shading (white balance calibration)
- Calibration (color correction)
- Feed Distance (1:1)
- Position (stitching)

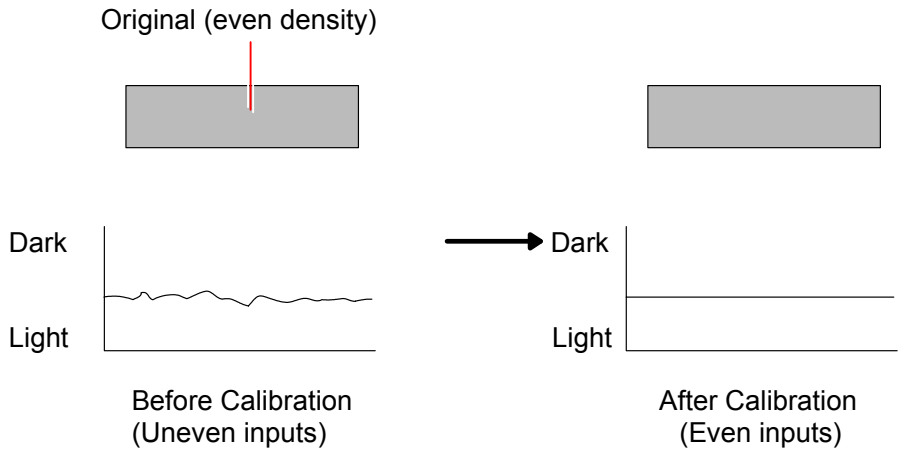
These adjustments are very important because they are greatly related with the image quality.

8.12. 4. 1 Shading (white balance calibration)

[Purpose of Shading (white balance calibration)]

The pixels on the CIS are not same but they have their own characteristic.
This may be a problem because the inputs (density) from those pixels are uneven although they read the same image (density).

But the Calibration compensates the input from each pixel properly to remove the unevenness among the pixels.
As a result the even level of input can be expected from every pixel after Shading.



[Necessary situation]

Shading is required when;
- Machine installation
- After replacing;
  (1) CIS Assembly
  (2) CIS Controller Board
  (3) Main Board
  (4) Gap Roller

NOTE

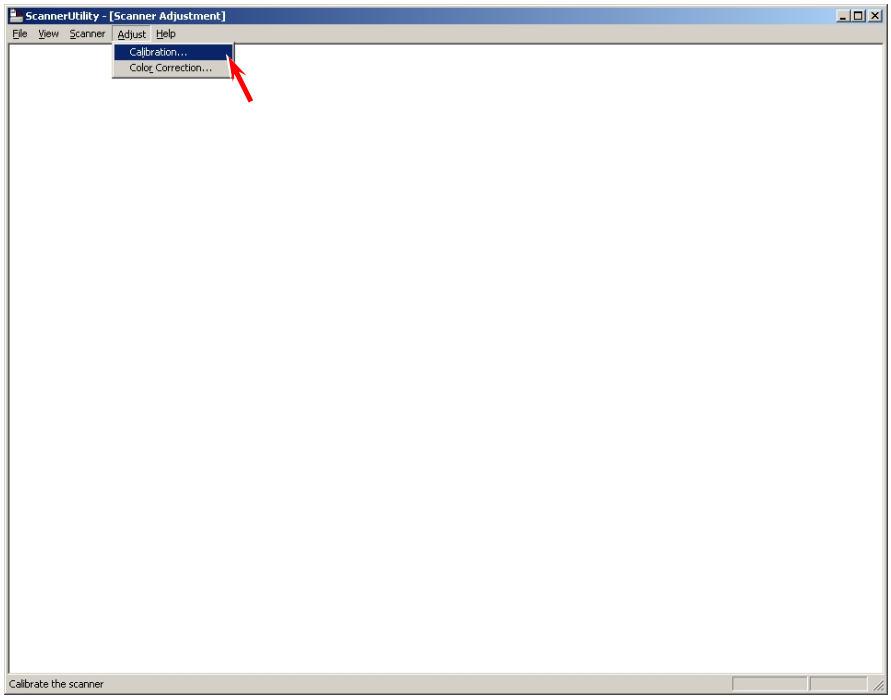
Shading adjustment should be performed with Shading Sheet (P/N: Z058300790, 10 sheets).
1 sheet of Shading Sheet is included in the KIP 3000 accessary. Keep it in safe custody.

[Operation]

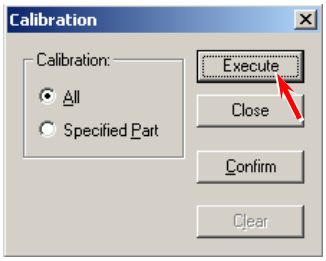
1. Connect the scanner unit and the PC directly with the USB 2.0 Cable.

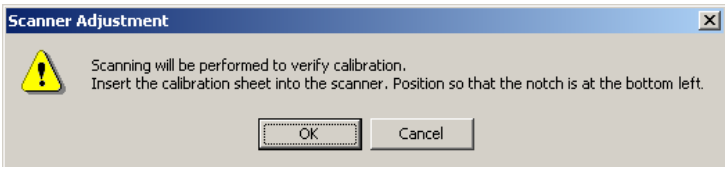
2. Start Scanner Utility.

3. Select [Calibration] under [Adjust].



4. At first it is required to calibrate all pixels.
   Select [All] and then click [Execute].
   You will be asked to set the original.



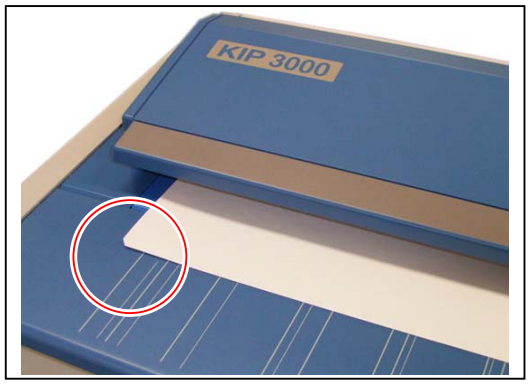


5. Set Shading Sheet in the KIP 3000 accessory to the scanner.

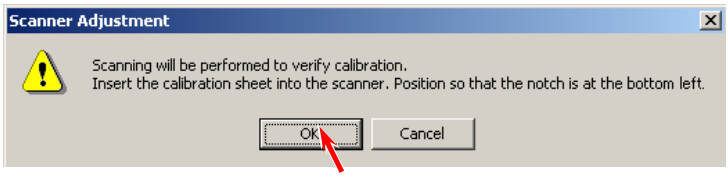
NOTE

(1) One corner of the Shading Sheet is cut off. Set Shading Sheet so that the corner is on the left and on the front side of machine.

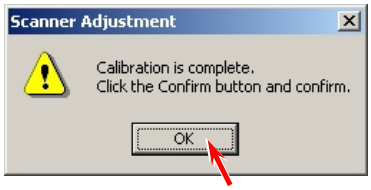
(2) Handle Shading Sheet with great care. Keep it in safe custody for avoiding dirt, fold or tear.

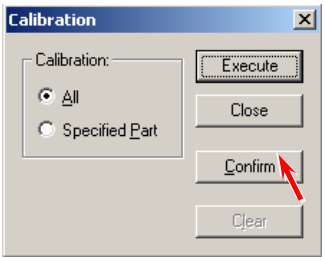


6. Click [OK] after setting Shading Sheet, and the scanner reads it.
It takes about 5 minutes to complete Shading adjustment.



7. When finished scanning, click [OK].
Click [Confirm] to check the result of Shading.

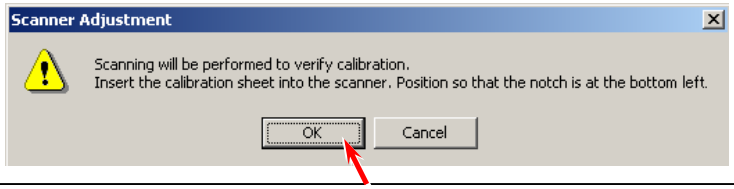




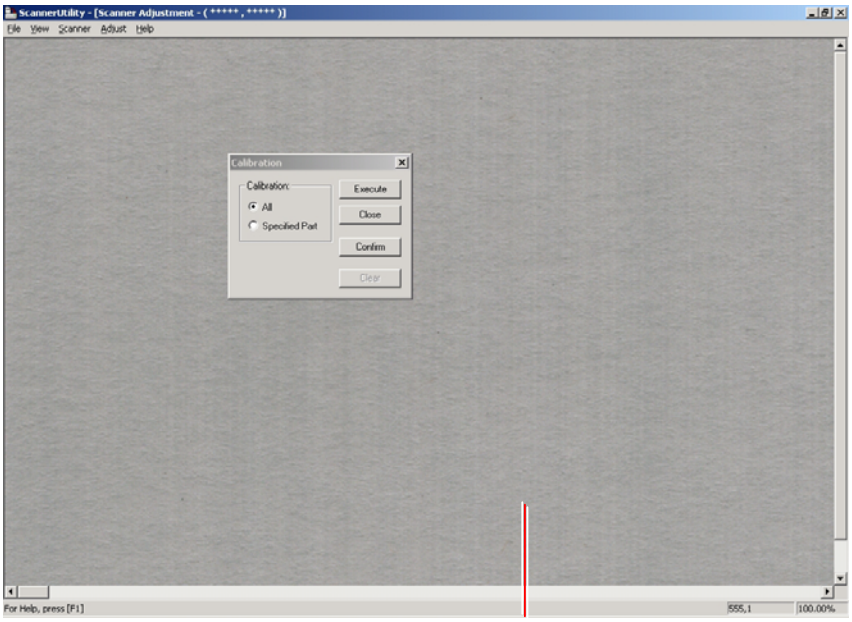
NOTE

The dialog the same as the former step 6 will appear again.

Just click [OK] without removing Shading Sheet.



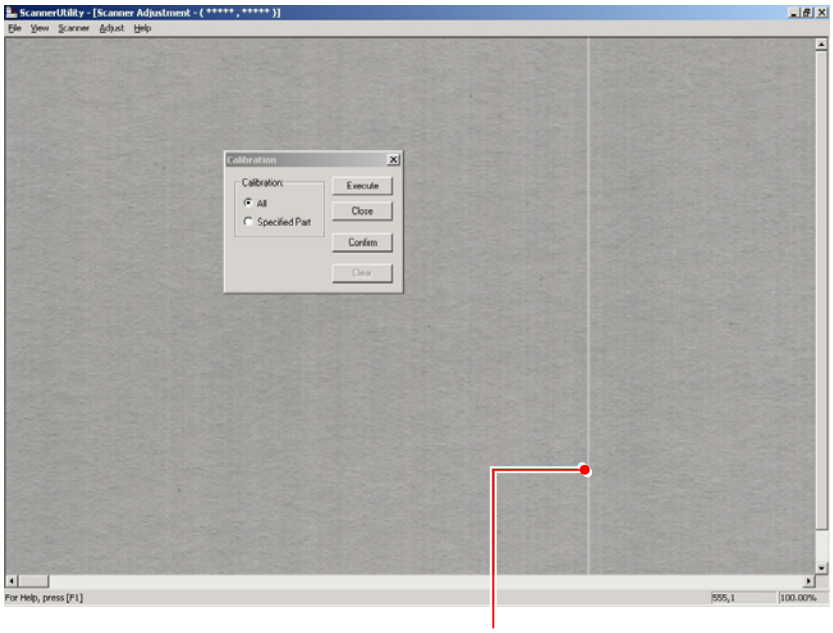
8. The scan image of Shading Sheet is displayed.



Scan image of Shading Sheet

9. Scrolling the image horizontally, check whether the density is even or not.
   If the density is even at every place, finish Shading clicking [Close].

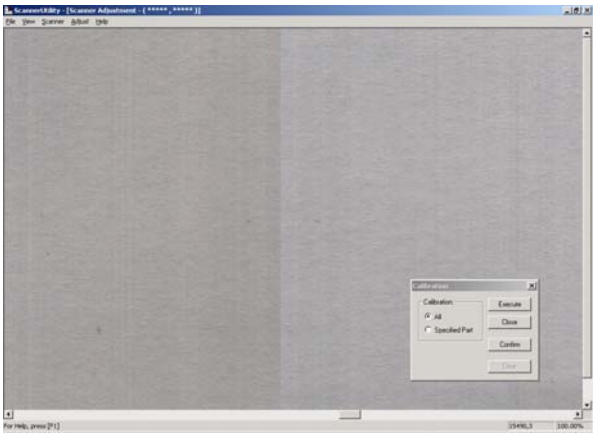
   There may be some place of which density is different from others as the following image.
   As this pixel is “defective”, it is necessary to calibrate it individually in the next step.



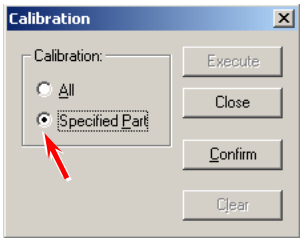
Defective pixel

NOTE

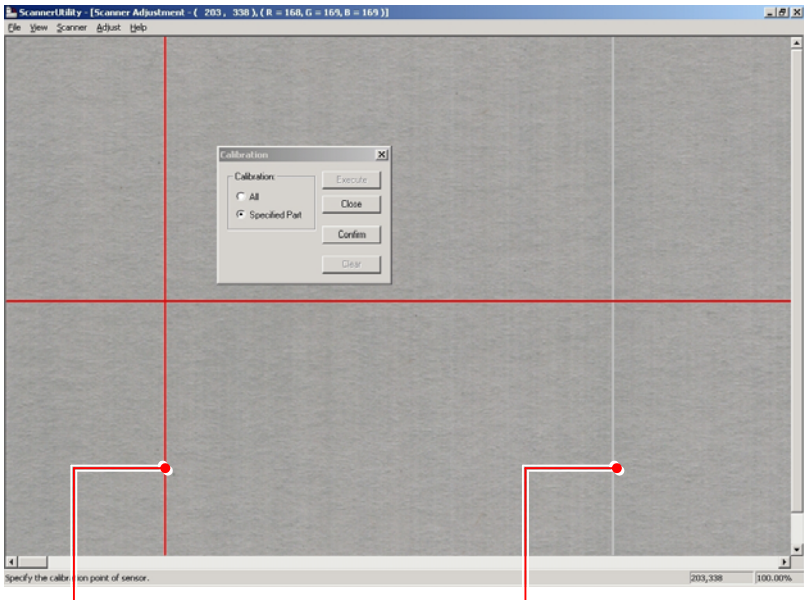
Sometimes the density may be different between left and right as the following image. This is not a problem but it is just the border of image blocks.



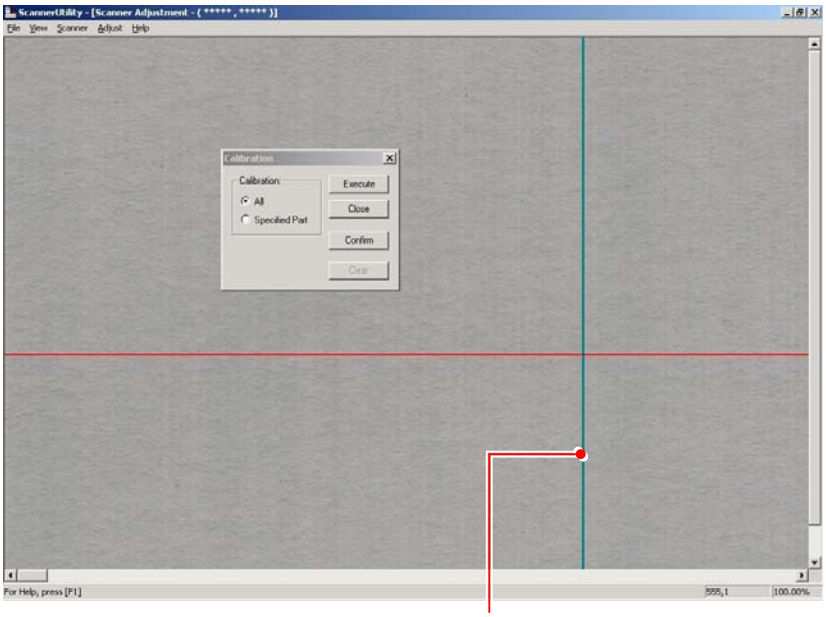
10. If you will calibrate an individual pixel, select [Specified part].



11. Move the pointer onto the scan image, and you will find a kind of red cursor.

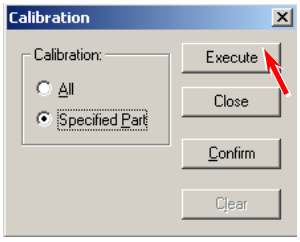


12. Move the red cursor so that its vertical line matches the defective pixel and click it.
    The defective pixel is selected by this operation.
    If there are some more defective pixels, select them in the same way.



Match the vertical line to a defective pixel.

13. Click [Execute], and the selected “defective pixel” is compensated individually.



14. You will be asked to set the original again.
    Set Shading Sheet to the scanner and click [OK].
    Check the result of Shading again.
    When finished, click [Close].

8.12. 4. 2 Calibration (color correction)

[Purpose of Calibration (color correction)]

The pixels on the CIS are not same but they have their own characteristic.
This may be a problem because the inputs (color) from those pixels are uneven although they read the same image (color).

But Calibration compensates the input from each pixel properly to remove the unevenness among the pixels.
As a result the even level of input can be expected from every pixel after the Color Correction.

[Necessary situation]

Calibration is required only for machines with color scan option.
Calibration is required when;

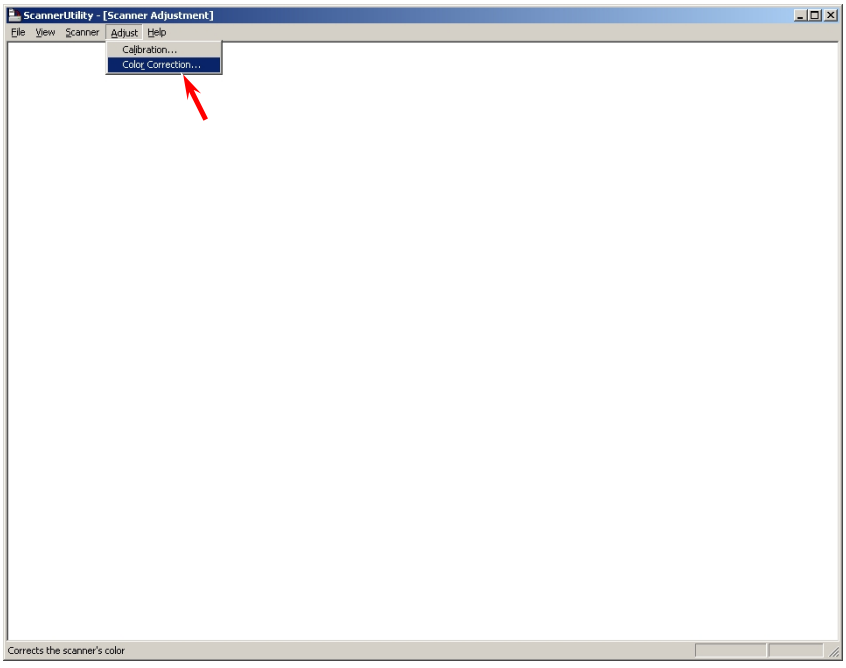
- Machine installation
- After replacing;
  (1) CIS Assembly
  (2) CIS Controller Board
  (3) Main Board
  (4) Gap Roller

[Operation]

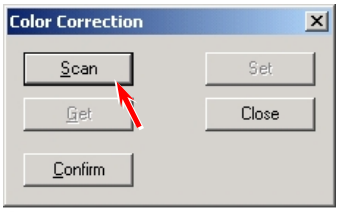
1. Connect the scanner unit and the PC directly with a USB 2.0 Cable.

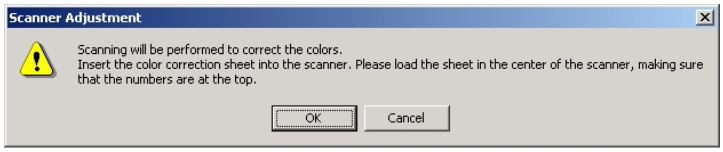
2. Start Scanner Utility.

3. Select [Color Correction] under [Adjust].



4. Click [Scan]. You will be asked to set the original.

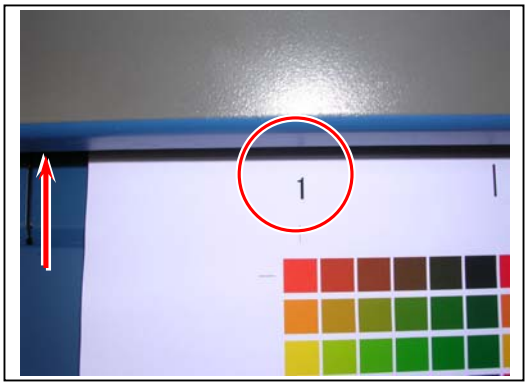




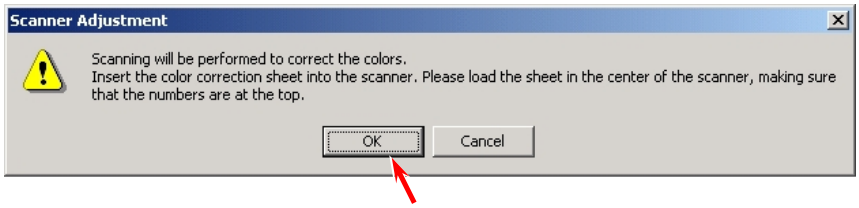
5. Set **Calibration Sheet** in the KIP 3000 accessory to the scanner.

NOTE

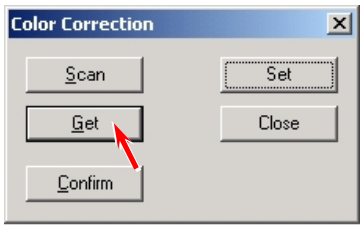
Position Calibration Sheet in the center of Original Table so that the numbers on Calibration Sheet are at the top.



6. Click [OK] after setting the original, and the scanner reads Calibration Sheet.

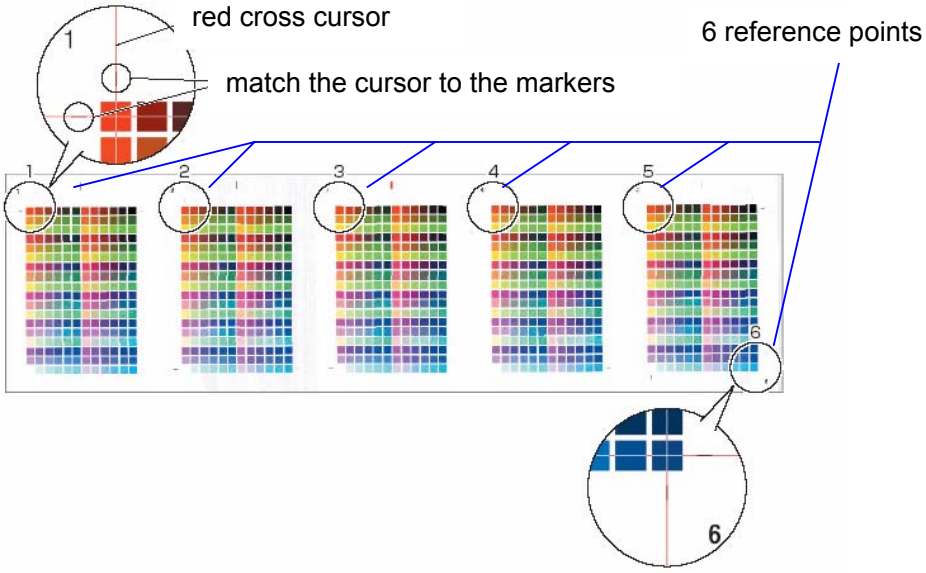


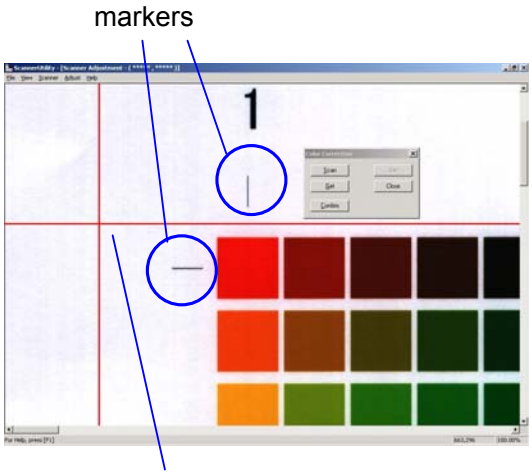
7. The scan image of Calibration Sheet is displayed. Click [Get].
   When the pointer moves on to the scan image, it changes to a red cross cursor.

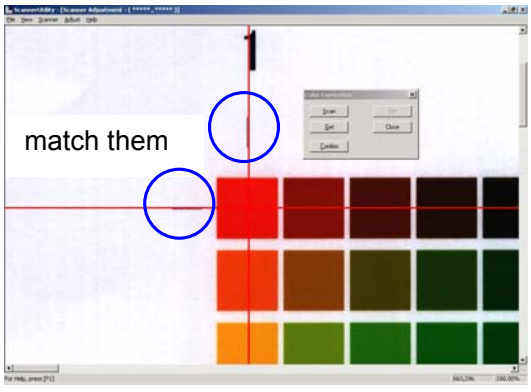


8. Click the 6 reference points where the following picture shows to read color information on Calibration Sheet.

   Each reference point has a pair of markers.
   Align the cursor with the markers so that the cursor is placed on a reference point.
   And then click the point to set a reference point.
   Set the all the 6 reference point in the order shown below.



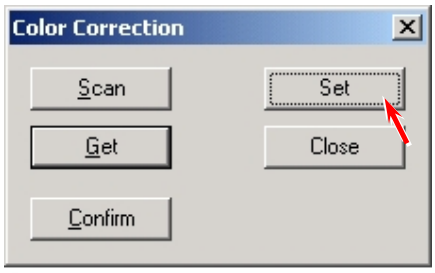




Reference

You can enlarge the scan image by dragging with the right button of mouse.
Press F2 Key when you would like to go back to the reduced image.

9. When finished the 6 clicks for the reference points, [Set] will be activated.
   Click [Set] to apply the reference points to the color correction adjustment.



10. Click [Confirm]. Scan Calibration Sheet again.
    Check that the scan image and Calibration Sheet do not have extreme difference in color between them.
    Click [Close] to finish.

8.12. 4. 3 Feed Distance (1:1)

[Purpose of Feed Distance (1:1)]

The lengths between actual original image and scan image may become different each other if you replace the Feed Roller of the Scanner Unit.
This is caused by the mechanical play that each Feed Roller has.

“Feed Distance” is the solution for this phenomenon.
It compares the actual original image and the scan image to know how much their lengths are different.
Then “Feed Distance” calculates the best compensation (motor speed) automatically so that both images should become as long as each other.

[Necessary situation]

Feed Distance is required when;

- After replacing;
  (1) Drive Roller 1
  (2) Drive Roller 2
  (3) Gap Roller

Also you need to check whether the Feed Distance is proper after replacing the following parts.
(Please record the current setting value before the replacement and input the same value after the replacement.)

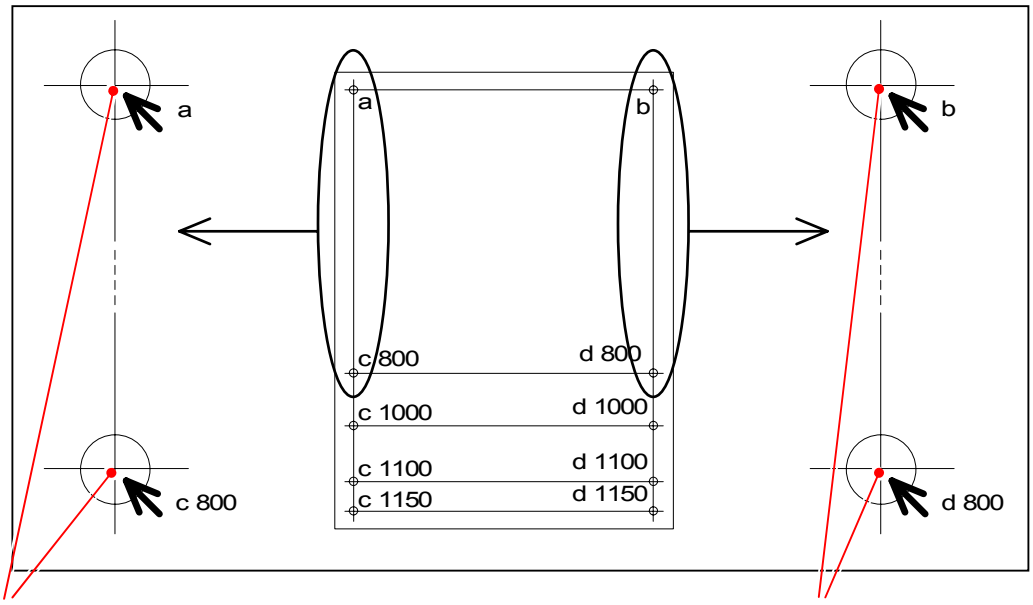
(1) CIS Assembly
(2) Main Board

[Operation]

> **NOTE**
>
> Feeding Distance adjustment should be performed with Target Sheet (P/N: Z058501590, 10 sheets).

1. Measure the actual distance between “a point” and “c point” on the far left area of original, and also between “b point” and “d point” on the far right area.

   Let’s suppose that each distance is as follows.
   Between “a point” and “c point (800)” is “799.7mm”
   Between “b point” and “d point (800)” is 799.8mm



Measure between these 2 points.

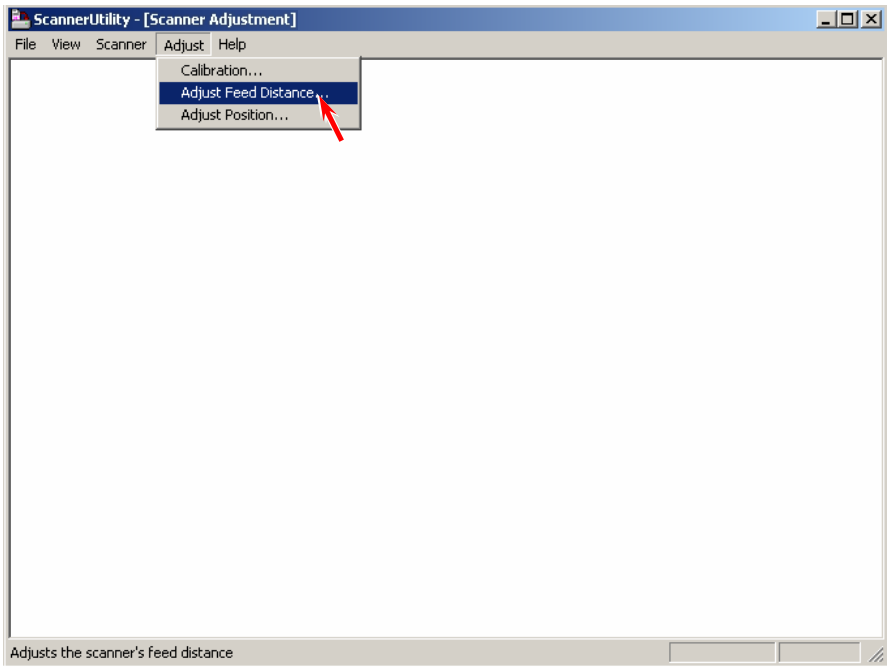
Measure between these 2 points.

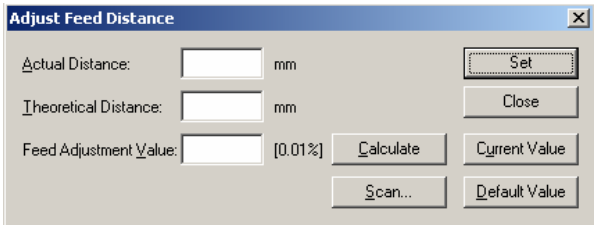
> **NOTE**
>
> There are some number of “c point X” and “d point X” on the Target Sheet.
> You can select any one, but better adjustment can be expected if you measure a longer distance.

2. Connect the scanner unit and the PC directly with the USB 2.0 Cable.

3. Start Scanner Utility.

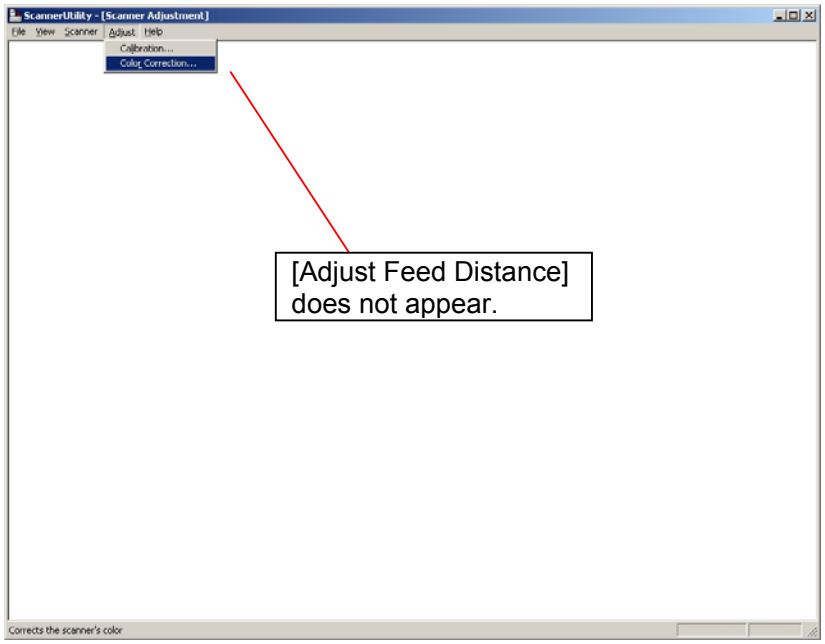
4. Select [Adjust Feed Distance] from [Adjust].
   The Adjust Feed Distance Dialog is indicated.





NOTE

(1) If [Adjust Feed Distance] does not appear, follow the instruction on the next page.

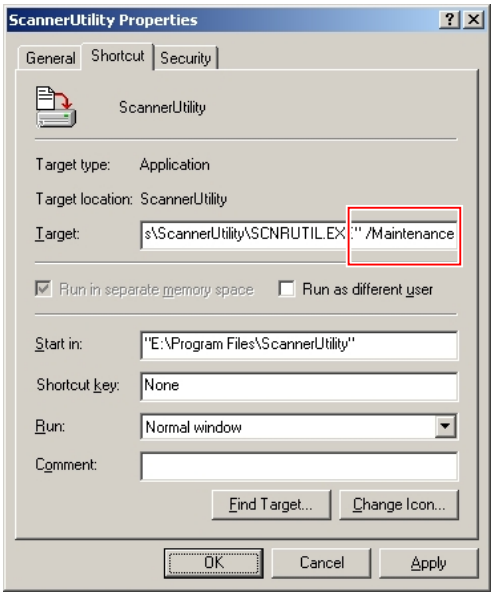


NOTE (Continued)

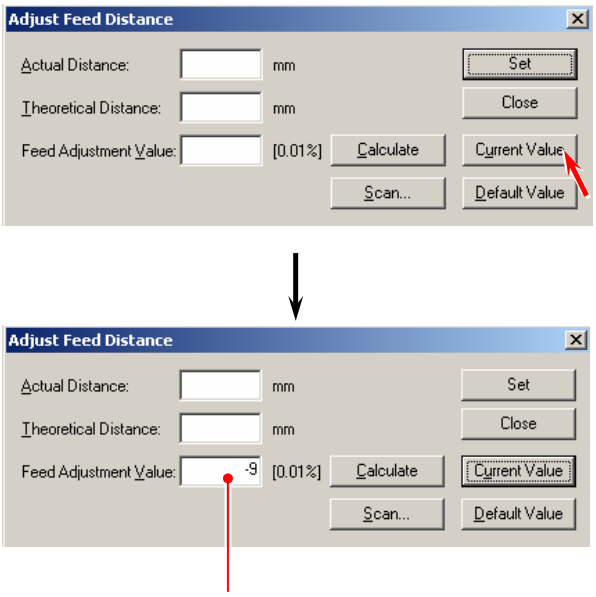
a) Open the properties panel for a Scanner Utility shortcut.

b) Add the following text to the end of a path name.

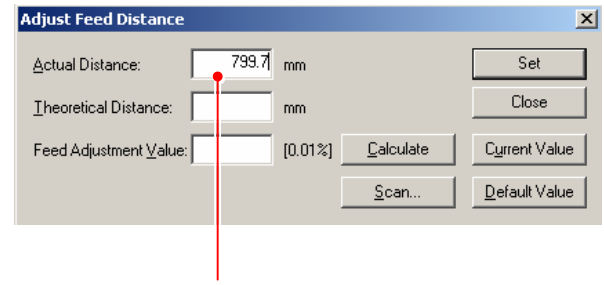
"(en quad)/Maintenance"



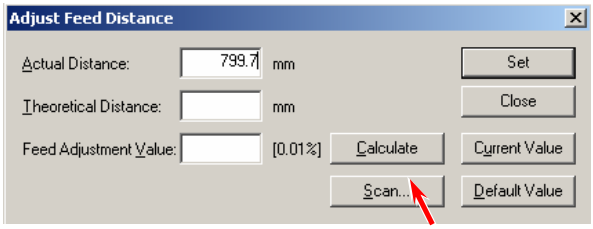
(2) We recommend you to record the current setting value of Feed Distance for the safety before starting the adjustment from the next step.
Click [Current value], and the current setting value is indicated.



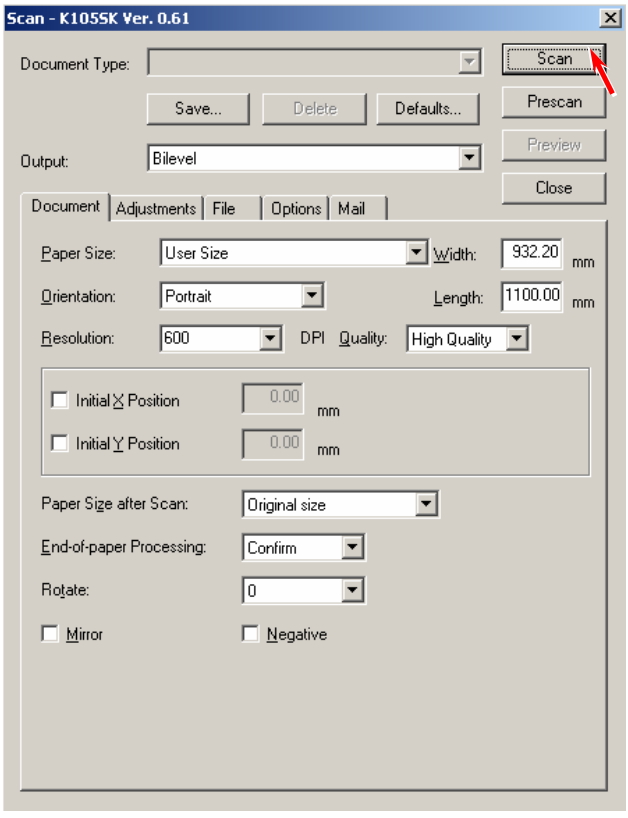
5. At first, input the **actual distance between “a point” and “c point”** in [Actual Distance], which you have measured at the former step “1”.



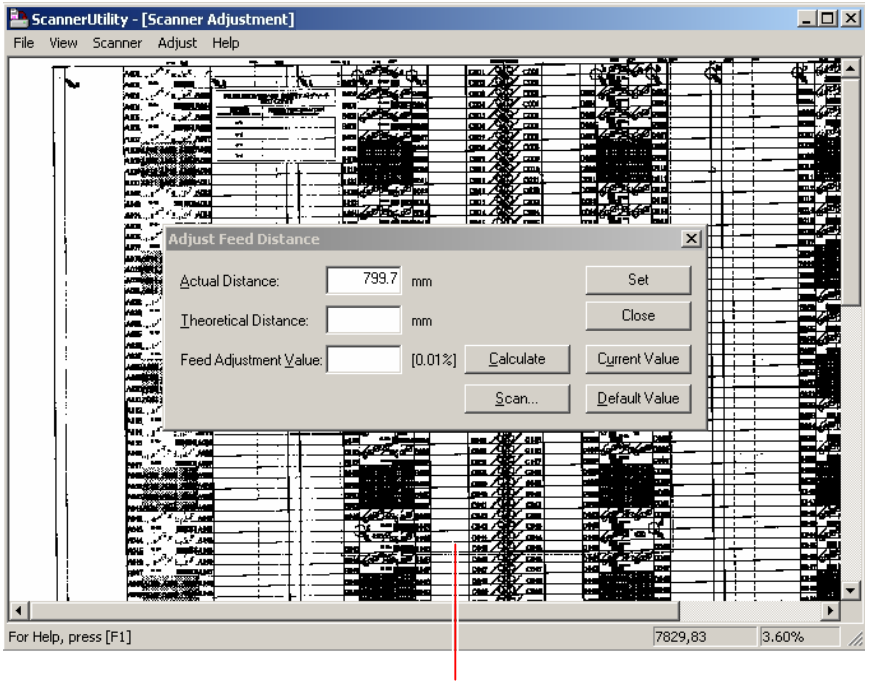
6. Set the Target Sheet to the scanner unit, and then click [Scan].



7. A dialog to specify the scan settings is indicated.
Simply click [Scan] to scan the Target Sheet.
(You do not have to change any setting this time.)



8. The scan image of the Target Sheet is indicated in the screen of Scanner Utility.



Scan image of Target Sheet

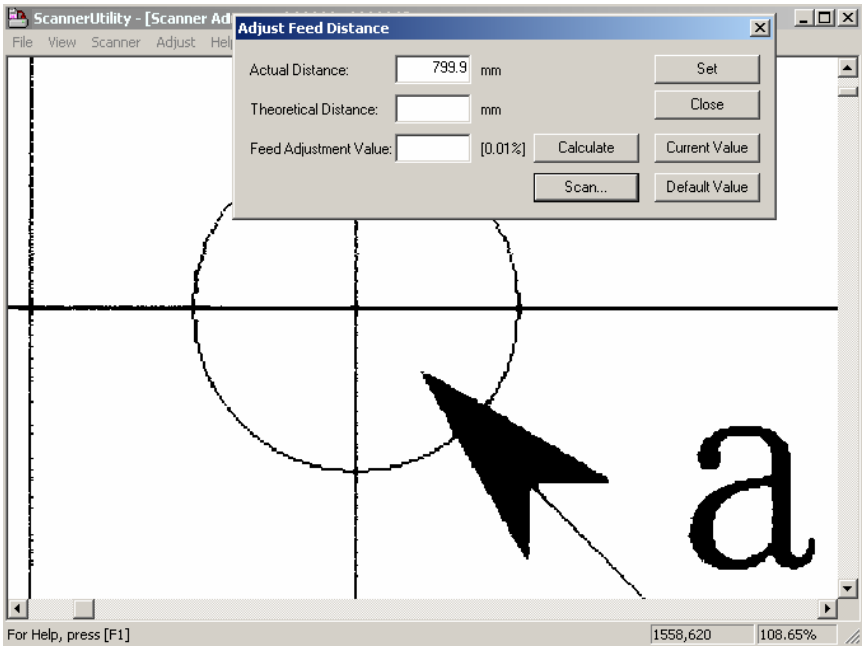
Reference

You can enlarge the scan image by dragging with the right button of mouse.
Press the F2 Key when you would like to go back to the reduced image.

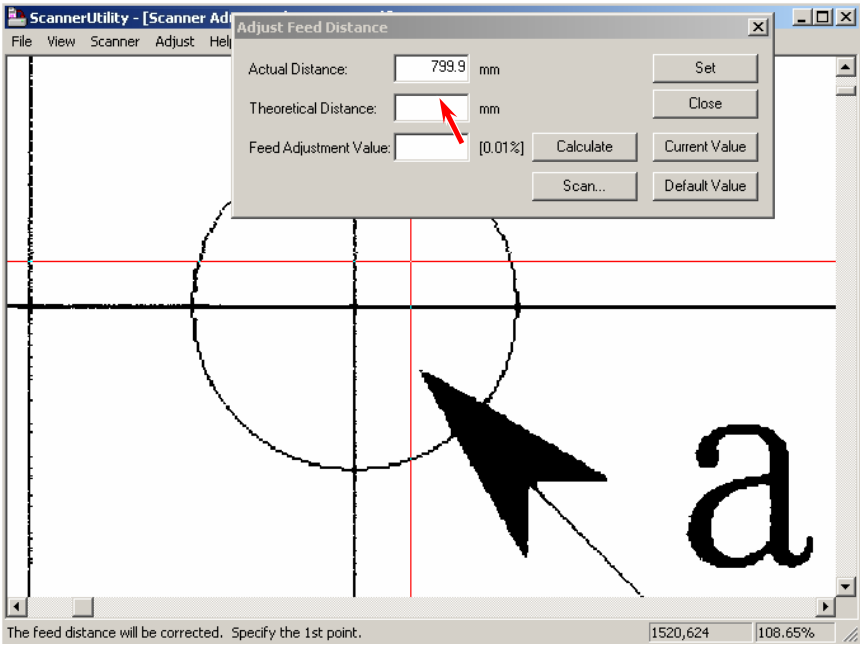
NOTE

Make another scan for the top and bottom part of Target Sheet. Scan images for top and bottom part should not be used for Feeding Distance adjustment.

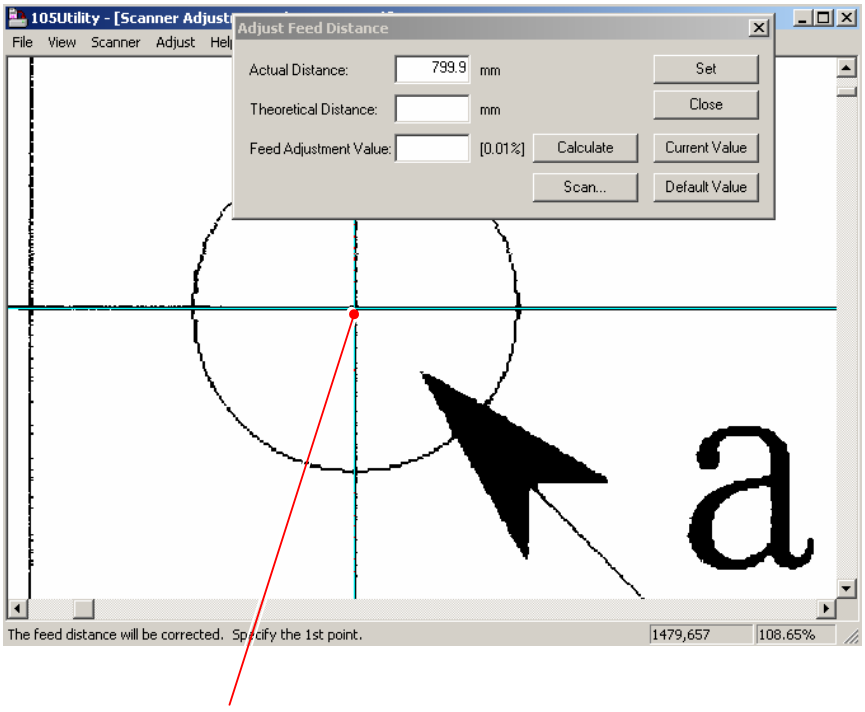
9. Indicate the enlarged image of “a point” on the screen, which was the measuring point at the former step “1”.



10. Click the input window of [Theoretical Distance].
    A red cursor appears on the screen.

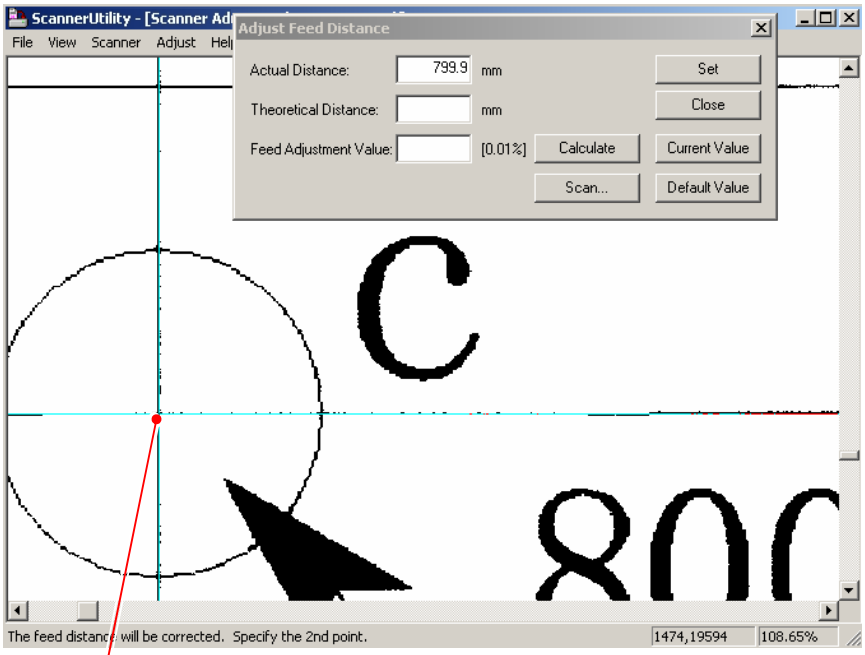


11. Click the mouse once at the measuring point.



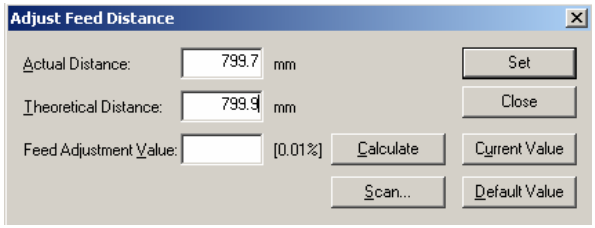
Click the mouse at the measuring point.

12. Similarly indicate the enlarged image of “c point” and click the mouse at the measuring point.

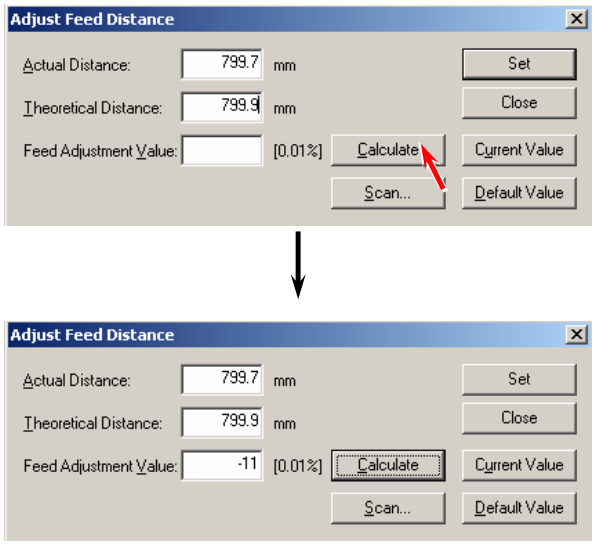


Click the mouse at the measuring point.

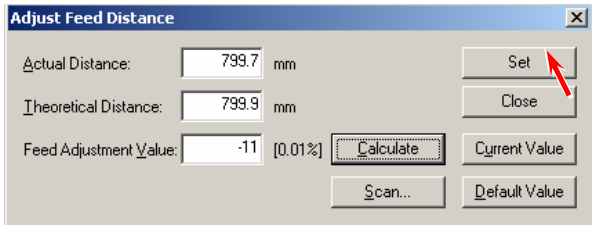
13. Some value is indicated in [Theoretical Distance] according to 2 measuring points you specified at both steps “9” and “10”.
This value means the distance between “a point” and “b point” of the resulting scan image.



14. Click [Calculate].
    The program automatically calculates the best compensation value considering the difference of “Actual Distance” and “Theoretical Distance”.
    The calculated compensation value (motor speed) is indicated in [Feed Adjustment Value].

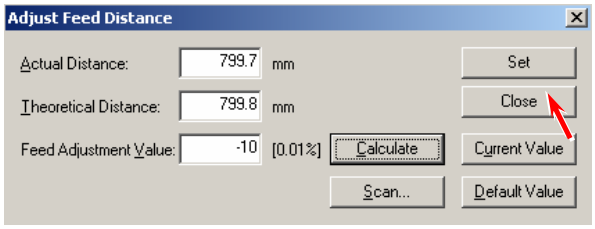


15. Click [Set], and the calculated Feed Adjustment Value is validated.



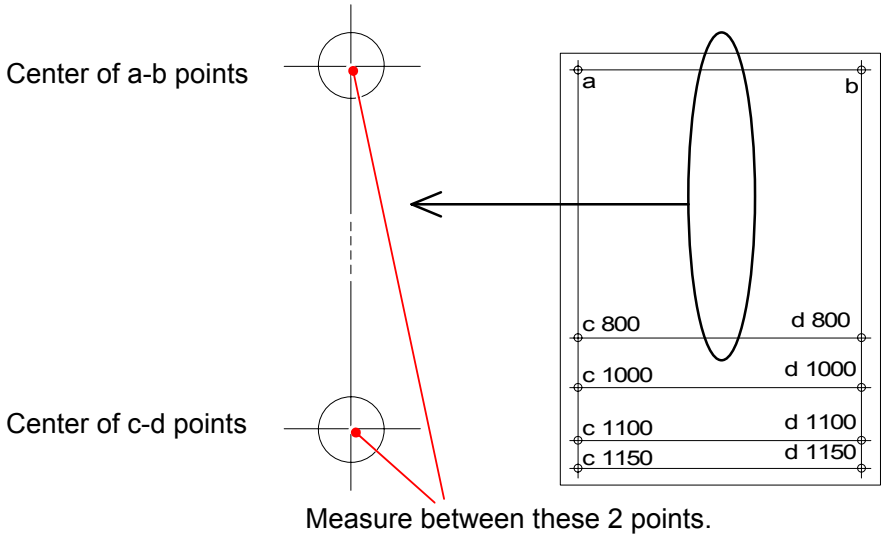
16. It is necessary to check the balance of original feeding between left and right after validating the new setting.
(Left side means “a-c points” side, and right side means “b-d points” side.)

Repeat the former steps from “3” to “12” also for the right side (between “b point” and “d point”), and compare the values of Feed Adjustment Value between left (a-c points) and right (b-d points).
You do not have to do anymore thing if the difference between left and right is within 0.2%.
(“within 0.2%” means the difference of indicated values is within +/-20.)
Please click [Close] without clicking [Set].



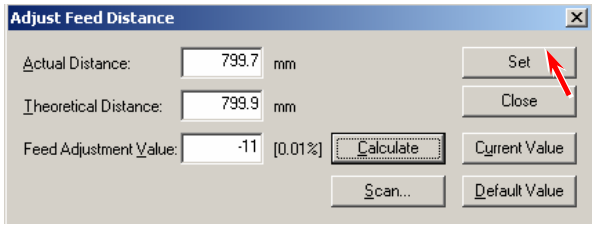
17. If the difference of the values of Feed Adjustment Value between left and right is larger than 0.2%, do as follows.

a) Measure the actual distance between the center of a-b points and that of c-d points on the Target Sheet.



b) Repeat the former steps from “3” to “12” for the center area.

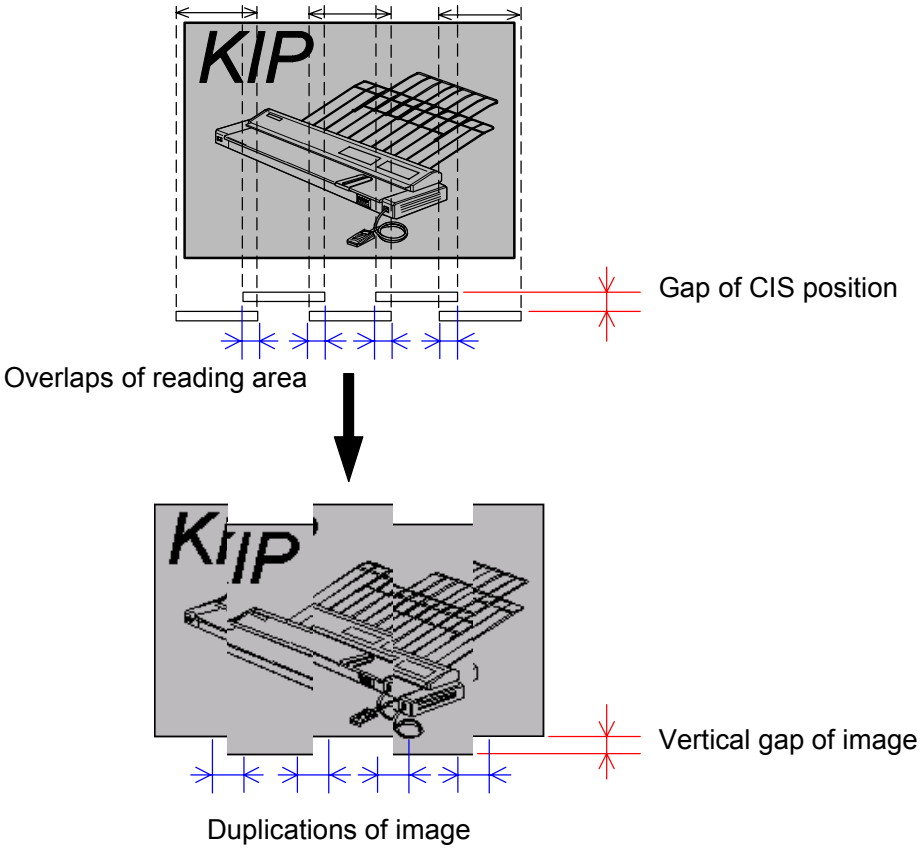
c) Click [Set] to validate the Value indicated in [Feed Adjustment Value].



8.12. 4. 4 Position (stitching)

[Purpose of Position (stitching)]

The scanner part of KIP3000 reads the image of original with 5 - CIS (Contact Image Sensor).
As these CIS are arranged in 2 rows, there occurs a vertical gap of image among the image blocks.
Also the reading area of these 5 pieces of CIS overlaps each other some degree. As a result there occurs the duplication of image between neighboring Image Block (same image is commonly included in the neighboring two Image Blocks).



“Position” is the solution for these kinds of phenomenon.
It is possible remove the vertical gap of image by vertical positioning process (Y offset).
And it is also possible to remove the duplication of image by horizontal positioning process (X overlap).

[Necessary situation]

Position is required when;

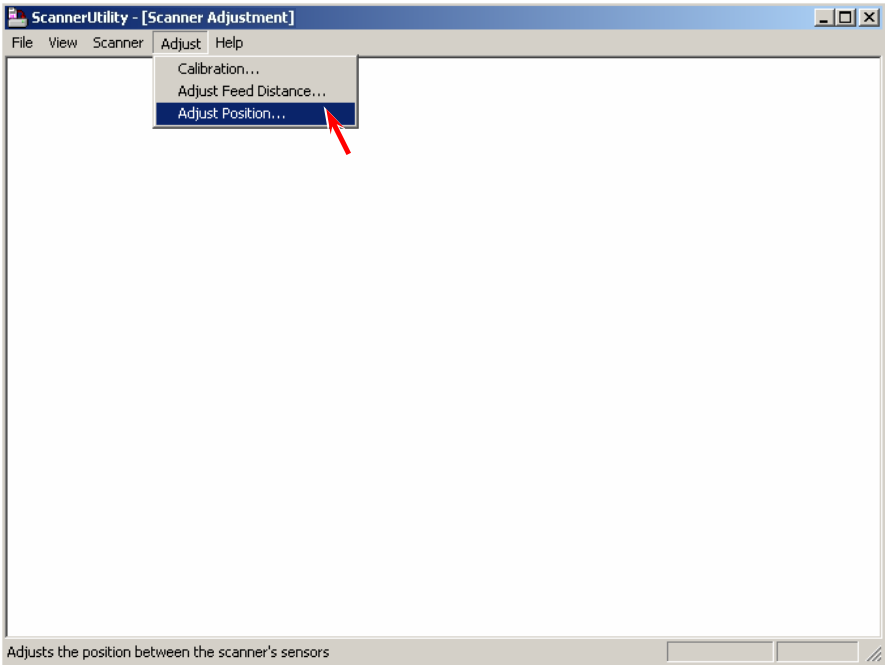
- After replacing;
  (1) CIS Assembly
  (2) Gap Roller

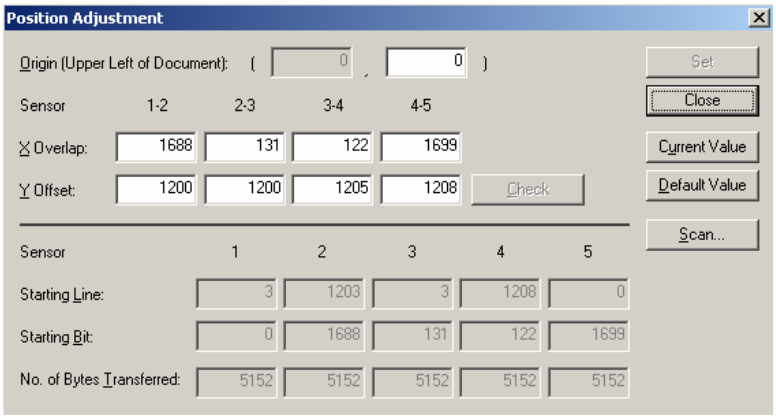
Also you need to check whether or not the Feed Distance is proper after replacing the following part. (Please record the current setting value before the replacement and then input the same value after the replacement.)

(1) Main Board

> **NOTE**
>
> Position adjustment should be performed with Target Sheet
> (P/N: Z058501590, 10 sheets).

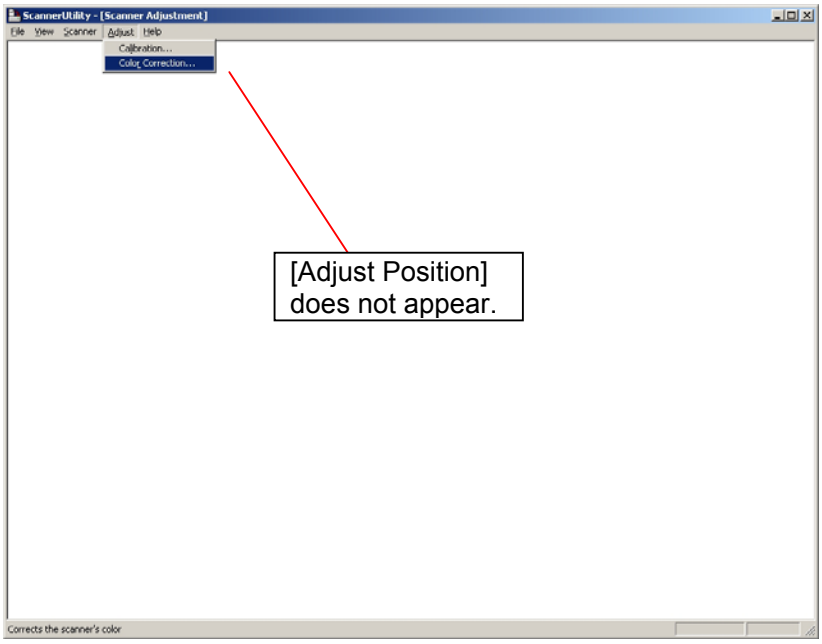
1. Connect the scanner unit and the PC directly with the USB 2.0 Cable.
2. Start Scanner Utility.
3. Select [Calibration] from [Adjust].
   The Position Adjustment Dialog is indicated.





NOTE

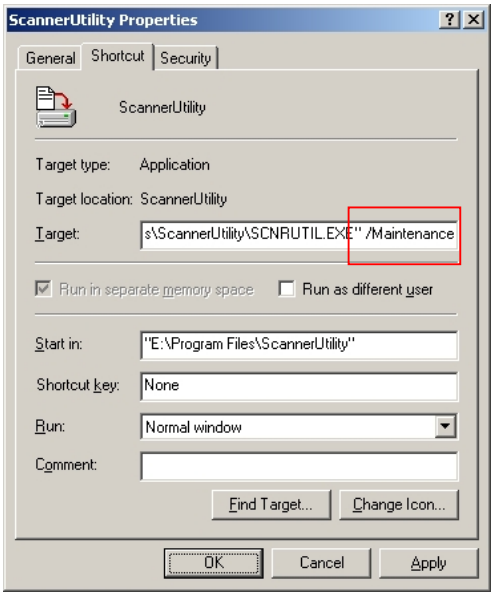
(1) If [Adjust Position] does not appear, follow the instruction below.



a) Open the properties panel for a Scanner Utility shortcut.

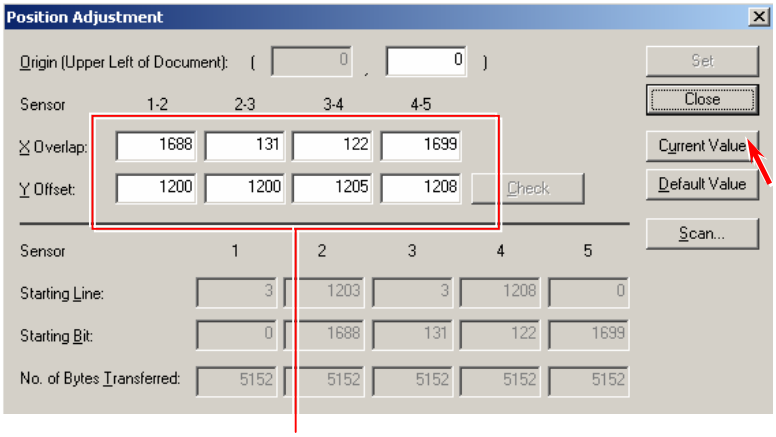
b) Add the following text to the end of a path name.

"(en quad)/Maintenance"



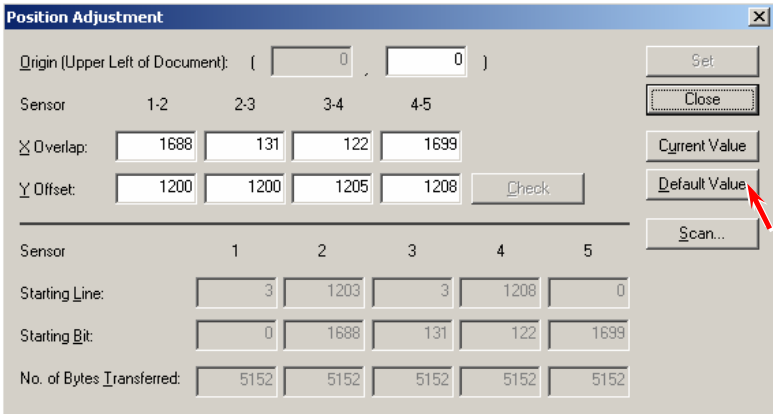
NOTE (Continued)

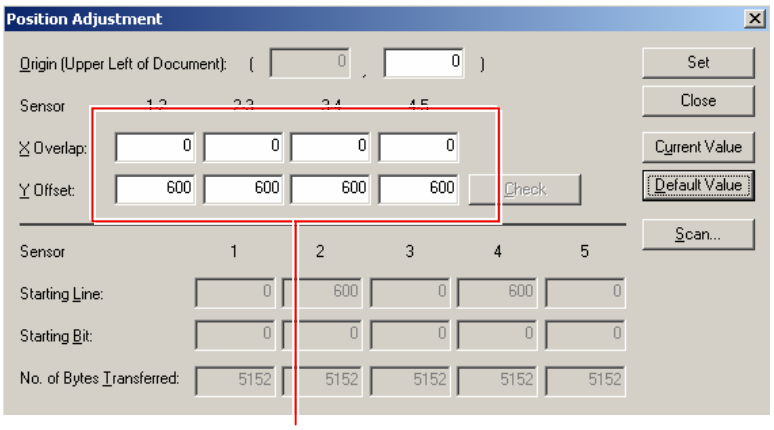
(2) We recommend you to record the current setting values of Position for the safety before starting the adjustment from the next step.
Click [Current value], and the current setting values are indicated.



Current setting values

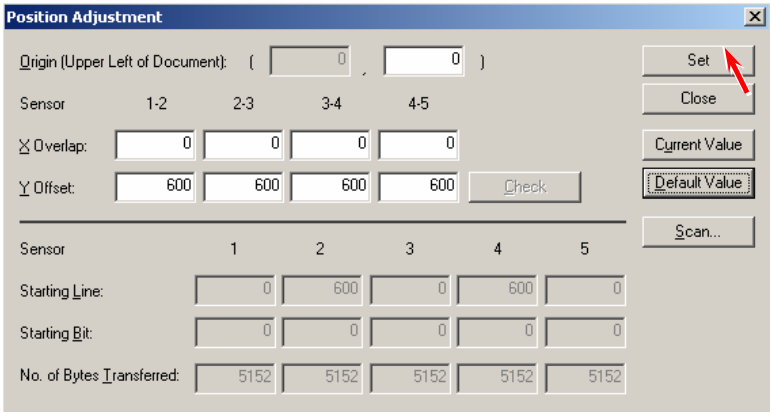
4. Click [Default Value], and all setting value become default condition.



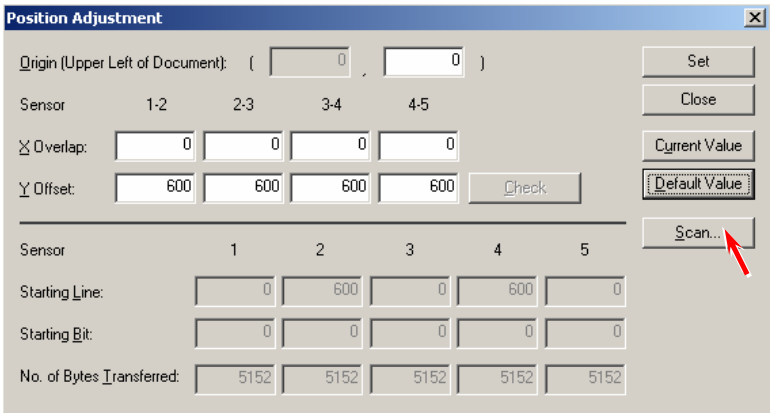


Default setting values

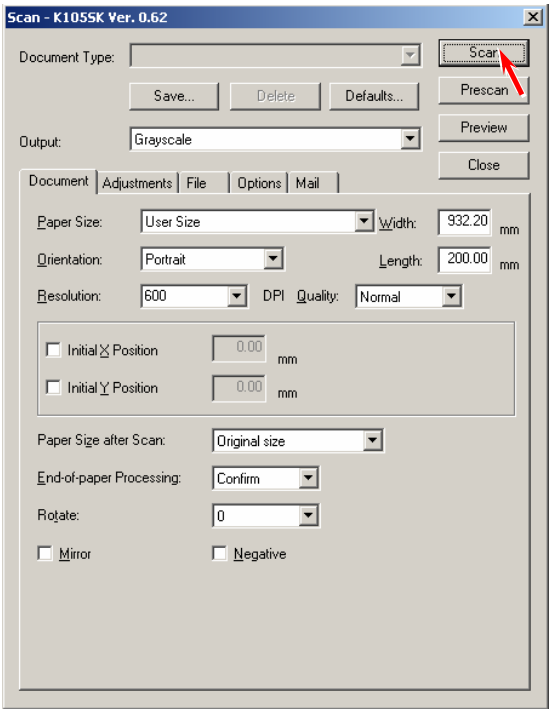
5. Click [Set] to decide the setting values.



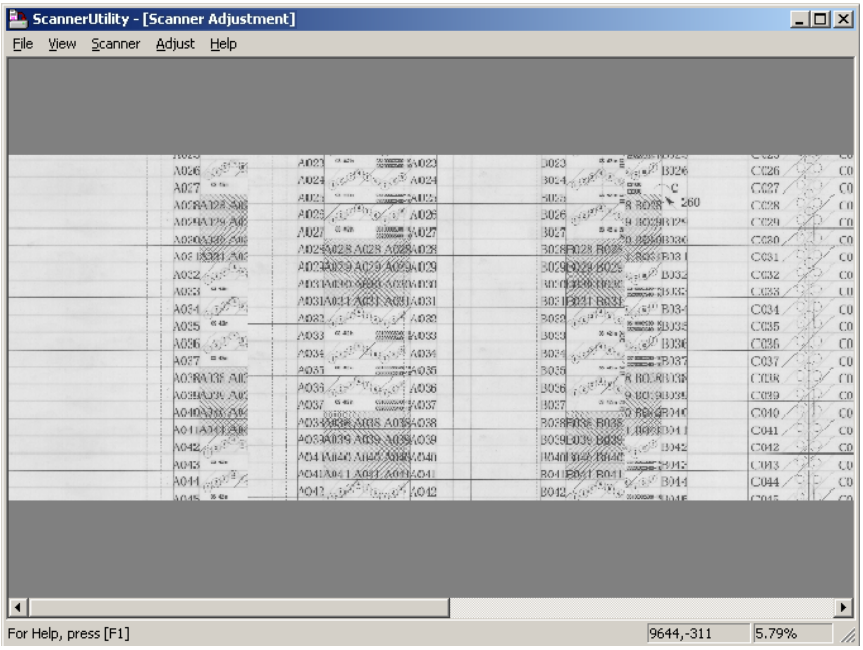
6. Set the Target Sheet to the scanner unit, and then click [Scan].



7. A dialog to specify the scan settings is indicated.
   Simply click [Scan] to scan the Target Sheet.
   (You do not have to change any setting this time.)



8. The scan image of the Target Sheet is indicated in the screen of Scanner Utility.



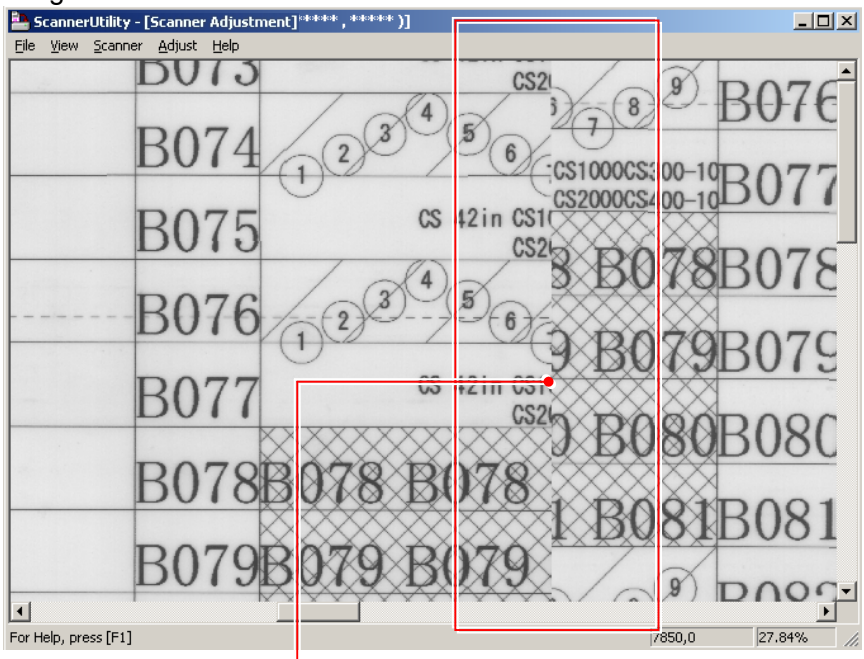
Reference

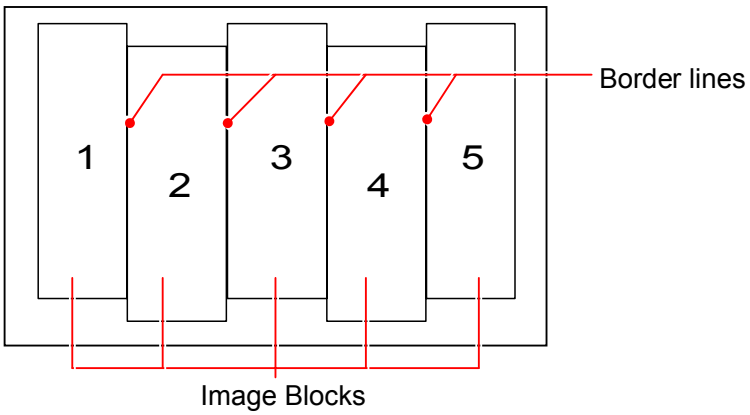
You can enlarge the scan image by dragging with the right button of mouse.
Press the F2 Key when you would like to go back to the reduced image.

NOTE

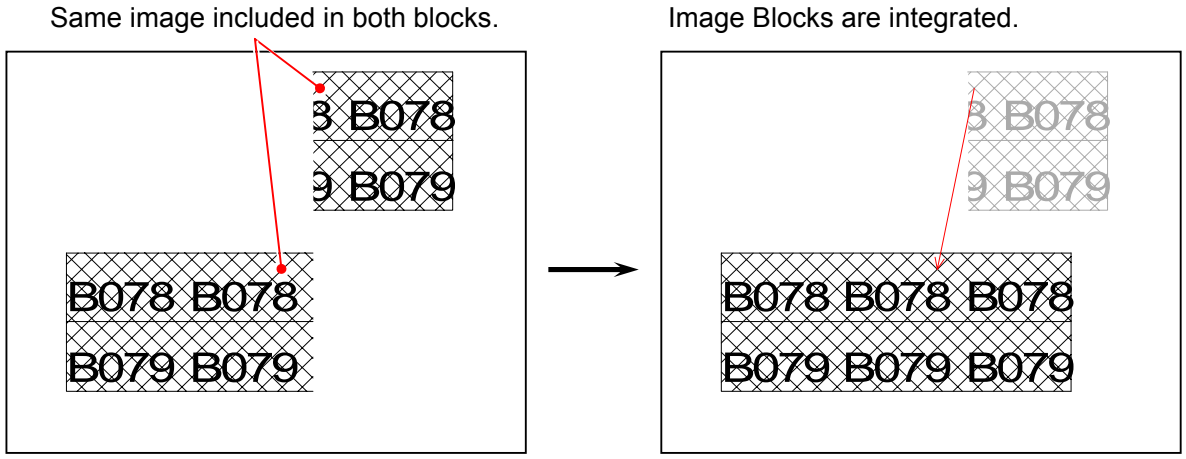
Make another scan for the top and bottom part of Target Sheet. Scan images for top and bottom part should not be used for Position adjustment.

9. There will be 4 border lines of Image Blocks where you can find “vertical gap of image” and “Duplication of image”.

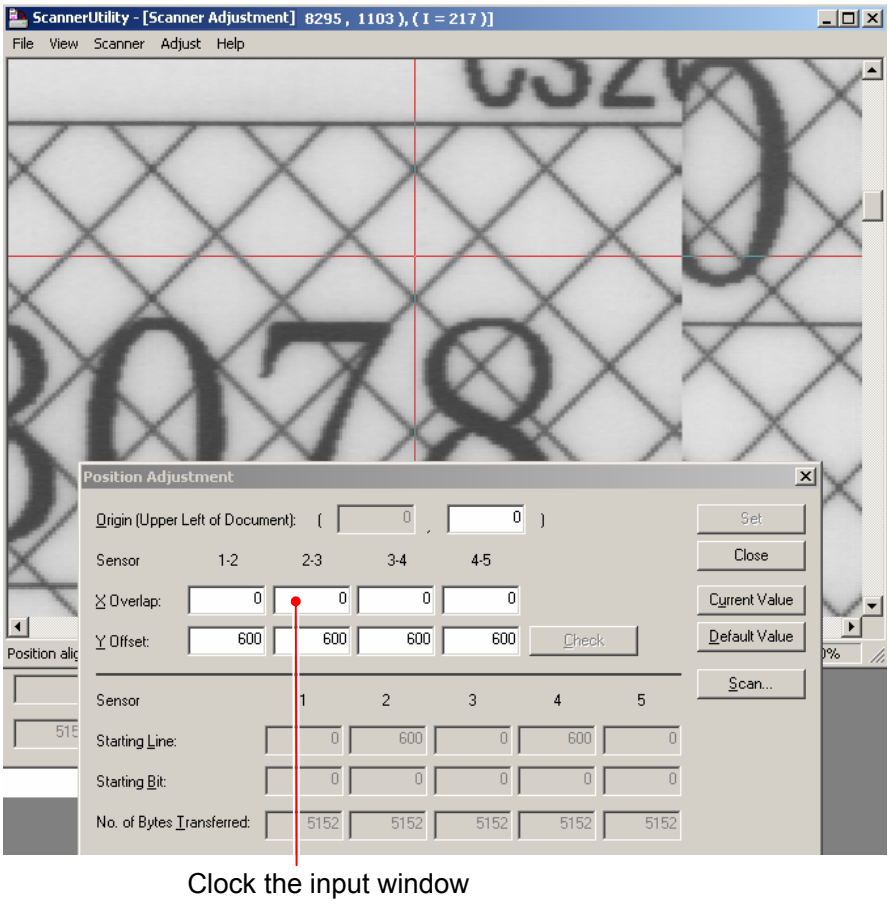




You can integrate these Image Blocks correctly by specifying the same image included in both Image Blocks. (By selecting the same image, the program automatically calculates how much the image Block should be shifted vertically and horizontally.)
Go to the next page for the adjustment.



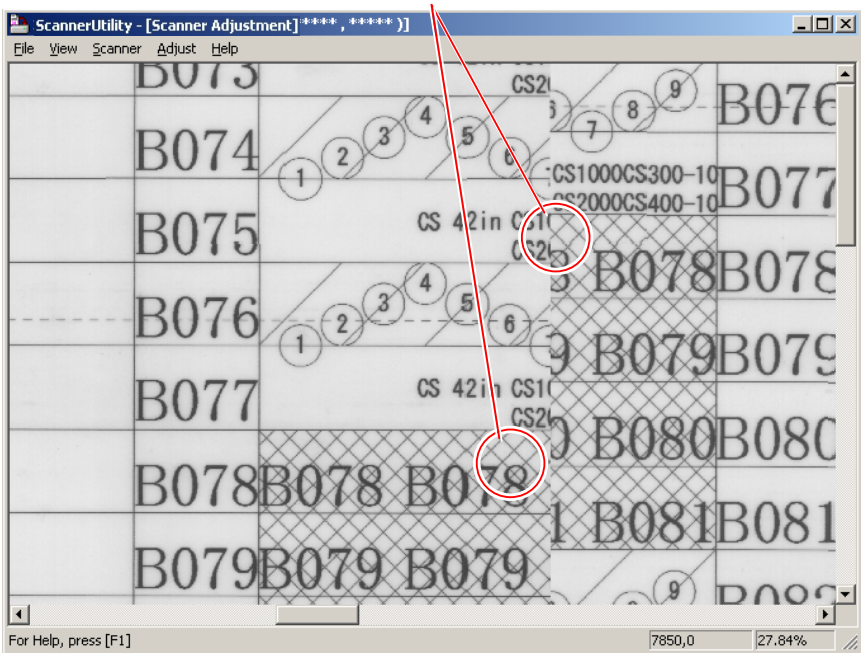
10. You need to adjust the position of 2-3 block and 3-4 block first, and then that of 1-2 block and 4-5 block.
    Click the input window “X Overlap” (or “Y Offset”) of “2-3” (or “3-4”).
    A red cursor appears on the screen.



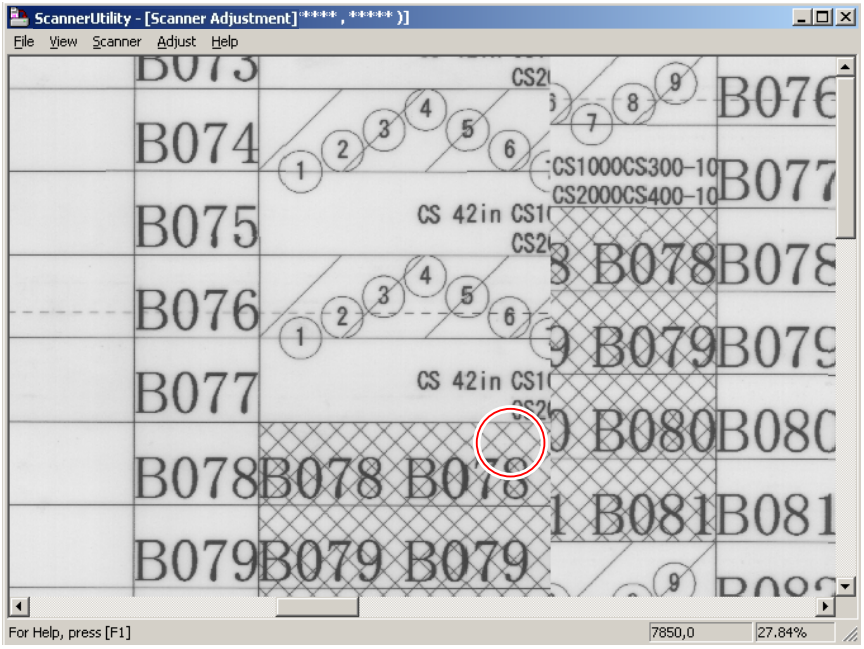
Clock the input window

11. Find the same image which is included in both Image Blocks.

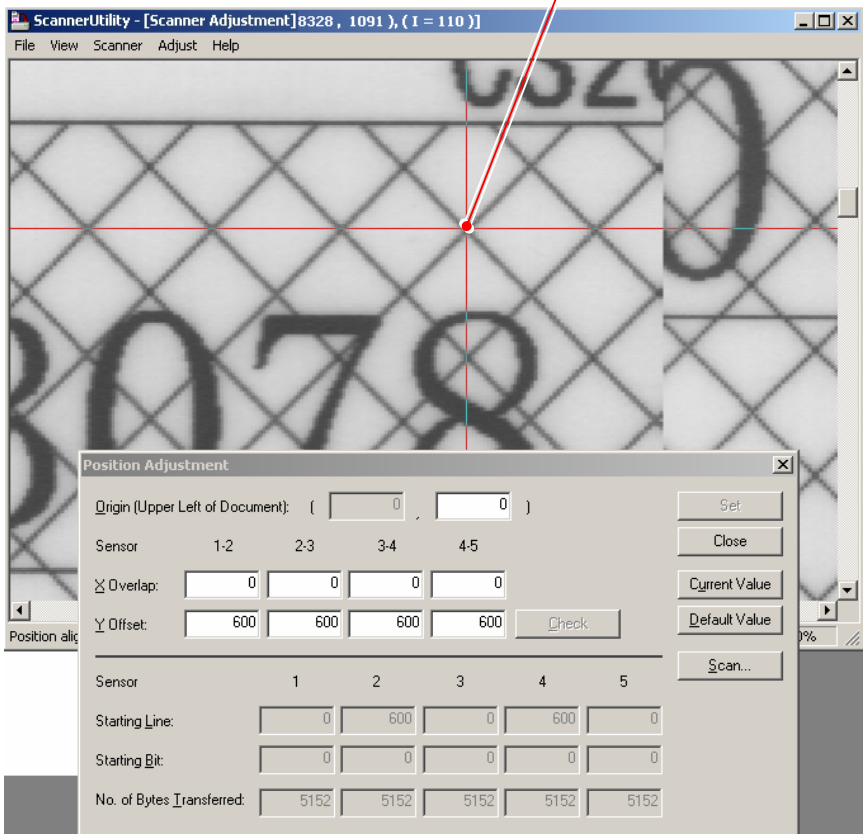
Same image



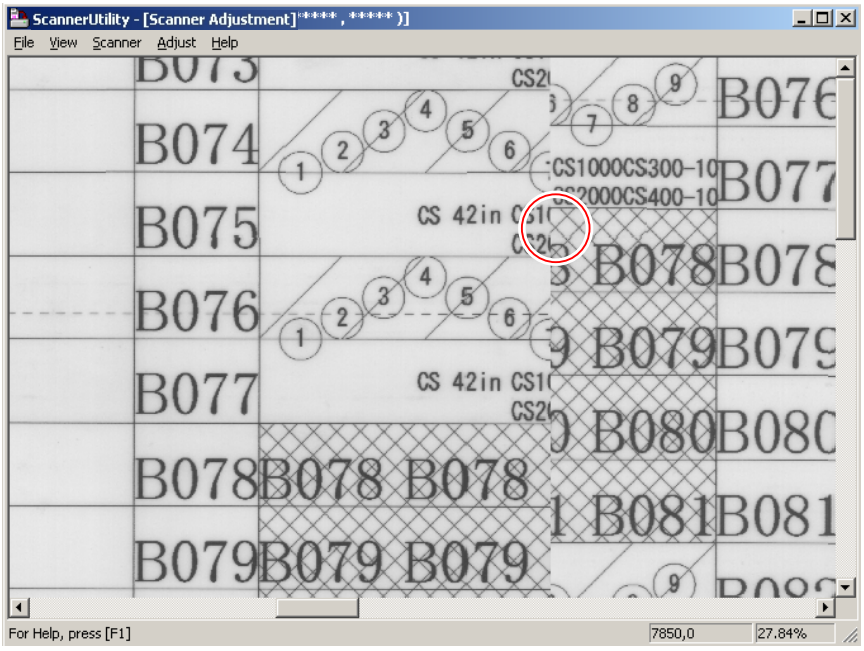
12. Move the red cursor onto the found image on one Image Block, and specify it clicking on it.



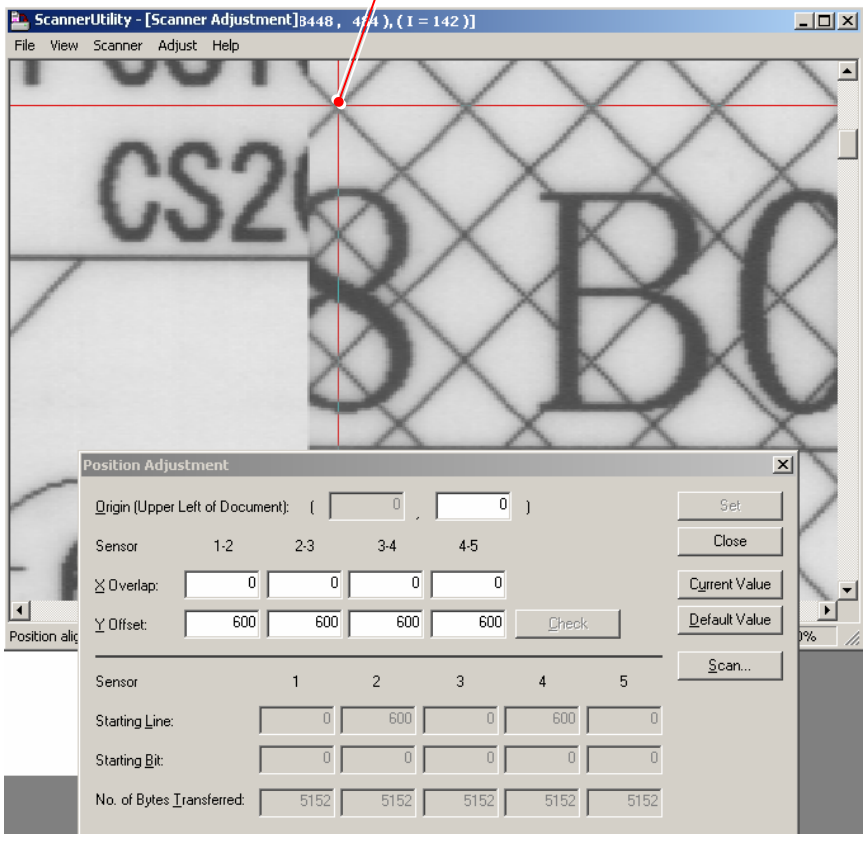
Click on this image.



13. Also move the red cursor onto the same image on another Image Block, and specify it clicking on it.

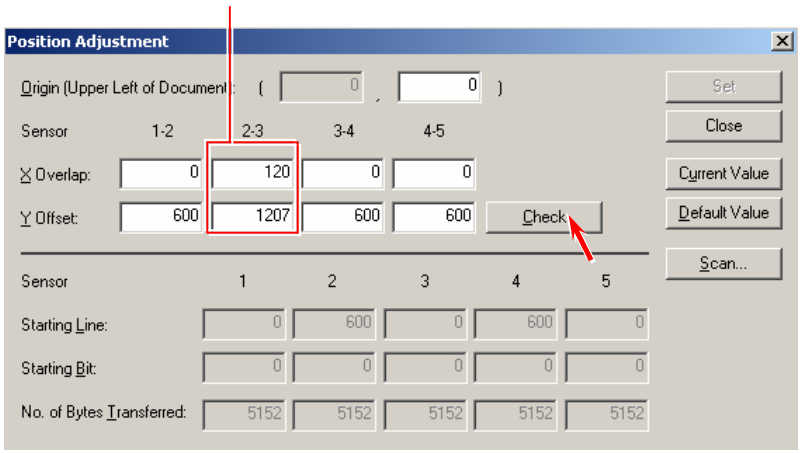


Click on this image.

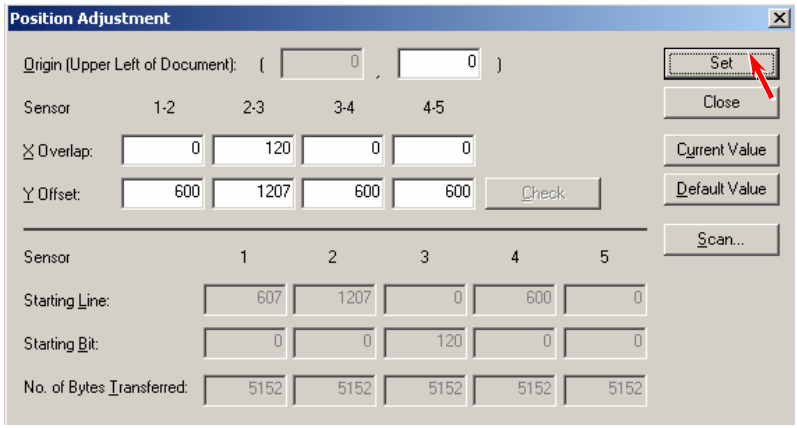


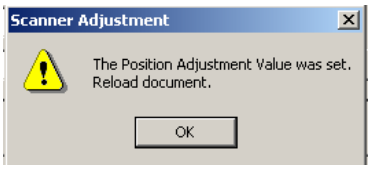
14. Scanner Utility automatically calculates the best value for each “X Overlap” and “Y Offset”.
    Click [Check].

    Setting value is automatically calculated.



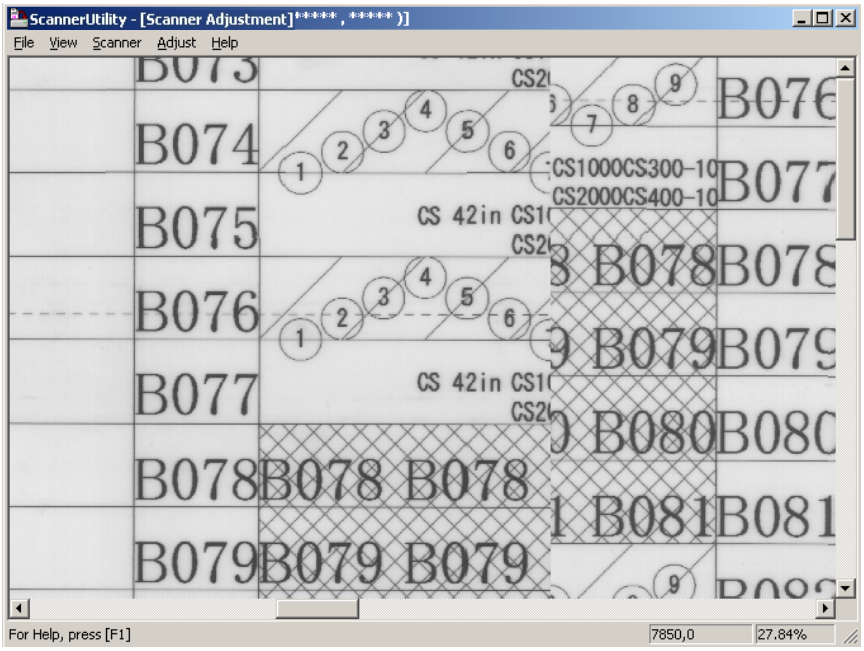
15. Click [Set] to decide the setting value.
    A dialog pops up to requesting reload of document.
    Click [OK].



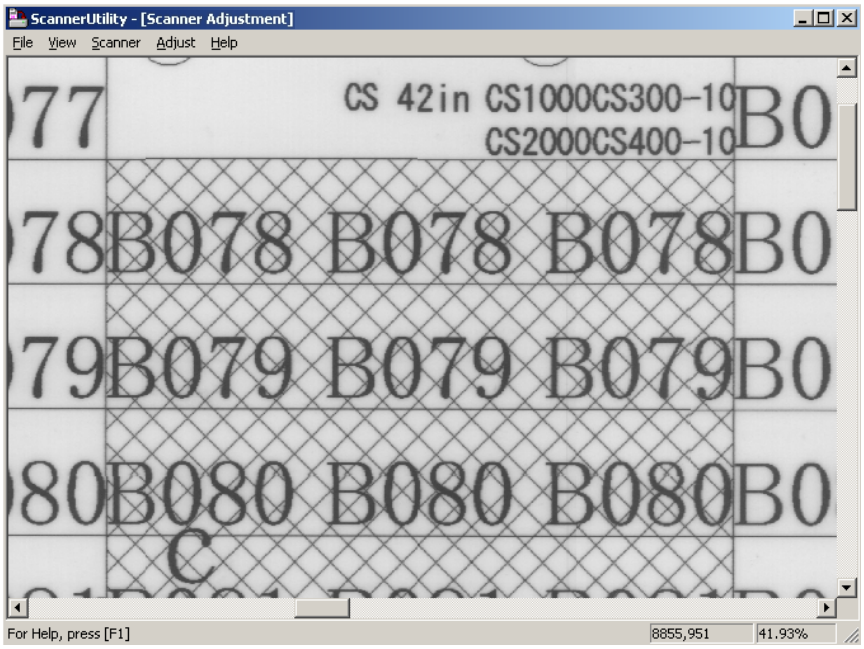


16. After deciding the new setting value, please scan the Target Sheet again and check the concerning border of Image Blocks.
Confirm that the “vertical gap of image” and “duplication of image” are removed.

(Before adjustment)

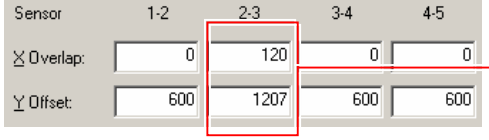


(After adjustment)



NOTE

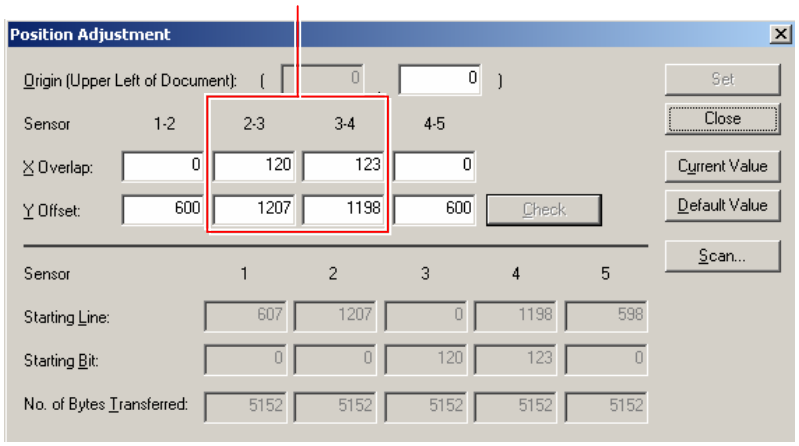
If the scan image still has small “vertical gap” or “duplication”, change the setting value little by little with the key board.

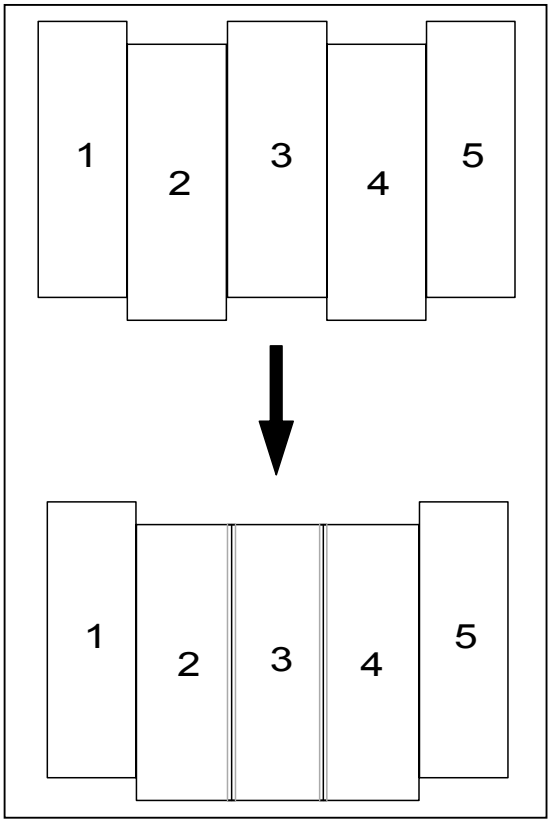


Change the value with key board.

17. Repeating the former steps from 10 to 15, adjust the positions of 2-3 block and 3-4 block first.

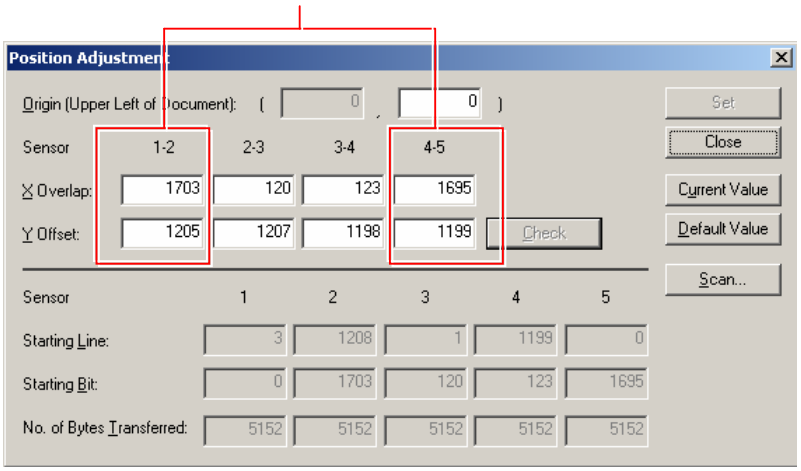
Adjust them first.

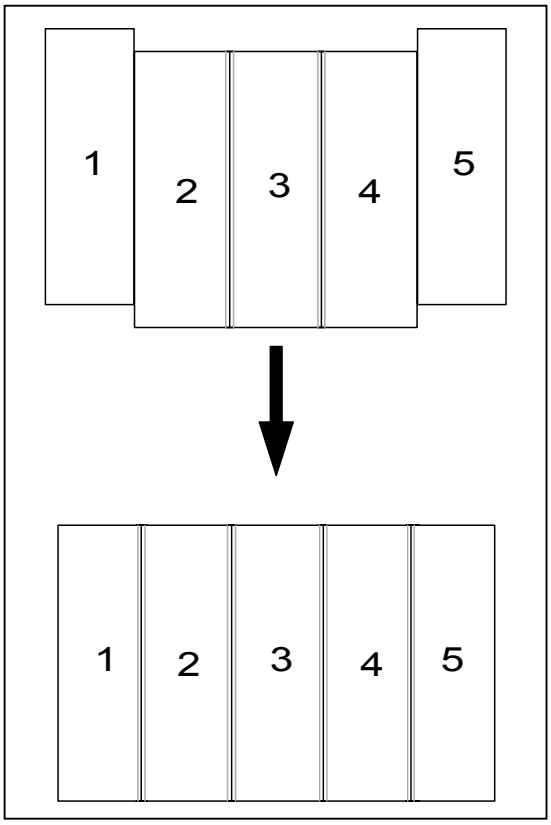




18. Then adjust the positions of 1-2 block and 4-5 block.

Adjust them later.

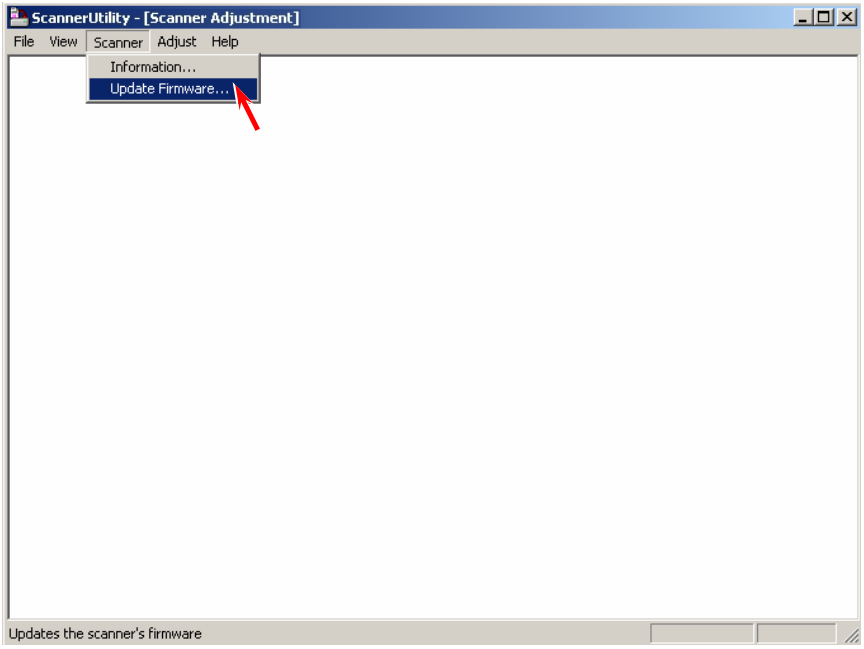




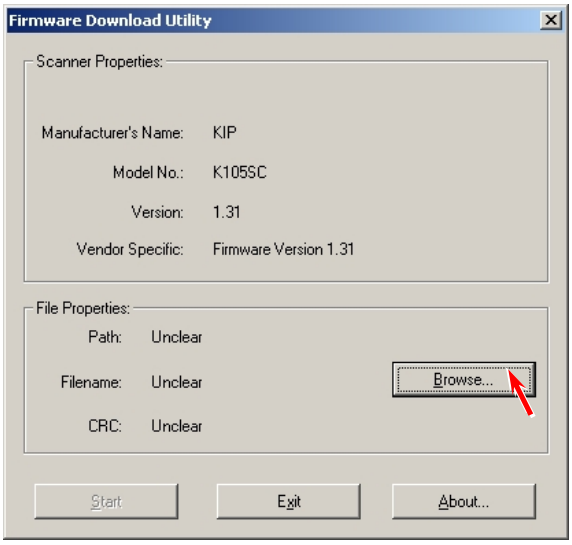
8.12. 5 Updating Firmware

It is possible to install a new Firmware to the KIP 3000 with Scanner Utility.

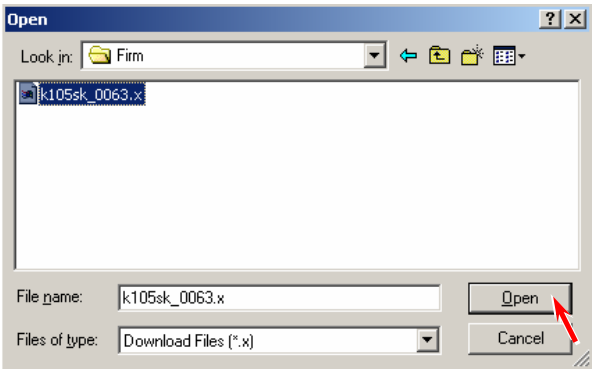
1. Select [Update Firmware] under [Scanner].



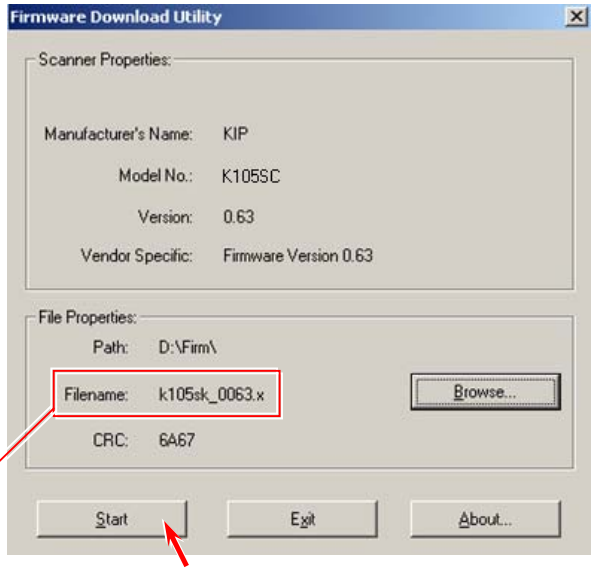
2. Firmware Download Utility is displayed.
   Click [Browse].



3. Select the Firmware component on the hard drive (or another drive).
   Click [Open].

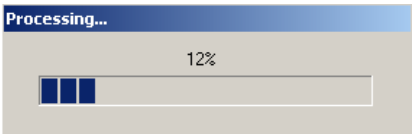


4. Confirm that the file name you will install is displayed.
   Click [Start].



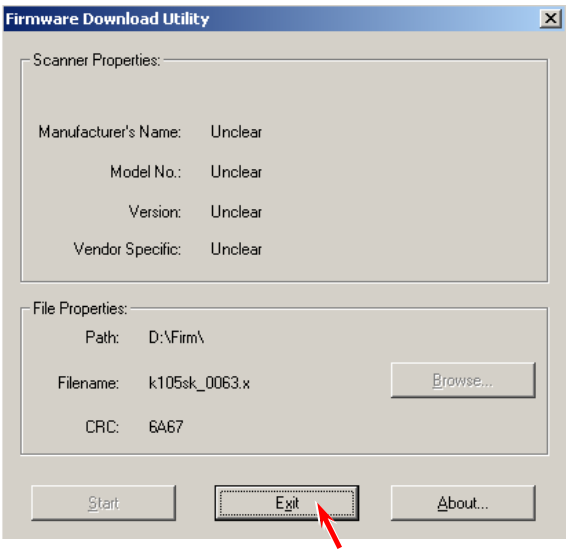
File name

5. New Firmware is sent to the KIP 3000.
   Please wait data transfer completes.



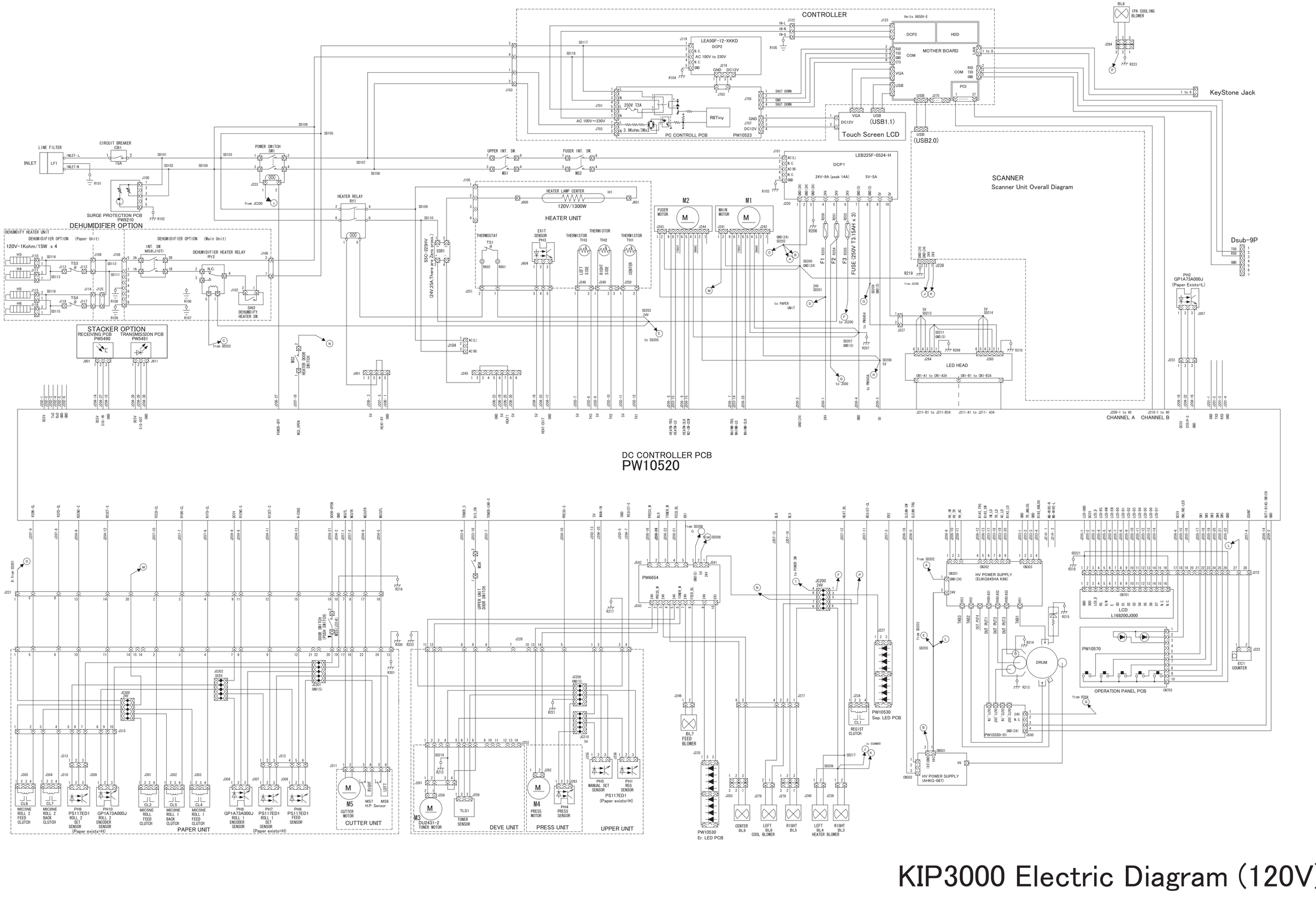
6. A dialog is displayed, which request you to turn off the KIP 3000.
   Turn off the machine.

7. Click [Exit] finally.



Chapter 9

Appendix



KIP3000 Electric Diagram (120V)

KIP3000 Electric Diagram (230V)

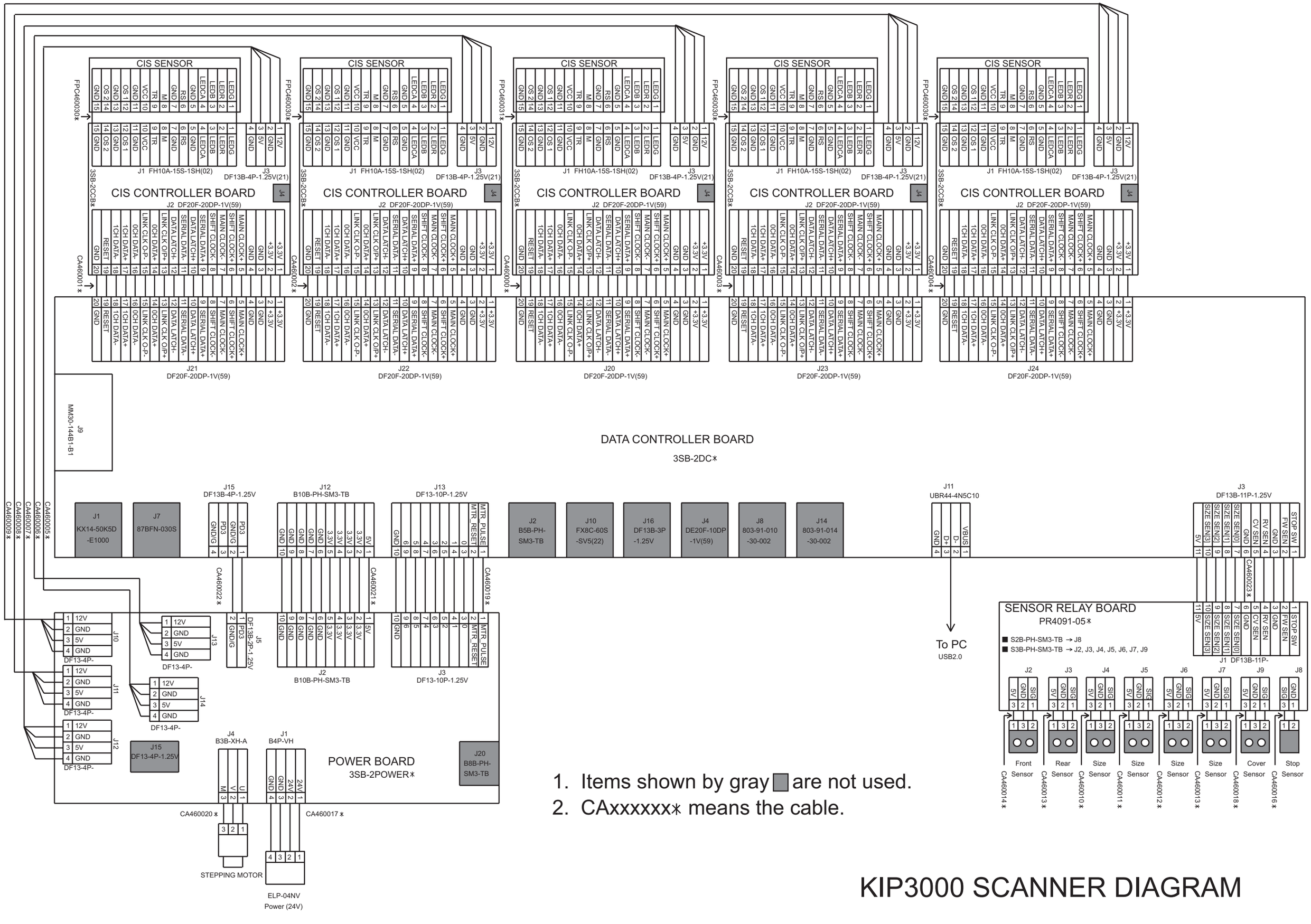
SCANNER
Scanner Unit Overall Diagram

CONTROLLER
Heits 8650V-E
DCP3
HDD
MOTHER BOARD
PCI
LEA50F-12-XKKD
DCP2
PC CONTROLL PCB PW10523
R8Tiny
Touch Screen LCD
(USB1.1)
(USB2.0)
KeyStone Jack
Dsub-9P
IPA COOLING BLOWER

INLET
CIRCUIT BREAKER CB1 10A
RG-208F2 LINE FILTER LF1
SURGE PROTECTION PCB PW9210
POWER SWITCH SW1
UPPER INT. SW MS1
FUSER INT. SW MS2
HEATER RELAY RY1
HEATER LAMP CENTER H1 230V/1300W
HEATER UNIT
THERMOSTAT TS1
EXIT SENSOR PH3
THERMISTOR TH3 LEFT SIDE
THERMISTOR TH2 RIGHT SIDE
THERMISTOR TH1 CENTER
SSR1 SSR-2560 (24V-25A,No Zero cross.)
LEB225F-0524-H
DCP1
24V-9A (peak 14A) 5V-5A
FUSER MOTOR M2
MAIN MOTOR M1
F1 R203
F2 R204
F3 R205
FUSE (250V T3.15AH x 3)
R200 R201 R202
R206
R219
PH2 GP1A73A000J (Paper Exists=L)
LED HEAD
CN1-A1 to CN1-A34
CN1-B1 to CN1-B34
DEHUMIDIFIER OPTION
DEHUMIDIFY HEATER UNIT
DEHUMIDIFIER OPTION (Paper Unit)
230V-3.5Kohm/15W x 4
DEHUMIDIFIER OPTION (Main Unit)
INT. SW MS8(J107)
DEHUMIDIFIER HEATER RELAY RY2
SW2 DEHUMIDIFY HEATER SW
STACKER OPTION
RECEIVING PCB PW5490
TRANSMISSION PCB PW5491
PHASE CONT. PCB PW5724B (DC24V)
HEATER DOOR SWITCH MS3
to PAPER UNIT
to JC200
to PW8654
to J500
to SCANNER

DC CONTROLLER PCB
PW10520

PAPER UNIT
MIC5NE ROLL 2 FEED CLUTCH CL6
MIC8NE ROLL 2 BACK CLUTCH CL7
PH9 PS117ED1 ROLL 2 SET SENSOR (Paper exists=H)
PH10 GP1A73A000J ROLL 2 ENCODER SENSOR
MIC5NE ROLL FEED CLUTCH CL3
MIC8NE ROLL 1 BACK CLUTCH CL5
MIC5NE ROLL 1 FEED CLUTCH CL4
PH8 GP1A73A000J ROLL 1 ENCODER SENSOR
PH7 PS117ED1 ROLL 1 SET SENSOR (Paper exists=H)
PH6 PS117ED1 FEED SENSOR
CUTTER UNIT
M5 CUTTER MOTOR
MS7 H.P. Sensor
MS6
DEVE UNIT
M3 DU2431-2 TONER MOTOR
TLS1 TONER SENSOR
PRESS UNIT
M4 PRESS MOTOR
PH4 PRESS SENSOR
UPPER UNIT
PH5 MANUAL SET SENSOR
PH1 REG SENSOR
PS117ED1 (Paper exists=H)
PW10530 Er. LED PCB
BL7 FEED BLOWER
CENTER BL9
LEFT BL6 COOL BLOWER
RIGHT BL5
LEFT BL4 HEATER BLOWER
RIGHT BL3
REGIST CLUTCH CL1
PW10530 Sep. LED PCB
HV POWER SUPPLY (EUKG845HA K96)
HV POWER SUPPLY (AHKG-067)
LCD L168200J000
PW10570
OPERATION PANEL PCB
DRUM
EC1 COUNTER
PW10350-01



1. Items shown by gray ■ are not used.
2. CAxxxxxx∗ means the cable.

KIP3000 SCANNER DIAGRAM