

# **RISO SF9/5x5/5x3 TECHNICAL MANUAL**

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**REVISION 1.0**

**October 2016**

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# RISO Digital Duplicator

## SF9 Series

## SF5\*5 Series

## SF5\*3 Series

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# CHAPTER 1: Maintenance Notes

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## **Preface**

This manual provides Technical Service Information for the digital duplicator Model SF series.

This manual provides procedures for removing and installing major components. Following these procedures will minimize machine malfunctions. The information given in this book will enhance the technical knowledge of the technical representatives and lead to the end-user-satisfaction.

# CAUTION

## [Handling of Lithium Battery]

- **Never fail to follow the following instructions when you discard the used lithium battery.**

### 1. **Never let the battery short-circuited.**

If the (+) and (-) terminals contact each other or metal materials, the battery will be short-circuited. If the batteries are collected and stored in orderly or one upon another, the above-mentioned case will occur.

#### - **DANGER -**

If the battery is short-circuited, it will heat up and may in some cases explode into fire.

### 2. **Never heat up the battery.**

#### - **DANGER -**

If you heat the battery up to more than 100 degrees Celsius or put it into the fire, it may burn dangerously or explode.

### 3. **Never disassemble the battery or press it into deformation.**

#### - **DANGER -**

If you disassemble the battery, the gas pouring out of the inside may hurt your throat or the negative lithium may heat up into fire.

If the battery is pressed into deformation, the liquid inside may leak out of the sealed part or the battery may be short-circuited inside an explode.

### 4. **Never fail to keep the battery out of reach of children.**

If you put the battery within reach of children, they may swallow it down.

Should they swallow the battery, immediately consult the doctor.

## [Replacement of the Lithium Battery]

1. **The lithium battery must be replaced by a trained and authorized service technician.**
2. **The battery must be replaced only with the same or equivalent type recommended by the manufacturer.**
3. **Discard used batteries according to the manufacturer's instructions.**

## [Remplacement de la batterie au lithium] < French >

1. **La batterie au lithium doit être remplacée par un technicien de maintenance formé et agréé.**
2. **La batterie de rechange doit être d'un type identique ou équivalent à celui recommandé par le fabricant.**
3. **Éliminez les batteries usagées conformément aux instructions du fabricant.**

## [Battery Directive 2006/66/EC]

**When you remove batteries from this product and dispose them, discard them in accordance with the domestic law concerning disposal.**

**Take appropriate action on waste batteries because the collection systems in the EU on waste batteries are regulated.**

**Refer to this Technical Manual (Chapter: 19-4-1) for how to remove batteries in a safe manner.**

Perchlorate Material-special handling may apply,  
See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)

This product may contain certain substances which are restricted when disposed.  
Therefore, be sure to consult your contracted service dealer.

## Warning

# !! WARNING !!

## Important Safety Precautions

### 1. Always disconnect electrical supply before placing hands in the machine.

#### I. To avoid injuries:

Be sure to disconnect the electrical power before disassembling, assembling, or when making adjustments on the machine.

#### II. Protection of the machine:

Make sure to turn OFF the power to the machine before plugging or unplugging the electrical connectors, or when connecting a Meter.

### 2. Always connect electrical connectors firmly.

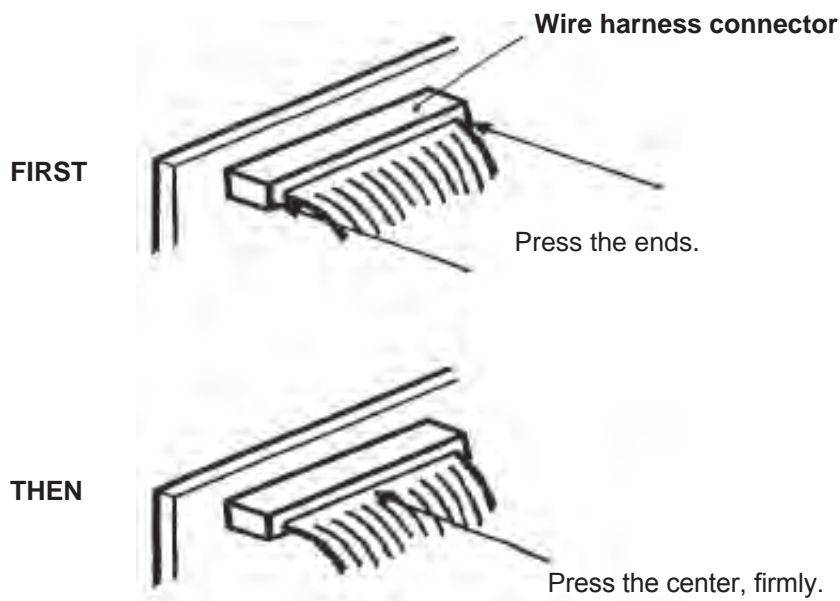
#### I. To avoid electrical failure:

The connectors must be connected firmly together and onto the PCBs.

Press on the ends of the connectors and then on the middle to ensure a firm fit.

#### II. Protection of the electrical components:

The electrical components may be damaged due to short circuits caused by a loose connector.





## 1. Work Precautions

### 1-1. General Notes on the Work

- ◆ Always unplug the power plug before conducting maintenance work.
- ◆ Do the work with care so as not to get tie, clothes, long hair, etc. be caught in the machine.
- ◆ In case the work is conducted unavoidably while the power is turned on, perform with the extreme care.
- ◆ Work while operating the machine is not allowed.
- ◆ Be careful to avoid injury caused by springs or the sharp edges of sheet metal.
- ◆ Remove your watch or rings when they obstruct the work.

### 1-2. Notes on other inspection and maintenance work

#### Inspection

If you discover any defects or problems during an inspection, fix the problems or if necessary, take steps for such as replacing a part.

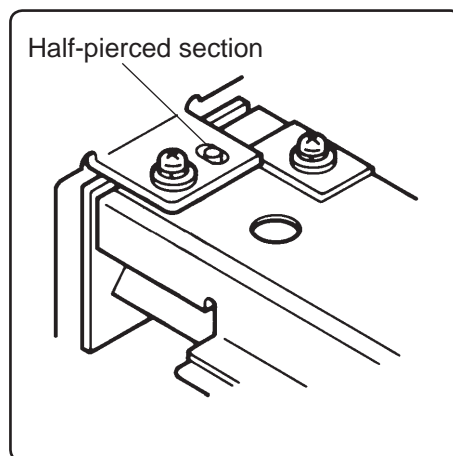
#### Removal

Check the problem area. At the same time, examine the cause of the problem and determine whether the part needs to be removed or disassembled. Then, proceed according to the procedures presented in the Technical Manual. In cases where, for example, it is necessary to disassemble areas with large numbers of parts, parts which are similar to each other, or parts which are the same on the left and right, sort the parts so that you do not mix them up during reassembly.

- (1) Carefully sort the removed parts.
- (2) Distinguish between parts which are to be replaced and those which will be reused.
- (3) When replacing screws, etc., be sure to use the specified sizes.

#### Assembly and Installation

Unless specified otherwise, perform the removal procedures in reverse during assembly and installation. In cases where protrusions or holes are provided to assist in positioning parts, use them for accurate positioning and securing.



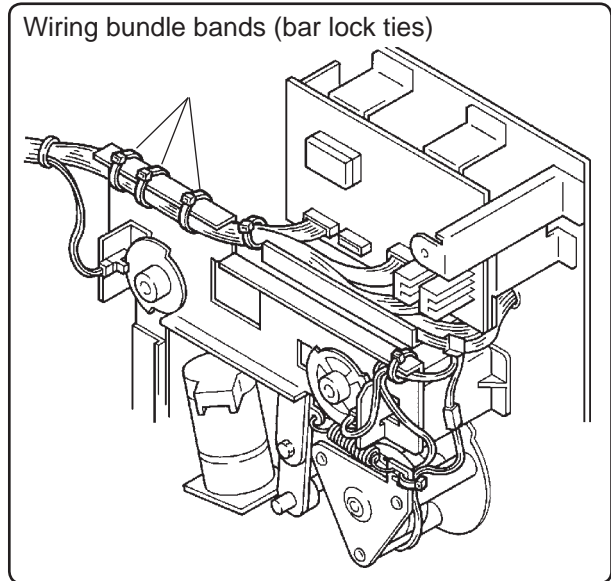
(Protrusions and holes for positioning parts → Half pierced section)

**Note**

The machine is comprised of many gears. When inspecting or replacing parts, apply grease to the gears. If they are not properly greased, the gears may make abnormal sounds, and malfunctions or mechanical problems may occur.

**Electrical system work**

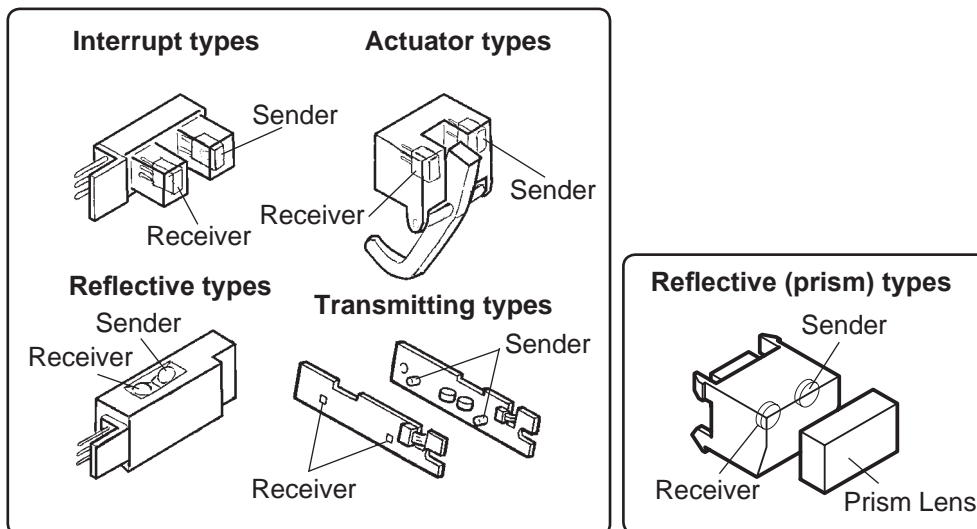
- > Always unplug the power plug before the conducting maintenance work.
- > After removing wire bundles, fasten the wires with wire bundle bands (bar lock ties) during reinstallation so that they will not sag.
- > When installing parts, be careful to avoid pinching or damaging the wire bundles. If a fuse blows, always replace it with one with the specified capacity.
- > Using a fuse with a larger capacity can not only damage parts, but may cause fires.
- > Be careful not to drop image scanners, thermal print heads, and other sensors as they can be easily damaged.

**1-3. Sensors Being Used**

- Always turn off the power before plugging or unplugging sensor connectors.

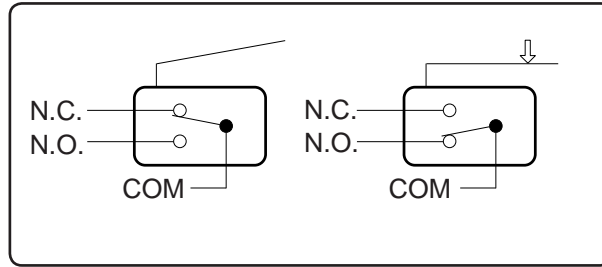
**Photoelectric sensor types**

- Photoelectric sensors may be broadly divided into the following five types: interrupt types (U-shaped), actuator types, reflective types, transmitting types and reflective (prism) types.



**Switch types**

- Micro-switches may be divided between normally open (N.O.) types and normally closed (N.C.) types.
- With an (N.O.) connection, an internal contact is connected when the switch actuator is pressed.
- With an (N.C.) connection, an internal contact is disconnected when the switch actuator is pressed.



**2. Tools**

Using tools other than those specified can lead to injury or damage to screws and parts. Have all the tools necessary for the work available.

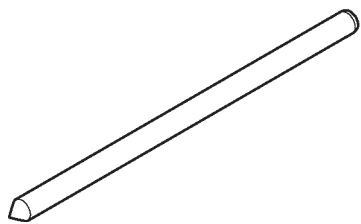
[ Standard Tool List ]

Type	Tip size	Shaft length, etc.
Phillips screwdriver	No. 2	(250 mm)
	No. 2	(100 mm–150 mm)
	No. 2	(stubby type)
	No. 1	(75 mm–100 mm)
Standard screwdriver	6 mm	(100 mm–150 mm)
	3 mm	(100 mm–150 mm)
	1.8 mm	(precision type)
Nut driver (box driver)	8 mm	(100 mm–150 mm)
	7 mm	(100 mm–150 mm)
High frequency driver	2.5 mm	
Spanners	5 mm	5.5 mm 7 mm
	8 mm	10 mm 13 mm
		Monkey
Hex wrenches	5.0 mm	4.0 mm 3.0 mm
	2.5 mm	2.0 mm 1.5 mm
		(For 3.0mm, 2 pieces required )

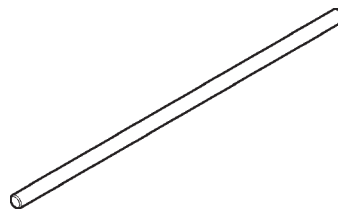
Type	Remarks
Steel scale	150 mm
Feeler gauge	
Radial cutting pliers	
Pliers	
Nipper	
Small flashlight	
Multimeter	
Soldering iron	20 W–30 W
File	Flat, round

### 3. JIGs

021-16007-005 Screen Spring (2 pieces required) Cut the ring end to make into hook, as shown on the photograph, and attach wire tie bar on the other end.



**Jig: 8mm (diameter) x 160mm (length)**  
**(2 pieces required)**  
016-16141-003



**Jig: 4 mm (diameter) x 120 mm (length)**  
024-75064-006

\* Parts number are those of June 2016. The number may be subject to change without notice.

### 4. Exterior Cover Removal

#### Front cover

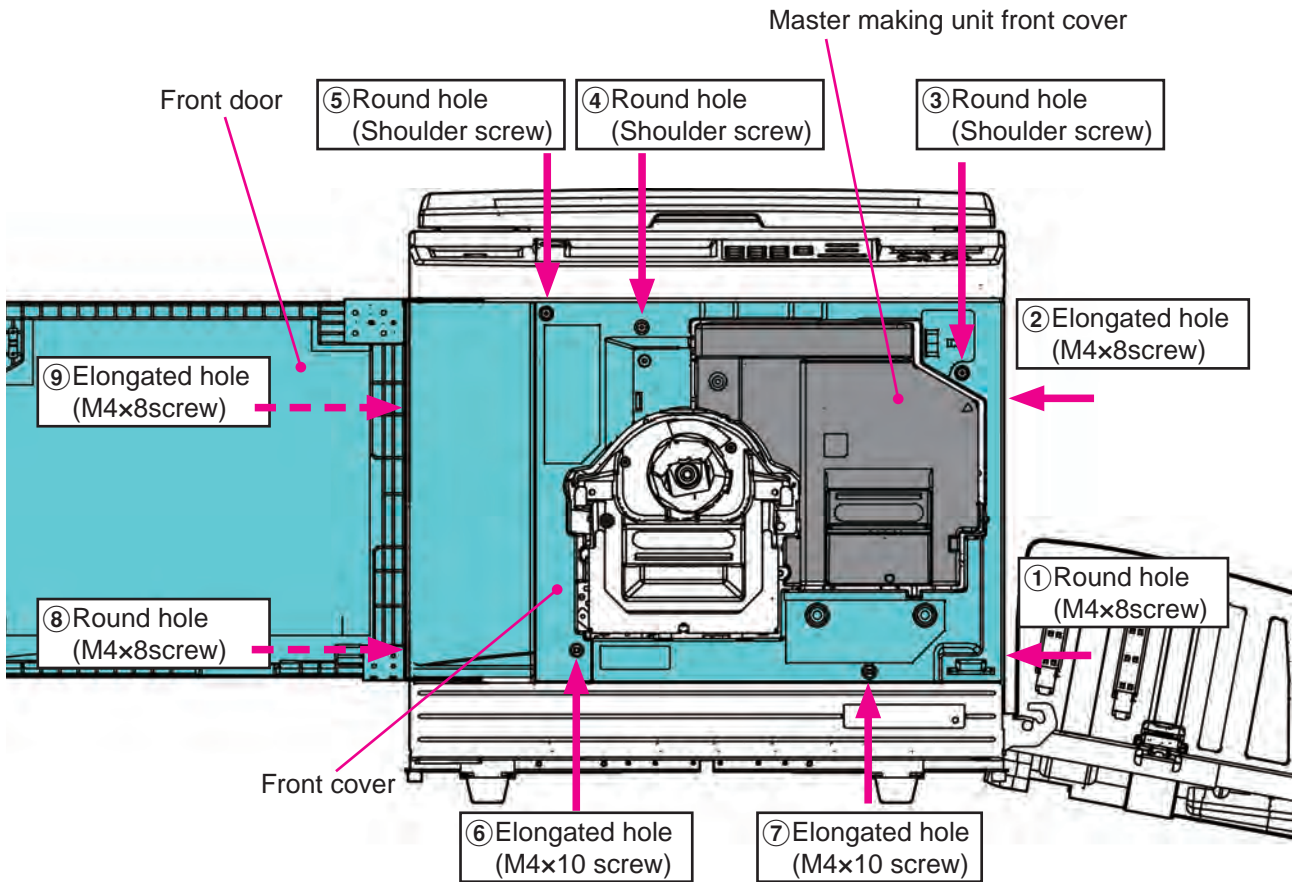
Remove the Front cover together with the Front door by removing screws (M4x8screw; 4pcs, M4x10screw; 2pcs, Shoulder screw; 3pcs).

Caution in mounting the Front cover back on the machine:

Mount the screws in the order from [1] to [9], as indicated on the sketch below. Reduce stress on the front cover to prevent breakage.

#### Master making unit front cover

- ① Pull out the Master making unit and turn OFF the machine power.
- ② Remove screws (M4x8screw; 4pcs) from the Master making unit front cover to remove it.



**Stage cover**

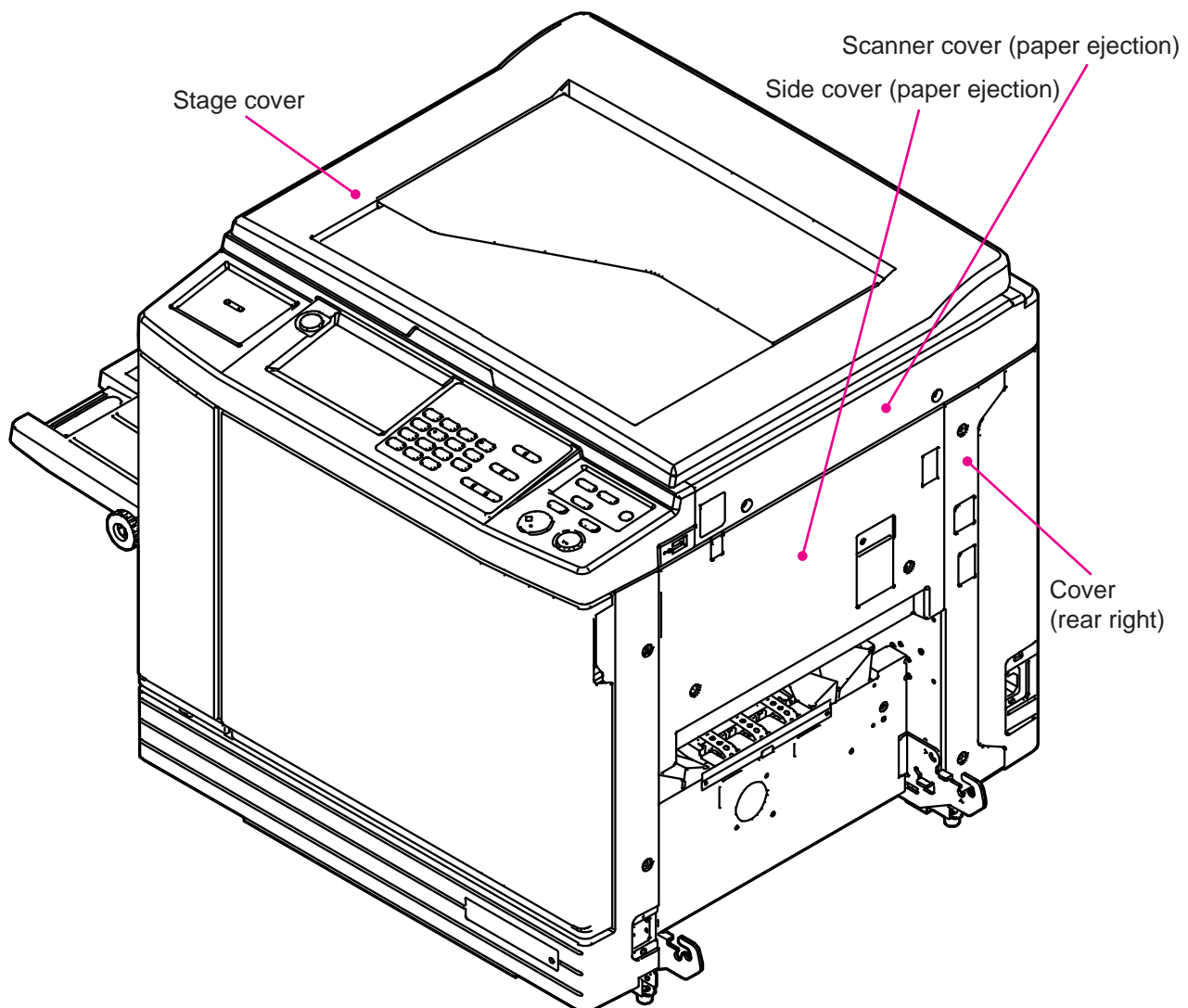
- Remove by the following procedure.
  - ① Open the Stage cover and pull it up until the hinge get caught.
  - ② Lay it down toward the rear side.
  - ③ Pull it out in the upward direction, keeping it laid down.

**Side cover (paper ejection)**

- Remove screws (M4x8screw; 2pcs), and remove the Side cover (paper ejection).

**Cover (rear right)**

- ① Remove the following covers.
  - Rear cover
  - Scanner cover (rear)
  - Scanner cover (paper ejection)
- ② Remove screws (M4x8screw; 2pcs), and remove the Cover (rear right).



**Rear cover**

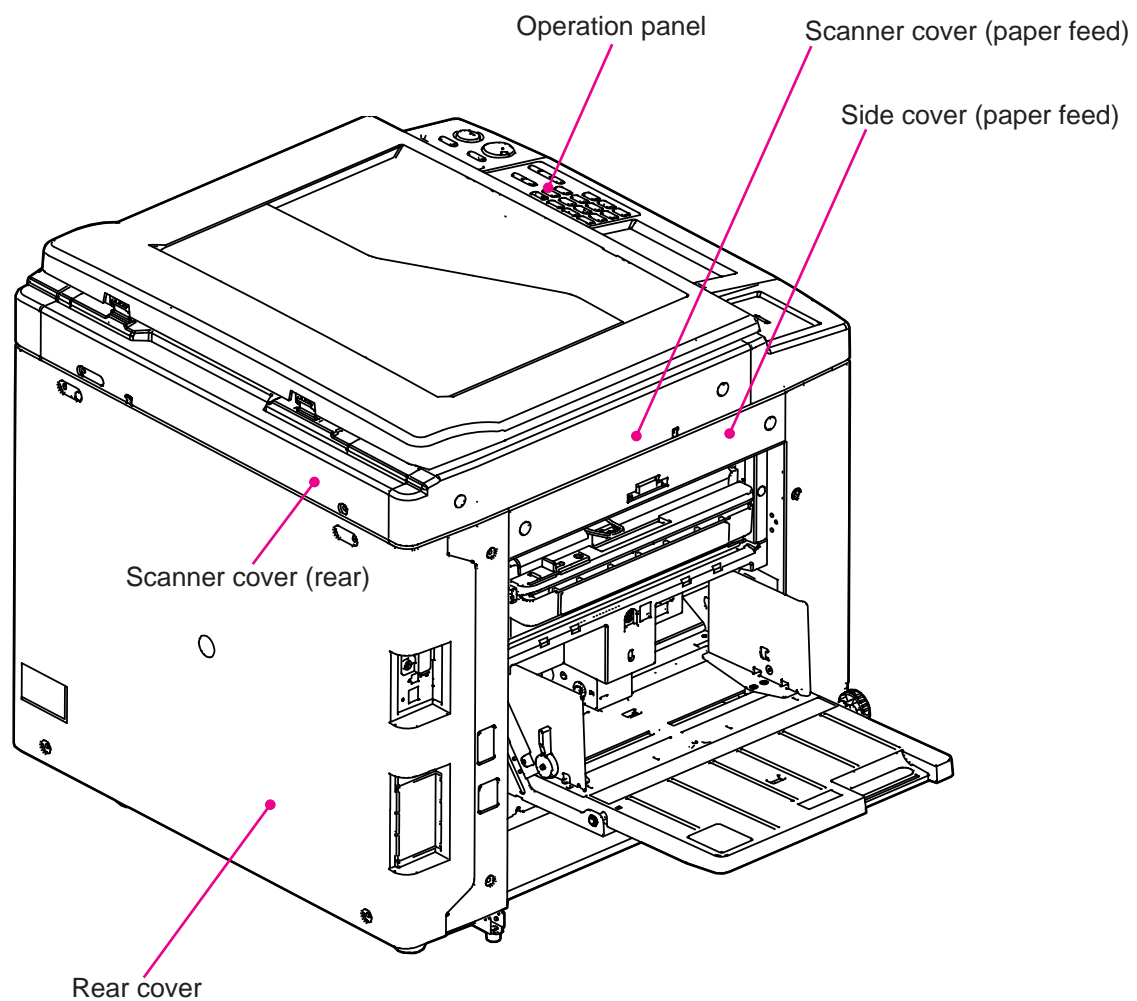
- Remove screws (M4×8screw; 4pcs), and remove the Rear cover.

**Side cover (paper feed)**

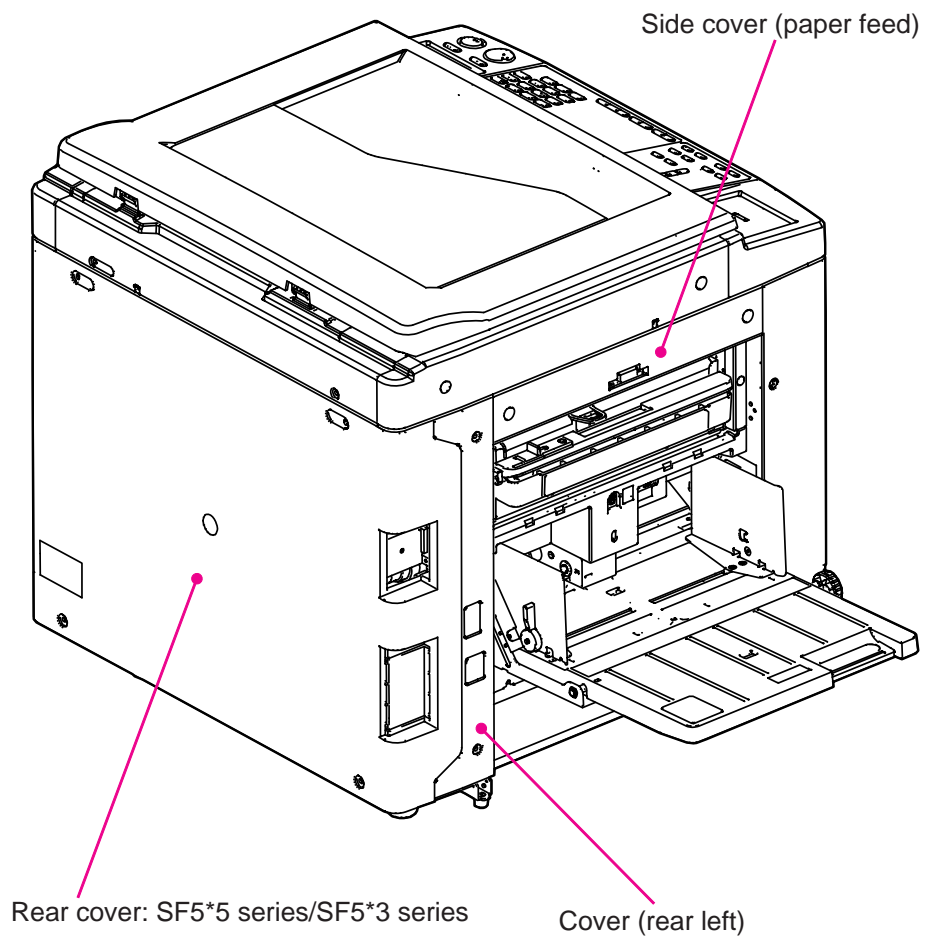
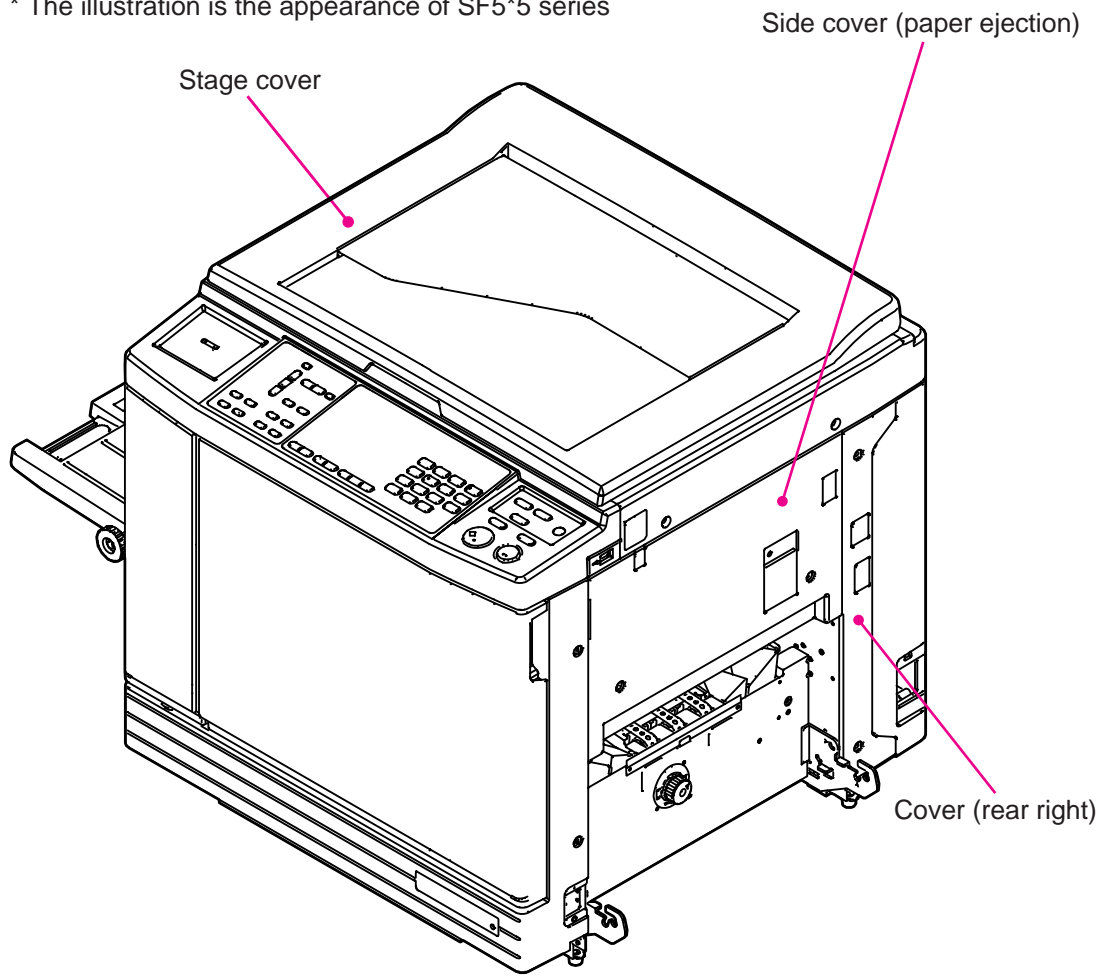
- ① Remove the Scanner cover (paper feed).
- ② Remove screws (M4×8screw; 2pcs), and remove the Side cover (paper feed).

**Cover (rear left)**

- ① Remove the following covers.
  - Rear cover
  - Stage cover
  - Scanner cover (rear)
  - Scanner cover (paper feed)
- ② Remove screws (M4×8screw; 2pcs), and remove the Cover (rear left).



\* The illustration is the appearance of SF5\*5 series





**★ Around the Scanner****Scanner cover (rear)**

- Remove mounting screws (M4×8screw; 2pcs), and remove the Scanner cover (rear).

**Scanner cover (paper feed)**

- ① Remove the Scanner cover (rear).
- ② Remove mounting screws (M4×8screw; 2pcs), and remove the Scanner cover (paper feed).

**Scanner cover (paper ejection)**

- ① Remove the Scanner cover (rear).
- ② Remove mounting screws (M4×8screw; 4pcs), and remove the Scanner cover (paper ejection).

**Operation panel**

- ① Remove mounting screws (M4×8screw; 3pcs).
- ② Slide the Operation panel to the front and then lift it up, unplug the connector and remove the Operation panel from the machine.

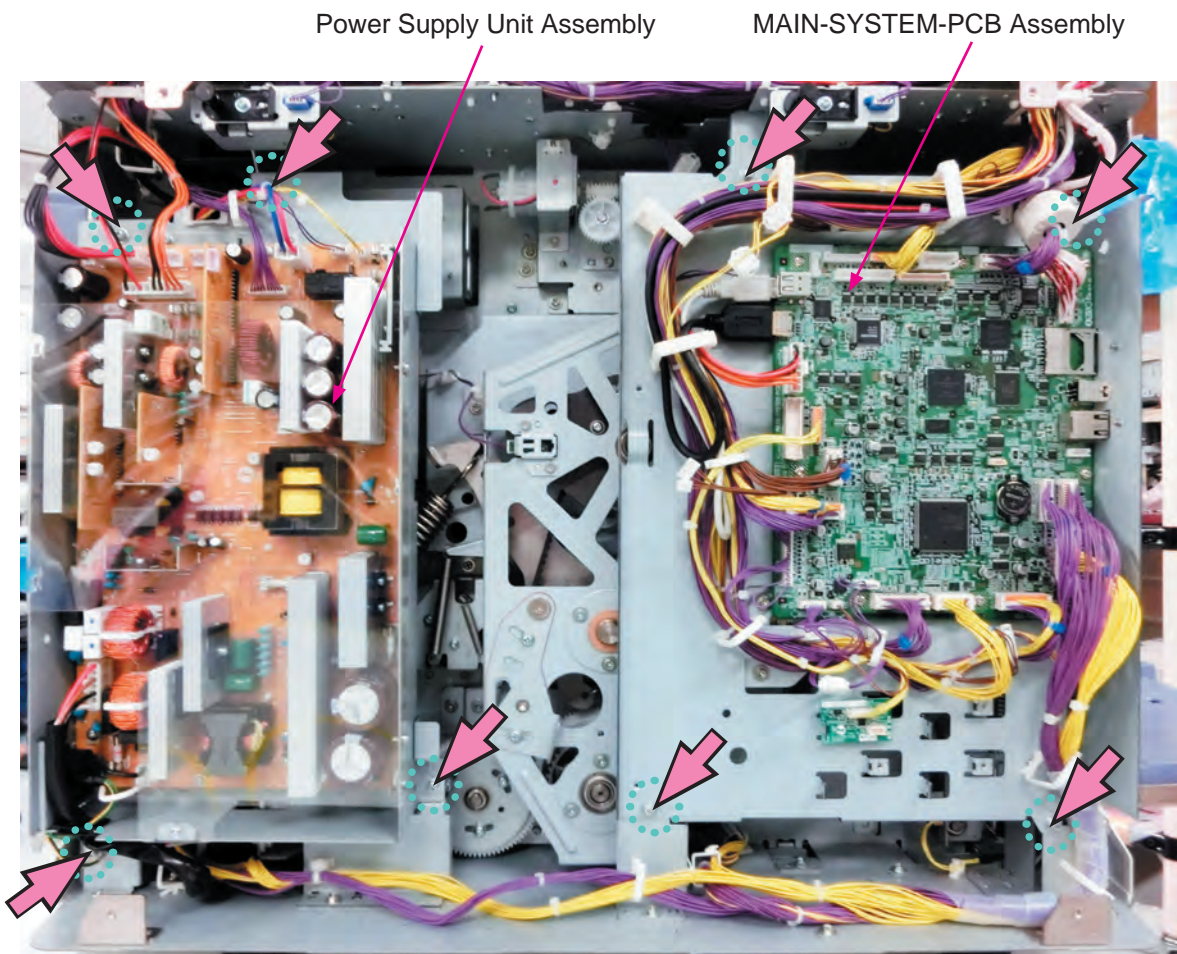
## 5. Opening the MAIN-SYSTEM-PCB Assembly and the Power Supply Unit Assembly

### MAIN-SYSTEM-PCB Assembly

- ① Switch OFF the power, and remove the Rear cover.
- ② Remove mounting screws (M4x8screw; 4pcs), and slowly swing open the MAIN-SYSTEM-PCB Assembly.

### Power Supply Unit Assembly

- ① Switch OFF the power,
- ② Remove mounting screws (M4x8screw; 4pcs), and slowly swing open the Power Supply Unit Assembly.



## 6. Installation Procedure

List of installation procedure

No.	Installation procedure	Compatible models			Installation procedure no.
		SF9 series	SF5*5 series	SF5*3 series	
1	Auto Document Feeder AF-VII	A	A	A	059-36013
2	Card Feed Kit	J	I	H	046-36114
3	Envelope Feed Kit	A	A	A	046-36029
4	RISO IS300 Controller	A	-	-	101-36025
5	Wide Stacking Tray	A*1	A*1	A*1	030-06046
6	RISO Stand N Type III	A	A	A	059-36036
7	RISO Stand D Type III	A	A	A	059-36037
8	RISO DRUM STORAGE STAND S III	A	A	A	059-36038
9	IC CARD READER ACTIVATION KIT RG	A	A	A	059-36042
10	Job Separator IV : NIII	H	H	H	113-36006
11	Key/Card Counter IV	E	E	E	112-36004
12	RISO NETWORK KIT S10	Standard	Standard	A	059-36015

\*1: The service parts of “Wide stacking tray arm F” and “Wide stacking tray arm R” are required separately.

How to use the installation procedure

- 1) Confirm the machine model and optional accessory you want to install.
- 2) Find the symbol in the crossed field of compatible model and optional accessory from above “List of installation procedure”.
- 3) Read the installation procedure, and perform the work corresponding to the symbol in the crossed field.

[Example]

- Objective: Install the “Card Feed Kit” to SF9 series.
- Confirm the crossed field of SF9 series and “Card Feed Kit” from above “List of installation procedure”. The symbol in the crossed field is “J”, then perform the work corresponding to the “J” model in the installation procedure.

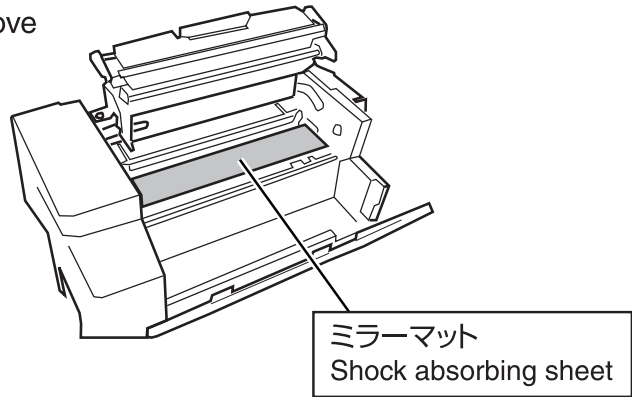
6-1. Machine

# お願い / Notice

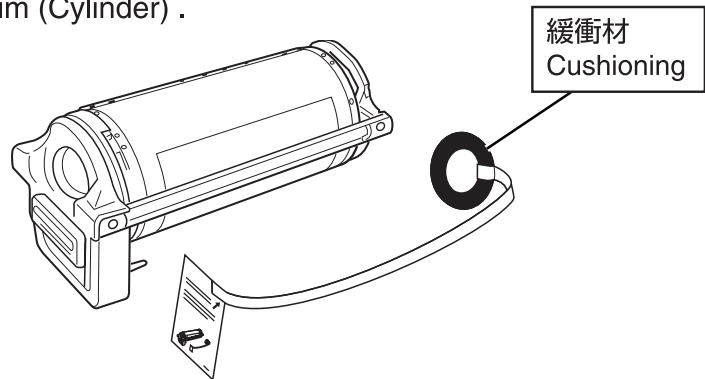
下記の手順で設置準備を行ってください。

The following procedures are required when installing the printer.

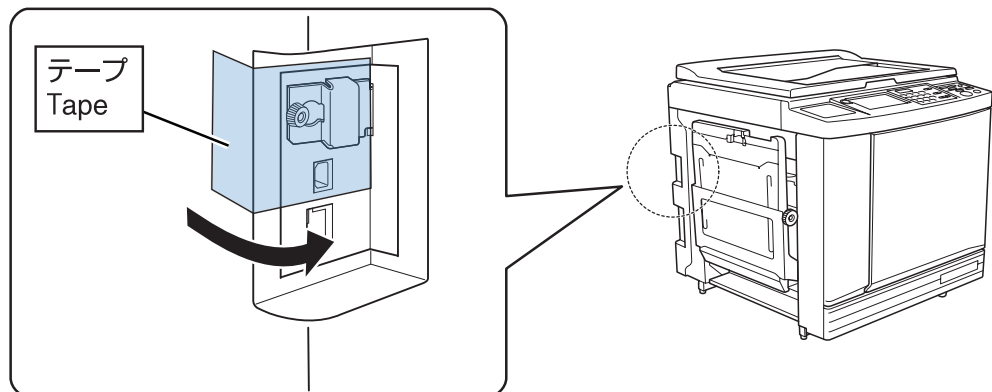
1. 製版ユニットを開け、ミラーマットを取り除く。  
Open the Master loading unit and remove the Shock absorbing sheet.



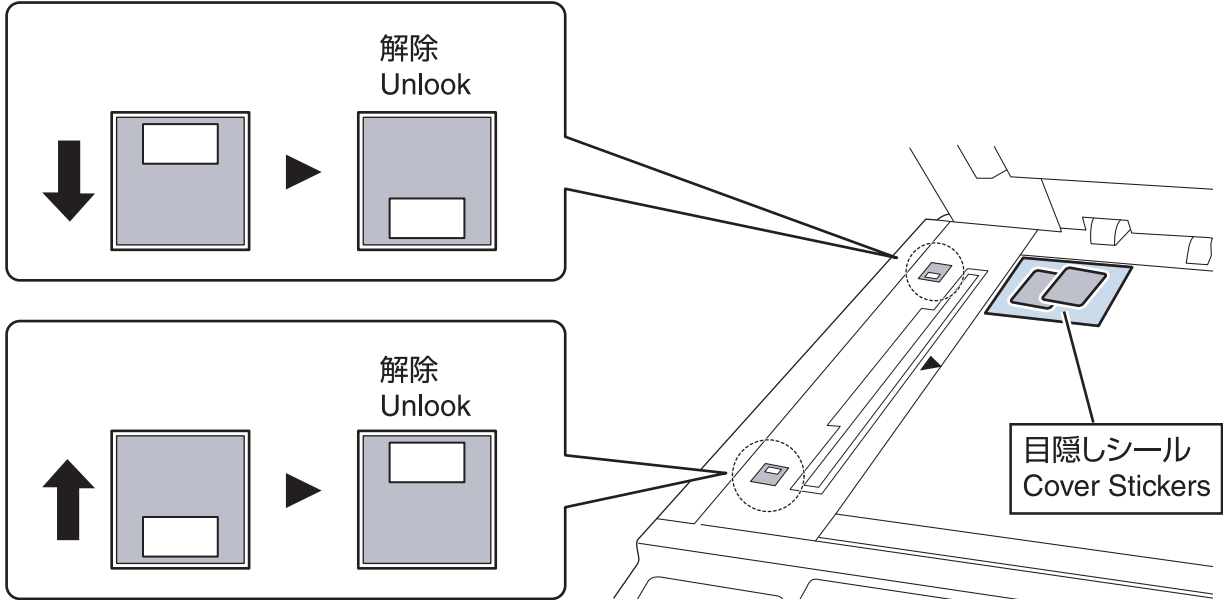
2. ドラムを引き出し、後方の緩衝材を取り外す。  
Pull out the Print Drum (Cylinder) and remove a cushioning from the rear side of the Print Drum (Cylinder).



3. カードスロット部のテープを剥がす。(SF525を除く)  
Peel off the tape of the card slot. (SF9\*50 Series only)



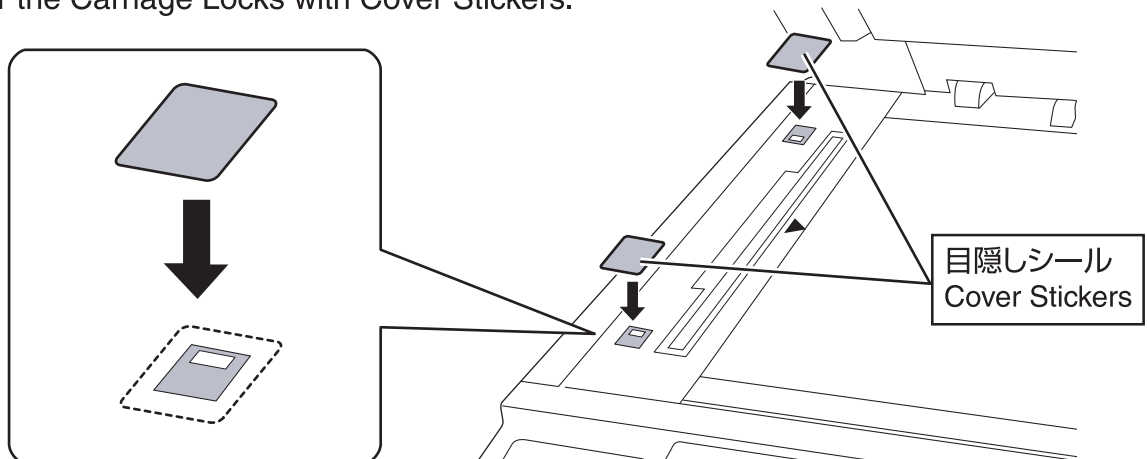
4. 原稿台カバーを開け、キャリッジロックを解除する。  
(レバーを矢印の方向にスライドさせてください。)  
Open the Platen cover and release the Scanner Carriage Locks.  
(Slide the levers to the direction that is indicated as following arrows.)



5. テストモード を起動する。  
[7465] を入力し、値を [0] に変更してスタートキーを押す。  
Turn on the printer in the test mode.  
Input the test item code "7465" and select "0", then press the Start key.

重要：このテストモードを実施しない場合、[D50-165] エラーが表示されます。  
Important! : If this test item is not performed, "D50-165" error will be indicated.

6. キャリッジロックに目隠しシールを貼り付ける。  
Cover the Carriage Locks with Cover Stickers.



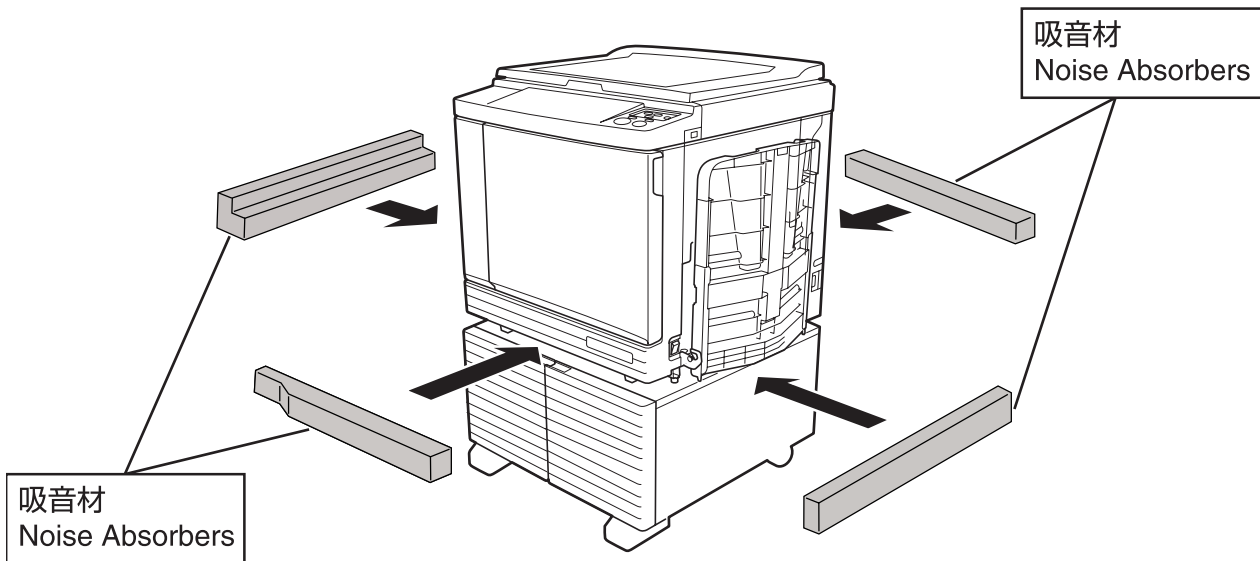
## 7. 吸音材を押し込む。(SF5\*30シリーズを除く)

(上下のすき間が出来ない向きで、吸音材をつぶしながら押し込んでください。)

Push the four pieces of Noise Absorbers into the printer. (Except for SF5\*30 Series)  
(Push the Noise Absorbers squashing into the gap suitable to the shape of space.)

重要：給紙台の下限スイッチが、正常に稼動するかどうかの確認が必要です。  
部品取り付け終了後に、必ず確認してください。

Important! : Make sure that the Lower Switch of the Paper Feed Tray works correctly after finishing the replacement.

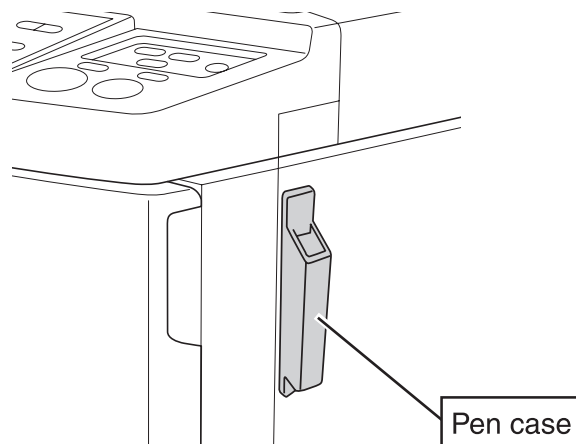


以降の手順は、海外機のみです。

SF9\*50 Series only

## 8. Attach the Pen case to the printer.

Remove the adhesive cover sheet on the back side and affix the case on the right side of the printer. Be sure to consult your customer for the attachment position.



6-2.Auto Document Feeder AF-VII

# Auto Document Feeder AF-VII Installation Procedure

⚠ Installation has to be done by an authorized technical expert.  
Please read "TECHNICAL MANUAL" of the applicable model about work precautions.

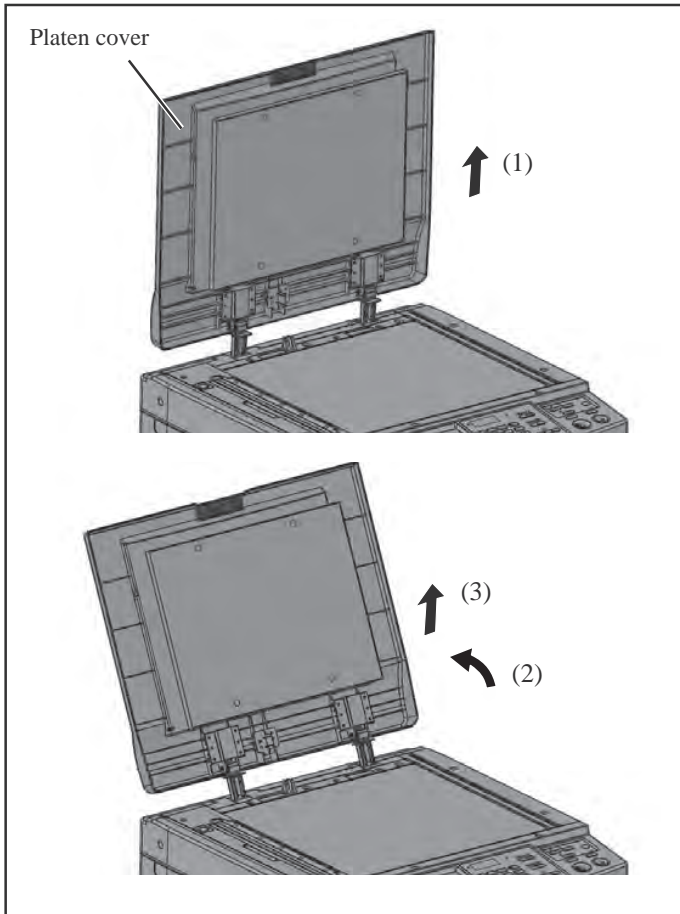
### Types of Applicable Printers

For details, refer to "The Table of Applicable Printers".

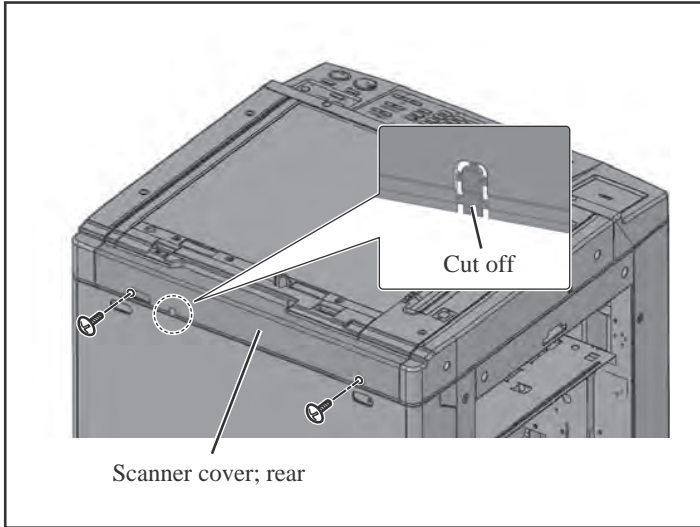
### Packing List

This package contains the following items.

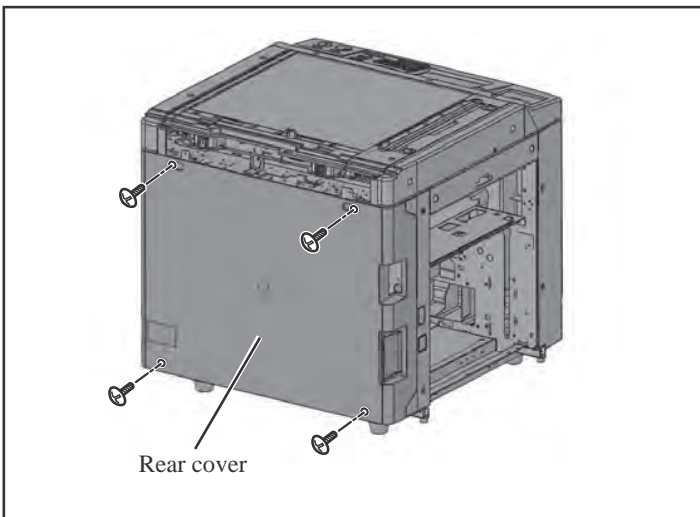
1. Auto Document Feeder AF-VII.....1 pc.
2. ADF sheet (monochrome sheet).....1 pc.
3. Glass blind plate.....1 pc.
4. Screw cap.....5 pcs.
5. AF retaining screw .....1 pc.
6. Reuse band.....1 pc.
7. Original presser sheet .....1 pc.
8. Installation Procedure (this document) .. 1 copy
9. The Table of Applicable Printers..... 1 copy
10. Declaration of conformity (for eu only).. 1 copy
11. Specified Substances List (for China) ... 1 copy



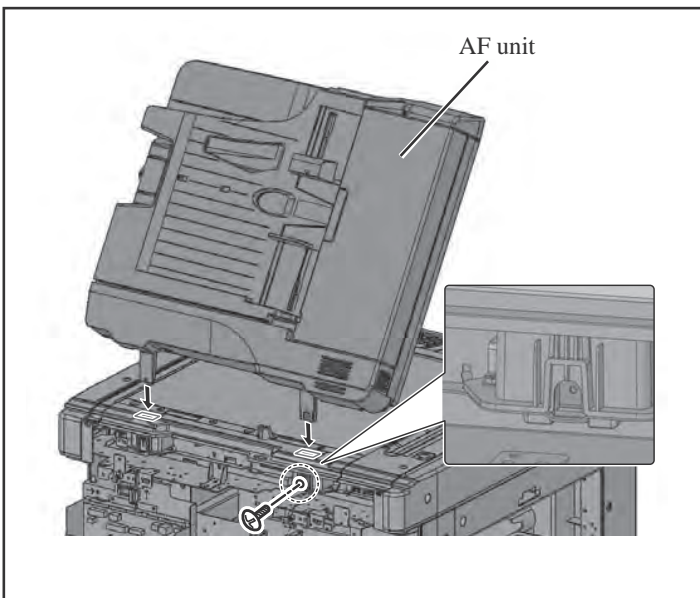
1. Turn off the main power switch of the printer and unplug the power cord.  
Important: Be sure to turn off the printer and perform work while power is not supplied to the printer. (Not just the switch, but pull out the plug as well.)
2. Remove the Platen cover using the following procedure.
  - (1) Pull up until the hinges are caught.
  - (2) Tilt to the rear side.
  - (3) While tilted, pull out upward.
 NOTE: The removed cover is not reused.



3. Remove the Scanner cover; rear. (2 screws)
4. Cut off the part shown in the illustration on the left.

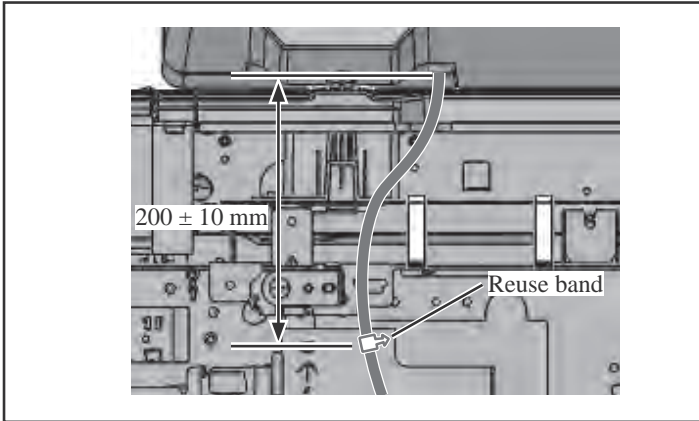


5. Remove the Rear cover. (4 screws)

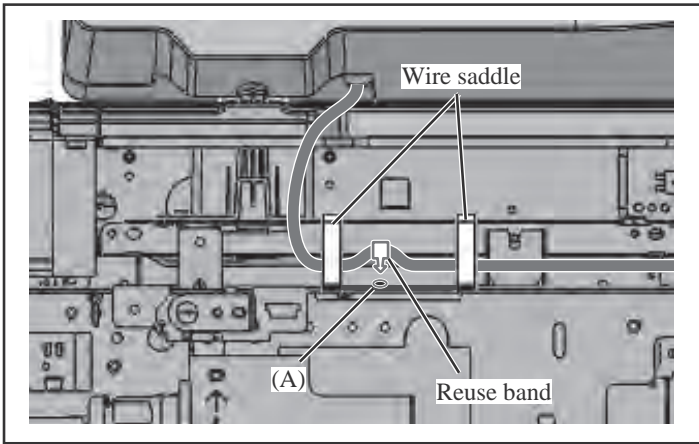


6. Attach the AF unit.
7. Fasten the AF retaining screw to the right hinge. (1 screw)



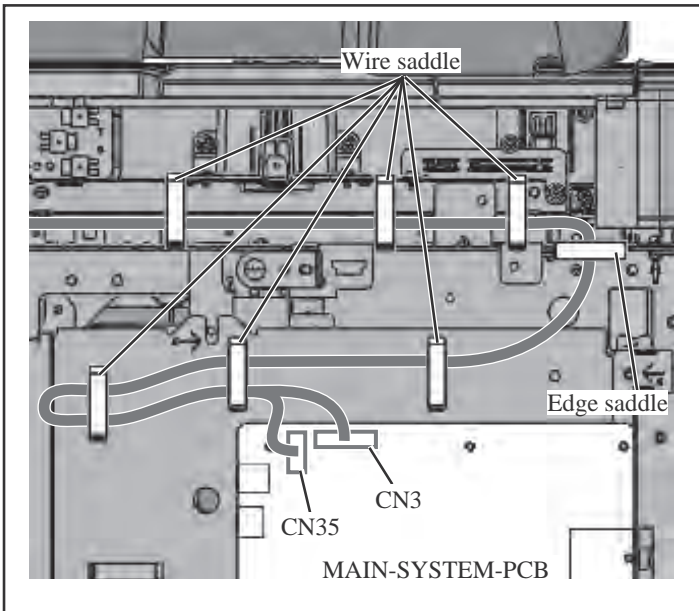


8. Attach a Reuse band  $200 \pm 10$  mm from the base of the wire harness.



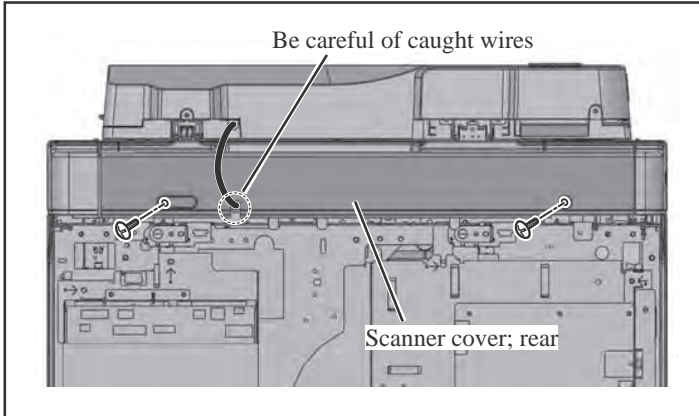
9. Secure the wire harness with the two existing wire saddles and the Reuse band.

NOTE: Insert the Reuse band into part (A).

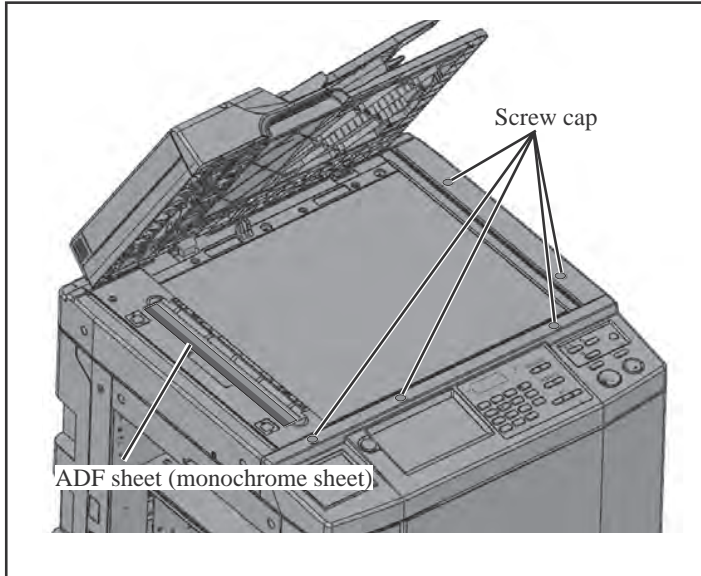


10. Lead the wire harness as illustrated on the left and connect it to CN3 and CN35 of the MAIN-SYSTEM-PCB.

11. Secure the wire harness with the six existing wire saddles and the edge saddle.



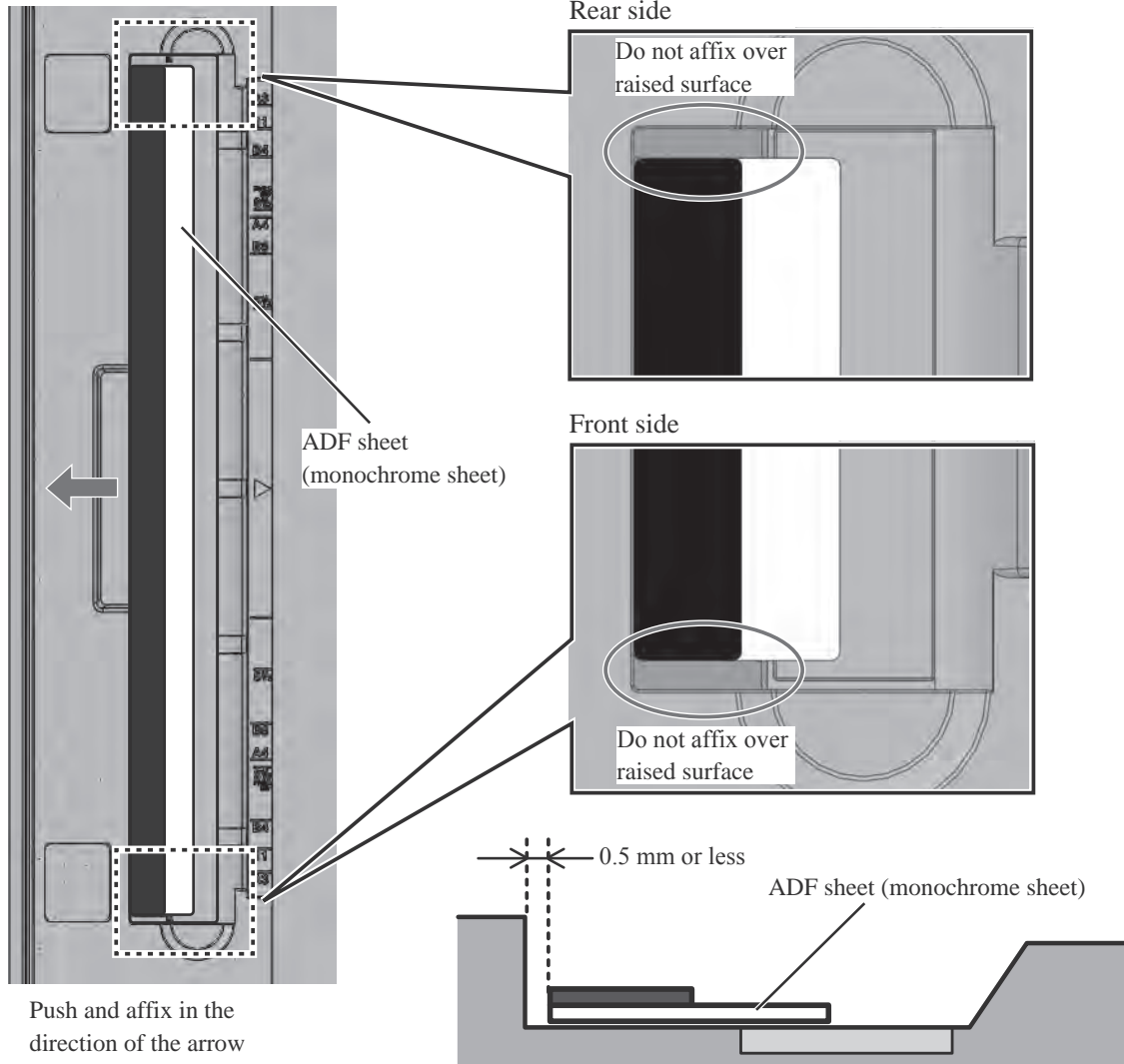
12. Replace the Scanner cover; rear to the printer. (2 screws)  
Important: Lead the wire harness of the ADF unit through the hole cut out in step 4 while making sure the wire harness does not get caught.
13. Replace the Rear cover. (4 screws)



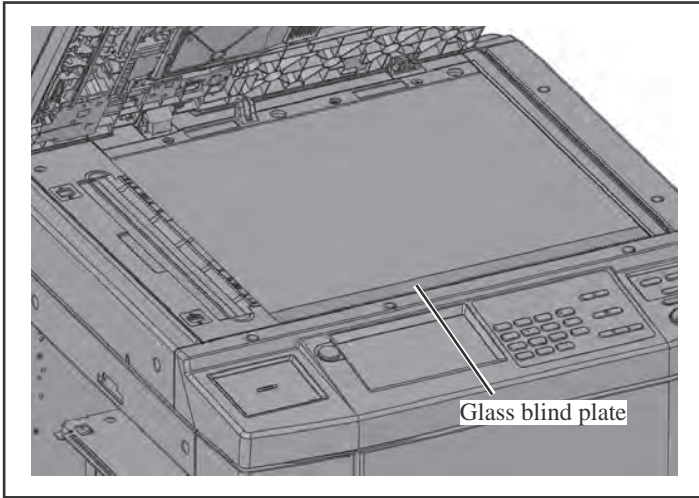
14. Attach the screw caps. (5 pcs.)
15. Affix the ADF sheet (monochrome sheet).  
 Important:
  - Clean with alcohol before affixing the ADF sheet (monochrome sheet).
  - Affix the ADF sheet (monochrome sheet) using the standard below.

= Affixing standard =

- ▼ Horizontal direction
  - With the black part of the ADF sheet on the left side, push and affix in the direction of the arrow.
  - The gap with the edge should be 0.5 mm or less.
- ▼ Front/rear direction
  - Do not affix over the raised surfaces.



Push and affix in the direction of the arrow



16. Affix the Glass blind plate.

- Important:
- Clean with alcohol before affixing the glass blind plate.
  - Affix the glass blind plate using the orientation and position below.

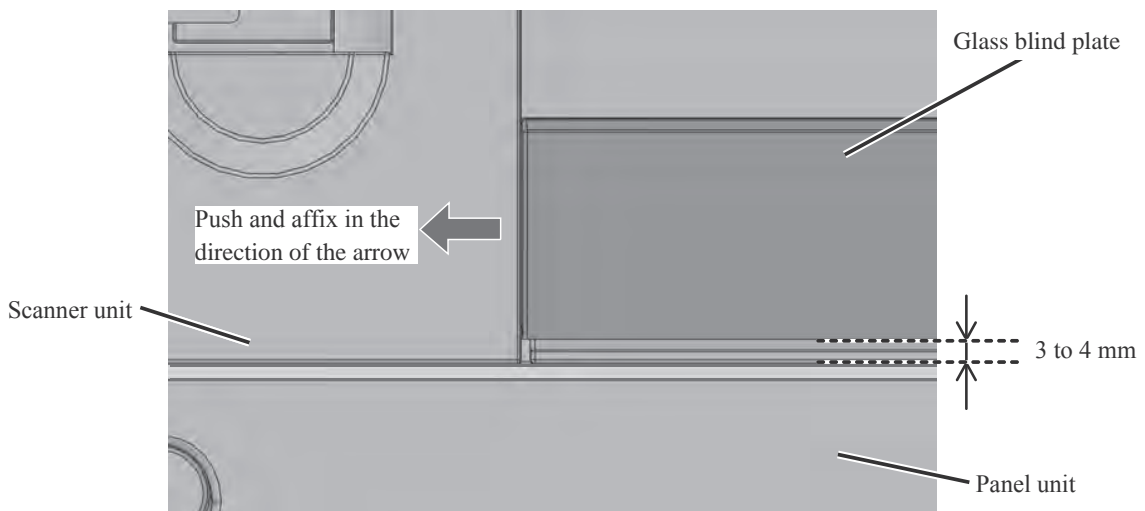
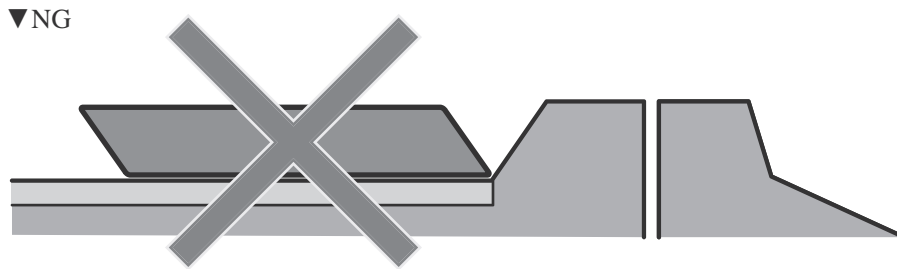
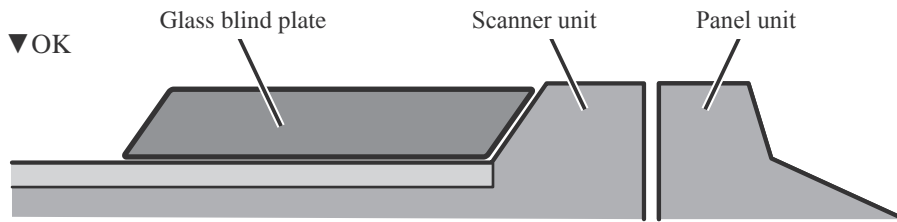
= Affixing standard =

▼ Horizontal direction

- Push and affix in the direction of the arrow.

▼ Front/rear direction

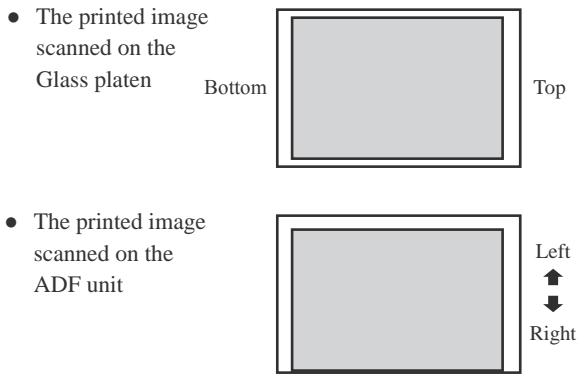
- Make sure the glass is not visible through the gap when looking from the front side and from the top.
- A distance of 3 to 4 mm from the edge of the scanner unit.



## = Adjustment of Scanning Parameters =

If printed images are of a different size and/or by far offset when originals are scanned in the ADF unit, compared with when scanned on the Glass platen, adjust the scanning parameters as follows.

### 1. Adjustment of scanning position (Compensation for printing position in horizontal direction)

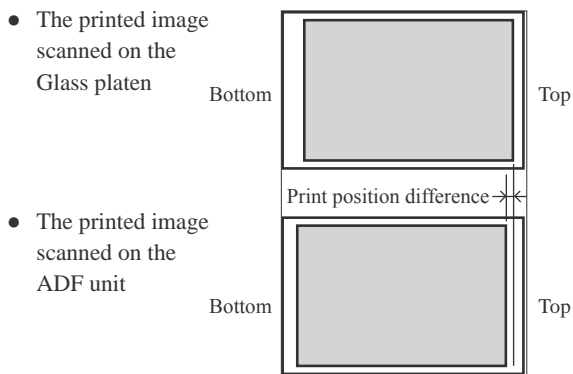


- 1) Start up the test mode of the printer and input the following test code.
    - Input the test code "3072".
  - 2) Input a required value with print quantity keys to compensate the vertical scanning start position.
 

The horizontal scanning position can be changed by 0.5 mm. Be sure to input a multiple of "5 (five)". (ex. To shift the scanning position to the left by 1mm, input "10".)

To shift the position to the right by 1mm, on the other hand, input \* before inputting "10".
  - 3) Press the Start key to confirm the input value, and press the Reset key more than one second to quit the test mode.
  - 4) Check if the vertical image size is the same as when the original is scanned on the Glass platen.
- Repeat the procedure in the above steps 1) to 4) until obtaining an identical vertical image size.

### 2. Adjustment of scanning position (Compensation for starting position in vertical direction)



- 1) Start up the test mode of the printer and input the following test code.
    - Input the test code "3073".
  - 2) Input a required value with print quantity keys to compensate the vertical scanning start position.
 

The position is shifted 0.1mm per one step. (ex. To shift the scanning start position by 1mm upward, input "10".)

To shift the position by 1mm downward, on the other hand, input \* before inputting "10".
  - 3) Press the Start key to confirm the input value, and press the Reset key more than one second to quit the test mode.
  - 4) Check if the vertical image size is the same as when the original is scanned on the Glass platen.
- Repeat the procedure in the above steps 1) to 4) until obtaining an identical vertical image size.

### 3. Adjustment of scanning speed (Compensation for printed image size in vertical direction)

- The printed image scanned on the Glass platen



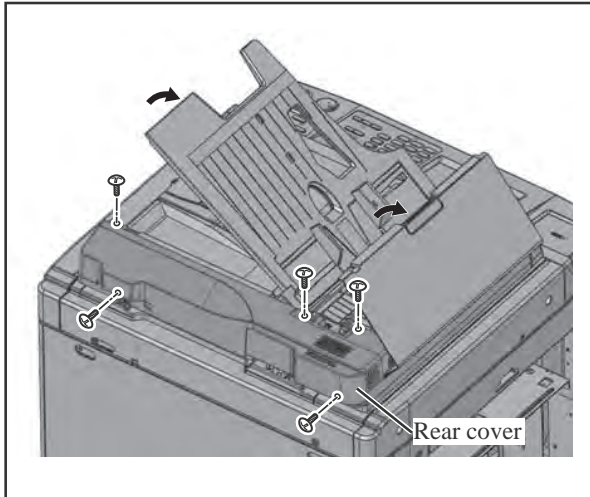
- The printed image scanned on the ADF unit



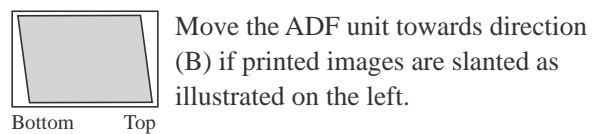
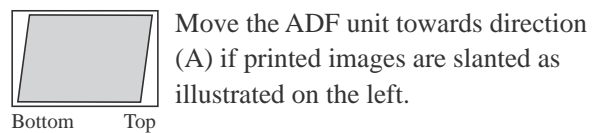
- 1) Start up the test mode of the printer and input the following test code.
  - Input the test code "3074".
- 2) Input a required value with print quantity keys to compensate the scanning speed for vertical image size. The vertical image size is changed 0.1% per one step. (ex. To extend 300mm-long images by 3mm (1%), input "10".) To shorten them by 3mm, on the other hand, input \* before inputting "10".
- 3) Press the Start key to confirm the input value, and press the Reset key more than one second to quit the test mode.
- 4) Check if the vertical printing position is the same as when the original is scanned on the Glass platen.

Repeat the procedure in the above steps 1) to 4) until obtaining an identical horizontal print position.

### 4. Compensation for slanted printed images



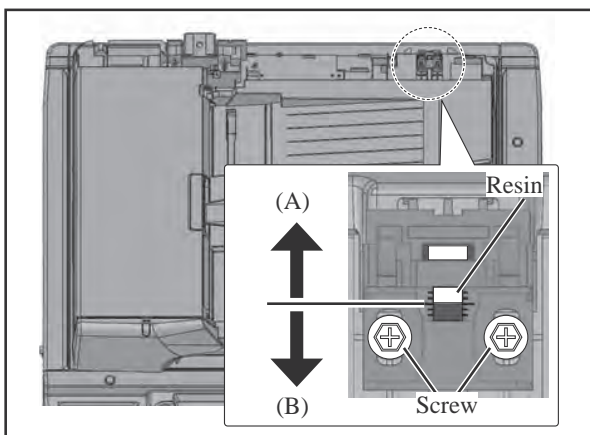
- 1) Remove the Rear cover of the ADF unit. (5 screws)
- 2) Loosen the two screws on the slant adjuster.
- 3) Finely tune the degree of parallelism of the ADF unit.  
(Use the white resin and scale as guidelines.)



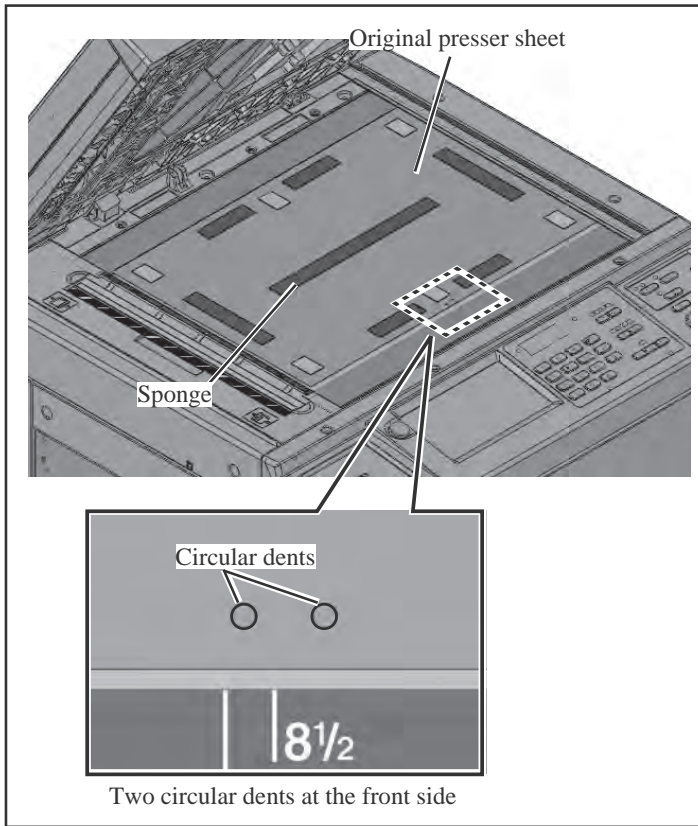
- 4) Tighten the screws in step 2).
- 5) Check if printed images are squared in the same way as when the original was scanned on the Glass platen.

Repeat the procedure in the above steps 2) to 5) until squared printed images are obtained.

- 6) Replace the Rear cover of the ADF unit. (5 screws)



= Work After Adjustment of Scanning Parameters =

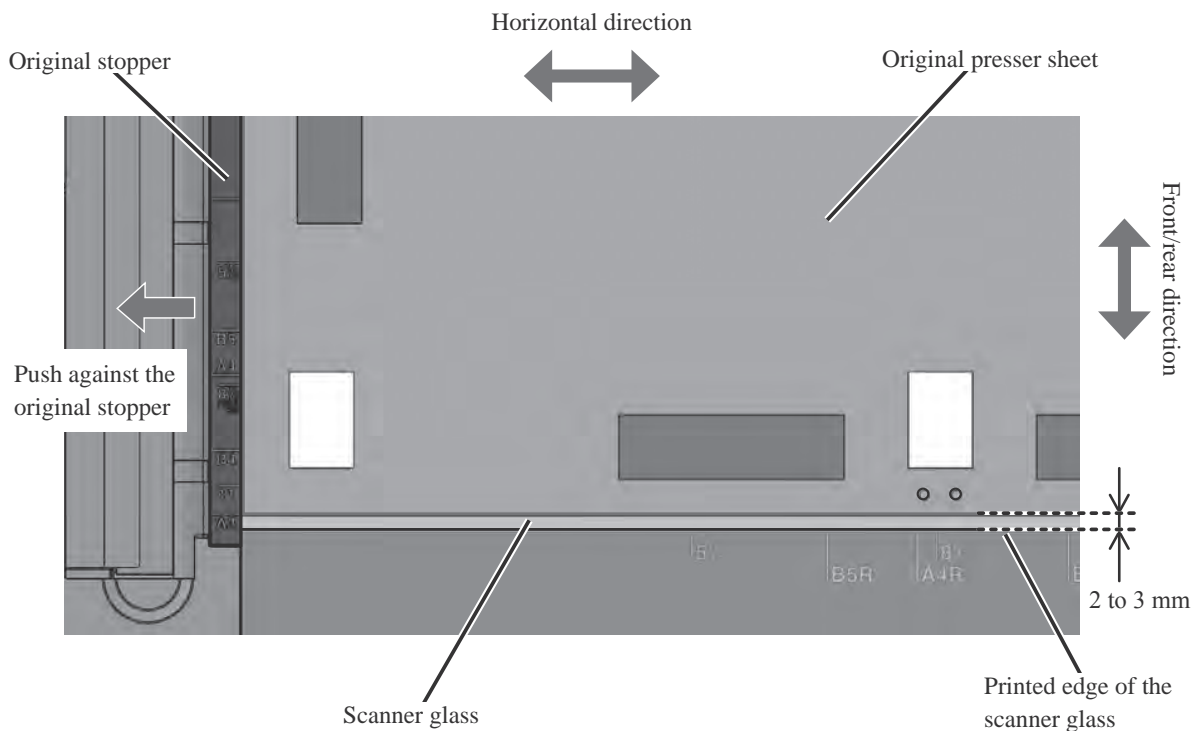


17. Place the original presser sheet on the Glass platen.
  - NOTE: • Place the sheet so that the sponge side faces upward and the two circular dents on the long side of the sheet are at the front.
  - To keep the original presser sheet from adhering to the Glass platen, place paper (Ledger or A3 size) on the Glass platen in advance.

= Standard =

- ▼ Horizontal direction
- Push against the original stopper.
- ▼ Front/rear direction
- A distance of 2 to 3 mm from the printed edge of the scanner glass.

18. Close the ADF unit gently and press it down on the original presser sheet.
19. Gently open the ADF unit and check that the original presser sheet is secured.

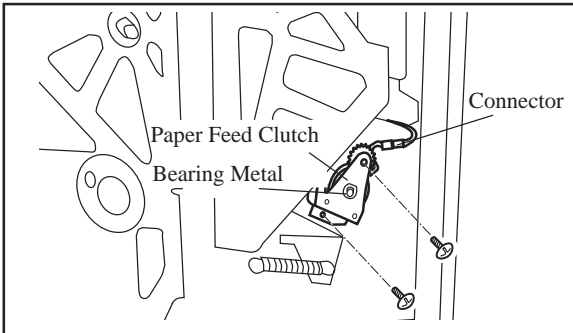
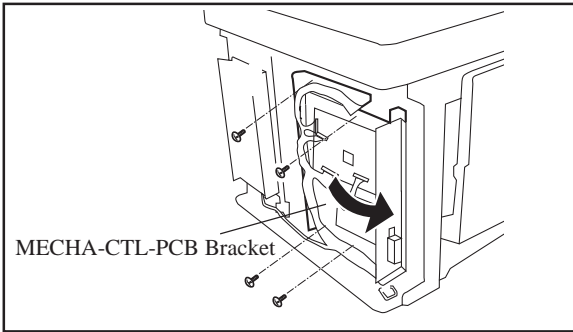
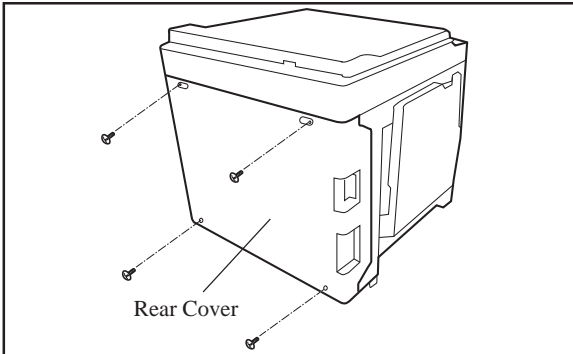


6-3. Card Feed Kit

# Card Feed Kit Installation Procedure

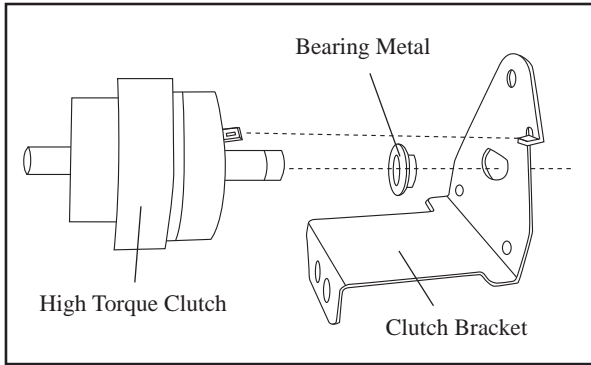
Types of Applicable Printers	Packing List
<p>The following printer models are the intended basic units for installing the Card Feed Kit.</p>	<p>This package contains the following items.</p>
<p>RISO      MZ7/9, MV76 series             RZ9, RV96 series</p>	<ol style="list-style-type: none"> <li>1. Card Feed Unit ..... 1 pc.</li> <li>2. Reverse Prevention ASSY *1 ..... 1 pc.</li> <li>3. High Torque Clutch *1 ..... 1 pc.</li> <li>4. Clutch Bracket *1 ..... 1 pc.</li> <li>5. Detection Sensor *2 ..... 1 pc.</li> <li>6. Star Gear *1 ..... 1 set</li> <li>7. Card Feed Unit Junction Wire Harness *3 .1 pc.</li> <li>8. Wire band *2 ..... 4 pcs.</li> <li>9. Wire clammer *1 ..... 1 pc.</li> <li>10. NK Clammer *4 ..... 1 pc.</li> <li>11. Bearing Metal *1 ..... 1 pc.</li> <li>12. Screws *2 ..... 1 set</li> <li>13. User's Guide ..... 1 copy</li> <li>14. Installation Guide (This manual) ..... 1 copy</li> <li>15. Declaration of conformity (For EU only). 1 copy</li> </ol>
<p>For other models, refer to “The Table of Applicable Printers”.</p>	
<p>Nobody but Riso-authorized service representatives is allowed to install this unit.</p>	
<p>*1 These parts are used for the Groups [A], [B], [C], [H], [I] models only. *2 These parts are not used for the Groups [A], [B], [D], [H], [I] and MZ7/9, MV76, RZ9, RV96 series models. *3 This part is used for the Group [G] models only. *4 This part is used for the Groups [E], [G] models only.</p>	

= For the Groups [A], [B], [C], [H], [I], [J] models =



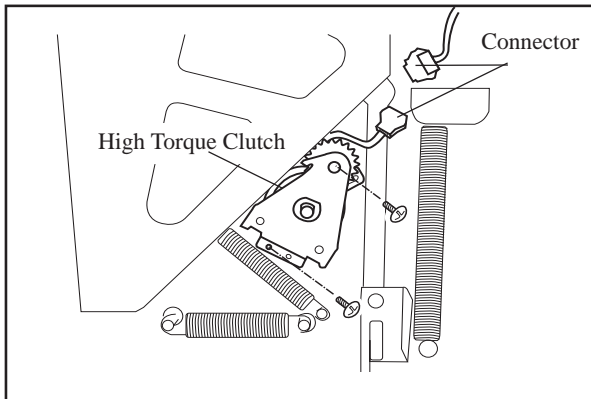
1. Turn the power off and unplug the power cord.  
Important: Be sure to turn the power off and unplug the power cord.
2. Remove the Rear Cover. (4 screws)
3. Open the MECHA-CTL-PCB Bracket. (4 screws)
4. Unplug the connector of the Paper Feed Clutch.
5. Remove the Paper Feed Clutch and the Clutch Bracket. (2 screws) (Bearing Metal 1 pc.)  
NOTE: The screws and the Bearing Metal are reused later.



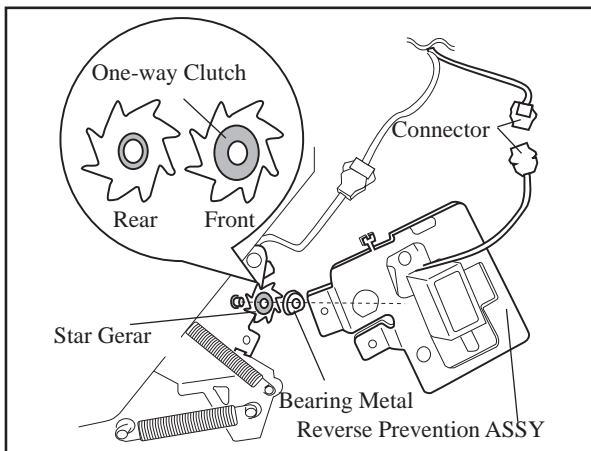


6. Assemble the High Torque Clutch and the Clutch Bracket. (Bearing Metal 1 pc.)

Important: Reuse the Bearing Metal used at procedure 5.



7. Secure the High Torque Clutch and the Clutch Bracket with two screws removed at procedure 5.
8. Plug the connector of the High Torque Clutch.



9. Attach the Star Gear to the axis of the High Torque Clutch.

Important: Be sure that the One-way Clutch faces to the Bearing Metal.

10. Attach the Bearing metal to the Reverse Prevention ASSY.

11. Secure the Reverse Prevention ASSY. (Double-washed screw M4x8, 2 pcs.)

12. Plug the connector of the Reverse Prevention ASSY.

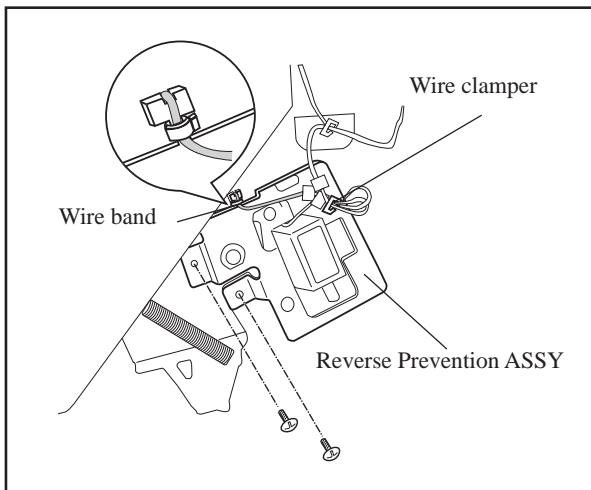
13. Secure the wire harness of the High Torque Clutch with the wire band.

Important: Be sure to fasten the wire harness not to loosen.

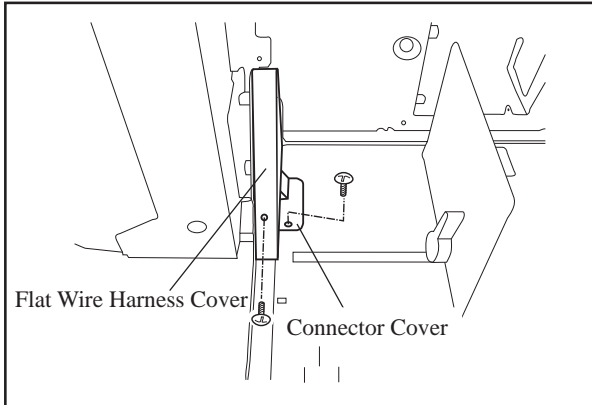
14. Secure the wire harness with the wire clamber.

15. Replace the MECHA-CTL-PCB Bracket. (4 screws)

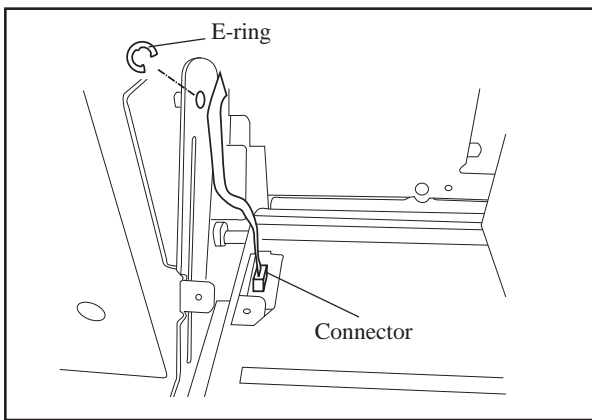
16. Replace the Rear Cover. (4 screws)



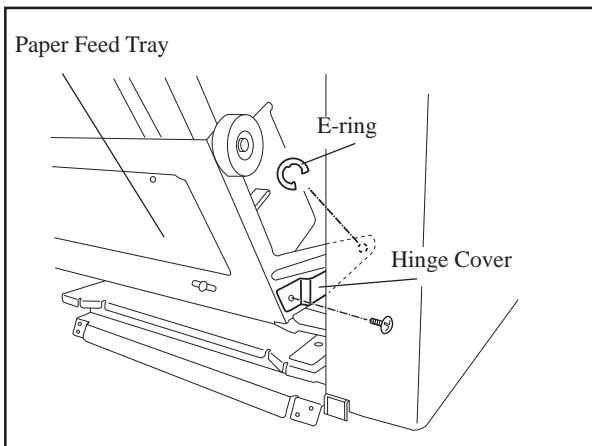
If using the Groups [A], [B], [H], [I] models, installation is now completed.



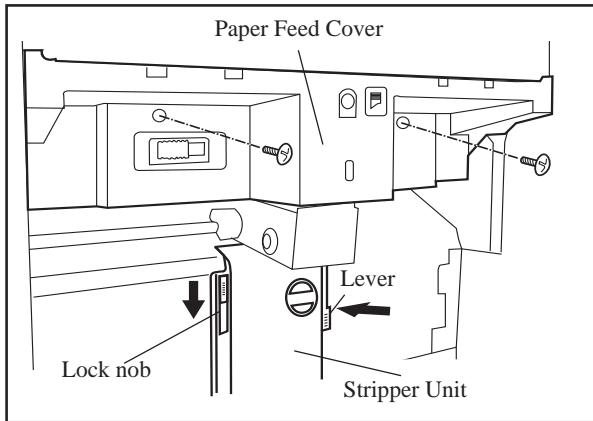
- 17. Remove the Flat Wire Harness Cover. (1 screw)
- 18. Remove the Connector Cover. (1 screw)



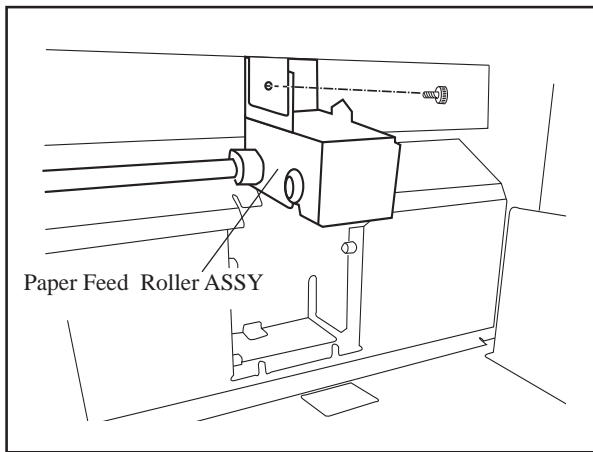
- 19. Unplug the connector.
- 20. Remove the E-ring.



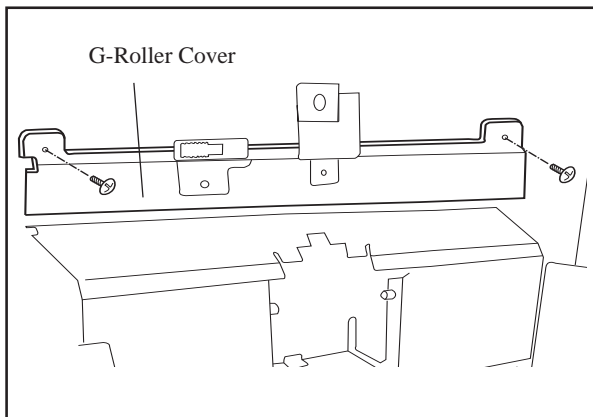
- 21. Remove the E-ring.
- 22. Remove the Hinge Cover. (1 screw)
- 23. Remove the Paper Feed Tray.



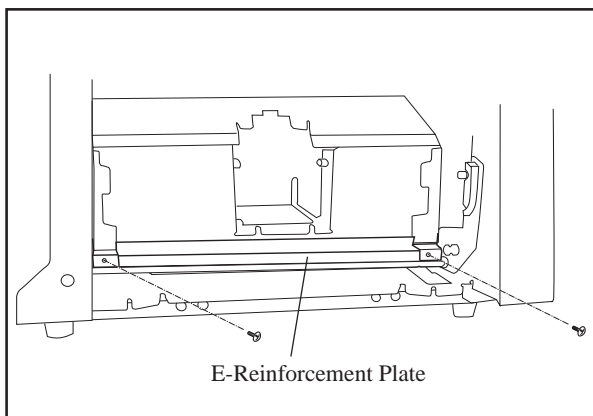
- 24. Slide the lock nob down and unlock the Stripper Unit.
- 25. Push the lever of the Stripper Unit and remove the Stripper Unit.
- 26. Remove the Paper Feed Cover. (2 screws)



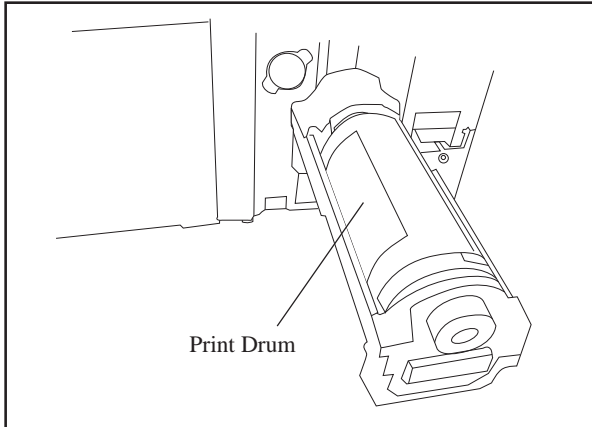
- 27. Remove the Paper Feed Roller ASSY. (Cap screw WS 4x8, 1 pc.)



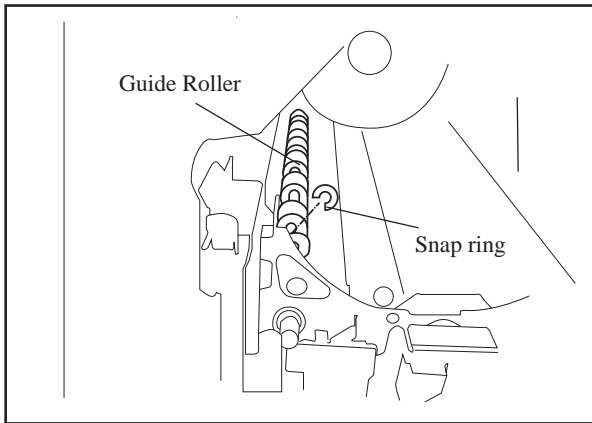
- 28. Remove the G-Roller Cover. (2 screws)



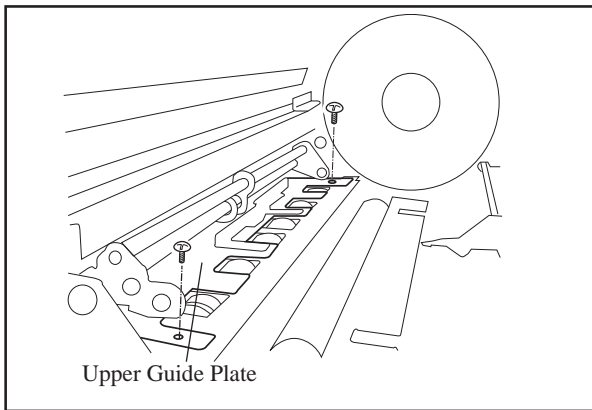
- 29. Remove the E-Reinforcement Plate. (2 screws)



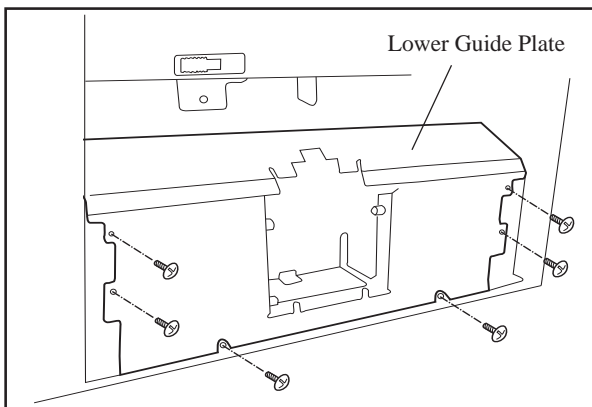
30. Open the Front Cover.
31. Pull out the Print Drum.



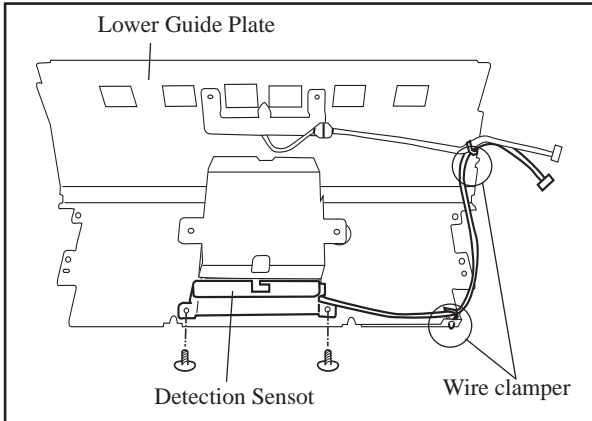
32. Remove the snap ring.
33. Remove the Guide Roller.



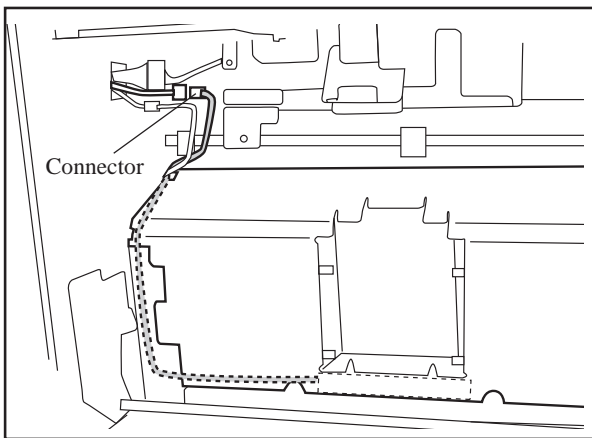
34. Remove the Upper Guide Plate. (2 screws)  
NOTE: Remove the wire harness of paper sensor together.



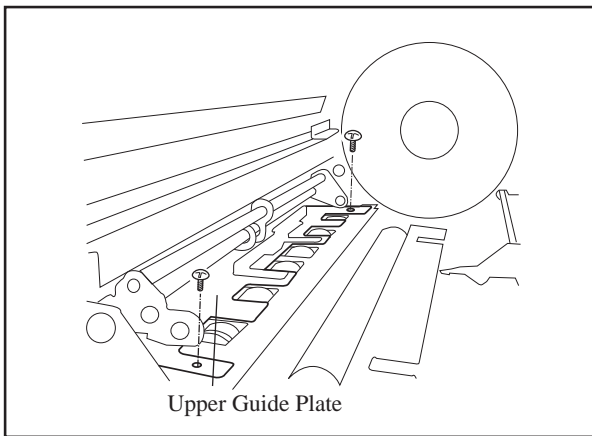
35. Remove the Lower Guide Plate. (6 screws)  
NOTE: - Remove the wire harness of paper sensor together.  
- For the Group [H] models, remove the remaining wire harness together.



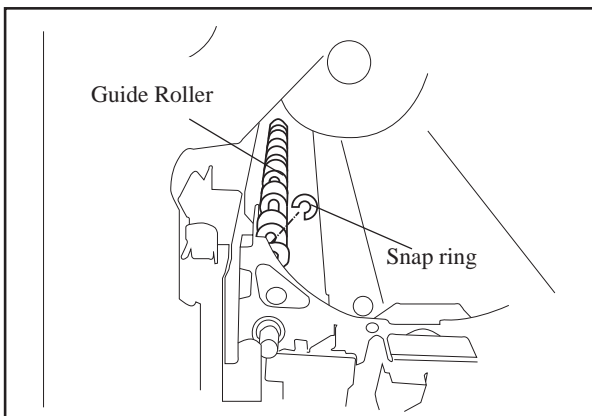
- 36. Secure the Detection Sensor.  
(Binding screw M4x8, 2 pcs.)
- 37. Secure the wire harness of the Detection Sensor with the wire clammer at two points.



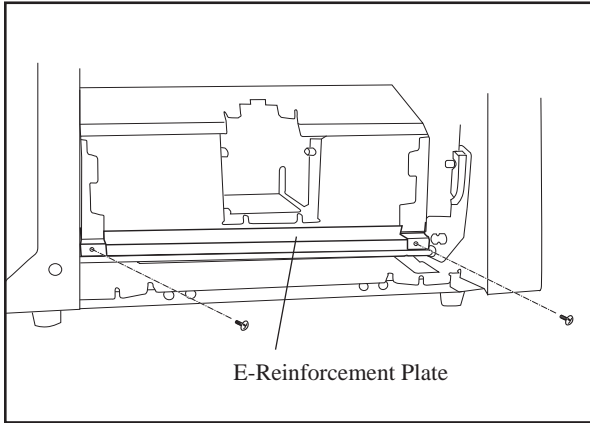
- 38. Secure the Lower Guide Plate. (6 screws)  
Replace the wire harness that was removed at procedure 35.
- 39. Lead the wire harness of the Detection Sensor as instructed in the illustration.
- 40. Plug the connector.



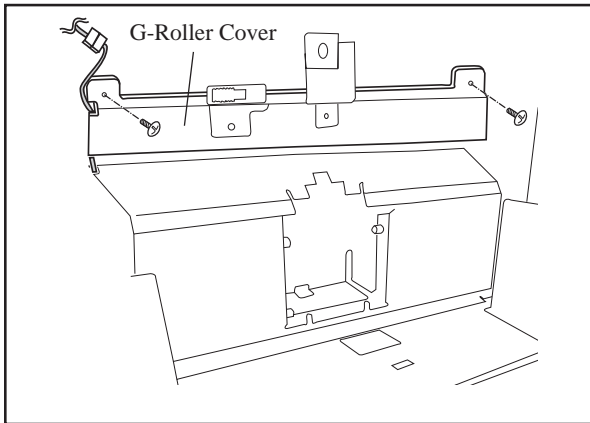
- 41. Secure the Upper Guide Plate. (2 screws)  
Replace the wire harness that was removed at procedure 34.



- 42. Secure the Guide Roller.
- 43. Attach the snap ring.
- 44. Replace the Print Drum.
- 45. Close the Front Cover.

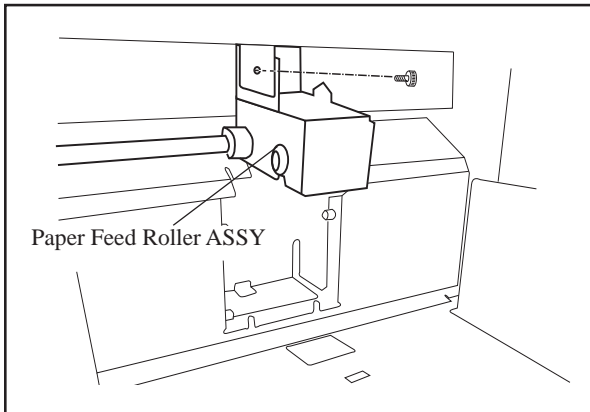


46. Secure the E-Reinforcement Plate. (2 screws)

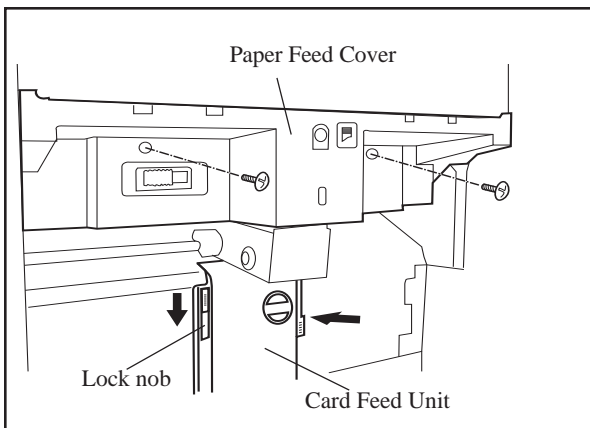


47. Secure the G-Roller Cover. (2 screws)

Important: Lead the wire harness of the Detection Sensor through the upper left space of the G-Roller Cover.



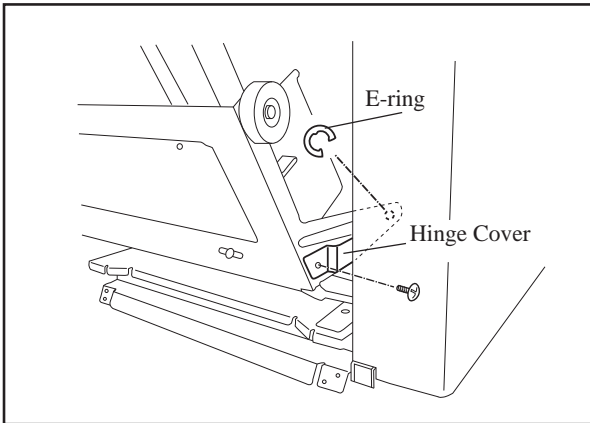
48. Secure the Paper Feed Roller ASSY.  
(Cap screw WS 4x8, 1 pc.)



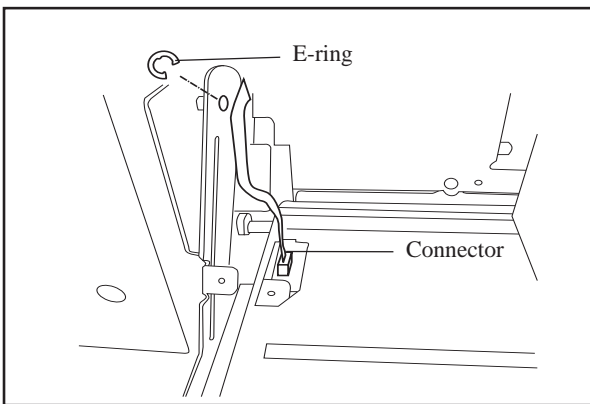
49. Secure the Paper Feed Cover. (2 screws)

50. Install the Card Feed Unit.

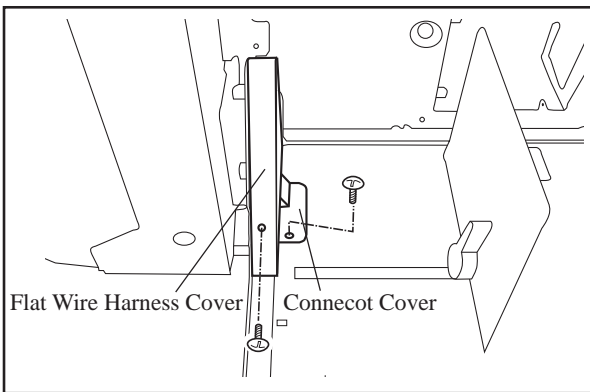
51. Slide the lock nob up to lock the Card Feed Unit.



52. Secure the Paper Feed Tray.
53. Secure the Hinge Cover. (1 screw)
54. Secure the E-ring.



55. Secure the E-ring.
56. Plug the connector.



57. Secure the Flat Wire Harness Cover. (1 screw)
58. Secure the Connector Cover. (1 screw)

### Checking the Card Feed Unit



1. Plug the power cord to the outlet and turn it on.
2. After installing the Card Feed Unit, check that the Paper icon on the Touch Display changes to either of the followings.
  - A circle is added on the Paper icon.
  - Black and white of the Paper icon is reversed.

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## 《Card Feed Unit Setup Procedure》

### For the Groups [A], [B], [H], [I] models

#### ● For the Group [I] models

1. Turn the printer on in the test mode.
2. Set the Paper-Feed-Clutch ON/OFF angle.
  - (1) Input the test item code “741” and set the value to “0”.
  - (2) Input the test item code “745” and set the value to “0”.
3. Set the High Torque Clutch.
  - (1) Input the test item code “8071” and set the value to “1”
4. Skip to “Setting the Paper Finish“ at procedure 2.

#### ● Setting the Paper Finish

The following test item codes are examples when registering to User1.  
Refer to the Technical Manual for the test item codes when registering to another user.

1. Turn the printer on in the test mode.
2. Set the Elevator Upper Limit position selection(paper type1). (For the Groups [B], [I] models only)
  - (1) Input the test item code “763” and set the value to “0”(HIGH).
3. Set the Paper-Feed-Clutch ON angle.
  - (1) Input the test item code “761” and set the value to “-50”
4. Set the Paper-Feed-Clutch OFF angle.
  - (1) Input the test item code “762” and set the value to “+50”
5. Turn the printer off and turn it on again.

Important: The value of the Paper-Feed-Clutch ON Timing and the Paper-Feed-Clutch OFF Timing depends on paper that your customers use. The adjustment may be required.

#### ● Setting the Card Feed Unit

Explain to users how to set up for the Card Feed Unit and replace it to the Stripper Unit.

- Installing the Card Feed Unit → Set the registered User (Example: User1) in the Custom Setting Mode (No.13: Paper Finish).
- Installing the Stripper Unit → Reset the setting to “standard” in the Custom Setting Mode (No.13: Paper Finish).

Refer to the User’s Guide for details.



## 《Card Feed Unit Setup Procedure》

### For the Group [C], [J] models

Explain to users about functions below and tell them how to set up if necessary.

#### ● For the Group [J] models

1. Turn the printer on in the test mode.
2. Set the Paper-Feed-Clutch ON/OFF angle.
  - (1) Input the test item code “741” and set the value to “0”.
  - (2) Input the test item code “745” and set the value to “0”.
3. Set the High Torque Clutch.
  - (1) Input the test item code “8071” and set the value to “1”
4. Skip to “Setting the Special Paper Ctrl Enable Control“ at procedure 2.

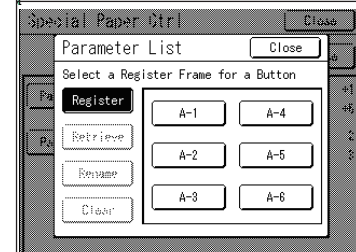
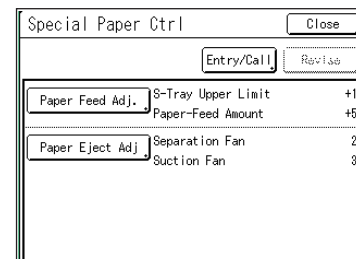
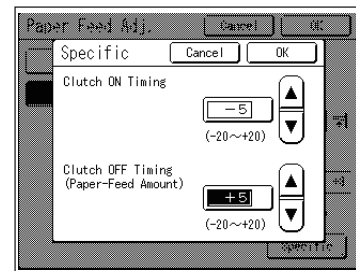
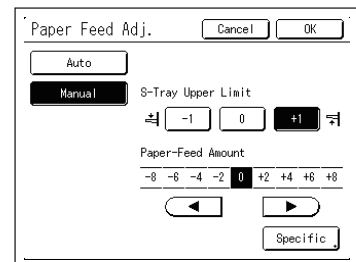
#### ● Setting the Special Paper Ctrl Enable Control

1. Turn on the printer in the test mode.
2. Input the test code “153” (Special Paper Ctrl Enable Control) and press the Start key.
3. Set the value to “1”.
4. Turn the printer off and turn it on again in the normal mode.

#### ● Registering the Special Paper Ctrl

1. Select [Special Paper Ctrl] in [Functions] tab.
2. Select [Paper Feed Adj.] and set the values.
  - (1) Select [Manual].
  - (2) Set [S-tray Upper Limit] to “+1”.
  - (3) Select [Specific].
  - (4) Set [Clutch ON Timing] to ”-5”.
  - (5) Set [Clutch OFF Timing] to “+5” and touch [OK].
  - (6) Touch [OK] on [Special Paper Ctrl].

**Important:** The value of the Paper-Feed-Clutch ON Timing and the Paper-Feed-Clutch OFF Timing depends on paper that your customers use. The adjustment may be required.



3. Select the [Entry/Call] and register the values.
  - (1) Select the button that you want to register (Example: A-1) and touch [OK].
  - (2) Select [Rename].
  - (3) Select the button you registered at (1).
  - (4) Enter a name and touch [OK]. (Example: Card)
  - (5) Touch [OK] and return to the default.
4. Select [Special Paper Ctrl] in [Admin.] tab, and check that the registered button appears.

### ● Setting the Card Feed Unit

Explain to users how to set up for the Card Feed Unit and replace it to the Stripper Unit.

- Installing the Card Feed Unit → Turn the registered button ON.
- Installing the Stripper Unit → Turn the registered button OFF.

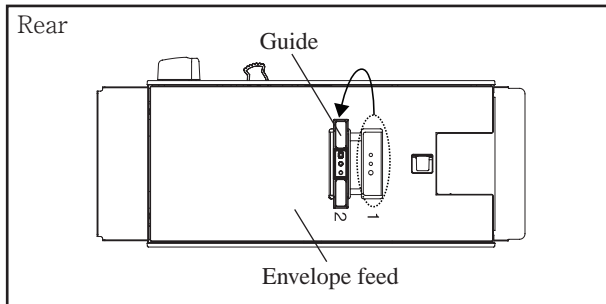
Refer to the User's Guide for details.

6-4. Envelope Feed Kit

# Envelope Feed Kit Installation Procedure

Types of Applicable Printers	Packing List
<p>The following printer models are the intended basic units for installing the Envelope Feed</p>	<p>This package contains the following items.</p>
<p>RISO KAGAKU CORPORATION Models</p>	<p>1. Envelope Feed ..... 1 pc.</p>
<p>RISO MZ7/9 series</p>	<p>2. Adapter ..... 2 pcs.</p>
<p>RZ2/3/5/9 series</p>	<p>3. Installation guide (This manual)..... 1 copy</p>
<p>RV2/3/5/96 series</p>	<p>Nobody but Riso-authorized service representatives is allowed to install this unit.</p>
<p>For other models, refer to "The Table of Applicable Printers".</p>	

For the printer models in which horizontal print positions are adjusted on the control panel, the following procedure is required.



1. Remove the Guide from No.1 and secure it to No.2 on the Envelope Feed. (Slotted screw 1pc.)

NOTE: The printer models in which the horizontal print position is adjusted with the Dial on the Standard Feed Tray, the modification is not required.

6-5.RISO IS300 Controller

# IS300 Installation Procedures

## Applicable Models

This document describes procedures for the following models:

RISO MZ7/9 series  
RZ7/9 series

For other models, refer to "The Table of Applicable Printers".

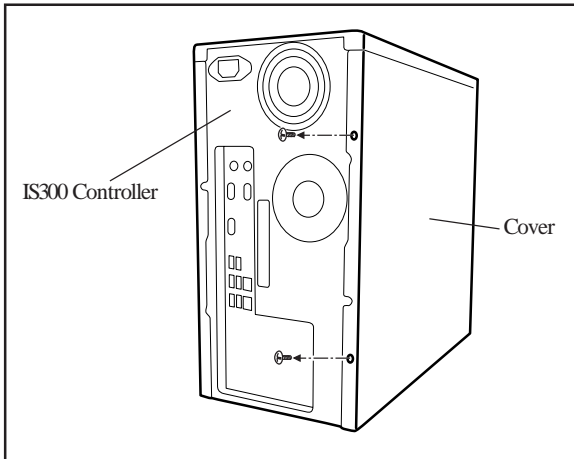
Installation has to be done by an authorized technical expert.

## Packing list

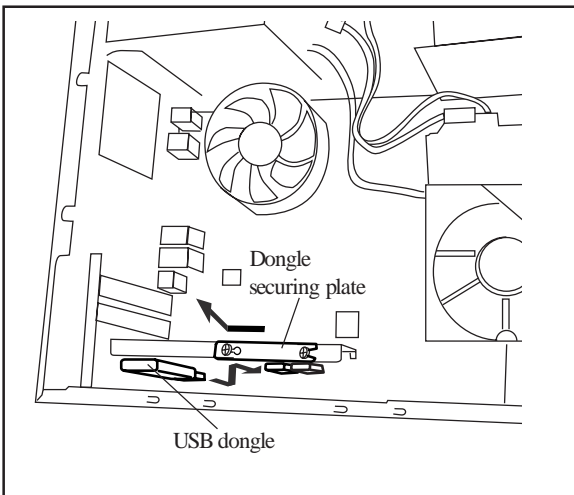
This package contains the following items:

1. IS300 Controller.....1 unit
2. USB cable.....1 pc.
3. USB dongle.....1 pc.
4. IS300 CD-ROM.....1 pc.
5. FCC Declaration of Conformity .....1 copy
6. Declaration of Conformity (for EU only) .....1 copy
7. End user license agreement.....1 copy
8. User's manual (Setup Guide) .....1 copy
9. User's manual (Printer Driver Guide).....1 copy
10. User's manual (Utility Guide).....1 copy
11. Installation guide (this manual).....1 copy

The Power cord is required. (It is not included in this package.)

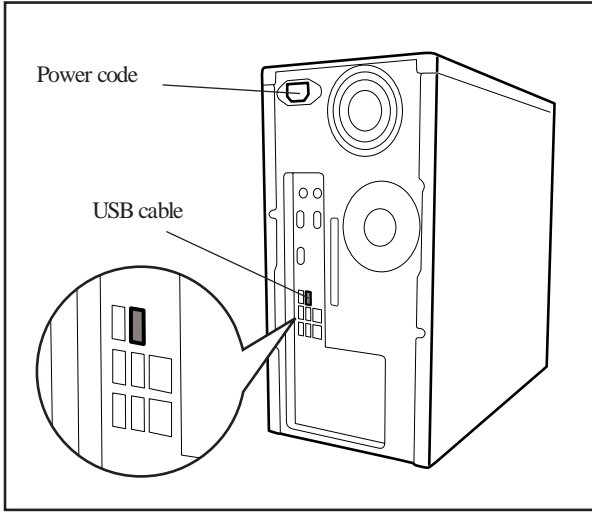


1. Remove the cover of the IS300 Controller.



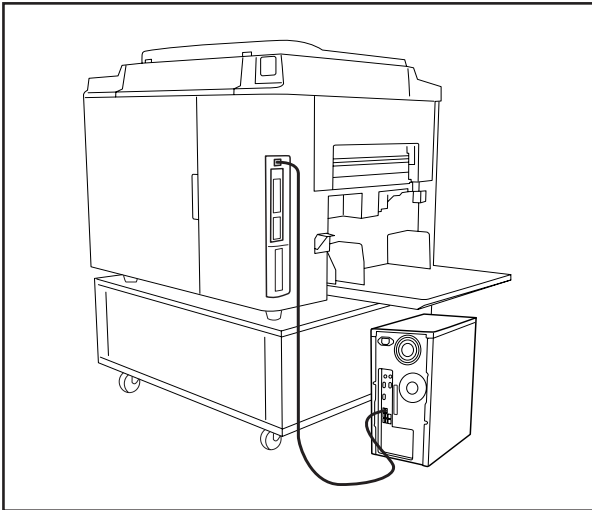
2. Loosen the screws on the Dongle securing plate.
3. Remove the Dongle securing plate.
4. Connect the USB dongle to the either of USB connectors in the IS300 Controller.  

Important: Be sure to obtain the consent from the user before opening the USB dongle package.
5. Replace the Dongle securing plate.
6. Replace the cover of the IS300 Controller.



7. Connect the IS300 Controller and the printer with the given USB cable.

8. Connect the Power cable to the IS300 Controller:



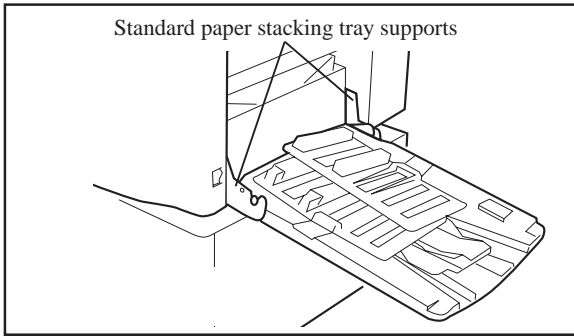
9. Install the IS300 Controller as shown in illustration.

6-6. Wide Stacking Tray

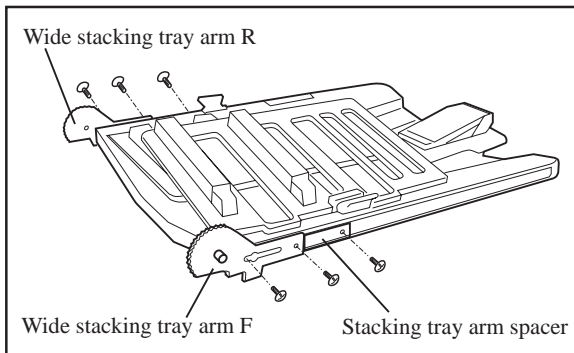
# Wide Stacking Tray Installation Procedure

<p><b>Types of Applicable Printers</b></p> <p>The following printer models are the intended basic units for installing the Wide Stacking Tray.</p> <p><b>RISO KAGAKU CORPORATION Models</b>  RISO MZ7/9, MV76 series  RZ9, RV96 series</p> <p>For other models, refer to "The Table of Applicable Printers".</p> <p>When installing on the Group [A] and MZ7/9, MV76, RZ9, RV96 series models, following items are additionally required;</p> <ul style="list-style-type: none"> <li>•Wide stacking tray support; Front (045-22551)</li> <li>•Wide stacking tray support; Rear (045-22552)</li> </ul> <p>The Paper Ejection Attachment and Option PCB are required to install this option to the Group [B] models.</p> <p>The Paper Ejection Attachment and Option PCB II are required to install this option to the Group [C] models.</p> <p>The FW Paper Ejection Attachment is required to install this option to the Group [D] models.</p>	<p><b>Packing List</b></p> <p>This package contains the following items.</p> <ol style="list-style-type: none"> <li>1. Wide stacking tray.....1 unit</li> <li>2. Wide stacking tray arm F.....1 pc.</li> <li>3. Wide stacking tray arm R .....1 pc.</li> <li>4. Magnet catcher bracket; Wide stacking tray.....1 pc.</li> <li>5. Magnet catch; SM-50P.....1 pc.</li> <li>6. Wide stacking tray adaptor F.....1 pc.</li> <li>7. Wide stacking tray adaptor R .....1 pc.</li> <li>8. Tray catcher plate.....1 pc.</li> <li>9. Stacking tray arm spacer.....2 pcs.</li> <li>10. Screws .....1 set</li> <li>11. Explanation label .....1 pc.</li> <li>12. Instruction label (2 types).....1 pc. each</li> <li>13. Installation guide (This manual).....1 copy</li> </ol> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Nobody but Riso-authorized service representatives is allowed to install this unit.</p> </div>
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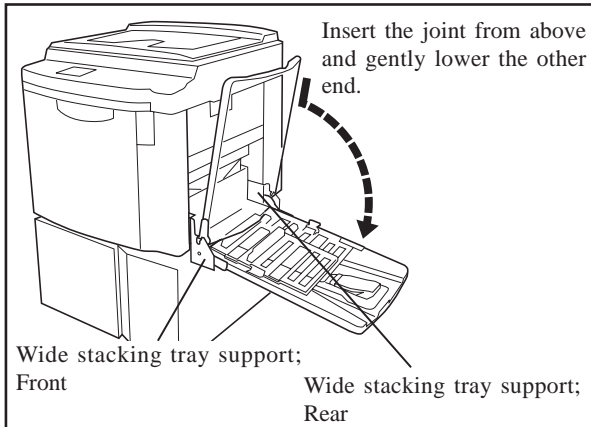
= For the Group [A] and MZ7/9, MV76, RZ9, RV96 series models =



1. Turn off the power switch of the printer and unplug the power cord.
  2. Remove both the standard Paper stacking tray and the Stacking tray supports.
- NOTE:** For the Dual-color models, remove the Cover; P-Ejection in advance.



3. Secure the Stacking tray arm spacers to the tray with the embossed sides facing up. (Binding screw M4x10, 2 pcs.)
4. Secure the Wide stacking tray arm F and R to the Wide stacking tray. (Binding screw M4x10, 4 pcs.)



5. Secure the Wide stacking tray support; Front and Rear with the screws removed in the step 2.  
**NOTE:** For the Dual-color models, secure the Cover; P-Ejection to the original position.
6. Fit the Wide stacking tray in the Wide stacking tray supports from above.
7. Stick the Instruction labels on the Paper receiving tray and the Paper stop respectively so that each label covers the previously affixed ones.

6-7.RISO Stand N Type III

# RISO 架台 N タイプⅢ 設置手順書

## RISO Stand N Type III Installation Procedure

### 適合機種 Types of Applicable Printers

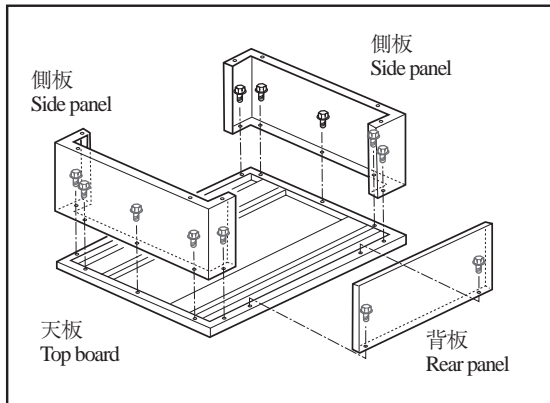
詳細は「適合機種一覧」を参照してください。  
For details, refer to "The Table of Applicable Printers".

本機の設置は、必ず専門の技術者が行ってください。  
Nobody but Riso-authorized representatives is allowed to install this unit.

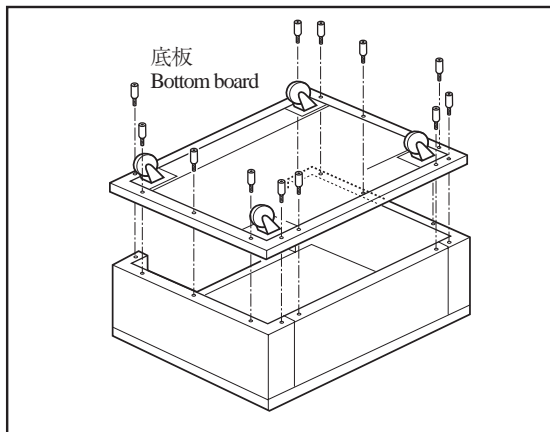
### 内容物リスト Packing List

- |          |               |       |        |
|----------|---------------|-------|--------|
| 1. 天板    | Top board     | ..... | 1 pc.  |
| 2. 側板    | Side panel    | ..... | 2 pcs. |
| 3. 背板    | Rear panel    | ..... | 1 pc.  |
| 4. 底板    | Bottom board  | ..... | 1 pc.  |
| 5. 補助足   | Stand support | ..... | 2 pcs. |
| 6. ガイドピン | Guide pin     | ..... | 2 pcs. |
| 7. 取付ネジ  | Screws        | ..... | 1 set  |

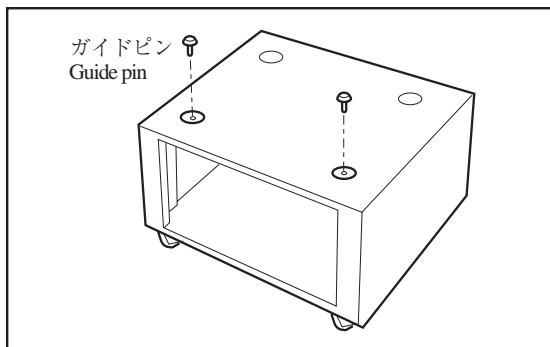
- 天板上面に傷や汚れをつけないように、下敷きをして組み立ててください。  
Lay a soft sheet under the Top board to protect it against scratches and smudges while assembling.



1. 天板裏面を上にして置き、側板と背板を同梱の短いネジで取り付けます。  
Place the Top board with the bottom side facing up. Then put the Rear and Side panels on the Top board and secure them with short screws.

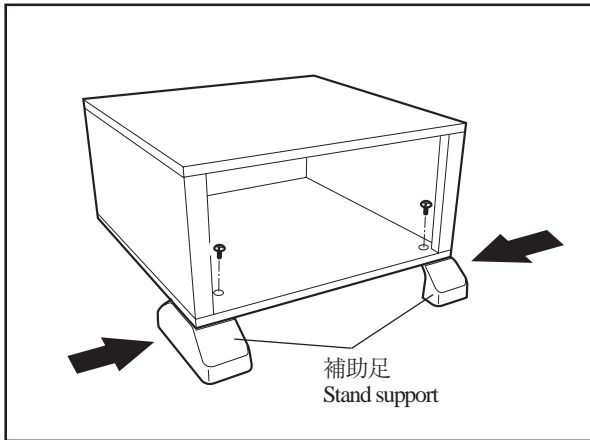


2. 底板を、同梱の長いネジで取り付けます。  
Place the Bottom board on the panel frames and secure it with long screws.
3. 架台を起こす。  
Turn over the assembled stand.



4. 天板の正面側のくぼみに、同梱のガイドピンを取り付けます。  
Insert the guide pins into the holes in the front side dents of the Stand top board.
5. 印刷機を架台に載せる。(印刷機のゴム足を、架台天面のくぼみにあわせる。)  
Place the printer on the stand fitting its rubber feet in the dents on the Stand top board.





6. 補助足を、同梱のネジで架台に取り付ける。  
(2ヶ所)

重要：転倒防止の為、必ず取り付けてください。

Secure the Stand supports to each base corner of the stand with screws.

Important: Be sure to attach the Stand supports to prevent the Stand and Printer from falling.

6-8. RISO Stand D Type III

# RISO 架台 D タイプⅢ設置手順書

## RISO Stand D Type III Installation Procedure

適合機種 Types of Applicable Printers 内容物リスト Packing List

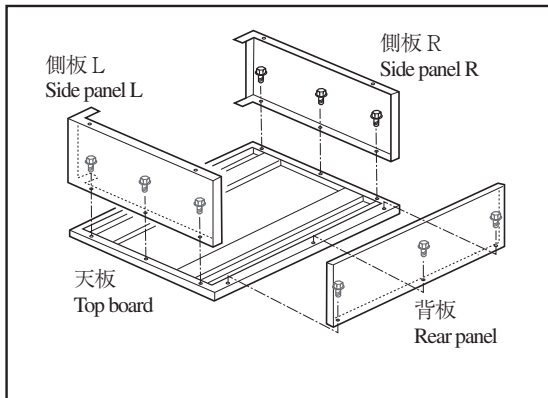
詳細は「適合機種一覧」を参照してください。

For details, refer to "The Table of Applicable Printers".

本機の設置は、必ず専門の技術者が行ってください。  
Nobody but Riso-authorized representatives is allowed to install this unit.

1. 天板	Top board.....	1 pc.
2. 側板 L	Side panel L .....	1 pc.
3. 側板 R	Side panel R .....	1 pc.
4. 背板	Rear panel .....	1 pc.
5. 底板	Bottom board .....	1 pc.
6. 補助足	Stand support .....	2 pcs.
7. ガイドピン	Guide pin.....	2 pcs.
8. 扉	Door .....	2 pcs.
9. 取付ネジ	Screws .....	1 set

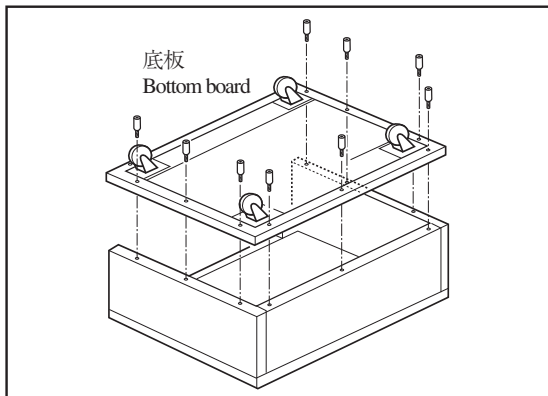
- 天板上面に傷や汚れをつけないように、下敷きをして組み立ててください。  
Lay a soft sheet under the Top board to protect it against scratches and smudges while assembling.



1. 天板裏面を上にして置き、側板と背板を同梱の短いネジで取り付ける。(左図のように、縁に丸穴がある方に背板を取り付ける。)

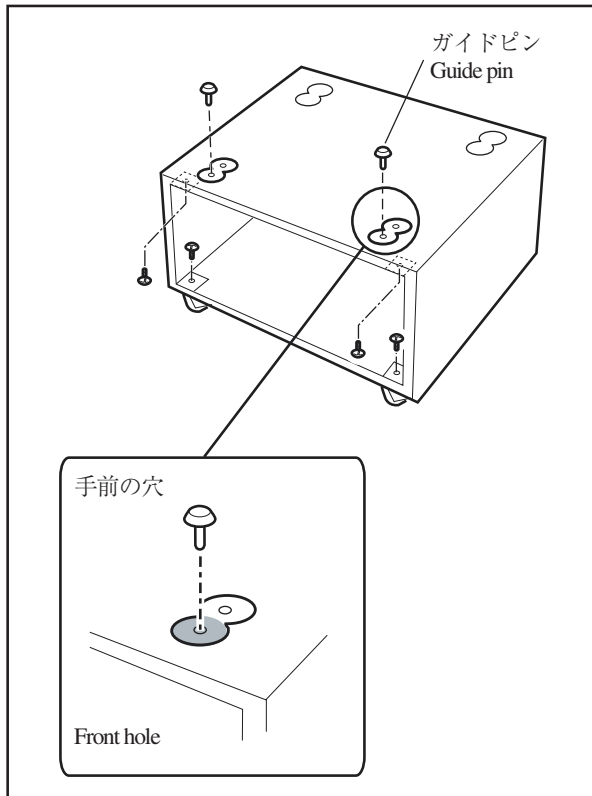
Place the Top board with the bottom side facing up. Then put the Rear and Side panels on the Top board and secure them with short screws.

**NOTE :** Be sure to secure the Rear panel to the Top board on the side with two round holes.

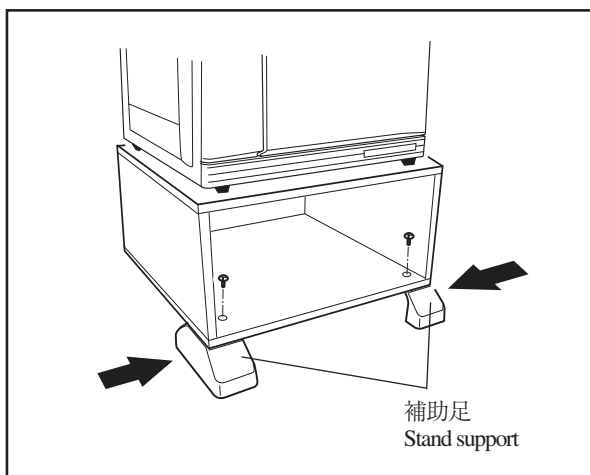


2. 底板を、同梱の長いネジで取り付ける。  
Place the Bottom board on the panel frames and secure it with long screws.

3. 架台を起こす。  
Turn over the assembled stand.



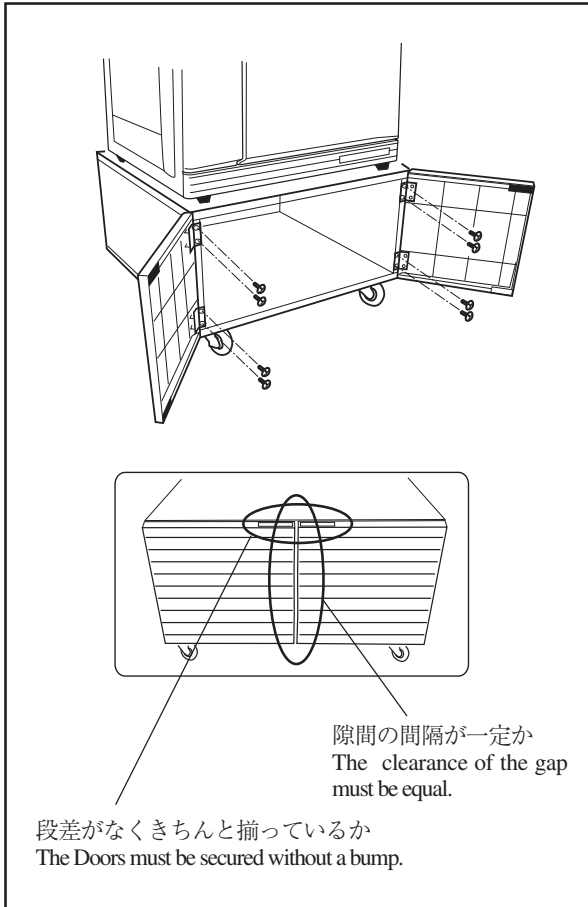
4. 側板を底板、天板にバインドネジで固定する。  
Secure the Side panels to the Bottom and Top Boards with binding screws.
5. 天板の正面側の穴に、同梱のガイドピンを取り付ける。  
Insert the guide pins into the holes in the front side dents of the Stand top board.



6. 印刷機を架台に載せる。(印刷機のゴム足を、架台天面のくぼみとガイドピンに合わせる。)  
Place the printer on the stand fitting its rubber feet in the dents and guide pins on the Stand top board.
7. 補助足を、同梱のネジで架台に取り付ける。(2ヶ所)  
重要：転倒防止の為、必ず取り付けてください。

Secure the Stand supports to each base corner of the stand with screws.

Important: Be sure to attach the Stand supports to prevent the Stand and Printer from falling.



## 8. 扉を側板にバインドネジで取り付ける。

重要：左右の扉に段差が出ないように調整してからネジを固定してください。

- (1) 一番上と一番下のネジ（2本）を仮止めて扉を閉める。
- (2) 左右の扉に段差がないか、隙間が歪んでいないかを確認し調整する。
- (3) 残りのネジをはめて固定する。

Secure the Doors to each Side panel with binding screws.

Important: Secure the Doors so that both of them become even.

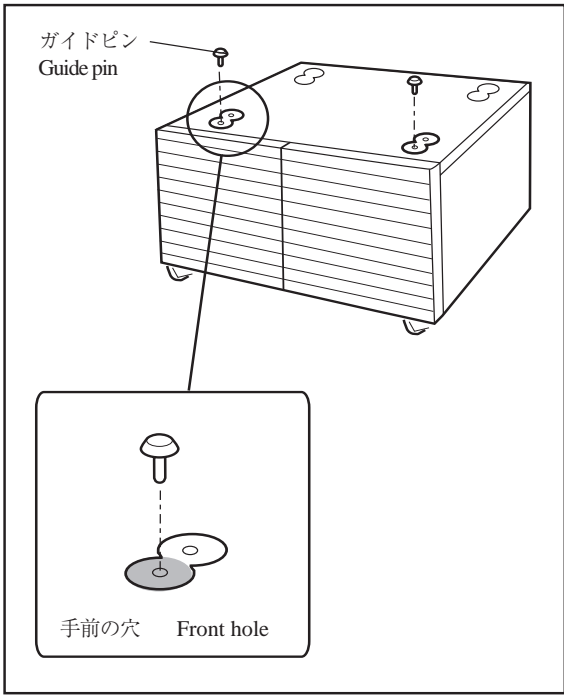
- (1) Close the Doors after securing the top and bottom screws temporarily.
- (2) Confirm whether there is not a bump or a gap between the Doors.
- (3) Secure the Doors with the rest of screws.

6-9.RISO DRUM STORAGE STAND S III

# RISO ドラム収納架台 S III 設置手順書

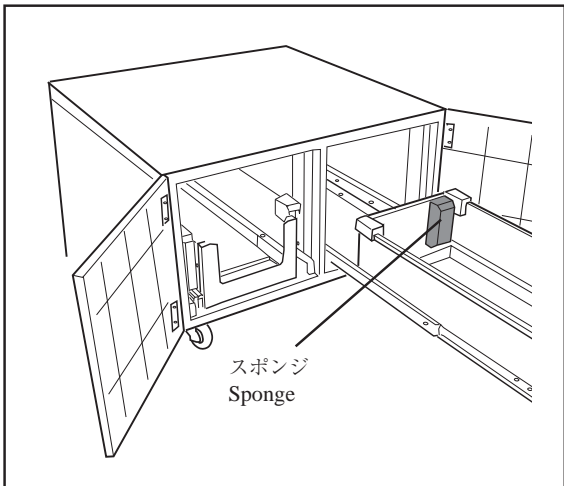
## RISO DRUM STORAGE STAND S III Installation Procedure

適合機種 Types of Applicable Printers	内容物リスト Packing List															
<p>詳細は「適合機種一覧」を参照してください。 For details, refer to "The Table of Applicable Printers".</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>本機の設置は、必ず専門の技術者が行ってください。 Nobody but Riso-authorized representatives is allowed to install this unit.</p> </div>	<table border="0"> <tr><td>1. 架台</td><td>Stand</td><td>.....1 pc.</td></tr> <tr><td>2. 補助足</td><td>Stand support</td><td>.....2 pcs.</td></tr> <tr><td>3. ガイドピン</td><td>Guide pin</td><td>.....2 pcs.</td></tr> <tr><td>4. 取付ネジ</td><td>Screws</td><td>.....1 set</td></tr> <tr><td>5. スポンジ</td><td>Sponge</td><td>.....2 pcs.</td></tr> </table>	1. 架台	Stand	.....1 pc.	2. 補助足	Stand support	.....2 pcs.	3. ガイドピン	Guide pin	.....2 pcs.	4. 取付ネジ	Screws	.....1 set	5. スポンジ	Sponge	.....2 pcs.
1. 架台	Stand	.....1 pc.														
2. 補助足	Stand support	.....2 pcs.														
3. ガイドピン	Guide pin	.....2 pcs.														
4. 取付ネジ	Screws	.....1 set														
5. スポンジ	Sponge	.....2 pcs.														



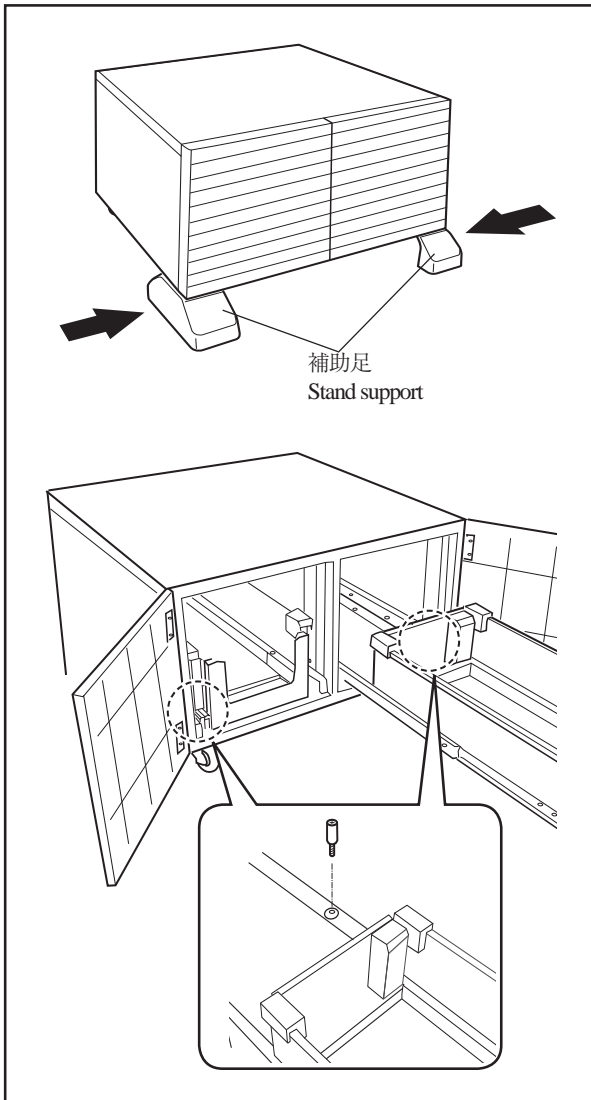
1. 天板の正面側の穴に、同梱のガイドピンを取り付ける。

Insert the guide pins into the holes in the front side dents of the Stand top board.



2. 架台扉を開け、ドラム収納部を引き出し、右角に沿わせてスポンジを貼り付ける。(左右 各1ヶ所)

Open the door of the stand and pull out the drum rack. Affix a sponge on the right corner of the drum rack. (Perform on both of 2 racks.)



3. 補助足を、同梱のネジで架台に取り付ける。  
(2ヶ所)

重要：転倒防止の為、必ず取り付けてください。

Secure the Stand supports to each base corner of the stand with screws.

Important: Be sure to attach the Stand supports to prevent the Stand and Printer from falling.

6-10. IC CARD READER ACTIVATION KIT RG

# IC CARD READER ACTIVATION KIT RG Installation Procedure

**⚠** Installation has to be done by an authorized technical expert.  
Please read "TECHNICAL MANUAL" of the applicable model about work precautions.

### Types of Applicable Printers

For details, refer to "The Table of Applicable Printers".



The IC card reader is not included in this package. Prepare a commercially available IC card reader in advance.

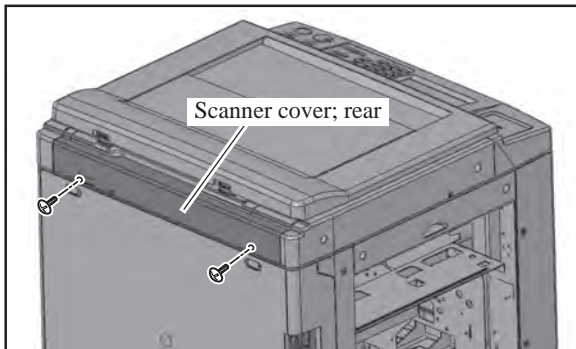
When installing the "RISO NETWORK KIT S10" at the same time, install the "IC CARD READER ACTIVATION KIT RG" first.

### Packing List

This package contains the following items.

1. SUB-SYSTEM-PCB (1) ..... 1 pc.
2. SUB-SYSTEM Control wire harness 2 ..... 1 pc.
3. PCB screw ..... 1 pc.
4. Velcro.....1 set.
5. Cable sticker (KS-12)..... 2 pcs.
6. Installation Procedure (this document) ..... 1 copy
7. The Table of Applicable Printers..... 1 copy
8. Notification Sheet ..... 1 copy
9. Declaration of conformity (for EU only) ... 1 copy
10. Specified Substances List (for China) ..... 1 copy

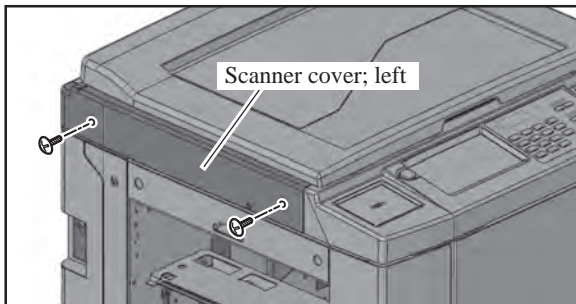
### = Common procedure =



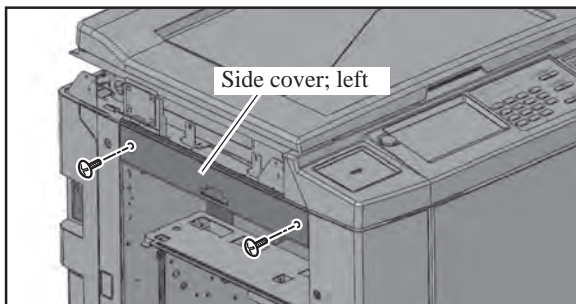
1. Turn off the main power switch of the printer and unplug the power cord.

**Important:** Be sure to turn off the printer and perform work while power is not supplied to the printer. (Not just the switch, but pull out the plug as well.)

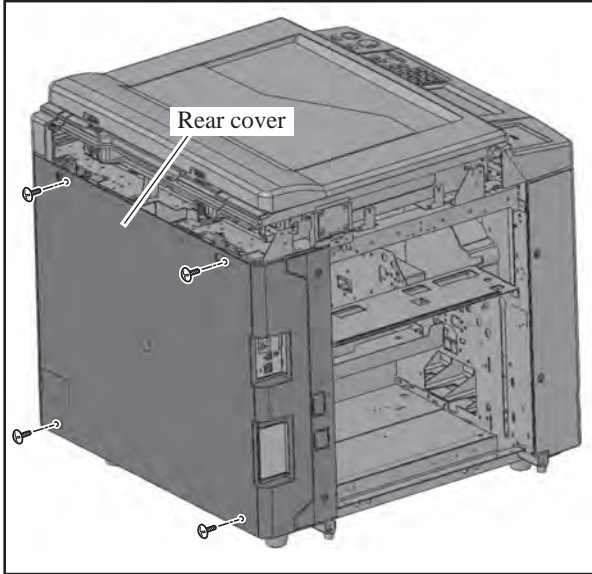
2. Remove the Scanner cover; rear. (2 screws)



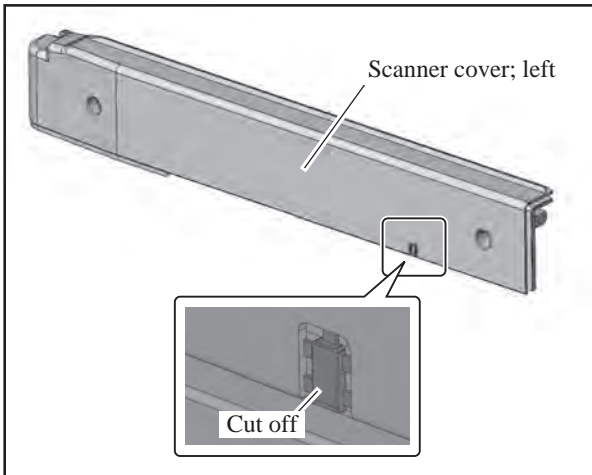
3. Remove the Scanner cover; left. (2 screws)



4. Remove the Side cover; left. (2 screws)



5. Remove the Rear cover. (4 screws)

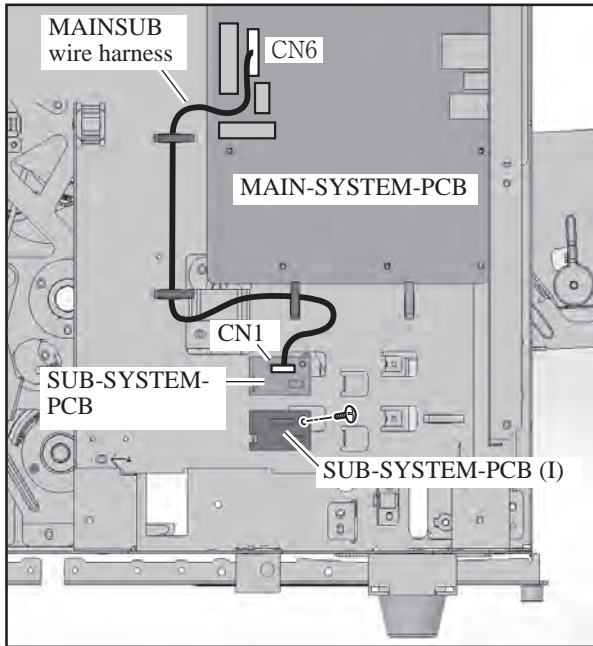


6. Make a U-shape opening on the Scanner cover; left as shown in the illustration.

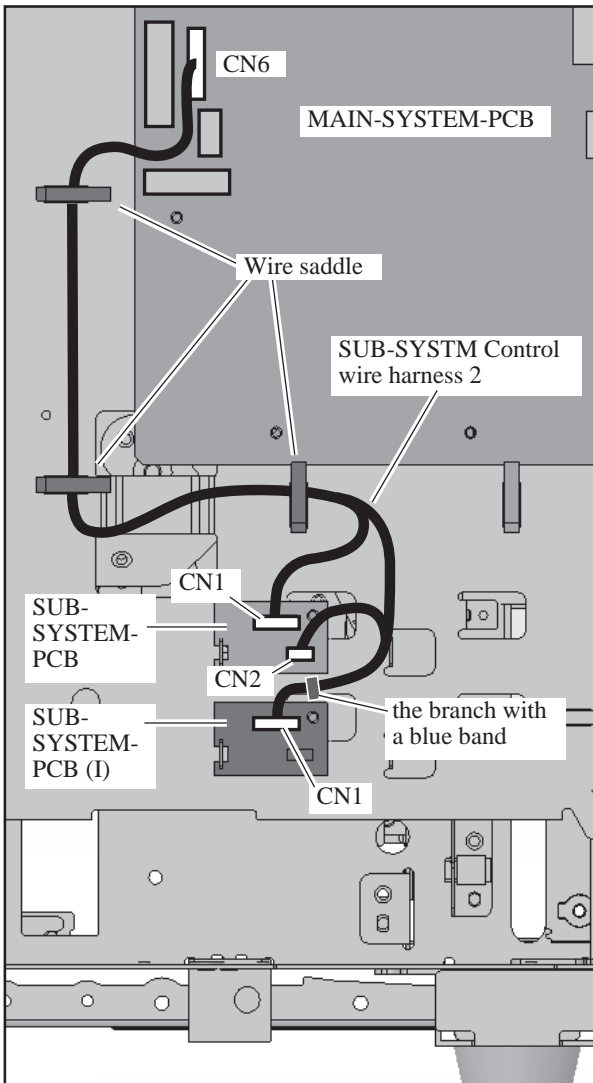
If RISO NETWORK KIT S10 is not installed  
..... Go to P.3  
If RISO NETWORK KIT S10 is installed  
..... Go to P.4



= If RISO NETWORK KIT S10 is not installed =



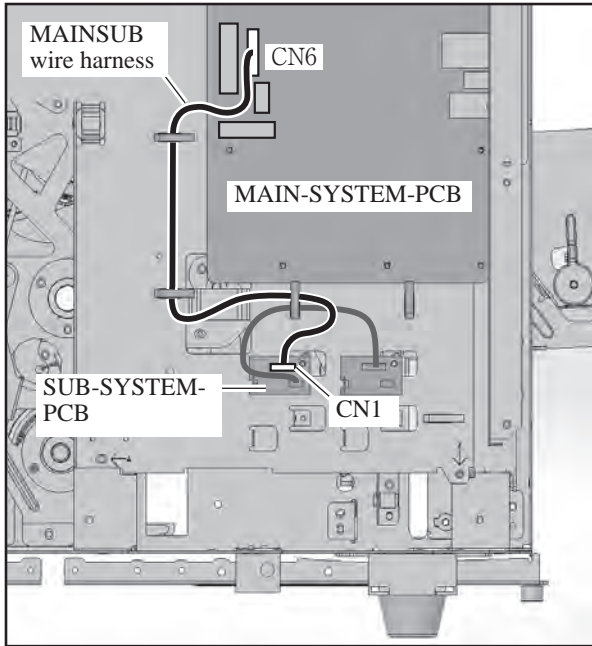
1. Remove the MAINSUB wire harness from CN6 on the MAIN-SYSTEM-PCB and CN1 on the SUB-SYSTEM-PCB. (The removed MAINSUB wire harness will not be used.)
2. Attach the SUB-SYSTEM-PCB (I) at the position illustrated on the left. (Binding screw M3x6, 1pc.)



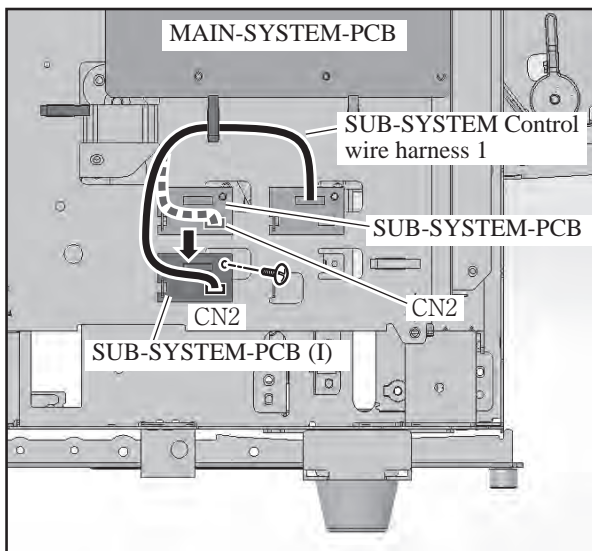
3. Connect the SUB-SYSTEM Control wire harness 2 to CN6 on the MAIN-SYSTEM -PCB.
4. Connect the branch of the SUB-SYSTEM Control wire harness 2, that is with a blue band, to CN1 on the SUB-SYSTEM-PCB (I).  
Important: Be careful not to mistake CN1 on the SUB-SYSTEM-PCB for CN1 on the SUB-SYSTEM-PCB (I).
5. Connect the remaining branches of the SUB-SYSTEM Control wire harness 2 to CN1 and CN2 on the SUB-SYSTEM-PCB.
6. Secure the SUB-SYSTEM Control wire harness 2 with three existing wire saddles.

Go to P.6.

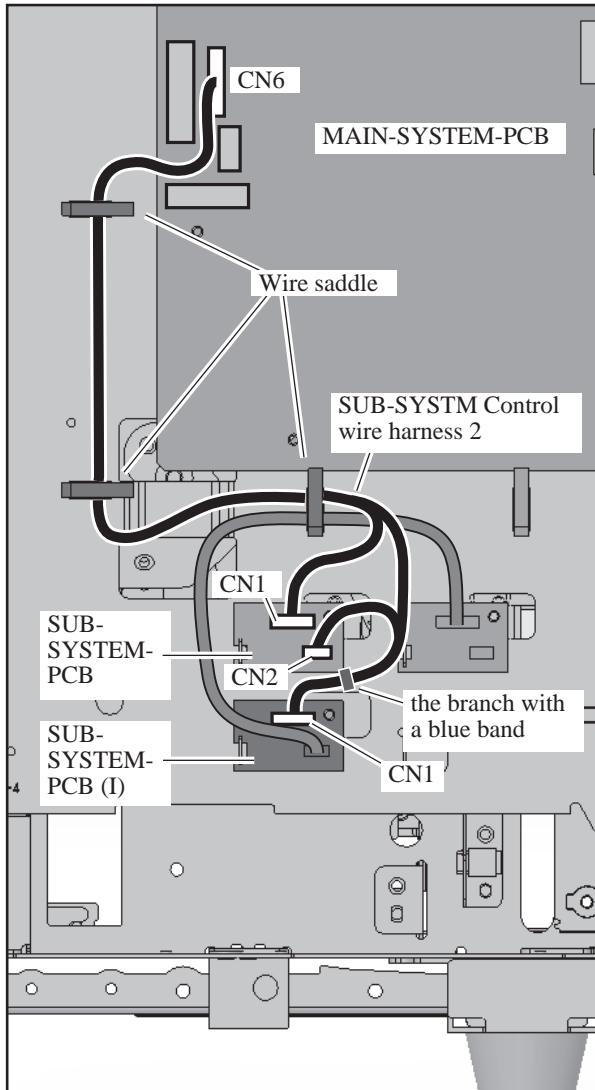
= If RISO NETWORK KIT S10 is installed =



1. Remove the MAINSUB wire harness from CN6 on the MAIN-SYSTEM-PCB and CN1 on the SUB-SYSTEM-PCB. (The removed MAINSUB wire harness will not be used.)



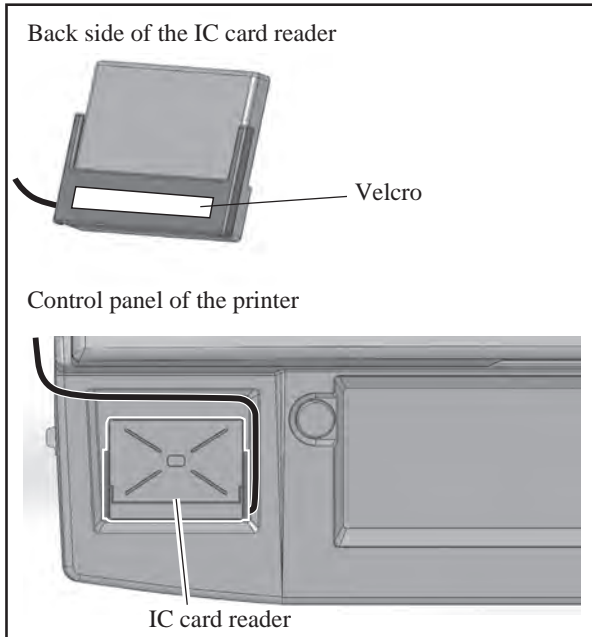
2. Attach the SUB-SYSTEM-PCB (I) at the position illustrated on the left. (Binding screw M3x6, 1pc.)
3. Replace the SUB-SYSTEM Control wire harness 1 from CN2 on the SUB-SYSTEM-PCB to CN2 on the SUB-SYSTEM-PCB (I).



4. Connect the SUB-SYSTEM Control wire harness 2 to CN6 on the MAIN-SYSTEM -PCB.
5. Connect the branch of the SUB-SYSTEM Control wire harness 2, that is with a blue band, to CN1 on the SUB-SYSTEM-PCB (I).  
**Important:** Be careful not to mistake CN1 on the SUB-SYSTEM-PCB for CN1 on the SUB-SYSTEM-PCB (I).
6. Connect the remaining branches of the SUB-SYSTEM Control wire harness 2 to CN1 and CN2 on the SUB-SYSTEM-PCB.
7. Secure the SUB-SYSTEM Control wire harness 2 with three existing wire saddles.

Go to P.6.

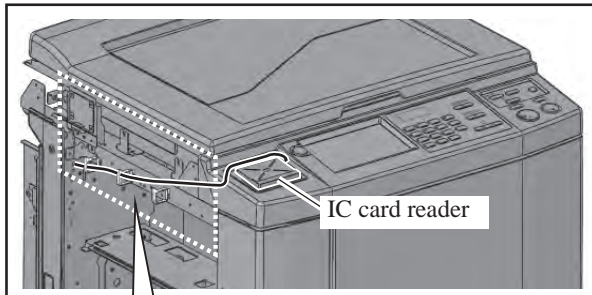
= Common procedure =



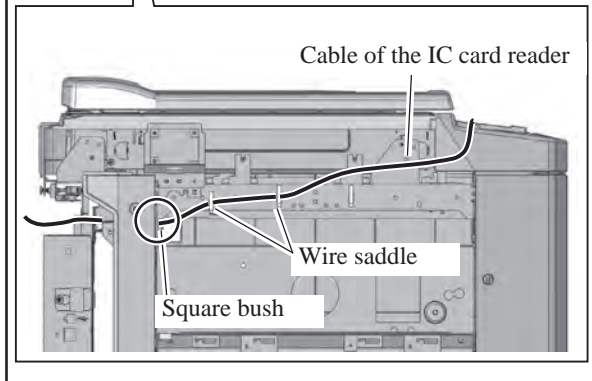
Prepare a commercially available IC card reader in advance. The following step 1 and 2 vary depending on the size and shape of the IC card reader.

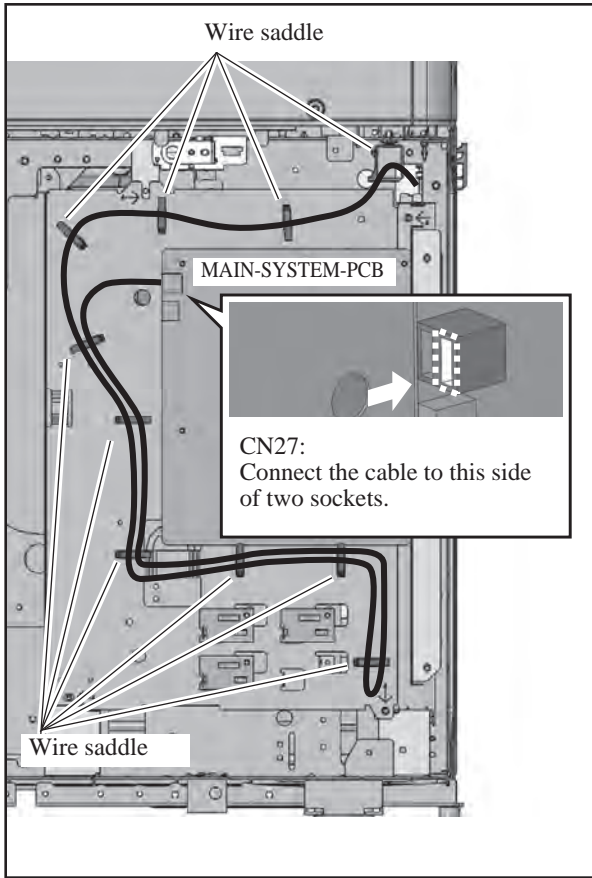
1. Stick a set of Velcro to the IC card reader.  
**Important:** The set of Velcro is fastened together. While keep them together, peel one side of the release paper and stick the set of Velcro to the IC card reader.

2. Peel the remaining release paper on the back side of the IC card reader, and place the IC card reader on the printer as shown in the illustration.

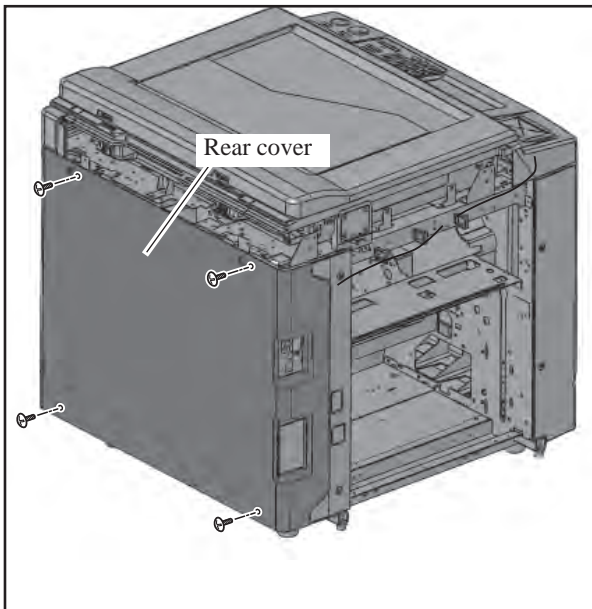


3. Lead the cable of the IC card reader through the square bush, and secure the cable with two existing wire saddles.

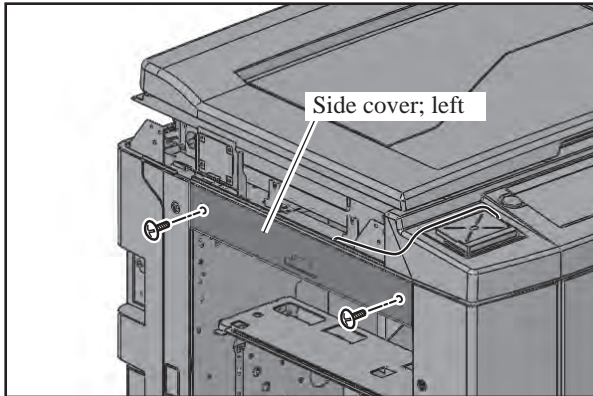




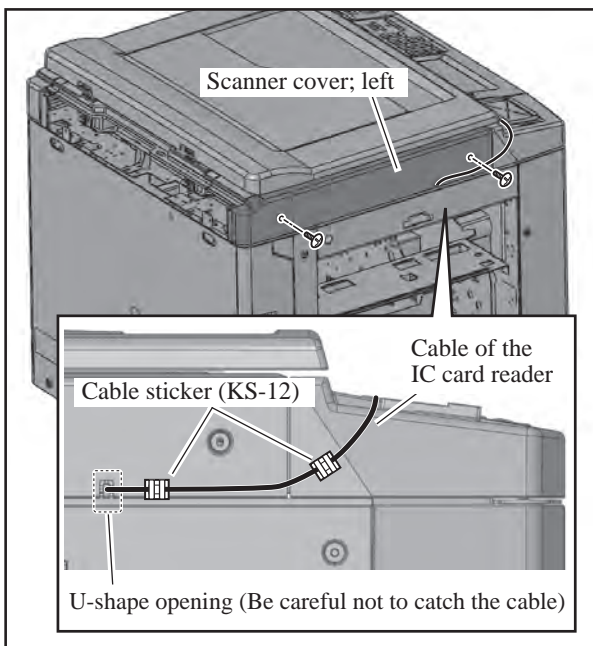
4. Lead the cable of the IC card reader as shown in the illustration, and connect it to CN27 on the MAIN-SYSTEM-PCB.  
**Important:** Connect the cable to the outer side of CN27 as shown in the illustration.
5. Secure the cable with the existing 10 wire saddles depending on the length of the cable.



6. Replace the Rear cover. (4 screws)



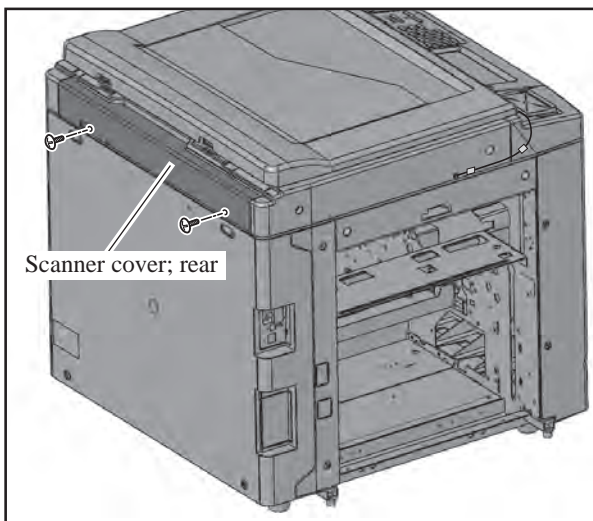
7. Replace the Side cover; left. (2 screws)



8. Replace the Scanner cover; left. (2 screws)

Important: Lead the cable of the IC card reader through the U-shape opening of the Scanner cover; left. Make sure that the cable does not get caught in the cover.

9. Put the cable stickers (KS-12) on the side of the printer as shown in the illustration and secure the cable with them.



10. Replace the Scanner cover; rear. (2 screws)

11. Start up the printer in the test mode, perform the test code "7051" (IC Card Reader Get Info.). (This test code makes the IC card reader available on the printer.)

12. Restart the printer in the normal mode and make sure that the error B30-910 is not displayed.

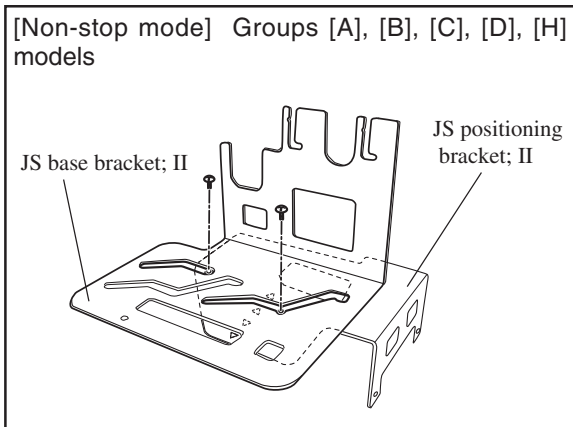
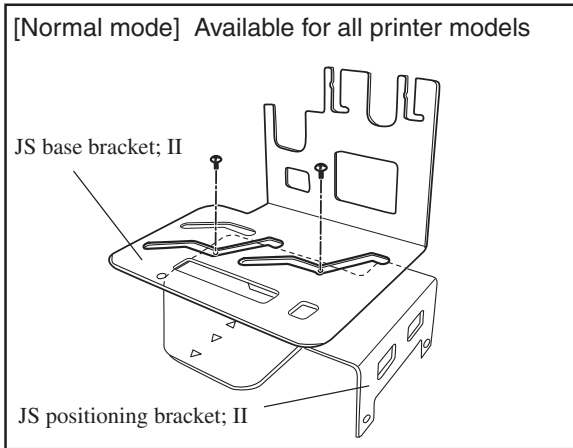
Important: If the error is displayed, check if the wire harnesses are connected correctly.

6-11. Job Separator IV : NIII

# Job Separator IV : NIII Installation Procedure

Types of Applicable Printers	Packing List
<p>The following printer model is the intended basic unit for installing the Job Separator IV:NIII.</p> <p>RISO KAGAKU CORPORATION Model</p> <p>RISO MZ7/9, MV76 series RZ2/3/5/9 series RV2/3/5/96 series</p> <p>For other models, refer to “The Table of Applicable Printers”.</p> <ul style="list-style-type: none"> <li>- For Non-stop mode, the Paper guide II; R (047-22007) (only for the Groups [A], [B], [C], [D] models) or the Paper guide II; R (059-21011) (only for the Groups [H] models) is required separately.</li> <li>- For the Group [E] models, the JS bracket (042-22001) and the JS IV wire harness [short] (113-97000) are required.</li> <li>- For the Groups [F], [G] models, the JS bracket (042-22001) is required.</li> </ul>	<p>This package contains the following items.</p> <ol style="list-style-type: none"> <li>1. Job separator IV:NIII unit ..... 1 unit</li> <li>2. JS positioning bracket; II *1..... 1 pc.</li> <li>3. JS base bracket; II *1..... 1 pc.</li> <li>4. JS IV wire harness ..... 1 pc.</li> <li>5. DKN-10 NK clasper *2 ..... 1 pc.</li> <li>6. Screws..... 1 set</li> <li>7. JS paper size indication label *1 ..... 1 pc.</li> <li>8. Instruction label(JE/PICT) *1 ..... 1 pceach</li> <li>9. Paper tape roll ..... 1 roll</li> <li>10. Mylar Sheet; JS *3..... 1 pc.</li> <li>11. Installation guide(This Manual)..... 1 copy</li> <li>12. User’s guide..... 1 copy</li> <li>13. Declaration of Conformity(for EU only)..... 1 copy</li> </ol> <p>*1 For the Groups [E], [F], [G] models, these parts are not required.</p> <p>*2 For the Groups [A], [B], [C], [E], [F], [G], [H] models, this part is not required.</p> <p>*3 This is not used for Non-stop mode.</p>
<p>Nobody but Riso-authorized service representatives is allowed to install this unit.</p>	

= Preparation for all printer models =

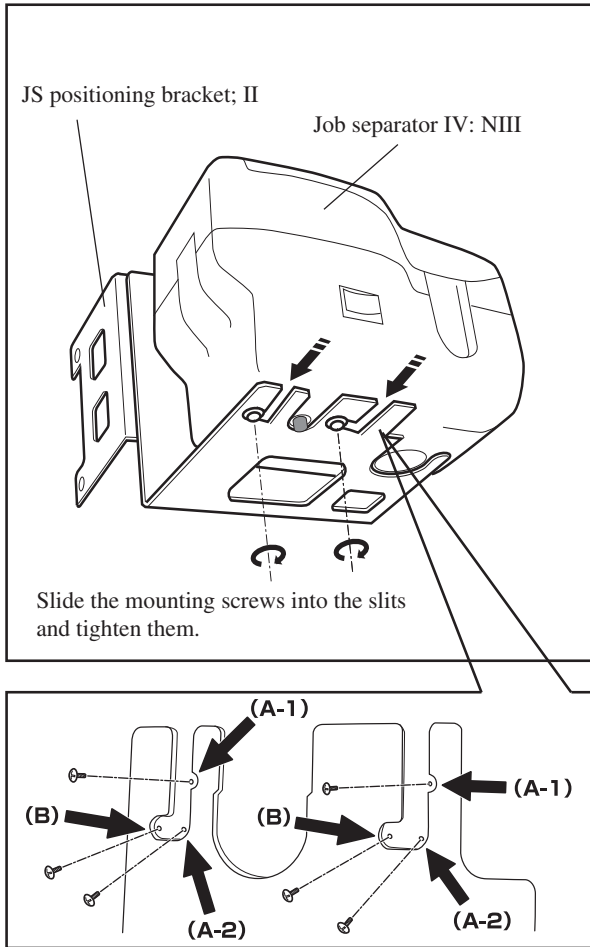


Important: • When installing the Job separator IV: NIII on the Groups [A], [B], [C], [D], [H] models, users have a choice between Non-stop mode and Normal mode. Ask users which mode they select before installation. Only when the standard stacking tray is mounted on the printer, Non-stop mode is available.

• For the printer models except the Groups [A], [B], [C], [D], [H] models, install the Job separator IV; NIII for Normal mode.

1. Place the JS positioning bracket; II on the JS base bracket; II and secure them with two stepped screws.

Important: Be careful that the screw positions vary according to the mode (series).



2. Loosen two mounting screws on the bottom of the Job separator IV:NIII.

Important: Do not loosen the center screw on the bottom of the Job separator IV:NIII.

3. Insert the JS base bracket; II into the gap between the Job separator and the loosened screws and secure the screws firmly.

Important: The positions securing screws differ depending on the mode or the position of the stacking tray.

Normal mode -> B

Non-stop mode / The stacking tray is mount in the stander position -> A-1

Non-stop mode / The stacking tray is mount in the horizontal position -> A-2

Note: When installing for Non-stop mode, exchanging the Paper guide (P.22) and change of the test mode setting (P.23) are required.

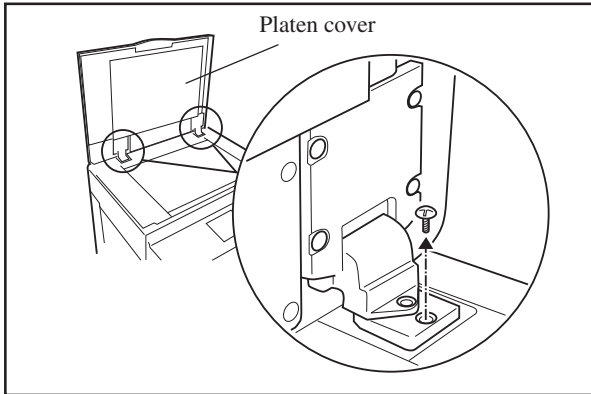
4. Turn off the main power and unplug the power cord from the printer.

The following procedures differ according to the printer model.

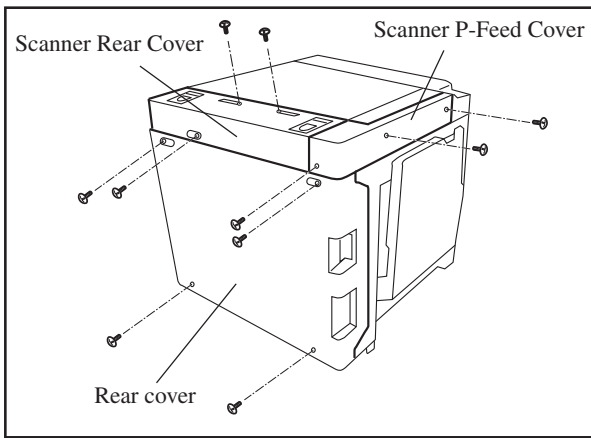
- Groups [A], [B] models → P.3
- RZ2/3/5, RV2/3/5 series models → P.5
- RZ9, RV96 series models → P.6
- Group [C] models → P.7
- MZ7/9, MV76 series models → P.9
- Group [D] models → P.12
- Group [E] models → P.15
- Groups [F], [G] models → P.17
- Groups [H] models → P.20



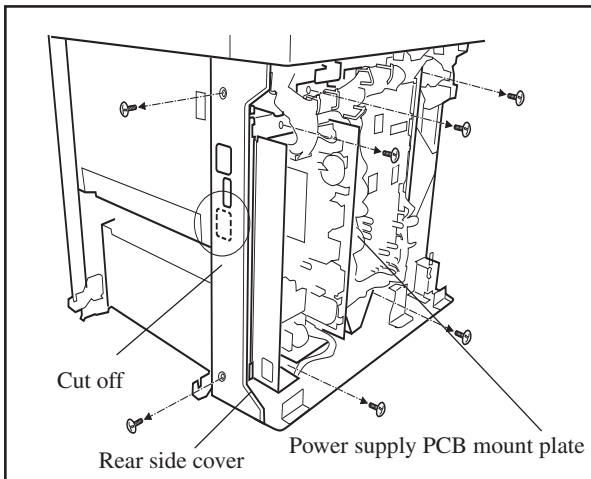
= For the Groups [A], [B] models =



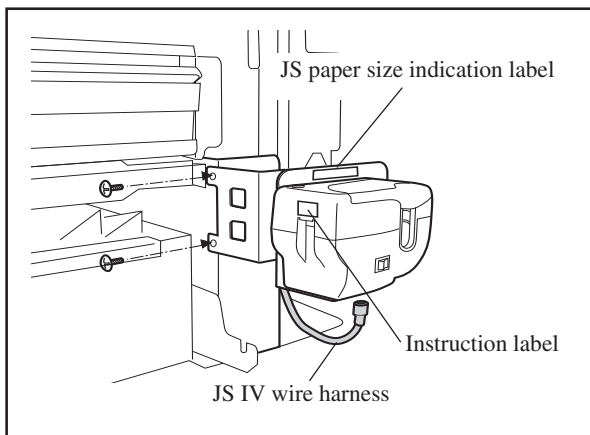
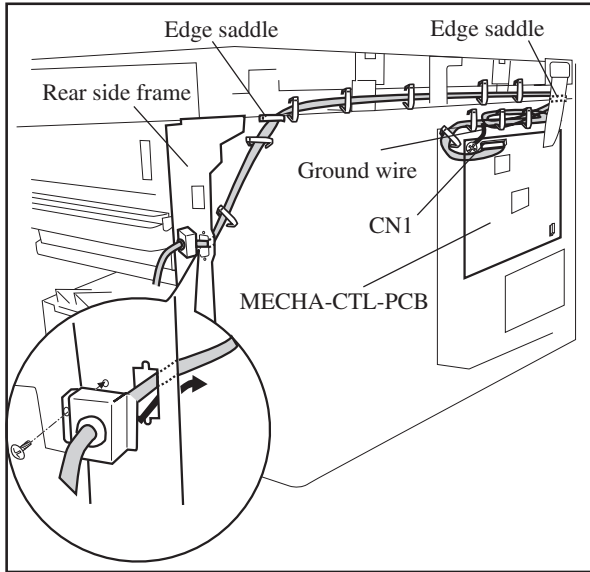
1. Open the Platen cover and remove the securing screws on the hinges.
2. Dismount the Platen cover.



3. Remove the Scanner rear cover.
4. Remove the Scanner P-Feed cover.
5. Remove the Rear cover.



6. Remove the Rear side cover.
7. Cut off the part illustrated in the left from the Rear side cover.
8. Remove the screws of the Power supply PCB mount plate and open it.



9. Lead the JS IV wire harness through the square hole at the Rear side frame to the MECHA-CTL-PCB as instructed in the illustration.

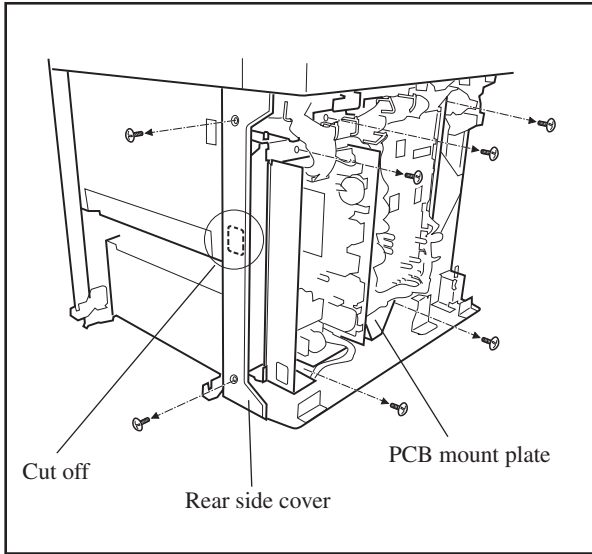
NOTE: Secure the remainder of the JS IV wire harness with two wire saddles that are at the upper right of MECHA-CTL-PCB.

10. Insert the two tabs of the metal bushing on the wire harness into the square hole and secure the metal bushing there with a screw. (Binding screw, M3 x 6)
11. Connect the connector of JS IV wire harness to CN1 on the MECHA-CTL-PCB.
12. Remove one of the mounting screws of the MECHA-CTL-PCB near the CN1 and secure the ground wire coming from the JS IV wire harness to the MECHA-CTL-PCB with removed screw.
13. Secure the JS IV wire harness with existing two edge saddles and eleven wire saddles.
14. Replace the Power supply PCB mount plate and secure it with the screws.
15. Replace the Rear side cover.
16. Secure the Job separator IV:NIII with two screws. (Binding screw, M4 x 8)
17. Lead the JS IV wire harness and connect the connector of it to the bottom of the Job separator IV:NIII as illustrated.
18. Stick the JS paper size indication label and a Instruction label on the Job Separator as illustrated.
19. Replace the Rear cover to the printer.
20. Replace the Scanner P-Feed cover.
21. Replace the Scanner rear cover.
22. Replace the Platen cover.
23. Plug the power cord to the printer and turn on the main power.
24. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

When installing for Normal mode      Skip to P.22

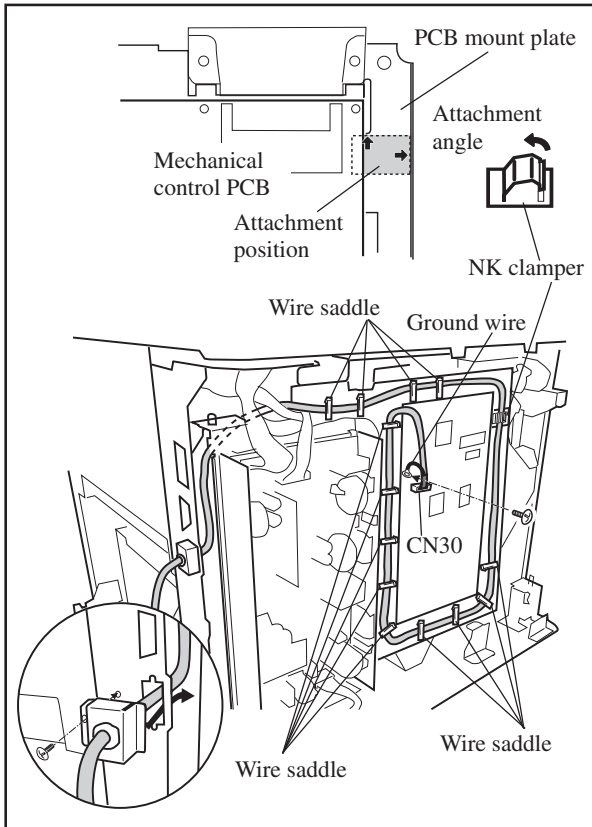
When installing for Non-stop mode      Skip to P.23

= For RZ2/3/5, RV2/3/5 series models =

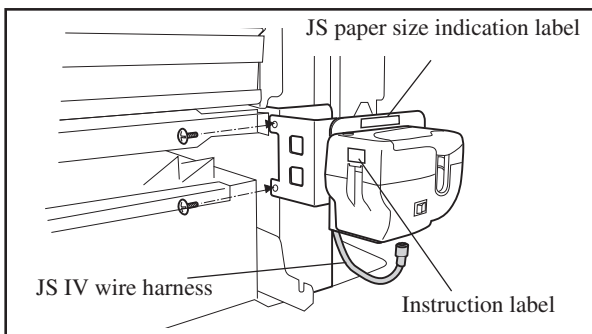


1. Remove the Rear cover from the printer.
2. Remove the Rear side cover.
3. Cut off the part illustrated in the left from the Rear side cover.
4. Remove the screws of the PCB mount plate.
5. Attach the NK clammer onto the PCB mount plate as illustrated.

Important: • The right side of the NK clammer is attached according to the end on the right side of PCB mount plate.  
 • The left side of the NK clammer is inserted underneath the Mechanical control PCB.



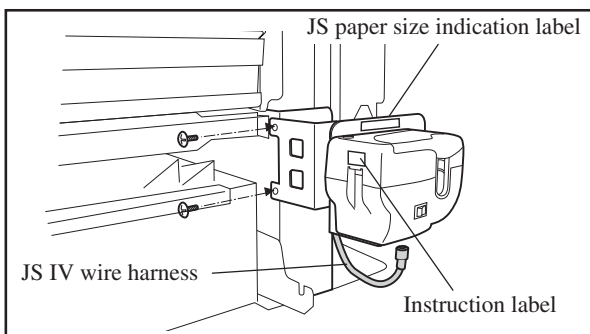
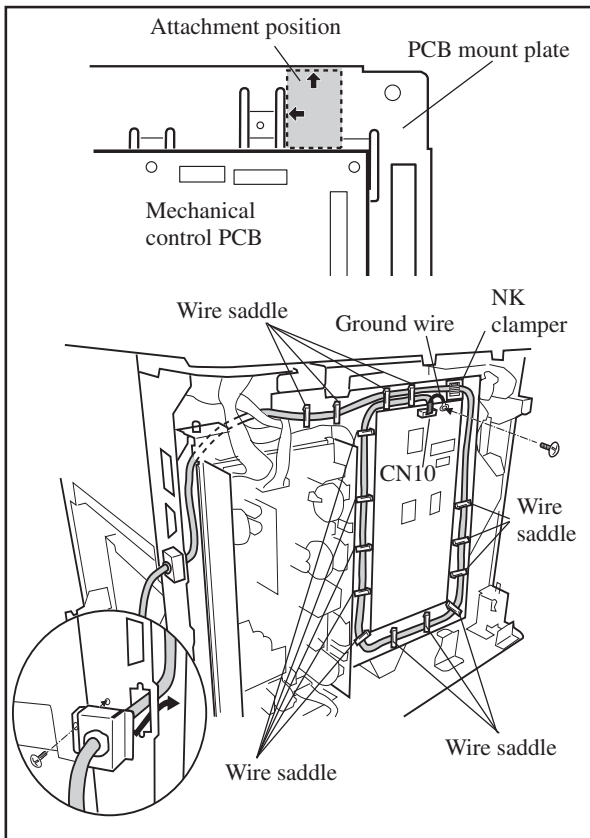
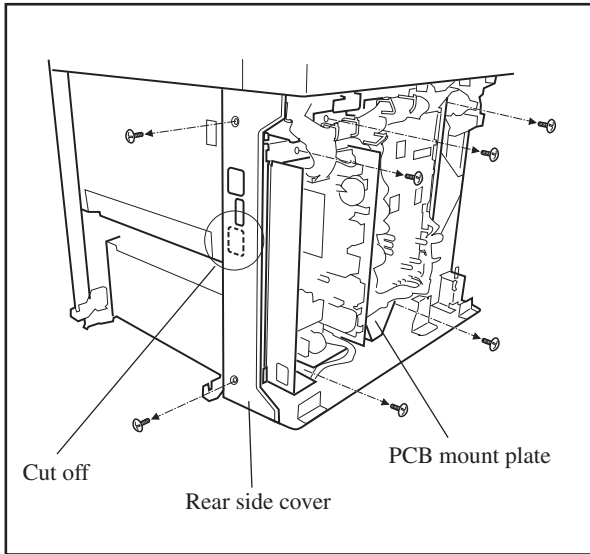
6. Open the PCB mount plate and lead the JS IV wire harness through the square hole at the rear side frame to the Mechanical control PCB as instructed in the illustration.
7. Insert the two tabs of the metal bushing on the wire harness into the square hole and secure the metal bushing there with a screw. (Binding screw, M3 x 6)
8. Connect the connector of JS IV wire harness to CN30 on the Mechanical control PCB.
9. Remove one of the mounting screws of the Mechanical control PCB near the CN30 and secure the ground wire coming from the JS IV wire harness to the Mechanical control PCB with removed screw.
10. Secure the JS IV wire harness with existing wire saddles at thirteen points and the NK clammer.
11. Replace the PCB mount plate and secure it with the screws.
12. Replace the Rear side cover.
13. Secure the Job separator IV:NIII with two screws. (Binding screw, M4 x 8)
14. Lead the JS IV wire harness and connect the connector of it to the bottom of the Job separator IV:NIII as illustrated.



15. Stick the JS paper size indication label and a Instruction label on the Job Separator as illustrated.
16. Replace the Rear cover to the printer.
17. Plug the power cord to the printer and turn on the main power.
18. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

Skip to P.22 [Sticking the Mylar Sheet; JS]

= For RZ9, RV96 series models =

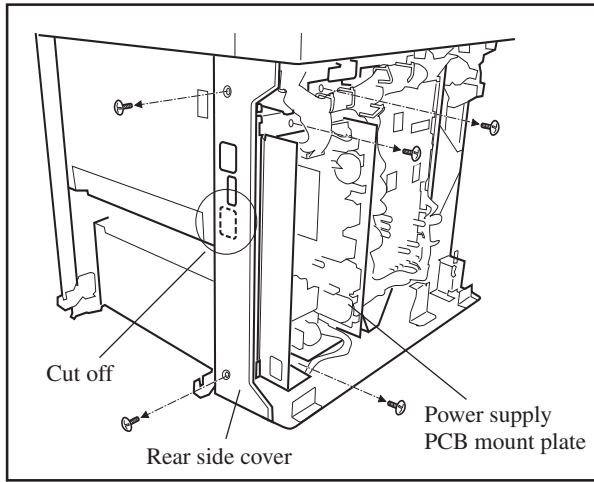


1. Remove the Rear cover from the printer.
2. Remove the Rear side cover.
3. Cut off the part illustrated in the left from the Rear side cover.
4. Remove the screws of the PCB mount plate.
5. Attach the NK clammer onto the PCB mount plate as illustrated.
 

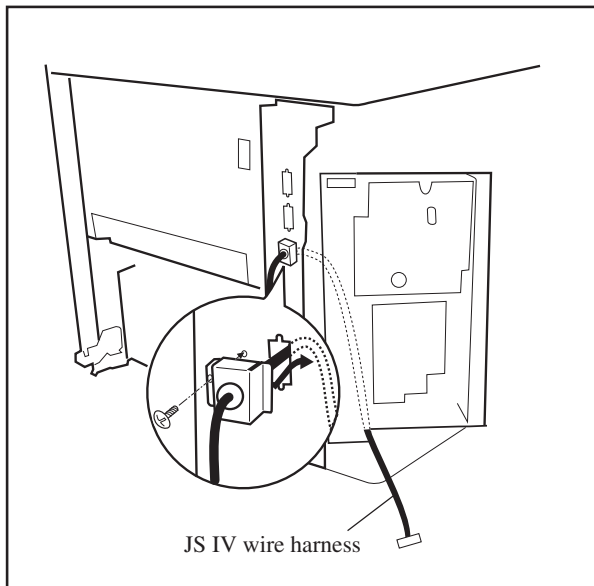
Important: The right side of the NK clammer is attached according to the end on the right side of PCB mount plate.
6. Open the PCB mount plate and lead the JS IV wire harness through the square hole at the rear side frame to the Mechanical control PCB as instructed in the illustration.
7. Insert the two tabs of the metal bushing on the wire harness into the square hole and secure the metal bushing there with a screw. (Binding screw, M3 x 6)
8. Connect the connector of JS IV wire harness to CN10 on the Mechanical control PCB.
9. Remove one of the mounting screws of the Mechanical control PCB near the CN10 and secure the ground wire coming from the JS IV wire harness to the Mechanical control PCB with removed screw.
10. Secure the JS IV wire harness with existing wire saddles at fifteen points and the NK clammer.
11. Replace the PCB mount plate and secure it with the screws.
12. Replace the Rear side cover.
13. Secure the Job separator IV:NIII with two screws. (Binding screw, M4 x 8)
14. Lead the JS IV wire harness and connect the connector of it to the bottom of the Job separator IV:NIII as illustrated.
15. Stick the JS paper size indication label and a Instruction label on the Job Separator as illustrated.
16. Replace the Rear cover to the printer.
17. Plug the power cord to the printer and turn on the main power.
18. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

Skip to P.22 [Sticking the Mylar Sheet; JS]

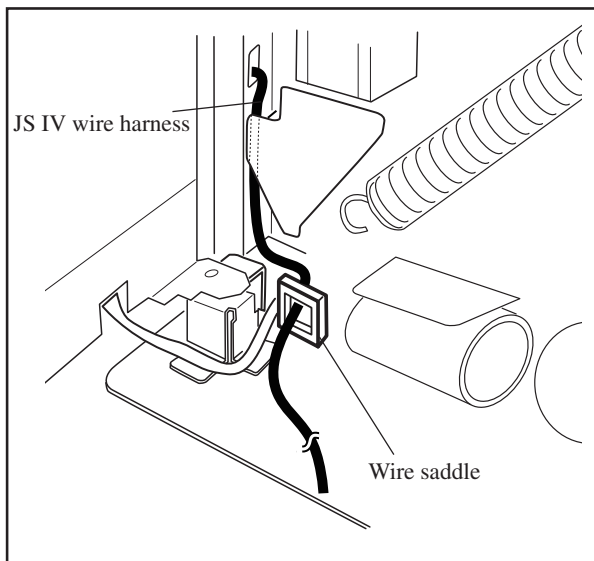
= For the Group [C] models =



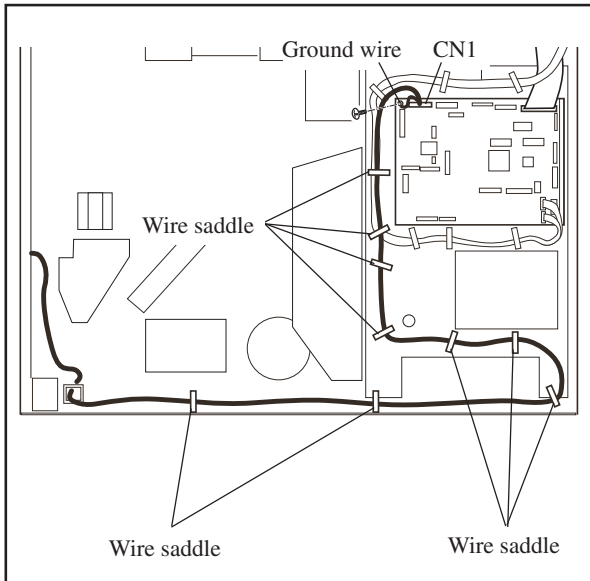
1. Remove the Rear cover from the printer.
2. Remove the Rear side cover from the printer.
3. Cut off the part illustrated in the left from the Rear side cover.
4. Remove the screws of the Power supply PCB mount plate.



5. Lead the JS IV wire harness through the square hole at the rear side frame to the Power supply PCB mount plate as instructed in the illustration.
6. Insert the two tabs of the metal bushing on the wire harness into the square hole and secure the metal bushing there with a screw. (Binding screw, M3 x 6)



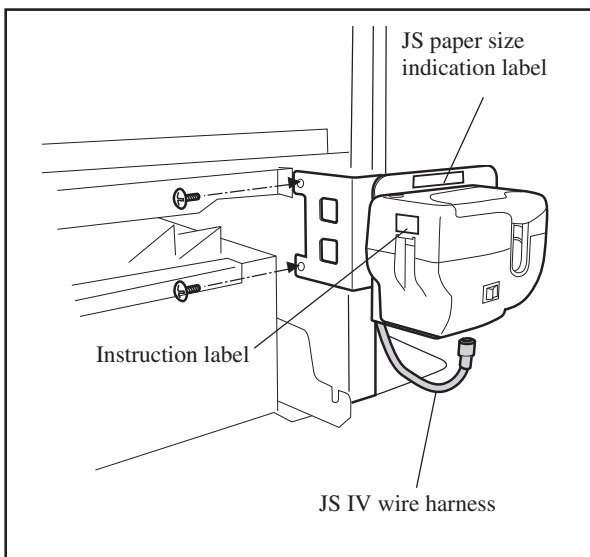
7. Lead the JS IV wire harness onto Rear bottom plate as illustrated, and secure it with the wire saddle.



8. Lead the JS IV wire harness onto PCB mount plate as illustrated.

Important: Make sure the JS IV wire harness should not slacken.

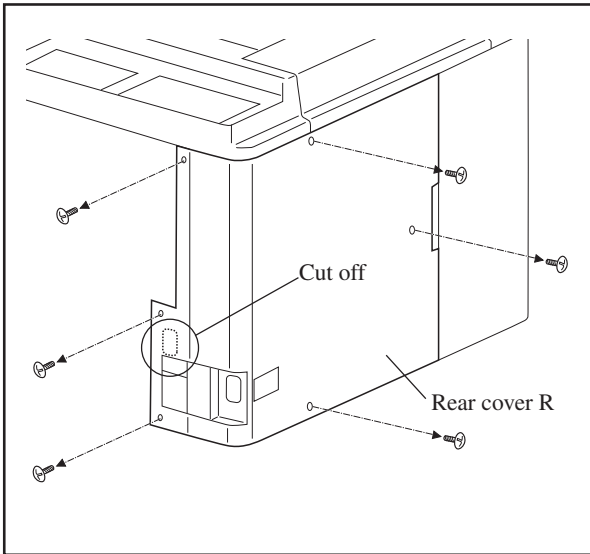
9. Connect the connector of JS IV wire harness to CN1 on the MECHA-CONTROL-PCB.
10. Remove one of the mounting screws of the MECHA-CONTROL-PCB near the CN1 and secure the ground wire coming from the JS IV wire harness to the MECHA-CONTROL-PCB with removed screw.
11. Secure the JS IV wire harness with nine wire saddles.
12. Replace the Power supply PCB mount plate and secure it with the screws.
13. Replace the Rear side cover and the Rear cover.



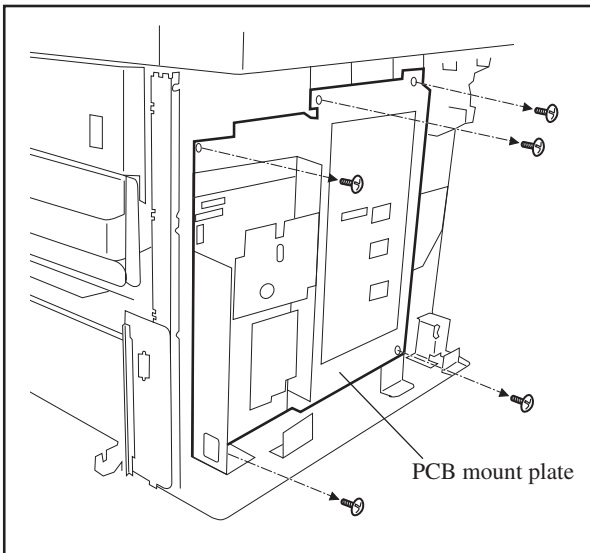
14. Secure the Job separator IV:NII to the side plate of the printer with two screws. (Binding screw, M4 x 8)
15. Lead the JS IV wire harness and connect the connector of JS IV wire harness to the bottom of the Job separator IV:NII.
16. Stick the JS paper size indication label and a Instruction label on the Job Separator as illustrated.
17. Plug the power cord to the printer and turn on the main power.
18. Put the Paper tape roll into the Job separator IV:NII and check that the Job separator IV:NII functions correctly.

When installing for Normal mode Skip to P.22  
When installing for Non-stop mode Skip to P.23

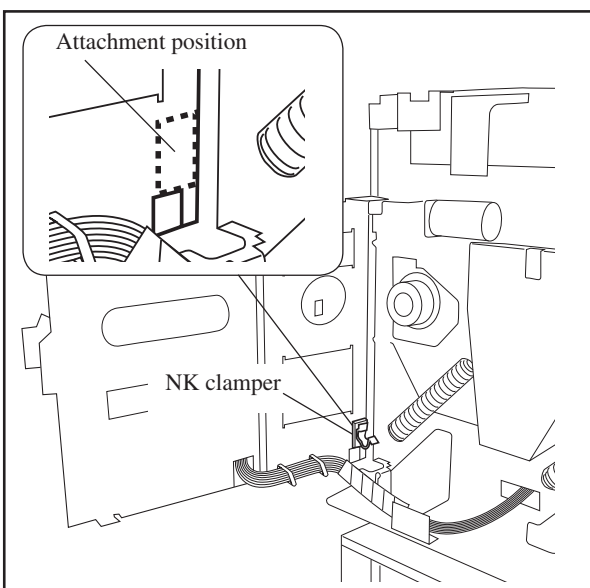
= For MZ7/9, MV76 series models =



1. Remove the Rear cover R from the printer.
2. Cut off the part illustrated in the left from the Rear cover R.

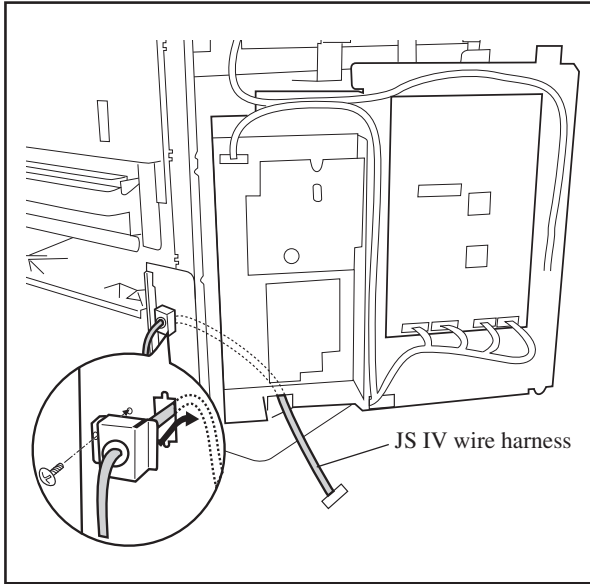


3. Remove the screws of the PCB mount plate.

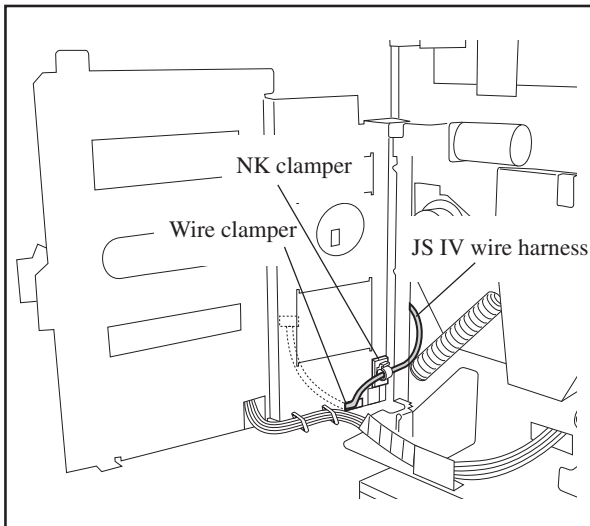


4. Open the PCB mount plate and attach the NK clammer onto the back side of PCB mount plate.

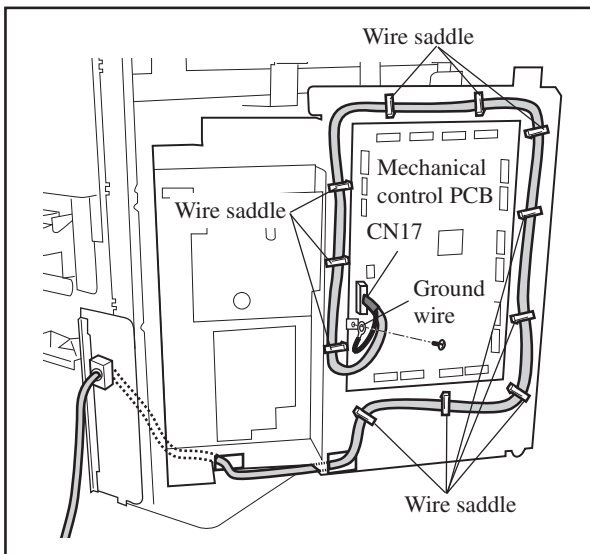
Important: The right side of the NK clammer is attached according to the end on the right side of PCB mount plate.



5. Lead the JS IV wire harness through the square hole at the rear side frame to the Mechanical control PCB as instructed in the illustration.
6. Insert the two tabs of the metal bushing on the wire harness into the square hole and secure the metal bushing there with a screw. (Binding screw, M3 x 6)

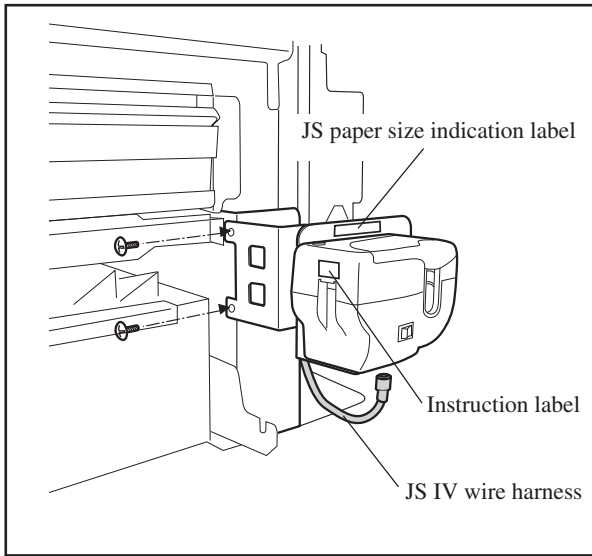


7. Secure the JS IV wire harness with the NK clammer.  
  
Important: Make sure the JS IV wire harness is secured with the NK clammer, avoiding contact with the parts in action.
8. Secure the JS IV wire harness with the wire clammer.



9. Lead the JS IV wire harness onto PCB mount plate as illustrated.  
  
Important: Make sure the JS IV wire harness should not slacken.
10. Connect the connector of JS IV wire harness to CN17 on the Mechanical control PCB.
11. Remove one of the mounting screws of the Mechanical control PCB near the CN17 and secure the ground wire coming from the JS IV wire harness to the Mechanical control PCB with removed screw.
12. Secure the JS IV wire harness with existing wire saddles at eleven points.
13. Replace the PCB mount plate and secure it with the screws.
14. Replace the Rear cover R.

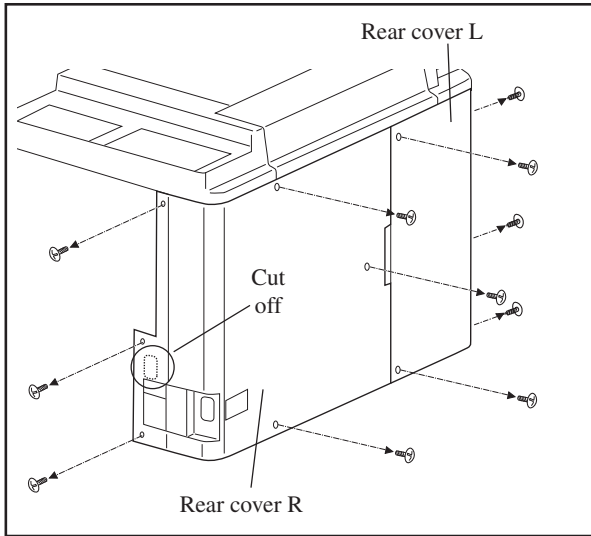




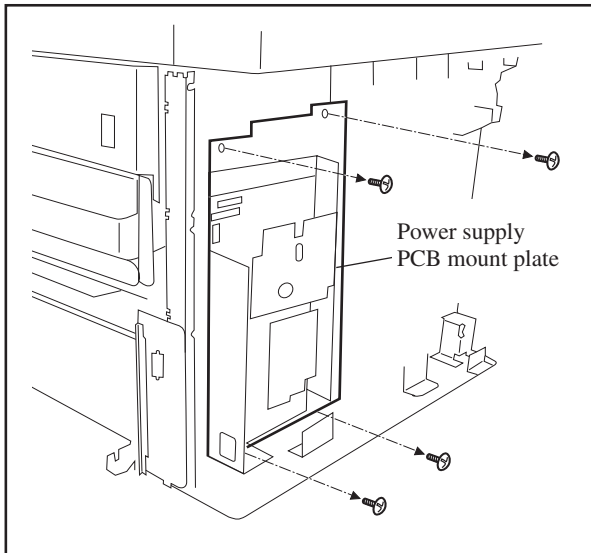
15. Secure the Job separator IV:NIII to the side plate of the printer with two screws. (Binding screw, M4 x 8)
16. Lead the JS IV wire harness and connect the connector of it to the bottom of the Job separator IV:NIII as illustrated.
17. Stick the JS paper size indication label and a Instruction label on the Job Separator as illustrated.
18. Plug the power cord to the printer and turn on the main power.
19. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

Skip to P.22 [Sticking the Mylar Sheet; JS]

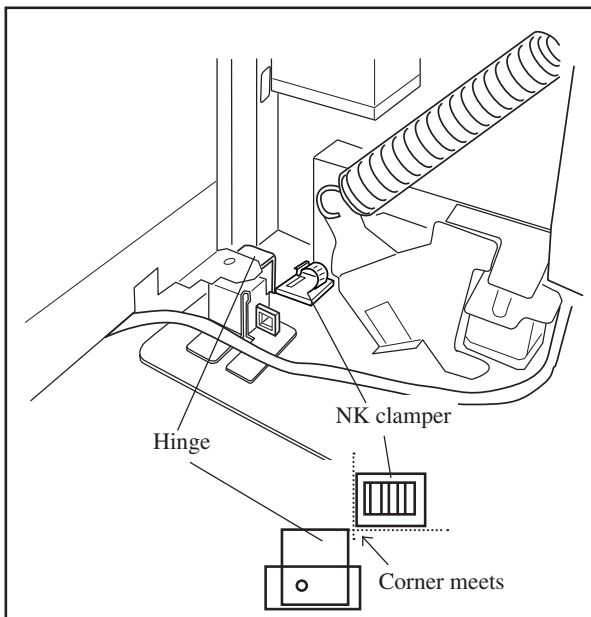
= For the Group [D] models =



1. Remove the Rear cover R from the printer.
2. Remove the Rear cover L from the printer.
3. Cut off the part illustrated in the left from the Rear cover R.

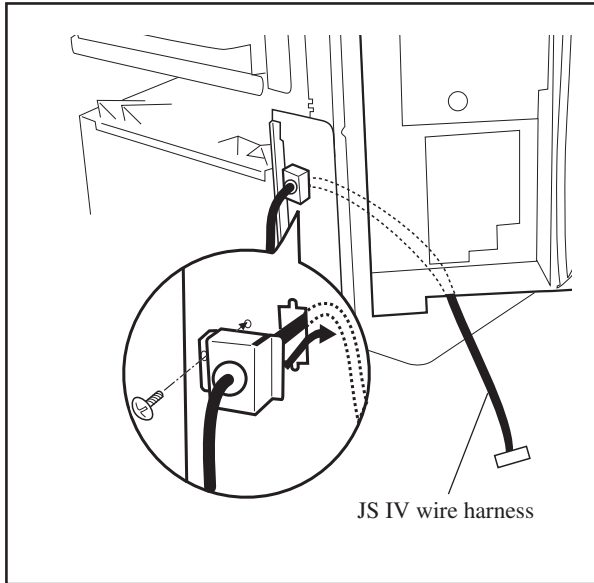


4. Remove the screws of the Power supply PCB mount plate.

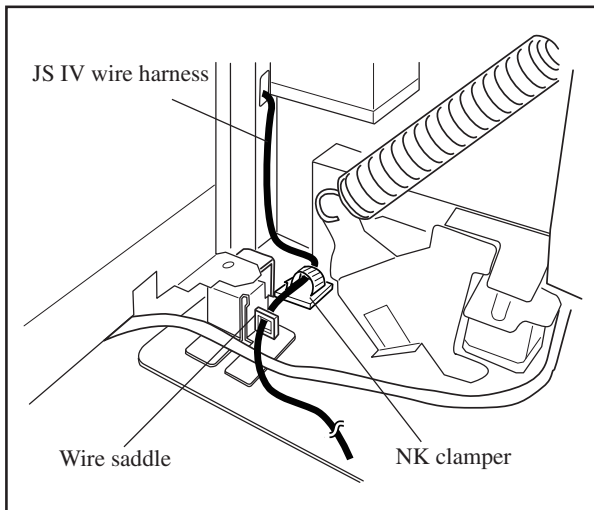


5. Open the Power supply PCB mount plate and attach the NK clammer on the Bottom plate as illustrated.

Important: Attach the NK clammer as its corner meets to the corner of the hinge.



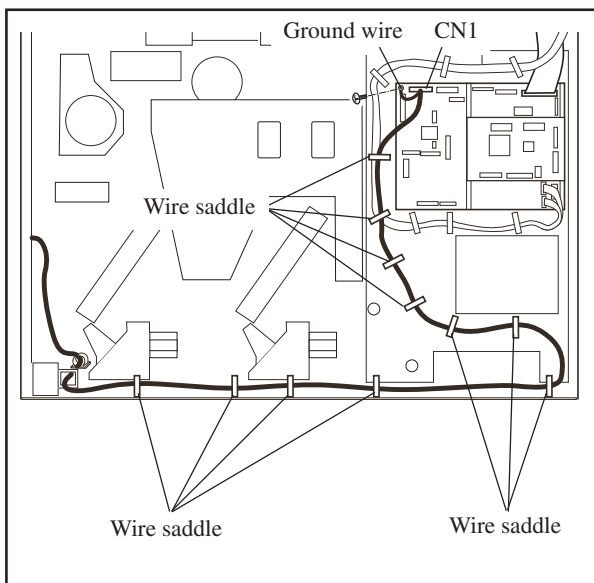
6. Lead the JS IV wire harness through the square hole at the rear side frame to the Power supply PCB mount plate as instructed in the illustration.
7. Insert the two tabs of the metal bushing on the wire harness into the square hole and secure the metal bushing there with a screw. (Binding screw, M3 x 6)



8. Secure the JS IV wire harness with the NK clammer.

Important: Make sure the JS IV wire harness is secured with the NK clammer, avoiding contact with the parts in action.

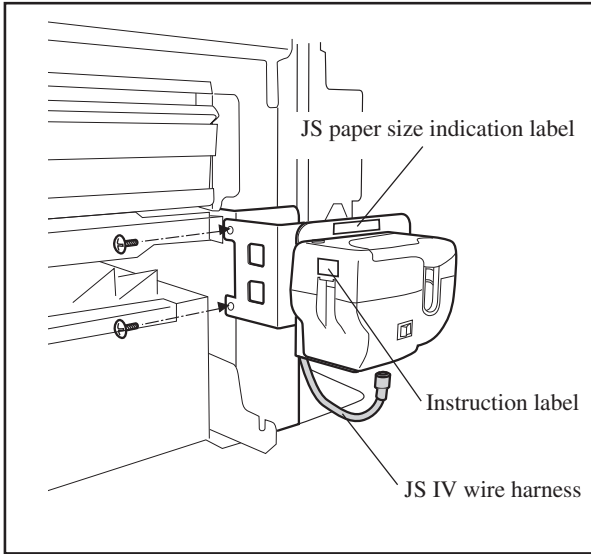
9. Secure the JS IV wire harness with the wire saddle.



10. Lead the JS IV wire harness onto PCB mount plate as illustrated.

Important: Make sure the JS IV wire harness should not slacken.

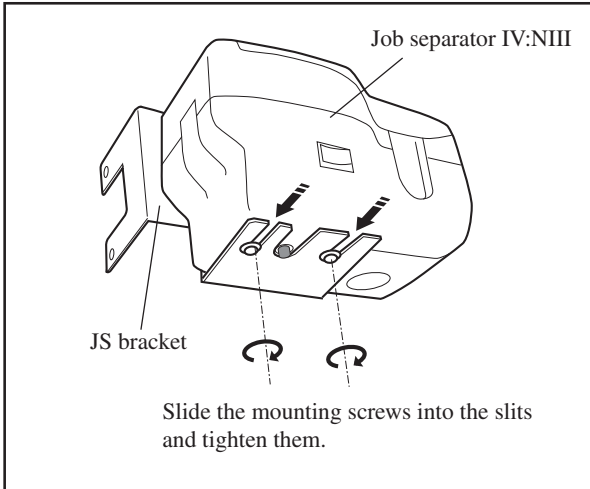
11. Connect the connector of JS IV wire harness to CN1 on the Mechanical control PCB.
12. Remove one of the mounting screws of the MECHA-CONTROL-PCB near the CN1 and secure the ground wire coming from the JS IV wire harness to the MECHA-CONTROL-PCB with removed screw.
13. Secure the JS IV wire harness with 11 wire saddles.
14. Replace the Power supply PCB mount plate and secure it with the screws.
15. Replace the Rear cover R and the Rear cover L.



16. Secure the Job separator IV:NIII to the side plate of the printer with two screws. (Binding screw, M4 x 8)
17. Lead the JS IV wire harness and connect the connector of it to the bottom of the Job separator IV:NIII as illustrated.
18. Stick the JS paper size indication label and a Instruction label on the Job Separator as illustrated.
19. Plug the power cord to the printer and turn on the main power.
20. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

When installing for Normal mode Skip to P.22  
 When installing for Non-stop mode Skip to P.23

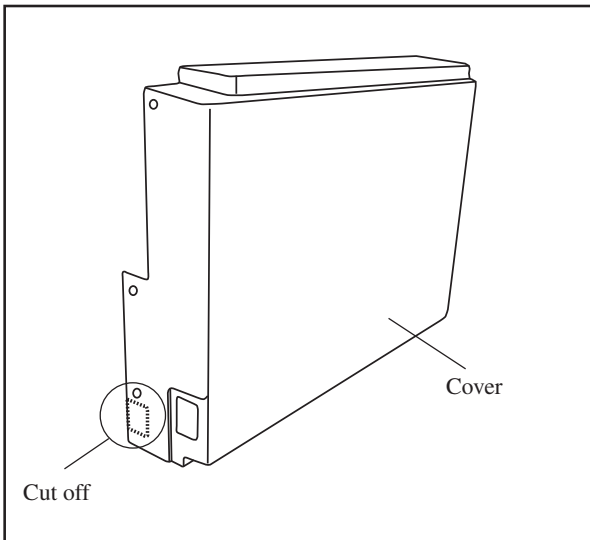
= For the Group [E] models =



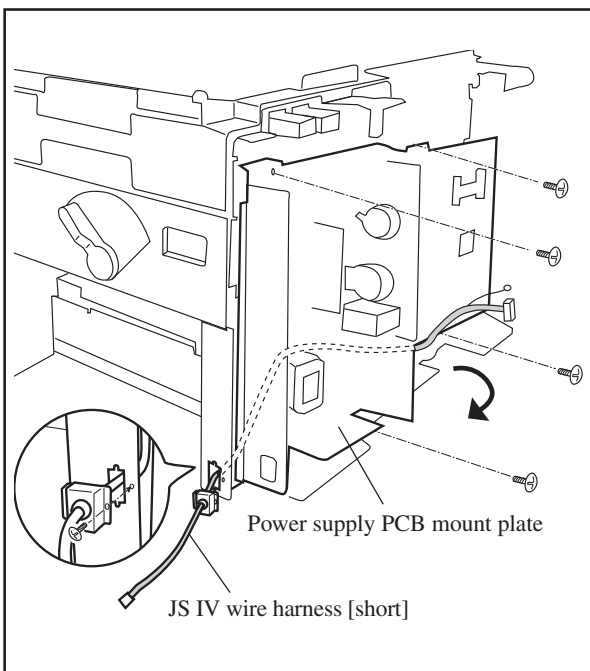
1. Loosen two mounting screws on the bottom of the Job separator IV:NIII.

Important: Do not loosen the center screw on the bottom of the Job separator IV:NIII.

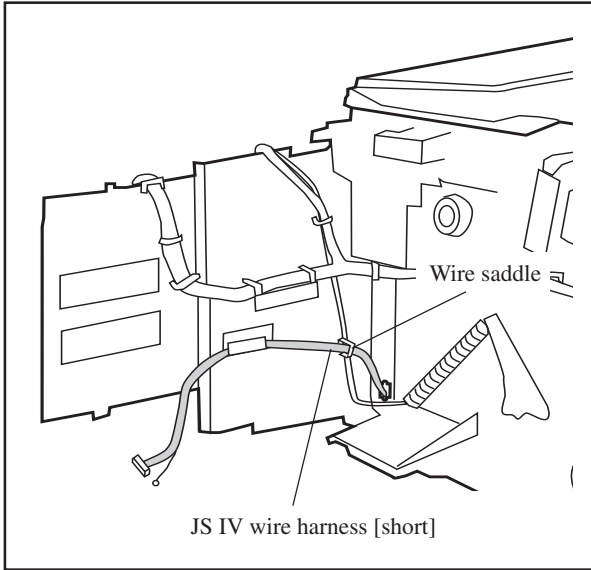
2. Slide the mounting screws on the bottom of the Job separator IV:NIII into the slits of the JS bracket as far as they will go. Then tighten the mounting screws.



3. Turn off the main power and unplug the power cord from the printer.
4. Remove the Cover from the main body.
5. Cut off the part illustrated in the left from the Cover.



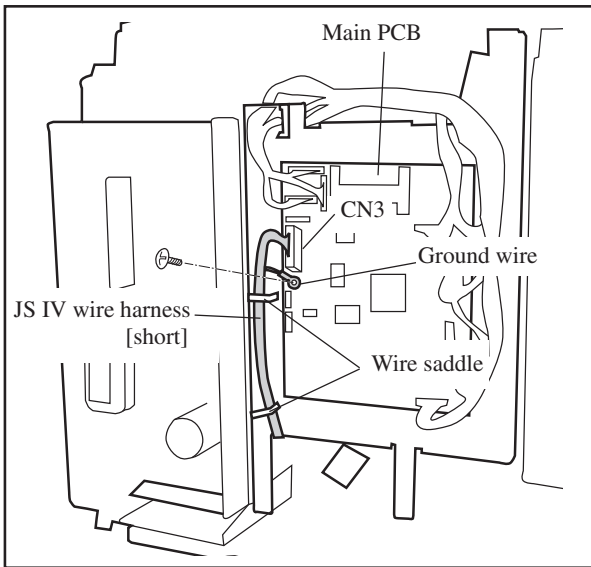
6. Remove the screws and open the Power supply PCB mount plate.
7. Insert the JS IV wire harness [short] into the square hole.
8. Secure the metal bushing with a screw. (Binding screw, M3 x 6)



9. Lead the JS IV wire harness onto the PCB mount plate as illustrated.

10. Secure the JS IV wire harness [short] with a wire saddle.

Important: Keep the JS IV wire harness [short] tight to prevent it from touching the moving parts.



11. Close the Power supply PCB mount plate and lead the JS IV wire harness [short] as illustrated.

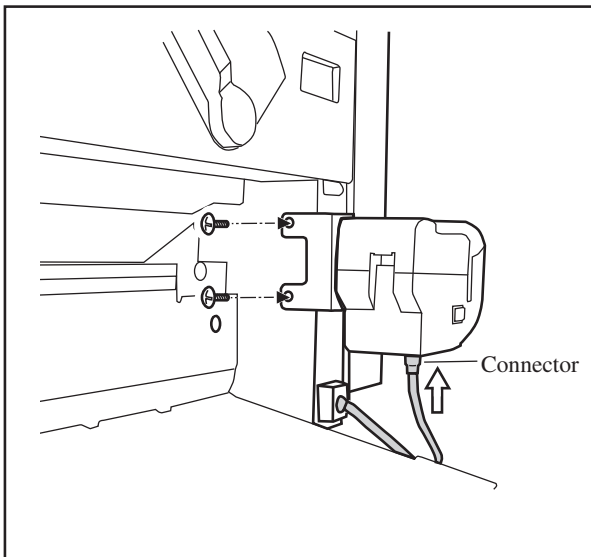
12. Secure the JS IV wire harness [short] with two wire saddles.

Important: Make sure the JS IV wire harness [short] should not slacken.

13. Connect the connector of JS IV wire harness [short] to CN3 on the Main PCB.

14. Remove one of the mounting screws of the Main PCB near the CN3 and secure the ground wire coming from the JS IV wire harness [short] to the Main PCB with removed screw.

15. Replace the Power supply PCB mount plate and secure it with the screws.



16. Replace the Cover.

17. Secure the Job separator IV:NIII to the side plate of the printer with two screws. (Binding screw, M4 x 8)

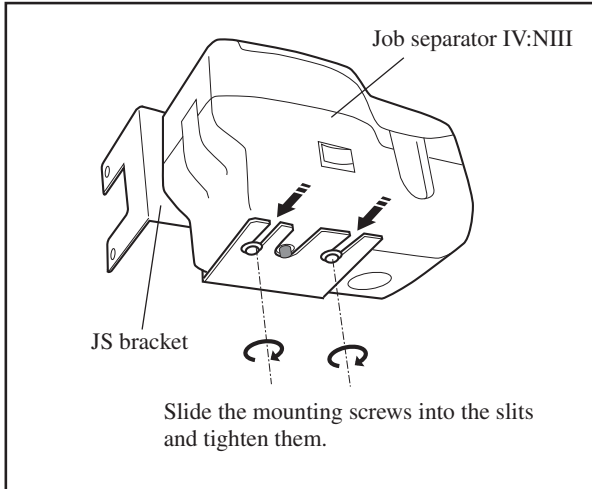
18. Connect the connector of JS IV wire harness [short] to the bottom of the Job separator IV:NIII.

19. Plug the power cord to the printer and turn on the main power.

20. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

Skip to P.22 [Sticking the Mylar Sheet; JS]

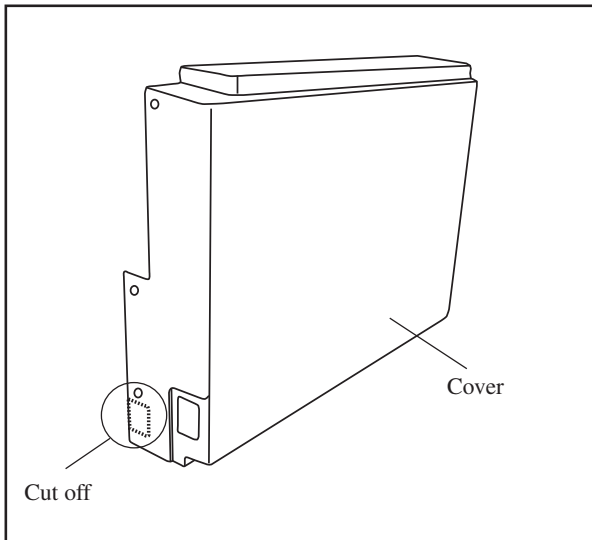
= For the Groups [F], [G] models =



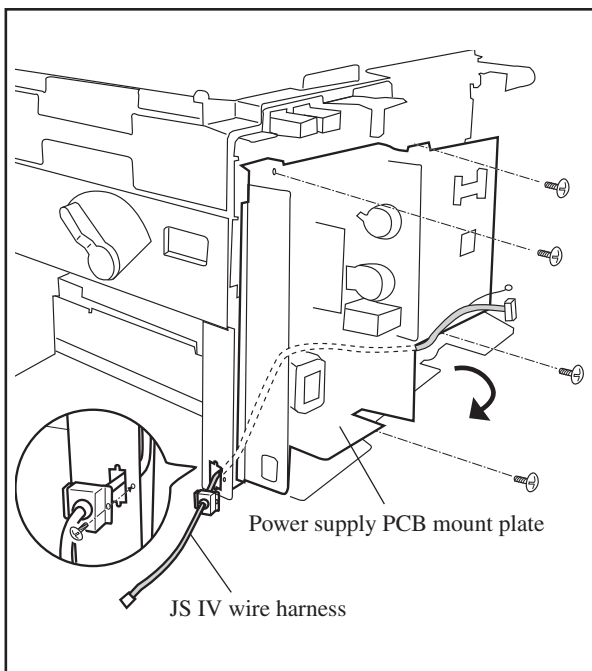
1. Loosen two mounting screws on the bottom of the Job separator IV:NIII.

Important: Do not loosen the center screw on the bottom of the Job separator IV:NIII.

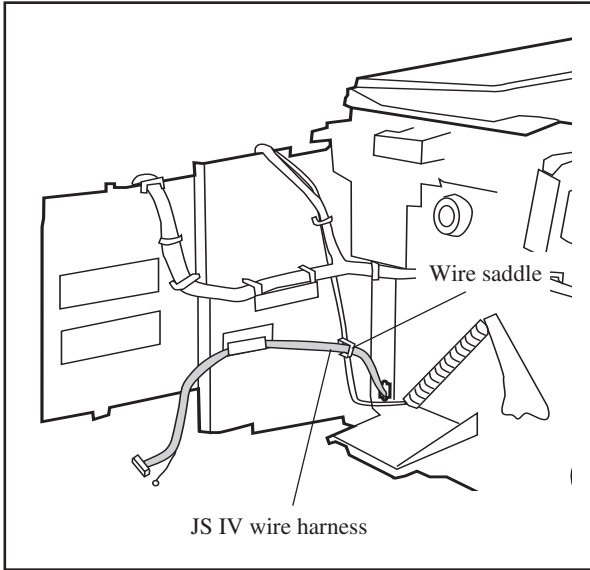
2. Slide the mounting screws on the bottom of the Job separator IV:NIII into the slits of the JS bracket as far as they will go. Then tighten the mounting screws.



3. Turn off the main power and unplug the power cord from the printer.
4. Remove the Cover from the main body.
5. Cut off the part illustrated in the left from the Cover.



6. Remove the screws and open the Power supply PCB mount plate.
7. Insert the JS IV wire harness into the square hole.
8. Secure the metal bushing with a screw. (Binding screw, M3 x 6)

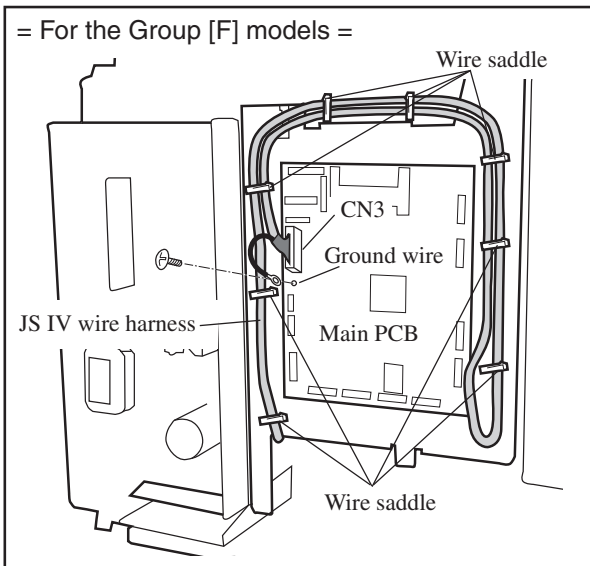


9. Lead the JS IV wire harness onto the PCB mount plate as illustrated.

10. Secure the JS IV wire harness with a wire saddle.

Important: Keep the JS IV wire harness tight to prevent it from touching the moving parts.

For the Group [G] models, skip to procedure 16.



= For the Group [F] models =

11. Close the Power supply PCB mount plate and lead the JS IV wire harness as illustrated.

12. Secure the JS IV wire harness with eight wire saddles.

Important: Make sure the JS IV wire harness should not slacken.

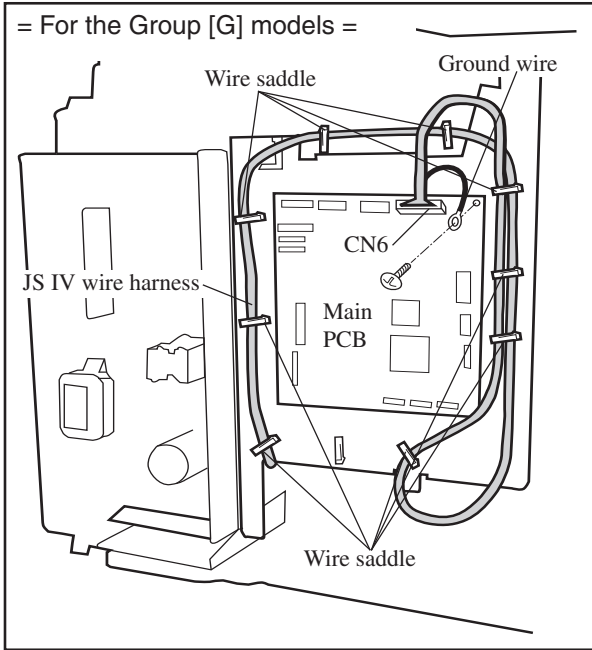
13. Connect the connector of JS IV wire harness to CN3 on the Main PCB.

14. Remove one of the mounting screws of the Main PCB near the CN3 and secure the ground wire coming from the JS IV wire harness to the Main PCB with removed screw.

15. Replace the Power supply PCB mount plate and secure it with the screws.

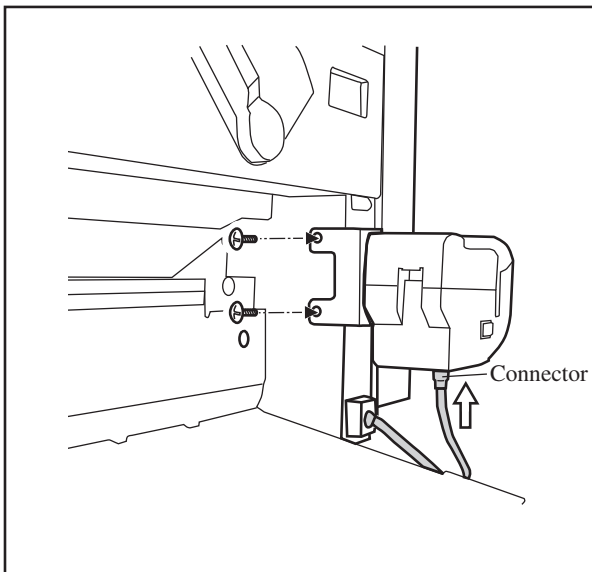
For the Group [F] models, skip to procedure 21.





= For the Group [G] models =

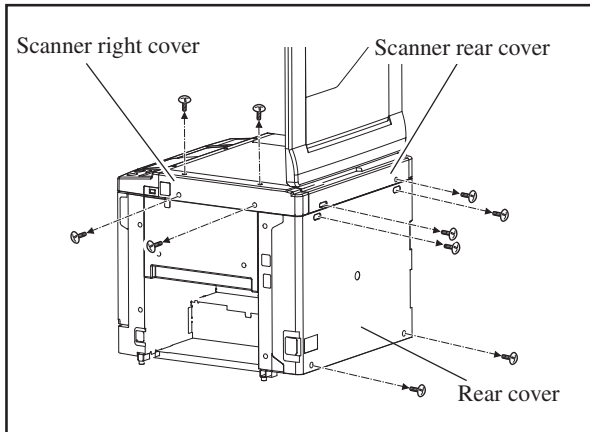
16. Close the Power supply PCB mount plate and lead the JS IV wire harness as illustrated.
17. Secure the JS IV wire harness with nine wire saddles.  
  
Important: Make sure the JS IV wire harness should not slacken.
18. Connect the connector of JS IV wire harness to CN6 on the Main PCB.
19. Remove one of the mounting screws of the Main PCB near the CN6 and secure the ground wire coming from the JS IV wire harness to the Main PCB with removed screw.
20. Replace the Power supply PCB mount plate and secure it with the screws.



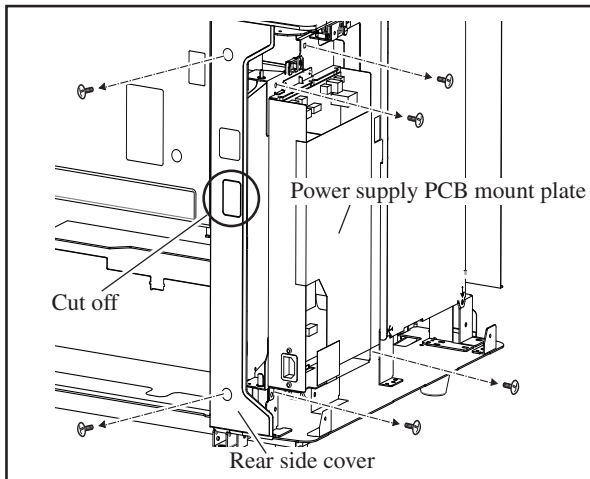
21. Replace the Cover.
22. Secure the Job separator IV:NIII to the side plate of the printer with two screws. (Binding screw, M4 x 8)
23. Connect the connector of JS IV wire harness to the bottom of the Job separator IV:NIII.
24. Plug the power cord to the printer and turn on the main power.
25. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

Skip to step P.22 [Proceed to the following steps.]

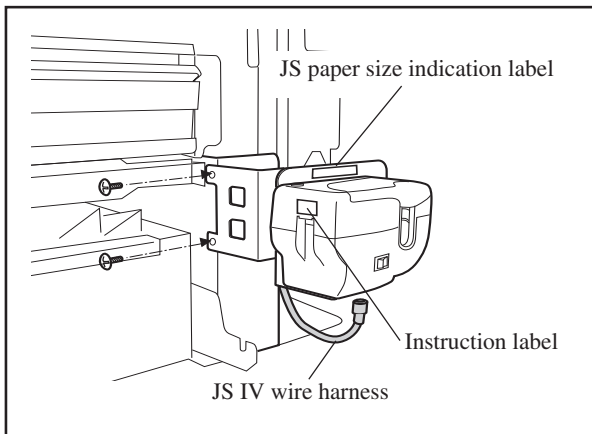
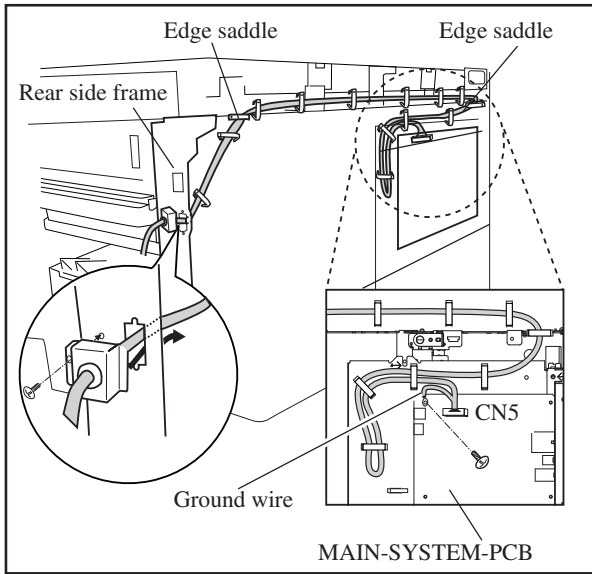
= For the Groups [H] models =



1. Remove the Scanner rear cover.
2. Remove the Scanner right cover.
3. Remove the Rear cover.



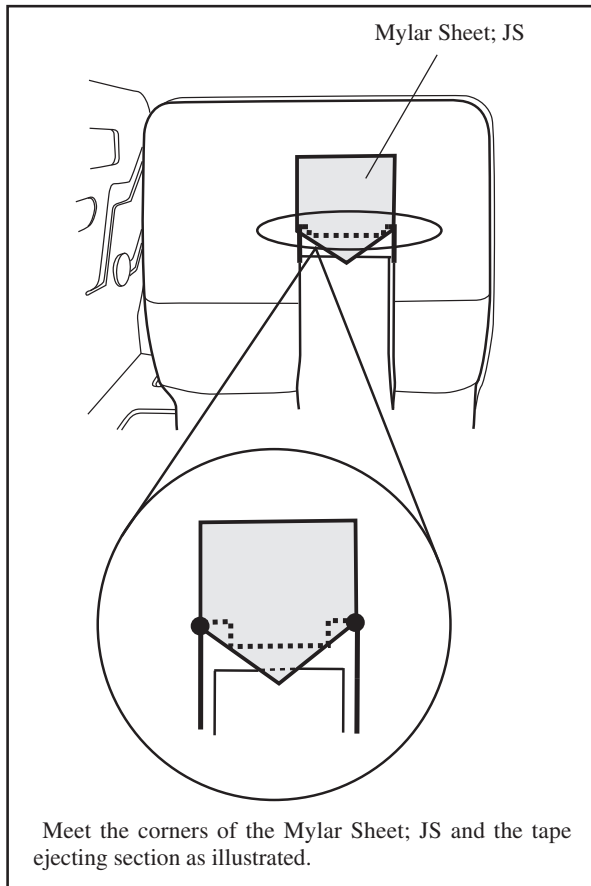
4. Remove the Rear side cover.
5. Cut off the part illustrated in the left from the Rear side cover.
6. Remove the screws of the Power supply PCB mount plate and open it.



7. Lead the JS IV wire harness through the square hole at the Rear side frame to the MAIN-SYSTEM-PCB as instructed in the illustration.  
  
NOTE: Secure the remainder of the JS IV wire harness with three wire saddles that are at the upper left of MAIN-SYSTEM-PCB.
8. Insert the two tabs of the metal bushing on the wire harness into the square hole and secure the metal bushing there with a screw. (Binding screw, M3 x 6)
9. Connect the connector of JS IV wire harness to CN5 on the MAIN-SYSTEM-PCB.
10. Remove one of the mounting screws of the MAIN-SYSTEM-PCB near the CN5 and secure the ground wire coming from the JS IV wire harness to the MAIN-SYSTEM-PCB with removed screw.
11. Secure the JS IV wire harness with existing two edge saddles and twelve wire saddles.
12. Replace the Power supply PCB mount plate and secure it with the screws.
13. Replace the Rear side cover.
14. Secure the Job separator IV:NIII with two screws. (Binding screw, M4 x 8)
15. Lead the JS IV wire harness and connect the connector of it to the bottom of the Job separator IV:NIII as illustrated.
16. Stick the JS paper size indication label and a Instruction label on the Job Separator as illustrated.
17. Replace the Rear cover to the printer.
18. Replace the Scanner right cover.
19. Replace the Scanner rear cover.
20. Plug the power cord to the printer and turn on the main power.
21. Put the Paper tape roll into the Job separator IV:NIII and check that the Job separator IV:NIII functions correctly.

When installing for Normal mode	Skip to P.22
When installing for Non-stop mode	Skip to P.23

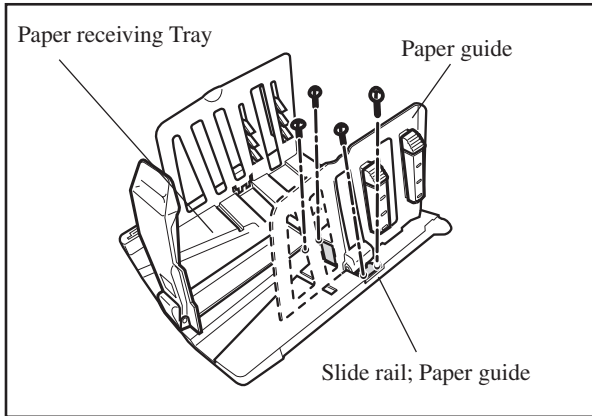
## = Procedure for Nomal mode = Sticking the Mylar Sheet; JS



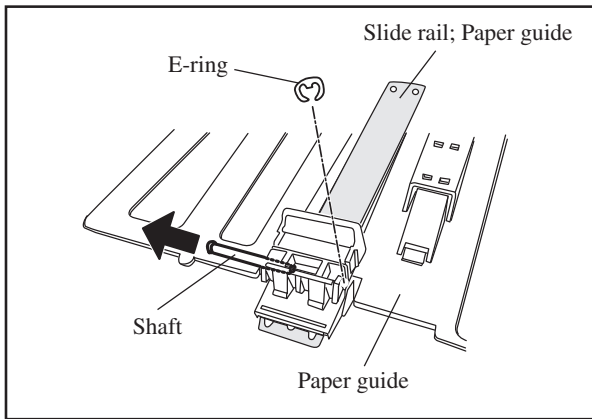
1. Stick the Mylar Sheet; JS on the tape ejecting section.

Important: Do not stick the Mylar Sheet; JS when using Non-stop mode.

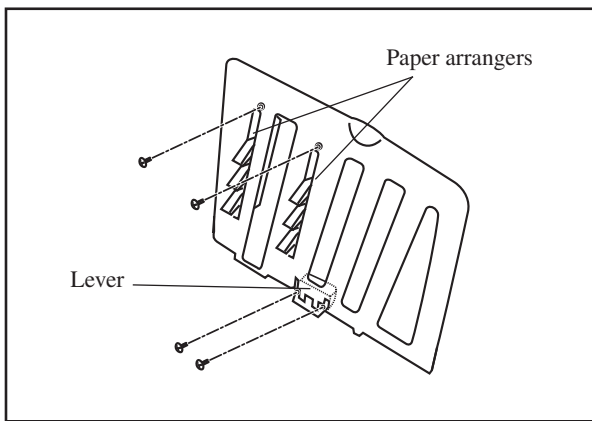
= Procedure for Non-stop mode = Exchanging the Paper guide



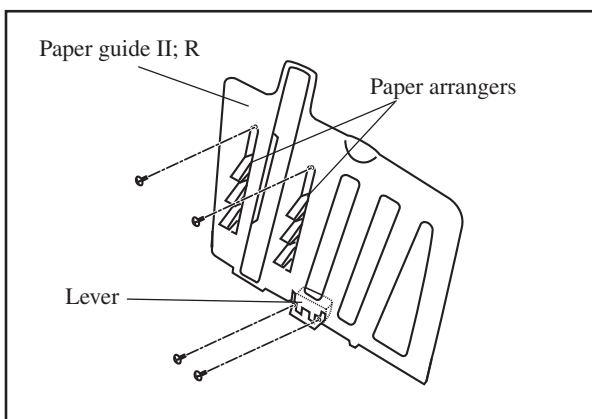
1. Remove the Paper receiving Tray from the printer.
2. Remove the four screws on the Slide rail; Paper guide.
3. Remove the Slide rail; Paper guide and the Paper guide from the Paper receiving tray.



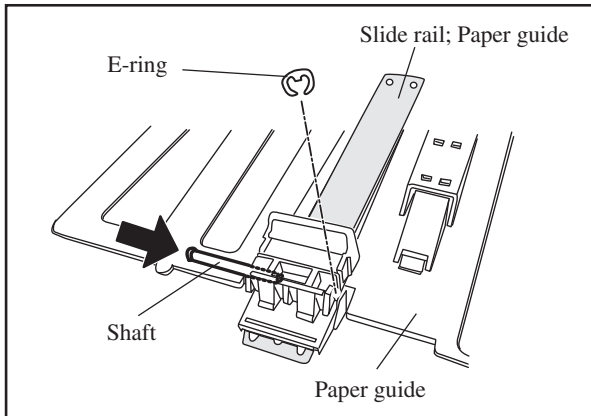
4. Remove the Slide rail; Paper guide and the shaft from the Paper guide. (E-ring 1pc.)



5. Remove the Lever from the Paper guide. (2 screws)
6. Remove the Paper arrangers (2 pcs.) from the Paper guide. (1 screw each)

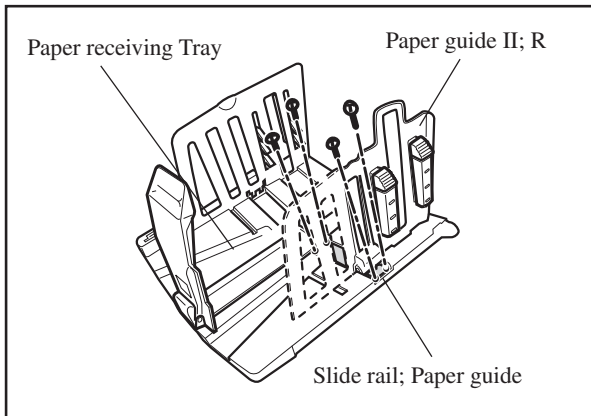


7. Secure the Paper arrangers (2 pcs.) on the Paper guide II; R. (1 screw each)
8. Secure the shaft on the Paper guide II; R. (2 screws)



9. Secure the Slide rail; Paper guide and the shaft on the Paper guide II; R. (E-ring 1pc.)

Important: Insert the shaft in the direction of the left illustration.



10. Secure 4 screws on the Slide rail; Paper guide and secure the Paper guide on the Paper receiving tray. (4 screws)

11. Replace the Paper receiving tray on the printer.

Important: When the paper receiving tray has corrugators, attach them again.

## = Procedure for Non-stop mode = Test mode setting

Before starting the test mode, confirm the program version of the printer.

Group [A] models : ROM Ver. 3.10 or later

Group [B] models : ROM Ver. 4.20 or later

Group [D] models : ROM Ver. 1.42 or later

NOTE: In case of the Group [C] models, the confirmation of the program version is unnecessary.

1. Start up the test mode of the printer.
2. Input "9874" using print quantity keys and press the Start key.
3. Input the test mode code "1247" and set the value from 0 to 1.
4. Check the operation after setting Non-stop mode.

NOTE: If the tape is not inserted properly, carry out the following adjustment steps.

6-12. Key/Card Counter IV

# Key/Card Counter IV Installation Procedure

## Type of Connectable Printer

The following printer models are the intended basic units for connection to the Key/card counter IV.

RISO KAGAKU CORPORATION Models

- RISO MZ7/9 series
- MV76 series
- RZ2/3/5/9 series
- RV2/3/5/96 series

For other models, refer to “The Table of Applicable Printers”.

When installing on the Group [D] and MZ7/9, MV96 series models, the Key/card counter IV Attachment Kit:2C is additionally required.

When installing on the Group [E], the PLATE; CARD COUNTER;SU(059-75005) is additionally required.

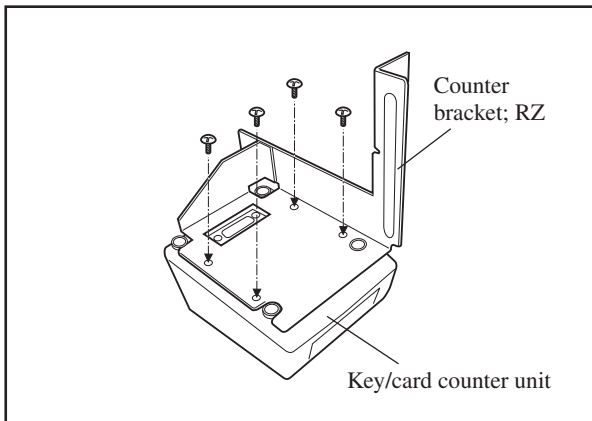
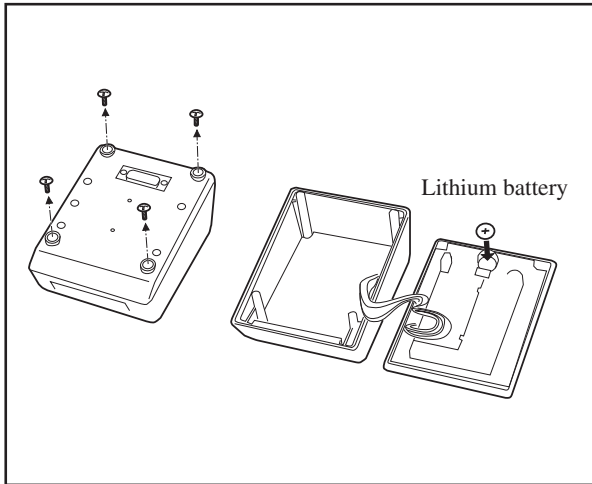
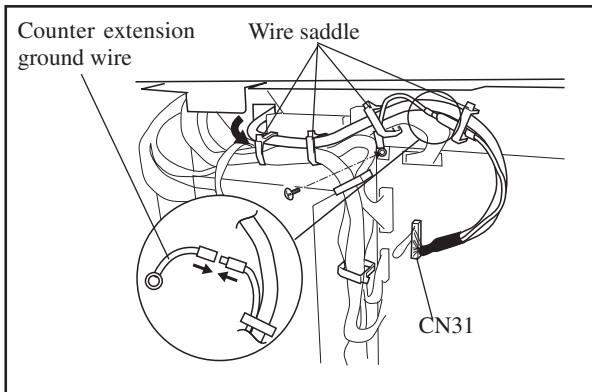
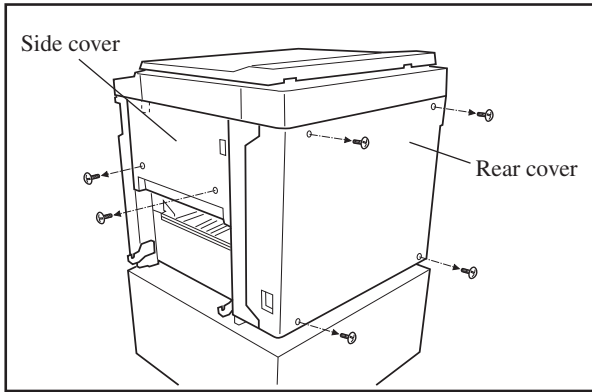
Nobody but Riso-authorized service representatives is allowed to install this unit.

## Packing List

This package contains the following items.

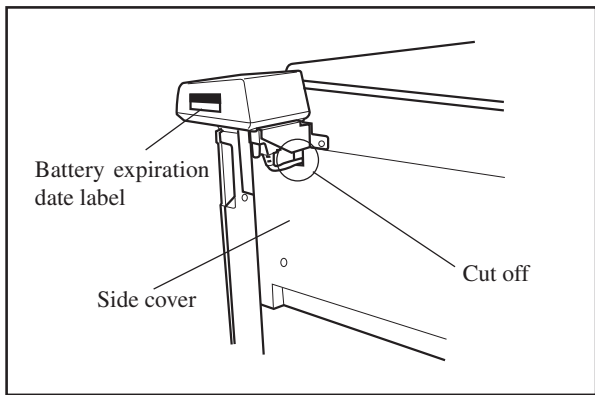
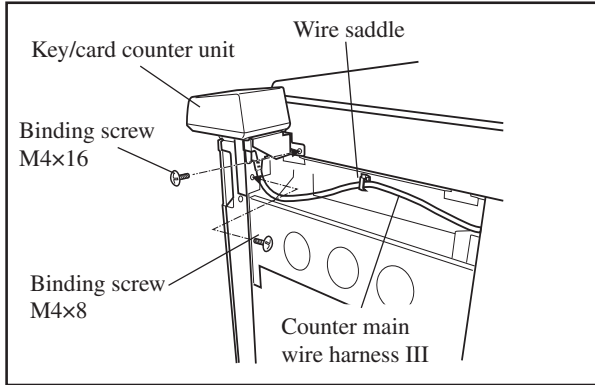
1. Key/card counter unit..... 1 unit
2. Counter main wire harness III ..... 1 pc.
3. Counter extension wire harness A (long)... 1 pc.
4. Counter conversion wire harness B (short) 1 pc.
5. Counter extension ground wire..... 1 pc.
6. Bracket MH; Counter IV ..... 1 pc.
7. Counter bracket; RZ ..... 1 pc.
8. Lithium battery (CR-2032) ..... 1 pc.
9. Battery expiration date label ..... 1 pc.
- 10.Ferrite core..... 1 pc.
- 11.NK clamber..... 2 pcs.
- 12.Wire clamber..... 5 pcs.
- 13.Screwed clamber..... 2 pcs.
- 14.Wire harness protection tape..... 1 pc.
- 15.Screws ..... 1 set
- 16.Installation guide (This manual)..... 1 copy
- 17.User's guide..... 1 copy
- 18.Control card ..... 1 pc.
- 19.Operator card ..... 30 pcs.
- 20.Cleaning card ..... 1 pc.
- 21.Declaration of Conformity  
(for EU only)..... 1 copy

= For RZ2/3/5, RV2/3/5 series models =



1. Turn off the power switch of the printer and unplug the power cord.
2. Remove the Rear cover from the printer.
3. Open the Paper receiving tray and remove the Side cover from the printer.
4. Lead the smaller connector of the Counter main wire harness III through the hole located around the upper left corner of the rear side frame from the inside of the printer and connect it to CN31 on the Main control PCB.
5. Connect the connector of the Counter extension ground wire to the counterpart at the end of the wire coming out of the Counter main wire harness III.
6. Remove a securing screw at the upper left corner of the Main control PCB and secure it again together with the terminal of the Counter extension ground wire.
7. Secure the Counter main wire harness III with the existing wire saddles at 4 points as illustrated.
8. Remove the case cover from the Key/card counter unit and put a lithium battery into the battery holder.  
NOTE : Be sure to put the battery with the + side facing upward.
9. Replace the case cover on the Key/card counter unit.
10. Secure the Counter bracket; RZ on the Key/card counter unit. (Washed-screw M3x8, 4 pcs.)





11. Remove one of the securing screws on the Scanner right side cover and secure the top part of the Counter bracket; RZ (with the Key/card counter unit) on the Scanner right side cover by putting a packed-in screw (Binding screw M4x16) into the opened screw hole in place of the removed one.  
  
NOTE: The removed screw will not be reused.
12. Secure the bottom part of the Counter bracket; RZ on the front side frame of the printer with another packed-in screw (Binding screw M4x8).
13. Connect the Counter main wire harness III to the Key/card counter unit and secure the wire harness on the inner upper right side frame of the printer with the existing wire saddle.
14. Write the date of two years later on the Battery expiration date label and stick the label on the side of the Key/card counter unit.
15. Make a U-shape cutting on the Upper right side cover. To cut the cover in a U-shape, twist off the part to be removed with a pliers and smoothen the edge of the opening with the cutter knife for a fine finish.
16. Replace the Side cover, leading the Counter main wire harness III through the U-shape opening of the Side cover, on the printer.
17. Replace the Rear cover on the printer.

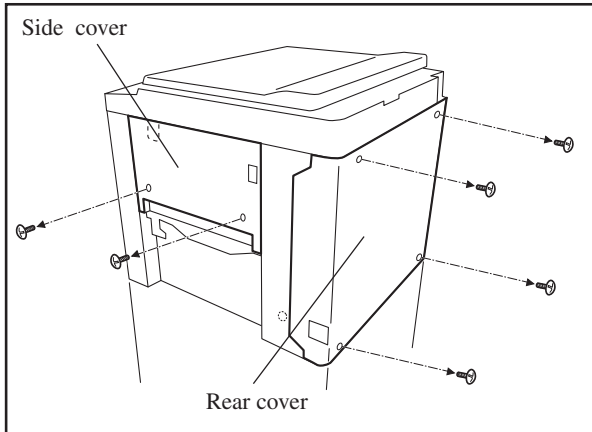
Proceed to the section "Operation Check" on page 13.

< Special note in installing the Key/card counter unit on a RISO RZ2 series models >

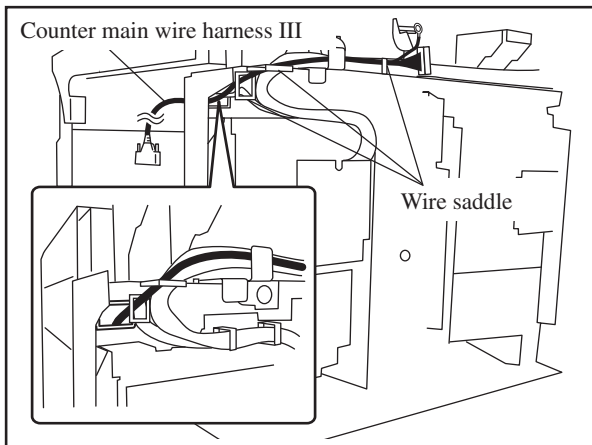
You are required to change the initial setting of the data printout function in the Key/card counter after installing the Key/card counter unit on a RISO RZ2 series models, to avoid the problem of mirror image output in the said function. To change the setting, take the following steps.

1. Turn on the power switch of the printer and insert the "CONTROL CARD" into the Key/card counter.
2. Hold down the [ 8 ] key on the Key/card counter control panel for more than 1 second. "NORMAL" appears in the Key/card counter display.
3. Press the [SET] key on the Key/card counter control panel and confirm that the display is changed to "REVERSE".
4. Remove the "CONTROL CARD" from the Key/card counter and turn off the power switch of the printer.

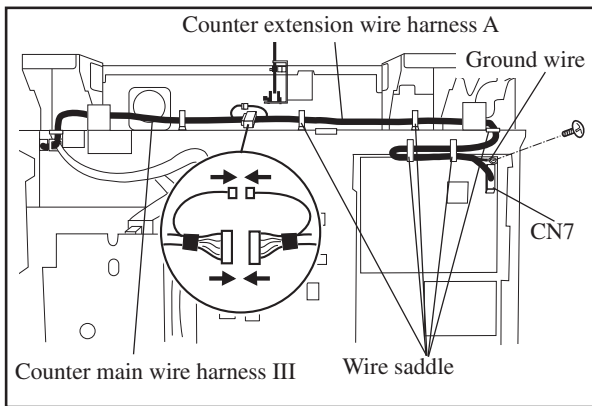
= For the Groups [A], [B] models =



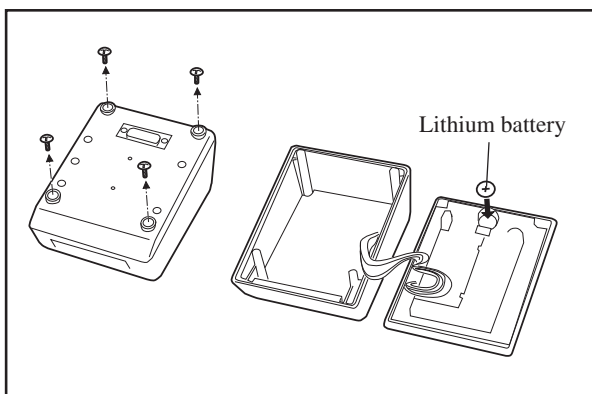
1. Turn off the power switch of the printer and unplug the power cord.
2. Remove the Rear cover from the printer.
3. Open the Paper receiving tray and remove the Side cover from the printer.



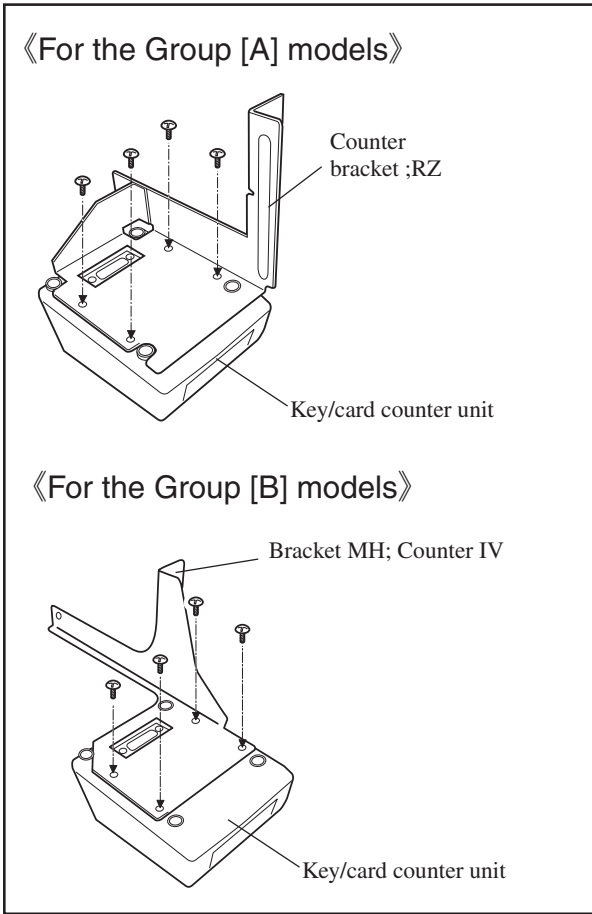
4. Lead the smaller connector of the Counter main wire harness III through the hole located around the upper left corner of the rear side frame from the paper ejecting side.
5. Secure the Counter main wire harness III with the wire saddles at three points.



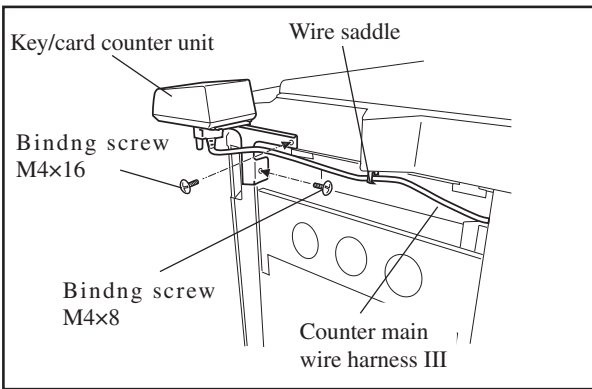
6. Connect the Counter extension wire harness A and the Counter main wire harness III.
7. Connect the Counter extension wire harness A to the CN7 on the MECHA-CTL-PCB.
8. Remove the PCB securing screw near the CN7 and secure it again with the terminal of ground wire coming out of the Counter extension wire harness A.
9. Secure the Counter extension wire harness A with the wire saddles at five points.



10. Remove the case cover from the Key/card counter unit and put a lithium battery into the battery holder.  
NOTE : Be sure to put the battery with the + side facing upward.
11. Replace the case cover on the Key/card counter unit.



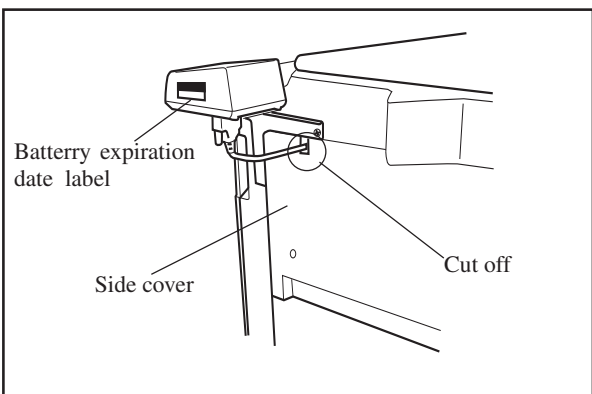
- Secure the Counter bracket; RZ on the Key/card counter unit. (Washed-screw M3x8, 4 pcs.)
- Important: When installing on Group [B] models, a Bracket MH; Counter IV is required.



- Remove one of the securing screws on the Scanner right side cover and secure the top part of the Counter bracket; RZ (with the Key/card counter unit) on the Scanner right side cover by putting a packed-in screw (Binding screw M4x16) into the opened screw hole in place of the removed one.

**NOTE:** The removed screw will not be reused.

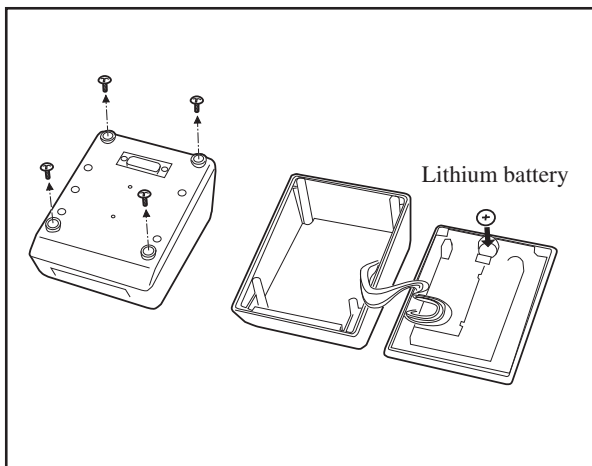
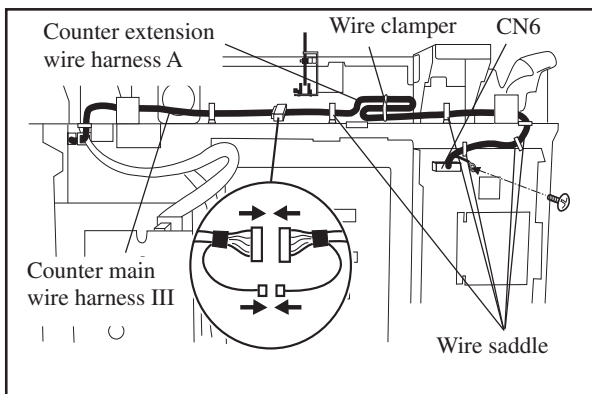
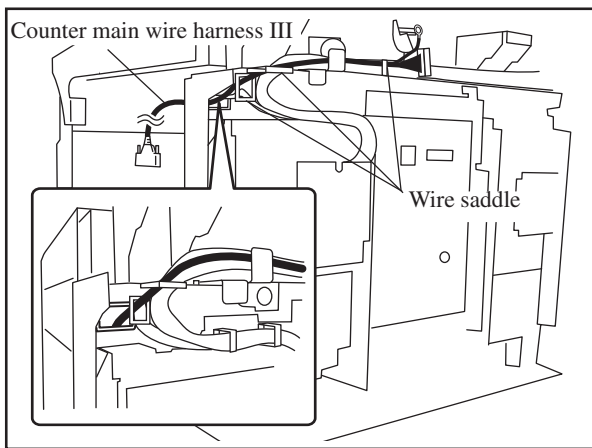
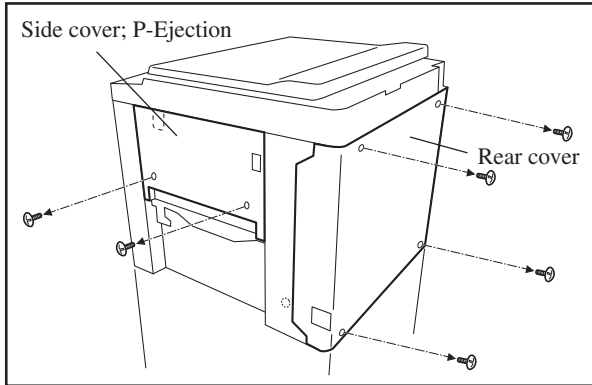
- Secure the bottom part of the Counter bracket; RZ on the front side frame of the printer with another packed-in screw (Binding screw M4x8).
- Connect the Counter main wire harness III to the Key/card counter unit and secure the wire harness on the inner upper right side frame of the printer with the existing wire saddle.
- Write the date of two years later on the Battery expiration date label and stick the label on the side of the Key/card counter unit.



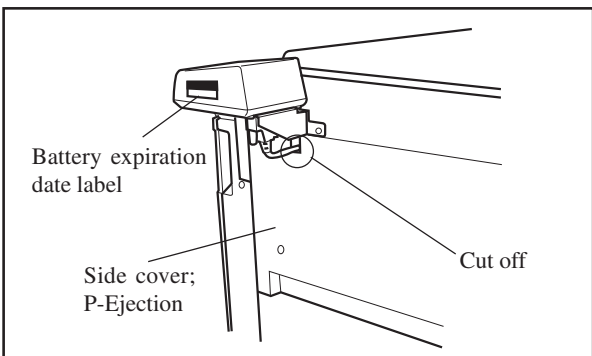
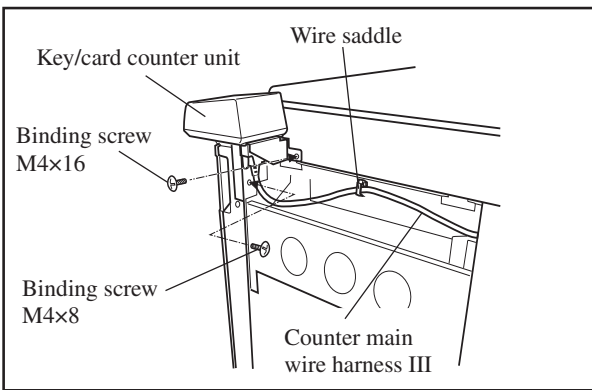
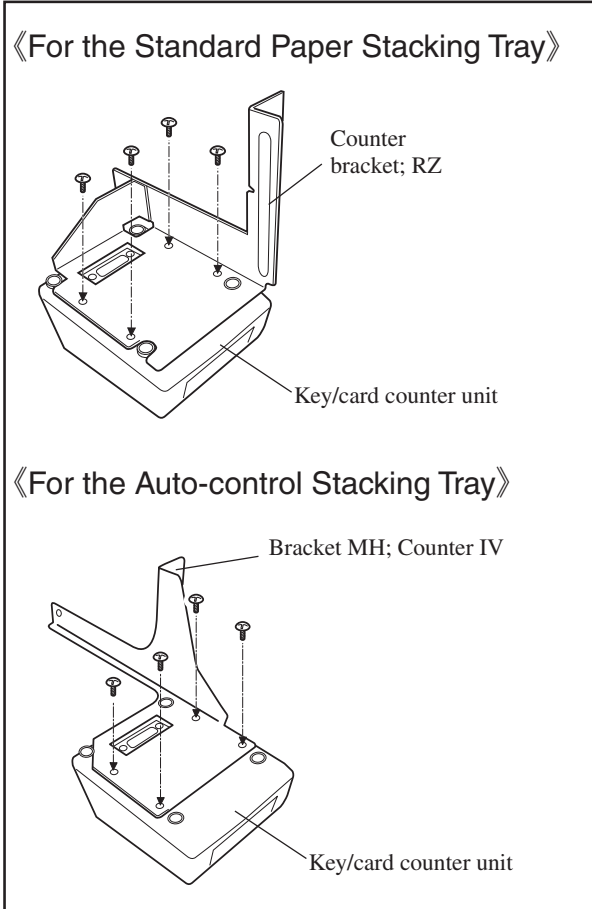
- Make a U-shape cutting on the Upper right side cover. To cut the cover in a U-shape, twist off the part to be removed with a pliers and smoothen the edge of the opening with the cutter knife for a fine finish.
- Replace the Side cover, leading to counter main wire harness III through the U-shape opening of the Side cover, on the printer.
- Replace the Rear cover on the printer.

Proceed to the section "Operation Check" on page 13.

= For RZ9, RV96 series models =



1. Turn off the power switch of the printer and unplug the power cord.
2. Remove the Rear cover; ML from the printer.
3. Open the Paper receiving tray and remove the Upper right side cover from the printer.
4. Lead the smaller connector of the Counter main wire harness III through the hole located around the upper left corner of the rear side frame from the paper ejecting side.
5. Secure the Counter main wire harness III with the wire saddles at three points.
6. Connect the Counter extension wire harness A (long) and the Counter main wire harness III.
7. Connect the Counter extension wire harness A to the CN6 of the SH4F-PCB.
8. Remove the PCB securing screw next to the CN6 and securing it again with the terminal of ground wire coming out of the Counter extension wire harness A.
9. Secure the Counter extension wire harness A with the wire saddles at five points.
10. Bind up the Counter extension wire harness A with a wire clamber as illustrated.
11. Remove the case cover from the Key/card counter unit and put a lithium battery into the battery holder.  
**NOTE** : Be sure to put the battery with the + side facing upward.
12. Replace the case cover on the Key/card counter unit.



13. Secure the Counter bracket; RZ on the Key/card counter unit. (Washed-screw M3x8, 4 pcs.)

Important: If the Auto-control Stacking Tray is installed, a Bracket MH; Counter IV is required.

14. Remove one of the securing screws on the Scanner right side cover and secure the top part of the Counter bracket RZ (with the Key/card counter unit) on the Scanner right side cover by putting a packed-in screw (Binding screw M4x16) into the opened screw hole in place of the removed one.

**NOTE:** The removed screw will not be reused.

15. Secure the bottom part of the Counter bracket; RZ on the front side frame of the printer with another packed-in screw (Binding screw M4x8).
16. Connect the Counter main wire harness III to the Key/card counter unit and secure the wire harness on the inner upper right side frame of the printer with the existing wire saddle.

17. Write the date of two years later on the Battery expiration date label and stick the label on the side of the Key/card counter unit.

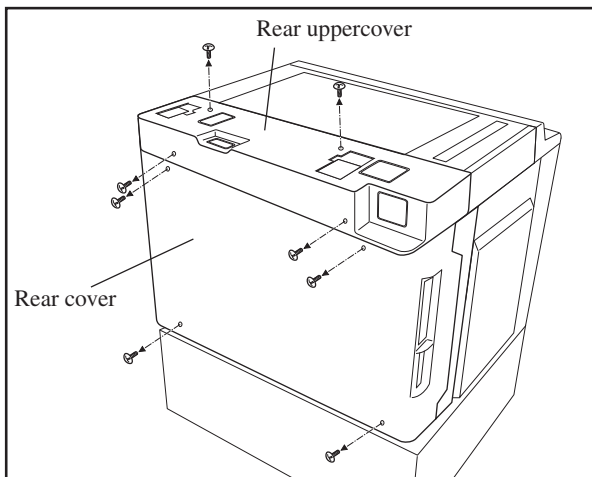
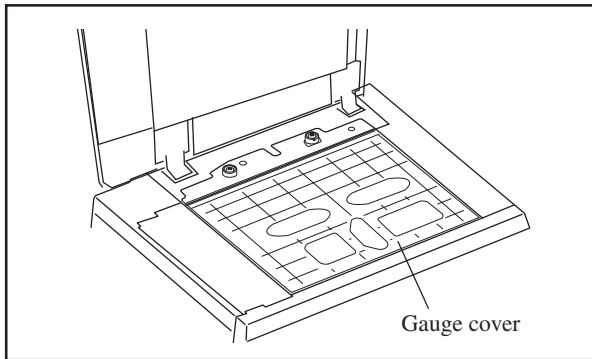
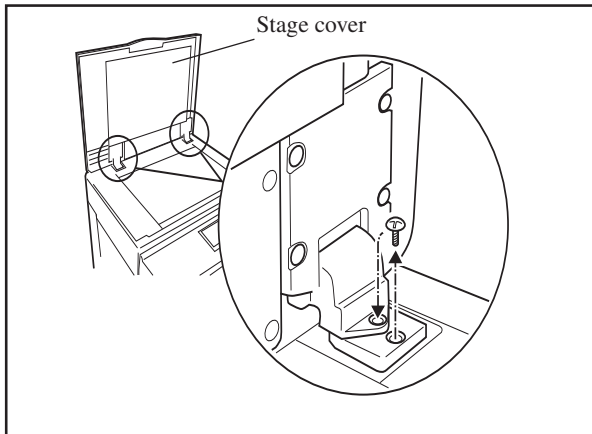
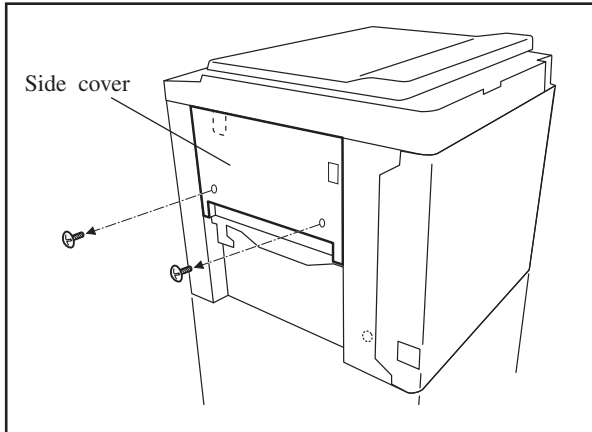
18. Make a U-shape cutting on the Upper right side cover. To cut the cover in a U-shape, twist off the part to be removed with a pliers and smoothen the edge of the opening with the cutter knife for a fine finish.

19. Replace the Side cover; P-Ejection, leading the Counter main wire harness III through the U-shape opening of the Side cover; P-Ejection, on the printer.

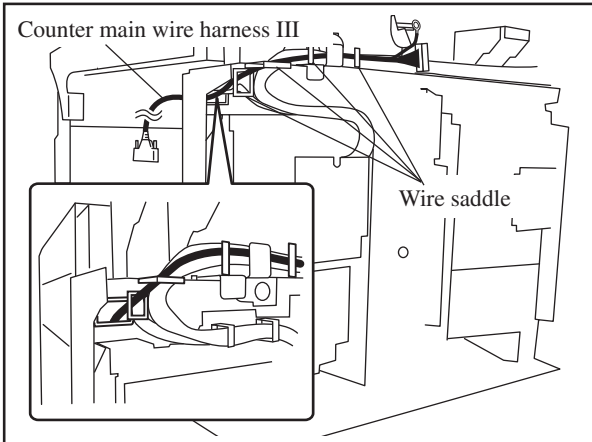
20. Replace the Rear cover; ML on the printer.

Proceed to the section "Operation Check" on page 13.

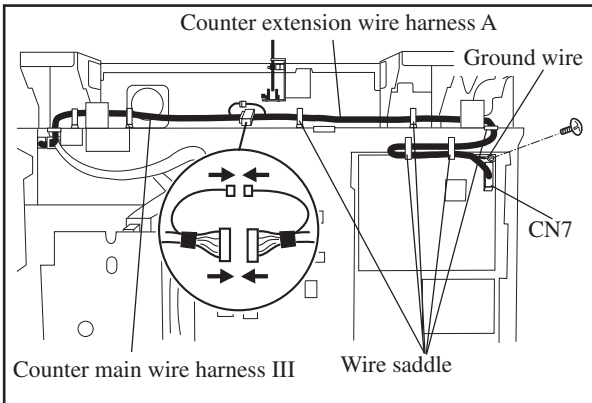
= For the Group [C] models =



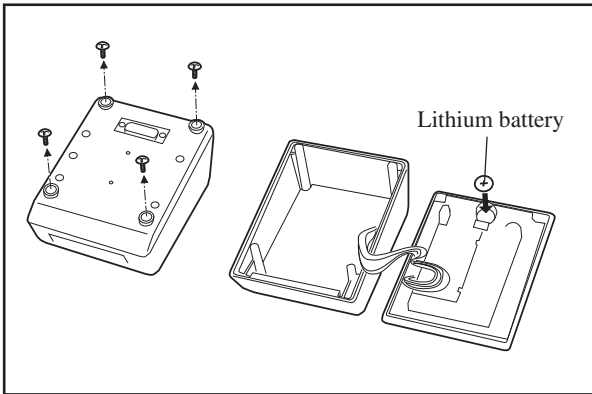
1. Turn off the power switch of the printer and unplug the power cord.
2. Open the Paper receiving tray and remove the Side cover from the printer.
3. Open the Stage cover and remove the securing screws on the hinges. The removed screws should be kept by turning them into the adjoining holes on the hinges.
4. Dismount the Stage cover.
5. Remove the Gauge cover, when it is attached to the printer.
6. Remove the Rear upper cover from the printer.
7. Remove the Rear cover from the printer.



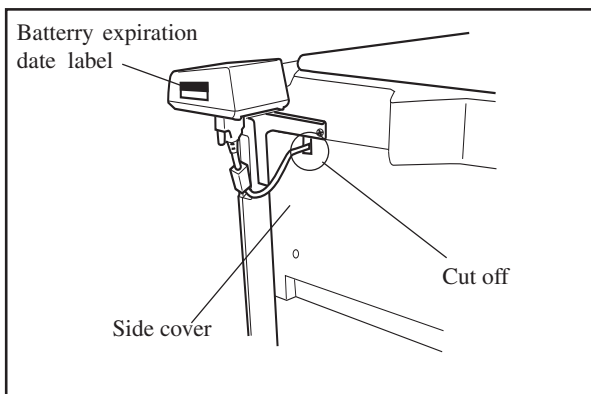
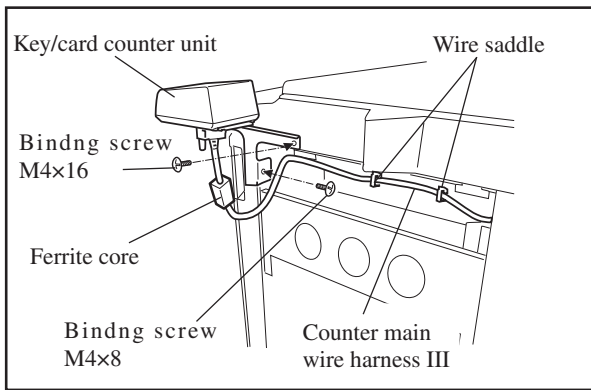
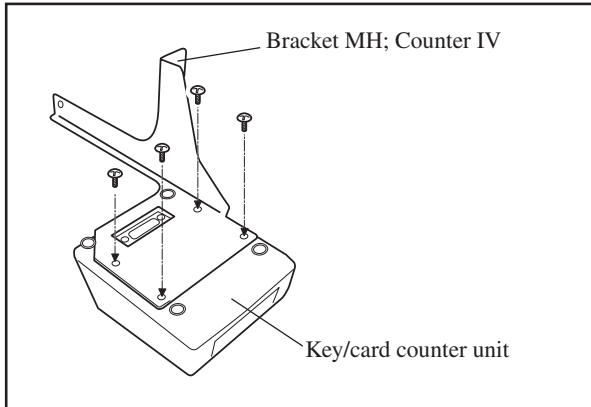
- 8. Lead the smaller connector of the Counter main wire harness III through the hole located around the upper left corner of the rear side frame from the paper ejecting side.
- 9. Secure the Counter main wire harness III with the wire saddles at four points.



- 10. Connect the Counter extension wire harness A and the Counter main wire harness III.
- 11. Connect the Counter extension wire harness A to the CN7 on the MECHA-CTL-PCB.
- 12. Remove the PCB securing screw near the CN7 and secure it again with the terminal of ground wire coming out of the Counter extension wire harness A.
- 13. Secure the Counter extension wire harness A with the wire saddles at five points.



- 14. Remove the case cover from the Key/card counter unit and put a lithium battery into the battery holder.
- NOTE :** Be sure to put the battery with the + side facing upward.
- 15. Replace the case cover on the Key/card counter unit.



16. Secure the Bracket MH; Counter IV on the Key/card counter unit. (Washed-screw M3x8, 4 pcs.)

17. Remove one of the securing screws on the Scanner right side cover and secure the top part of the Counter bracket; RZ (with the Key/card counter unit) on the Scanner right side cover by putting a packed-in screw (Binding screw M4x16) into the opened screw hole in place of the removed one.

**NOTE:** The removed screw will not be reused.

18. Secure the bottom part of the Counter bracket; RZ on the front side frame of the printer with another packed-in screw (Binding screw M4x8).

19. Connect the Counter main wire harness III to the Key/card counter unit and secure the wire harness on the inner upper right side frame of the printer with wire saddles at two points.

20. Put the Ferrite core on the Counter main wire harness III as illustrated.

21. Write the date of two years later on the Battery expiration date label and stick the label on the side of the Key/card counter unit.

22. Make a U-shape cutting on the Upper right side cover. To cut the cover in a U-shape, twist off the part to be removed with a pliers and smoothen the edge of the opening with the cutter knife for a fine finish.

23. Replace the Side cover, leading to counter main wire harness III through the U-shape opening of the Side cover, on the printer.

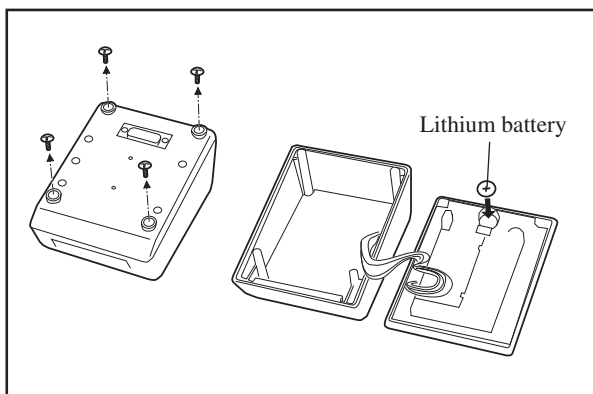
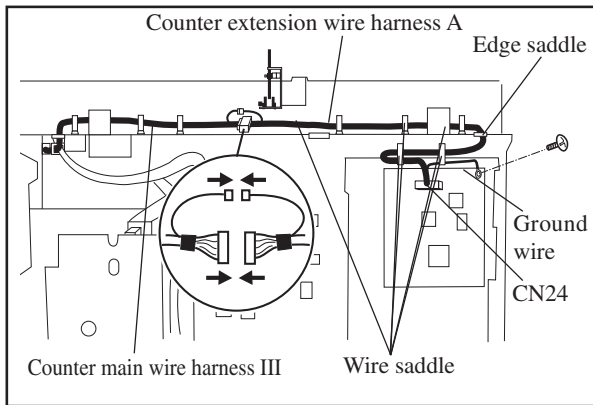
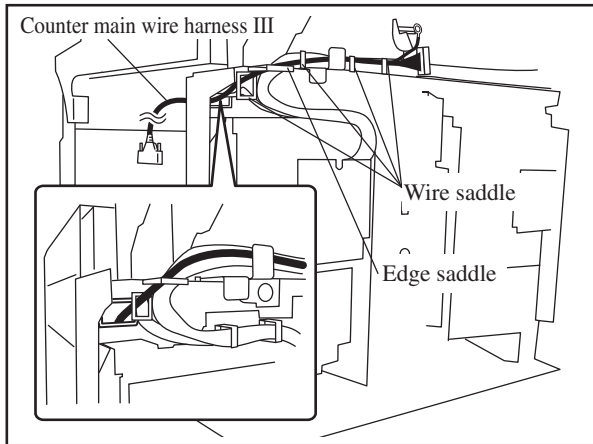
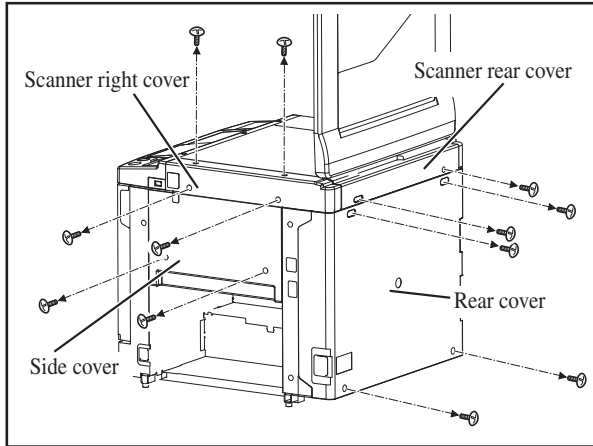
24. Replace all covers on the printer.

**NOTE:** When working on the printer with Gauge cover models, replace the Gauge cover.

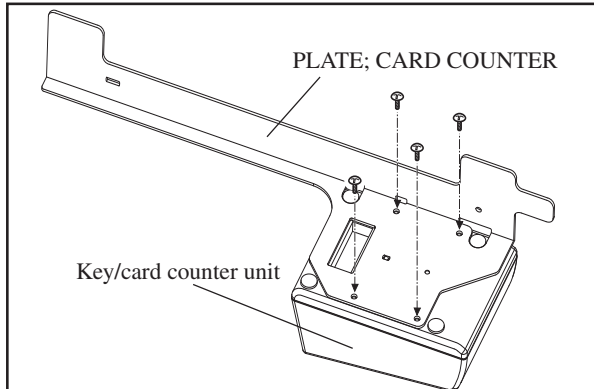
Proceed to the section "Operation Check" on page 13.



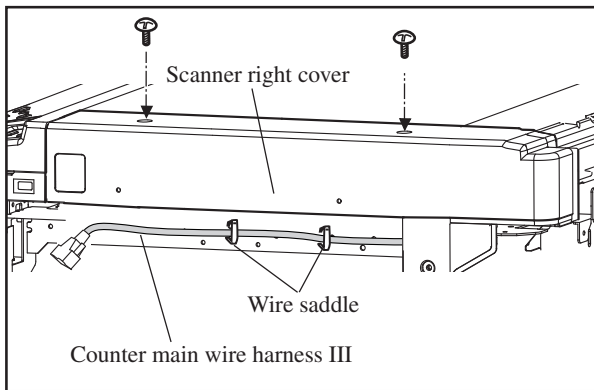
= For the Groups [E] models =



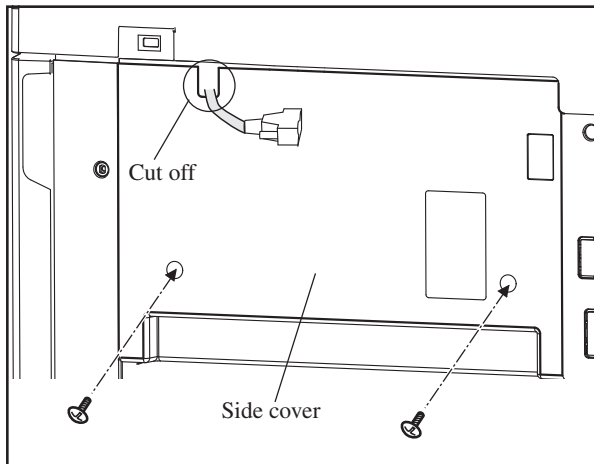
1. Turn off the power switch of the printer and unplug the power cord.
2. Remove the Rear cover from the printer.
3. Open the Paper receiving tray and remove the Side cover from the printer.
4. Remove the Scanner rear cover.
5. Remove the Scanner right cover.  
(The two removed side screws will not be reused.)
6. Lead the smaller connector of the Counter main wire harness III through the hole located around the upper left corner of the rear side frame from the paper ejecting side.
7. Secure the Counter main wire harness III with the wire saddles at four points and the edge saddles at one point.
8. Connect the Counter extension wire harness A and the Counter main wire harness III.
9. Connect the Counter extension wire harness A to the CN24 on the MAIN-SYSTEM-PCB.
10. Remove the PCB securing screw at the upper right corner of the MAIN-SYSTEM-PCB and secure it again with the terminal of ground wire coming out of the Counter extension wire harness A.
11. Secure the Counter extension wire harness A with the wire saddles at five points and the edge saddle at one point.
12. Remove the case cover from the Key/card counter unit and put a lithium battery into the battery holder.  
NOTE : Be sure to put the battery with the + side facing upward.
13. Replace the case cover on the Key/card counter unit.



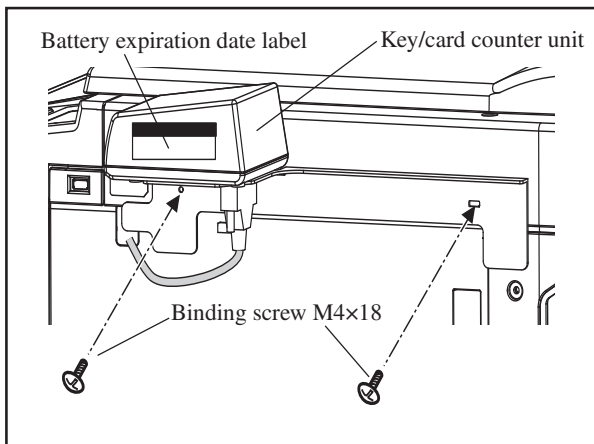
14. Secure the PLATE; CARD COUNTER on the Key/card counter unit. (Washed-screw M3x8, 4 pcs.)



15. Secure the upper side of the Scanner right cover with two screws.
16. Secure with two wire saddles. (Depending on the model, no wire saddle exists.)



17. Make a U-shape cutting on the Upper right side cover. To cut the cover in a U-shape, twist off the part to be removed with a pliers and smoothen the edge of the opening with the cutter knife for a fine finish.
18. Replace the Side cover, leading to counter main wire harness III through the U-shape opening of the Side cover, on the printer.



19. Tighten the Scanner right cover and PLATE; CARD COUNTER together with the included Binding screw M4x18.
20. Connect the Counter main wire harness III to the Key/card counter unit.
21. Write the date of two years later on the Battery expiration date label and stick the label on the side of the Key/card counter unit.
22. Replace the Scanner rear cover on the printer.
23. Replace the Rear cover on the printer.

Proceed to the section "Operation Check" on page 13.

### Operation check

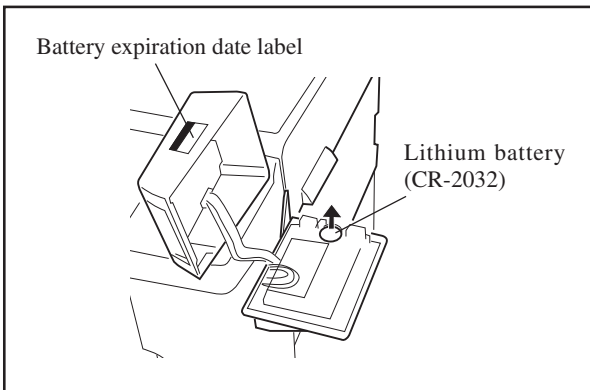
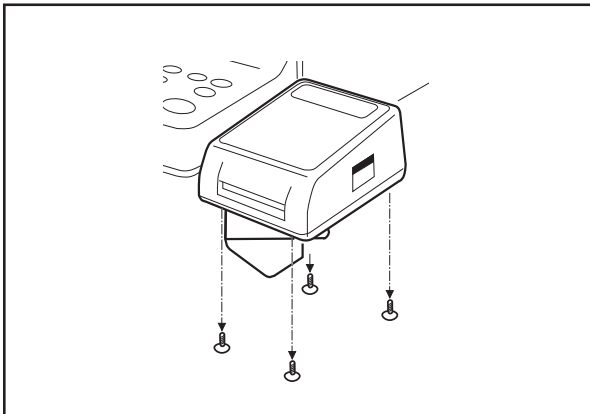
1. Pressing both "0" and "C" keys on the Key/card counter control panel together, turn on the main power switch on the printer.
2. After confirming that the indication "FFFFFFFFFFFFFFFF" appears in the display on the Key/card counter control panel, press the "1", "9", "5" and "3" keys orderly.  
**NOTE :** If no indication appears when the printer is turned on, return to the step 1.
3. After the display message changes to "INSERT CARD", insert the "OPERATOR CARD No. 1" into the Key/card counter and print 5 copies with a newly made master.
4. Insert the "CONTROL CARD" into the Key/card counter and press the "1" key more than a second. Then press the "PRINT" and "SET" keys orderly to print out the data of master count and print count.
5. Check that the following data are printed out

on copies.

No.	MSTR	PRINTS
1	1	5
ALL	1	5

6. To clear the above data, follow the procedures below.
  - 1) Press the "1" key more than a second leaving the "CONTROL CARD" in the Key/card counter.
  - 2) After the indication "TTL- 1- 5" appears on the display, press the "C" and "SET" keys orderly. The panel indication is changed to "TTL- 0-0" and the data are all cleared.

### Battery replacement



The used battery (normally after two years' operation) can be replaced by the following procedures.

1. Turn on the main power of the printer and remove the case cover of the Key/card counter unit by removing the securing screws on the bottom of the unit.  
**Important:** Always replace the used battery with the power of the printer turned ON. Otherwise, all memories in the Key/card counter will be cleared out.
2. Pick off the used battery from the battery holder and put a new one (CR-2032) there.
3. Replace the case cover on the Key/card counter unit.
4. Write the date of two years later on the Battery expiration date label on the side of the Key/card counter unit.

6-13. RISO NETWORK KIT S10

# RISO NETWORK KIT S10 Installation Procedure

⚠ Installation has to be done by an authorized technical expert.  
Please read "TECHNICAL MANUAL" of the applicable model about work precautions.

## Types of Applicable Printers

For details, refer to "The Table of Applicable Printers".



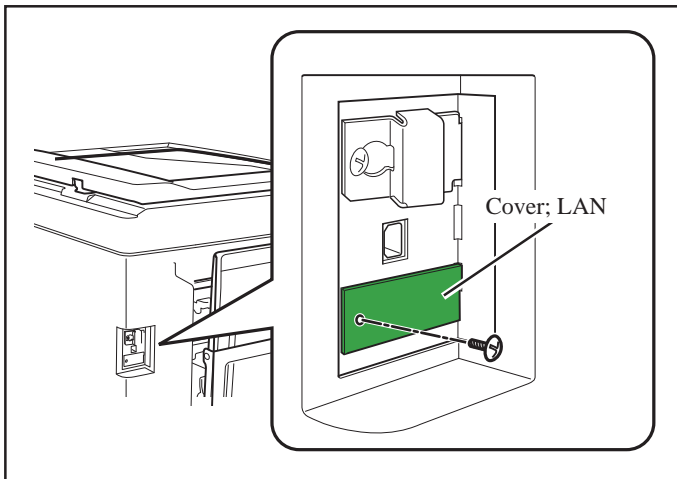
When installing the "IC CARD READER ACTIVATION KIT RG" at the same time, install the "IC CARD READER ACTIVATION KIT RG" first.

## Packing List

This package contains the following items.

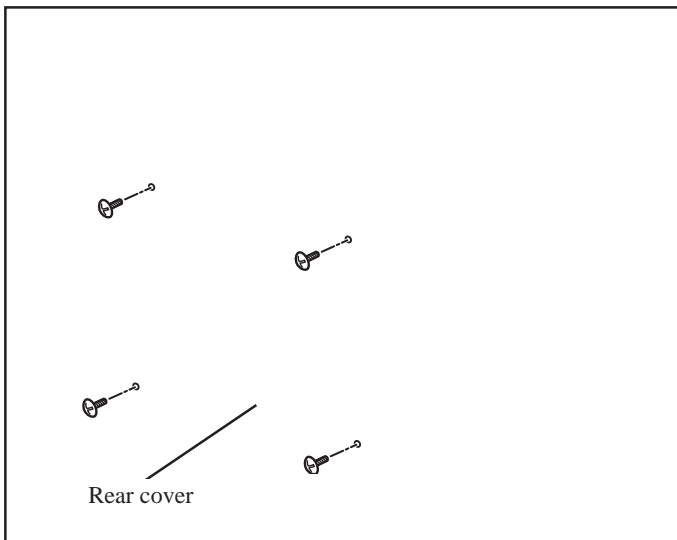
1. SUB-SYSTEM-PCB (L) .....1 pc.
2. SUB-SYSTEM Control wire harness 1 .....1 pc.
3. PCB screw .....1 pc.
4. RISO COPY COUNT VIEWER CD-ROM...1 pc.
5. RISO COPY COUNT VIEWER installation guide..... 1 copy
6. Installation Procedure (this document) .. 1 copy
7. The Table of Applicable Printers..... 1 copy
8. Declaration of conformity (for eu only) ... 1 copy
9. Specified Substances List (for China) ... 1 copy

= Common procedure =



1. Turn off the main power switch of the printer and unplug the power cord.  
Important: Be sure to turn off the printer and perform work while power is not supplied to the printer. (Not just the switch, but pull out the plug as well.)

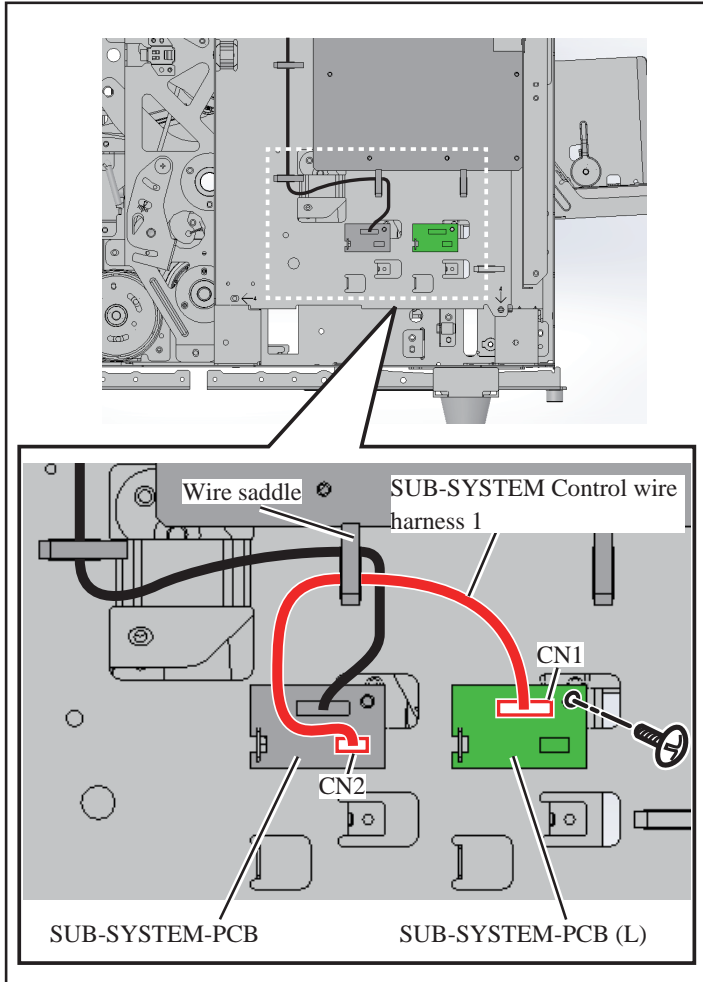
2. Remove the Cover; LAN.  
NOTE: The removed cover is not reused.



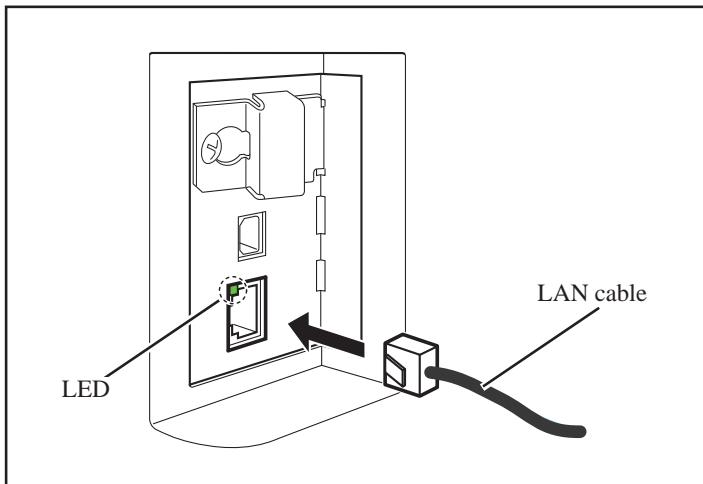
3. Remove the Rear cover. (4 screws)

If IC CARD READER ACTIVATION KIT RG is not installed..... Go to P.2  
If IC CARD READER ACTIVATION KIT RG is installed..... Go to P.3

= If IC CARD READER ACTIVATION KIT RG is not installed =



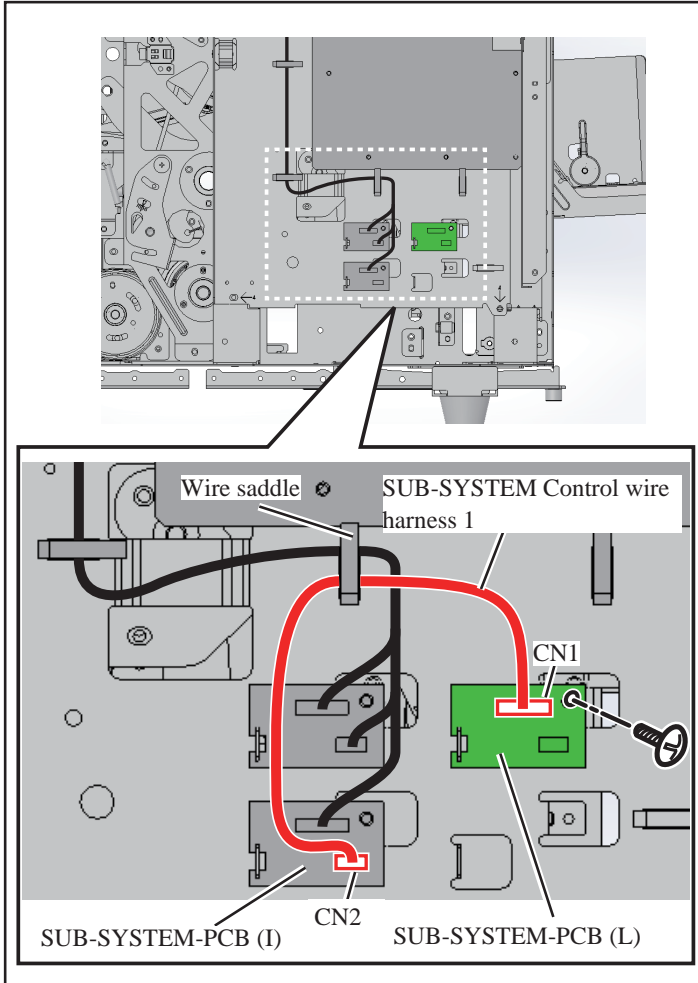
1. Attach the SUB-SYSTEM-PCB (L) at the position illustrated on the left. (Binding screw M3x6, 1 pc.)
2. Connect SUB-SYSTEM Control wire harness 1 to CN2 on SUB-SYSTEM-PCB and CN1 on SUB-SYSTEM-PCB (L).
3. Secure SUB-SYSTEM Control wire harness 1 with the Wire saddle.
4. Replace the Rear cover. (4 screws)



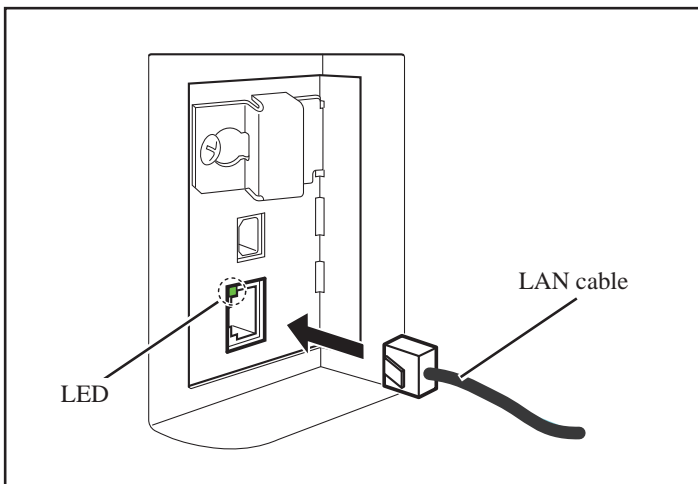
5. Connect your computer and the printer with the LAN cable.
6. Turn on the printer, and check that the LAN connector LED is flashing in green.

For Group [A] models .....Go to P.4  
 For Group [B] models.....Go to P.5

= If IC CARD READER ACTIVATION KIT RG is installed =



1. Attach the SUB-SYSTEM-PCB (L) at the position illustrated on the left. (Binding screw M3x6, 1 pc.)
2. Connect SUB-SYSTEM Control wire harness 1 to CN2 on SUB-SYSTEM-PCB and CN1 on SUB-SYSTEM-PCB (L).
3. Secure SUB-SYSTEM Control wire harness 1 with the Wire saddle.
4. Replace the Rear cover. (4 screws)



5. Connect your computer and the printer with the LAN cable.
6. Turn on the printer, and check that the LAN connector LED is flashing in green.

For Group [A] models .....Go to P.4  
For Group [B] models.....Go to P.5

= For the Group [A] models =

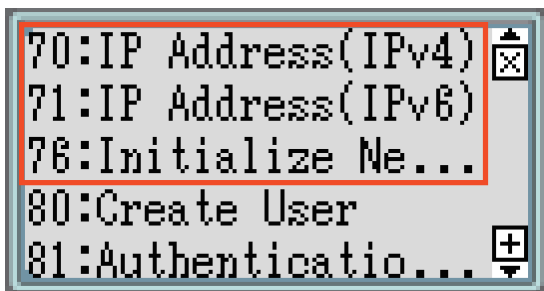
1. Press the [CUSTOM] button.



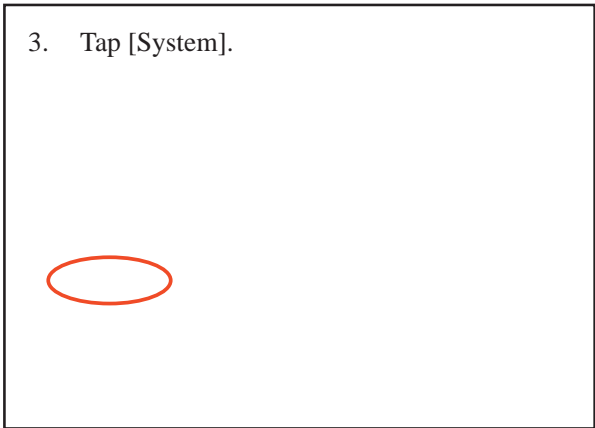
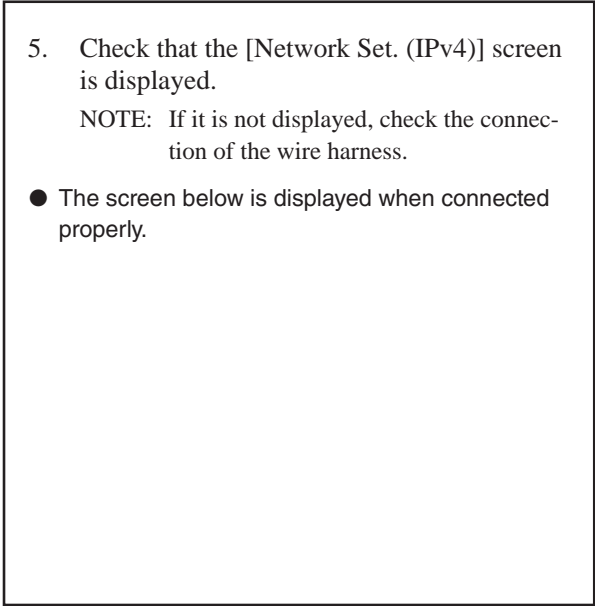
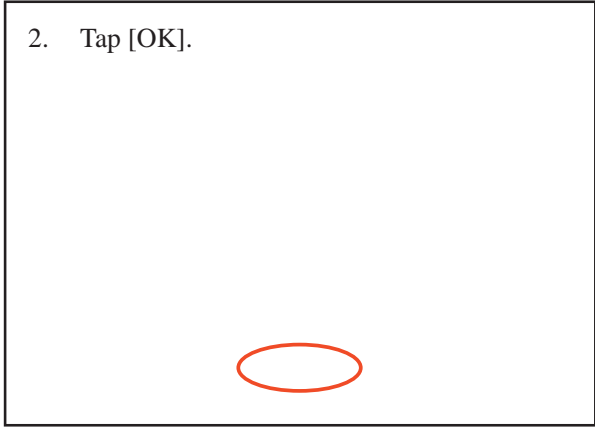
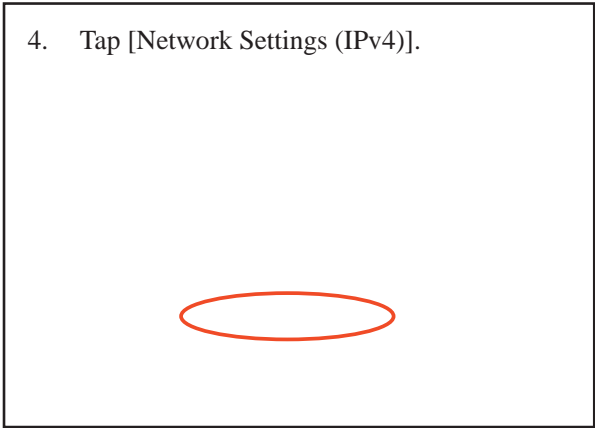
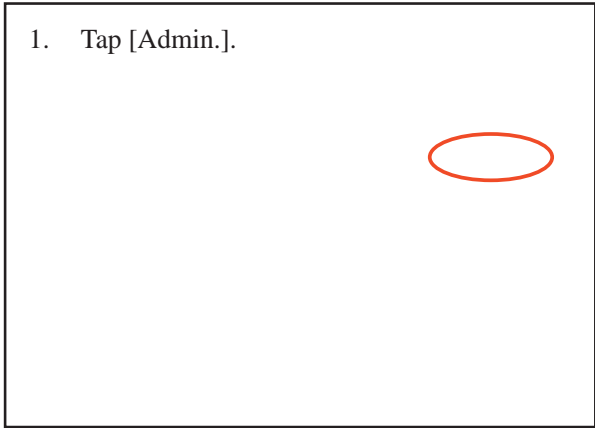
2. Press the [+] key to scroll, and check if IP address setting screens (numbers in the 70s) are displayed.

NOTE: If they are not displayed, check the connection of the wire harness.

- Numbers in the 70s are displayed when connected properly.



= For the Group [B] models =





# CHAPTER 2: Structural Overview

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## Contents

- 1. Main Body Specification .....2
- 2. Cross-Sectional Diagram .....11
- 3. Operation Outline .....12
- 4. Outline of Paper Feeding, Printing and Paper Ejection  
Operations .....13
- 5. Outline of Master removal, Master making and Master Loading  
Operations .....14

## 1. Main Body Specification

### SF9 series

Model	SF9450	SF9350	SF9250
Master Making Methods	High-speed digital master-making		
Master Making Time <sup>1</sup> (When [Quick Master Making] is OFF)	- Approx. 19 seconds (Letter paper, short edge feed) - Approx. 17 seconds (Letter paper, long edge feed)	- Approx. 20 seconds (A4 paper, short edge feed) - Approx. 16 seconds (A4 paper, long edge feed)	- Approx. 20 seconds (A4 paper, short edge feed)
Master Making Time <sup>1</sup> (When [Quick Master Making] is ON)	- Approx. 17 seconds (Letter Size paper, short edge feed) - Approx. 15 seconds (Letter paper, long edge feed)	- Approx. 18 seconds (A4 paper, short edge feed) - Approx. 14 seconds (A4 paper, long edge feed)	- Approx. 18 seconds (A4 paper, short edge feed)
Printing Method	Fully automatic printing		
Scanning Resolution	600 dpi × 600 dpi		
Printing Resolution	600 dpi × 600 dpi When [Quick Master Making] is set: 600 dpi × 400 dpi		
Original Type	Book (10 kg [22 lb] or less) or sheet		
Original Paper Weight	When auto document feeder is used: 50 g/m <sup>2</sup> to 128 g/m <sup>2</sup> (13-lb bond to 34-lb bond) (normal paper)		
Original Size	When glass platen is used: 50 mm × 90 mm to 310 mm × 432 mm (1 31/32 inches × 3 17/32 inches to 12 7/32 inches × 17 inches) When auto document feeder is used: 100 mm × 148 mm to 300 mm × 432 mm (3 15/16 inches × 5 13/16 inches to 11 13/16 inches × 17 inches)		
Maximum Scanning Area	297 mm × 432 mm (11 11/16 inches × 17 inches)		
Print Paper Weight	46 g/m <sup>2</sup> to 210 g/m <sup>2</sup> (12-lb bond to 116-lb index)		
Print Paper Size <sup>2</sup>	100 mm × 148 mm to 310 mm × 432 mm (3 15/16 inches × 5 13/16 inches to 12 7/32 inches × 17 inches)		
Maximum Printing Area	291 mm × 425 mm (11 15/32 inches × 16 23/32 inches)	291 mm × 413 mm (11 15/32 inches × 16 1/4 inches)	251 mm × 357 mm (9 7/8 inches × 14 1/16 inches)
Paper Feed Tray Stacking Capacity	1000 sheets <sup>3</sup> (stacking height of 110 mm [4 11/32 inches] or lower)		
Paper Receiving Tray Stacking Capacity	1000 sheets <sup>3</sup> (stacking height of 110 mm [4 11/32 inches] or lower)		
Print Speed	6 levels: 60, 80, 100, 120, 130, and 150 (high speed <sup>4</sup> ) sheets per minute		
Print Position Adjustment	Horizontal: ±15 mm (±19/32 inches) Vertical: ±10 mm (±13/32 inches)		
Image Processing Mode	Line, Photo (Standard / Portrait), Duo (Standard / Line / Photo), Pencil (Darker / Lighter)		

Print Reproduction Ratio	<b>Type: mm</b> Zoom (50% to 200%), Free, 100% reduction ratio, Margin+ (90% to 99 %), 4 levels of enlargement (163%, 141%, 122%, 116%), 4 levels of reduction (87%, 82%, 71%, 61%) <b>Type: inch</b> Zoom (50% to 200%), Free, 100% reduction ratio, Margin+ (90% to 99 %), 4 levels of enlargement (200%, 154%, 129%, 121%), 4 levels of reduction (78%, 65%, 61%, 50%)		
User Interface	Color touch panel		
Functions	Image, Contrast, Size, Paper Size Detection, Dot Process, Contrast Adj, Tone Curve, Multi-Up Print, Book Shadow, Top Margin Adj., Binding Margin Adj., Max. Scan, Ink Saving, Quick Master Making, Preview, ADF Semi-Auto <sup>5</sup> , Storage, Overlay, Print Speed Adjustment, Print Density Adjustment, Print Position Adjustment, Interval, Renew Page, Auto Page Renewal, Rotate, Special Paper Ctrl, Program, Job Separation <sup>6</sup> , Job Memory, Reservation, Editor, Idling Action, Confidential, My Direct Access, Meter Display, ID Counter Report, Proof Copy, Direct Printing, USB Job List, Scanning Mode, Admin., Auto Sleep, Auto Power-OFF, Power-OFF Schedule, ECO mode, Protect, RISO iQuality System		
Color Change	Print drum (cylinder) replacement method		
Ink Supply	Full automatic (1000 ml/cartridge)		
Master Supply / Disposal	Full automatic (approx. 215 sheets per roll)	Full automatic (approx. 220 sheets per roll)	Full automatic (approx. 250 sheets per roll)
Master Disposal Method	Box type (compatible with vertical disposable type)		
Power Source	AC 100-240 V, 50-60 Hz <3.4-1.6 A>	<b>SF9350E</b> AC 220-240 V, 50-60 Hz <1.6 A> <b>SF9350A</b> <ul style="list-style-type: none"> <li>• For Korea: AC 220 V, 60 Hz &lt;1.6 A&gt;</li> <li>• For other countries: AC 100-240 V, 50-60 Hz &lt;3.4-1.6 A&gt;</li> </ul>	<ul style="list-style-type: none"> <li>• For Korea: AC 220 V, 60 Hz &lt;1.6 A&gt;</li> <li>• For other countries: AC 100-240 V, 50-60 Hz &lt;3.4-1.6 A&gt;</li> </ul>
Power Consumption	When optional accessories are not connected: Max. 300W (Ready: 20 W or lower, Sleep: 5 W or lower, Power-OFF: 0.5 W or lower) When optional accessories are connected <sup>7</sup> : Max. 315W (Ready: 30 W or lower, Sleep: 10 W or lower, Power-OFF: 0.5 W or lower)		
Dimensions (WxDxH)	When in use: 1415 mm × 670 mm <sup>8</sup> × 1065 mm <sup>9</sup> (55 23/32 inches × 26 3/8 inches <sup>8</sup> × 41 15/16 inches <sup>9</sup> ) When in storage: 780 mm × 670 mm <sup>8</sup> × 1065 mm <sup>9</sup> (30 23/32 inches × 26 3/8 inches <sup>8</sup> × 41 15/16 inches <sup>9</sup> )		
Required Space (WxDxH)	1415 mm × 1240 mm × 1515 mm <sup>9</sup> (55 23/32 inches × 48 13/16 inches × 59 21/32 inches <sup>9</sup> )		
Weight	102 kg (225 lb) <sup>10</sup>		
Safety Standard	IEC-60950-1 compliant, indoor, pollution degree 2 <sup>11</sup> , at altitudes of 2000 m or lower		
Optional Accessories	Auto Document Feeder AF-VII, Color Print Drum (Cylinder), Wide Stacking Tray, Key/Card Counter IV;N, IC Card Reader Activation kit RG, Job Separator IV;NII / NIII, Card Feed Kit, Envelope Feed Kit, RISO Controller IS300, RISO Printer Driver for Macintosh		

<sup>1</sup> Measurement value when set to 100% reproduction ratio.

<sup>2</sup> When the optional Wide Stacking Tray is installed, you can use paper up to a size of 310 mm × 555 mm (12 7/32 inches × 21 27/32 inches) by setting [Custom Paper Entry]. Depending on the paper type and paper size, papers may not be aligned properly.

<sup>3</sup> When using the following weight of paper; 64g/m<sup>2</sup> to 80g/m<sup>2</sup> (17-lb bond to 21-lb bond)

- <sup>4</sup> If the temperature of the inside of the print drum (cylinder) is less than 15°C (59°F), [High Speed] is not usable.
- <sup>5</sup> Usable when the optional auto document feeder is installed.
- <sup>6</sup> Usable when the optional Job Separator is installed.
- <sup>7</sup> When all the following optional accessories are installed.
- Auto Document Feeder
  - Job Separator
  - Key/Card Counter or IC Card Reader
- <sup>8</sup> The depth does not include the stabilizers for the dedicated rack.
- <sup>9</sup> The height includes the dedicated rack.
- <sup>10</sup> The weight does not include the ink, master roll, and rack.
- <sup>11</sup> The pollution degree of the usage environment due to dirt and dust in the air. Degree “2” corresponds to a general indoor environment.

**Notes**

- The specifications and type of the product are subject to change without prior notice.
- Please note that due to improvements and changes to this machine, some images and explanations in this guide may not correspond to your machine.

**SF5\*5 series**

Model	SF5450	SF5350	SF5250	SF5050
Master Making Methods	High-speed digital master-making			
Master Making-Time <sup>1</sup> (When [Quick Master Making] is OFF)	Approx. 19 seconds (Letter paper, short edge feed)	Approx. 20 seconds (A4 paper, short edge feed)	Approx. 20 seconds (A4 paper, short edge feed)	Approx. 22 seconds (A4 paper, short edge feed)
Master Making-Time <sup>1</sup> (When [Quick Master Making] is ON)	Approx. 17 seconds (Letter Size paper, short edge feed)	Approx. 18 seconds (A4 paper, short edge feed)	Approx. 18 seconds (A4 paper, short edge feed)	Approx. 20 seconds (A4 paper, short edge feed)
Printing Method	Fully automatic printing			
Scanning Resolution	600 dpi × 600 dpi			
Printing Resolution	300 dpi × 600 dpi (perforation on the master <sup>2</sup> : 600 dpi × 600 dpi) When [Quick Master Making] is set: 300 dpi × 400 dpi (perforation on the master <sup>2</sup> : 600 dpi × 400 dpi)			
Original Type	Book (10 kg [22 lb] or less) or sheet			
Original Paper Weight	When auto document feeder is used: 50 g/m <sup>2</sup> to 128 g/m <sup>2</sup> (13-lb bond to 34-lb bond) (normal paper)			
Original Size	When glass platen is used: 50 mm × 90 mm to 310 mm × 432 mm (1 31/32 inches × 3 17/32 inches to 12 7/32 inches × 17 inches) When auto document feeder is used: 100 mm × 148 mm to 300 mm × 432 mm (3 15/16 inches × 5 13/16 inches to 11 13/16 inches × 17 inches)			
Maximum Scanning Area	297 mm × 432 mm (11 11/16 inches × 17 inches)			
Print Paper Weight	46 g/m <sup>2</sup> to 210 g/m <sup>2</sup> (12-lb bond to 116-lb index)			
Print Paper Size	100 mm × 148 mm to 310 mm × 432 mm (3 15/16 inches × 5 13/16 inches to 12 7/32 inches × 17 inches)			
Maximum Printing Area	291 mm × 425 mm (11 15/32 inches × 16 23/32 inches)	291 mm × 413 mm (11 15/32 inches × 16 1/4 inches)	251 mm × 357 mm (9 7/8 inches × 14 1/16 inches)	210 mm × 290 mm (8 1/4 inches × 11 13/32 inches)
Paper Feed Tray Stacking Capacity	1000 sheets <sup>3</sup> (stacking height of 110 mm [4 11/32 inches] or lower)			
Paper Receiving Tray Stacking Capacity	1000 sheets <sup>3</sup> (stacking height of 110 mm [4 11/32 inches] or lower)			
Print Speed	6 levels: 60, 80, 100, 120, 130, and 150 (high speed <sup>4</sup> ) sheets per minute			
Print Position Adjustment	Horizontal: ±15 mm (±19/32 inches) Vertical: ±10 mm (±13/32 inches)			
Image Processing Mode	Line, Photo, Duo, Pencil			

Print Reproduction Ratio	<b>Type: mm</b> Zoom (50% to 200%), 100% reproduction ratio, 3 levels of enlargement (141%, 122%, 116%), 4 levels of reduction (94%, 87%, 82%, 71%) <b>Type: inch</b> Zoom (50% to 200%), 100% reproduction ratio, 3 levels of enlargement (154%, 129%, 121%), 4 levels of reduction (94%, 78%, 65%, 61%)			
User Interface	LCD panel			
Functions	Original Scanning Mode, Scanning Level, Enlargement/Reproduction, Dot Process, 2-Up, Book, Ink Saving, Quick Master Making, ADF Semi-Auto <sup>5</sup> , Speed, Density, Print Position, Program A/B, Job Separation <sup>6</sup> , Idling, Confidential, Meter Display, Count Report Output, Proof, Direct Printing, USB Flash-via-Printing, Auto Sleep Setting, Auto Power-OFF Setting, ECO Mode, RISO iQuality System			
Color Change	Print drum (cylinder) replacement method			
Ink Supply	Full automatic (1000 ml/cartridge)			
Master Supply / Disposal	Full automatic (approx. 215 sheets per roll)	Full automatic (approx. 220 sheets per roll)	Full automatic (approx. 250 sheets per roll)	Full automatic (approx. 295 sheets per roll)
Master Disposal Method	Box type (compatible with vertical disposable type)			
Power Source	AC 100-240 V, 50-60 Hz <3.4-1.6 A>	<b>SF5350E</b> AC 220-240 V, 50-60 Hz <1.6 A> <b>SF5350A</b> • For Korea: AC 100-240 V, 50-60 Hz <3.4-1.6 A> • For other countries: AC 220 V, 60 Hz <1.6 A>	• For Korea: AC 100-240 V 50-60 Hz <3.4-1.6 A> • For other countries: AC 220 V 60 Hz <1.6 A>	AC 220-240 V 50-60 Hz <1.6 A>
Power Consumption	When optional accessories are not connected: Max. 300W (Ready: 20 W or lower, Sleep: 5 W or lower, Power-OFF: 0.5 W or lower) When optional accessories are connected <sup>7</sup> :Max. 315W (Ready: 30 W or lower, Sleep: 10 W or lower, Power-OFF: 0.5 W or lower)			
Dimensions (WxDxH)	When in use: 1415 mm × 670 mm <sup>8</sup> × 1065 mm <sup>9</sup> (55 23/32 inches × 26 3/8 inches <sup>8</sup> × 41 15/16 inches <sup>9</sup> ) When in storage: 780 mm × 670 mm <sup>8</sup> × 1065 mm <sup>9</sup> (30 23/32 inches × 26 3/8 inches <sup>8</sup> × 41 15/16 inches <sup>9</sup> )			
Required Space (WxDxH)	1415 mm × 1240 mm × 1515 mm <sup>9</sup> (55 23/32 inches × 48 13/16 inches × 59 21/32 inches <sup>9</sup> )			
Weight	101 kg (223 lb) <sup>10</sup>			
Safety Standard	IEC-60950-1 compliant, indoor, pollution degree 2, <sup>11</sup> at altitudes of 2000 m or lower			
Optional Accessories	Auto Document Feeder AF-VII, Color Print Drum (Cylinder), Wide Stacking Tray, Key/Card Counter IV;N, IC Card Reader Activation kit RG, Job Separator IV;NII / NIII, Card Feed Kit, Envelope Feed Kit, RISO Printer Driver for Macintosh			

<sup>1</sup> Measurement value when set to 100% reproduction ratio.

<sup>2</sup> The perforation on the master refers to the number of holes made on a master of one-inch square.

<sup>3</sup> When using the following weight of paper; 64 g/m<sup>2</sup> to 80 g/m<sup>2</sup> (17-lb bond to 21-lb bond)

<sup>4</sup> If the temperature of the inside of the print drum (cylinder) is less than 15°C (59°F), [High Speed] is not usable.

<sup>5</sup> Usable when the optional auto document feeder is installed.

<sup>6</sup> Usable when the optional Job Separator is installed.

<sup>7</sup> When all the following optional accessories are installed.

–Auto Document Feeder

–Job Separator

–Key/Card Counter or IC Card Reader

<sup>8</sup> The depth does not include the stabilizers for the dedicated rack.

<sup>9</sup> The height includes the dedicated rack.

<sup>10</sup> The weight does not include the ink, master roll, and rack.

<sup>11</sup> The pollution degree of the usage environment due to dirt and dust in the air. Degree "2" corresponds to a general indoor environment.

**SF5\*3 series**

Model	SF5430	SF5330	SF5230	SF5130	SF5030
Master Making Methods	High-speed digital master-making				
Master Making-Time <sup>1</sup> (When [Quick Master Making] is OFF)	Approx. 19 seconds (Letter paper, short edge feed)	Approx. 20 seconds (A4 paper, short edge feed)	Approx. 20 seconds (A4 paper, short edge feed)	Approx. 19 seconds (Letter paper, short edge feed)	Approx. 22 seconds (A4 paper, short edge feed)
Master Making-Time <sup>1</sup> (When [Quick Master Making] is ON)	Approx. 17 seconds (Letter Size paper, short edge feed)	Approx. 18 seconds (A4 paper, short edge feed)	Approx. 18 seconds (A4 paper, short edge feed)	Approx. 17 seconds (Letter Size paper, short edge feed)	Approx. 20 seconds (A4 paper, short edge feed)
Printing Method	Fully automatic printing				
Scanning Resolution	600 dpi x 600 dpi				
Printing Resolution	300 dpi x 600 dpi (perforation on the master <sup>2</sup> : 600 dpi x 600 dpi) When [Quick Master Making] is set: 300 dpi x 400 dpi (perforation on the master <sup>2</sup> : 600 dpi x 400 dpi)				
Original Type	Book (10 kg [22 lb] or less) or sheet				
Original Paper Weight	When auto document feeder is used: 50 g/m <sup>2</sup> to 128 g/m <sup>2</sup> (13-lb bond to 34-lb bond) (normal paper)				
Original Size	When glass platen is used: 50 mm x 90 mm to 310 mm x 432 mm (1 31/32 inches x 3 17/32 inches to 12 7/32 inches x 17 inches) When auto document feeder is used: 100 mm x 148 mm to 300 mm x 432 mm (3 15/16 inches x 5 13/16 inches to 11 13/16 inches x 17 inches)				
Maximum Scanning Area	297 mm x 432 mm (11 11/16 inches x 17 inches)				
Print Paper Weight	46 g/m <sup>2</sup> to 157 g/m <sup>2</sup> (12-lb bond to 42-lb bond)				
Print Paper Size	100 mm x 148 mm to 310 mm x 432 mm (3 15/16 inches x 5 13/16 inches to 12 7/32 inches x 17 inches)				
Maximum Printing Area	291 mm x 425 mm (11 15/32 inches x 16 23/32 inches)	291 mm x 413 mm (11 15/32 inches x 16 1/4 inches)	251 mm x 357 mm (9 7/8 inches x 14 1/16 inches)	210 mm x 357 mm (8 1/4 inches x 14 1/16 inches)	210 mm x 290 mm (8 1/4 inches x 11 13/32 inches)
Paper Feed Tray Stacking Capacity	1000 sheets <sup>3</sup> (stacking height of 110 mm [4 11/32 inches] or lower)				
Paper Receiving Tray Stacking Capacity	1000 sheets <sup>3</sup> (stacking height of 110 mm [4 11/32 inches] or lower)				
Print Speed	5 levels: 60, 80, 100, 120, and 130 sheets per minute				
Print Position Adjustment	Horizontal: ±15 mm (±19/32 inches) Vertical: ±10 mm (±13/32 inches)				
Image Processing Mode	Line, Photo, Duo, Pencil				



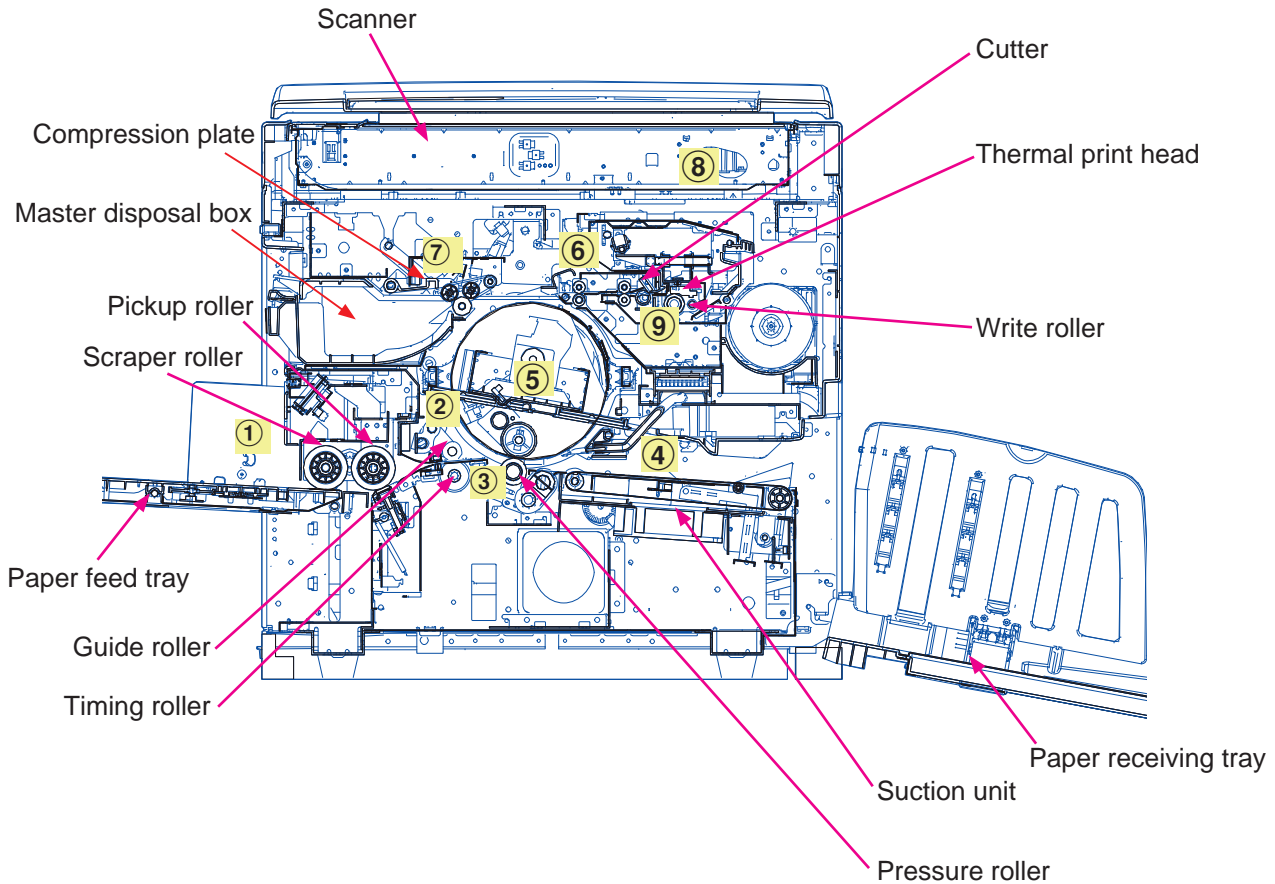
Print Reproduction Ratio	<b>Type: mm</b> Zoom (50% to 200%), 100% reproduction ratio, 3 levels of enlargement (141%, 122%, 116%), 4 levels of reduction (94%, 87%, 82%, 71%) <b>Type: inch</b> Zoom (50% to 200%), 100% reproduction ratio, 3 levels of enlargement (154%, 129%, 121%), 4 levels of reduction (94%, 78%, 65%, 61%)				
User Interface	LCD panel				
Functions	Original Scanning Mode, Scanning Level, Enlargement/Reproduction, Dot Process, 2-Up, Book, Ink Saving, Quick Master Making, ADF Semi-Auto <sup>4</sup> , Speed, Density, Print Position, Program A/B, Job Separation <sup>5</sup> , Idling, Confidential, Meter Display, Count Report Output, Proof, Direct Printing, USB Flash-via-Printing, Auto Sleep Setting, Auto Power-OFF Setting, ECO Mode, RISO iQuality System				
Color Change	Print drum (cylinder) replacement method				
Ink Supply	Full automatic (1000 ml/cartridge)				
Master Supply / Disposal	Full automatic (approx. 215 sheets per roll)	Full automatic (approx. 220 sheets per roll)	Full automatic (approx. 250 sheets per roll)	Full automatic (approx. 295 sheets per roll)	Full automatic (approx. 295 sheets per roll)
Master Disposal Method	Box type (compatible with vertical disposable type)				
Power Source <sup>6</sup>	AC 100-120 V/ AC 220-240 V 50-60 Hz <3.4-1.6 A>	<ul style="list-style-type: none"> <li>• For Korea: AC 220 V 60 Hz &lt;1.6 A&gt;</li> <li>• For Taiwan AC 110 V 60 Hz &lt;3.4 A&gt;</li> <li>• For other countries: AC 220-240 V 50-60 Hz &lt;1.6 A&gt;</li> </ul>	<b>SF5230U</b> AC 100-120 V/ AC 220-240 V, 50-60 Hz <3.4-1.6 A> <b>SF5230E</b> AC 220-240 V, 50-60 Hz <1.6 A> SF5230A <ul style="list-style-type: none"> <li>• For Korea: AC 220 V 60 Hz &lt;1.6 A&gt;</li> <li>• For Taiwan AC 110 V 60 Hz &lt;3.4 A&gt;</li> <li>• For other countries: AC 220-240 V 50-60 Hz &lt;1.6 A&gt;</li> </ul>	<b>SF5130U</b> AC 100-120 V/ AC 220-240 V, 50-60 Hz <3.4-1.6 A> <b>SF5130A</b> AC 220-240 V, 50-60 Hz <1.6 A>	AC 220-240 V, 50-60 Hz <1.6 A>
Power Consumption	When optional accessories are not connected: Max. 300W (Ready: 20 W or lower, Sleep: 5 W or lower, Power-OFF: 0.5 W or lower) When optional accessories are connected <sup>7</sup> :Max. 315W (Ready: 30 W or lower, Sleep: 10 W or lower, Power-OFF: 0.5 W or lower)				
Dimensions (WxDxH)	When in use: 1415 mm × 670 mm <sup>8</sup> × 1065 mm <sup>9</sup> (55 23/32 inches × 26 3/8 inches <sup>8</sup> × 41 15/16 inches <sup>9</sup> ) When in storage: 780 mm × 670 mm <sup>8</sup> × 1065 mm <sup>9</sup> (30 23/32 inches × 26 3/8 inches <sup>8</sup> × 41 15/16 inches <sup>9</sup> )				
Required Space (WxDxH)	1415 mm × 1240 mm × 1515 mm <sup>9</sup> (55 23/32 inches × 48 13/16 inches × 59 21/32 inches <sup>9</sup> )				
Weight	100 kg (221 lb) <sup>10</sup>				
Safety Standard	IEC-60950-1 compliant, indoor, pollution degree 2, <sup>11</sup> at altitudes of 2000 m or lower				
Optional Accessories	Auto Document Feeder AF-VII, Color Print Drum (Cylinder), Wide Stacking Tray, Key/Card Counter IV;N, IC Card Reader Activation kit RG, Job Separator IV;NII / NIII, RISO Network Kit S10, Card Feed Kit, Envelope Feed Kit, RISO Printer Driver for Macintosh				

- <sup>1</sup> Measurement value when set to 100% reproduction ratio.
- <sup>2</sup> The perforation on the master refers to the number of holes made on a master of one-inch square.
- <sup>3</sup> When using the following weight of paper; 64 g/m<sup>2</sup> to 80 g/m<sup>2</sup> (17-lb bond to 21-lb bond)
- <sup>4</sup> Usable when the optional auto document feeder is installed.
- <sup>5</sup> Usable when the optional Job Separator is installed.
- <sup>6</sup> To switch between 100-120 V and 220-240 V, contact your dealer or authorized representative.
- <sup>7</sup> When all the following optional accessories are installed.
- Auto Document Feeder
  - Job Separator
  - Key/Card Counter or IC Card Reader
- <sup>8</sup> The depth does not include the stabilizers for the dedicated rack.
- <sup>9</sup> The height includes the dedicated rack.
- <sup>10</sup> The weight does not include the ink, master roll, and rack.
- <sup>11</sup> The pollution degree of the usage environment due to dirt and dust in the air. Degree “2” corresponds to a general indoor environment.

**Notes**

- The specifications and type of the product are subject to change without prior notice.
- Please note that due to improvements and changes to this machine, some images and explanations in this guide may not correspond to your machine.

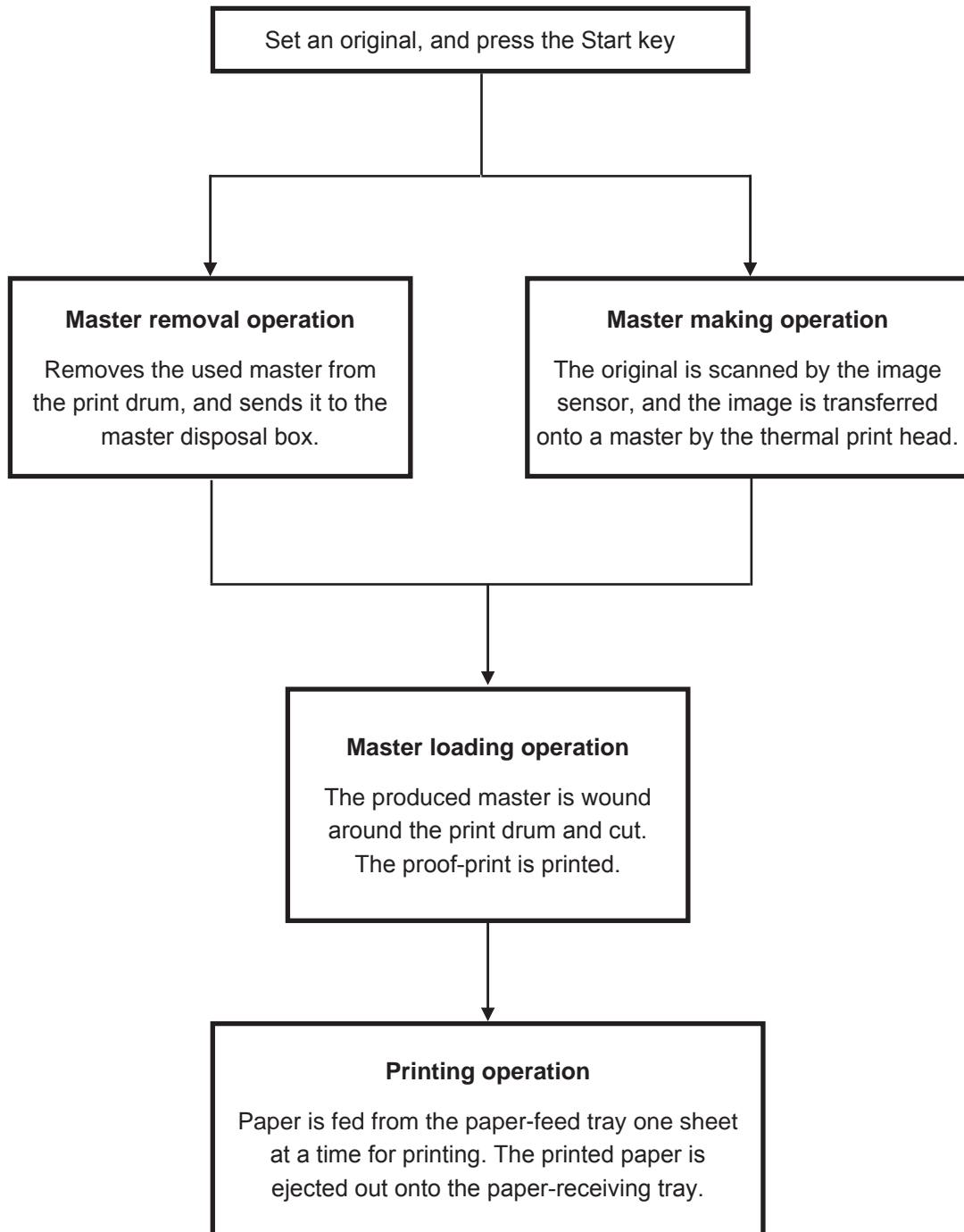
## 2. Cross-Sectional Diagram



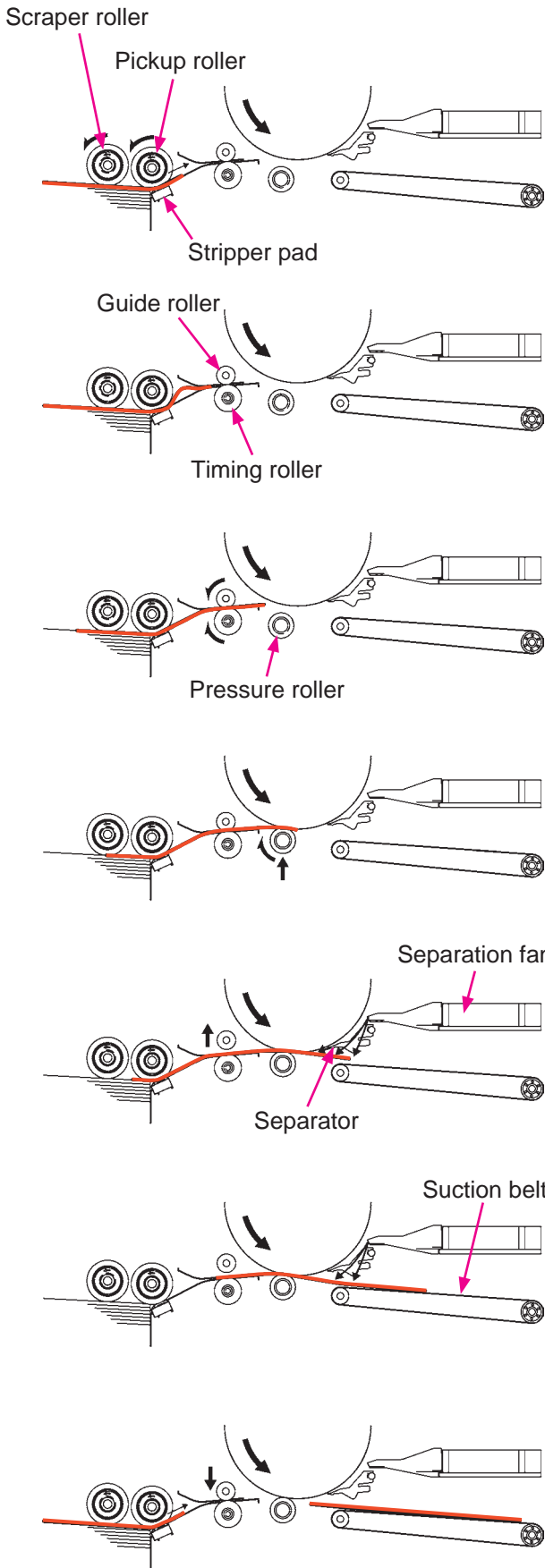
The descriptions correspond to the numbers in the figure.

- ① First paper feed area: Sends paper from the Paper feed tray one sheet at a time.
- ② Second paper feed area: Stops the paper sent from the first paper-feed stage, and accurately feeds it to the Print drum and pressure section.
- ③ Press section: The Pressure roller presses the paper firmly against the Print drum for printing.
- ④ Paper ejection section: Removes the printed paper from the Print drum using the Separator, and sends it to the Paper receiving tray.
- ⑤ Print drum: Supplies ink from the Ink cartridge to the surface of the Print drum for printing.
- ⑥ Clamp unit: Open and closes the Clamp plate of Print drum to nip the tip of the Master material.
- ⑦ Master removal section: Peels the Master from the Print drum after use, and discharges it into the Master disposal box.
- ⑧ Flatbed section: The Lamp carriage and Mirror carriage move, and the CCD unit reads the original on the Scanner table.
- ⑨ Master-making section: Transports and creates a Master using the Thermal print head, then sends the produced Master to the Print drum, and cuts the Master material.

### 3. Operation Outline

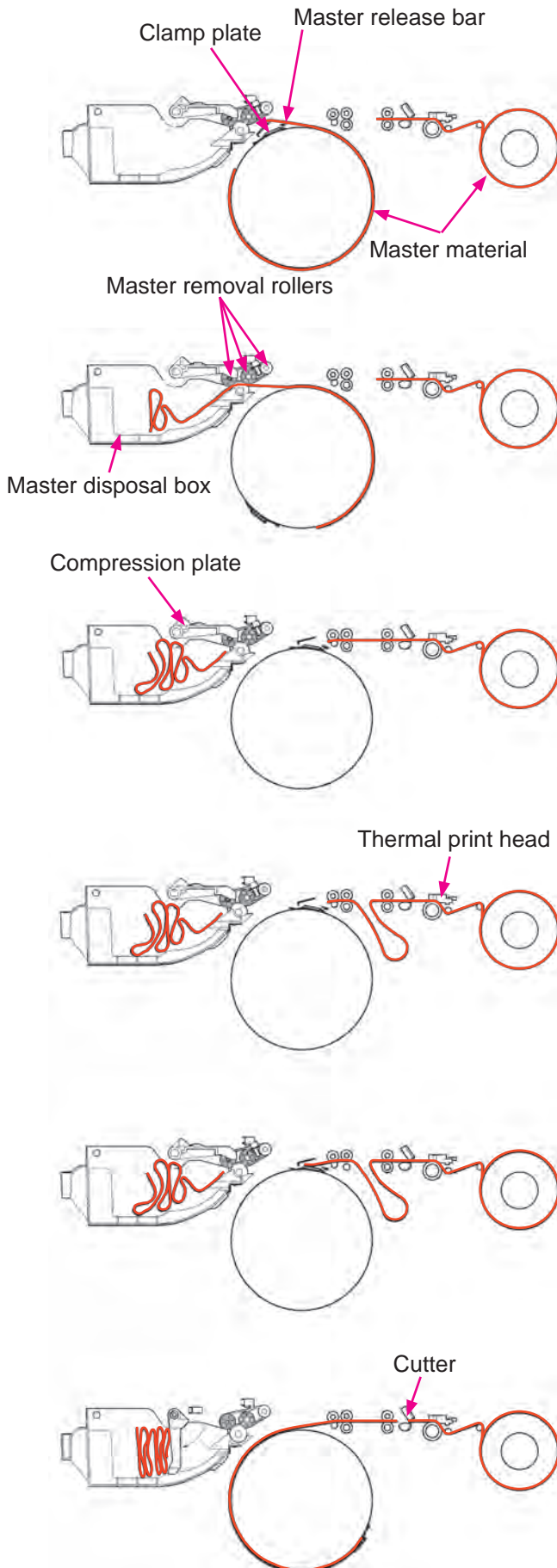


### 4. Outline of Paper Feeding, Printing and Paper Ejection Operations



- ① The Print drum, Scraper roller and Pickup roller are rotated. Only one sheet of paper is fed to the second paper feed section by the action of Stripper pad.
- ② The paper sent from the first paper feed area contacts the Timing roller and Guide roller, and stops temporarily. This causes slight buckling of the paper.
- ③ The Timing roller and Guide roller are rotated, and the paper is sent to the pressure section. (This is referred to as the second paper feed. Idle running is performed by the Scraper roller and Pickup roller to avoid the back tension of paper.)
- ④ When the paper is fed further in from the second paper feed area, the Pressure roller rises and the paper is caught between the Drum and Pressure roller at the start of the printing operation.
- ⑤ The printed paper is removed from the Print drum by the Separator and Separation fan. When the Pressure roller rises, the Guide roller also moves up to prevent tension from being added on the tailing end of the paper.
- ⑥ Then, the Suction fan pulls in the air to keep the paper firmly on the Transfer belts while the paper is carried to the Paper receiving tray.
- ⑦ The next sheet of paper is sent to the first paper feed area, and the Guide roller comes down to nip with the Timing roller.

## 5. Outline of Master removal, Master making and Master Loading Operations



### Master removal operation

- ① The Clamp plate holding the leading edge of the Master opens and the Master release bar rises to lift the Master out from under the Clamp plate.
- ② The Master removal rollers and Print drum rotate, thereby separating the Master from the print drum and sending it to the Master disposal box.
- ③ The motion of the compression plate starts, pressing the Master into the Master disposal box.

### Master making operation

- ① The CCD reads the original, and the Thermal print head burns the image onto a Master material.

### Master loading operation

- ① The Master is sent to the Clamp plate on the Print drum and the leading edge of the Master material is clamped.
- ② The Print drum rotates to wind the Master around it.
- ③ The cutter cuts the Master material.

# MEMO

# MEMO



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# CHAPTER 3: Main Drive Section

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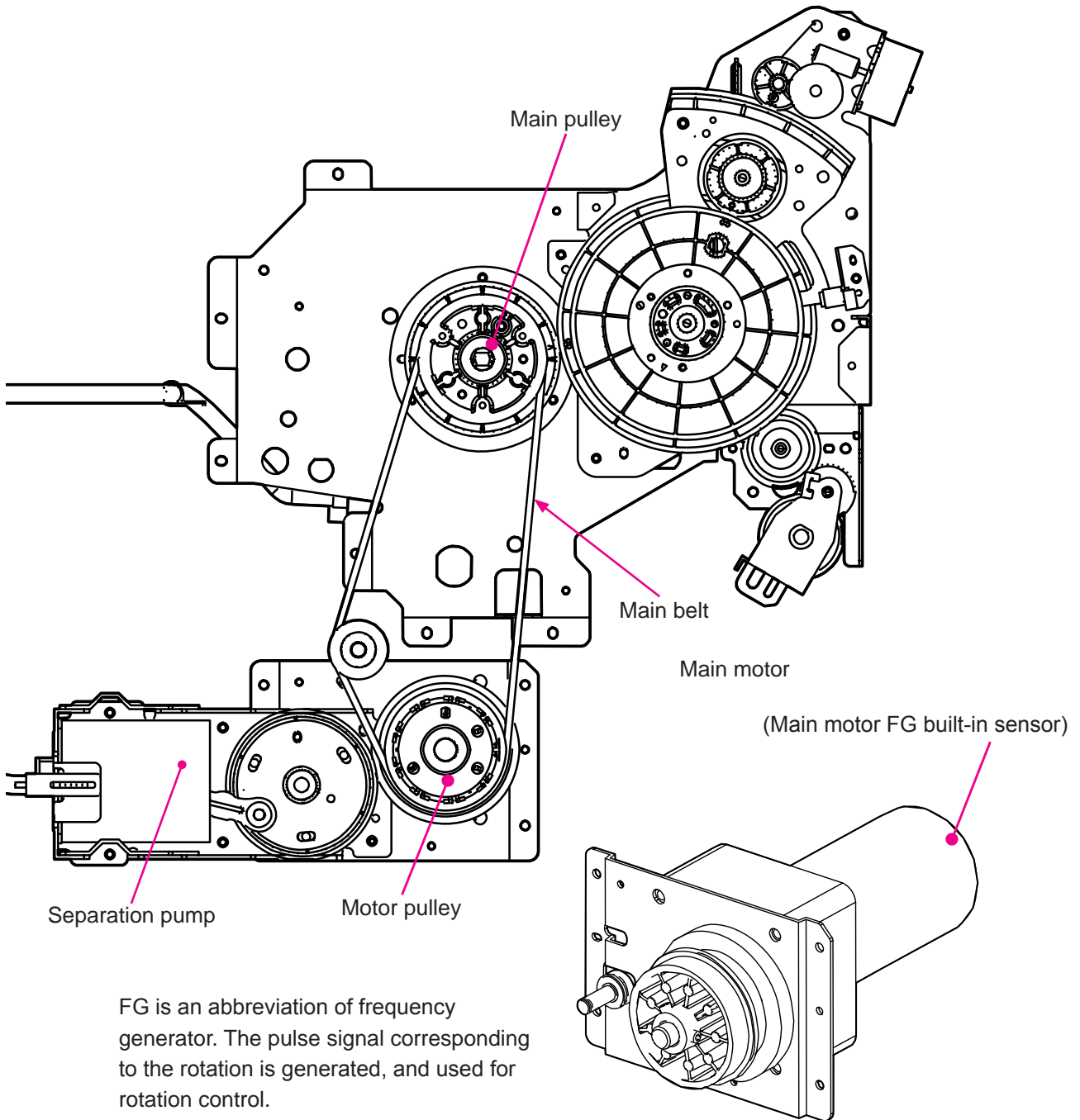
## Contents

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# 1. Mechanism

## 1-1. Main Drive Mechanism

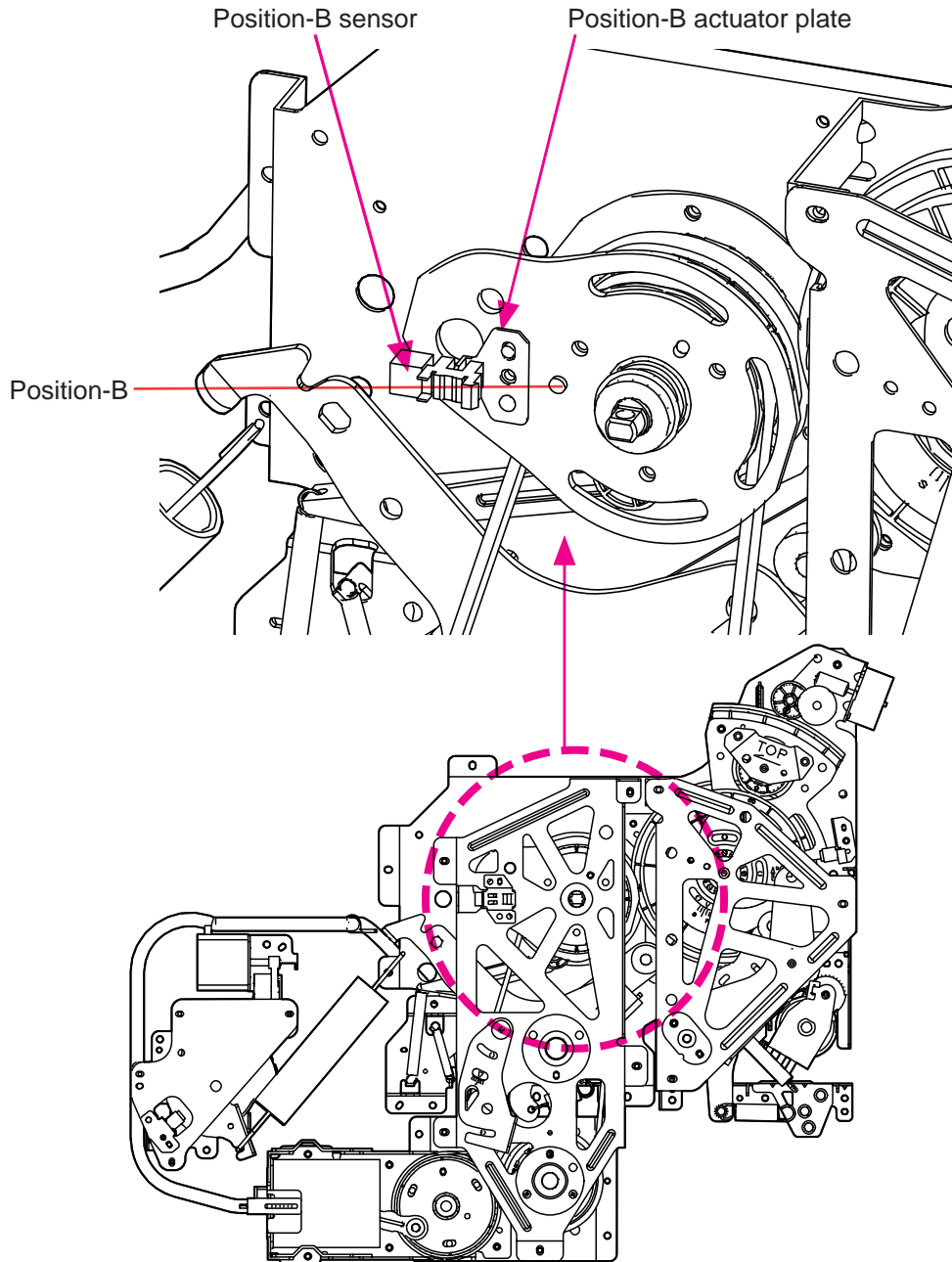
- Main motor drives the print drum, the first paper feed, the second paper feed and the separation pump.
- Main motor FG sensor detects the speed and the angle position of the print drum.
- When the main motor is turned on, the rotation is transmitted to the Motor pulley, Main belt, Main pulley, and then the Print drum.
- \* Print drum can be rotated free by switch 2 (DRUM FREE) on the MAIN-SYSTEM-PCB.
- \* After turning the rear cover set switch ON, print drum can be rotated at 10rpm by running test mode No.896 (print drum free rotation).



### 1-2.Print Drum Angle Detection

On the basis of the position-B, the print position control or the sensor detection timing control is performed. Position-B is a center location of the Position-B actuator plate on the Position-B sensor and the pressure cam. This is also the position where the print drum is removed or inserted.

The rotation angle is decided by the pulse count of the main motor FG sensor on the basis of the Position-B. In addition, the position that is rotated 40° from the Position-B is defined as Position-A, and the Print drum angle is displayed the Position-A as 0°.



**1-3. Set Switch Mechanism**

Objective of the set switches are the safety of the work performed by users.

Set switch; 5 locations

Rear cover set switches (2 locations; each on the paper feed side and ejection side)

Master disposal box set switch

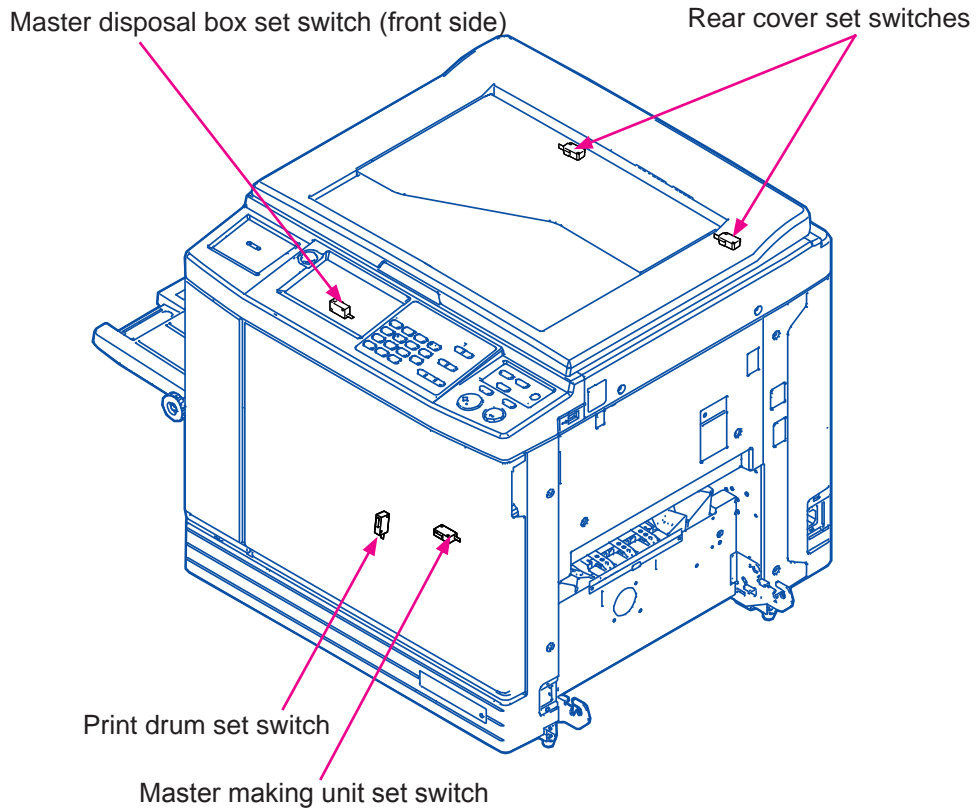
Master making unit set switch

Print drum set switch

The above switches prevent the following parts from operating when each section is not set properly.

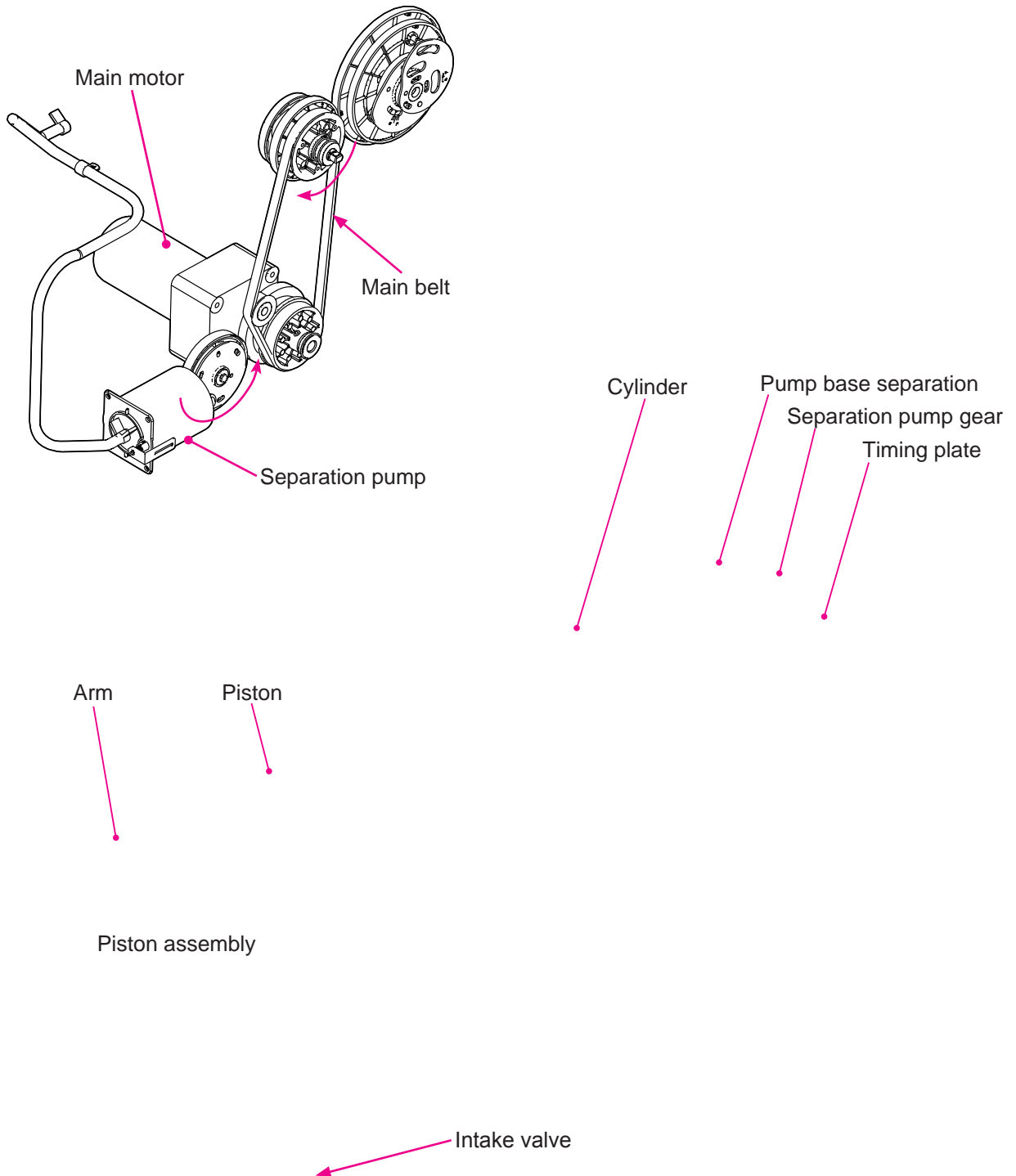
- Main motor
- Clamp motor
- Master compression motor
- Master removal motor
- Separation fan

\* Stripper set switch corresponds to the elevator motor.

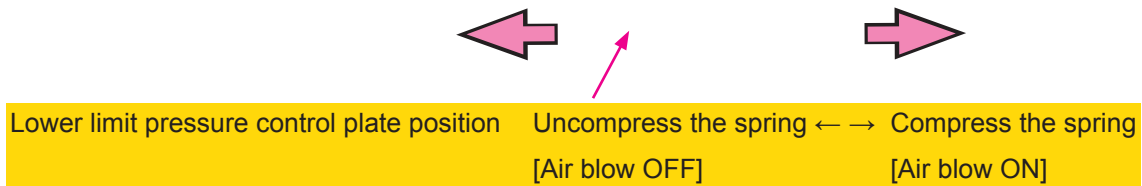
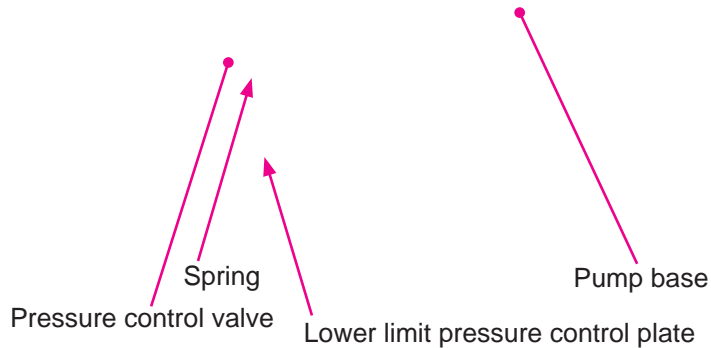


### 1-4. Separation Pump Mechanism

Separation pump is a mechanism to produce the compressed air required for paper separation from Print drum. The Main motor rotation makes the reciprocating motion of the Piston. When the Piston compresses, the compressed air is produced within the Cylinder. When the Piston intakes the air, the air is inhaled from the Intake valve. The compressed air travels through the hose and ejects out from the hole on the tip of the separator to peel and separates the paper from the Print drum. The timing of the Separation pump movement is controlled by the mounting position of the Timing plate.



### Air blow ON/OFF



#### [Air blow ON]

- 1) Slide the Lower limit pressure control plate to the position in which the spring is compressed.
- 2) The air does not leak out from the Pressure control valve when the pressure in the Cylinder builds up.
- 3) The compressed air therefore is pushed through the hose and ejected out from the tip of the separator.

#### [Air blow OFF]

- 1) Slide the Lower limit pressure control plate to the position in which the spring is uncompressed.
- 2) The compressed air leaks out from the Pressure control valve when the pressure in the Cylinder builds up.
- 3) The compressed air is emptied from the Cylinder and therefore the air is not supplied to the separator.

It should always be set to

[Air blow ON] for normal printing operation.

Q . When is the [Air blow OFF] setting necessary ?

A.

- Used when the image quality is affected due to the paper separating from the Print drum at unequal timing i.e. center of the paper versus side ends of the paper.
- Used when the air expelled out from the tip of the separator is found to be the cause for paper jams.

## 2. Disassembly

<Precautions to work safely on the drive area >

Working on the Main Drive area and Press Section with the Pressure spring attached on the machine may cause the moving parts, such as the Gears and Cams, to move suddenly and cause injuries.

Make sure to follow the instructions below before working on the Main Drive and Press Section. The following three points must be followed when working on the drive area for SAFETY reasons.

- 1) When performing maintenance on the main drive section and press section, remove the Pressure spring at the start of the disassembly, and attach it only at the end of the reassembly. (Refer to the 2-1, for the spring removal procedure.)



- 2) Activate Test Mode No. 892 <Machine Position-B Stop> to stop the machine at Position-B.
- 3) Set the vertical print position to the home position, and insert 8 mm diameter x 160 mm long JIG shaft into the Position-B phase alignment hole, located on the paper feed timing area, to prevent the drive area from moving. <Turn OFF the machine power just before inserting the JIG shaft.>
  - \* The jig shaft holes on the Outer and Inner vertical positioning gears meet once at every 5 turns of the Inner vertical positioning gear. (Repeat Test Mode No. 892 explained on above step-2 until the jig shaft holes on the two gears meet.)<CAUTION: Power to the machine should NEVER be applied when the JIG shaft is inserted in the machine.>

Inner vertical  
positioning gear

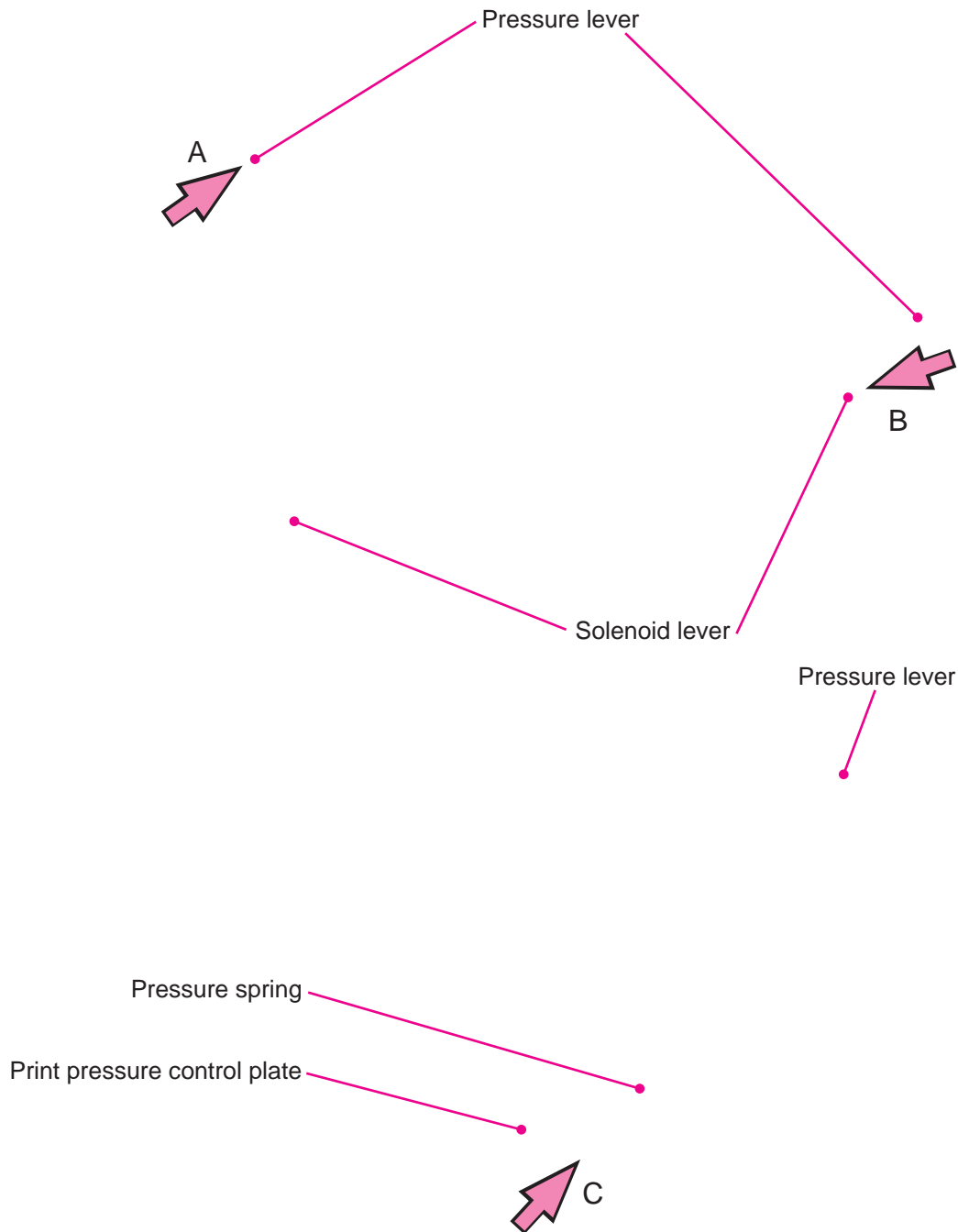
Outer vertical  
positioning gear

Phase matching hole  
of paper feed drive  
mechanism



### 2-1. Removing the Pressure Spring

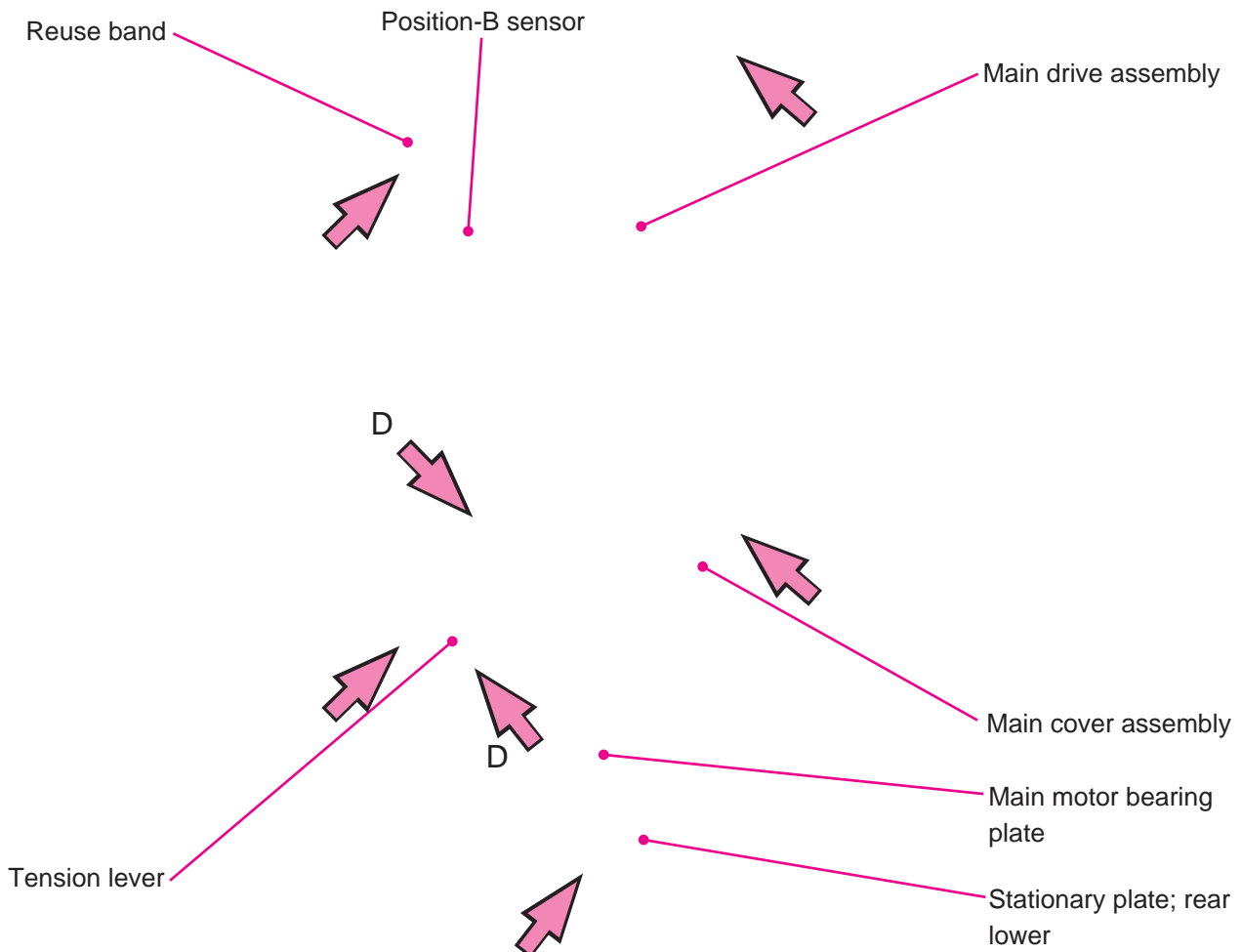
- 1) Make confidential master on the Print drum. (Prevention of ink adhesion on the pressure roller.)
- 2) Run test mode No.908 (pressure control maintenance position moves), and then switch OFF the power.
- 3) Remove the rear cover and open the power supply assembly and MAIN-SYSTEM-PCB assembly. (Refer to Chapter 1.)
- 4) Slightly rotate the Pressure lever in the clockwise direction (arrow A on photo) and separate the Solenoid lever from Pressure lever (arrow B on photo), return the Pressure lever to its original position.
- 5) After removing the Pressure spring from Print pressure control plate (arrow C on photo), remove it from the Pressure lever.



## 2-2. Removing the Main Belt

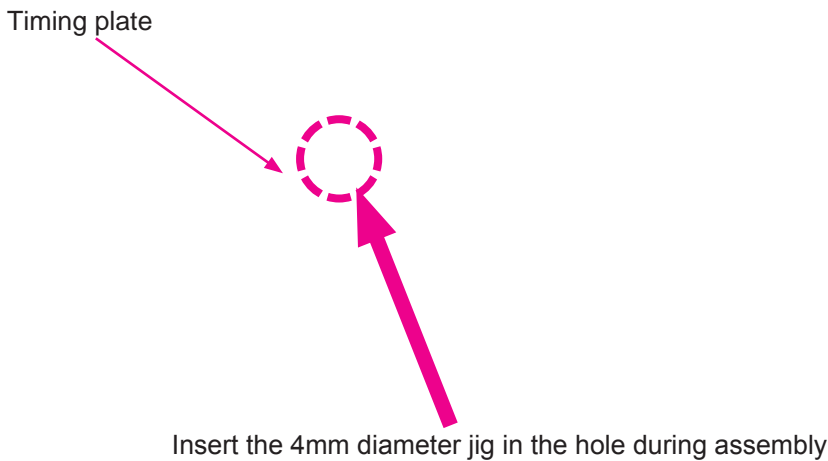
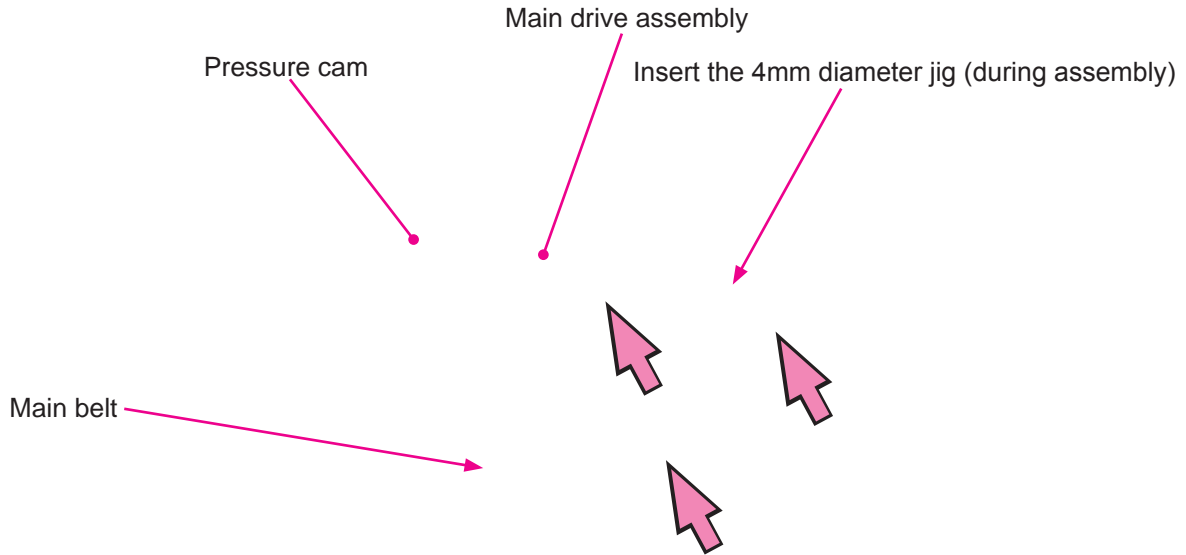
\* When removing the main cover assembly, pay attention not to let the main drive assembly fall off from the machine.

- 1) Remove the pressure spring. (Refer to 2-1.)
- 2) Run test mode No.892 "machine Position B stop" until the phase alignment holes on the inner vertical positioning gear and outer vertical positioning gear of the paper feed mechanism align in order to insert the 8mm(diameter) x 160mm jig shaft through the two alignment holes.  
(Refer to page 3-7 of this Chapter: Precautions to work safely on the drive area.)
- 3) Remove the Print drum and switch OFF the power.
- 4) Disconnect the Position B sensor connector and remove Reuse band (1 pc) from main cover assembly.
- 5) Loosen the securing screws of tension lever (M4×8 screw; 2 pcs) (arrow D on photo) and loosen the tension of the main belt.



- 6) Remove the Stationary plate; rear lower (round tip IT3C4×8; 1 pc).
- 7) Remove the Main motor bearing plate (M4 x 8 screw; 3 pcs).
- 8) Remove the Main cover assembly (M4 x 8 screw; 5 pcs).

- 9) Remove the pressure cam (M4 x 10 screw; 3 pcs)
  - \* In order to assemble the Pressure cam back in the correct mounting position, insert the 4mm diameter jig in the positioning hole on the Pressure cam through the Main drive assembly, when mounting the Pressure cam back on the printer.
- 10) Remove the main belt.

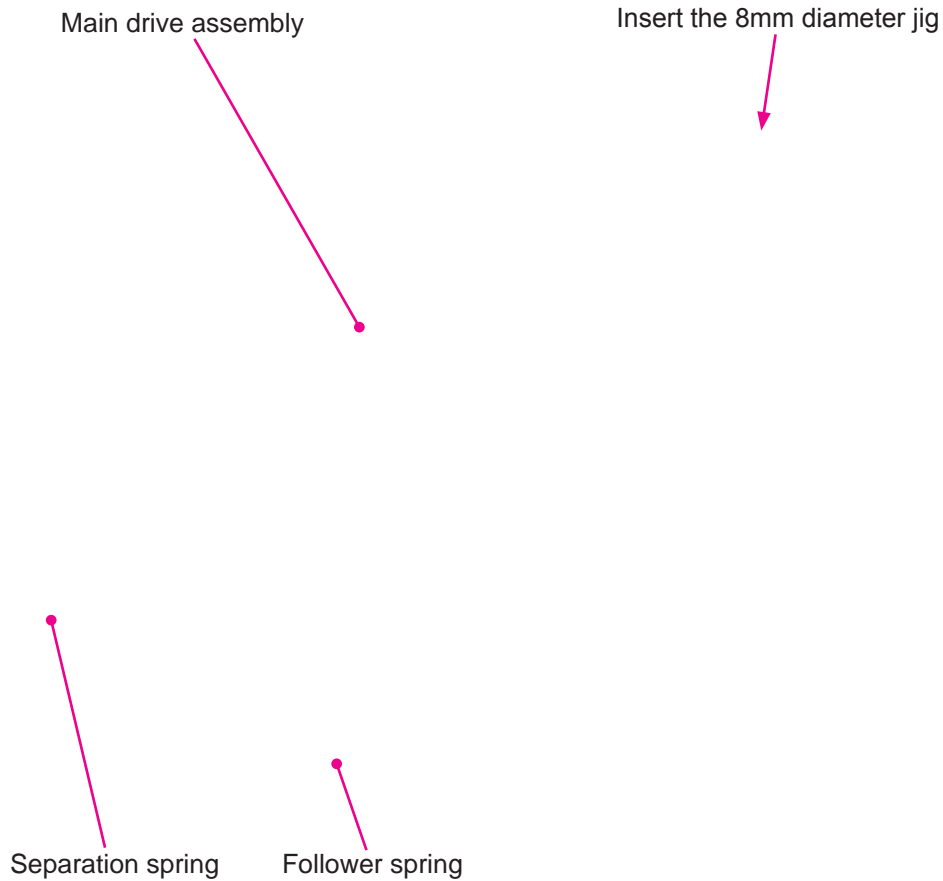


< Precautions in assembly >

- In mounting the Main cover assembly back on the printer, tighten the screw on the upper right the first, while pushing the Main drive assembly firmly against the printer.
- Insert the 4mm diameter jigs in both the Main drive assembly and Timing plate to synchronize the drive phase.
- After all the components are assembled back on the printer, lastly tighten the tensioner screw on the tension lever while applying tension on the timing belt by pushing on the tensioner lever against the timing belt.

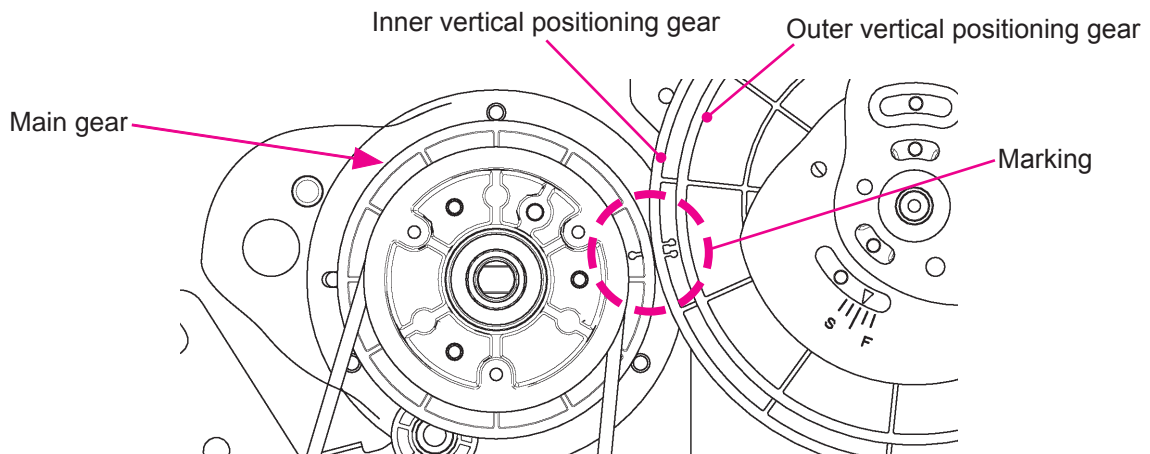
### 2-3. Removing the Main Drive Assembly

- 1) Remove the pressure spring. (Refer to 2-1.)
- 2) Remove the main belt. (Refer to 2-2.)
- 3) Remove the separation spring and follower spring.
- 4) Remove the main drive assembly.



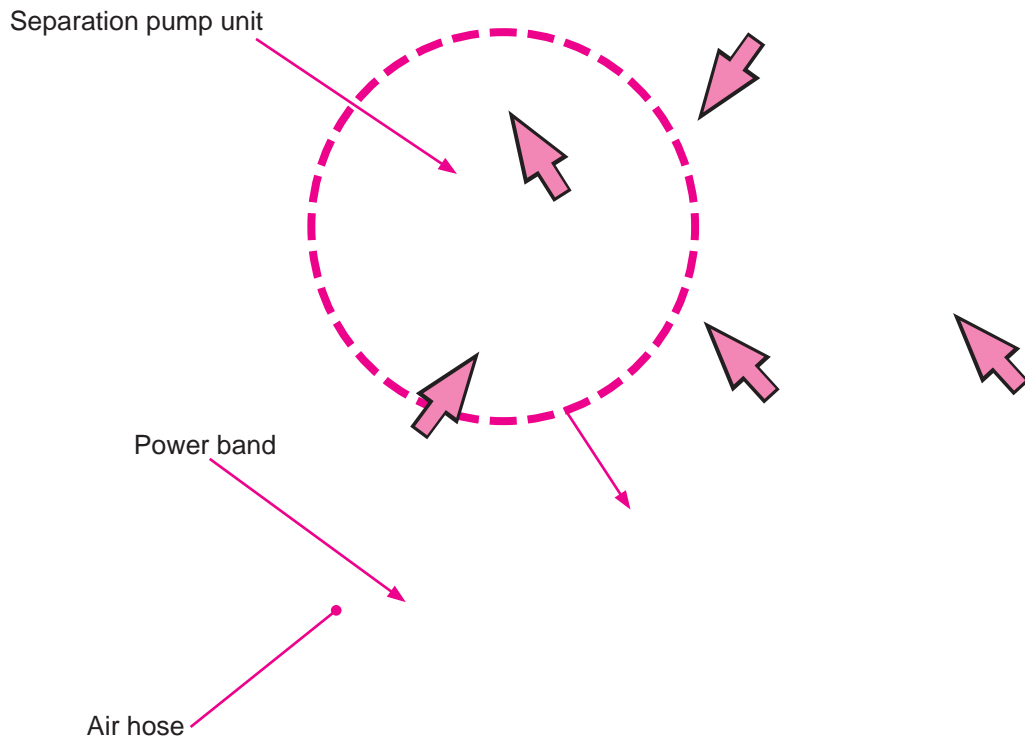
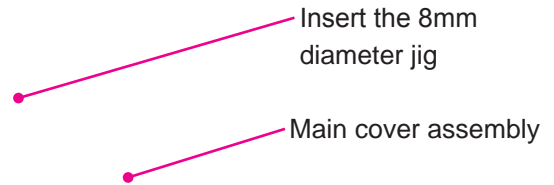
#### «Important: Installation precautions»

In attaching the Main shaft assembly back on the machine, first insert the 8 mm diameter x 160 mm JIG shaft in the paper feed drive area to fix the gears at Position-B, and then mount the Main drive assembly back on the machine while aligning the markings between the Main gear and the Inner vertical positioning gear.



### 2-4. Removing the Separation Pump Unit

- 1) Remove the pressure spring. (Refer to 2-1.)
- 2) Insert the 8mm diameter jig from outside of the main cover assembly through pressure cam in position-B. (Anti-rotation of drive mechanism.)
- 3) Remove the separation pump unit. (M4 x 8 screw; 5 pcs)
- 4) Pinch and slide the power band, and unplug the air hose from the separation pump unit.



**< Precautions in assembly >**

- 1) With the Main drive mechanism locked at Position-B by inserting 8mm diameter jig as done per previous page, mount the Separation pump unit back on the printer while inserting a 4mm diameter jig through the hole on the Timing plate, penetrating into the side frame of the printer to synchronize the Separation pump unit drive to the Position-B of the printer.

Insert the 4mm diameter jig to the mark of separation pump unit.

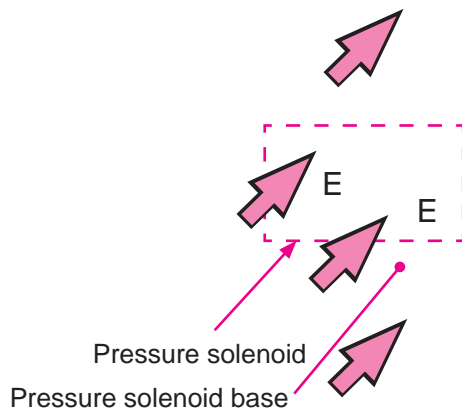


«Separation  
pump unit»

- 2) Fix the position of the Separation pump unit by sliding it towards the right, its gear engaging against the Main motor pulley gear with proper amount of backlash between the two gears.
- 3) The maximum misalignment allowed for the Position-B mounting position of the Timing plate is 1 tooth off.
- 4) The finger grip on the power band on the air tube should be facing away, clear from the Pressure control valve.

**2-5. Removing the Pressure Solenoid**

- 1) Remove the Pressure spring. (Refer to 2-1.)
- 2) Remove the Separation spring.
- 3) Remove the Pressure solenoid base. (round tip IT3C4×8 screw; 2 pcs)(arrow E on photo)

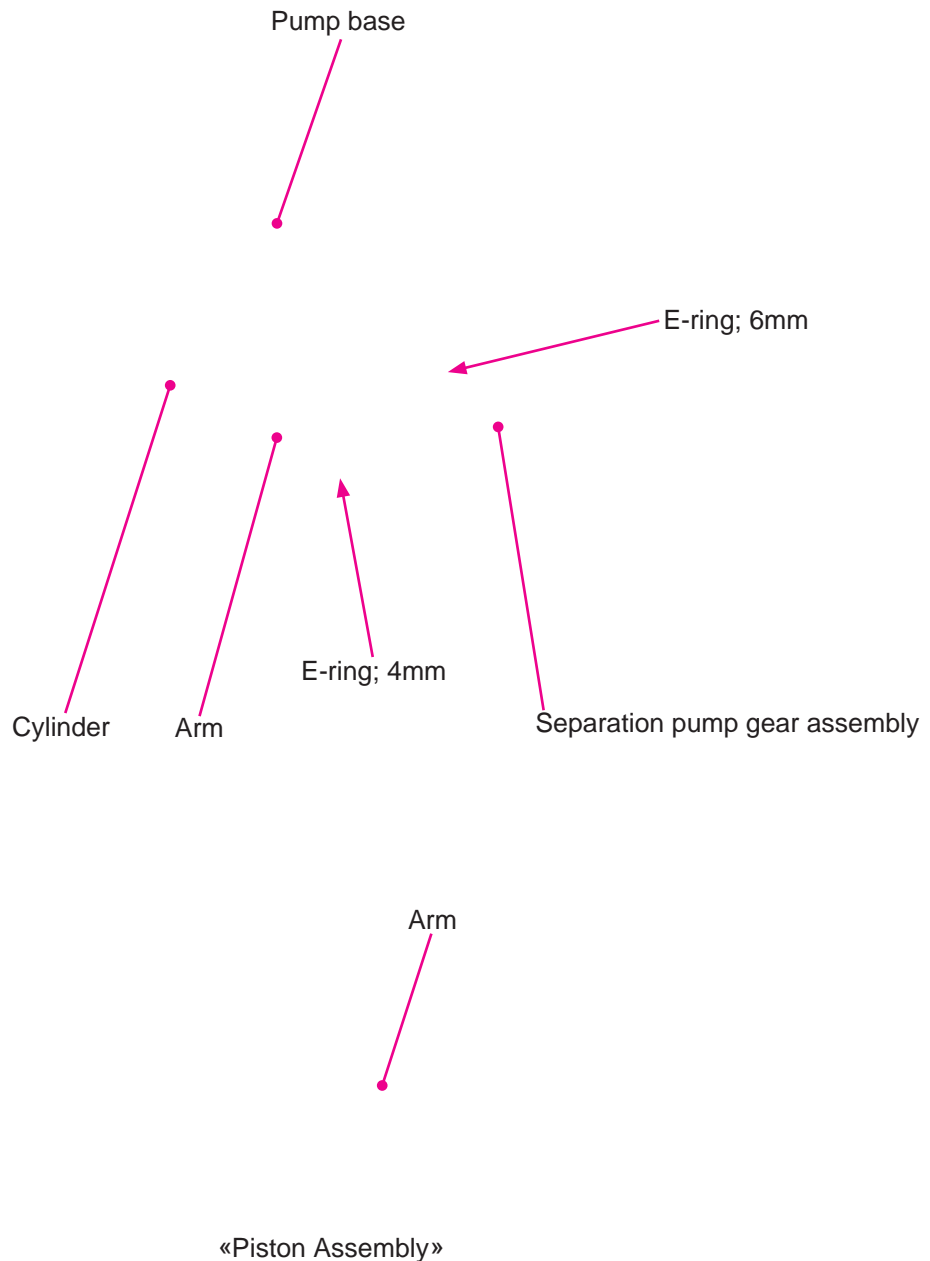


- 4) Remove the Pressure solenoid. (M3×6 screw; 2 pcs)

## 2-6. Removing the Piston Assembly on the Separation Pump Unit

\* Piston assembly on the Separation pump unit can be removed with the Pump unit attached on the machine.

- 1) Switch OFF the power, remove the rear cover and open Power supply assembly and MAIN-SYSTEM-PCB assembly. (Refer to Chapter 1.)
- 2) Remove E-ring (4mm; 1 pc) and draw the arm from the shaft of Separation pump gear assembly.
- 3) Rotate the piston assembly 90 degrees and pull the Piston to the edge of the Cylinder.
- 4) Remove E-ring (6mm; 1 pc) and pull the Separation pump gear assembly out forward.
- 5) Pull the Piston assembly out from the cylinder.





**< Precaution in assembly >**

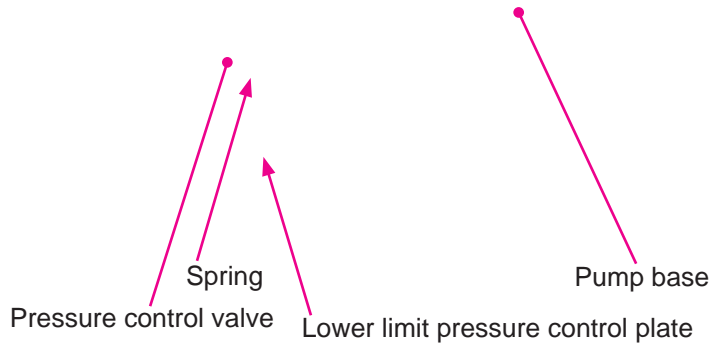
- The concave side of the groove on the Arm of the Piston should face out when the Piston is inserted into the Cylinder.
- Air pump gear assembly should be mounted on the unit with the Main drive section of the machine in Position-B, and the Positioning marking (elongated hole) on the Separation pump unit gear should meet with the marking on the Separation pump unit bracket. (Refer to 2-4.)

**Cylinder**

- 6) Remove mounting screws (M4 x 8 screw; 5 pcs) and remove the Pump base.
- 7) Remove mounting screws (M4 x 8 screw; 4 pcs) and remove the Cylinder.

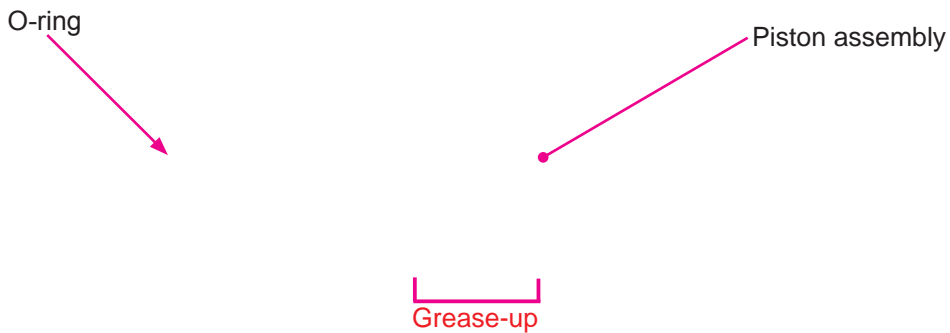
**Caution:**

Air release valve and Spring will come loose from the Cylinder. Pay caution not to lose these items.



**O-ring**

- 8) Remove the O-ring from the Piston assembly.

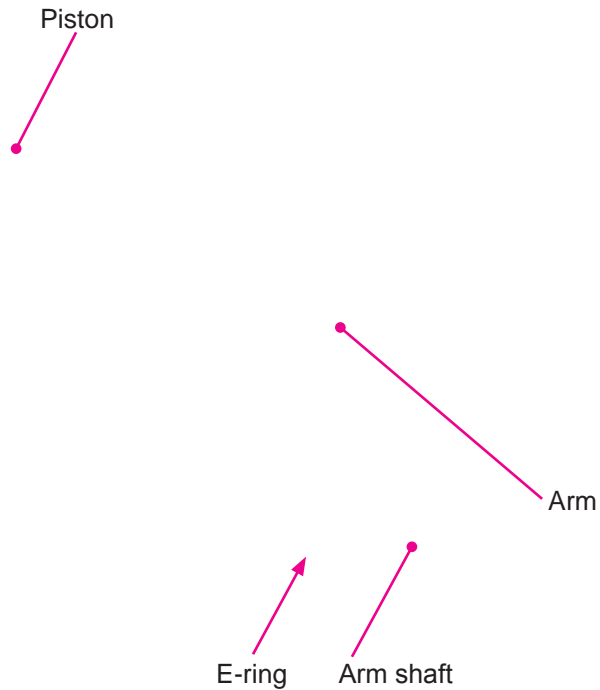


**< Precaution in assembly >**

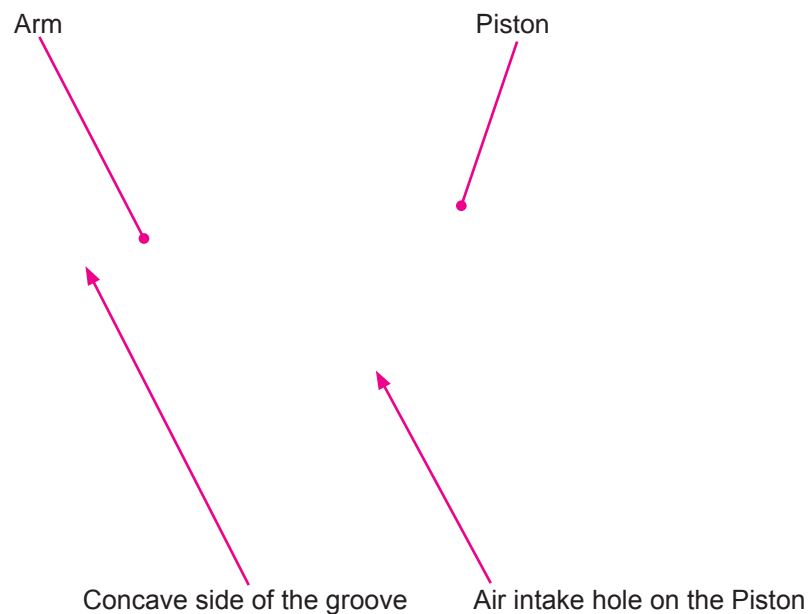
- Apply white grease onto the O-ring for lubrication. (Shin-Etsu silicone:G-501)

**Piston**

9) Remove E-ring (4mm; 1 pc), draw the Arm shaft, and remove the Piston.

**< Precaution in assembly >**

- Apply white grease for lubrication. (Shin-Etsu silicone:G-501) Refer to "Removing O-ring".
- The concave side of the groove on the Arm (the side of Bearing metal and press fitting) should face toward the Air intake hole on the Piston.



**2-7. Removing the Main Motor Assembly**

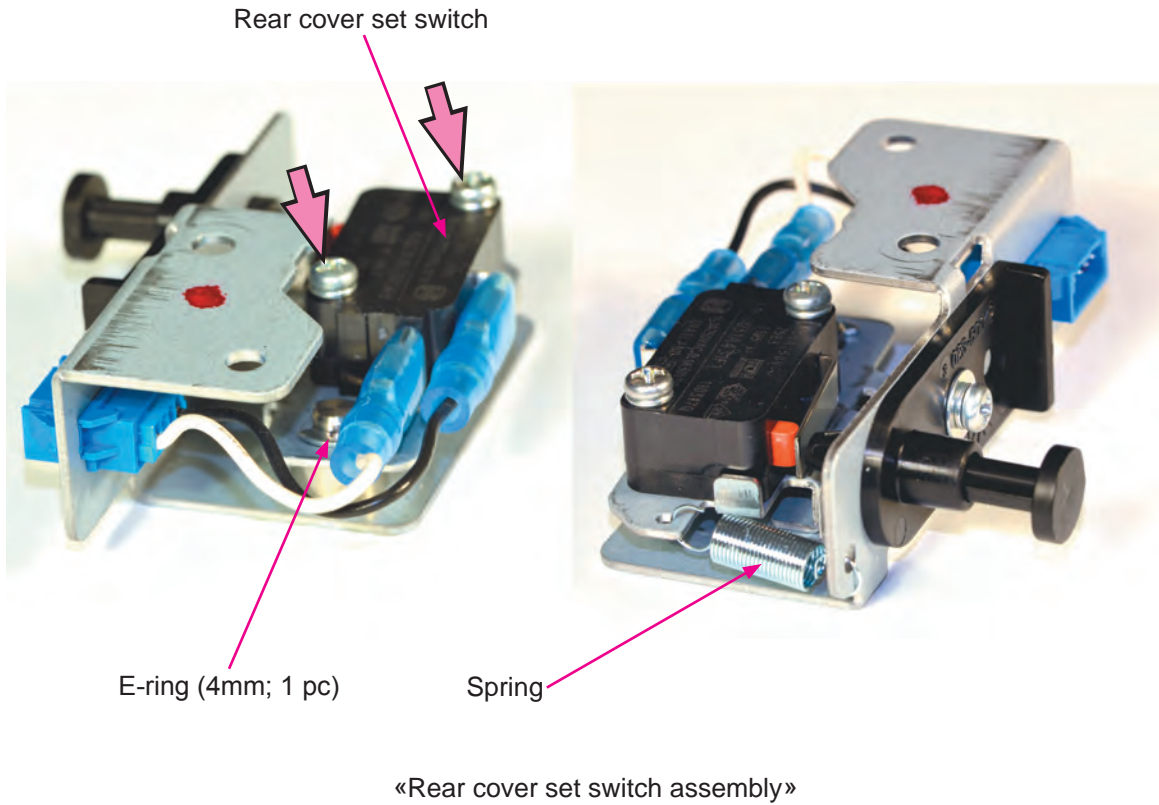
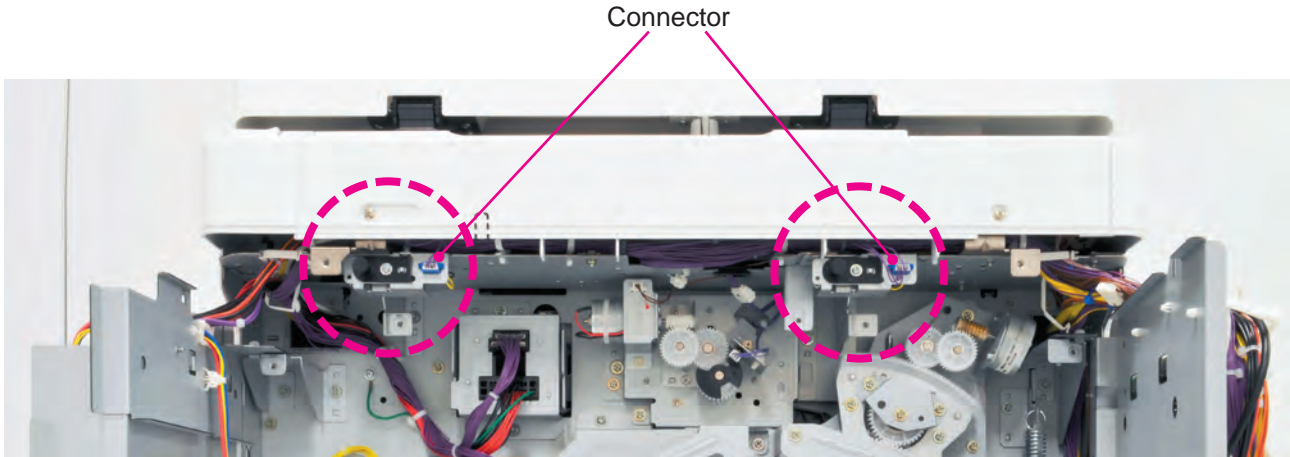
- 1) Remove the Pressure spring. (Refer to 2-1.)
- 2) Remove the Main belt. (Refer to 2-2.)
- 3) Remove the Main motor assembly. (round tip IT3C4×8 screw; 4 pcs)



Main motor assembly

### 2-8. Removing the Rear Cover Set Switch

- 1) Switch OFF the power, remove the rear cover and Scanner cover (rear). (Refer to Chapter 1.)
- 2) Disconnect the connectors from the Rear cover set switches.
- 3) Remove the fixing screw (round tip IT3C4×8 screw; 1 pc) and the Rear cover set switch assembly.
- 4) Remove the spring and E-ring (4mm; 1 pc), and then remove the Rear cover set switch together with the bracket.
- 5) Remove the Rear cover set switch. (M3×14 screw; 2 pcs)



### 3. Adjustment

#### 3-1. Print Drum <Position-B> Stop Position Adjustment

##### Checks and adjustment

- 1) Open the Front door and press the green colored Print drum release button.
- 2) Confirm that the Print drum slides out of the machine smoothly when pulled out by hand.
- 3) If the Print drum does not come out smoothly, run Test Mode No. 942 (Print drum Position-B Adjustment) to adjust the Print drum <Position-B> stop position.

Test Mode No. 942

Set range:  $\pm 4.0^\circ$  from standard angle. (Overrun by +)

Input: -40 ~ +40

Set unit: 5 (0.5°)

SF9/6 default: -15 (-1.5°)

SF5 default: 0 (0°)

- 4) Run test mode No.892 (machine Position-B stop) (the drawing position of Print drum). Repeat from above step-(2) until the Print drum can be smoothly pulled out.

# MEMO

# MEMO

# MEMO



# CHAPTER 4: First Paper Feed Section

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## 1. Mechanism

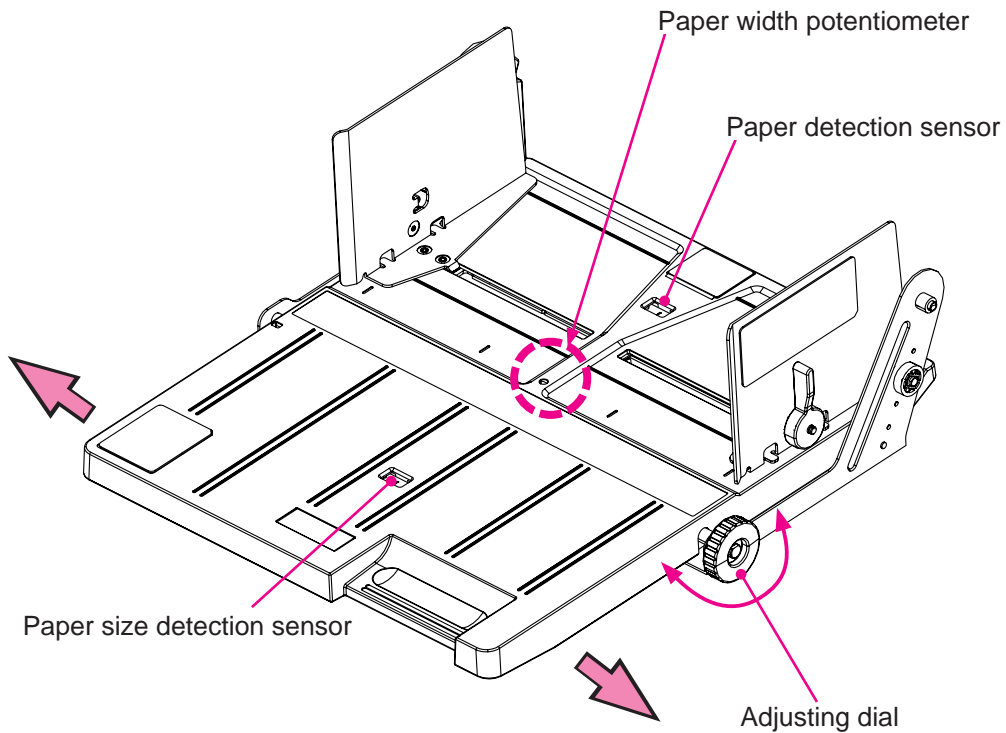
### 1-1. Paper Feed Tray Mechanism

Paper feed tray has the following sensors.

- Paper detection sensor: Detects whether there is any paper or not.
- Paper width potentiometer: Detects paper width.
- Paper size detection sensor: Detects the length (vertical or horizontal orientation) of paper.

#### Printing position adjustment of horizontal orientation.

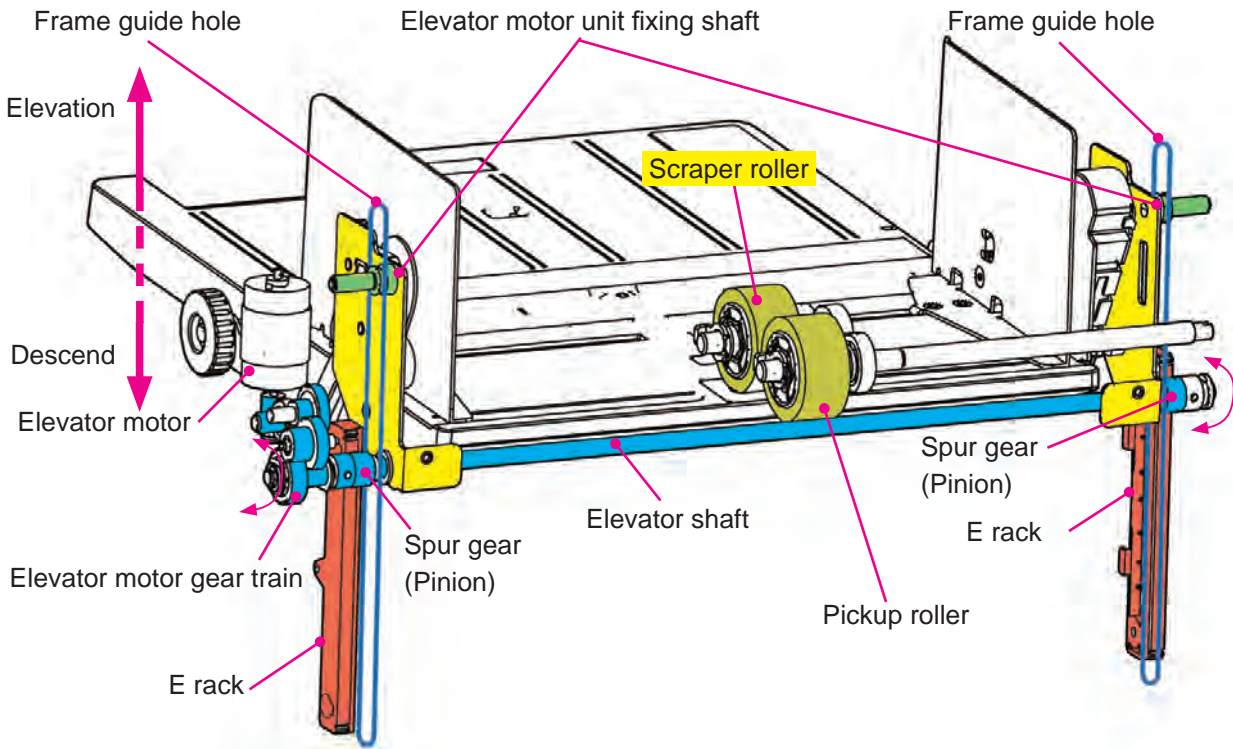
- Turn the Adjusting dial of paper feed tray by hand and change the position of paper (paper feed tray) in horizontal orientation to adjust printing position.



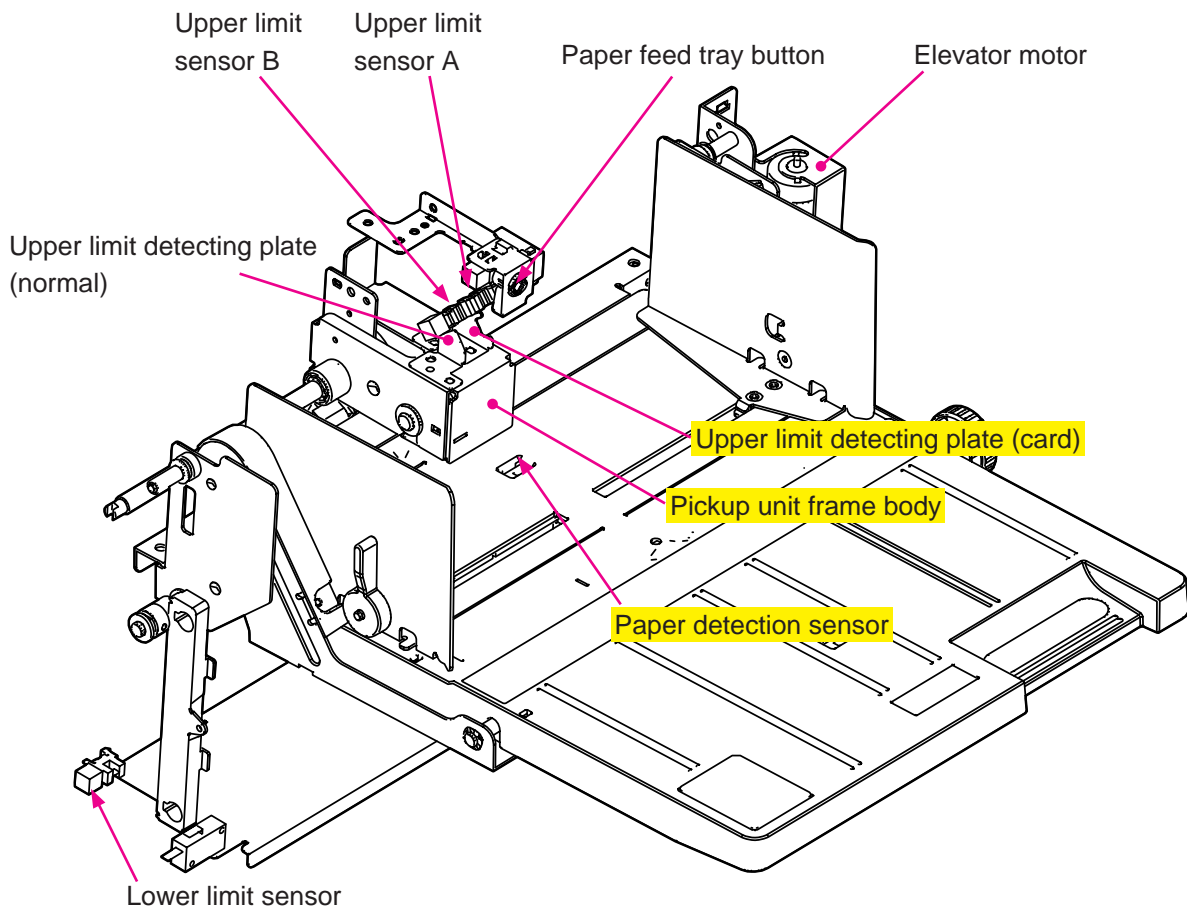
### 1-2.Paper Feed Tray Elevation Mechanism

Paper feed tray horizontally holds loaded paper of approximately 8kg max. (1000 sheets of A3 size paper, 64g /m<sup>2</sup> weight ) and moves vertically, while maintaining the position of the paper upper surface to the Scraper roller on the main body side.

The vertical movement of the paper tray is based on the "rack and pinion", a self-propelled mechanism, in which the motor and pinion on the paper feed tray are moved with respect to the rack on the frame on the main body.



### 1-3. Paper Feed Tray Upper Limit Position Control



#### 1) The role of paper feed tray upper limit position control

The role of paper feed tray upper limit position control is to maintain an applicable paper feed pressure.

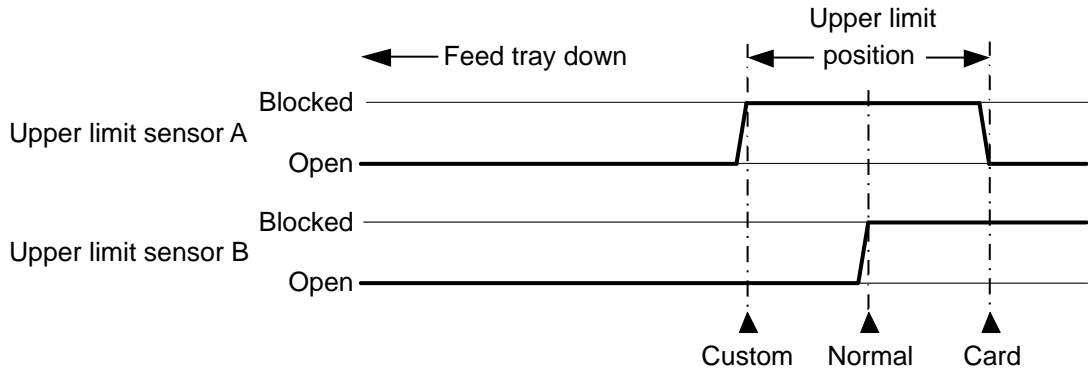
Paper feed pressure is a pressure applied to paper by scraper roller and pickup roller, and determined by the following 3 elements.

- ① Weight of pickup unit frame body, ② Paper feed pressure adjust lever spring (manual switching),
- ③ Paper feed tray upper limit position,

The applicable paper feed pressure differ depending on the paper type (normal, card, custom paper). Because Paper feed tray upper limit position can be high-accuracy controlled, it is used in the paper feed pressure maintenance.

#### 2) Mechanism and operation

There are A and B (2 pcs) of paper feed upper limit sensors. Upper limit detecting plate (normal) correspond to the Paper feed upper limit sensor B, upper limit detecting plate (card) correspond to the Paper feed upper limit sensor A. The light blocking and reception combinations specified in the two sensors determine the paper feed tray upper limit position for normal, card, and custom papers. The paper feed tray loaded with paper moves upward and stops at the specified upper limit position.



Selection of paper feed tray upper limit position

Paper feed tray upper limit position can be selected by paper feed adjustment, test mode, and paper feed pressure lever.

\* Refer to section 1-7 within this Chapter for the detailed information on the [paper feed adjustment].

Priority	Function	Setting	Paper type	paper feed pressure			
				Normal	Card		
1	Paper feed adjustment	Auto	Test mode No.740 setting < Default >			(Example 1) (Example 2)	
		Manual	0	Normal	←		←
			+1	Card	←		←
			-1	Custom	←		←

2	Test mode No.740 (Selection of paper feed upper limit position)	0	Auto (paper feed pressure lever) < Default >	Normal	Card	(Example 3)
		1	Normal	←	←	
		2	Card	←	←	
		3	Custom	←	←	

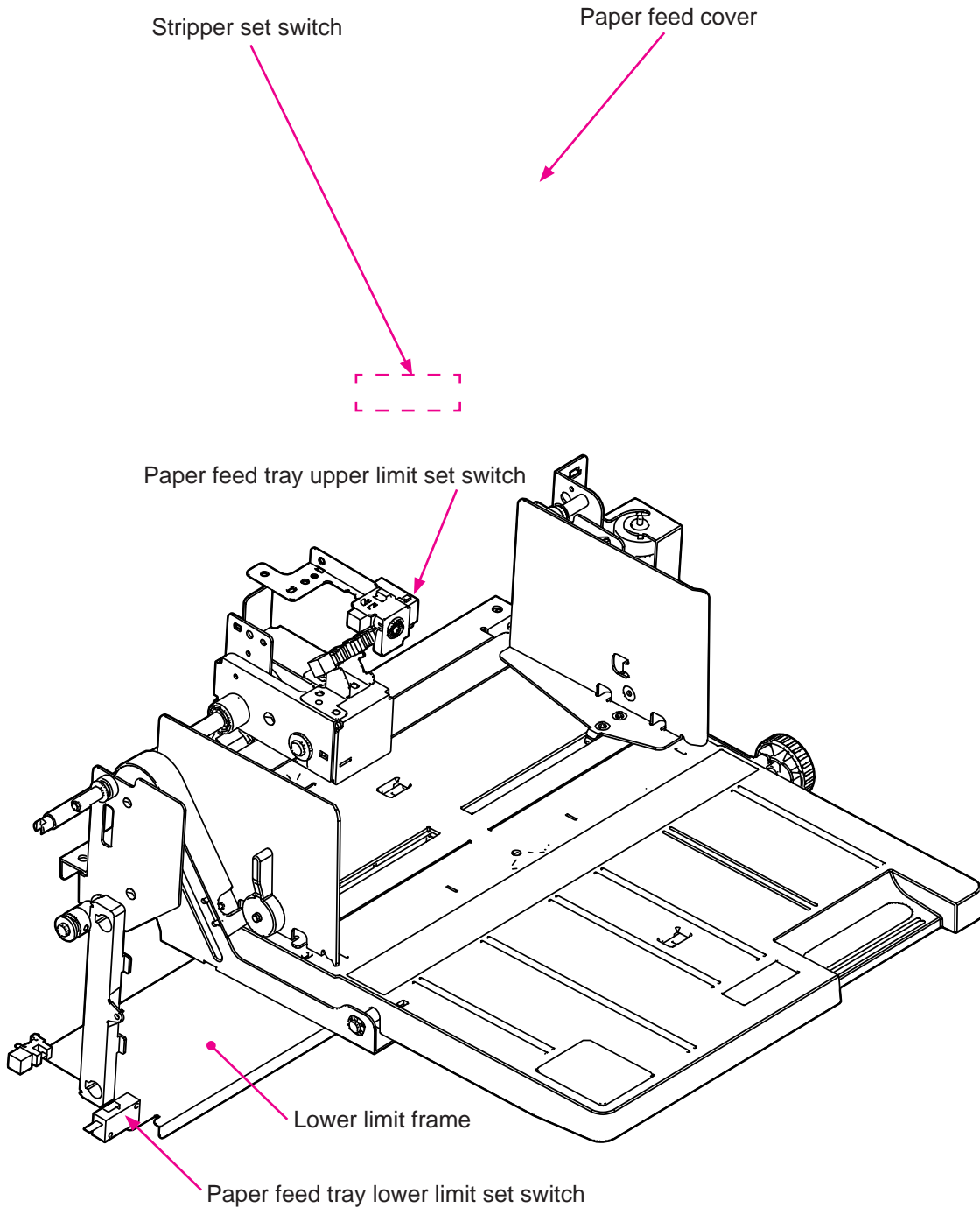
Example 1: "Paper feed adjustment" default is "auto", the function is selected by the parameter set by test mode No.740.

Example 2: When the "Paper feed adjustment" is selected to any one of the three settings under, "Manual", that becomes the top priority setting and overrides the test mode No. 740 setting.

Example 3: To change the upper limit position of paper feed tray by the position of "paper feed pressure lever", set the "paper feed adjustment" to auto and it is also necessary for the test mode No.740 to be set to "auto".

### 1-4. Paper Feed Tray Elevation Set Mechanism

When Paper feed tray is being elevated up or down, or even in the stationary state, the safety is confirmed by the Paper feed tray upper limit set switch and Paper feed tray lower limit set switch. When the Paper feed cover is lifted up, the Paper feed tray upper limit set switch is released. When the Paper feed lower limit frame is pressed down, the Paper feed tray lower limit set switch is released. If either the Paper feed tray upper or lower limit set switch is released, the 24V system will be blocked and the elevator motor is stopped. In addition, the Stripper set switch prevents the elevator motor from going up or down when the stripper unit is not set.



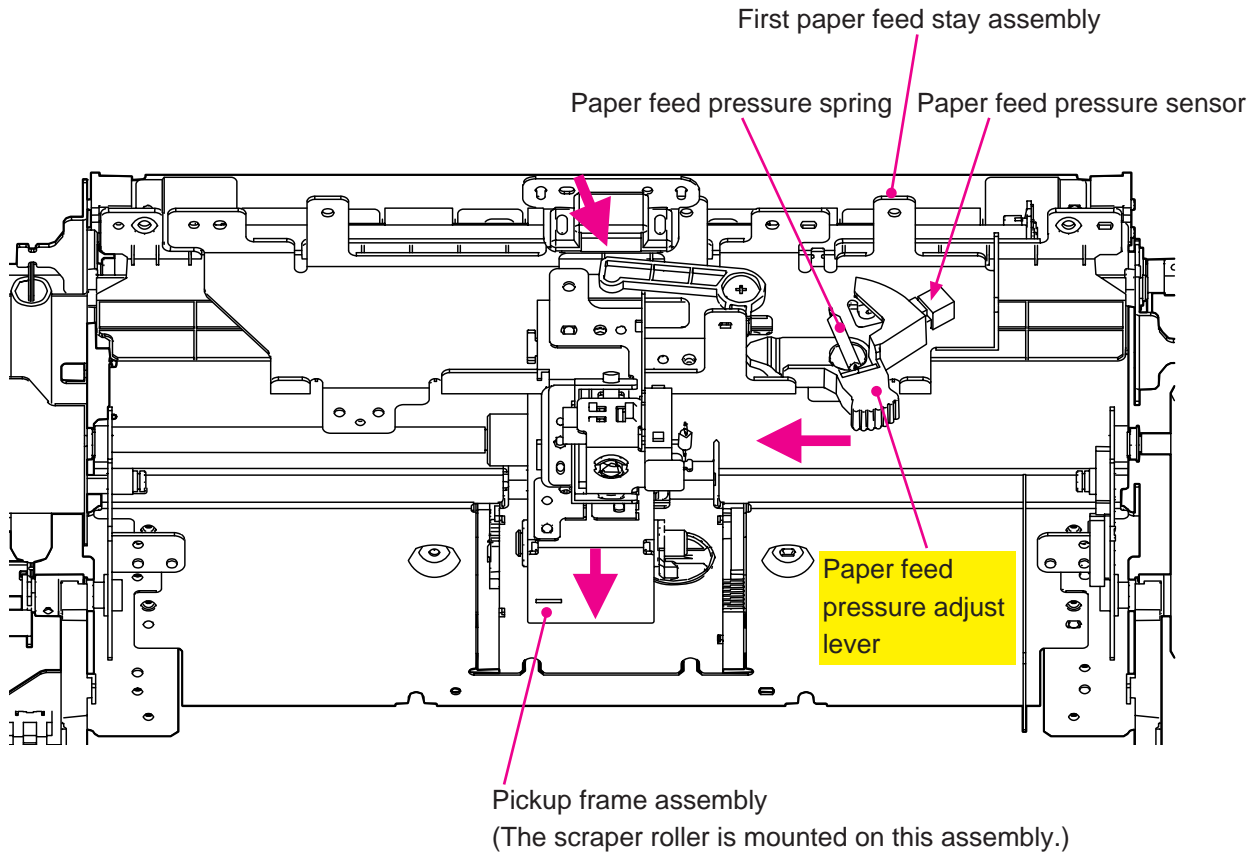
**1-5. Paper Feed Pressure Adjustment Mechanism**

The user is able to select the paper feed pressure depending on his or her paper type, depending on the relationship between the paper feed adjustment and test mode setting as described on the relationship diagram given on [section 1-3 "Paper Feed Tray Upper Limit Position Control"] in this Chapter.

There is a Paper feed pressure adjust lever on the right side of the First paper feed stay assembly. Paper feed pressure of the scraper roller (scraper pressure) can be switched to "Standard" (weak) or "Card" (hard) by the Paper feed pressure adjust lever.

Paper feed pressure (scraper pressure) becomes stronger when the Paper feed pressure adjust lever is switched to the right "Card". The Paper feed pressure sensor checks the position of the Paper feed pressure adjust lever. If it is set to "Card", the following control will be performed.

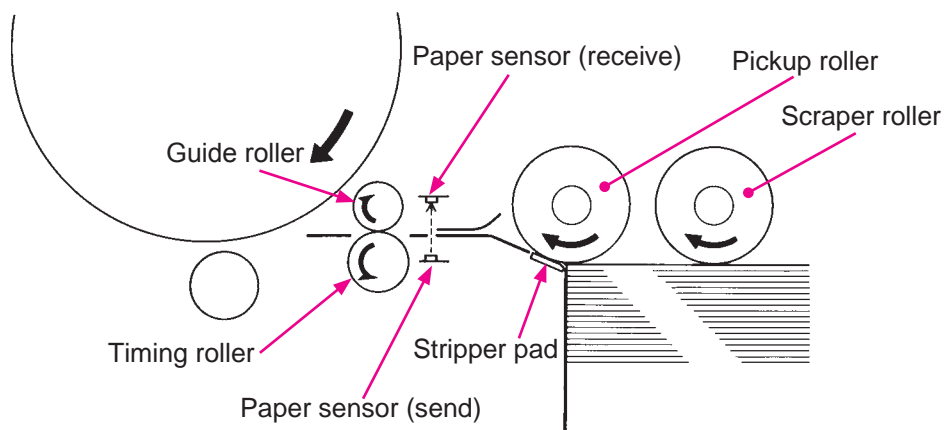
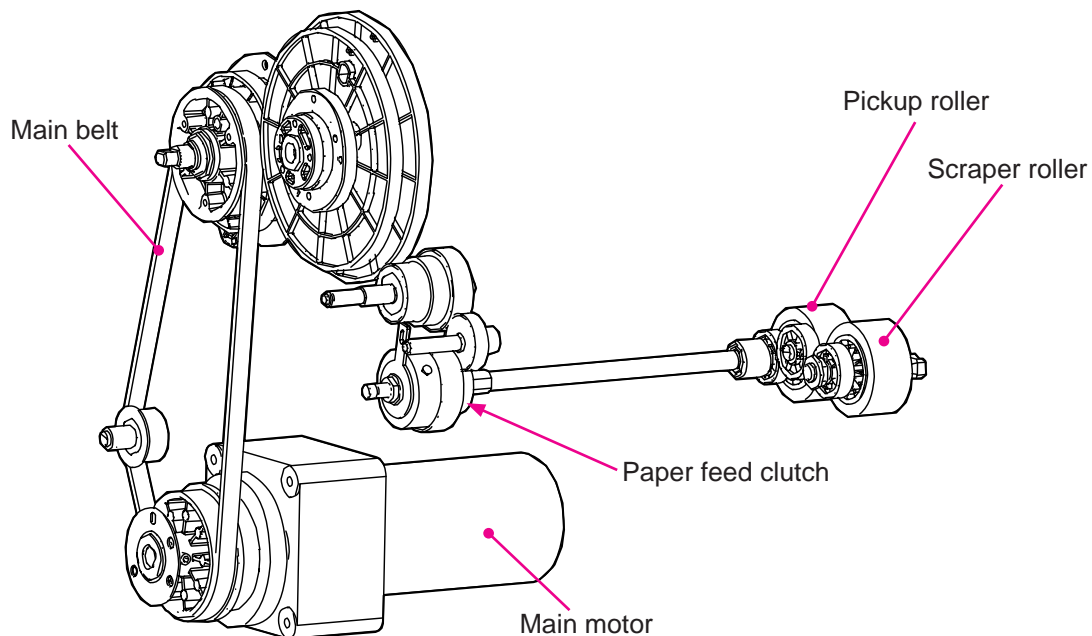
- Upper limit position of the Paper feed tray.  
Upper limit is at the high position. (High paper feed pressure.)
- Timing of paper feed clutch ON/OFF (In relation to the print drum angle.)  
Delays the OFF timing of the clutch. (Increases the first paper feed amount)
- Suction volume of the suction fan.  
The Suction fan operates at the maximum power. (Setting 4)



### 1-6. First Paper Feed Operation

This mechanism is intended to feed the topmost paper on the paper feed tray one at a time. Paper feed operation is performed by the Scraper roller and Pickup roller, and the timing is adjusted by the Paper feed clutch. The driving source is main motor. When printing starts, the Main motor is turned ON and the print drum is rotated via the timing belt. When the Main motor is turned ON, the gear on the paper feed clutch rotates all the time. When the Print drum rotates to a certain angle from Position-A, the Paper feed clutch is turned ON, the Scraper roller and pickup roller rotates to feed paper on the paper feed tray to the internal machine. When the Paper sensor gets in the light blocking status due to the paper fed to the internal machine, the Print drum rotates to a certain angle, the Paper feed clutch is turned OFF, which completes the first paper feed operation. When the paper edge reaches the Guide roller and Timing roller, it stops where it has paper buckle.

- When the Print drum rotates to the paper feed jam detection angle (paper IN jam) after the Paper feed clutch switches ON, the machine checks with the Paper sensor for any no-paper-feed jam.
- The Scraper and Pickup rollers are equipped with one-way clutch to enable free rotation and to keep the first paper feed section from halting or slowing down the paper speed after the paper is fed to the second paper feed section.





## 1-7. Paper Feed Adjustment Function

The following functions can be set on the operation panel in the paper feed adjustment function.

- Paper feed upper limit position
- Paper buckle amount
- Paper feed ON timing
- Paper feed OFF timing (paper buckle amount)

Operation method:

- Go to the adjustment screen: Normal screen→“Function” tab→“Paper feed adjustment” button →“Paper feed adjustment” screen→“Manual adjustment” button→ figure-1 screen →“Detail” button→ figure-2 screen
- Save adjusted value: “Login/Call” button→ figure-3 screen→“Login” button →log in each button
- Call adjusted value: Login/Call” button→ figure-3 screen→“Call” button →call each button
- Apply manual adjusted value: “Paper feed adjustment” screen→“Manual adjustment” button→ push “OK” button
  - \* Regardless of the adjusted value changed/called or not, adjusted value on figure-1, 2 are reflected on the machine until the printer is switched OFF.

### Adjustments made by the Fig. 1 Screen

« Paper feed tray upper limit position »

Selects the stop position of the Paper feed tray.

Adjustable range: +1 (Card paper position)

0 (Standard paper position)

-1 (Custom paper position)

« Paper buckle amount »

Selects the Paper feed clutch OFF timing in

regard to the pre-programmed print drum angle.

Adjustable range: - 8 degrees to + 8 degrees.

(Adjustable by unit of 2

degrees.)

« Fig. 1 »

### Adjustments made by the Fig.2 Screen

« Paper feed clutch ON Timing »

Selects the Paper feed clutch ON timing in

regard to the pre-programmed print drum angle.

Adjustable range: - 20 degrees to + 20 degrees.

(Adjustable by unit of 1

degree.)

« Paper feed clutch OFF Timing »

Selects the Paper feed clutch OFF timing in

regard to the pre-programmed print drum angle.

Adjustable range: - 20 degrees to + 20 degrees.

(Adjustable by unit of 1

degree.)

« Fig. 2 »

« Notes of adjusted value »

When the setting value of test mode No.741 (Paper feed clutch ON angle adjustment) is changed, the "paper feed ON timing" standard value of paper feed adjustment is also changed. When the setting value of test mode No.742 (Paper feed clutch OFF angle adjustment) is changed, the standard value of "paper buckle amount" and "paper feed OFF timing (paper buckle amount)" on paper feed adjustment are also changed.

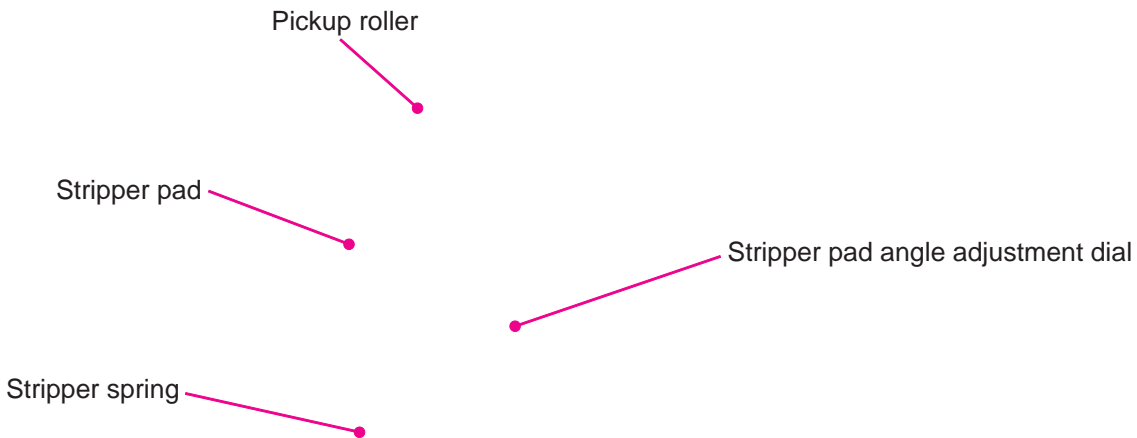
« Fig.3 »

**1-8.Paper Stripping Mechanism**

Paper loaded on the paper feed tray is fed between the Pickup roller and Stripper pad, scraped by the rotation of the scraper roller. Then the paper is stripped by the Pickup roller and Stripper pad to feed the topmost paper to the internal machine one at a time.

The Stripper pad uses the force of Stripper spring that is pressed against the Pickup roller when paper is fed, in order to separate the paper.

Users can adjust the Stripper pad angle and stripper pressure using the Stripper pad angle adjustment dial and stripper pressure adjuster respectively.

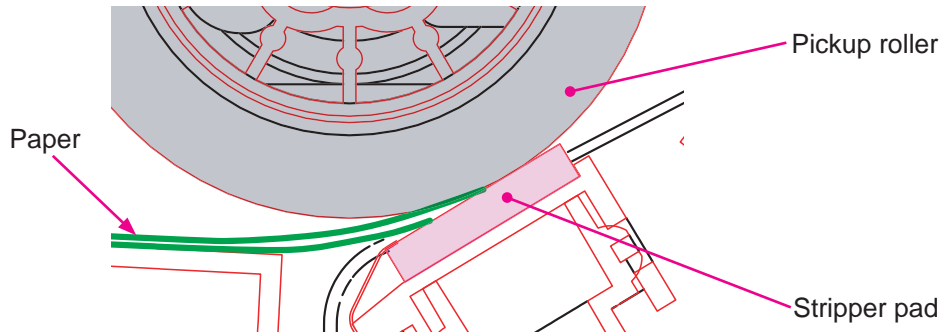


«Adjustment of Stripper pad angle»

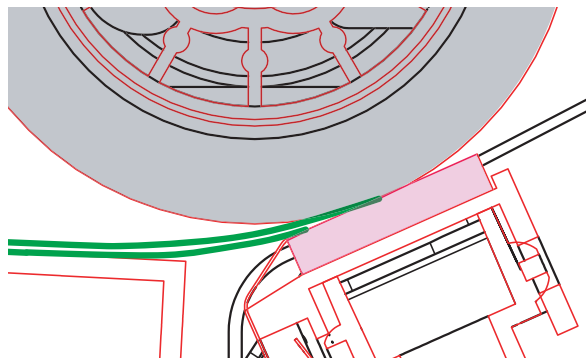
**Stripping force varying due to the stripper pad angle**

**Stripper pad angle Large (Stripper pad is in the standing position)**

The paper edge contacts the Stripper pad in a sharp, sticking angle, to generate a strong stripping force.

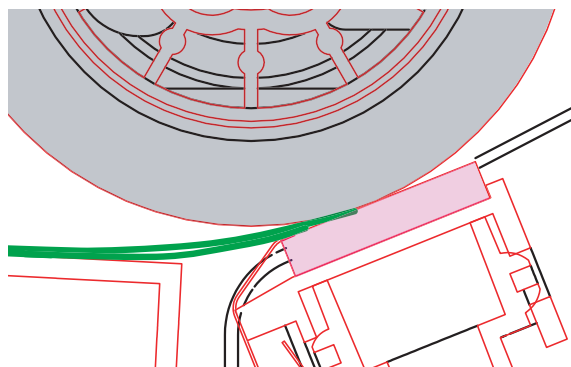


**Stripper pad angle Normal**



**Stripper pad angle Small (Stripper pad is in the lying position)**

The paper edge contacts the Stripper pad in a small, light scraping angle, to generate a weak stripping force.

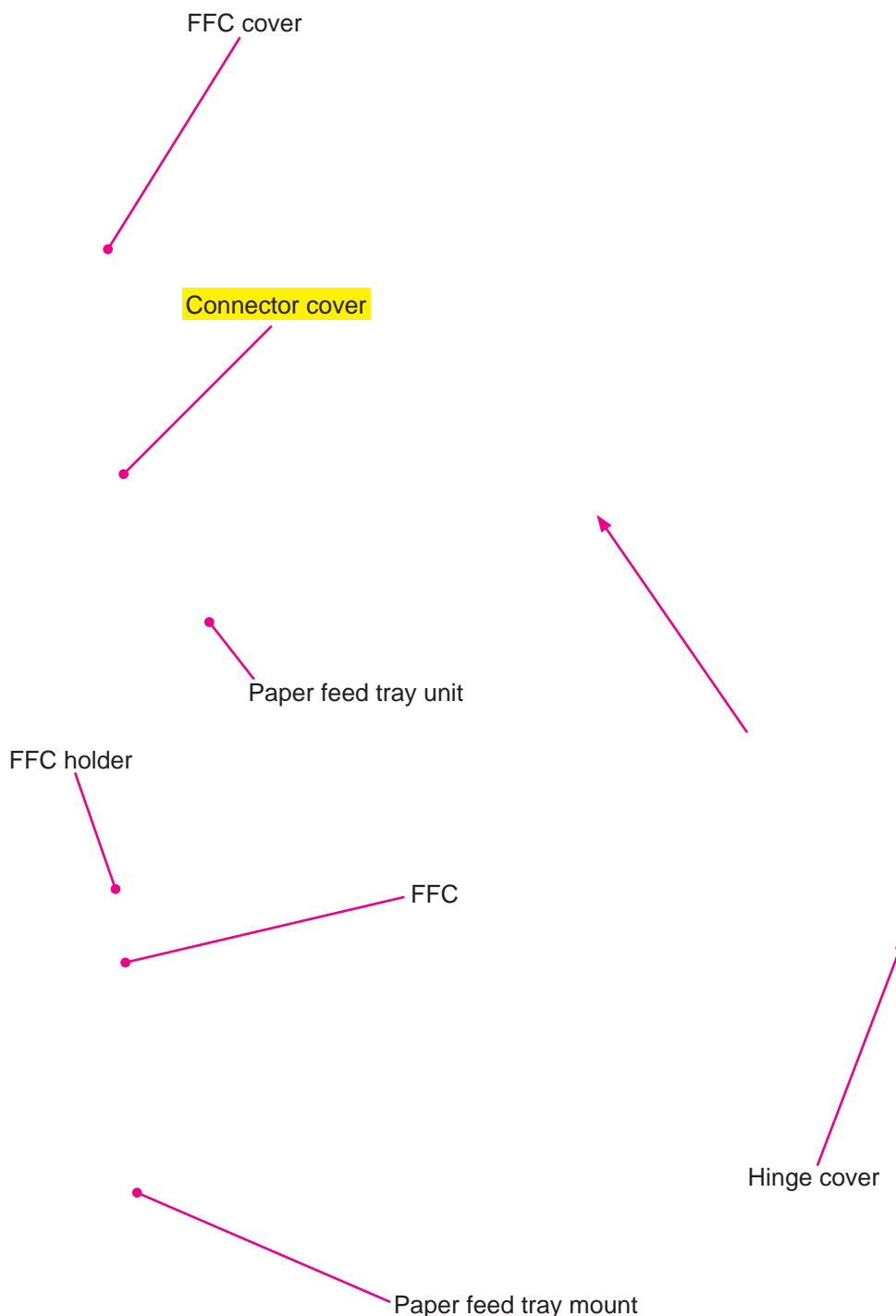


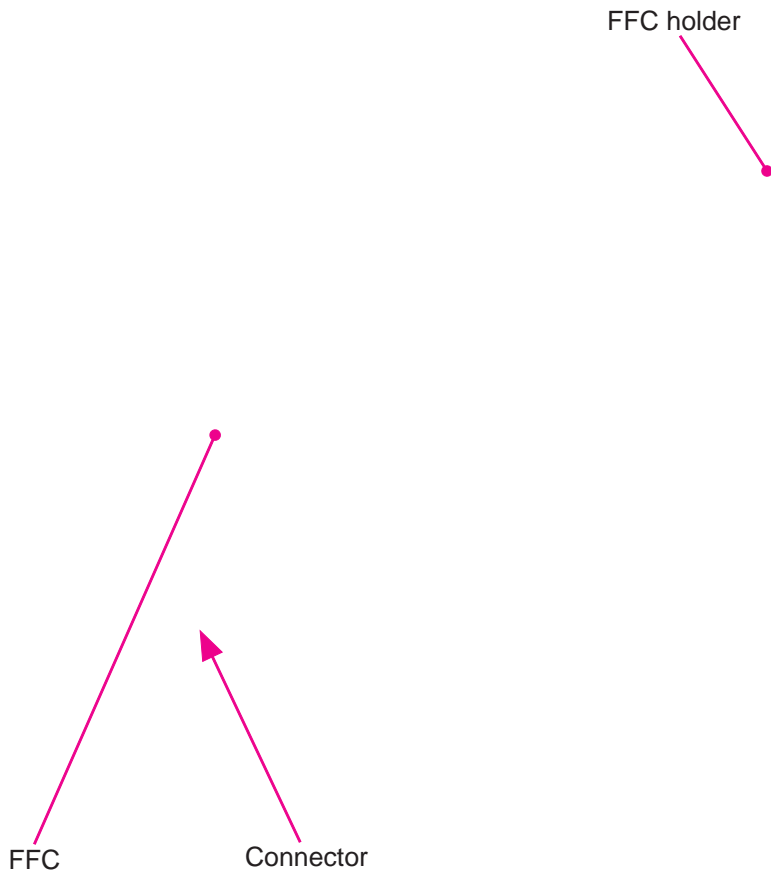
## 2. Disassembly

### 2-1. Removing the Paper Feed Tray Unit

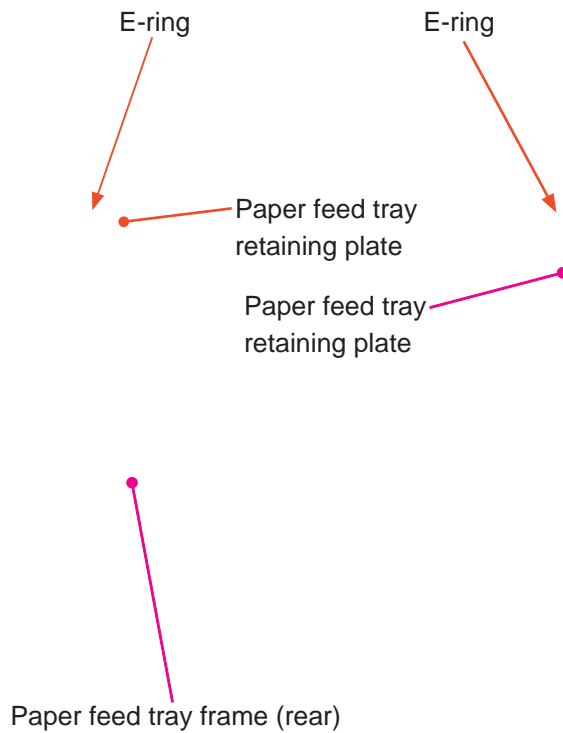
- 1) Lower the Paper feed tray all the way down and switch OFF the machine power.
- 2) Close the Paper feed tray and remove the Hinge cover by removing screw. (M3 x 6 screw; 1 pc)
- 3) Open the Paper feed tray and remove the FFC cover. (M3 x 6 screw; 1 pc)
- 4) Remove the Connector cover by removing screw (M3 x 6 screw; 1 pc).
- 5) Pull the FFC off from connector and remove the FFC holder from Paper feed tray mount.
- 6) Remove E-rings (1pc each) on the front and rear of the Paper feed tray unit, and remove the Paper feed tray unit from the machine.

\* FFC is an abbreviation for flexible flat cable, meaning the thin tape-shaped wire.





<Precaution in assembly>  
Insert in a direction which the contact point of FFC can be seen.



**2-2. Removing the Paper Detection Sensor/Paper Size Detection Sensor/Paper Width Potentiometer**

- 1) Lower the Paper feed tray all the way down and switch OFF the machine power. Remove the Paper feed tray unit from the machine. (Refer to the previous section.)
- 2) Remove screws (3 x 8 screw; 7 pcs) and remove the Paper feed tray bottom frame together with Paper feed tray mount.

Paper feed tray mount

Paper feed tray bottom frame

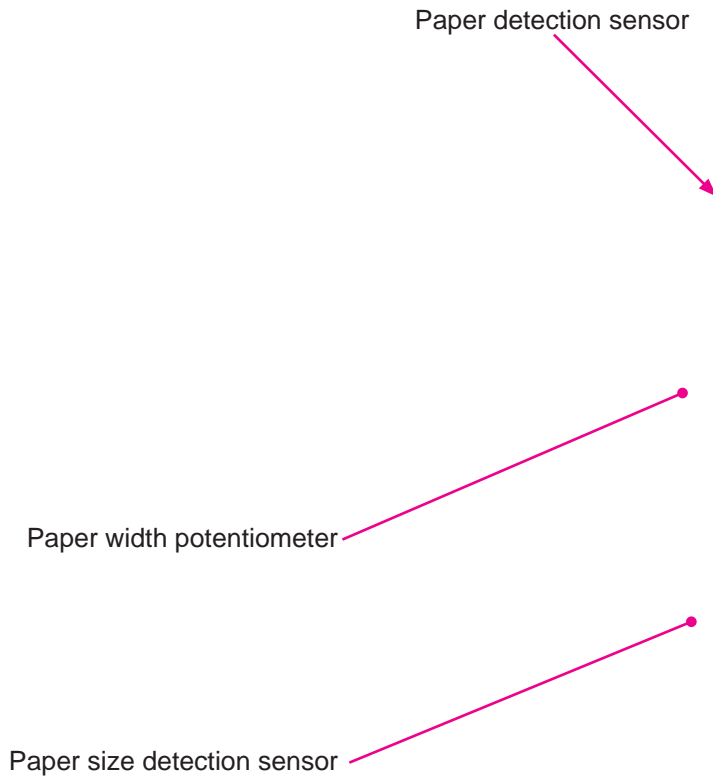


**Removing the Paper Detection Sensor and Paper Size Detection Sensor**

3)-1 Unplug connectors from each sensor and unhook the craws of the sensors to remove them.

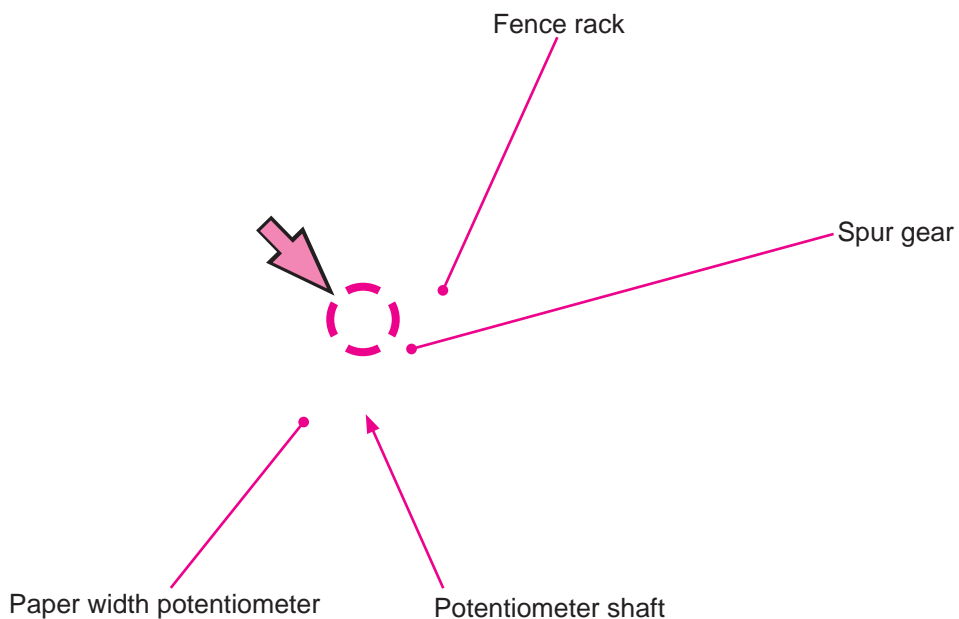
**Removing the Paper Width Potentiometer**

3)-2 Remove screws (M3 x 8 screw; 2 pcs), unplug the connector, and remove the Paper width potentiometer.



**< Precaution in assembly >**

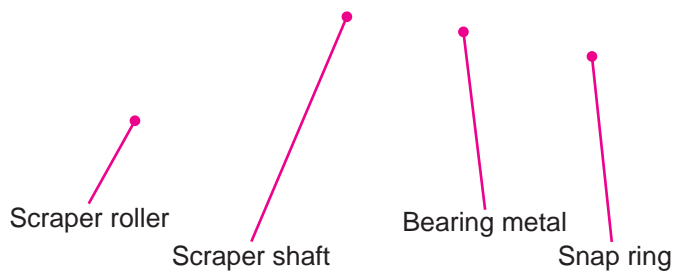
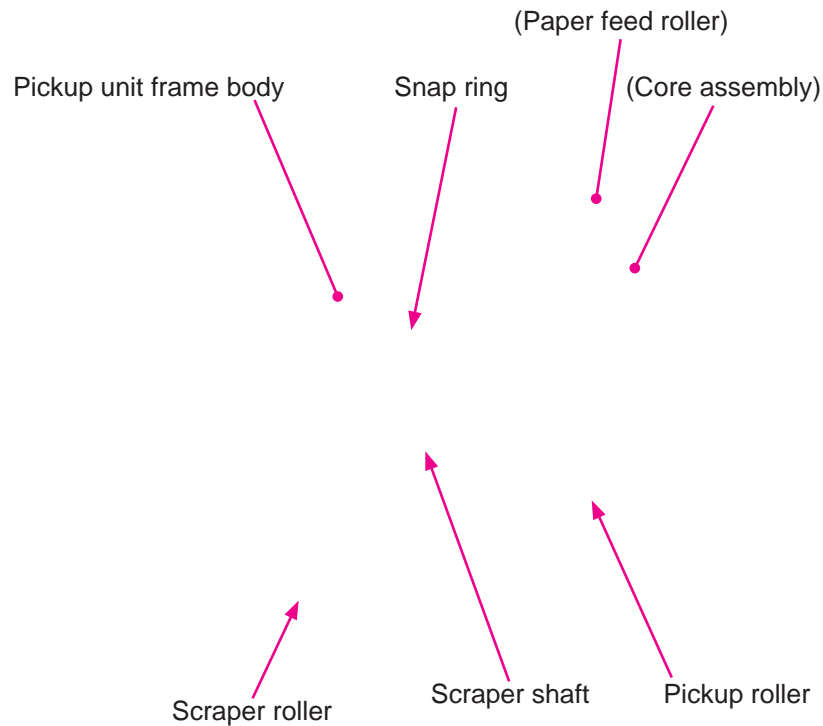
- Align the eye mark line on the Fence racks and Spur gear in a straight line and insert the Potentiometer shaft through the Spur gear. Face the Paper width potentiometer with the flat cut on the shaft hole towards the eye mark line on the Spur gear and insert and fix it. (M3 x 8 screw; 1 pc)



### 2-3. Removing the Scraper Roller/Pickup Roller

#### Removing the scraper roller

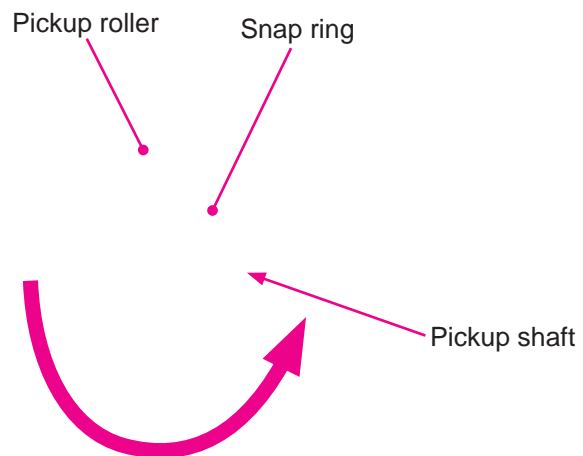
- 1) Lower the Paper feed tray all the way down, and switch OFF the machine power.
- 2) Remove the Snap ring from the Scraper shaft, and remove the Bearing metal in the front side.
- 3) Slide the Scraper shaft towards the rear of the printer and remove the Bearing metal on the rear of the pickup unit frame body. Remove scraper roller with the whole Scraper shaft in downward direction.
- 4) Pull the Scraper roller off from Scraper shaft.
  - \* The only expendable part is the Paper feed roller. Remove and replace it from the core assembly. This is the same with the Pickup roller.





**Removing the Pickup Roller**

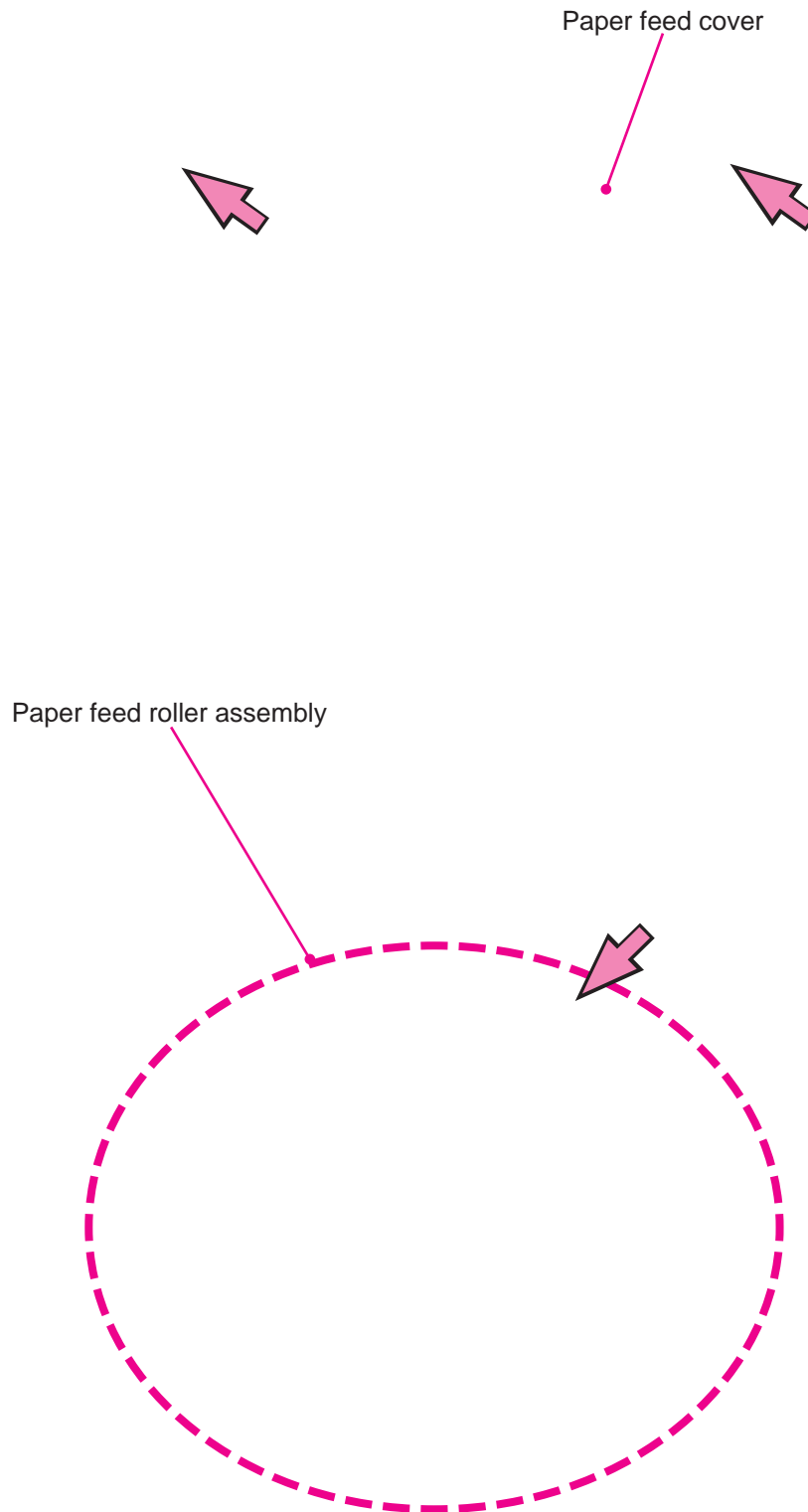
- 1) Lower the Paper feed tray all the way down, and switch OFF the machine power.
- 2) Remove the Snap ring off from the Pickup shaft.
- 3) Pull the Pickup roller out from the Pickup shaft.

**<Precaution in assembly>**

Since there are one-way clutches in the scraper roller and pickup roller, if the attaching direction is wrong, even if the pickup shaft rotates, the roller does not rotate. Slide the roller on the shaft and rotate the roller in the direction shown by the arrow mark on the above photograph. If the roller is mounted correctly, the roller will rotate freely in the direction of the arrow mark.

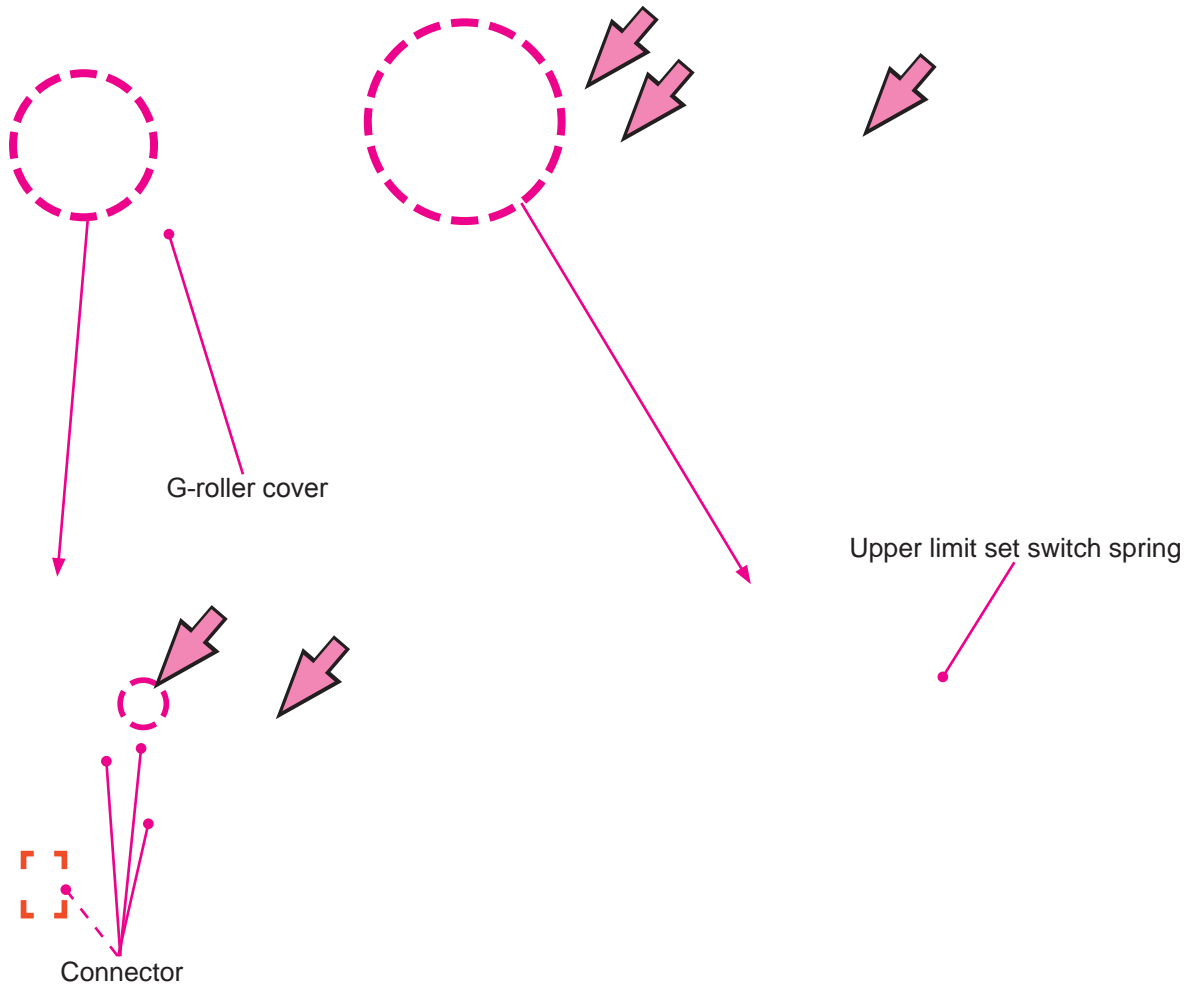
**2-4. Removing the Paper Feed Roller Assembly**

- 1) Lower the Paper feed tray all the way down, and switch OFF the machine power.
- 2) Remove the Paper feed cover by removing screws (M4×8 screw; 2 pcs)
- 3) Remove the Paper feed roller assembly by removing the fixing screw (M4×8 screw; 1 pc).



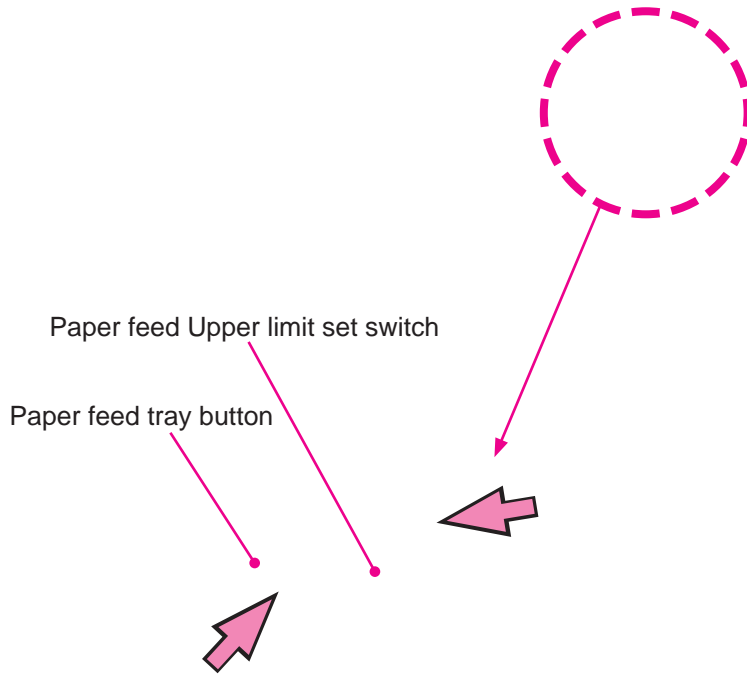
**2-5. Removing the Paper Feed Tray Upper Limit Set Switch**

- 1) Lower the Paper feed tray all the way down and turn OFF the machine power.
- 2) Remove the Paper feed roller assembly. (Refer to 2-4)
- 3) Remove the G-roller cover. (Round tip IT3C3×6 screw; 2 pcs)
- 4) Unplug the Connector (4 pcs).
- 5) Remove the Upper limit set switch spring.
- 6) Remove the First paper feed stay assembly. (Round tip IT3C3 screw×6; 3 pcs)



< First paper feed stay assembly >

- 7) Unplug the connector and remove the Paper feed tray upper limit set switch. (M3×14 screw; 2 pcs)



**2-6. Removing the Paper Feed Tray Upper Limit Sensor and Paper Feed Pressure Sensor**

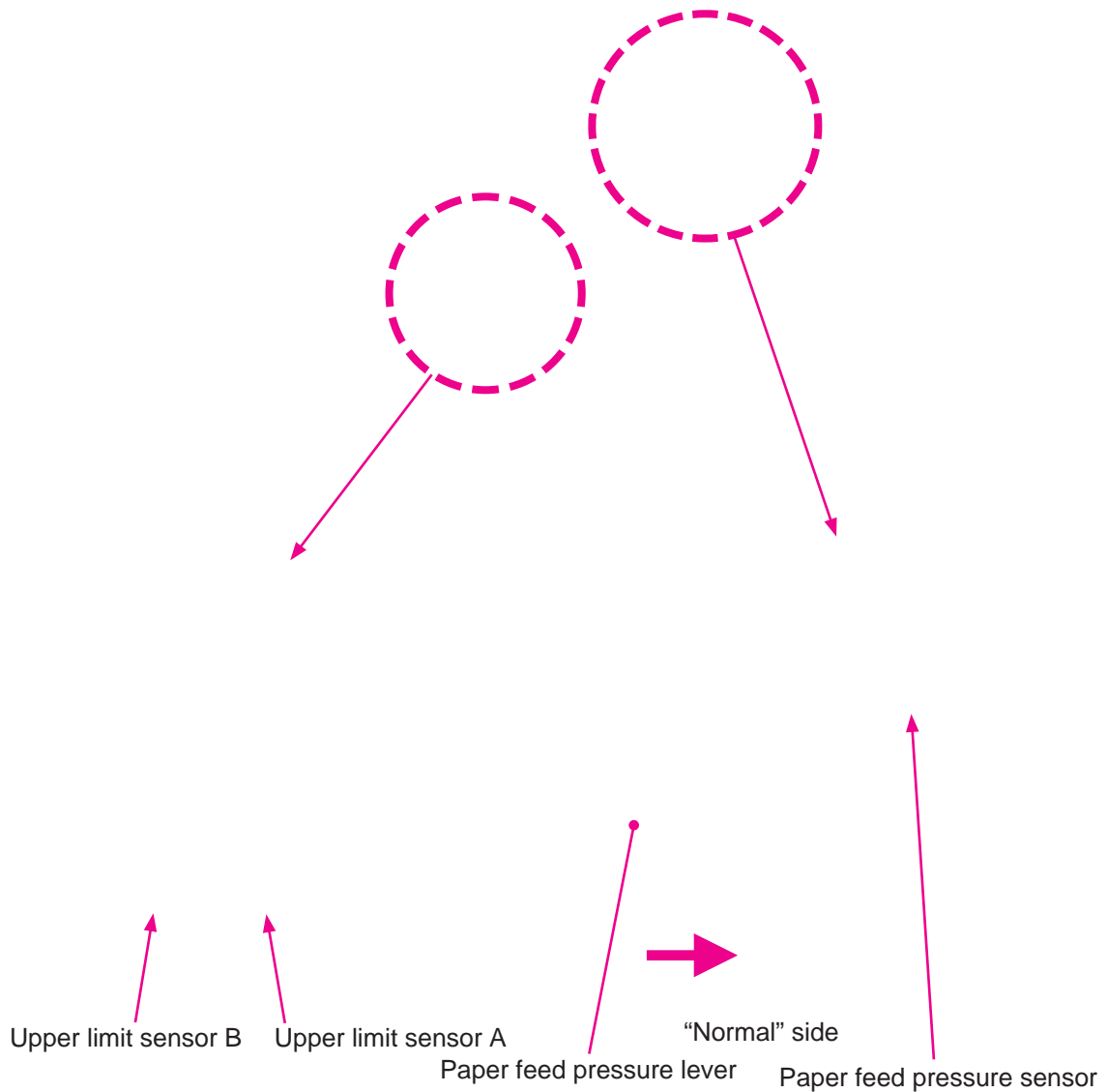
- 1) Lower the Paper feed tray all the way down and switch OFF the machine power.
- 2) Remove the First paper feed stay assembly. (Refer to 2-5, 1) to 5).)

**Removing the Paper feed upper limit sensor**

- 3)-1 Unplug the connector and remove each sensor.

**Removing the Paper feed pressure sensor**

- 3)-2 Set the Paper feed pressure lever to "NORMAL".
- 4) Unplug the connector and remove the Paper feed pressure sensor.

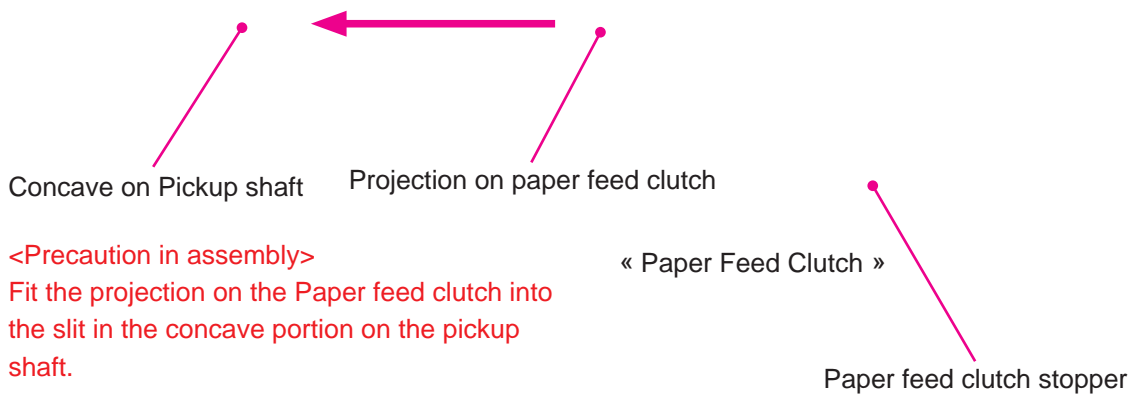
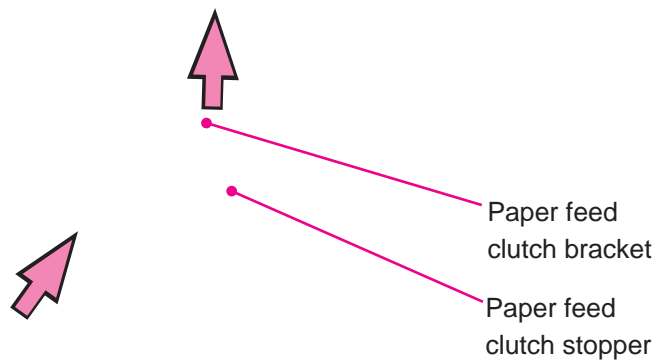


## 2-7. Removing the Paper Feed Clutch

- 1) Switch OFF the machine power and remove the Rear cover. (Refer to Chapter 1.)
- 2) Open the MAIN-SYSTEM-PCB assembly. (Refer to Chapter 1.)
- 3) Remove the Paper feed clutch bracket. (Round tip IT3C4×8 screw; 2 pcs)
- 4) Unplug the connector and remove the Paper feed clutch.

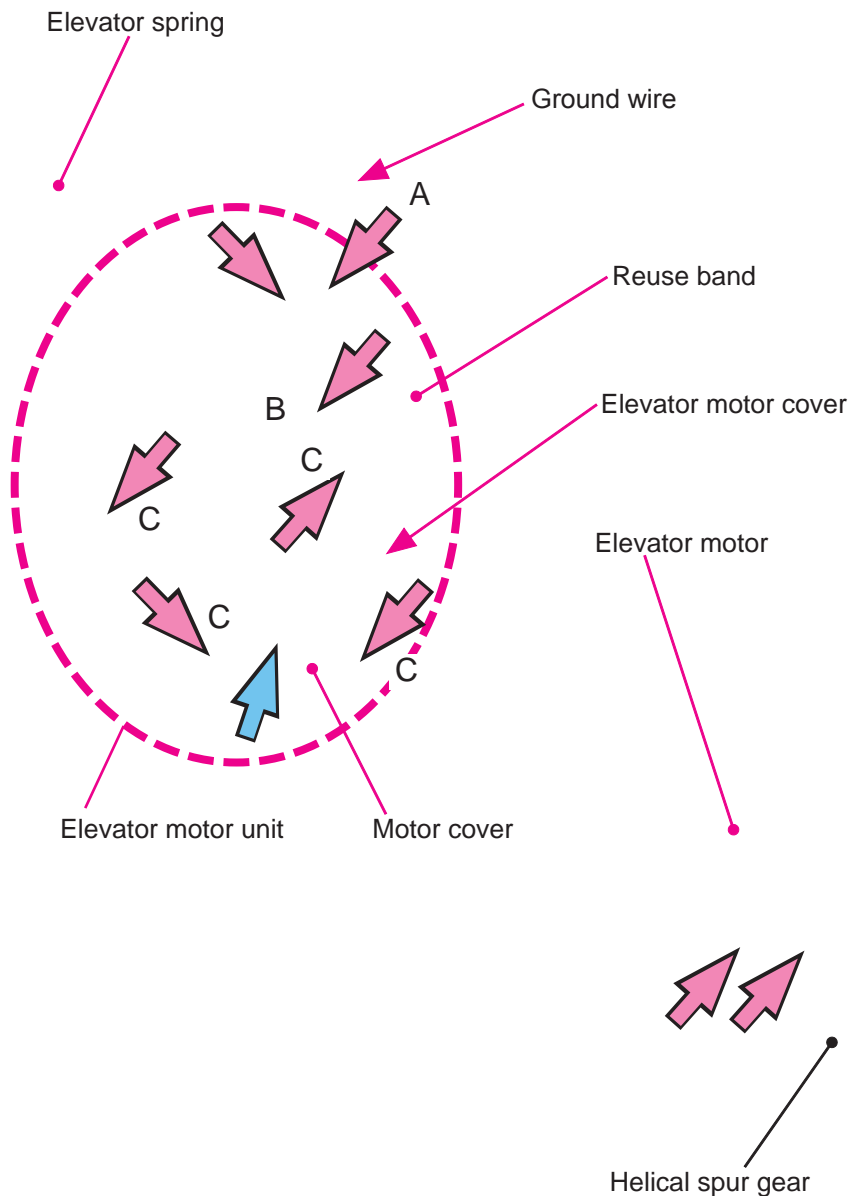
<Precaution in assembly>

Set the Paper feed clutch stopper into the bent portion on Paper feed clutch bracket.



### 2-8. Removing the Elevator Motor

- 1) Remove the front door. (Refer to Chapter 1)
- 2) Remove the front cover (left). (M4x8 screw; 5 pcs) (Refer to Chapter 1)
- 3) Remove Elevator spring on the front side.
- 4) Remove the Ground wire. (M3x8 screw; 1 pc) (Arrow A on photo)
- 5) Unplug connector and remove the reuse band.
- 6) Remove the Elevator motor unit. (E-ring 6mm-diameter; 1 pc) (Round tip IT3C4x8 screw; 1 pc)  
**Caution:** When removing the Elevator motor unit, grasp the Paper feed tray to prevent the Paper feed tray from rising abruptly, as the Elevator spring on the rear of the machine is still attached.
- 7) Remove the Elevator motor cover. (M3x6 screw; 1 pc) (Arrow B on photo)
- 8) Remove the Motor cover. (M3x5 screw; 4 pcs) (Arrow C on photo)
- 9) Remove the Helical spur gear.
- 10) Unplug the connector and remove the Elevator motor. (M3x5 screw; 2 pcs)



### 2-9. Removing the Paper Feed Lower Limit Sensor and Paper Feed Tray Lower Limit Set Switch

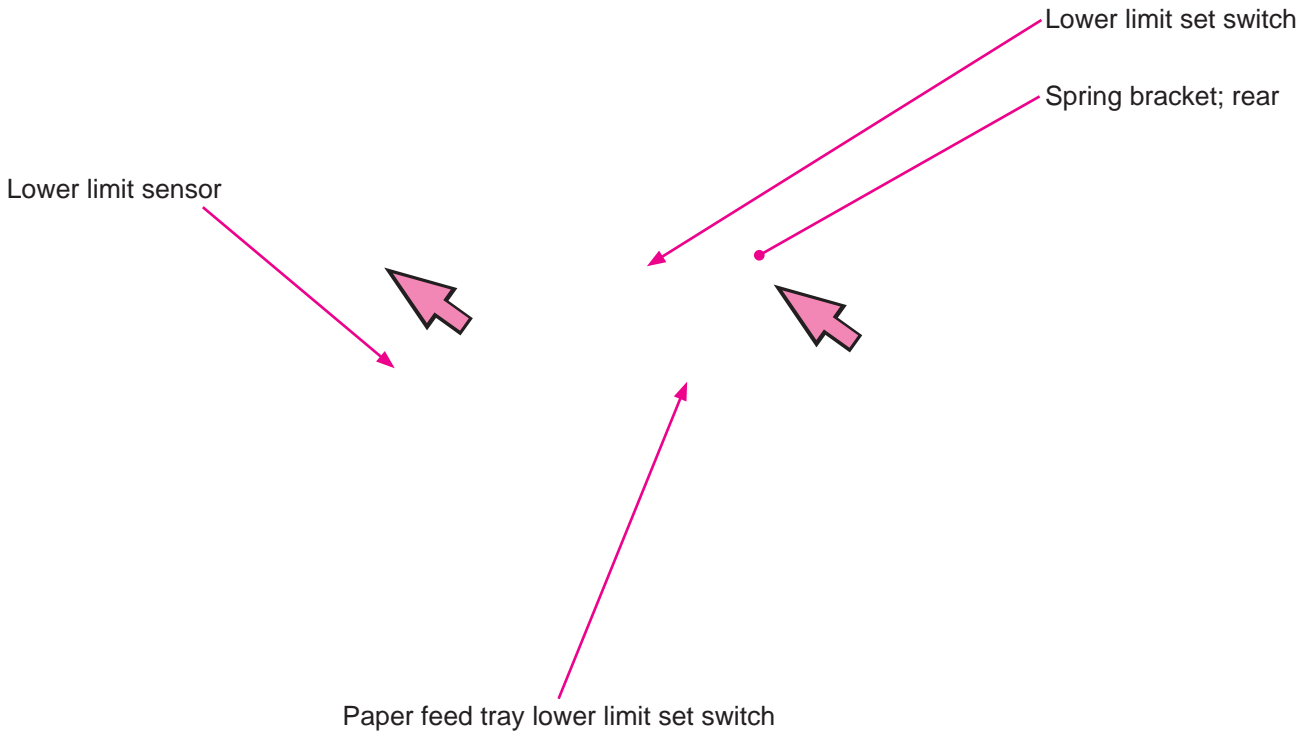
- 1) Raise the Paper feed tray all the way up, then switch OFF the machine power.
- 2) Remove the rear cover and open the MAIN-SYSTEM-PCB assembly. (Refer to Chapter 1)

#### Removing the paper feed lower limit sensor

- 3) Unplug the connector and remove the Paper feed lower limit sensor together with the Spring bracket; rear. (Round tip IT3C4x8 screw; 1 pc)

#### Removing the paper feed lower limit set switch

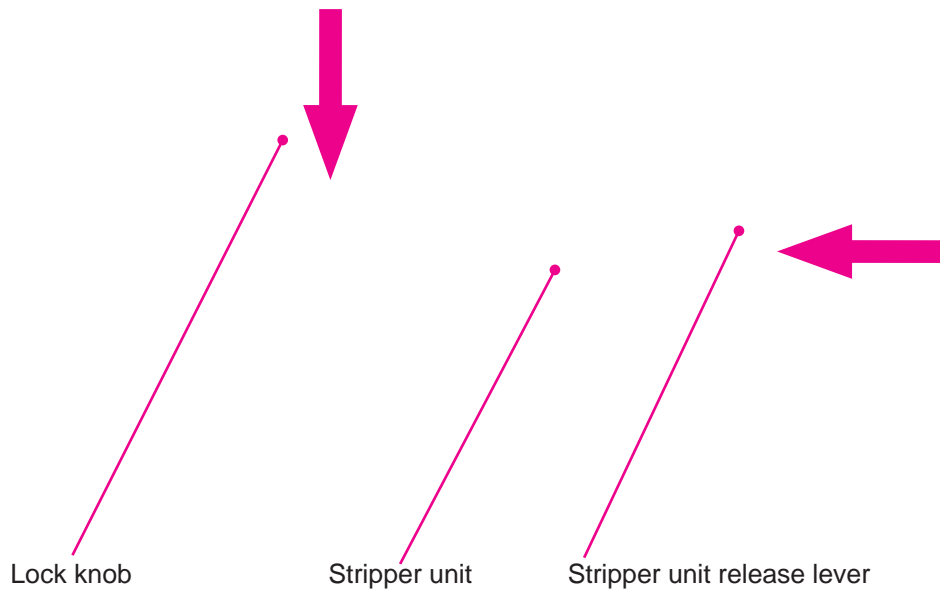
- 3) Unplug the connector and remove the Paper feed tray lower limit set switch together with the spring bracket. (Round tip IT3C4x8 screw; 1 pc)
- 4) Remove the Paper feed lower limit set switch. (M3x14 screw; 2 pcs)





### 2-10. Removing the Stripper Unit

- 1) Lower the Paper feed tray all the way down, then switch OFF the machine power.
- 2) Side down the Lock knob and release the lock for the Stripper unit.
- 3) Press the Stripper unit release lever and remove the Stripper unit.

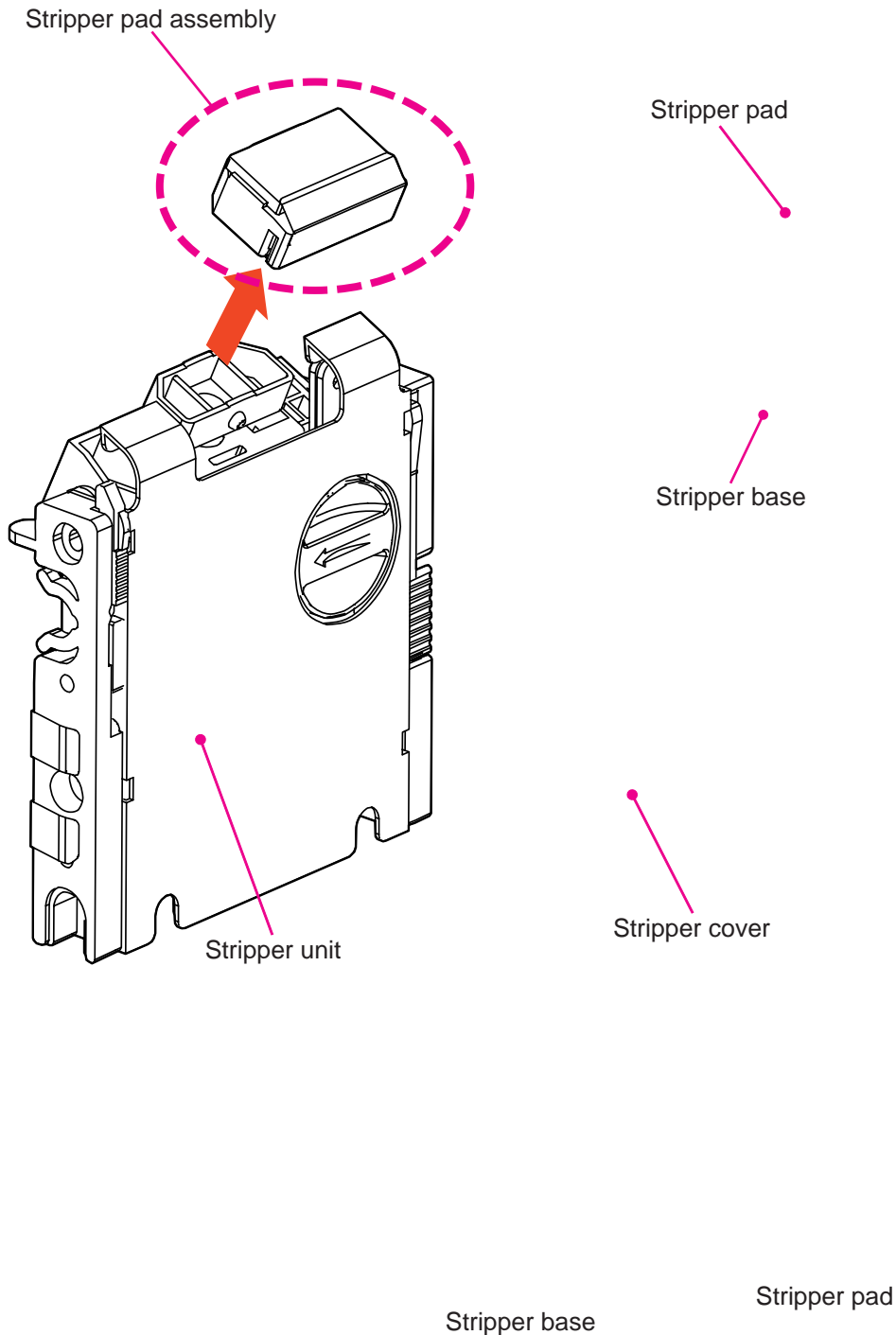


### 2-11. Removing the Stripper Pad Assembly

- 1) Lower the Paper feed tray all the way down, switch OFF the machine power, and remove the Stripper unit.
- 2) Lift the Stripper pad assembly by hand and remove.

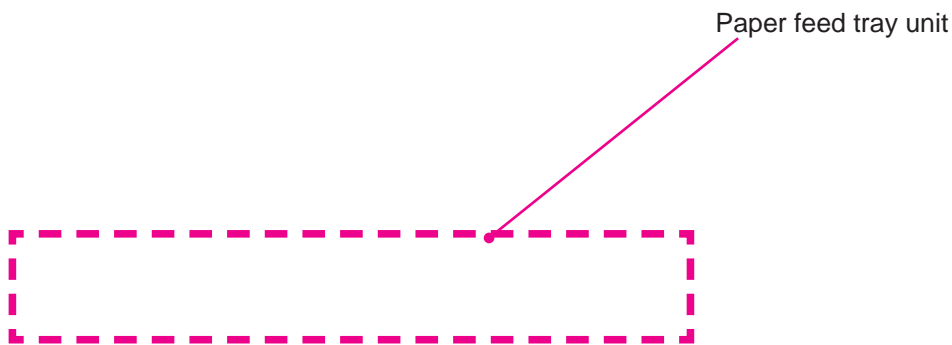
**< Precautions for installation >**

- Position the edge of the Stripper pad (indicated by the arrows) against the Stripper pad base (indicated by the arrows) when attaching the Stripper pad. <Refer to the figure below.>

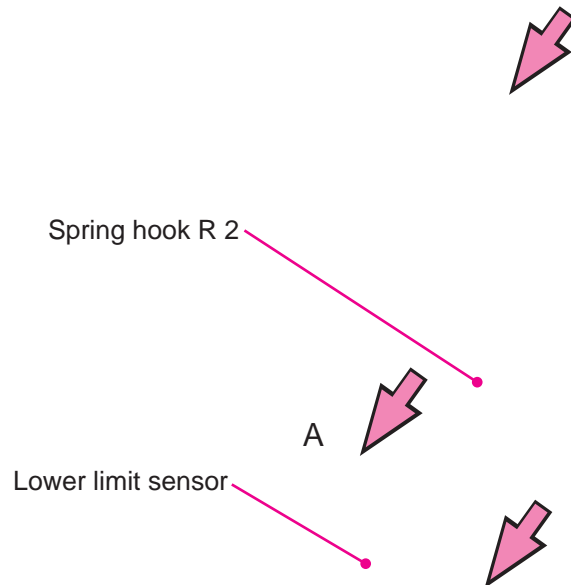


### 2-12. Removing the Elevator Shaft Assembly

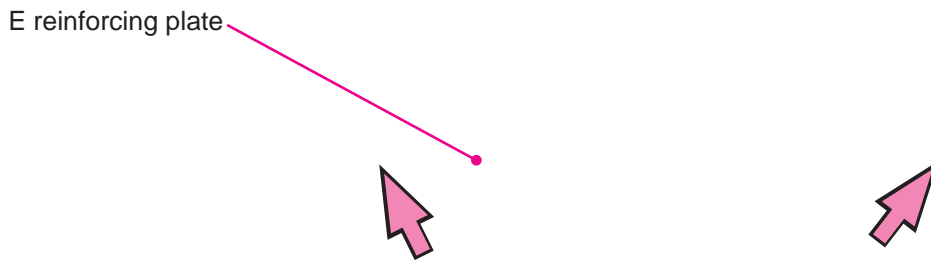
- 1) Remove the Elevator motor. (Refer to 2-8)
- 2) Remove the Elevator spring on the rear side.
- 3) Remove the Paper feed tray unit. (Refer to 2-1)



- 4) Remove the Paper feed roller assembly. (Refer to 2-4)
- 5) Remove the Paper feed lower limit sensor. (This is to prevent the sensor from breaking) (Round tip IT3C4x8 screw; 1 pc) (Arrow A on photo)
- 6) Remove the Spring hook R 2. (E-ring; 1 pc, round tip IT3C4x8 screw; 1 pc)



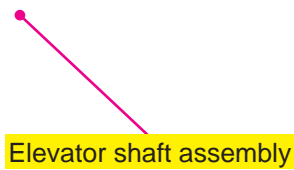
- 7) Remove the E reinforcing plate. (M4x8 screw; 2 pcs)



- 8) Remove the E side plate (front and rear)

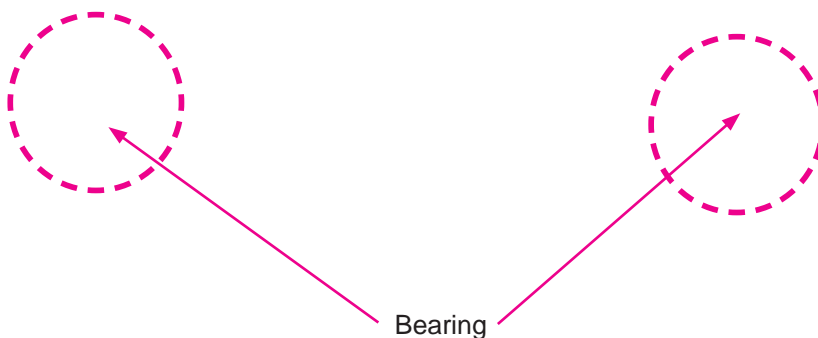


- 9) Remove the Elevator shaft assembly. Since the top of guide groove of machine frame is wide, remove from there.



<Precaution in assembly>

The flange of the ball bearing should be on the outside of the side plate. (Front and rear)

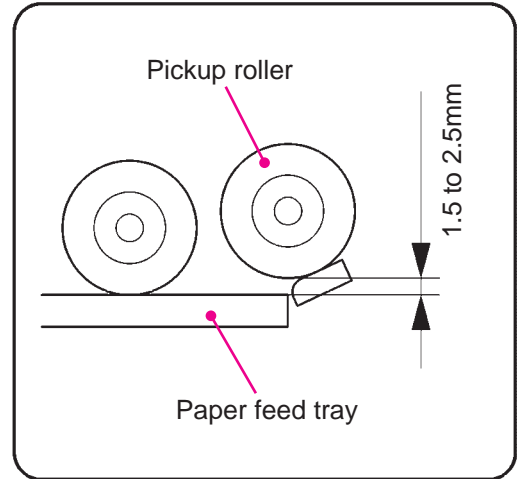


### 3. Adjustment

#### 3-1. Upper Limit Sensor Position Adjustment

##### Checks and adjustment procedures

- 1) Remove paper from the Paper feed tray and set the Paper feed pressure lever to the <Normal> position.
- 2) Run test mode No. 681 (paper feed tray upper limit positioning), let the Paper feed tray elevate until it gets in the complete stop state.
- 3) After the Paper feed tray comes to a complete stop, confirm that the gap between the Pickup roller and the Paper feed tray is within the range from 1.5 to 2.5 mm.



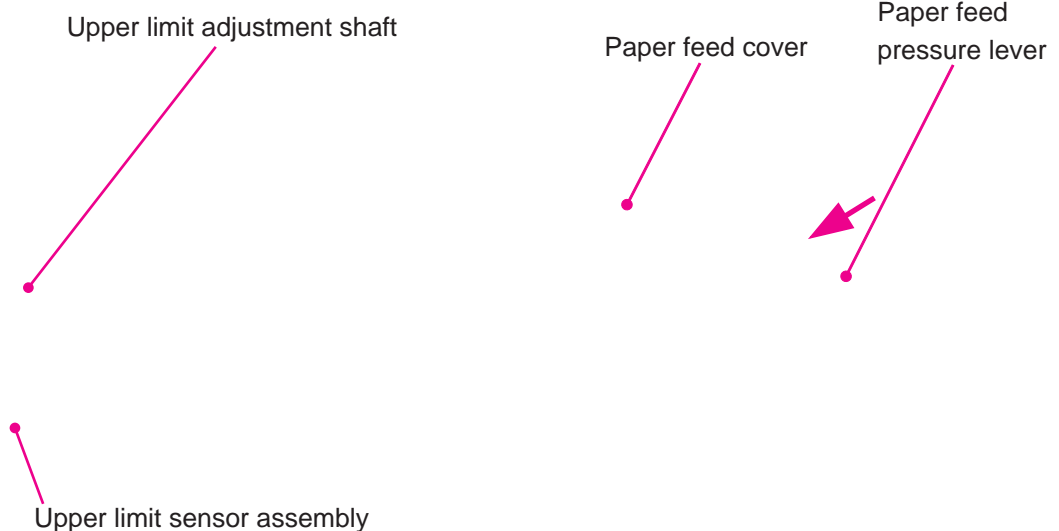
- 4) In the case of a non-standard value, insert a Phillips screwdriver from the hole of paper feed cover, rotate the upper limit adjustment shaft and adjust it by moving paper feed upper limit sensor assembly up or down.

**Caution:** Turning the Upper limit adjustment shaft clockwise lowers the Upper limit sensor assembly and increases the gap.

One rotation of the screw moves the upper limit high approximately 0.5mm.

##### Symptoms

- (1) Setting the Upper limit sensor position too high increases the paper feed pressure and may result in multiple paper feeds.
- (2) Setting the Upper limit sensor position too low decreases paper feed pressure and may result in paper feed failure.



### 3-2.Stripper Pad Adjustment

#### Adjustment procedure

- 1) Switch the Paper feed pressure lever position to suit the paper type and begin printing.
- 2) If a multiple paper feed or paper feed failure occurs, adjust the Stripper pad angle or Stripper pad pressure.

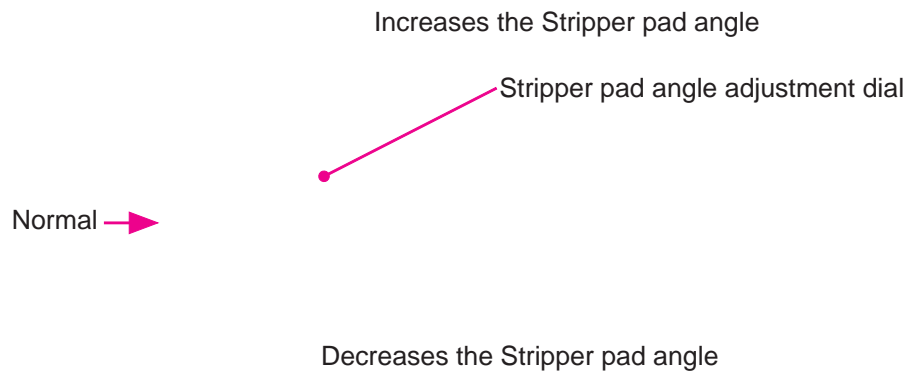
#### Countermeasure

##### 1) When multiple paper feeds occur:

- Turn the Stripper pad angle adjustment dial clockwise to increase the Stripper pad angle (increase the angle).

##### 2) When paper feed failures occur:

- Turn the Stripper pad angle adjustment dial counterclockwise to decrease the Stripper pad angle (decrease the angle).



### 3-3. Paper Feed Clutch ON Angle Adjustment

#### Checks and adjustment procedures

- 1) Print and confirm that the paper feeds reliably and smoothly.
- 2) If the first paper feed is not performed smoothly in a timely manner, run the test mode No. 741 (Paper feed clutch ON angle adjustment) to make adjustment according to the paper type selection setting in the user mode.
- 3) Repeat the steps from 1).

#### Symptoms

If first paper feed is not performed in a timely manner, paper jams or print position deviations may occur.

### 3-4. Paper Feed Clutch OFF Angle Adjustment

#### Checks and adjustment procedures

- 1) Print and confirm that printing goes smoothly.
- 2) If paper buckle amount is too large or small and that prevents smooth printing operation, run the test mode No. 742 (Paper feed clutch ON angle adjustment) to make adjustment according to the paper type selection setting in the user mode.
- 3) Repeat the steps from 1).

#### Symptoms

If paper buckle amount is not appropriate, paper cannot be fed to the second paper feed, and paper jam may result.

### 3-5. Paper Width Potentiometer Adjustment

#### Checks and adjustment procedures (3 points correction)

- 1) Enter "9874" to enable the test mode in the protected area, and then press the start key.
- 2) Adjust the paper feed fence width to 297mm (A3 paper width).
- 3) Activate Test Mode No. 1103: Perform the paper width potentiometer adjustment (long).
- 4) Adjust the paper feed fence width to 210mm (A4 paper width).
- 5) Activate Test Mode No. 1101: Perform the paper width potentiometer adjustment (middle).
- 6) Adjust the paper feed fence width to 105mm (A6 paper width).
- 7) Activate Test Mode No. 1102: Perform the paper width potentiometer adjustment (short).
- 8) Activate Test Mode No. 0721: Perform paper width (mm), and confirm that the numbers displayed are in the following range.

A3 paper width 2940~3000 (2970±30) : 297±3mm

A4 paper width 2070~2130 (2100±30): 210±3mm

A6 paper width 1020~1080 (1050±30): 105±3mm

\* When adjusting the paper fence to the specified width, always slide the paper fence from the wide position to the narrow. (Do not open, but close the fence.)

\* There are engraved mark for adjustment 105mm and 297mm line on the paper feed tray.

#### Symptoms

If the paper feed fence width adjustment does not perform properly, the print may become smaller or larger by detecting the paper size loaded on the paper feed tray as a wrong paper size, and it may cause ink stain on the Pressure roller.



# CHAPTER 6: Second Paper Feed Section

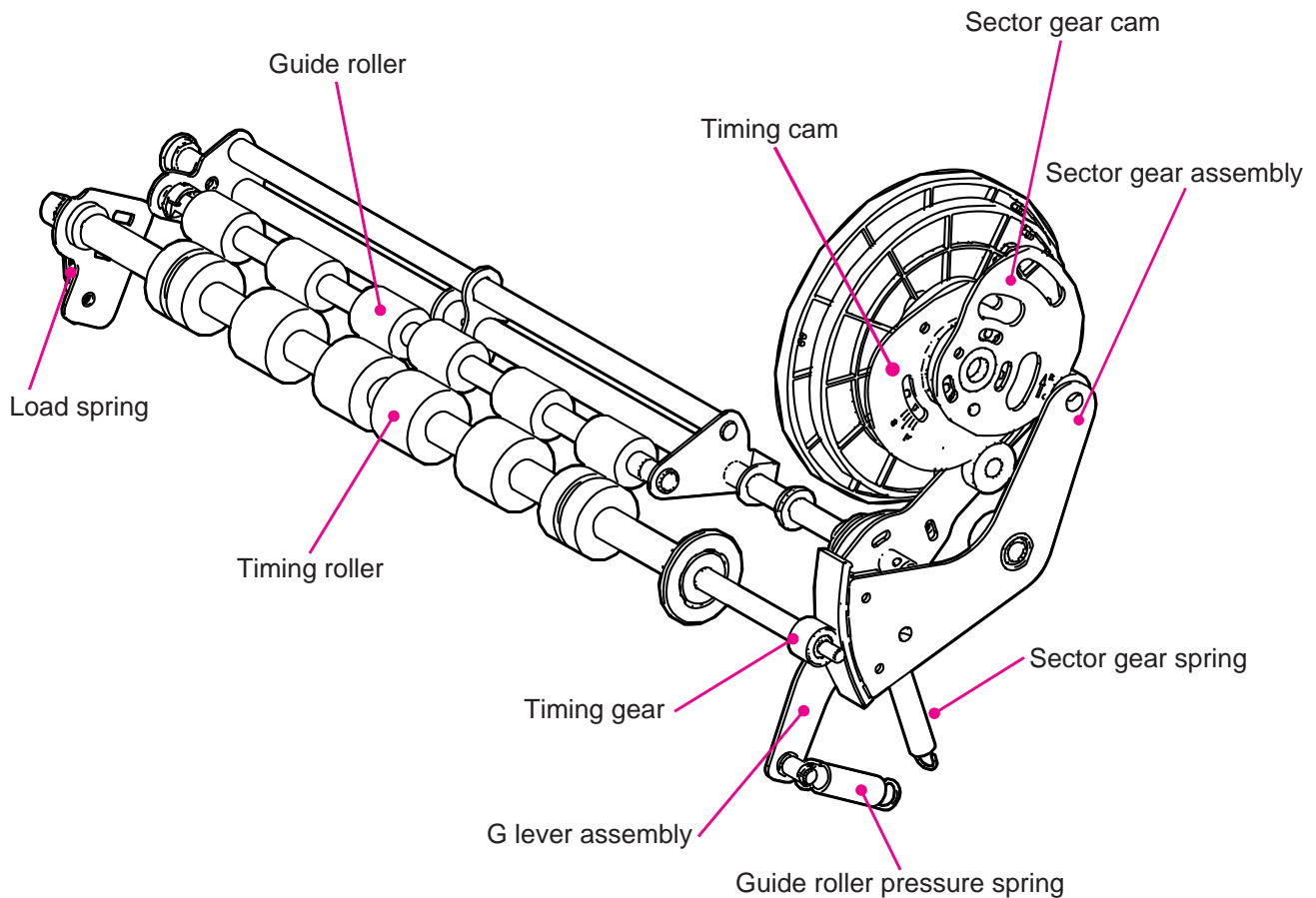
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## 1. Mechanism

### 1-1. Second Paper Feed Mechanism

The second paper feed mechanism stops the paper received from the first paper feed temporarily, in order to send the paper to print drum section and pressure section in exact timing. Paper feed is performed by Timing roller and guide roller, and the sending timing of the second paper feed is determined by Sector gear cam. The driving source is main motor.



- The accuracy of print position is bad if the stop timing of the Timing roller is unstable. In order to prevent that, load spring always apply brake on the Timing roller rotation.
- The guide roller is pressed against the timing roller by the Guide roller pressure spring. Therefore, when the Timing roller rotates, the Guide roller rotates. However, the pressure to the Timing roller is released when the rotated timing cam presses the G lever assembly and the Guide roller is raised up.

Operation flow

Position-B



Start printing

When the main motor is turned ON, the Sector gear cam and Timing cam are rotated in a counterclockwise direction as viewed from the rear.



<At print drum Position-A>

When the Print drum comes to its position-A, the G-lever assembly is pushed down by the Timing cam and the Guide roller is raised up. Release the pressure bonding



<First paper feed starts>

The Paper feed clutch is turned ON and the first paper feed starts, feeding the paper. The Timing cam rotates further in the counterclockwise direction and that makes the G lever assembly rotate in the counterclockwise direction as well. Then the Guide roller is pulled down and is pressed against the timing roller.



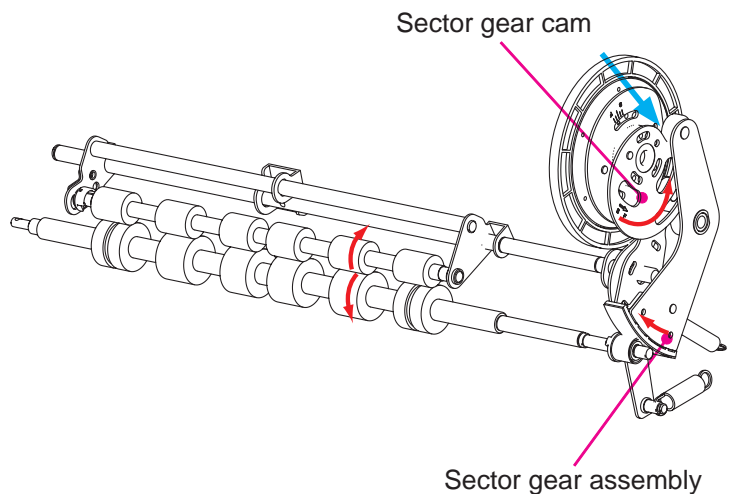
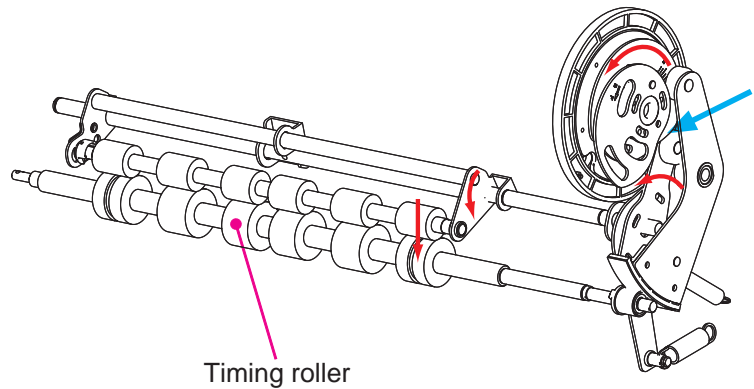
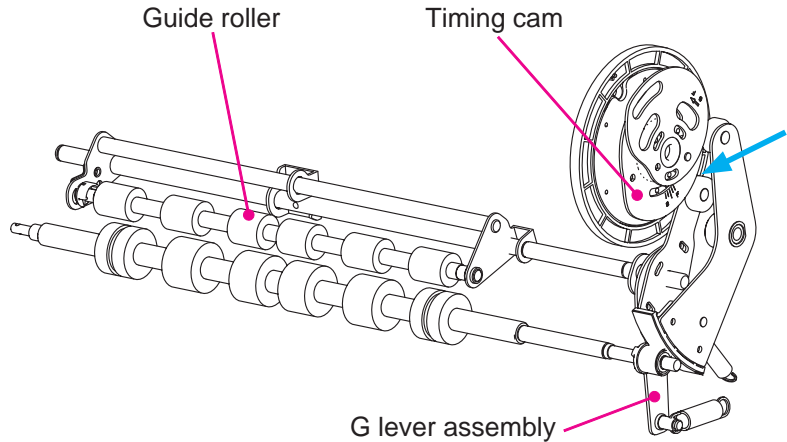
The first paper feed is finished



Second paper feed starts

Timing roller and guide roller are in a state of pressure bonding. When Sector gear cam is rotated, Sector gear assembly is pushed back by the Sector gear spring and Timing gear is rotated. There is a one-way clutch in the Timing gear. When Sector gear assembly rotates in a clockwise direction, the rotation is transmitted to the Timing roller. When it rotates in a counterclockwise direction, the rotation is not transmitted.

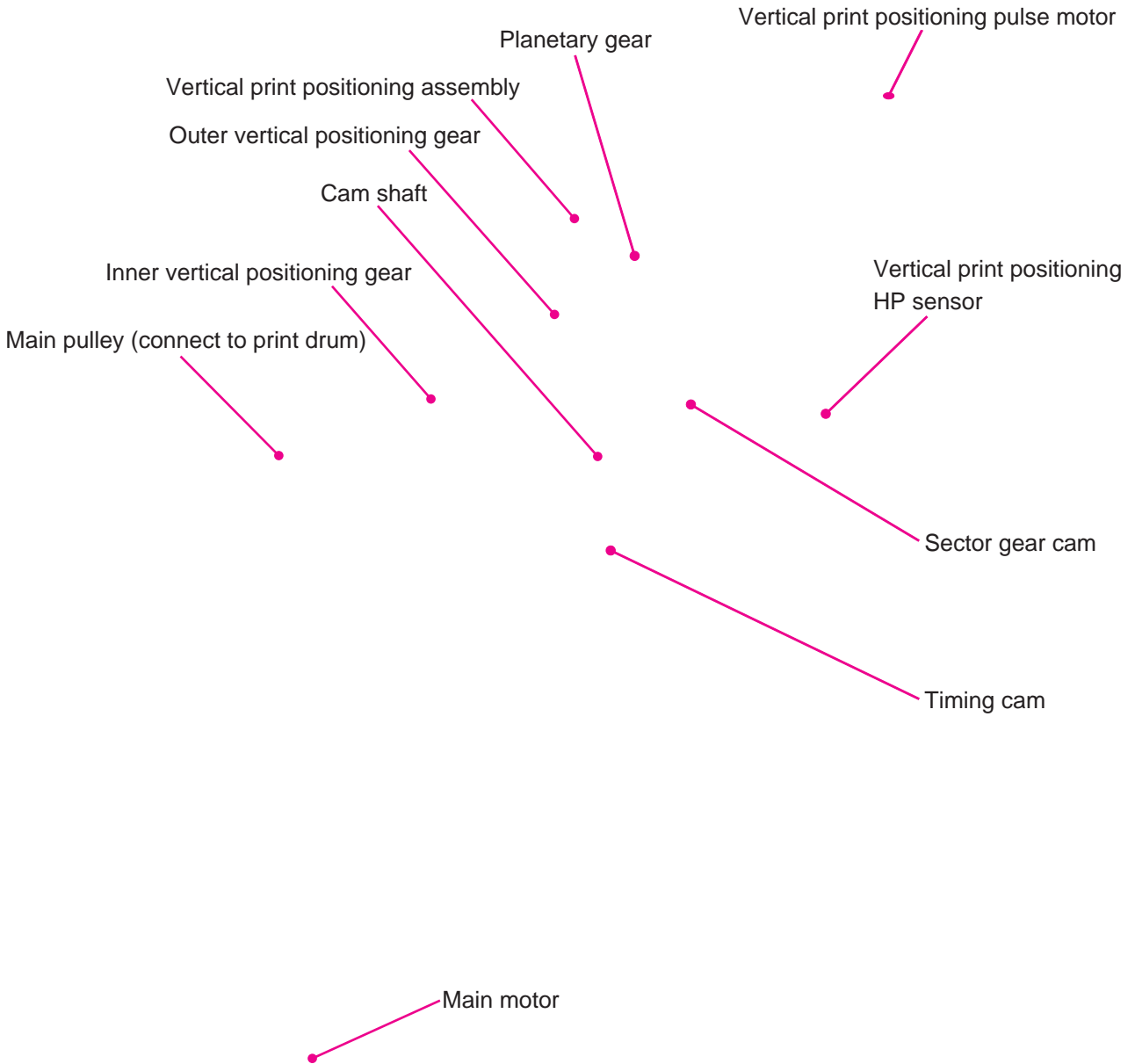
Paper transport is performed only when the Guide roller is pressed against the Timing roller and when the Sector gear is giving rotation on the Timing gear.



### 1-2. Vertical Print Position Control

In order to change the vertical print position, change the phase of the Sector gear cam and print drum that determines the timing of second paper feed. The Vertical print positioning pulse motor is the source of the drive for making this vertical print position change.

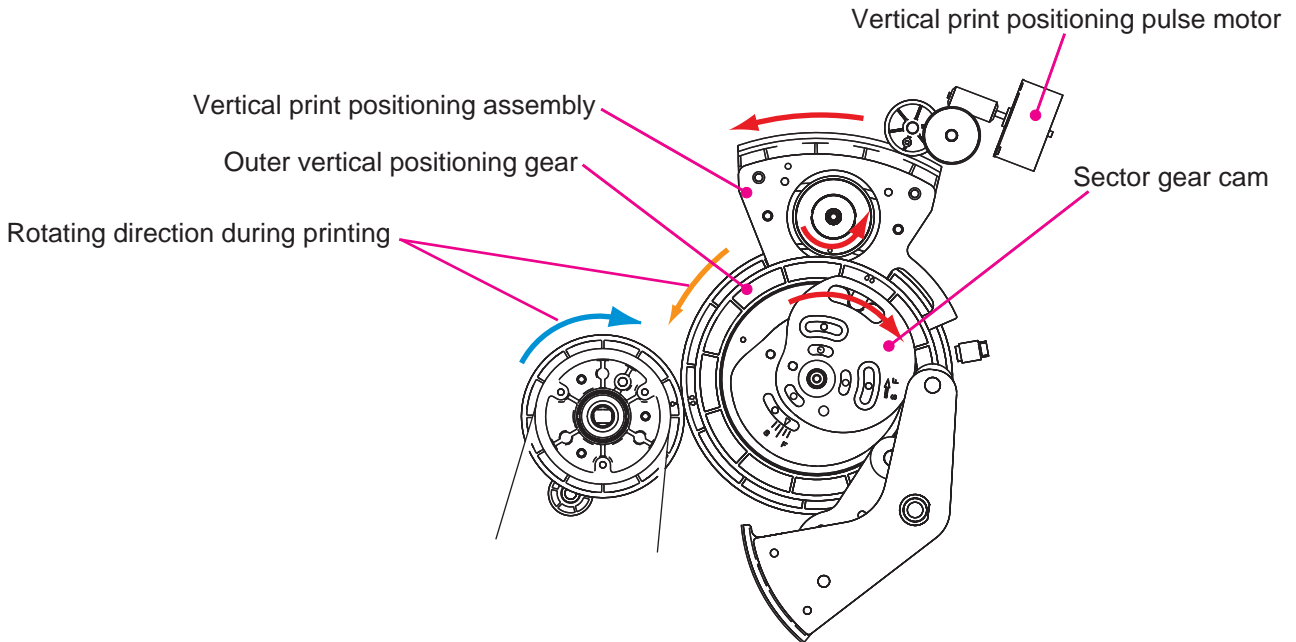
By pressing the <←> or <→> key of print position on the operation panel, the Vertical print positioning pulse motor is turned ON to control the vertical printing position. The center of the vertical printing position is confirmed by the Vertical print positioning HP sensor.



**Pressing the < → > key on the Operation panel (print image up)**

Pressing the <→> key moves the "Outer vertical positioning gear" and "Sector gear cam" in a clockwise direction (red arrow).

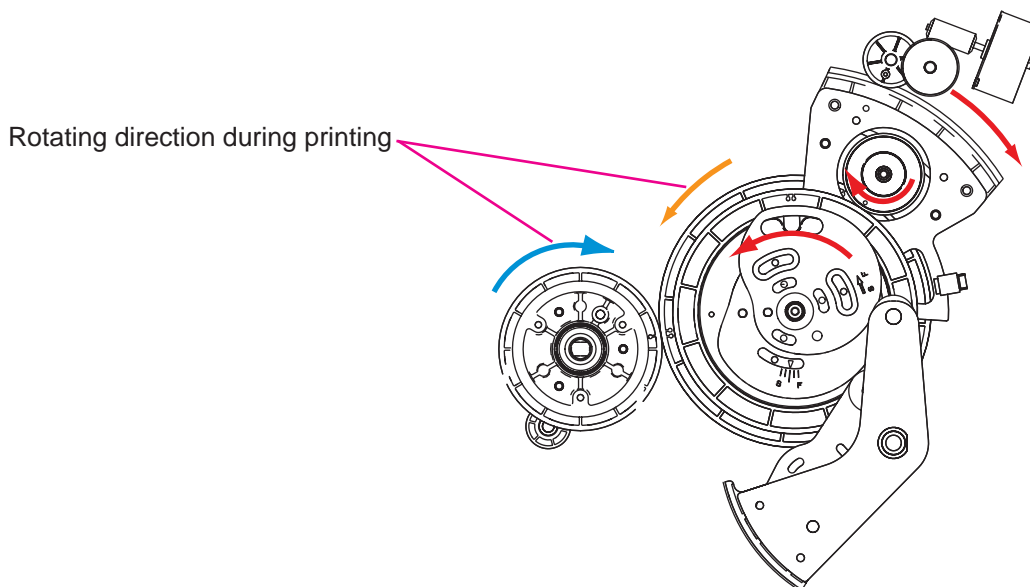
When "Sector gear cam" moves in a clockwise direction, the operation of the "Sector gear cam" is delayed during the printing (the second paper feed timing is delayed), resulting in the print position to move up.



**Pressing the < ← > key on the Operation panel (print image down)**

Pressing the <←> key moves the "Outer vertical positioning gear" and "Sector gear cam" in a counterclockwise direction (red arrow).

When "Sector gear cam" moves in a counterclockwise direction, the operation of the "Sector gear cam" becomes faster during printing (the second paper feed timing becomes faster), resulting in the print position to move down.



### 1-3. Paper Feed Operation of the Extra-long Paper

- The extra-long paper mode is used when printing on a paper which is longer than the standard maximum length paper.
- To use extra-long paper, register a paper size with a length between 436mm and 555mm, and specify the registered paper size.
- The extra long paper mode is a single print in 2 rotations of Print drum. Normal print operation is performed at the first rotation, and the second rotation is for ejecting paper that is longer than a standard size of paper.
- Paper feed clutch is not operated during the second rotation of the Print drum. (The next paper is not fed.)  
The operation that the Guide roller is pressed against the Timing roller is still performed.
- The Pressure solenoid is kept turned OFF on the second Print drum rotation to keep the Pressure roller down and not press against the Print drum.
- If printing on an extra-long paper is made without activating the extra long paper mode, the printing stops (paper ejection jam). On the other hand, if printing on a standard size paper is made with the extra long paper mode activated, the printing continues. (A single print in every two Print drum rotations.)

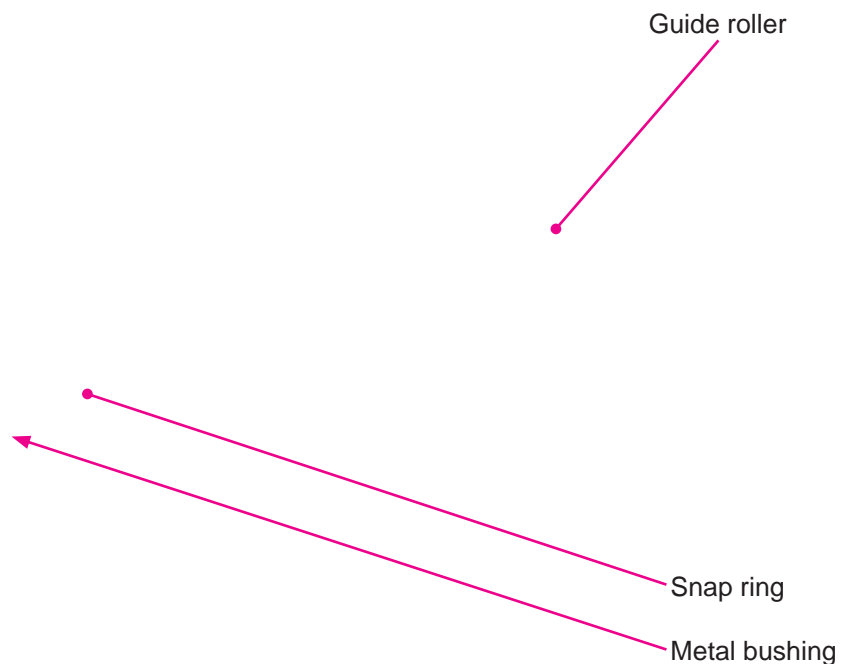
## 2. Disassembly

### 2-1. Removing the Guide Roller

- 1) Pull out the Print drum and switch off the machine power.
- 2) Remove the Snap ring and Bearing meta, then remove the Guide roller out of the machine.

#### [ Precaution in assembly ]

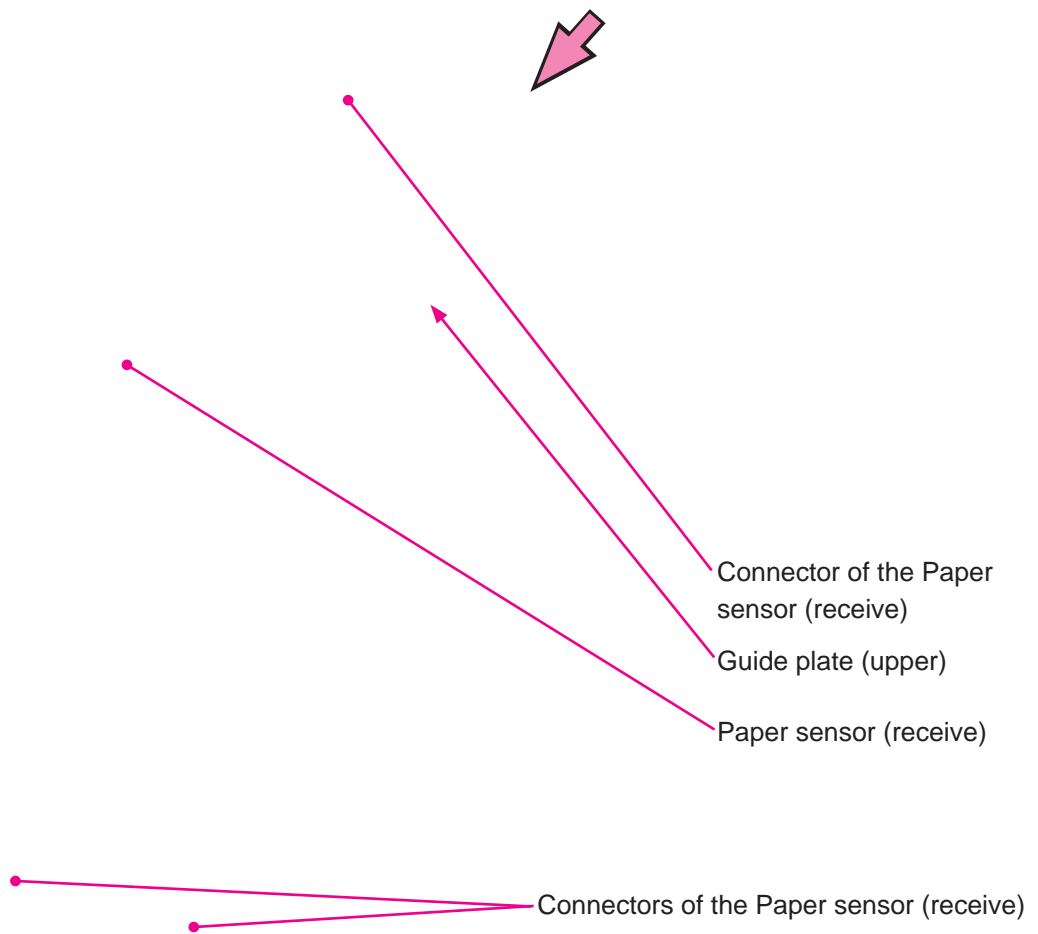
- Make sure that the Snap ring fits in the groove on the Guide roller, otherwise the Snap ring may deform and will require replacement



## 2-2. Removing the Paper Sensor

### Removing the Paper Sensor (Receive)

- 1) Remove the Print drum out of the machine and switch OFF the machine power.
- 2) Remove the Guide roller. (Refer to 2-1)
- 3) Remove the mounting screws (M3×8 screw; 2 pcs) and unplug the connector (1 pc), and then remove the Guide plate (upper).

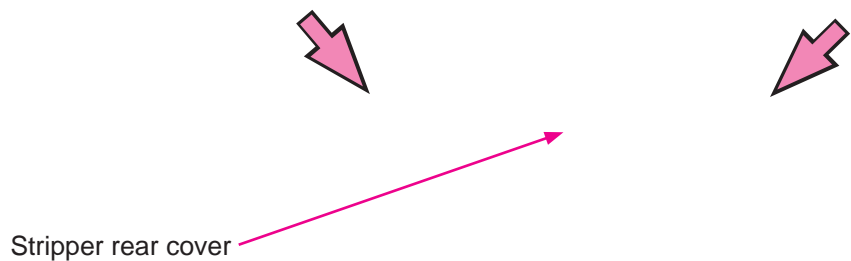


This picture shows the connector unplugged and the Guide plate (upper) already taken off from the above photograph.

Guide plate (upper)

### Removing the Paper Sensor (Send)

- 1) Lower the Paper feed tray all the way down, pull out the Print drum and switch OFF the machine power.
- 2) Slide down the Lock knob to release the lock on the Stripper unit.
- 3) Push the Stripper release lever and remove the Stripper unit from the machine.
- 4) Remove Screws (M4 x 8 screw; 2 pcs) and remove the Stripper rear cover.
- 5) From the hole on the Guide plate, remove a screw (M3 x 8 screw; 1 pc), unplug the connector and remove the Paper sensor (send) together with its bracket.





### 2-3.Removing the Timing Roller

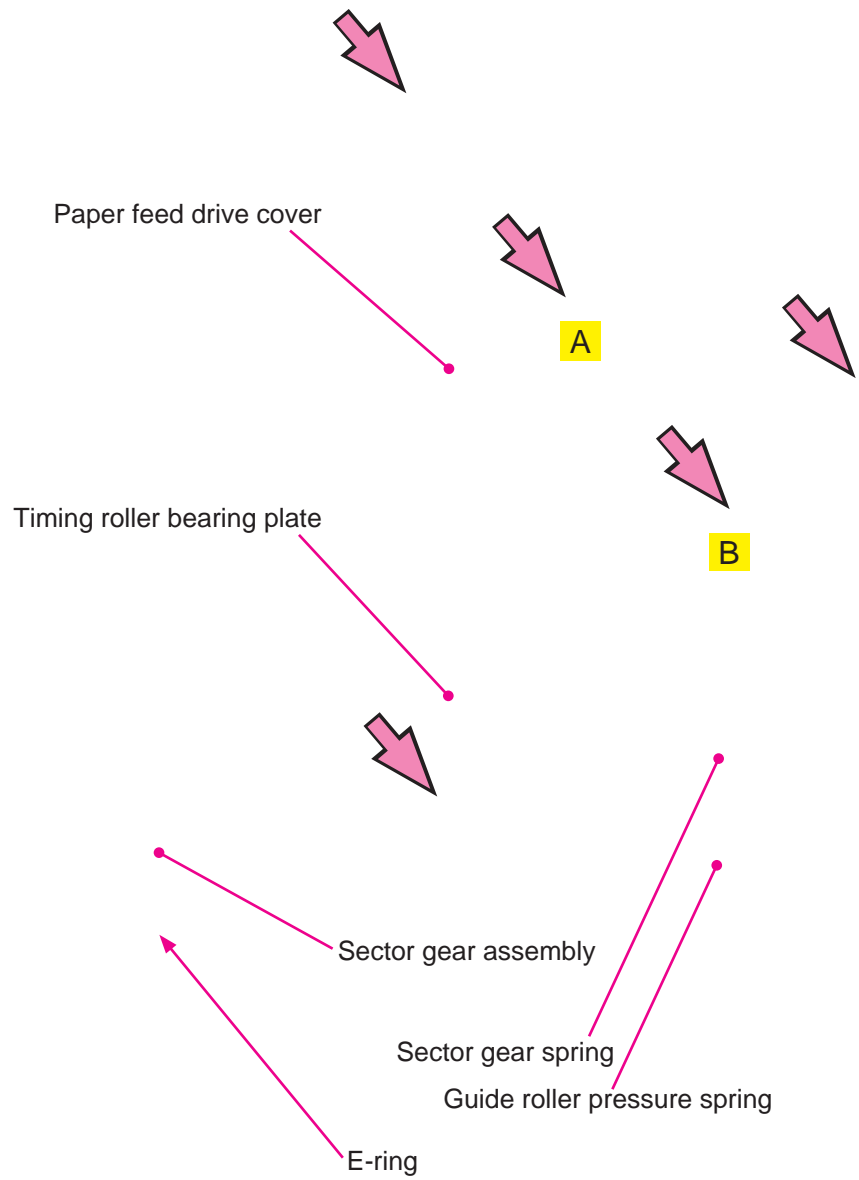
- 1) Pull out the Print drum and switch OFF the machine power.
- 2) Remove the Rear cover.

#### <Working on the rear of the machine>

- 3) Open the MAIN-SYSTEM-PCB bracket assembly.
- 4) Remove the Sector gear spring and the Guide roller pressure spring.
- 5) Remove the Paper feed drive cover. (M4 x 8 screw; 5 pcs)
- 6) Remove the Sector gear assembly by removing the E-ring.

**Caution:**

- \* Attach and tighten the two screws, A and B (referring to the photograph below), the very first when attaching the paper feed drive cover back on the printer.
- \* Do not remove the Timing roller bearing plate. If it is removed by mistake, at the very end of the assembly make sure to give enough backlash between the Timing gear and Sector gear by pulling the Timing roller bearing plate diagonally down in left-lower direction when mounting back the Timing roller bearing plate, which was removed by mistake.



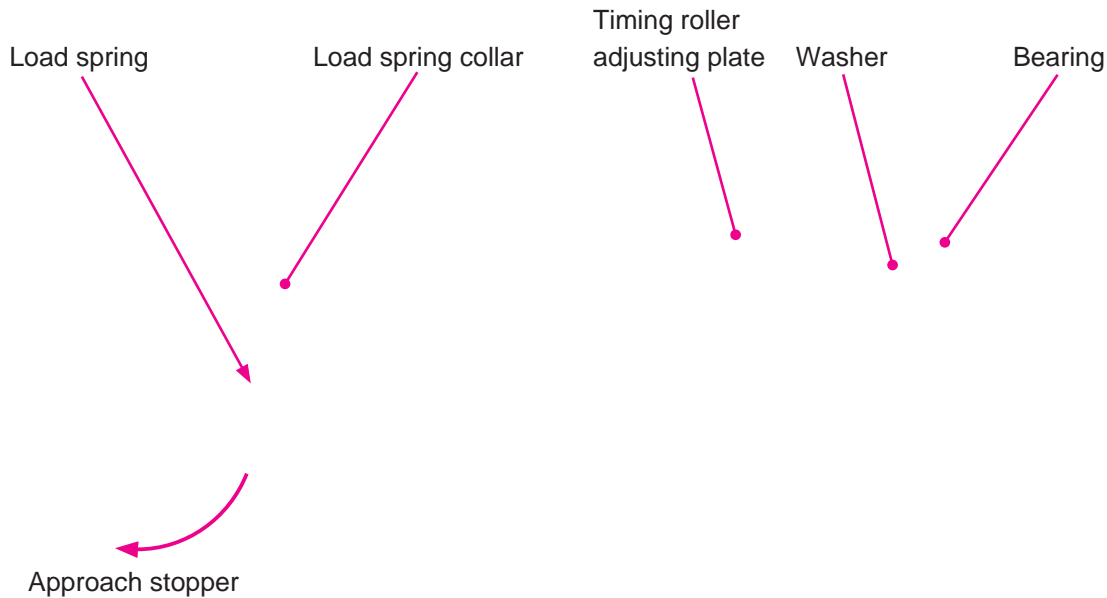
**<Working on the front of the machine>**

- 7) Remove the Screw (M3 x 8 screw; 1 pc) from the Load spring collar. Then remove Load spring and Load spring collar.
- 8) Remove the washer and bearing from the Timing roller adjustment plate.

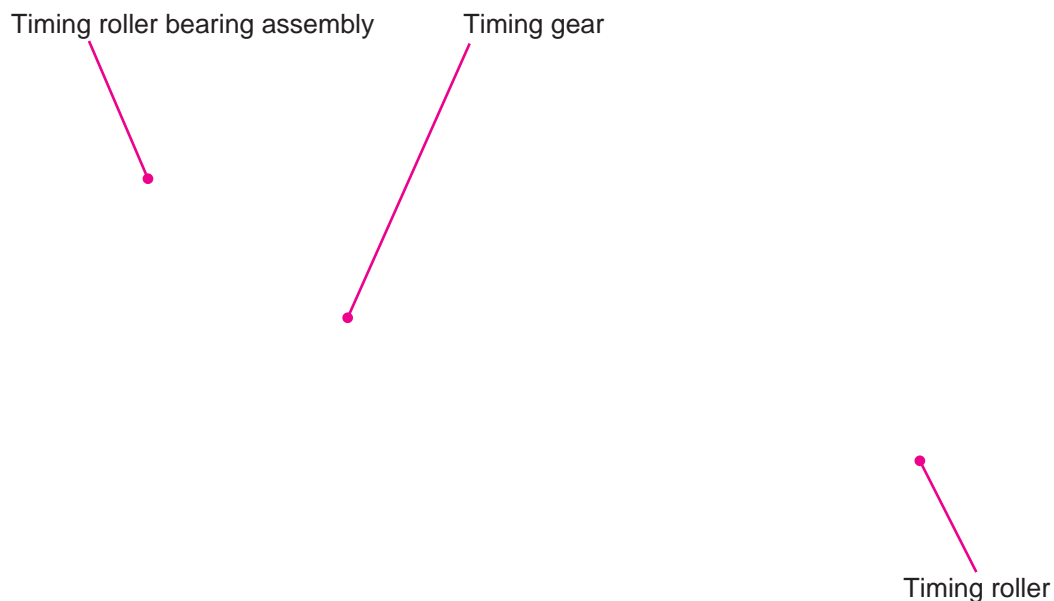
**< Precautions in assembly >**

To mount the Load spring plate, rotate the Load spring plate in the arrow direction for a tight fit.

Make sure that there is no looseness between the standing section and rolling section of Load spring plate for the timing roller stop position stability.

**<Working on the rear of the machine>**

- 9) Remove the E-ring, and disengage the Timing roller bearing assembly from the machine rear frame. Then pull the bearing assembly out until it almost touches the Timing gear.
- 10) Pull out the Timing roller from the opening on the rear frame of the machine.

**< Precautions in assembly >**

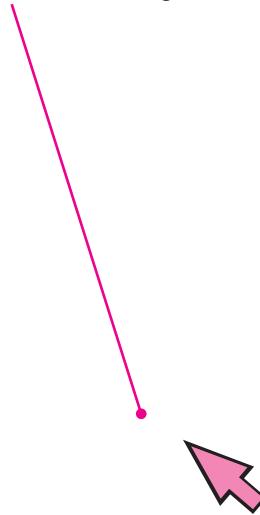
- Perform the attachment of sector gear spring after the Timing roller bearing assembly is attached to the Paper feed drive cover on the printer.

## 2-4. Removing the Print Positioning Intermediate Gear

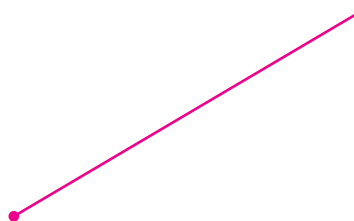
### < Precautions in assembly >

- Insert 8mm-diameter jig in the phase alignment hole of Vertical positioning gear, for attaching or detaching work, keeping the phase aligned.
- 1) Switch OFF the machine power and remove the Rear cover. (Refer to the Chapter 1)
  - 2) Open the MAIN-SYSTEM-PCB bracket assembly. (Refer to the Chapter 1)
  - 3) Remove the E-ring and remove the Print positioning intermediate gear.

Print positioning intermediate gear



Insert the 8mm diameter Jig shaft into the Position-B phase alignment hole on the paper feed area.



## 2-5. Removing the Idler Gear

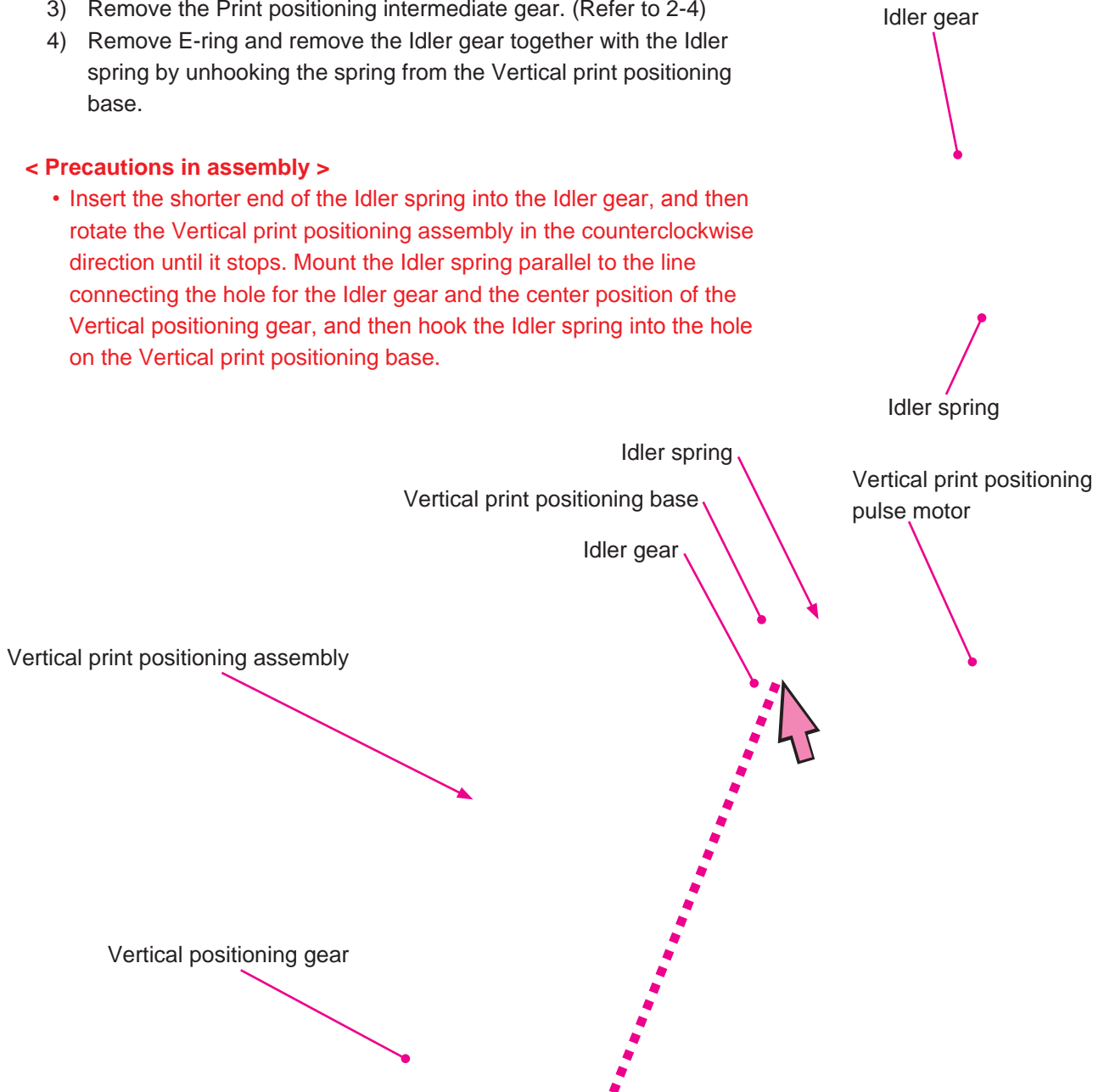
### < Precautions in assembly >

- Insert 8mm-diameter jig in the phase alignment hole of Vertical positioning gear for attaching or detaching work, keeping the phase aligned.

- 1) Switch OFF the machine power and remove the Rear cover. (Refer to the Chapter 1)
- 2) Open the MAIN-SYSTEM-PCB bracket assembly. (Refer to the Chapter 1)
- 3) Remove the Print positioning intermediate gear. (Refer to 2-4)
- 4) Remove E-ring and remove the Idler gear together with the Idler spring by unhooking the spring from the Vertical print positioning base.

### < Precautions in assembly >

- Insert the shorter end of the Idler spring into the Idler gear, and then rotate the Vertical print positioning assembly in the counterclockwise direction until it stops. Mount the Idler spring parallel to the line connecting the hole for the Idler gear and the center position of the Vertical positioning gear, and then hook the Idler spring into the hole on the Vertical print positioning base.



### 2-6. Removing the Paper Feed Drive Unit

- 1) Switch OFF the power, remove the rear cover and open the MAIN-SYSTEM-PCB bracket assembly. (Refer to Chapter 1)
- 2) Insert 8mm-diameter jig into the phase alignment hole of Main drive assembly in the Main body drive mechanism.

8mm diameter jig inserted into the phase alignment hole on the Main driver assembly.



- 3) Remove the following parts :
  - Sector gear spring
  - Guide roller pressure spring
  - Paper feed drive cover (Refer to steps 1 to 5 on the instruction 2-3 of this Chapter.)
  - Sector gear assembly (Refer to steps 1 to 6 on the instruction 2-3 of this Chapter.)

Paper feed drive cover

Sector gear assembly

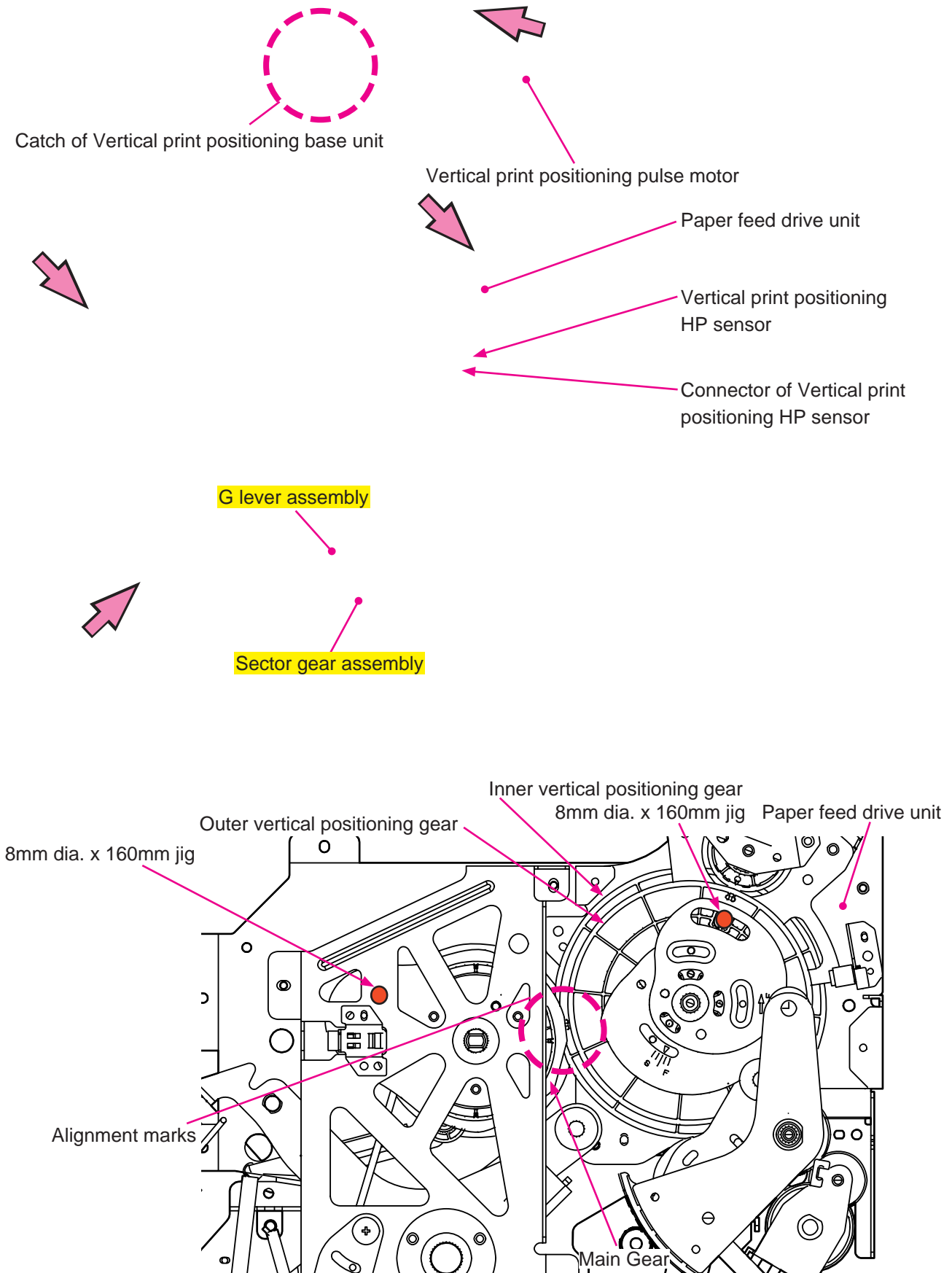


Guide roller pressure spring

Sector gear spring



- 4) Remove screws (M4 x 8 screw; 2 pcs), and remove the G-lever assembly.
- 5) Unplug the connector of the Vertical print positioning pulse motor.
- 6) Unplug the connector of the Vertical print positioning HP sensor, and unhook the Reuse band.
- 7) Remove screws (M4 x 8 screw; 5 pcs) of the Paper feed drive unit. Remove the Paper feed drive unit by unhooking the Vertical print positioning base unit from the machine.

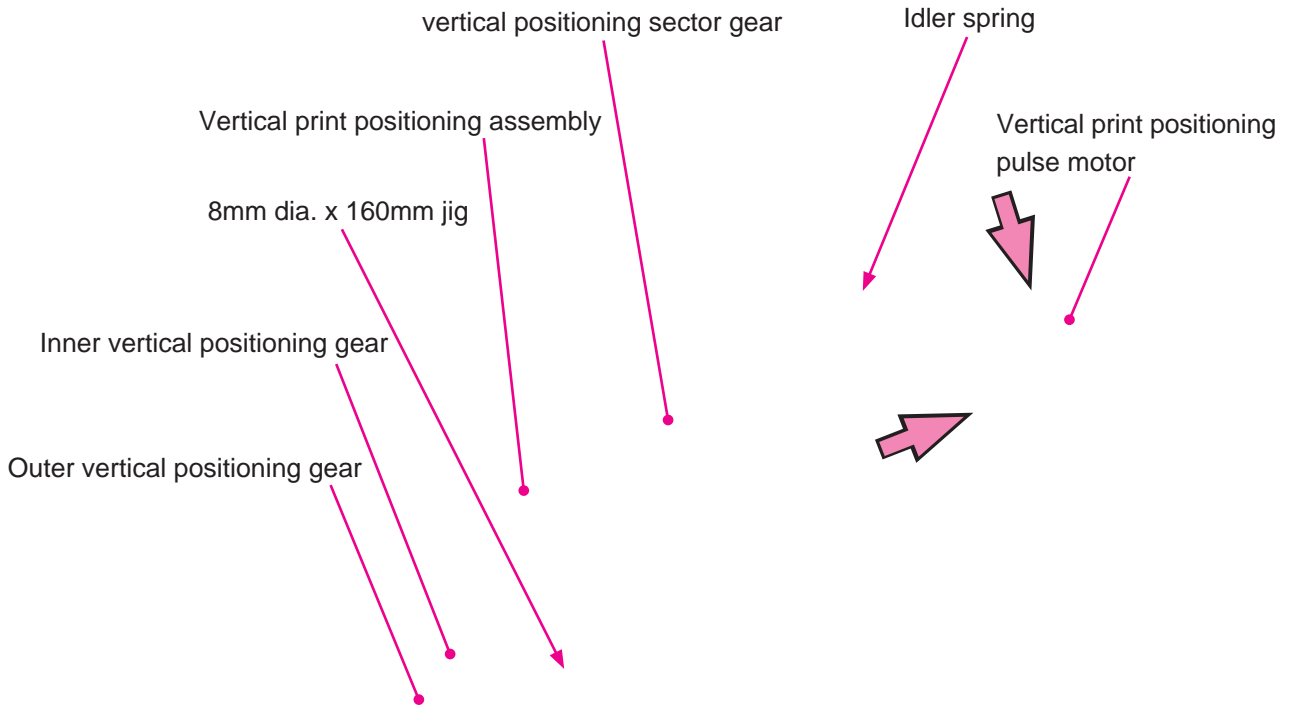


**<Precaution on assembly>**

- Before mounting the Paper feed drive unit back on the machine, align the Phase Alignment holes on both the Inner and Outer vertical positioning gears and insert 8mm dia. x 160mm jig shaft through the two gears. (Refer to the photograph on the next page.)
- Then mount the Paper feed drive unit back on the machine while aligning the Alignment marks (two round dots) on the Inner vertical positioning gear against the Alignment mark (one round dot) on the Main gear.

**2-7. Removing the Print Positioning Pulse Motor**

- 1) Switch OFF the power, remove the rear cover, and open the Power supply unit and MAIN-SYSTEM-PCB bracket assembly.
- 2) Remove the Paper feed drive unit from the machine. (Refer to 2-6)
- 3) To prevent the Vertical print positioning assembly from rotating by the power of the Idler spring, align the phase alignment holes of the Inner/Outer vertical positioning gears and insert the 8mm dia. x 160mm jig through the two gears.
- 4) Remove the Vertical print positioning pulse motor. (M3x6 screw; 2 pcs)



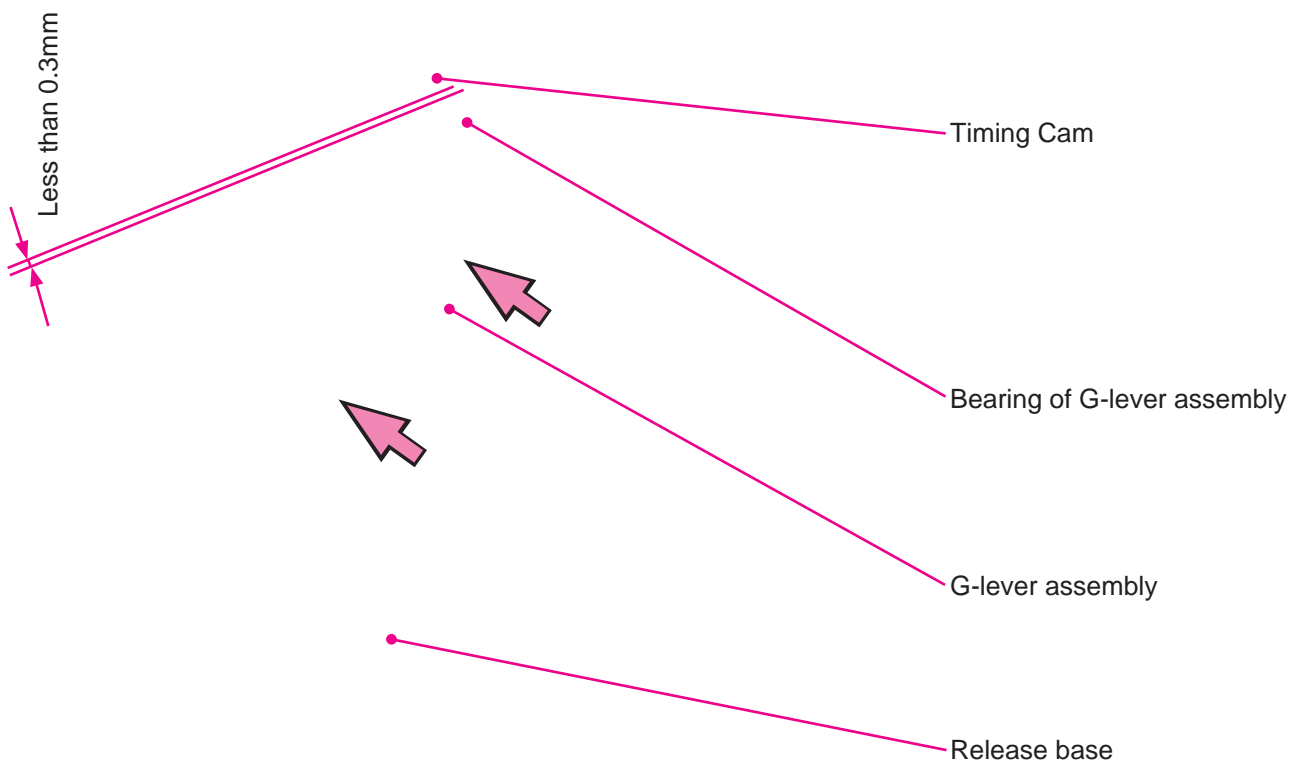
< Paper feed drive unit >

### 3. Adjustment

#### 3-1.G-lever Assembly Mounting Position Adjustment

##### Checks and adjustment

- 1) Run Test mode No.889 (G-lever mounting position) and then switch OFF the machine power.
- 2) Remove the Rear cover. (Refer to Chapter 1)
- 3) Open the MAIN-SYSTEM-PCB bracket assembly. (Refer to Chapter 1)
- 4) Confirm that the gap between the bearing and timing cam of the G-lever assembly is in a range between 0 to 0.3mm.
- 5) If this gap is out of the specification range, adjust the position of the G-lever assembly as described in the next steps (6) and (7).
- 6) Loosen the two screws on the G-lever assembly which mounts the G-lever onto the Release base.
- 7) Push the G-lever cam follower against the Timing cam and retighten the two screws on the G-lever assembly, making sure that the G-lever cam follower is touching against the Timing cam.



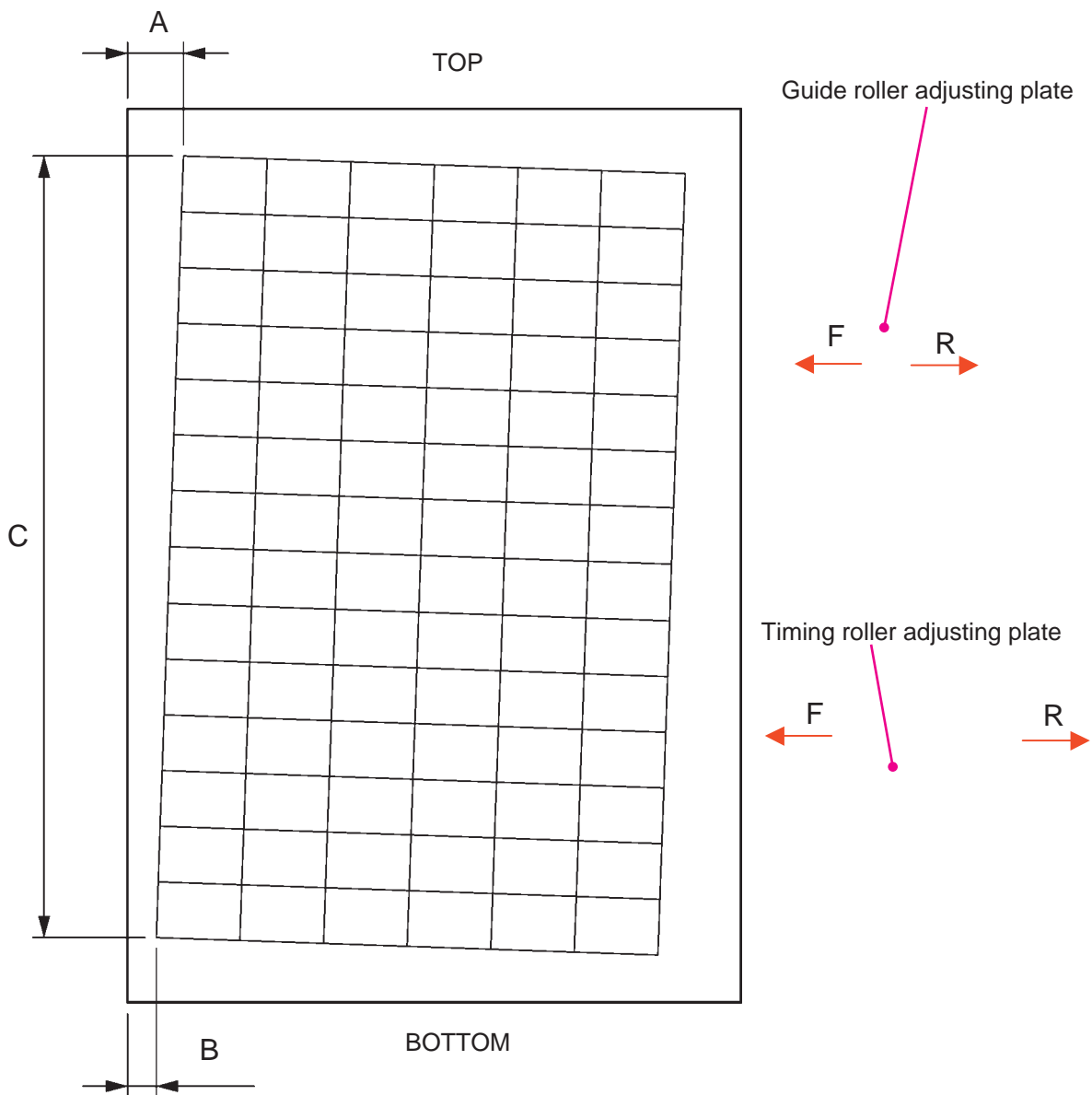


### 3-2. Paper Feed Skew Adjustment

#### Checks and adjustment

- 1) Set A3/Ledger size paper on Paper feed tray, run test mode No.81 (printing test B crossed line), and perform printing.
- 2) Measure the distance (A) from the left edge of the paper to the first vertical line at the top of the sheet.
- 3) Measure the distance (B) from the left edge of the paper to the first vertical line at the bottom of the sheet.
- 4) Measure the total distance (C) from the top horizontal line to the bottom line on the left side of the sheet.
- 5) Confirm the value of  $(A-B)/C \times 100$  is less than 0.5%.  
(If 350mm line is measured from the top of the paper, A-B should be less than 1.8mm.)
- 6) If the skew is more than 0.5%, loosen one screw on the Guide roller adjusting plate and two screws on the Timing roller adjusting plate, and slide the two plates in the same direction in the same amount.

\* Moving the plates one graduation on the scale changes the paper skew by 0.25%.  
Moving the plates in the F imprint direction moves the image at the bottom of the sheet to the right, and moving in the R imprint direction moves the image at the bottom of the sheet to the left.



### 3-3. Paper Sensor Sensitivity Adjustment

When the Paper sensor is replaced, be sure to make the Paper sensor sensitivity adjustment by activating Test Mode as given in the following steps.

The light emission electrical current of paper sensor is automatically adjusted.

- 1) Set clean white normal thickness paper on the paper feed tray.
- 2) Run test mode No.0705 (auto paper sensor automatic adjustment).
- 3) Confirm "Completion" displayed on the panel and press the "C" key on numeric key.
- 4) Run test mode No.0722 and confirm the value displayed on panel is in a range as follows: With the paper fed from the paper feed tray is in between the sensor, the number displayed should be in between 230 and 266 ( $248 \pm 18$ )
- 5) If correct number is achieved, the adjustment is finished. Remove the paper out from the machine.

# MEMO

# MEMO

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# CHAPTER 7: Press Section

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## Contents

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  - 2-4. Removing the Pressure Control Pulse Motor.....8
- 3. Adjustment .....9**
  - 3-1. Assembly Procedure of the Pressure Lever Assembly .....9

## 1. Mechanism

### 1-1. Press Mechanism

The function of the press mechanism is to apply proper pressure on the paper against the Print drum during the printing.

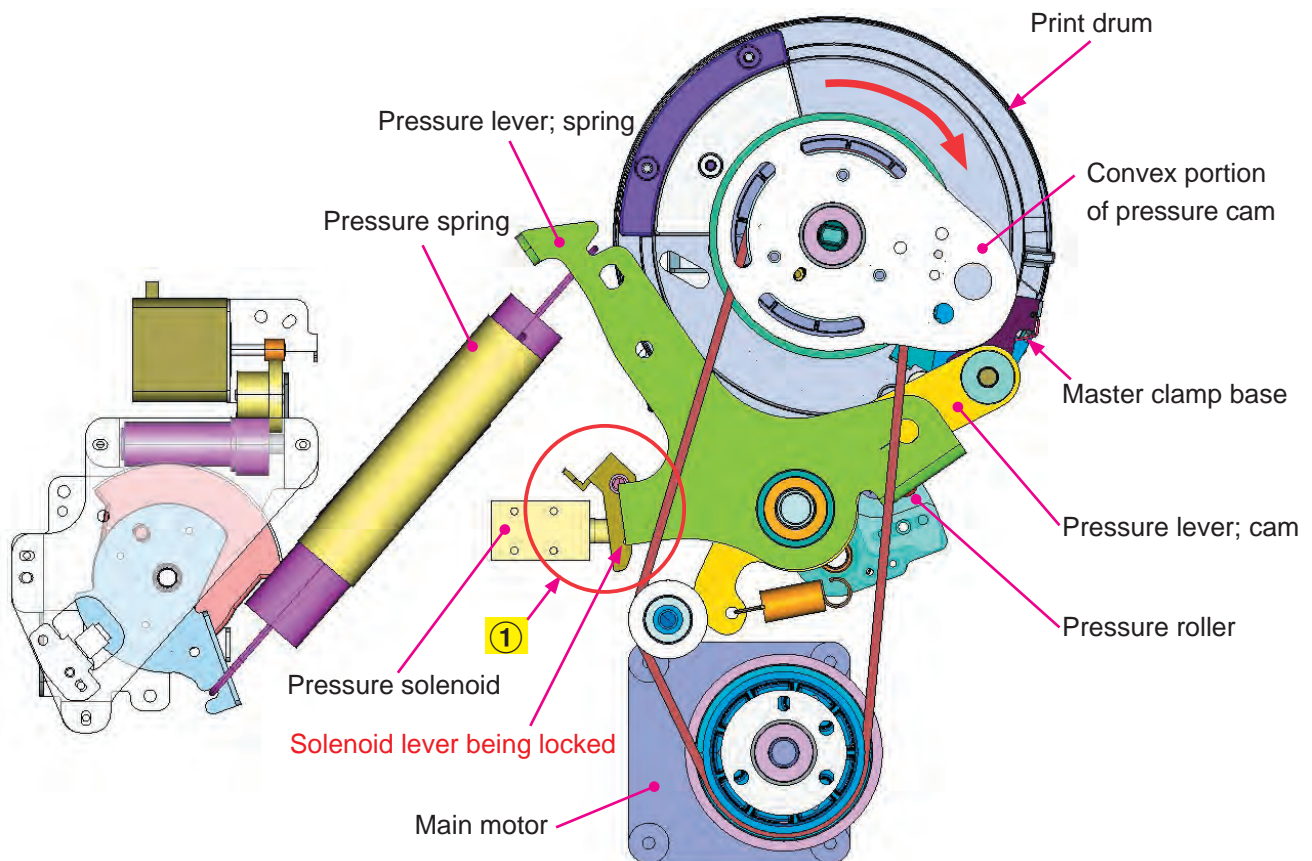
The printing is performed by the Print drum, paper and the Pressure roller, while the printing pressure is determined by the Pressure spring and the Print pressure control pulse motor. Executing the print or not is switched by ON/OFF of the pressure solenoid.

Unlike the seamless print drum on a copier machine, the Print drum on a digital duplicator has a clamp plate holding the leading edge of a Master material which the Pressure roller needs to clear away during the printing process. The convex portion of the Pressure cam determines the timing for pressure roller to clear away from the clamp plate portion of the Print drum.

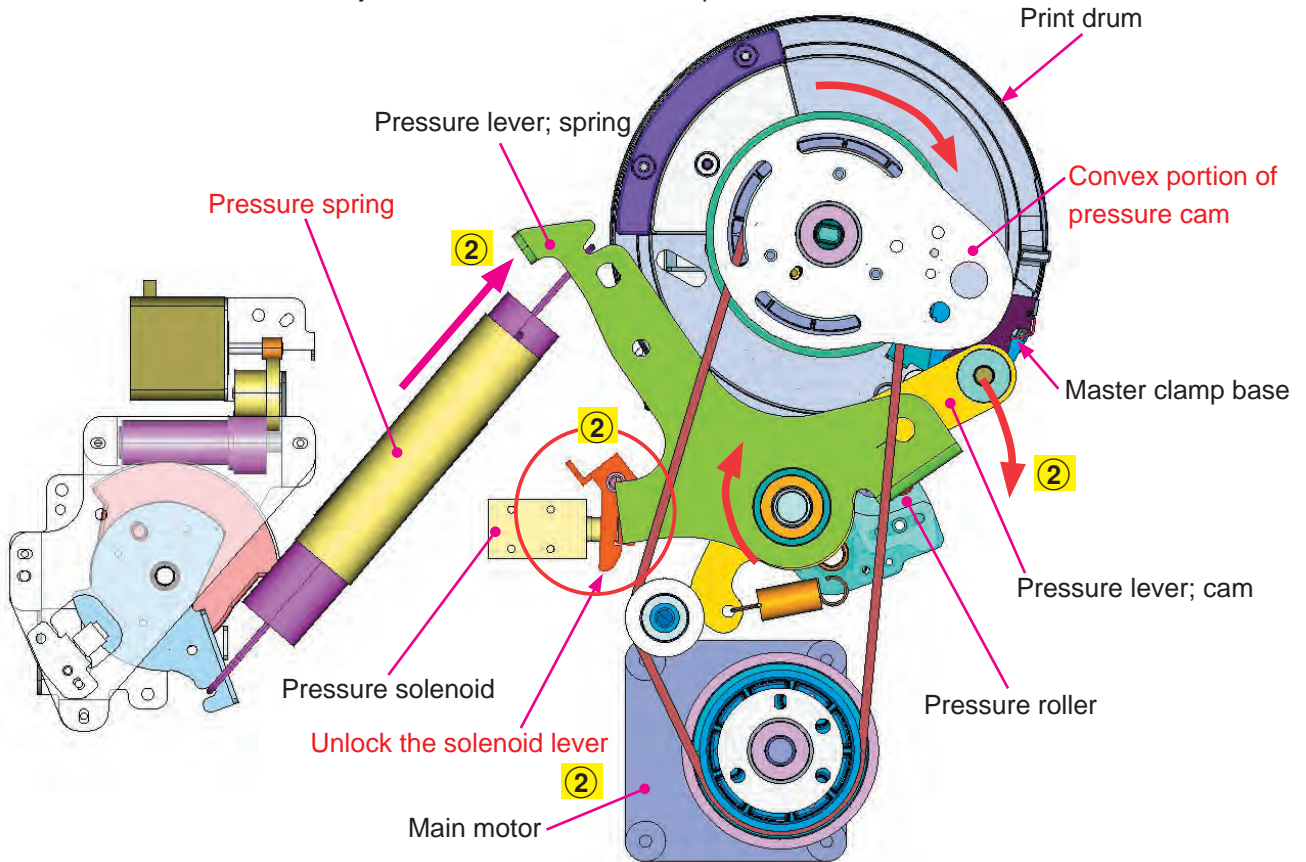
The drive source of the Print drum rotation is the Main motor.

The numbers in circle on the sketches correspond to the explanation which follows for the next several pages.

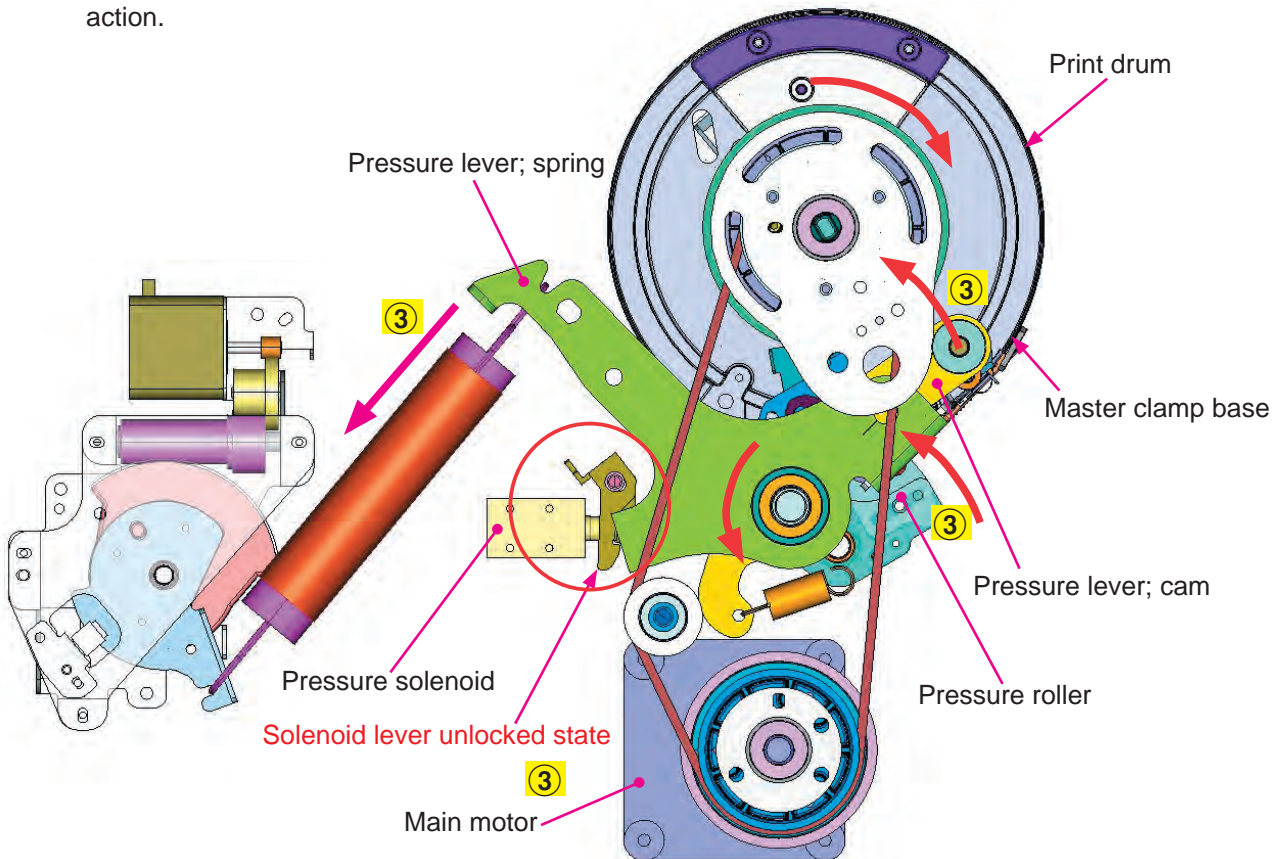
- ① The preparation stage of the pressing action. When printing operation is started and the Main motor is turned ON, the pressure solenoid is turned ON. However, the "Solenoid lever" is still locked and the Pressure roller does not yet come in contact with the Print drum.



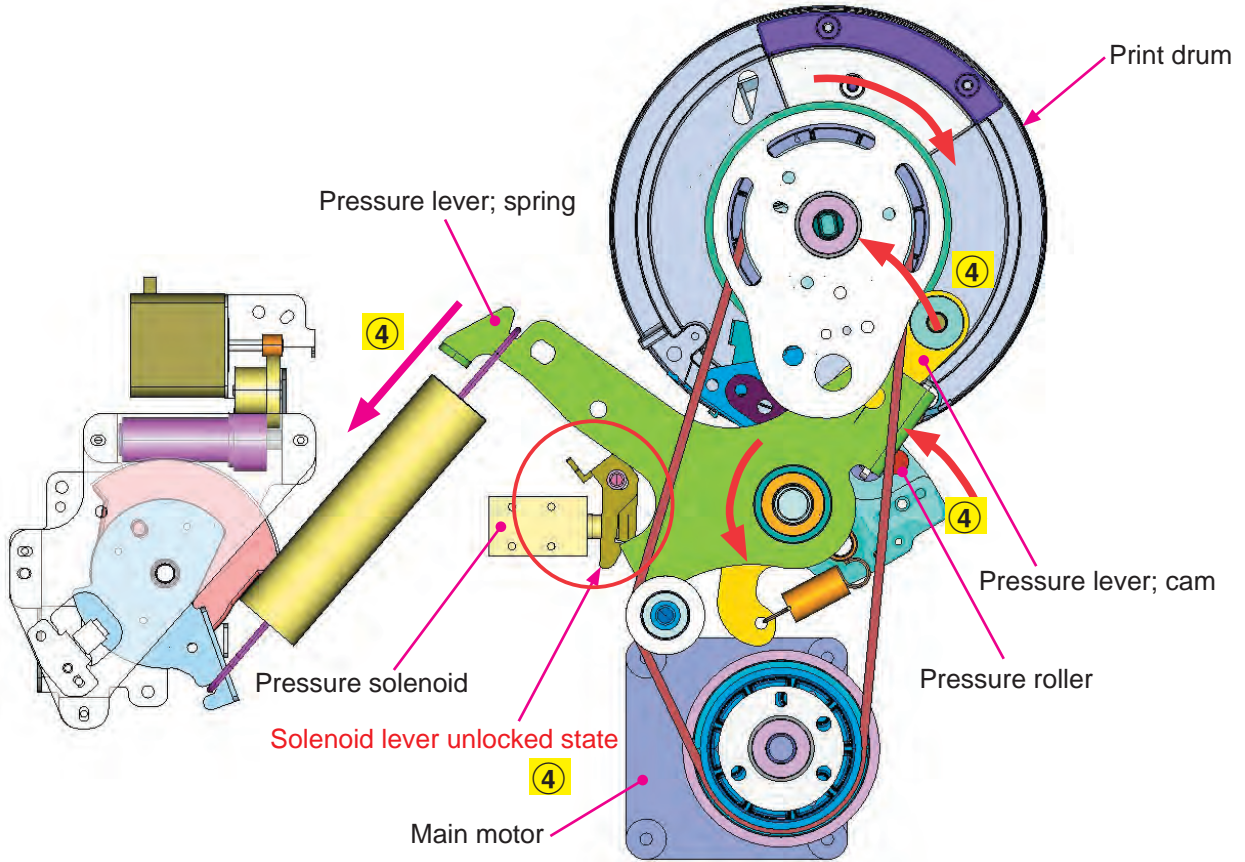
- ② The secondary preparation stage of the pressing action. The Print drum rotates, and the "Convex portion of pressure cam" pushes the "Pressure lever; cam" to unlock the "solenoid lever". The Pressure roller is ready to come in contact with the print drum.



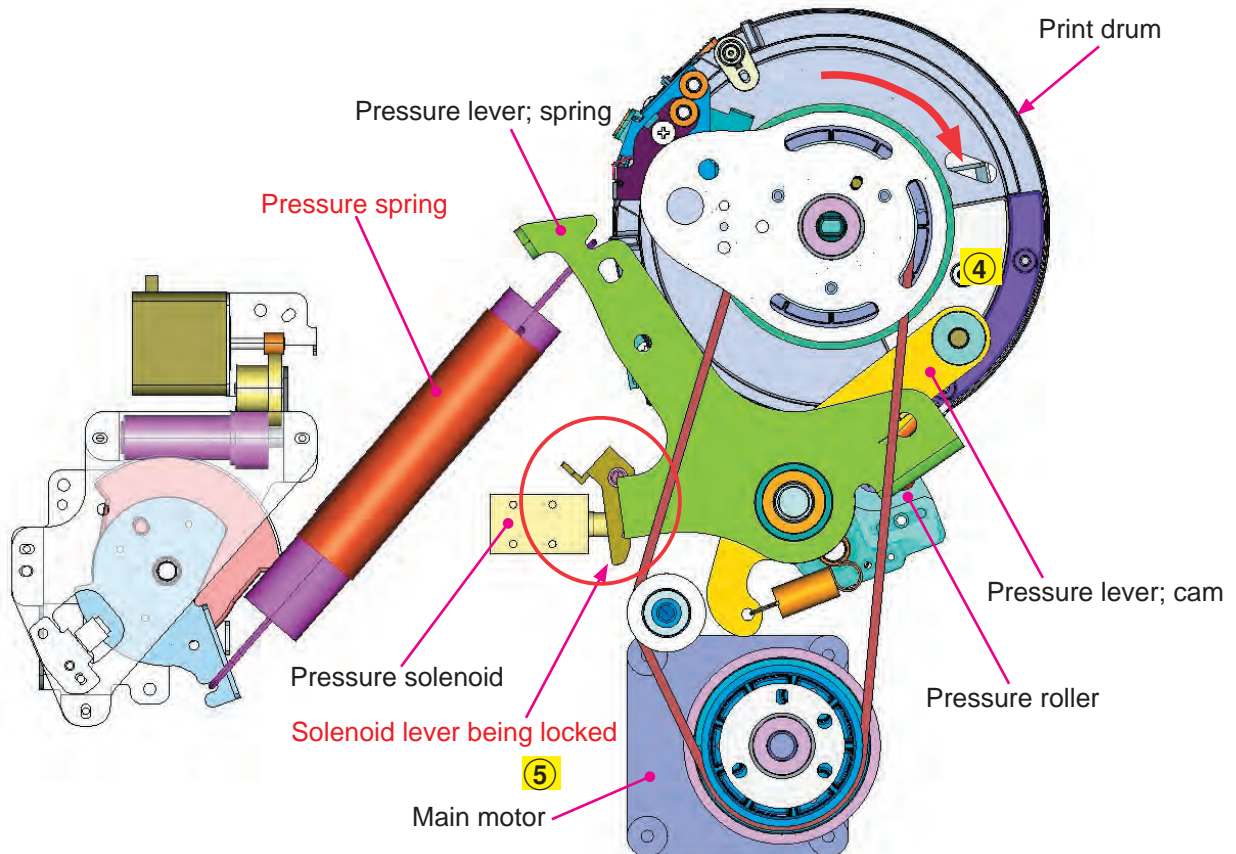
- ③ The pressing action. As the print drum rotates, the "Pressure lever; cam" follows the external shape of the "Convex portion of the pressure cam" and swings. The pressure spring pulls up the Pressure roller to contact against the Print drum to make the press action.



- ④ During printing. The Pressure roller is still in contact with the Print drum. In order to prevent the Pressure roller from coming in contact with the Clamp plate base of the Print drum, the “Convex portion of pressure cam” pushes the “Pressure lever; cam” to end the pressing operation (state ②). The Pressure solenoid remains ON.



- ⑤ After Printing. When the Print drum reaches the specified angle, the Pressure solenoid is turned OFF and the conditions return to the state ①.

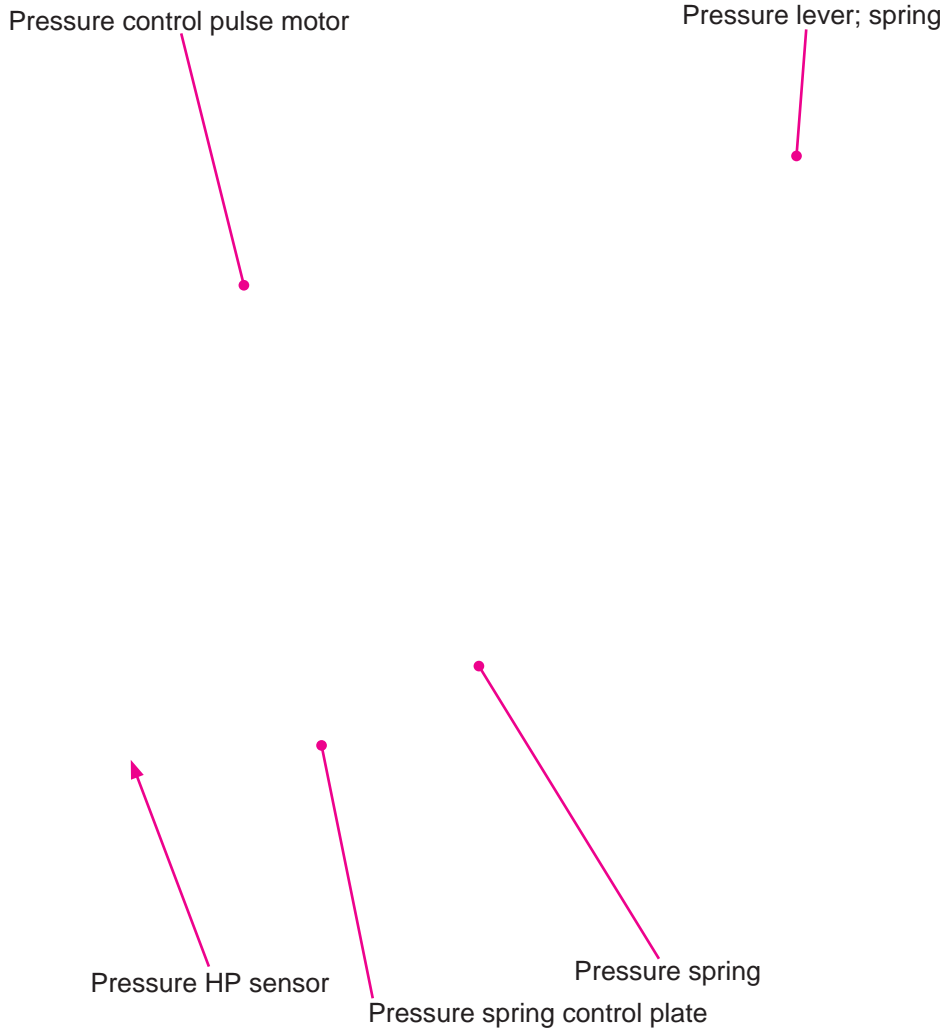




### 1-2. Pressure Control Mechanism

Press <←> or <→> key of the print density on the panel, and press the <START> key to start printing. The "Print pressure control pulse motor" changes the position of "Pressure spring control plate", and then the print pressure is controlled by the length of pressure spring. When the print pressure is large, the print density becomes higher, and when the print pressure is small, the print density becomes lower. For the print pressure, an appropriate value is selected according to the setting of print speed or print density and the information of ink color, time since the Print drum last operated, and Print drum internal temperature.

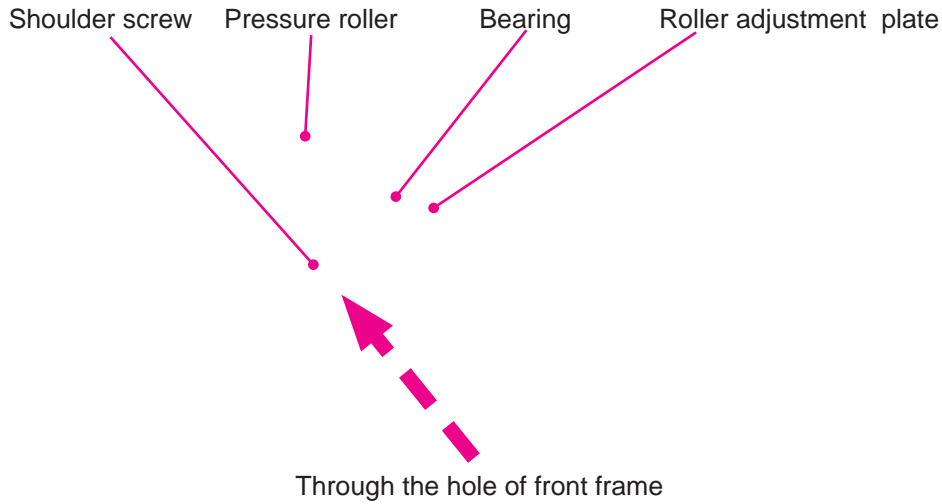
"Pressure HP sensor" confirms the standard position of the print pressure.



## 2. Disassembly

### 2-1. Removing the Pressure Roller

- ① Pull out the Print drum and switch OFF the machine power.
- ② Insert a screwdriver through the hole of the Front frame, and remove the Shoulder screw.
- ③ Slide the bearing of the Pressure roller forward until it is released from the roller adjustment plate and remove the pressure roller upward.

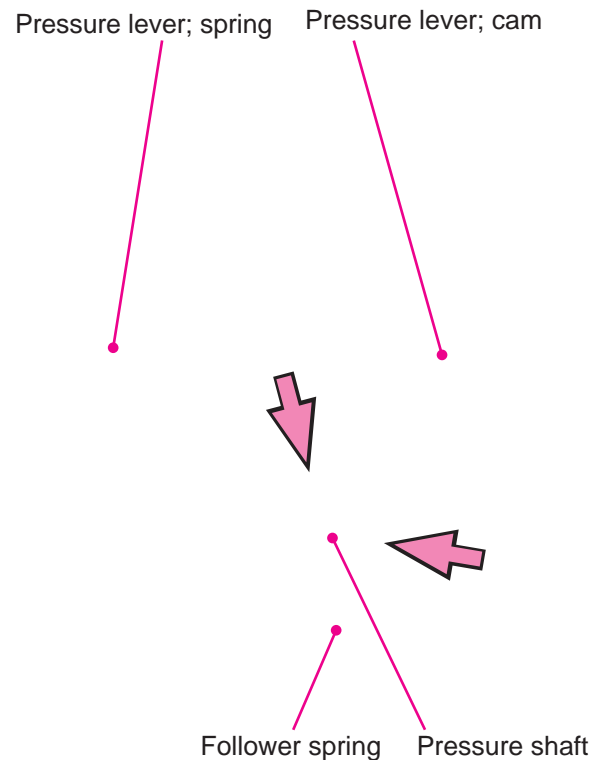


### 2-2. Removing the Pressure Lever Assembly

- ① Remove the Main belt. (Refer to Chapter 3: 2-2.)
- ② Unhook the Follower spring.
- ③ Loosen Cap screws (M6 x 10 screw; 2 pcs), and remove the Pressure lever; spring and Pressure lever; cam from the Pressure shaft.

#### < Precaution in reassembly >

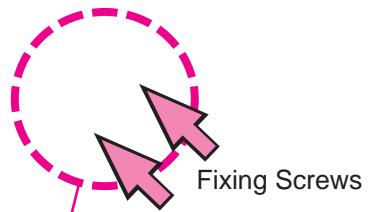
- Make sure to adjust the mounting position of the Pressure lever assembly. (Refer to this Chapter: 3-1.)



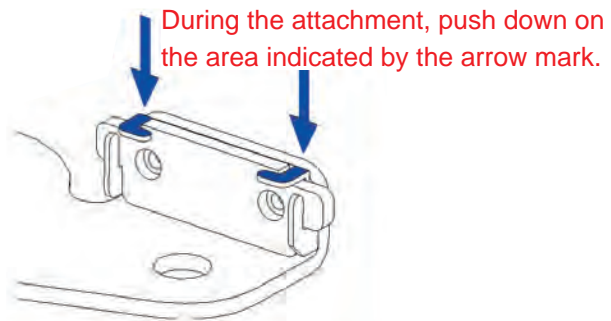
### 2-3. Removing the Pressure Lever Buffer Assembly

- ① Remove the Main cover assembly. (Refer to Chapter 3: 2-2.)
- ② Remove the fixing screws (M3×6 screw; 2 pcs) and the pressure lever buffer assembly.

Pressure lever; spring



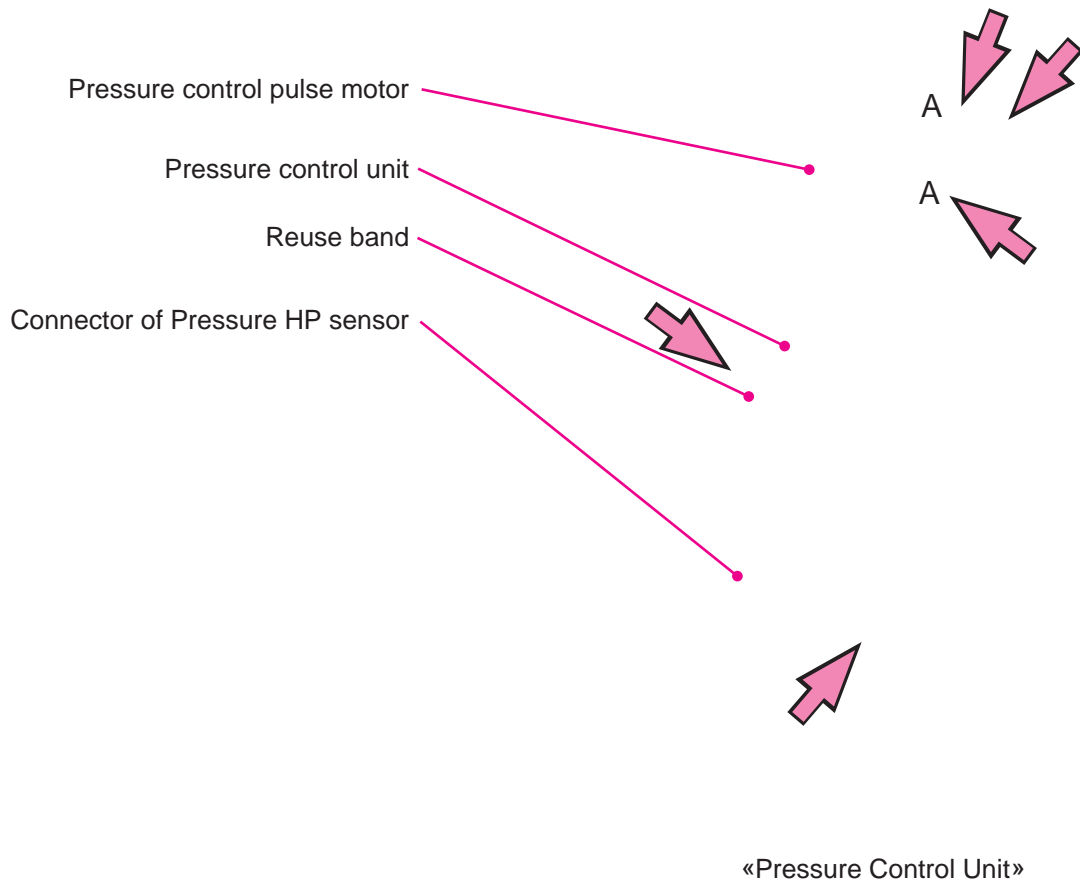
The following instruction is to prevent the Pressure lever buffer assembly from touching against the machine rear sub-frame.



«Pressure lever buffer assembly»

## 2-4. Removing the Pressure Control Pulse Motor

- ① Turn OFF the power, remove the rear cover and open the power supply assembly. (Refer to Chapter 1.)
- ② Remove the Pressure spring. (Refer to Chapter 3: 2-1.)
- ③ Unplug the connector from the Pressure HP sensor and remove the Reuse band.
- ④ Unplug the connector from the Pressure control pulse motor.
- ⑤ Remove the pressure control unit. (round tip IT3C4×8 screw; 3 pcs)
- ⑥ Remove the pressure control pulse motor. (round tip IT3C3×6 screw; 2 pcs) (arrow A on photo)



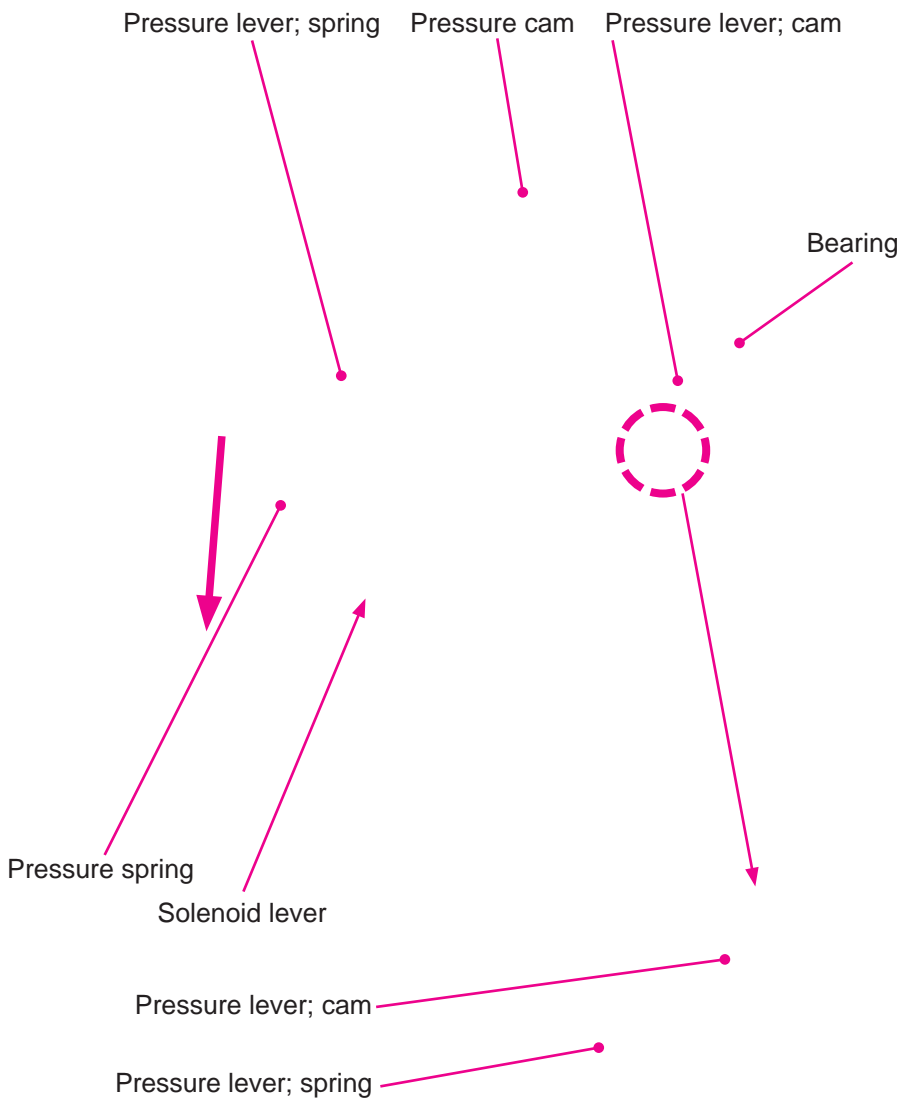
### 3. Adjustment

#### 3-1. Assembly Procedure of the Pressure Lever Assembly

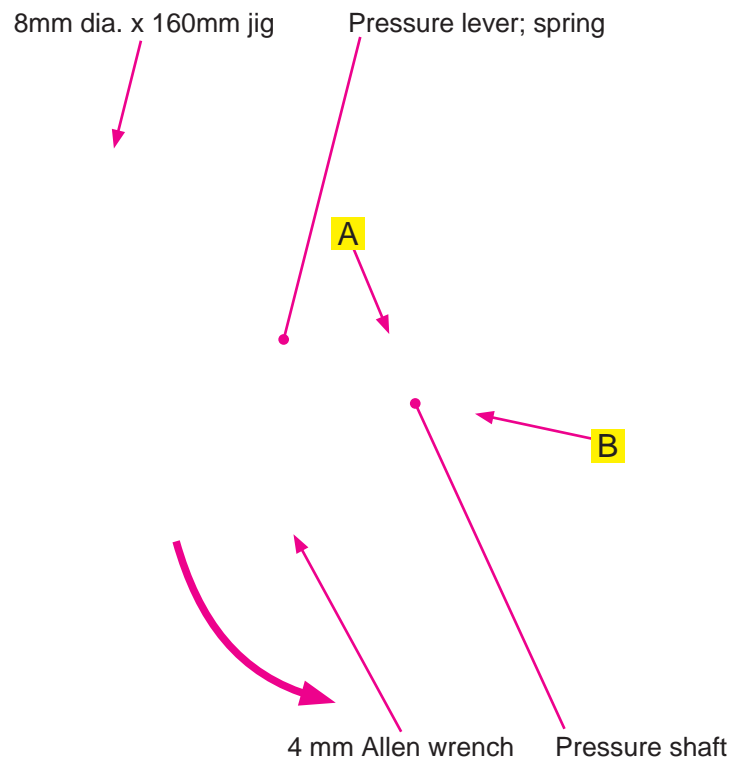
##### Confirmation method

\* The adjustment must always be carried out in the position-B.

- ① Turn OFF the power, remove the rear cover and open the power supply assembly and the MAIN-SYSTEM-PCB assembly. (Refer to Chapter 1.)
- ② Remove the Main cover assembly. (Refer to Chapter 3: 2-2.)
- ③ Hang the pressure spring on "Pressure lever; spring".
- ④ Unlock the Solenoid lever, lower the "Pressure lever; spring" by hands, and make the Pressure roller come in contact with the Print drum.
- ⑤ When the bearing of "pressure lever; cam" is in contact with the bottom section of the Pressure cam, make sure that the engraved line on the "Pressure lever; spring" is in between the two engraved lines on the "Pressure lever; cam".



- ⑥ If step ⑤ is out of the specification range, remove the Pressure spring and loosen the two Cap screws on the Pressure lever; spring.
- ⑦ Arrange the phase alignment holes for the Pressure lever; spring and sub-frame on the same line, and then insert the 8mm-diameter jig.
- ⑧ Insert 4 mm allen wrench into the hole on the Pressure shaft and rotate in the direction of the arrow mark (counter clockwise) and tighten the cap screws (2 pcs) of the Pressure lever; spring while pressing the Pressure roller lightly against the print drum.  
While tightening the Cap screws, push the Pressure lever; spring towards the machine frame.  
Tighten Cap screws A first and then B.
- ⑨ Recheck whether the Pressure lever; spring is attached in a correct position or not by repeating steps ③ to ⑤ on the previous page and if the position is still incorrect, repeat the adjustments listed from ⑥ to ⑧ on this page.



### Symptoms

- If the engraved line on the “Pressure lever; spring” is shifted to the left of the correct position, the print pressure will become weak and there is a possibility of light print density. Also, due to the Timing shift of the up/down movement of the Pressure Roller, ink leakage may occur.
- If the engraved line on the “Pressure lever; spring” is shifted to the right of the correct position, the releasing amount of the Pressure roller to the Clamp base of the Print drum will not be large enough to prevent the Pressure roller from contacting the Clamp plate base, and damage to the Clamp plate base may occur. Also, due to the timing shift of the up/down movement of the Pressure Roller, ink leakage may occur.

[Type of pressure spring and compatible models]

Red mark: RZ3, RZ5

Green mark: RZ4, RZ6, RZ7/9, SD5/6, SE6/9, SF5\*3/5\*5/9 Series

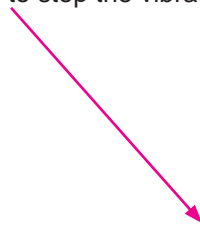
Black mark: MZ7/9, MD5/6

Mark



The function of the Pressure Spring Silencer:

To reduce the sound and to stop the vibration of the spring.



# MEMO



# CHAPTER 8: Paper Ejection Section

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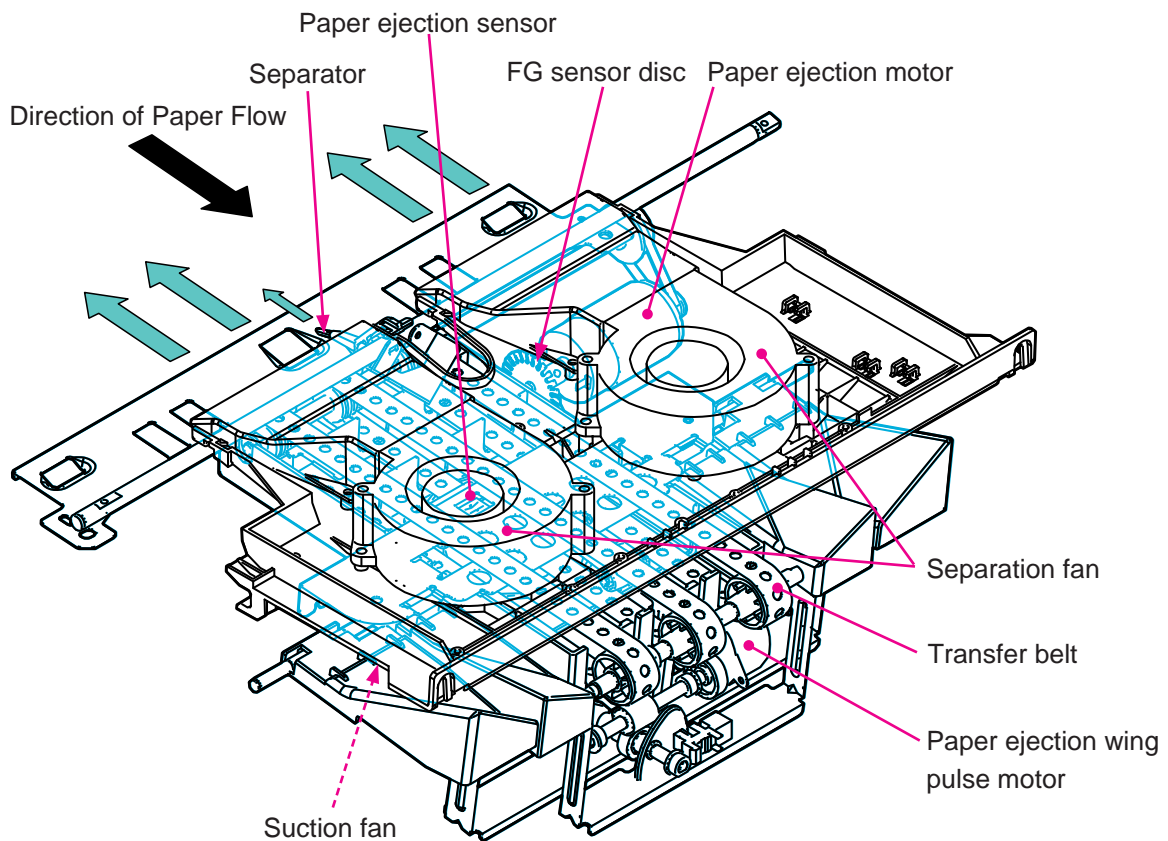
## 1. Mechanism

### 1-1. Paper Ejection Mechanism

The printed paper is separated from the Print drum, and then ejected and stacked on the Paper receiving tray. Paper alignment is important at this part.

The paper is separated from the print drum using the following mechanisms.

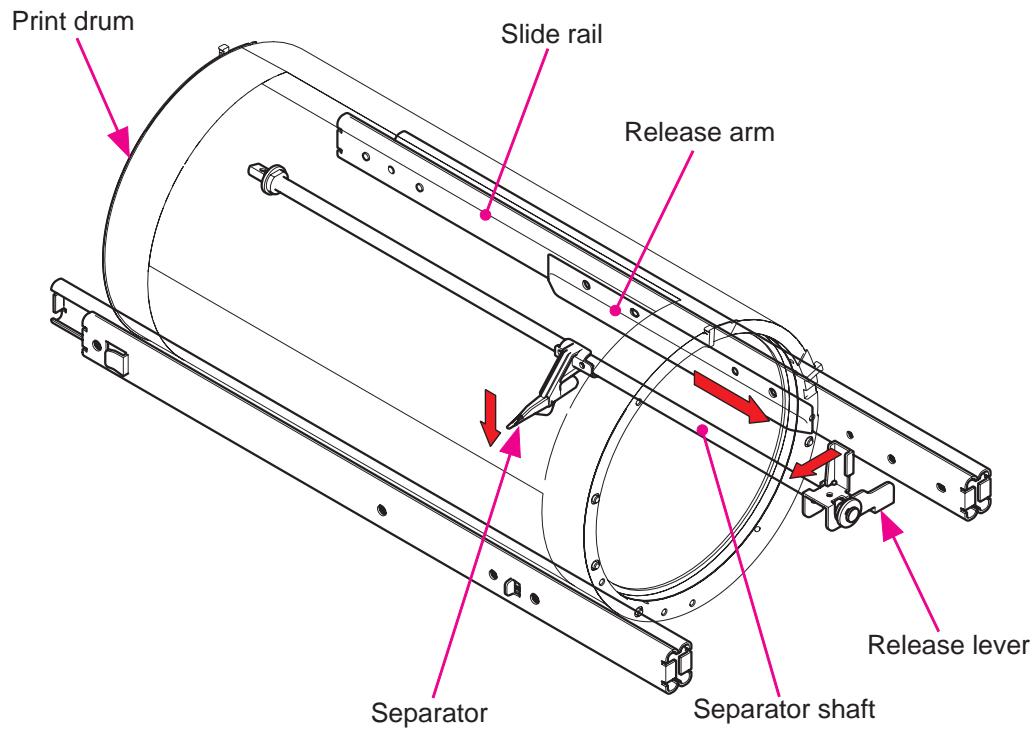
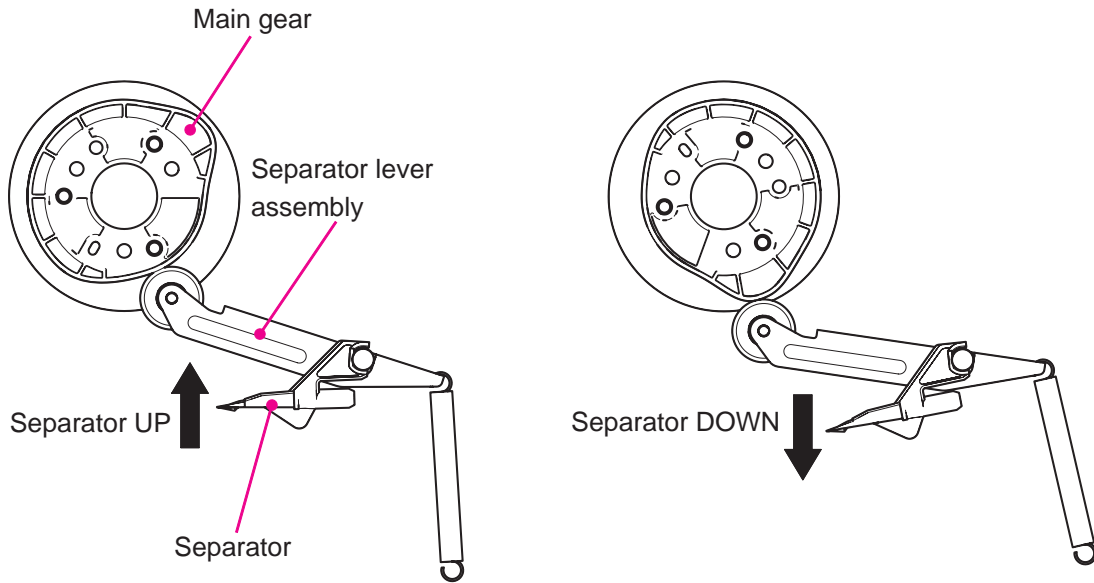
- (1) Separator
  - (2) Compressed air ejected out from the separator tip (air blow)
  - (3) Air from separation fan
- Paper is pressed onto the transfer belt by suction fan which is mounted under the Transfer belt, and is transported to Paper receiving tray.
  - Paper ejection sensor confirms that the paper is ejected correctly.
  - The speed of the Transfer belt is made a little bit faster than the peripheral speed of the Print drum to add a slight pulling force on the paper when the paper is being ejected.
  - In order to improve the Paper ejection alignment, the paper shape is controlled by Paper ejection wing mechanism and Paper alignment plate when the paper is ejected.



### 1-2. Separator Mechanism

Separator mechanism retracts the Separator to prevent it from coming in contact with the "Clamp plate base" of the Print drum.

The Separator is positioned close to the Print drum when it separates paper from the Print drum. When the Print drum rotates and the "Clamp plate base" comes close to the Separator, the convex portion of the Separation cam lets the Separator retract to avoid contact with the "Clamp plate base". Also when the Print drum is pulled out, the Release lever is pressed by the Release arm on the slide rail to rotate the Separator shaft, which lets the Separator retract from the Print drum.



### 1-3. Paper-Ejection-Wing Mechanism

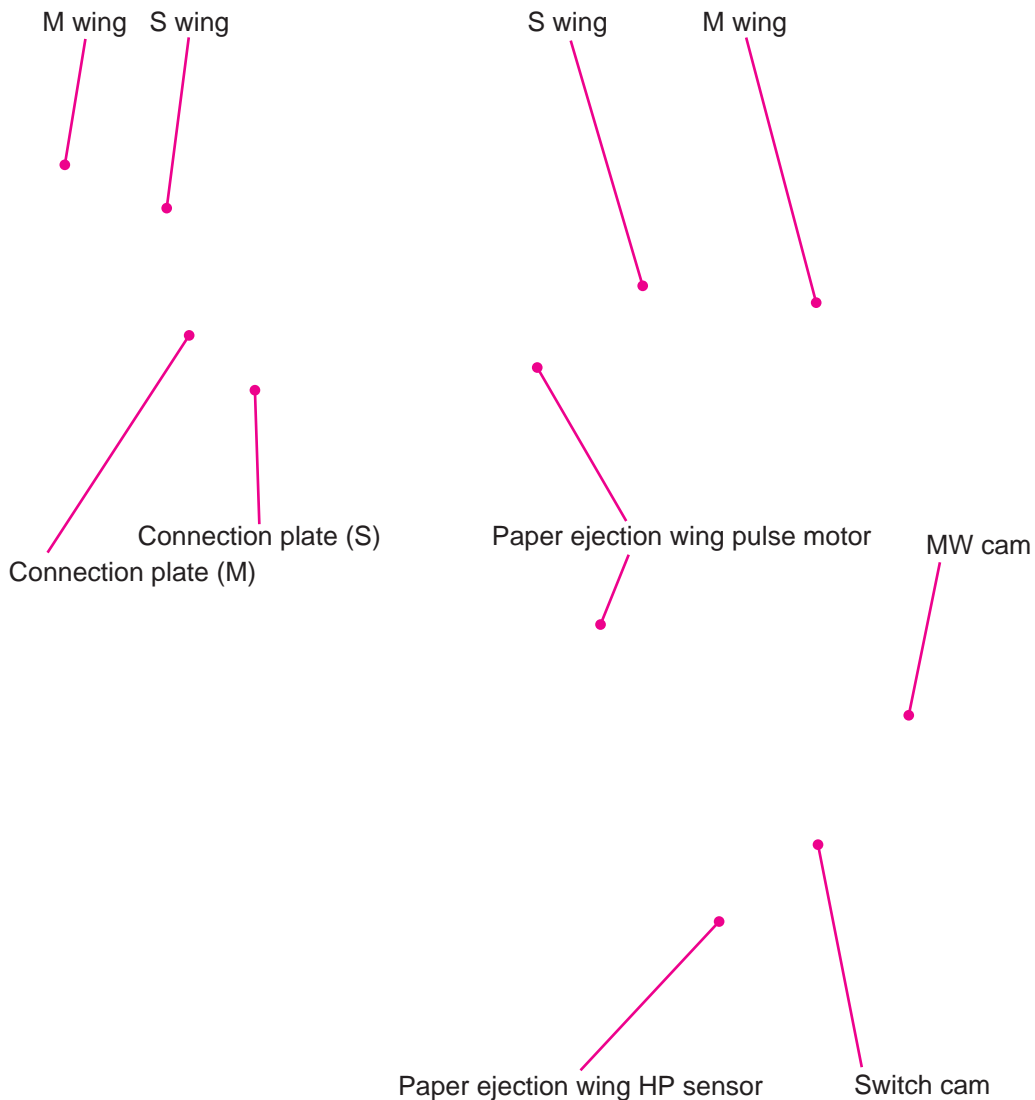
The paper shape will be changed depending on the paper type for printing. The change in the amount of the curve applied on the paper being ejected is controlled by the position of the Paper ejection wings mounted on the left and right of the Paper ejection unit.

**Paper-Ejection-Wing position setting:**

The wing position is set when the Paper ejection wing pulse motor rotates the MW cam and Switch cam. The MW cam moves the Connection plate (M) up and down, which makes the left and right M wings move up and down.

The Switch cam moves the Connection plate (S) up and down, which makes the left and right S wings move up and down.

The Paper ejection wing HP sensor detects the home position of the ejection wing.



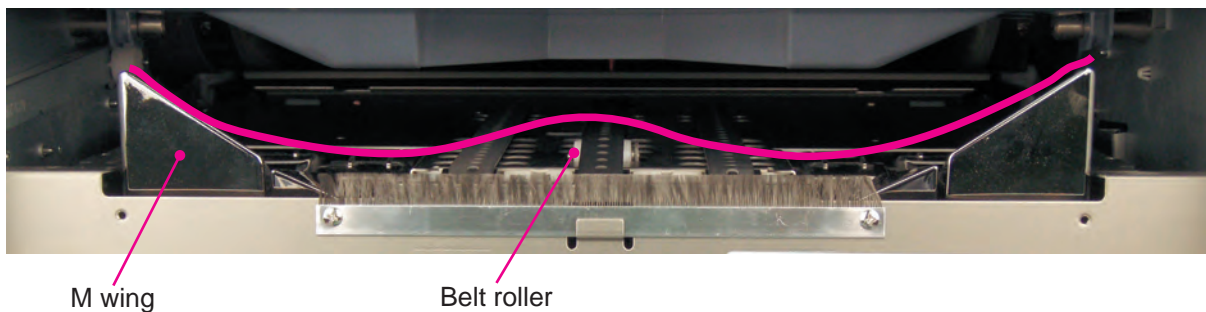
The Paper ejection wing has four positions, (1) through (4) as explained on the next 2 pages. The wing position depends on the paper width size and the Paper feed pressure lever (Normal/Card) position.

The "Special paper feed control" setting has no influence on the Paper ejection wing position.

**Power ejection wing position setting**

**(1) B4 size paper or larger with standard thickness:**

- Paper is ejected as W-shape to make the paper stronger. If the paper is ejected flat, the leading edge of the paper will hang down before arriving at the end fence of the Paper receiving tray, and cause either paper jam or paper ejection alignment problem.
- Both the M wing and Belt roller are raised, and S wing is set low position.
- This wing position is when the Paper feed pressure lever is set to NORMAL and the paper width is B4/Legal or wider. (Equivalent to 1,434 pulses.)



**(2) Smaller than B4 paper with standard thickness:**

- Paper is ejected as U-shape instead of W-shape, because the paper width is narrow.
- Both the M wing and Belt roller is at low position, and S wing is raised.
- This wing position is when the Paper feed pressure lever is set to NORMAL and the paper width is narrower than B4/Legal. (Equivalent to 717 pulses.)



**(3) Card:**

- Paper is ejected flat, because the paper is thick and strong enough, so there is no need to change the paper shape. The role of the paper alignment plate is to delay the fall of the paper by rubbing against the side edges of the paper and by making the paper ejected as U-shape.
- The M wing, Belt roller and S wing are all at low position.
- This wing position is when the Paper feed pressure lever is set to CARD for any paper size. (Equivalent to 0 pulse: Home Position.)



**(4) Custom paper size:**

The parameter setting on test mode No.780 (paper ejection wing position selection) is performed by serviceman. When the serviceman inputs a value on this Test Mode No. 780, the machine operator will be able to select this fixed wing position from the Operation panel of the printer through the [Jump Wing Control] key.

935	525
×	○

Paper ejection wing adjustment on model SF525 is a manual type. The position of the paper ejection wing is set by turning the Paper ejection wing knob. The wing position settings are the same as above (1)~(3).

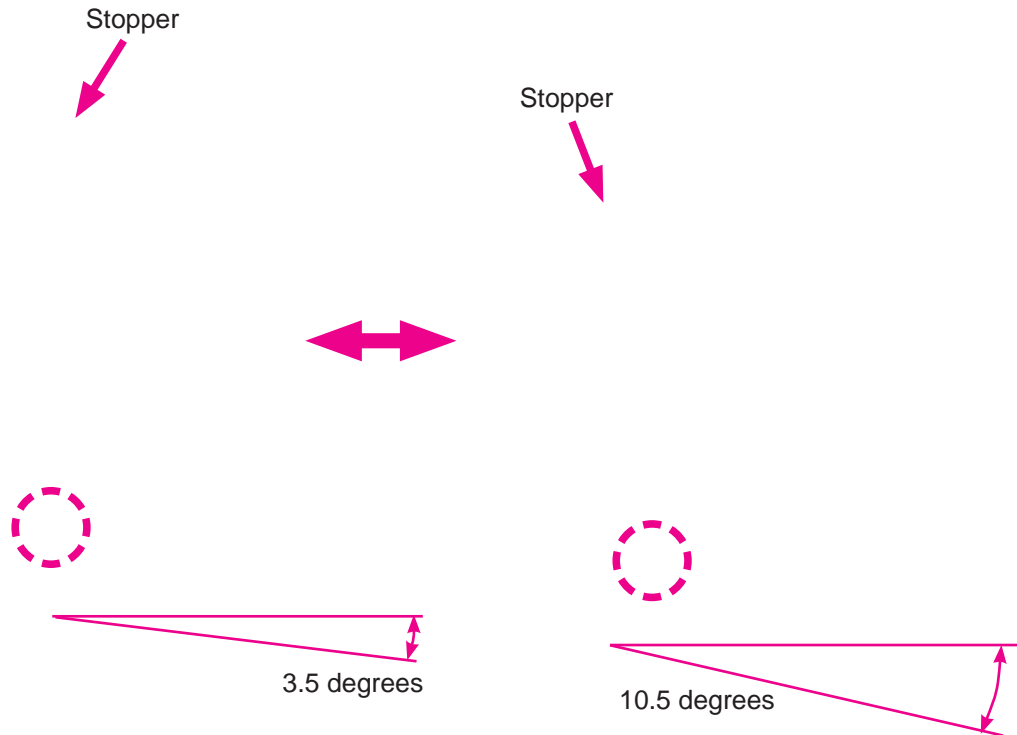
Paper ejection wing knob



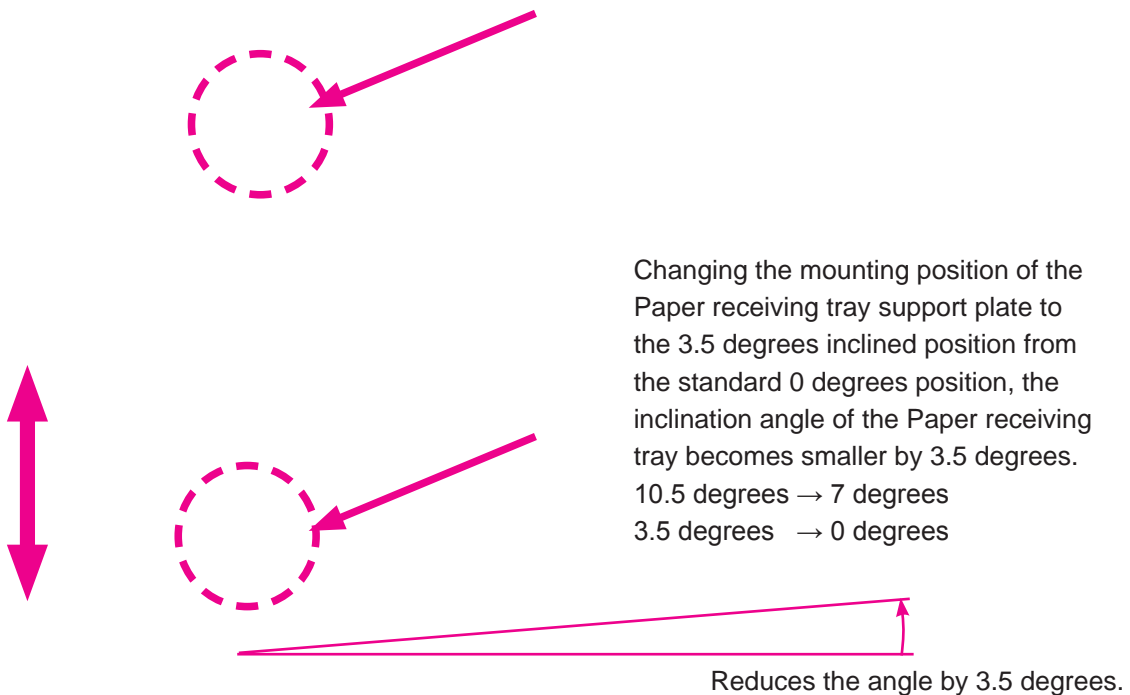
### 1-4. Inclination Mechanism of the Paper Receiving Tray

The standard equipped Paper receiving tray (excludes the optional Auto Control Stacking tray) has a feature to adjust the inclination angle of the Tray depending on the paper receiving condition of the ejected papers.

- When the mounting position of the Paper receiving tray support plate is at a standard position, the operator is able to choose the inclination of either “3.5 degrees” or “10.5 degrees”.



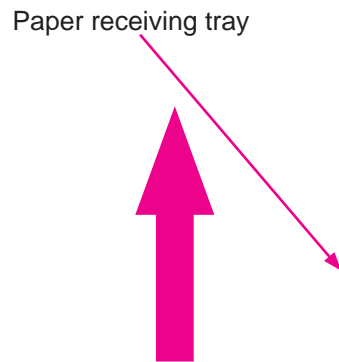
- When the mounting position of the Paper receiving tray support plate is changed to another position, the operator is able to choose the inclination of either “0 degrees” or “7 degrees”.



## 2. Disassembly

### 2-1. Removing the Paper Receiving Tray

- (1) Open the Paper receiving tray to an angle of about 45 degrees and lift it vertically upwards to remove from the machine.



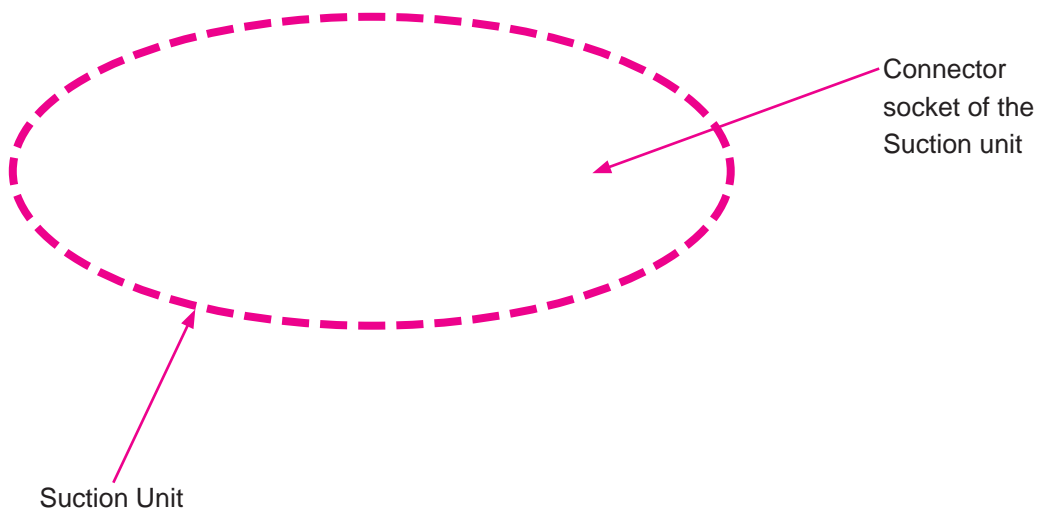


**2-2.Removing the Suction Unit**

- (1) Pull out the Print drum from the machine.
- (2) Switch OFF the machine power and remove the Paper receiving tray. (Refer to 2-1)  
For Model SF525, remove the mounting screw and paper ejection wing knob.



- (3) Remove the Paper ejection cover by removing screws (M4x8 screw; 4 pcs)
- (4) Disconnect the connector, remove the mounting screws (M4x8 screw; 2 pcs), and remove the Suction unit by pulling it out towards you while lifting.



Cutout →

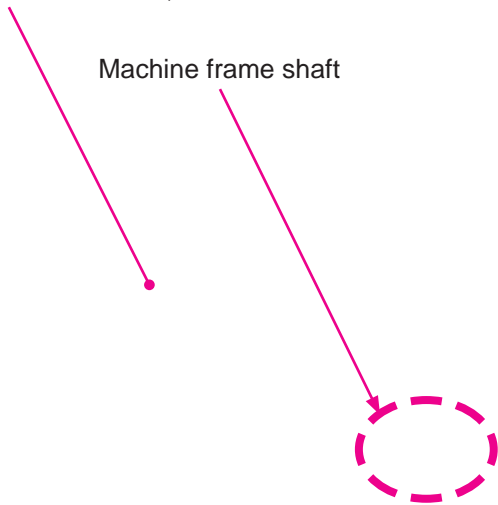
← Cutout

**< Precaution in reassembly >**

- To mount the Suction unit back on the machine, insert the cutouts on the Suction unit (Right and Left) into the shafts on the Front and Rear of the Machine frame.

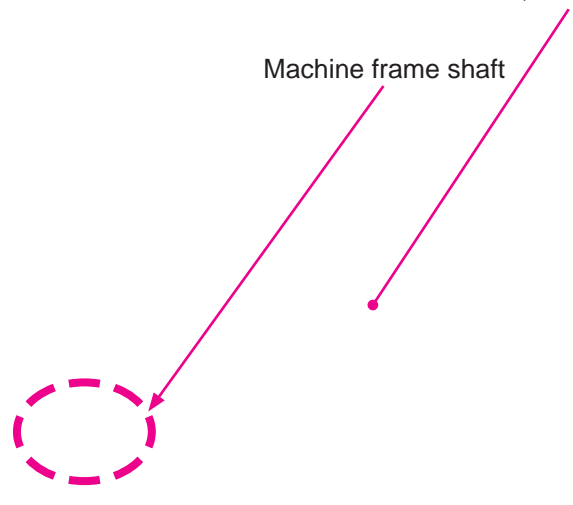
Machine frame; Front

Machine frame shaft



Machine frame; Rear

Machine frame shaft

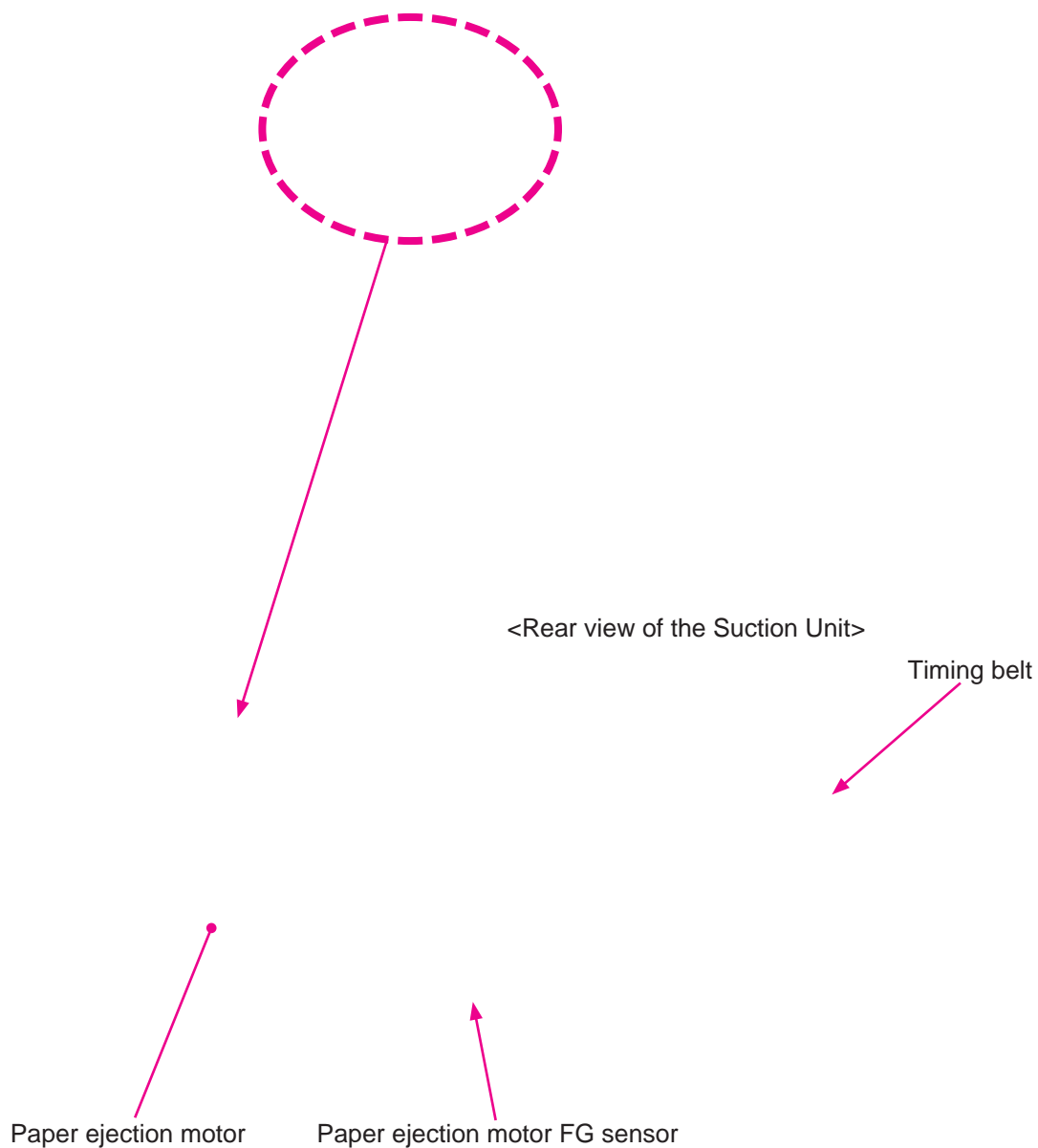


### 2-3. Removing the Paper Ejection Motor and Paper Ejection Motor FG Sensor

- (1) Switch off the machine power and remove following components.
  - Paper receiving tray (Refer to 2-1)
  - Suction unit (Refer to 2-2)
- (2) Remove the Timing belt.
- (3) Remove screws (M4 x 5 screw; 2pcs), disconnect the connector and remove the Paper ejection motor.
- (4) Disconnect the connector and remove the Paper ejection motor FG sensor.

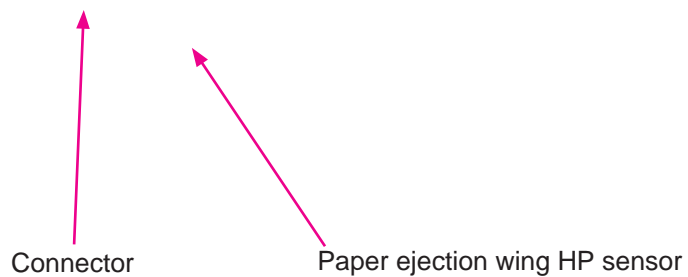
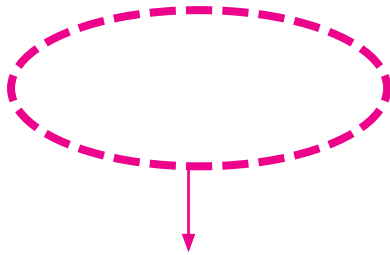
< Precaution in reassembly >

When mounting the Paper ejection motor, adjust the tension on the Timing belt.



**2-4. Removing the Paper Ejection Wing HP Sensor**

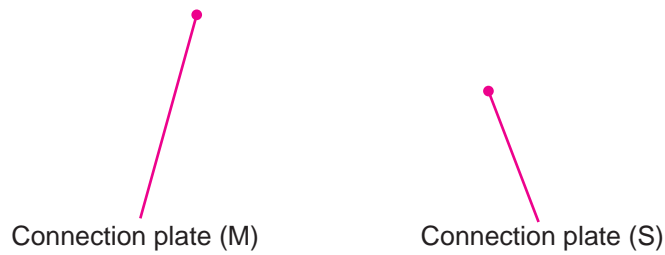
- (1) Switch OFF the machine power and remove following components.
  - Paper receiving tray (Refer to 2-1)
  - Suction unit (Refer to 2-2)
- (2) Disconnect the connector, and remove the Paper ejection wing HP sensor.



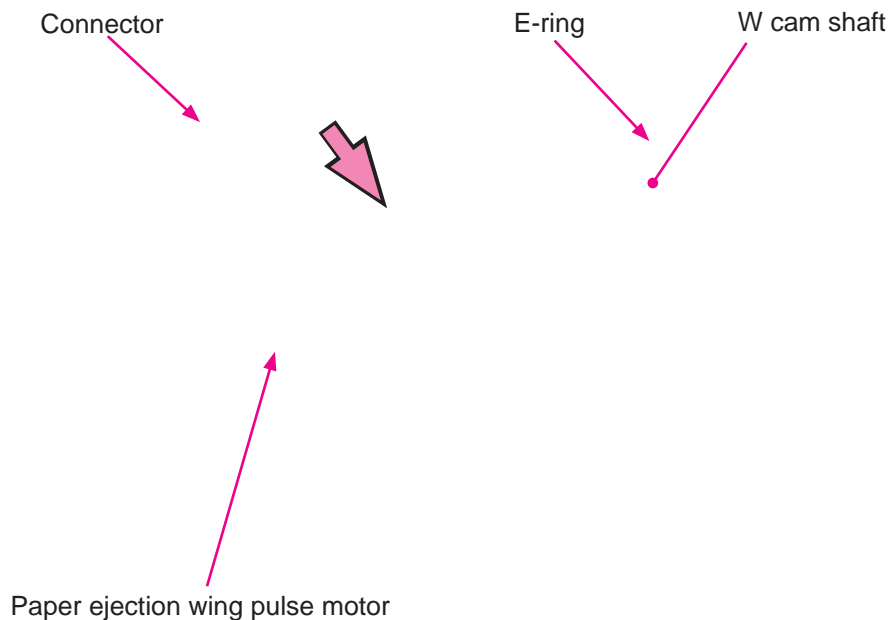
### 2-5. Removing the Paper Ejection Wing Pulse Motor

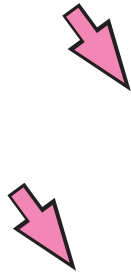
- (1) Switch OFF the machine power and remove following components.
  - Paper receiving tray (Refer to 2-1)
  - Suction unit (Refer to 2-2)
- (2) Remove both the Connection plate (M) and Connection plate (S) by removing screws. (M3x10 screw; 2 pcs each)

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○	×



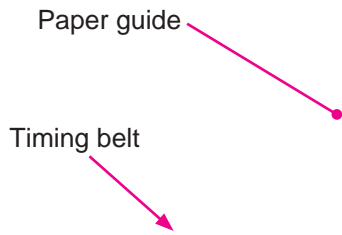
- (3) Remove E-ring and remove the W cam shaft.
- (4) Disconnect the connector, and remove the Paper ejection wing pulse motor by removing screws (M3 x 8 screw; 2 pcs). (Remove the screw indicated by arrow, because it interferes with the screw driver when trying to access to the mounting screw of the Pulse motor. --(Refer to the photograph on the next page.)





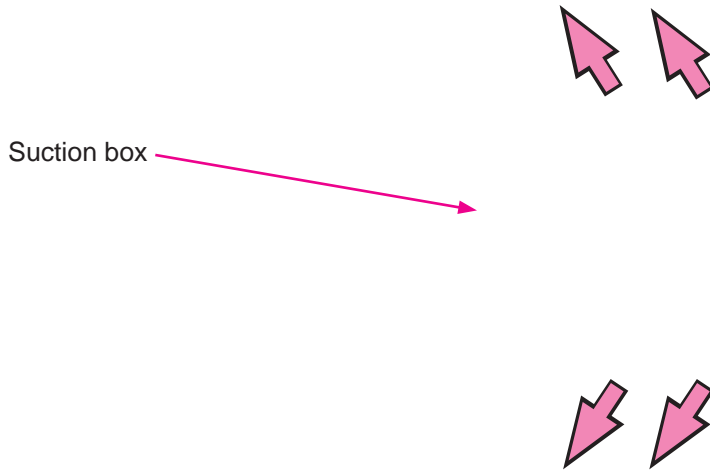
### 2-6. Removing the Transfer Belts

- (1) Switch off the machine power and remove the following components.
  - Paper receiving tray (Refer to 2-1)
  - Suction unit (Refer to 2-3)
- (2) Remove the Timing belt.
- (3) Remove both the Connection plate (M) and Connection plate (S) by removing screws (M3 x 8 screw; 2 pcs each).
- (4) Remove screws (M4 x 8 screw; 4 pcs), disconnect the connector and remove the Suction upper assembly.

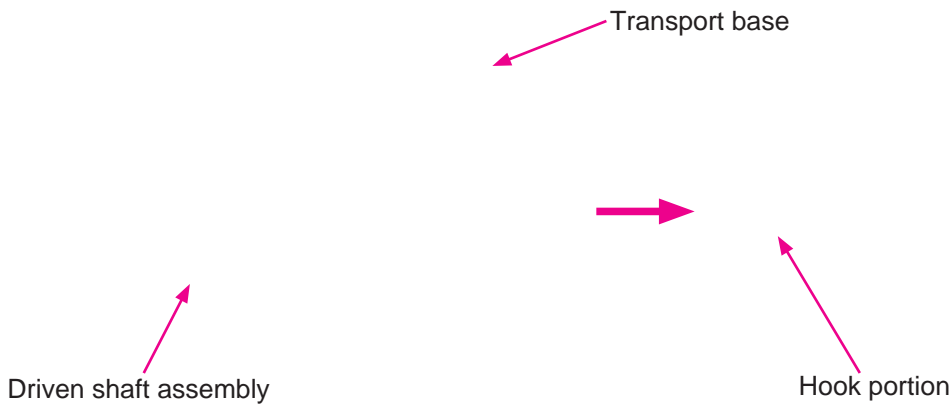


< Suction Upper Assembly >

(5) Remove the Suction box by removing screws (M3 x 8 screw; 4 pcs).



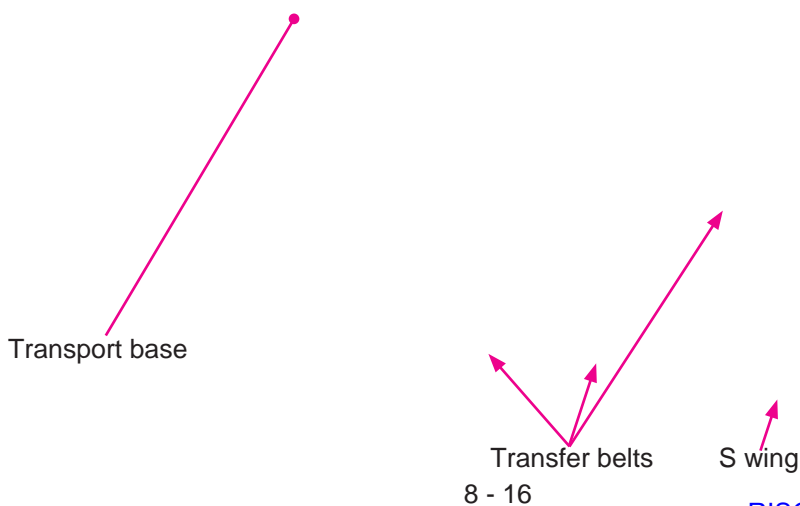
(6) Lift the Driven shaft assembly with a finger, unhook it from the Suction upper assembly and remove the Driven shaft assembly.



(7) Remove the paper guide (M3x6 screw; 2 pcs), put transfer belts in the crevice between S wing and transport base temporarily and remove the Transfer belts.

\* Adjust the mounting position of the paper guide after mounting the Suction unit back on the machine. (Refer to 3-3)

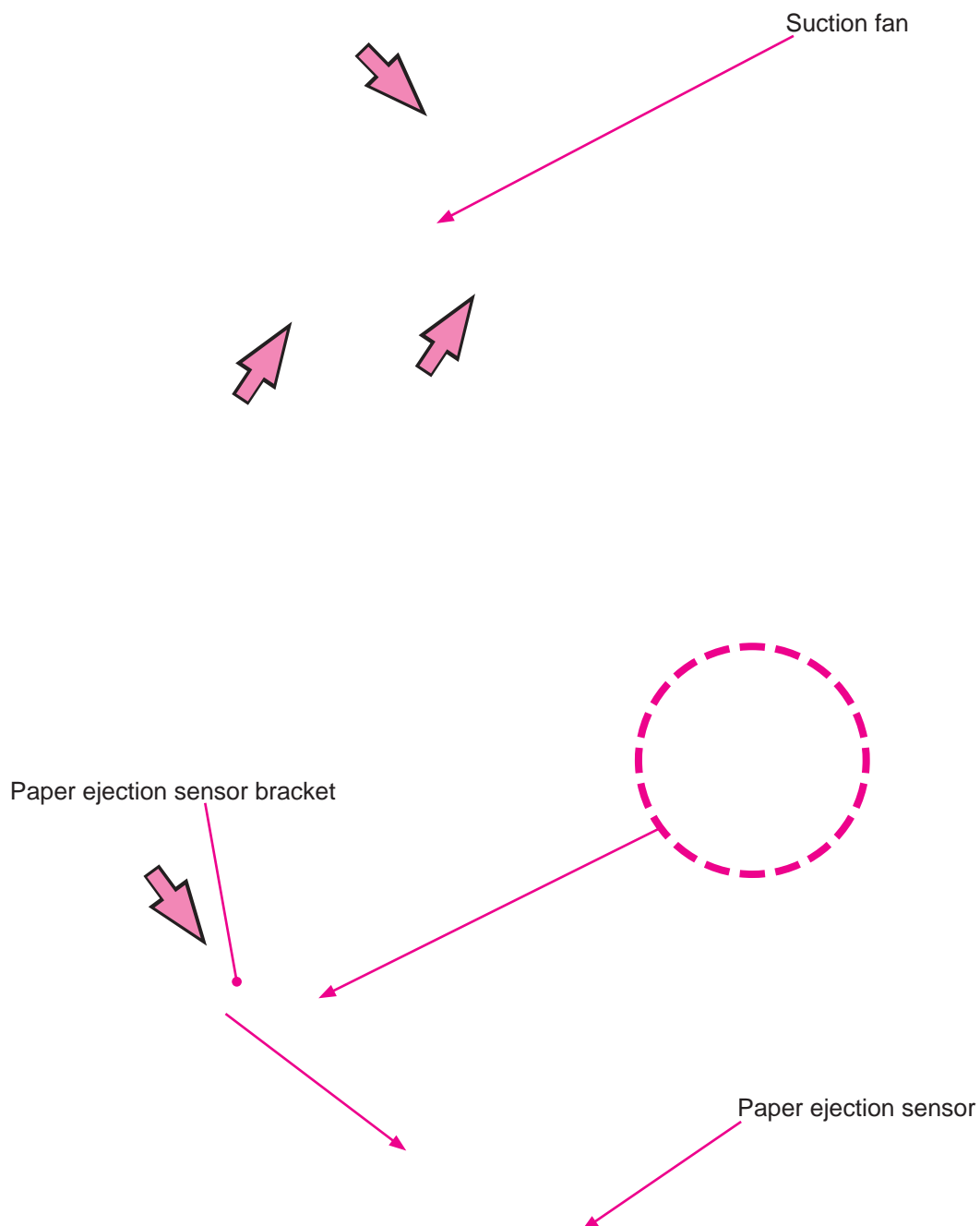
\* Caution: In attaching the transfer belts, the shiny side of the belt should face outside.





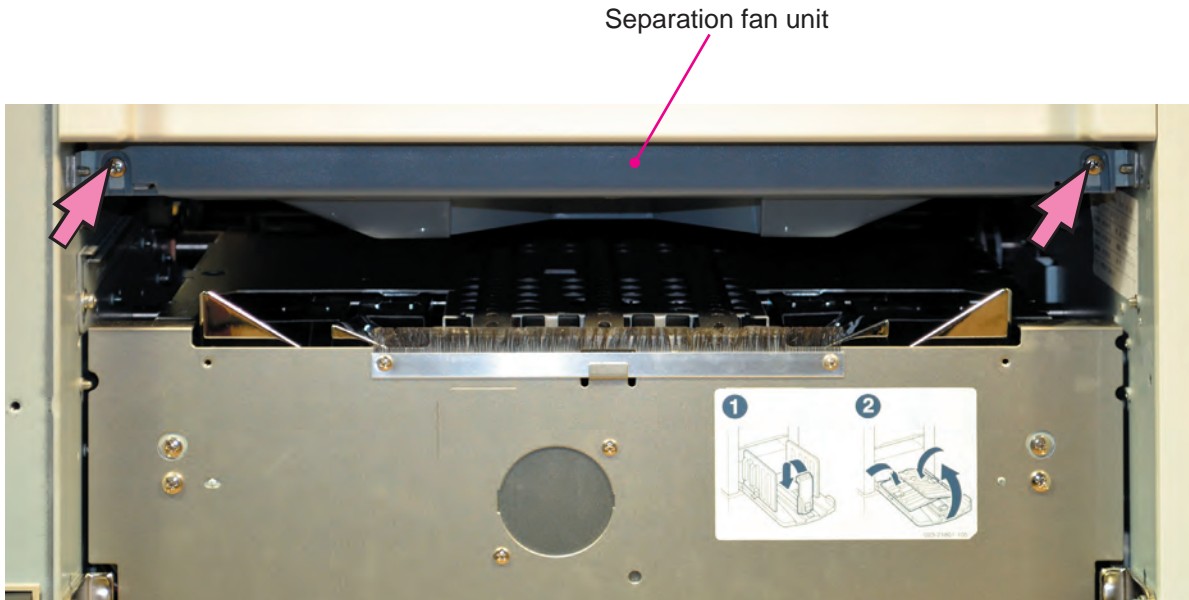
## 2-7. Removing the Paper Ejection Sensor

- 1) Switch OFF the machine power and remove the following components.
  - Paper receiving tray (Refer to 2-1)
  - Paper ejection cover
  - Suction unit (Refer to 2-2)
- 2) Remove the Suction fan by removing screws (M4 x 40 screw; 3 pcs).
- 3) Remove the mounting screw (M3x6 screw; 1 pc), disconnect the connector and remove Paper ejection sensor together with the Paper ejection sensor bracket.



## 2-8. Removing the Separation Fan Unit

- (1) Switch OFF the machine power and remove the Paper receiving tray. (Refer to 2-1)
- (2) Remove the mounting screws (M4×8 screw; 2 pcs), disconnect the connector and remove the Separation fan unit.



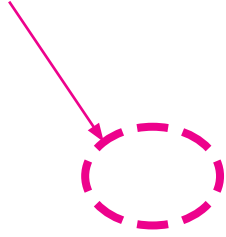
Connector

<Separation Fan Unit>

### < Precautions in Reassembly >

- Insert the cutouts on the Separation fan unit into the shafts on the left and right side of the Machine frame. (Refer to the next page.)
- Fit the flat pins on the Machine frame into the small rectangular holes on the far right and left of the Separation fan unit to mount the Separation fan unit on the machine. (Refer to the next page.)

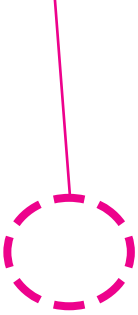
Machine frame: front shaft



Machine frame: rear shaft



Cutout



Cutout



< Cutout hooked on the shaft.>

<Separation Fan Unit>

Flat pins on the machine frame are inserted through the rectangular holes on the Separation fan unit.



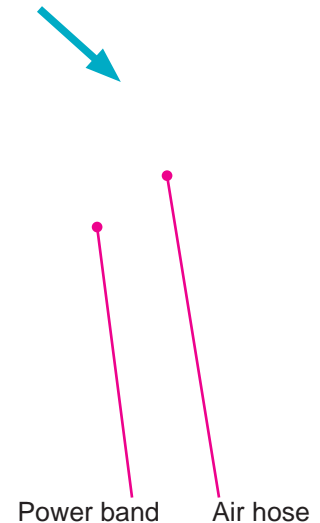
## 2-9. Removing the Separator

- (1) Switch OFF the machine power and remove the following components.
  - Paper receiving tray (Refer to 2-1)
  - Separation fan unit (Refer to 2-9)
- (2) Slide the power band away from the Separator, and pull the Air hose off the Separator.
- (3) Remove the mounting screws (M3×6 screw; 2 pcs) and remove the Separator.

### <Precautions in Reassembly>

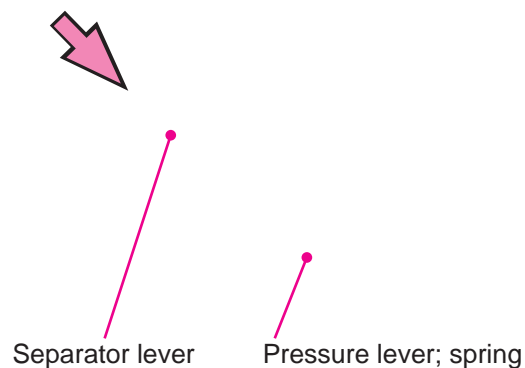
- The knobs on the Power band should face towards you, as shown on the photograph when mounting it on the Air hose.

Separator



## 2-10. Removing the Separation Lever

- (1) Remove the Main drive assembly. (Refer to Chapter 3: 2-3)
- (2) Remove the mounting screw (M3×10 screw; 1 pc) and then remove the Separator lever.

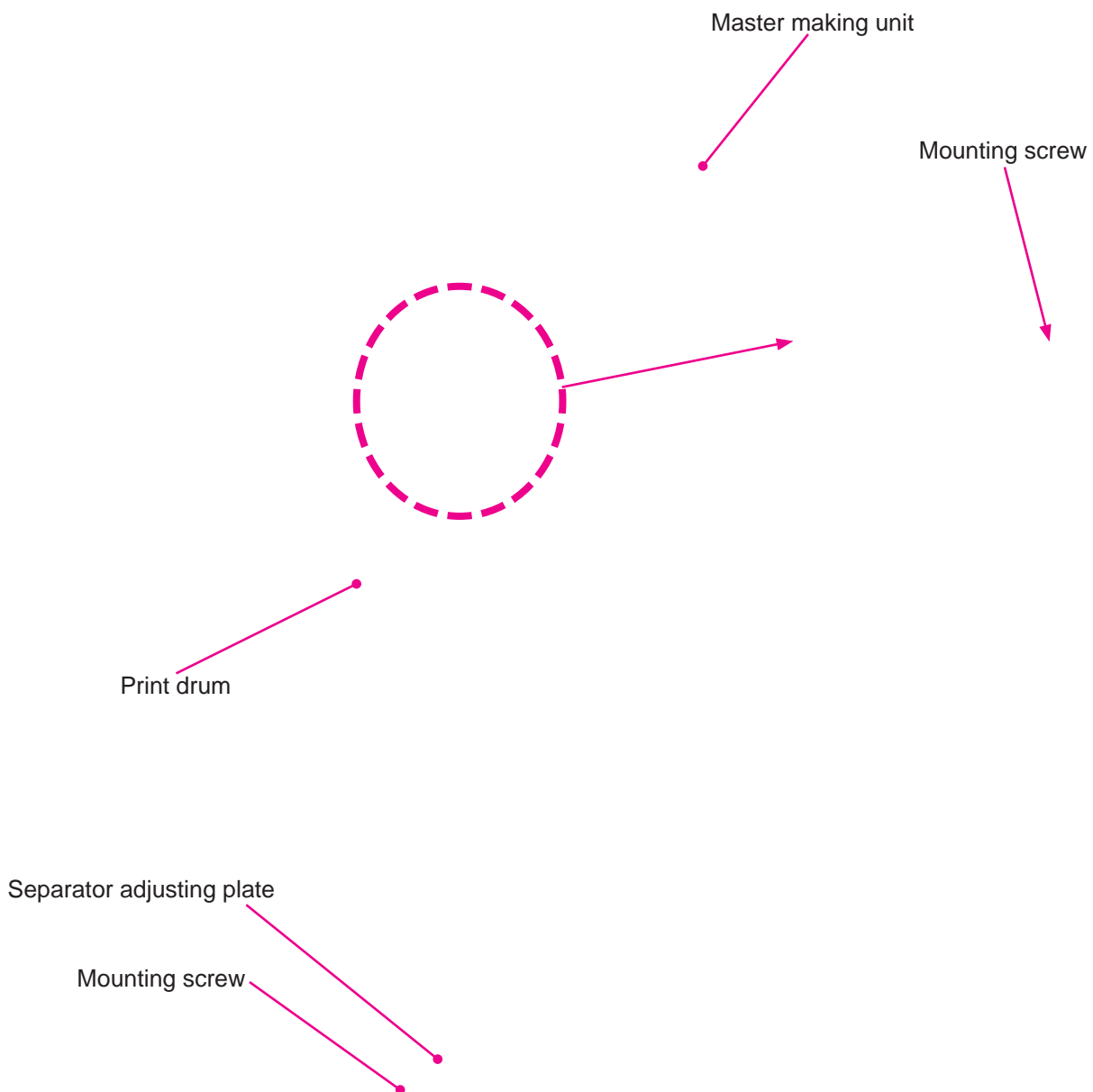


### 3. Adjustment

#### 3-1. Separator Mounting Position

##### Checks and adjustment

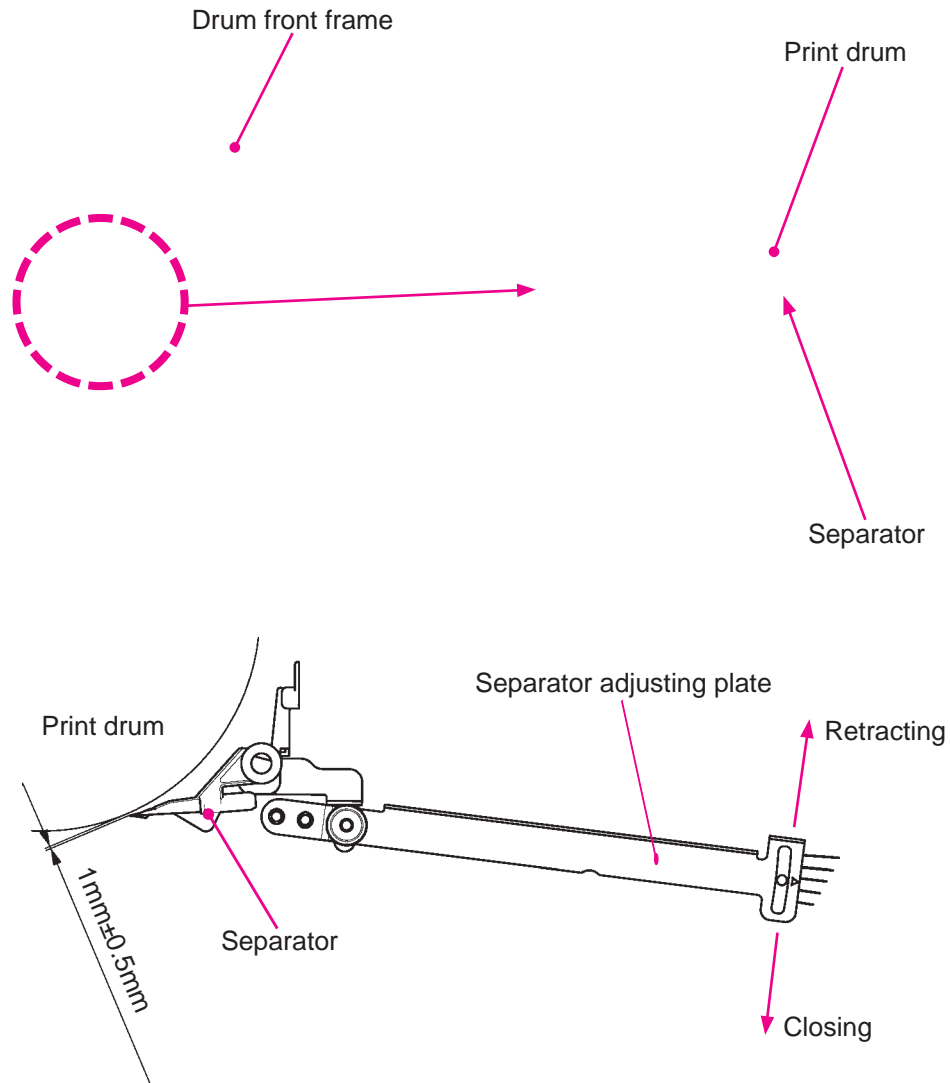
- (1) Using Test Chart No.15, create a Master and make prints. Confirm that no paper jamming occur on the Print drum nor black thin line appear on the prints. (5mm white margin is given on top of the prints to check the paper jamming on the drum).
- (2) If paper jams on the Print drum or a thin black line appears on the prints, remove the Print drum from the machine and remove the Front cover of the Print drum. Return the Print drum back in the machine and switch OFF the machine power.
- (3) Loosen the two mounting screws on the Separator adjusting plate (one located at the right of the Print drum and the other on the Machine frame inside the machine on the paper receiving side).



- (4) Move the Separator adjusting plate up or down to adjust the position of the Separator against the Print drum, looking at the gap between the Print drum and the tip of the Separator through the hole on the front frame of the Print drum. The gap between the Separator and Print drum should be adjusted to the range of 0.5 mm to 1.5 mm. Tighten the two mounting screws.

**NOTE:**

1. Make the adjustment when the Print drum is at Position-B.
2. One scale marking on the Separator adjusting plate changes the Separator position by 1 mm.

**Symptoms**

- If the tip of the Separator touches the Print drum surface, the surface of the master is scratched, causing a black line in the center of the prints.
- If the gap is too wide, the Separator does not lift the paper off the Print drum and causes paper jam on the Print drum.

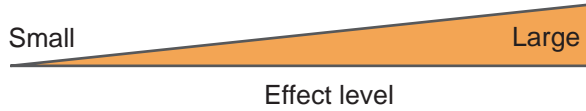
### 3-2. Paper Ejection Setting

#### How to set the Paper ejection adjustments

Select the [Paper Ejection Adjustment] button on the "Special Paper Control" display in the Functions tab screen.

Change the settings accordingly.

#### How to look at the display



		Default				
		OFF	1	2	3	4
■ Separation fan	Paper jam on Print Drum (Thin paper)					
	Paper ejection alignment					
	Ghost Image on TOP					

		Default			
		1	2	3	4
■ Suction fan (This adjustment is not frequently used.)	Paper ejection alignment (Card, etc.)				
	Ghost Image on BOTTOM				

### 3-3. "Paper Guide" Position Adjustment

#### Checks and Adjustment

Purpose: Aligning the gap between the Pressure roller and the Paper guide in a parallel position to achieve stability in the separation of the paper from the Print drum.

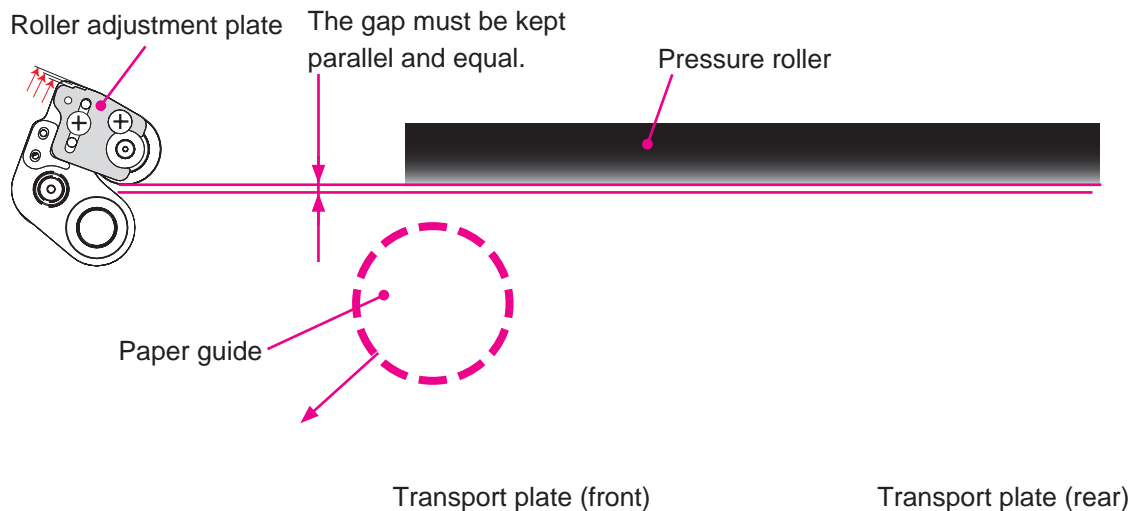
- \* Adjust the Paper guide mounting position parallel to the Pressure roller.
- \* If the Pressure roller adjustment plate is moved, for instance one line on the scale (1mm), the Paper guide should also be moved one line on the scale (1 mm).

«When the front of the Pressure roller adjustment plate is moved.»

- (1) Loosen the mounting screws (M3x6 screw; 2 pcs) of the Paper guide.
- (2) Change the position of the Paper guide on the front of the machine only, in the same amount the Pressure roller was moved. The Paper guide mounting position at the rear of the machine should not change.
- (3) Tighten the mounting screws.

«When the rear of the Pressure roller adjustment plate is moved.»

- (1) Loosen the mounting screws (M3x6 screw; 2 pcs) of the Paper guide.
- (2) Change the position of the Paper guide on the rear of the machine only, in the same amount the Pressure roller was moved. The Paper guide mounting position at the front of the machine should not change.
- (3) Tighten the mounting screws.





# CHAPTER 9: Print Drum Section

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## 1. Mechanism

### 1-1. Master on the Drum Check Mechanism (Before Printing)

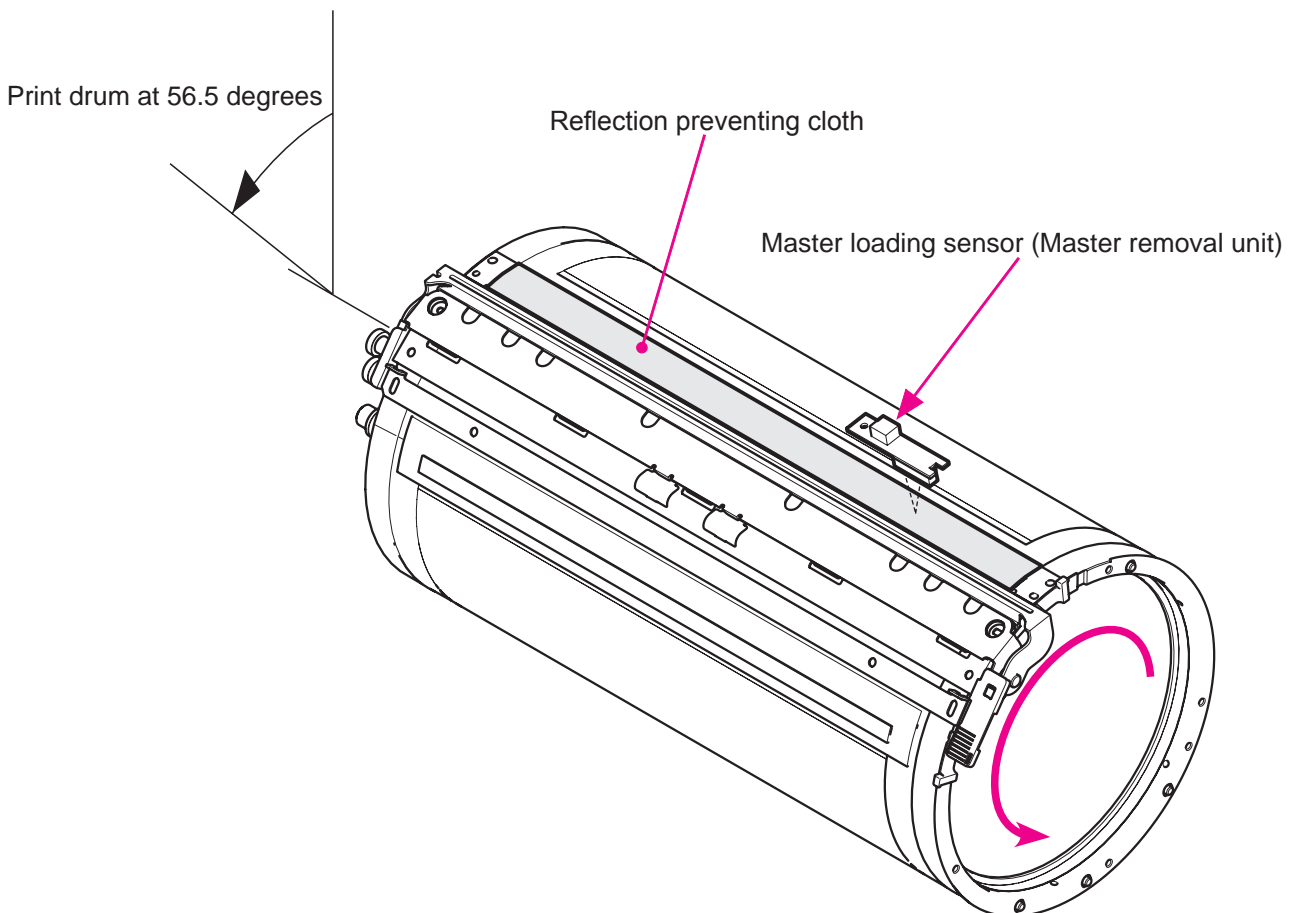
The machine checks for the presence of the Master on the Print drum at the start of a print job. Pressing the <START> key makes the Print drum start to rotate, and then the Master loading sensor starts the detection of the Master on the Print drum (on the Reflection preventing cloth) at the Print drum angle of 56.5 degrees.

Once the Master is detected on the Print drum, the information is memorized on the machine and Master loading sensor no longer checks for the Master on the Print drum from the next printing job until the Print drum is pulled out of the machine, or the power to the machine is turned OFF.

If the machine already knows that there is a Master on the Print drum, the machine goes immediately to printing without looking for the master on the Print drum.

If the Master loading sensor does not detect master on the Print drum at the drum angle of 56.5 degrees, the printing job does not start.

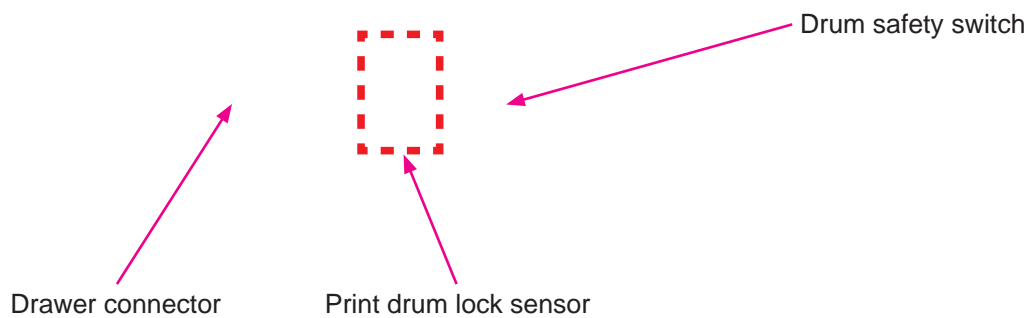
\* The Master loading sensor is a reflection type sensor which is located on the Master removal unit.



## 1-2. Print Drum Set Check Mechanism

Print drum is removed and inserted at Position-B, and the Drawer connector, Print drum set switch, and Print drum lock sensor check if the Print drum is set to the machine body. The following motors are not turned ON when the Print drum set switch is OFF.

- Main motor
- Clamp motor
- Master removal motor
- Master compression motor
- Separation fan motor



### 1-3. Print Drum Lock Mechanism

To prevent removal and insertion of Print drum during rotation, Print drum lock/unlock mechanism is implemented.

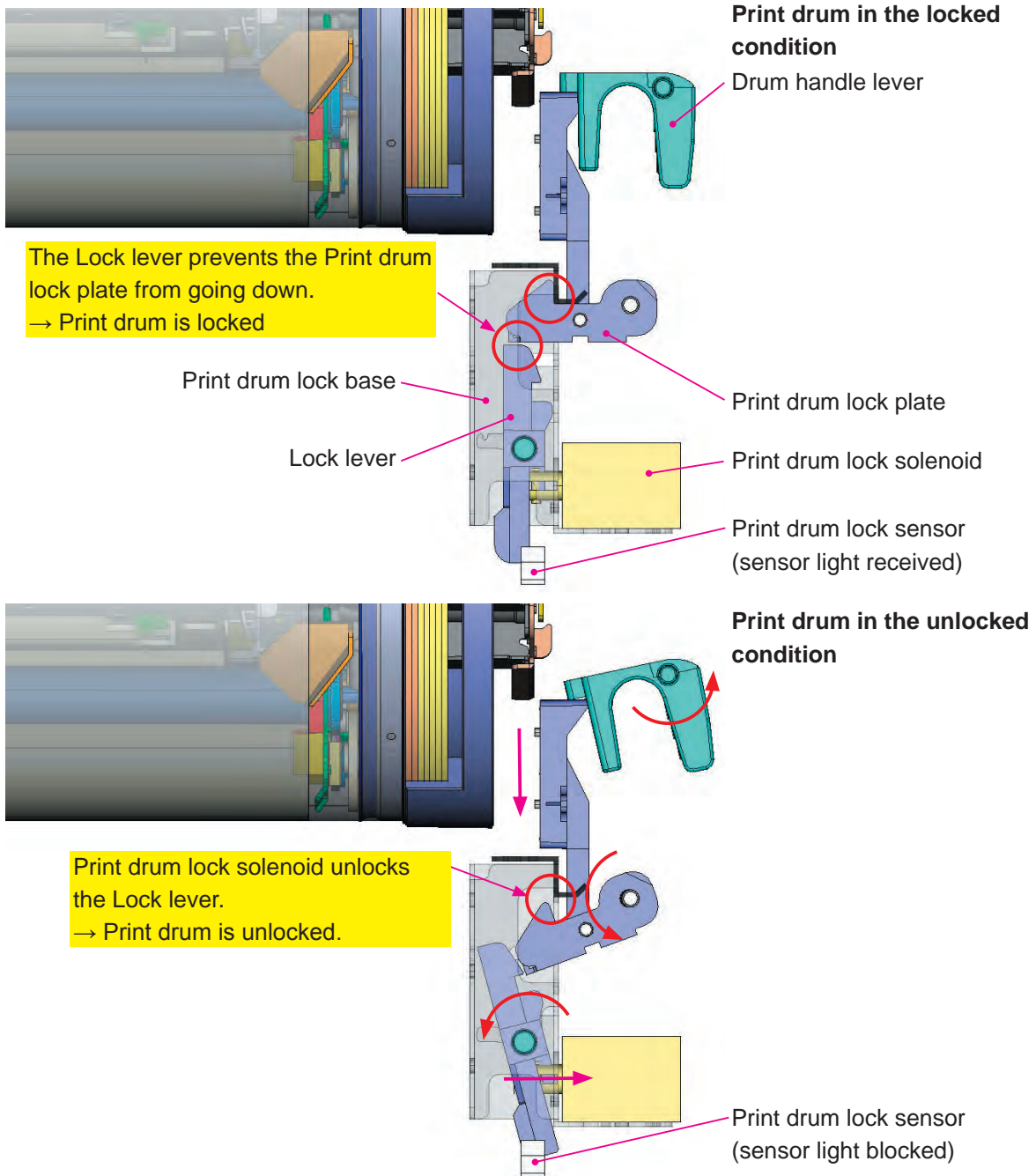
When the Lock lever is released by the Print drum lock solenoid, the Print drum can be pulled out.

#### Print drum locked condition:

When the Print drum lock plate on the Print drum engages with the Print drum lock base on the machine, the Print drum is locked. The Lock lever goes into the Print drum lock plate operating space to prevent the Print drum lock plate to move, preventing the Print drum to unlock even though the Drum handle lever is pulled.

#### Print drum unlocked condition:

When the Front door is opened and the Print drum release button is pressed, the print drum rotation to the Position-B action is performed. The Print drum lock solenoid is turned ON, and then the Lock lever moves to the lock release position. Therefore, the Print drum lock plate goes down, enabling the Print drum removal.

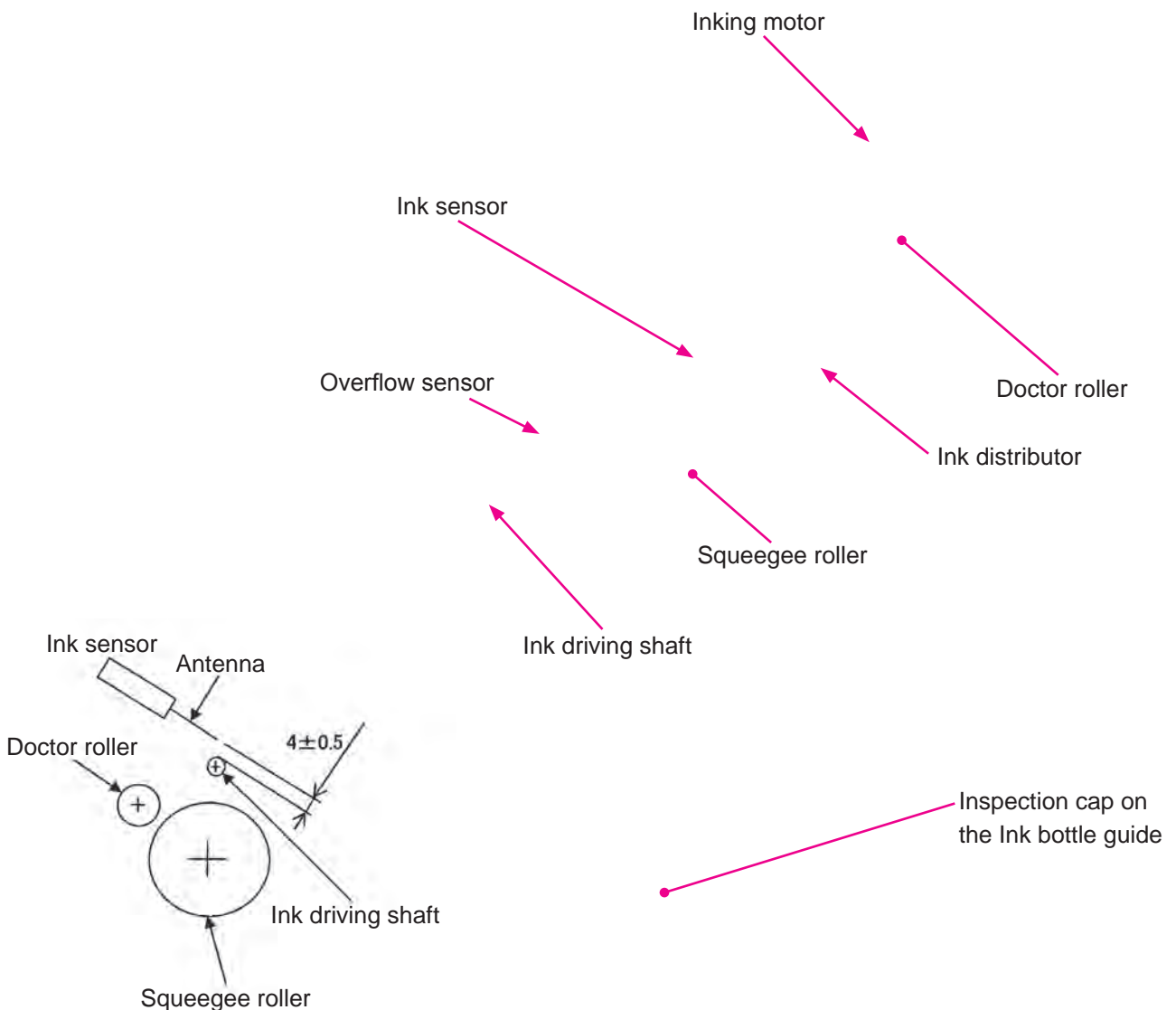


### 1-4. Inking Mechanism

Ink supply from the Ink bottle to the internal of the Print drum is performed by a pump driven by the Inking motor. The amount of ink is controlled according to the status of the Ink sensor and Overflow sensor.

- 1) When the bead of ink separates away from the Ink sensor, the Inking motor is turned ON to take in the ink from the Ink bottle, and supplies the ink through the holes on the Ink distributor onto the Squeegee roller.
- 2) The ink distributed on the Squeegee roller is made into ink bead between the Squeegee roller and Doctor roller.  
(The ink driving shaft is rotated so that the ink bead is made nice and straight.)  
**\* Remove the Inspection cap of the Ink bottle guide to check the ink bead.**
- 3) Once the bead of ink touches the Ink sensor the Inking motor deactivates to stop the inking action.

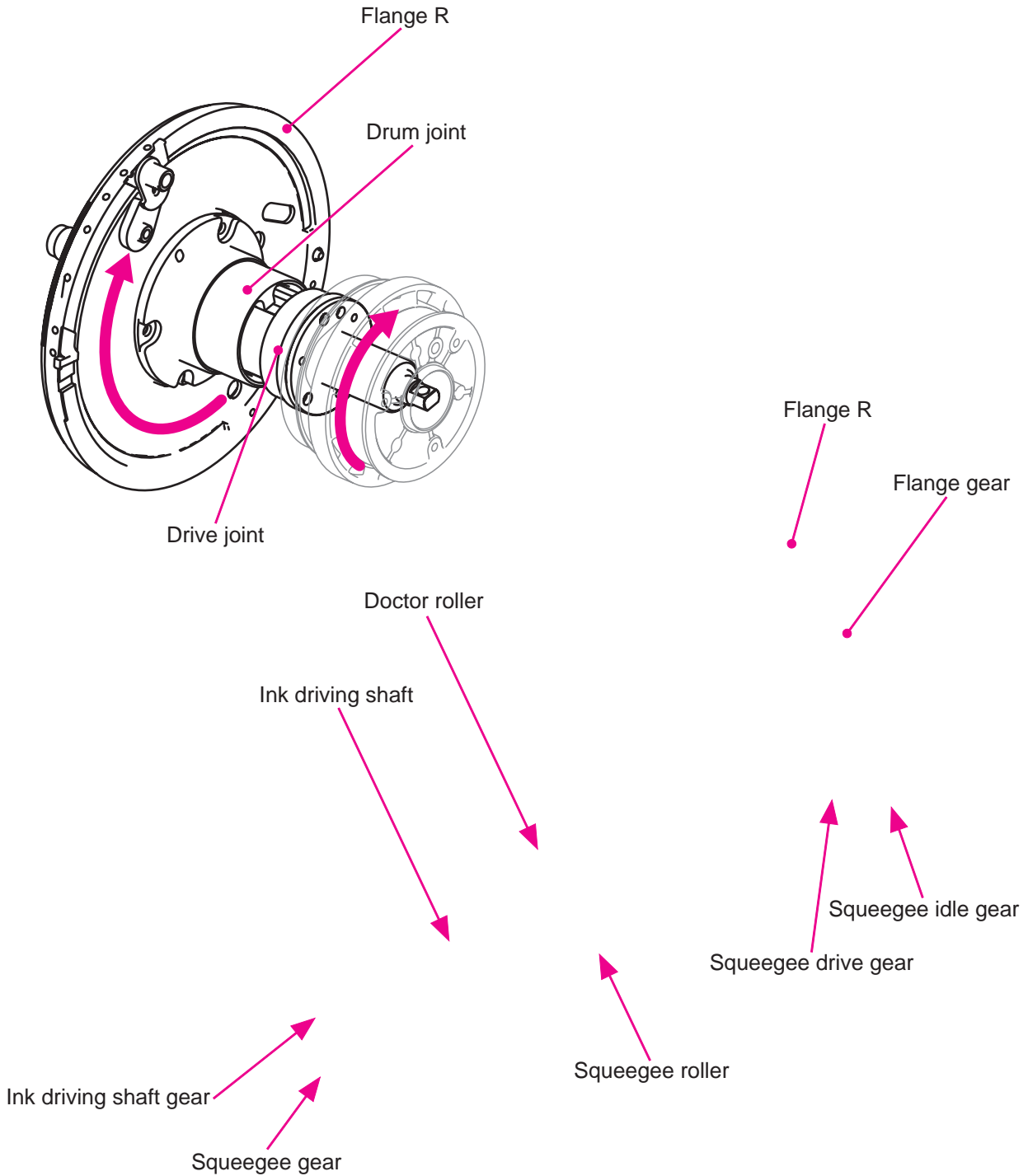
- There is a small gap made between the Doctor roller and Squeegee roller. From this gap, the ink from the bead transfers onto the inner surface of the Print drum via the squeegee roller.
- The Overflow sensor is located in the Print drum to stop the machine to prevent ink overflow in the case the bead of ink for some reasons becomes too large.



1-5. Print Drum Rotation Mechanism

- The rotation drive of the Print drum is from the drive of the Main motor.
- When the Main motor rotates, the drive transfers to the Flange R.
- Flange R transfers the drive to rotate the Squeegee roller.
- The Squeegee roller rotates the Ink driving shaft via the Ink driving shaft gear.

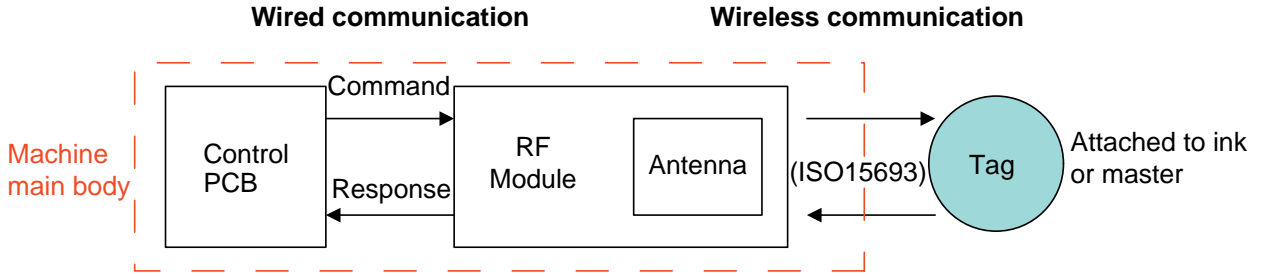
The Squeegee drive gear is equipped with one way clutch to prevent the Squeegee roller from rotating in the reverse direction when the Print drum is manually rotated in reverse. This is to prevent the ink bead from dripping down.



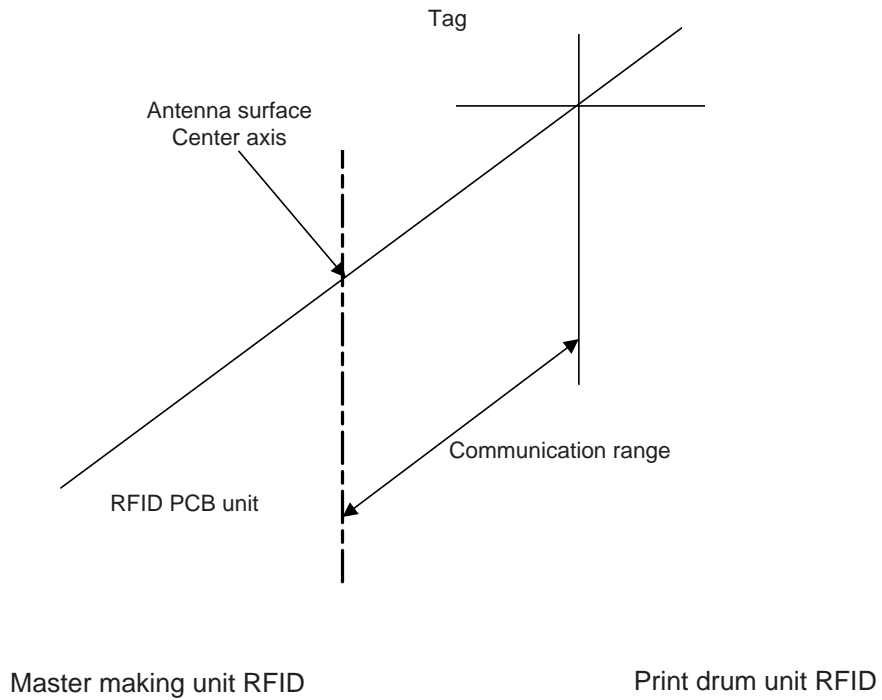
1-6.RFID

Communication is performed with the RFID tag implemented on the Master roll and Ink bottle, to manage the master, type of ink, remaining amount, etc.

Wireless communication that conforms to the Standard ISO15693 is executed to read and write the tags.



RF is abbreviation for Radio Frequency, which uses the frequency for wireless communication.

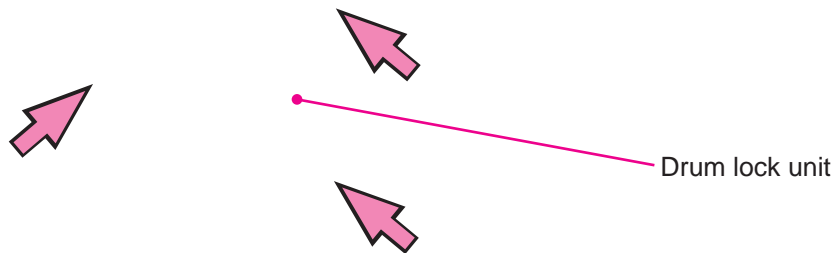


## 2. Disassembly

\* Confidential master should be made on the Print drum prior to the removal of the Print drum for the Print drum disassembly.

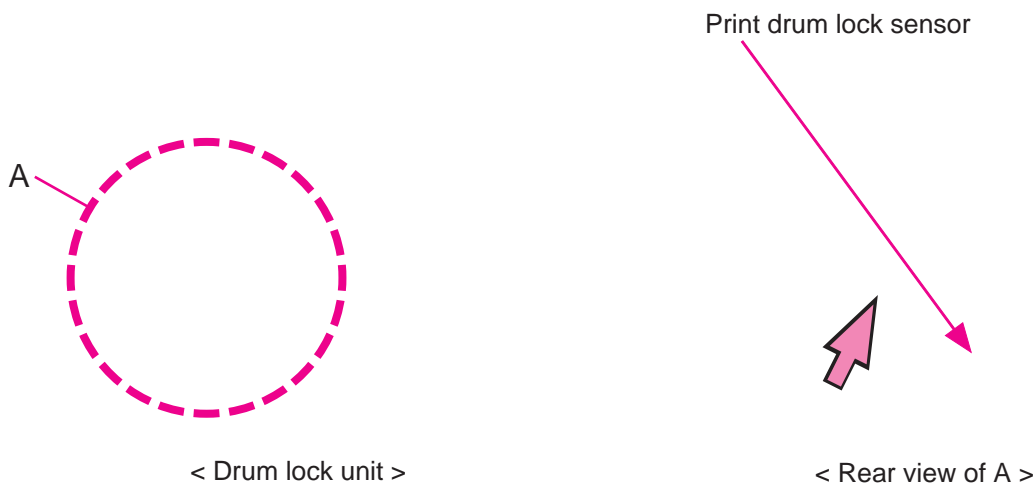
### 2-1. Removing the Print Drum Lock Sensor, Print Drum Lock Solenoid, and Print Drum Set Switch

- 1) Remove the Print drum from the machine, switch OFF the machine power and remove the Front cover.
- 2) Remove screws (M4 x 8 screws; 3 pcs), unplug connectors (3 locations), and remove the Drum lock unit.



#### Removing the Print drum lock sensor

- 3) Remove a Screw (M3 x 6 screw; 1 pc) and remove the Print drum lock sensor from the Drum lock unit together with the sensor bracket.



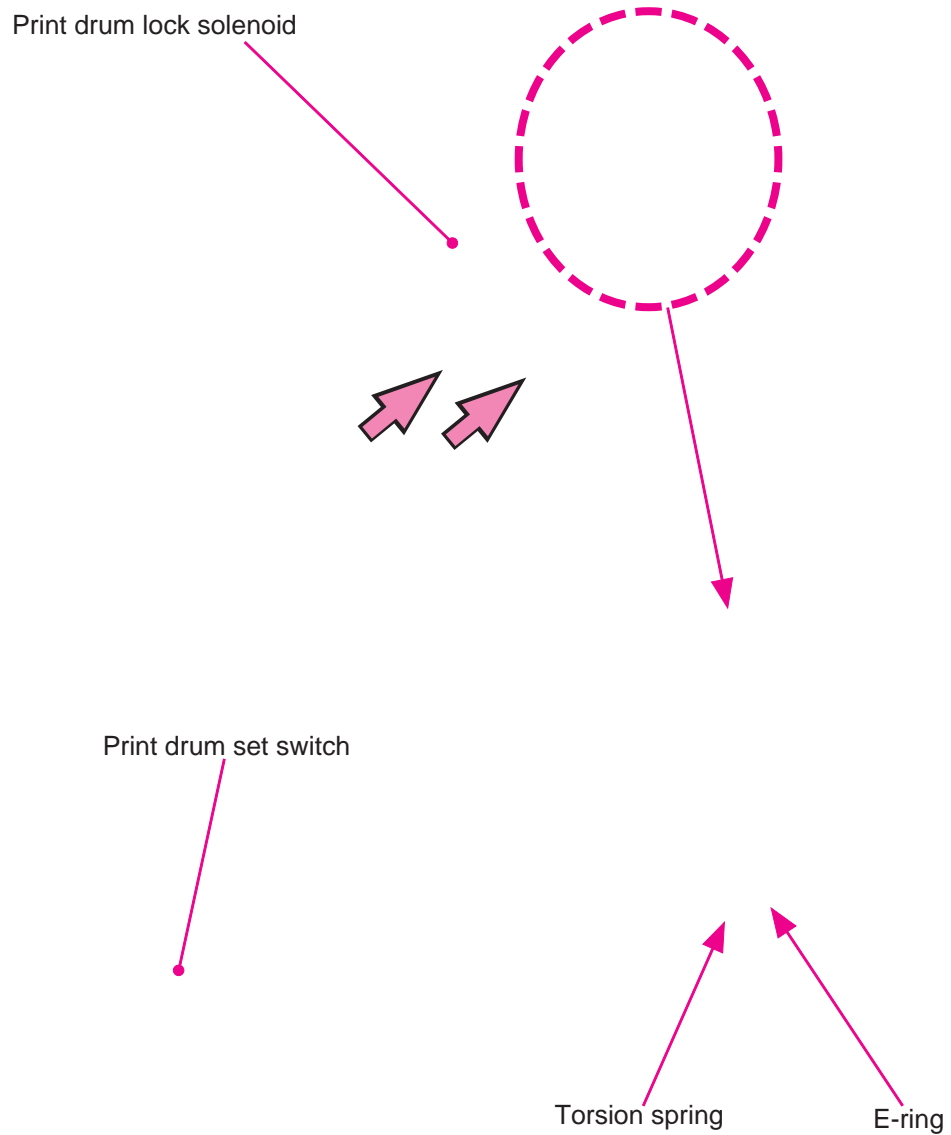


**Removing the Print drum lock solenoid**

- 3) Remove screws (M3 x 6 screws; 2 pcs) and remove the Print drum lock solenoid.

**Removing the Print drum set switch**

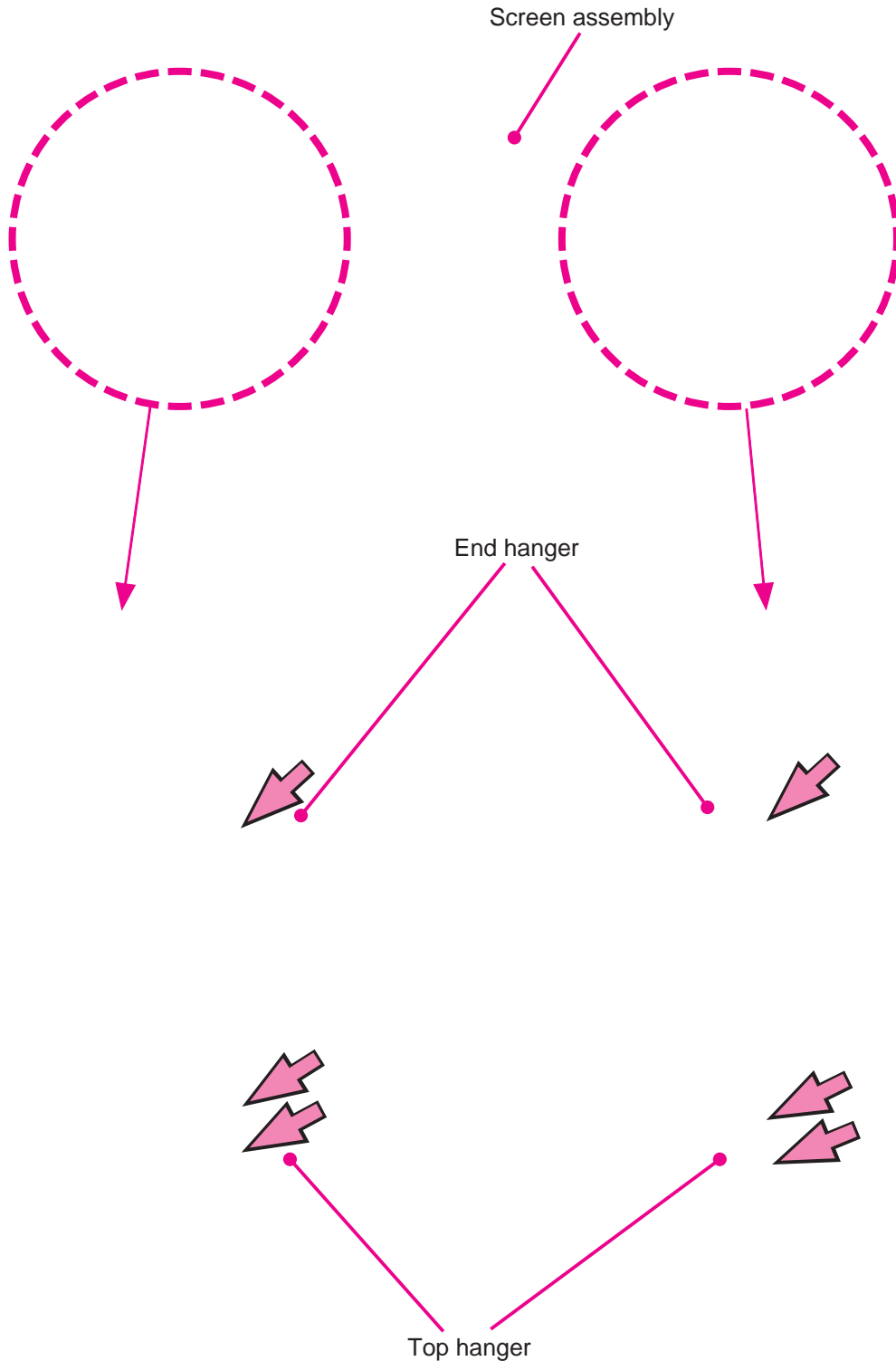
- 3) Remove the hook section of the Torsion spring and then remove the E-ring, to remove the Print drum set switch together with the bracket.



## 2-2. Removing the Screen Assembly

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the mounting screws (3 x 6 binding screw; 2 pcs.) on the End hanger.
- 3) Remove the mounting screws (3 x 6 binding screw; 4 pcs.) on the Top hanger, and then remove the Screen assembly.

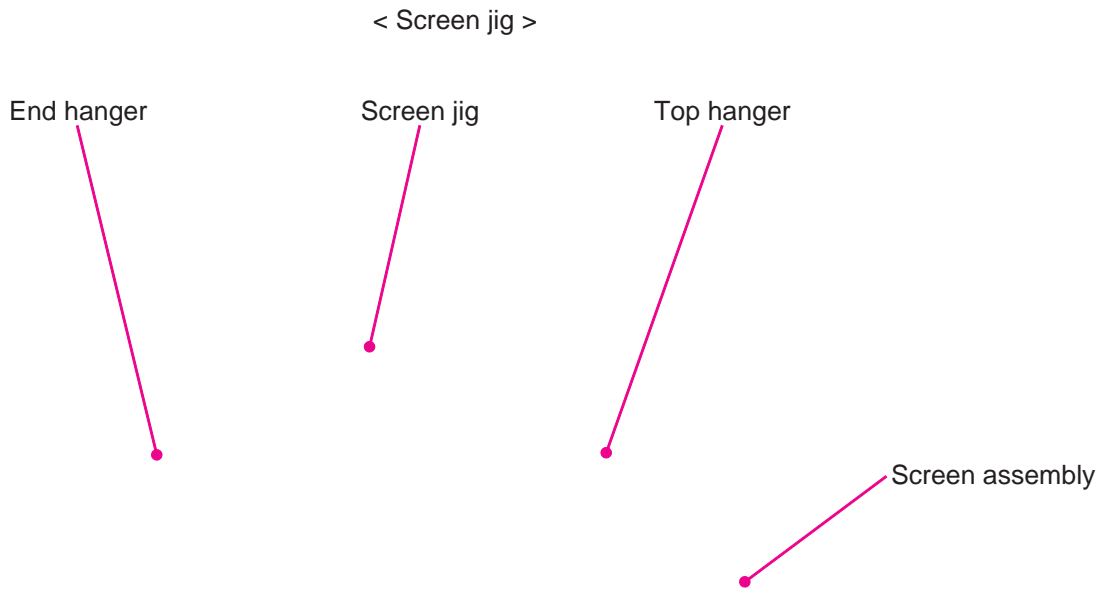
< CAUTION: Do not fold or bend the Screen assembly during the removal or installation >



< Precautions in Reassembly >

\* Make sure that the screen is not lifted, folded, or bent when attached.

- 1) Mount and tightly screw the Top hanger on the Print drum and wrap the Screen around the Print drum, confirming that no wrinkles exist on the screen surface. Then tentatively mount the screws on the End hanger, very lightly to let the End hanger to move.
- 2) Hook the Screen jigs through the holes on the left and right of the End hanger, pull the Screen jig and hook the loop end of the jigs on the short pillars on the left and right Drum flanges, located close to where the Top hanger is. This is to tension the Screen assembly tightly and evenly around the Print drum.
- 3) With the Screen assembly tightly wrapped around the Print drum by the Screen jig, tighten the screws on the End hanger.
- 4) Remove the two Screen jigs from the Print drum once the screws on the End hanger are tightened.

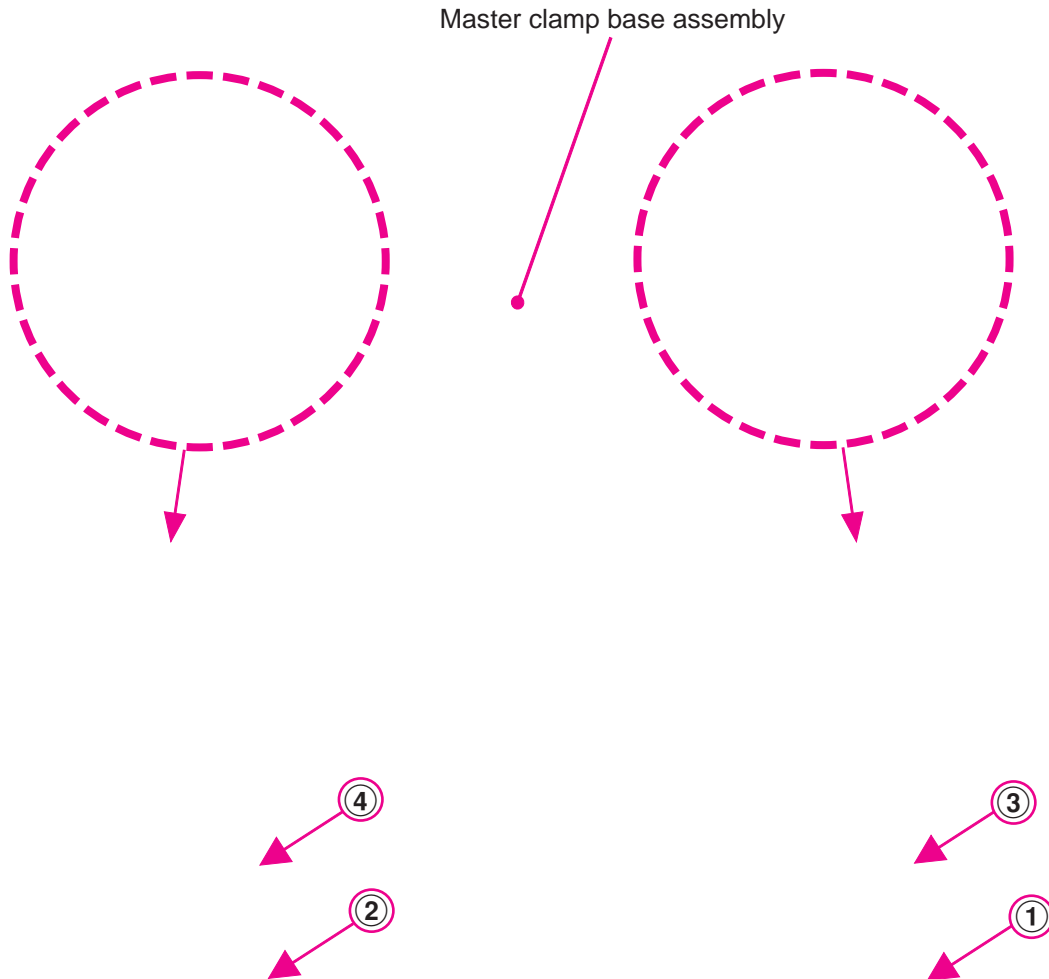


< Front side >

### 2-3. Removing the Master Clamp Base Assembly

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the mounting screws (3 x 6 binding screw; 4 pcs.), and then remove the Master clamp base assembly from the print drum.

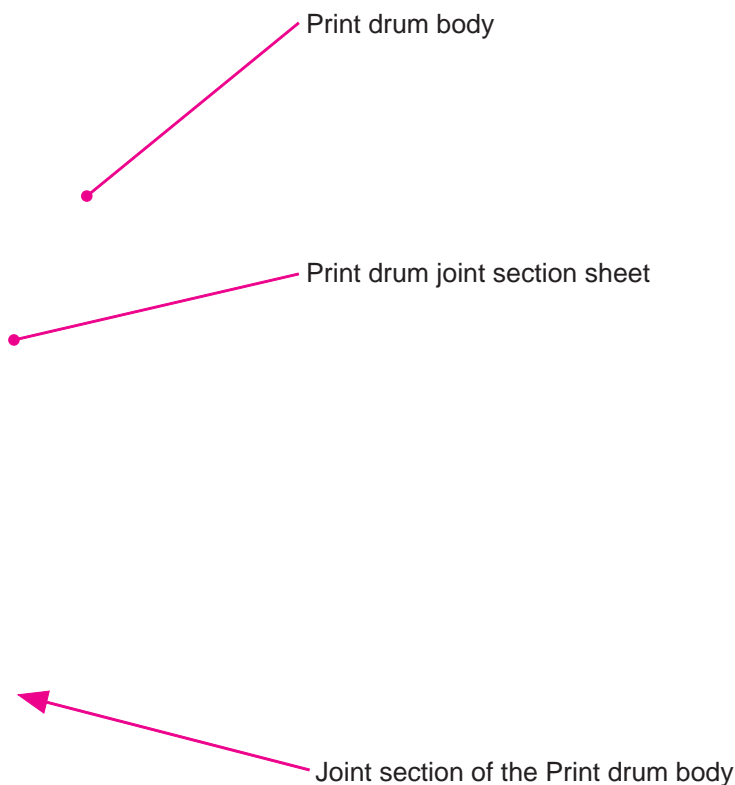
< CAUTION: To attach the Master clamp base assembly, put screws in numerical order (refer to figures shown below)>



< Master Clamp Base Assembly >

### 2-4. Removing the Print Drum Body

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
- 3) Loosen the mounting screws (3 x 6 binding screw; 2 pcs.) at the Potbelly-shaped holes on the Print drum body rear edge side, indicated by arrows in the picture, and then remove the other mounting screws. (3 x 6 binding screw; 10 pcs.)
  - \* Make sure that the screws at the Potbelly-shaped holes are not removed as they are to be used as marks for reassembly.
- 4) While holding the joint section to keep the Drum body from spreading suddenly, peel off the Print drum joint section sheet. (The Print drum joint section sheet will be reused in reassembly.)
- 5) Slide the Print drum body and unhook the Potbelly-shaped holes from the two loosened screws, and remove the Print drum body.



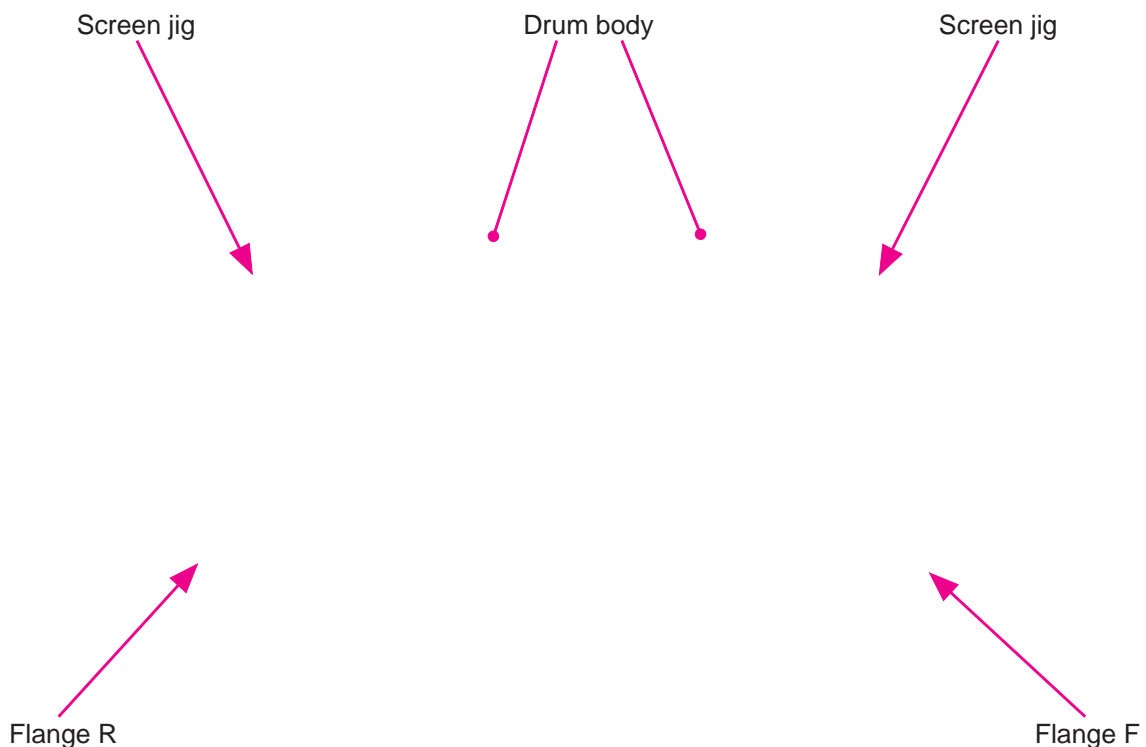
< Precaution in Reassembly >

\* During the assembly, make sure that there is no space between the edge of the two flanges and the Print drum body side edges.

- 1) On the outskirts of the tail end of the Print drum body, close to the Print drum flanges, are marked with arrow marks and F & R imprints. The F imprint should face the Flange F, and R imprint should face the Flange R. With the Print drum body in this direction, hook the potbelly shaped holes of the Print drum body onto the two existing lightly mounted screws on the Drum flanges F and R.
- 2) Tentatively place one screw each on the screw holes which the arrow marks point to.



- 3) Hook the Screen jigs into the holes on the Print drum body located at the inner edge of the top of the Print drum body, and hook the loop ends of the jig on the pillars on the Drum flanges F and R.
- 4) Press the Flange F and Flange R tightly against the Print drum body, and tighten the two screws at the arrow marks which were previously tentatively mounted by step 2).
- 5) Likewise, press the Flange F and Flange R tightly against the Print drum body and tighten the two loose screws at the potbelly holes of the Print drum body, and then mount and tighten eight remaining screws on the Drum body towards its tail edge while keep pressing the Flanges tightly against the Drum body.

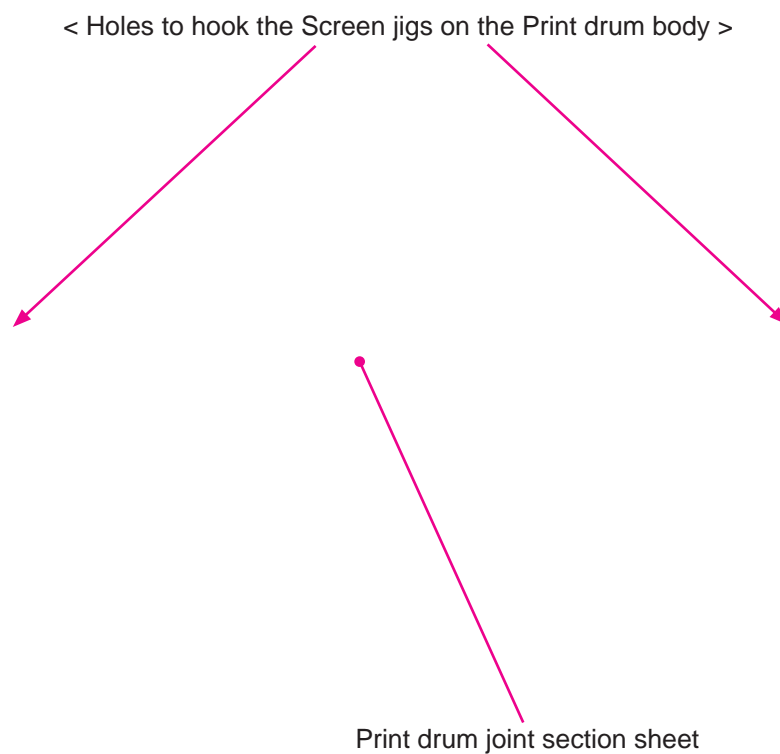


- 6) Attach the screws (3 x 6 binding screw; use the mounting screws for other parts) to the second screw holes from the Print drum body edges (both rear and front).

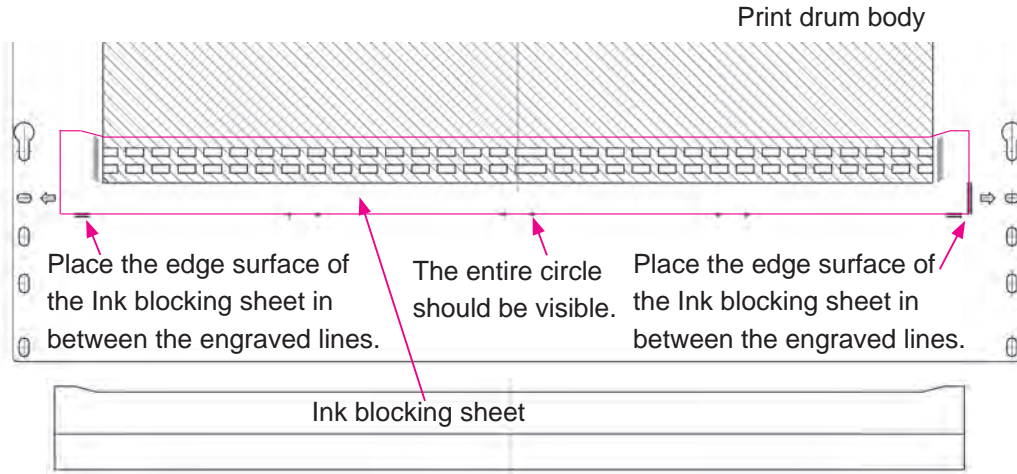
- 7) Remove the Screen jig, and then attach the Print drum joint section sheet on the joint section of the Print drum body.

\* If the joint is not held firmly by the tape (Print drum joint section sheet), that will cause the Master to wrinkle during the Master loading on the Print and/or generate noise during the Print drum rotation in printing.

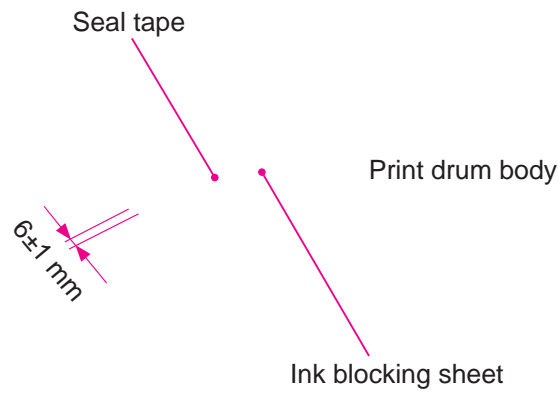
- 8) Remove the two screws used by above step 6).



**Blocking sheet attachment position**



**The seal tape mounting position**





## 2-5. Removing the Ink Scraper F & R

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body (Refer to 2-4 .)
- 3) Remove Screws (M3 x 8 screws; 1pc each), and remove the Ink scraper F & R.



< Ink Scraper R >



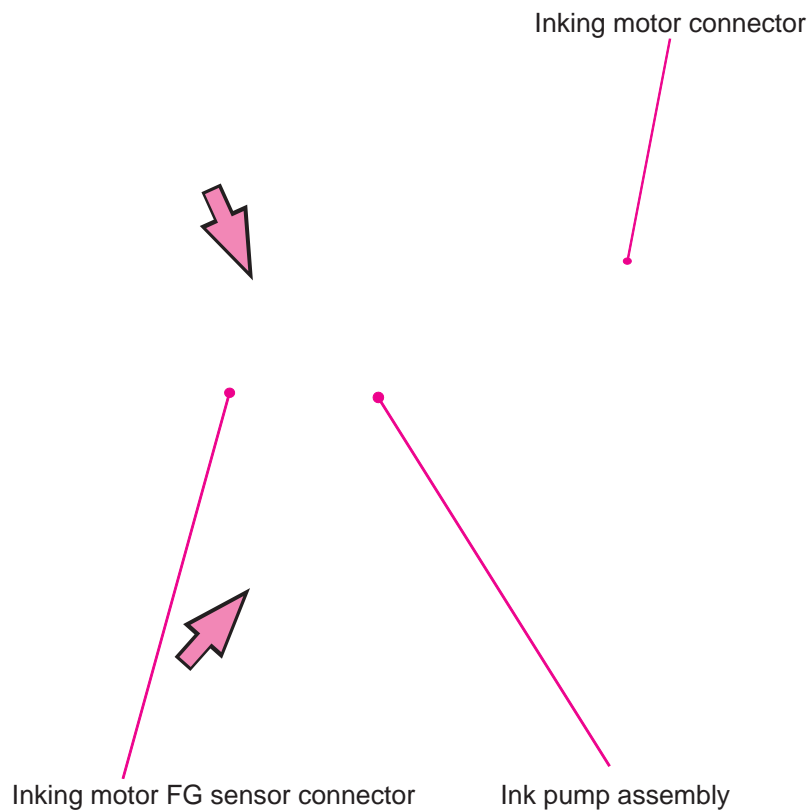
< Ink Scraper F >

### < Precautions in Reassembly >

- Attach the Ink scrapers to the attachment positions for Metal plate in the internal Print drum where marks for different sizes are engraved. For A3 machines, to the position of engraved mark "A3". For A4 machines, to the position of engraved mark "A4".

**2-6. Removing the Ink Pump Assembly**

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2 .)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body (Refer to 2-4.)
- 3) Disconnect the Inking motor FG sensor connector and the Inking motor connector. Then remove screws (M4 x 8 screws; 2 pcs) and remove the Ink pump assembly.



**2-7. Removing the Ink Bottle Guide Assembly**

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body (Refer to 2-4.)
  - Ink pump assembly (Refer to 2-6.)
- 3) Remove the Inspection cap from the inside of the Ink bottle guide.
- 4) Disconnect the RFID connector and Ink bottle set switch connector, and then remove the Reuse bands (2 pcs.).
- 5) Remove screws (M3 x 8 screws; 4 pcs), and lift out the Ink bottle guide assembly from the Print drum after sliding it towards the center of the drum.

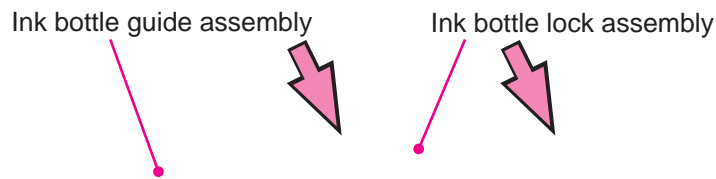


### 2-8. Removing the Ink Bottle Lock Assembly/RFID

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body (Refer to 2-4.)
  - Ink pump assembly (Refer to 2-6.)
  - Ink bottle guide assembly (Refer to 2-7.)

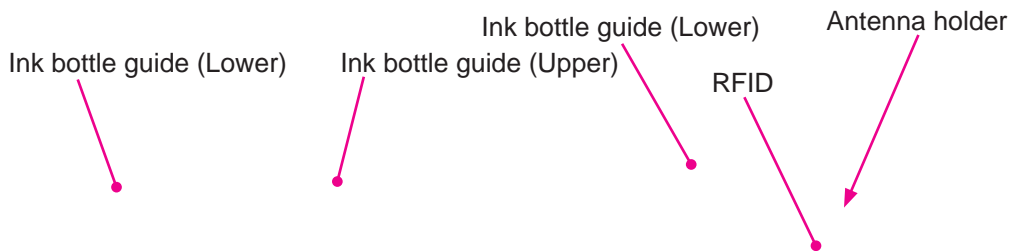
#### Removing the Ink Bottle Lock Assembly

- 3) Remove screws (M3 x 8 screws; 2 pcs) and remove the Ink bottle lock assembly from the Ink bottle guide assembly.



#### Removing the RFID

- 3) Unhook the claw of the Upper ink bottle guide to remove it from the Lower ink bottle guide.
- 4) Unhook the claw of the RFID to remove it from the Antenna holder.

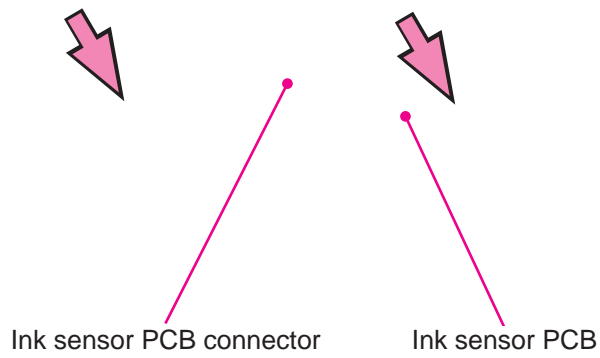


**2-9. Removing the Ink Sensor PCB**

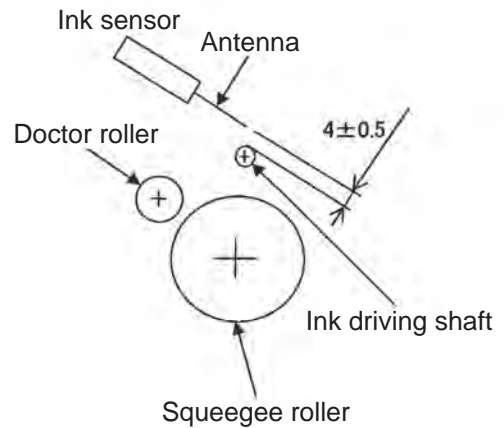
- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body. (Refer to 2-4.)
  - Ink pump assembly. (Refer to 2-6.)
  - Ink bottle guide assembly. (Refer to 2-7.)
- 3) Disconnect the Ink sensor PCB connector, remove screws (M3 x 8 screws; 2 pcs) and remove the Ink sensor PCB.

**< Precautions in Reassembly >**

- Keep the gap in between Ink sensor antenna and Ink driving shaft at  $4 \pm 0.5$  mm.
- Be sure not to bend the sensor antenna.



For A3/Ledger Print drum



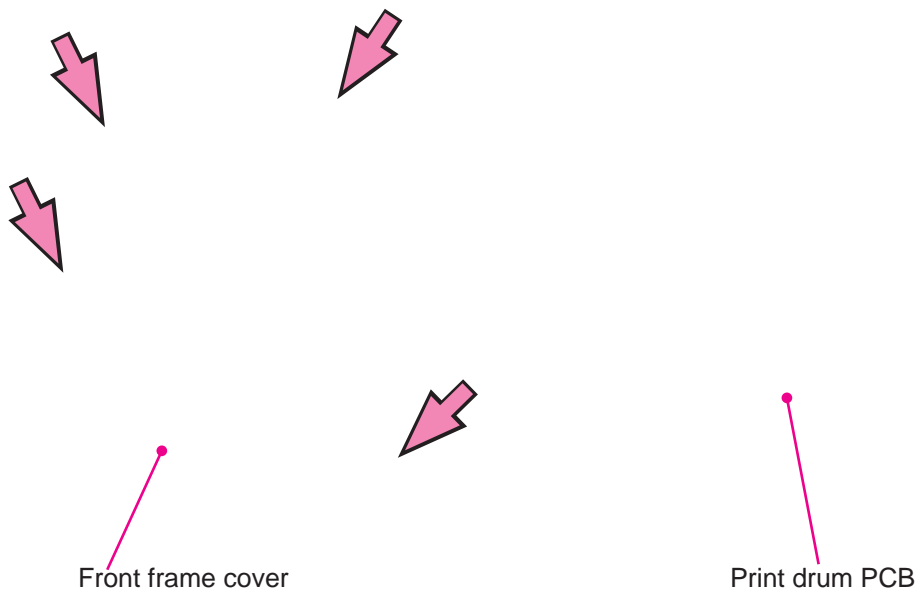
For A4/B4/Legal & Letter Print drum

< Ink Sensor PCB >

**2-10. Removing the Print Drum PCB**

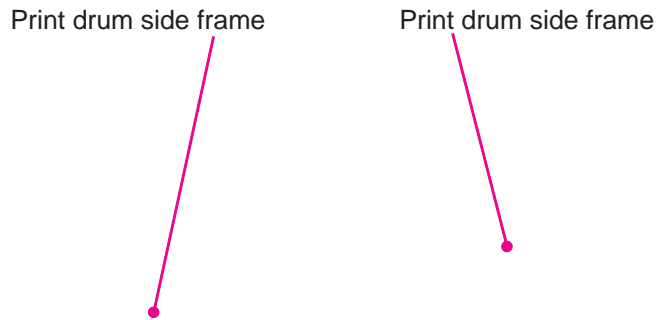
- 1) Remove the Front frame cover. (3 x 6 screws; 4 pcs.)
- 2) Disconnect connectors (4 locations), remove screws (M3 x 8 screws; 2 pcs) and remove the Print drum PCB.

\* For replacement of the Print drum PCB, refer to Chapter 19 "Other Precautions".



### 2-11. Removing the Print Drum Drive Joint

- 1) Remove both the left and right Print drum side frames by removing screws (M4 x 8 screws; 2 pcs each).
- 2) Remove the Drum rear frame assembly.
- 3) Remove screws (M4 x 8 screws; 3 pcs) and remove the Print drum drive joint.



< Rear side >

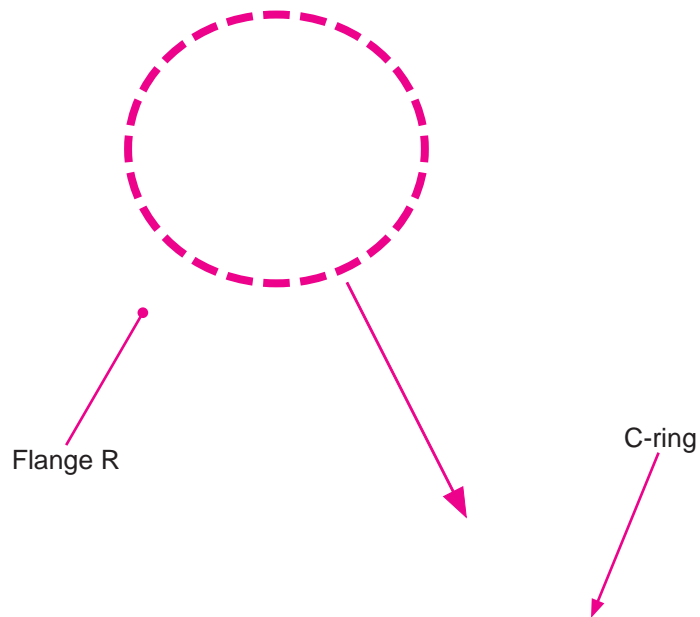
< Front side >

Print drum drive joint

Flange R

**2-12. Removing the Flange R**

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body (Refer to 2-4.)
  - Print drum drive joint (Refer to 2-11.)
- 3) Remove the C-ring (20 mm diameter; 1 pc) and remove the Flange R.

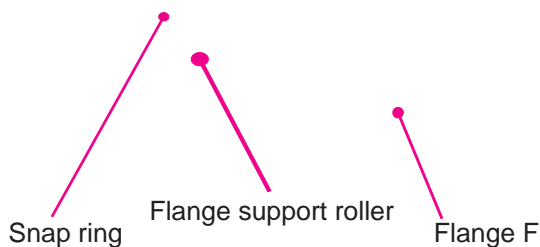




### 2-13. Removing the Flange F

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body (Refer to 2-4.)
  - Print drum side frames (2 pcs.) (4 x 8 pan head double-washer screws; 2 pcs. each)
- 3) Disconnect two connectors from the Print drum PCB, remove one Reusable band from the Drum front frame assembly and remove the Drum front frame assembly by removing screws (M4 x 8 screws; 5 pcs).
- 4) Remove the Snap ring on the Flange support roller found at the bottom of the Print drum, and remove the Flange support roller.
- 5) Remove the Flange F.

< NOTE: Remaining two Flange support rollers can be removed after removing the Flange-F >

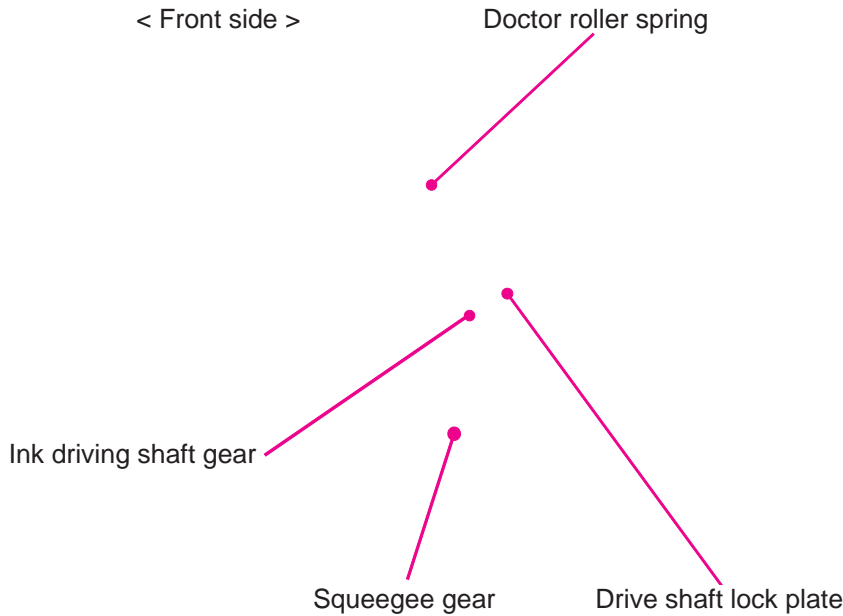


#### < Precautions in Reassembly >

- When attaching the Drum front frame assembly, push down on the Position-B lock lever to prevent the tip of the Position-B lock lever from going into any of the wrong holes on the Flange F.

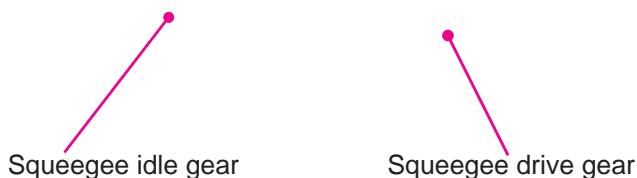
**2-14. Removing the Squeegee Roller**

- 1) Make a confidential master on the Print drum and remove the Print drum out from the machine.
- 2) Remove the following components.
  - Screen assembly (Refer to 2-2.)
  - Master clamp base assembly (Refer to 2-3.)
  - Print drum body (Refer to 2-4.)
  - Print drum drive joint (Refer to 2-11.)
  - Flange R (Refer to 2-12.)
  - Flange F (Refer to 2-13.)
  - Print drum side frames (2 pcs.) (4 x 8 pan head double-washer screws; 2 pcs. each)
  - Front frame cover (3 x 6 binding screws; 4 pcs.)
  - Doctor roller spring (2 pcs)
- 3) Remove the Drive shaft lock plate by removing a Screw. (M4 x 8 screw; 1 pc)
- 4) Remove the Ink driving shaft gear.
- 5) Remove the Squeegee gear by removing an E-ring.



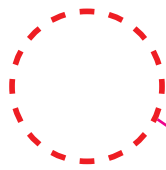
- 6) Remove the Squeegee idle gear by removing an E-ring. (6 mm diameter; 1 pc)
- 7) Remove the Squeegee drive gear by removing an E-ring. (6 mm diameter; 1 pc)

< Rear side >



< NOTE >

For A3/Ledger Print drum, remove the Packing stopper plate, Washer and Rubber packing by removing a screw (M3 x 6 screw; 1 pc). Make sure that these parts are removed in the Front side and the Rear side.



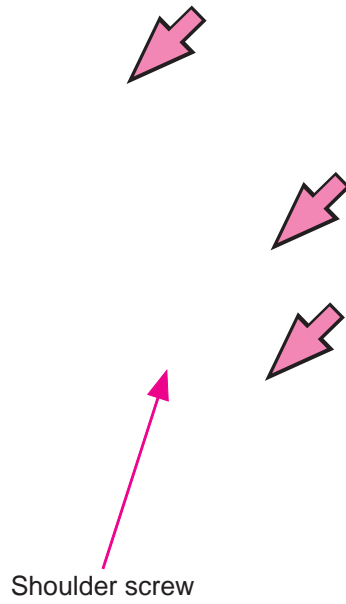
Bearing

Rubber packing

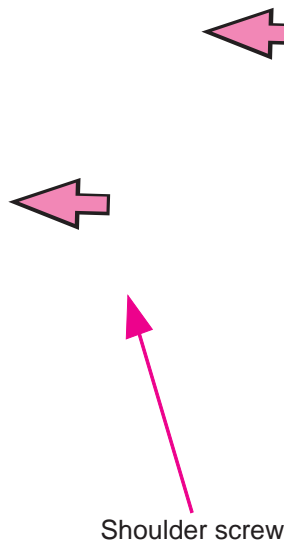
Washer

Packing stopper plate

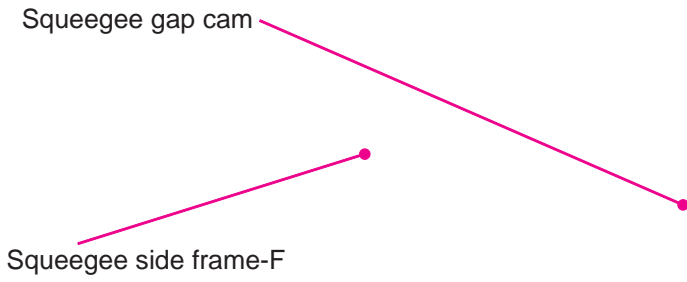
- 7) Remove screws (M4 x 8 screws; 3 pcs) and also the Shoulder screw from the front of the Print drum.



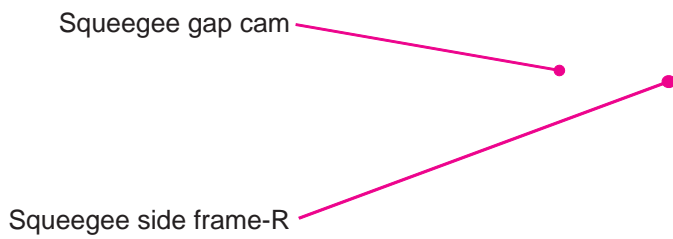
- 8) Remove screws (M4 x 8 screws; 2 pcs) and also the Shoulder screw from the rear of the Print drum.



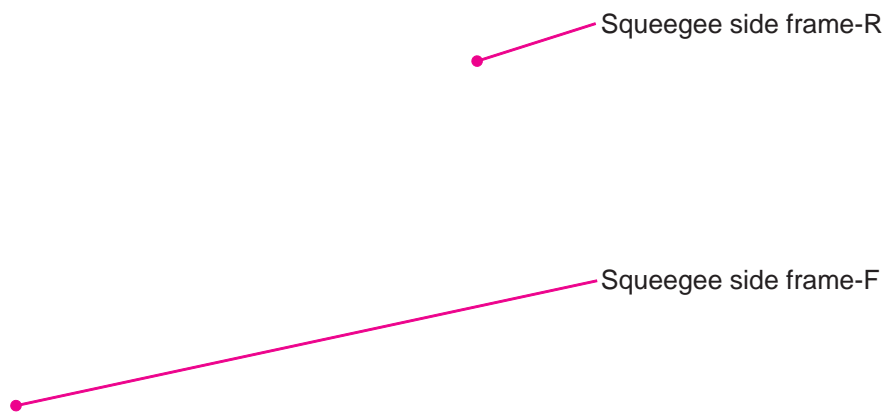
- 9) Remove the Squeegee unit from the Print drum by unhooking the hook portion on the Squeegee unit from the Squeegee gap cam in the front and rear of the Print drum.



<Front side>



<Rear side>



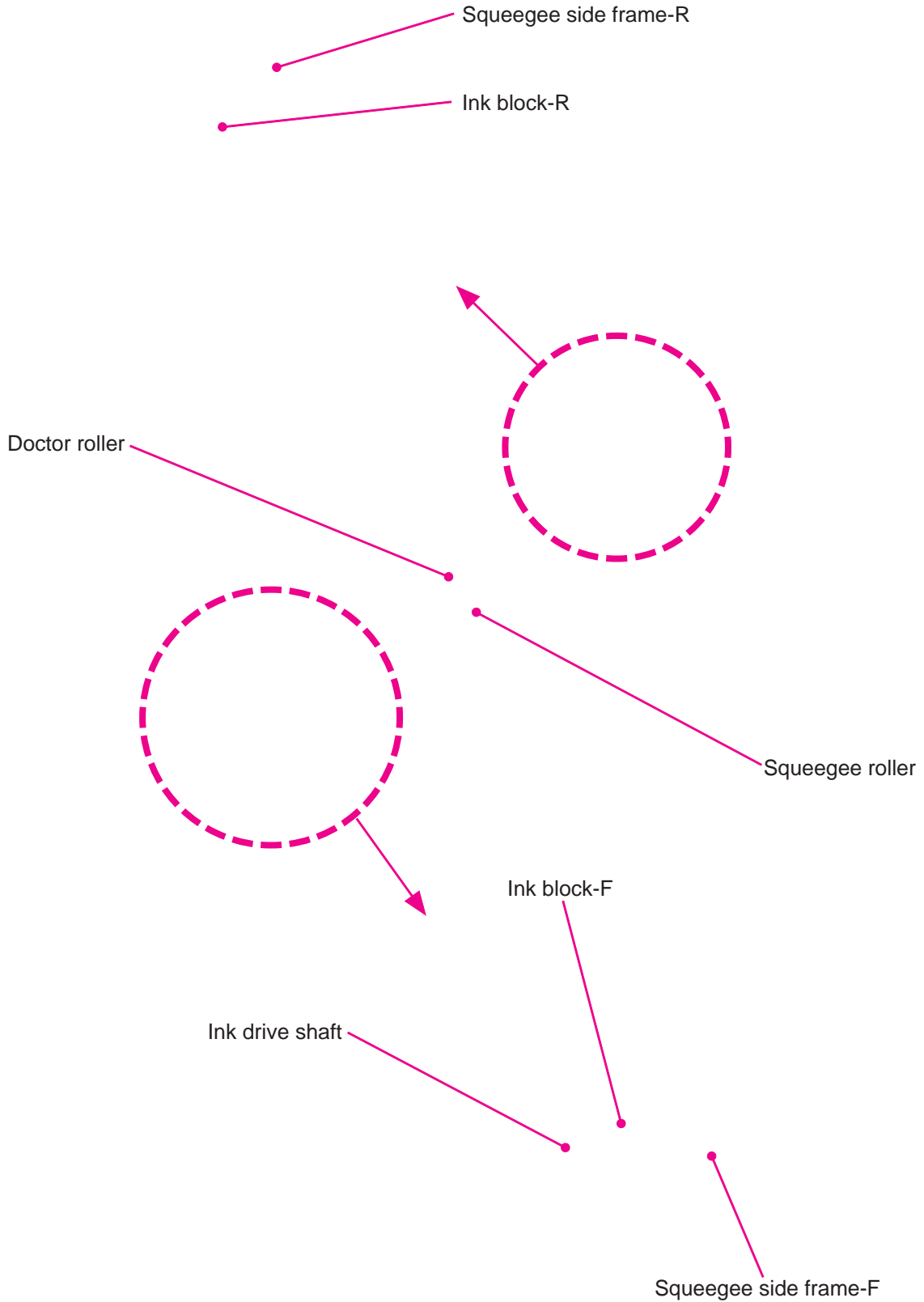
<Squeegee unit>

10) Pull out the Ink drive shaft from the Squeegee unit.

\* Be sure not to lose the Bearing metal and O-ring, which also can be removed.

11) Pull the Squeegee side frames F & R off from the ends of the Squeegee unit to free the Squeegee roller.

\* The Doctor roller, pressed tightly fit into the Ink block F & R, will also come loose.

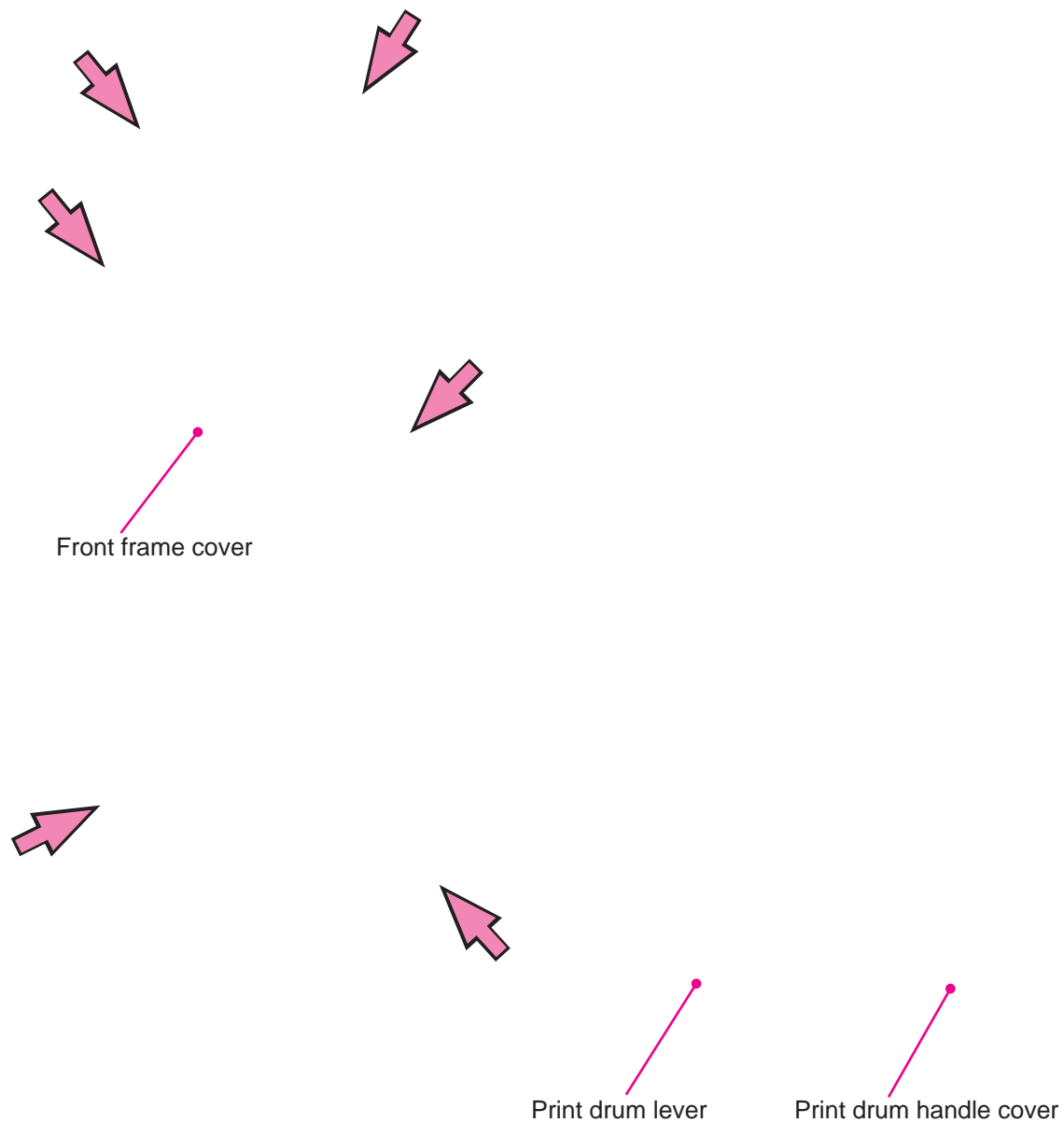


### 3. Adjustment

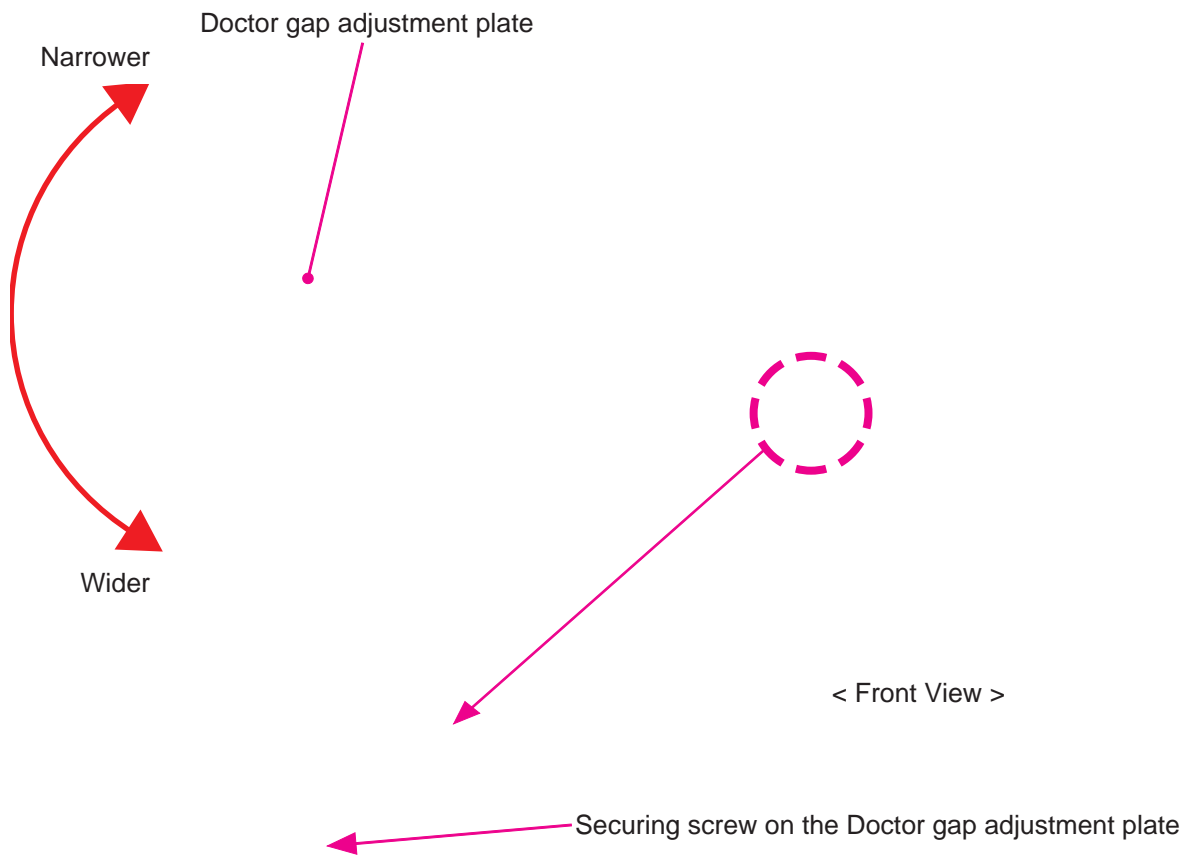
#### 3-1.Squeegee Gap Adjustment

##### Checks and adjustments

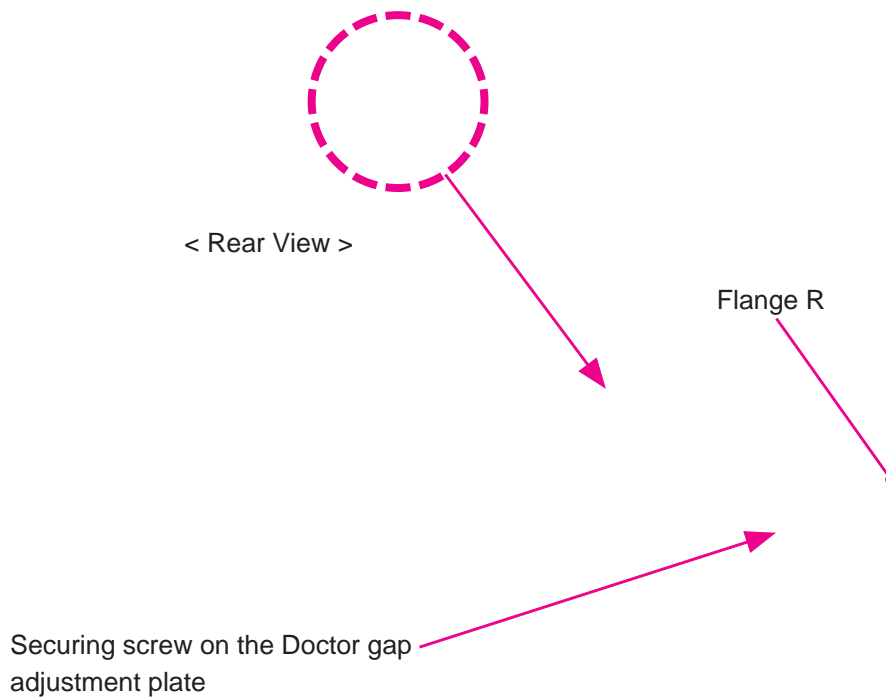
- 1) Remove the Print drum from the machine and remove following components.
  - Screen assembly (Refer to 2-2.)
  - Print drum body (Refer to 2-4.)
  - Front frame cover (3 x 6 binding screws; 4 pcs.)



- Print drum handle cover (3 x 8 pan head double-washer screws; 2 pcs.)
  - Print drum lever
- 2) Clean out the ink on the Squeegee unit.
  - 3) Use a Feeler gauge to check the gap between the Squeegee roller and Doctor roller.  
 A3/A4-R Drum : 0.06 mm  $\pm$  0.02 mm  
 Other than the above: 0.08 mm  $\pm$  0.02 mm
  - 4) If the gap is out of the specified range, loosen the Securing screw on the Doctor gap adjustment plate.
  - 5) Insert a flat-head screw driver in the groove on the Doctor gap adjustment plate and move the plate to adjust the Doctor gap.
  - 6) Tighten the Securing screw on the Doctor gap adjustment plate to end the adjustment.





**Symptoms:**

- If the doctor gap is too wide, too much ink is transferred onto the inner surface of the Print drum and may result in ink leakage from the Print drum. Other problems, such as the master slipping out from the Clamp plate and horizontal line images may start to rip on the master.
- If the doctor gap is too narrow, not enough ink is transferred onto the inner surface of the Print drum and may cause the images on the prints to be too light or images missing from the prints due to lack of ink on the drum surface, and more than necessary quantity of prints may have to be printed before the image transfers completely on the printing paper.

**3-2.Squeegee Pressure Adjustment**

**Checks and adjustments**

- 1) Create a master using Test chart No.14 and make prints. Check the left and right of the prints to compare the print density and confirm that the density is even between the two sides.
- 2) Also check the squeegee pressure by pressing the Drum body by fingers against the Pressure roller. The gap between the Drum body and the Squeegee roller by the feel of the fingers should be equal throughout the length of the Print drum. The gap should be within the following range.

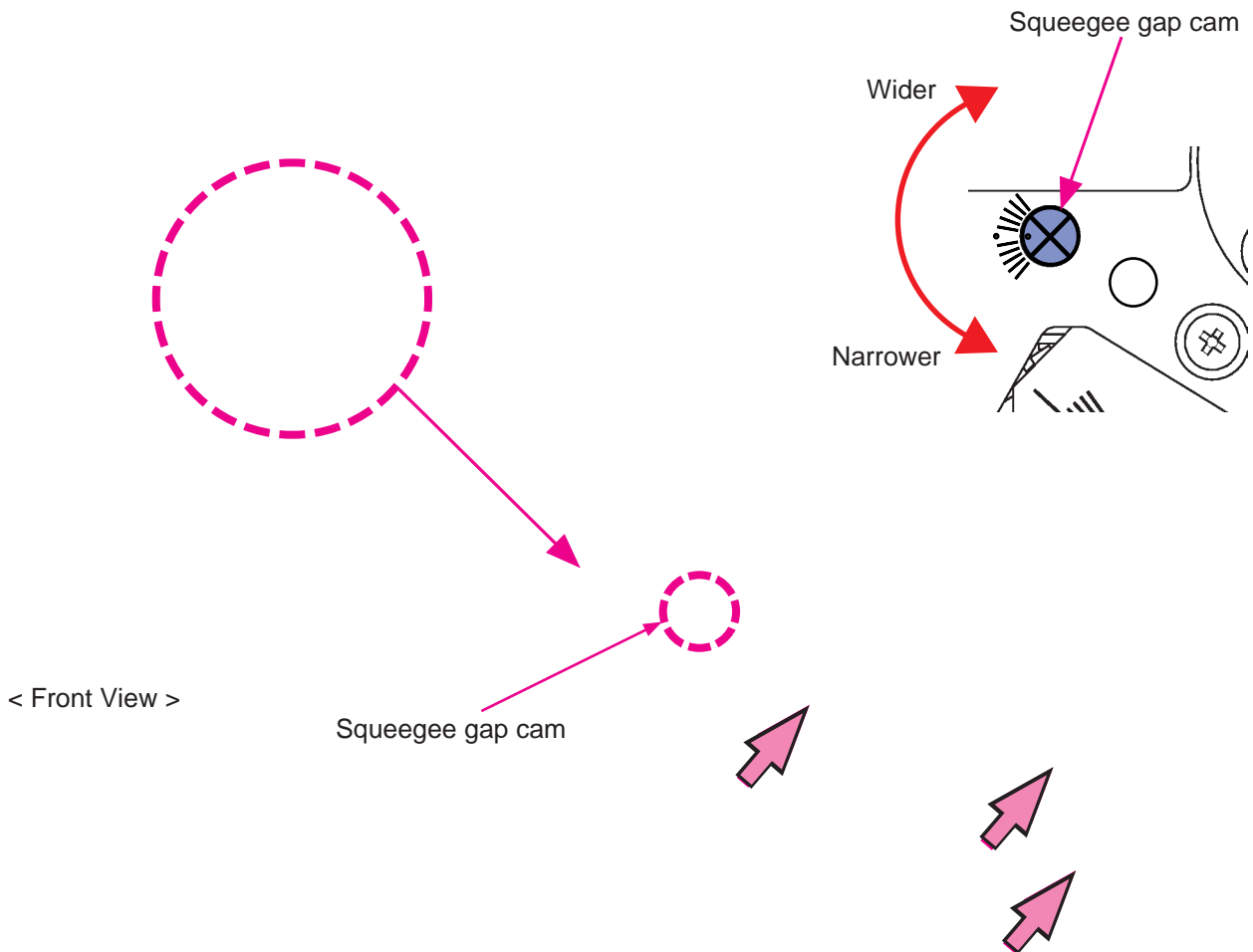
A3/A4-R Drum : 0.2 mm ± 0.05 mm

B4 Drum : 0.3 mm ± 0.05 mm

If the gap is not within the above mentioned range, make the following adjustment.

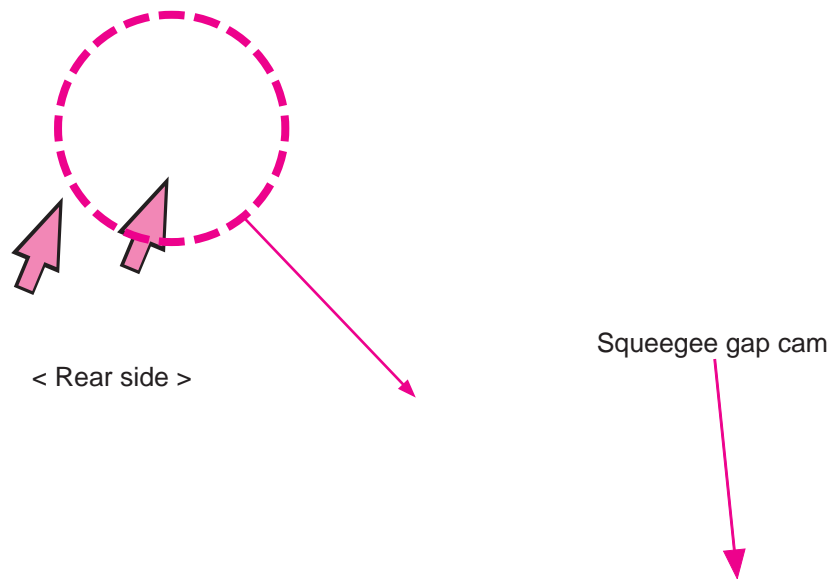
**Adjustment in the FRONT**

- 3) Remove the Print drum from the machine, pull out the Ink bottle and remove following components.
  - Front frame cover (3 x 6 binding screws; 4 pcs.)
  - Print drum handle cover (3 x 8 pan head double-washer screws; 2 pcs.)
  - Print drum lever
- 4) Loosen the three securing screws (indicated by three arrow marks on the photograph) on the Squeegee side frame F found through the holes on the Drum front frame assembly.
- 5) Also from the hole on the Drum front frame assembly, using a flat-head screwdriver, rotate the Squeegee gap cam until correct gap is obtained between the Squeegee roller and Drum body.
- 6) Tighten the three securing screws on the Squeegee side frame F to finish the adjustment on the front side of the Print drum.



**Adjustment in the REAR**

- 3) Remove the Print drum from the machine.
- 4) Looking at the rear of the Print drum, find two securing screws of the Squeegee side frame R (indicated by the arrow marks on the photograph) and loosen the two screws.
- 5) Insert the tip of a Phillips screwdriver from the hole of Flange R of Print drum rear frame and screw the Squeegee gap cam to adjust the gap between the Drum body and Squeegee roller to be the standard value.
- 6) Tighten the two securing screws on the Squeegee side frame R to finish the adjustment on the rear side of the Print drum.

**< CAUTION -- For both FRONT & REAR >**

- Make sure to loosen the two securing screws before rotating the Squeegee gap cam, if not, the Squeegee gap cam will be damaged.

**Symptoms**

- Difference in the squeegee pressure between the right and left of the Print drum will result in uneven density between the right and left of the prints.
- If the squeegee pressure is too strong (the gap too small), too much ink is transferred onto the inner surface of the Print drum and may result in ink leakage from the Print drum. Other problems, such as the master slipping out from the Clamp plate and horizontal line images may start to rip on the master.
- If the squeegee pressure is too weak (the gap too large), not enough ink is transferred onto the inner surface of the Print drum and may cause the images on the prints to be too light or images missing from the prints due to lack of ink on the drum surface, and more than necessary quantity of prints may have to be printed before the image transfers completely on the paper.

### 3-3. Master Skew Adjustment

This adjustment is made on the machine itself and not on the Print drum. The adjustment becomes necessary if the Master on the Print drum starts to skew sideways after the printing starts.

\* Clean the Pressure roller before making the adjustment.

#### Checks and adjustments

<To slide the tail of the Master to the front.> - Adjustment if the tail of the master skews to the rear during the printing.

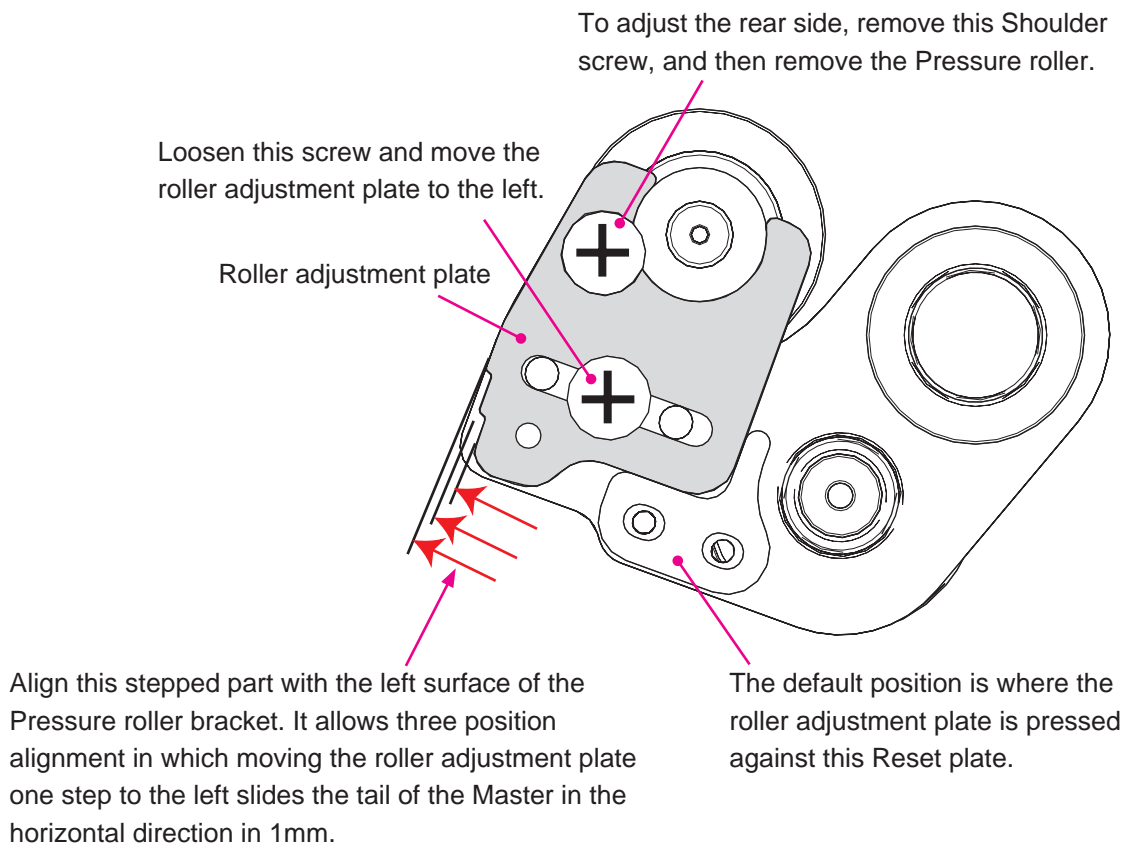
- 1) Remove the Print drum out of the printer, remove the printer Front cover, and then remove the Print drum drawer connector assembly together with the large metal bracket of the drawer connector.
- 2) Loosen the Securing Screw on the roller adjustment plate on the front of the printer.
- 3) Adjust the scale mark on the left surface of the roller adjustment plate to align with the left surface of the Pressure roller bracket.

\* Moving the scale mark one line to the left slides the tail to the Master 1 mm toward the front. The master tail can be moved up to 2 mm (two scales). (The Master tail normally starts sliding after approximately 20 sheets of printing.)

<To slide the tail of the Master to the rear.> - Adjustment if the tail of the master skews to the front during the printing.

- 1) Remove the Print drum out of the printer and remove the Pressure roller. (Refer to 2-1 in Chapter 7.)
- 2) Loosen the Securing Screw on the roller adjustment plate on the rear.
- 3) Adjust the scale mark on the left surface of the roller adjustment plate to align with the left surface of the Pressure roller bracket.

\* Moving the scale mark one line to the left slides the tail to the Master 1 mm toward the rear. The master tail can be moved up to 2 mm (two scales). (The Master tail normally starts sliding after approximately 20 sheets of printing.)



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# CHAPTER 10: Clamp Unit Section

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  - 1-3. Drum Position-A Compensation.....4
  - 1-4. Clamp Plate Closing Action .....5
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  - 2-3. Removing Clamp sensors A and B .....8

# 1. Mechanism

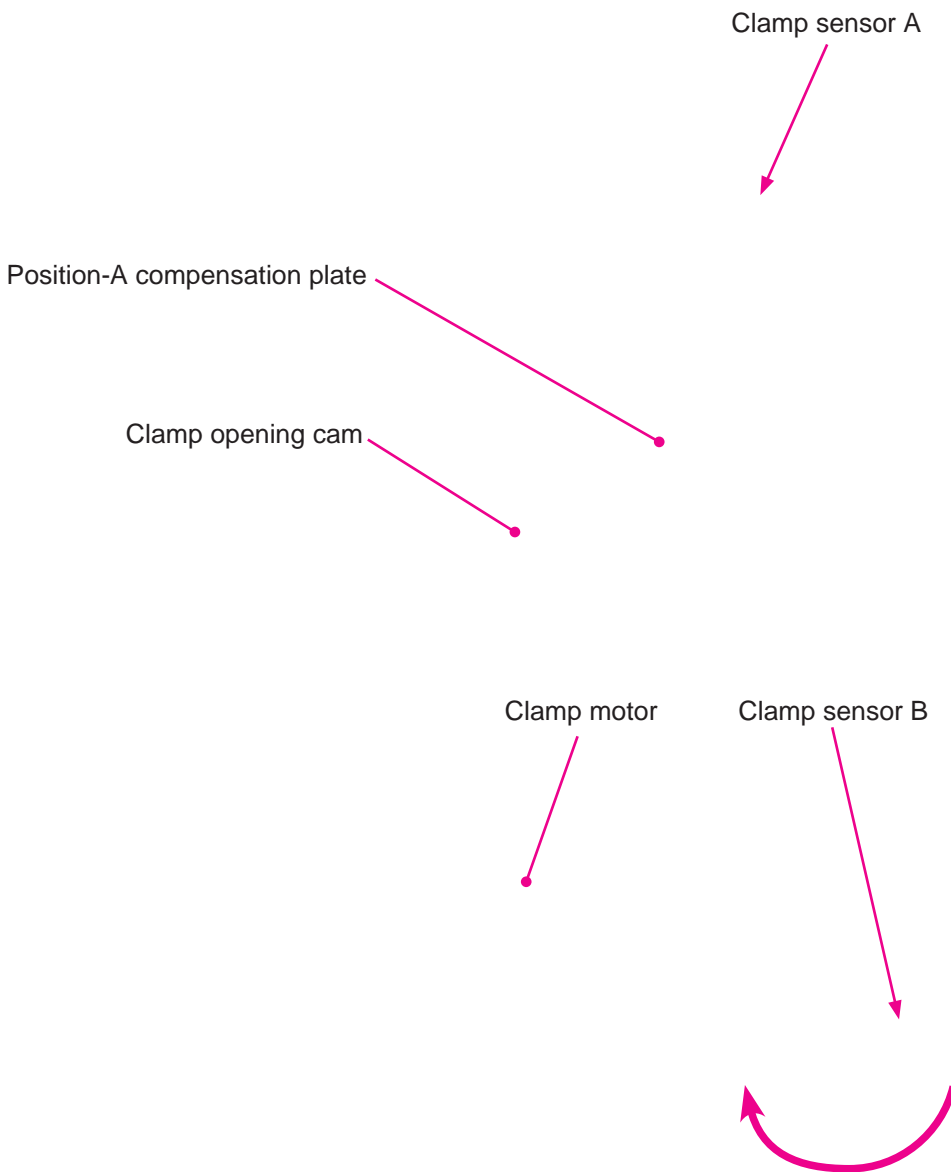
## 1-1. Clamp Initializing Action

The master material is held on the print drum by the clamping action of the Clamp plate. The open & close action of the Clamp plate is made by the Clamp unit, and the clamp action is required in the Master removal and Master loading process.

The clamp initialization movement (the home positioning movement) is made each time the printer power is switched ON.

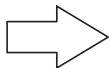
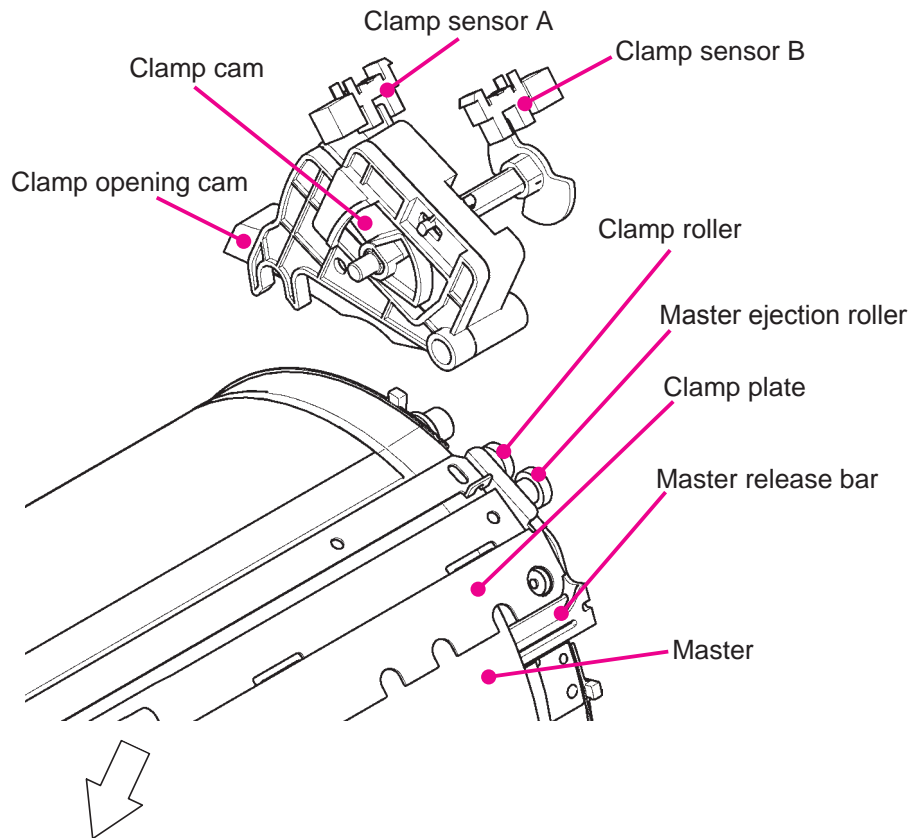
The home position of the Clamp unit is detected by the position of the Clamp opening cam and Position-A compensation plate. (The light path of the Clamp sensor A is blocked and the light path of the Clamp sensor B is open.)

When the printer power is turned ON, if the Clamp unit is not in the home position, the Clamp motor is activated until the unit comes to the home position as described on the above.



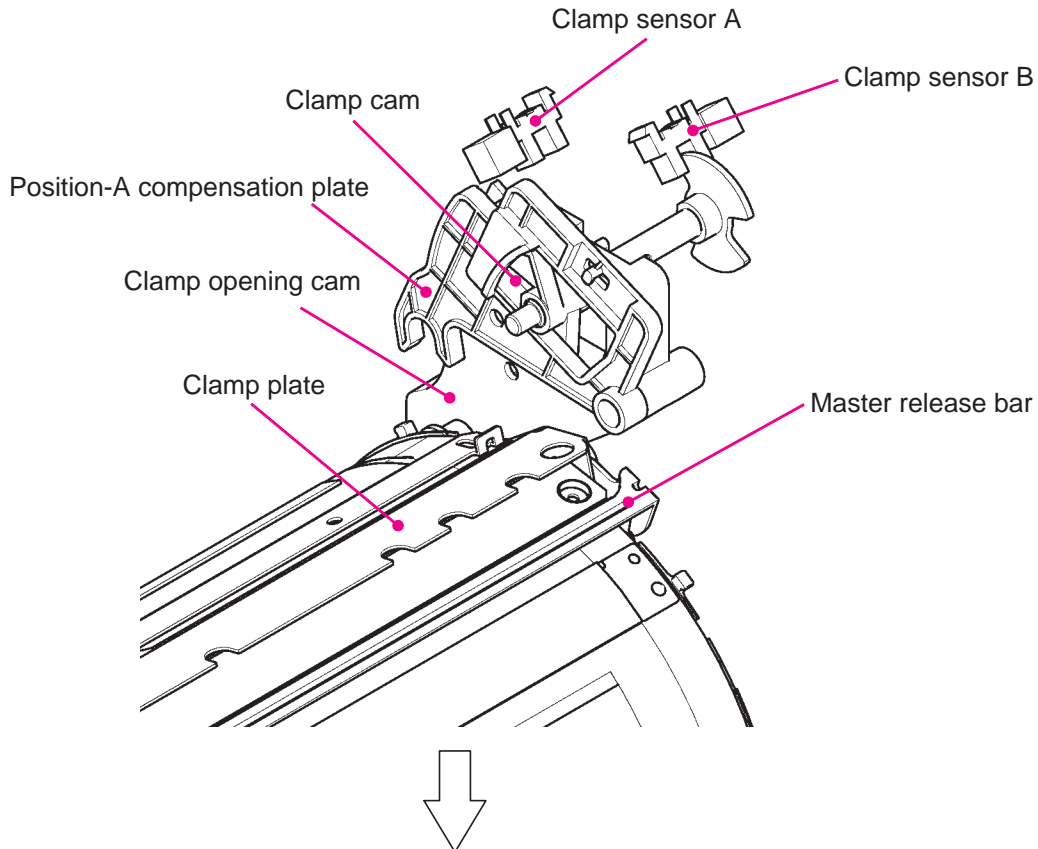
**1-2.Clamp Plate Opening Action**

- 1) When the START key is pressed for the master making or confidential master making, the Print drum starts to rotate from its Position-B.
- 2) After the presence of the master on the Print drum is checked and as the Print drum returns to the Position-B, the Print drum stops once and starts the Clamp plate opening action.
- 3) The Clamp motor activates and rotates the Clamp cam until the light path of the Clamp sensor B is blocked by the disc. This action brings the Clamp opening cam down.
- 4) The Print drum then rotates to start the master removal action. The Clamp opening cam, at its lowered position, opens the Clamp plate first, and then lifts the Master release bar to eject the leading edge of the master out from the Clamp plate.



### 1-3. Drum Position-A Compensation

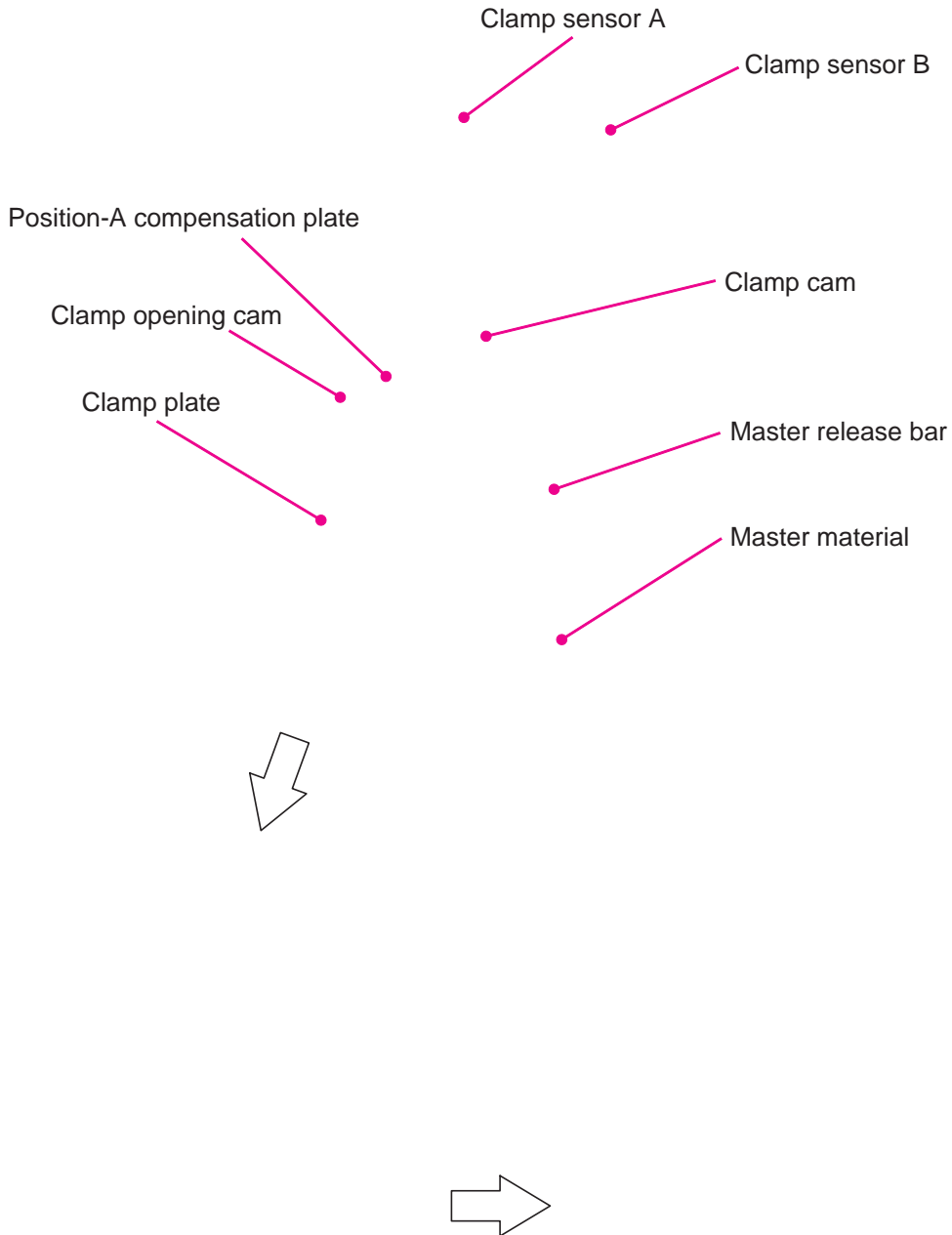
- 1) As the Print drum rotates to remove the master and comes back to Position-A, the Clamp opening cam at its lowered position opens the Clamp plate.
- 2) As the Print drum stops at Position-A, the Clamp motor turns ON to rotate the Clamp cam until the light path of the Clamp sensor B becomes unblocked by the disc. This action brings the Position-A compensation plate down to catch the plastic compensator shaft on the Print drum to hold the Print drum at Position-A.





### 1-4. Clamp Plate Closing Action

Once the Load pulse motor on the master making area feeds a set length of the master material towards the Print drum, the Clamp motor activates to rotate the Clamp cam until the light path of the Clamp sensor A is blocked by the disc and the light path of the Clamp sensor B becomes unblocked. This action brings the Clamp opening cam up and closes both the Master release bar and the Clamp plate down to clamp the master material under the Clamp plate. At this stage the Clamp opening cam and Position-A compensation plate are both brought back to their home position.



## 2. Disassembly

### 2-1. Removing the Clamp Unit

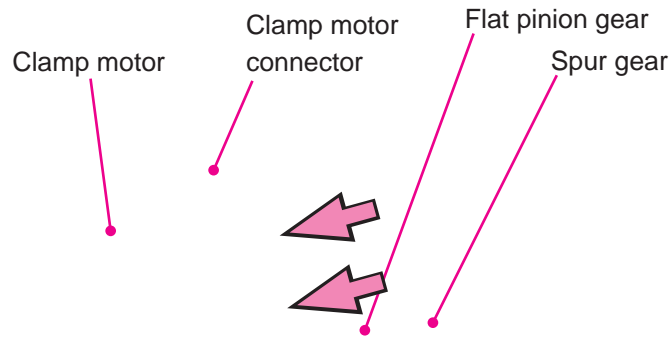
- 1) Switch OFF the machine power, and remove the rear cover to open the MAIN-SYSTEM-PCB Assembly. (Refer to Chapter 1)
- 2) Disconnect the connector of Clamp motor and Relay connector, and then remove the Clamp unit. (M4 x 8 screw; 3 pcs)



< Clamp unit >

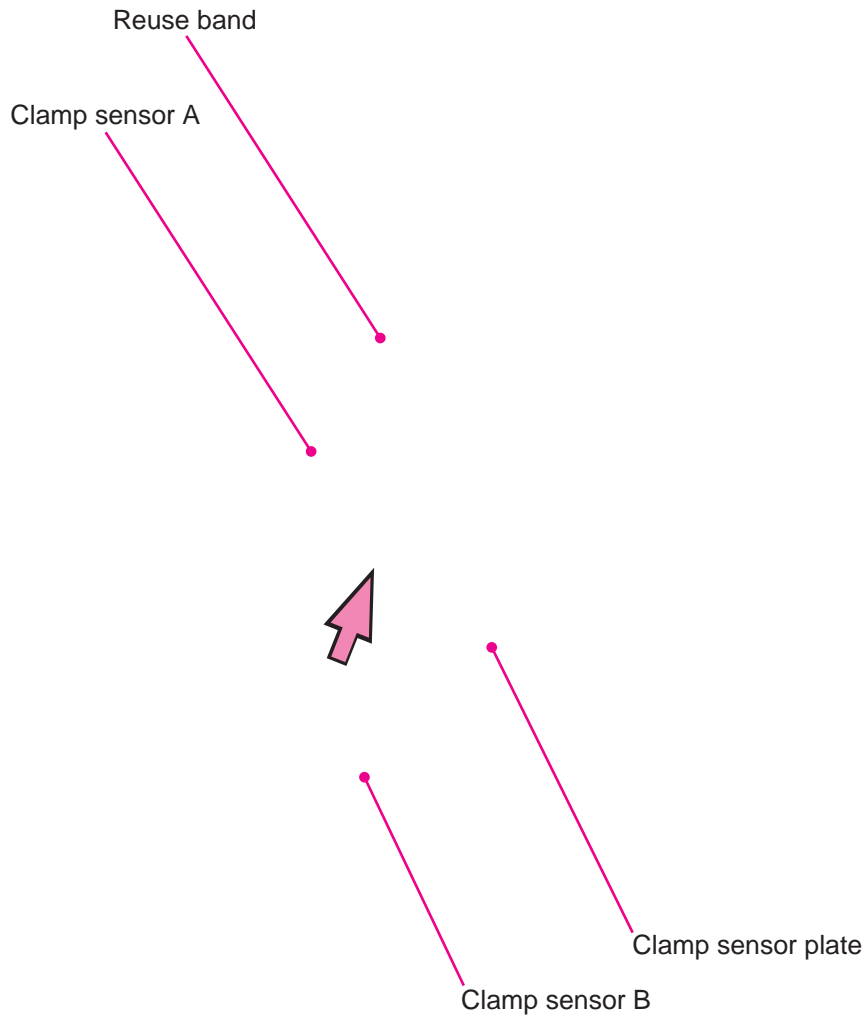
## 2-2. Removing the Clamp Motor

- 1) Switch OFF the machine power, and remove the rear cover to open the MAIN-SYSTEM-PCB Assembly. (Refer to Chapter 1)
- 2) Remove the Clamp unit. (Refer to 2-1)
- 3) Remove the Flat pinion gear and Spur gear by removing an E-ring on the Flat pinion gear.
- 4) Remove the Clamp motor by disconnecting the Clamp motor connector and removing the screws (M3 x 5 screws; 2 pcs).



**2-3. Removing Clamp sensors A and B**

- 1) Switch OFF the machine power, and remove the rear cover to open the MAIN-SYSTEM-PCB Assembly. (Refer to Chapter 1)
- 2) Remove the Clamp unit. (Refer to 2-1)
- 3) Remove the Reuse band (1 pc) from the Clamp unit.
- 4) Remove a screw (M3 x 8 screw; 1 pc) and remove the Clamp sensor plate with the two sensors attached.
- 5) Disconnect the connectors and remove each sensor from the Clamp sensor plate.



# CHAPTER 11: Master Removal Section

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# 1. Mechanism

## 1-1. Master Removal Mechanism

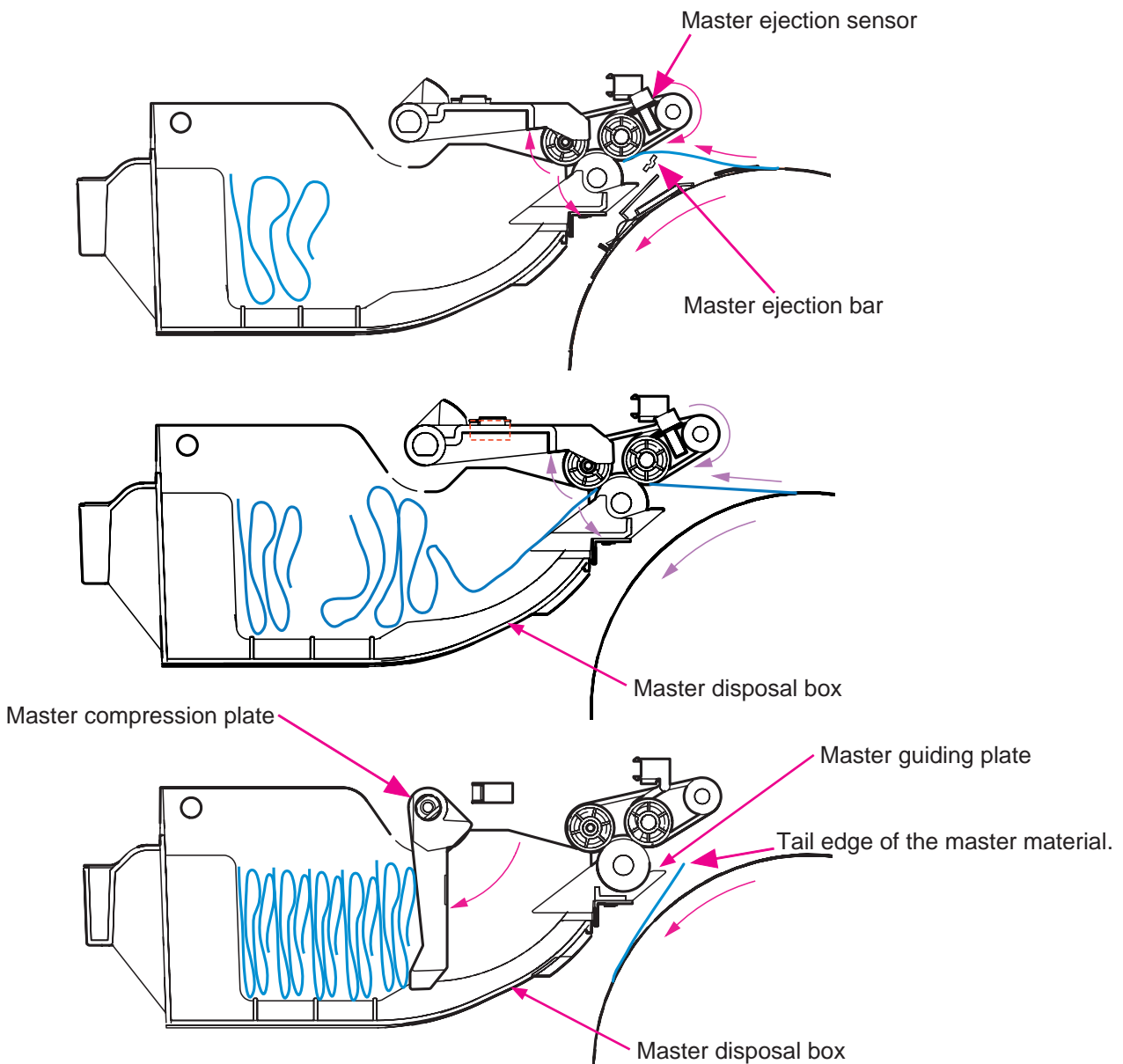
The master material on the print drum is released for master removal according to the following steps:

- (1) At the start of master removal, the Master loading sensor checks for the removal master on the Print drum.
- (2) Clamp plate opening action at the print drum B sensing position -> Print drum rotation -> Release of leading edge of the master -> Lift-up by the master ejection plate.
- (3) The removed master vertical transport action peels off the removed master from the print drum and sends it to the master disposal box.
- (4) The disposed master compression action compresses the removed master inside the master disposal box.

\* Above step-(1) is made only when the machine does not have the memory of the master on the Print drum.

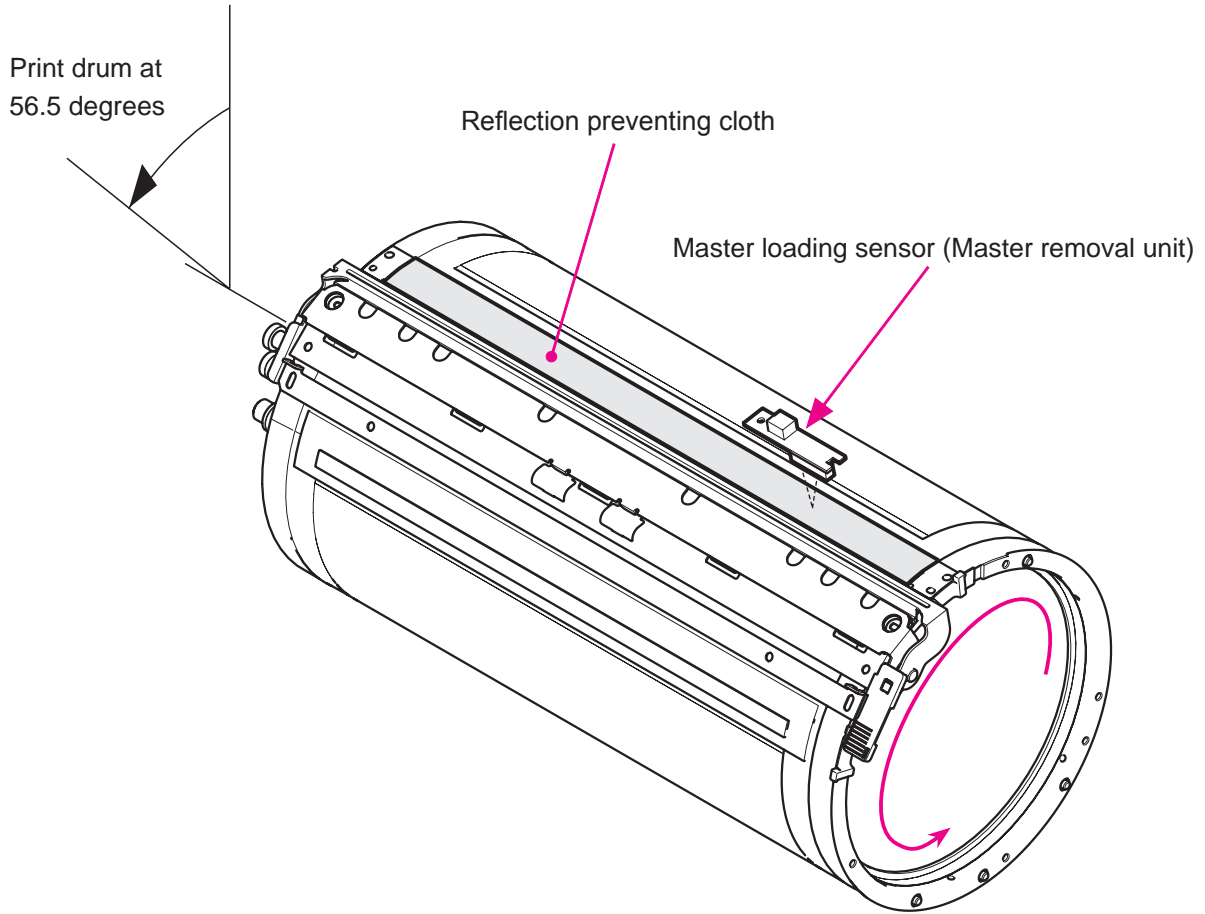
\* Even with no master is found on the drum, the master removal action takes place steps (2 to 4), but the Master disposal jam sensor detection is not performed in the removed master vertical transport action mode.

\* The master removal guide protects the tailing end of the master from getting dirty by coming into contact with the master removal rollers when the master is loaded.



**1-2.Master on the Print Drum Check Mechanism (Before Master Removal)**

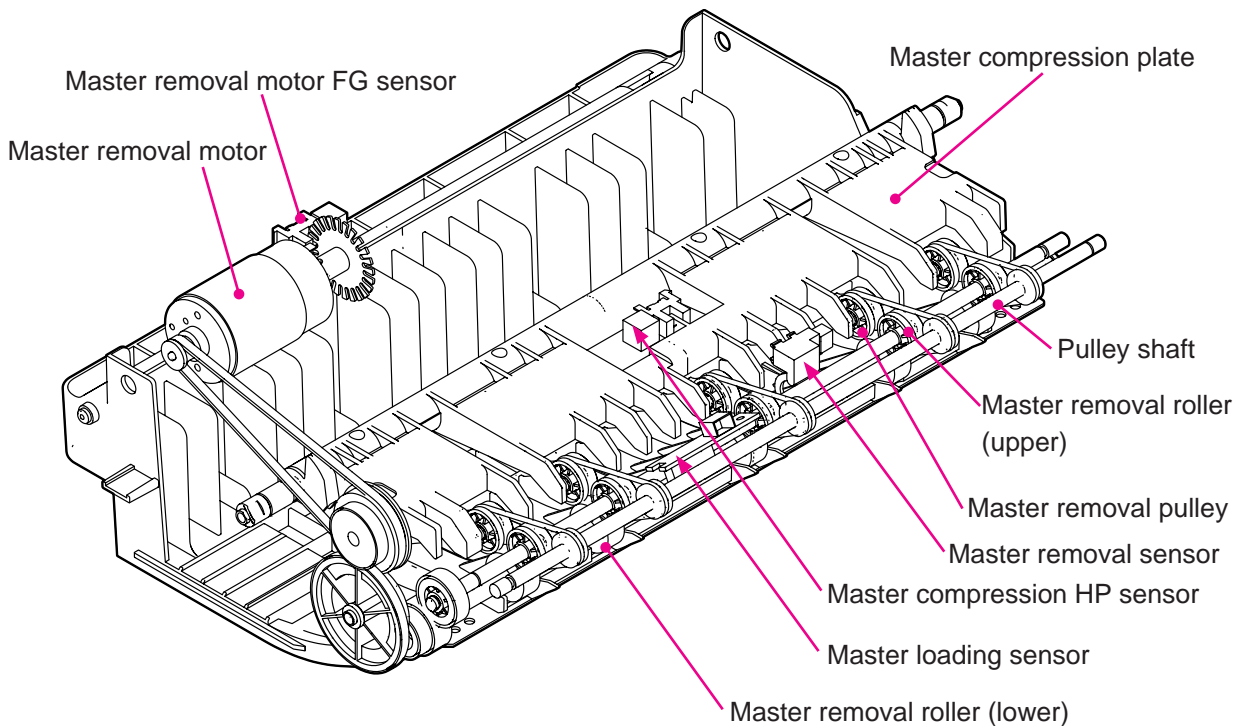
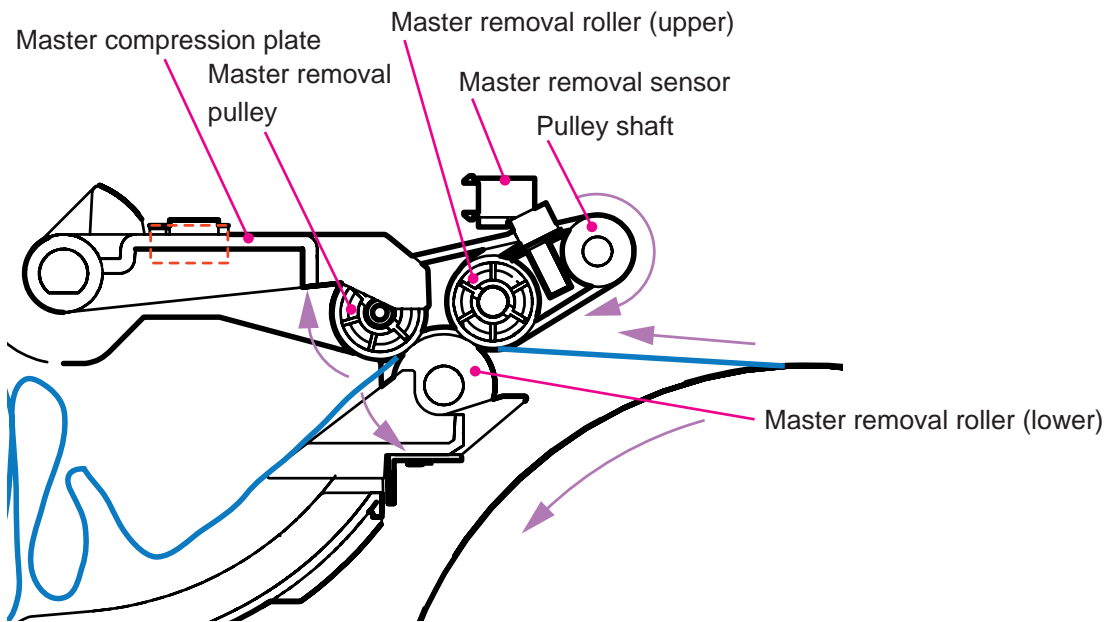
Before creating a confidential or normal master, the Print drum makes one rotation from its Position-B only when the presence of the master is uncertain. During this rotation, the Master loading sensor checks for the presence of the master on the Print drum at 56.5 degrees turn from position A. If a master has been found on the Drum, the above confirmation is not made. If a master material is found on the print drum, the master disposal jam sensor confirms whether a master is sent to the master disposal box in the subsequent removed master vertical transport action.



**1-3. Removed Master Vertical Transport Mechanism**

The master removal action sends a master, peeled off from print drum, to inside the master removal unit. When the clamp opening operation starts, the master removal motor starts rotating at the same time. After the clamp opening operation is completed, the main motor turns on, and the print drum starts rotating. The clamp transport cam, lowered in the clamp opening operation, opens the clamp plate. Then the master ejection plate rises, which removes the master from the clamp plate. The tip is released, and the master that is raised by the master ejection plate is sent to the master disposal box through the Master removal rollers.

Here, the master removal sensor confirms that the master has been correctly transported to the master disposal box when the print drum angle is either 120 or 180 degrees, and the master removal motor FG sensor is used to check the rotation speed of the master removal motor. The Master removal motor speed for drum rotation speed when removing master can be adjusted by test mode No. 578.



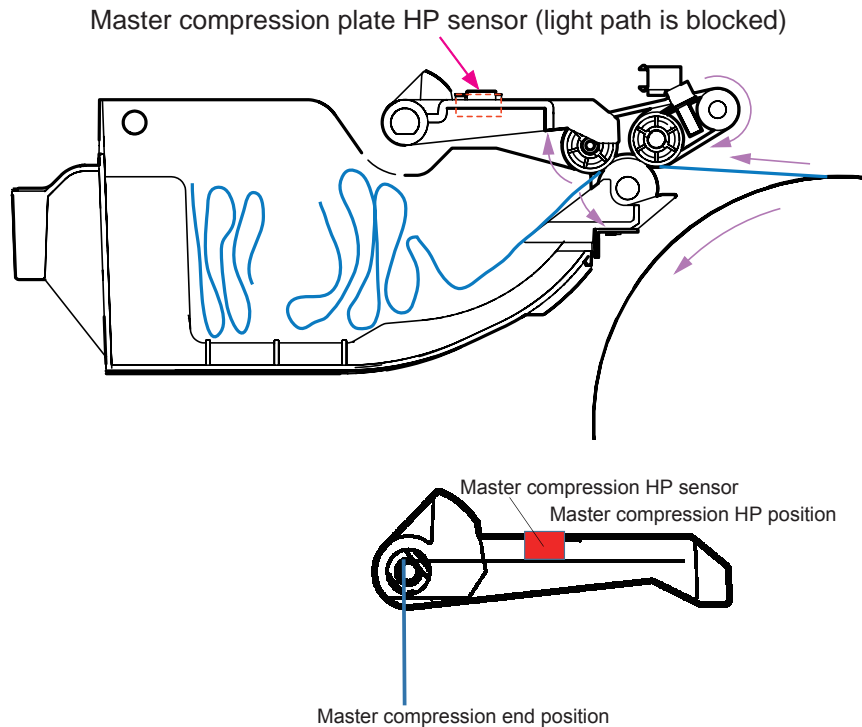


1-4. Disposed Master Compression Mechanism

The disposed master compression action compresses a master, peeled off from the print drum, with the master compression plate in order to increase the number of disposed masters storable in the master disposal box. The pulse count from the compression FG sensor represents the position of the master compression plate (angle), and the pulse width indicates the rotation speed of the master compression motor. The increased number of removed masters increases the resistance on the master compression plate; hence this slows down the motor rotation speed and extends the pulse width. These two values are used in compression control.

(1) Initializing movement

- As the initial position, the master compression plate HP sensor is in a state where the light path is blocked.
- If the master compression plate HP sensor is receiving light when the power is on, the master compression motor rotates in the reverse direction until the master compression plate HP sensor is in a state where the light path is blocked. The initializing operation is not performed when the master compression plate HP sensor is sensing the light path being blocked.
- If the master compression plate HP sensor is receiving light at the start of the disposed master compression action, the master compression motor rotates in the reverse direction until the master compression plate HP sensor is in a state where the light path is blocked. The initializing operation is not performed when the master compression plate HP sensor is sensing the light path being blocked at the time of starting master removal.



2) Master compressing movement

**When the amount of master is low -> Master compressing operation completion condition: When pulse count reaches the master compression pulse count**

- When the amount of master in the master disposal box is low, the pulse width is unchanged due to limited resistance on the master compression plate, and the timing to end the master compressing operation is determined by the position of the master compression plate (i.e. master compression pulse count).
- The master compression motor rotates in the compression direction. When the master compression plate HP sensor receives light, the counting of master compression FG sensor pulses starts. When the pulse count reaches the specified count (\*1), the master compression motor stops. After the master compression plate stops for about 6 seconds, the master compression motor rotates in the reverse direction. When the master compression plate HP sensor senses that the light path is blocked, the master compression motor stops, ending the master compressing operation.

\*1 Default

A3: 155 pulses,

Other: 147 pulses

(Master compression pulse count: Removal Master

Pulse count specified in Test

mode No.573)

Master compression  
HP position

Master compression  
pulse

Master compression  
end position

**Increasing number of masters -> Master compressing operation end condition: FG sensor detects pulse width over the specified value before the pulse count reaches the master compression pulse count**

- When the amount of master increases inside the master disposal box, the resistance on the master compression plate becomes greater, which slows down the rotation speed of the master compression motor and extends pulse width. Therefore, the timing to end the master compressing operation depends on the pulse width.

- If the compression plate FG sensor senses a pulse width of over 40 ms

(Master compression end position adjustment: Pulse width specified in Test mode No.575)

before the pulse count reaches the master compression pulse count, the master compression motor stops for 6 seconds and

then rotates in the reverse direction. When the master

compression plate HP sensor senses that the light path is

blocked, the master compression motor stops, ending the master

compressing operation.

Master compression  
HP position

Master compression  
pulse count

Master compression  
end position

FG sensor pulse width  
(Master compressing  
operation ends when pulse  
width exceeds 40 ms)

**Master disposal box is full -> Detection condition: FG sensor senses pulse width that exceeds the limit before the pulse count reaches the value indicating that the master disposal box is full. This has priority over the software count .**

- If the amount of Removal master increases even more, master disposal box is determined to be full when the pulse width reaches 40 ms (master compression end position adjustment) before the pulse count by the compression FG sensor counts up to the specified count (\*2) after the master compression plate HP sensor receives light. In such a case, the panel displays an indication of the master disposal box being full after the completion of the master compressing operation. Normally, master disposal box being full is indicated when reaching the software count setting value (\*3).
- The indication of master disposal box being full is reset after the master disposal box set switch stays turned off (master disposal box is removed) for 5 seconds.
- After reset, because the user may place back the master disposal box without removing the disposed masters, the pulse width from the compression FG sensor has priority over the software count in terms of the detection of full box.

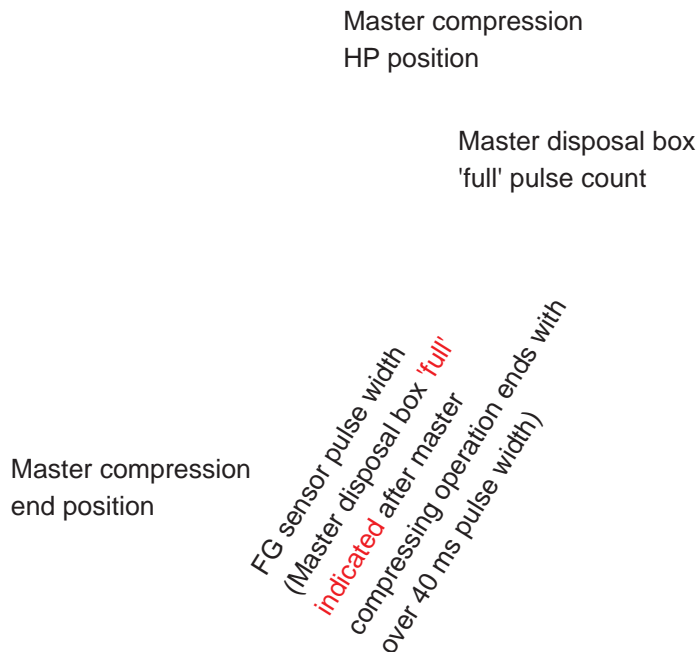
\* Test mode default value varies depending on the model.

\*2 Default: A3, 80 pulses; B4/A4: 146 pulses

(Master disposal box full pulse count: Pulse count specified in Test mode No.576)

\*3 Default: 100 masters

(Master removal software count master disposal box full setting: Master count specified in Test mode No.584)



**About the Master Removal Software Count**

- 1) Software counter can be enabled or disabled by the master removal software count master disposal box full enable/disable switch in Test mode No.585.
- 2) The remaining amount of master detected is indicated by the remaining volume display in 4 levels based on the software counter value. This can be checked from "Information" on the operation panel. (The value set in the master removal software count master disposal box full setting in Test mode No.0584 is 100%.)
- 3) The software counter is set to 0 at the same time the "Master disposal box is full" error is cleared.
- 4) If the masters are removed from the master disposal box before the box is full, the software counter is not cleared to 0. (The machine cannot be detected the removal master.)

1-5.Master Disposal Box Set Switch

Whether the master disposal box is properly placed is checked by the master disposal box set switch and sensor. When the master disposal box set switch is off, the main motor, clamp motor, master compression motor, master removal motor, and separation fan motor do not turn on.

[Master removal box compulsory set-motion]

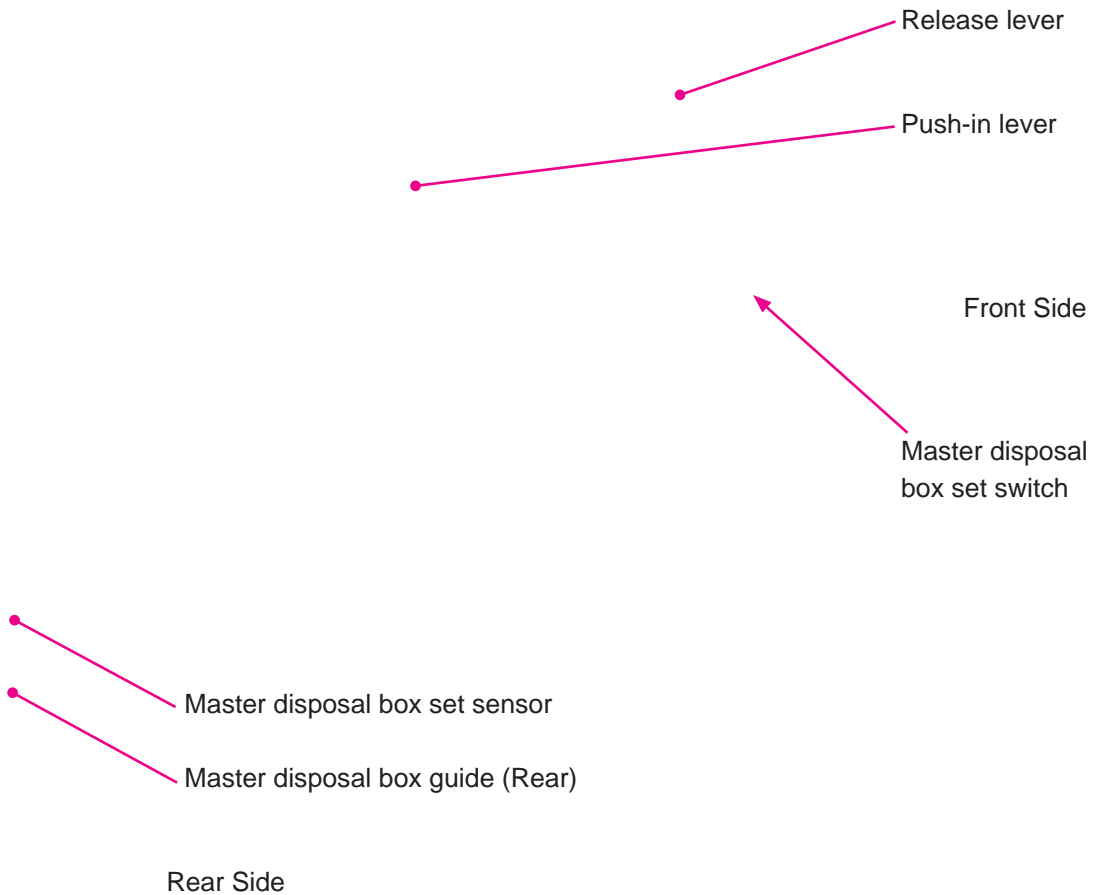
This function fixes the position of the master disposal box when it is set incorrectly (not inserted all the way). After the master disposal box is set, it is forcibly moved to the given position by the operation of the master compression plate in the compression direction.

Test mode No.572 "Master removal box compulsory set-motion setting"

0: OFF (disable) <default> / 1: ON (enable)

1-6.Release Lever and Push-in Lever

- The release lever allows the user to release the nip of the master removal roller. Lowering the lever makes it easier to remove the master when it gets entangled in the master removal roller (top/bottom).
- The push-in lever restores the lowered master removal roller (bottom) to its original position. The push-in lever slides forward when the release lever is lowered. To restore the master removal roller (bottom) to its original position, slide the push-in lever back.



### 1-7. Protect Function

The protection mode is a function that restricts printing using master that contain confidential information to authorized users only. Specifically, disposal of masters and lock of the master disposal box.

#### ON/OFF selection of the protect function

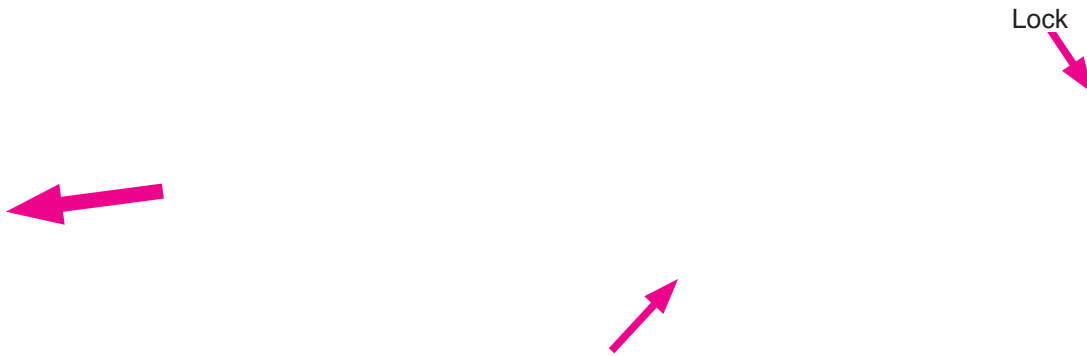
- The activation and deactivation of the protect function is done by the Admin Mode. Only administrator can release the protect function. As certification screen appears, perform the certification operation.
- When the protection mode is activated, the duration of auto sleep or auto shutoff is fixed to 1 minute; additional printing is prevented by having the masters disposed of upon returning from sleep or upon power-on.

#### Automatic confidential master making

- When the protection mode is activated, a confirmation message appears, prompting whether to proceed with confidential operation after printing is completed. Selecting “Run now” starts the confidential operation.

#### Master disposal box lock mechanism

- After running the master removal action in protection mode, the master compression plate stops at a slightly lower position, which locks the master disposal box, preventing it from being removed.
- When an error which requires removal of the master disposal box, (such as Master Disposal Box Full, Master Disposal Jam Error) occurs, the master compression plate goes back to its HP position, and the master disposal box becomes to be removed.
- Even with the protect function OFF, the Master disposal box can be locked in position by using a padlock on the slide lever on the Master disposal box handle [refer to the photograph below].



## 2. Disassembly

### 2-1. Removing the Master Disposal Box

When the Master disposal box is locked in the machine, either by a padlock or by the user mode protect function, the Master disposal box cannot be removed unless the following steps are taken.

In either case, a permission from the customer is needed in order to remove the Master disposal box.

#### When a padlock is used

If a Padlock is used, a key for that Padlock is needed to unlock the key to remove the Master disposal box. If the key is lost, the only way to get the Master disposal box is to break the box handle.

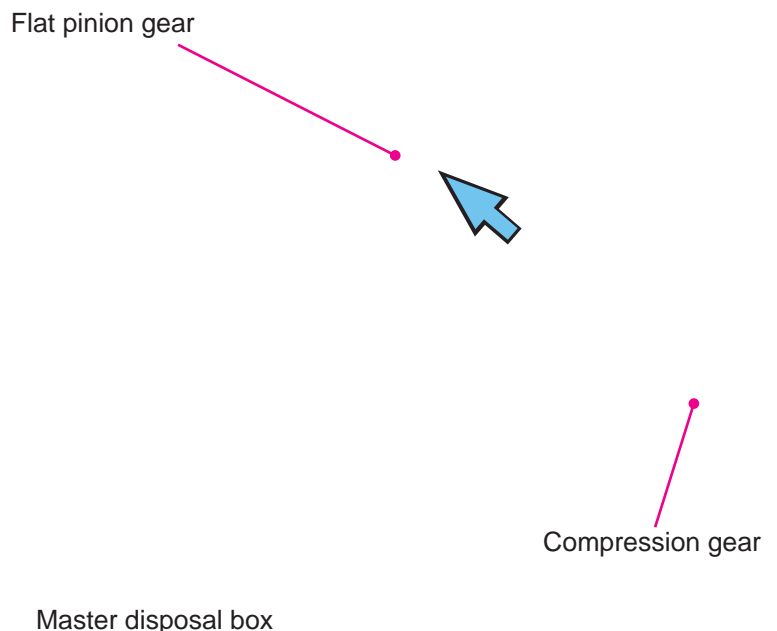
#### When the Master compression plate is lowered at look position

If the test mode can be activated

- (1) Perform test mode No. 0490 to place the Master compression plate back to the home position, and then remove the Master disposal box out.

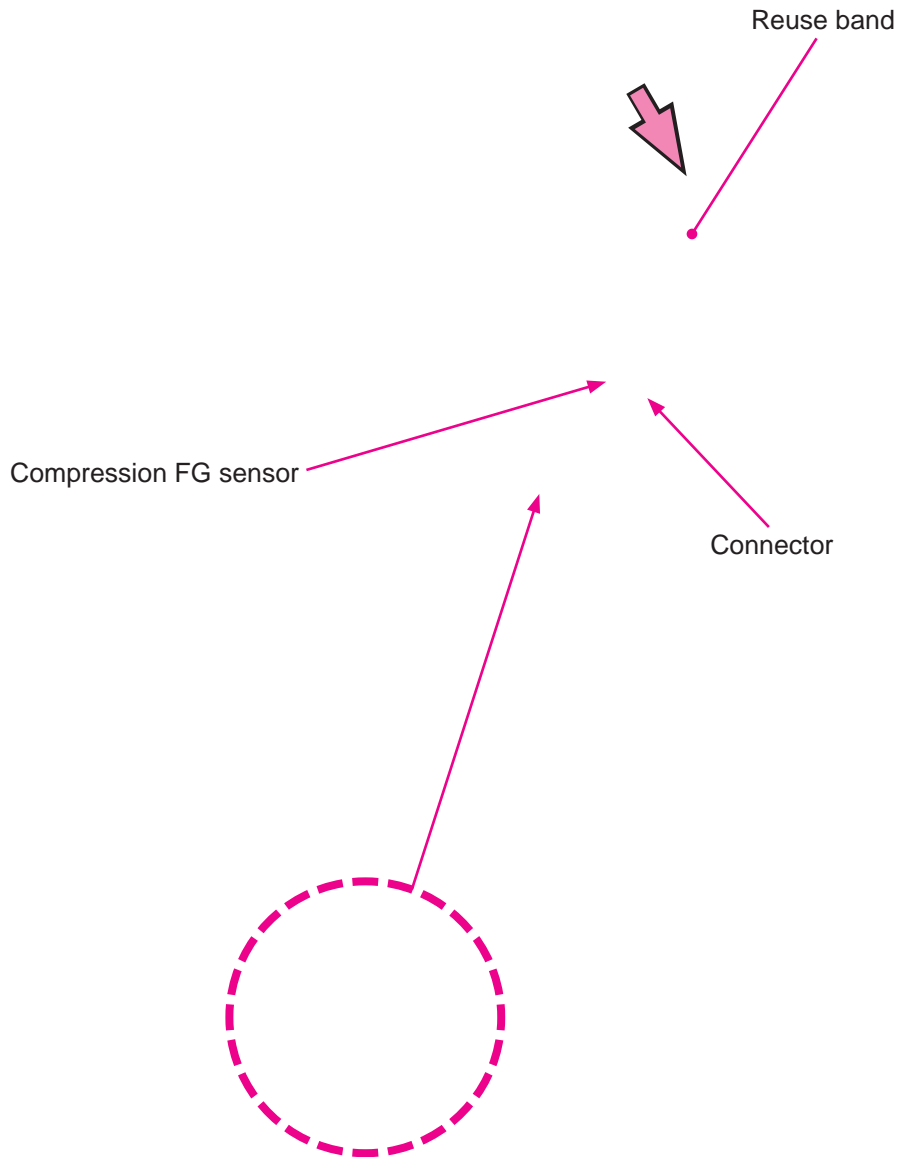
If the test mode can not be activated

- (1) Turn power OFF and remove the Front cover. (Refer to Chapter 1)
- (2) Remove the Flat pinion gear by removing an E-ring (4mm diameter E-ring; 1 pc).
- (3) Rotate the Compression gear all the way in the counterclockwise direction to raise the Master compression plate, and remove the Master disposal box out of the machine.



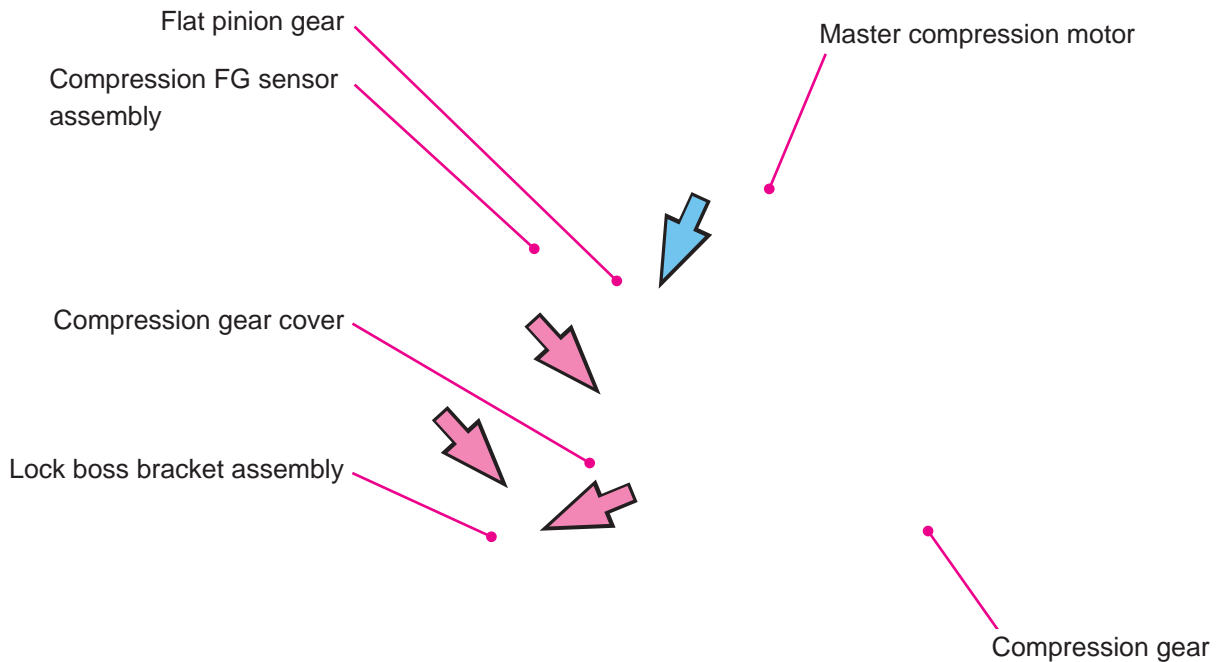
### 2-2. Removing the Compression FG Sensor

- (1) Turn power OFF and remove the Front cover. (Refer to Chapter 1)
- (2) Disconnect the connector and remove the Reuse band.
- (3) Remove the screw (M3 x 6 screw; 1 pc) and remove the Compression FG sensor together with the bracket.

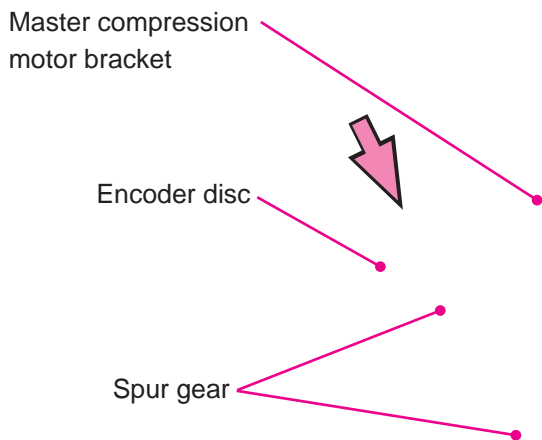


### 2-3. Removing the Master Compression Motor

- (1) Turn power OFF and remove the Front cover. (Refer to Chapter 1)
- (2) Remove the Flat pinion gear by removing an E-ring. (4mm diameter E-ring; 1 pc)
- (3) Let the Master compression plate swings down by its own weight.
- (4) Remove the Lock boss bracket assembly by removing the screw. (M3 x 8 screw; 1 pc)
- (5) Remove the Compression gear cover by removing the screw. (M3 x 6 screws; 2 pc)

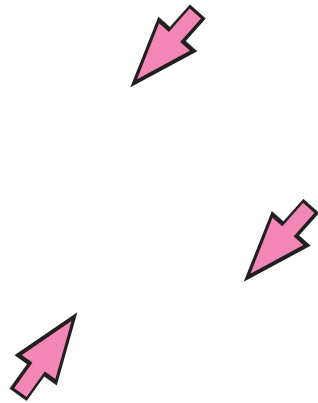


- (6) Remove the two spur gears.
- (7) Remove the Compression FG sensor assembly. (Refer to 2-2.)
- (8) Remove the Encoder disc by removing an E-ring (4mm diameter E-ring; 1 pc).

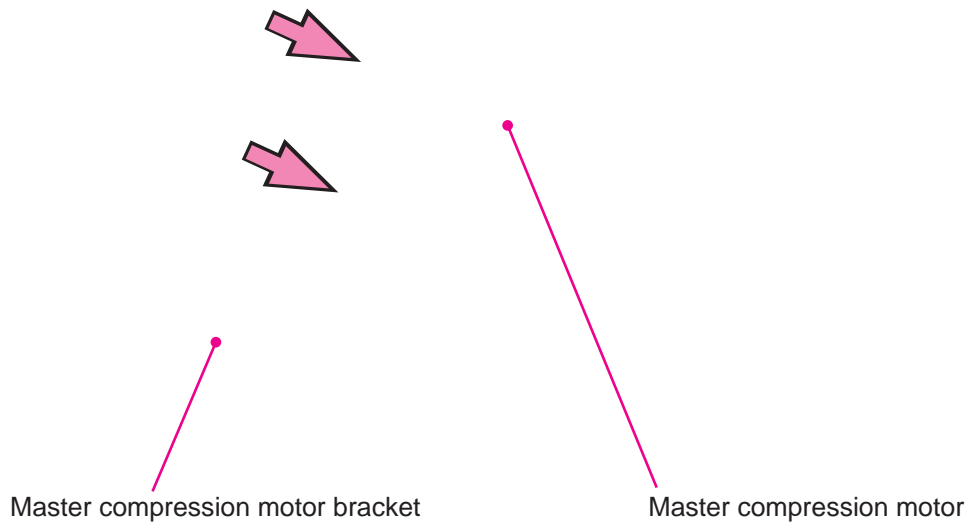




- (9) Remove screws (M3 x 6 screws; 3 pcs) and remove the Master compression motor, together with the motor bracket.



- (10) Remove the master compression motor from the master compression motor bracket by removing screws (M3 x 5 screws; 2 pcs).



### 2-4. Removing the Master Removal Unit

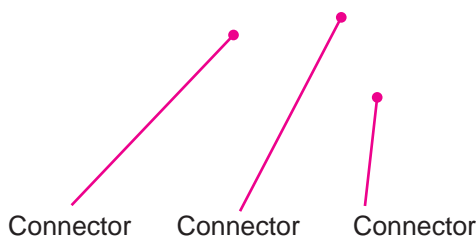
- (1) Turn power OFF, remove the master disposal box, and then the front cover. (Refer to Chapter 1)
- (2) Remove the Master removal covers F & R by removing screws. (Bind 3 x 8: 1 pc each)



- (3) Remove the screws (M4 x 8 screw; 1 pc each) found after removing the Master removal covers F & R.



- (4) On the front side of the machine, disconnect three connectors and remove the screw (M4 x 8 screw; 1 pc), and slide the Master removal unit out toward the front side of the machine to remove.



**2-5. Removing the Master removal Sensor & Master Loading Sensor**

(1) Turn power OFF and remove the Master removal unit from the machine. (Refer to 2-4)

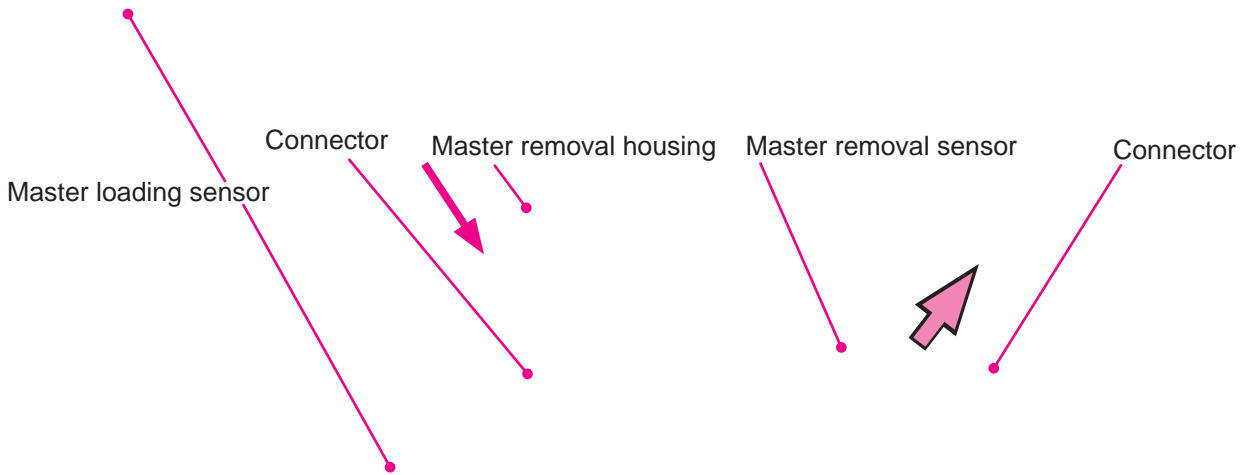
**Removing the Master removal sensor**

(2) Disconnect the connector, remove the screw (M3 x 6 screw; 1 pc), and remove the Master removal sensor together with the sensor bracket.

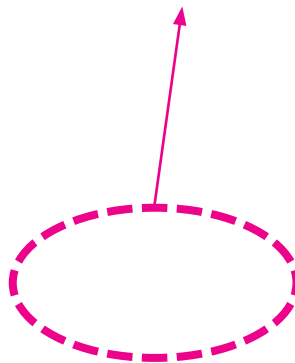
**Removing the Master loading sensor**

(2) Disconnect the sensor connector, remove the screw (M3 x 6 screw; 1 pc) , and remove the master loading sensor together with the sensor bracket.

(3) Remove the mounting screw (Bind 3 x 6: 1 pc) and then remove the master loading sensor.



Front Side



< Master removal unit >

## 2-6. Removing the Master Removal Motor & FG sensor

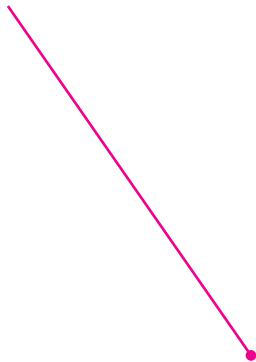
### Removing the Master removal motor

- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Remove the Master compression motor. (Refer to 2-3)
- (3) Disconnect the connector, remove screws (M3 x 5 screws; 2 pcs), and remove the Master removal motor.

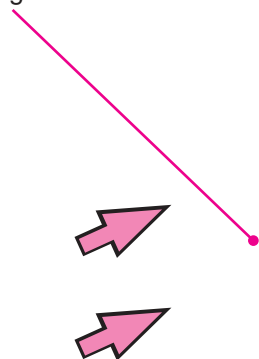
### Removing the Master removal motor FG sensor

- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)

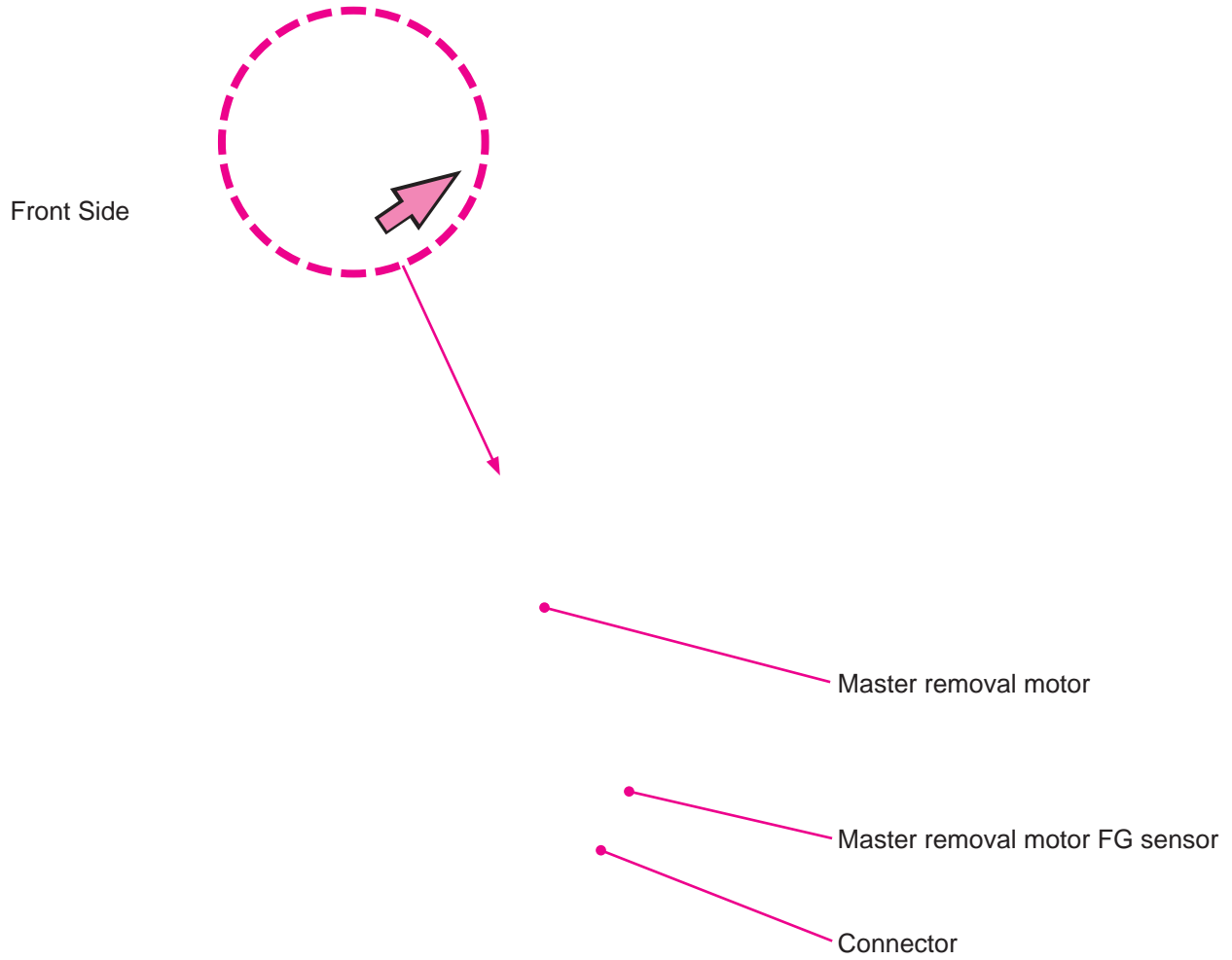
Compression motor



Timing belt



- (2) Disconnect the connector and remove the master removal motor FG sensor together with the bracket by removing the screw (M3 x 6 screw; 1 pc).
- (3) Remove the Master removal motor FG sensor from the bracket.



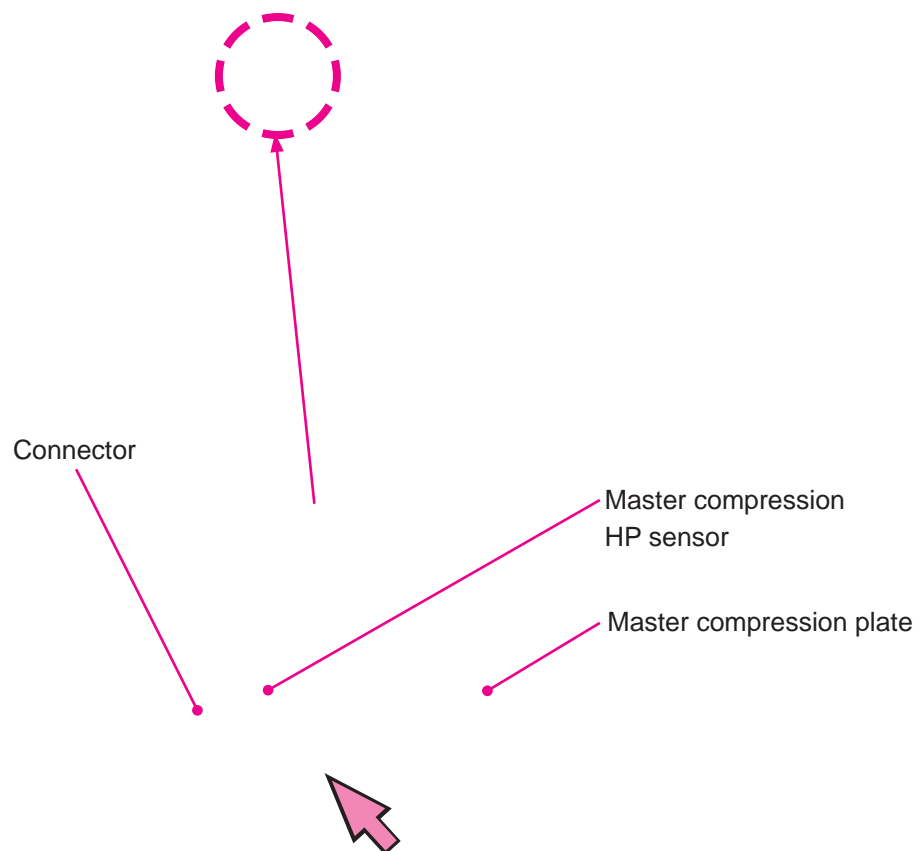
## 2-7. Removing the Master Compression HP Sensor

- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Disconnect the connector and remove the Master compression HP sensor together with the bracket by removing the screw (M3 x 6 screw; 1 pc).
- (3) Remove the Master compression HP sensor from the bracket.

< Precautions in Reassembly >

Mount the Master compression plate at its home position during the assembly.

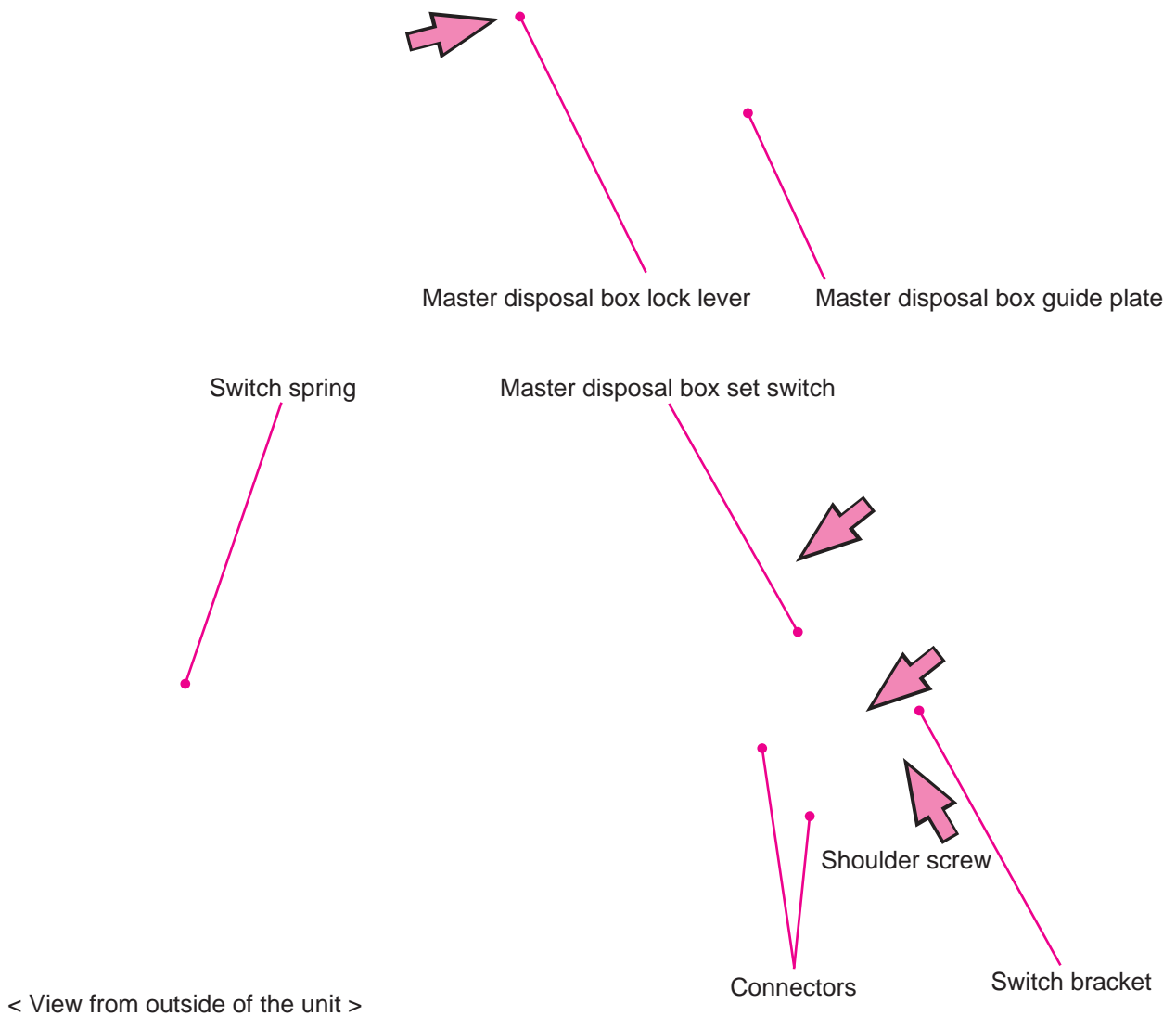
Front Side



### 2-8. Removing the Master Disposal Box Set Switch

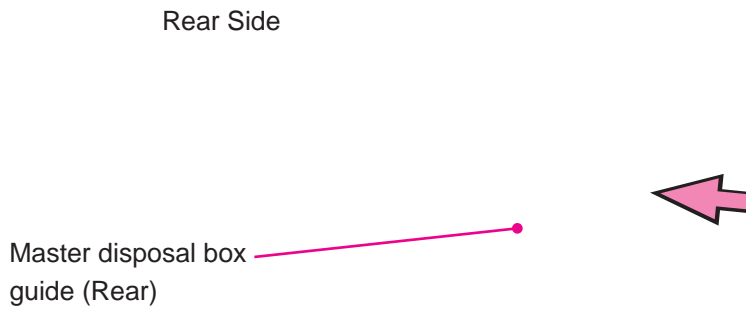
- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Remove the Master disposal box lock lever by removing the screw. (M3 x 6 screw; 1 pc)
- (3) Remove the Master disposal box guide plate by removing the screws. (M3 x 8 screws; 3 pcs)
- (4) Remove the Switch spring.
- (5) Disconnect the two connectors, remove the shoulder screw, and then remove the master disposal box set switch together with the bracket.
- (6) Remove the master disposal box set switch from the bracket. (Panhead sems screw 3 x 14: 2 pcs)

FRONT

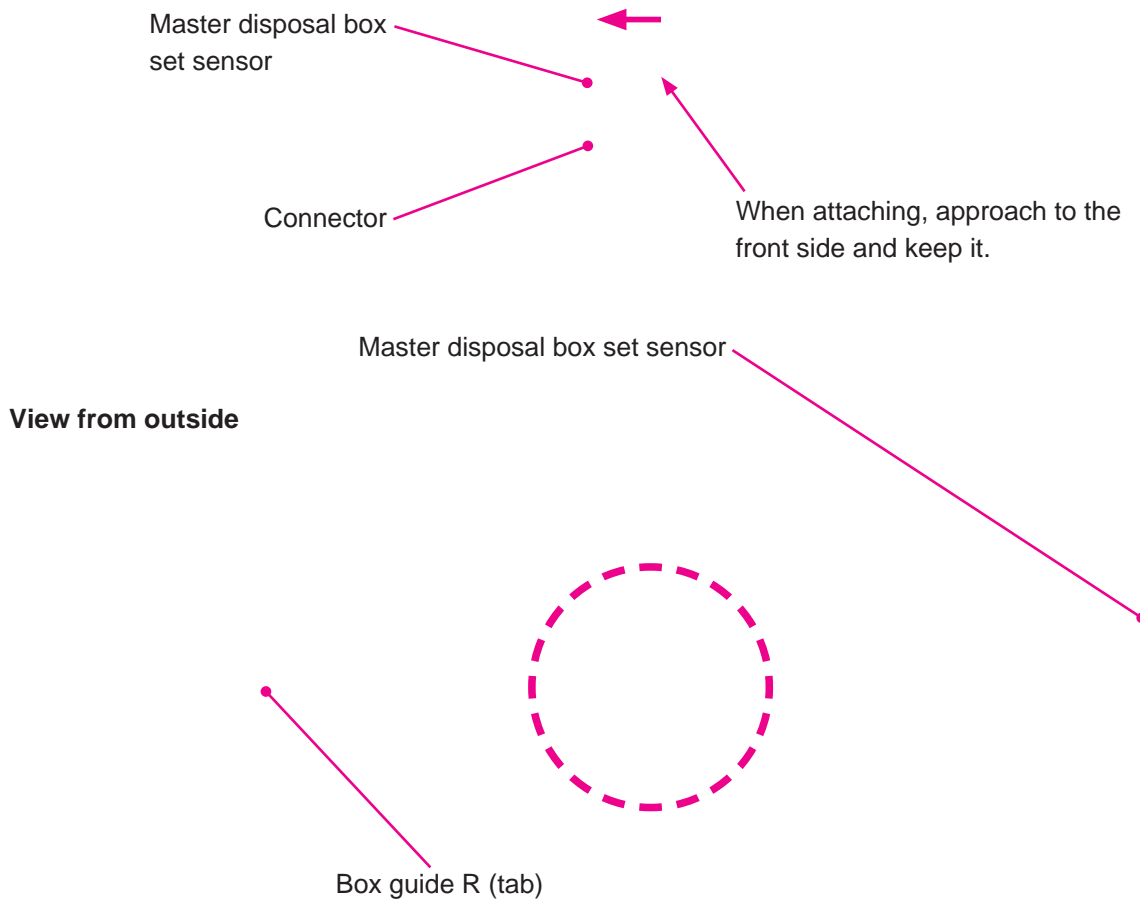


### 2-9. Removing the Master Disposal Box Set Sensor

- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Remove the Master disposal box guide (Rear) by removing the screw (M3 x 6 screw; 1 pc).
- (3) Disconnect the connector and remove the Master disposal box set sensor.



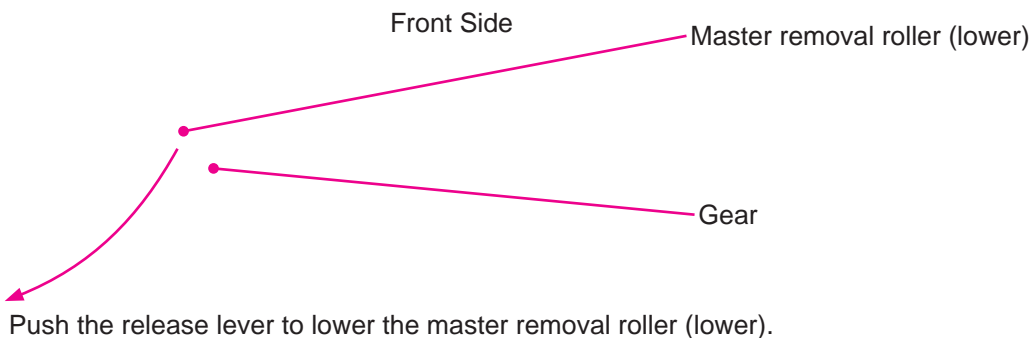
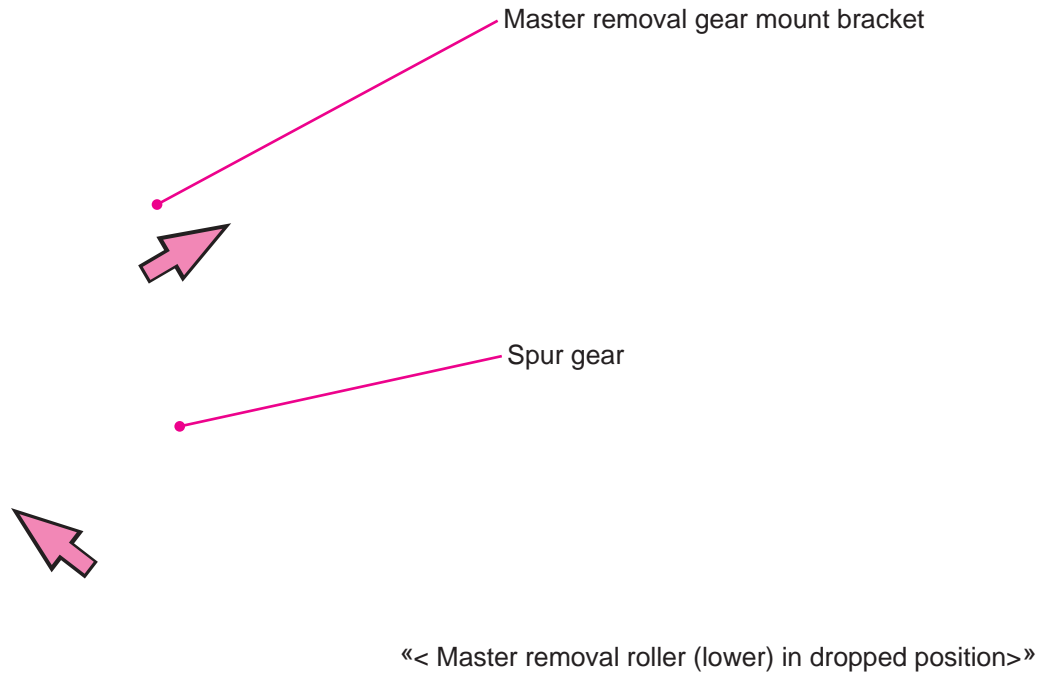
Note: Master disposal box set sensor should be installed closer to the front side (direction of the arrow).





**2-10. Removing the Master Removal Roller (Lower)**

- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Remove the Master removal gear mount bracket by removing the screws. (Round-end IT3C3 x 6: 2 pcs)
- (3) Remove the Spur gear.
- (4) Push the release lever to lower the master removal roller (lower).
- (5) Remove the Master removal roller (lower) gear.



- (6) Remove the Master removal guide assembly by removing the screws (M3 x 6 screws; 2 pcs).

Master removal roller (lower)

Master removal guide assembly

Master removal roller (lower)

Master removal guide assembly

<Roller removed>

(7) Remove E-rings (6mm diameter E-rings; 2 pcs) and Metal bushings, and remove the Master removal roller (lower).

Front Side

Rear Side

Pulley shaft

Master removal roller (upper)

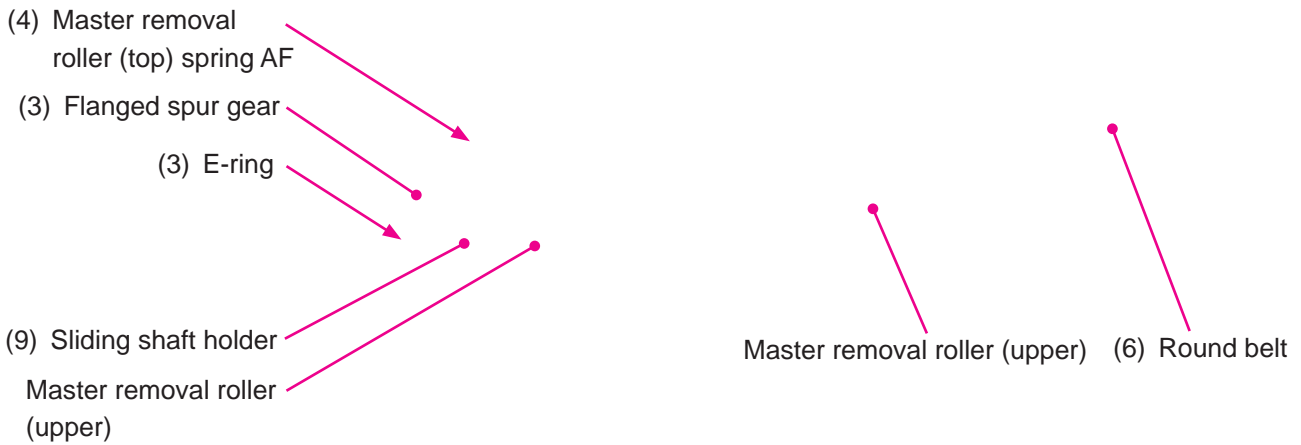
Master removal roller (lower)

2-11. Removing the Master Removal Roller (Upper)

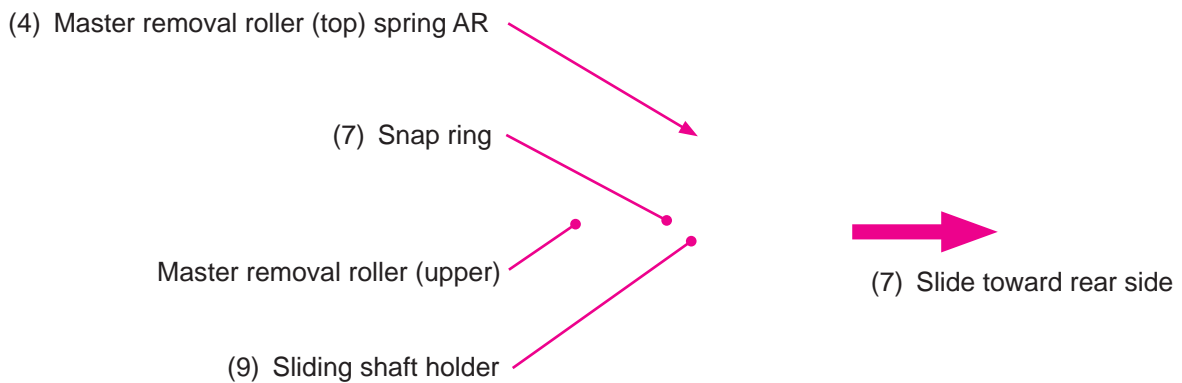
- (1) Switch power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Push the release lever to lower the master removal roller (lower).
- (3) Remove the flanged spur gear by removing the E-ring from the front side (4mm diameter E-ring: 1 pc).
- (4) Remove the master removal roller springs AF and AR.
- (5) Remove the master loading sensor assembly. (Refer to 2-5) (To avoid catching during the roller removal)
- (6) Unhook the Round belts from the pulleys on the Master removal roller (upper).
- (7) Remove the snap ring from the rear side of the master removal roller (top), slide the roller toward the rear side, and pull the front side out of the slotted hole in the metal plate.
- (8) Next, slide the master removal roller (top) toward the front side and remove it through the round belt.
- (9) Remove two Sliding shaft holders from the Master removal roller (upper).

The numbers used with the pictures correspond to the steps in the assembly/disassembly procedure.

<< FRONT >>

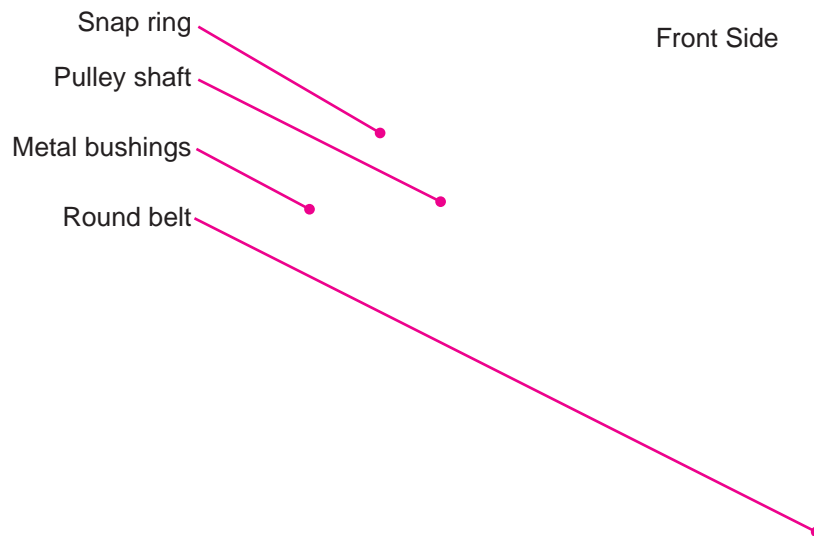


<< Rear Side >>



## 2-12. Removing the Pulley Shaft

- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Unhook the Round belts from the pulleys on the Pulley shaft.
- (3) Also on the front side of the unit, remove a snap ring and unhook the Metal bushings from the frame and slide the Bearing metal inward. Remove the pulley shaft from the unit by pulling it out through the Round belts.



## 2-13. Removing the Round Belts

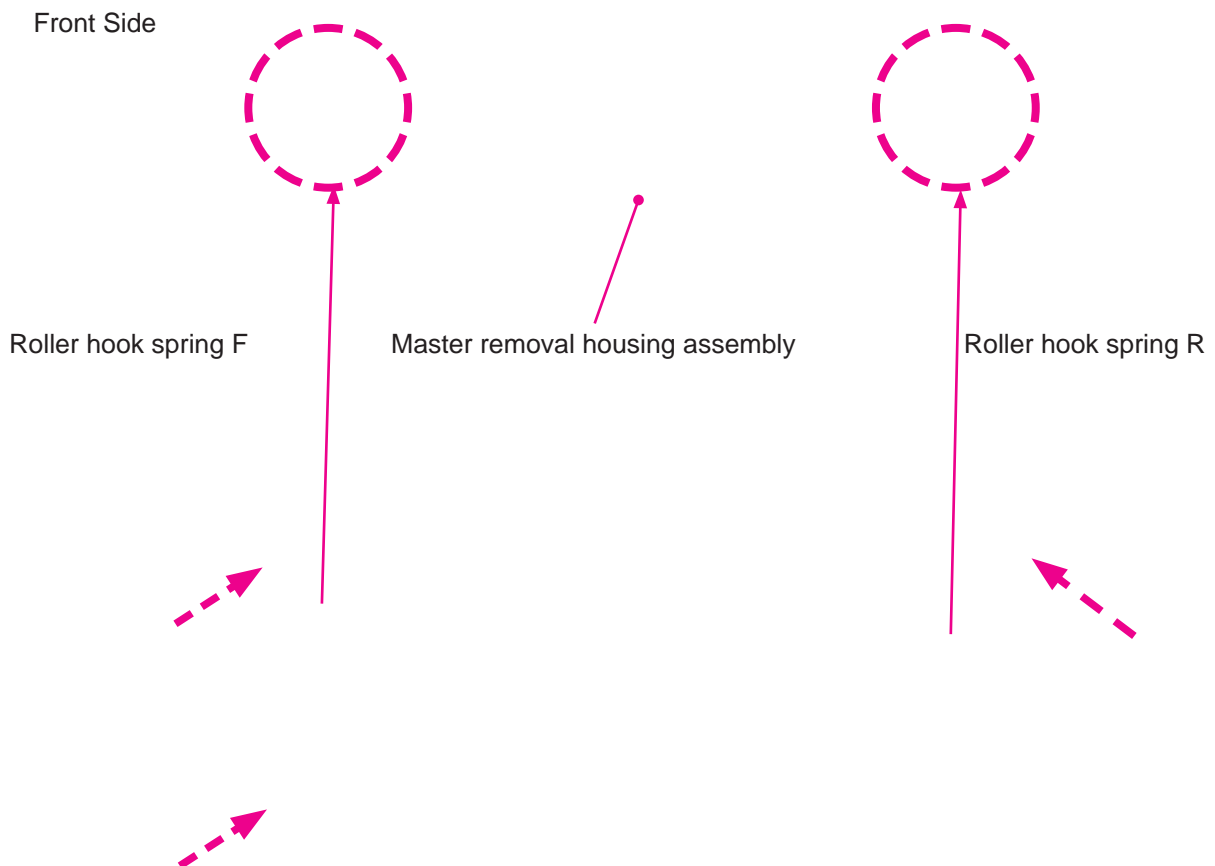
- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Push the release lever to lower the master removal roller (lower).
- (3) Removing the following two components enable the Round belts to be removed.
  - Master removal roller (upper) (Refer to 2-11 and 2-12)
  - Pulley shaft (Refer to 2-13)

## 2-14. Removing the Master Removal Housing Assembly

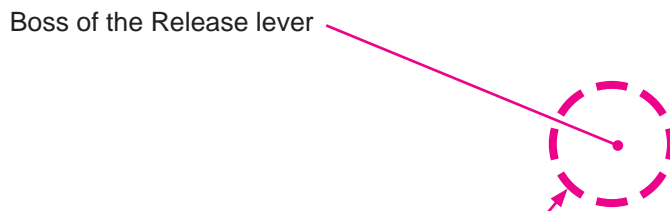
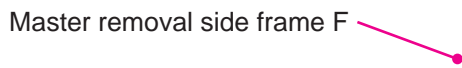
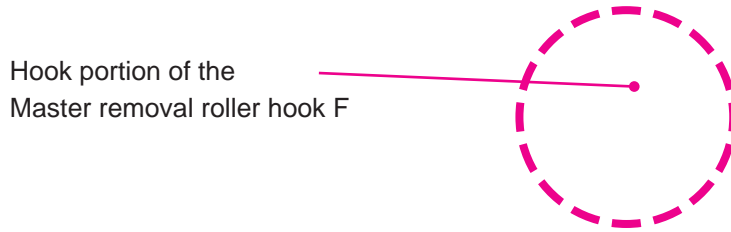
- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Push the release lever to lower the master removal roller (lower).
- (3) Remove both Roller hook springs F & R.
- (4) Disconnect the master removal side frame F connector, remove the mounting screws (round-end IT3C3 x 6: 2 pcs on front side, 1 pc on rear side) from the front and rear sides, and remove the master removal housing assembly.

### < Precautions in Reassembly >

**Make sure to position the boss of the Release lever in the hook portion of the Master removal roller hook F. (Refer to the three photographs on the next page.)**



< Master removal housing assembly >

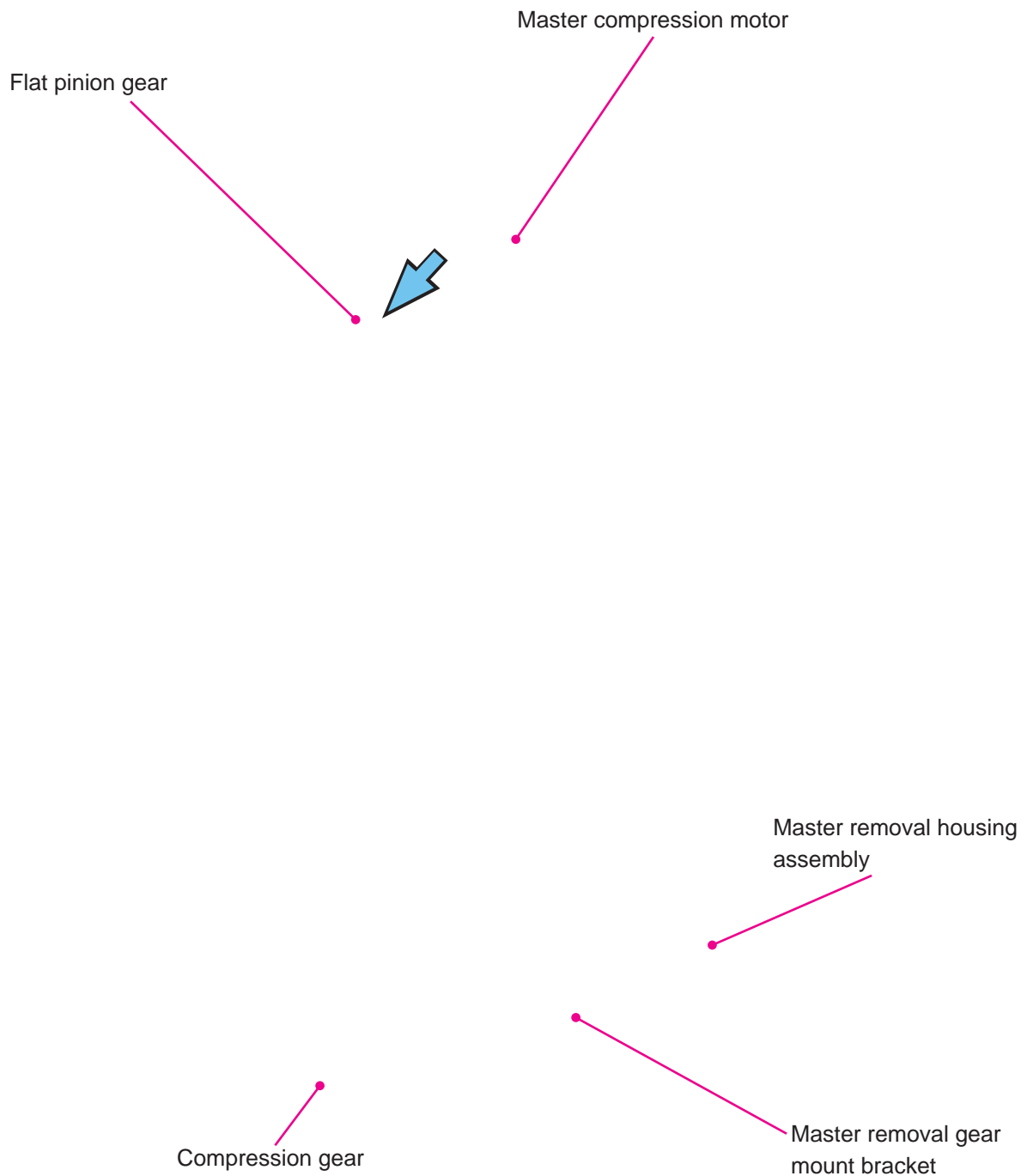


Make sure to position the boss of the  
Release lever in the hook portion of the  
Master removal roller hook F.



## 2-15. Removing the Master Compression Plate

- (1) Turn power OFF and remove the Master removal unit. (Refer to 2-4)
- (2) Remove the Flat pinion gear by removing the E-ring (4mm diameter E-ring; 1 pc).
- (3) Let the Master compression plate swings down by its own weight.
- (4) Remove the following components.
  - Compression FG sensor (Refer to 2-2)
  - Master compression motor (Refer to 2-3 (1) through (8) in this chapter)
  - Master removal gear mount bracket. (round-end IT3C3 x 6: 2 pcs)
  - Master removal housing assembly (Refer to 2-15)
  - Master disposal box guide (Rear) (M3 x 6 screw; 1 pc) (Refer to 2-9)
  - Master removal roller assembly (6 mm diameter E-rings; 2 pcs and Metal bushings; 2 pcs).



< Master removal housing assembly >

Master disposal box guide (Rear)



Rear Side

Metal bushings



Front Side

Metal bushings

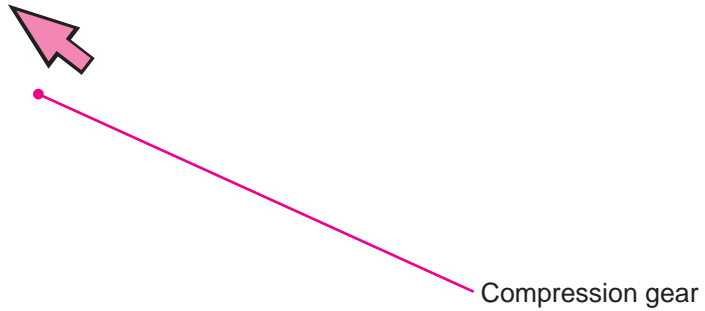


Master removal roller assembly

< The photograph shows the shaft removed. >



(5) Remove the Compression gear by removing the screw (M4 x 8 screw; 1 pc) from the front of the unit.

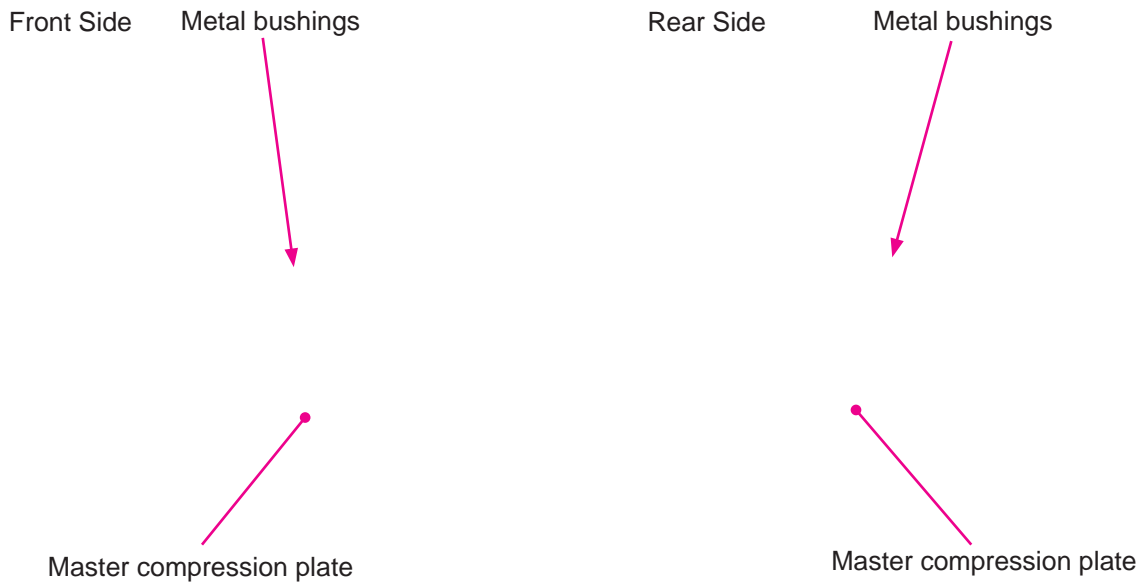


(6) Remove the E-ring (8mm diameter E-ring; 1 pc) and Metal bushings from the rear side.

(7) Remove the Master compression plate by removing the E-ring (8mm diameter E-ring; 1 pc) and Metal bushings from the front side.

**< Precautions in Reassembly >**

- Mount the Master compression plate at its home position during the assembly.



Master compression plate

< View of the Master removal unit after removing the Master compression plate >

# MEMO

# MEMO

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# CHAPTER 12. FB (Flat Bed) Section

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## Contents

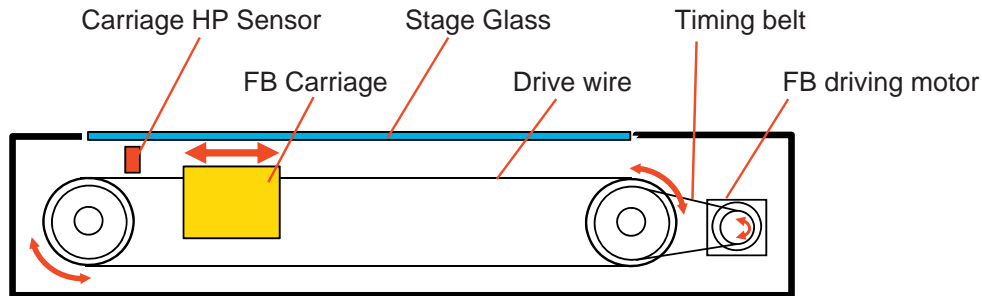
- 1. Mechanism .....2**
  - 1-1. Scanner Mechanism .....2
  - 1-2. FB Initializing Movement .....2
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  - 2-4. Removing the Print Head Carriage .....7
  - 2-5. Removing the HP Sensor.....8
  - 2-6. Removing the FB Driving Motor .....9

## 1. Mechanism

### 1-1. Scanner Mechanism

This section describes the structure of "scanner" equipment that reads original.

The scanner is an equipment that reads the whole page of the original by moving the FB carriage continuously.



### 1-2. FB Initializing Movement

When the power is ON, the FB carriage moves to the HP sensor position if the FB carriage position is out of fixed length.

### 1-3. Stage Glass Original Detection Mechanism

The FB carriage checks whether an original has been placed on the Stage glass.

When the Stage cover is closed, and the angle sensor 3 is blocked, FB carriage lights the LED to check whether the original is on or not, and measures width of the original. Information from other angle sensors is not used.

### 1-4. FB Auto-Base-Control (ABC operation)

The ABC is an abbreviation for Auto-Base-Control, which controls original background density automatically.

Remove original background density with image processing.

The "Auto-Base-Control function" is inactive in the photo, Duo, pencil, and dot screen mode.

Image Processing Operation

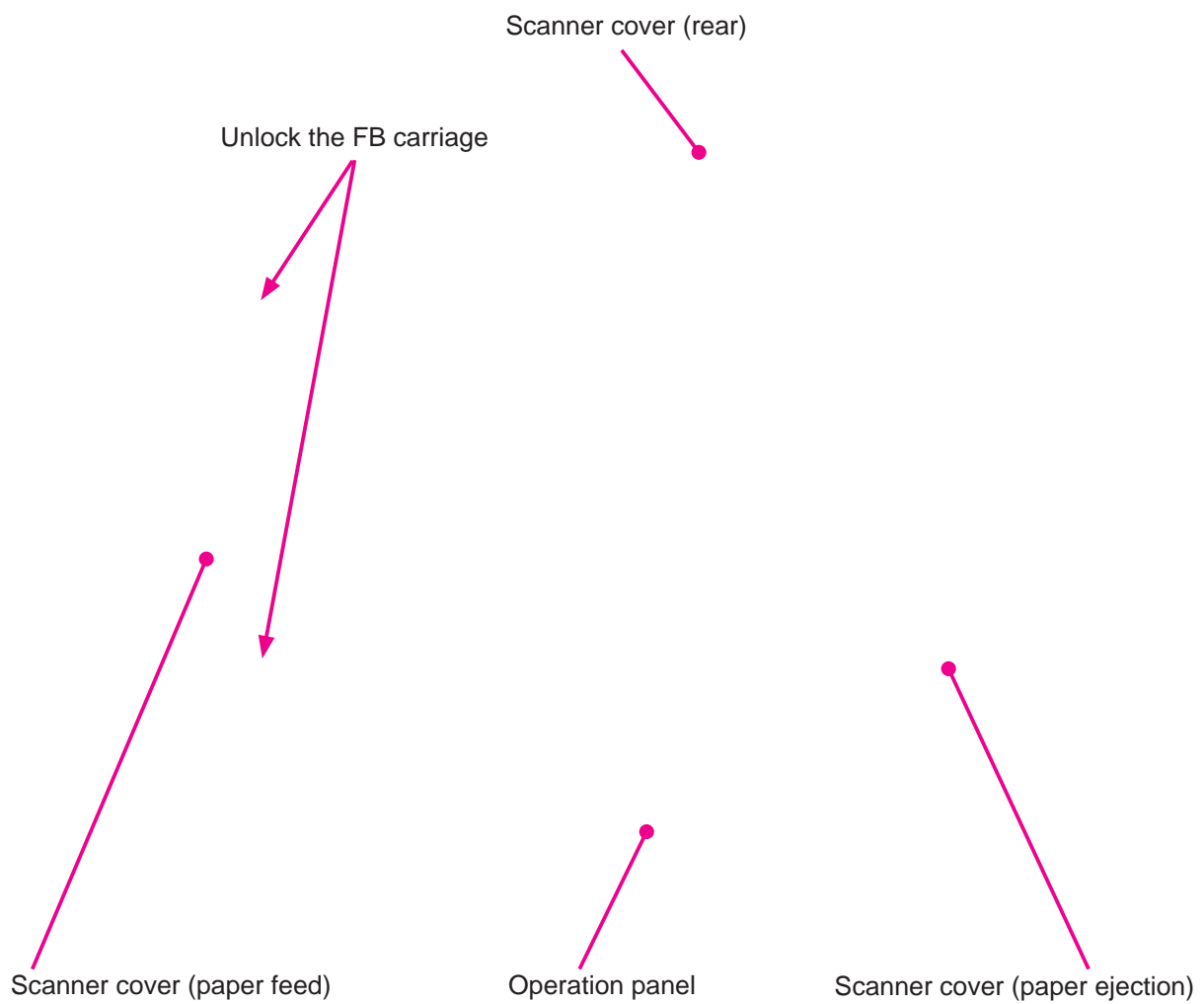
- (1) Scans the original with the lamp turned off to measure density and creates data (black shading compensation).
- (2) Scans the shading compensation board (white original) to measure density and create data (white shading compensation).
- (3) Scans original background density to create data.
- (4) Determine removal density data from the procedure (1) to (3). (ABC operation)

## 2. Disassembly

### 2-1. Removing the Scanner Unit

- (1) Switch power OFF, and remove the following covers. (Refer to Chapter 1)
  - Stage cover
  - Scanner cover (paper feed)
  - Scanner cover (rear)
  - Scanner cover (paper ejection)
  - Side cover (paper feed)
  - Operation panel
  - Rear cover

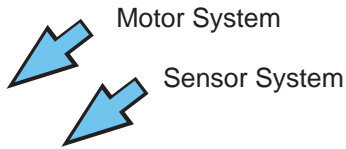
**Caution: Unlock the FB carriage.**



- (2) Remove the Relay PCB cover. (M3 x 8 screw; 1pc)
- (3) Remove the Flat cable.
- (4) Remove the Relay PCB. (M3 x 6 screw; 4 pcs)
- (5) Remove the Relay PCB bracket. (M3 x 8 screw; 1pc)



(6) Remove the rear connector.



(7) Remove screws of the Scanner mounting bracket (M3 x 8 screw; 5pcs), and lift and remove the Scanner unit.

View from rear side



View from ejection side



View from feeder side



### 2-2. Removing the Stage Glass

When removing and installing the Stage glass, be careful with the dirt on the glass and entry of dust into the unit. Image malfunction occurs such as black line.

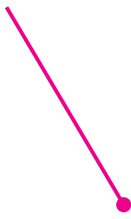
- (1) Switch power OFF, and remove the following covers. (Refer to Chapter 1)
  - Stage cover
  - Scanner cover (paper feed)
  - Scanner cover (rear)
  - Scanner cover (paper ejection)
  - Operation panel
- (2) Remove screws, and lift and remove the Stage glass with the cover.



**2-3. Removing Angle Sensor**

- (1) Switch power OFF, and remove the Stage glass. (Refer to 2-2)
- (2) Remove the sensor rod by removing the screw.
- (3) Remove the angle sensor 3.

Sensor rod



Angle sensor 3 (open or close detection)



Connector (Yellow)



Connector (Blue)

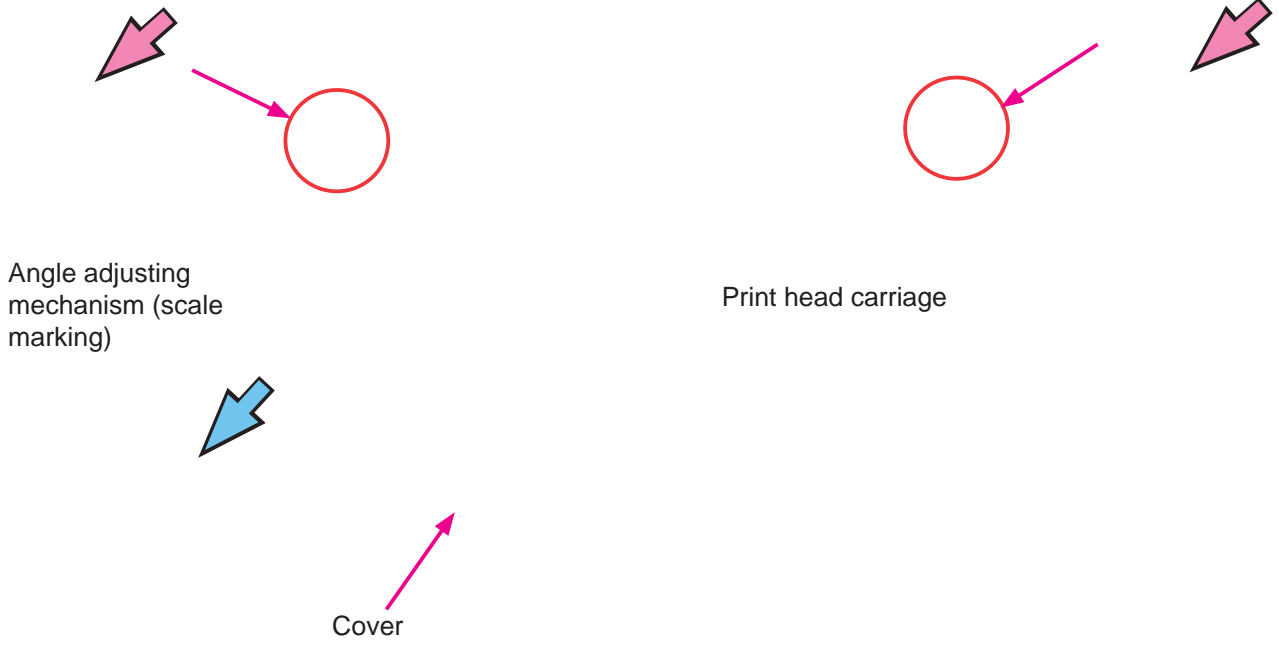


**2-4. Removing the Print Head Carriage**

- (1) Switch power OFF, and remove the following part.
  - Stage glass (Refer to 2-2)
- (2) Remove the print head carriage by removing the screws.  
The rear side is fixed. The front side can be adjusted angle, and there is the scale marking.

Rear side

Front side



- (3) After removing the cover, remove the Flat cable from the connector.

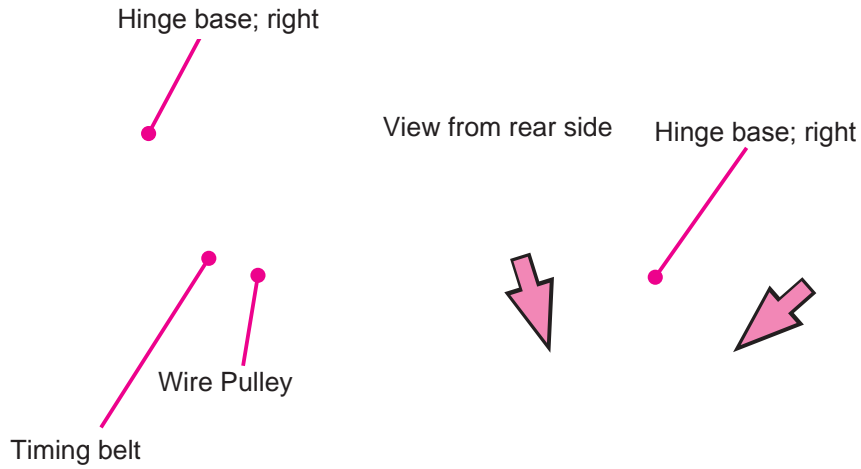
**2-5. Removing the HP Sensor**

- (1) Switch power OFF, and remove the following part.
  - Stage glass (Refer to 2-2)
- (2) Remove the HP sensor together with the Sensor bracket by removing the screws.

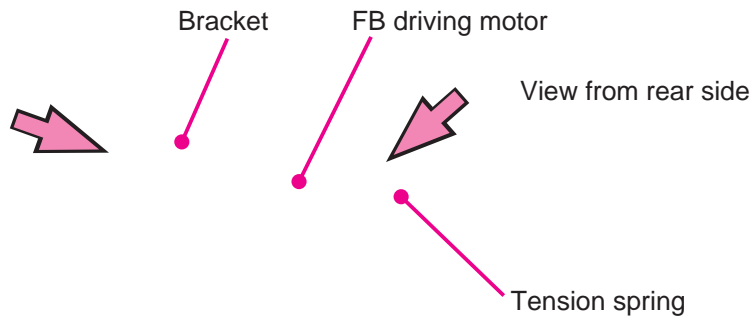


**2-6. Removing the FB Driving Motor**

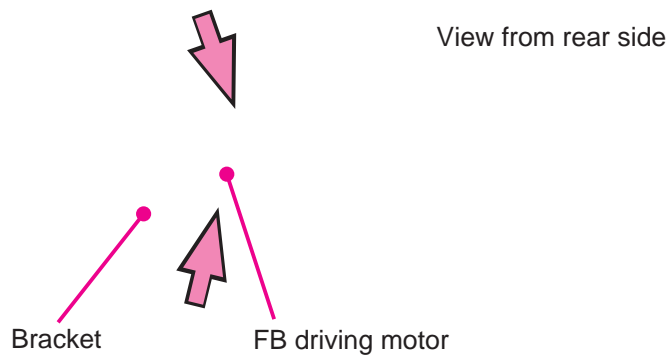
- (1) Switch power OFF, and remove the following part.
  - Stage glass (Refer to 2-2)
- (2) Remove the right hinge base.



- (3) Remove screws, the tension spring, and then the FB driving motor Assy.



- (4) Remove the FB driving motor from the bracket by removing the screws and connector.



**Installing procedure**

- (1) Install the FB driving motor to the bracket.
- (2) Fasten them to the frame temporarily, attach the timing belt. Install the tension spring.
- (3) Fix the Bracket with FB driving motor, while adding the tension.

# MEMO

# MEMO

# MEMO



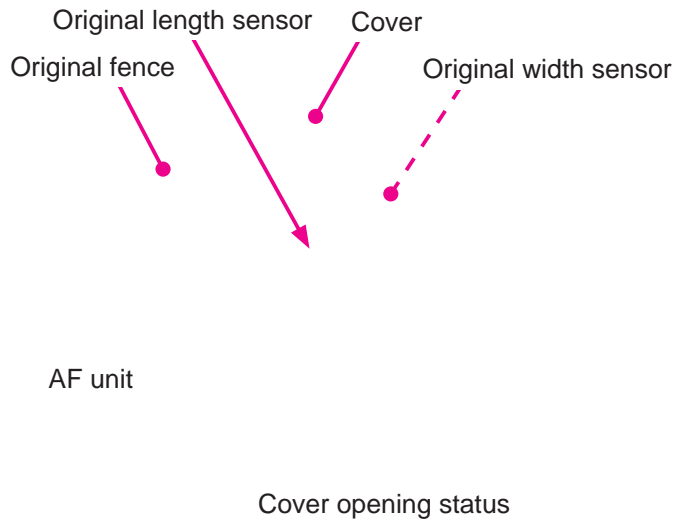
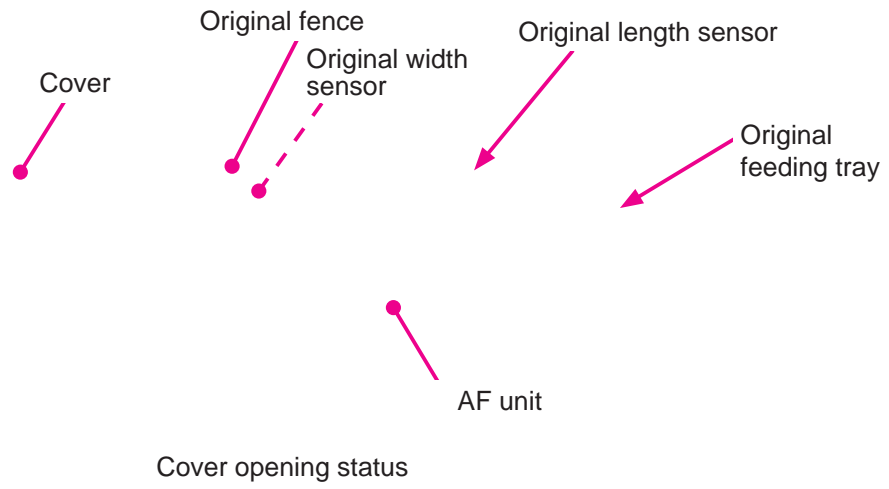
# CHAPTER 13. AF SCANNING SECTION

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  - 2-9. Removing the Original Leading Edge Sensor .....12
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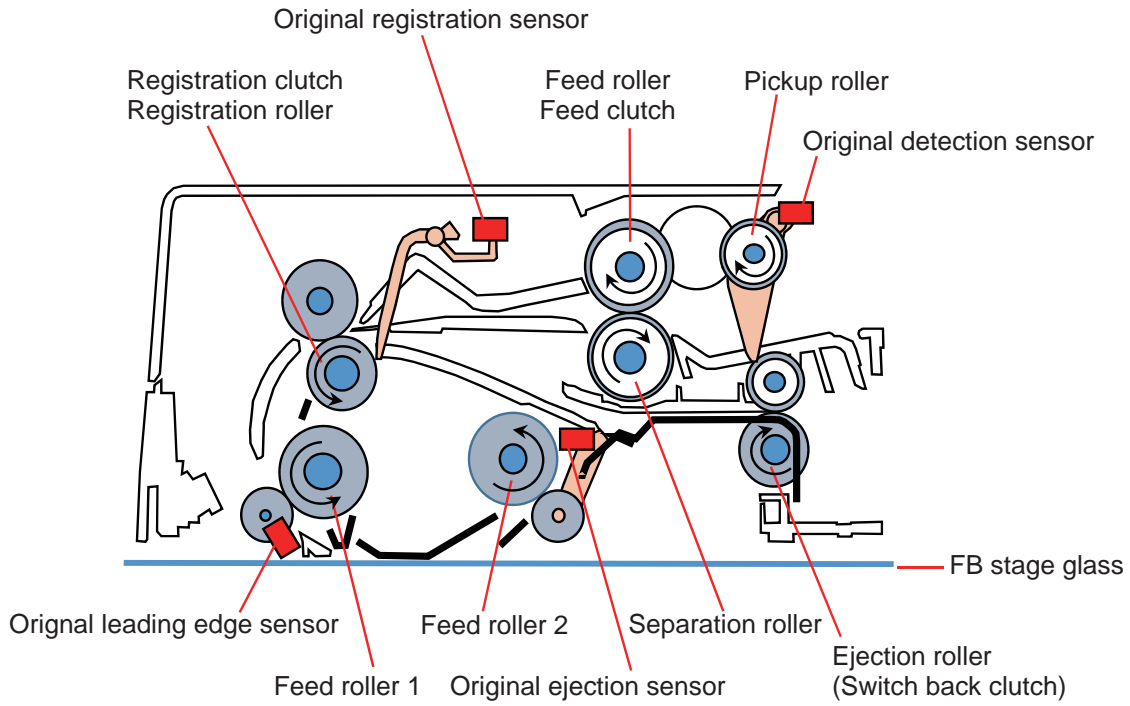
# 1. Mechanism

## 1-1. Whole Structure

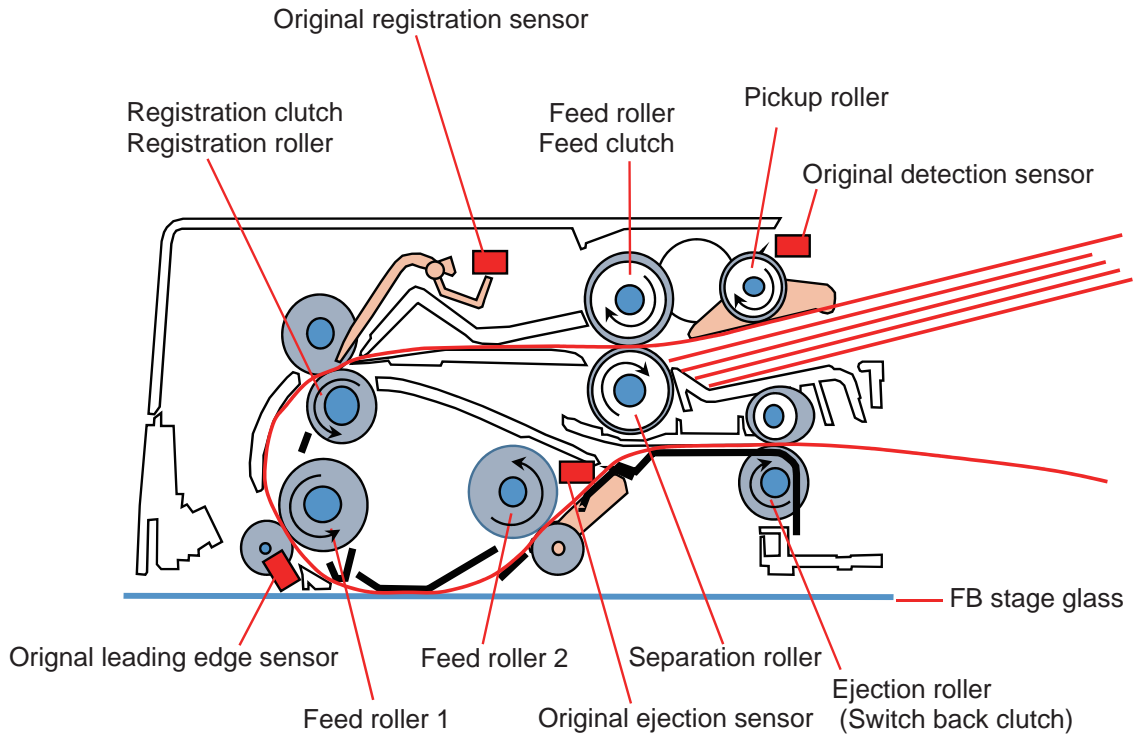


### Opening the AF unit

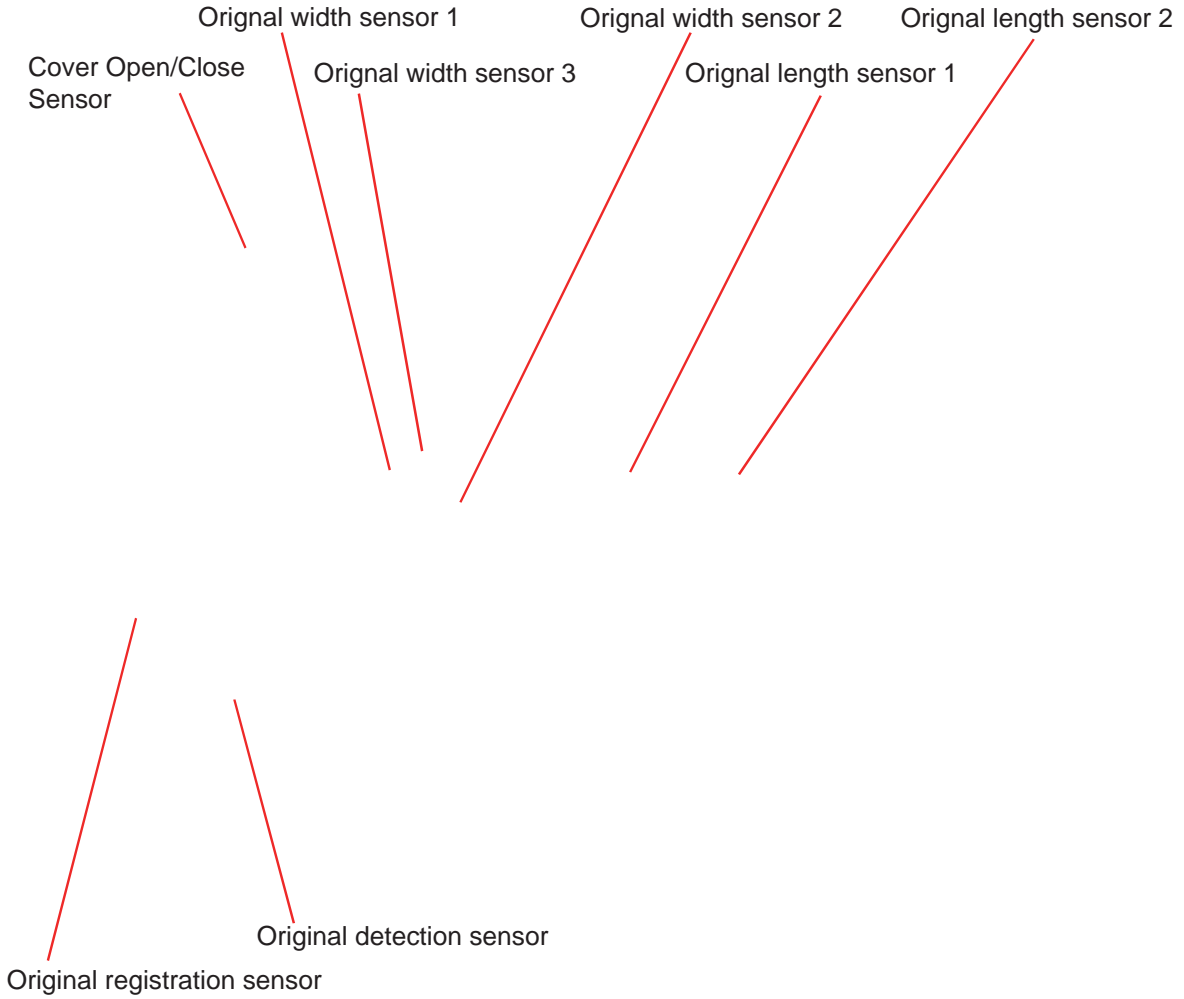
- The AF is an abbreviation for Automatic Feeder that scans original automatically.
- The FB is an abbreviation for Flat Bed scanner.
- Installing the AF to the FB, the FB can scan many originals automatically and continuously.  
For the printer, the feature of the FB is efficient for scanning because it can scan many originals automatically and continuously.  
For the efficiency printing work, the FB is very useful equipment.
  
- The AF consists of the following functions.
  - (1) Detects the width of originals.  
The width of original is detected by the original guide fence and three interrupt type sensors. The plate of the original guide fence changes the position as the original size changes. The original width can be detected by the combination of three sensors.
  - (2) Detects the length of originals.  
The original length is detected by the original guide and the two interrupt type sensors and actuator. The Original length can be detected by the combination of two sensors.  
  
The combination of original width and length information detects the paper size.
  - (3) Sends original to the FB and ejects the originals.
    - The AF driving motor and feeding clutch start by the operation signal.
    - Pickup roller and feeding roller sends original to the Original registration sensor. The feeding roller and separation roller deliver the top of the originals. This mechanism is the stripper mechanism.
    - The original, which sends to the Original registration sensor, passes the Original leading edge sensor with the Registration clutch and the Registration roller.
    - The original passes on the FB stage glass at the specified speed with the Feed roller 1 and driven roller, and reaches to the Feed roller 2, and then passes the Original ejection sensor.
    - The original is ejected with the Ejection roller.



AF cross section (Front View)



AF cross section (Original transferring status)



AF layout (from above)

Original size detection matrix

Original Size	Width (mm)	Length (mm)	Width sensor 1	Width sensor 2	Width sensor 3	Length sensor 1	Length sensor2
Postal card	100	148	0	0	1	1	1
A6	105	148	0	0	1	1	1
B6	128	182	1	0	1	1	1
A5	148	210	0	1	1	1	1
B5	182	257	1	1	1	0	1
A5 Landscape	210	148	1	1	0	1	1
A4	210	297	1	1	0	0	1
B5 Landscape	257	182	1	1	1	1	1
B4	257	364	1	1	1	0	0
A4 Landscape	297	210	0	0	0	1	1
A3	297	420	0	0	0	0	0

Logical value of the sensor

0	Light not blocked	Light not blocked	Light not blocked	Detecting the paper (Light not blocked)	Detecting the paper (Light not blocked)
1	Light blocked	Light blocked	Light blocked	No paper (Light blocked)	No paper (Light blocked)

**1-2. Main Electrical Components and Functions**

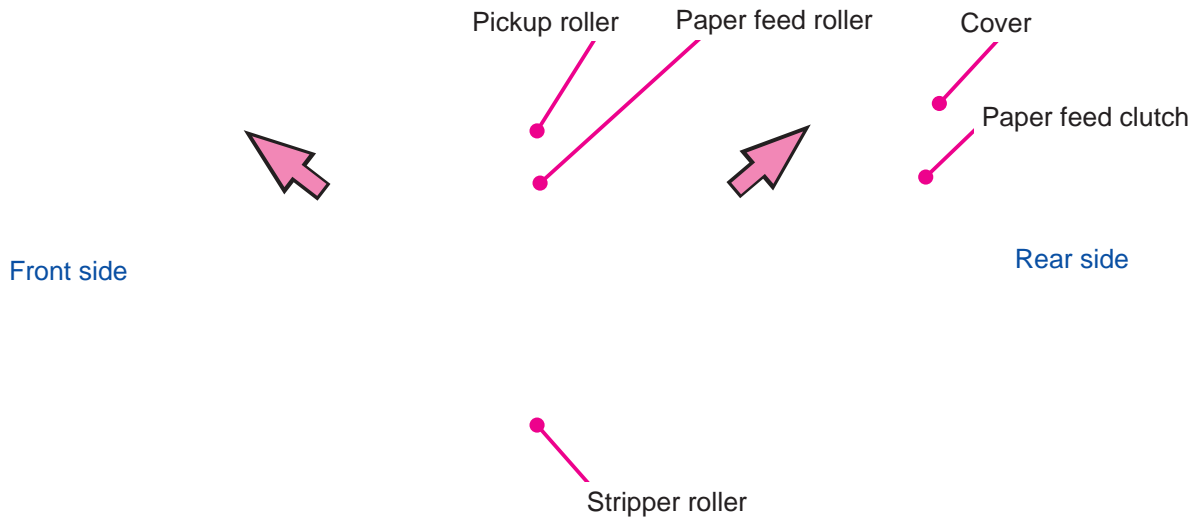
- (1) AF driving motor  
Rotate each roller.
- (2) Cover open/close sensor  
Detect that the cover is set correctly.
- (3) Angle sensor 1-3 (FB side)  
Check whether the AF unit is opened or closed. The Angle sensor 3 is used to check open/close.
- (4) Paper feed clutch, Registration clutch, Switch back clutch  
The power of the AF driving motor drives each roller.
- (5) Original length sensor 1-2  
Detect the length of originals.
- (6) Original width sensor 1-3  
Detect the width of originals.
- (7) Original registration sensor, Original leading edge sensor, Original ejection sensor  
Check the current status of original conveyance.
- (8) Original detection sensor  
Check whether the original has been set.

## 2. Disassembly

- Describes how to remove sensor and roller mainly.
- Take reversal procedure of removing to assemble.
- The cautions of working are written in red letters.

### 2-1. Removing the Cover

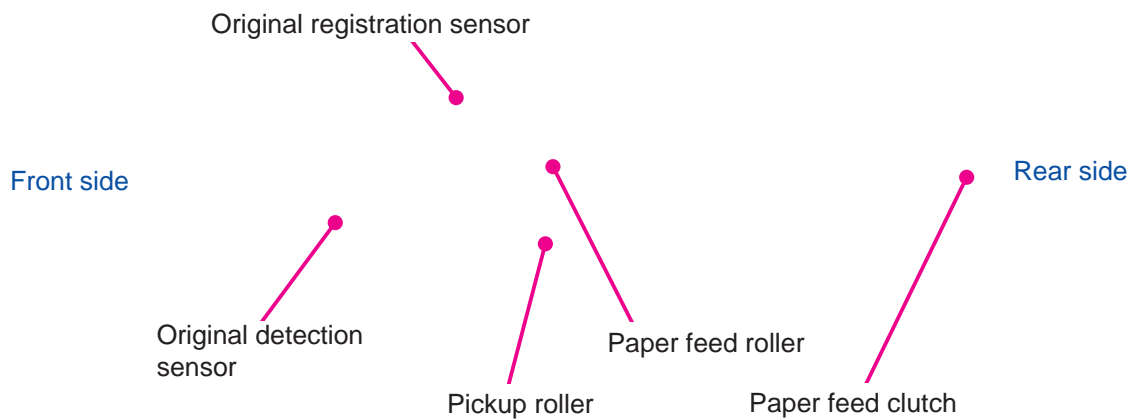
- (1) Open the cover.
- (2) Remove the cover by removing the screws (2 pcs).



### 2-2. Removing Original Detection Sensor and Original Registration Sensor

- (1) Remove the cover. (Refer to 2-1)
- (2) Remove the Original detection sensor, and then disconnect the connector.
- (3) Remove the Original registration sensor, and then disconnect connector.

When the cover is removed.



### 2-3. Removing Pickup Roller and Feed Roller

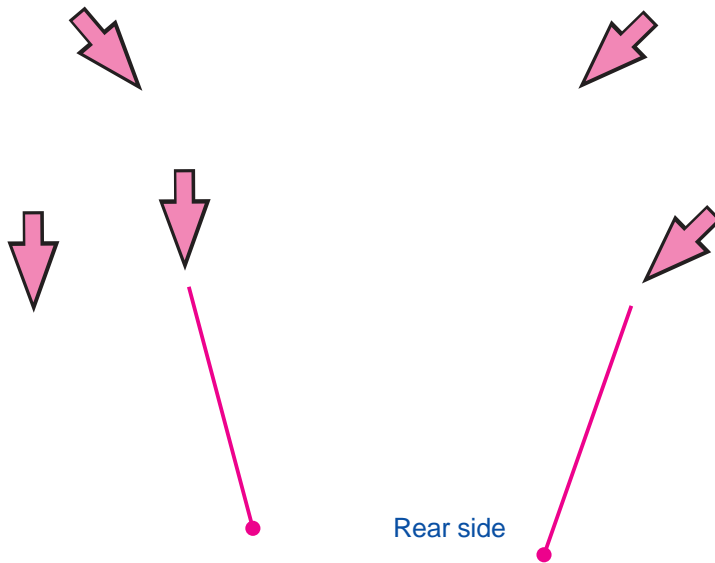
- (1) Remove the cover. (Refer to 2-1)
- (2) Remove the Paper feed clutch. (Rear side: 6mm diameter E-ring; 1 pc)
- (3) Remove the Pickup roller and the Paper feed roller together with the assembly. (Front side: 6mm diameter E-ring; 1 pc, metal; 1 pc) (Rear side: 6mm diameter E-ring; 1 pc, one-way clutch; 1 pc)



When assembling, the seal is inside.

### 2-4. Removing the Rear Cover

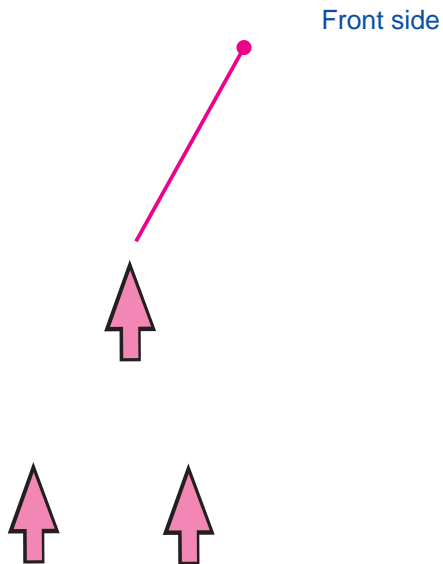
- (1) Open the cover.
- (2) Remove the rear cover by removing the screws (3 pcs).





**2-5. Removing the Front Cover**

- (1) Open the cover.
- (2) Remove the front cover by removing the screws (3 pcs).



**2-6. Removing Original Width Sensor 1 to 3 and Original Length Sensor 1 and 2**

- (1) Remove the rear cover. (Refer to 2-4)
- (2) Remove the front cover. (Refer to 2-5)
- (3) Disconnect the Connector, and then remove the Original feeding tray.

Front side

Original feeding tray



Rear side

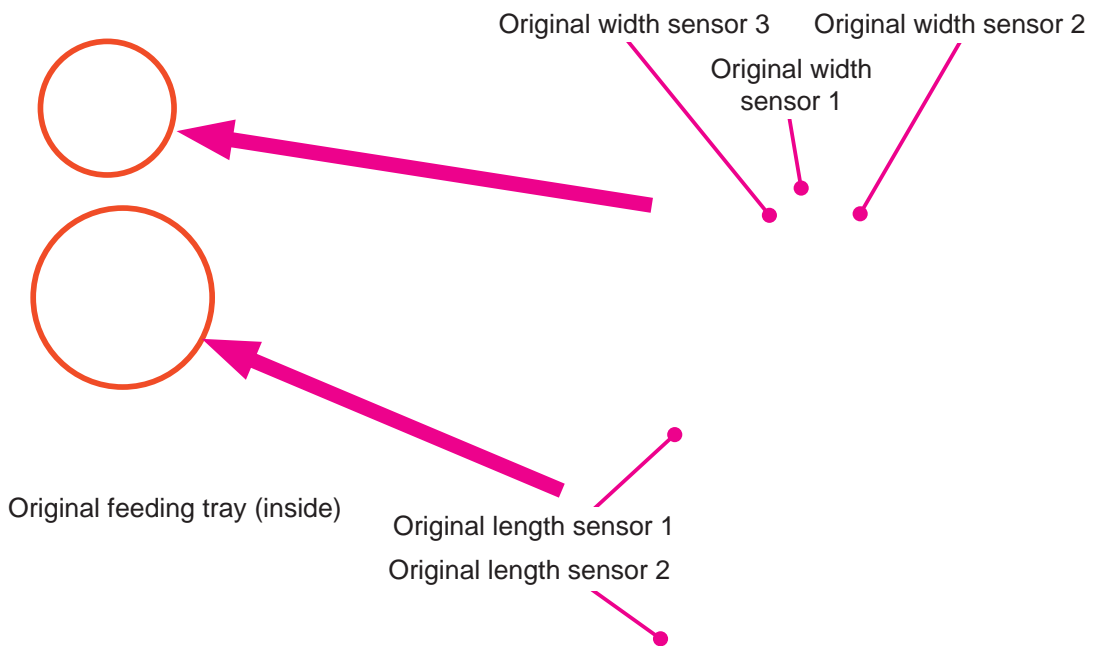
(4) Remove the cover of the Original feed tray. (M3 x 8 screws; 3 pcs)



Original feeding tray (front side)

Original feeding tray (rear side)

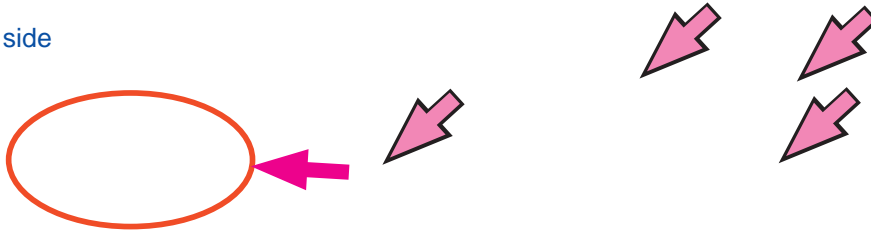
(5) Release the sensor claw from the base bracket, and then remove the Original width sensor or Original length sensor.



**2-7. Removing the Mechanical Unit**

- (1) Remove the rear cover. (Refer to 2-4)
- (2) Remove the front cover. (Refer to 2-5)
- (3) Disconnect the connector, and then remove the Original feeding tray.
- (4) Remove the Mechanical unit by removing the screws (6 pcs).

Rear side



Mechanical unit

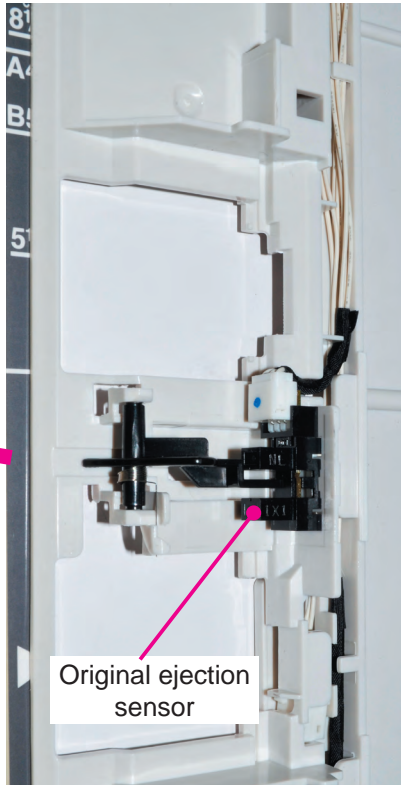
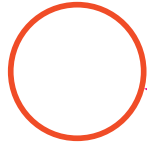
Front side



### 2-8. Removing the Original Ejection Sensor

- (1) Remove the Mechanical unit. (Refer to 2-6)
- (2) Release the sensor claw from the base bracket, and then remove the Original ejection sensor.

Rear side



Front side

### 2-9. Removing the Original Leading Edge Sensor

- (1) Remove the rear cover. (Refer to 2-4)
- (2) Remove the front cover. (Refer to 2-5)
- (3) Remove screws (2pcs) that fix the Mechanical unit.

Rear side



Mechanical unit



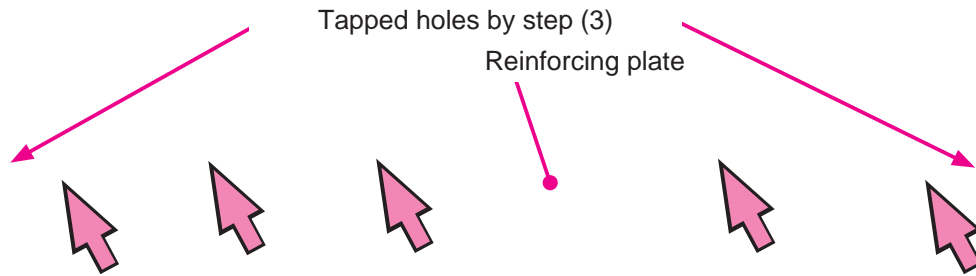
Front side



(4) Remove the screws (5pcs), open the AF unit.

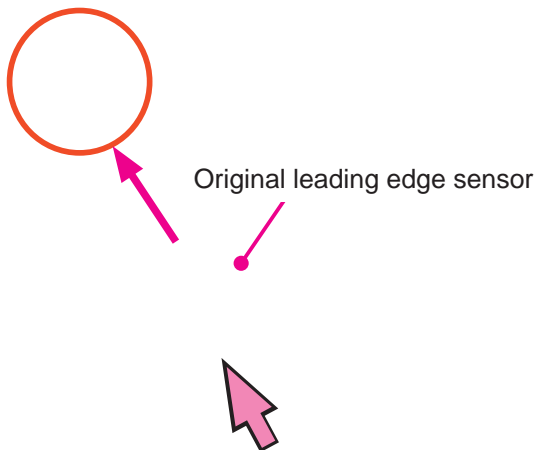
Front side

Rear side



(5) Remove the Reinforcing plate.

(6) Remove the Original leading edge sensor together with the bracket by removing the screw.



(7) Disconnect the connector, and then remove the Original leading edge sensor.

**2-10. Removing the Cover Open/Close Sensor**

(1) Remove the rear cover.

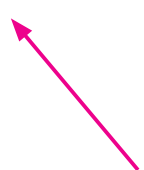
(2) Release the sensor claw, and then remove the Cover open/close sensor.

(3) Disconnect the connector.

Rear side

Mechanical unit

Front side Cover open / close sensor



# MEMO

# MEMO

# MEMO



# CHAPTER 16: Master Making Section

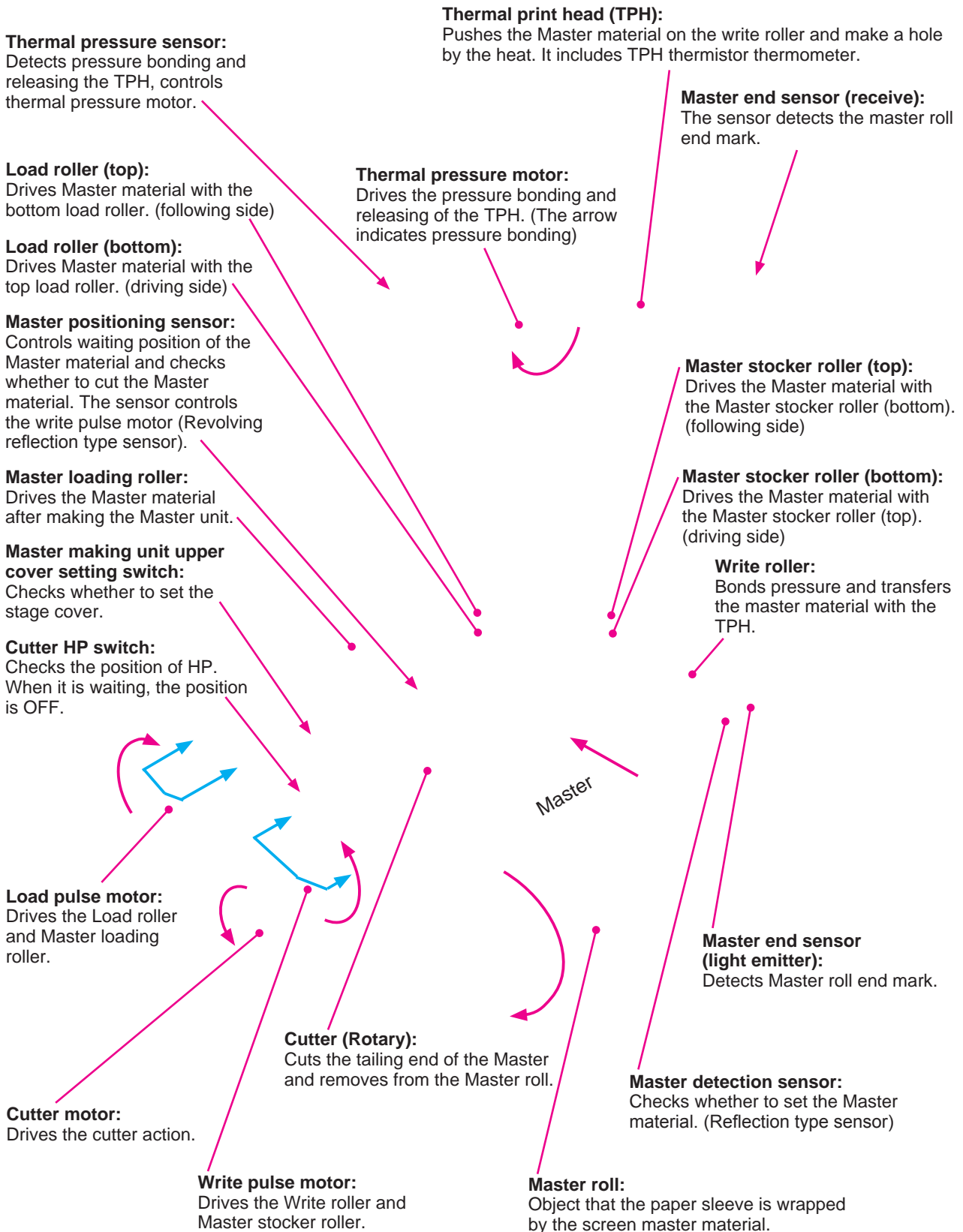
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# 1. Mechanism

## 1-1. Master Making Mechanism

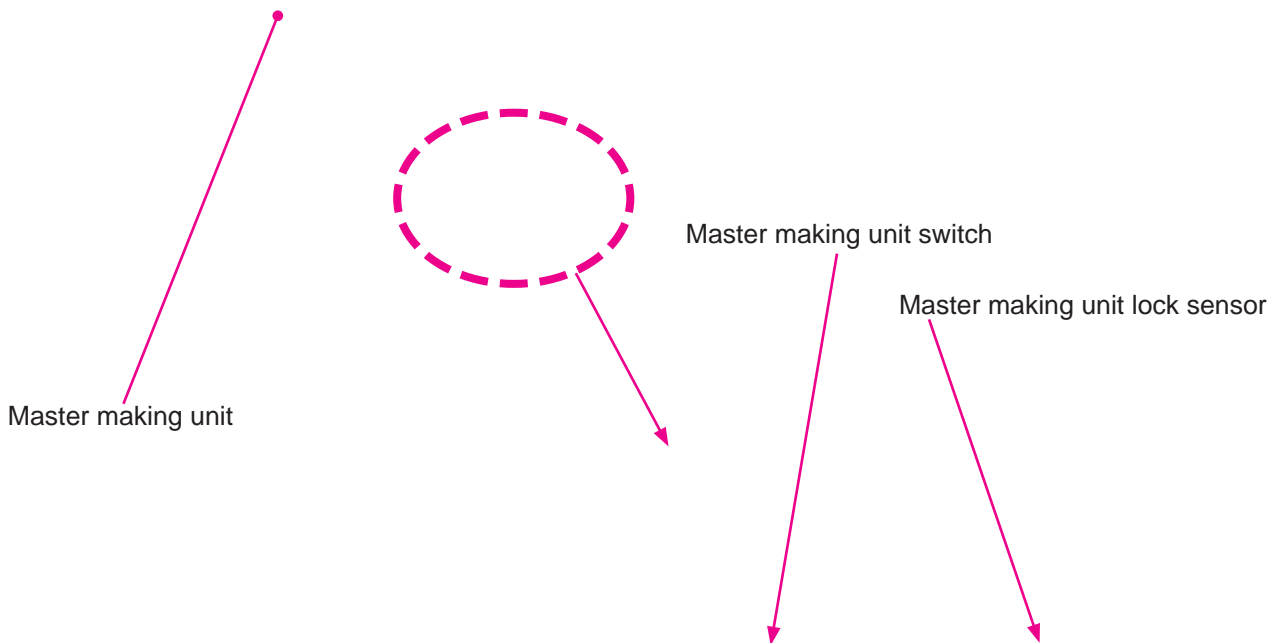
The objective of Master making unit is making the Master by the Thermal print head (TPH), sending it to the Print drum, and cutting it.



**1-2.Set Detection Mechanism**

**Master making unit set detection mechanism**

Removing and inserting of the Master making unit are checked by the position B. The master making unit switch and the Master making unit lock sensor checks whether the Master making unit has been set. When the Master making unit switch is OFF, the following devices switch is OFF: Main motor, Clamp motor, Master compression motor, Master removal motor (CW), Horizontal movement motor, Separation fan motor, and Separation pump solenoid.



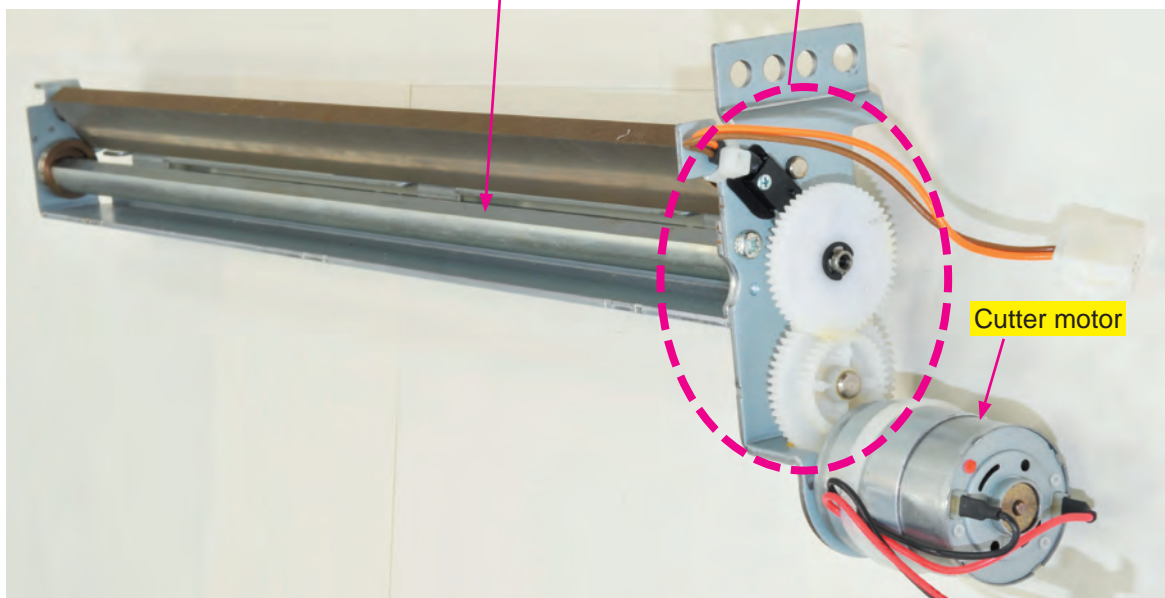
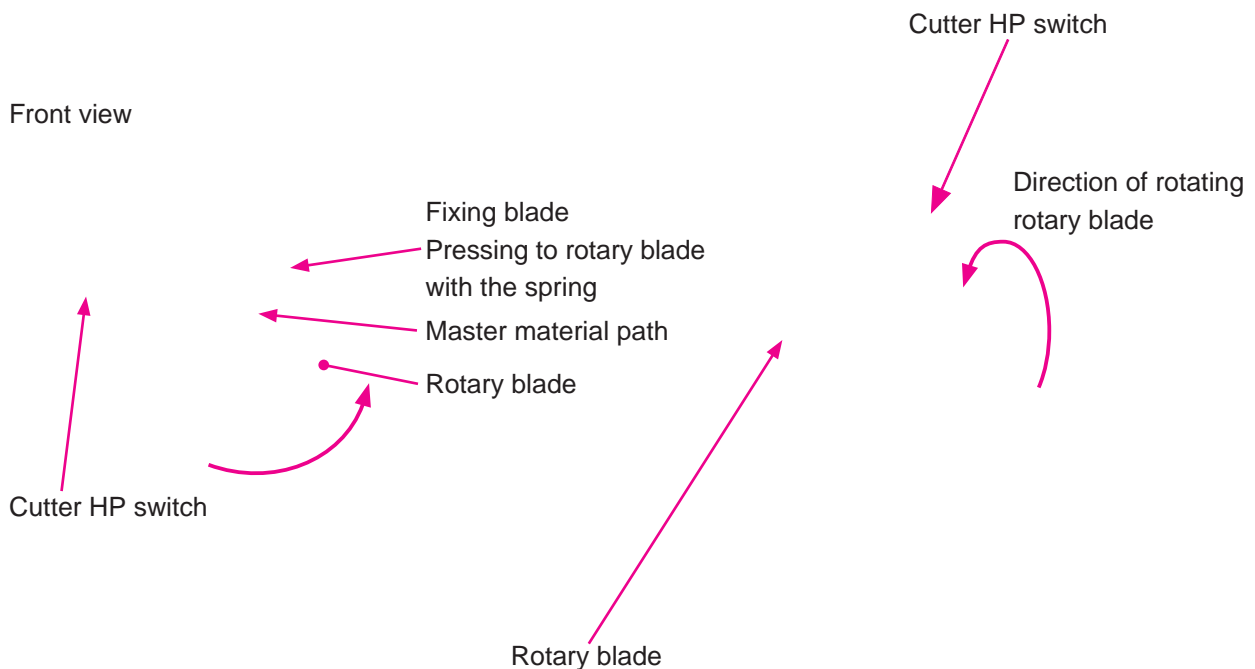
**Mechanism to check the master making unit cover setting**

The Master making unit upper cover set switch checks the Master making unit cover setting. When the Master material is set, Master material set action is performed. When the Master making unit upper cover set switch is OFF, the Thermal pressure motor does not turn ON.

**1-3.Master Cutting Mechanism (Besides SF5030, SF5130)**

This is a mechanism to cut the Master material. The mechanism and action are as follows.

- 1) The Cutter motor drives the Rotary blade of Cutter unit. Rotary blade cuts the Master material at the contact point with Fixing blade.
- 2) Rotary blade rotates counterclockwise from the front view, and the Plate blade embedded in the Rotary blade get into touch with the Fixing blade. The principle is the same as the sissor. The cutting starts rear side to front side.
- 3) The Cutter HP switch checks the position of the Rotary blade. The position that the actuator is not pressed is a Cutter HP position. The Cutter motor stops when the actuator is not pressed again after the Cutter motor starts rotating.

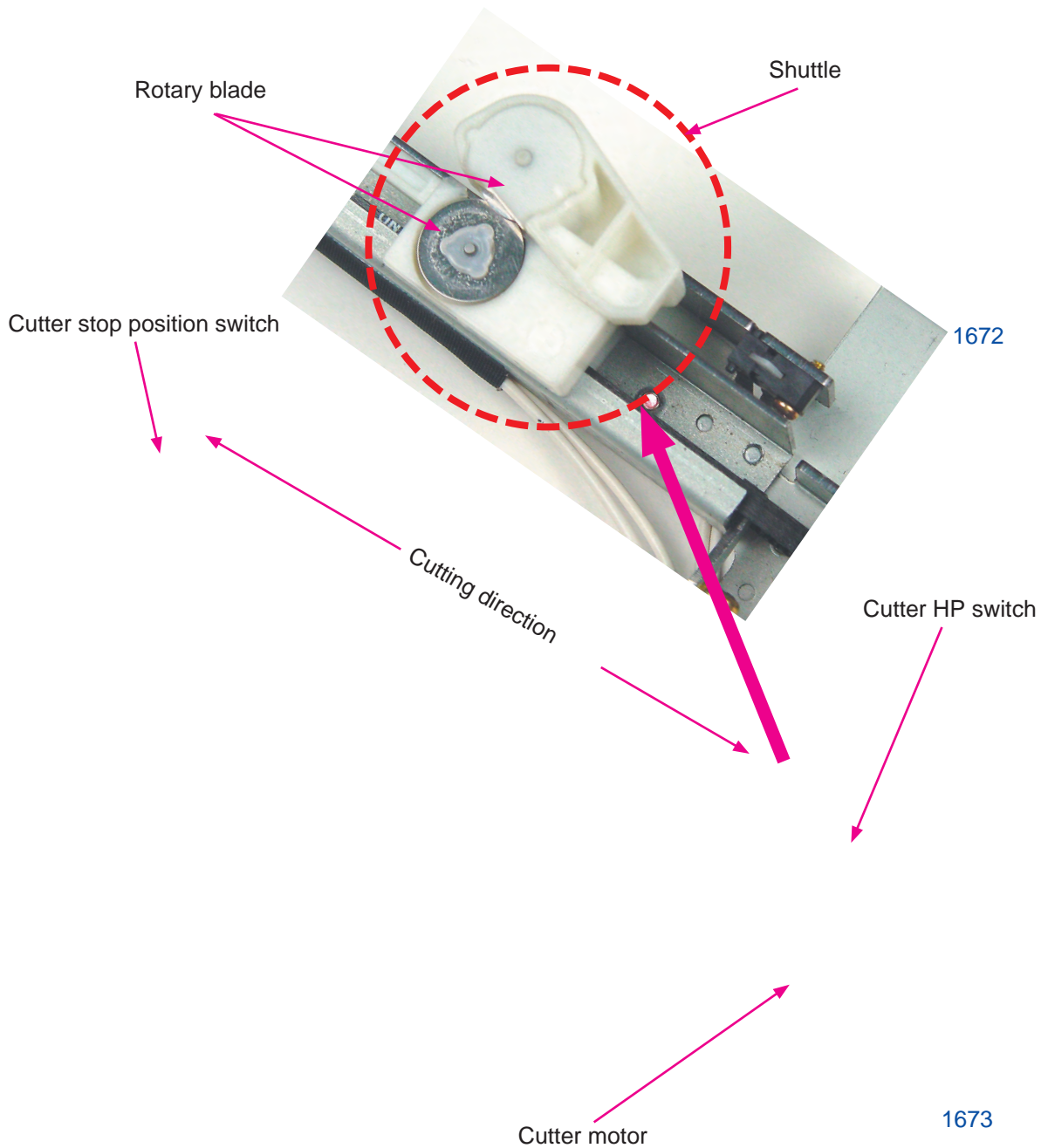


**1-4. Master Cutting Mechanism (Shuttle Cutter)**  
**(Only SF5030, SF5130)**

The master is cut by the shuttle (rotary blade include in the unit) of the Cutter unit back and forth motion driven by the Cutter motor.

The Cutter HP switch and the Cutter stop position switch both confirm the shuttle position of the Cutter unit.

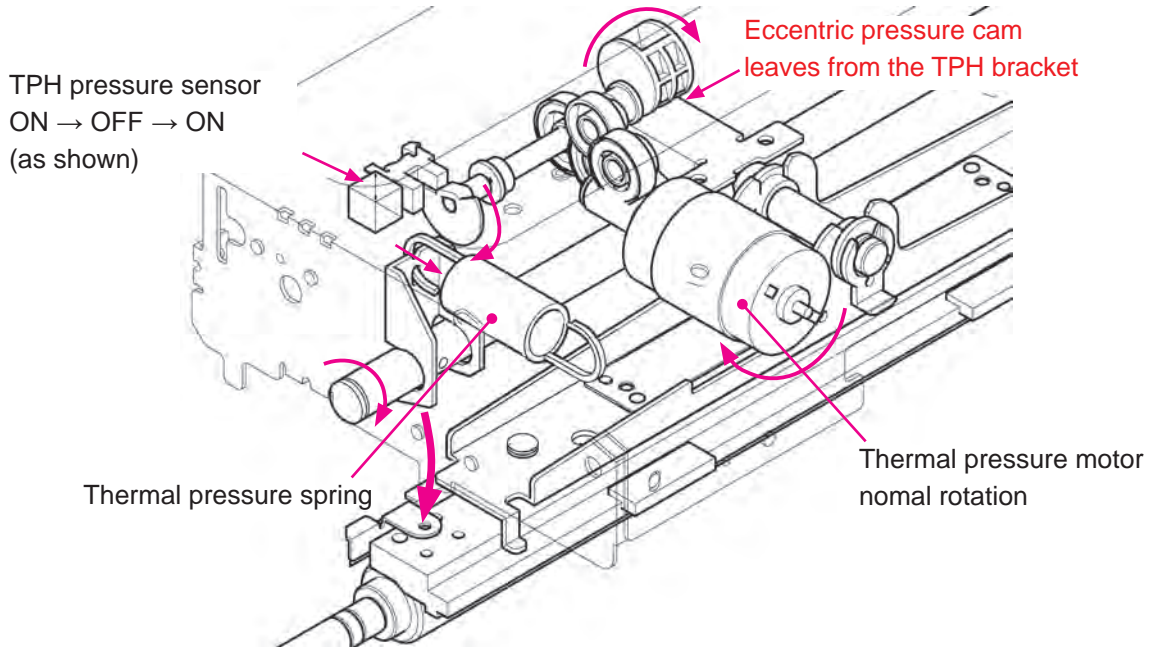
The Cutter is at the home position when the Cutter HP switch is pressed. As the Cutter motor activates, the Shuttle moves in cutting direction. When the shuttle presses the Cutter stop position switch, the Cutter motor stops. After that the Cutter motor rotates in reverse and the Shuttle moves to the cutter home position. The Cutter HP switch depressed, stops the Cutter motor.



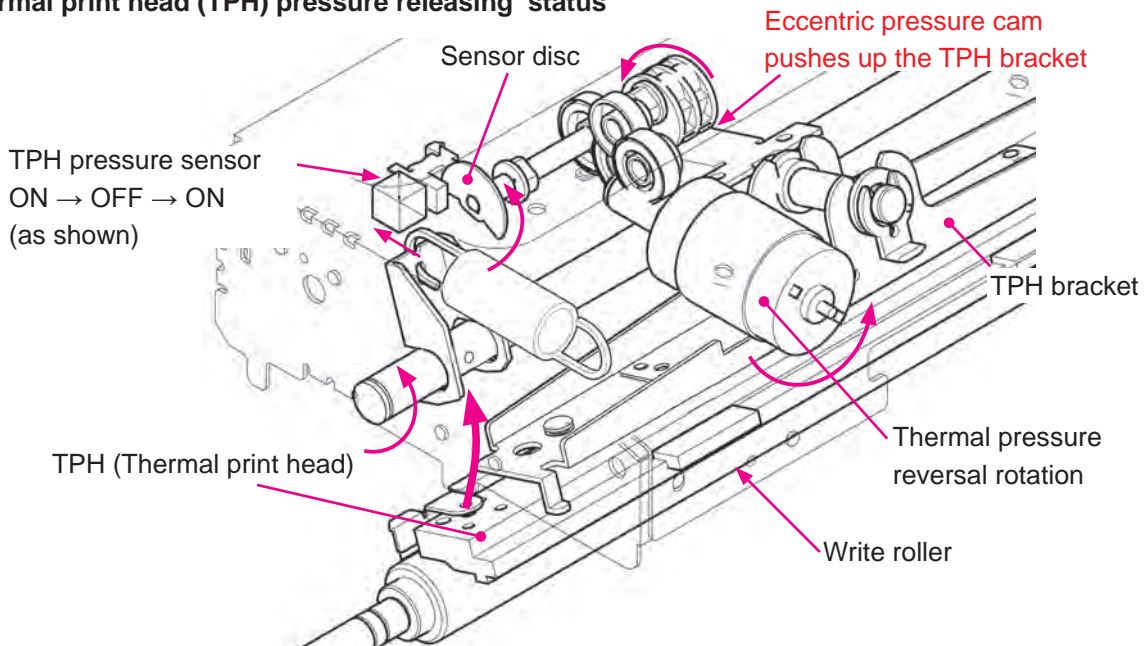
**1-5.Mechanism of Thermal Print Head (TPH) Pressure Bonding and Releasing**

Thermal print head (TPH) pressure bonding is for Master making, and releasing is to protect deforming of write roller and skewing adjustment of Master material. It is performed by rotating the Eccentric cam (Eccentric pressure cam) with the Thermal pressure motor, and moving upward and downward the TPH bracket which is pressed by Thermal pressure spring. The Thermal print head (TPH) and Write roller pressure bonding are performed at the Master material writing and driving. The Thermal print head (TPH) and Write roller detaching are performed at waiting the machine and initializing operation when the Power is ON.

**Thermal print head (TPH) pressure bonding status**



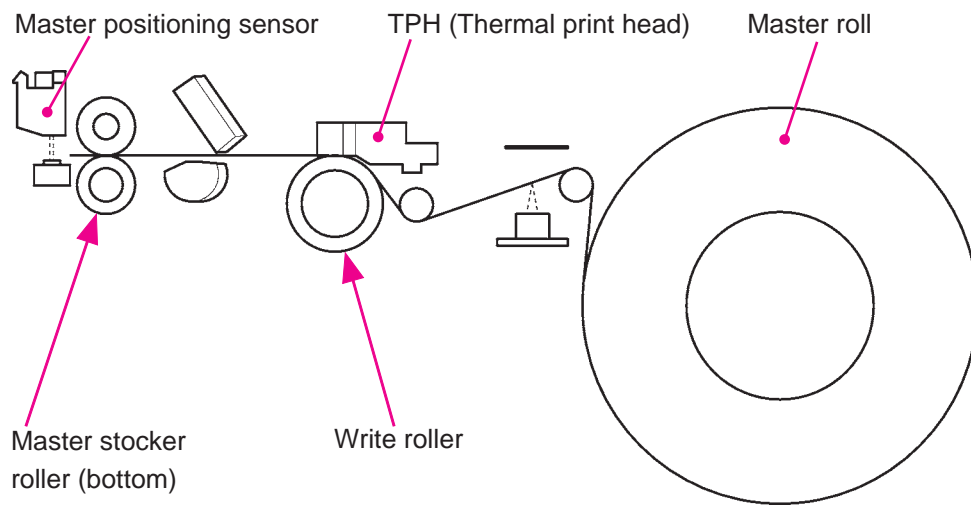
**Thermal print head (TPH) pressure releasing status**



**1-6.Master Set Mechanism**

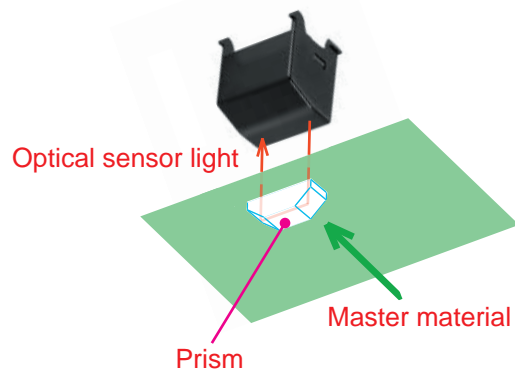
When the upper cover opens/closes, and Master making unit upper cover switch is ON, the following master set action is performed.

- 1) Pushes down the Thermal print head (TPH) against the Write roller, and rotates Write pulse motor to sending direction. Write roller and Master stocker roller (bottom) transfers the Master material, and then the Master positioning sensor switches ON and stops.
- 2) Elevates up the Thermal print head (TPH) away from the Write roller, and rotates Write pulse motor to sending direction again. Sends the Master material for 20mm and stops.
- 3) Pushes down the Thermal print head (TPH) against the Write roller again, and rotates the Write pulse motor to reversal direction. Master positioning sensor turns ON/OFF, and rotates 5mm reversal and stops (Master front-end position adjustment: that set by the test mode No.540), and Thermal print head (TPH) elevates up away from the Write roller.



Master positioning sensor is a transmissive type revolution sensor that has both sending and receiving functions. Emitted light is brought back to the Sensor by the plastic optical "Prism" that is equipped with the Cutter cover assembly, and enters in light received area. If the Master is in the Master unit transfer route, the light is blocked off and the luminous energy has declined. The mechanism detects the existence of the Master material in this way.

View master waiting sensor from under the machine.



### 1-7. Master Making Movement

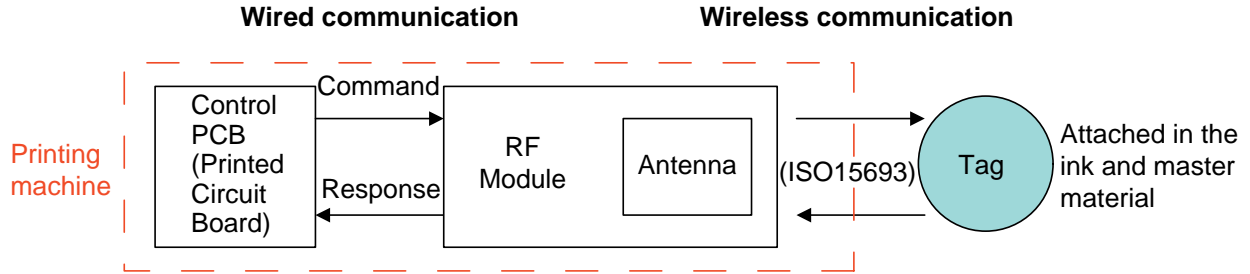
The action from Master making to the Master loading on the Print drum is explained in sequence below.

- 1) At the start of the Master making, the TPH comes down to pinch the Master material between the TPH and the Write roller. The Write pulse motor activates to rotate the Write roller and Master stocker roller in the forward direction to feed the Master material to the Master positioning sensor.
- 2) The Write pulse motor rotates in the reverse direction to bring the Master material back away from the Master positioning sensor for a given distance and waits for the scanning to proceed.
- 3) With the Master making start signal, both the Load pulse motor and Write pulse motor rotate in the forward direction to transfer the Master to the Master loading standby position and the Master making starts.
- 4) Just before the leading edge of the Master reaches the Master loading standby position, the Separation fan is activated. The Load pulse motor stops when the leading edge of the master arrives to the Master loading standby position. The Write pulse motor continues to advance the Master with the Separation fan pulling the Master into the Stocker room.
- 5) When the Print drum is ready to clamp the Master, the Load pulse motor rotates to send the leading edge of the Master to the Clamp plate base, and then the Print drum starts clamping the Master.
- 6) As the master making ends, the TPH elevates up and the Print drum starts to rotate to wrap the Master material around the Print drum.

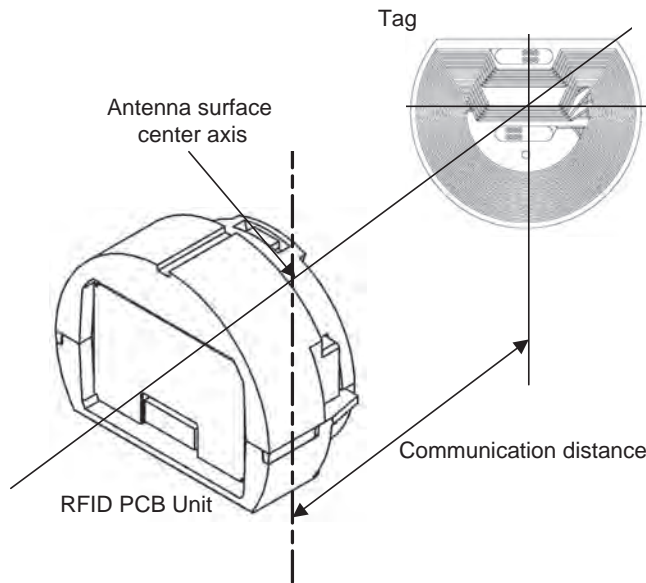


1-8.RFID

This feature manages Master material, types of ink and remaining amount of ink by communicating with the RFID tag which is equipped on the Master roll or Ink bottle. The communication standard conforms ISO15693, and read and write the tag wirelessly.



RF is an abbreviation for Radio Frequency which is used wireless communication.



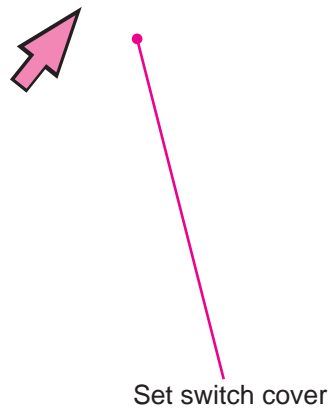
Master making section RFID

Print drum section RFID

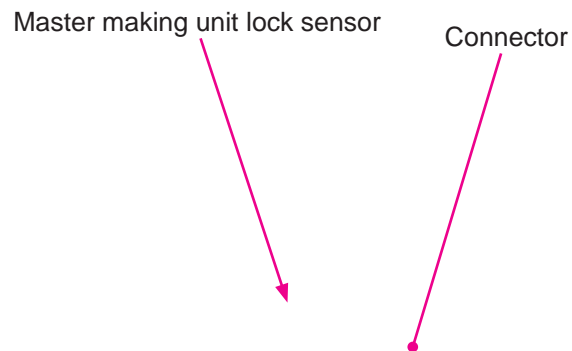
## 2. Disassembly

### 2-1. Removing the Master Making Unit Lock Sensor

- 1) Pull out the Master making unit and switch OFF the machine power.

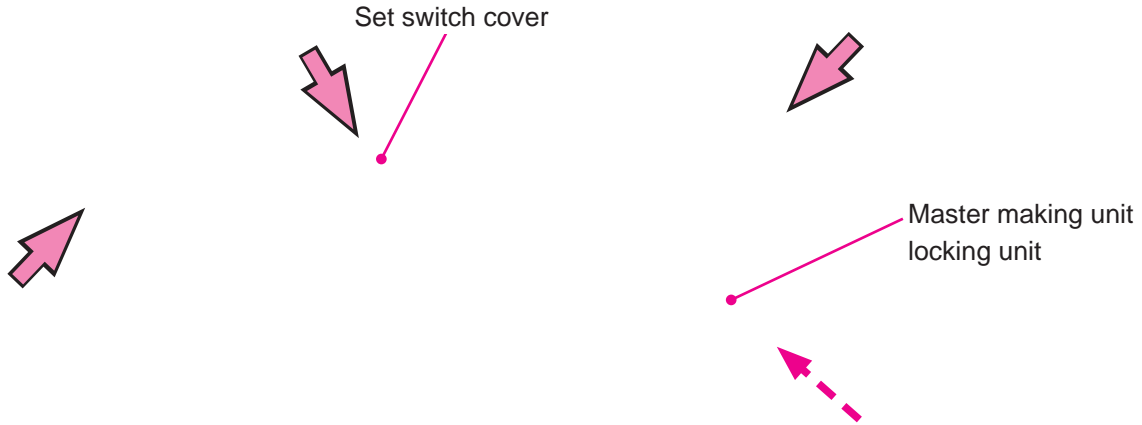


- 2) Remove the set switch cover. (IT3C4 x 8 screw; 1 pc)
- 3) Disconnect the Connector and remove the Master making unit lock sensor.



**2-2. Removing the Eject Button, Lock Solenoid, and Set Switch**

- 1) Remove the Front cover. (Refer to Chapter 1)
- 2) Pull out the Master making unit and switch OFF the power.
- 3) Remove the Set switch cover. (IT3C4 x 8 screw; 1 pc)
- 4) Disconnect the connector (3 points) and remove the mounting screw (IT3C4 x 8 screw; 3 pcs), and then remove the Master making unit locking unit.

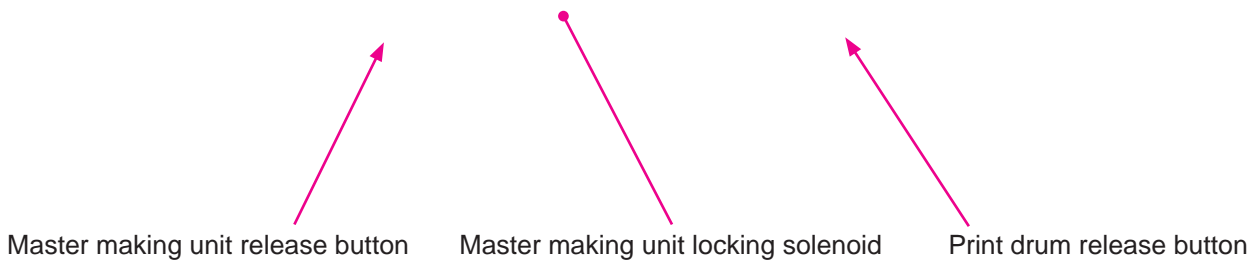


**Removing the print drum ejection button and the master making unit ejection button**

- 5)-1. Release two hooks on each button from the Master making unit lock unit and remove the buttons.

**Removing the master making unit locking solenoid**

- 5)-2. Remove the mounting screws (M3 x 6 screws; 2 pcs) and remove the Master making unit locking solenoid.



**Removing the master making unit set switch**

- 5)-3 Disconnect the connector (2 points) and remove the mounting screw (IT3C4 x 8 screws; 1pc), and then remove the Master making unit set switch assembly.
- 6) Release the Torsion spring hook, and remove the E-ring, and then remove the Master making unit set switch together with the bracket.

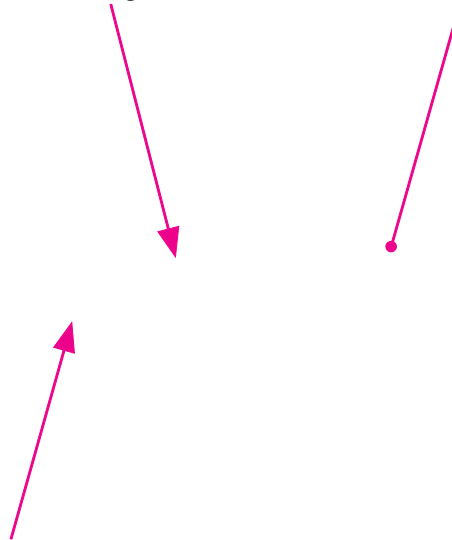
Master making unit set switch assembly



E-ring

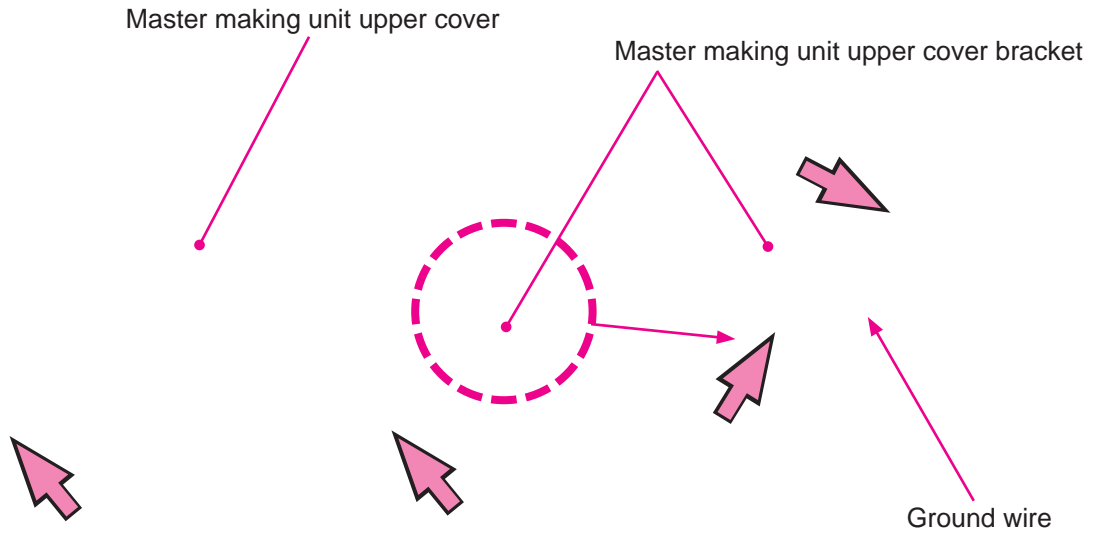
Master making unit set switch

Torsion spring

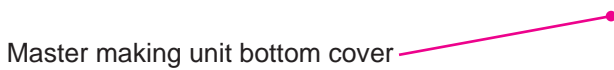


### 2-3. Removing the TPH (Thermal Print Head) Assembly

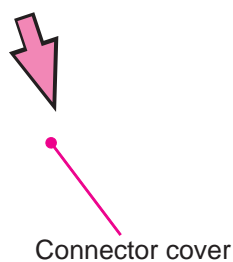
- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover.
- 3) Remove the Master making unit upper cover bracket by removing a screw (M3 x 6 screw; 1 pc).
- 4) Disconnect the Ground wire by removing a screw (M3 x 6 screw; 1 pc).



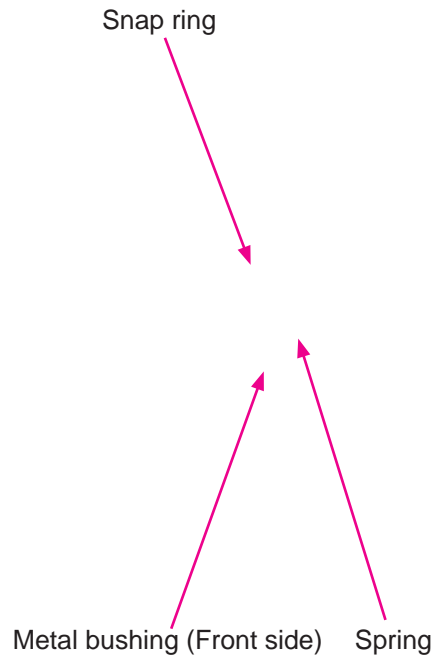
- 5) Remove the Master making unit bottom cover by removing screws (bind M3 x 6 screw; 2 pcs).



- 6) Remove the Connector cover by removing a screw (M3 x 6 screw; 1 pc).

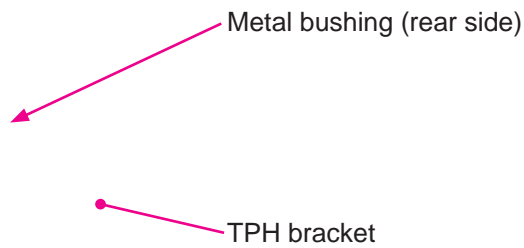


7) Unplug the connectors (2 points), and remove the Snap ring and Metal bushing.



8) Slide off the Metal bushing from the TPH bracket and remove the TPH assembly.

\* While removing the unit, be careful not to make static electricity.

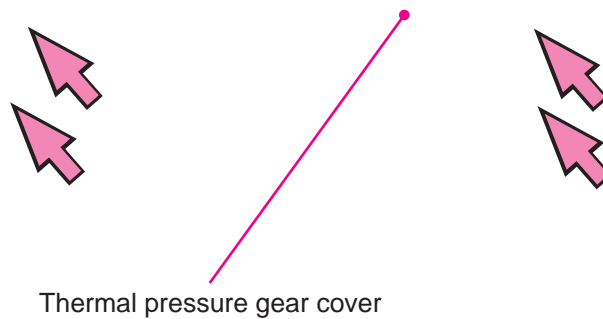


<TPH (Thermal Print Head) Assembly>

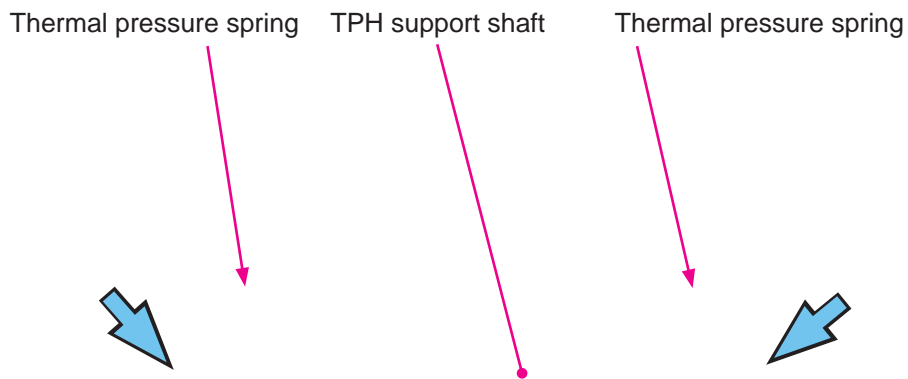
### 2-4. Removing the Thermal Pressure Motor Assembly

#### Thermal pressure motor

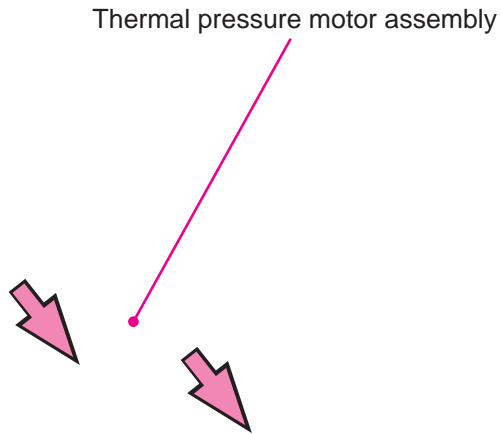
- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Remove the Thermal print head assembly. (Refer to 2-3)
- 3) Remove the Thermal pressure gear cover by removing screws (M3 x 6 screws; 4 pcs).
- 4) Remove the two Thermal pressure springs.



- 5) Remove E-rings (8mm-diameter E-rings; 2pcs) from both ends of the TPH support shaft, and remove the shaft.



- 6) Disconnecting the connectors of the motor and sensor, remove screws (M3 x 6 screws; 2 pcs), and then remove the Thermal pressure motor assembly.

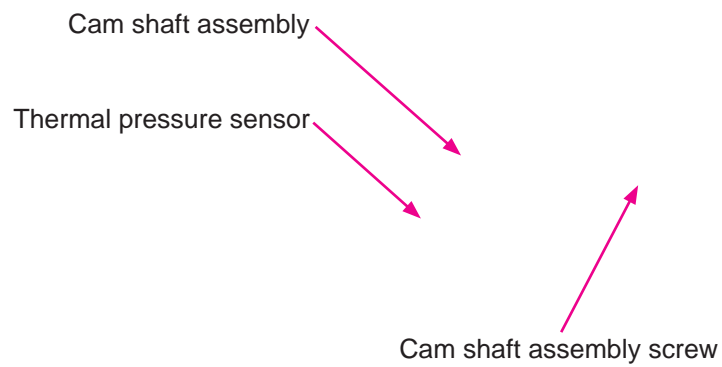


Thermal pressure motor assembly



## 2-5. Removing the Thermal Pressure Sensor

- 1) Remove the Thermal pressure motor assembly. (Refer to 2-4)
- 2) Remove the Cam shaft assembly screws (M3 x 6 screw; 1 pc) to rotate the Sensor disc.
- 3) Rotate the Sensor disc and set the notched position to remove or attach the Thermal pressure sensor easily.
- 4) Remove the Thermal pressure sensor.



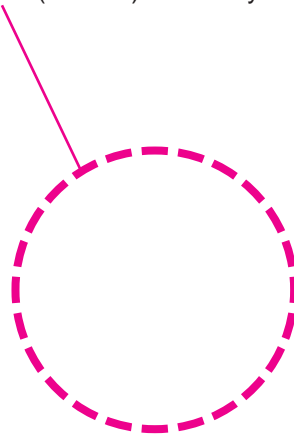
### 2-6. Removing the Master End Sensor (receive) Assembly

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover.
- 3) Remove a screw (M3 x 6 screw; 1 pc), unplug the sensor connector and remove the Master end sensor (receive) assembly.

Master end sensor (receive) assembly



Master end sensor (receive) assembly



Set guide plate B

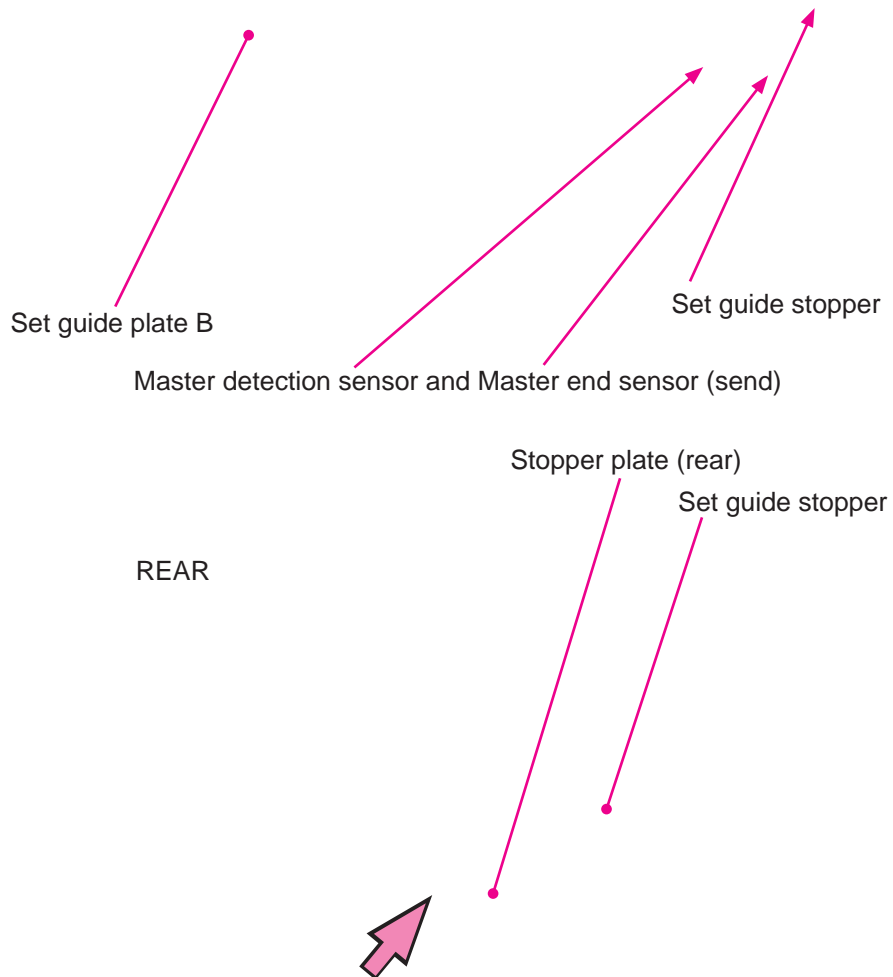


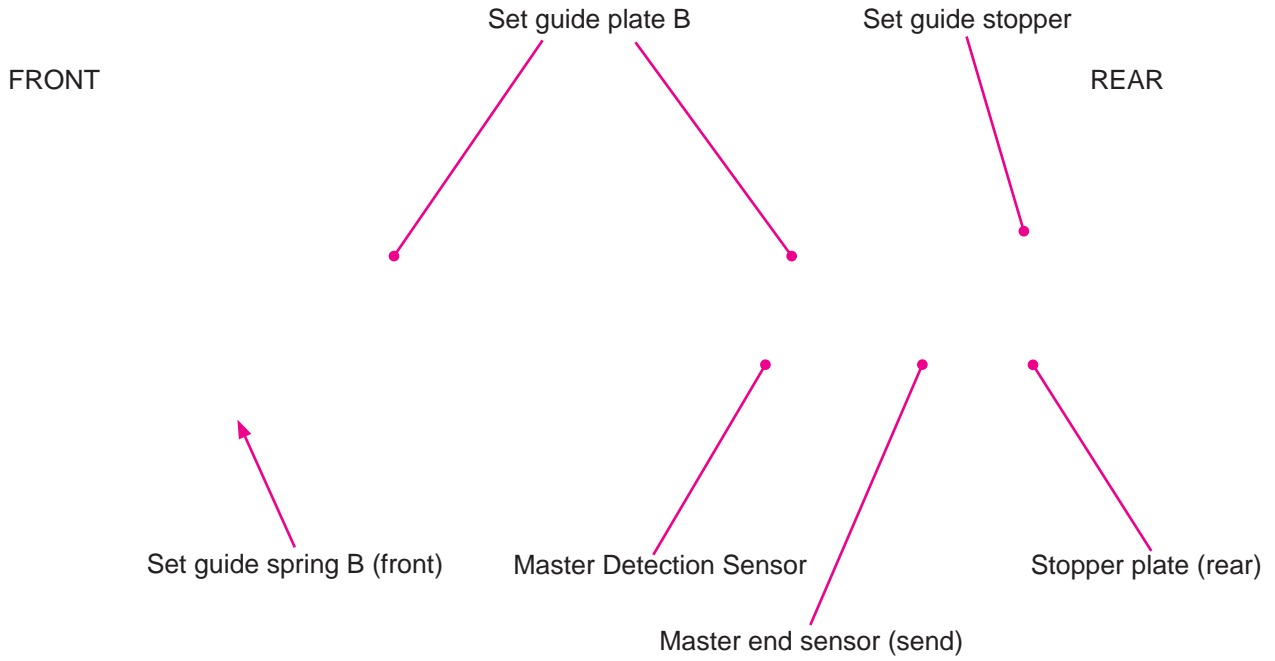
Master end sensor(send)



**2-7. Removing the Master Detection Sensor and Master End Sensor (send)**

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove the Master roll.
- 3) Remove the Stopper plate (rear) by removing a screw (M3 x 6 screw; 1 pc).  
<CAUTION: Since the Set guide plate B is forced up by Set guide spring B (front), press down the Set guide plate B when removing the Stopper plate (rear).>
- 4) Remove the Master detection sensor together with the bracket by removing a screw (M3 x 6 screw; 1 pc) while lifting up the Set guide plate B after pushing the Set guide stopper to the rear by finger.



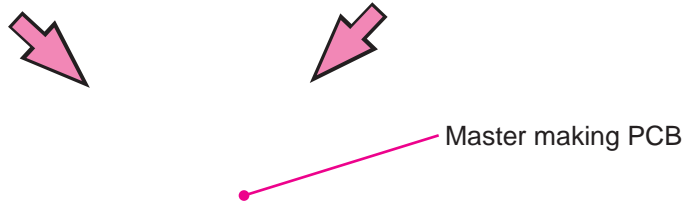


- 5) Disconnect the connector and remove Master detection sensor and Master end sensor (send) by removing the mounting screw (M3 x 6 screw; 1 pc).

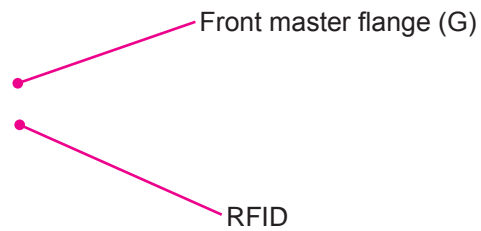


**2-8. Removing the RFID**

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Remove the Master making unit front cover by removing screws (M4 x 8 screw; 4 pcs). (Refer to Chapter 1)
- 3) Remove the Master making PCB by removing screws (M3 x 6 screw; 2 pcs).

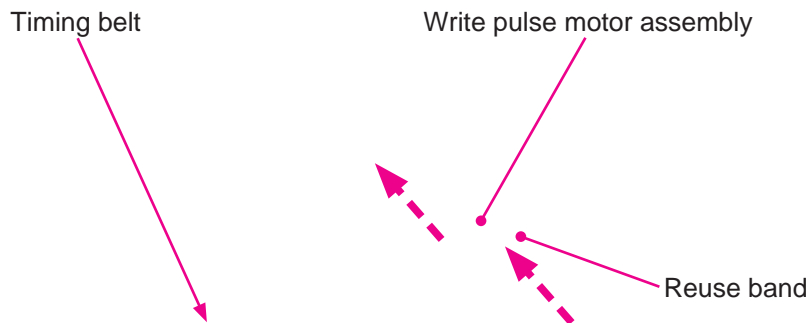


- 4) Disconnect the connector, and then remove the RFID by releasing three crows of the front master flange (G).



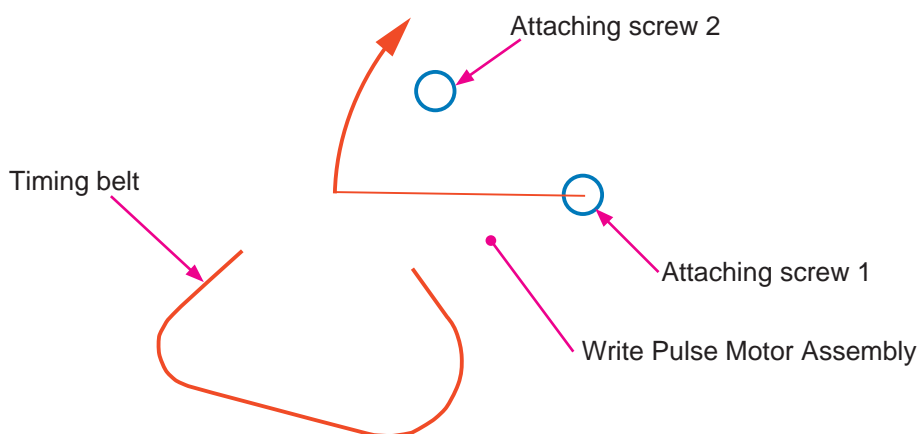
## 2-9. Removing the Write Pulse Motor Assembly

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Remove the Master making unit front cover by removing screws. (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
- 3) Unhook wire harness from the Wire saddle on the bracket of the Write pulse motor.
- 4) Remove the Reuse band from the bracket of the Write pulse motor and unplug the connector from the Write pulse motor.
- 5) Remove the Write pulse motor assembly together with the Timing belt by removing screws (M3 x 6 screws; 2 pcs).



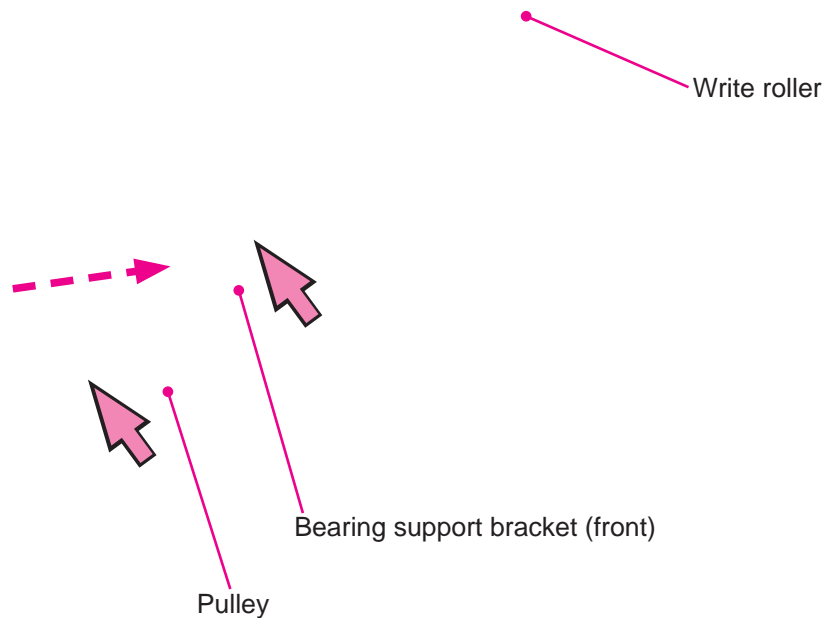
### «Precautions for installing the write pulse motor assembly»

- Fasten the Write Pulse motor assembly temporarily, and then rotates them clockwise on the attaching screw 1 as the center. Adjust the tension of the timing belt appropriately and tighten the screw firmly.



## 2-10. Removing the Write Roller

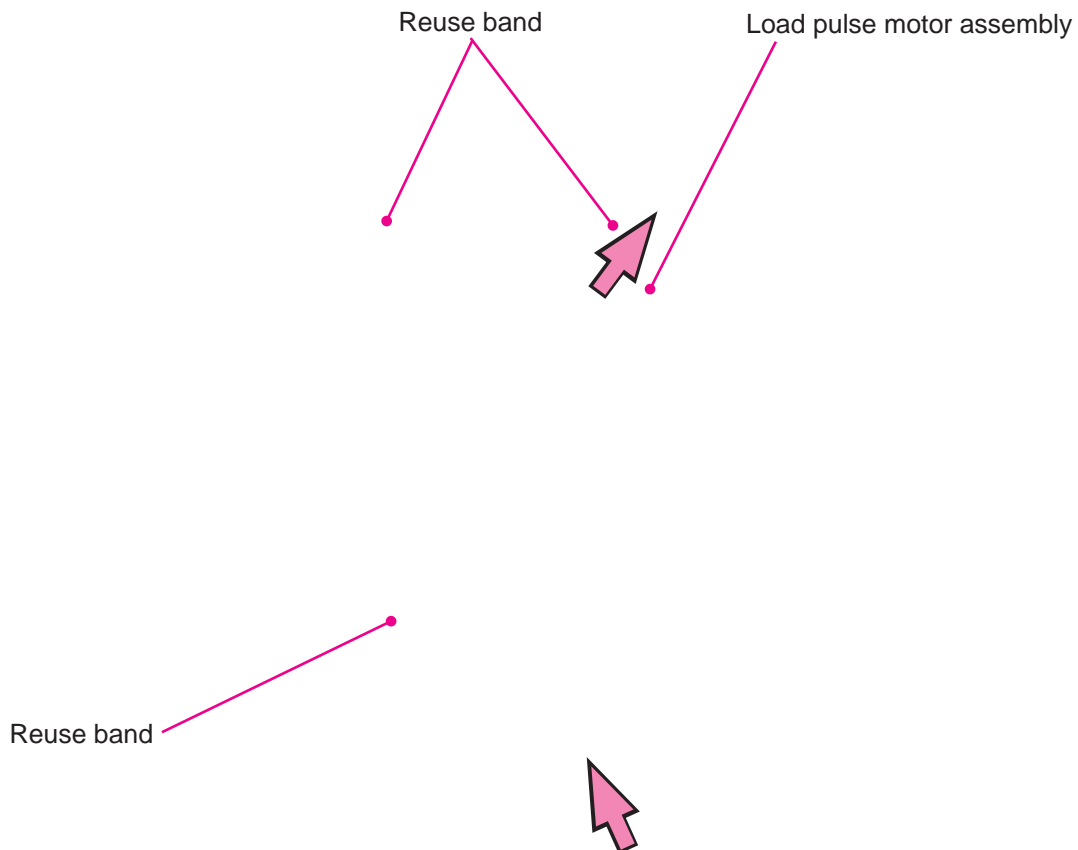
- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
- 3) Remove the Write roller pulley by removing a screw (M3 x 8 screw; 1 pc).
- 4) Remove the Bearing support bracket (front) by removing screws (M3 x 6 screws; 2 pcs).
- 5) Be careful not to fall the rear side metal, pull out and remove the Write roller from the side plate hole.



< Write Roller >

## 2-11. Removing the Load Pulse Motor Assembly

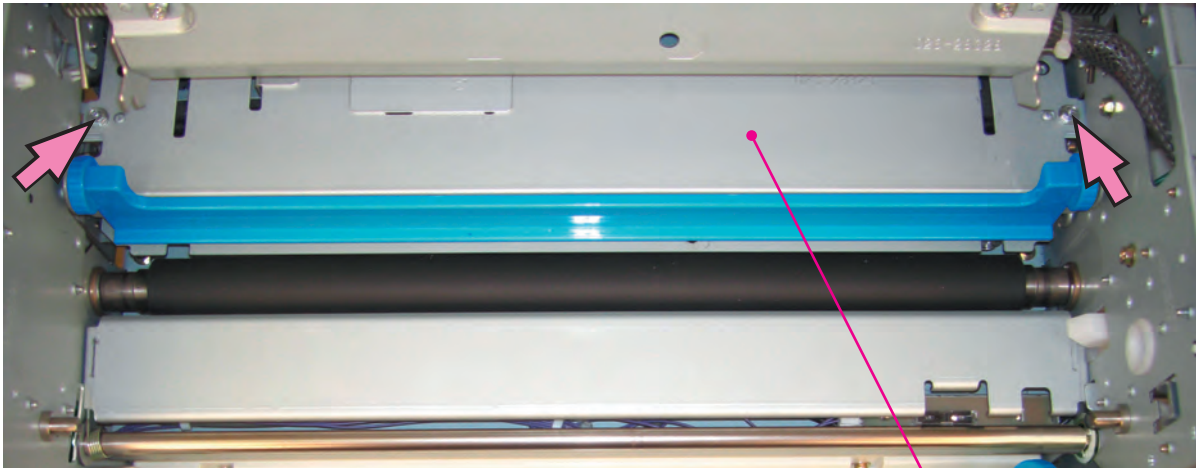
- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
- 3) Remove the reuse bands (3 positions) from the bracket of the Load pulse motor and unplug the Load pulse motor connector.
- 4) Remove the Load pulse motor assembly by removing screws (M3 x 6 screws; 2 pcs).





### 2-12. Removing the Cutter Cover Assembly

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
  - Load pulse motor assembly (Refer to 2-11)
- 3) Unplug the sensor connector, remove screws (M3 x 6 screws; 2 pcs), and remove the Cutter cover assembly while pulling out the wire harness from the hole on the machine side frame.



Cutter cover assembly

< Cutter Cover Assembly >

Master positioning sensor

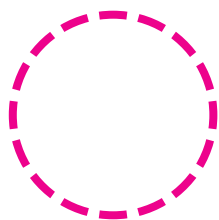
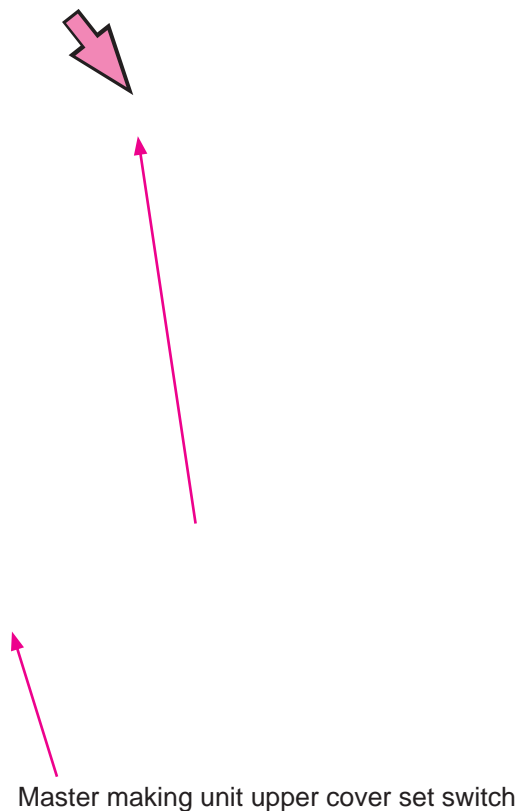
Master making unit upper cover set switch



< Cutter Cover Assembly Back side view >

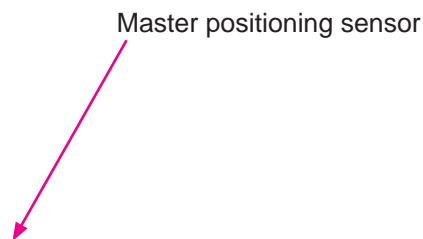
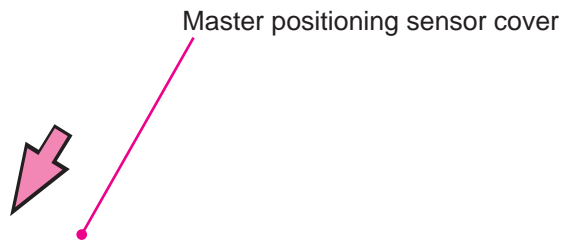
**2-13. Removing the Master Making Unit Upper Cover Set Switch**

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
  - Load pulse motor assembly (Refer to 2-11)
  - Cutter cover assembly (Refer to 2-12)
- 3) Unplug the connector, and remove the master making unit upper cover interlock switch together with the bracket by removing screws (IT3C3 x 6 screw;1 pc ).



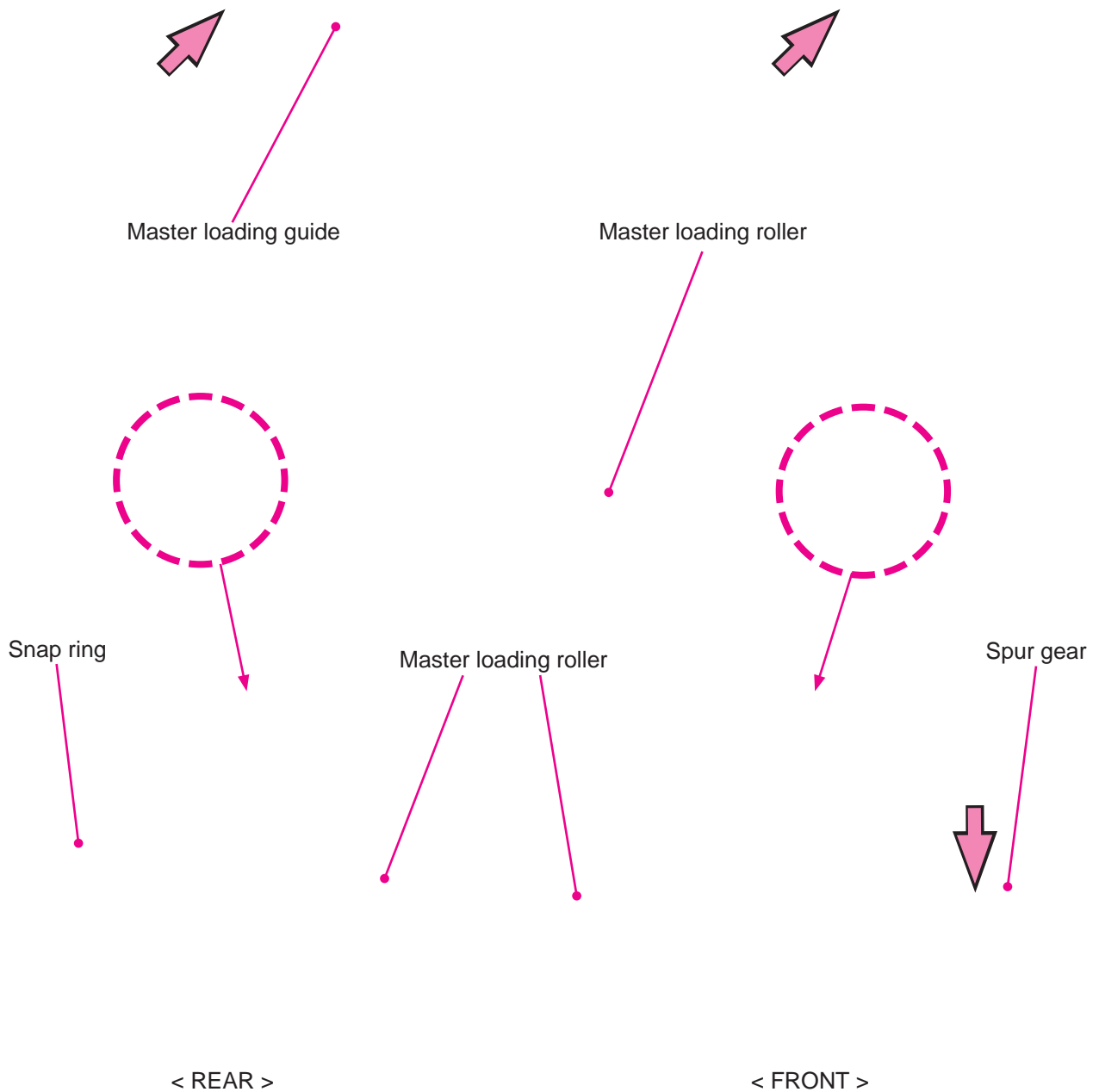
## 2-14. Removing the Master Positioning Sensor

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
  - Load pulse motor assembly (Refer to 2-11)
  - Cutter cover assembly (Refer to 2-12)
- 3) Remove the Master Positioning sensor cover by removing a screw (M3 x 6 screw; 1 pc).
- 4) Unplug the connector and remove the Master positioning sensor.



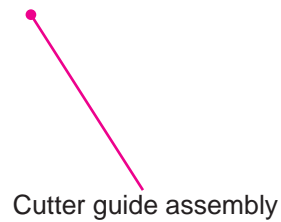
## 2-15. Removing the Master Loading Roller

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Remove the Master making unit front cover by removing screws. (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
- 3) Remove the Master loading guide by removing screws (M3 x 8 screws; 2 pcs).
- 4) Remove the Spur gear by removing a screw (M3 x 8 screw; 1 pc).
- 5) Remove the Snap ring on the rear, unhook the Bearing metal from the rear frame and slide it inward. Slide the Master loading roller towards the rear and unhook the Bearing metal from the front frame. Remove the Master loading roller from the machine.



**2-16. Removing the Cutter Guide Assembly**

- 1) Pull out the master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
  - Load pulse motor assembly (Refer to 2-11)
  - Cutter cover assembly (Refer to 2-12)
  - Master loading guide (Refer to 2-15)
  - Master loading roller (Refer to 2-15)
- 3) Remove the Cutter guide assembly by removing screws (M3 x 6 screws; 2 pcs).

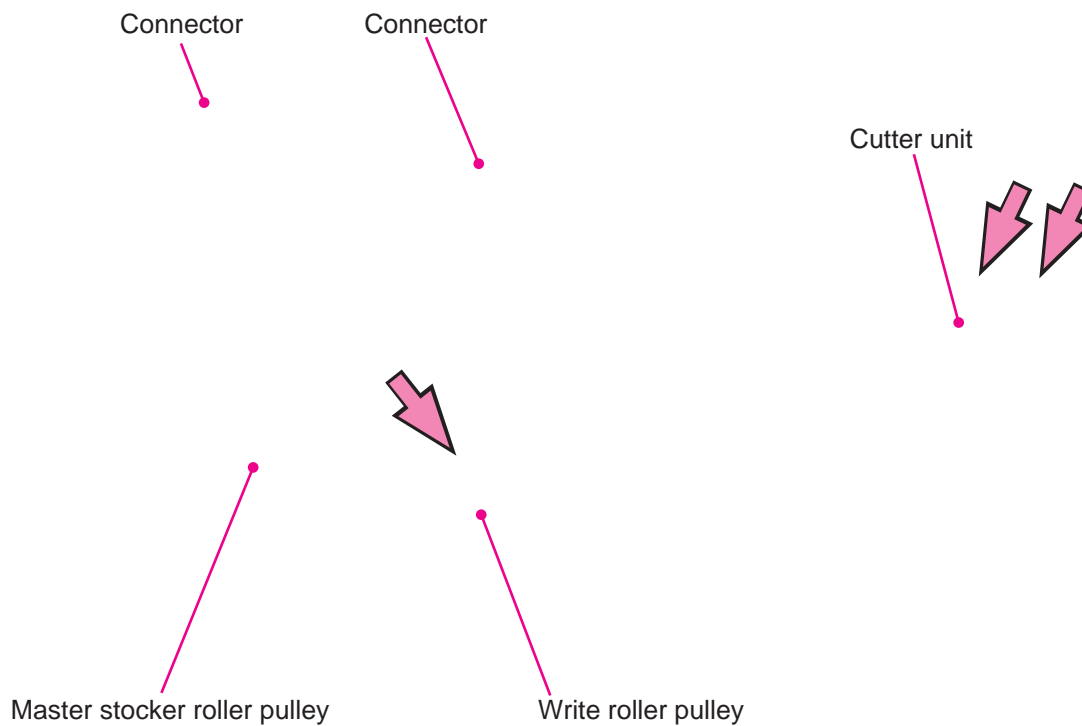


< Cutter Guide Assembly (TOP VIEW)>

< Cutter Guide Assembly (BOTTOM VIEW)>

## 2-17. Removing the Cutter Unit

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
  - Load pulse motor assembly (Refer to 2-11)
  - Cutter cover assembly (Refer to 2-12)
  - Master loading guide (Refer to 2-15)
  - Master loading roller (Refer to 2-15)
  - Cutter guide assembly (Refer to 2-16)
  - Write roller pulley (M3 x 8 screw; 1 pc).
  - Master stocker roller pulley (4mm-diameter E-ring; 1pc)
- 3) Unplug the connector (2 points), and remove the cutter unit by removing the shoulder screw.  
(Shuttle Cutter is same procedure as Rotary type.)



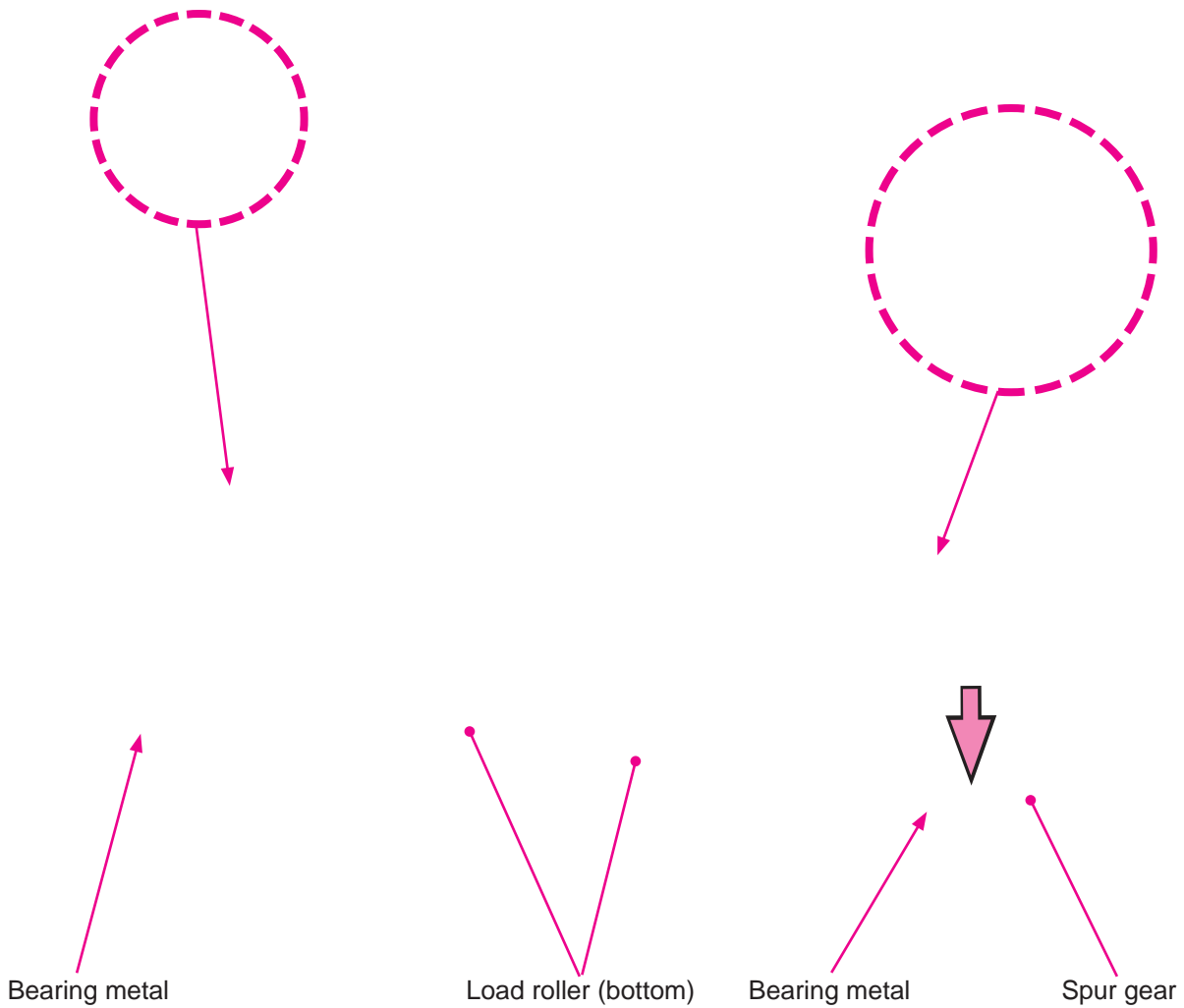
The rear side of the cutter unit is hooking type.



< Cutter Unit (Rotary) >

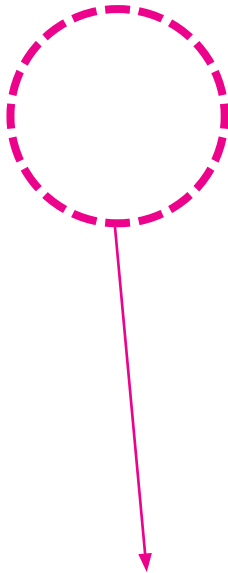
**2-18. Removing the Load Roller (Bottom)**

- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
  - Write pulse motor assembly (Refer to 2-9)
  - Load pulse motor assembly (Refer to 2-11)
  - Cutter cover assembly (Refer to 2-12)
  - Master loading guide (Refer to 2-15)
  - Master loading roller (Refer to 2-15)
  - Cutter guide assembly (Refer to 2-16)
- 3) Remove the Spur gear by removing a screw (M3 x 8 screw; 1 pc).
- 4) Remove the Load roller (bottom) by removing both side of E-ring (6mm-diameter E-ring; 2pcs), waving washer and Bearing metal.

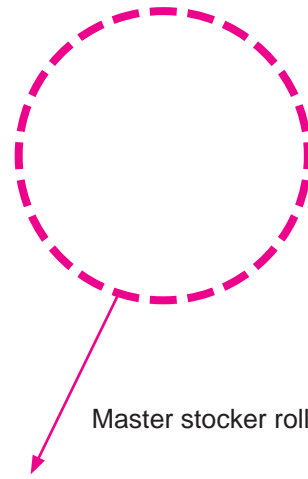


**2-19. Removing the Master Stocker Roller (Bottom)**

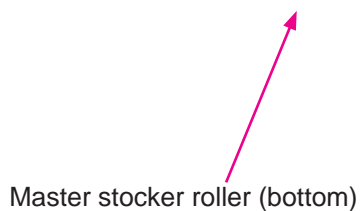
- 1) Pull out the Master making unit and switch OFF the machine power.
- 2) Remove the Master making unit.
- 3) Remove the following items.
  - Write pulse motor assembly (Refer to 2-9)
  - Load pulse motor assembly (Refer to 2-11)
  - Cutter cover assembly (Refer to 2-12)
  - Master loading guide (Refer to 2-15)
  - Master loading roller (Refer to 2-15)
  - Cutter guide assembly (Refer to 2-16)
  - Master stocker roller pulley (4mm-diameter E-ring; 1pc)
- 4) Remove the Master stocker roller (bottom) by removing an E-ring (4mm diameter; 1 pc) and the Bearing metal from the rear, and two E-rings (4mm diameter; 2 pcs) and the Bearing metal from the front.



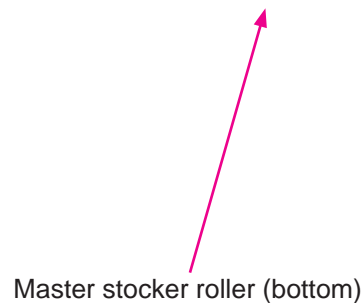
Master stocker roller (bottom)



Master stocker roller pulley



Master stocker roller (bottom)

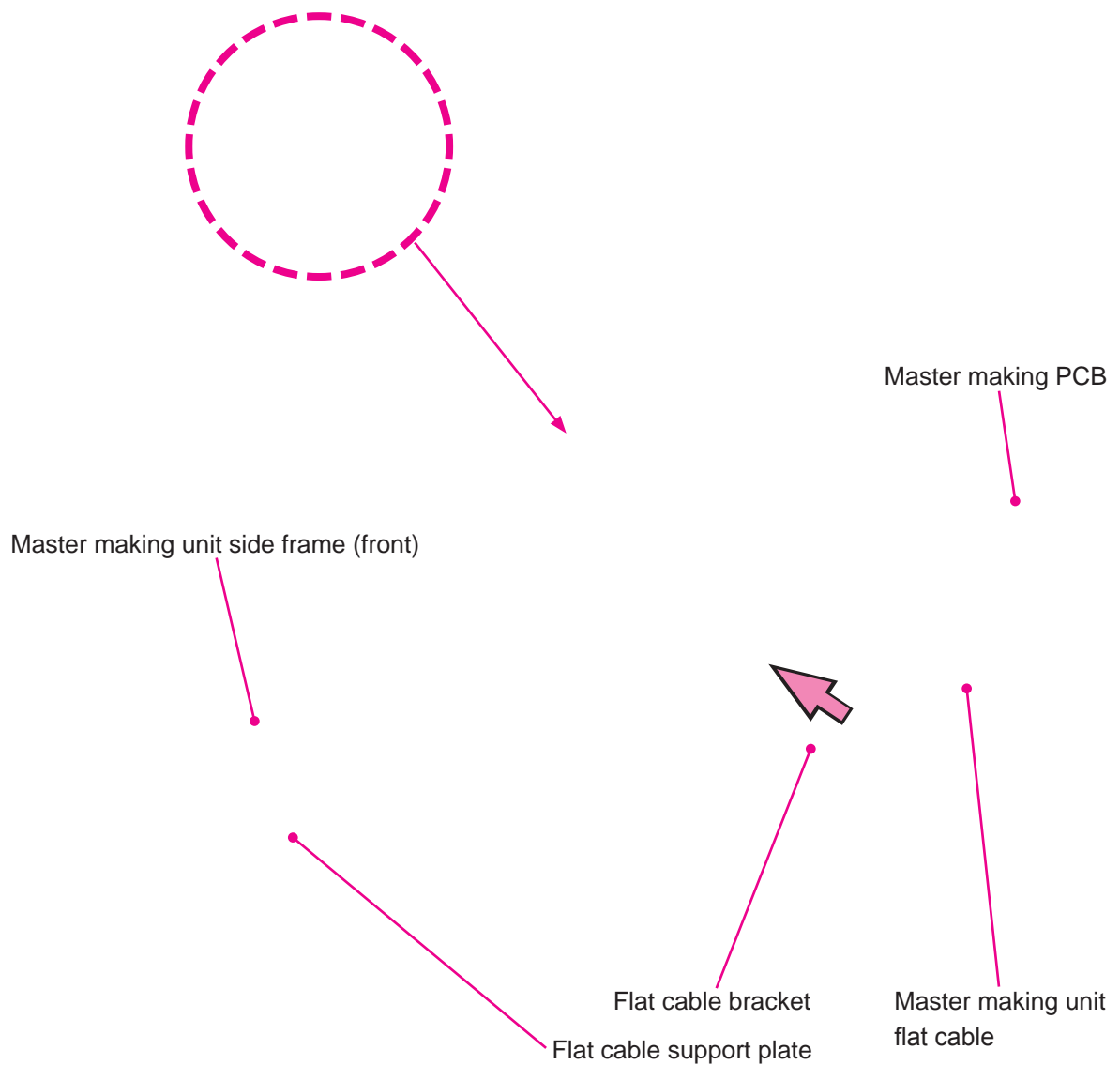


Master stocker roller (bottom)

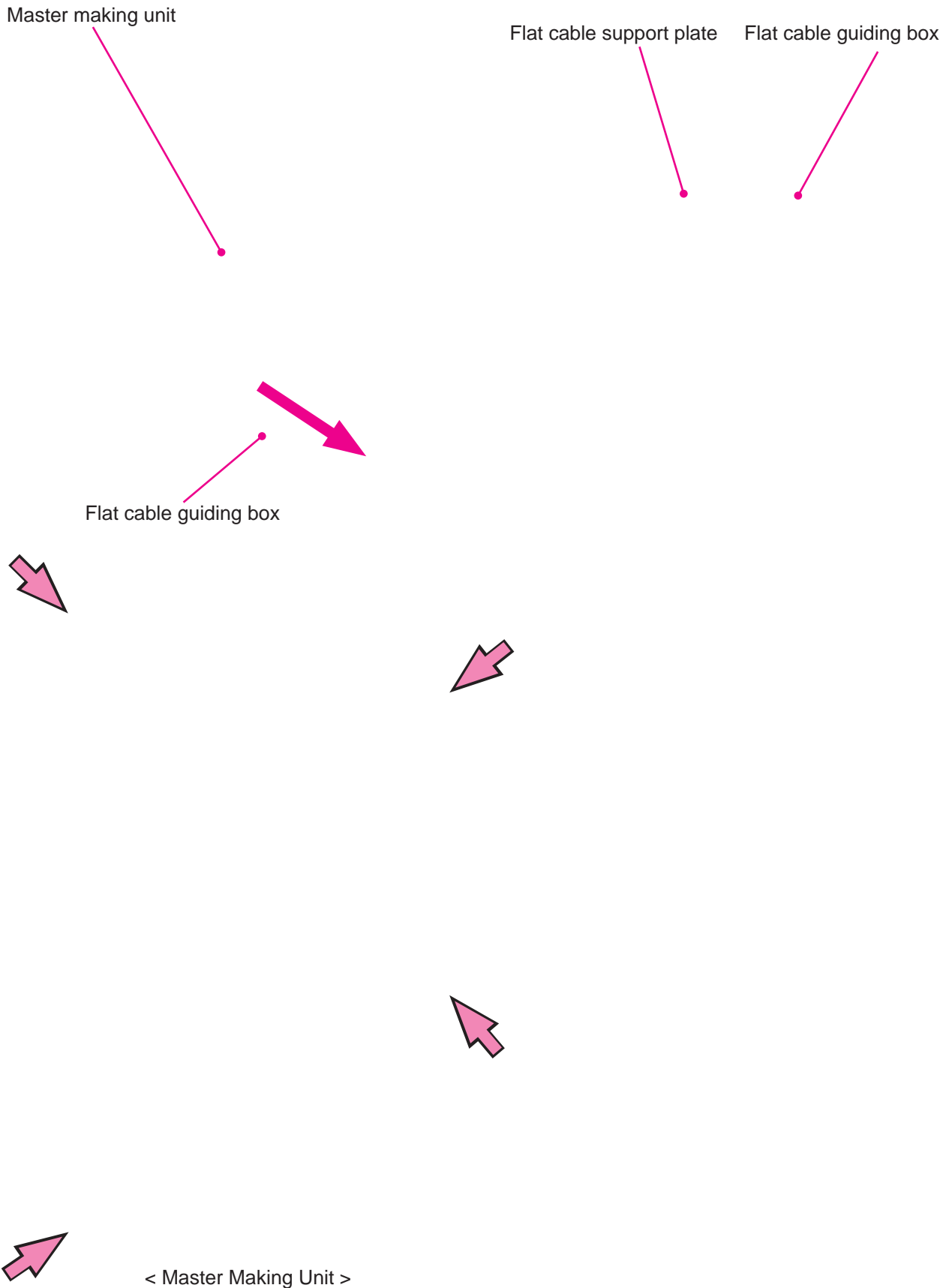


### 2-20. Removing the Master Making Unit

- 1) Pull out the Master making unit and switch OFF the machine power
- 2) Open the Master making unit upper cover and remove following items.
  - Master roll
  - Master making unit front cover (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
- 3) Unplug the Master making unit flat cable from the Master making PCB.
- 4) Remove a screw (M3 x 8 screw; 1 pc), and let Flat cable bracket and Flat cable support plate hang down by removing them from the Master making unit side frame (front).

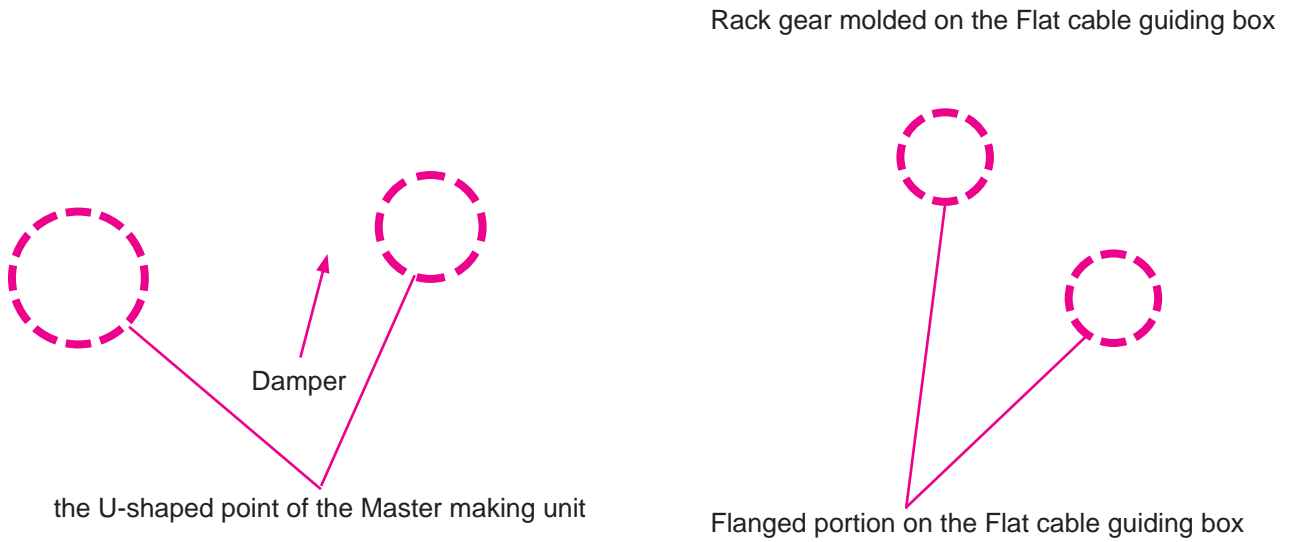


- 5) Slide the Flat cable guiding box in the direction indicated by an arrow mark on the photograph below, just enough to unhook from the Master making unit, and disengage it from the Master making unit.
- 6) Push both the Flat cable guiding box and Flat cable support plate back into the machine.
- 7) Remove the four Shoulder screws and remove the Master making unit from the machine by lifting it.

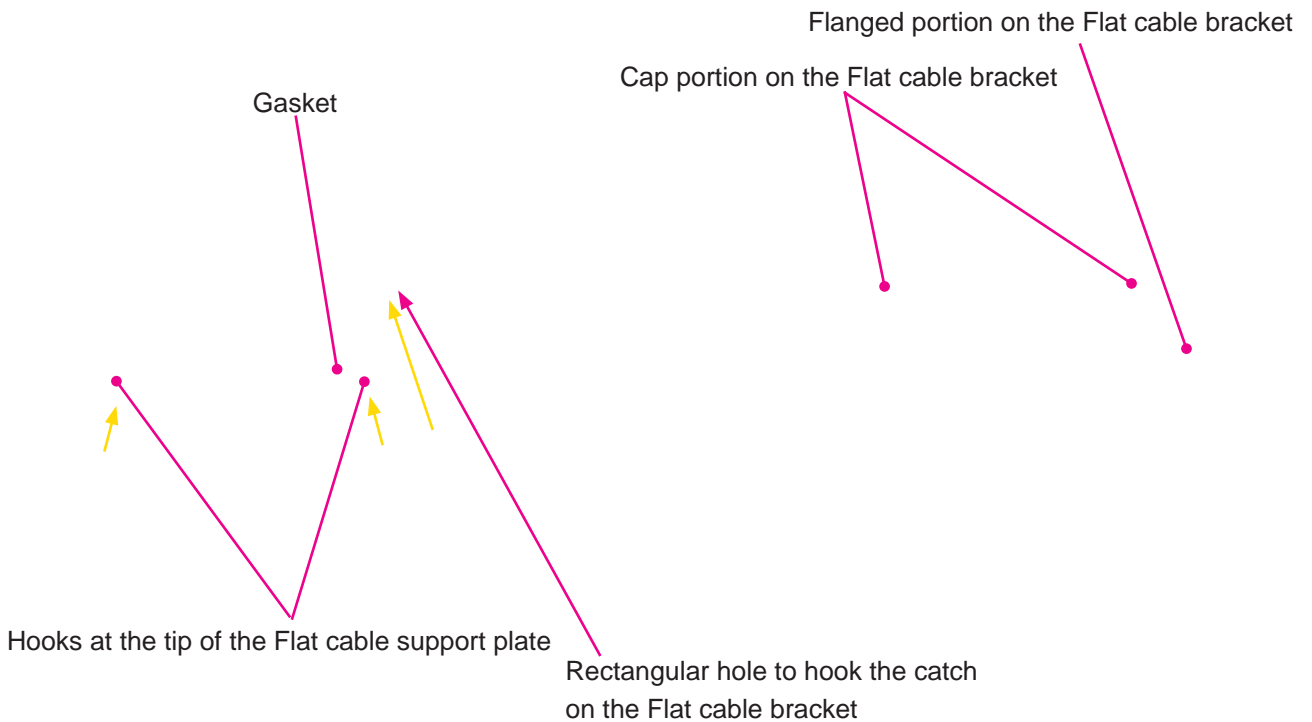


< Precautions in Reassembly >

- Insert the flanged portion of the Flat cable guiding box into the U-shaped point of the Master making unit and engage the Damper gear into the rack gear molded on the Flat cable guiding box.



- Insert the cap portion of the Flat cable bracket into left and right hooks at the tip of the Flat cable support plate and hook the flanged portion on the Flat cable bracket on the rectangular hole on the Master making unit front frame to attach.



### 3. Adjustment

#### 3-1. Thermal Power of Thermal Print Head

The thermal power must always be adjusted each time a TPH (Thermal print head) is replaced.

- 1) Activate test mode.
- 2) Input "9874" (protected area) with the numeric key and then press the <START> key.
- 3) Run test mode No. 1234 (TPH resistance input) and enter the resistance value imprinted on a sticker attached on each TPH. Press START key to enter the value.
- 4) Press the <RESET> key to return back to the normal operation mode.

#### 3-2. Master Cut Length Adjustment

##### Checks and adjustment

- 1) Make a Master and measure the length of the Master margin at the tail end of the Master on the Print drum (length from where the ink ends on the Master material to the tail edge of the Master). The length should be 9 mm, plus or minus 1.5 mm.
- 2) If the measured length is out of the specified range, make an adjustment using test mode No.544 (master cut length adjustment).
  - \* Increasing the parameter setting by the test mode increases length of the margin at the tail of the Master, making the total length of each Master longer.

#### 3-3. Master Making Length Adjustment

##### Checks and adjustment

- 1) Run the Test mode No.80 (Test print A ) to make a Master.
- 2) Remove the Master from the print drum, and measure the master making area. Confirm the length of the Master making area. When the machine is A3, the ensured length is over 413 mm. When the machine is B4, the ensured length is over 357 mm.
- 3) If the measured length is out of the specified range, make an adjustment using test mode No.542 (Master making length adjustment).
  - \* Increasing the parameter setting by the test mode increases the Master making length.

#### 3-4. Master Positioning Sensor Sensitivity Adjustment

Make following adjustment after replacing Master positioning sensor.

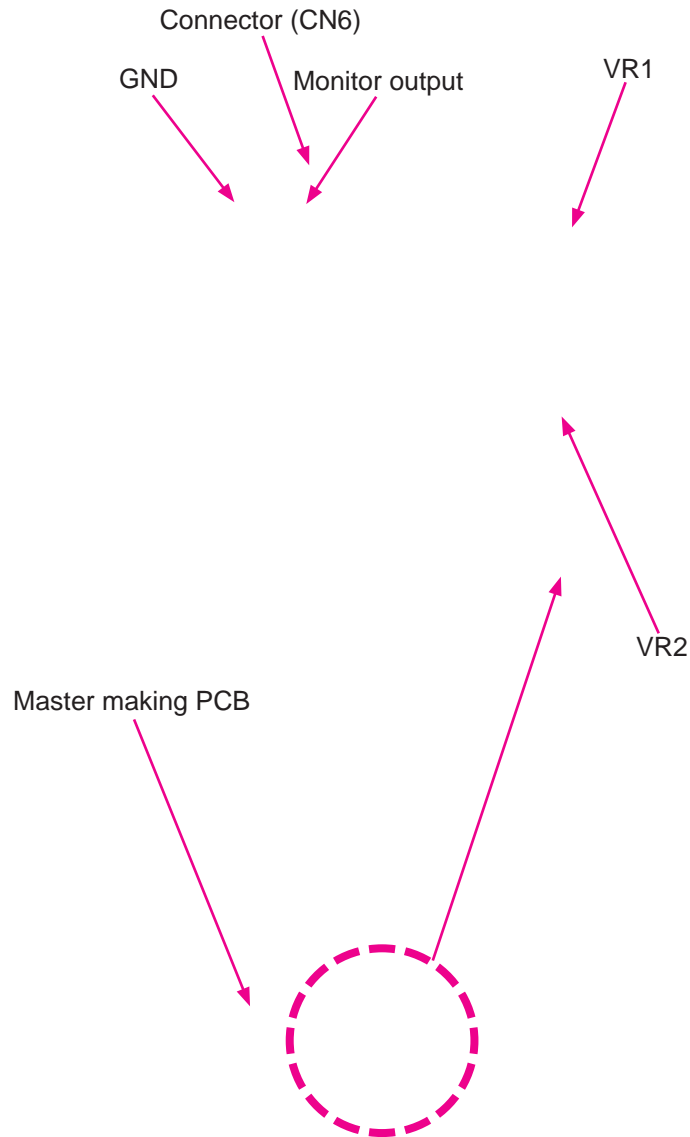
##### Checks and adjustment

Confirming procedure

- 1) Pull out the Master making unit. If Master material is set in the unit, rewind the Master material back on the Master roll, so no Master is under the Master positioning sensor.
- 2) Remove the Master-making unit front cover by removing screws. (M4 x 8 screws; 4 pcs) (Refer to Chapter 1)
- 3) Measure the voltage by connecting the tester to the CN6 monitor connector of the Master making PCB.
- 4) Confirm the voltage is within  $1.6 \pm 0.6$  V. Adjust the voltage if it is out of the range.
- 5) Attach the Front master making cover.
- 6) Switch ON the machine and set the Master material again, confirm the Master setting action is performed.

## Adjusting procedure

- 1) Turn the VR1 (coarse adjustment) and VR2 (fine adjustment) clockwise until they stop.
- 2) Turn the VR2 counterclockwise while measuring the sensor voltage with the CN6 monitor connector, and adjust the voltage of the sensor within  $1.6\text{ V} \pm 0.6\text{ V}$ .  
\* If the adjustment fails, follow the procedure below.
- 3) Turn the VR1 and VR2 clockwise until they stop, adjust the sensor voltage around  $2.0\text{ V}$  by turning VR1 counterclockwise.
- 4) Turn the VR2 counterclockwise, and adjust the voltage of the sensor within  $1.6\text{ V} \pm 0.6\text{ V}$ .



# MEMO

# MEMO

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# CHAPTER 17: Panel Messages

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2. Errors for Which Backup is Created .....	4
3. List of Error Types .....	5
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## Explanation of Panel Messages

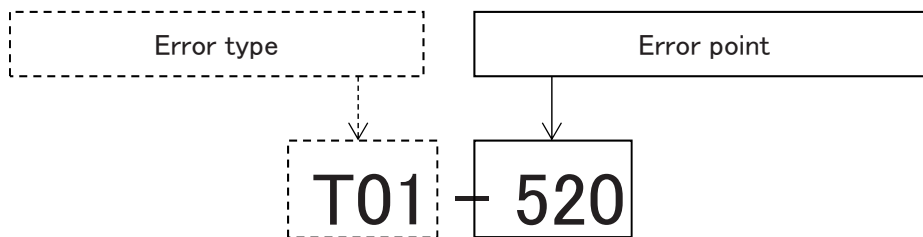
### 1. Error-Code Displays

An error code consists of an “error type” indicating the type according to the error reset method (panel indication) and “error point” indicating the number according to the error detection condition. Error types sorted according to the priority is called “error priority”.

An error type is determined by one or more error points. An error point code is indicated by the unit number indicating the mechanical unit and its sequential number within the unit.

The details of each element are explained in this section.

Example) T01-520 (Main motor lock)



Error type

Type	Description
T	<p>“Serviceman-call error”                      This error can be released by the reset operation or by turning the power OFF then ON (system initialization).</p>
A	<p>“Jam error”                      This error occurs when the machine is in operation, and the normal state can be restored by user operation.                      The error can be released by following the instruction displayed on the panel.</p>
B	<p>“Option error”                      This error occurs due to troubles on options (such as paper jam), disconnection with the machine, power disconnection of optional devices, etc.                      The error can be released by removing jam, establishing connection to the machine, turning the optional devices ON, etc.and then pressing the &lt;RESET&gt; key or switching the power ON again.</p>
C	Consumable (ink) has run out.
	Consumable (master) has run out.
	Master disposal box is full.
	Consumable (paper) has run out.
D	<p>Set switch of each unit part is OFF.                      If this error occurs while the machine is in operation, the operation will stop at a proper timing.</p>
E	<p>Warning: This error has the potential to cause a problem if the operation or action is continued. (Serviceman-call error)</p>
F	<p>Warning: This error has the potential to cause a problem if the operation or action is continued. (Other than serviceman-call error)</p>
H	<p>This is the state that requires parameter entry by the user when general consumable is to be set.</p>
J	<p>“Paper jam error”                      Jam of original that occurs at the scanning section or paper jam that occurs at the paper feed/ejection section.</p>

**Error point**

It is identified by the mechanical unit number to indicate the unit number.

Unit Number	Error Point	Unit
0	0xx, 9xx and 10xx	System (hardware, software, communication) and panel
1	1xx	Scanning section (scanner, AF) and image processor
2	2xx	Master making section
3	3xx	Master removal section
4	4xx	Paper feed/ejection section
5	5xx	Print drum and periphery
6	6xx	Printing adjustment section (vertical, density)
7	7xx and 8xx	Optional equipment (such as card counter)

**2. Errors for Which Backup is Created**

Backup copy will be created when the following errors occur.  
(The error is not cleared by turning the power OFF.)

No.	Error Type	Description
1	C01	Ink cartridge replacement
2	C02	Master roll replacement
3	C03	Master disposal box full

### 3. List of Error Types

Type	Name
A01	Master feed error
A02	Master loading error
A04	Master on print drum check
A05	Master in master removal section check
A06	Paper feed tray check
A07	Paper feed error
A08	Paper jam on print drum
A09	Paper ejection error
A10	AF original feed error
A16	Awaiting removal of master from print drum
A17	Cutter error
A34	Awaiting master reset
B01	Card counter: No card
B21	Storage memory: Read/write error
B22	Job separator: Power OFF
B23	Job separator: No-tape error
B24	Job separator: Jam error
B29	USB memory: No compatibility (HUB)
B30	USB memory: No compatibility
B31	Network cable not connected
B32	NIC: External communication error
B33	IP address setup error
B34	RLP (linked printer): No-toner error
B35	RLP (linked printer): Service error
B36	Coin vendor: Insufficient amount of coins
B37	Card vendor: No card
B38	USB memory: Folder creation failed
B39	USB memory: Read/write error
C01	Ink cartridge replacement
C02	Master roll replacement
C03	Master disposal box full
C04	No paper
C11	Ink has passed the expiration date
C12	Master has passed the expiration date
C13	Ink & master disabled due to expiration
D01	Print drum not installed
D02	Print drum incompatibility
D03	Ink cartridge not installed
D04	Ink cartridge incompatibility
D05	Master not installed

Type	Name
D07	Master disposal box not installed
D08	Master making unit not installed
D09	Master making unit not set into position
D11	Front cover not set into position
D13	Main unit rear cover not set in position
D17	Master incompatibility
D18	Print drum release possible
D19	Master making unit pull out possible
D22	Print drum release command
D23	AF paper feed cover not set
D50	Scanner carriage lock not released
E01	Battery replacement
E02	Maintenance call
F01	No master on the print drum
F02	Paper/master making size incompatibility 1
F03	Multi-up: Paper size error
F04	User Control: Reached the maximum print quantity
F05	Minimum print quantity setting error
F06	N-up - Paper size error
F07	N-up - Outside original size detection range
F10	Paper/master making size incompatibility 2
F15	Paper feed/paper receiving tray: Paper size incompatibility
F17	Print drum size incompatibility
F24	Auto size reproduction not possible (outside range of size reproduction)
F28	Card paper feed setting check
F30	Multiple paper feed check
F31	Auto fence operation not possible
F32	Storage memory: Capacity is full
F33	USB memory: Capacity is full
F34	Storage memory: Reached the maximum count of file
F37	Combined use of book mode and AF not possible
F43	DtoP original/paper incompatibility
F44	Auto size reproduction not possible (outside original size detection range)
F45	Presence of original unknown/no original
F47	Combined use of AF and postcard size reproduction not possible
F48	Multi-up: Outside original size detection range

## CHAPTER 17: Panel Messages

Type	Name
F51	Expired ink
F52	Use of RLP mode not possible (RLP information has not been acquired)
F56	Expired master
F57	Expired ink & master
F58	Use of RLP mode not possible (NET-D initializing)
F60	RLP auto-link: Master making continuation confirmation (when print quantity is 0)
F62	RLP auto-link: RLP error
F64	Specified function disabled at job reception
F65	Scan mode auto-saving size selection/nonstandard size original
F73	Auto tray selection: RLP tray designation disabled
F74	High speed mode not possible at low temperature
F78	Digitizer: Stage cover open
F79	Digitizer: No original during rescanning
F85	Scanning not possible: External CI not connected
F90	Supply stock management (ink)
F91	Supply stock management (master)
F94	Protect confirmation (compulsory)
F95	Protect confirmation
F96	User Control: ID counter report
F97	User Control: Counter report
H01	General supply parameter input (print drum section)
H02	General supply parameter input (ink viscosity (normal print pressure))
H03	General supply parameter input (ink viscosity (print pressure for proof-print))
H04	General supply parameter input (master)
H05	General supply parameter input (master support (normal print pressure))
H06	General supply parameter input (master support (print pressure for proof-print))
H08	General supply (ink) expiration month entry
H09	General supply (ink) expiration year entry
H10	General supply (master) expiration month entry
H11	General supply (master) expiration year entry
T01	Main motor lock

Type	Name
T02	Elevator motor lock
T03	Clamp motor lock
T04	Ink overflow
T05	Vertical print positioning pulse motor lock
T11	Print pressure control pulse motor lock
T12	Master disposal section motor lock
T13	Cutter motor lock
T14	FB error
T15	AF error
T19	Thermal pressure motor lock
T20	Paper ejection section motor lock
T24	Ink motor lock
T25	No battery error
T30	Print pressure jig error
T90	Network Error
T91	RTC data error
T92	Print drum EEPROM write error
T93	NET-D hardware error
T94	TPH error
T96	Data not input
T97	PC card access error
T98	Hardware error
T99	Software error

### 4. List According to Error Point

\* PF: Power failure, power voltage error    ES: Emergency stop, emergency shutdown  
 \* The recovery operation will be initiated after the <START> key is pressed.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T98	2	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	No response from the NeoROSA PCB. At startup, if the NeoROSA PCB connection signal has been detected but NeoROSA PCB does not respond, T98-069 will be detected, to be overridden by this error point.	Switch the power OFF, then ON.
T98	5	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Hardware error	Switch the power OFF, then ON.
T98	6	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	FRAM checksum error	Switch the power OFF, then ON.
F94	7	• Protection mode is set but the master has not been discarded (when the power is turned ON) (at wake-up) (when the print drum is inserted)	-- Protect -- Discard Current Master		The flag for being protected remains when the power is turned ON, at wake-up, or when the print drum is inserted.	Confidential action will be executed by any of the following: • Press the [OK] button. • Press the <START> key.
F95	8	• Protection mode is set (at job completion) (except when connected to vendor)	-- Protect -- Discard Current Master		Job completed when [Protect] in [Admin.] is ON.	Confidential action will be executed by any of the following: • Press the [OK] button. • Press the <START> key. The warning display can be cleared by any of the following: • Press the [Cancel] button. • Press the <STOP> key.
D13	9	• Main unit rear cover is out of the position.	Rear Cover of Main Body is Off Call Service	Call Service	Main unit rear cover not set in position (rear cover set switch is OFF)	Rear cover SW: ON

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
E01	10	<ul style="list-style-type: none"> <li>The battery is running out.</li> </ul>	!!Low Battery!! Call Service	Maintenance Call	<p>When the power is turned ON, the remaining battery is 2.1 V or lower (to be replaced).</p> <p>* For control, when a value 1.6 V or lower is set for RTC.</p> <p>* Precautions on battery replacement: Be sure to replace the battery when the machine power is ON. If the battery is replaced when the machine power is OFF, the following two problems will occur. (1) The internal clock goes wrong. ⇒ Set the clock again. (2) When the power is turned ON the first time after the battery replacement, T25-026 No battery error is indicated again. ⇒ Switch the power OFF, then ON, and check that the error is no longer indicated.</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
E02	11	<ul style="list-style-type: none"> <li>Reached the scheduled maintenance time</li> </ul>	!!Maintenance!! Call Service	Maintenance Call	<p>The master making count exceeded the value set in the test mode when the power is turned ON or when reset is executed. (Maintenance call)</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
E02	12	<ul style="list-style-type: none"> <li>Reached the scheduled maintenance time</li> </ul>	!!Maintenance!! Call Service	Maintenance Call	<p>The printing count exceeded the value set in the test mode when the power is turned ON or when reset is executed. (Maintenance call)</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
T91	13	<ul style="list-style-type: none"> <li>The data acquired from RTC is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	<p>The date and time data acquired from RTC is not correct.</p>	<p>Press the &lt;RESET&gt; key.</p>
T99	14	<ul style="list-style-type: none"> <li>Software error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	<p>Sub microcomputer is detected to be physically damaged.</p>	<p>Switch the power OFF, then ON.</p>
F01	15	<ul style="list-style-type: none"> <li>No master is detected on the print drum at the start of printing.</li> </ul>	No Master on Print Drum Make a New Master	Check Settings	<ul style="list-style-type: none"> <li>No master is detected on the print drum at the start of printing.</li> </ul>	<p>The warning display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F03	16	<ul style="list-style-type: none"> <li>Custom sized paper is set for the multi-up setting</li> </ul>	<p>!! Multi-Up is Not Available with This Paper Size !! Replace with Proper Paper of Standard Size</p>	Check Settings	Attempted uses of custom sized paper with the multi-up function.	<p>The warning display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul> <p>(Set standard size paper that can be used with the multi-up function to cancel the error.)</p>
F02	18	<ul style="list-style-type: none"> <li>The master making size is larger than the paper size (except for proof printing) (except for DtoP master making)</li> </ul>	<p>Page Format is Larger than Paper Size !! Possible Ink Smudges on Prints !!</p>		<p>The paper size does not match the master making size (on the print drum) at the start of printing. Paper size &lt; Master making size (on the print drum) (Not detected when Paper size <math>\geq</math> Master making size)</p>	<p>Printing will be executed by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Continue] button.</li> <li>Press the &lt;START&gt; key.</li> <li>Press the &lt;PROOF&gt; key.</li> </ul> <p>The warning display can be cleared by any of the following: (Printing stops.)</p> <ul style="list-style-type: none"> <li>Touch the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul> <p>(Released by setting paper with equal or larger size than the master making size.)</p>
F05	19	<ul style="list-style-type: none"> <li>The number of print is smaller than the minimum print quantity.</li> </ul>	<p>Enter Print Quantity Over nn, Programmed Minimum Value</p>	Enter Print Quantity Over nn	The set number of print is smaller than the minimum print quantity when the <START> key is pressed in the master making mode.	<p>Enter the number of print that is larger than the value specified as the minimum print quantity using the numeric keys.</p>
F10	21	<ul style="list-style-type: none"> <li>The master making size is larger than the paper size (for proof printing)</li> </ul>	<p>Page Format is Larger than Paper Size !! Possible Ink Smudges on Prints !! (Continue-&gt;PROOF Key)</p>		<p>The paper size does not match the master making size (on the print drum) at the start of proof printing. Paper size &lt; Master making size (on the print drum) (Not detected when Paper size <math>\geq</math> Master making size)</p>	<p>Printing will be executed by any of the following:</p> <ul style="list-style-type: none"> <li>Press the &lt;PROOF&gt; key.</li> </ul> <p>The warning display can be cleared by any of the following: (Printing stops.)</p> <ul style="list-style-type: none"> <li>Touch the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul> <p>(Released by setting paper with equal or larger size than the master making size.)</p>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
E02	22	<ul style="list-style-type: none"> <li>Reached the scheduled maintenance time</li> </ul>	!!Maintenance!! Call Service	Maintenance Call	The maintenance counter in the print drum exceeded the value set in the test mode when the power is turned ON or when reset is executed. (Maintenance call)	The error display can be cleared by any of the following: <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
T98	25	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	RF tag PCB failure (The initial communication with the RF tag PCB has failed.)	Switch the power OFF, then ON.
T25	26	<ul style="list-style-type: none"> <li>Battery run out</li> </ul>	!!Low Battery!! Call Service	Call Service	The battery has run out. * After resolving the error, set the clock again.	Press the <RESET> key (and replace the battery).
F17	27	<ul style="list-style-type: none"> <li>The size of the print drum inserted differ from that of the last time.</li> </ul>	(When inserted) !!The Print Drum Type has been Changed!! Select the Current Print Drum Type  (When selected) "Invalid Print Drum has been Selected Change Drum, or Reselect Drum Size		The size of the print drum being set differ from that of the last time.	The warning display can be cleared by any of the following: <ul style="list-style-type: none"> <li>Select the print drum with the same size as that inserted, and press [OK].</li> <li>Select the print drum with a different size from that inserted, and press [OK] three times.</li> <li>Release the print drum (and replace it with the one with the same size as that previously used).</li> </ul>
T98	28	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Test mode No. 103 (storing of machine settings) has failed.	Switch the power OFF, then ON.
T98	29	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		Test mode No. 105 (restoration of machine settings) has failed.	Switch the power OFF, then ON.
T98	34	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Data cannot be rewritten to the EEPROM on the machine (not accessible to the EEPROM).	Switch the power OFF, then ON.
T98	35	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	CRC error of the EEPROM on the machine (EEPROM data error).	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F24	37	<ul style="list-style-type: none"> <li>The calculated auto reproduction ratio is out of range (processing not available).</li> </ul>	<p>!! No Auto Reproduction Size Selection with This Combination of Original and Printing Paper !! Select Size Manually</p>		<p>The reproduction ratio has fallen out of range at the start of operation with auto size reproduction.</p>	<ul style="list-style-type: none"> <li>Touch the [Size Setting] button and then specify the reproduction size manually.</li> </ul> <p>The warning display can be cleared by any of the following: (Printing stops.)</p> <ul style="list-style-type: none"> <li>Touch the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
T98	39	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	Incorrect EEPROM	Switch the power OFF, then ON.
F38	43	<ul style="list-style-type: none"> <li>The same password is already used for another user registration at the time of user password registration.</li> </ul>		It is already registered Please try another	At user registration in the user control function, the entered password has already been registered by another user.	Press the <RESET> key.
F39	44	<ul style="list-style-type: none"> <li>Attempted login by a suspended user</li> </ul>		Suspension of use Please Contact the administrator	A suspended user has logged in using the user control function.	Press the <RESET> key.
B40	47	<ul style="list-style-type: none"> <li>E-mail transmission failed</li> </ul>		Check Settings	E-mail transmission has been failed.	Press the <RESET> key.
F37	50	<ul style="list-style-type: none"> <li>An original has been set on AF while in the book mode.</li> </ul>	<p>!! Book Shadow Editor is Not Available with ADF !! Place Original on Glass Platen</p>	Check Settings	<p>An original has been set on AF while in book mode at the start of master making operation. An original was set on AF while in book mode.</p>	<p>The warning display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
T98	53	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	Loading of the stored data of memory parameters (program, mode, user paper) has failed.	Switch the power OFF, then ON.
T98	54	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	Writing to the stored data of memory parameters (program, mode, user paper) has failed.	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T98	63	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	The test mode setting data stored in the memory is out of the adjustment range.	Switch the power OFF, then ON.
T99	64	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication between NeoROSA and mechanical control PCB: An undefined command has been sent	Switch the power OFF, then ON.
T99	65	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (01) on mechanical control PCB side: Complete number of bytes is not received	Switch the power OFF, then ON.
T99	67	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (03) on mechanical control PCB side: RNK received	Switch the power OFF, then ON.
T99	68	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (04) on mechanical control PCB side: NAK received three times	Switch the power OFF, then ON.
T99	69	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (05) on mechanical control PCB side: ACK not responded	Switch the power OFF, then ON.
T99	70	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (06) on mechanical control PCB side: Transmission prevented at NeoROSA	Switch the power OFF, then ON.
T99	71	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (07) on mechanical control PCB side: Command sent while awaiting response	Switch the power OFF, then ON.
T99	75	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (11) on NeoROSA PCB side: Complete number of bytes is not received	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T99	76	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (12) on NeoROSA PCB side: ACK not specified in sequence received	Switch the power OFF, then ON.
T99	77	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (13) on NeoROSA PCB side: RNK received	Switch the power OFF, then ON.
T99	78	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (14) on NeoROSA PCB side: NAK received three times	Switch the power OFF, then ON.
T99	79	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (15) on NeoROSA PCB side: ACK not responded	Switch the power OFF, then ON.
T99	80	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (16) on NeoROSA PCB side: Transmission prevented at mechanical control PCB (CTS==1)	Switch the power OFF, then ON.
T99	81	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (17) on NeoROSA PCB side: Mechanical control download mode sent by error	Switch the power OFF, then ON.
T99	82	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (18) on NeoROSA PCB side: Mechanical CTS state 1 lasted for two seconds	Switch the power OFF, then ON.
T98	97	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	The test mode adjustment value stored in the print drum memory is out of the adjustment range.	Switch the power OFF, then ON.
T98	98	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	The machine serial number information of the EEPROM on the machine does not match that on FRAM.	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T14	114	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Faulty machine parameters	Press the <RESET> key.
T14	115	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Scanner operation fails to complete within the specified period of time.	Press the <RESET> key.
T14	116	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Awaiting black shading time-out (Black compensation fails to complete within the specified period of time.)	Press the <RESET> key.
T14	117	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Awaiting white shading time-out (White compensation fails to complete within the specified period of time.)	Press the <RESET> key.
T98	119	<ul style="list-style-type: none"> <li>• Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	Faulty Image PCB (Image processing IC memory check has failed.) (Image processing IC check is executed at initialization.)	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T14	123	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Awaiting offset adjustment time-out (When the pixel data of black level is to be loaded from the scanner GA for offset adjustment, the scanner GA does not respond after a lapse of the specified period of time.)</p>	Press the <RESET> key.
T14	124	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Awaiting gain adjustment time-out (When the pixel data of white level is to be loaded from the scanner GA for gain adjustment, the scanner GA does not respond after a lapse of the specified period of time.)</p>	Press the <RESET> key.
T14	125	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Offset adjustment process fails to complete. (The process does not complete within the specifies number of times.)</p>	Press the <RESET> key.
T14	126	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Gain adjustment process fails to complete. (The process does not complete within the specifies number of times.)</p>	Press the <RESET> key.
T98	129	<ul style="list-style-type: none"> <li>• Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>Scanner GA PCB failure (Scanner GA memory check error has occurred.)</p>	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T15	130	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>AF command reception time-out error of RG unit This error will be issued in the following conditions: A command sent from RG to AF that has not been replied to within the specified period of time is resent, but still no reply is received after a lapse of the specified period of time. * Common with Duplex AF</p>	Switch the power OFF, then ON.
T15	131	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	RG unit received an undefined command from AF.	Switch the power OFF, then ON.
T15	132	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	RG unit detected a communication sequence error on the AF unit. * Issued on the AF side	Switch the power OFF, then ON.
T15	133	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	AF communication error on the RG unit (ACK, NAK error has occurred.) * Common with Duplex AF	Switch the power OFF, then ON.
T15	134	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>RG unit failed to send data to AF within the specified period of time. This error will be issued in the following conditions: A command sent from AF to RG that has not been replied to within the specified period of time is resent, but still no reply is received after a lapse of the specified period of time. * Common with Duplex AF</p>	Switch the power OFF, then ON.



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T14	135	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Device failure at offset adjustment	Press the <RESET> key.
T14	136	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Device failure at gain adjustment	Press the <RESET> key.
T14	137	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Device failure at black shading	Press the <RESET> key.
T14	138	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Device failure at white shading	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T99	150	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>Scanning command or next original scanning start command is received from the machine during the occurrence of any of AF cover open, no original, and AF jam. * Error detection at AF side</p>	Switch the power OFF, then ON.
T15	151	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>AF setting value writing to the flash ROM failed. * Error detection at AF side</p>	Switch the power OFF, then ON.
T15	152	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>AF setting value reading from the flash ROM failed. * Error detection at AF side</p>	Switch the power OFF, then ON.
T15	153	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>At the time of AF firmware download, AF is not ready for downloading. * Error detection at AF side</p>	Switch the power OFF, then ON.
T99	154	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>At the time of AF firmware download, a command outside the range of the regular sequence has been received. * Error detection at AF side</p>	Switch the power OFF, then ON.
T15	155	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>At the time of AF firmware download, flash ROM erasing has been failed. * Error detection at AF side</p>	Switch the power OFF, then ON.
T99	156	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>At the time of AF firmware download, download data that is larger than the capacity of the program writing space has been received. * Error detection at AF side</p>	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T15	157	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>At the time of AF firmware download, writing of program to flash ROM has been failed. * Error detection at AF side</p>	Switch the power OFF, then ON.
T15	158	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>At the time of AF firmware download, switching to the area where program is to be executed has been failed. * Error detection at AF side</p>	Switch the power OFF, then ON.
T99	159	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>At the time of AF firmware download, download data checksum error has been detected. * Error detection at AF side</p>	Switch the power OFF, then ON.
T15	161	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	<p>AF not connected * Common with Duplex AF</p>	Switch the power OFF, then ON.
D50	165	<ul style="list-style-type: none"> <li>• Scanner carriage lock is not released at the time of unpacking.</li> </ul>	<p>Release the Scanner Carriage Lock Change the Tm7465 Setting to "0" Cover the Carriage Lock with Cover Sticker</p>	<p>Release the Scanner Carriage Lock Change the Tm 7465 Setting to "0"</p>	<p>The machine is powered ON with the scanner carriage lock not released.</p>	<p>Press the &lt;RESET&gt; key.  (For complete solution) Release the scanner carriage lock, and then change the value in the test mode 7465 to "0".</p>
T14	170	<ul style="list-style-type: none"> <li>• FB does not operate normally.</li> <li>• Shading compensation is not processed normally.</li> <li>• Offset/gain adjustment is not performed normally.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>The logical value of the sensor at the destination differ from the theoretical value even after the reading PM operation ended due to the sensor stop mode.</p>	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T96	171	<ul style="list-style-type: none"> <li>The information to be set in the test mode is not set.</li> <li>The relationship between values set in the test mode are not correct.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	TPH resistance not specified	Enter parameters in the test mode.
T96	172	<ul style="list-style-type: none"> <li>The information to be set in the test mode is not set.</li> <li>The relationship between values set in the test mode are not correct.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	Scanner adjustment value not specified	Enter parameters in the test mode.
D23	177	<ul style="list-style-type: none"> <li>AF paper feeder cover is open.</li> </ul>	Close the ADF Cover	Check Settings	AF paper feeder cover is open. * Duplex AF only	Turn ON the AF paper feeder cover open/close sensor. (Close the AF paper feeder cover.)
T99	181	<ul style="list-style-type: none"> <li>Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		Image processing time-out	Switch the power OFF, then ON.
T99	185	<ul style="list-style-type: none"> <li>Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	AF received an undefined command from the machine during initializing operation. * Error detection at AF side	Switch the power OFF, then ON.
T99	186	<ul style="list-style-type: none"> <li>Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	AF received an undefined command from the machine during scanning operation. * Error detection at AF side	Switch the power OFF, then ON.
T99	187	<ul style="list-style-type: none"> <li>Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	AF received an undefined command from the machine during downloading operation. * Error detection at AF side	Switch the power OFF, then ON.
T99	188	<ul style="list-style-type: none"> <li>Software error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	AF received an undefined command from the machine at a time other than during initializing, scanning, or downloading operation. * Error detection at AF side	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A10	189	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	AF paper feed section jam At original transport in AF, the running sensor is not turned ON after a lapse of the specified period of time since the Paper feed clutch has been turned ON. * Error detection at AF side	Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.  Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)
A10	190	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	AF original transport section jam 1 At original transport in AF, the edge sensor is not turned ON after a lapse of the specified period of time since the Registration clutch has been turned ON. * Error detection at AF side	Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.  Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A10	191	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>		<p>Paper Jam Remove Paper</p>	<p>AF paper jam in switchback section At original transport in AF, the running sensor is not turned ON after a lapse of the specified period of time since the switchback clutch has been turned ON. * Error detection at AF side</p>	<p>Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.</p> <p>Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)</p>
A10	193	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>	<p>Paper Jam Remove Paper in Indicated Areas and Press [OK] Button</p>	<p>Paper Jam Remove Paper</p>	<p>AF original transport section jam 3 At original transport in AF, the edge sensor is not turned OFF after a lapse of the specified period of time since the running sensor has been turned OFF. * Error detection at AF side</p>	<p>Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.</p> <p>Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)</p>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A10	194	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	AF original transport section jam 4 At original transport in AF, the jam sensor is not turned ON after a lapse of the specified period of time since the edge sensor has been turned ON. * Error detection at AF side	Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.  Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)
A10	195	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	AF paper jam in paper ejection unit At original transport in AF, the jam sensor is not turned OFF after a lapse of the specified period of time since the edge sensor has been turned OFF. * Error detection at AF side	Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.  Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A10	196	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>	<p>Paper Jam Remove Paper in Indicated Areas and Press [OK] Button</p>	<p>Paper Jam Remove Paper</p>	<p>AF scanning section jam (extra-long paper) At original transport in AF, the edge sensor is not turned OFF after a lapse of the specified period of time since the edge sensor has been turned ON (due to original paper that is too long). * Error detection at AF side</p>	<p>Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.  Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)</p>
A10	198	<ul style="list-style-type: none"> <li>• AF original transport has failed (original pulled out, retained, or not transported, AF paper feed cover open during original transportation, lack of paper interval)</li> </ul>	<p>Paper Jam Remove Paper in Indicated Areas and Press [OK] Button</p>	<p>Paper Jam Remove Paper</p>	<p>AF paper remaining jam Any of the running sensor, edge sensor, or jam sensor is ON at the start of AF operation. * Error detection at AF side</p>	<p>Simplex AF: Turn OFF the AF original detection sensor, AF original registration sensor, AF original IN sensor, and AF original ejection sensor, and press the [Confirm] button.  Duplex AF: Turn OFF the AF original detection sensor, AF end detection sensor, AF original registration sensor, AF switchback sensor, and AF original ejection sensor, and turn ON the AF paper feed cover open/close sensor. (Set the AF paper feed cover again to release.)</p>
T15	199	<ul style="list-style-type: none"> <li>• AF does not operate normally.</li> <li>• AF is not connected.</li> <li>• Adjustment of AF sensors has failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>For the sleep command from the machine to AF, AF has sent a notification that indicates sleep preparation failure.</p>	<p>Switch the power OFF, then ON.</p>
C02	200	<ul style="list-style-type: none"> <li>• The master for the master roll has run out (or is running out).</li> </ul>	<p>No Master Replace Master Roll</p>	<p>Replace Master Roll</p>	<p>Master end check performed every 10 ms. during master transfer detected master run out two consecutive times.</p>	<p>Master making unit upper cover set switch: OFF -&gt; ON (To cancel the error: Master making unit upper cover open -&gt; close) * For regular products only</p>



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A01	201	<ul style="list-style-type: none"> <li>Master positioning is not correct.</li> </ul>	Master Mis-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place	Master Jam Reset Master	Master positioning sensor is not turned ON at master setting/cutting or at master making even after master has been transferred.	Master making unit upper cover set switch: OFF -> ON, and Master positioning sensor: OFF (Reset the master to cancel the error.)
A01	202	<ul style="list-style-type: none"> <li>Master positioning is not correct.</li> </ul>	Master Mis-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place	Master Jam Reset Master	Master positioning sensor is not turned OFF at master setting operation or at the start of master making even if the master roll is rewound for the set period of time.	Master making unit upper cover set switch: OFF -> ON, and Master positioning sensor: OFF (Reset the master to cancel the error.)
T13	203	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the cutter blade moves from the home position, the Cutter HP switch is not turned OFF after a lapse of 100 ms. (Rotary)	Press the <RESET> key. -> Perform the recovery operation.
T13	204	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the cutter blade moves, the Cutter HP switch is not turned ON after a lapse of 300 ms. (Rotary)	Press the <RESET> key. -> Perform the recovery operation.
T13	205	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	After the master has been cut, the master positioning sensor is still ON even when the print drum has rotated by the specified angle.	Press the <RESET> key. -> Perform the recovery operation.
T19	207	<ul style="list-style-type: none"> <li>TPH pressurization/ depressurization does not operate properly. (TPH pressure sensor remains unaltered.)</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the TPH pressure motor operates to reduce pressure (or during home positioning action), the TPH pressure sensor is not turned OFF after a lapse of two seconds.	Press the <RESET> key.
T19	208	<ul style="list-style-type: none"> <li>TPH pressurization/ depressurization does not operate properly. (TPH pressure sensor remains unaltered.)</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the TPH pressure motor operates to reduce pressure, the TPH pressure sensor is not turned ON after a lapse of two seconds.	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A17	209	<ul style="list-style-type: none"> <li>Cutter positioning is not correct.</li> </ul>	System Error in Master Making Unit Take Out Master and then Close Master Making-Unit Cover	Remove Master Close Unit Cover	The Cutter HP switch is OFF when the machine has gone into standby, at the start of master making operation, or when the master is set.	Master making unit upper cover set switch: OFF -> ON, and Master detection sensor: OFF (Close the master making unit cover without setting master to cancel the error.) -> Error canceling operation (The cutter returns to the home position.)
D05	210	<ul style="list-style-type: none"> <li>Master is not set.</li> </ul>	Set Master in Place	Check Settings	Master detection sensor is OFF.	Master making unit upper cover set switch: OFF (Open the master making unit upper cover to cancel the error.)
A01	211	<ul style="list-style-type: none"> <li>Master positioning is not correct.</li> </ul>	Master Mis-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place	Master Jam Reset Master	Master positioning sensor is ON in standby mode.	Master making unit upper cover set switch: OFF -> ON, and Master positioning sensor: OFF (Reset the master to cancel the error.)
D09	212	<ul style="list-style-type: none"> <li>Master making unit upper cover is open.</li> </ul>	Close Master Making Unit Cover	Check Settings	Master making unit upper cover set switch is OFF.	Master making unit upper cover set switch: ON (Close the master making unit upper cover to cancel the error.)
A01	214	<ul style="list-style-type: none"> <li>Master positioning is not correct.</li> </ul>	Master Mis-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place	Master Jam Reset Master	The Master positioning sensor is ON at the start of master making operation.	Master making unit upper cover set switch: OFF -> ON, and Master positioning sensor: OFF (Reset the master to cancel the error.)
A01	215	<ul style="list-style-type: none"> <li>Master positioning is not correct.</li> </ul>	Master Mis-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place	Master Jam Reset Master	The logical value of the sensor at the destination differ from the theoretical value even after the writing PM operation ended due to the sensor stop mode.	Master making unit upper cover set switch: OFF -> ON, and Master positioning sensor: OFF (Reset the master to cancel the error.)
T19	216	<ul style="list-style-type: none"> <li>TPH pressurization/depressurization does not operate properly. (TPH pressure sensor remains unaltered.)</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the TPH pressure motor applies a force to begin compression, the TPH pressure sensor is not turned OFF after a lapse of two seconds.	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T19	217	<ul style="list-style-type: none"> <li>TPH pressurization/ depressurization does not operate properly. (TPH pressure sensor remains unaltered.)</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	When the TPH pressure motor applies a force to begin compression, the TPH pressure sensor is not turned ON after a lapse of two seconds.	Press the <RESET> key.
A34	218	<ul style="list-style-type: none"> <li>Master is not set properly.</li> </ul>	Master Not Set in Place Insert Lead Edge of Master into Master Entrance and Close Master Making Unit	Check Settings	Master reset command	Master making unit upper cover set switch: OFF -> ON, and Master positioning sensor: OFF (Reset the master to cancel the error.)
T13	221	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	The Cutter HP switch and cutter stop position switch are turned ON at the same time (shuttle).	Press the <RESET> key. -> Perform the recovery operation.
T13	222	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the cutter returns to the home position, the Cutter HP switch is not turned ON after a lapse of 450 ms.	Press the <RESET> key. -> Perform the recovery operation.
D19	223	<ul style="list-style-type: none"> <li>Notification that the Master making unit can be pulled out.</li> </ul>	Master Making Unit has been Unlocked	Master Making Unit has been Unlocked	Master making unit pull out possible (Solenoid ON)	<ul style="list-style-type: none"> <li>Master making unit set switch: ON -&gt; OFF, and</li> <li>Master making unit lock sensor: ON -&gt; OFF</li> </ul> or <ul style="list-style-type: none"> <li>Front door set switch: ON</li> </ul> or <ul style="list-style-type: none"> <li>Print drum release button: ON</li> </ul> (Pull out the Master making unit or close the front door/press the print drum release button.)
D08	224	<ul style="list-style-type: none"> <li>Master making unit is not set.</li> <li>Master making unit is not set properly.</li> <li>Master making unit has not been pulled out properly.</li> </ul>	Set Master Making Unit in Place	Check Settings	Master making unit has been pulled out. (Set switch and lock sensor are OFF.)	Master making unit set switch: ON, and Master making unit lock sensor: ON (Set the Master making unit to the machine to cancel the error.)

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T94	225	<ul style="list-style-type: none"> <li>TPH code does not match the machine model code.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	When the power is turned ON (only in case the Master making unit has been inserted) or when the Master making unit is inserted, the TPH code does not match the machine model code.	Switch the power OFF, then ON.
D08	226	<ul style="list-style-type: none"> <li>Master making unit is not set.</li> <li>Master making unit is not set properly.</li> <li>Master making unit has not been pulled out properly.</li> </ul>	Set Master Making Unit in Place	Check Settings	After the Master making unit has been set, the Master making unit set switch is OFF.	Master making unit set switch: ON, and Master making unit lock sensor: ON (Set the Master making unit to the machine to cancel the error.)
D08	227	<ul style="list-style-type: none"> <li>Master making unit is not set.</li> <li>Master making unit is not set properly.</li> <li>Master making unit has not been pulled out properly.</li> </ul>	Set Master Making Unit in Place	Check Settings	After the Master making unit has been set, the Master making unit lock sensor is OFF. (Time-out duration until the Master making unit is inserted: five seconds)	Master making unit set switch: ON, and Master making unit lock sensor: ON (Set the Master making unit to the machine to cancel the error.)
D08	228	<ul style="list-style-type: none"> <li>Master making unit is not set.</li> <li>Master making unit is not set properly.</li> <li>Master making unit has not been pulled out properly.</li> </ul>	Set Master Making Unit in Place	Check Settings	After the Master making unit has been pulled out (and the Master making unit set switch has been turned OFF), the Master making unit lock sensor is ON.	Master making unit set switch: ON, and Master making unit lock sensor: ON (Set the Master making unit to the machine to cancel the error.)
T13	231	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	When the cutter blade moves from the home position to cut the master, the Cutter HP switch is not turned OFF after a lapse of 500 ms. (Shuttle)	Press the <RESET> key. -> Perform the recovery operation.
T13	232	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	When the operation to cut the master is performed, the Cutter stop position switch is not turned ON after a lapse of 2 ms. (Shuttle)	Press the <RESET> key. -> Perform the recovery operation.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T13	233	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the cutter returns to the home position from the cutter stop position, the Cutter stop position switch is not turned OFF after a lapse of 500 ms. (Shuttle)	Press the <RESET> key. -> Perform the recovery operation.
T13	234	<ul style="list-style-type: none"> <li>Cutter does not operate normally.</li> <li>Master was not cut properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	When the cutter takes the home positioning action, the Cutter HP switch is not turned ON after a lapse of two seconds. (Shuttle)	Press the <RESET> key. -> Perform the recovery operation.
D17	236	<ul style="list-style-type: none"> <li>Master tag information is not correct.</li> <li>Communication with the master tag failed.</li> </ul>	Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/Riso Office	Check Settings	The master type is not compatible.	Master making unit set switch: ON -> OFF, and Master making unit lock sensor: ON -> OFF (Pull out the Master making unit to cancel the error.)
D17	237	<ul style="list-style-type: none"> <li>Master tag information is not correct.</li> <li>Communication with the master tag failed.</li> </ul>	Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/Riso Office	Check Settings	Master error due to missing ink cartridge tag	Master making unit set switch: ON -> OFF, and Master making unit lock sensor: ON -> OFF (Pull out the Master making unit to cancel the error.)
D17	238	<ul style="list-style-type: none"> <li>Master tag information is not correct.</li> <li>Communication with the master tag failed.</li> </ul>	Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/Riso Office	Check Settings	Master tag communication error (The communication with the tag has failed due to the noise.)	Master making unit set switch: ON -> OFF, and Master making unit lock sensor: ON -> OFF (Pull out the Master making unit to cancel the error.)
D17	239	<ul style="list-style-type: none"> <li>Master tag information is not correct.</li> <li>Communication with the master tag failed.</li> </ul>	Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/Riso Office	Check Settings	Master tag information is not correct. Checksum error, verification error, recorded ink information, etc.	Master making unit set switch: ON -> OFF, and Master making unit lock sensor: ON -> OFF (Pull out the Master making unit to cancel the error.)

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
C02	240	<ul style="list-style-type: none"> <li>The master for the master roll has run out (or is running out).</li> </ul>	No Master Replace Master Roll	Replace Master Roll	The master tag volume information has reached the maximum value.	Master making unit upper cover set switch: OFF -> ON (To cancel the error: Master making unit upper cover open -> close) * For regular products only
D17	241	<ul style="list-style-type: none"> <li>Master tag information is not correct.</li> <li>Communication with the master tag failed.</li> </ul>	Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/Riso Office	Check Settings	The serial numbers does not match at a regular master tag serial number check.	Master making unit set switch: ON -> OFF, and Master making unit lock sensor: ON -> OFF (Pull out the Master making unit to cancel the error.)
H04	242	<ul style="list-style-type: none"> <li>The master tag information is not reliable.</li> </ul>	Master-making Density Setting (Light) (Dark)	Master-making Density Setting (Light) (Dark)	Parameter entry is required due to the unreliability of the master tag information of sensitivity, normal print pressure, and FP normal print pressure.	Enter parameters and press the <START> key.
H05	243	<ul style="list-style-type: none"> <li>The master tag information of support is not reliable.</li> </ul>		Print Density Fine Adjustment (Light) (Dark)	Parameter entry is required due to the unreliability of the master tag information of normal print pressure.	Enter parameters and press the <START> key.
H06	244	<ul style="list-style-type: none"> <li>The master tag information of FP support is not reliable.</li> </ul>		First Print Density Adjustment (Light) (Dark)	Parameter entry is required due to the unreliability of the master tag information of FP print pressure.	Enter parameters and press the <START> key.
T98	245	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Master transfer operation time-out error on writing PM at the master making action (except for sensor based actions)	Switch the power OFF, then ON.
T98	246	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Master transfer operation time-out error on loading PM at the master making action (except for sensor based actions)	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
C02	253	<ul style="list-style-type: none"> <li>The master for the master roll has run out (or is running out).</li> </ul>	No Master Replace Master Roll	Replace Master Roll	No-master error has occurred five times on the same master. (When the standard detection method is selected in the test mode NO. 557 (master replacement indication detection method selection).) Otherwise, the master usage amount is larger than the predetermined value at the time no-master error occurs. (When the new detection method is selected in the test mode NO. 557 (master replacement indication detection method selection).)	Master making unit upper cover set switch: OFF -> ON (To cancel the error: Master making unit upper cover open -> close) * For regular products only
D17	256	<ul style="list-style-type: none"> <li>Master tag information is not correct.</li> <li>Communication with the master tag failed.</li> </ul>	Wrong-type Master Installed or Cannot Read Master Info Replace Master Roll or Contact dealer/Riso Office	Check Settings	Master tag-related software error Antenna channel selection error occurred or an attempted writing to the write protected area failed.	Master making unit set switch: ON -> OFF, and Master making unit lock sensor: ON -> OFF (Pull out the Master making unit to cancel the error.)
A01	258	<ul style="list-style-type: none"> <li>Master positioning is not correct.</li> </ul>	Master Mis-Feed Pull Out Master Making Unit and Rewind Master Roll, then Reset Master in Place	Master Jam Reset Master	The Master end sensor is turned OFF after the master end seal has been detected, and the Master end sensor responses again while the master end is being confirmed.	Master making unit upper cover set switch: OFF -> ON, and Master positioning sensor: OFF (Reset the master to cancel the error.)
H10	263	General supply (master) expiration period setting		Enter two digits of month	At the occurrence of H04 error, enter the expiration month of general supply (master).	Enter the expiration month and press the <START> key.
H11	264	General supply (master) expiration period setting		Enter last two digits of year	At the occurrence of H04 error, enter the expiration year of general supply (master).	Enter the expiration year and press the <START> key.
F56	265	<ul style="list-style-type: none"> <li>The master has expired.</li> </ul>	MASTER Near expiration Use or replace soon	MASTER Near expiration Use or replace soon	The year and month when the year and month recorded on the master tag is added to the date of production recorded on the master tag is earlier than the year and month stored on the machine.	<ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
C12	266	<ul style="list-style-type: none"> <li>The master has expired.</li> </ul>	Expired Master Replace Master Roll	Expired Master Replace Master Roll	The year and month when the year and month recorded on the master tag is added to the date of production recorded on the master tag have passed the expiration period.	<ul style="list-style-type: none"> <li>Master making unit set switch: OFF, (Open the Master making unit to cancel the error.)</li> </ul>
F57	267	<ul style="list-style-type: none"> <li>The ink and master have expired.</li> </ul>	INK & MASTER Near expiration Use or replace soon	INK&MASTER Near expiration Use or replace soon	The year and month when the year and month recorded on the ink tag and master tag are added to the date of production recorded on the ink tag and master tag are earlier than the year and month stored on the machine.	<ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
C13	268	<ul style="list-style-type: none"> <li>The ink and master have expired.</li> </ul>	Expired Ink & Master Replace them	Expired Ink & Master Replace them	The year and month when the year and month recorded on the ink tag and master tag are added to the date of production recorded on the master tag have passed the expiration period set in the test mode.	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Print drum interlock switch: OFF, and Print drum connection signal: OFF (Pull out the print drum to cancel the error.)</li> <li>Master making unit interlock switch: OFF (Open the master making unit to cancel the error.)</li> </ul>
T12	301	<ul style="list-style-type: none"> <li>Master compression motor does not operate properly.</li> <li>Master removal motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Master compression motor lock detected. The RMGA compression detection has been turned ON during the lifting action of the compression plate.	Press the <RESET> key. -> Perform the recovery operation.
T12	302	<ul style="list-style-type: none"> <li>Master compression motor does not operate properly.</li> <li>Master removal motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	The compression FG width has got larger than the specified value at the preparation operation before the Master compression plate home positioning action.	Press the <RESET> key. -> Perform the recovery operation.



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A04	303	<ul style="list-style-type: none"> <li>Master removal has failed (when the master is on the print drum).</li> </ul>	Master Disposal Error Pull Out Print Drum and Discard Master	Master Jam Remove Master	Print drum check when a master removal error or master disposal jam occurs	Print drum connection signal: ON -> OFF, and Print drum set switch: ON -> OFF Pull out the print drum to cancel the error. * If this error occurs, print drum lock is automatically released. (Only when the print drum is at position-B.)
A05	304	<ul style="list-style-type: none"> <li>Master removal has failed.</li> <li>Master removal has failed (when the master is at the master removal section).</li> </ul>	Master Jammed in Disposal Unit Pull Out Master Disposal Box and Remove Jammed Master	Master Jam Remove Master	Master disposal box check when a master removal error or master disposal jam occurs	Master disposal box set switch: OFF, and Master removal sensor: OFF (The error is canceled if the disposed master has been removed when the Master disposal box is pulled out.)
T12	305	<ul style="list-style-type: none"> <li>Master compression motor does not operate properly.</li> <li>Master removal motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	After the Master compression motor has been turned ON toward the return direction, the Master compression HP sensor is not turned ON after a lapse of 7.5 seconds.	Press the <RESET> key. -> Perform the recovery operation.
T12	306	<ul style="list-style-type: none"> <li>Master compression motor does not operate properly.</li> <li>Master removal motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	After the Master compression motor has been turned ON toward the compression direction, the Master compression HP sensor is not turned OFF after a lapse of 2 seconds.	Press the <RESET> key. -> Perform the recovery operation.
T12	307	<ul style="list-style-type: none"> <li>Master compression motor does not operate properly.</li> <li>Master removal motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	(1) After the Master compression motor has been turned ON toward the compression direction, the compression detector is not turned ON after a lapse of 7.5 seconds. (2) After the Master compression motor has been turned ON toward the compression direction, the Master compression FG sensor pulse count does not count 20 pulse after a lapse of 800 ms.	Press the <RESET> key. -> Perform the recovery operation.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
C03	308	<ul style="list-style-type: none"> <li>Master disposal box is full.</li> </ul>	Master Disposal Box is Full Empty Master Disposal Box	Empty Disposal Box	After the Master compression motor is turned ON toward the compression direction, compression detector is turned ON before the FG sensor pulse count exceeds the specified amount.	Turn OFF the Master disposal box set sensor, and turn ON the set sensor after a lapse of five seconds or longer.
T12	309	<ul style="list-style-type: none"> <li>Master compression motor does not operate properly.</li> <li>Master removal motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Master compression motor lock detected The Master compression motor FG sensor has been detected unaltered 50 consecutive times (by 10 ms. interval polling).	Press the <RESET> key. -> Perform the recovery operation.
D07	310	<ul style="list-style-type: none"> <li>Master disposal box is not set.</li> </ul>	Set Master Disposal Box in Place	Check Settings	Master disposal box set switch is OFF.	Master disposal box set switch: ON, and Master disposal box set sensor: ON (Set the Master disposal box to cancel the error.)
C03	311	<ul style="list-style-type: none"> <li>Master disposal box is full.</li> </ul>	Master Disposal Box is Full Empty Master Disposal Box	Empty Disposal Box	The master disposal software counter has reached the specified value.	Turn OFF the Master disposal box set sensor, and turn ON the set sensor after a lapse of five seconds or longer.
A05	312	<ul style="list-style-type: none"> <li>Master removal has failed.</li> <li>Master removal has failed (when the master is at the master removal section).</li> </ul>	Master Jammed in Disposal Unit Pull Out Master Disposal Box and Remove Jammed Master	Master Jam Remove Master	The Master disposal jam sensor is ON at the start of the master making operation.	Master disposal box set switch: OFF, and Master removal sensor: OFF (The error is canceled if the disposed master has been removed when the Master disposal box is pulled out.)
A05	315	<ul style="list-style-type: none"> <li>Master removal has failed.</li> <li>Master removal has failed (when the master is at the master removal section).</li> </ul>	Master Jammed in Disposal Unit Pull Out Master Disposal Box and Remove Jammed Master	Master Jam Remove Master	The Master disposal jam sensor is ON at the end of the recovery operation.	Master disposal box set switch: OFF, and Master removal sensor: OFF (The error is canceled if the disposed master has been removed when the Master disposal box is pulled out.)

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T12	316	<ul style="list-style-type: none"> <li>Master compression motor does not operate properly.</li> <li>Master removal motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Master disposal motor lock detected The Master disposal motor FG sensor pulse count for the specified speed has been reduced to half. Not detected for 200 ms. after the motor is activated.</p>	Press the <RESET> key. -> Perform the recovery operation.
T02	400	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Elevator upper limit position detection and Elevator lower limit position detection is ON at the same time.</p>	Press the <RESET> key.
T02	401	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Elevator motor overload detected The overcurrent port (1.0A) of the Elevator motor has been ON five consecutive times (by 10 ms. interval polling).</p>	Press the <RESET> key.
C04	402	<ul style="list-style-type: none"> <li>Paper is not set in the paper feed tray (except when auto tray is selected).</li> </ul>	<p>(When Multi-tray paper feed is not set) Add Paper (When Multi-tray paper feed is set) Load Paper in Standard Feed Tray</p>	Check Settings	Paper detection sensor is OFF.	Paper detection sensor: ON
A06	403	<ul style="list-style-type: none"> <li>Paper feed tray is at the upper limit position or lower limit position.</li> </ul>	<p>Set SW on Standard Feed Tray is Activated Reset paper on Standard Feed Tray</p>	Check Settings	<p>Paper feed tray set switch is OFF. * Not detected while in the low power mode (24V OFF).</p>	<ul style="list-style-type: none"> <li>Paper feed tray upper limit set switch: ON</li> <li>or</li> <li>Paper feed tray lower limit set switch: ON</li> </ul>
T02	404	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>After the Elevator motor has been turned ON from the paper feed lower limit position to the upward direction, the paper feed lower limit position sensor is not turned OFF after a lapse of two seconds.</p>	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T02	405	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	After the Elevator motor has been turned ON to the upward direction, the paper feed upper limit position sensor is not turned ON after a lapse of 12 seconds.	Press the <RESET> key.
T02	406	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	After the Elevator motor has been turned ON from the paper feed upper limit position to the downward direction, the paper feed upper limit position sensor is not turned OFF after a lapse of two seconds.	Press the <RESET> key.
T02	407	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	After the Elevator motor has been turned ON to the downward direction, the paper feed lower limit position sensor is not turned ON after a lapse of 12 seconds.	Press the <RESET> key.
T02	408	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The upper limit sensor has been OFF for two seconds or longer while the elevator servo is in action.	Press the <RESET> key.
A07	409	<ul style="list-style-type: none"> <li>Paper feed has failed (or no paper has been fed).</li> </ul>	<p>Paper Jam Remove Paper in Indicated Areas and Press [OK] Button</p>	<p>Paper Jam Remove Paper</p>	Paper ejection sensor is OFF at the time when the paper reaches the Paper ejection sensor, and the Paper sensor is ON at the time it stops. (Paper feed error)	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.
A08	410	<ul style="list-style-type: none"> <li>Paper ejection has failed. (Paper ejection sensor is OFF at the time when it must be ON.) (Paper is stuck on the print drum.)</li> </ul>	<p>Paper Jam Remove Paper in Indicated Areas and Press [OK] Button</p>	<p>Paper Jam Remove Paper</p>	Paper ejection sensor is OFF at the time when the paper reaches the Paper ejection sensor, and the Paper sensor is OFF at the time it stops. (Paper jam on print drum)	<p>Print drum connection signal: ON -&gt; OFF, and Print drum set switch: ON -&gt; OFF Pull out the print drum to cancel the error. * If this error occurs, print drum lock is automatically released. (Only when the print drum is at position-B.)</p>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A09	411	<ul style="list-style-type: none"> <li>Paper ejection has failed. (Paper ejection sensor is ON at the time when it must be OFF.)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	Paper ejection sensor is ON at the time when the paper gets out of the Paper ejection sensor.	Turn OFF the Paper ejection sensor, and press the <RESET> key or [Confirm] button.
A07	412	<ul style="list-style-type: none"> <li>Paper feed has failed (or no paper has been fed).</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	Paper sensor has been OFF N times consecutively at the time of first paper feed jam detection. (No-paper feed error)	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.
A07	413	<ul style="list-style-type: none"> <li>Paper feed has failed (or no paper has been fed).</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	Paper sensor is ON at the time when the paper gets out of the Paper sensor. (Possible extra-long paper error.)	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.
T20	416	<ul style="list-style-type: none"> <li>Paper ejection wing does not operate properly.</li> <li>Paper ejection motor is overloaded.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Paper ejection motor overload detected The overcurrent port (2A) of the Elevator motor has been ON 12 consecutive times (by 10 ms. interval polling).	Press the <RESET> key.
A09	417	<ul style="list-style-type: none"> <li>Paper ejection has failed. (Paper ejection sensor is ON at the time when it must be OFF.)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	The Paper ejection sensor is ON at the start of the operation (note 1).	Turn OFF the Paper ejection sensor, and press the <RESET> key or [Confirm] button.
A07	418	<ul style="list-style-type: none"> <li>Paper feed has failed (or no paper has been fed).</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	The Paper sensor is ON at the start of the operation (note 1).	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.
T98	422	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	The DA setting for adjustment of the send part has reached the upper limit value when the test mode No. 705 (Paper sensor automatic adjustment) is performed.	Switch the power OFF, then ON.
T98	423	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	The DA setting for adjustment of the send part has reached the lower limit value when the test mode No. 705 (Paper sensor automatic adjustment) is performed.	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
A07	429	<ul style="list-style-type: none"> <li>Paper feed has failed (or no paper has been fed).</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	Paper feed error (for recovery)	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.  Print drum connection signal: ON -> OFF, and Print drum set switch: ON -> OFF Pull out the print drum to cancel the error. * If this error occurs, print drum lock is automatically released. (Only when the print drum is at position-B.)
A08	430	<ul style="list-style-type: none"> <li>Paper ejection has failed. (Paper ejection sensor is OFF at the time when it must be ON.) (Paper is stuck on the print drum.)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	Paper jam on print drum (for recovery)	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.
A09	431	<ul style="list-style-type: none"> <li>Paper ejection has failed. (Paper ejection sensor is ON at the time when it must be OFF.)</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	Paper ejection error (for recovery)	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.
A07	432	<ul style="list-style-type: none"> <li>Paper feed has failed (or no paper has been fed).</li> </ul>	Paper Jam Remove Paper in Indicated Areas and Press [OK] Button	Paper Jam Remove Paper	The Paper sensor has already been ON when the paper feed is retried due to no paper feed.	Turn OFF the Paper sensor, and press the <RESET> key or [Confirm] button.
T96	433	<ul style="list-style-type: none"> <li>The information to be set in the test mode is not set.</li> <li>The relationship between values set in the test mode are not correct.</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Paper width potentiometer is not specified or relationship between setting values are not correct.	Enter parameters in the test mode.
T02	434	<ul style="list-style-type: none"> <li>The Paper feed tray is not in proper position.</li> <li>Paper feed tray elevator motor is overloaded.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Printing is attempted when the Elevator upper limit sensor is OFF in the special paper feed mode.	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F28	435	<p>Paper feed pressure adjustment lever is set to "CARD".</p> <ul style="list-style-type: none"> <li>• Paper feed pressure adjustment lever is set to "CARD".</li> </ul>	<p>The Paper Feed Setting Lever is set to "CARD". Check if the setting is consistent with paper in the Standard Feed Tray.</p>	<p>Check the Paper feed Setting</p>	<p>(1) At the first start of master making/printing/proof operation after the power is turned ON (or after wake-up), the Paper feed pressure adjustment lever has been set to "CARD".</p> <p>(2) When the Paper feed tray starts master making/printing/proof operation from other than the upper limit position, the Paper feed pressure adjustment lever has been set to "CARD".</p>	<p>Operation (master making/printing/proof printing) is restarted by any of the following:</p> <ul style="list-style-type: none"> <li>• Press the [Continue] button.</li> <li>• Press the &lt;START&gt; key.</li> </ul> <p>Operation (master making/printing/proof printing) is stopped by any of the following:</p> <ul style="list-style-type: none"> <li>• Press the [Stop] button.</li> <li>• Press the &lt;STOP&gt; key.</li> </ul>
T20	437	<ul style="list-style-type: none"> <li>• Paper ejection wing does not operate properly.</li> <li>• Paper ejection motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>Paper ejection motor lock detected The Paper ejection motor FG sensor pulse count for the specified speed is reduced to half. Not detected for 200 ms. after the motor has been activated.</p>	<p>Press the &lt;RESET&gt; key.</p>
T20	442	<ul style="list-style-type: none"> <li>• Paper ejection wing does not operate properly.</li> <li>• Paper ejection motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>		<p>The logical value of the sensor at the destination differ from the theoretical value even after the Paper ejection wing PM operation ended due to the sensor stop mode.</p>	<p>Press the &lt;RESET&gt; key.</p>
T20	456	<ul style="list-style-type: none"> <li>• Paper ejection wing does not operate properly.</li> <li>• Paper ejection motor is overloaded.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>		<p>The Paper ejection wing PM operation is not completed after a lapse of the specified period of time in the counter stop mode. Otherwise, the operation is not completed after a lapse of the specified period of time in the sensor stop mode.</p>	<p>Press the &lt;RESET&gt; key.</p>
T03	500	<ul style="list-style-type: none"> <li>• The clamp is not in proper position.</li> <li>• The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>The Clamp sensor is OFF at the end of the Clamp unit initialize action and home positioning action.</p>	<p>Press the &lt;RESET&gt; key. -&gt; Process PF/ES.</p>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T03	501	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor B is not altered within one second when the clamp MOT rotates in the normal direction.	Press the <RESET> key. -> Process PF/ES.
T03	502	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor B is not altered within one second when the clamp MOT rotates in the reverse direction.	Press the <RESET> key. -> Process PF/ES.
T03	503	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The Clamp sensor A is not turned ON within three seconds at the Clamp initializing action.	Press the <RESET> key. -> Process PF/ES.
T03	504	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor A and B have different logic at the start of the Clamp releasing action.	Press the <RESET> key. -> Process PF/ES.
T03	505	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor A and B have different logic at the start of print drum position-A compensation operation.	Press the <RESET> key. -> Process PF/ES.



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T03	506	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor A and B have different logic at the start of clamp home positioning action.	Press the <RESET> key. -> Process PF/ES.
T03	507	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor A is ON at the end of clamp releasing action.	Press the <RESET> key. -> Process PF/ES.
T03	508	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor A is ON at the completion of the print drum position-A compensation operation.	Press the <RESET> key. -> Process PF/ES.
A02	509	<ul style="list-style-type: none"> <li>Master loading has failed.</li> </ul>	<p>Master Loading Error Pull Out Print Drum and Discard Master</p>	Master Jam Remove Master	The Master loading sensor has been OFF when the master detection check at the specified angle is performed during master loading operation.	<p>Print drum connection signal: ON -&gt; OFF, and Print drum set switch: ON -&gt; OFF (Pull out the print drum to cancel the error.) -&gt; Perform the recovery operation. * If this error occurs, print drum lock is automatically released. (Only when the print drum is at position-B.)</p>
C01	512	<ul style="list-style-type: none"> <li>Ink in the ink cartridge has run out (or is running out).</li> </ul>	<p>No Ink Replace Ink Cartridge</p>	Replace Ink Cartridge	Ink sensor is not turned ON even after inking operation has been performed for the specified period of time. (No ink)	<p>Ink bottle set switch: ON -&gt; OFF or • Print drum set switch: OFF, Print drum connection signal: OFF, and Print drum lock sensor: OFF (Set an ink cartridge or pull out the print drum to cancel the error.) * For regular products only</p>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T04	513	<ul style="list-style-type: none"> <li>Ink overflow has occurred in the print drum.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The overflow sensor has detected it ON specified number of consecutive times by 10 ms. interval check.	Press the <RESET> key and Turn OFF the overflow sensor.
T01	520	<ul style="list-style-type: none"> <li>The print drum is not in proper position.</li> <li>The print drum is not locked when the print drum is in operation.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	<p>Main motor lock detected The Main motor FG sensor pulse count for the specified speed is reduced to half. Not detected for 200 ms. after the motor has been activated.</p>	Press the <RESET> key. -> Process PF/ES.
T01	521	<ul style="list-style-type: none"> <li>The print drum is not in proper position.</li> <li>The print drum is not locked when the print drum is in operation.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Clamp sensor B is not altered after the pulse has exceeded 3033 while the Main motor is ON.	Press the <RESET> key. -> Process PF/ES.
D18	522	<ul style="list-style-type: none"> <li>Notification that the print drum can be pulled out.</li> </ul>	Print Drum has been Unlocked	Print Drum has been Unlocked	Print drum release possible. (Print drum lock solenoid is ON.)	<ul style="list-style-type: none"> <li>Print drum connection signal: ON -&gt; OFF; and Print drum set switch: ON -&gt; OFF or Front door set switch: ON or Master making unit release button: ON (Pull out the print drum or close the front door/press the Master making unit release button.)</li> </ul>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T01	524	<ul style="list-style-type: none"> <li>The print drum is not in proper position.</li> <li>The print drum is not locked when the print drum is in operation.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	The clamp is not on the home position when the print drum is in operation (except at master removal).	Press the <RESET> key. -> Process PF/ES.
A16	525	<ul style="list-style-type: none"> <li>The master remains on the print drum.</li> </ul>	Master Remains on Print Drum Pull Out Print Drum and Remove Master	Master Remains Remove Master	Awaiting removal of master from print drum.	Print drum connection signal: ON -> OFF, and Print drum set switch: ON -> OFF Pull out the print drum to cancel the error. * If this error occurs, print drum lock is automatically released. (Only when the print drum is at position-B.)
D01	526	<ul style="list-style-type: none"> <li>Print drum is not set.</li> <li>Print drum is not set properly.</li> <li>Print drum has not been pulled out properly.</li> </ul>	Set Print Drum in Place	Check Settings	The print drum has been removed. (Print drum connection signal, Print drum set switch, and Print drum lock sensor are OFF.)	Print drum set switch: ON, Print drum connection signal: ON, and Print drum lock sensor: ON (Set the print drum to cancel the error.)
D01	527	<ul style="list-style-type: none"> <li>Print drum is not set.</li> <li>Print drum is not set properly.</li> <li>Print drum has not been pulled out properly.</li> </ul>	Set Print Drum in Place	Check Settings	Print drum connection signal is OFF after the print drum has been set.	Print drum set switch: ON, Print drum connection signal: ON, and Print drum lock sensor: ON (Set the print drum to cancel the error.)
D01	528	<ul style="list-style-type: none"> <li>Print drum is not set.</li> <li>Print drum is not set properly.</li> <li>Print drum has not been pulled out properly.</li> </ul>	Set Print Drum in Place	Check Settings	Print drum set switch is OFF after the print drum has been set.	Print drum set switch: ON, Print drum connection signal: ON, and Print drum lock sensor: ON (Set the print drum to cancel the error.)
D01	529	<ul style="list-style-type: none"> <li>Print drum is not set.</li> <li>Print drum is not set properly.</li> <li>Print drum has not been pulled out properly.</li> </ul>	Set Print Drum in Place	Check Settings	Print drum lock sensor is OFF after the print drum has been set. (Time-out duration until the Master making unit is inserted: five seconds)	Print drum set switch: ON, Print drum connection signal: ON, and Print drum lock sensor: ON (Set the print drum to cancel the error.)

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
D01	530	<ul style="list-style-type: none"> <li>Print drum is not set.</li> <li>Print drum is not set properly.</li> <li>Print drum has not been pulled out properly.</li> </ul>	Set Print Drum in Place	Check Settings	When the print drum is pulled out, print drum connection signal is not turned OFF after a lapse of five seconds since the Print drum set switch has been turned OFF.	Print drum set switch: ON, Print drum connection signal: ON, and Print drum lock sensor: ON (Set the print drum to cancel the error.)
D22	531	<ul style="list-style-type: none"> <li>Print drum EEPROM reading/writing has failed.</li> <li>Print drum EEPROM data is not correct.</li> </ul>	Print Drum Not Set in Place Press Drum Release Button and Pull Out Print Drum after the Button Lights	Check Settings	Print drum lock sensor is ON when the Print drum lock solenoid is ON. (Checked 100 ms. after the Print drum lock solenoid is turned ON.)	Print drum set switch: OFF, Print drum connection signal: OFF, and Print drum lock sensor: OFF
D02	532	<ul style="list-style-type: none"> <li>The print drum code does not match the machine model code.</li> <li>The type of the print drum does not match that of the machine model.</li> </ul>	Wrong-Type Print Drum Installed Replace with Correct Type	Check Settings	Incompatible print drum (print drum code not correct).	Replace it with a correct type of print drum. (So that the print drum code matches the machine model code.)
D03	533	<ul style="list-style-type: none"> <li>Ink cartridge is not set.</li> </ul>	Install Ink Cartridge	Check Settings	Ink bottle set switch is OFF.	Ink bottle set switch: ON
D04	534	<ul style="list-style-type: none"> <li>The ink cartridge tag information is not correct.</li> <li>Communication with the ink cartridge tag failed.</li> </ul>	Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/Riso Office	Check Settings	Ink cartridge is incompatible.	Replace it with the correct type of ink cartridge.
D11	535	<ul style="list-style-type: none"> <li>The front cover is open.</li> </ul>	Close Front Door	Check Settings	Front door set sensor is OFF.	Front door set sensor: ON

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T01	537	<ul style="list-style-type: none"> <li>The print drum is not in proper position.</li> <li>The print drum is not locked when the print drum is in operation.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Position-B stop operation failed.	Press the <RESET> key. -> Process PF/ES.
T01	538	<ul style="list-style-type: none"> <li>The print drum is not in proper position.</li> <li>The print drum is not locked when the print drum is in operation.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The print drum is not locked when the print drum is in operation.	Press the <RESET> key. -> Process PF/ES.
T24	539	<ul style="list-style-type: none"> <li>The ink motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Ink motor lock detected Then Ink motor FG sensor is not altered after a lapse of 200 ms. since the inking motor has been turned ON.	Press the <RESET> key.
D22	540	<ul style="list-style-type: none"> <li>Print drum EEPROM reading/writing has failed.</li> <li>Print drum EEPROM data is not correct.</li> </ul>	<p>Print Drum Not Set in Place Press Drum Release Button and Pull Out Print Drum after the Button Lights</p>	Check Settings	Data cannot be rewritten to the EEPROM in the print drum (not accessible to the EEPROM).	<p>Print drum set switch: OFF, Print drum connection signal: OFF, and Print drum lock sensor: OFF</p>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
D22	542	<ul style="list-style-type: none"> <li>Print drum EEPROM reading/writing has failed.</li> <li>Print drum EEPROM data is not correct.</li> </ul>	Print Drum Not Set in Place Press Drum Release Button and Pull Out Print Drum after the Button Lights	Check Settings	CRC error of the EEPROM in the print drum (EEPROM data error).	Print drum set switch: OFF, Print drum connection signal: OFF, and Print drum lock sensor: OFF
T03	545	<ul style="list-style-type: none"> <li>The clamp is not in proper position.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	The clamp is not on the home position when the print drum is in operation (attributed to the Clamp motor).	Press the <RESET> key. -> Process PF/ES.
F51	548	<ul style="list-style-type: none"> <li>The ink has expired.</li> </ul>	INK Near expiration Use or replace soon	INK Near expiration Use or replace soon	The year and month when the year and month recorded on the ink tag is added to the date of production recorded on the ink tag is earlier than the year and month stored on the machine.	<ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
D04	560	<ul style="list-style-type: none"> <li>The ink cartridge tag information is not correct.</li> <li>Communication with the ink cartridge tag failed.</li> </ul>	Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/Riso Office	Check Settings	Error due to missing ink cartridge tag.	Replace it with the correct type of ink cartridge.
D04	561	<ul style="list-style-type: none"> <li>The ink cartridge tag information is not correct.</li> <li>Communication with the ink cartridge tag failed.</li> </ul>	Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/Riso Office	Check Settings	Ink tag communication error (The communication with the tag has failed due to the noise.)	Replace it with the correct type of ink cartridge.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
D04	562	<ul style="list-style-type: none"> <li>The ink cartridge tag information is not correct.</li> <li>Communication with the ink cartridge tag failed.</li> </ul>	Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/Riso Office	Check Settings	The ink tag information is not correct. Checksum error, verification error, recorded master information, etc.	Replace it with the correct type of ink cartridge.
C01	563	<ul style="list-style-type: none"> <li>Ink in the ink cartridge has run out (or is running out).</li> </ul>	No Ink Replace Ink Cartridge	Replace Ink Cartridge	The ink tag volume information has reached the maximum value.	<ul style="list-style-type: none"> <li>Ink bottle set switch: ON -&gt; OFF or</li> <li>Print drum set switch: OFF,</li> <li>Print drum connection signal: OFF, and</li> <li>Print drum lock sensor: OFF</li> </ul> (Set an ink cartridge or pull out the print drum to cancel the error.) * For regular products only
D04	564	<ul style="list-style-type: none"> <li>The ink cartridge tag information is not correct.</li> <li>Communication with the ink cartridge tag failed.</li> </ul>	Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/Riso Office	Check Settings	The serial numbers did not match at a regular ink tag serial number check.	Replace it with the correct type of ink cartridge.
H01	566	<ul style="list-style-type: none"> <li>The ink cartridge tag information is not reliable.</li> </ul>	Ink Color Setting Black Color	Ink Color Setting Black Color	Parameter entry is required due to the unreliability of the ink tag color information, normal state viscosity information, and proof-print viscosity information.	Enter parameters and press the <START> key.
H02	567	<ul style="list-style-type: none"> <li>The ink cartridge tag information of normal state viscosity is not reliable.</li> </ul>	Print Density Fine Adjustment (Light) (Dark)	Print Density Fine Adjustment (Light) (Dark)	Parameter entry is required due to the unreliability of the ink tag information of normal state viscosity.	Enter parameters and press the <START> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
H03	568	<ul style="list-style-type: none"> <li>The ink cartridge tag information of proof-print viscosity is not reliable.</li> </ul>		First Print Density Adjustment (Light) (Dark)	Parameter entry is required due to the unreliability of the ink tag information of proof-print viscosity.	Enter parameters and press the <START> key.
T96	569	<ul style="list-style-type: none"> <li>The information to be set in the test mode is not set.</li> <li>The relationship between values set in the test mode are not correct.</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Print drum color or ink category is not specified.	Enter parameters in the test mode.
T92	570	<ul style="list-style-type: none"> <li>Access to the print drum EEPROM has been attempted at a time when it is not possible.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Access to the print drum EEPROM is attempted when the print drum lock is released.	Press the <RESET> key.
C01	574	<ul style="list-style-type: none"> <li>Ink in the ink cartridge has run out (or is running out).</li> </ul>	No Ink Replace Ink Cartridge	Replace Ink Cartridge	No-ink error has occurred five times on the same ink cartridge.	<ul style="list-style-type: none"> <li>Ink bottle set switch: ON -&gt; OFF</li> <li>or</li> <li>Print drum set switch: OFF,</li> <li>Print drum connection signal: OFF, and</li> <li>Print drum lock sensor: OFF</li> <li>(Set an ink cartridge or pull out the print drum to cancel the error.)</li> <li>* For regular products only</li> </ul>
D04	575	<ul style="list-style-type: none"> <li>The ink cartridge tag information is not correct.</li> <li>Communication with the ink cartridge tag failed.</li> </ul>	Wrong-type Ink Cartridge Installed or Cannot Read Ink Info Replace Ink Cartridge or Contact dealer/Riso Office	Check Settings	Tag-related software error Antenna channel selection error occurred or an attempted writing to the write protected area failed.	Replace it with the correct type of ink cartridge.
H08	578	General supply (ink) expiration period setting		Enter two digits of month	At the occurrence of H01 error, enter the expiration month of general supply (ink).	Enter the expiration month and press the <START> key.



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
H09	579	General supply (ink) expiration period setting		Enter last two digits of year	At the occurrence of H01 error, enter the expiration year of general supply (ink).	Enter the expiration year and press the <START> key.
D02	580	<ul style="list-style-type: none"> <li>The print drum code does not match the machine model code.</li> <li>The type of the print drum does not match that of the machine model.</li> </ul>	Wrong-Type Print Drum Installed Replace with Correct Type	Check Settings	Incompatible print drum (incorrect print drum).	Replace it with a correct type of print drum. (So that the print drum code matches the machine model code.)
T01	582	<ul style="list-style-type: none"> <li>The print drum is not in proper position.</li> <li>The print drum is not locked when the print drum is in operation.</li> <li>The clamp is not in proper position when the print drum is in operation (except at master removal).</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Reaching the specified angle is not detected even after three detection operation have been performed by the Print drum home position sensor.	Press the <RESET> key. -> Process PF/ES.
C11	590	<ul style="list-style-type: none"> <li>The ink has expired.</li> </ul>	Expired Ink Replace Ink Cartridge	Expired Ink Replace Ink Cartridge	The year and month when the year and month recorded on the ink tag is added to the date of production recorded on the ink tag have passed the expiration period.	<ul style="list-style-type: none"> <li>Print drum set switch: OFF, and</li> <li>Print drum connection signal: OFF (Pull out the print drum to cancel the error.)</li> </ul>
T11	600	<ul style="list-style-type: none"> <li>The Print pressure control pulse motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	The Print pressure HP sensor is not turned ON after a lapse of 3.9 seconds when pressure increases during home positioning at pressure control home positioning action.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T11	601	<ul style="list-style-type: none"> <li>The Print pressure control pulse motor does not operate properly.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	The Print pressure HP sensor is not turned OFF after a lapse of 4.6 seconds when pressure reduces during home positioning at pressure control home positioning action.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T11	602	<ul style="list-style-type: none"> <li>The Print pressure control pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The logical value of the sensor at the destination differ from the theoretical value even after the print pressure PM operation ended due to the sensor stop mode.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T05	603	<ul style="list-style-type: none"> <li>The Vertical print positioning pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The vertical HP sensor is not turned ON after a lapse of the specified period of time since the motor is turned ON to the downward direction during vertical home positioning action.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T05	604	<ul style="list-style-type: none"> <li>The Vertical print positioning pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The vertical HP sensor is not turned OFF after a lapse of the specified period of time since the motor is turned ON to the upward direction during vertical home positioning action.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T05	605	<ul style="list-style-type: none"> <li>The Vertical print positioning pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The logical value of the sensor at the destination differ from the theoretical value even after the vertical PM operation ended due to the sensor stop mode.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T05	612	<ul style="list-style-type: none"> <li>The Vertical print positioning pulse motor does not operate properly.</li> </ul>		Call Service	The logical value of the sensor at the destination differ from the theoretical value even after the vertical PM operation ended due to the sensor stop mode.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T96	613	<ul style="list-style-type: none"> <li>The information to be set in the test mode is not set.</li> <li>The relationship between values set in the test mode are not correct.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	Call Service	Print pressure compensation not set.	Enter parameters in the test mode.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T11	614	<ul style="list-style-type: none"> <li>The Print pressure control pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	Pressure control home positioning action at a pulse of -1000 is not completed after a lapse of the specified period of time (1.2 times of the calculated positioning time). (Time-out)	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T05	619	<ul style="list-style-type: none"> <li>The Vertical print positioning pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>		Vertical home positioning action at a pulse of -98 is not completed after a lapse of the specified period of time.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T11	631	<ul style="list-style-type: none"> <li>The Print pressure control pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>		The Pressure control PM operation is not completed after a lapse of the specified period of time in the counter stop mode. Otherwise, the operation is not completed after a lapse of the specified period of time in the sensor stop mode.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
T05	632	<ul style="list-style-type: none"> <li>The Vertical print positioning pulse motor does not operate properly.</li> </ul>	<p>!!System Error!! Press Reset Key If Recovery has Failed, Call Service</p>	Call Service	The vertical PM operation is not completed after a lapse of the specified period of time in the counter stop mode. Otherwise, the operation is not completed after a lapse of the specified period of time since the sensor edge detection until the PM stops in the sensor stop mode.	Press the <RESET> key. -> Perform the recovery operation (to return to the home position).
F32	713	<ul style="list-style-type: none"> <li>The remaining storage memory capacity is low.</li> </ul>	<p>!! The Data Storage Area has Become Full !! Clear Old Storage Data</p>		The remaining capacity is inadequate at data writing to the storage memory or at the start of scanning in the scan mode.	<p>The warning display can be cleared by any of the following.</p> <ul style="list-style-type: none"> <li>Press the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the [Storage] button to clear the warning display, and then the [Storage Selection] window appears.</li> </ul>
B21	714	<ul style="list-style-type: none"> <li>Reading from/writing to the storage memory failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		File name error of the storage memory.	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
B21	715	<ul style="list-style-type: none"> <li>• Reading from/writing to the storage memory failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		Storage memory access error.	Switch the power OFF, then ON.
B21	716	<ul style="list-style-type: none"> <li>• Reading from/writing to the storage memory failed.</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		Other storage memory errors.	Switch the power OFF, then ON.
T09	720	<ul style="list-style-type: none"> <li>• Communication with job separator failed</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		Sorter communication error: Two consecutive retry commands have been received.	Switch the power OFF, then ON.
B22	721	<ul style="list-style-type: none"> <li>• Job separator is powered OFF.</li> </ul>	<p>!! Job Separator is OFF !! Turn On Power Switch of it</p>	Check Settings	The power is OFF when the <START> key is pressed while the function settings "Job Separation" is set to ON.	<ul style="list-style-type: none"> <li>• Touch the [Confirm] button.</li> <li>• Press the &lt;RESET&gt; key.</li> </ul>
B23	722	<ul style="list-style-type: none"> <li>• The tape in the job separator has run out.</li> </ul>	<p>No Paper Tape in Job Separator Replace Tape Roll</p>	Check Settings	When the busy signal status is H (power ON), if the <START> key is pressed while the function settings "Job Separation" is set to ON, the tape detection signal indicates H (no tape) status.	<ul style="list-style-type: none"> <li>• Touch the [Confirm] button.</li> <li>• Press the &lt;RESET&gt; key.</li> </ul>
B23	723	<ul style="list-style-type: none"> <li>• The tape in the job separator has run out.</li> </ul>	<p>No Paper Tape in Job Separator Replace Tape Roll</p>	Check Settings	After the tape output command has been issued, the busy signal status changes from L to H (operation completed), and the tape detection signal indicates H (no tape) status.	<ul style="list-style-type: none"> <li>• Touch the [Confirm] button.</li> <li>• Press the &lt;RESET&gt; key.</li> </ul>
B24	724	<ul style="list-style-type: none"> <li>• Tape jam occurred on the job separator.</li> </ul>	<p>Paper Tape Jam in Job Separator Remove Paper Tape</p>	Check Settings	When the busy signal status is H (power ON), if the <START> key is pressed while the function settings "Job Separation" is set to ON, the tape jam detection signal indicates L (tape remaining) status.	<ul style="list-style-type: none"> <li>• Touch the [Confirm] button.</li> <li>• Press the &lt;RESET&gt; key.</li> </ul>
B24	725	<ul style="list-style-type: none"> <li>• Tape jam occurred on the job separator.</li> </ul>	<p>Paper Tape Jam in Job Separator Remove Paper Tape</p>	Check Settings	Tape jam detection signal indicates H (tape transport error) status after a lapse of 1200 ms. since the cluster A signal has been turned ON.	<ul style="list-style-type: none"> <li>• Touch the [Confirm] button.</li> <li>• Press the &lt;RESET&gt; key.</li> </ul>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
B24	726	<ul style="list-style-type: none"> <li>Tape jam occurred on the job separator.</li> </ul>	Paper Tape Jam in Job Separator Remove Paper Tape	Check Settings	After the cluster A signal has been turned ON, at the time when the busy signal status changes from L to H (or after a lapse of seven seconds while it remains in the L status), the tape jam detection signal indicates L (tape ejection error) status.	<ul style="list-style-type: none"> <li>Touch the [Confirm] button.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
B22	727	<ul style="list-style-type: none"> <li>Job separator is powered OFF.</li> </ul>	!! Job Separator is OFF !! Turn On Power Switch of it	Check Settings	After a lapse of seven seconds since the cluster A signal has been turned ON, the busy signal remains in the L status (the power is turned OFF during job separation tape output).	<ul style="list-style-type: none"> <li>Touch the [Confirm] button.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
B01	730	<ul style="list-style-type: none"> <li>No card is inserted in the Card counter.</li> </ul>	Insert Card in Key/Card Counter	Check Settings	Card counter: No card	Insert the card.
F78	731	<ul style="list-style-type: none"> <li>The stage cover is opened during digitizing operation.</li> </ul>	Close Platen Cover If original moves you may not get desired result		The Stage cover is opened during digitizing operation.	Close the stage cover to clear the warning window. Press the [Close] button to clear the warning message.
F79	732	<ul style="list-style-type: none"> <li>No original is set when the digitizer starts rescanning.</li> </ul>	Set Original and Press Start Key Re-scanning will be Started to Add Image Processing		No original is detected when the digitizer starts rescanning.	Press the <START> key to start scanning. Press the [Close] button (<STOP> or <RESET> key) to clear the warning window and to return to the original screen (Image processing window). (Scanning is canceled.)
B36	733	<ul style="list-style-type: none"> <li>The amount of coins for the coin vendor is insufficient.</li> </ul>	Insert Coins into Coin Box		The amount of coins for the coin vendor is insufficient.	Insert coins until the amount reaches the sufficient amount for the machine to operate.
B37	734	<ul style="list-style-type: none"> <li>No card is inserted into the card vendor.</li> <li>The remaining amount in the card is insufficient to use the card vendor.</li> </ul>	Insert Card into the Card Slot		Card vendor: No card is inserted or remaining amount in the card is insufficient.	Insert the card that has sufficient remaining amount.
T98	735	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	24V-OP is not turned ON. (Possible blown fuse at the 24V-OP system)	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T98	736	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	The fuse chip on the Mechanical control PCB (CP2) has blown.	Switch the power OFF, then ON.
T98	777	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		File creation has failed in the test mode No. 103 (storing of machine settings).	Switch the power OFF, then ON.
T98	778	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		Directory creation has failed in the test mode No. 103 (storing of machine settings).	Switch the power OFF, then ON.
T98	787	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		No file to restore has been found in the test mode No. 105 (restoration of machine settings).	Switch the power OFF, then ON.
T98	788	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		The file to restore has wrong machine type information when the test mode No. 105 (restoration of machine settings) is performed.	Switch the power OFF, then ON.
T98	789	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		The file to restore has wrong serial number when the test mode No. 105 (restoration of machine settings) is performed.	Switch the power OFF, then ON.
T98	790	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		The version of the file to restore is higher when the test mode No. 105 (restoration of machine settings) is performed.	Switch the power OFF, then ON.
T98	791	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		Rebooting error after the test mode No. 105 (restoration of machine settings) has been performed.	Switch the power OFF, then ON.
T98	792	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		No directory has been found in the test mode No. 105 (restoration of machine settings).	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F34	835	<ul style="list-style-type: none"> <li>The number of files in the folder of the storage memory reached the maximum.</li> </ul>	<p>!! The Number of Storage Data has Become Full !! Clear Old Storage Data in the Selected Folder</p>		<p>The number of files in the folder of the storage memory reached the maximum at the time when the data is stored in the storage memory or at the start of scanning in the scan mode.</p>	<p>The warning display can be cleared by any of the following.</p> <ul style="list-style-type: none"> <li>Press the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the [Storage] button to clear the warning display, and then the [Storage Selection] window appears.</li> </ul>
F44	901	<ul style="list-style-type: none"> <li>The original size cannot be detected.</li> </ul>	<p>!! No Auto Reproduction with This Original and Printing Paper !! Select Size Manually</p>		<p>Original size detection failed. (Original did not conform to the detection specification.)</p>	<p>The warning display can be cleared by any of the following: (Printing stops.)</p> <ul style="list-style-type: none"> <li>Touch the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
F43	902	<ul style="list-style-type: none"> <li>The master making size is larger than the paper size (at DtoP master making).</li> </ul>	<p>!! Unmatched Size-- Current Page and Printing Paper !! Check Paper Size</p>		<p>The paper size and the original size are not compatible at the start of DtoP master making operation. Paper size &lt; Master making size for the job (page size) (Not detected when Paper size <math>\geq</math> Master making size)</p>	<p>Printing is executed by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Continue] button.</li> <li>Press the &lt;START&gt; key.</li> <li>Press the &lt;PROOF&gt; key.</li> </ul> <p>The warning display is cleared by any of the following: (Printing stops.)</p> <ul style="list-style-type: none"> <li>Touch the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
F47	904	<ul style="list-style-type: none"> <li>An original is set on AF when postcard size reproduction has been set.</li> </ul>	<p>[A4-&gt;Card] Reproduction is Not Available in combination with ADF Place Original on Glass Platen</p>		<p>Master making or RLP output is started when [A4-&gt;Card] reproduction has been selected and an original has been set on AF. An original is set on AF when [A4-&gt;Card] reproduction is selected.</p>	<p>The warning display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F04	905	<ul style="list-style-type: none"> <li>The master making count has reached the maximum.</li> <li>The print quantity has reached the maximum.</li> </ul>	Reached to the limit count Contact the administrator	Reached to the limit count Please Contact the administrator	The master making count has reached the setting value for the upper limit count of master making.	<ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
F04	906	<ul style="list-style-type: none"> <li>The master making count has reached the maximum.</li> <li>The print quantity has reached the maximum.</li> </ul>	Reached to the limit count Contact the administrator	Reached to the limit count Please Contact the administrator	The print quantity has reached the setting value for the upper limit count of print quantity.	<ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
B30	910	<ul style="list-style-type: none"> <li>Incompatible USB device is connected.</li> </ul>	Can not identify	Can not identify	An incompatible USB device has been set.	<ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Disconnect the USB device.</li> </ul>
B38	911	RISO folder creation in the USB memory failed.	Can not identify	Can not identify	RISO folder creation has failed.	<ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Disconnect the USB device.</li> </ul>
F52	912	<ul style="list-style-type: none"> <li>RLP information has not been acquired.</li> </ul>	Acquiring Linked Printer Configuration Data Please Wait a Moment		Use of RLP mode not possible (RLP information has not been acquired)	<p>The warning display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the mode switching key.</li> </ul>
F33	913	<ul style="list-style-type: none"> <li>The remaining USB memory capacity is low.</li> </ul>	The file size is too large to store on USB flash drive Change the USB flash drive or delete some files to make spaces		The remaining capacity is inadequate at the start of data writing or scanning (in the scan mode) to the USB memory.	<p>The warning display can be cleared by any of the following.</p> <ul style="list-style-type: none"> <li>Press the [Close] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the [USB Job List] button to clear the warning display, and then the [USB Job List] window appears.</li> </ul>



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
B32	914	<p>• Communication with external device failed.</p>	<p>!! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer</p>		<p>MIB information request error Transmission not performed in three seconds (WAK)/No response from the destination/ Destination disconnected/TCP/IP of NET-D not functioning/Undefined interruption received from the machine, etc.</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>• Press the &lt;RESET&gt; key or [Close] button.</li> <li>• Press the [Link Switch] button, if displayed, to switch the link. (Clear the printer error to cancel the error.)</li> </ul>
B32	915	<p>• Communication with external device failed.</p>	<p>!! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer</p>		<p>No MIB information replied NET-D (destination of communication) does not respond in 50 seconds.</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>• Press the &lt;RESET&gt; key or [Close] button.</li> <li>• Press the [Link Switch] button, if displayed, to switch the link. (Clear the printer error to cancel the error.)</li> </ul>
B31	916	<p>• Network cable is not connected.</p>	<p>!! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer</p>		<p>The network cable is not connected at startup.</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>• Touch the [Close] button.</li> <li>• Press the &lt;RESET&gt; key.</li> </ul>
B32	917	<p>• Communication with external device failed.</p>	<p>!! No Linked Printer Detected !! Check Cable Connection and Power Supply for Linked Printer</p>	<p>Check Settings</p>	<p>Communication error occurred on network.</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>• Press the &lt;RESET&gt; key or [Close] button.</li> <li>• Press the [Link Switch] button, if displayed, to switch the link. (Clear the printer error to cancel the error.)</li> </ul>
F96	918	<p>• ID counter report due date has been reached.</p>	<p>Please inform this message to your administrator Due date for ID counter report</p>	<p>Due date for ID counter report Please Contact the administrator</p>	<p>The specified ID counter report due date has been reached.</p>	<ul style="list-style-type: none"> <li>• Touch the [Close] button.</li> <li>• Press the &lt;STOP&gt; key.</li> <li>• Press the &lt;RESET&gt; key.</li> </ul>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
B34	919	• Toner of RLP has run out.	No Toner in Linked Printer		Toner of Prioa has run out.	The error display can be cleared by any of the following: • Touch the [Close] button. • Press the [Link Switch] button, if displayed, to switch the link.
T98	921	• Hardware error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	USB controller chip is malfunctioning when PC and RG is connected via a USB cable.	Switch the power OFF, then ON.
T99	923	• Software error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Firmware version incompatibility The firmware version for any of the main microcomputer, restoration loader, panel microcomputer, and analog microcomputer does not match the version combined in the downloaded package. * Compulsory download (TM7052) is required.	Switch the power OFF, then ON.
T99	924	• Software error	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	AF firmware version incompatibility The connected AF has a firmware version that is not compatible with the package version for the machine. * Compulsory download (TM7052) is required.	Switch the power OFF, then ON.
B29	926	• USB hub has been connected.	Can not identify (USB hub)	Can not identify (USB hub)	USB hub has been connected.	• Touch the [Close] button. • Press the <RESET> key. • Disconnect the USB device.
F58	927	• NET-D initialization in process	Starting Up the network connection. Please Wait a Moment		Use of RLP mode not possible (NET-D initializing)	The warning display can be cleared by any of the following: • Touch the [Close] button. • Press the <RESET> key. • Press the mode switching key.
F97	928	• Counter report due date has been reached.	Please inform this message to your administrator Due date for counter report	Due date for counter report Please Contact the administrator	The specified counter report due date has been reached.	• Touch the [Close] button. • Press the <STOP> key. • Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F60	929	<ul style="list-style-type: none"> <li>Printing operation has been started at print quantity "0" when RLP auto-ink is active.</li> </ul>	<p>!! Number of Copies is set to "0"!! Printing Operation will Start on this Printer</p>		<p>Auto-link master making continuation confirmation (when print quantity is 0).</p>	<p>Press the &lt;START&gt; key to start master making.</p> <p>The warning display can be cleared by any of the following: (Printing stops.)</p> <ul style="list-style-type: none"> <li>Touch the [Stop] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the &lt;STOP&gt; key.</li> </ul>
B33	931	<ul style="list-style-type: none"> <li>IP address is not set.</li> </ul>	<p>No IP Address Assigned to This Printer Contact Your Network Administrator</p>	<p>Check Settings</p>	<p>IP address is not set.</p>	<p>The error display can be cleared by any of the following:</p> <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> </ul>
T93	932	<ul style="list-style-type: none"> <li>No response from NET-D</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>NIC does not respond when being accessed.</p>	<p>Switch the power OFF, then ON.</p>
T93	933	<ul style="list-style-type: none"> <li>No response from NET-D</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		<p>No response in 90 seconds during NET-D initialization.</p>	<p>Switch the power OFF, then ON.</p>
T98	934	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>Communication error between mechanical control PCB and RF tag PCB (detection on RF tag PCB side).</p>	<p>Switch the power OFF, then ON.</p>
T98	935	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>Communication error between mechanical control PCB and RF tag PCB (detection on mechanical control PCB side).</p>	<p>Switch the power OFF, then ON.</p>
T98	937	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>Serial number not specified</p>	<p>Switch the power OFF, then ON.</p>
T98	938	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>	<p>Call Service</p>	<p>Old FRAM program version</p>	<p>Switch the power OFF, then ON.</p>

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T97	939	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: PC card not set	Press the <RESET> key.
T97	941	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: Device error (non-CF card)	Press the <RESET> key.
T97	942	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: File creation failed (The same file already exists.)	Press the <RESET> key.
T97	943	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: Unformatted	Press the <RESET> key.
T97	944	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: Media ID error	Press the <RESET> key.
T97	945	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: Media error (CF card that is not accessible)	Press the <RESET> key.
T97	946	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: Insufficient disk capacity (insufficient memory capacity in CF card)	Press the <RESET> key.
T98	947	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	24V-A is not turned ON. (Possible blown fuse at the 24V-A system)	Switch the power OFF, then ON.
T98	948	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	24V-B is not turned ON. (Possible blown fuse at the 24V-B system)	Switch the power OFF, then ON.
T98	949	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	24V-A is not turned OFF.	Switch the power OFF, then ON.
T98	950	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	24V-B is not turned OFF.	Switch the power OFF, then ON.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T98	952	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Checksum error of NeoROSA PCB flash memory.	Switch the power OFF, then ON.
T98	953	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Data writing failure to NeoROSA PCB flash memory.	Switch the power OFF, then ON.
F48	955	<ul style="list-style-type: none"> <li>The original size is out of range for the multi-up setting. (Processing for the original size is not available.)</li> </ul>	Original Size Exceeds Limitation of Multi-Up Specify Original Size		The original is out of range of possible size or is custom sized paper at the time of multi-up setting.	Reset, Stop (Warning display cleared)
F62	956	<ul style="list-style-type: none"> <li>An error has occurred on RLP.</li> </ul>	!!Auto-Link Operation is Not Available!! Specified Linked Printer may be in Error or Turned OFF		An error has occurred on the RLP side when RLP auto-ink is active.	The warning display is cleared by any of the following: <ul style="list-style-type: none"> <li>Touch the [Stop] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the &lt;STOP&gt; key.</li> <li>If any other Prioia is available, press the [Link Switch] button to select another option. (The [Link Switch] button is not displayed when no other Prioia is available.)</li> </ul>
F90	957	<ul style="list-style-type: none"> <li>The number of ink stock decreased to the set value or less.</li> </ul>	(When E-mail notification of consumable stock info is disabled) Check Stock of Required Ink and Please Order If Needed (When E-mail notification of consumable stock info is enabled) Check Stock of Required ink Would you like to Send the Consumable Stocks Info.by E-Mail?	Check stock of ink	Number of stocks of ink of applicable color (set value) $\geq$ Number of stocks (subtracted counter value).	The warning display can be cleared by any of the following: <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Touch the [No] button.</li> </ul> Touching the [Yes] button displays the [Sending E-mail] window.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F91	958	<ul style="list-style-type: none"> <li>The number of master stock decreased to the set value or less.</li> </ul>	(When E-mail notification of consumable stock info is enabled) Check Stock of Required Master and Please Order If Needed  (When E-mail notification of consumable stock info is enabled) Check Stock of Required Master Would you like to Send the Consumable Stocks Info. by E-Mail?	Check stock of master	Number of master stock (set value) $\geq$ Number of stocks (subtracted counter value).	The warning display can be cleared by any of the following: <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Touch the [No] button.</li> </ul> Touching the [Yes] button displays the [Sending E-mail] window.
F45	959	<ul style="list-style-type: none"> <li>Original is not detected successfully.</li> <li>Original is not set.</li> </ul>	Original Undetected Reset Original	Check Settings	Master making or RLP output has been started without an original.	Printing is executed by any of the following: <ul style="list-style-type: none"> <li>Touch the [Continue] button.</li> <li>Press the &lt;START&gt; key.</li> </ul> The warning display is cleared by any of the following: <ul style="list-style-type: none"> <li>(Printing stops.)</li> <li>Touch the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul> (Set the original again to cancel the error.)
T98	960	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Data reading failure from NeoROSA PCB flash memory	Switch the power OFF, then ON.
T98	961	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		NeoROSA PCB flash memory is not used.	Switch the power OFF, then ON.
F64	964	<ul style="list-style-type: none"> <li>A command for unavailable function has been issued while DtoP job is in process.</li> </ul>	Processing Print Data from PC This Function is Not Available while Processing Current Data		A command for any of the following functions is issued: DtoP job reception/Data-Map/Exclusive functions (scan mode, overlay, editor, storage) in awaiting output status	Touch [Close] or switch modes using the mode key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F65	965	<ul style="list-style-type: none"> <li>A nonstandard size original is set when auto size for saving is selected (at first page scanning of original).</li> </ul>	Auto Page Size Selection is Not Available for Irregular-Size Original Select Format Size to Store and then Restart		At the start of scanning, auto size (for saving data) is selected and original size is nonstandard.  * For scan and storage management, only the first page of the original is the target of detection of F65. For second page and later, F65 warning will not be displayed even if it is applicable due to a different reproduction ratio or original size.	[Stop]/Reset, Stop (Warning display clear)  [Saving Format] (Manual size selection)
B35	970	<ul style="list-style-type: none"> <li>Serviceman-call error occurred on RLP.</li> </ul>	Linked Printer in Error		Service error has occurred on Prio.a.	The error display can be cleared by any of the following: <ul style="list-style-type: none"> <li>Touch the [Close] button.</li> <li>Press the &lt;RESET&gt; key.</li> <li>Press the [Link Switch] button, if displayed, to switch the link.</li> </ul>
T96	972	<ul style="list-style-type: none"> <li>The information to be set in the test mode is not set.</li> <li>The relationship between values set in the test mode are not correct.</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	REv storage area has not been initialized.	Enter parameters in the test mode.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F73	975	<ul style="list-style-type: none"> <li>Tray cannot be selected among the reproduction ratio and original size at auto tray selection (at RLP output).</li> </ul>	<p>Paper Size cannot be Defined by Specified Reproduction Size Select Paper Size Manually</p>		<p>At the start of RLP, the specified fixed size reproduction and detected original size do not match. Otherwise, zoom/independent size reproduction has been specified.</p>	<p>[Manual Feed]: Clear the warning and output with [Multi-Purpose Tray] selected and the output size fixed to [A3].</p> <p>[Paper Select]: Clear the warning and display the RLP paper selection screen. (If paper has been selected before starting the operation, F18 will not be indicated.)</p> <p>Press the [Stop] button, &lt;RESET&gt; key, or &lt;STOP&gt; key to clear the warning message.</p>
T98	978	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		<p>At a time other than booting and wake-up, an erroneous power ON command is received from the mechanical control PCB side.</p>	<p>Switch the power OFF, then ON.</p>
T98	979	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	<p>!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service</p>		<p>Setting value error in NeoROSA PCB flash memory settings.</p>	<p>Switch the power OFF, then ON.</p>
F74	980	<ul style="list-style-type: none"> <li>When high speed printing is set, the temperature is lower than the predetermined value.</li> </ul>	<p>Printer Temperature is Low "High Speed" is Not Available</p>	<p>##High Speed Print is not available now Please wait a moment##</p>	<p>High speed printing has been performed under a temperature below 15°C.</p>	<p>Printing status goes back to standby by any of the following: (High speed is canceled.)</p> <ul style="list-style-type: none"> <li>Press the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> </ul> <p>High speed is canceled by any of the following, and printing starts in "speed 3":</p> <ul style="list-style-type: none"> <li>Press the [Continue] button.</li> <li>Press the &lt;START&gt; key.</li> </ul>



Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F45	981	<ul style="list-style-type: none"> <li>Original is not detected successfully.</li> <li>Original is not set.</li> </ul>	Original Undetected Reset Original		Original has not been detected when [Next] is pressed on the multi-up count entry screen of the multi-up wizard.	Printing is executed by any of the following: <ul style="list-style-type: none"> <li>Touch the [Continue] button.</li> <li>Press the &lt;START&gt; key.</li> </ul> The warning display is cleared by any of the following: <ul style="list-style-type: none"> <li>(Printing stops.)</li> <li>Touch the [Stop] button.</li> <li>Press the &lt;STOP&gt; key.</li> <li>Press the &lt;RESET&gt; key.</li> </ul> (Set the original again to cancel the error.)
T98	983	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		24V-C is not turned ON. (Possible blown fuse at the 24V-C system)	Switch the power OFF, then ON.
T98	984	<ul style="list-style-type: none"> <li>Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		24V-C is not turned OFF.	Switch the power OFF, then ON.
T97	990	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: File not found in the specified drive	Press the <RESET> key.
T97	991	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: Attempted access to a file that is not open to public	Press the <RESET> key.
T97	992	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: File pointer for file information storage folder already used	Press the <RESET> key.
T97	993	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: Setting of address to be loaded for data transmission to mechanical control PCB not correct	Press the <RESET> key.
T97	994	<ul style="list-style-type: none"> <li>PC card cannot be accessed normally.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	PC card access error: File deletion failed	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
F85	997	<ul style="list-style-type: none"> <li>• Job deletion failed on external CI.</li> <li>• Data reception failed on external CI.</li> </ul>	! Scanning is Not Possible ! External Controller is not Connected or Processing Connection Check Cable Connection		Job deletion has failed on the external CI side.	[Close]: Mode selection screen <START>: Scanning starts.
F85	998	<ul style="list-style-type: none"> <li>• Job deletion failed on external CI.</li> <li>• Data reception failed on external CI.</li> </ul>	! Scanning is Not Possible ! External Controller is not Connected or Processing Connection Check Cable Connection		Scan data reception has failed on the external CI side.	[Close]: Mode selection screen <START>: Scanning starts.
B39	999	<ul style="list-style-type: none"> <li>• Error detected on USB file system</li> </ul>	Can not identify	Can not identify	An error has been detected on the USB file system.	<ul style="list-style-type: none"> <li>• Touch the [Close] button.</li> <li>• Press the &lt;RESET&gt; key.</li> <li>• Disconnect the USB device.</li> </ul>
T90	1003	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Mac address error occurred when activating network communication.	Press the <RESET> key.
T98	1005	<ul style="list-style-type: none"> <li>• Hardware error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	When the power is turned ON, the counter value stored in the FRAM of the main circuit board exceeds the upper limit value.	Switch the power OFF, then ON.
T90	1006	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network driver has failed.	Press the <RESET> key.
T90	1007	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Setting of Mac address for the network driver has failed.	Press the <RESET> key.
T90	1008	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed.	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T90	1009	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Saving the memory pooling area for the network processing section has failed.	Press the <RESET> key.
T90	1010	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Making the IP instance has failed.	Press the <RESET> key.
T90	1011	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Activating IPv6 has failed.	Press the <RESET> key.
T90	1012	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Activating the TCP communication has failed.	Press the <RESET> key.
T90	1013	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Activating the UDP communication has failed.	Press the <RESET> key.
T90	1014	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Activating the IP packet fragment has failed.	Press the <RESET> key.
T90	1015	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the BSD layer has failed.	Press the <RESET> key.
T90	1016	<ul style="list-style-type: none"> <li>Mac address is not correct.</li> <li>Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Setting of IP address has failed.	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T90	1017	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * Network cannot be used.	Press the <RESET> key.
T90	1018	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * DtoP with RAW cannot be performed.	Press the <RESET> key.
T90	1019	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * DtoP with FTP cannot be performed.	Press the <RESET> key.
T90	1020	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * Cannot output to Prioa.	Press the <RESET> key.
T90	1021	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * RISO console cannot be used.	Press the <RESET> key.
T90	1022	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * DtoP with LPR cannot be performed.	Press the <RESET> key.
T90	1023	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * DtoP with IPP cannot be performed.	Press the <RESET> key.
T90	1024	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * Cannot send a message.	Press the <RESET> key.

Type	Point	Description	SF9 Display	SF5 Display	Error detection condition	Error reset method
T90	1025	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * Cannot respond to the MIB acquirement command from a PC.	Press the <RESET> key.
T90	1026	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * Cannot output to Prioa.	Press the <RESET> key.
T90	1027	<ul style="list-style-type: none"> <li>• Mac address is not correct.</li> <li>• Network behavior is not correct.</li> </ul>	!!System Error!! Press Reset Key If Recovery has Failed, Call Service	Call Service	Initializing the network processing section has failed. * Cannot output to Prioa.	Press the <RESET> key.
T99	1031	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		Initializing the LVDS driver has failed.	Switch the power OFF, then ON.
T99	1032	<ul style="list-style-type: none"> <li>• Software error</li> </ul>		Call Service	Initializing the LCD driver has failed.	Switch the power OFF, then ON.
T99	1303	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Communication error between NeoROSA and mechanical control PCB (on NeoROSA PCB side): Tag length error	Switch the power OFF, then ON.
T99	3001	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service		Getting data from a USB memory has failed. Reduce the number of files saved in each folder in the USB memory to 250 or less.	Switch the power OFF, then ON.
T99	7028	<ul style="list-style-type: none"> <li>• Software error</li> </ul>	!!System Error!! Turn Main Power SW OFF Then ON If Recovery has Failed, Call Service	Call Service	Replay from the machine has timed out when entering into the sleep mode.	Switch the power OFF, then ON.

# MEMO

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# CHAPTER 18: Test Modes

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## 1. Using Test Modes

### 1-1. Starting Normal Test Mode

Turn on the machine power while pressing both the top <◀> and bottom <▶> keys. This starts test mode in test mode standby status.

### 1-2. Starting Factory-Setting Test Mode

To use factory-setting test mode, it is required to enter the key code. After normal test mode starts in standby status, use the numeric keypad to enter the 4-digit number (9874), and press the <Start> key. Then, the machine enters factory-setting test mode.

### 1-3. Working with Test Modes

To select a test mode, you can type the number of the desired test mode or select the test mode from the menu.

#### 1-3-2. Selecting a Test Mode from the Menu

- (1) When the machine is in standby status, from the test mode menu, select a unit that contains the desired test item.
  - Use your finger to tap a unit name on the LCD. (The unit name is highlighted.)
  - The test mode sub-menu appears.
- (2) From the test mode sub-menu, select the test item to run.
  - Use your finger to tap a test item on the LCD. (The item is highlighted.)
- (3) Press the <Start> key to start the test mode.
- (4) Press the <Stop> or <Start> key to stop the test mode. The status is changed to the In Pause status or standby status.

\* For test modes that change settings, pressing the <Start> key applies changes to the system and switches the status to standby. Pressing the <Stop> key discards changes and switches the status to standby.

### 1-4. Exiting a Test Mode

When the machine is in test mode standby status or the test mode In Pause status, pressing <Reset> key for one second or more terminates the test mode and enables the machine to enter normal mode.

### 1-5. Test Mode Menu Window

When test mode is activated, firstly the following window appears that provides two tabs (Standard and Option).

The lower section of the window shows the model, the serial number, and the revision of the system and engine firmware.

#### **Standard tab**

SYSTEM/CNTRL PANEL  
PROCESS/SCANNING  
MASTER MAKE/DISPOSAL  
PAPER FEED/EJECT  
DRUM/PRINTING

The menu items appear allowing users to select the type of a test mode.

When factory-setting test mode is activated, as described above, the Factory Settings item is added in the right of the window.

#### **Option tab**

AF (Auto Document Feeder)  
Job Separator  
Editor  
Storage Memory  
Telemeter  
LBP  
Auto Fence  
Multi-tray Paper Feed

The menu items appear allowing users to select a test mode for options.

## 2. List of Test Modes (Sorted by the Number)

Abbreviated unit names used in the following tables

Sys/Panel= SYSTEM/CNTRL PANEL  
Proc/Scan = PROCESS/SCANNING  
Master = MASTER MAKE/DISPOSAL  
Paper = PAPER FEED/EJECT  
Drum/Print = DRUM/PRINTING  
Factory = Factory Settings  
OP = Option

Abbreviated model names used in the following tables

SF9 = SF9 series  
SF5\*5 = SF5\*5 series  
SF5\*3 = SF5\*3 series

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0001	Wakeup Key Check	ON: The key is pressed	-	○	○	○
Sys/ Panel	0002	Mechanical Counter Connection Signal	ON: The mechanical counter is connected.	-	○	○	○
Sys/ Panel	0003	24V A output signal	ON: 24V-A is ON (24 volts output).	-	○	○	○
Sys/ Panel	0004	24V B output signal	ON: 24V-B is ON (24 volts output).	-	○	○	○
Sys/ Panel	0005	Back Cover Interlock SW	Switch ON (The rear cover of the main unit is attached) Switch OFF (The rear cover is removed)	-	○	○	○
Sys/ Panel	0062	Wakeup LED ON	LED illuminates	-	○	○	○
Sys/ Panel	0080	Test Print A (Checked)	Creates Test pattern 1 (Checked). The size of the checkered pattern is 128 dots (10.8mm) x 128 dots (5.4mm). * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	×	○	○
Sys/ Panel	0080	Test Print A (Checked)	Creates Test pattern 1 (Checked). The size of the checkered pattern is 128 dots (5.4mm) x 128 dots (5.4mm). * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	○	×	×
Sys/ Panel	0081	Test Print B (Crossed Lines)	Creates Test pattern 2 (Crossed Lines). The size of the crossed line pattern is 128 dots (10.8mm) x 128 dots (5.4mm), where the width of a line is 1 dot (0.084mm) x 1dot (0.042mm). * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	×	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0081	Test Print B (Crossed Lines)	Creates Test pattern 2 (Crossed Lines). The size of the crossed line pattern is 128 dots (5.4mm) × 128 dots (5.4mm), where the width of a line is 1 dot (0.042mm) × 1dot (0.042mm). * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	○	×	×
Sys/ Panel	0082	Test Print C (Dot1)	Creates Test pattern 4 (Dot 1). The dot pattern where the size of a black dot is 8 dots (0.68mm) × 8 dots (0.34mm) * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	×	○	○
Sys/ Panel	0082	Test Print C (Dot1)	Creates Test pattern 4 (Dot 1). The dot pattern where the size of a black dot is 8 dots (0.34mm) × 8 dots (0.34mm) * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	○	×	×
Sys/ Panel	0083	Test Print D (Dot2)	Creates Test pattern 5 (Dot 2). The dot pattern where the size of a black dot is 16 dots (1.35mm) × 16dots (0.68mm) * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	×	○	○
Sys/ Panel	0083	Test Print D (Dot2)	Creates Test pattern 5 (Dot 2). The dot pattern where the size of a black dot is 16 dots (0.68mm) × 16dots (0.68mm) * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).	-	○	×	×

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0084	Test Print E (Dot1+Crossed Lines)	<p>Creates Test pattern 6 (Dot 1 + Crossed Lines). The size of the crossed line pattern is 128 dots (10.8mm) × 128 dots (5.4mm), where the width of a line is 1 dot (0.084mm) × 1 dot (0.042mm).</p> <p>+ The dot pattern where the size of a black dot is 8 dots (0.68mm) × 8 dots (0.34mm) * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).</p>	-	x	o	o
Sys/ Panel	0084	Test Print E (Dot1+Crossed Lines)	<p>Creates Test pattern 6 (Dot 1 + Crossed Lines). The size of the crossed line pattern is 128 dots (5.4mm) × 128 dots (5.4mm), where the width of a line is 1 dot (0.042mm) × 1 dot (0.042mm).</p> <p>+ The dot pattern where the size of a black dot is 8 dots (0.34mm) × 8 dots (0.34mm) * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).</p>	-	o	x	x
Sys/ Panel	0085	Test Print F (Dot2+Crossed Lines)	<p>Creates Test pattern 7 (Dot 2 + Crossed Lines). The size of the crossed line pattern is 128 dots (10.8mm) × 128 dots (5.4mm), where the width of a line is 1 dot (0.084mm) × 1 dot (0.042mm).</p> <p>+ The dot pattern where the size of a black dot is 16 dots (1.35mm) × 16 dots (0.68mm) * For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).</p>	-	x	o	o

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0085	Test Print F (Dot2+Crossed Lines)	<p>Creates Test pattern 7 (Dot 2 + Crossed Lines). The size of the crossed line pattern is 128 dots (5.4mm) x 128 dots (5.4mm), where the width of a line is 1 dot (0.042mm) x 1 dot (0.042mm).</p> <p>+ The dot pattern where the size of a black dot is 16 dots (0.68mm) x 16 dots (0.68mm)</p> <p>* For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).</p>	-	○	x	x
Sys/ Panel	0086	Test Print G (Dot3)	<p>Creates Test pattern 8 (Dot 3). The dot pattern where the size of a black dot is 2 dots (0.169mm) x 2dots (0.084mm)</p> <p>* For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).</p>	-	x	○	○
Sys/ Panel	0086	Test Print G (Dot3)	<p>Creates Test pattern 8 (Dot 3). The dot pattern where the size of a black dot is 2 dots (0.084mm) x 2dots (0.084mm)</p> <p>* For the printing pressure, the settings from No.1248 (Printing pressure for Test Mode) must be applied. * The printed image must be cut for the paper size (The cut amount is the same as in normal mode).</p>	-	○	x	x
Sys/ Panel	0087	Paper Feed Test (Cycle)	<p>Performs the continuous printing action. Speed 1: 60rpm, Speed 2: 80rpm, Speed 3: 100rpm, Speed 4: 120rpm, Speed 5: 130rpm, High Speed: 150rpm</p> <p>* The speed key is enabled. * The vertical print positioning key is enabled. * The action starts when the rear cover set switch is pressed. When the Start key is pressed, 10 seconds are waited until the rear cover set switch is pressed (A beep sounds until the set switch is pressed).</p>	-	○	○	○



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0088	Low-speed Printing Operation	Performs the continuous printing action at 15rpm. * The conditions are the same as those of No.0087 (Paper Feed Test), except that the printing pressure and speed control is disabled. * The action starts when the rear cover set switch is pressed. When the Start key is pressed, 10 seconds are waited until the rear cover set switch is pressed (A beep sounds until the set switch is pressed).	-	○	○	○
Sys/ Panel	0090	Firmware Program Download	When the Start key is pressed, the machine firmware program is downloaded into the printer.	-	○	○	○
Sys/ Panel	0094	Unit Initialization	Performs the mechanical initialization. (scanner, TPH, master compression plate, clamp unit, vertical print position, and printing pressure)	-	○	○	○
Sys/ Panel	0095	System Configuration Data Output	Creates a master for the CI system data and makes a print.	-	○	○	○
Sys/ Panel	0097	System Parameter, Error Record Print	Creates a master of the list of data setting changes and error history and makes a print.	-	○	○	○
Sys/ Panel	0101	Clock Adjustment Confirm	Applies the time set in Test Modes No.0171 - No.0173 to the RTC and starts the clock. This test runs when the Start key is pressed and ends automatically after 0.5 second. * This test must be run after values are set in Test Modes No.0171 - No.0173. This test applies values set in Test Modes No.0171 - No.0173 to the RTC.	-	○	○	○
Sys/ Panel	0103	System-parameter adjustment store	Stores information from the flash memory on MAIN-SYSTEM-PCB to the USB memory.	-	○	○	○
Sys/ Panel	0104	Drum-parameter adjustment store	Stores the test mode settings from the EEPROM on the print drum PCB to the USB memory. * This test cannot be run when the style differs between the model and the print drum PCB.	-	○	○	○
Sys/ Panel	0105	System-parameter adjustment restore	Writes data stored in No.0103 (System-parameter adjustment upload) into the flash memory on MAIN-SYSTEM-PCB. * The power must be turned off and then on after this test mode is run.	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0106	Drum-parameter adjustment restore	Writes data stored in No.0104 (Drum-parameter adjustment upload) into the EEPROM on the print drum PCB. * This test cannot be run when the style differs between the model and the print drum PCB and the style of the stored data differs from that of the main unit.	-	○	○	○
Sys/ Panel	0107	Test-mode parameter record	Stores test mode settings and their test numbers into the USB memory if their settings are changed from the default settings.	-	○	○	○
Sys/ Panel	0110	Clear Error Status Data	Basically, to clear a jam error status, the jam release procedure should be performed to remove the cause of the jam. However, this test mode can clear a jam error status forcibly, although consumable errors cannot be cleared.	-	○	○	○
Sys/ Panel	0111	Clear User Memory	Clears existing data (or resets it to the default) in the user area. The user area, in which users are allowed to edit data, stores memory functions, programs, properties, user mode settings, and other data. Note that the authentication settings are cleared with No.118, rather than this test.	-	○	○	○
Sys/ Panel	0112	Clear Test Mode Data Setup (Machine)	Resets all of the test mode settings stored in the machine memory to the default settings. * The test mode settings in the protected area are not cleared. * This cannot be selected from the menu window. * No message appears.	-	○	○	○
Sys/ Panel	0113	Maintenance-Master Count Clear	Resets the maintenance master counter that triggers maintenance calls. * When this counter is reset, the maintenance calls (for master making) will no longer appear.	-	○	○	○
Sys/ Panel	0114	Maintenance-Copy Count Clear	Resets the maintenance printing counter that triggers maintenance calls. * When this counter is reset, the maintenance calls (for printing) will no longer appear.	-	○	○	○
Sys/ Panel	0115	Maintenance-Drum Meter Clear	Resets the maintenance-drum meter that triggers maintenance calls. * When this meter is reset, the maintenance calls (for print drum) will no longer appear.	-	○	○	○
Sys/ Panel	0116	Set-up Wizard Initialize	Initializes the user category, basic screen settings, and mode-change method selection (No need to set the clock again).	-	○	×	×

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0117	Test Mode Data Clear (Drum)	Resets all of the test mode settings stored in the drum EEPROM to the default settings. * The test mode settings in the protected area are not cleared. * This cannot be selected from the menu window.	-	○	○	○
Sys/ Panel	0120	System Parameter Adjust Record	Displays the check number and value of the setting that is changed from the program default (No. 1200s are not displayed).	-	○	○	○
Sys/ Panel	0121	SW Action Record	Displays the codes of errors that caused the machine to stop (up to 64 errors).	-	○	x	x
Sys/ Panel	0122	Optional Configuration Check	Lists errors with the types of T, A, and B that occurred in normal mode (up to 64 errors).	-	○	○	○
Sys/ Panel	0123	Maintenance Count	Displays all values of the maintenance counters (master making, printing, and print drum).	-	○	x	x
Sys/ Panel	0124	Serial Number Disp (Upper 4 Digit)	Displays the first 4 digits of the machine serial number.	-	○	○	○
Sys/ Panel	0125	Serial Number Disp (Lower 4 Digit)	Displays the last 4 digits of the machine serial number.	-	○	○	○
Sys/ Panel	0126	Optional Configuration Check	Displays optional peripherals and devices currently connected. * This displays the version of ROMVer, if applicable. * The DSP version is also included.	-	○	x	x
Sys/ Panel	0126	Optional Configuration Check	Displays the version of the sub processor program. For example, the seven-segment display shows "101" for the version of Ver1.01.	-	x	○	x
Sys/ Panel	0127	AF Configuration Check	Displays whether the auto document feeder is connected. 0: Not connected 1: Connected	-	x	○	○
Sys/ Panel	0128	Job Separator Connection Signal	Displays whether the job separator is connected. 0: Not connected 1: Connected	-	x	○	○
Sys/ Panel	0129	Ethernet PCB Connection Signal	Displays whether the NIC is connected. 0: Not connected 1: Connected	-	x	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0131	System Program Ver.	Displays the version of the system program. For example, the seven-segment display shows "101" for the version of Ver1.01.	-	○	○	○
Sys/ Panel	0132	Program File Info. Display	[Program file information] <ul style="list-style-type: none"> <li>• Program file name</li> <li>• Firmware type (MECH, ROSA, DSP)</li> <li>• Machine model</li> <li>• Firmware version (V99.99)</li> <li>• File date (yy/mm/dd for Japan, mm/dd/yy for overseas)</li> <li>• Media type (U = USB, C = CF card)</li> </ul>	-	○	x	x
Sys/ Panel	0135	Paper Size ID Display	Displays the paper ID identified based on the information from the paper width potentiometer and the paper size detection sensor. The IDs indicate the following: 00: No paper 01: A3 02: B4 03: A4 04: A4 landscape 05: B5 06: B5 landscape 07: A5 09: B6 11: Post card 50: Unknown 1 (The paper size detection sensor is ON) 51: Unknown 2 (The paper size detection sensor is OFF)		○	○	○
Sys/ Panel	0137	Maintenance Count (Master Making)	Displays the value of the maintenance counter (master making). The displayed value "1" means 1000. * For example, the seven-segment display shows "1234" for 1,234,000.	-	x	○	○
Sys/ Panel	0138	Maintenance Count (Printing)	Displays the value of the maintenance counter (printing). The displayed value "1" means 1000. * For example, the seven-segment display shows "1234" for 1,234,000.	-	x	○	○
Sys/ Panel	0139	Maintenance-Drum Meter Display	Displays the value of the maintenance counter (print drum). The displayed value "1" means 1000. * For example, the seven-segment display shows "1234" for 1,234,000.	-	x	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0140	Scan/Master-Making Independent Mode	Specifies whether the scanning action and the master removal action are executed in series or in parallel.	Setting value: 0: In parallel <default> 1: In series	x	o	o
Sys/ Panel	0141	Counter Display Control	Specifies whether to display the counter display.	Setting value: 0: Not display 1: Display <default>	o	o	o
Sys/ Panel	0143	Maintenance-Master Count Entry	Sets the number of masters (≠ MC) that triggers the maintenance-call message.	Setting range: 0 to 999900 masters (The entered value must be 0 to 9999.) Unit: 1 (The value of 1 means 100 masters.) Default: 0 (0 master: The maintenance call is not triggered.)	o	o	o
Sys/ Panel	0144	Maintenance-Copy Count Entry	Sets the number of prints on the machine (≠ TC) that triggers the maintenance-call message.	Setting range: 0 to 9999000 prints (The entered value must be 0 to 9999.) Unit: 1 (The value of 1 means 1000 prints.) Default: 0 (0 print: The maintenance call is not triggered.)	o	o	o
Sys/ Panel	0145	Maintenance-Drum Meter Entry	Sets the number of print-drum prints that triggers the maintenance-call message.	Setting range: 0 to 9999000 prints (The entered value must be 0 to 9999.) Unit: 1 (The value of 1 means 1000 prints.) Default: 0 (0 print: The maintenance call is not triggered.)	o	o	o
Sys/ Panel	0146	Scan First	Prevents machine vibration caused by the master removal action from affecting the scanning quality. By default, the scanning action and the master removal action start at the same time. When this test mode is enabled, firstly the scanning action starts and then the master removal and master making actions start after the scanning action is completed.	Setting value: 0: Disabled <default> 1: Enabled	o	x	x

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0149	Authentication Enable/ Disable Selection	Enables/Disables authentication. * This setting is effective only until the power is turned off. The setting is reset to the default when the power is turned off. * No message or list is displayed.	Setting value 0: Authentication disabled 1: Authentication enabled <default>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0150	Print Quantity Repeat Setting	Sets whether to retain the last count when the Auto Process function is OFF.	Setting value 0: Do not retain <default> 1: Retain	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sys/ Panel	0151	Print after Short Interval	Sets whether to enable gradual print speed acceleration after a short interval between printing jobs.	Setting value: 0: Disable gradual print speed acceleration <default for Japan> 1: Enable gradual print speed acceleration <default for overseas>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0152	"Lighten print" display control	Specifies whether to display "Lighten print" in Functions and Custom Setting Mode.	Setting value 0: Not display <default> 1: Display	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0153	Special Paper Ctrl Enable Control	Specifies whether to display "Properties" - "Special Paper Ctrl".	Setting value 0: Not display <default> 1: Display	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sys/ Panel	0154	Min. Print Quantity Control	Sets whether to allow the "Minimum Print Q'ty" setting in Custom Setting Mode and Properties to be edited.	Setting value: 0: Uneditable 1: Editable <default>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0155	Counter Action Control	Enables/Disables the copy and master counters (solenoid counter and software counter). * This setting is reset to the default when the power is turned off.	Setting value: 0: Counter disabled 1: Counter enabled <default>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0159	"Warning" Display Control	Specifies whether to display a size warning (F02, F10, or F43) at the start of master making or printing.	Setting value: 0: Display the warning 1: Not display the warning <default>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sys/ Panel	0160	Auto Multi-Up Recovery	Specifies whether to reactivate the Multi-Up Print setting after a Multi-Up Print operation is completed while the Auto Process function is OFF.	Setting value: 0: Do not reactivate (The Multi-Up Print setting stays OFF) <default> 1: Reactivate	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0161	Program Print Repeat Setting	Specifies whether to retain the Single Page Mode setting when the Auto Process function is OFF.	Setting value 0: Do not retain <default> 1: Retain	○	○	○
Sys/ Panel	0162	M-M Standby Period Setting	When the Master Making mode is selected, the master making standby conditions (TPH pressure, clamp opening position, and scanner lamp ON) are kept for the period of time specified here. If this is set to 60 seconds or less, the THP, clamp, and scanner standby conditions are cancelled when the specified period of time elapses. If this is set to a value greater than 60 seconds, the scanner standby condition is cancelled when 60 seconds elapse and the THP and clamp standby conditions are cancelled when the specified period of time elapses.	Setting value: 0 to 180 (0s (= No standby) to 180s) Default: 180 (180s) Unit: 1 (1s)	○	○	○
Sys/ Panel	0165	RLP Mode Switch Timing Control	Sets the display change timing for cases where the RLP auto-selection mode is used.	Setting range: -5 to +5 (0s to 2.5s) Unit: 1 (0.25s) Default: 0 (1.25s)	○	×	×
Sys/ Panel	0166	Max. Print Quantity Control	Enables/Disables the maximum print quantity setting, and also sets the maximum print quantity.	Setting range: 0 to 9999 prints (The entered value must be 0 to 9999.) Unit: 1 (1 print) Default: 0 (0 print: The maximum print quantity setting is disabled.)	○	×	×
Sys/ Panel	0167	Paper ID Auto-Repeat Control	Specifies whether to reset the paper size settings to the default or keep the current settings when the power is turned off or the all-reset operation is performed.	Setting: 0: Keep the current paper size settings <default> 1: Reset the paper size settings to the default	○	×	×
Sys/ Panel	0169	"Properties" Display Control	Specifies whether to display the Properties tab.	Setting value: 0: Not display 1: Display <default>	○	×	×
Sys/ Panel	0170	Consumable Storage Indication	Specifies whether to display the Stock Management item on the Properties tab.	Setting value: 0: Not display <default for overseas> 1: Display <default for Japan>	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0171	Clock Setting (YEAR)	Sets the year part of the date in the RTC. * When this test starts, the year of the current RTC date appears on the seven-segment display. For example, "2002" appears for the year of 2002. * Test Mode No.0101 (Clock Adjustment Confirm) must be run after values are set in Test Modes No.0171 - No.0173. Test Mode No.0101 applies values set in Test Modes No.0171 - No.0173 to the RTC.	Setting range: 2000 to 2199 Unit: 1 (year) Default: 2000 when the RTC has not yet been set (before No.0101 runs) The RTC value at the start of the test when the RTC has already been set (after No.0101 runs)	○	○	○
Sys/ Panel	0172	Clock Setting (MONTH & DATE)	Sets the month and day parts of the date in the RTC. * When this test starts, the month and day of the current RTC date appear on the seven-segment display. For example, "1001" appears for October 1st. * Test Mode No.0101 (Clock Adjustment Confirm) must be run after values are set in Test Modes No.0171 - No.0173. Test Mode No.0101 applies values set in Test Modes No.0171 - No.0173 to the RTC.	Setting range: First two digits: 1 to 12 (January to December) Last two digits: 1 to 31 (1st to 31st) Unit: 1 Default: 0101 when the RTC has not yet been set (before No.0101 runs) The RTC value at the start of the test when the RTC has already been set (after No.0101 runs)	○	○	○
Sys/ Panel	0173	Clock Setting (HOUR & MINUTE)	Sets the hour and minute parts of the date in the RTC. * When this test starts, the hour and minute of the current RTC date appear on the seven-segment display. For example, "1845" appears for 18:45. * Test Mode No.0101 (Clock Adjustment Confirm) must be run after values are set in Test Modes No.0171 - No.0173. Test Mode No.0101 applies values set in Test Modes No.0171 - No.0173 to the RTC.	Setting range: First two digits: 0 to 23 (hour) Last two digits: 0 to 59 (minute) Unit: 1 Default: 0000 when the RTC has not yet been set (before No.0101 runs) The RTC value at the start of the test when the RTC has already been set (after No.0101 runs)	○	○	○
Sys/ Panel	0181	Service Info. File Mail Control	Enables/Disables the maintenance information to be sent via email. [Sending maintenance information via email] The Maintenance Information email button appears in Functions when this test mode is set to be enabled.	Setting value: 0: Disabled <default> 1: Enabled	○	x	x



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0182	Counter/Stock Info. Mail Control	Enables/Disables the stock management information to be sent via email. [Sending stock management information via email] The Counter/Stock Info. email setting button appears in Properties when this test mode is set to be enabled.	Setting value: 0: Disabled <default> 1: Enabled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0183	Counter Report Enable Control	Specifies whether to display "Counter Report" in Custom Setting Mode or Functions.	Setting value: 0: Not display <default> 1: Display	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0184	Counter Report Reminder Date Setting	Sets the date when to display a reminder for the counter report.	Setting range: 0 to 31 Unit: 1 Setting value: 0: No reminder is displayed. <default> 1 to 31: A reminder is displayed on the specified date. * The reminder date is replaced with the last day of the month when the specified date is 29, 30, or 31 and the date does not exist in the month.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0185	Counter Report Mail Enable Control	Enables/Disables the ID counter report and counter report to be sent via email. When the ID counter report is enabled to be sent via email, the email button appears on the ID Counter Report window in Functions. [Sending the counter report via email] When this test mode set to "1" and Test Mode No.0183 is set to "1", the email button appears on the Counter Report window in Functions.	Setting value: 0: Disabled <default> 1: Enabled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	0186	Private MIB Enable Control	Enables/Disables RISO Private MIB.	Setting value: 0: Disabled 1: Enabled <default>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	0187	Job Spool Setting	Specifies whether to spool or discard DtoP jobs (LAN/USB) when the RISOGRAPH cannot receive the jobs. [When this is set to 0 (jobs are spooled)] Jobs are spooled (not discarded) even when the RISOGRAPH cannot receive the jobs. That is, jobs sent from the PC never disappear. However, a sent job may time out on the PC when the RISOGRAPH cannot receive jobs for a long time. In such a case, the print image can be partially missed even though the RISOGRAPH receives the job. [When this is set to 1 (jobs are discarded)] Jobs are discarded when the RISOGRAPH cannot receive the jobs. This prevents the print image from being partially missed even when the RISOGRAPH cannot receive jobs for a long time and the sent job times out on the PC.	Setting value: 0: Spool jobs <default> 1: Discard jobs	○	×	×
Sys/ Panel	0190	High Speed Button on Display	Specifies whether to display the high speed button.	Setting value: 0: Not display 1: Display <default>	○	○	×
Sys/ Panel	0191	Original Undetected Warning Display Ctl.	Specifies whether to display a warning indicating that no original is detected.	Setting value: 0: Not display <default> 1: Display	×	○	○
Sys/ Panel	0199	Software Option Enable Control	Allows users to enter the software editor release code (8-digit number) and press the Start key to enable the software editor.	Setting range: 00000000 to 99999999 Unit: 1 Default: 00000000	○	×	×
Proc/ Scan	0200	Image Scanner ADF Shading Sensor	Light blocked - ON (The carriage is in the home position) Light not blocked - OFF	-	○	○	○
Proc/ Scan	0260	Scanner Lamp	Switches ON/OFF the scanner lamp for original scanning.	-	○	○	○
Proc/ Scan	0281	Scanner Home Action	Brings the carriage to the home position.	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Proc/ Scan	0284	Scanner Cycle Continuous Action	Continuously repeat a cycle of the scanning action including the auto-base-control (ABC) action.  Home positioning → Shading compensation → Auto base control action → A3 scanning → Home positioning  Pressing the Stop key terminates the scanning action and performs the home positioning action. * A speed adjustment (size reproduction) set in No.4904 must be applied. * The image signal must be output.	-	○	○	○
Proc/ Scan	0287	Scanner Lamp Replace Positioning	Moves the scanner to the scanner lamp removal position. * Pressing the Start key moves the scanner to the position away from the sensor edge by 204mm in the scanning direction.	-	○	○	○
Proc/ Scan	0289	Scanner "Shipping" Positioning	Moves the scanner to the machine shipping position. * Pressing the Start key moves the scanner upward from the FB scanner HP sensor by TBD mm.	-	○	○	○
Proc/ Scan	0340	Line-copy Slice Level Adjustment	Adjusts the slice level for line mode (Contrast 3).	Setting range: -16 to 16 (A greater value results in lighter). Unit: 1 Default: 0	○	○	○
Proc/ Scan	0341	Base Tone Slice Level Adjustment	Adjusts the slice level for line mode (Contrast ABC).	Setting range: -16 to 16 (A greater value results in lighter). Unit: 1 Default: 0	○	○	○
Proc/ Scan	0342	Shading Frequency	Sets the shading frequency.	Setting range: 1 to 16 Unit: 1 Default: 8	○	○	○
Proc/ Scan	0343	ABC Slice Level Set (Reduction Mode)	Adjusts the threshold to prevent a one-dot fine line from disappearing when the image size is reduced. * This test is available only when the Line mode is selected, the original scanning density is set to AUTO, and the size is reduced.	Setting range: -8 to 8 Unit: 1 Default: -3	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Proc/ Scan	0345	Photo/Duo Default Setting	Allows the default setting of image processing for the Photo and Duo modes to be edited in test mode.	Setting value: 0: Error diffusion <default> 1: Dot 1 2: Dot 2 3: Dot 3 4: Dot 4	○	×	×
Proc/ Scan	0345	Photo/Duo Default Setting	Allows the default setting of image processing for the Photo and Duo modes to be edited in test mode.	Setting value: 0: Error diffusion <default> 1: Dot 1 2: Dot 2	×	○	○
Proc/ Scan	0350	Halfone Curve Selection (Photo)	Selects the matrix forming the halfone-curve base for the Photo mode. *For EZ2/3, RZ6/EZ5, and RZ2/3/5, selecting a tone curve is not allowed in normal mode. The center tone curve in the matrix that was selected in test mode is used.	Setting range: 0 to 8 Unit: 1 Default: 4	○	○	○
Proc/ Scan	0351	Halfone Curve Selection (Dot)	Selects the matrix forming the halfone-curve base for the Dot mode. *For EZ2/3, RZ6/EZ5, and RZ2/3/5, selecting a tone curve is not allowed in normal mode. The center tone curve in the matrix that was selected in test mode is used.	Setting range: 0 to 8 Unit: 1 Default: 4	○	○	○
Proc/ Scan	0352	Halfone Curve Selection (Duo)	Selects the matrix forming the halfone-curve base for the Duo mode. *For EZ2/3, RZ6/EZ5, and RZ2/3/5, selecting a tone curve is not allowed in normal mode. The center tone curve in the matrix that was selected in test mode is used.	Setting range: 0 to 8 Unit: 1 Default: 4	○	○	○
Proc/ Scan	0353	Halfone Curve Selection (Dot+Duo)	Selects the matrix forming the halfone-curve base for the Dot + Duo mode. *For EZ2/3, RZ6/EZ5, and RZ2/3/5, selecting a tone curve is not allowed in normal mode. The center tone curve in the matrix that was selected in test mode is used.	Setting range: 0 to 8 Unit: 1 Default: 4	○	○	○
Proc/ Scan	0359	Trimming Slice Level Adjustment	Sets the slice level for trimming. A greater value reduces the center area.	Setting range: -16 to 16 Unit: 1 Default: -2	○	○	○
Proc/ Scan	0361	Line Edge Stress Level Reduction	Enables/Disables a mode that lowers the edge enhancement level to prevent dots from being printed when the original is coarse paper or other dark paper.	Setting value: 0: Disabled <default> 1: Enabled	○	○	○
Proc/ Scan	0368	Scanner Standby Position Control	Changes the carriage standby position. * Setting this test mode to 1 disables the quick start function.	Setting value: 0: HP <default> 1: Second HP	○	○	○
Proc/ Scan	0372	ABC Slice Level (Super Black)	A histogram created by prescanning in ABC (Line mode and Auto density) is used to adjust the slice level for super black.	Setting range: -16 to 16 Default: 0	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Proc/ Scan	0380	FB Horizontal Scan Position Adjust	Adjusts the horizontal position when the original is scanned on the FB. For AF, a different setting is provided. * For LCD machines, this represents the Image Horizontal Slide of guidance graphic.	Setting range: -30 to 30 (±3.0mm from the home position) (A positive value moves the position left.) Unit: 5 (0.5mm) Default: 0 (0mm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proc/ Scan	0381	FB Scan Start Position Adjust	Adjusts the scanning start position (the length to be skipped) when the original is scanned on the FB. * For LCD machines, this represents the Image Vertical Slide of guidance graphic.	Setting range: -40 to 40 (±4.0mm from the home position) (A positive value moves the position downward, which causes the image to move upward.) Unit: 1 (0.1mm) Default: 0 (0mm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proc/ Scan	0382	FB Scanning Speed Adjustment	Adjusts the scanning speed (image) when the original is scanned on the FB. → (Adjusts the scanner LST interval.) * For LCD machines, this represents the Image Vertical Elongation/Shrinkage of guidance graphic. * The following values should result in a change by ±1mm: A3: ±0.2%, B4: ±0.3%, A4: ±0.3%, Ledger: ±0.2%, Legal: ±0.3%	Setting range: -50 to 50 (±5.0% from the base speed) (A negative value results in shrinkage. The logic is reversed with considering the adjustment of guidance graphic.) Unit: 1 (0.1%) Default: 0 (0%)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proc/ Scan	0386	Center Black Dot Control	Adds a black center line on the image data that was scanned from the scanner, during master making or RLP output. * The black line is added only when the original is scanned from the scanner. * This setting is reset to the default when the power is turned off.	Setting value 0: Not add a black center line <default> 1: Add a black center line	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proc/ Scan	0387	Black Line Removal Control	Enables/Disables the black line removal. Black lines are removed by changing data in the shading memory on the scanner. * This cannot be selected from the menu window. The name is not displayed.	Setting value: 0: Disabled <default> 1: Enabled	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proc/ Scan	0399	Line Edge Stress Level Offset	Sets the offset for the edge emphasis threshold.	Setting range: -6 to 6 Unit: 1 Default: 0	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0400	Master Positioning Sensor	Light not blocked - ON (The master is present), Light blocked - OFF (The master is not present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0401	Master Detection Sensor	Light blocked - OFF (The master is present), Light not blocked - ON (The master is not present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Master	0402	Master End Sensor	Light blocked - ON (The master end seal is present), Light not blocked - OFF (The master end seal is not present)	-	○	○	○
Master	0403	Cutter Home Position Switch	Switch OFF (The cutter is in the home position), Switch ON (The cutter is not in the home position)	-	○	○	○
Master	0404	Cutter Stop Position SW	Switch OFF (The cutter is in the end position), Switch ON (The cutter is not in the end position)	-	×	○	○
Master	0406	TPH Pressure Switch	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Master	0407	Master Making Unit Interlock Switch	Light blocked - ON (The master making unit/cover is closed)	-	○	○	○
Master	0408	Master Making Unit Lock Sensor	Light blocked - ON (The light block plate is present. Locked), Light not blocked - OFF (The light block plate is not present. Unlocked)	-	○	○	○
Master	0409	Master Making Unit Interlock SW	Switch ON (The master making unit is set), Switch OFF (Interlock)	-	○	○	○
Master	0410	Master Making Unit Releasing Button	Switch ON (The button is pressed), Switch OFF (The button is not pressed)	-	○	○	○
Master	0420	Master Disposal Jam Sensor	Light not blocked - ON (The master is present), Light blocked (The master is not present)	-	○	○	○
Master	0421	Master Compression Sensor	Light blocked - ON (In the master compression plate home position), Light not blocked - OFF (Not in the master compression plate home position)	-	○	○	○
Master	0423	Disposal Box Interlock Switch	Switch ON (The master disposal box is set), Switch OFF (Interlock)	-	○	○	○
Master	0424	Disposal Box Set Sensor	Light blocked - ON (The master disposal box is set), Light not blocked - OFF (The master disposal box is not set)	-	○	○	○
Master	0425	Master Compress Motor FG Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Master	0426	Master Disposal Motor FG Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Master	0460	Thermal Pressure Motor (CW)	Rotates in the clockwise (CW) direction.	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Master	0461	Thermal Pressure Motor (CCW)	Rotates in the counter clockwise (CCW) direction.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0462	Write Pulse Motor CW (Feed)	Rotates in the clockwise (CW) direction (master feed direction).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0463	Write Pulse Motor CCW (Reverse)	Rotates in the counter clockwise (CCW) direction (master reverse direction).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0464	Load Pulse Motor CW (Feed)	Rotates in the clockwise (CW) direction (master feed direction).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0466	Write & Load Pulse Motors	Rotates both the write pulse motor and load pulse motor in the clockwise (CW) direction. They rotate when the Start key is pressed, and they stop when the Stop key is pressed.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0467	Master Making Unit Release LED	The LED for the master making unit release button illuminates.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0470	Master Disposal Motor	Rotates in the clockwise (CW) direction (which causes the master to move towards the box).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0480	Cutter Motor Cycle Action	Performs one cutting action. (For a shuttle cutter, the home positioning action is performed 100msec after the cutting action is completed.)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0481	Thermal Press. Motor Action (+)	Moves the TPH to increase the pressure.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0482	Thermal Press. Motor Action (-)	Moves the TPH to decrease the pressure.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0488	Master Making Unit Lock Solenoid	Press the Start key to switch ON the solenoid. It automatically switches OFF after 10 seconds.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0490	Compression Plate Home Action	Moves the master compression plate to the home position.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Master	0491	M.-Compress. PROTECT Position	Moves the compression plate to the protection mode position where the master disposal box is locked while the protection mode is ON. 1. Determine whether the compression plate is in the home position. If not, return the plate to the home position. 2. Move the plate to the protection mode position where the master disposal box is locked. (By default, the position is away from the HP by 66 pulses.)	-	x	x	
Master	0493	Compression Cycle Action	Repeats the master compressing action as follows: Execute a cycle of the master compressing action → Wait for three seconds → Execute a cycle of the master compressing action → ... * If the master compression plate is not in the home position at the beginning of the test, the plate must be returned to the home position before the master compressing action can start. * The settings from No.0573 (Compression Limit Position Count) and No.0575 (Compress. Load Application Time) must be applied.	-	o	o	o
Master	0494	Cutter Motor	Rotates the cutter motor in the cut direction (for up to 10 seconds). Caution: This test mode is to check the IC driver. Disconnect the connector of the motor before this test mode starts. Otherwise the machine will be damaged.	-	o	o	o
Master	0510	Clear Master Disposal Count	Clears the master disposal count display (Sets the count to 0).	-	o	o	o
Master	0521	TPH Thermistor Temperature Data	Converts an A/D (analog-to-digital) converted 8-bit value to a temperature and displays it.	-	o	o	o
Master	0524	Thermal Power Voltage	Powers on the TPH and displays the voltage applied to the TPH. * The displayed value is 100 times the applied voltage (for example, "1000" appears for 10V).	-	o	o	o
Master	0527	Master Usage Start Date	Displays the master use start date recorded in the tag on the master. For LED machines, 2003/2/28 is indicated by displaying "2003" and "0228" alternately.	-	o	o	o
Master	0528	Master Disposal Count Display	Displays the recorded count value.	-	o	o	o



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Master	0540	Master Front End Position Adjust	Adjusts the backward movement of the master after the master cutting action, so the Master positioning sensor is OFF when the master set action is completed.	Setting range: 0mm to +10mm (A positive value moves the position backward.) The entered value must be 0 to +100. Unit: 1 (0.1mm) Default: 50	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0541	Write Start Position Adjustment	Adjusts the write start position. (An adjustment to the master clamp amount is also applied) This adjustment is the amount of the backward movement of the master just before the start of writing. * For LCD machines, this represents the Vertical Slide of guidance graphic. * This test mode does not affect the master clamp amount but the value set in the master clamp amount adjustment is added. (The setting value in No.543 (Master Clamp Range Adjustment) is still 0.)	Setting range: ±5.0mm from the home position (A positive value moves the position upward.) The entered value must be -50 to +50. Unit: 1 (0.1mm) Default: -15 (-1.5mm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0542	Master-Making Length Adjustment	Adjusts the master making area (sub scanning length) * An adjustment made in this test mode affects the master length.	Setting range: ±10.0mm (A positive value increases the length.) The entered value must be -100 to +100. Unit: 1 (0.1mm) Default: 0 (0mm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0543	Master Clamp Range Adjustment	Adjusts the master clamp amount during master loading. (This adjustment is independent from Write Start Position Adjustment.) * An adjustment made in this test mode affects the master clamp amount, which causes the write start position to change.	Setting range: ±10.0mm from the home position (A positive value increases the clamp amount.) The entered value must be -100 to +100. Unit: 1 (0.1mm) Default: 0 (0mm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Master	0544	Master Cut Length Adjustment	Adjusts the total length of a master by changing the master cut timing. * 1 degree greater = approximately 1.5mm longer.	Setting range: ±10.0° from the base degree (A positive value lengthens the master) The entered value must be -100 to +100. Unit: 5 (0.5°) Default: -10 (-1°) *As an exception, -5 (-0.5°) for M/H-A3, Ledger machines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0545	TPH Thermal Power Adjustment	Adjusts the TPH heat energy.	Setting range: 0 to 8 Unit: 1 Default: 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0547	Master-Making Speed Adjustment	Adjusts the speed of the write pulse motor when writing. * For LCD machines, this represents the Vertical Elongation/Shrinkage of guidance graphic.	Setting range: ±10.0% from the base speed (A negative value results in shrinkage. The logic is reversed with considering the adjustment of guidance graphic.) The entered value must be -100 to +100. Unit: 1 (0.1%) Default: B4 machine: 5 (0.5%) CED-HL (A3 machine): 2 (0.2%) CED-HL (B4 machine): 5 (0.5%) Other: 0 (0%)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0548	W-Roller Diameter Reference Adj.	Compensates for individual difference in the diameter of the write roller. Enter a 100 times value.	Setting range: 23.05mm to 23.15mm The entered value must be 2305 to 2315. Unit: 1 (0.01mm) Default: 2310 (23.10mm)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Master	0557	Master Replacement Display Selection	Allows an error in master end detection to depend on the master usage volume. In master end detection, "C02-253" is displayed when the master usage volume is [Setting value X%] or greater, or "C02-200" is displayed when the master usage volume is less than [Setting value X%]. * For overseas machines, this cannot be selected from the menu window and the name is not displayed.	Setting value: 0: Traditional method 1: New method [X=95%] <default> 2: New method [X=90%] 3: New method [X=85%]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model																																										
					SF9	SF5*5	SF5*3																																								
Master	0567	Master Front End Pos Selection	<p>For the master positioning action after master setting or master cutting, this setting specifies whether to check the master positioning sensor when the TPH pressure motor applies a force before a backward movement of the master and control the positioning action depending on the status of the sensor.</p>	<p>0: Do not control the positioning action (a traditional way)                      * The master positioning sensor is not checked when the TPH pressure motor applies a force.                      1: Control the positioning action &lt;default&gt;                      * The master positioning sensor is checked when the TPH pressure motor applies a force and the action is controlled depending on the status (ON or OFF) of the sensor.</p>	○	○	○																																								
Master	0568	Master-Making Speed Adj. (Master Vol)	<p>Specifies a table to determine an adjustment value depending on the master remaining volume. The adjustment value is automatically added to the value set in No.0547 (Master-Making Speed Adjustment). &lt;A3/Ledger (including A4-R)&gt;</p> <table border="1"> <thead> <tr> <th>Master Vol.</th> <th>Default</th> <th>Table 1</th> <th>Table 2</th> </tr> </thead> <tbody> <tr> <td>75 - 100%</td> <td>±0%</td> <td>±0%</td> <td>±0%</td> </tr> <tr> <td>50 - 74%</td> <td>±0%</td> <td>+0.15%</td> <td>+0.3%</td> </tr> <tr> <td>25 - 49%</td> <td>+0.05%</td> <td>+0.3%</td> <td>+0.6%</td> </tr> <tr> <td>0 - 24%</td> <td>+0.10%</td> <td>+0.5%</td> <td>+1.0%</td> </tr> </tbody> </table> <p>&lt;B4&gt;</p> <table border="1"> <thead> <tr> <th>Master Vol.</th> <th>Default</th> <th>Table 1</th> <th>Table 2</th> </tr> </thead> <tbody> <tr> <td>75 - 100%</td> <td>±0%</td> <td>±0%</td> <td>±0%</td> </tr> <tr> <td>50 - 74%</td> <td>±0%</td> <td>+0.15%</td> <td>+0.3%</td> </tr> <tr> <td>25 - 49%</td> <td>+0.10%</td> <td>+0.3%</td> <td>+0.6%</td> </tr> <tr> <td>0 - 24%</td> <td>+0.20%</td> <td>+0.5%</td> <td>+1.0%</td> </tr> </tbody> </table>	Master Vol.	Default	Table 1	Table 2	75 - 100%	±0%	±0%	±0%	50 - 74%	±0%	+0.15%	+0.3%	25 - 49%	+0.05%	+0.3%	+0.6%	0 - 24%	+0.10%	+0.5%	+1.0%	Master Vol.	Default	Table 1	Table 2	75 - 100%	±0%	±0%	±0%	50 - 74%	±0%	+0.15%	+0.3%	25 - 49%	+0.10%	+0.3%	+0.6%	0 - 24%	+0.20%	+0.5%	+1.0%	<p>Setting value:                      0: Default &lt;default&gt;                      1: Table 1                      2: Table 2</p>	○	×	×
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Master	0570	M.-Rmv. Roller Stop Timing	Adjusts the print drum angle at which the master removal roller stops.	<p>Setting range: 0 to ±50 (0° to ±50°)                      Unit: 1 (1°)                      Default: 0</p>	○	○	○																																								
Master	0571	M.-Rmv. Roller Stop Timing (A4W)	Adjusts the print drum angle at which the master removal motor stops. * Only for the A4W drum	<p>Setting range: 0 to ±50 (0° to ±50°)                      Unit: 1 (1°)                      Default: 0</p>	○	×	×																																								

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Master	0572	Master Removal Box Set-Motion	Specifies whether to perform the compulsory set action of the master removal box when the power is turned on, the machine wakes up, or the master removal box is reset. * This cannot be selected from the menu window. The name is not displayed.	Setting value: 0: Disabled <default> 1: Enabled	○	○	○
Master	0573	Compression Limit Position Count	Sets the pulse count for the compression limit position.	Setting range: 106 to 163 pulses (Master compression plate angle from the home position: 65° to 100°) Unit: 1 (1 pulse) Default: A3/Ledger: 155 (155 pulses) Other: 147 (147 pulses)	○	○	○
Master	0575	Compress. Load Application Time	Sets the period of time until a compression is detected (one FG interval). When the specified period is exceeded, a compression is detected and the compression action stops.	Setting range: 500 to 7000 (5ms to 70ms) Unit: 25 (0.25ms) Default: 4000 (40ms)	○	○	○
Master	0576	Full Box Compression Count	Sets the pulse count indicating that the master disposal box is full.	Setting range: 80 to 162 pulses (Master compression plate angle from the home position: 49° to 99°) Unit: 1 (1 pulse) Default: A3/Ledger: 80 (49°) B4/Legal: 146 (90°) A4/Letter: 146 (90°)	○	○	○
Master	0577	M.-Compress. PROTECT Pos. Adjustment	Adjusts the protection mode position of the compression plate where the master disposal box is locked while the protection mode is ON.	Adjustment range: 0 to ±30 (0 to ±30 pulses) (Master compression plate angle from the home position: 21.6° to 57.6°) Unit: 5 (5 pulses) Default: -20 (Master compression plate angle from the home position: 27.6°)	○	x	x

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Master	0578	Disposal Motor Speed Selection	Selects the master disposal motor speed in relation to the master disposal drum speed.	Setting value: 0: 0.9 x Drum speed 1: 1.0 x Drum speed 2: 1.05 x Drum speed 3: 1.1 x Drum speed <default> 4: 1.2 x Drum speed 5: 1.3 x Drum speed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0579	Compress Limit Pos Compensation	Enables/Disables automatic adjustment to the default value of the compressing stop position.	Setting: 0: Disabled 1: Enabled <default>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0584	Master Disposal Limiter Setting	Sets the number of masters indicating that the master disposal box is full. This setting is for cases where whether the box is full is determined by the software.	Setting value: 50 to 100 (50 to 100 masters) Unit: 10 (10 masters) Default: 100 (100 masters)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Master	0585	Master Disposal Limit Setting	Specifies whether to detect a full box by using the software counter or by using a traditional way (based on the FG interval and compression plate angle).	Setting: 0: Disabled 1: Enabled <default>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0600	Paper Detection Sensor	ON: Light received (The paper is present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0601	Paper Size Detection Sensor	ON: Light received (The paper is present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0602	Elevator Upper Limit Sensor A	ON: Light path blocked (The light block plate is present) (The upper limit position depends on the combination of A and B.)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0603	Elevator Upper Limit Sensor B	ON: Light path blocked (The light block plate is present) (The upper limit position depends on the combination of A and B.)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0604	Elevator Lower Limit Sensor	Light blocked - ON (The paper feed tray is in the lower limit position). Light not blocked - OFF (The paper feed tray is not in the lower limit position)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0605	Paper Feed Sensor	Light blocked - ON (The paper is present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0606	Paper Ejection Sensor	ON: Light received (The paper is present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0607	Paper Feed Tray Upper Interlock SW	Switch ON (The paper feed tray can work), Switch OFF (Interlock)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0608	Paper Feed Tray Lower Interlock SW	Switch ON (The paper feed tray can work), Switch OFF (Interlock)	-	○	○	○
Paper	0609	Feed Tray Button	Switch ON (The button is pressed)	-	○	○	○
Paper	0612	Paper Ejection FG Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Paper	0613	Special Stripper Unit Sensor	Light blocked - ON (The special stripper unit is present), Light not blocked - OFF (The special stripper unit is not present)	-	○	○	○
Paper	0614	Paper Feed Pressure Sensor	Light blocked - ON (The paper feed pressure adjust lever is in the Card position), Light not blocked - OFF (The paper feed pressure adjust lever is not in the Card position)	-	○	○	○
Paper	0618	Paper Ejection Wing Home Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	×	×
Paper	0660	Paper Ejection Motor	This is either ON or OFF. Press the Stop key to stop.	-	○	○	○
Paper	0661	Suction Fan	This is either ON or OFF. Press the Stop key to stop.	-	○	○	○
Paper	0662	Separation Fan	This is either ON or OFF. Press the Stop key to stop.	-	○	○	○
Paper	0666	Paper Ejection Wing Motor (CW)	This is either ON or OFF. Press the Stop key to stop.	-	○	×	×
Paper	0667	Paper Ejection Wing Motor (CCW)	This is either ON or OFF. Press the Stop key to stop.	-	○	×	×
Paper	0680	Paper Ejecting Fans Action	Press the Start key to turn on the separation fan and suction fan at the same time. Press the Stop key to stop.	-	○	×	×
Paper	0681	Paper Feed Tray Max. Up Positioning	Press the Start key to move the elevator to the paper feed position. The test automatically ends when the paper feed positioning action is completed.	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0682	Elevator Motor Action	Raises and lowers the paper feed tray repeatedly. * This test starts with an upward movement unless the paper feed tray is in the upper limit position. * The paper feed tray stops when the Stop key is pressed. The paper feed tray stops in the upper and lower limit positions for one second.	-	○	○	○
Paper	0683	Elevator Motor Action (down)	Press the Start key to move the elevator to the lower limit position. * The elevator stops when the Stop key is pressed.	-	○	○	○
Paper	0687	Paper Feed Solenoid	Press the Start key to switch ON the solenoid. It automatically switches OFF after 10 seconds.	-	○	○	○
Paper	0688	Paper Feed Clutch ON/OFF Action	Press the Start key to switch ON the clutch. The clutch automatically switches OFF after 10 seconds.	-	○	○	○
Paper	0689	Scraper Clutch (Option)	Press the Start key to switch ON the clutch. The clutch automatically switches OFF after 10 seconds.	-	○	○	○
Paper	0703	Paper Ejection Wing Home Action	Moves the paper ejection wing to the home position.	-	○	×	×
Paper	0704	Paper Ejection Wing Target Shift	Moves the paper ejection wing to the position set in No.780.	-	○	×	×
Paper	0705	Paper Sensor Auto Adjustment	Check the A/D value on the receiver when the D/A value of 127 (8-bit) is applied on the sender. When the A/D value does not fall in the range of 248±18, decrease the D/A value by 1 to decrease the A/D value, or increase the D/A value by 1 to increase the A/D value. Identify and record a D/A value that achieves an A/D value in the range of 248±18. * This test must be run when thin RISO paper is set in the paper feed tray.	-	○	○	○
Paper	0708	Elevator Motor Action (up)	Rotates the elevator motor in the upward direction (for up to 10 seconds). Caution: This test mode is to check the IC driver. Disconnect the connector of the motor before this test mode starts. Otherwise the machine will be damaged.	-	○	○	○
Paper	0721	Paper Width Metric Data	Adjusted paper width (mm) (up to one digit after the decimal point)	-	○	○	○
Paper	0722	Paper Feed Sensor A/D Data	The A/D value of the paper sensor	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0740	Elevator Upper Limit Selection	Selects the upper limit position of the paper feed tray. When 0 (Auto) is selected, the upper limit position depends on the paper feed pressure. When 1, 2 or 3 is selected, the upper limit position is set to a specific position.	Setting value: 0: Auto (depending on the paper feed pressure adjust lever) <default> 1: Standard paper position 2: Card paper position 3: Custom paper position	○	○	×
Paper	0741	Paper Feed Clutch ON Angle	Specifies an adjustment to be made to the activation angle at which the paper feed clutch is activated. This setting is for the Paper Quality of Standard. * For LED machines, the adjustment value set in the Paper Quality setting is added when one of User 1 - 5 is selected for the Paper Quality setting in Custom Setting Mode. * When the paper feed adjustment is selected, the selected adjustment value is added. * This setting is applied only when the paper feed pressure adjust lever is set to Standard.	Setting range: 0 to ±200 (±20.0° from the base angle) (A positive value delays ON.) Unit: 5 (0.5°) Default: 0 (0°)	×	×	○
Paper	0741	Paper Feed Clutch ON Angle	Specifies an adjustment to be made to the activation angle at which the paper feed clutch is activated. This setting is for the Paper Quality of Standard. * For LED machines, the adjustment value set in the Paper Quality setting is added when one of User 1 - 5 is selected for the Paper Quality setting in Custom Setting Mode. * When the paper feed adjustment is selected, the selected adjustment value is added. * This setting is applied only when the paper feed pressure adjust lever is set to Standard.	Setting range: 0 to ±200 (±20.0° from the base angle) (A positive value delays ON.) Unit: 5 (0.5°) Default: -30 (-3°)	○	○	×
Paper	0742	Paper Feed Clutch OFF Angle	Specifies an adjustment to be made to the activation angle at which the paper feed clutch is deactivated. This setting is for the Paper Quality of Standard. * For LED machines, the adjustment value set in the Paper Quality setting is added when one of User 1 - 5 is selected for the Paper Quality setting in Custom Setting Mode. * When the paper feed adjustment is selected, the selected adjustment value is added. * This setting is applied only when the paper feed pressure adjust lever is set to Standard.	Setting range: 0 to ±200 (±20.0° from the base angle) (A positive value delays OFF.) Unit: 5 (0.5°) Default: 0 (0°)	○	○	○



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0743	Paper Feed Retry	Sets the number of no-paper feed retries. For duplex printing machines, no retry is attempted regardless of this setting when duplex printing is enabled.	Setting value: 1: One no-paper feed (no retry) <default> The first no-paper feed causes a no-paper feed error to be issued. 2: Two no-paper feeds (one retry) The second no-paper feed causes a no-paper feed error to be issued. 3: Three no-paper feeds (two retries) The third no-paper feed causes a no-paper feed error to be issued.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0744	Paper Feed Clutch OFF Angle/Card	Specifies an adjustment to be made to the activation angle at which the paper feed clutch is deactivated. This setting is for the Paper Quality of Card. * When the paper feed adjustment is selected, the selected adjustment value is added. * This setting is applied only when the paper feed pressure adjust lever is set to Card.	Setting range: 0 to $\pm 200$ ( $\pm 20.0^\circ$ from the base angle) (A positive value delays ON.) Unit: 5 (0.5°) Default: 0 (0°)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Paper	0745	Paper Feed Clutch ON Angle/Card	Specifies an adjustment to be made to the activation angle at which the paper feed clutch is activated. This setting is for the Paper Quality of Card. * When the paper feed adjustment is selected, the selected adjustment value is added. * This setting is applied only when the paper feed pressure adjust lever is set to Card.	Setting range: 0 to $\pm 200$ ( $\pm 20.0^\circ$ from the base angle) (A positive value delays OFF.) Unit: 5 (0.5°) Default: -30 (-3°)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Paper	0748	Scraper Clutch OFF Angle	Specifies the activation angle at which the scraper clutch is deactivated.	Setting range: $\pm 10.0^\circ$ from the base angle (A positive value delays OFF.) The entered value must be 0 to $\pm 100$ . Unit: 5 (0.5°) Default: 0 (0°)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0750	Paper Feed Solenoid Enable Control	Enables/Disables the paper feed reverse-rotation prevention solenoid.	Setting value: 0: Disabled (The control with the paper feed reverse-rotation prevention solenoid is disabled.) 1: Enabled (The control with the paper feed reverse-rotation prevention solenoid is enabled when "Card" is selected.) <default>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0751	Paper Feed Jam Detection Angle/IN	Adjusts the activation angle for detecting a paper feed IN jam.	Setting range: ±20.0° from the base angle (A positive value delays the detection.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0752	Paper Feed Detection Angle Adj.	Adjusts the activation angle for detecting a paper feed OUT jam.	Setting range: ±20.0° from the base angle (A positive value delays the detection.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Paper	0753	Paper Eject Jam Det. Angle/IN	Adjusts the activation angle for detecting a paper ejection IN jam.	Setting range: ±50.0° from the base angle (A positive value delays the detection.) The entered value must be 0 to ±500. Unit: 5 (0.5°) Default: 0 (0°)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0754	Paper Eject Jam Det. Angle/OUT	Adjusts the activation angle for detecting a paper ejection OUT jam.	Setting range: ±50.0° from the base angle (A positive value delays the detection.) The entered value must be 0 to ±500. Unit: 5 (0.5°) Default: 0 (0°)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0755	Paper Ejection Motor Speed Adj. PP	Sets the target speed of the paper ejection motor.	Setting value: 0: Drum speed/Transfer belt speed: 3.0 times 1: Drum speed/Transfer belt speed: 3.4 times <default> 2: Drum speed/Transfer belt speed: 3.7 times 3: Drum speed/Transfer belt speed: 4.0 times 4: Drum speed/Transfer belt speed: 4.5 times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0756	Paper Ejection Motor Speed Adj. 1	Sets the target speed of the paper ejection motor for Speed 1.	Setting value: 0: Drum speed/Transfer belt speed: 1.5 times 1: Drum speed/Transfer belt speed: 1.7 times <default> 2: Drum speed/Transfer belt speed: 1.8 times 3: Drum speed/Transfer belt speed: 1.9 times 4: Drum speed/Transfer belt speed: 2.0 times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paper	0757	Paper Ejection Motor Speed Adj. 2	Sets the target speed of the paper ejection motor for Speed 2.	Setting value: 0: Drum speed/Transfer belt speed: 1.3 times 1: Drum speed/Transfer belt speed: 1.5 times <default> 2: Drum speed/Transfer belt speed: 1.6 times 3: Drum speed/Transfer belt speed: 1.7 times 4: Drum speed/Transfer belt speed: 1.8 times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0758	Paper Ejection Motor Speed Adj. 3	Sets the target speed of the paper ejection motor for Speed 3.	Setting value: 0: Drum speed/Transfer belt speed: 1.1 times 1: Drum speed/Transfer belt speed: 1.3 times <default> 2: Drum speed/Transfer belt speed: 1.4 times 3: Drum speed/Transfer belt speed: 1.5 times 4: Drum speed/Transfer belt speed: 1.6 times	x	x	o
Paper	0758	Paper Ejection Motor Speed Adj. 3	Sets the target speed of the paper ejection motor for Speed 3.	Setting value: 0: Drum speed/Transfer belt speed: 1.1 times 1: Drum speed/Transfer belt speed: 1.3 times 2: Drum speed/Transfer belt speed: 1.4 times 3: Drum speed/Transfer belt speed: 1.5 times <default> 4: Drum speed/Transfer belt speed: 1.6 times	o	o	x
Paper	0759	Paper Ejection Motor Speed Adj. 4	Sets the target speed of the paper ejection motor for Speed 4.	Setting value: 0: Drum speed/Transfer belt speed: 1.0 times 1: Drum speed/Transfer belt speed: 1.1 times <default> 2: Drum speed/Transfer belt speed: 1.2 times 3: Drum speed/Transfer belt speed: 1.3 times 4: Drum speed/Transfer belt speed: 1.4 times	o	x	x

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0759	Paper Ejection Motor Speed Adj. 4	Sets the target speed of the paper ejection motor for Speed 4.	Setting value: 0: Drum speed/Transfer belt speed: 1.0 times 1: Drum speed/Transfer belt speed: 1.1 times 2: Drum speed/Transfer belt speed: 1.2 times <default> 3: Drum speed/Transfer belt speed: 1.3 times 4: Drum speed/Transfer belt speed: 1.4 times	x	o	o
Paper	0760	Paper Ejection Motor Speed Adj. 5	Sets the target speed of the paper ejection motor for Speed 5.	Setting value: 0: Drum speed/Transfer belt speed: 1.0 times 1: Drum speed/Transfer belt speed: 1.1 times 2: Drum speed/Transfer belt speed: 1.2 times <default> 3: Drum speed/Transfer belt speed: 1.3 times 4: Drum speed/Transfer belt speed: 1.4 times	o	o	o
Paper	0761	Paper Feed Clutch ON Angle 1	Adjusts the activation angle at which the paper feed clutch is activated. This test mode is for cases where User 1 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.741 (Paper Feed Clutch ON Angle).	Setting range: ±20° from the base angle (A positive value delays ON.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o
Paper	0762	Paper Feed Clutch OFF Angle 1	Adjusts the activation angle at which the paper feed clutch is deactivated. This test mode is for cases where User 1 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.742 (Paper Feed Clutch OFF Angle).	Setting range: ±20° from the base angle (A positive value delays OFF.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0763	Elevator Upper Limit Selection 1	Selects the paper feed tray upper limit position when User 1 is selected for the Paper Quality setting in Custom Setting Mode.	Setting value: 0: High (Higher paper feeding pressure) 1: Middle (Middle paper feeding pressure) <default> 2: Low (Lower paper feeding pressure)	x	o	x
Paper	0764	Paper Feed Clutch ON Angle 2	Adjusts the activation angle at which the paper feed clutch is activated. This test mode is for cases where User 2 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.741 (Paper Feed Clutch ON Angle).	Setting range: ±20° from the base angle (A positive value delays ON.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o
Paper	0765	Paper Feed Clutch OFF Angle 2	Adjusts the activation angle at which the paper feed clutch is deactivated. This test mode is for cases where User 2 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.742 (Paper Feed Clutch OFF Angle).	Setting range: ±20° from the base angle (A positive value delays OFF.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o
Paper	0766	Elevator Upper Limit Selection 2	Selects the paper feed tray upper limit position when User 2 is selected for the Paper Quality setting in Custom Setting Mode.	Setting value: 0: High (Higher paper feeding pressure) 1: Middle (Middle paper feeding pressure) <default> 2: Low (Lower paper feeding pressure)	x	o	x
Paper	0767	Paper Feed Clutch ON Angle 3	Adjusts the activation angle at which the paper feed clutch is activated. This test mode is for cases where User 3 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.741 (Paper Feed Clutch ON Angle).	Setting range: ±20° from the base angle (A positive value delays ON.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0768	Paper Feed Clutch OFF Angle 3	Adjusts the activation angle at which the paper feed clutch is deactivated. This test mode is for cases where User 3 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.742 (Paper Feed Clutch OFF Angle).	Setting range: ±20° from the base angle (A positive value delays OFF.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o
Paper	0769	Elevator Upper Limit Selection 3	Selects the paper feed tray upper limit position when User 3 is selected for the Paper Quality setting in Custom Setting Mode.	Setting value: 0: High (Higher paper feeding pressure) 1: Middle (Middle paper feeding pressure) <default> 2: Low (Lower paper feeding pressure)	x	o	x
Paper	0770	Paper Feed Clutch ON Angle 4	Adjusts the activation angle at which the paper feed clutch is activated. This test mode is for cases where User 4 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.741 (Paper Feed Clutch ON Angle).	Setting range: ±20° from the base angle (A positive value delays ON.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o
Paper	0771	Paper Feed Clutch OFF Angle 4	Adjusts the activation angle at which the paper feed clutch is deactivated. This test mode is for cases where User 4 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.742 (Paper Feed Clutch OFF Angle).	Setting range: ±20° from the base angle (A positive value delays OFF.) The entered value must be 0 to ±200. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o
Paper	0772	Elevator Upper Limit Selection 4	Selects the paper feed tray upper limit position when User 4 is selected for the Paper Quality setting in Custom Setting Mode.	Setting value: 0: High (Higher paper feeding pressure) 1: Middle (Middle paper feeding pressure) <default> 2: Low (Lower paper feeding pressure)	x	o	x

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	0773	Paper Feed Clutch ON Angle 5	Adjusts the activation angle at which the paper feed clutch is activated. This test mode is for cases where User 5 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.741 (Paper Feed Clutch ON Angle).	x	o	o	
Paper	0774	Paper Feed Clutch OFF Angle 5	Adjusts the activation angle at which the paper feed clutch is deactivated. This test mode is for cases where User 5 is selected for the Paper Quality setting in Custom Setting Mode. * The value set in this test mode is added to the adjustment value set in No.742 (Paper Feed Clutch OFF Angle).	x	o	o	
Paper	0775	Elevator Upper Limit Selection 5	Selects the paper feed tray upper limit position when User 5 is selected for the Paper Quality setting in Custom Setting Mode.	x	o	x	
Paper	0779	Paper Ejection Wing Position Adj.	Compensates the amount of the paper ejection wing movement.	o	x	x	
Paper	0780	Paper Ejection Wing Target Pos.	Fixes the paper ejection wing position when custom position is selected by the operator. The adjusted position also applies to No.0704.	o	x	x	
Paper	0788	Paper Feeder Active/Inactive Selection	When this test mode is enabled, powering on while pressing the feed tray switch allows the master making and printing actions to be executed without moving the paper feed tray.	o	o	o	
Paper	0796	Card Feed Warning Display Control	Specifies whether to display a warning for the card feed setting.	o	o	x	
Drum/Print	0801	Position B Sensor	Light not blocked - ON (The light block plate is present. The print drum is in the B sensor position), Light not blocked - OFF (The light block plate is not present. The print drum is not in the B sensor position.)	o	o	o	



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0802	Main Motor FG Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Drum/ Print	0803	Clamp Sensor A	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Drum/ Print	0804	Clamp Sensor B	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Drum/ Print	0806	Master Loading Sensor	Light not blocked - ON (The master is present), Light blocked - OFF (The master is not present)	-	○	○	○
Drum/ Print	0807	Print Drum Lock Position Sensor	Light blocked - ON (The print drum lock lever is in the lock position), Light not blocked - OFF (The print drum lock lever is not in the lock position)	-	○	○	○
Drum/ Print	0809	Ink Sensor	ON: The sensor contacts with the ink (The ink is present).	-	○	○	○
Drum/ Print	0810	Overflow Sensor	ON: The sensor contacts with the ink (The ink is present).	-	○	○	○
Drum/ Print	0811	Ink Cartridge Set SW	ON: The switch is pressed.	-	○	○	○
Drum/ Print	0812	Inking Motor FG Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	○	○	○
Drum/ Print	0816	Free Drum Rotation SW	ON: The switch is pressed.	-	○	○	○
Drum/ Print	0817	Front Cover Switch	ON: Light blocked (The front door is closed)	-	○	○	○
Drum/ Print	0818	Print Drum Release SW ON	ON: The button is pressed.	-	○	○	○
Drum/ Print	0819	Print Drum Connection Signal	ON: The print drum is connected.	-	○	○	○
Drum/ Print	0820	Print Drum Interlock Switch	Switch ON (The print drum is set), Switch OFF (Interlock)	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0830	Print Pressure Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0831	Vertical Centering Sensor	Light blocked - ON (The light block plate is present), Light not blocked - OFF (The light block plate is not present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0861	Main Motor Action (30rpm)	Rotates the print drum at 30rpm. When the Stop key is pressed, the print drum stops without speed reduction.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0863	Clamp Motor Action (Open)	Rotates the motor in the counter clockwise (CCW) direction.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0864	Clamp Motor Action (Close)	Rotates the motor in the clockwise (CW) direction.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0866	Print Drum Release SW/LED ON	Illuminates the LED.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0880	Variable Print Drum Rotation	Rotates the print drum at the speed selected by the printing speed key (Speed 1 - 5). * The speed increases or decreases in the same timing as normal printing. Speed 1: 60rpm, Speed 2: 80rpm, Speed 3: 100rpm, Speed 4: 120rpm, Speed 5: 130rpm	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0881	Print Drum on Position A	Moves the print drum and stops it at the position-A.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0882	Inking Motor	Rotates the inking motor (for up to 10 seconds). Caution: This test mode is to check the IC driver. Disconnect the connector of the motor before this test mode starts. Otherwise the machine will be damaged.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0883	Clamp Home Action	Returns the clamp to the home position.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0884	Clamp Cycle Action (3 Cycles)	Pressing the Start key one time performs the following set of steps: Step 1: Clamp home position → Clamp open position Step 2: Clamp open position → Adjusted position-A Step 3: Adjusted position-A → Clamp closed position * When the clamp is not in the home position, the clamp will be moved to the home position automatically before Step 1 can start.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0885	Print Drum Locking Solenoid	Press the Start key to switch ON the solenoid. It automatically switches OFF after 10 seconds.	-	○	○	○
Drum/ Print	0886	Pressure Solenoid Action	Press the Start key to switch ON the solenoid. It automatically switches OFF after 10 seconds.	-	○	○	○
Drum/ Print	0887	Inking Action	Performs the following steps: 1. Supplies the ink while the print drum is rotating without pressure (until the ink sensor turns on). 2. Performs the confidential action. 3. Performs idling. 4. Stops the print drum at the position-B.	-	○	○	○
Drum/ Print	0888	Print Drum Ink Drainage	Performs the following steps: 1. Performs a paper feed test without inking (in the same way as No.0087). 2. Ignores any error related to ink. 3. Stops the print drum at the position-B when the Stop key is pressed.	-	○	○	○
Drum/ Print	0889	G-Lever Mounting Position	Stops the print drum at the G-Lever mounting position (108.4° from the position-A).	-	○	○	○
Drum/ Print	0890	Print Drum Ink Code Copy	Copies the color and category information from the tag on the ink bottle to the EEPROM on the print drum so that the information can be used to determine the compatibility between the ink bottle and print drum. * This test must be run at least two seconds after the ink bottle is set.	-	○	○	○
Drum/ Print	0892	Position B (Machine)	Moves the print drum and stops it at the position-B. * This enables the machine to be positioned to the position-B even when the print drum is not set in the main unit.	-	○	○	○
Drum/ Print	0896	Drum Rotation (Rear Cover Safety SW)	Rotates the print drum at 10rpm. The rotation does not start when the rear cover safety switch is not turned on. A beep sounds until the switch is turned on. The print drum stops when the rear cover safety switch is turned off or the Stop key is pressed.	-	○	○	○
Drum/ Print	0896	Drum Rotation (Rear Cover Safety SW)	Rotates the print drum at 10rpm. Press the Stop key to stop.	-	x	○	○
Drum/ Print	0900	Vertical Centering Action	Resets the vertical printing position to the center (home position).	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0901	Vertical Cycle Action	Performs the following steps: 1. Brings the vertical point position to the home position. 2. Moves the vertical point position to the maximum upward position (+16mm), and stops for 1 second. 3. Brings the vertical point position to the home position. 4. Moves the vertical point position to the maximum downward position (-16mm), and stops for 1 second. 5. Brings the vertical point position to the home position.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0904	Print Pressure Home Positioning	Resets the print pressure position to the center (home position).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0905	Print Pressure Cycle Action	Performs the following steps: 1. Brings the print pressure position to the home position. 2. Moves the print pressure position to the maximum pressure position (+10500 pulses), and stops for 1 second. 3. Brings the print pressure position to the home position. 4. Moves the print pressure position to the minimum pressure position (-9300 pulses), and stops for 1 second. 5. Brings the print pressure position to the home position.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0908	Maintenance Position	Moves the pressure control motor to the position (-8130 pulses) at which the pressure spring can be released.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0921	Print Drum Rotation Angle	Displays the print drum angle. (For example, "3600" appears for 360°.) * No.0892 (Position B (Machine)) must be run before this test is run. (The last print drum angle in normal mode is not saved.)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0923	Print Drum Temperature Scale	Displays the temperature converted from the A/D value. (rounded to the nearest whole number)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0925	Ink Volume Indication (%)	Displays the amount of ink left in the ink bottle in percentage (%) that is read from the ink bottle tag. The read value is rounded to the nearest whole number (%) to be displayed.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0926	Inking Motor FG Ct Ten Thousand Digit	Displays the ink motor FG count that is read from the ink bottle tag (1 count = 0.1ml).	-	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0926	Inking Motor FG Ct Ten Thousand Digit	Displays the ten-thousands digit of the ink motor FG count that is read from the ink bottle tag (1 count = 0.1ml). For example, "0002" appears for the count of 23.546.	-	x	o	o
Drum/ Print	0927	Inking Motor FG Ct Up to Thousand Digit	Displays the last four digits (up to the thousands digit) of the ink motor FG count that is read from the ink bottle tag. (1 count = 0.1ml) For example, "3546" appears for the count of 23.546.	-	x	o	o
Drum/ Print	0928	Ink Cartridge Use Starting Date	Displays the use start date recorded in the ink bottle tag. For LED machines, 2003/2/28 is indicated by displaying "2003" and "0228" alternately.	-	o	o	o
Drum/ Print	0940	Master Det. Print Drum Angle	Adjusts the angle to detect a master loaded on the print drum.	Setting range: -20° to +10° from the base angle (A greater value delays the detection.) The entered value must be -200 to +100. Unit: 5 (0.5°) Default: 0 (0°)	o	o	o
Drum/ Print	0941	Print Drum Position A Adjustment	Adjusts the position-A of the print drum.	Setting range: -4.0° to +4.0° from the base angle (A positive value moves the drum in the over-run direction.) The entered value must be -40 to +40. Unit: 5 (0.5°) Default: 0 (0°)	o	o	o
Drum/ Print	0942	Print Drum Position B Adjustment	Adjusts the position-B of the print drum.	Setting range: ±4.0° from the base angle (A positive value moves the drum in the over-run direction.) The entered value must be -40 to +40. Unit: 5 (0.5°) Default: -15 (-1.5°)	o	o	o

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0942	Print Drum Position B Adjustment	Adjusts the position-B of the print drum.	Setting range: ±4.0° from the base angle (A positive value moves the drum in the over-run direction.) The entered value must be -40 to +40. Unit: 5 (0.5°) Default: 0 (0°)	x	o	o
Drum/ Print	0943	Inking Time Adj. (high volume)	Sets the period of time (for which the ink sensor continues to stay OFF) before a no-ink error is issued. This test mode is for cases where the ink usage amount is x% or more. This information is stored in the EEPROM on the print drum. * x%: The value is set in Test Mode No.948. * Actually, the no-ink period is the sum of this value and the value on Iquality (default + 5sec).	Setting range: 5 to 60s Unit: 1 (1s) Default: 10 (10s)	o	o	o
Drum/ Print	0944	Inking Time (Replacement)	Sets the period of time (for which the ink sensor continues to stay OFF) before a no-ink error is issued. This test mode is for cases where an ink replacement has been completed. This information is stored in the EEPROM on the print drum. * Actually, the no-ink period is the sum of this value and the value on Iquality (default + 10sec). * This is also applied during idling after the power turns on.	Setting range: 5 to 60s Unit: 1 (1s) Default: 30 (30s)	o	o	o
Drum/ Print	0945	Ink Overflow Detection Frequency	Sets the number of detections on the overflow sensor to determine that an ink overflow has occurred in the print drum.	Setting value: 1 to 200 times Unit: 1 (1 time) Default: 50 (50 times)	o	x	x
Drum/ Print	0945	Ink Overflow Detection Frequency	Sets the number of detections on the overflow sensor to determine that an ink overflow has occurred in the print drum.	Setting value: 1 to 100 times Unit: 1 (1 time) Default: 50 (50 times)	x	o	o
Drum/ Print	0946	Inking Time Adj. (low volume)	Sets the period of time (for which the ink sensor continues to stay OFF) before a no-ink error is issued. This test mode is for cases where the ink usage amount is less than x%. This information is stored in the EEPROM on the print drum. * x%: The value is set in Test Mode No.948. * Actually, the no-ink period is the sum of this value and the value on Iquality (default + 5sec).	Setting value: 1 to 60 (1s to 60s) Unit: 1 (1s) Default: 15 (15s)	o	o	o

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0947	Inking Drum Rotation	Sets the number of skip rotations to be executed after the ink bottle is pulled out and put back. * To apply this setting, the power must be turned off and then on.	Setting value: 0 to 10 (0 to 10 times) Unit: 1 (1 time) Default: 1 (1 time)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0948	Inking Time Setting	Sets the ink usage amount to be used for determine the inking time. * No.943 Inking Time Adj. (high volume) * No.946 Inking Time Adj. (low volume)	Setting value: 1 to 100 (1 to 100%) Unit: 1 (1%) Default: 80 (80%)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0949	Proof Print Speed (Black Drum)	Selects the print pressure setting to determine the first print density (for black ink).	0: Extra light 1: Light 2: Normal <default> 3: Dark 4: Extra dark 5: Maximum print pressure (21kg)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0950	Proof Print Speed (Color Drum)	Selects the print pressure setting to determine the first print density (for color ink).	0: Extra light 1: Light 2: Normal <default> 3: Dark 4: Extra dark 5: Maximum print pressure (21kg)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0951	Ink Color Code	Sets the color of the ink set on the inkless print drum.	Setting range: 0 to 255 Unit: 1 Setting value: 0: Not specified <default> 64: Black1, 65: Blue 1, 66: Blue 2, 67: Blue 3, 68: Blue 4, 69: Red 1, 70: Red 2, 71: Red 3, 72: Red 4, 73: Green 1, 74: Green 2, 75: Green 3, 76: Yellow 1, 77: Yellow 2, 78: Brown 1, 79: Brown 2, 80: Purple 1, 81: Purple 2, 82: Gray 1, 83: Gray 2, 84: Light Gray 1, 85: Light Gray 2, 86: Orange 1, 87: Orange 2, 88: Gold 1, 89: Gold 2, 90: Silver 1, 91: Silver 2, 92: Pink 1, 93: Pink 2, 94: Custom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0954	Drum Rotation Before Inking	Sets how many times to rotate the print drum without inking at the start of master making or printing when the print drum has not been used for x days or more. * x days: This is set in Test Mode No.986. * When this setting is set to 0, no free rotation is executed.	Setting range: 0 to 10 (0 to 10 rotations) Unit: 1 (1 rotation) Default: 5 (5 rotations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drum/ Print	0970	Vertical Print Position HP Adj.	Adjusts the offset of the vertical print home position. * For LCD machines, this represents the Vertical Slide of guidance graphic.	Setting range: ±5mm (A positive value moves the image upward.) The entered value must be -50 to +50. Unit: 1 (0.1mm) Default: 0 (0mm)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0972	Printing Pressure HP Adjustment	<p>Sets the offset of the printing pressure position. This setting is used when a cause is related to the print drum. * The printing pressure HP adjustment is calculated by summarizing all values from the various printing pressure HP adjustment test modes. The summarized value must be greater than -500 and less than +500.</p>	<p>Setting range: ±5000 pulses from the home position detected by the sensor (A positive value moves the position to increase the pressure.) The entered value must be -500 to +500. Unit: 1 (10 pulses) Default: 0 (0 pulse)</p>	○	○	○
Drum/ Print	0979	Pressure Table Configuration	<p>Changes the density adjustment range for the Density key.</p>	<p>Setting range: 0 to 2 Unit: 1 Default: 00: The factor is 1 time. (A value from the print pressure table is used directly.) 1: The factor is 1.5 times. (A calculated value is used.) 2: The factor is 2.0 times. (A calculated value is used.) Calculation formula: • Density 5 = Value from Density 3 Table + (Value from Density 5 Table - Value from Density 3 Table) * Factor • Density 4 = Value from Density 3 Table + (Value from Density 4 Table - Value from Density 3 Table) * Factor • Density 3 = Value from Density 3 Table • Density 2 = Value from Density 3 Table + (Value from Density 2 Table - Value from Density 3 Table) * Factor • Density 1 = Value from Density 3 Table + (Value from Density 1 Table - Value from Density 3 Table) * Factor</p>	○	×	×

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Drum/ Print	0986	Days Before Inking Action Activates	Sets the number of days. When the print drum has not been used for the specified period of time or more, the print drum must be rotated without inking at the start of master making or printing. The number of drum rotations is set in Test Mode No.954.	Setting range: 1 to 21 (1 to 21 days) Unit: 1 (1 day) Default: 14 (14 days)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1100	Print Pressure Adjustment	Adjustment range: 100 to 300 * This cannot be selected from the menu window. * Do not run test modes other than No.1100 (Print Pressure Adjustment) and No.1225 - 1228 (Print Pressure Adjustment Point A - D) when a jig drum is set.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1101	Paper Size VR Adjust (middle)	Adjusts the VR value for 210mm (A4 width).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1102	Paper Size VR Adjust (short)	Adjusts the VR value for 105mm (A6 width).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1103	Paper Size VR Adjust (long)	Adjusts the VR value for 297mm (A3 width).	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1104	LCD Base Point Compensation	Use the following steps to make an adjustment: 1. Tap the following three points on the panel: upper left, lower left, and lower right. The system calculates an adjustment amount. 2. Display a window to check the adjustment. Tap the three points to check that an appropriate adjustment is made.	-	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Factory	1140	Error Record	Copies the REv data from the FRAM or flash memory on the main unit to the USB memory. The REv data stored in the FRAM or flash memory on the main unit is not deleted after it is copied. * This cannot be selected from the menu window.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1150	Master Making Action (Scanning)	Scans an original and performs the master making action. * This test should be run with No.1151 (Printing Action). * The master making settings are configured with the combination of the following test modes: No.1250 (Reproduction Size Selection), and No.1253 (Original Image Mode Selection)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1151	Printing Action	Performs the printing action with the loaded master. * This test should be run with No. 1150 (Master Making Action (Scanning)). * The printing settings are configured with the combination of the following test modes: No. 1251 (Horizontal Print Position setting), No. 1252 (Vertical Print Position setting), No. 1254 (Print Speed Selection), and No. 1255 (Print Quantity Selection)	-	○	×	×
Factory	1151	Printing Action	Performs the printing action with the loaded master. * This test should be run with No. 1150 (Master Making Action (Scanning)). * The printing settings are configured with the combination of the following test modes: No. 1251 (Horizontal Print Position setting), No. 1254 (Print Speed Selection), and No. 1255 (Print Quantity Selection)	-	×	○	○
Factory	1152	Confidential Action	Performs the confidential action.	-	○	○	○
Factory	1160	Store Factory Setting Area	Stores factory setting data from the E2PROM on SUB-SYSTEM-PCB to the flash memory on MAIN-SYSTEM-PCB.	-	○	○	○
Factory	1161	Restore Factory Setting Area	Restores factory setting data from the flash memory on MAIN-SYSTEM-PCB to the E2PROM on SUB-SYSTEM-PCB. To restore, the E2PROM must be formatted appropriately for the model and then the setting data copied.	-	○	○	○
Factory	1190	Error History Data Clear	Clear error history data in the factory. No setting value * This cannot be selected from the menu window. * The error information stored on the external flash memory must not be cleared.	-	○	○	○
Factory	1192	Initialize Start-up Screen	Initializes the user category, basic screen settings, and mode-change method selection (No need to set the clock again). * This cannot be selected from the menu window. * Not applied in the test mode reset.	-	○	×	×
Factory	1193	REv Data Initialize	Initializes the REv storage area.	-	○	○	○
Factory	1198	MCTL Memory Initialization	Initializes memory on the mechanical control PCB. * This cannot be selected from the menu window.	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1201	Metric/Inch Switch	Selects the paper size detection unit from INCH, MILLIMETER or CHINESE. Note that the setting value of 1 is effective only for the paper size detection. The original size detection is executed in the same way as when 0 is set.	Setting value: 0: Millimeter <default for others>	○	○	○
Factory	1210	Drum Code Entry	Sets the model and size information of the print drum in the EEPROM on the print drum PCB. * An error will be issued when an invalid combination of code values is entered.	Setting value: 98:B4, 99:A4/Letter, 102:Legal/ Foolscap 113:A3 47: Printing pressure jig Setting range: 0 to 255 Default: 0	×	×	○
Factory	1210	Drum Code Entry	Sets the model and size information of the print drum in the EEPROM on the print drum PCB. * An error will be issued when an invalid combination of code values is entered.	Setting value: <For Japan>33: A3, 34: B4, 35: A4, 36: A4-R <For overseas>113: A3, 114: B4, 115: A4/Letter, 116: A4-R/Letter-R, 117: Ledger 47: Printing pressure jig Setting range: 0 to 255 Default: 0	○	○	×
Factory	1211	Drum Serial Code Entry 1	Sets the first 4 digits of the print drum serial code.	Setting range: 0 to 9999 Unit: 1 Default: 0	○	○	○
Factory	1212	Drum Serial Code Entry 2	Sets the last 4 digits of the print drum serial code.	Setting range: 0 to 9999 Unit: 1 Default: 0	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1214	Drum Color Code Entry	<p>Sets the color information of the print drum in the EEPROM on the print drum PCB.                      * An error will be issued when an invalid combination of code values is entered.</p>	<p>Setting value:                      0: Not specified &lt;default&gt;,                      1: Black, 2: Blue, 3: Medium Blue, 4: Red, 5: Bright Red,                      6: Riso Federal Blue, 7: Purple, 8: Riso Marine Red,                      9: Burgundy, 10: Green,                      11: Teal, 12: Brown,                      13: Yellow, 14: Light Grey,                      15: Grey, 16: Fluorescence Pink, 17: Fluorescence Orange,                      18: Orange, 19: Flat Gold,                      20: Hunter Green,                      21: Crimson,                      30: Custom,                      31: Order (with specified paper),                      32: Order (without specified paper),                      63: Any Color</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1215	Drum Ink Category Entry	<p>Sets the ink category code (3-bit) in the EEPROM on the print drum PCB.                      * This cannot be selected from the menu window.</p>	<p>Setting value:                      0: Not specified &lt;default&gt;                      1: Normal                      2: HD                      3: HG                      4: Reserved 1                      5: Reserved 2                      6: Reserved 3                      7: Reserved 4</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factory	1220	Scanning Adj. 1 (Sub scanning)	<p>Adjusts the scanning start position (the length to be skipped) for sub scanning.                      This is for settings in the factory.</p>	<p>Setting range: 45 to 255 (-2.87mm to +4.39mm from the hope position) (A positive value increases the skipped length.)                      Unit: 1 (for 10 lines) = 0.0346mm                      Default: 128</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1221	Scanning Adj. 2 (Main scanning)	Adjusts the scanning position for main scanning. This is for settings in the factory.	Setting range: 0 to 255 (-5.42mm to +5.38mm from the hope position) (A positive value moves the position to the rear of the machine (to the left.) Unit: 1 (for 1 pixel) = Approximately 0.0423mm Default: 128	○	○	○
Factory	1222	Scanning Adj. 3 (Sub scanning ratio)	Adjusts the scanning ratio for sub scanning. This is for settings in the factory.	Setting range: 0 to 100 (±5.0% from the standard speed) (A positive value shrinks the image.) Unit: 1 (0.1%) Default: 50	○	○	○
Factory	1223	Scanning Adj. 4 (Offset)	Specifies the standard value for adjusting the offset. This is for settings in the factory. * The setting value changes automatically after the offset is adjusted, and the changed value is used for the next offset adjustment.	Setting range: -255 to 255 Unit: 1 Default: -255	○	○	○
Factory	1224	Scanner Adj. (Gain-Green)	Specifies the standard value for adjusting the gain. This is for settings in the factory. * The setting value changes automatically after the gain is adjusted, and the changed value is used for the next gain adjustment.	Setting range: 0 to 127 Unit: 1 Default: 0	○	○	○
Factory	1229	RLP Mode Enable Control	Enables/Disables the RLP function.	Setting value: 0: Disabled <default> 1: Enabled	○	x	x
Factory	1230	Short Paper Feed Mode	Enables/Disables the short paper feed mode. When this setting is set to enabled, a smaller size can be registered as a paper size. • Disabled: 100mm or more in width, 148mm or more in length • Enabled: 44mm or more in width, 128mm or more in length * To support the short paper feed mode, special parts must be attached. * This cannot be selected from the menu window.	Setting value: 0: Disabled <default> 1: Enabled	○	○	○
Factory	1231	LCD Contrast Adjustment	Adjusts the contrast of the LCD.	Setting range: -120 to +120 Unit: 1 Default: 0	○	x	x

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1231	LCD Contrast Adjustment	Makes an adjustment to the contrast value from TM7135 (Panel Contrast Value Check). When the sum of the value from TM7135 (Panel Contrast Value Check) and the value from TM1231 (LCD Contrast Adjustment) does not fall in the range of 0x16 - 0x2B, the contrast value is corrected automatically so that it can fall in the range. Example) When TM7135 + TM1231 = 0x10, 0x16 is applied. Example) When TM7135 + TM1231 = 0x2F, 0x2B is applied. The adjustment value set in this test mode is applied to the contrast of the display in real time.	Setting range: -21 to 21 Unit: 1 Default: 0	x	o	o
Factory	1232	LCD Backlight Adjustment	Adjusts the backlight of the panel.	Setting range: 50 to 115 Unit: 1 Default: 85	o	x	x
Factory	1233	TPH Horizontal Write Position Adjust	Adjusts the horizontal printing position of the TPH. * The adjustment amount is calculated by summarizing the values from No.0586 and No.1233. The summarized value must be greater than -30 and less than +30. * For LCD machines, this represents the Horizontal Slide of guidance graphic. * A change to this setting is applied even in test mode (applied when the master making action is executed in test mode).	Setting range: ±3.0mm from the home position (A positive value moves the position to the left/rear.) The entered value must be 0 to ±30 (Enter "30" for 3.0mm). Unit: 1 (0.1mm) Default: 0 (0mm)	o	o	o
Factory	1234	TPH Resistance Value Entry	Sets the TPH resistance.	Setting range: 1200Ω to 5920Ω (600 x 600dpi) Unit: 1 (1Ω) Default: 1200 (1200Ω)	o	x	x
Factory	1234	TPH Resistance Value Entry	Sets the TPH resistance.	Setting range: 1200Ω to 2300Ω (300 x 600dpi) Unit: 1 (1Ω) Default: 1200 (1200Ω)	x	o	o
Factory	1244	Suction Fan Selection	Specifies whether to use the new or old suction fan.	Setting value: 0: Old suction fan 1: Suction fan for MZ <default> 2: Suction fan for CZ	o	o	o

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1247	ST Operation Mode Selection	Specifies whether to execute a high-speed action (firstly executing tape output), or a traditional action (executing tape output after the printing action stops).	Setting value: 0: Traditional action <default> 1: High-speed action	○	○	○
Factory	1248	Printing Pressure for Test Mode	Sets the pressure position for test mode.	Setting range: -930 to +1050 from the home position (away from the sensor edge by 100 pulses, when no adjustment is applied) (A positive value moves the position to increase the pressure and a negative value moves the position to decrease the pressure) Unit: 1 (10 pulses) Default: 0 (0 pulse) (This means the home position (no adjustment is applied))	○	x	x
Factory	1248	Printing Pressure for Test Mode	Sets the pressure position for test mode.	Setting range: -930 to +990 from the home position (away from the sensor edge by 100 pulses, when no adjustment is applied) (A positive value moves the position to increase the pressure and a negative value moves the position to decrease the pressure) Unit: 1 (10 pulses) Default: 0 (0 pulse) (This means the home position (no adjustment is applied))	x	○	○
Factory	1250	Reproduction Size Selection	Sets the reproduction size to be used when No.1150 (Master Making Action (Scanning)) runs.	Setting range: +50 to +200 Unit: 1 (1%) Default: 100	○	○	○
Factory	1251	Horizontal Print Position Setting	Sets the horizontal print position to be used when No.1151 (Printing Action) runs.	Setting range: -160 to +160 Unit: 5 (0.5mm) Default: 0 (0mm)	○	○	○
Factory	1252	Vertical Print Position Setting	Sets the vertical print position to be used when No.1151 (Printing Action) runs.	Setting range: -105 to +105 Unit: 5 (0.5mm) Default: 0 (0mm)	○	○	○



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1253	Original Image Mode Selection	Sets the original mode to be used when No.1150 (Master Making Action (Scanning)) runs.	Setting value: 1: Line <default> 2: Photo 3: Duo 4: Pencil	○	○	○
Factory	1254	Print Speed Selection	Sets the print speed to be used when No.1151 (Printing Action) runs. When this setting is set to 6 (High speed): The printing action will be executed at Speed 3 if the High speed is not available for other printing conditions used in No. 1151 (Printing Action).	Sets the print speed to be used when No.1151 (Printing Action) runs. Setting value: 1: Speed 1 2: Speed 2 3: Speed 3 <default> 4: Speed 4 5: Speed 5	×	×	○
Factory	1254	Print Speed Selection	Sets the print speed to be used when No.1151 (Printing Action) runs. When this setting is set to 6 (High speed): The printing action will be executed at Speed 3 if the High speed is not available for other printing conditions used in No. 1151 (Printing Action).	Setting value: 1: Speed 1 2: Speed 2 3: Speed 3 <default> 4: Speed 4 5: Speed 5 6: High speed	○	○	×
Factory	1255	Print Quantity Selection	Sets the number of prints when No.1151 (Printing Action) runs.	Setting range: 1 to 9999 Unit: 1 Default: 1	○	○	○
Factory	1260	Scanner White Level Selection	Sets the white level of the NEC scanner.	Setting value: 0: White level 0 <default> 1: White level 1	○	○	○
Factory	1261	Scanner Adj. (Gain-Red)	Specifies the standard value for adjusting the gain. This is for settings in the factory. * The setting value changes automatically after the gain is adjusted, and the changed value is used for the next gain adjustment.	Setting range: -255 to 255 Unit: 1 Default: 0	○	○	○
Factory	1262	Scanner Adj. (Gain-Blue)	Specifies the standard value for adjusting the gain. This is for settings in the factory. * The setting value changes automatically after the gain is adjusted, and the changed value is used for the next gain adjustment.	Setting range: -255 to 255 Unit: 1 Default: 0	○	○	○
Factory	1300	USB Configuration Check	Displays whether the main unit firmware recognizes a connected USB device. 0: Not recognized 1: Recognized	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Factory	1301	"I" indicator LED Check	Displays whether to illuminate the "I" indicator when all consumables are set. 0: The "I" indicator is not supported 1: The "I" indicator illuminates	-	○	○	○
Factory	1302	MAC address	Displays the MAC address.	-	○	○	○
OP	3000	ADF Unit Joint Signal Check	ON: The ADF is connected, OFF: The ADF is not connected	-	○	○	○
OP	3001	Original Registration Sensor	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
OP	3002	Original IN Sensor	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
OP	3003	Original OUT Sensor	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
OP	3004	ADF Original Detection Sensor	Light not blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
OP	3006	ADF Original Size Sensor 1	Light blocked - ON (The original is present), Light blocked - OFF (The original is not present)	-	○	×	×
OP	3007	ADF Original Size Sensor 2	Light blocked - ON (The original is present), Light blocked - OFF (The original is not present)	-	○	×	×
OP	3041	ADF Cycle Action	Performs one cycle of the ADF scanning action: The original is picked up. → Carriage home action → Shading compensation → The scanner unit moves to the scanning position. → ADF scanning and ejection → Carriage home action * Simplex and Duplex must be selected in No.3077.	-	○	○	○
OP	3042	ADF Feed Action	Performs the original transport action on the ADF. The original is picked up. → ADF scanning (original transport) * Simplex and Duplex must be selected in No.3077.	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
OP	3061	ADF Original Size Code	<p>Displays the code indicating the size of the original set on the ADF.</p> <ul style="list-style-type: none"> <li>Duplex ADF</li> <li>00: None 01: A3 02: B4</li> <li>03: A4 04: A4W 05: B5</li> <li>06: B5W 07: A5 08: A5W</li> <li>13: Ledger 14: Legal 15: Letter</li> <li>16: Letter W 17: Statement 18: Statement W</li> <li>19: foolscap 53: Custom</li> </ul>	<p>Only the following paper sizes can be identified and displayed:</p> <ul style="list-style-type: none"> <li>Japanese metric machines</li> <li>00: None 01: A3 02: B4</li> <li>03: A4 04: A4W 05: B5</li> <li>06: B5W 07: A5</li> <li>08: A5W (09: B6)</li> <li>(11: Postcard) (53: Custom)</li> </ul>			
OP	3070	ADF Scan Mirror Position Adjust	<p>Adjusts the mirror (carriage) stop position when the ADF scans the original.</p> <p>* This represents the Image Vertical Slide of guidance graphic.</p>	<p>Setting range: -20 to 20 (±2.0mm from the home position)</p> <p>(A positive value moves the position downward, which causes the image to move upward.)</p> <p>Unit: 1 (0.1mm)</p> <p>Default: 0 (0mm)</p>			
OP	3072	ADF Horizontal Scan Position Adjust	<p>Adjusts the horizontal position when the ADF scans the original.</p> <p>For FB, a different setting is provided.</p> <p>* For LCD machines, this represents the Image Horizontal Slide of guidance graphic.</p>	<p>Setting range: -30 to 30 (±3.0mm from the home position)</p> <p>(A positive value moves the position left.)</p> <p>Unit: 5 (0.5mm)</p> <p>Default: 0 (0mm)</p>			
OP	3073	ADF Scan Start Position Adjust	<p>Adjusts the scanning start position (the length to be skipped) when the ADF scans the original.</p> <p>* For LCD machines, this represents the Image Vertical Slide of guidance graphic.</p>	<p>Setting range: -40 to 40 (±4.0mm from the home position) (A positive value moves the image upward.)</p> <p>Unit: 1 (0.1mm)</p> <p>Default: 0 (0mm)</p> <p>* When Duplex ADF is connected, the adjustment range is limited to ±50 (±5.0mm). Any entered value that exceeds the range will be rounded to +50 or -50.</p>			

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
OP	3074	ADF Scanning Speed Adjustment	Adjusts the scanning speed at which the ADF scans the original (Adjusts the speed of the AF-Read pulse motor) (Adjusts the scanner LST interval). * For LCD machines, this represents the Image Vertical Elongation/Shrinkage of guidance graphic.	Setting range: -30 to 30 (±3.0% from the base speed) (A negative value results in shrinkage. The logic is reversed with considering the adjustment of guidance graphic.) Unit: 1 (0.1%) Default: 0 (0%)	○	○	○
OP	3076	ADF Scan End Signal Output Time	Adjusts the scanning end position when the ADF scans the original.	Setting range: ±2.0mm from the home position (A positive value moves the position downward.) The entered value must be 0 to ±20 (Enter "18" for 1.8mm). Unit: 1 (0.1mm) Default: 0 (0mm)	○	○	○
OP	3100	Job Separator Tape Jam Sensor	Detected when the job separator tape jam sensor is ON.	-	○	○	○
OP	3101	Job Separator Tape Detection Sensor	Detected when the tape is present.	-	○	○	○
OP	3102	Job Separator Power Switch	Detected when the job separator power switch is ON.	-	○	○	○
OP	3103	Job Separator Connection Signal	Detected when the job separator is connected.	-	○	○	○
OP	3140	Tape Output	Outputs one tape. * The setting from No.3170 (Stamping Quantity) must be applied.	-	○	○	○
OP	3170	Stamping Quantity	Sets the stamping quantity for No.3140 (Tape Output). * This setting is reset to the default when the power is turned off or the machine enters sleep mode.	Setting range: 0: No stamping <default> 1: Stamping quantity 1 2: Stamping quantity 2	○	○	○
OP	3171	Tape Jammed Message	Specifies whether to display a tape jam error message while a job separator tape output action is executed.	Setting range: 0: Not display 1: Display <default>	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
OP	3172	ST Interval Action Selection	Specifies whether to execute free rotations at Print Speed 4 or 5. This test mode is for a high-speed tape output action when the high-speed job separator is connected.	Setting range: 0: Do not execute free rotations 1: Execute free rotations <default> 2: Execute free rotations at all speeds	○	○	○
OP	3173	ST Tape Cut Timing Adj. (Slow Start)	Adjusts the tape cut timing for slow start. This test mode is for a high-speed tape output action when the high-speed job separator is connected.	Setting range: -200 to +200 Unit: 10 (1ms) Default: 0	○	○	○
OP	3174	ST Tape Cut Timing Adj. (Speed 1)	Adjusts the tape cut timing for Speed 1. This test mode is for a high-speed tape output action when the high-speed job separator is connected.	Setting range: -200 to +200 Unit: 10 (1ms) Default: 0	○	○	○
OP	3175	ST Tape Cut Timing Adj. (Speed 2)	Adjusts the tape cut timing for Speed 2. This test mode is for a high-speed tape output action when the high-speed job separator is connected.	Setting range: -200 to +200 Unit: 10 (1ms) Default: 0	○	○	○
OP	3176	ST Tape Cut Timing Adj. (Speed 3)	Adjusts the tape cut timing for Speed 3. This test mode is for a high-speed tape output action when the high-speed job separator is connected.	Setting range: -200 to +200 Unit: 10 (1ms) Default: 0	○	○	○
OP	3177	ST Tape Cut Timing Adj. (Speed 4)	Adjusts the tape cut timing for Speed 4. This test mode is for a high-speed tape output action when the high-speed job separator is connected.	Setting range: -200 to +200 Unit: 10 (1ms) Default: 0	○	○	○
OP	3178	ST Tape Cut Timing Adj. (Speed 5)	Adjusts the tape cut timing for Speed 5. This test mode is for a high-speed tape output action when the high-speed job separator is connected.	Setting range: -200 to +200 Unit: 10 (1ms) Default: 0	○	○	○
OP	3341	External CI Status Print	When this test is run on a RISOGRAPH that can communicate with an external CI, the main unit information is sent to the external CI. The external CI uses the received information to generate and output printing data, and then the main unit executes master making and printing.	-	○	×	×
OP	3355	Storage Memory Initialization	The storage memory should be initialized when data in the storage memory wanted to be erased or an error related to the storage memory cannot be resolved. * To initialize, only one memory device must be set in the slot. It is not allowed to initialize two memory devices at once.	-	○	×	×

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
OP	3361	Storage Memory Properties	Displays the information of the storage memory, including the volume label, capacity, used space, and available space. * To display the information, only one memory device must be set in the slot. It is not allowed to display the information from two memory devices at once.	-	x	x	
OP	3370	Storage Memory Files limitation	Specifies whether to limit the number of files to be stored in a folder of the storage memory.	Setting value: 0: Limit (to 250 files) <default> 1: Not limit	x	x	
OP	3570	RLP Print Position Adj. (Main)	Adjusts the RLP printing position horizontally. Note: This setting affects all RLPs when there are multiple RLPs. * This represents the Horizontal Slide of guidance graphic.	Setting range: ±5.0mm from the home position (A positive value moves the position left.) The entered value must be 0 to ±50 (Enter "18" for 1.8mm). Unit: 1 (0.1mm) Default: 0 (0mm)	x	x	
OP	3571	RLP Print Position Adj. (Sub)	Adjusts the RLP printing position vertically. Note: This setting affects all RLPs when there are multiple RLPs. * This represents the Vertical Slide of guidance graphic.	Setting range: ±5.0mm from the home position (A positive value moves the image upward.) The entered value must be 0 to ±50 (Enter "18" for 1.8mm). Unit: 1 (0.1mm) Default: 0 (0mm)	x	x	
OP	3572	Zero Print Master Making Warning	When the printer-auto-selection is enabled, master making is executed even if the print quantity is 0 in PtoP mode. This setting specifies whether to display a warning (F60) in such a case.	Setting value: 0: Not display the warning <default> 1: Display the warning	x	x	
OP	3579	RLP Duplex Print Auto-Repeat	Specifies whether to keep or deactivate the duplex setting after the duplex printing is completed.	Setting value: 0: Deactivate 1: Keep the setting <default>	x	x	
OP	3770	Vendor Selection	Specifies the type of the connected vendor (coin vendor or card vendor).	Setting value: 0: Coin vendor <default> 1: Card vendor	x	x	

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
OP	3771	Protect Confidential Operation Ctrl.	Specifies whether to display a protection warning (F94) when the power turns on, the machine wakes up, or the authentication is set.	Setting range: 0 to 2 Unit: 1 Default: 0 (for Japan), 1 (for overseas) * Setting value: 0: Display the warning only in normal operation 1: Display the warning in normal operation and when the coin/card vendor is connected, the card counter is connected, and the authentication is set 2: Not display the warning	○	×	×
Sys/ Panel	7051	IC Card Reader Get Info.	Gets the vendor ID (VID) and the product ID (PID) from the connected IC card reader.	-	○	○	○
Sys/ Panel	7052	Machine Firmware Download 2	Forcibly downloads the program that controls the main unit when the Start key is pressed (even if the program to be downloaded has the same version as the existing program).	-	○	○	○
Sys/ Panel	7130	Panel program ver.	Displays the version of the panel program. For example, the seven-segment display shows "101" for the version of Ver1.01.	-	○	○	○
Sys/ Panel	7134	DSP ver.	Displays the DSP version. For example, the seven-segment display shows "101" for the version of Ver1.01. * To display the DSP version correctly, a test mode that involves shading (such as TM284 (Scanner Cycle Continuous Action)) must be run in advance. To run TM284, note that shading is executed only when an original is set on the AF.	-	○	○	○
Sys/ Panel	7135	Panel Contrast Value Check	Displays the contrast of the LCD that were set by the LCD manufacturer in its factory.	-	×	○	○
Sys/ Panel	7136	DL Package Version	Displays the version of the package.	-	○	○	○
Sys/ Panel	7137	Recovery Loader Version	Displays the version of the recovery loader.	-	○	○	○
Sys/ Panel	7138	Analog Processor Version	Displays the version of the analog processor.	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Sys/ Panel	7139	Font Version	Displays the font version.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7140	Network Dongle Version	Displays the version of the network dongle.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7141	IC Card Dongle Version	Displays the version of the IC card dongle.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7142	FPGA Version	Displays the FPGA version.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7143	AF Version	Displays the AF version.	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7144	Sub Micon Version	Displays the Sub Micon Version	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7175	Sleep Mode Power Consumption Selection	<p>Selects the power-saving level for sleep mode.</p> <p>0: Normal</p> <ul style="list-style-type: none"> <li>The machine can be woken up through USB or LAN.</li> <li>More energy is consumed than when 1 (Lower) is selected.</li> </ul> <p>1: Lower</p> <ul style="list-style-type: none"> <li>The machine cannot be woken up through USB or LAN.</li> <li>The consumed energy is very low.</li> </ul>	<p>Setting value:</p> <p>0: Normal &lt;default&gt;</p> <p>1: Lower</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7176	IC Card Offset Setting	<p>Specifies the position (the number of bytes) to start reading data from the IC card. The number is counted from the beginning of the card including UID.</p>	<p>Setting range: 1 to 9999</p> <p>Unit: 1 (byte)</p> <p>Default: 1</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sys/ Panel	7177	IC Card Size Setting	<p>Specifies the number of bytes to read starting from the position set in TM7176 (IC Card Offset Setting).</p> <p>When the area specified by the combination of TM7176 and TM7177 contains an unreadable position, the position is padded with zero.</p> <p>For example, a read value of "12xx" (where, x represents an unreadable position) is converted to "1200".</p> <p>* The default is set to 4 bytes, which is the length of a UID specified in the Mifare standard.</p>	<p>Setting range: 1 to 22</p> <p>Unit: 1 (byte)</p> <p>Default: 22</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proc/ Scan	7250	ADF Unit Cover Sensor	Light blocked - ON (The original is present), Light blocked - OFF (The original is not present)	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Proc/Scan	7251	AF Original Top Edge Sensor	Light blocked - ON (The original is present), Light blocked - OFF (The original is not present)	-	○	×	×
Proc/Scan	7252	ADF Original Size Sensor 3	Light blocked - ON (The original is present), Light blocked - OFF (The original is not present)	-	○	×	×
Proc/Scan	7253	ADF Original Size Sensor 4	Light blocked - ON (The original is present), Light blocked - OFF (The original is not present)	-	○	×	×
Proc/Scan	7254	ADF Original Size Sensor 5	Light blocked - ON (The original is present), Light blocked - OFF (The original is not present)	-	○	×	×
Proc/Scan	7255	AF Transfer Sensor	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7256	AF Top Edge Sensor	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7257	AF JAM Sensor	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7258	AF Door Sensor	ON (The door is closed), OFF (The door is open)	-	○	○	○
Proc/Scan	7259	AF Original A6 Size Detection Sensor	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7260	AF Original Width Detection Sensor 1	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7261	AF Original Width Detection Sensor 2	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7262	AF Original Size Detection Sensor 1	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7263	AF Original Size Detection Sensor 2	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7264	AF Angle Detection Sensor 1	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○
Proc/Scan	7265	AF Angle Detection Sensor 2	Light blocked - ON (The paper is present), Light blocked - OFF (The paper is not present)	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Proc/ Scan	7310	AF Paper Feed Roller Action	Rotates the paper feed roller of the AF. It stops when the Stop key is pressed or 20 seconds elapse from the start of the action.	-	○	○	○
Proc/ Scan	7311	AF Registration Roller Action	Rotates the registration roller of the AF. It stops when the Stop key is pressed or 20 seconds elapse from the start of the action.	-	○	○	○
Proc/ Scan	7312	AF Ejection Roller CW Action	Rotates the ejection roller of the AF in the clockwise direction. It stops when the Stop key is pressed or 20 seconds elapse from the start of the action.	-	○	○	○
Proc/ Scan	7313	AF Ejection Roller CCW Action	Rotates the ejection roller of the AF in the counter clockwise direction. It stops when the Stop key is pressed or 20 seconds elapse from the start of the action.	-	○	○	○
Proc/ Scan	7314	AF Registration Clutch ON-OFF Action	Operates the registration clutch of the AF. It stops when the Stop key is pressed or 5 seconds elapse from the start of the action.	-	○	○	○
Proc/ Scan	7315	AF Switch-back Clutch ON-OFF Action	Operates the switch-back clutch of the AF. It stops when the Stop key is pressed or 5 seconds elapse from the start of the action.	-	○	○	○
Proc/ Scan	7316	AF carriage scan positioning	Move the AF carriage to scanning position.	-	○	○	○
Proc/ Scan	7465	Scanner Carriage Lock/ Release Select.	When this test mode is set to enabled, powering on in normal mode or test mode causes the D50-165 error to be issued and a warning to appear. (It is not allowed to switch to normal mode.) When this test mode is set to 0 (disabled), no warning appears.	Setting value: 0: Disabled <default> 1: Enabled	○	○	○
Paper	7900	Paper Stripper Unit Set SW	Switch ON (The paper feed tray can work), Switch OFF (Interlock)	-	○	○	○

Unit	No.	Name	Description	Setting	Model		
					SF9	SF5*5	SF5*3
Paper	8070	Ejection Motor Speed for High Speed	Sets the target speed of the paper ejection motor for High Speed.	Setting value: 0: Drum speed/Transfer belt speed: 1.0 times 1: Drum speed/Transfer belt speed: 1.1 times <default> 2: Drum speed/Transfer belt speed: 1.2 times 3: Drum speed/Transfer belt speed: 1.3 times 4: Drum speed/Transfer belt speed: 1.4 times	○	○	○
Paper	8071	Card Feed PF Clutch Selection	Selects a table for paper feed clutch OFF timing. This test mode is for cases where the paper feed clutch included in the card feed attachment is installed. When 1 is selected, the clutch OFF table does not depend on the paper size.	Setting value: 0: Paper feed clutch OFF adjustment table for CED <default> 1: Paper feed clutch OFF adjustment table for the card feed attachment	○	○	○

# MEMO

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# CHAPTER 19: Other Precautions

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## 1. Installation Operations

### 1-1. Set-up wizard (input required)

When installing the machine, configure the display settings for the customer needs. This setting is essential for effective use of RISO i Quality System. When this setting has been skipped, the Set-up wizard appears every time when the machine power is turned ON.

(1) Clock/Calendar: Essential settings for effective use of RISO i Quality System.

(2) User Category: Select the category from "Standard", "School" and "Print Shop".

(3) Service contact: Enter the phone number of service contact and select whether to display the phone number.

(4) Supply contact: Enter the phone number of supply contact and select whether to display the phone number.

(5) Display Priority: Select the initial display when the machine power is turned ON.

<Setting items by category>

User category	Area	Machine type	Master making screen	Printing screen	RLP screen	Scanning screen	
Standard	POP	Standard machine	Halftone Reservation Multi-Up Editor	Renew Page Reservation Interval Editor	Halftone	Preview Halftone Contrast Enhancement Book Mode	
		Machine with SD Card			Halftone Storage Overlay		
	Selections	Standard machine	Job Memory Confidential Idling Book Mode Contrast Enhancement Program	Job Memory Confidential Idling Editor	Job Memory Book Mode Preview Contrast Enhancement		
		Machine with SD Card	Job Memory Confidential Idling Book Mode Contrast Enhancement Program Storage Overlay	Job Memory Confidential Idling Editor Storage Overlay			
School	POP	Standard machine	Halftone Reservation Multi-Up Book Mode	Renew Page Reservation Interval Editor	Halftone		Preview Halftone Contrast Enhancement Book Mode
		Machine with SD Card			Halftone Storage Overlay		
	Selections	Standard machine	Job Memory Confidential Idling Contrast Enhancement Program Editor Quick Master Making	Job Memory Confidential Idling Editor	Job Memory Book Mode Preview Contrast Enhancement		
		Machine with SD Card	Job Memory Confidential Idling Book Mode Contrast Enhancement Program Editor Storage Overlay Quick Master Making	Job Memory Confidential Idling Editor Storage Overlay			
Print Shop	POP	Standard machine	Halftone Reservation Contrast Enhancement Multi-Up	Renew Page Reservation Interval Editor	Halftone		Preview Halftone Contrast Enhancement Book Mode
		Machine with SD Card	Halftone Reservation Contrast Enhancement Storage		Halftone Storage Overlay		
	Selections	Standard machine	Job Memory Confidential Idling Book Mode Top Margin Adj. Program Editor	Job Memory Confidential Idling Editor	Job Memory Book Mode Preview Top Margin Adj. Contrast Enhancement		
		Machine with SD Card	Job Memory Confidential Idling Multi-Up Print Book Mode Top Margin Adj. Program Overlay Editor	Job Memory Confidential Idling Editor Storage Overlay			

**1-2. Sales test mode**

Easy access to change the machine setting by the sales person and field technical person. It is used for environmental settings and machine settings.

**<How to activate>**

Turn ON the machine power while pressing the <x> and <+> keys simultaneously. Then, enter the setting number using numeric keys.

\* For P1 to P5, press the <P> key and then press <1> to <5> keys.

**Sales test mode list**

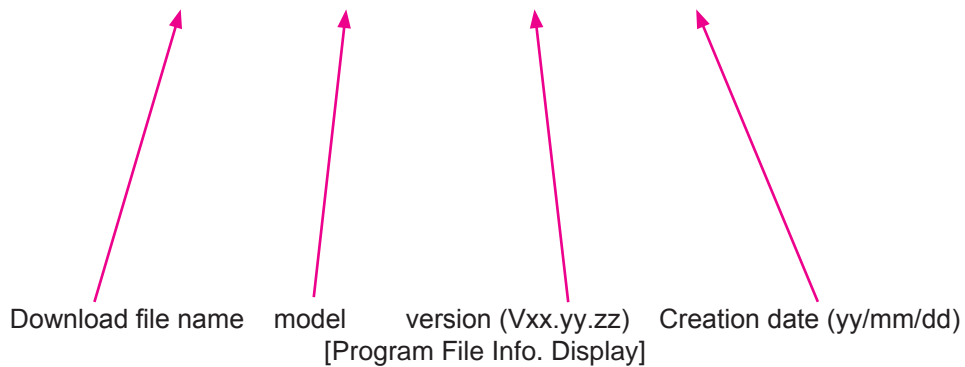
No.	Classification	Name	Remarks
P001	S	Displayed Language	
P002	S	Link-Free Volume "External Controller"	Not displayed when the setting is ON.
P003	S	Network setting (IPv4)	If the "External Controller" is enabled, "External Controller setting" is displayed. When the new RISO Network kit is installed, the dedicated screen is displayed.
P004	S	Beep Sound	
P005	S	Network setting (IPv6)	Not displayed when "External Controller" is enabled.
0080	U	Test Print A (Checked)	
0095	U	System Configuration Data Output	
0110	*	Clear Error Status Data	
0116	*	Set-up Wizard Initialize	
0126	C	Optional Configuration Check	
0146	D	Scan First	
0150	D	Print Quantity Repeat Setting	
0152	D	"Lighten Print" display control	
0154	D	Min. Print Quantity Control	
0159	D	"Warning" Display Control	
0160	D	Auto Multi-Up Recovery	
0161	D	Program Print Repeat Setting	
0166	D	Maximum Print Quantity Control	
0167	D	Paper ID Auto-Repeat Control	
0169	D	"Properties" Display Control	
0170	D	Consumable Storage Indication	
0199	D	Software Option Enable Control	
0796	D	Card Feed Warning Display Control	
0951	D	Ink Color Code	
1201	D	Metric/Inch Switch	
1229	D	RLP Mode Enable Control	
3572	D	Zero Print Master Making Warning	
3579	D	RLP Duplex Print Auto-Repeat	
3770	D	Vendor Selection	
7051	U	IC Card Reader Get Info.	
7465	D	Scanner Carriage Lock/Release Select.	



## 2. Downloading Program

Uses a USB memory device to download programs.  
The download procedure is as follows.

<Reference> Prior to download operation, the version of the software saved in the USB memory device can be checked. Perform the test mode No.0132 "Program File Info. Display".

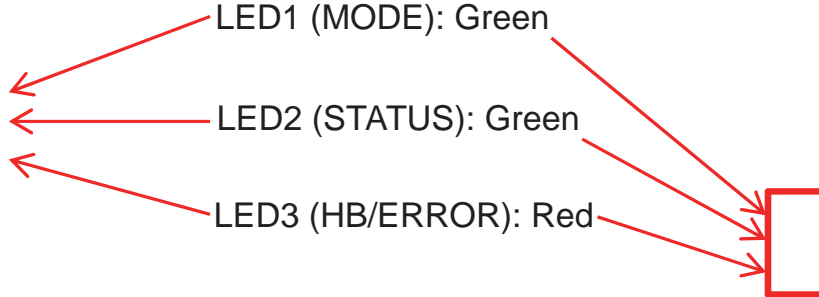


### 2-1. Procedure of downloading program

- 1) Insert the USB memory device with the firmware
- 2) [Normal case]  
Perform the Test Mode 90  
[Special case]  
Turn ON the machine power while pressing the <WAKE-UP> key.
- 3) When the PCB information compatibility check is finished, download operation will start automatically.
- 4) When the download is completed successfully, the machine makes a beep sound. The Wake-up LED is changed from lights blinking to lights ON.
- 5) Turn OFF the machine power  
\*See the page (Refer to 2-2) in case an download error occurs.



Names of LEDs on the MAIN-SYSTEM-PCB



Reference (Download time)

Operation	Wake Up LED	Required time for SF9 series	Required time for SF5*5 series/SF5*3series
When each of the PCB information is compatible	ON	50 sec.	50 sec.
Downloading	Blinking	Approx. 4 min.	Approx. 2 min.
Total	—	5 min. or less	3 min. or less

2-2. How to deal with download error

HB/ ERROR	STATUS	MODE	Buzzer	Wake-up LED	Status/error information	Remedies for errors
●	○	○	100 ms. Continuous beep	*	Successfully downloaded	
●	●	○	ON	○	Initial communication error of the panel	Check the communication line between the main system and panel (CN2).
●	○	*	ON	○	Communication error between the main unit and AD	Replace the main system PCB.
●	○	●	ON	○	Communication error between the main unit and ADF	Check the communication line between the main system and ADF (CN3).
●	*	○	ON	○	Activate factor error (received at Wake-up)	Check the communication line between the main system and panel (CN2).
●	*	*	ON	○	USB/HOST stack initialization error	Check the communication line for USB/HOST (CN27).
○	●	○	ON	○	USB memory access error	Check the communication line for USB/HOST (CN27). Check the setting status of the USB memory device.
○	●	*	ON	○	Machine type detection error	Check if two PCBs have been replaced at the same time. Check the communication line between the panel and subsystem PCB (CN2, CN6).
○	○	●	ON	○	Package data error	Rewrite the firmware stored in the USB memory.
○	○	*	ON	○	Firmware data error (main)	
○	*	●	ON	○	Firmware data error (downloader)	
○	*	○	ON	○	Firmware data error (panel)	
○	*	*	ON	○	Firmware data error (AD)	
*	●	●	ON	○	Firmware data error (ADF)	
*	●	○	ON	○	Firmware data error (font)	
*	●	*	ON	○	No valid data	Check if the firmware is stored in the USB memory.
*	○	●	ON	○	No firmware to be downloaded	Check if the firmware in the USB memory matches the machine type.
*	○	○	ON	○	Main download error	Rewrite the firmware stored in the USB memory.
*	○	*	ON	○	Panel download error	
*	*	●	ON	○	AD microcomputer download error	
*	*	○	ON	○	ADF download error	
*	*	*	ON	○	Invalid parameters, etc.	Check the setting status of the USB memory device.

Symbol Descriptions	●	: Lights OFF
	○	: Lights ON
	*	: Lights blinking

### 3. The replacement procedure of the main PCB

#### 3-1. MAIN-SYSTEM-PCB

If the machine power can be turned ON, proceed to step (1). If not, proceed to step (5).

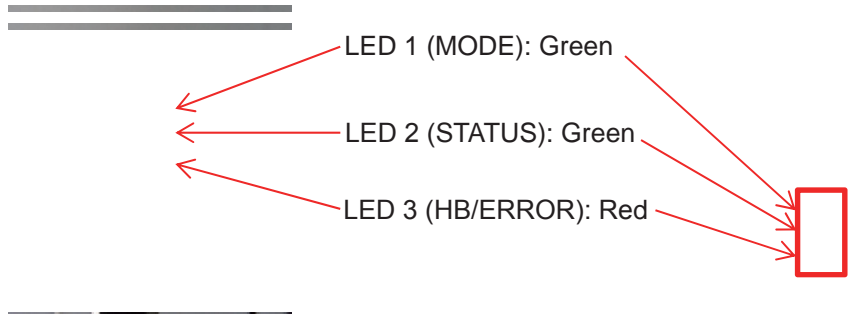
- (1) Make a note of the firmware version of the former PCB.  
Make a note of the machine model, serial number, and counter value for all functions.
- (2) Turn OFF the machine power and insert a USB memory device.
- (3) Activate the test mode.
- (4) Perform Test mode 103 (System-parameter adjustment upload), and save the setting value to the USB memory device.
  
- (5) Turn OFF the machine power and remove the USB memory device inserted in step (2), and store it for recovery.
- (6) Remove the drum unit.
- (7) Detach the connector from MAIN-SYSTEM-PCB.  
Remove the PCB from the bracket. (M3 x 6 screw; 8 pcs.)
- (8) Remove the battery from the PCB and attach it to the new MAIN-SYSTEM-PCB.
- (9) Attach the PCB to the bracket and insert the connector.  
\* If necessary, attach the SD Card slot.

MAIN-SYSTEM-PCB

Battery



- (10) Insert a USB memory device that stores the same version of the firmware as step (1).  
And turn ON the machine power while pressing the <WAKE-UP> key.  
When each of the PCB information is compatible, download operation will start automatically.  
When download is completed successfully, the machine makes a beep sound.  
If an error occurs, see "How to deal with download error" (Refer to 2-2).



- (11) When download is completed successfully, the Wake Up LED lights up and makes a beep sound. Turn OFF the machine power, detach the USB memory device, and then turn ON the machine power and activate the test mode.  
\* When errors are indicated, press the <RESET> key until the error is cleared.  
(T98-952, T96-972, C12-266 errors will occur.)
- (12) Perform TM9874 to activate protected area TM, and then perform the following TMs to initialize memory.
  - a. TM1198 (MCTL Memory Initialization)
  - b. TM110 (Clear Error Status Data)
  - c. TM112 (Clear Test Mode Data Setup(Machine))
  - d. TM111 (Clear User Memory)
  - e. TM1193 (REvData Initialize)

- (13) Turn OFF the machine power and set the drum removed in step (5). Insert the USB memory device removed in step (6), turn ON the machine power, and then activate the test mode.
- \* When errors are indicated, press the <RESET> key to clear the error. (F51-548, F56-265 errors will occur.)
- (14) Perform TM105 (System-parameter adjustment download) to restore the data saved in the USB memory in Step 4.
- (15) Perform the following test mode.  
Test No. 900 (Vertical Centering Action)
- (16) Perform the following test modes to set date and time.
- TM171 (Clock Setting (YEAR))
  - TM172 (Clock Setting (MONTH & DATE))
  - TM173 (Clock Setting (HOUR & MINUTE))
  - TM101 (Clock Adjustment Confirm)
- (17) Perform TM1160 to backup the factory setting data from SUB-SYSTEM-PCB to the MAIN-SYSTEM-PCB. \* Note 1
- (18) Confirm that the machine model, serial number, and counter value are the same as those before replacement.
- \* Compare them to the note in step (1).
- (19) Press the <RESET> key to enter the normal mode, and then restart the machine. If restart is successful, the procedure is completed.

\* Note 1: TM1160 (Store factory settings area)

At the production line, TM1160 (Store factory settings area) is performed to backup and store the data to MAIN-SYSTEM-PCB.

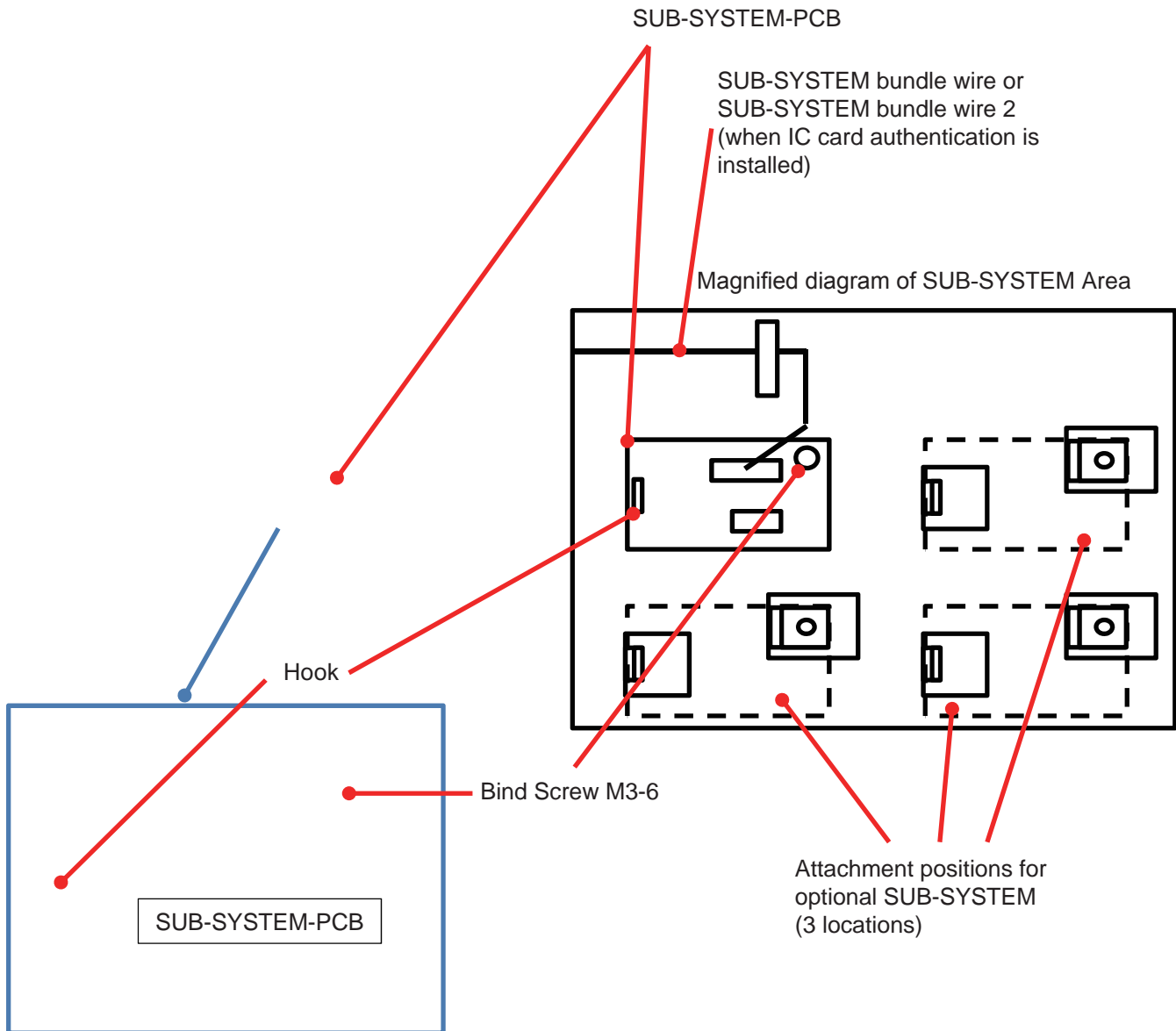
When SUB-SYSTEM-PCB is replaced, perform TM1160 before replacement for backup to store the latest data from previous SUB-SYSTEM-PCB to MAIN-SYSTEM-PCB. Then you can restore by performing TM1161 (Restore factory settings area) on the new SUB-SYSTEM-PCB.

In the field, if you adjust the test mode 12xx, you can keep the latest backup data on the MAIN-SYSTEM-PCB by performing TM1160.

### 3-2. SUB-SYSTEM-PCB

If the machine power can be turned ON, go to step (1). If not, go to step (3).

- (1) Activate the test mode.  
Make a note of the machine model, serial number, and counter value.
- (2) Perform TM1160 to backup the factory default setting stored from SUB-SYSTEM-PCB to the MAIN-SYSTEM-PCB.  
\* Perform if possible.
- (3) Turn OFF the machine power.
- (4) Remove the connector from SUB-SYSTEM-PCB. Remove the binding screw for fixing, and then release the hook to remove the PCB from the bracket.
- (5) Attach the new SUB-SYSTEM-PCB to the hook and fix it to the bracket with the binding screw.
- (6) Insert the connector.



- (7) Turn ON the machine power and activate the test mode.
- (8) Restore the machine data.
  - a. When backup in step (2) has been succeeded  
Perform TM1161 and restore the factory default setting from the MAIN-SYSTEM-PCB.
  - b. When backup in step (2) has been failed  
Perform TM9874 to activate protected area TM, and then perform the following TMs.
    1. TM1220 (Scanning Adj. 1(Sub scanning)),  
TM1221 (Scanning Adj. 2(Main scanning)),  
TM1222 (Scanning Adj. 3(Sub scanning ratio)),  
TM1223 (Scanning Adj. 4(Offset)),  
TM1224 (Scanner Adj.(Gain-Green))
    2. TM1234 (TPH Resistance Value Entry),  
TM1233 (TPH Horizontal Write Position Adjust)
    3. TM1201 (Metric/Inch Switch)
- (9) Adjust Paper width potentiometer.
  - a. Set A6 paper (105 mm) in the paper feed tray and perform TM1102.
  - b. Set A4 paper (210 mm) in the paper feed tray and perform TM1101.
  - c. Set A3 paper (297 mm) in the paper feed tray and perform TM1103.
- (10) Adjust paper sensor luminous energy.  
Set A3 paper (thin RISO paper) on the paper feed tray and perform TM705.
- (11) Confirm that the machine model, serial number, and counter value are the same before replacement.
  - \* Compare with the note in step (1).



### 3-3. Panel unit (monochrome)

- (1) Make a note of the firmware version of the former PCB. (If the machine power can be turned ON)
- (2) Turn OFF the machine power.
- (3) Remove the panel unit. (4 x 8 screws; 3 pcs.)



After removing the screws,  
slide the panel unit to the  
direction of the arrow.

- (4) Remove the wire harness, and then replace the panel unit.
  - \* For the panel unit replacement, remove the reuse band for fixing the Wire harness, and then reuse it to fix the Wire harness.

- (5) Attach the panel unit on the machine. (4 x 8 screws; 3 pcs.)
- (6) Insert a USB memory device that stores the same version of the firmware as in step (1). Turn ON the machine power while pressing the <WAKE-UP> key.
  - When each of the PCB information is compatible, download operation will start.
  - When download is completed successfully, the machine makes a beep sound. If an error occurs, see "How to deal with download error" (Refer to 2-2).

**3-4. Panel unit (color)**

- (1) Make a note of the firmware version of the former PCB. (If the machine power can be turned ON)
- (2) Turn OFF the machine power.
- (3) Remove the panel unit. (4 x 8 screws; 3 pcs.)



After removing the screws,  
slide the panel unit to the  
direction of the arrow.

- (4) Remove the wire harness, and then replace the panel unit.
  - \* For the panel unit replacement, remove the reuse band for fixing the Wire harness, and then reuse it to fix the Wire harness.

- (5) Attach the panel unit on the machine. (4 x 8 screws; 3 pcs.)
- (6) Insert a USB memory device that stores the same version of the firmware as in step (1).  
Turn ON the machine power while pressing the <WAKE-UP> key.  
When each of the PCB information is compatible, download operation will start.  
When download is completed successfully, the machine makes a beep sound. If an error occurs, see "How to deal with download error" (Refer to 2-2).

**3-5. AF PCB**

- (1) Turn OFF the machine power, and remove the cover to replace the PCB.

M3 x 6 S-TITE screw

Top assembly

M3 x 8 P-TITE screw

- (2) Detach the connector from ACRZ PKG ASSY.  
Remove the screw (M3 x 6 S-TITE; 4 pcs.), replace with the new PCB, and then insert the connector that has been removed.

- (3) Attach the cover.

- (4) Insert a USB memory device with the firmware.

And turn ON the machine power while pressing the <WAKE-UP> key.

When each of the PCB information is compatible, download operation will start automatically.

When download is completed successfully, the machine makes a beep sound. If an error occurs, see "How to deal with download error" (Refer to 2-2).

## 4. Others

### 4-1. Battery replacement

Before replacing the battery of MAIN-SYSTEM-PCB, make sure to turn ON the machine power.

\* If the battery is replaced when the machine power is OFF, the internal clock may lose accuracy.

When the internal clock loses accuracy, T91-013 may be displayed. In this case, perform the following (1) to (4).

- (1) Test mode No. 0171 (Clock Setting (YEAR))
- (2) Test mode No. 0172 (Clock Setting (MONTH & DATE))
- (3) Test mode No. 0173 (Clock Setting (HOUR & MINUTE))
- (4) Test mode No. 0101 (Clock Adjustment Confirm)

### 4-2. Replacing the print drum PCB

- (1) Turn OFF the machine power, and insert the USB memory device.
- (2) Perform TM104 (Drum-parameter adjustment upload).
- (3) Pull out the print drum, and then replace the print drum PCB.
- (4) Set the print drum on the main body.
- (5) Perform TM106 (Drum-parameter adjustment download).
- (6) Enter "9874" using the numeric key, and then press the <START> key.
- (7) In the TM1210 (Drum Code Entry) and TM1215 (Drum Ink Category Entry), enter the print drum unit serial number.
- (8) Turn OFF the machine power, and then remove the USB memory device.
- (9) Turn ON the machine power again. If the machine starts up normally, the replacement is completed.

[Special case]

The machine didn't use Test Mode. Please refer to the following procedure.

- (1) Replace the new Drum-PCB and set the drum on the machine.
- (2) Turn On the machine power for Test Mode.
- (3) Perform TM117. (Test Mode Data Clear (Drum))
  - TM117 restores default setting for the following test mode.  
(TM 145,544,940,941,942,943,944,946,951,970,972)
- (4) Enter "9874" in the Test Mode.
- (5) Please input the data for the following Test Mode.
  - TM1210 (Drum Code Entry)
  - TM1211 (Drum Serial Code Entry1)
  - TM1212 (Drum Serial Code Entry 2)
  - TM1214 (Drum Color Code Entry)
  - TM1215 (Drum Ink Category Entry)
- (6) Turn ON the machine power again. If the machine starts up normally, the replacement is completed.

### 4-3. Print position adjustment

The print position adjustment has following three items.

1. Vertical image position adjustment
2. Horizontal image position adjustment
3. Image Elongation/Shrinkage adjustment

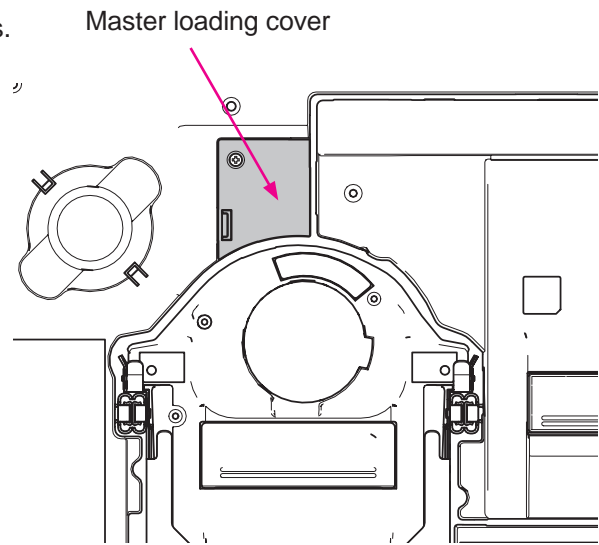
#### <<1. Vertical image position adjustment>>

(Procedure 1) Print drum position-A

- **TM 941** Print Drum Position A Adjustment main body (-60 to +40)

Adjust print drum position-A.

- <<Confirmation>> : (1) Open the front door.  
(2) Remove the mounting screw (M4 x 8 screw; 1 pc.), and then remove the master loading cover.  
(3) Activate the test mode and Perform No. 881 (Print Drum on Position A).  
(4) Activate the test mode and perform No. 884 (Clamp Cycle Action (3 Cycles)), and in step 2 (Open clamp and adjust position-A), confirm that the value range of the print drum movement is from +3 mm (the print drum is slightly overrun and is drawn back) to 0 mm (the print drum does not overrun).  
(5) For values out of the standard value range, perform the test No. 941 (Print Drum Position A Adjustment), and adjust the Print drum position-A.  
(6) Repeat from step (3).
- <<Setting unit>> : 1  
<<Adjustment>> : +10 makes the drum run 1.5 mm counterclockwise.



(Procedure 2) Master loading position against the print drum

- **TM 543** Master Clamp Range Adjustment

Adjust the master feeding amount at master loading.

- <<Confirmation>> : Measure the length of the master between the clamp plates (master center).  
<<Standard>> : 18 mm  $\pm$  1 mm  
<<Setting unit>> : 1  $\div$  0.1 mm  
<<Adjustment>> : The clamp amount increases as the setting value increases.

(Procedure 3) The length between the leading edge of the master and the write start position.

- **TM 541** Write Start Position Adjustment

Adjust the write start position.

- <<Confirmation>> : Perform TM 80 Test Print A (Checked).  
<<Standard>> : 63 mm  $\pm$  0.5 mm  
<<Setting unit>> : 1  $\div$  0.1 mm  
<<Adjustment>> : The write start position moves upward as the setting value increases.

(Procedure 4) Print position adjustment (paper feed timing)

● **TM 970** Vertical Print Position HP Adj.

Adjust the vertical print position by the second paper feed timing.

<<Confirmation>> : Perform TM 80 Test Print A (Checkered).

<<Standard>> :  $4 \pm 1$  mm (the length from leading edge of the paper to the print starting margin)

<<Setting unit>> :  $1 \div 0.1$  mm

<<Adjustment>> : Increase setting value moves upward as the setting value increases.

<<2. Horizontal (front-rear) image position adjustment>>

(Procedure 1) Adjust horizontal print position.

● **TM 1233** TPH Horizontal Write Position Adjust (protected area)

Adjust horizontal TPH printing position.

<<Adjustment>> : (1) Set TM 386 (Center Black Dot Control) to "1", and then perform master making and print without setting an original.  
 (2) Fold the sheet where a center line is printed in half and check that the fold line overlaps with the printed line.  
 \* Be aware that TM 386 setting returns to "0" (default) at the next master making.

<<Adjustment>> : If the fold line does not overlap with the printed line, make adjustments using TM 1233. The image moves toward the rear side as the setting value increases.

<<Standard>> : (Reference) The length from the inner rear flange to the center line is  $186$  mm  $\pm 1$  mm.

<<Setting unit>> :  $1 \div 0.1$  mm

(Procedure 2) Adjusting horizontal scanning direction (FB factor)

● **TM 380** FB Horizontal Scan Position Adjust

Adjust the horizontal position for reading original on the FB.

<<Confirmation>> : Set the test chart No.14 on the original glass and perform master making in the original size.

<<Standard>> : Horizontal e image must not be chipped.

<<Setting unit>> :  $5 \div 0.5$  mm (-30 to +30)

<<Adjustment>> : Perform TM 380. The image moves toward the rear side as the setting value increases.

**<<3. Image elongation/shrinkage adjustment>>**

(Procedure 1) Image elongation/shrinkage adjustment for master making section

**● TM 547** TPH Thermal Power Adjustment

Adjust the speed of the write pulse motor at the time of master making.

<<Confirmation>> : Perform TM 81 Test Print B (Crossed Lines).

<<Standard>> : Place two sheets of originals to be overlapped at right angle to each other, and check that the vertical elongation/shrinkage rate of the secondary scanning direction is within 1% to the horizontal direction.

<<Setting unit>> : 1  $\doteq$  0.1% (-100 to +100)

<<Adjustment>> : The image elongates as the setting value increases.

(Procedure 2) Image elongation/shrinkage adjustment for scanning section

**● TM 382** FB Scanning Speed Adjustment

Adjust the speed of read pulse motor for scanning of original on the FB.

<<Confirmation>> : Set the test chart No. 11 on the original glass and perform master making and printing in the original size.

<<Standard>> : Compare the original and printed document, and check that the elongation/shrinkage rate at the position of the 350 mm line is within  $\pm 1.4\%$ .

<<Setting unit>> : 1  $\doteq$  0.1% (-50 to +50) (Setting a minus value decreases the size.)

<<Adjustment>> : The target value to change  $\pm 1$  mm.  
A3:  $\pm 0.2\%$ , B4:  $\pm 0.3\%$ , A4:  $\pm 0.3\%$

(Procedure 3) FB scanning start position adjustment

**● TM 381** FB Scan Start Position Adjust

Adjust the start position (amount of scan skip) for scanning of original on the FB.

<<Confirmation>> : Set the test chart No. 11 on the original glass and perform master making and printing in the original size.

<<Standard>> : Check that the amount of scan skip confirmation memory area is skipped by  $4 \text{ mm} \pm 2 \text{ mm}$ .

<<Setting unit>> : 1  $\doteq$  0.1 mm

<<Adjustment>> : Amount of scan skip increases as the setting value increases.



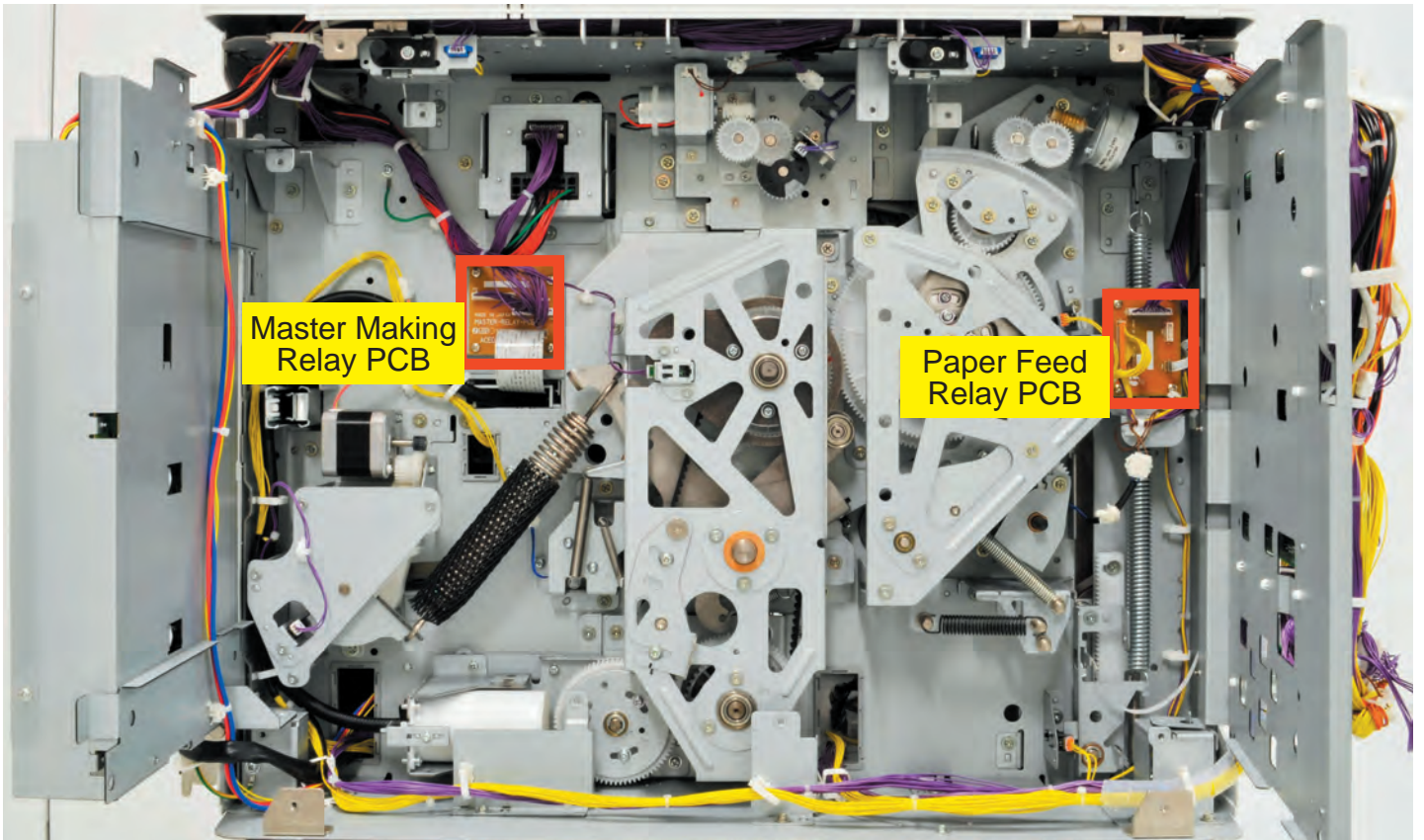
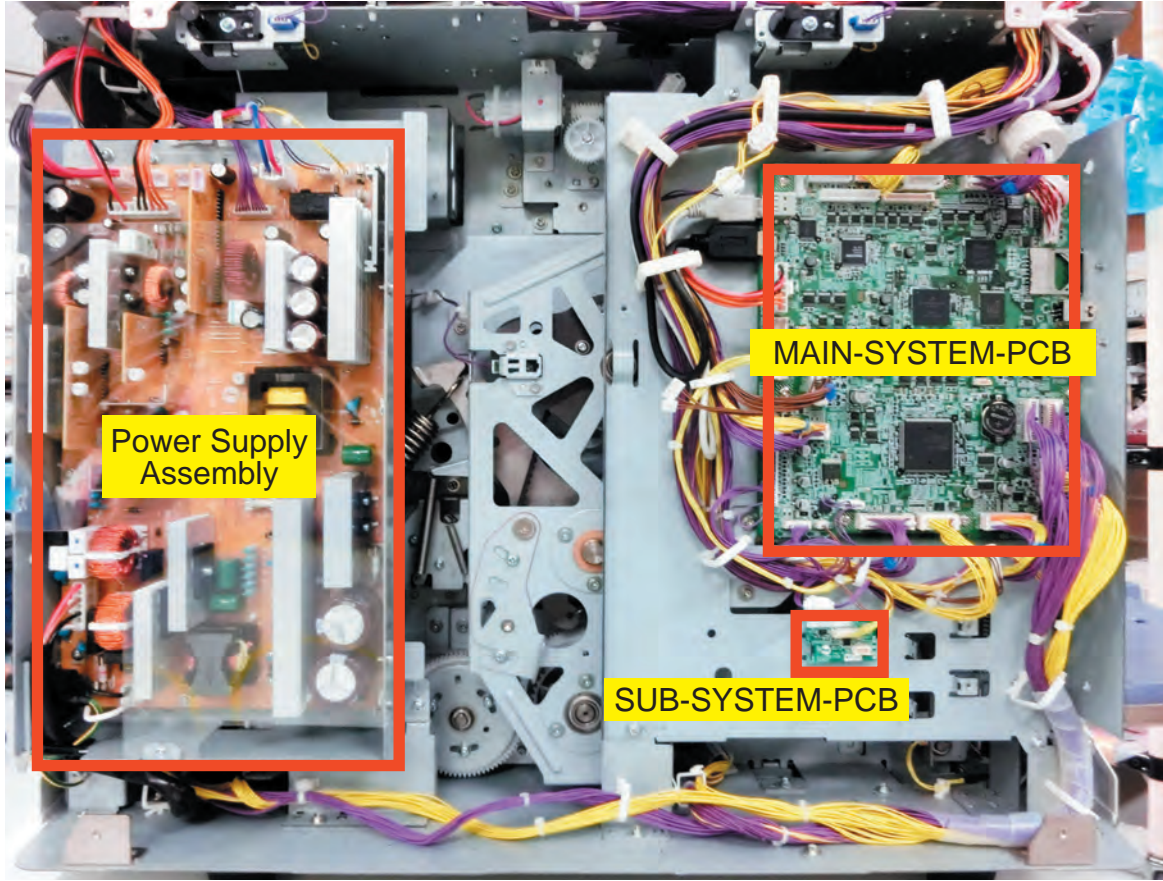
# Chapter 20 WIRING DIAGRAMS

## Contents

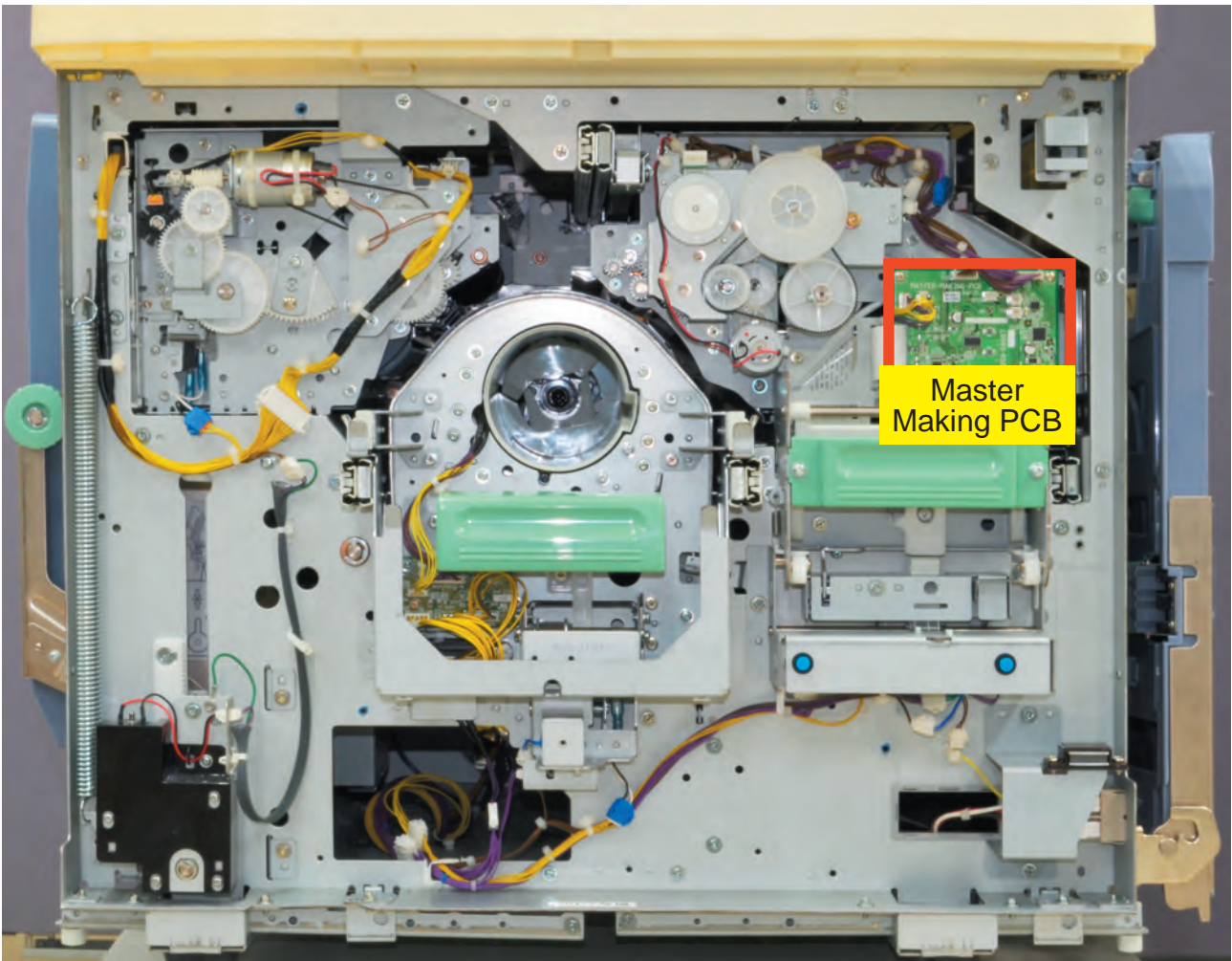
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# 1. PCB Placement Diagram (SF9 Series)

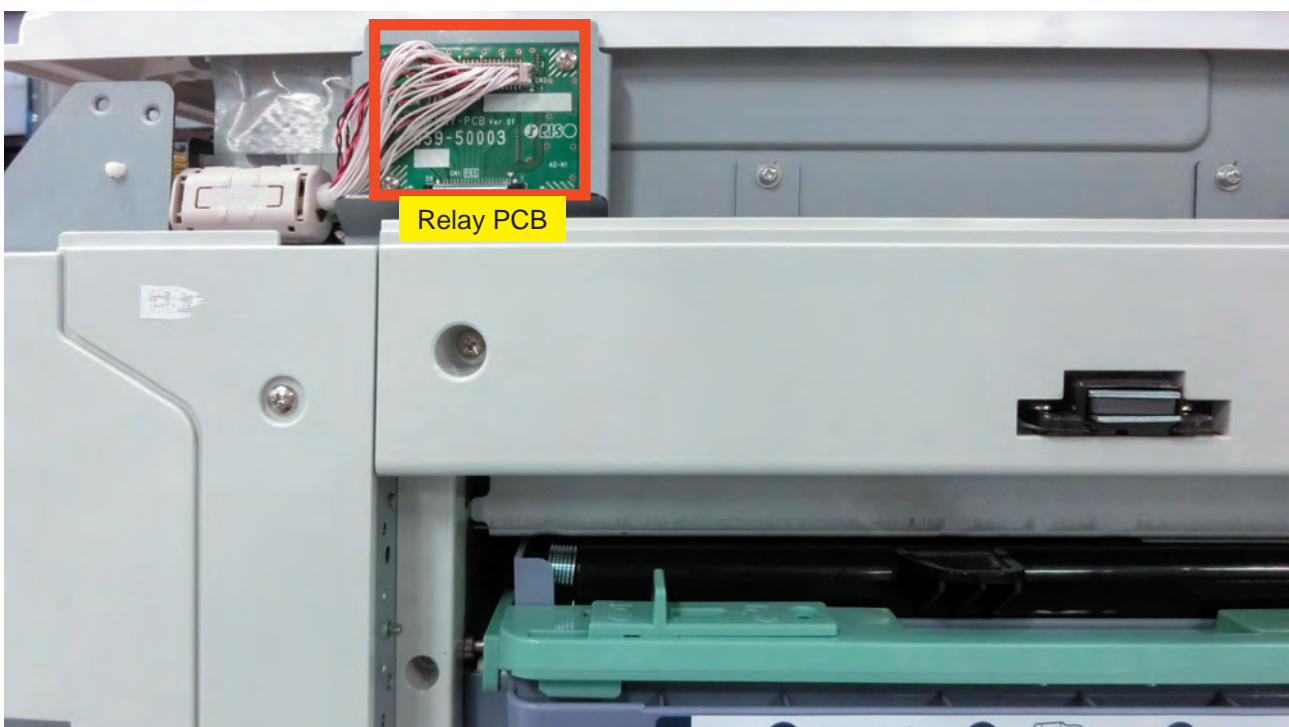
## 1-1. PCB Placement Viewed from the Rear



1-2. PCB Placement Viewed from the Front

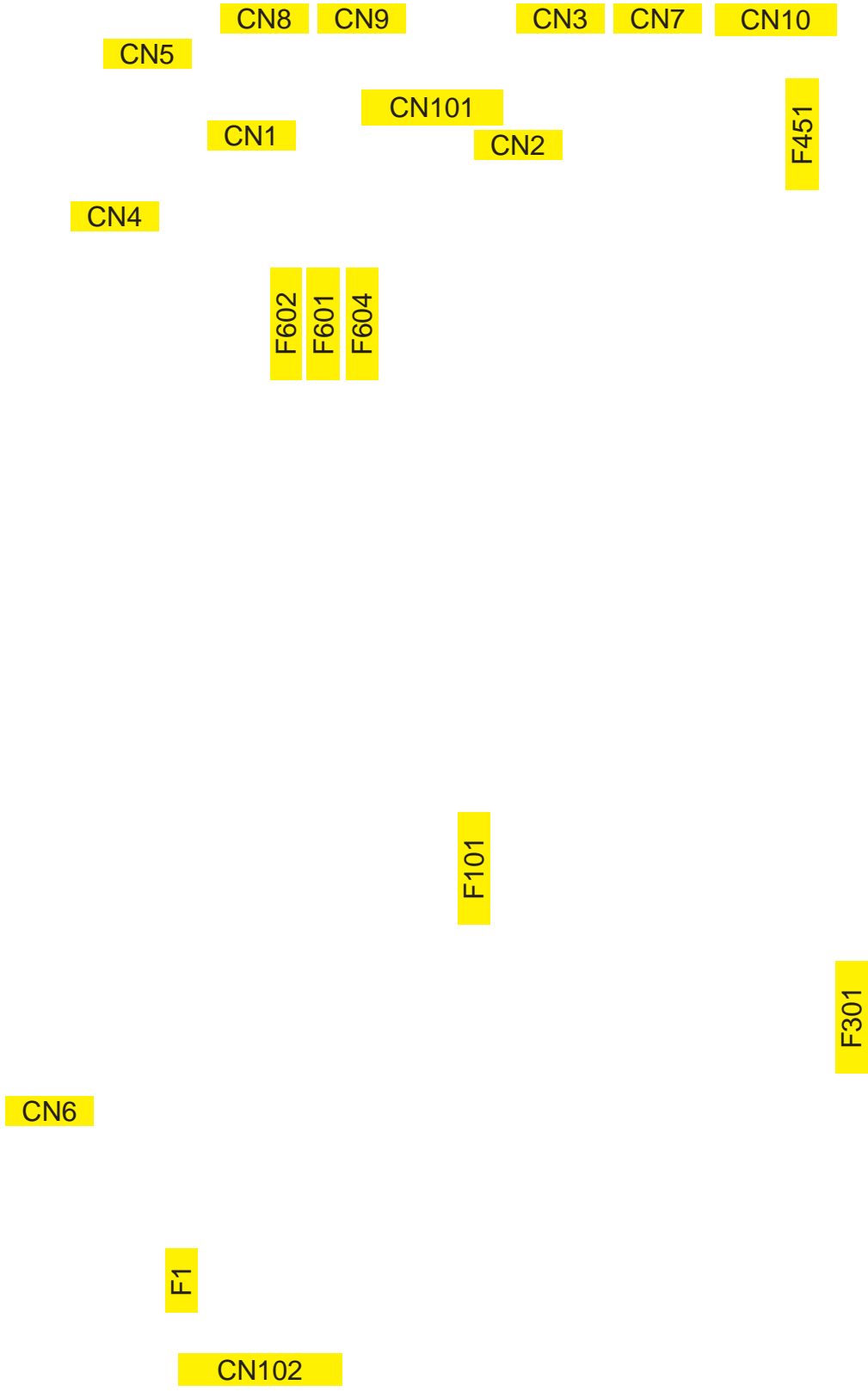


1-3. PCB Placement Viewed from the Side

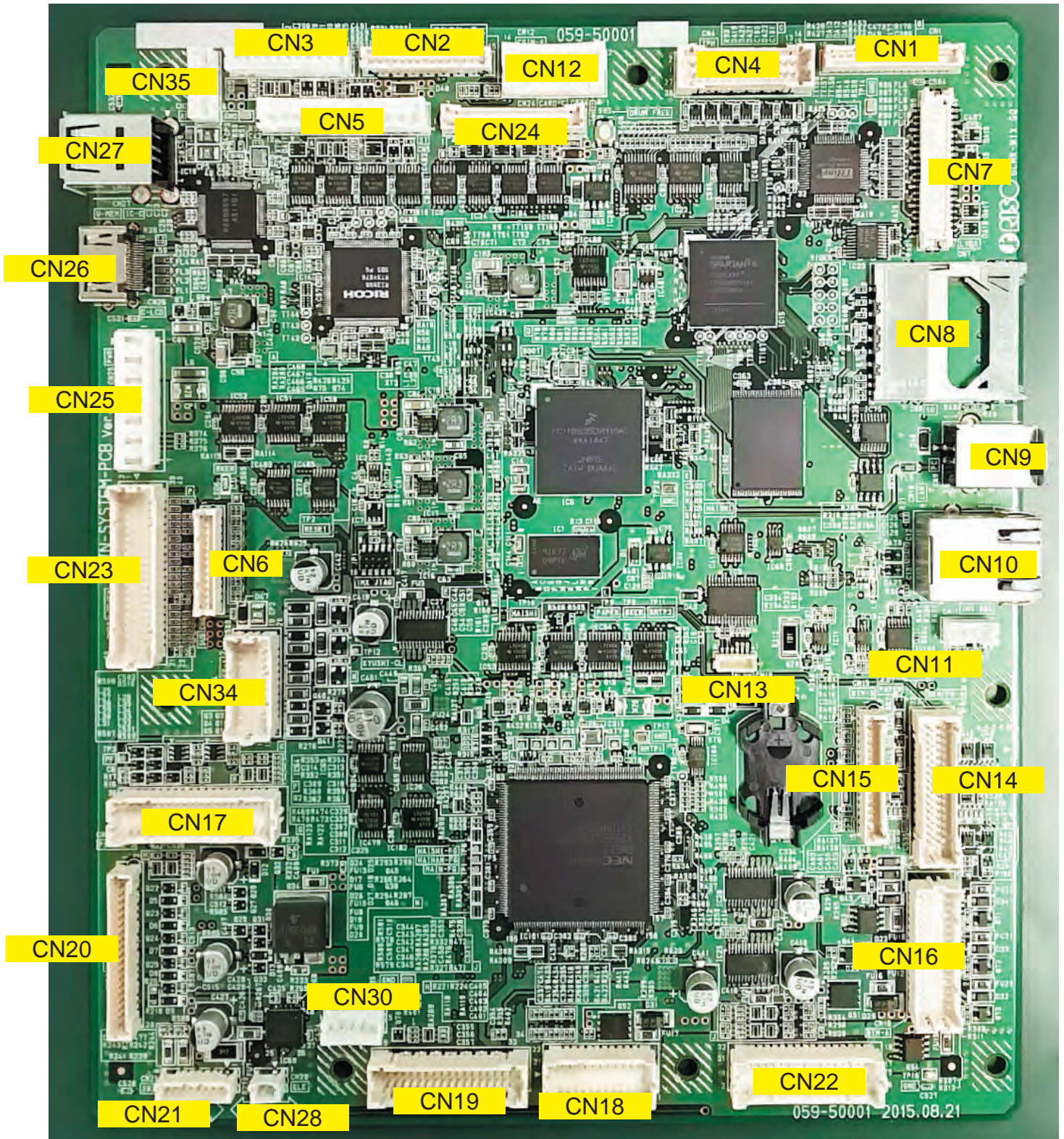


## 2. Connectors Placed on PCBs

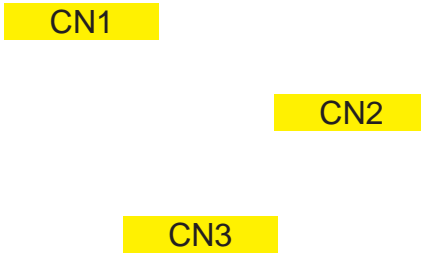
### 2-1. Power Supply Assembly



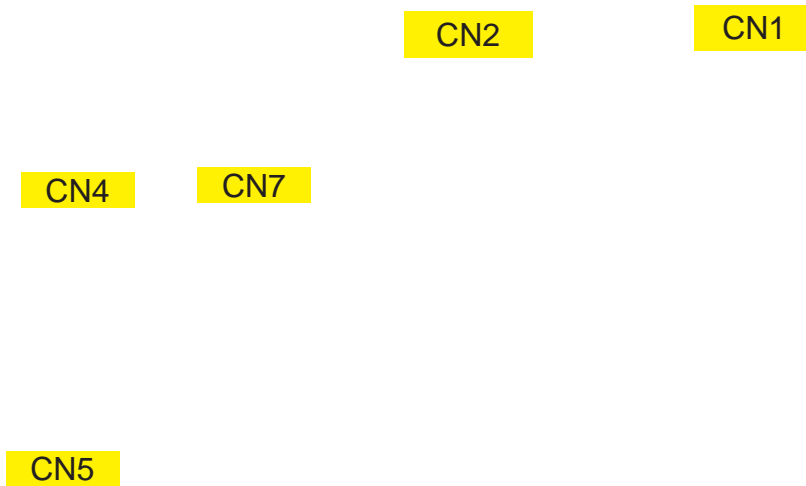
2-2. MAIN-SYSTEM-PCB



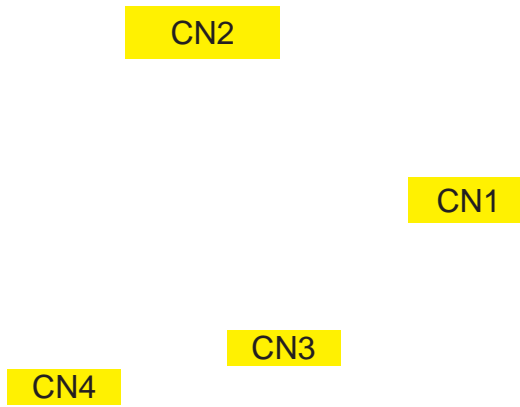
### 2-5. MASTER-RELAY-PCB



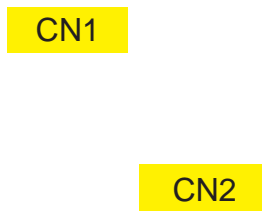
### 2-6. MASTER-MAKING-PCB



**2-7. PFR (Paper Feed Relay)-PCB**



**2-8. SUB-SYSTEM-PCB**



**2-9. VIDEO-RELAY-PCB**

CN2

CN1

**2-10. PF (Paper Feed)-TRAY-PCB**

CN1

CN2



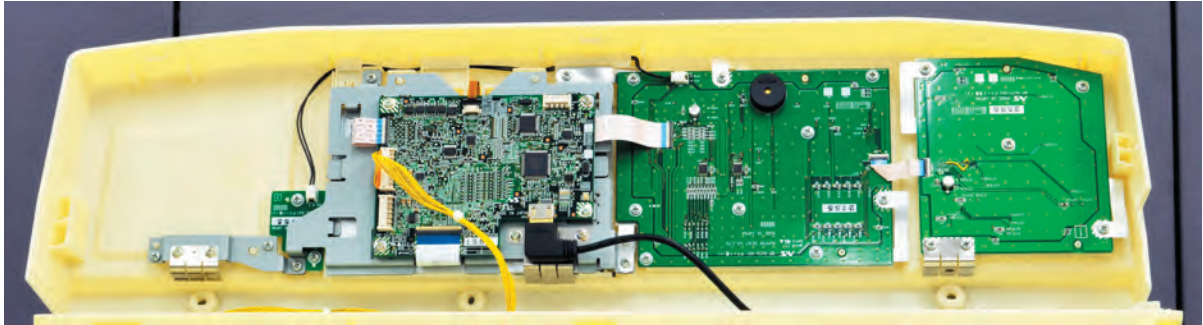
**2-11. USB-MEM-PCB**

CN2

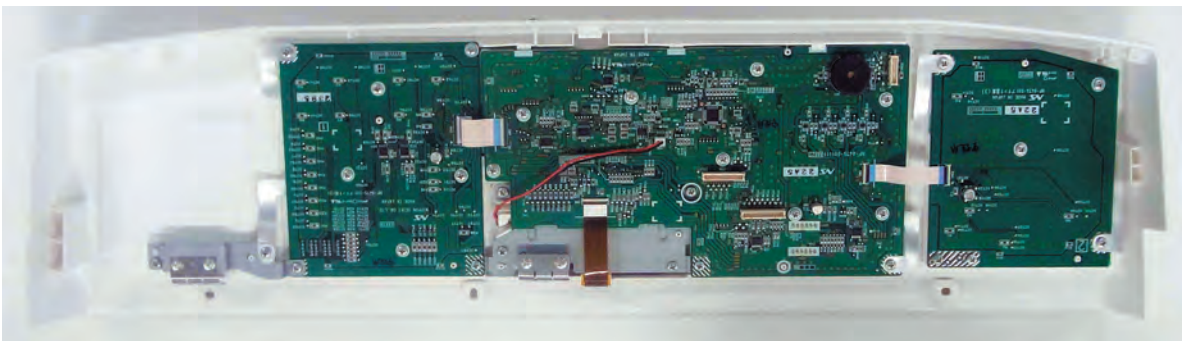
CN1

## 2-12. Operation Panel Unit

### (1) SF9 Series

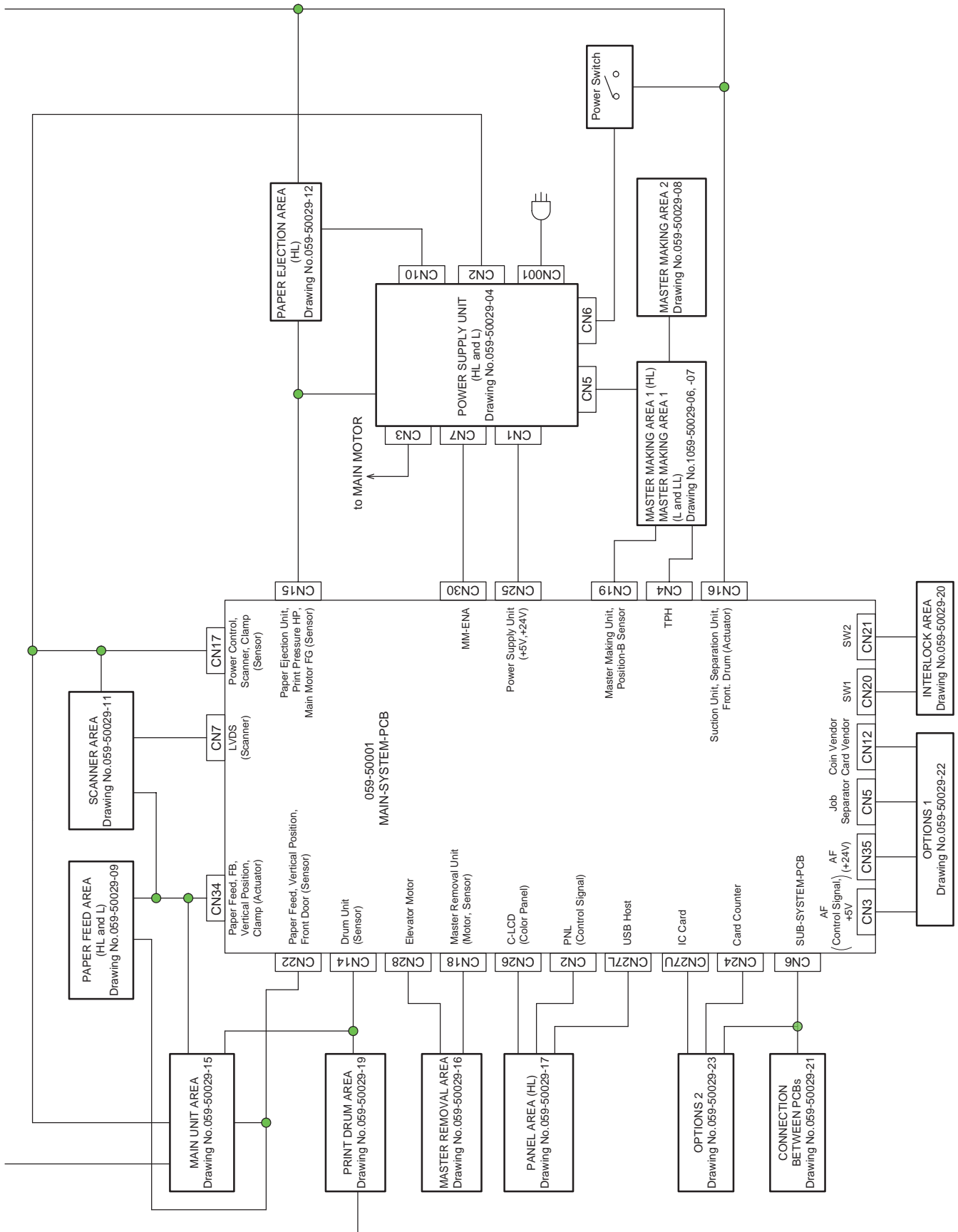


### (2) SF5\*5 Series/SF5\*3 Series

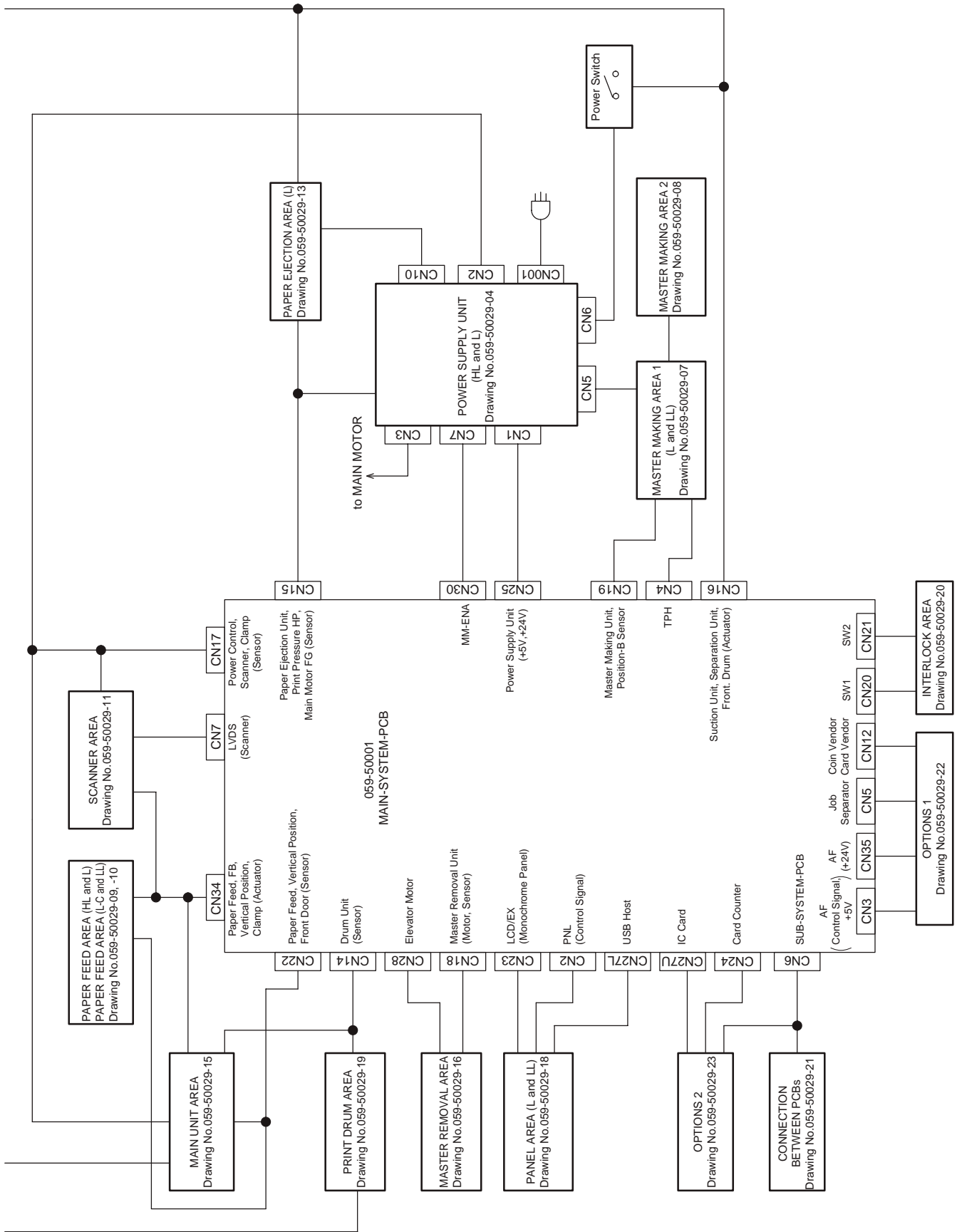


### 3. Block and Wiring Diagrams

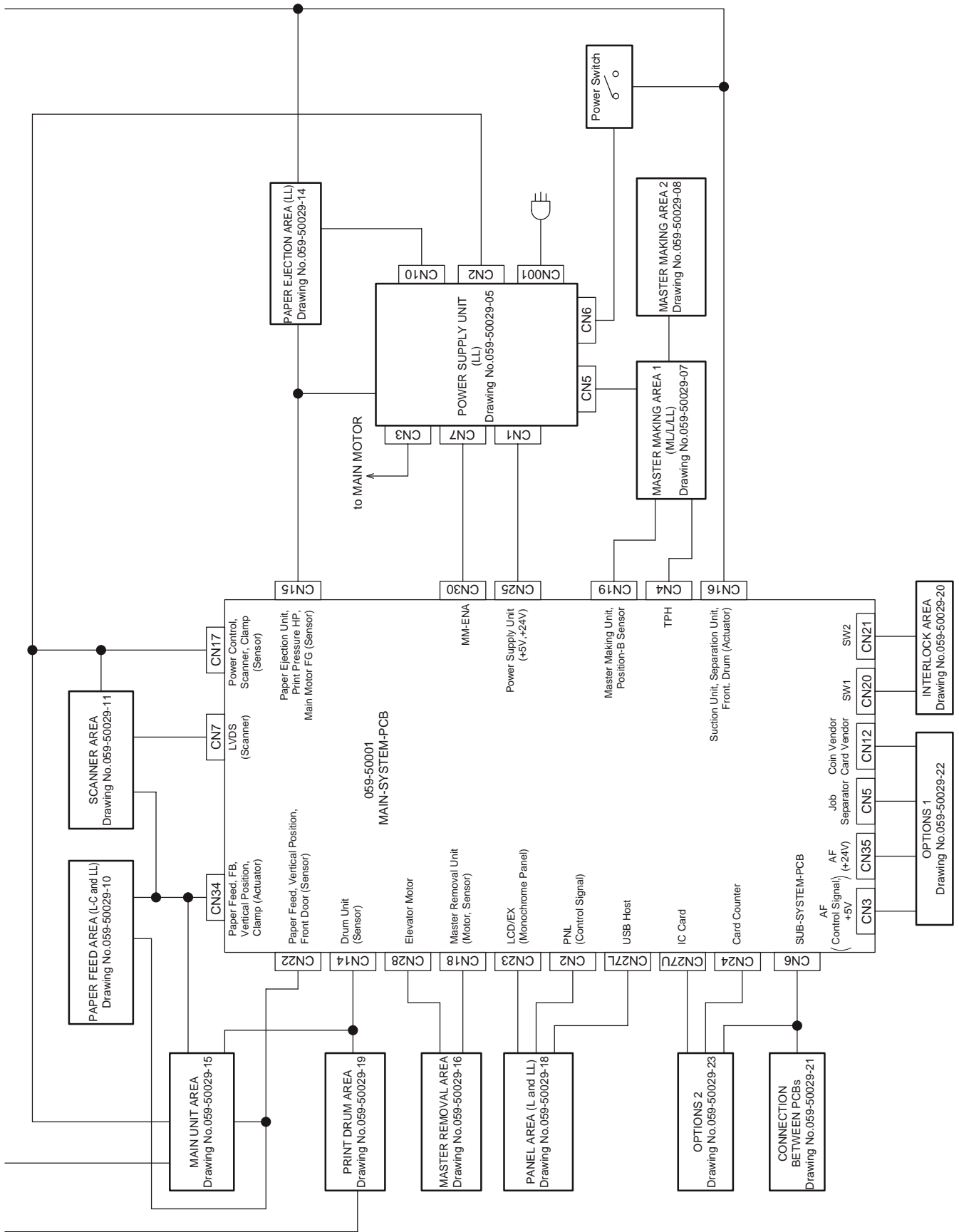
#### (1) Whole Wiring Diagram (SF9 Series)



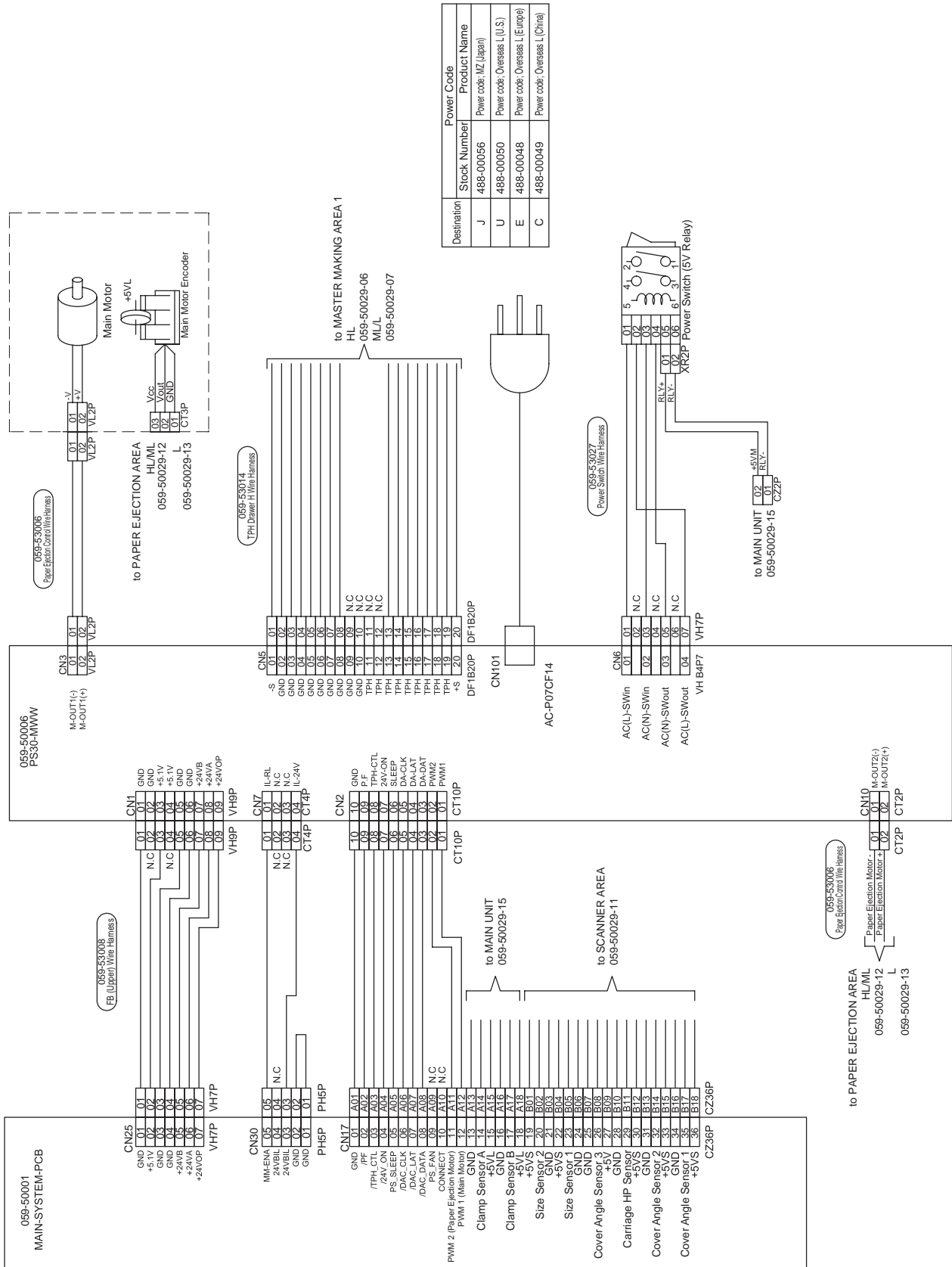
(2) Whole Wiring Diagram (SF5\*5 Series)



(3) Whole Wiring Diagram (SF5\*3 Series)



(4) Power Supply Unit (SF9 Series/SF5\*5 Series)



Destination	Stock Number	Product Name
J	488-00056	Power code, IZ (Japan)
U	488-00050	Power code, Overseas L (U.S.)
E	488-00048	Power code, Overseas L (Europe)
C	488-00049	Power code, Overseas L (China)

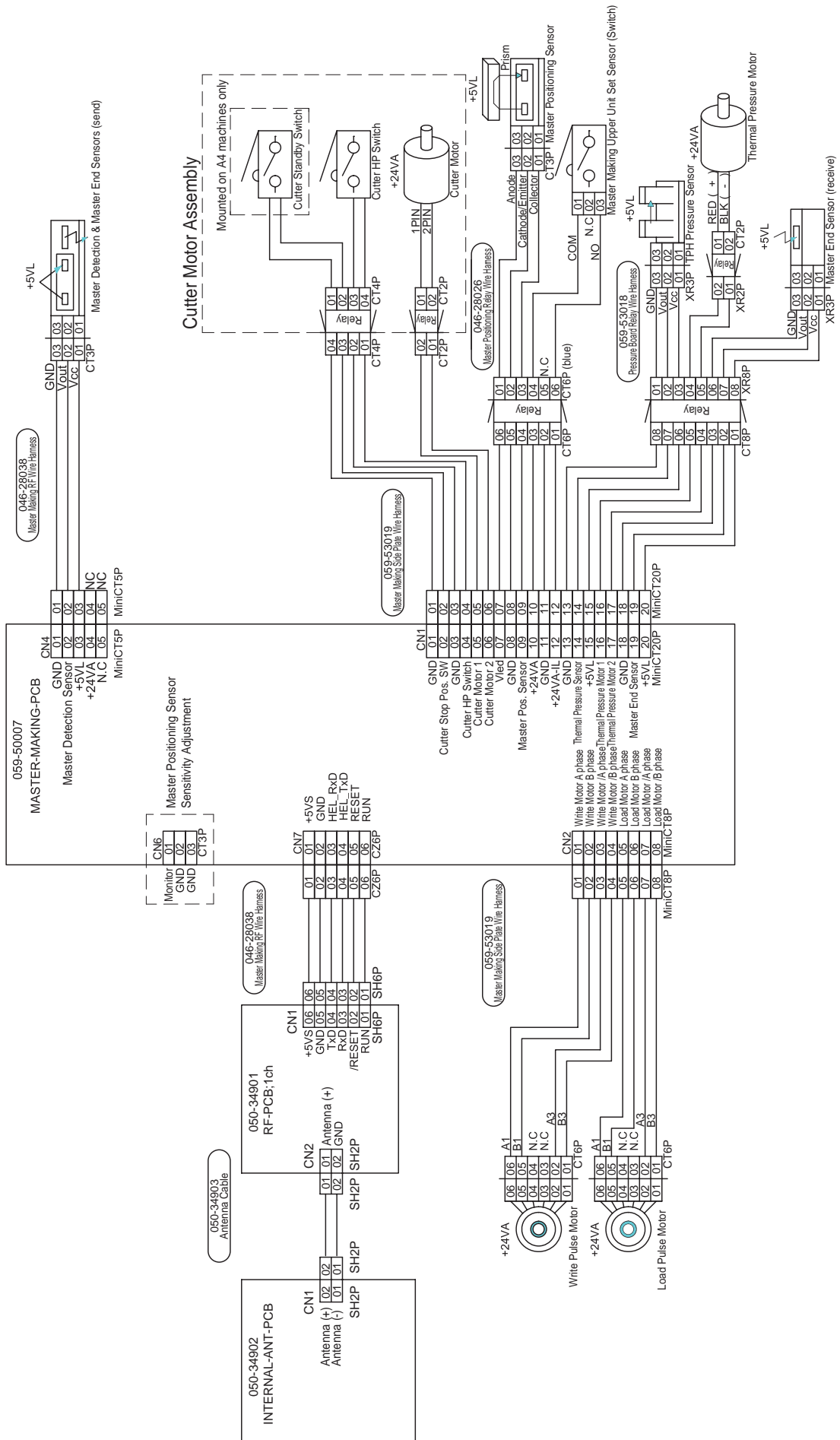






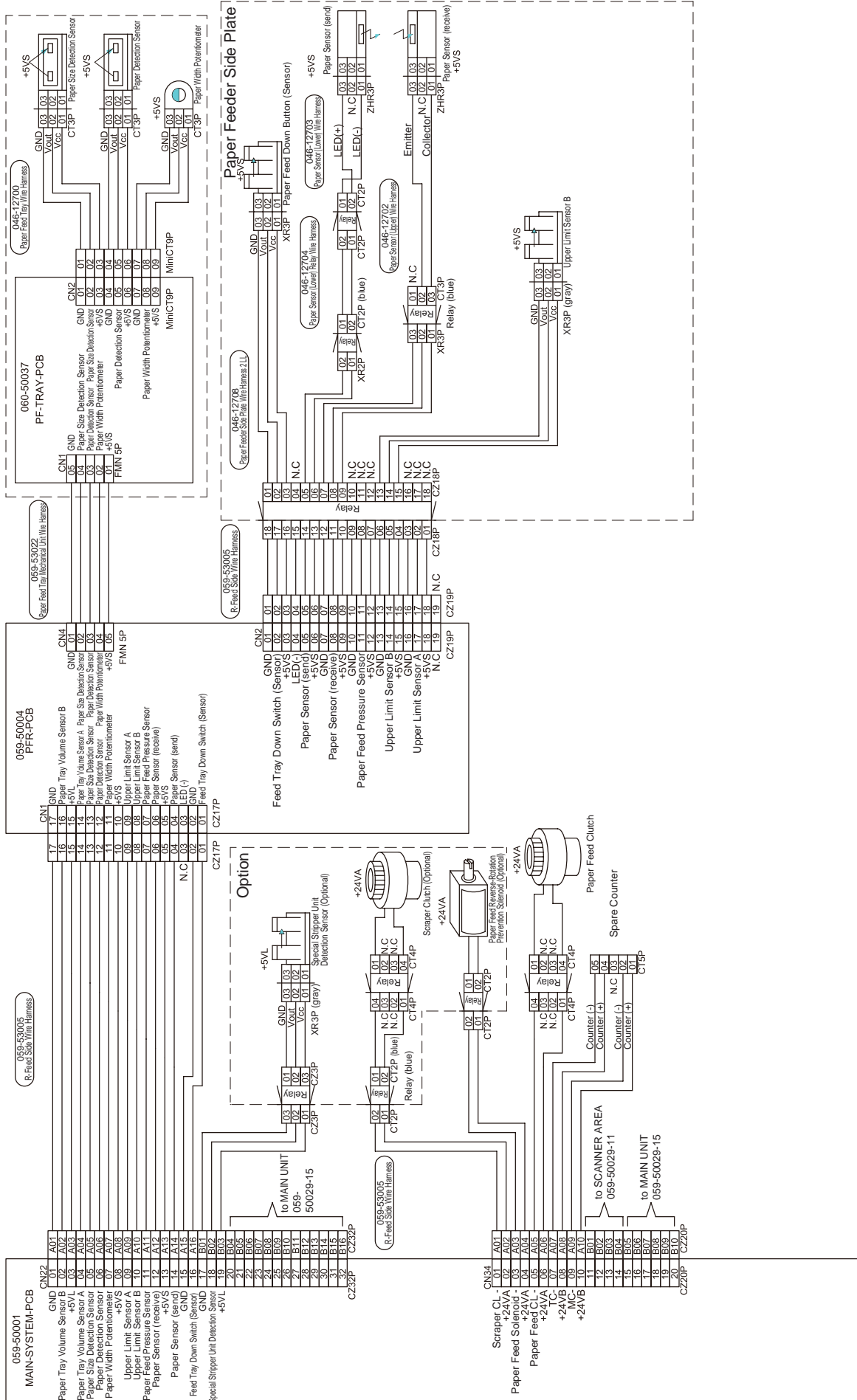


(8) Master Making Area 2





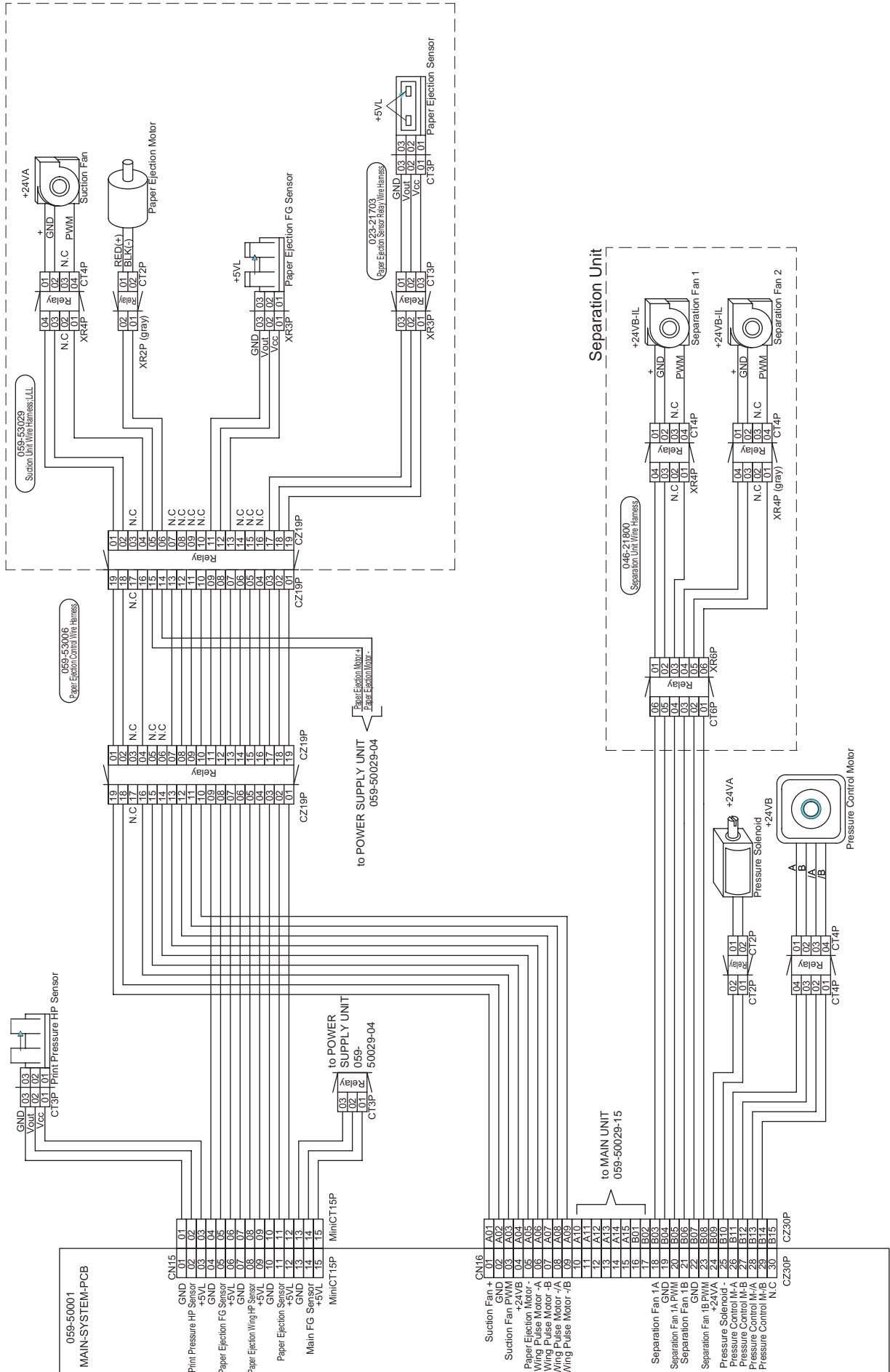
(10) Paper Feed Area (SF5\*3 Series)



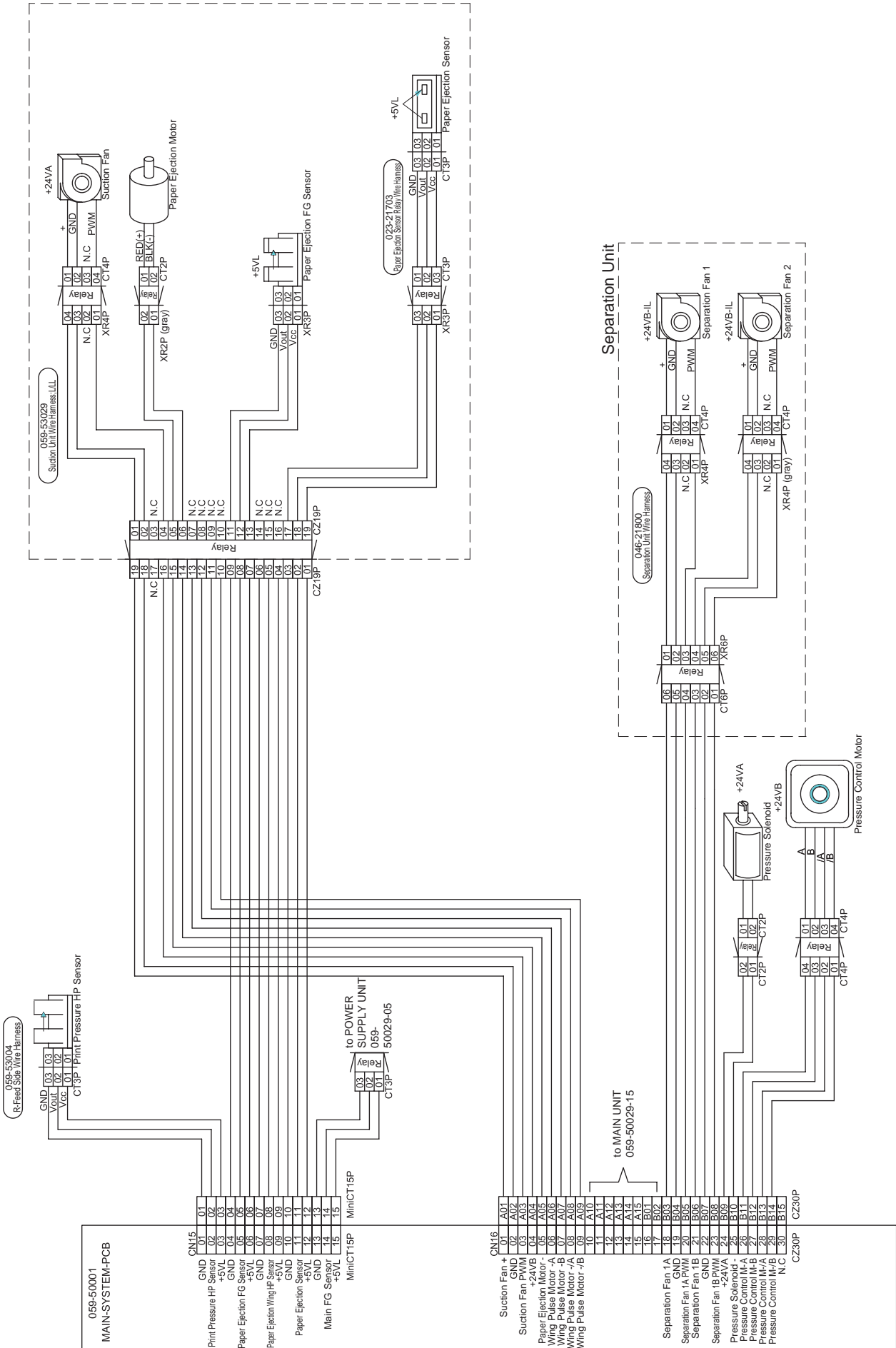




(13) Paper Ejection Area (SF5\*5 Series)

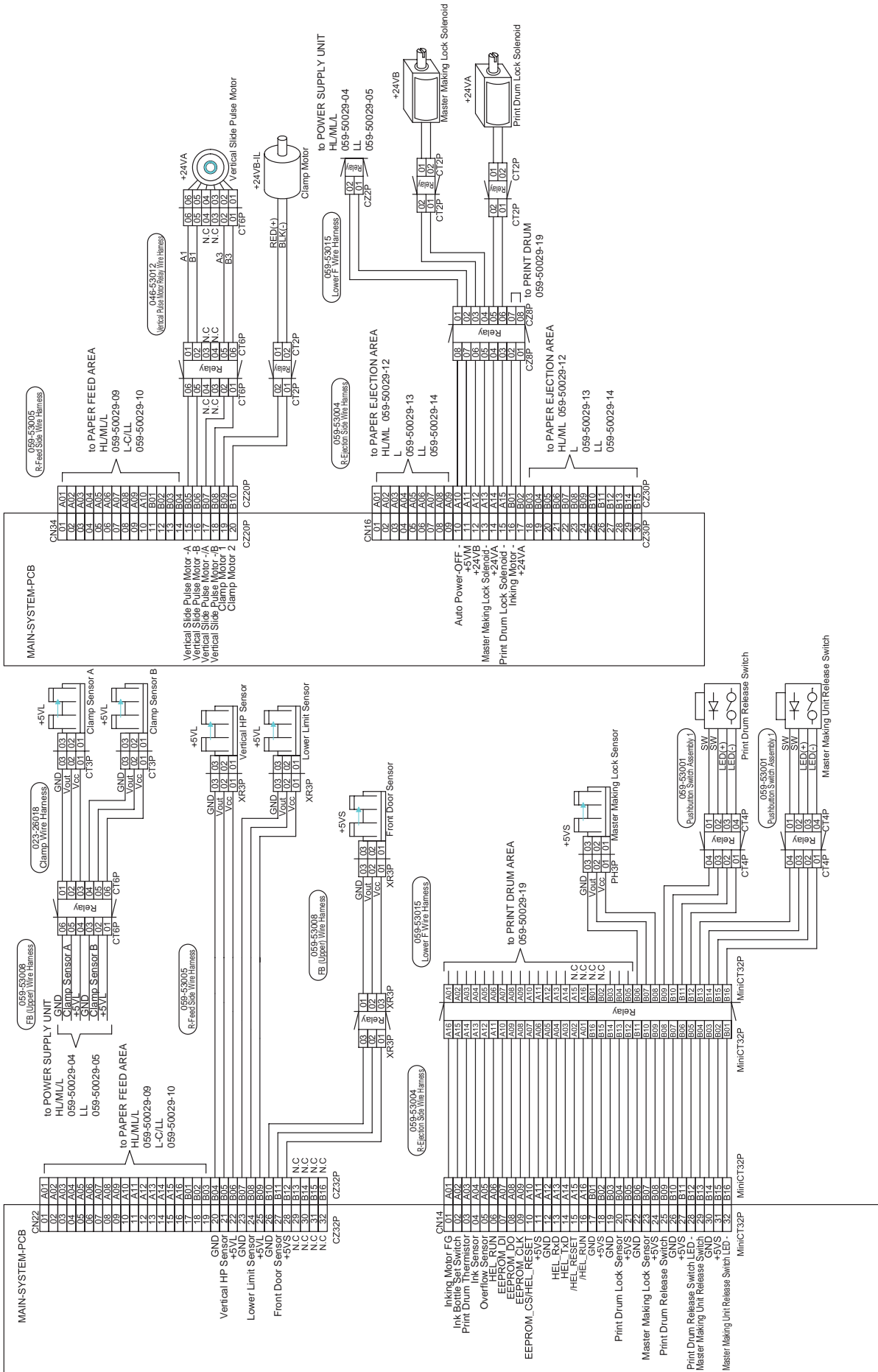


(14) Paper Ejection Area (SF5\*3 Series)

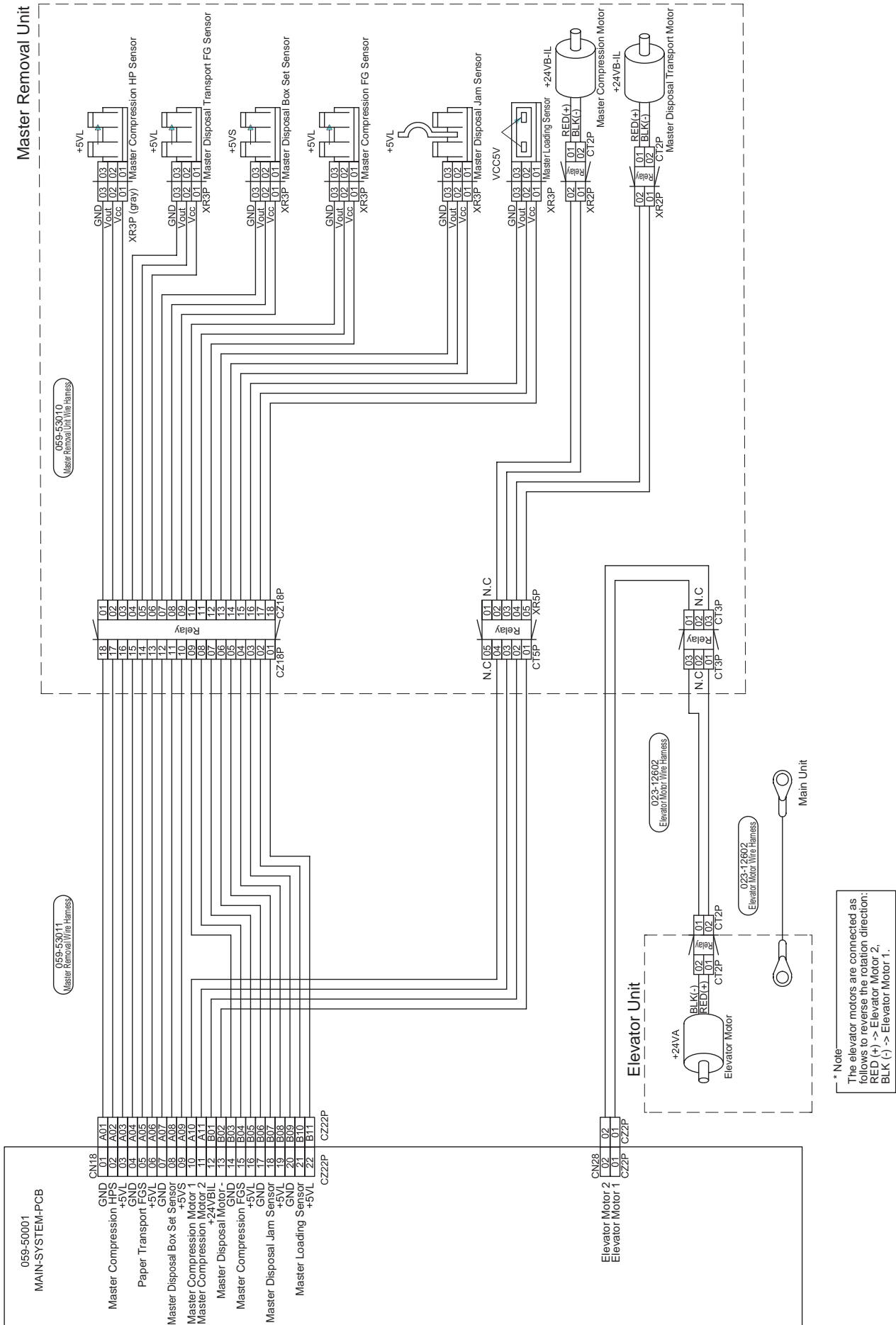




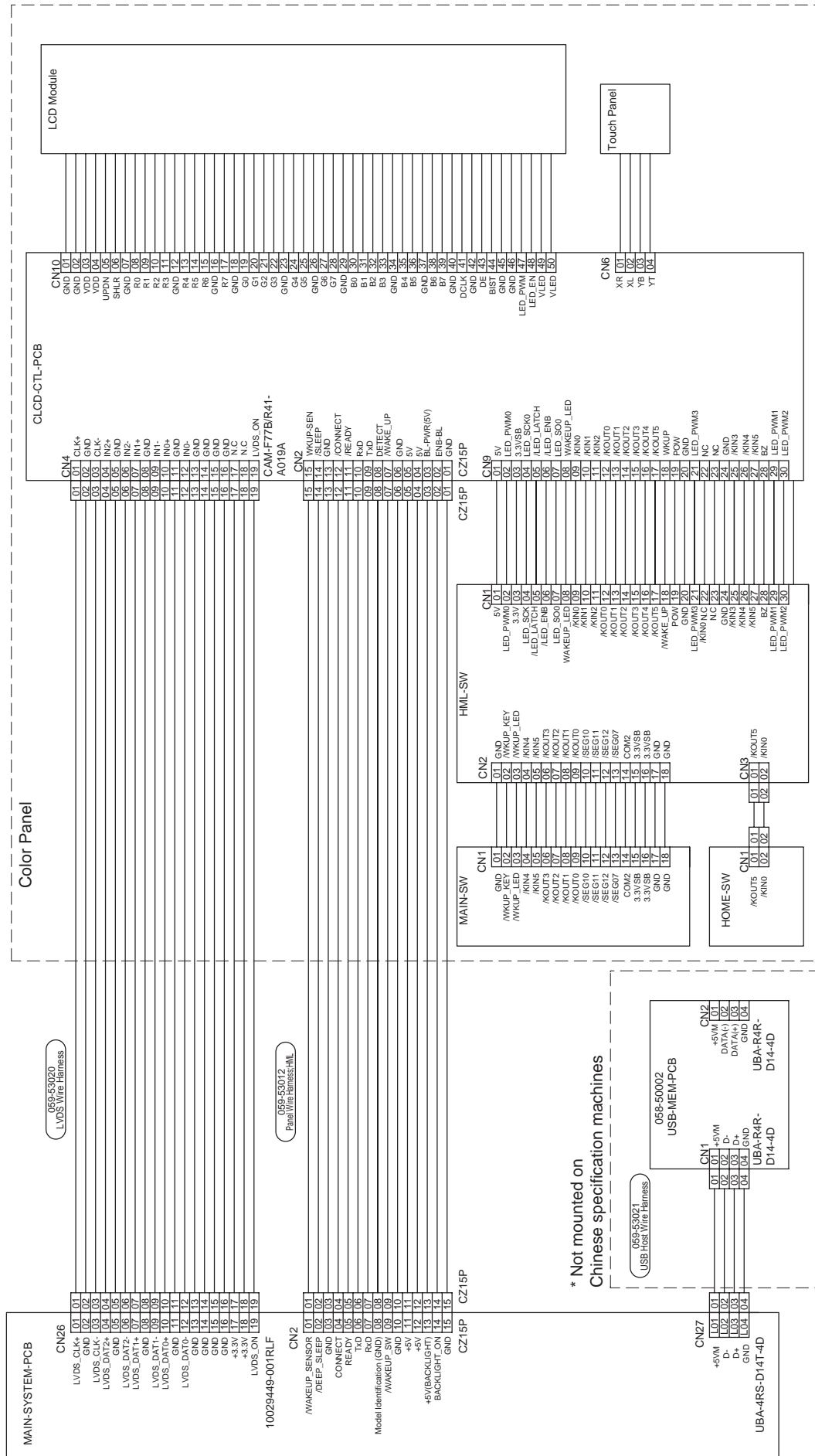
(15) Main Unit Area



(16) Master Removal Area

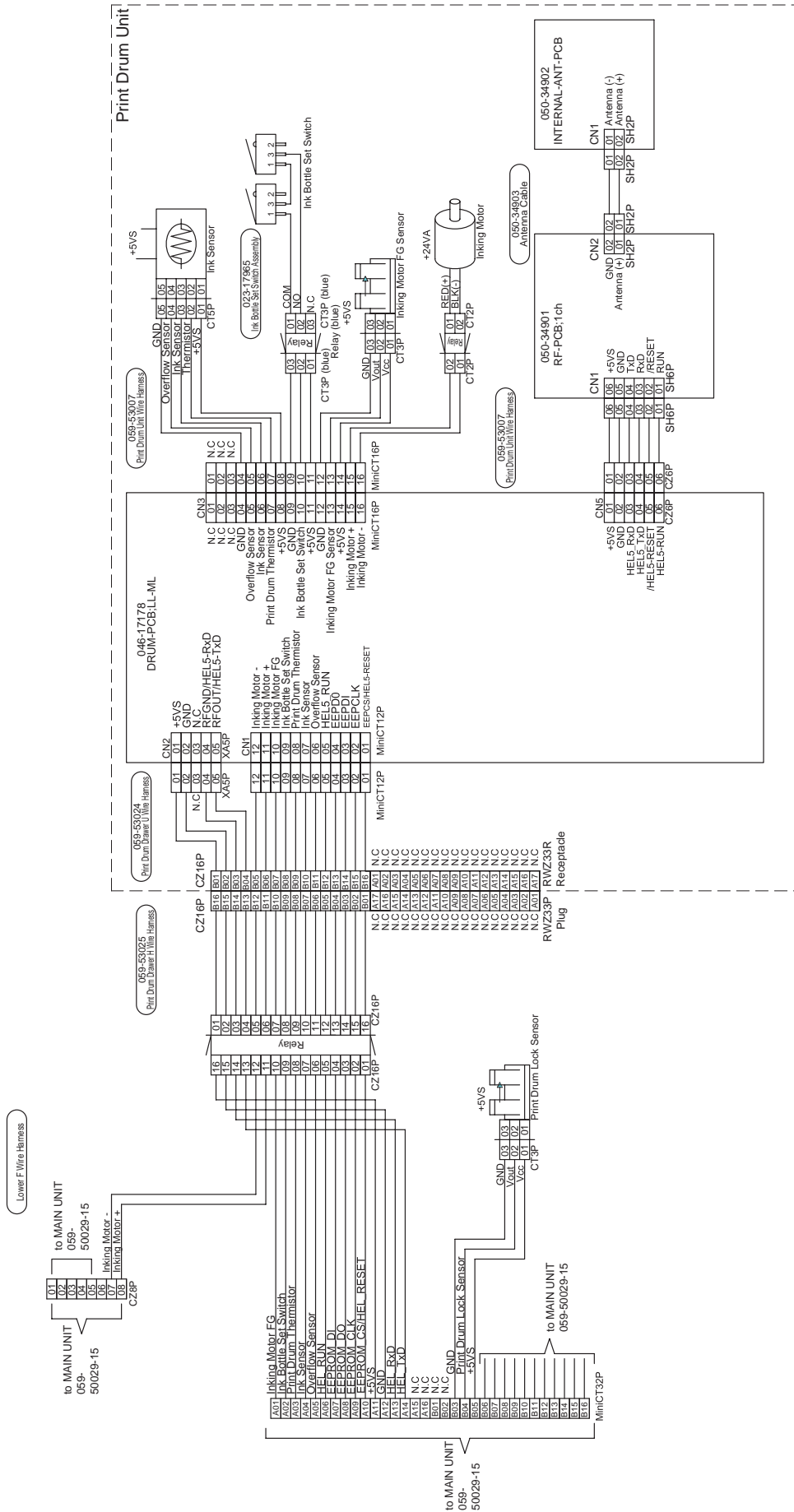


(17) Panel Area (SF9 Series)

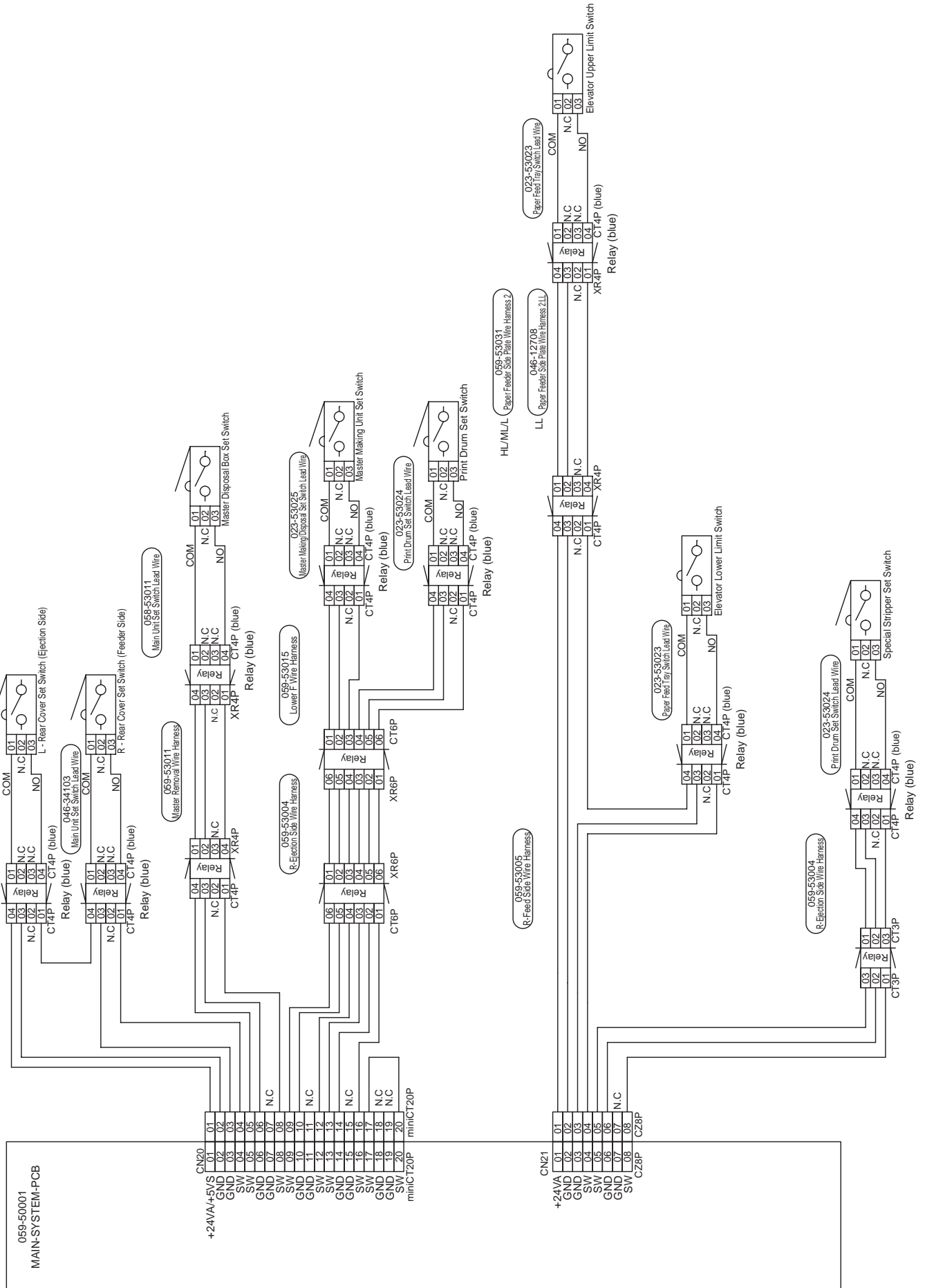




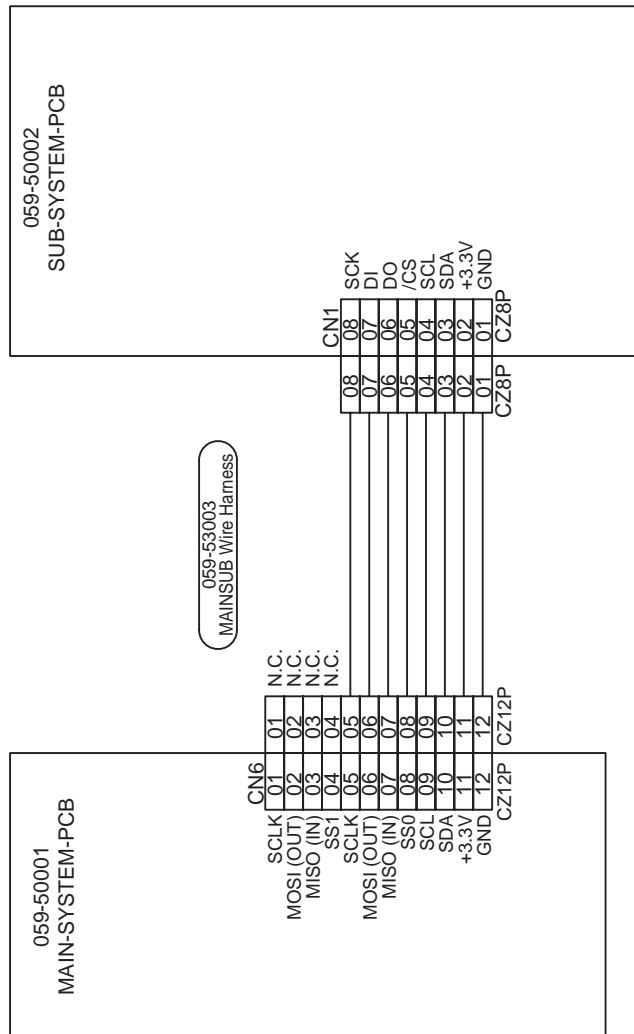
(19) Print Drum Area



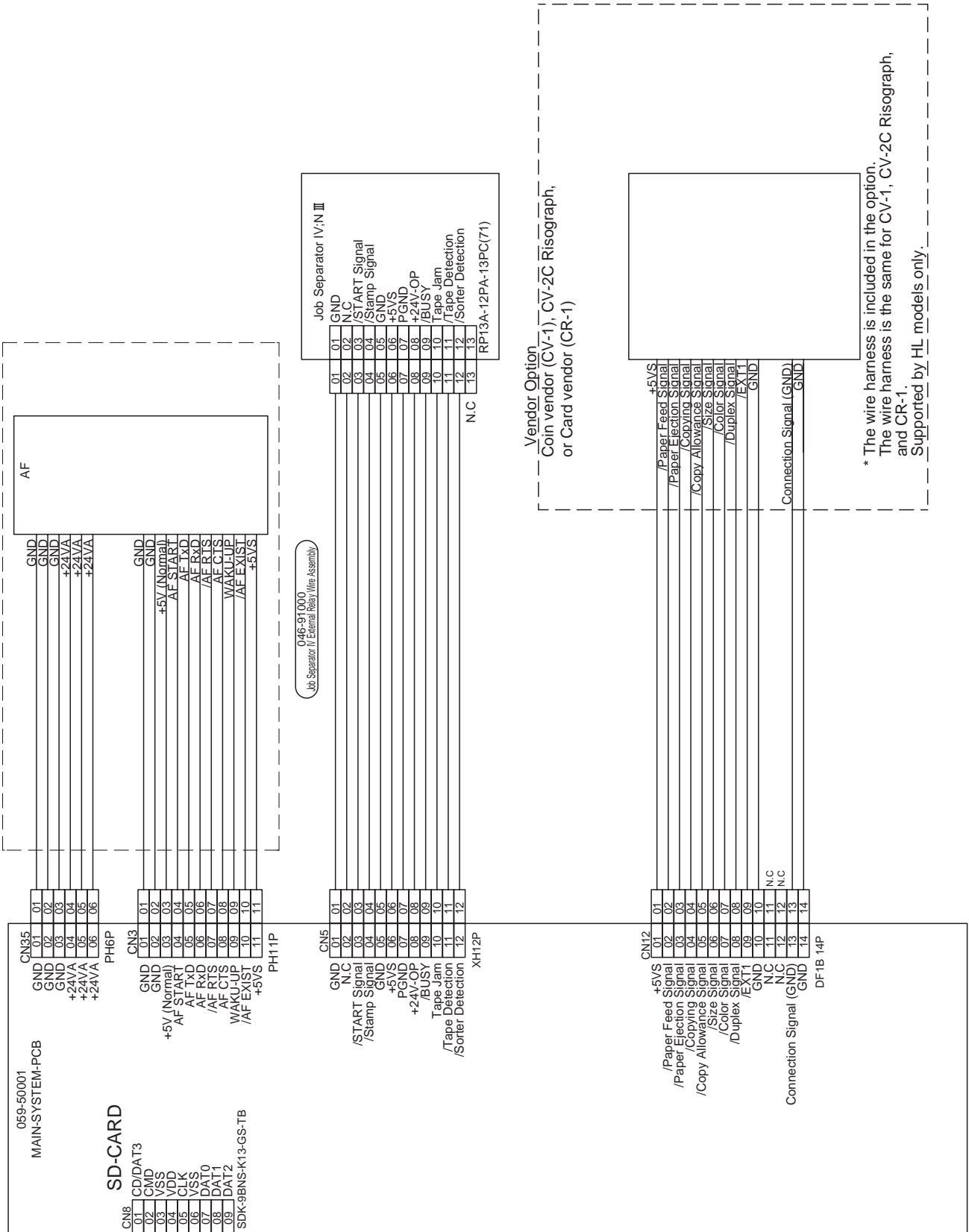
(20) Set Area



(21) Connection between PCBs

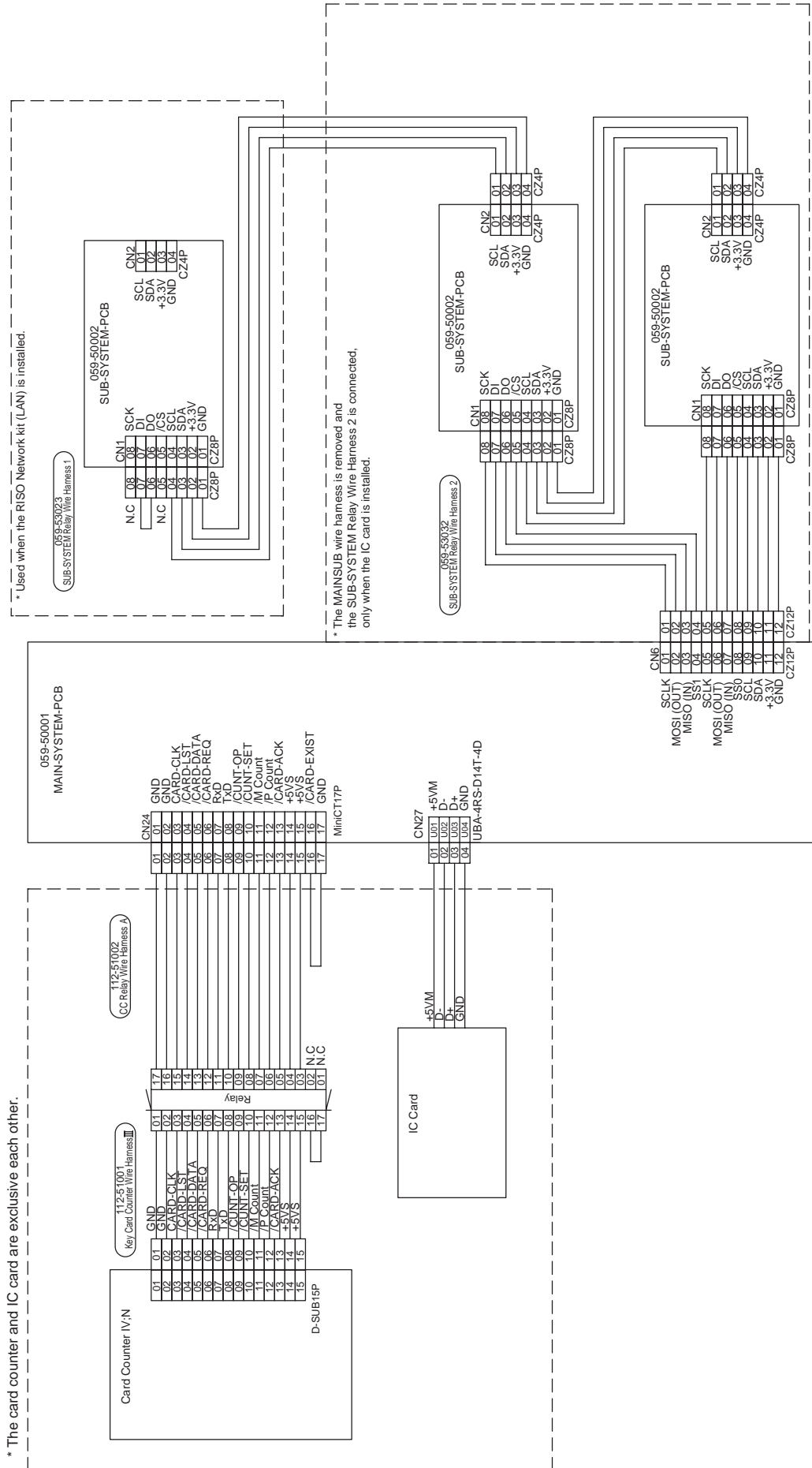


(22) Options 1





(23) Options 2



\* The card counter and IC card are exclusive each other.

# MEMO

# MEMO

# MEMO

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# CHAPTER 21: Electrical Components

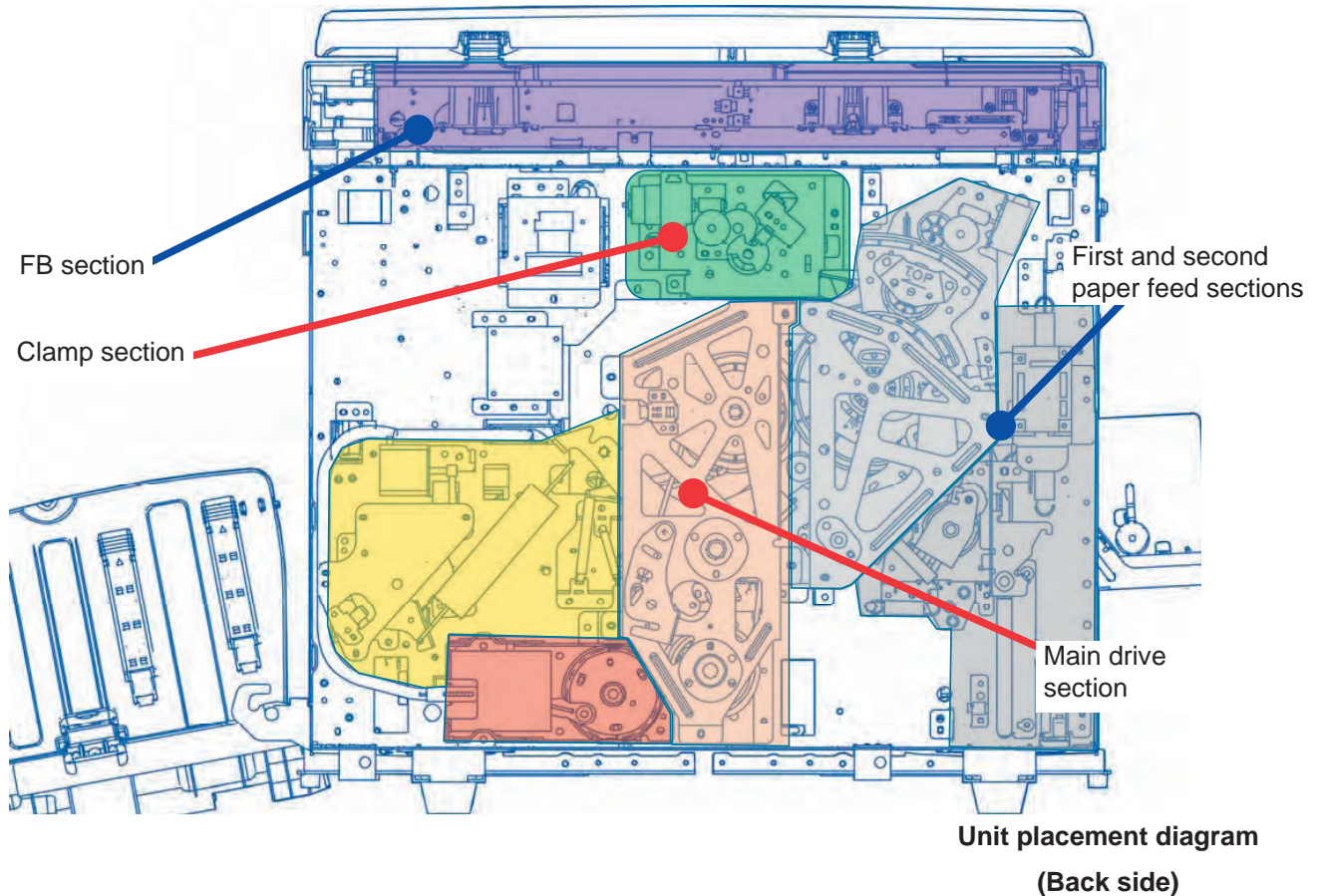
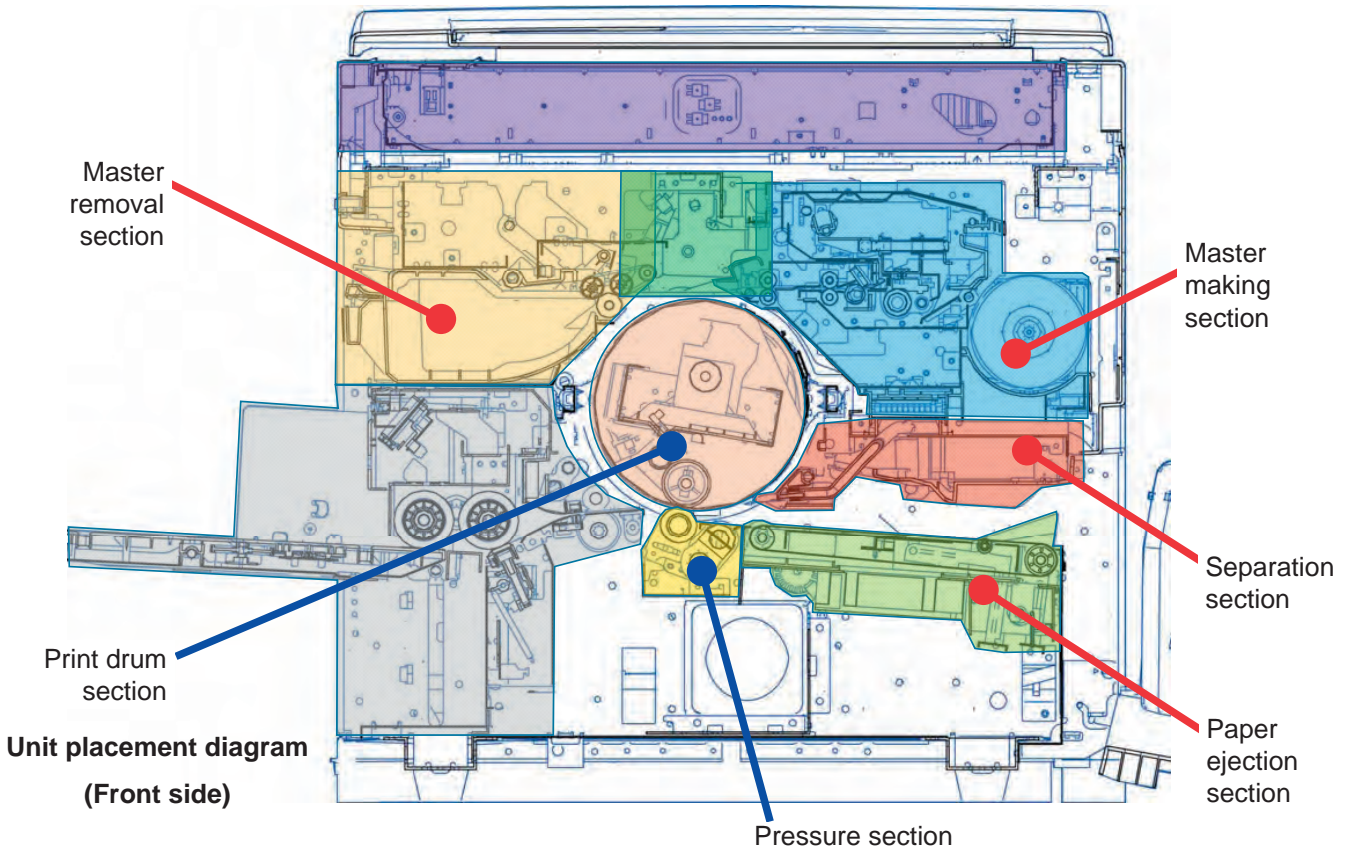
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## Contents

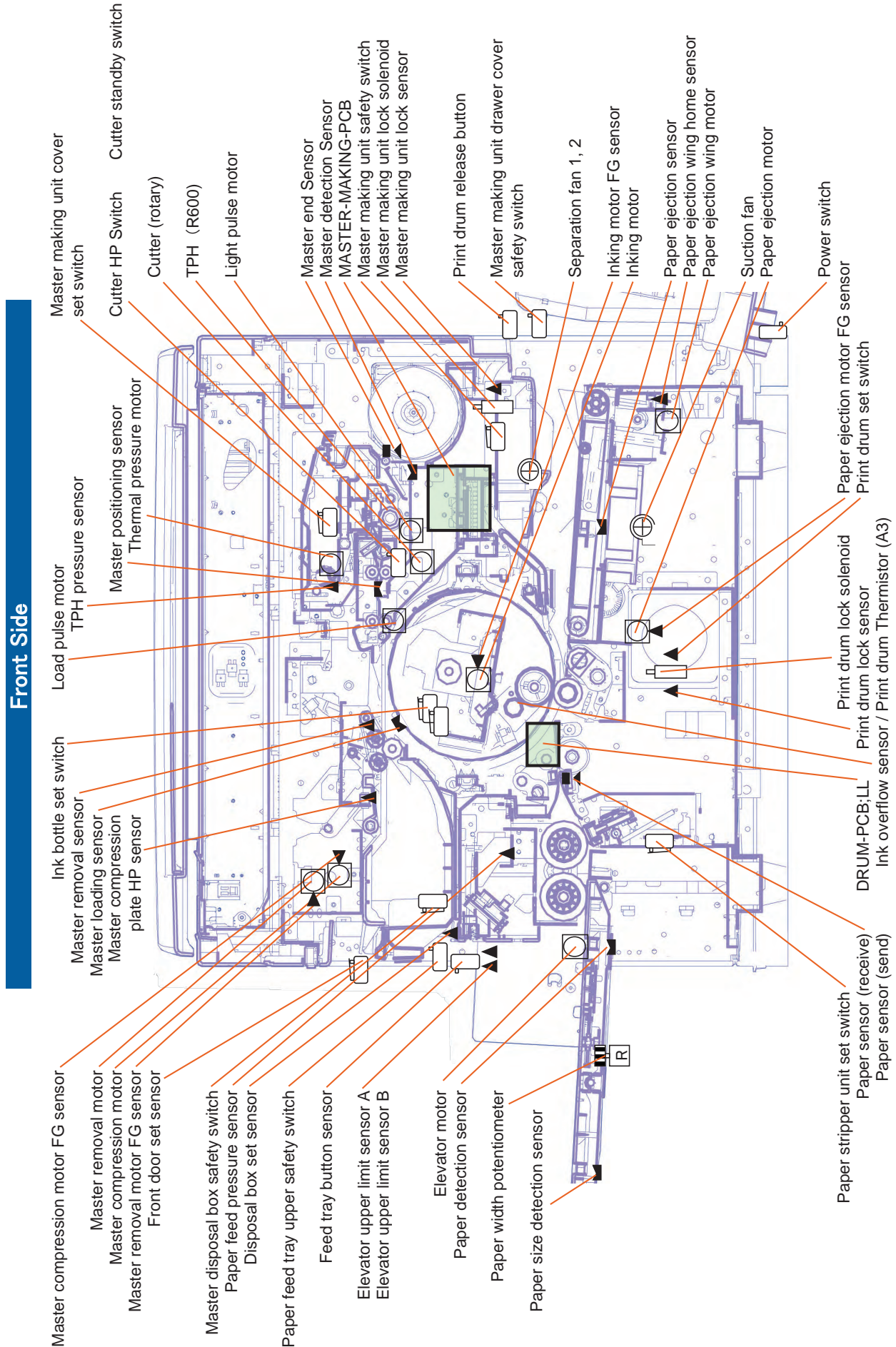
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# 1. Electrical Components Placement Diagram

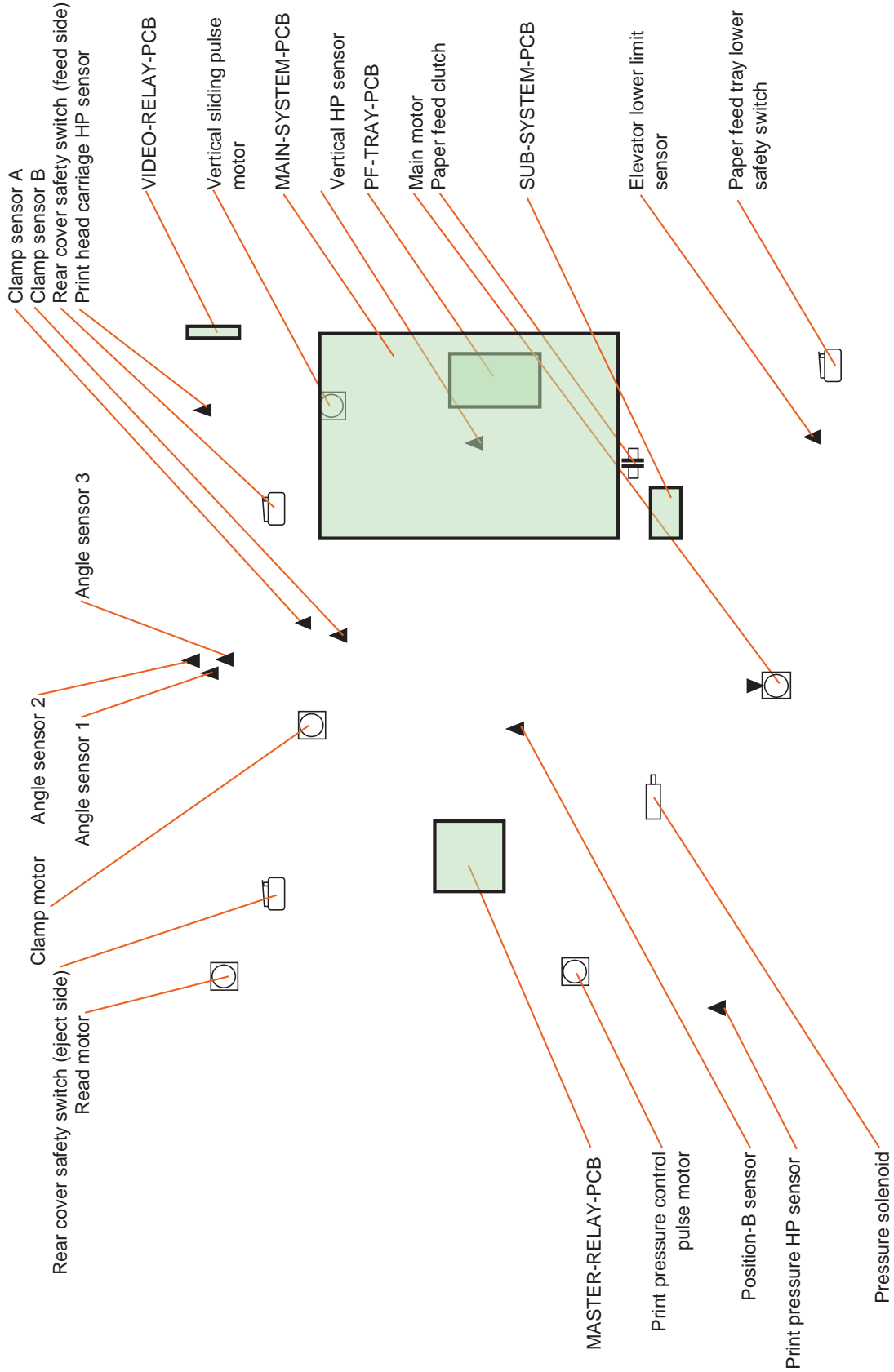
## 1-1. Overall Diagram



1-2. Electrical Components Placement Diagram



Rear Side





## 2. Electrical Components List

### 2-1. Sensors

Part Name	Section	SF9	SF5*5	SF5*3	Remarks
Front door set sensor	Main body section	○	○	○	
Master making unit lock sensor	Main body section	○	○	○	
Position-B sensor	Main drive section	○	○	○	
Vertical print positioning HP sensor	Main drive section	○	○	○	
Print pressure HP sensor	Main drive section	○	○	○	
Paper size detection sensor	Paper feed section	○	○	○	
Paper detection sensor	Paper feed section	○	○	○	
Feed tray button sensor	Paper feed section	○	○	○	
Elevator upper limit sensor A	Paper feed section	○	○	-	
Elevator upper limit sensor B	Paper feed section	○	○	○	
Elevator lower limit sensor	Paper feed section	○	○	○	
Paper feed pressure sensor	Paper feed section	○	○	-	
Paper sensor (send)	Paper feed section	○	○	○	
Paper sensor (receive)	Paper feed section	○	○	○	
Paper ejection motor FG sensor	Paper ejection section	○	○	○	
Paper ejection sensor	Paper ejection section	○	○	○	
Paper ejection wing HP sensor	Paper ejection section	○	-	-	
Inking motor FG sensor	Print drum section	○	○	○	
Print drum lock sensor	Print drum section	○	○	○	
Ink overflow sensor / Print drum thermistor (A3)	Print drum section	*1	*1	*1	*1: It attaches to a INK sensor PCB and depends on drum size.
Ink overflow sensor / Print drum thermistor (B4)	Print drum section	*1	*1	*1	
Clamp sensor A	Clamp section	○	○	○	
Clamp sensor B	Clamp section	○	○	○	
Master removal motor FG sensor	Master removal section	○	○	○	
Master compression motor FG sensor	Master removal section	○	○	○	
Master loading sensor	Master removal section	○	○	○	
Master disposal box set sensor	Master removal section	○	○	○	
Master compression plate HP sensor	Master removal section	○	○	○	
Master disposal jam sensor	Master removal section	○	○	○	
TPH pressure sensor	Master making section	○	○	○	
Master detection sensor	Master making section	○	○	○	
Master end sensor	Master making section	○	○	○	
Master positioning sensor	Master making section	○	○	○	
Carriage HP sensor	Scanning section	○	○	○	In the scanner unit
Angle sensor 1	Scanning section	○	○	○	In the scanner unit
Angle sensor 2	Scanning section	○	○	○	In the scanner unit
Angle sensor 3	Scanning section	○	○	○	In the scanner unit (Cover Open/Close detection)

Original detection sensor	AF section (OP)	OP	OP	OP	In the AF unit.
Original registration sensor	AF section (OP)	OP	OP	OP	
Original edge sensor	AF section (OP)	OP	OP	OP	
Original ejection sensor	AF section (OP)	OP	OP	OP	
Original size width sensor 1	AF section (OP)	OP	OP	OP	
Original size width sensor 2	AF section (OP)	OP	OP	OP	
Original size width sensor 3	AF section (OP)	OP	OP	OP	
Original size length sensor 1	AF section (OP)	OP	OP	OP	
Original size length sensor 2	AF section (OP)	OP	OP	OP	
Cover open/close sensor	AF section (OP)	OP	OP	OP	

## 2-2. Switch, Button, VR (potentiometer)

Part Name	Section	SF9	SF5*5	SF5*3	Remarks
Rear cover safety switch (feeder side)	Main body section	O	O	O	
Rear cover safety switch (ejection side)	Main body section	O	O	O	
Power switch	Main body section	O	O	O	
Print drum set switch	Main body section	O	O	O	
Print drum release button	Main body section	O	O	O	
Master making release button	Main body section	O	O	O	
Paper feed tray upper safety switch	Paper feed section	O	O	O	
Paper feed tray lower safety switch	Paper feed section	O	O	O	
Paper stripper unit set switch	Paper feed section	O	O	O	
Paper width potentiometer	Paper feed section	O	O	O	
Ink bottle set switch	Print drum section	O	O	O	
Master disposal box safety switch	Master removal section	O	O	O	
Cutter standby switch (Shuttle)	Master making section	-	-	*2	In the cutter unit *2: Only SF5030 SF5130
Cutter HP switch (Rotary)	Master making section	O	O	*3	In the cutter unit *3: Besides SF5030 SF5130
Master making unit safety switch	Master making section	O	O	O	
Master making unit cover set switch	Master making section	O	O	O	

**2-3. Motor**

Part Name	Section	SF9	SF5*5	SF5*3	Remarks
Main motor	Main body section	O	O	-	For 150rpm DC motor
Main motor (LL)	Main body section	-	-	O	For 130rpm DC motor
Vertical pulse motor	Main drive section	O	O	O	Pulse motor (PM)
Print pressure control pulse motor	Main drive section	O	O	O	Pulse motor (HB)
Elevator motor	Paper feed section	O	O	O	DC motor (445)
Paper ejection motor	Paper ejection section	O	O	O	DC motor (555)
Paper ejection wing pulse motor	Paper ejection section	O	-	-	Pulse motor (PM)
Inking motor	Print drum section	O	O	O	
Clamp motor	Clamp section	O	O	O	DC motor (445)
Master removal motor	Master removal section	O	O	O	DC motor (555)
Master compression motor	Master removal section	O	O	O	DC motor (445)
Write pulse motor	Master making section	O	O	O	Pulse motor (PM)
Load pulse motor	Master making section	O	O	O	Pulse motor (PM)
Thermal pressure motor	Master making section	O	O	O	DC motor (445)
Cutter (Shuttle)	Master making section	-	-	*2	In the cutter unit *2: Only SF5030 SF5130
Cutter (Rotary)	Master making section	O	O	*3	In the cutter unit *3: Besides SF5030 SF5130
Read motor	Scanning section	O	O	O	In the scanner unit (Motor ASSY)
Transport motor	AF section (OP)	OP	OP	OP	In the AF unit

**2-4. Solenoid/clutch**

Part Name	Section	SF9	SF5*5	SF5*3	Remarks
Master making unit lock solenoid	Main body section	O	O	O	
Print drum lock solenoid	Main body section	O	O	O	
Pressure solenoid	Main drive section	O	O	O	
Paper feed clutch	Paper feed section	O	O	-	For 150rpm
Paper feed clutch	Paper feed section	-	-	O	For 130rpm
Paper feed reverse-rotation prevention solenoid	Paper feed section (OP)	OP	OP	OP	
Scraper clutch	Paper feed section (OP)	OP	OP	OP	
Paper feed clutch	AF section (OP)	OP	OP	OP	It's used in the AF unit
Registration clutch	AF section (OP)	OP	OP	OP	It's used in the AF unit
Switch-back clutch	AF section (OP)	OP	OP	OP	It's used in the AF unit

**2-5. Fan**

Part Name	Section	SF9	SF5*5	SF5*3	Remarks
Separation Fan 1, 2	Paper ejection section	O	O	O	
Suction Fan	Paper ejection section	O	O	O	

## 2-6. Others

Part Name	Section	SF9	SF5*5	SF5*3	Remarks
MAIN-SYSTEM-PCB	Main body section	O	O	O	
SUB-SYSTEM-PCB	Main body section	O	O	O	
PS30-MWW	Main body section	O	O	-	For 150rpm
PS28-MWW	Main body section	-	-	O	For 130rpm
MASTER-RELAY-PCB	Main body section	O	O	O	
PFR-PCB	Paper feed section	O	O	O	
PF-TRAY-PCB	Paper feed section	O	O	O	
MASTER-MAKING-PCB	Master making section	O	O	O	
TPH (R600)	Master making section	*4	*	-	*4: SF9x (R600, A3, B4, Ledger machine)
TPH (D600-A3)	Master making section	*5	*5	*5	*5: Only SF54, SF53 (D600, A3, Ledger machine)
TPH (D600-B4)	Master making section	*6	*6	*6	*6: Only SF52, SF51, SF50 (D600, B4, Ledger, A4 machine)
RF-PCB;1 ch	Master making section, print drum section	O	O	O	
INTERNAL-ANT-PCB	Master making section, print drum section	O	O	O	
DRUM-PCB	Print drum section	O	O	O	
VIDEO-RELAY-PCB	Scanning section	O	O	O	
SUB-SYSTEM-PCB; IC	Main body section (OP)	O	O	OP	
SUB-SYSTEM-PCB; LAN	Main body section (OP)	O	O	OP	

### 3. Fuse List

#### 3-1. Power Assembly (PS30-MWW)

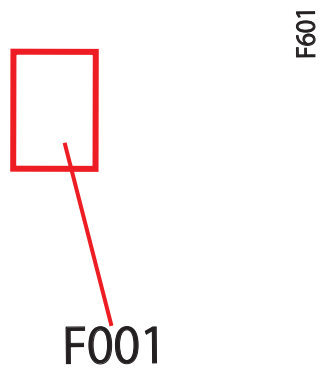
(SF9, SF5\*5 series)

Fuse No.	Section	When turning power OFF, then ON	Connected parts
F001 (100/200 type) 250V 10A	Primary power system	Machine power cannot be turned ON.	Main power supply
F451 250V 1.6A	M-OUT2	T20-437 Paper ejection motor lock is detected.	Paper ejection motor
F601 250V 3.15A	24V-A	T98-947 24V-A is not turned ON.	Vertical sliding pulse motor Power supply unit (standard paper feed tray) Paper feed clutch Scraper clutch Suction fan Ink motor Pressure solenoid Print drum lock solenoid Elevator motor Paper feed reverse-rotation prevention solenoid Scanner motor Scanner lamp AF Light pulse motor Load pulse motor Cutter motor Thermal pressure motor Read pulse motor
F602 250V 6.3A	24V-B	T98-948 24V-B is not turned ON.	Paper wing pulse motor Print pressure control pulse motor Copy counter Master counter Separation fan A Separation fan B Master making lock solenoid Master compression motor Master disposal motor Clamp motor
F604 250V 3.15A	24V-OP	T98-735 24V-OP is not turned ON.	Job separator

**3-2. Power Assembly (PS28-NWW)**  
**(SF5\*3 series)**

Fuse No.	Section	When turning power OFF, then ON	Connected parts
F001 (100/200 type) 250V 10A	Primary power system	Machine power cannot be turned ON.	Main power supply
F601 250V 3.15A	24V-A	T98-947 24V-A is not turned ON.	Vertical sliding pulse motor Power supply unit (standard paper feed tray) Paper feed clutch Scraper clutch Suction fan Ink motor Pressure solenoid Print drum lock solenoid Elevator motor Paper feed reverse-rotation prevention solenoid Scanner motor Scanner lamp AF Light pulse motor Load pulse motor Cutter motor Thermal pressure motor Read pulse motor
F602 250V 6.3A	24V-B	T98-948 24V-B is not turned ON.	Paper wing pulse motor Print pressure control pulse motor Copy counter Master counter Separation fan A Separation fan B Master making lock solenoid Paper ejection motor Master compression motor Master disposal motor Clamp motor
F604 250V 3.15A	24V-OP	T98-735 24V-OP is not turned ON.	Job separator

3-3. Fuse Position



# MEMO





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SF 9/5x5/5x3

Technical Manual

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Edited and published by: Overseas Technical Department,  
Riso Kagaku Corporation.

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