Service Manual

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Service Manual for Pantum CM805、CM605 Series Multi-Function Color Laser Printer

It is recommended to read this manual carefully before repairing

Version: V1.0

Service Manual for Pantum Multi-Function Color Laser Printer

Suitable printer: CM805ADN/CM605ADN

Version change history

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V1.0	2025.7.7	New Service Manual

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A SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the safety and important warning items described below to understand them before doing service work.

1. IMPORTANT NOTICE

- Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, Pantum strongly recommends that all servicing be performed only by Pantum-trained service technicians.
- Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, Pantum does not warrant, either explicitly or implicitly, that the information contained in this service manual is complete and accurate.
- The user of this service manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this service manual is intended. Therefore, this service manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly. Keep this service manual also for future service.
- Distributors or Pantum issue password for customer engineers (CE) as necessary. The password is required for operations or machine settings that are based on this service manual. These customer engineers (CE) must manage the password carefully. Never leak the password to a third party.

2. DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

2.1 Description items in this Service Manual

In this Service Manual, each of three expressions "⚠DANGER", "⚠WARNING", and "⚠ CAUTION" are defined as follows.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ DANGER	: Action having a high possibility of suffering death or serious injury
⚠ WARNING	: Action having a possibility of suffering death or serious injury
⚠ CAUTION	: Action having a possibility of suffering a slight wound and property damage

2.2 Description items for safety and important warning items

Symbols used for safety and important warning items are defined as follows:

△	: Precaution when servicing the product.	General precaution	Electric hazard	High temperature
⊘	: Prohibition when servicing the product.	General prohibition	Do not touch with wet hand	Do not disassemble
●	: Direction when servicing the product.	General instruction	Unplug	Ground/Earth

Illustrations representing the power plug and wall outlet used in the following descriptions are only typical. Their shapes differ depending on the country or region.

3. SAFETY WARNINGS

3.1 MODIFICATIONS NOT AUTHORIZED BY Pantum

KONICA MINOLTA brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to betaken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

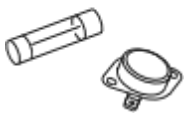
3.1.1 Actions requiring special attention

WARNING

- Do not make any modifications to the product unless otherwise instructed by Pantum.
- Do not use any part not specified by Pantum.

- Do not use any power cord or power plug not specified by Pantum.

- Use only the protective fuses specified by Pantum. Use of any type of fuse or related part not specified by Pantum makes safety devices inoperative which may result in a fire from high heat.

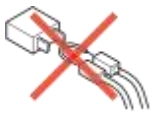


- Do not disable fuse functions or use a wire, metal clip, solder, or other conductor in place of the fuse.
  Fire may result from high heat.

- Do not disable relay functions (for example, inserting a piece of paper between relay contacts to hamper circuit action.)
  Fire may result from high heat.

WARNING

- Do not disable safety functions (for example, interlocks and safety circuits).
  Safety devices become inoperative, resulting in fire from high heat, electric shock, or injury.



3.2 POWER PLUG SELECTION

In some countries or areas, the power plug provided with the product may not fit the wall outlet used in the area. In that case, it is the obligation of the customer engineer (hereafter called the CE) to attach the appropriate power plug or power cord set in order to connect the product to the supply.

3.2.1 Power Cord Set or Power Plug

WARNING

- Use a power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.

WARNING

- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

- The wires in the power supply cordshall be connected to the terminals of the plug in accordance with the following:

Color of the wire		Terminal of the plug
Brown	Black	Marked with "L", "A" or "W" or colored RED
Light Blue	White	Marked with "N" or colored BLACK
Green-and-Yellow		Marked with "E", "PE" or " ⏚ " or colored GREEN or GREEN-AND-YELLOW

- Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

3.3 CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

KONICA MINOLTA brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

3.3.1 Power Supply

(1) Connection to Power Supply

⚠WARNING

- The power outlet should have a capacity of at least the maximum power consumption and be dedicated only to the product.
  The current that can be passed through the outlet is limited and any current exceeding the limit could result in fire.

- If the wall outlet has two or more receptacles and the product and another electrical appliance are plugged into this wall outlet, make sure that the total load does not exceed the rating of the wall outlet. The current that can be passed through the outlet is limited and any current exceeding the limit could result in a fire.

⚠WARNING

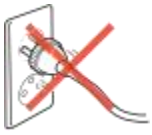
- Do not use any conversion plug adapter even if the power plug shape does not match your wall outlet.

  The shapes of the power plug and the wall outlet are set according to the voltage and allowable current. Use of a conversion plug adapter could result in an abnormal voltage or insufficient current capacity, leading to a fire. It may also result in an electric shock due to a grounding failure.

  If the plug shape does not match the wall outlet, request the user to perform power source installation work.

- Make sure the power cord is plugged into the wall outlet securely.

  If the power plug is left loose in the wall outlet, contact failure may occur, leading to abnormal heating of the power plug and a risk of fire.



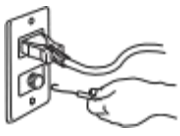
(2) Ground Connection

⚠WARNING

- Check whether the product is grounded properly.

  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.

  Connect power plug to grounded wall outlet.



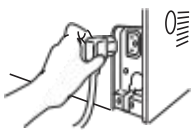
WARNING

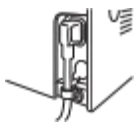
- Make sure of correct ground connection.
  If the grounding wire is connected to an inappropriate part, there is a risk of explosion or electric shock. Do not connect the grounding wire to any of the following parts:
  a. Gas pipe: Gas explosion or fire may result.
  b. Lightning rod: Risk of electric shock or fire during lightning.
  c. Grounding wire for telephone line: Risk of electric shock or fire during lightning.
  d. Water pipe and faucet: These parts do not serve as a ground connection because of a plastic part that is very often installed midway within the water pipe.

(3) Power Plug and Cord

WARNING

- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When a securing measure is provided, secure the cord with the fixture properly.
  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.

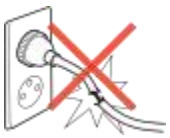




⚠WARNING

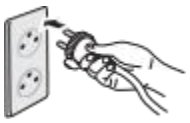
- Do not allow the power cord to be stepped on or pinched.
  Overheating may occur there, leading to a risk of fire.

- Check whether the power cord is damaged. Check whether the sheathis damaged.
  If the power plug, cord, or sheathis damaged, replace with a new power cord (with plug and connector on each end) specified by Pantum. Using the damaged power cord may result in fire or electric shock.



- Do not bundle or tie the power cord.
  Overheating may occur there, leading to a risk of fire.

- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



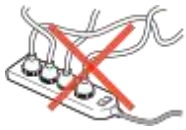
- Do not insert the power pluginto the wall outlet with a wet hand.
  The risk of electric shock exists.

- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.

(4) Wiring

⚠WARNING

- Never use multi-plug adapters to plug multiple power cords in the same outlet.
  If used,the risk of fire exists.



⚠WARNING

- When an extension cord is required, use one that meets the rated current, rated voltage, and the relevant safety standards of the country.

Current that can be passed through the extension cable is limited and fire may result from the use of an inappropriate type of an extension cable.

Do not use an extension cable reel with the cable taken up. Fire may result.

3.3.2 Installation Requirements

(1) Prohibited Installation Places

⚠WARNING

- Do not place the product near flammable materials or volatile materials that may catch fire.

A risk of fire exists.

- Do not place the product in a place exposed to water such as rain.

A risk of fire and electric shock exists.

(2) When not Using the Product for a long time

⚠WARNING

- When the product is not to be used for an extended period of time (for holidays, for example), instruct the user to turn OFF the power switch and unplug the power cord from the power outlet.
  Dust collected around the power plug and outlet may cause fire.

(3) Ventilation

⚠CAUTION

- The product generates ozone gas during operation.
  If the smell of ozone is present in the following cases, ventilate the room.
  a. When the product is used in a poorly ventilated room
  b. When making a lot of copies
  c. When using multiple products at the same time

(4) Stability

⚠CAUTION

- Be sure to lock the caster stoppers.
  In the case of an earthquake, the product may slide, leading to an injury.

3.3.3 After Service

(1) Inspection before Servicing

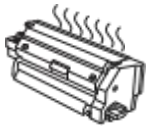
WARNING

- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure using the recommended personal safety equipment and using only the prescribed tools.
  Do not make any adjustment not described in the documentation.
  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.

- Before conducting an inspection, be sure to disconnect the power plugs from the Main Body and Accessories (Options).
  When the power plug is inserted into the wall outlet, some units are still powered even if the POWER switch is turned OFF.
  A risk of electric shock exists.

CAUTION

- The area around the fixing unit is hot.
  You may get burned.



CAUTION

- Do not leave the machine unattended during transportation, installation, and/or inspection.

  If the machine is left unattended, face protrusions toward the wall or take other necessary precautions to prevent a user or other person in the area from stumbling over a protrusion of the machine or being caught by a cable, possibly causing a fall to the floor or other personal injury.

(2) Work Performed with the Product Powered On

WARNING

- Take every care when making adjustments or performing an operation check with the product powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.

- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.

  A normally protected part may cause unexpected hazards.

⚠CAUTION

- Do not keep gazing at a lamp light during the service procedure with the product powered ON.
  Eyestrain may result.

(3) Safety Checkpoints

⚠WARNING

- When a product fault is reported from a user, check parts and repair the fault appropriately with safety in mind.
  A damaged product, personal injury, or fire may result.

- Whenever mounting an option on the machine, be attentive to the motion of the other workers performing the task.
  Another worker may be injured by a pinch point between the machine and the option.

- When mounting an option on the machine, be careful about the clearance between the machine and the option.
  You may be injured with your finger or hand pinched between the machine and the option.

- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.
  You may be injured by a falling part or unit.

WARNING

- Check the external covers and frame for possible sharp edges, burrs, and damage.
  They can be a cause of injury during use or servicing.

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs on the frame and parts.
  They may injure your hands or fingers.

- Do not allow any metal parts such as clips, staples,and screws to fall into the product.
  They can short internal circuits and cause electric shock or spark bursting into flame.

- Check wiring for pinched and any other damage.
  Current can leak, leading to a risk of electric shock or fire.

- Check high-voltage cables and sheaths for any damage.
  Damage may lead to product failure and/or the risk of fire.

- Do not disassemble or adjust the write unit (PH unit) incorporating a laser.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

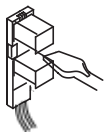
- Do not supply power with the write unit (PH unit) shifted from the specified mounting position.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.
  A risk of fire exists.

WARNING

- Check the interlockswitch and actuator for loosening and check whether the interlock functions properly.

  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.

  Damage may lead to the risk of electric shock or fire.

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)

  A risk of product trouble, personal injury, electric shock, and fire exists.

- Never use any flammable or combustible spray, fluid, gas, or similar substance in and around the product.

  Do not use any flammable or combustible dust spray, in particular, to clean the interior of the product.

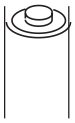
  Fire or explosion may result.

CAUTION

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.
  Toner remnants and dust may lead to product failure and/or the risk of fire.

- Check electrode units such as a charging corona unit for deterioration and signs of leakage.
  Damage may lead to product failure and/or the risk of fire.

- When replacing a battery, replace it with a new one as specified.
  Dispose of the used battery as instructed on its packaging or by local ordinance.
  There is a risk of explosion if the battery is replaced with an incorrect type.



(4) Handling of Consumables

WARNING

- For handling of consumables (toner, developer, photoconductor, etc.) and their storage precautions, see MSDS.

(5) Handling of Service Materials

CAUTION

- Handle with care according to MSDS.
  Use of solvent may involve explosion, fire, or personal injury.

3.4 Used Batteries Precautions

3.4.1 ALL Areas

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

3.5 Laser Safety

3.5.1 Laser Safety

This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

3.5.2 Internal Laser Radiation

- This product employs a Class 3B laser diode that emits an invisible laser beam. The laser diode and the scanning polygon mirror are incorporated in the print head unit.
- The print head unit is NOT A FIELD SERVICEABLE ITEM. Therefore, the print head unit should not be opened under any circumstances.

semiconductor laser		
Maximum power of the laser diode	CM605/CM805	25 mW
Maximum average radiation power (*)	CM805	15.1 µW
	CM605	9.9 µW
Wavelength	CM805	775-800 nm
	CM605	770-800 nm

*at laser aperture of the Print Head Unit

[1]	Laser Aperture of the Print Head Unit	[2]	Print Head Unit

(1) U.S.A., Canada (CDRH Regulation)

- This machine is certified as a Class 1 Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.
- The label shown on "A.3.5.3 Laser Safety Label" indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

⚠WARNING

Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser		
Maximum power of the laser diode	CM605/CM805	25 mW
Wavelength	CM805	775 to 800 nm
	CM605	770 to 800 nm

(2) All Areas

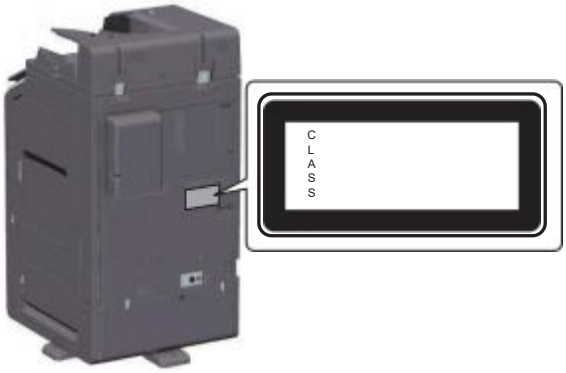
⚠WARNING

Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

semiconductor laser		
Maximum power of the laser diode	CM605/CM805	25 mW
Wavelength	CM805	775 to 800 nm
	CM605	770 to 800 nm

3.5.3 Laser Safety Label

A laser safety label is attached to the outside of the machine as shown below.


C
L
A
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3.5.4 Laser Warning Label

A laser warning label is attached to the inside of the machine as shown below.

3.5.5 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- Be sure to unplug the power cord whenever performing a service job in the laser beam path (around the PH unit).
- If it is absolutely unavoidable to perform a service job with the power cord plugged in, strictly observe the following precautions:
  1. Before starting the service job, takeoff your watch, ring, and other reflective articles and be sure to wear laser protective goggles.
  2. Keep other personnel away from the work site.
  3. Do not bring any highly reflective tool into the laser beam path during the service procedure.

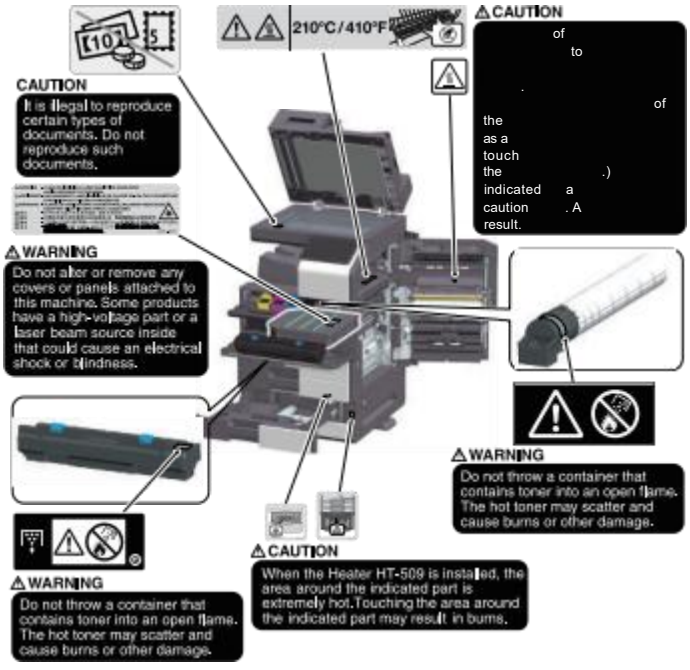
4. WARNING INDICATIONS ON THE MACHINE

Caution labels shown are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.

4.1 Warning indications inside the machine

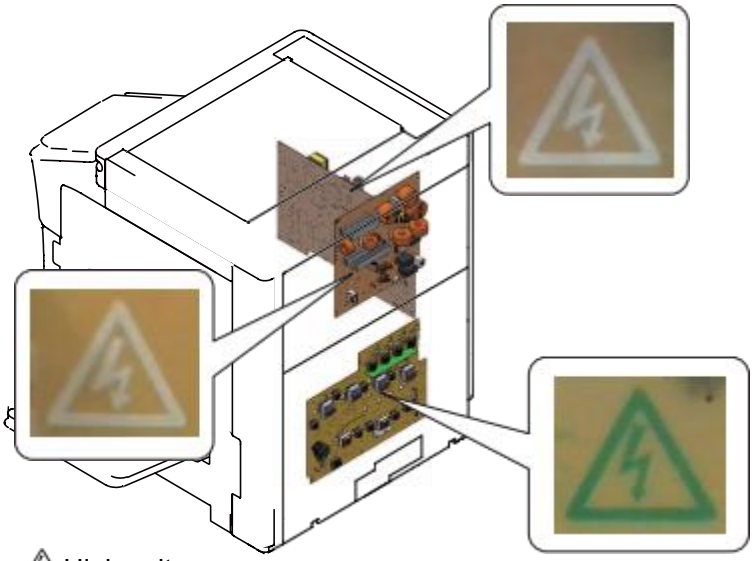
⚠CAUTION

You may be burned or injured if you touch any area that you are advised not to touch by any caution label. Do not remove caution labels. If any caution label has come off or soiled and therefore the caution cannot be read, contact our service office.



4.2 Warning indications on the boards

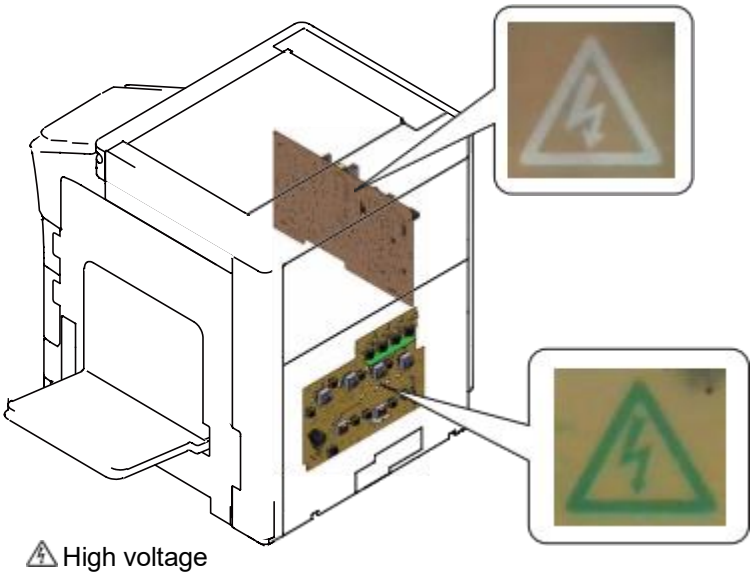
CM805



⚠ High voltage

This area generates high voltage.
Be careful not to touch here when the power is turned ON to avoid getting an electric shock.

CM605



⚠ High voltage

This area generates high voltage.
Be careful not to touch here when the power is turned ON to avoid getting an electric shock.

5. MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and Pantum must be notified.
3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by Pantum.
4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

B NOTATION OF THE CONTENTS

1. PRECAUTION ON HANDLING THIS MANUAL

CAUTION

- **Use of this manual should be strictly supervised to avoid disclosure of confidential information.**

2. PRODUCT NAME

In this manual, each of the products is described as follows:

1	CM605/CM805	Main body, Machine
2	Microsoft Windows 10	Windows 10
3	Microsoft Windows 11	Windows 11
4	When the description is made in combination of the OS's mentioned above	Windows 10/11

3. BRAND NAME

TRADEMARKS OF OTHER COMPANIES

- The company names and product names mentioned in this manual are the brand name or the registered trademark of each company.

4. FEEDING DIRECTION

- When the long side of the paper is parallel with the feeding direction, it is called short edge feeding. The feeding direction which is perpendicular to the short edge feeding is called the long edge feeding.
- Short edge feeding will be identified with [S (abbreviation for Short edge feeding)] on the paper size. No specific notation is added for the long edge feeding. When the size has only the short edge feeding with no long edge feeding, [S] will not be added to the paper size.

Sample notation

Paper size	Feeding direction	Notation
A4	Long edge feeding	A4
	Short edge feeding	A4S
A3	Short edge feeding	A3

5. NOTE FOR THE SPECIFICATIONS

- These specifications are subject to change without notice.

C PRODUCT OUTLINE

1. PRODUCT SPECIFICATIONS

1.1 CM605/CM805

1.1.1 Basic specifications

Items	Specifications
Type	Scanner, printer integrated desktop/console type (When the optional paper feed cabinet/desk is installed)
Control panel	10.1-inch TFT color LCD WVGA Electrostatic touch panel (vibration feedback)
Printing process	Laser electrostatic process copying system
Photoconductor	OPC drum
Developing system	Dry 2 components developing method, HMT developing system
Charging system	Roller charging system
Neutralizing system	Red LED system
Image transfer system	1st: Belt transfer system, 2nd: roller transfer system
Paper separating system	Combination of curvature, separating claws, and bias needle system
Fusing system	Upper 2-axis pad pressure fusing
Heating system	Halogen lamp
Original scanning	Mirror scanning CCD optical system (Sheet through system when DF is used)
Exposure lamp	LED light (10 W or under)
Scanning resolution	Main scan direction: 600 dpi, Sub scan direction: 600 dpi
Original glass	Stationary (Mirrorscan)
Original alignment	Rear left edge
Types of original	Sheets, Books, Three-dimensional objects
Max. original size	A3 or 11 x 17
Max. original weight	Max. 2 kg (4 7/16 lb)

1.1.2 Paper

Type/Size	Tray 1	Tray 2	Manual bypass tray
Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb)) (*1) (*5)	500 sheets	500 sheets	-
Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))			150 sheets
Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))			
J paper (68g/m^2 (18 1/16 lb)) (*9)	600 sheets	600 sheets	165 sheets
Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb))	400 sheets	400 sheets	120 sheets
Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))	150 sheets	150 sheets	20 sheets
Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))			
Thick 2 (158 to 209 g/m^2 (42 to 55 5/8 lb))			
Thick 3 (210 to 256 g/m^2 (55 7/8 to 68 1/8 lb)) (*1)			
Thick 4 (257 to 300 g/m^2 (68 3/8 to 79 13/16 lb)) (*1) (*4)	-	-	
OHP film (*2) (*3)			
Index paper			
Label sheet			
Postcard	200 sheets		
Envelope	70 sheets		10 sheets
Long size paper (127 to 210 g/m^2 (33 13/16 to 55 7/8 lb)) (*6)	-		

Type/Size		Tray 1	Tray 2	Manual bypass tray
Translucent paper				-
Regular paper size		A3, B4, A4, A4S, B5, B5S, A5S, B6S, A6S, Postcard 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S, 5 1/2 x 8 1/2 S, 4 x 6, Foolscap (*7), 8K, 16K	SRA3, A3W, A3, B4, A4, A4S, B5, B5S, A5S 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S, 5 1/2 x 8 1/2 S, Foolscap (*7), 8K, 16K	SRA3, A3W, A3, B4, A4, A4S, B5, B5S, A5, A5S, B6S, A6S, Postcard 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S, 7 1/4 x 10 1/2, 7 1/4 x 10 1/2 S, 5 1/2 x 8 1/2, 5 1/2 x 8 1/2 S, 4 x 6, Foolscap (*8), 8K, 16K, 16KS
Custom paper size	Width	90 to 297 mm (3 9/16 to 11 11/16 inches)	139.7 to 320 mm (5 1/2 to 12 5/8 inches)	90 to 320 mm (3 9/16 to 12 5/8 inches) (Long size paper: 210 to 297 mm, 8 1/4 to 11 11/16 inches)
	Length	148 to 431.8 mm (5 13/16 to 17 inches)	182 to 457.2 mm (7 3/16 to 18 inches)	139.7 to 1200 mm (5 1/2 to 47 1/4 inches) (Long size paper: 457.3 to 1200 mm, 18 to 47 1/4 inches)

- *1: Images are out of guarantee.
- *2: Only for feeding landscape oriented.
- *3: Black print only.
- *4: Only for feeding landscape oriented A4/ Letter paper and A3/ Ledger
- *5: Thin paper smaller than A5 size cannot be conveyed.
- *6: MK-730 is necessary.
- *7: There are 4 types to be selected from in the service mode; 8 x 13, 8 1/4 x 13, 8 1/2 x 13, 8 1/2 x 13 1/2.
- *8: There are 6 types to be selected from in the service mode; 8 x 13, 8 1/4 x 13, 8 1/2 x 13, 8 1/2 x 13 1/2, 8 13/20 x 13, 8 1/8 x 13 1/4.
- *9: Japan only.

NOTE

- **OHP film, thick 4, envelope, label sheet, index paper and long size paper cannot be fed for duplex printing.**

1.1.3 Machine specification

Items			Specifications			
Power requirement	Voltage		AC 100 V	AC 110 V	AC 120 V	AC 220 V to 240 V
	Current	CM805	14 A + 6 A	14 A + 6 A	12 A	10 A
		CM605	15 A	15 A	12 A	8 A
	Frequency		50/60 Hz	60 Hz	60 Hz	50/60 Hz
Dimension			615 mm (*4) (W) x 688 mm (D) x 961 mm (H) (*5) (24 3/16 inches (*4) (W) x 27 1/16 inches (D) x 37 13/16 inches (H) (*5))			
Space requirements (*6)			1098 mm (*7) (W) x 1,343 mm (D) x 1,314.5 mm (H) (43 1/4 inches (*7) (W) x 52 7/8 inches (D) x 51 3/4 inches (H))			
Weight			Approx. 100 kg (220 1/2 lb) (without toner cartridge)			
Operating environment	Temperature		10 to 30 ° C / 50 to 86 ° F (with a fluctuation of 10 ° C / 18 ° F or less per hour)			
	Humidity		15 to 85 % (Relative humidity with a fluctuation of 10 % or less per hour)			
	Levelness		Difference between front and back, right and left should be 1 degree or under.			

- *1: [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Supply/Power Save Settings] -> [Power Consumption in Sleep Mode]
- *2: Even in sub power off mode, [Disable], [Enabled] and [High] are selectable in [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Supply/Power Save Settings] -> [Power Consumption in Sleep Mode].
- *3: The value is only provided for reference. It varies depending on different operating environments.
- *4: Width when the manual bypass tray is closed
- *5: Height up to the top of the DF
- *6: Manual bypass tray/sub tray and the tray are pulled out, and the DF is opened.
- *7: Space for opening and closing the right door is included.

1.1.4 Print function

Items	Specifications
Printer language	PostScript 3 (3016) Emulation PCL 6 (XL Version 3.0) Emulation PCL5e/c Emulation, XPS Version 1.0
Host interface	Ethernet 10Base-T, 100Base-TX, 1000Base-T USB 2.0/1.1 USB_Host

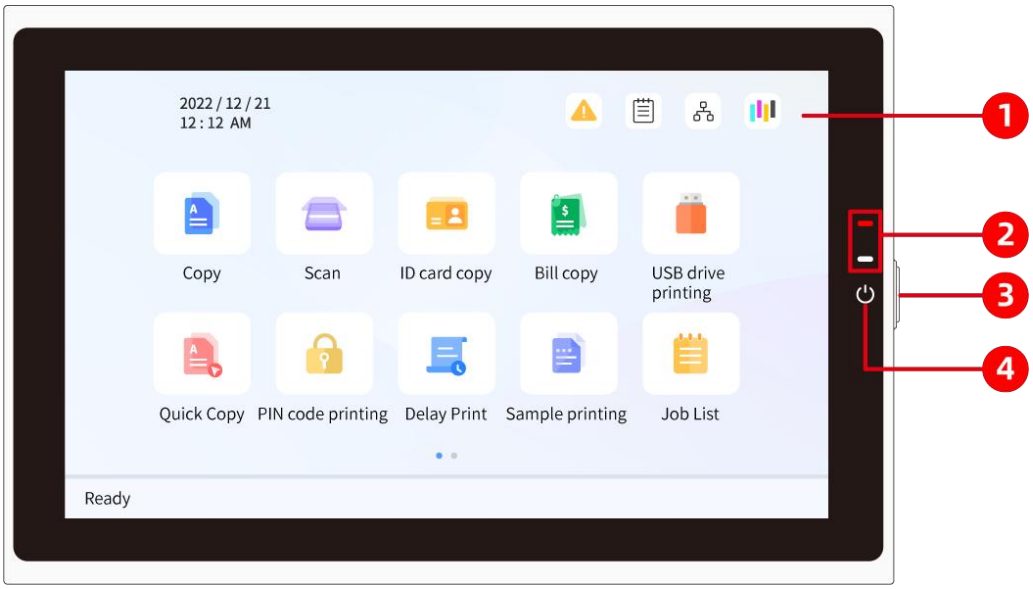
1.1.5 Scan function

Items	Specifications
Scanning size (scanner glass)	Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) (Max.)
Scanning size (DF)	Width 297 mm x Length 1,000 mm (Width 11 11/16 inches x Length 39 3/8 inches) (Max.): 400 dpi or less Width 297 mm x Length 432 mm (Width 11 11/16 inches x Length 17 inches) (Max.): 600 dpi

1.1.6 Control Panel

Control Panel Overview

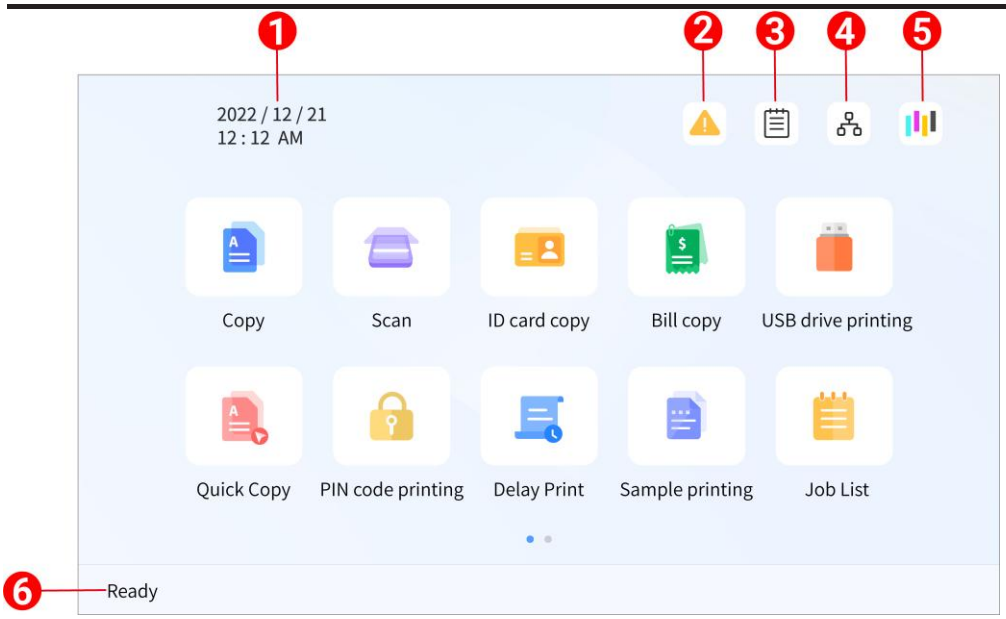
The printer control panel layout is shown in the figure below:



Serial Number	Name	Function
1	Color touch screen	• View printer status and messages. • Set up and operate the printer.
2	Status indicator	Indicates the printer status.
3	Power button	• Turn the printer on or off. Note: 1. The power button can only turn the printer on or off when the main power supply is enabled. 2. Press and hold the power button to turn off the printer. 3. Press the power button briefly to put the printer into sleep mode.
4	Power indicator	Indicates the power status.

Main Screen

Use the buttons and icons on the main screen to initiate operations such as copying or scanning. The layout is shown in the figure below:



No.	Name	Function
1	Time/Date	Access the "Time/Date" menu to modify the printer's time, date, and year.
2	Status List	Check the status information of the printer.
3	Job List	View the list of jobs in progress
4	Wired Network Status Icon	• View the printer's wired network information. • The icon displays an error when the wired network is not connected.
5	Toner Information	Access the "Supplies Information" menu and check the printer's supplies information.
6	Status Message Bar	Display the current status of the printer.

1.2 DF-713

Basic specifications

Items		Specifications	
Name		Reverse automatic document feeder	
Type		Paper feed section	Paper feed from top of stack
		Document reading section	Front side: Sheet-through system Back side: Reading by CIS
		Document exit section	Straight exit system
Installation		Screw clamp to the main body	
Document alignment		Center	
Document loading		Face up	
Mode		Standard mode/thin paper mode, Mixed original detection mode, Scan mode	
Original scanning speed (A4 or $8^1/_2$ x 11)	Copy	Color	75 sheets/min. (1-sided: 600 dpi), 150 sheets/min. (2-sided: 600 dpi)

		Black	80 sheets/min. (1-sided: 600 dpi), 160 sheets/min. (2-sided: 600 dpi)
	Scan mode	Color	100 sheets/min. (1-sided: 400 dpi), 200 sheets/min. (2-sided: 400 dpi) 120 sheets/min. (1-sided: 300 dpi), 240 sheets/min. (2-sided: 300 dpi) 140 sheets/min. (1-sided: 200 dpi), 280 sheets/min. (2-sided: 200 dpi)
		Black	100 sheets/min. (1-sided: 400 dpi), 200 sheets/min. (2-sided: 400 dpi) 120 sheets/min. (1-sided: 300 dpi), 240 sheets/min. (2-sided: 300 dpi) 140 sheets/min. (1-sided: 200 dpi), 280 sheets/min. (2-sided: 200 dpi)
Power requirement		Power supply: DC 24 V, DC 12 V (for CIS), DC 5 V (for recovering from the sleep mode)	
		Supplying method: Supplied from the main body	
Max. power consumption		104.5 W or less	
Dimension		612 mm (W) x 503 mm (D) x 177 mm (H) (24 inches (W) x 19 13/16 inches (D) x 7 inches (H))	
Weight		Approx. 15.1 kg (33 5/16 lb)	
Operating environment		Conforms to the operating environment of the main body.	
Option		Stamp unit (SP-501)	

Type of original

Items	Mode	Specifications
Type	Standard mode/thin paper mode (Plain paper)	1-sided mode: 35 to 210 g/m^2 (9 5/16 to 55 7/8 lb)
		2-sided mode: 50 to 210 g/m^2 (13 5/16 to 55 7/8 lb)
	Mixed original detection mode (Plain paper)	1-sided mode: 35 to 210 g/m^2 (9 5/16 to 55 7/8 lb)
		2-sided mode: 50 to 210 g/m^2 (13 5/16 to 55 7/8 lb)
	Scan mode (Plain paper)	1-sided mode: 35 to 210 g/m^2 (9 5/16 to 55 7/8 lb)
		2-sided mode: 50 to 210 g/m^2 (13 5/16 to 55 7/8 lb)
	Custom size paper detection mode	52 to 210 g/m^2 (13 13/16 to 55 7/8 lb)
Document size	Standard mode	Japan: A3 to B6S, Postcard S North America: 11 x 17 to 5$^1/_2$ x 8$^1/_2$ Europe: A3 to A6S
	Mixed original detection mode	Refer to the mixed original feed chart.
	Scan mode	Metric: A3 to B6S, Postcard S Inch: 11 x 17 to 5$^1/_2$ x 8$^1/_2$ Width: 100 mm to 297 mm (3 15/16 inches to 11 11/16 inches) Length: 139.7 mm to 431.8 mm (5 1/2 inches to 17 inches) (FAX transmission mode: 139.7 mm to 1,000 mm (5 1/2 inches to 39 3/8 inches))
	Index paper mode	Japan: A3, B4, A4S, A4, B5 North America: 8$^1/_2$ x 14, 8$^1/_2$ x 11 S, 8$^1/_2$ x 11 Europe: A3, B4, A4S, A4, B5
	Custom size paper detection mode	Metric: A3 to B6S, Postcard S Inch: 11 x 17 to 5$^1/_2$ x 8$^1/_2$ Width: 100 mm to 297 mm (3 15/16 inches to 11 11/16 inches) Length: 139.7 mm to 431.8 mm (5 1/2 inches to 17 inches)
Capacity	Standard mode Mixed original detection mode Scan/FAX mode	Japan: 300 sheets (68 g/m^2 (18 1/16 lb)) or stack of 19 mm (3/4 inches) and below (including paper curl) North America: 300 sheets (75 g/m^2 (19 15/16 lb)) or stack of 19 mm (3/4 inches) and below (including paper curl) Europe: 300 sheets (80 g/m^2 (21 1/4 lb)) or stack of 19 mm (3/4 inches) and below (including paper curl)
	Index paper mode	70 sheets

Mixed original feed chart

◎	Same size	Tilted with in 1.5 % or less
○	Mixed original feed available	
×	No. mixed original feed	
-	Can not set original	

<For North America>

			Max. original size					
			11 inches		8 1/2 inches			5 1/2 inches
			11 x 17	8 1/2 x 11	8 1/2 x 14	8 1/2 x 11 S	5 1/2 x 8 1/2	5 1/2 x 8 1/2S
Mixed original size	11 inches	11 x 17	◎	◎	-	-	-	-
		8 1/2 x 11	◎	◎	-	-	-	-
	8 1/2 inches	8 1/2 x 14	○	○	◎	◎	◎	-
		8 1/2 x 11 S	○	○	◎	◎	◎	-
		5 1/2 x 8 1/2	×	×	◎	◎	◎	-
	5 1/2 inches	5 1/2 x 8 1/2S	×	×	×	×	×	◎

<For Europe>

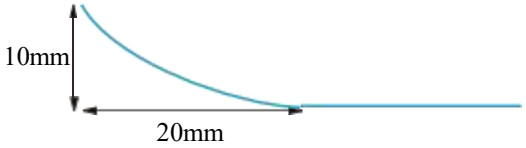
			Max. original size							
			297 mm		257 mm		210 mm		182 mm	148 mm
			A3	A4	B4	B5	A4S	A5	B5S	A5S
Mixed original size	297 mm	A3	◎	◎	-	-	-	-	-	-
		A4	◎	◎	-	-	-	-	-	-
	257 mm	B4	○	○	◎	◎	-	-	-	-
		B5	○	○	◎	◎	-	-	-	-
	210 mm	A4S	○	○	○	○	◎	◎	-	-
		A5	×	×	○	○	◎	◎	-	-
	182 mm	B5S	×	×	○	○	○	○	◎	-
	148 mm	A5S	×	×	×	×	×	×	○	◎

Particular original

- If fed, paper feed will be possible to some extent but trouble occurrence will be possible.

Type of original	Possible trouble
Sheets lightly curled (Curled amount: 10 to 15 mm (3/8 to 9/16 inches)) (*1)	Dog-eared, exit failure, transport failure
Thermal paper (Heat sensitive paper)	Edge folded, exit failure, transport failure
Paper immediately after paper exit from the main unit	Paper feed failure, transport failure
Paper with many punched holes (e.g., loose leaf (*2), CF paper (*3))	Multi-page feed due to flashes from holes
Folded original (including half-folded and Z-folded originals) (*4)	Paper feed failure, transport failure, image distortion
Sheets with 2 to 4 holes	Transport failure
Coated paper (including inkjet paper)	Paper feed failure, transport failure

- *1: Amount of curl: When the original is less than 10 mm (3/8 inches) in vertical and 20 mm (13/16 inches) in horizontal direction and the amount of float of the folded original is less than 10 mm (3/8 inches), the feed and the image are guaranteed.



*2: Limited to vertical feeding
*3: No crease on perforation
*4: Creases must be smoothed out. (amount of float: 15 mm (9/16 inches) or less)

Prohibited original

- Prohibited originals that cause trouble

Type of original
Sheets stapled or clipped together
Book original
Sheets with paper attached
Sheets clipped or notched
Torn paper
Original weighing less than 35 g/m^2 (9 5/16 lb) or 210 g/m^2 (55 7/8 lb) or more
Significantly curled original (amount of curl exceeding 15 mm (9/16 inches))
OHP film
Label sheet
Offset master paper
Glossy photographic paper or glossy enamel paper

1.3 CPT-810

Basic specifications

Items	Specifications	
Name	CPT-810	2 way paper feed cabinet
Type	CPT-810	2 way paper feed device: Front loading type
Installation	Desk type	
Document alignment	Center	
Power requirement	Supplied from the main body	
Max. power consumption	22 W or less	
Dimension	615 mm (W) x 688 mm (D) x 246 mm (H) (24 3/4 inches (W) x 27 1/16 inches (D) x 9 11/16 inches (H))	
Weight	CPT-810	Approx. 24 kg (52 15/16 lb)
Operating environment	Conforms to the operating environment of the main body.	

Paper capacity

Paper type	Capacity	
	Tray 3	Tray 4
Thin paper (52 to 59 g/m² (13 13/16 to 15 11/16 lb)) (*1)	500 sheets	500 sheets
Plain paper (60 to 90 g/m² (15 15/16 to 23 15/16 lb))		
Recycled paper (60 to 90 g/m² (15 15/16 to 23 15/16 lb))		
Plain paper+ (91 to 105 g/m² (24 3/16 to 27 15/16 lb))		
J paper (68g/m² (18 1/16 lb)) (*2)	570 sheets	570 sheets
Thick 1 (106 to 120 g/m² (28 3/16 to 31 15/16 lb))	150 sheets	150 sheets
Thick 1+ (121 to 157 g/m² (32 3/16 to 41 3/4 lb))		
Thick 2 (158 to 209 g/m² (42 to 55 5/8 lb))		
Thick 3 (210 to 256 g/m² (55 7/8 to 68 1/8 lb)) (*1)		

- *1: Second side is an image guarantee out.
- *2: Japan only.

Paper size

Type	Size
Regular size paper	A3, B4, A4S, B5S, A4, B5, A5S 11 x 17, 8 1/2 x 14, 8 1/2 x 11 S, 8 1/2 x 11, 5 1/2 x 8 1/2 S Foolscap (*), 16K, 8K
Custom size paper	Width: 139.7 to 297.0 mm (5 1/2 to 11 11/16 inches) Length: 182.0 to 431.8 mm (7 3/16 to 17 inches)

- *: There are 4 types to be selected from in the service mode; 8 x 13, 8 1/4 x 13, 8 1/2 x 13, 8 1/2 x 13 1/2.

1.4 CPT-810H

Basic specifications

Items	Specifications
Name	Large capacity cabinet
Type	Front loading type LCC
Installation	Desk type
Document alignment	Center
Power requirement	Supplied from the main body
Max. power consumption	22 W or less
Dimension	615 mm (W) x 688 mm (D) x 246 mm (H) (24 3/4 inches (W) x 27 1/16 inches (D) x 9 11/16 inches (H))
Weight	Approx. 23 kg (50 11/16 lb)
Operating environment	Conforms to the operating environment of the main body.

Paper capacity

Type	Capacity

Thin paper (52 to 59 g/m^2 (13$^{13}/_{16}$ to 15$^{11}/_{16}$ lb)) (*)	2,500 sheets
Plain paper (60 to 90 g/m^2 (15$^{15}/_{16}$ to 23$^{15}/_{16}$ lb))	
Recycled paper (60 to 90 g/m^2 (15$^{15}/_{16}$ to 23$^{15}/_{16}$ lb))	
Plain paper+ (91 to 105 g/m^2 (24$^{3}/_{16}$ to 27$^{15}/_{16}$ lb))	
Thick 1 (106 to 120 g/m^2 (28$^{3}/_{16}$ to 31$^{15}/_{16}$ lb))	1,000 sheets
Thick 1+ (121 to 157 g/m^2 (32$^{3}/_{16}$ to 41$^{3}/_{4}$ lb))	
Thick 2 (158 to 209 g/m^2 (42 to 55$^{5}/_{8}$ lb))	
Thick 3 (210 to 256 g/m^2 (55$^{7}/_{8}$ to 68$^{1}/_{8}$ lb)) (*)	

- *: Second side is an image guarantee out.

Paper size

Type	Size
Regular size paper	A4 or 8$^{1}/_{2}$ x 11

1.5 CPF-810H/CPF-810X

Basic specifications

Items	Specifications
Name	Multi staple finisher (CPF-810H) Finisher-contained center-staple and tri-fold device (CPF-810X)
Type	Freestanding
Document alignment	Center
Consumable	Main body: Staples (5,000 staples / cartridge) Center staple: Staples (5,000 staples / cartridge) (CPF-810X)
Mode	Sort, group Sort offset, group offset Sort staple, group staple Center staple (CPF-810X), Center fold (CPF-810X), Tri-folding (CPF-810X)
Power requirement	DC 24 V ± 10% (supplied from the main body)
Max. power consumption	120 W or less
Dimension	752 mm (W) (*) x 752 mm (D) x 1077 mm (H) (*) (CPF-810H) (29 5/8 inches (W) (*) x 29 5/8 inches (D) x 42 3/8 inches (H) (*) (CPF-810H)) 776 mm (W) (*) x 752 mm (D) x 1077 mm (H) (*) (CPF-810X) (30 9/16 inches (W) (*) x 29 5/8 inches (D) x 42 3/8 inches (H) (*) (CPF-810X))
Weight	Approx. 53 kg (116 27/32 lb) (CPF-810H) Approx. 73 kg (160 15/16 lb) (CPF-810X)
Operating environment	Conforms to the operating environment of the main body.
Option	Punch Kit (CPK-810XP), Post Inserter (PI-507), Z Folding Unit (CPK-810Z), Job Separator (JS-602)

- *: Size when the paper output tray is pulled out

Sort/Group

<Paper capacity>

Paper type	Maximum number of stacked sheets			
	Main tray			Sub tray
	A5, A5S, 5$^{1}/_{2}$ x 8$^{1}/_{2}$, 5$^{1}/_{2}$ x 8$^{1}/_{2}$ S or less	B5, B5S or greater A4S, 8$^{1}/_{2}$ x 11 S or less	B4, 8$^{1}/_{2}$ x 14 or greater	
Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb))	500 sheets	3,000 sheets (CPF-810H) 2,500 sheets (CPF-810X)	1,500 sheets	200 sheets
Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))				
Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))				
Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb))				20 sheets
Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))	20 sheets			
Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))				
Thick 2 (158 to 209 g/m^2 (42 to 55 5/8 lb))				
Thick 3 (210 to 256 g/m^2 (55 7/8 to 68 1/8 lb))				
Thick 4 (257 to 300 g/m^2 (68 3/8 to 79 13/16 lb))				
Postcard	-			
Envelope	20 sheets			

OHP film		
Label sheet		
Letterhead		
Tab paper	-	

<Height of stacked sheets>

Paper length	Maximum height of stacked sheets	
	Main tray	Sub tray
A4S, 8 1/2 x 11 S or less	375 mm (14 3/4 inches) (CPF-810H) 250 mm (9 13/16 inches) (CPF-810X)	35 mm (1 3/8 inches)
B4, 8 1/2 x 14 or greater	187.5 mm (7 3/8 inches)	

NOTE

- **If either the number or height of stacked sheets reaches the specified value, "Tray paper full" is determined.**

<Paper size>

Type	Size	
	Main tray	Sub tray
Regular size paper	SRA3, A3W, A3, B4, A4, A4S, B5, B5S, A5, A5S 12 1/4 x 18, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S, 7 1/4 x 10 1/2, 7 1/4 x 10 1/2 S, 5 1/2 x 8 1/2, 5 1/2 x 8 1/2 S, 8K, 16KS, 16K	SRA3, A3W, A3, B4, A4, A4S, B5, B5S, A5, A5S, B6S, A6S, Postcard S 12 1/4 x 18, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S, 7 1/4 x 10 1/2, 7 1/4 x 10 1/2 S, 5 1/2 x 8 1/2, 5 1/2 x 8 1/2 S, 8K, 16KS, 16K
Custom size paper	Width: 130 mm to 320 mm (5 1/8 inches to 12 5/8 inches) Length: 139.7 mm to 457.2 mm (5 1/2 inches to 18 inches)	Width: 90 mm to 320 mm (3 9/16 inches to 12 5/8 inches) Length: 139.7 mm to 1,200 mm (5 1/2 inches to 47 1/4 inches)

Sort offset/Group offset

<Paper capacity>

Paper type	Maximum number of stacked sheets			
	Main tray			Sub tray
	less than B5	A4, A4S, B5 8 1/2 x 11, 8 1/2 x 11 S	B4, B5S, 8 1/2 x 14 or greater	
Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb))	500 sheets	3,000 sheets (CPF-810H) 2,500 sheets (CPF-810X)	1,500 sheets	-
Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))				
Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))				
Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb))				
Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))	20 sheets			
Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))				
Thick 2 (158 to 209 g/m^2 (42 to 55 5/8 lb))				
Thick 3 (210 to 256 g/m^2 (55 7/8 to 68 1/8 lb))				
Thick 4 (257 to 300 g/m^2 (68 3/8 to 79 13/16 lb))				

<Height of stacked sheets>

Paper length	Maximum height of stacked sheets	
	Main tray	Sub tray
A4S, 8 1/2 x 11 S or less	375 mm (14 3/4 inches) (CPF-810H) 250 mm (9 13/16 inches) (CPF-810X)	-
B4, 8 1/2 x 14 or greater	187.5 mm (7 3/8 inches)	

NOTE

- **If either the number or height of stacked sheets reaches the specified value, "Tray paper full" is determined.**

<Paper size>

Type	Size	
	Main tray	Sub tray
Regular size paper	SRA3, A3W, A3, B4, A4, A4S, B5, B5S, A5 12 1/4 x 18, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S, 7 1/4 x 10 1/2, 7 1/4 x 10 1/2 S, 5 1/2 x 8 1/2, 8K, 16KS, 16K	-

Custom size paper	Width: 182 mm to 320 mm (7 3/16 inches to 12 5/8 inches) Length: 139.7 mm to 457.2 mm (5 1/2 inches to 18 inches)	

Staple

<Paper capacity>

Paper type	No. of sheets to be stapled	Max. capacity			
		Main tray			Sub tray
		A4, B5, 8 1/2 x 11	A4S, 8 1/2 x 11 S or less	B4, 8 1/2 x 14 or greater	
Thin paper (52 to 59 g/m² (13 13/16 to 15 11/16 lb)) Plain paper (60 to 90 g/m² (15 15/16 to 23 15/16 lb)) Recycled paper (60 to 90 g/m² (15 15/16 to 23 15/16 lb)) Plain paper+ (91 to 105 g/m² (24 3/16 to 27 15/16 lb))	2 to 9 sheets	200 sets (*)	100 sets		-
	10 to 20 sheets	50 sets			
	21 to 30 sheets	30 sets			
	31 to 40 sheets	25 sets			
	41 to 50 sheets	20 sets			
	51 to 60 sheets	15 sets			
	61 to 100 sheets	10 sets			
Thick 1 (106 to 120 g/m² (28 3/16 to 31 15/16 lb)) Thick 1+ (121 to 157 g/m² (32 3/16 to 41 3/4 lb)) Thick 2 (158 to 209 g/m² (42 to 55 5/8 lb)) Thick 3 (210 to 256 g/m² (55 7/8 to 68 1/8 lb)) Thick 4 (257 to 300 g/m² (68 3/8 to 79 13/16 lb))	2 to 5 sheets	100 sets			
	6 sheets or more	500 sheets in total			

- *: 100 sets forthin paper, recycled paper or plain paper+

<Height of stacked sheets>

Paper length	Maximum height of stacked sheets	
	Main tray	Sub tray
A4S, 8 1/2 x 11 S or less	375 mm (14 3/4 inches)	-
B4, 8 1/2 x 14 or greater	187.5 mm (7 3/8 inches)	

NOTE

- **If either the number or height of stacked sheets reaches the specified value, "Tray paper full" is determined.**

<Paper size>

Type	Size	
	Main tray	Sub tray
Regular size paper	A3, B4, A4, A4S, B5, B5S, A5 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S, 7 1/4 x 10 1/2, 7 1/4 x 10 1/2 S, 5 1/2 x 8 1/2, 8K, 16KS, 16K	-
Custom size paper	Width: 182 mm to 297 mm (7 3/16 inches to 11 11/16 inches) Length: 139.7 mm to 431.8 mm (5 1/2 inches to 17 inches)	

<No. of sheets to be stapled>

Mode	Max. No. of sheets to be stapled				
	Basis weight	Paper length			
		150 mm or less	151 to 297 mm	298 to 389 mm	390 mm and above
Normal mode	52 to 80 g/m² (13 13/16 to 21 1/4 lb)	50 sheets	100 sheets	65 sheets	50 sheets
	81 to 90 g/m² (21 9/16 to 23 15/16 lb)	50 sheets	60 sheets	60 sheets	50 sheets
	91 to 105 g/m² (24 3/16 to 27 15/16 lb)	50 sheets	50 sheets	50 sheets	50 sheets
	106 to 120 g/m² (28 3/16 to 31 15/16 lb)	50 sheets	50 sheets	50 sheets	50 sheets
	121 to 157 g/m² (32 3/16 to 41 3/4 lb)	40 sheets	40 sheets	40 sheets	40 sheets
	158 to 256 g/m² (42 to 68 1/8 lb)	25 sheets	25 sheets	25 sheets	25 sheets

Mode	Max. No. of sheets to be stapled				
	Basis weight	Paper length			
		150 mm or less	151 to 297 mm	298 to 389 mm	390 mm and above
	257 to 300 g/m² (68 3/8 to 79 13/16 lb)	10 sheets	10 sheets	10 sheets	10 sheets

Cover sheet mode	Cover sheet: 300 g/m² (53 3/16 lb),body page: 90 g/m² (23 15/16 lb)	Cover sheet: 2 sheets + body page: 58 sheets
	Cover sheet: 300 g/m² (53 3/16 lb),body page: 80 g/m² (21 1/4 lb)	Cover sheet: 2 sheets + body page: 98 sheets
	Cover sheet: 271 g/m² (72 1/16 lb),body page: 90 g/m² (23 15/16 lb)	Cover sheet: 2 sheets + body page: 58 sheets
	Cover sheet: 271 g/m² (72 1/16 lb),body page: 80 g/m² (21 1/4 lb)	Cover sheet: 2 sheets + body page: 98 sheets
	Cover sheet: 271 g/m² (72 1/16 lb),body page: 75 g/m² (19 15/16 lb)	Cover sheet: 2 sheets + body page: 98 sheets

<Stapling position>

Stapling position	Paper size
Back/Front of the corner (45 degree)	A3, B4, A4, B5, 11 x 17, 8 1/2 x 11
Back/Front of the corner (Parallel) (Available only when being selected)	A3, A4, 11 x 17, 8 1/2 x 11
Back/Front of the corner (Parallel)	A4S, B5S, A5, 8 1/2 x 14, 8 1/2 x 11 S
Side: Parallel 2 point	A3, B4, A4, A4S, B5, B5S, A5, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11 S

Center staple/Folding

<Paper capacity>

Paper type	Number of center staple sheets	Number of folding sheets	Max. capacity	
			Paper length less than 330 mm	Paper length greater than 330 mm
Thin paper (52 to 59 g/m² (13 13/16 to 15 11/16 lb)) Plain paper (60 to 90 g/m² (15 15/16 to 23 15/16 lb)) Recycled paper (60 to 90 g/m² (15 15/16 to 23 15/16 lb))	2 to 5 sheets	1 to 5 sheets	35 sets	
	6 to 10 sheets	-	25 sets	30 sets
	11 to 20 sheets	-	15 sets	
Plain paper+ (91 to 105 g/m² (24 3/16 to 27 15/16 lb))	2 to 10 sheets	1 to 5 sheets	-	
Thick 1 (106 to 120 g/m² (28 3/16 to 31 15/16 lb))	2 to 7 sheets			
Thick 1+ (121 to 157 g/m² (32 3/16 to 41 3/4 lb))				
Thick 2 (158 to 209 g/m² (42 to 55 5/8 lb))	2 to 5 sheets			
Thick 3 (210 to 256 g/m² (55 7/8 to 68 1/8 lb))	1 sheet (*)	1 sheet		
Thick 4 (257 to 300 g/m² (68 3/8 to 79 13/16 lb))				

- *: Use thick paper 3 and thick paper 4 only for “Cover sheet” in center staple cover sheet mode.

<Paper size>

Type	Size	
	Center Staple	Center Fold
Regular size paper	SRA3, A3W, A3, B4, A4S 12 1/4 x 18, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11 S, 8K	SRA3, A3W, A3, B4, A4S 12 1/4 x 18, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11 S, 8K
Custom size paper	Width: 210 mm to 320 mm (8 1/4 inches to 12 5/8 inches) Length: 279.4 mm to 457.2 mm (11 inches to 18 inches)	Width: 210 mm to 320 mm (8 1/4 inches to 12 5/8 inches) Length: 279.4 mm to 457.2 mm (11 inches to 18 inches)

<Number of center staple sheets>

Mode	Paper type	Max. No. of sheets to be stapled
Center staple normal mode	Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb))	20 sheets
	Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	
	Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	
	Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb))	10 sheets
	Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))	7 sheets
	Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))	
	Thick 2 (158 to 209 g/m^2 (42 to 55 5/8 lb))	5 sheets
Center staple cover sheet mode (body page) (*)	52 to 209 g/m^2 (13 13/16 to 55 5/8 lb)	Max. No. of sheets to be stapled - 1 sheet
Center staple cover sheet mode (cover sheet)	91 to 300 g/m^2 (24 3/16 to 79 13/16 lb)	1 sheet

- *: Use only 1 sheet as a cover sheet for cover mode

<Number of folding sheets>

Mode	Paper type	Max. number of folding sheets
Center fold mode	Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb))	5 sheets
	Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	
	Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	
	Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb))	
	Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))	
	Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))	
	Thick 2 (158 to 209 g/m^2 (42 to 55 5/8 lb))	
	Thick 3 (210 to 256 g/m^2 (55 7/8 to 68 1/8 lb))	1 sheet
	Thick 4 (257 to 300 g/m^2 (68 3/8 to 79 13/16 lb))	

Tri-folding

<Paper capacity>

Paper type	Number of tri-folding sheets	Max. capacity
Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb)) Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)) Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	1 sheet	50 sets
	2 sheets	40 sets
	3 sheets	30 sets
Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb)) Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))	1 sheet	-

<Paper size>

Type	Size
Regular size paper	A4S, 8$^1/_2$ x 11 S, 16KS

<Number of tri-folding sheets>

Mode	Paper type	Max. number of folding sheets
Normal mode	Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb))	3 sheets
	Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	
	Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	
Thick paper mode	Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb))	1 sheet
	Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))	

Manual staple

<Number of sheets to be stapled, stapling position>

Paper type	Max. No. of sheets to be stapled	Stapling position
Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb))	50 sheets	Corner (45 degree)
Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))		
Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))		
Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb))	-	
Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb))		
Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))		
Thick 2 (158 to 209 g/m^2 (42 to 55 5/8 lb))		
Thick 3 (210 to 256 g/m^2 (55 7/8 to 68 1/8 lb))		
Thick 4 (257 to 300 g/m^2 (68 3/8 to 79 13/16 lb))		

1.6 CPK-810XP

Basic specifications

Items	Specifications
Name	Punch kit
Type	Finisher-contained hole punch device with auto paper alignment mechanism
Punching method	Slide cam method by DC brush motor
No. of holes	Japan: 2 holes North America: 2-3 holes switching Europe: 2-4 holes switching Sweden: 4 holes
Supported mode	Punch mode
Applicable post processing mode	Sort, Group, Staple
Power requirement	DC 24 V +5% / -10% (supplied from the finisher)
	DC 5 V ±10% (supplied from the finisher)
Max. power consumption	Included in the max. power consumption of finisher
Dimension	145.3 mm (W) x 592.2 mm (D) x 165.4 mm (H) (5 3/4 inches (W) x 23 5/16 inches (D) x 6 1/2 inches (H))
Weight	Approx. 3.0 kg (6 5/8 lb)
Operating environment	Conforms to the operating environment of the main body.

Paper process ability

Items	Specifications
Paper type	Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb)) Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)) Plain paper+ (91 to 105 g/m^2 (24 3/16 to 27 15/16 lb)) Thick 1 (106 to 120 g/m^2 (28 3/16 to 31 15/16 lb)) Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb)) Thick 2 (158 to 209 g/m^2 (42 to 55 5/8 lb)) Thick 3 (210 to 256 g/m^2 (55 7/8 to 68 1/8 lb)) Thick 4 (257 to 300 g/m^2 (68 3/8 to 79 13/16 lb))
Paper size	A3, B4, A4, A4S (*), B5, B5S (*), A5 (*), A5S (*) 11 x 17, 8$^1/_2$ x 14 (*), 8$^1/_2$ x 11, 8$^1/_2$ x 11 S (*), 7$^1/_4$ x 10$^1/_2$, 7$^1/_4$ x 10$^1/_2$ S (*), 5$^1/_2$ x 8$^1/_2$ (*), 5$^1/_2$ x 8$^1/_2$ S (*), 8K, 16K, 16KS (*)
Punch prohibited paper	Label paper, Tab paper, OHP film, Translucent paper, Holed paper Other paper that may interfere with the operation of the punch kit or the punch blade

* Not available for 3 holes in North America and 4 holes in Europe

1.7 CPK-810Z

Basic specifications

Items	Specifications
Name	Z folding unit
Type	Finisher-contained
Document alignment	Center
Mode	Through (no folding) Z-folding Double-folding
Applicable post processing mode	Staple Punch (punch kit is installed)
Power requirement	DC 24 V ±10% (supplied from the finisher)
	DC 5 V ±5% (supplied from the finisher)
Max. power consumption	Included in the max. power consumption of finisher
Dimension	101 mm (W) x 506 mm (D) x 186 mm (H) (4 inches (W) x 19 15/16 inches (D) x 7 5/16 inches (H))
Weight	Approx. 4.5 kg (9 15/16 lb)
Operating environment	Conforms to the operating environment of the main body.

Through (no folding)

- **It is a paper transporting function, and conforms to the specifications of the installed finisher.**

Z-folding

<Paper capacity>

Paper type	With staple			No staple
	Number of sheets being folded	Number of sheets without being folded	Number of sets stacked in main tray	Number of sheets stacked in main tray when continuously exiting folded paper
Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb)) Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)) Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	1 sheet	1 to 40 sheets	20 sets	30 sheets
		41 to 90 sheets	10 sets	
	2 sheets	1 to 80 sheets:	10 sets	
	3 sheets	1 to 70 sheets:	4 sets	
	4 sheets	1 to 60 sheets:	3 sets	
	5 sheets	1 to 50 sheets:	2 sets	
	6 to 10 sheets	-	1 set (No dropping)	

<Paper size>

Type	Size
Regular size paper	A3, B4, 11 x 17, 8K

Double-folding

<Paper capacity>

Paper type	With staple			No staple
	Number of sheets being folded	Number of sheets without being folded	Number of sets stacked in main tray	Number of sheets stacked in main tray when continuously exiting folded paper
Thin paper (52 to 59 g/m^2 (13 13/16 to 15 11/16 lb)) Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)) Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	1 sheet	1 to 40 sheets	20 sets	30 sheets
		41 to 90 sheets	10 sets	
	2 sheets	1 to 80 sheets:	10 sets	
	3 sheets	1 to 70 sheets:	4 sets	
	4 sheets	1 to 60 sheets:	3 sets	
	5 sheets	1 to 50 sheets:	2 sets	
	6 to 10 sheets	-	1 set (No dropping)	

<Paper size>

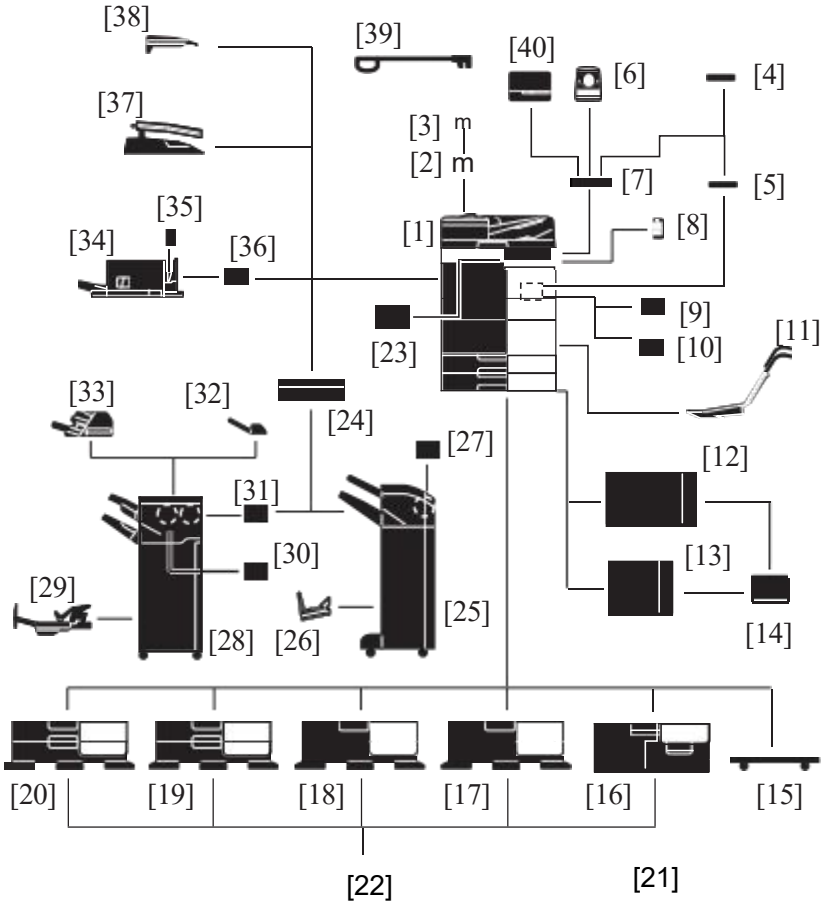
Type	Size
Regular size paper	$8^1/_2$ x 14

2. OVERALL COMPOSITION

2.1 SYSTEM CONFIGURATION

2.1.1 System configuration

(1) System front view



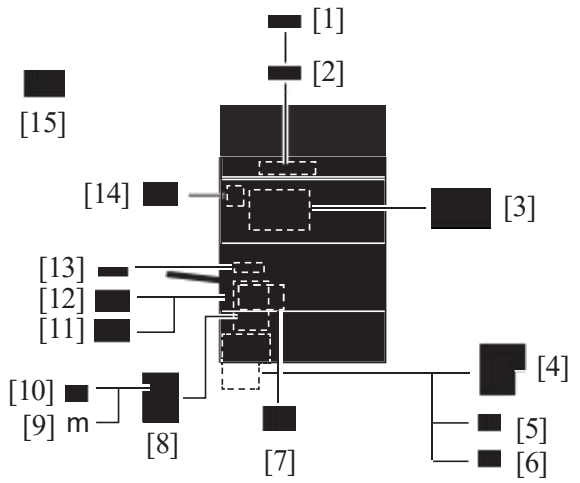
[1]	CM605/CM805 (*1)	[2]	Stamp Unit SP-501
[3]	Spare TX Marker Stamp 2	[4]	Authentication Unit AU-201S / AU-206 (*6)
[5]	Mount Kit MK-735	[6]	Authentication Unit AU-102
[7]	Working Table WT-506	[8]	Keypad KP-102
[9]	Local Interface Kit EK-608	[10]	Local Interface Kit EK-609
[11]	Mount Kit MK-730	[12]	Large Capacity Unit LU-207
[13]	Large Capacity Unit LU-302	[14]	Transformer kit TK-101
[15]	Desk DK-705 (*2) (*4)	[16]	Paper Feed Cabinet PC-417
[17]	Desk DK-516 (*2)	[18]	Paper Feed Cabinet CPT-810H
[19]	Paper Feed Cabinet CPT-810	[20]	Paper Feed Cabinet PC-116
[21]	Power Supply BOX MK-734 (*3)	[22]	Heater HT-509
[23]	Keyboard Holder KH-102 (*3)	[24]	Relay Unit CPK-810R
[25]	Finisher FS-539	[26]	Finisher FS-539SD
[27]	Punch Kit PK-524	[28]	Finisher CPF-810H
[29]	Finisher CPF-810X	[30]	Z Folding Unit CPK-810Z
[31]	Punch Kit CPK-810XP	[32]	Job Separator JS-602
[33]	Post Inserter PI-507	[34]	Finisher FS-533 (*5)
[35]	Punch Kit PK-519 (*5)	[36]	Fan Unit MK-607 (*5)
[37]	Job Separator JS-508 (*5)	[38]	Output Tray OT-513
[39]	Assist Handle AH-101	[40]	Finisher FS-P04 (*7)

- *1: Dual Scan Document Feeder DF-713 provided as a standard equipment.
- *2: Except for Europe area
- *3: Except for Japan
- *4: Large Capacity Unit LU-207/LU-302 cannot be mounted when Desk DK-705 is installed.
- *5: This unit can only be mounted on CM605.
- *6: AU-201S can only be mounted on CM605/CM805. AU-206 is supported in Japan.
- *7: Not for CM605/CM805

NOTE

- **Use the desk or the paper feed cabinet without fail when installing on the floor in order to keep the function and quality of the unit.**

(2) System rear view



[1]	Condensation prevention heater power supply box MK-719 (*1)	[2]	Condensation prevention heater HT-510 (*1)
[3]	Clean Unit CU-102	[4]	Image Controller IC-420
[5]	Video Interface Kit VI-516	[6]	Upgrade Kit UK-115 (*4)
[7]	Security Kit SC-509	[8]	Fax Mount Kit MK-742 (*2)
[9]	Fax Kit FK-515 (*2)	[10]	Fax Kit FK-515 (*2)
[11]	Fax Kit FK-514	[12]	Fax Kit FK-514
[13]	Expanded Memory Unit EM-908	[14]	Upgrade Kit (wireless) UK-221 (*3)

[15]	i-Option LK-104/105/106/107/108/110/111/114/115/116/117	- -

- *1: Japan only
- *2: Japan, North America, and Asia Pacific only
- *3: Standard equipment only for Japan
- *4: CM605

2.1.2 Optional configuration

(1) Combination configuration of main body and paper feed options

1	Main body	DK-705	
2	Main body	DK-516	
3	Main body	PC-116	LU-302/LU-207
4	Main body	CPT-810	LU-302/LU-207
5	Main body	CPT-810H	LU-302/LU-207
6	Main body	PC-417	LU-302/LU-207

(2) Combination configuration of main body and post-processing options

1	Main body	JS-508					
2	Main body	FS-533	PK-519				
3	Main body	CPK-810R	FS-539	PK-524	SK-602		
4	Main body	CPK-810R	FS-539SD	PK-524	SK-602		
5	Main body	CPK-810R	CPF-810H	CPK-810XP	CPK-810Z	PI-507/JS-602	SK-704
6	Main body	CPK-810R	CPF-810X	CPK-810XP	CPK-810Z	PI-507/JS-602	SK-704
7	Main body	WT-506	FS-P04				

(3) Combination of main body and fax kit

(a) Japan, North America, Asia Pacific

1	Main body	FK-514 (mainline)	FK-514 (line 2)	MK-742	FK-515 (line 3)	FK-515 (line 4)

(b) Europe

1	Main body	FK-514 (mainline)	FK-514 (line 2)

(4) Combination of main body (scanner section) and heater

(a) Japan

1	Main body (scanner section)	MK-719	HT-510

(b) International

- No optional settings

(5) Combination configuration of paper feed options and dehumidifier heater

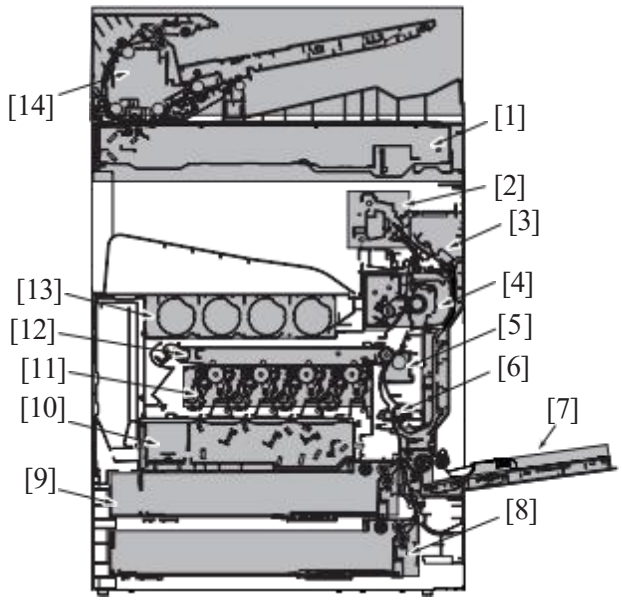
(a) Japan

1	DK-516 (standard equipment dehumidifier heater)	-		
2	PC-116 (standard equipment dehumidifier heater)	HT-509	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101
3	CPT-810 (standard equipment dehumidifier heater)	HT-509	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101
4	CPT-810H (standard equipment dehumidifier heater)	HT-509	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101
5	PC-417 (standard equipment dehumidifier heater)	HT-509	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101

(b) International

1	DK-516	HT-509	MK-734		
2	PC-116	HT-509	MK-734	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101
3	CPT-810	HT-509	MK-734	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101
4	CPT-810H	HT-509	MK-734	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101
5	PC-417	HT-509	MK-734	LU-302/LU-207 (standard equipment dehumidifier heater)	TK-101

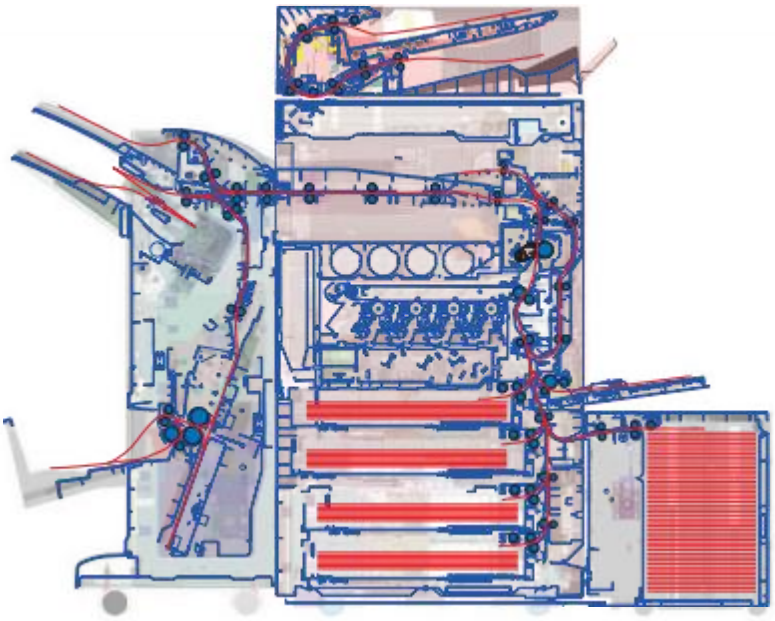
2.2 SECTION CONFIGURATION



[1]	Scanner section	[2]	Paper exit/reverse section
[3]	Duplex section	[4]	Fusing Section
[5]	2nd transfer section	[6]	Registration section
[7]	Paper feed section (Manual bypass tray)	[8]	Paper feed section (Tray 2)
[9]	Paper feed section (Tray 1)	[10]	Write section (PH section)
[11]	Photoconductor section/Developing section	[12]	1st transfer section
[13]	Toner supply section	[14]	Dual scan document feeder

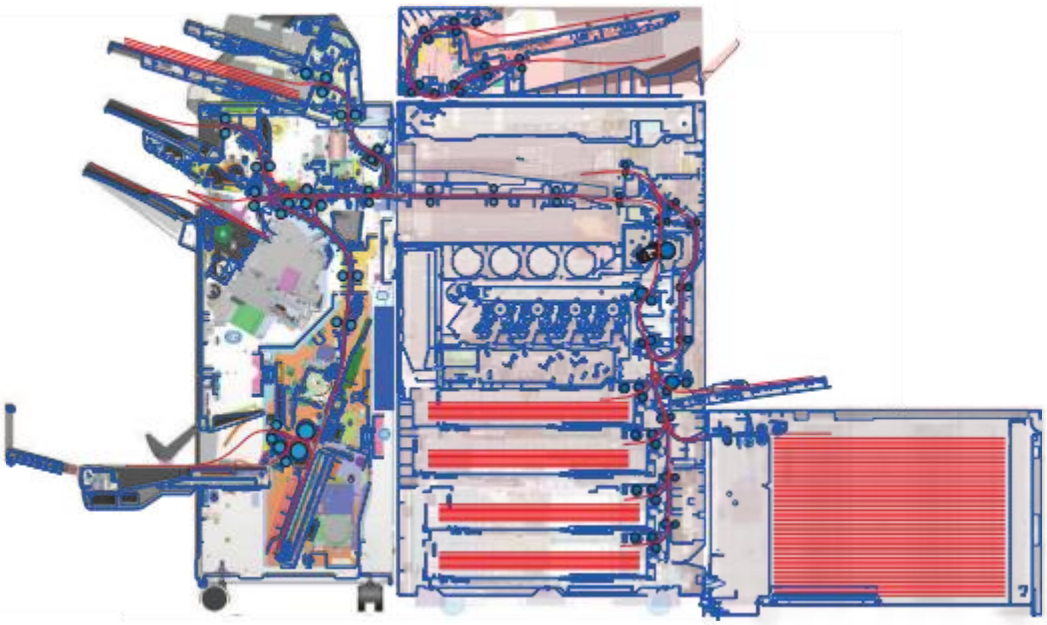
2.3 Paper path

Main body + DF-713 + CPT-810 + CPK-810R + FS-539SD + LU-302



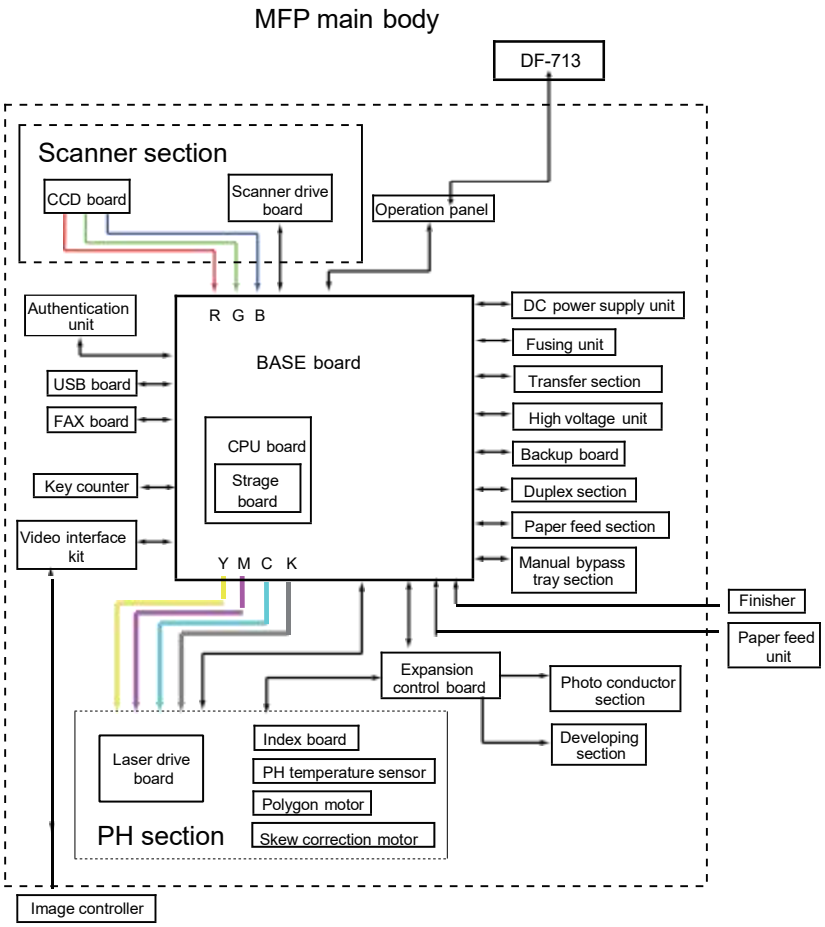
- List of drive rollers and sensors in the paper path

Main body + DF-713 + CPT-810 + CPK-810R + CPF-810X + LU-207

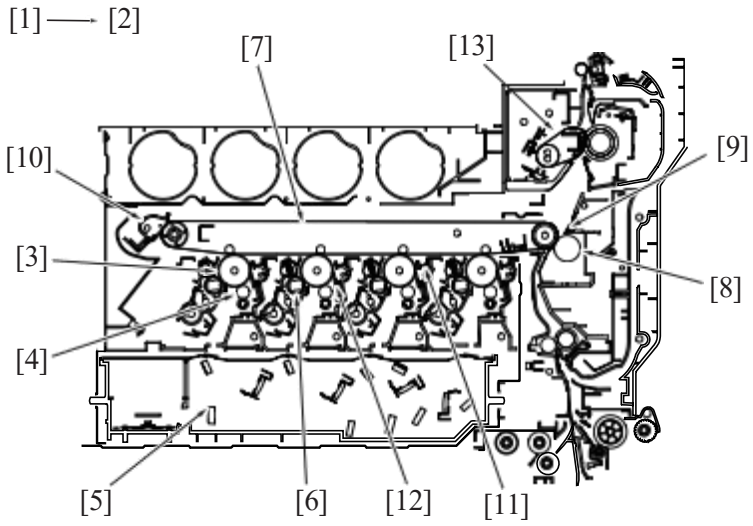


- List of drive rollers and sensors in the paper path

2.4 CONTROL BLOCK DIAGRAM

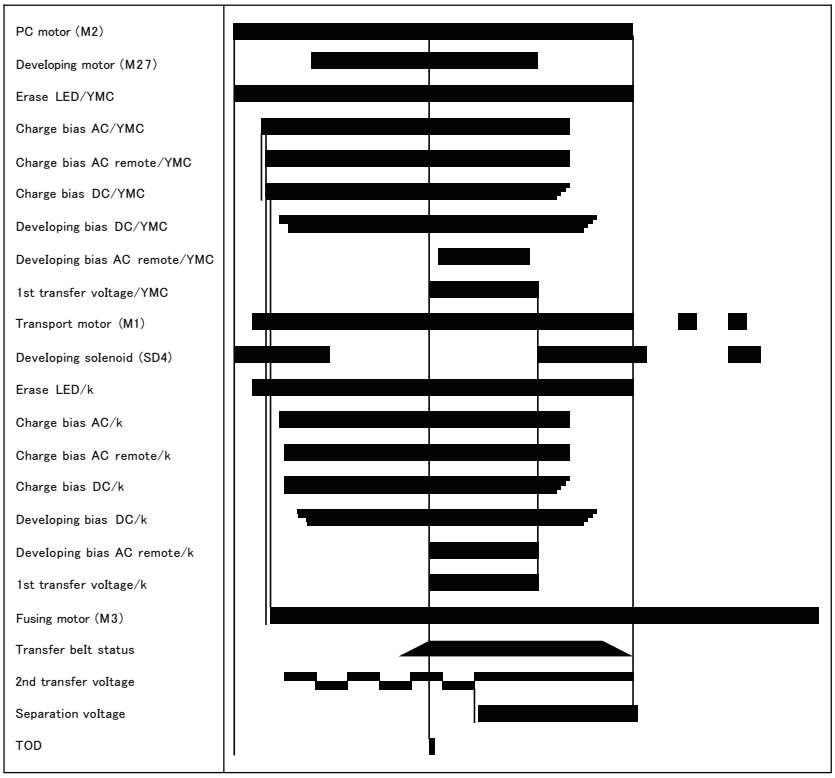


2.5 IMAGE CREATION PROCESS



[1]	Photoelectric conversion	The light reflected off the surface of the original is separated into different colors using the color filters (R, G, and B); CCD then converts it into a corresponding electric signal and outputs the signal to the IR imaging processing section.
[2]	Printer image processing	• The electric signal is converted to digital image signals. After going through some corrections, video signals (C, M,Y, and K) are output to the printer image processing section. • D/A conversion will be performed after the VIDEO signals (Y, M, C, K) are corrected. This data will control the emission of the laser diode.
[3]	Photoconductor	The image of the original projected onto the surface of the photoconductor is changed to a corresponding electrostatic latent image.
[4]	Charging roller	Supply negative charge on the photoconductor.
[5]	Laser exposure	Expose photoconductor to a laser beam to develop electrostatic latent image.
[6]	Developing	• The toner, agitated and negatively charged in the developer mixing chamber, is attracted onto the electrostatic latent image formed on the surface of the photoconductor. It is thereby changed to a visible, developed image. • AC and DC negative bias voltages are applied to the developing roller, thereby preventing toner from sticking to the background image portion.
[7]	1st transfer	A DC positive voltage is applied to the backside of the transfer belt, thereby allowing the visible, developed image on the surface of each of the photoconductors (Y, M, C, and K) to be transferred onto the transfer belt.
[8]	2nd transfer	A DC positive voltage is applied to the backside of the paper, thereby allowing the visible, developed image on the surface of the transfer belt to be transferred onto the paper.
[9]	Separation	The paper, which has undergone the 2nd transfer process, is neutralized so that it can be properly separated from the transfer belt by the paper separator claws.
[10]	Transfer belt cleaning	Residual toner on the surface of the transfer belt is collected for cleaning by cleaning blade.
[11]	Main erase	The surface of the photoconductor is irradiated with light, which neutralizes any surface potential remaining on the surface of the photoconductor.
[12]	Photoconductor cleaning	The residual toner left on the surface of the photoconductor is scraped off.
[13]	Fusing	The visible toner image transferred onto the surface of the paper is melted by the heat of the fusing roller and fixed to the paper by pressure.

2.6 IMAGE FORMING CONTROL



D SERVICE TOOL

Blade Screwdriver, Multiple Sizes
#1 Phillips Screwdriver, Magnetic
#2 Phillips Screwdriver, Magnetic
#2 Phillips Screwdriver, Magnetic, Short Tip
Spring Hook
Feeler Gauge
Analog or Digital Multimeter
Electric Desoldering Pump
Flashlight

E MAINTENANCE

1. Concept of maintenance

Consumables/parts name	Target model	Field standard yield (*1)	Replacement time (*2)	Life stop (*2)
Drum unit/CMY	CM805	165,000 sheets	3,935M	4,181M
	CM605	155,000 sheets	5,386M	5,723M
Drum unit/K	CM805	240,000 sheets	5,356M	5,662M
	CM605	240,000 sheets	7,332M	7,751M
Developing unit/CMYK	CM805	1,000,000 sheets	1,000,000 counts	1,010,000 counts
	CM605	1,000,000 sheets	1,000,000 counts	1,010,000 counts
Transfer belt unit	CM805	330,000 sheets	12,760M	13,920M
	CM605	330,000 sheets	17,466M	19,054M
Transfer roller unit	CM805	1,000,000 sheets	38,664M	39,789M
	CM605	1,000,000 sheets	52,922M	54,462M
Fusing unit	CM805	1,000,000 sheets	1,000,000 sheets	1,050,000 sheets
	CM605	800,000 sheets	800,000 sheets	840,000 sheets
Toner filter	CM805	165,000 sheets (Color) or 330,000 sheets (Black)	165,000 sheets (Color) or 330,000 sheets (Black)	175,000 counts (Color) or 345,000 counts (Black)
	CM605 (*3) (*4)	165,000 sheets (Color) or 330,000 sheets (Black)	165,000 sheets (Color) or 330,000 sheets (Black)	175,000 counts (Color) or 345,000 counts (Black)

*1: For details of specified conditions of field standard yield, see the following tables.
*2: The replacement time changes depending on the setting of the replacement timing intelligent control. See Replacement timing Intelligent Control of Developing unit.
*3: This part may not be available depending on the production timing. (North America of CM605 only)

Specified conditions of field standard yield

North America

Items		CM805	CM605
Printing	Color	3 P/J	2.5 P/J
	Black	7 P/J	5 P/J
Paper size ratio		Letter S: 7%	
Coverage		Each color 5%	

Europe

Items		CM805	CM605
Printing	Color	4 P/J	2.5 P/J
	Black	7 P/J	5 P/J
Paper size ratio		A4S: 7%	
Original density		Each color 5%	

2. Periodical replacement parts list

2.1 CM605/CM805

Section	Part name		Qt.	Replacing cycle	Descriptions	Ref. page
Tray 1	Tray 1 pick-up roller		1	300,000	(*1) (*2)	E.3.1.1 Replacing the tray 1 pick-up roller, tray 1 feed roller, tray 1 separation roller
	Tray 1 feed roller		1	300,000		
	Tray 1 separation roller		1	300,000		
Tray 2	Tray 2 pick-up roller		1	300,000	(*1) (*2)	E.3.1.2 Replacing the tray 2 pick-up roller, tray 2 feed roller, tray 2 separation roller
	Tray 2 feed roller		1	300,000		
	Tray 2 separation roller		1	300,000		
Manual bypass tray	Bypass pick-up roller	CM605/CM805	1	200,000	(*1) (*2)	E.3.1.3 Replacing the manual bypass tray pick-up roller, manual bypass tray feed roller, manual bypass tray separation roller assy
	Manual bypass tray feed roller					
	Manual bypass tray separation roller assy					
Processing section	Toner cartridge/Y, /M, /C, /K	CM805	1	28,000	(*3)	E.3.1.4 Replacing the toner cartridge
		CM605	1	28,000		
	Drum unit/Y, /M, /C	CM805	1	165,000	(*3) (*4)	E.3.1.5 Replacing the drum unit
		CM605	1	155,000		
	Drum unit/K	CM805	1	240,000	(*3) (*4)	
		CM605	1	240,000		
	Developing unit/Y, /M, /C, /K	CM805	1	1,000,000	(*4)	E.3.1.6 Replacing the developing unit
		CM605	1	1,000,000		
	Toner filter	CM805	1	165,000 sheets (Color) or 330,000 sheets (Black)	(*4)	E.3.1.7 Replacing the toner filter
		CM605 (*5) (*6)	1	165,000 sheets (Color) or 330,000 sheets (Black)		
	Waste toner box	CM805	1	44,000	(*3) (*4)	E.3.1.8 Replacing the waste toner box
		CM605	1	44,000		
Image transfer section	Transfer belt unit	CM805	1	330,000	(*4)	E.3.1.9 Replacing the transfer belt unit
		CM605	1	330,000		
	Transfer roller unit	CM805	1	1,000,000	(*4)	E.3.1.10 Replacing the transfer roller unit
		CM605	1	1,000,000		
Fusing section	Fusing unit	CM805	1	1,000,000	(*4)	E.3.1.11 Replacing the fusing unit
			1	1,000,000		
		CM605	1	800,000		
			1	800,000		

*1: Life counter value
*2: Replace these parts at the same time.
*3: The parts can be replaced either by user or service engineer.
*4: Field standard yield
*5: This part may not be available depending on the production timing. (North America of CM605 only)

2.2 DF-713

Part name	Qt.	Replacing cycle	Descriptions	Ref. page
Pick-up roller	2	200,000	(*1) (*2)	E.3.2.1 Replacing the pick-up roller/feed roller
Feed roller	1	200,000		
Separation roller	1	200,000		E.3.2.2 Replacing the separation roller

*1: Life counter value
*2: Replace these parts at the same time.

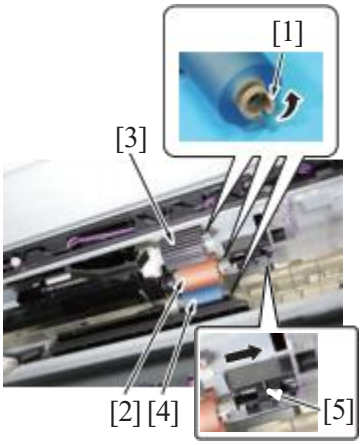
3. Periodical replacement procedure

NOTE
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

3.1 CM605/CM805

3.1.1 Replacing the tray 1 pick-up roller, tray 1 feed roller, tray 1 separation roller

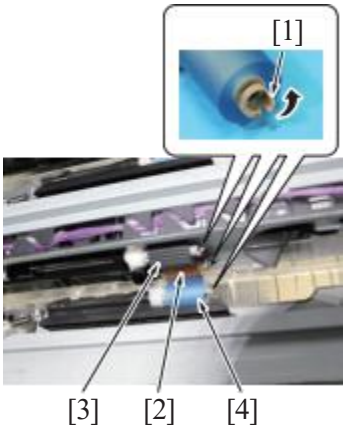
1. Open the right door.
2. Remove the tray 1.
   F.5.1.25 Tray 1
3. Remove the tray 2.
   F.5.1.26 Tray 2



4. Release the tab [1] of each roller, and remove the tray 1 feed roller [2], tray 1 pick-up roller [3] and tray 1 separation roller [4].
   NOTE
   - **Remove the tray 1 feed roller [2] by sliding the cover [5].**
5. To reinstall, reverse the order of removal.

3.1.2 Replacing the tray 2 pick-up roller, tray 2 feed roller, tray 2 separation roller

1. Open the right door.
2. Remove the tray 1.
   F.5.1.25 Tray 1
3. Remove the tray 2.
   F.5.1.26 Tray 2

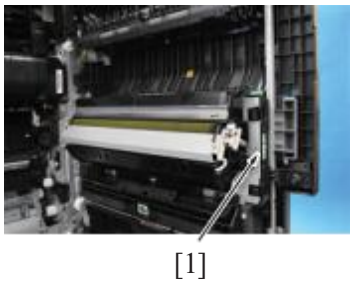


4. Release the tab [1] of each roller, and remove the tray 2 feed roller [2], tray 2 pick-up roller [3] and tray 2 separation roller [4].
5. To reinstall, reverse the order of removal.

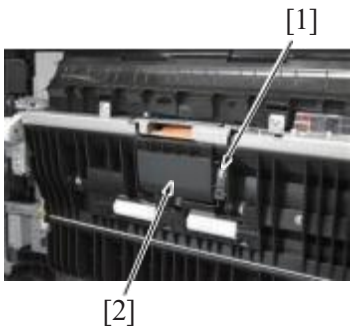
3.1.3 Replacing the manual bypass tray pick-up roller, manual bypass tray feed roller, manual bypass tray separation roller assy

- **CM605/CM805**

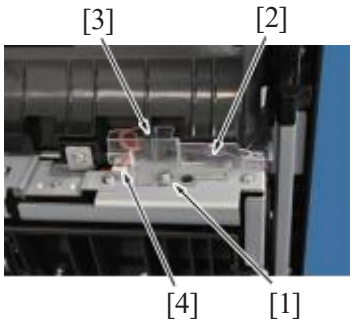
1. Open the right door.



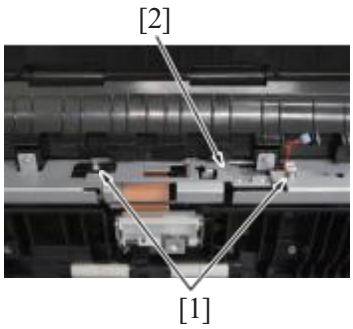
2. Open the 2nd transfer unit [1].



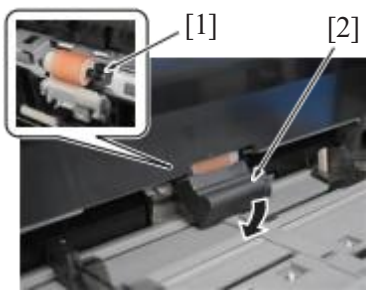
3. Remove the screw [1], and remove the cover [2].



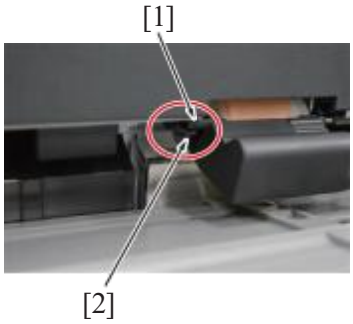
4. Remove the screw [1], and remove the connector protective cover [2].
5. Disconnect the connector [3], and remove the harness from the edge cover [4].



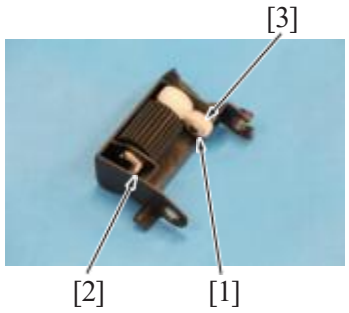
6. Remove two screws [1], and remove the plate [2].



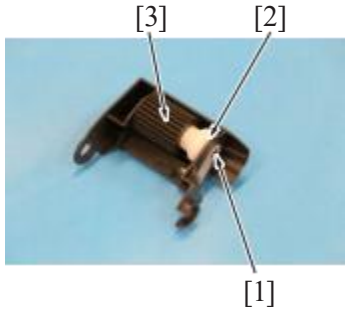
7. Remove the bushing [1], and remove the manual bypass tray pick-up roller assy [2].
NOTE
- **A white bushing [1] may be provided depending on the production time.**



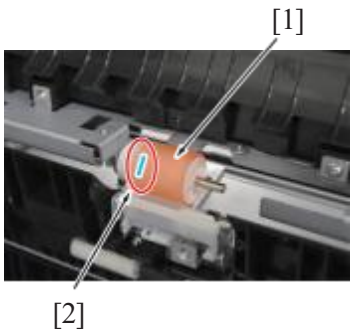
8. **NOTE**
- **When installing the pick-up roller assy [1], make sure that it is located above the manual bypass tray pick-up roller solenoid lever [2].**



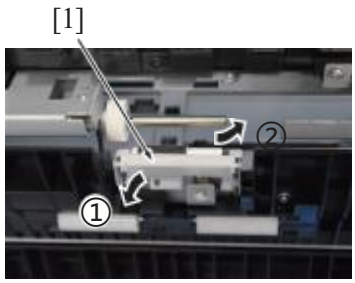
9. Remove the C-clip [1], C-clip [2] and gear [3].



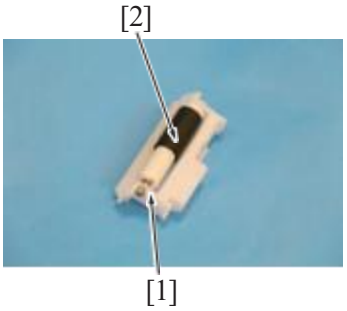
10. Remove the shaft [1] and gear [2], and remove the manual bypass tray pick-up roller [3].



11. Remove the manual bypass tray feed roller [1].
NOTE
- **When removing the feed roller, the pin [2] may fall, so be careful not to lose the pin by setting the paper in the manual bypass tray before removal.**



12. Remove the manual bypass tray separation roller unit [1].



13. Remove the C-clip [1], and remove the manual bypass tray separation roller assy [2].

14. To reinstall, reverse the order of removal.

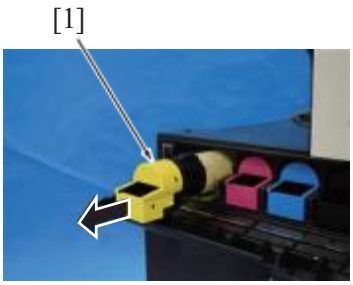
3.1.4 Replacing the toner cartridge

(1) Removal procedure

NOTE

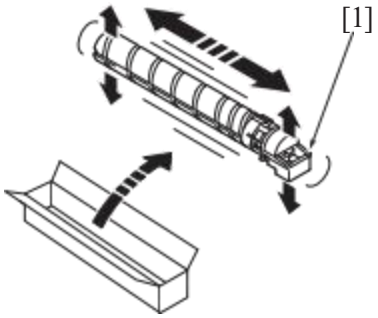
- **Although the procedure shown below is for the replacement of the toner cartridge/Y, use the same procedure to replace other colors of toner cartridges.**

1. Open the front door.



2. Remove the toner cartridge [1].

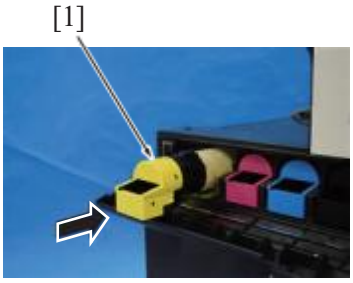
(2) Reinstall procedure



1. Remove the new toner cartridge [1] from its packaging, and then shake the cartridge side to side 5 to 10 times.

NOTE

- **Shake the toner cartridge well.**
  If shaking is not enough, that may cause trouble.

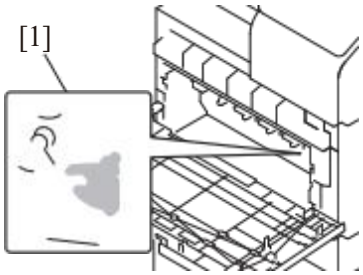


2. Insert the toner cartridge [1] into the machine.

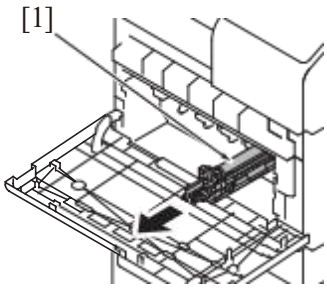
3.1.5 Replacing the drum unit

(1) Removal procedure

1. Open the lower front door.
2. Remove the waste toner transport unit/waste toner box.
   E.3.1.8 Replacing the waste toner box

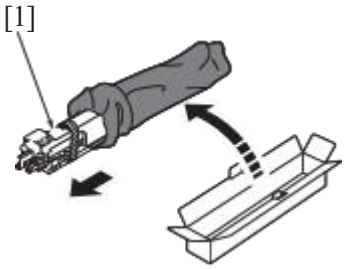


3. Turn the drum unit lock lever [1] and release the lock.

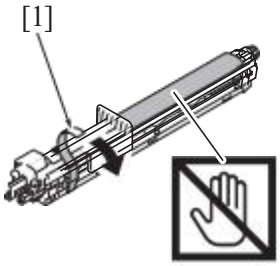


4. Pull the drum unit [1] to you and remove it from the machine.

(2) Reinstall procedure



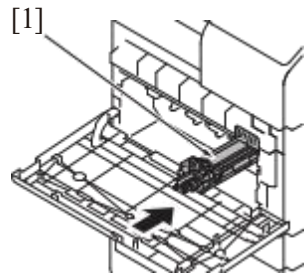
1. Remove the drum unit [1] from its package.
2. Remove the drum unit [1] from the plastic bag.



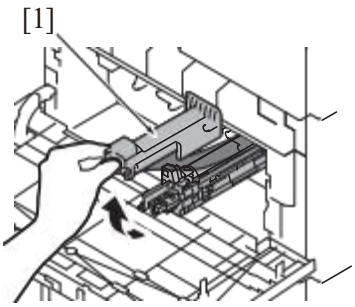
3. Peel off the tape [1].

NOTE

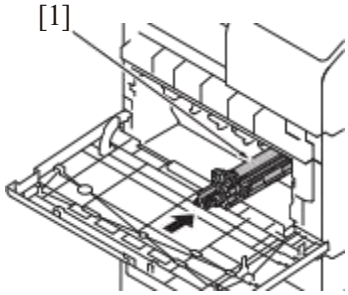
- **Do not hold the drum unit by the upper part. Holding it by the upper part can cause scratches on the surface of the photoconductor, resulting in the deterioration of image quality.**



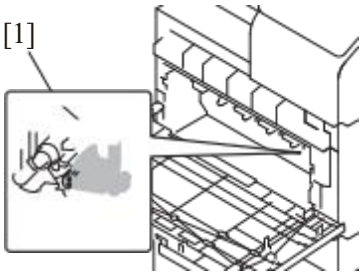
4. Insert the drum unit [1] into the machine.



5. Remove the photoconductor protective sheet [1].



6. Completely insert the drum unit [1].



7. Turn the drum unit lock lever [1] and lock the drum unit.

NOTE

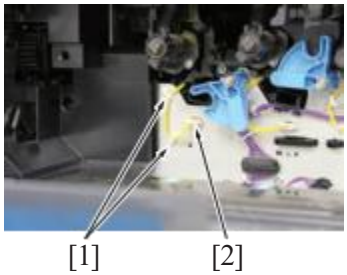
- **If the lock lever is hard to rotate, turn the lever while pushing the drum unit to the rear.**

8. Reinstall the waste toner transport unit/waste toner box.
9. Close the front door.

3.1.6 Replacing the developing unit

1. Open the front door.
2. Remove the waste toner transport unit/waste toner box.
   E.3.1.8 Replacing the waste toner box
3. Remove the front lower cover.
   F.5.1.14 Front lower cover
4. Remove the drum unit.
   E.3.1.5 Replacing the drum unit

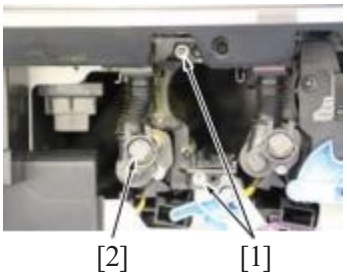
<Type A>



5. Remove the harness from two wire saddles [1], and disconnect the connector [2].

NOTE

- **<Type A> CM605/CM805**



6. Remove two screws [1], and remove the developing unit [2].

7. To reinstall, reverse the order of removal.

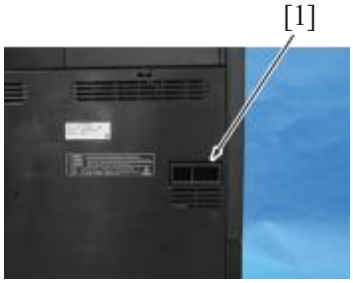
NOTE

- **To install two screws in the developing unit, press the position [1] with your finger as shown in the illustration.**

3.1.7 Replacing the toner filter

NOTE

- **This part may not be available depending on the production timing. (North America of CM605 only)**



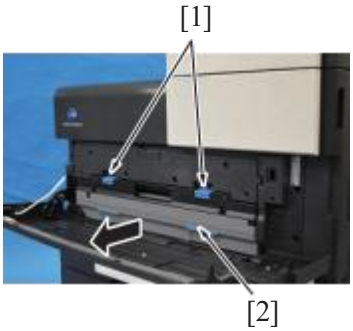
1. Squeeze the hook and remove the toner filter [1].

2. To reinstall, reverse the order of removal.

3.1.8 Replacing the waste toner box

(1) Removal procedure

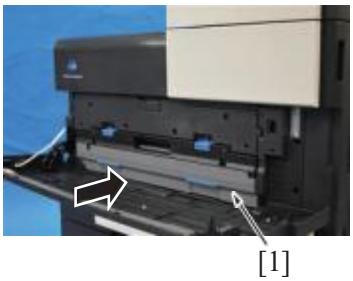
1. Open the front door.



2. Unhook the waste toner box fixing levers [1] and remove the waste toner box [2].

(2) Reinstall procedure

1. Remove the brand new waste toner box from its package and remove the packing material.
2. Set the waste toner box [1].

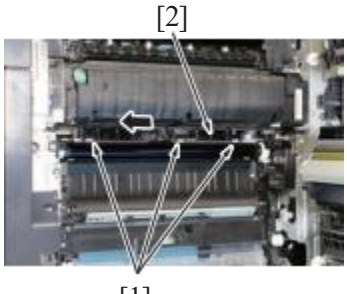


3. Close the front door.

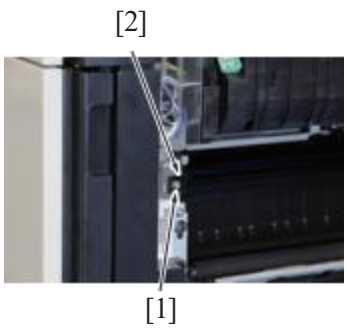
3.1.9 Replacing the transfer belt unit

(1) Removal procedure

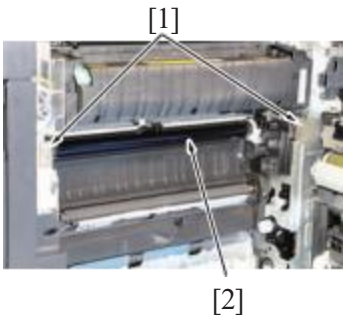
1. Open the right door.



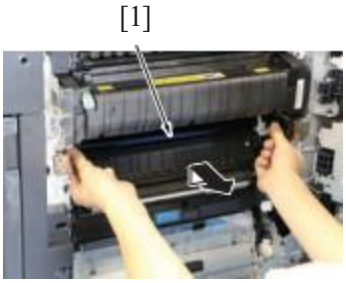
2. Release three tabs [1], and remove the 2nd transfer paper winding prevention guide [2].



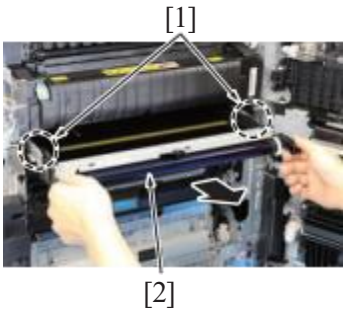
3. Remove the screw [1], and remove the stopper [2].



4. Remove two screws [1] and unlock the transfer belt unit [2].



5. Hold the both sides and lift it to take out the transfer belt unit [1] a little.

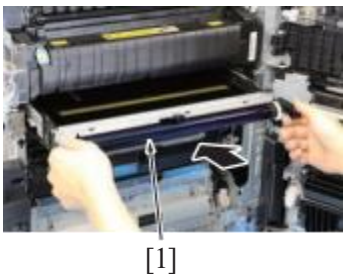


6. Hold the position [1] shown in the illustration and remove the transfer belt unit [2].

NOTE

- **Do not touch the surface of the transfer belt unit.**
- **Cover the transfer belt unit with something such shade cloth to protect its surface from dust or foreign matter.**
- **If accidentally touched the surface of the transfer belt, lightly wipe it using the Hydro-wipe . Do not clean with alcohol or water.**

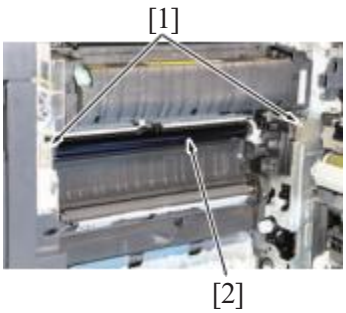
(2) Reinstall procedure



1. Insert the transfer belt unit [1].

NOTE

- **Insert the transfer belt unit with care not to allow its docking gear to be damaged by hitting it against the rail or associated part.**
- **Do not touch the surface of the transfer belt unit.**
- **Cover the transfer belt unit with something such shade cloth to protect its surface from dust or foreign matter.**
- **If accidentally touched the surface of the transfer belt, lightly wipe it using the Hydro-wipe. Do not clean with alcohol or water.**



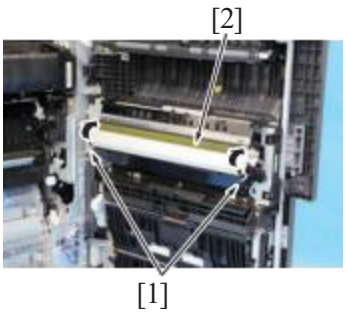
2. Install the transfer belt unit [2] with two screws [1].
3. Install the 2nd transfer paper winding prevention guide.

4. To reinstall, reverse the order of removal.

3.1.10 Replacing the transfer roller unit

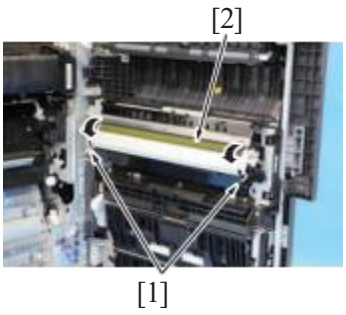
(1) Removal procedure

1. Open the right door.



2. Unlock the lock levers [1] of the transfer roller unit (at two places).
3. Holding onto the lock levers [1] (at two places), remove the transfer roller unit [2].

(2) Reinstall procedure



1. Holding onto the lock levers [1] (at two places), install the new transfer roller unit [2].
2. Lock the lock levers [1] (at two places).
   NOTE
   - **Make sure that the levers are locked in position both at front and rear.**
3. Close the right door.

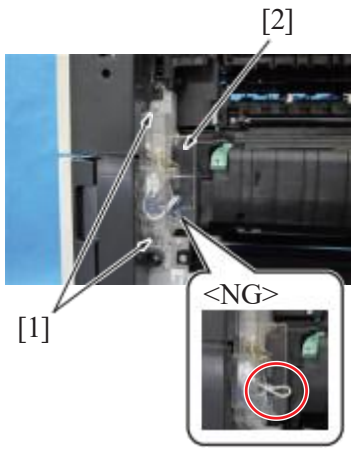
3.1.11 Replacing the fusing unit

⚠CAUTION

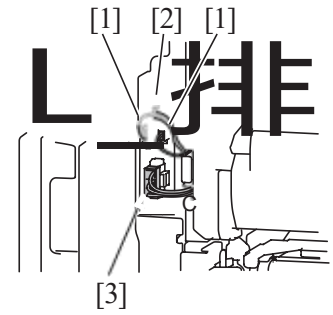
- The temperature gets high in the vicinity of the fusing unit. You may get burned when you come into contact with the area.
  Before replacement operations, make sure that more than 20 minutes have elapsed since the main power switch was turned off.

NOTE

1. **When replacing the fusing unit, make sure to use the fusing unit in a correct combination with the main body serial number.**
   Periodical replacement parts list
2. Open the right door.



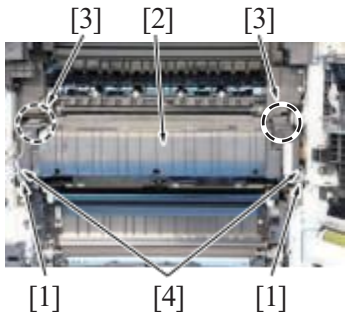
3. Remove two screws [1], and remove the connector protective cover [2].
   NOTE
   - **When installing the connector protective cover, make sure that the primary wire is not nipped by the connector protective cover.**



4. Disconnect two connectors [1] and remove the harness from the wire saddle [2].
5. Disconnect the connector [3].

NOTE

- **When removing the connector [3], press the claw to release the lock, then remove it.**



6. Remove two screws [1], and remove the fusing unit [2].

NOTE

- **When removing the fusing unit, hold the parts [3] shown in the illustration. Make sure to hold it firmly so that it would not fall due to its weight.**
- **When installing the fusing unit, make sure that the set pin [4] is inserted in the fusing unit.**

7. To reinstall, reverse the order of removal.

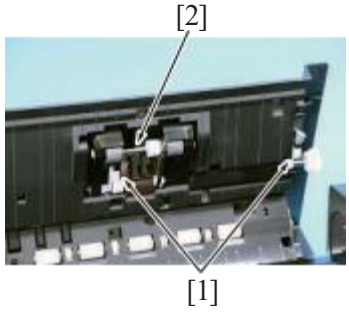
3.2 DF-713

NOTE

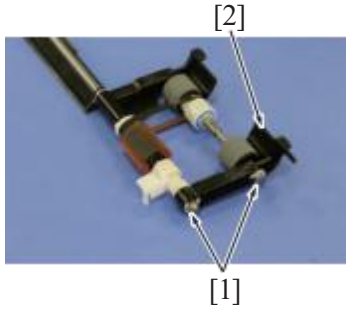
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

3.2.1 Replacing the pick-up roller/feed roller

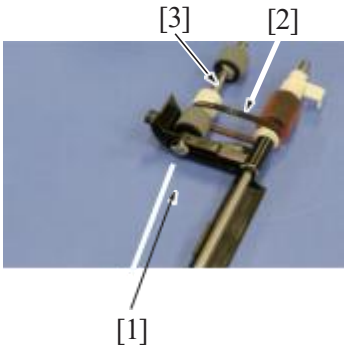
1. Open the left cover [1].



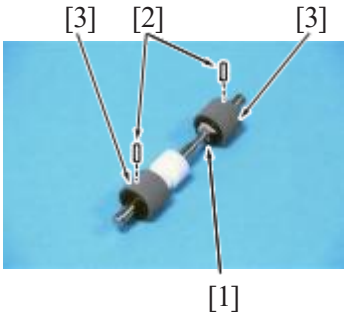
2. Release two locks [1], and remove the pick-up/feed roller assy [2].



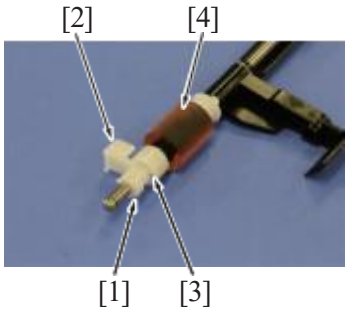
3. Remove two C-clips [1], and remove the arm [2].



4. Remove the C-clip [1], remove the belt [2] and remove the pick-up roller assy [3].



5. Remove the C-clip [1], remove two pins [2] and remove two pick-up rollers [3].

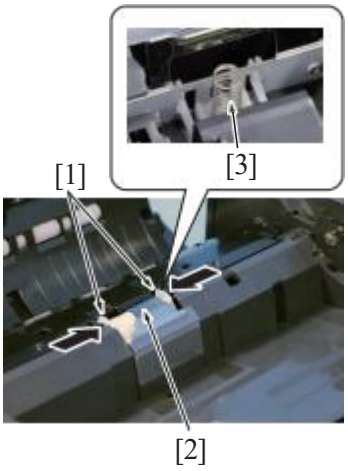


6. Remove the C-clip [1], and remove the arm [2].
7. Remove the C-clip [3], and remove the feed roller [4].

8. To reinstall, reverse the order of removal.

3.2.2 Replacing the separation roller

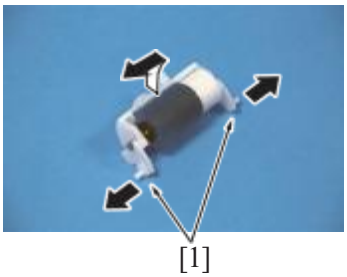
1. Open the left cover [1].



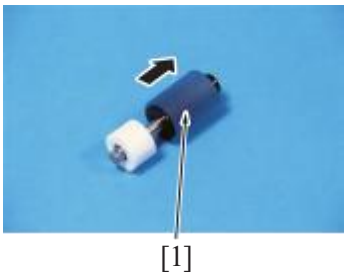
2. Grip both sides [1] of the holder and remove the separation roller assy [2].

NOTE

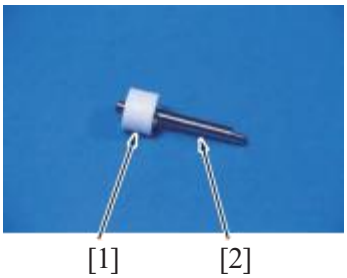
- **Do not lose the spring [3] at the lower part of the separation roller assy [2].**



3. Remove the shaft while spreading the holder [1].
NOTE
- **Take care not to spread the holder too much, it may cause damage.**



4. Remove the separation roller [1] from the shaft.
NOTE
- **Take care not to lose the pin.**



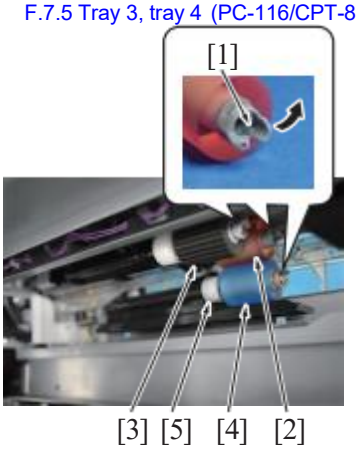
5. Before replacing the separation roller, wipe off the grease adhering to the torque limiter [1] and the shaft [2] using a dry cloth.
NOTE
- **Make sure not to use alcohol. Wipe with a dry cloth.**

6. To reinstall, reverse the order of removal.

3.3 CPT-810

3.3.1 Replacing the tray 3 pick-up roller, feed roller, separation roller

1. Open the right door.
2. Remove the tray 3 and tray 4.
F.7.5 Tray 3, tray 4 (PC-116/CPT-810)

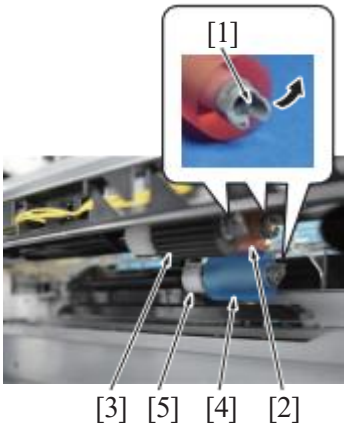


3. Release the tab [1], and remove the tray 3 feed roller [2], tray 3 pick-up roller [3] and tray 3 separation roller [4].
NOTE
- **When replacing the tray 3 separation roller, replace the torque limiter [5] at the same time.**

4. To reinstall, reverse the order of removal.

3.3.2 Replacing the tray 4 pick-up roller, feed roller, separation roller

1. Open the right door.
2. Remove the tray 3 and tray 4.
F.7.5 Tray 3, tray 4 (PC-116/CPT-810)



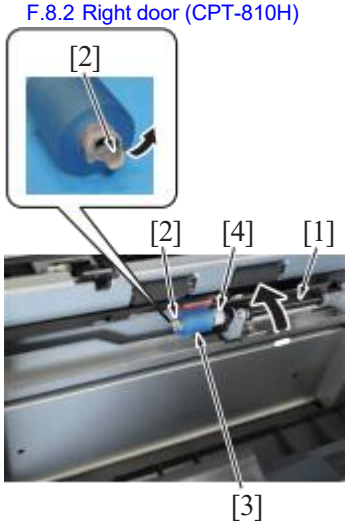
3. Release the tab [1], and remove the tray 4 feed roller [2], tray 4 pick-up roller [3] and tray 4 separation roller [4].
NOTE
- **When replacing the tray 4 separation roller, replace the torque limiter [5] at the same time.**

4. To reinstall, reverse the order of removal.

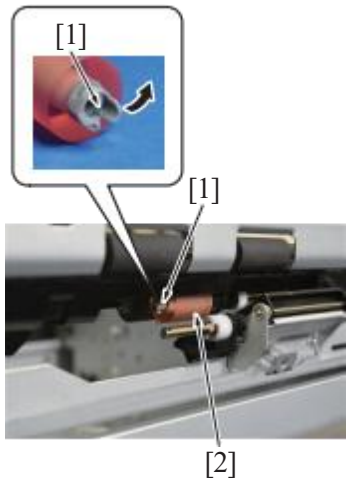
3.4 CPT-810H

3.4.1 Replacing the pick-up roller, feed roller, separation roller

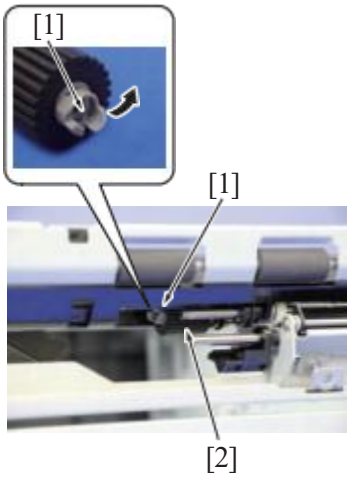
1. Slide out the paper feed tray.
2. Remove the right door.
F.8.2 Right door (CPT-810H)



3. Remove the tab [2] while pressing down the separation roller assy [1], and remove the separation roller [3].
NOTE
- **When replacing the separation roller, replace the torque limiter [4] at the same time.**



4. Release the tab [1], and remove the feed roller [2].



5. Release the tab [1], and remove the pick-up roller [2].

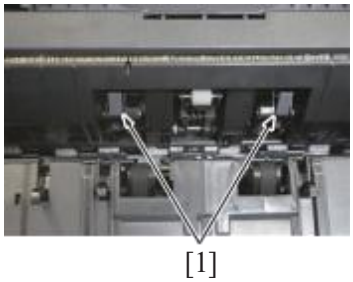
6. To reinstall, reverse the order of removal.

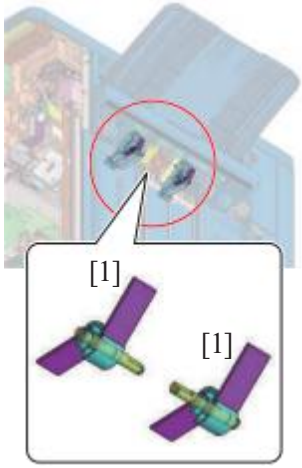
3.5 CPF-810H/CPF-810X

NOTE
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

3.5.1 Replacing the paddle

1. Remove the rear cover.
   F.11.5 Rear cover (CPF-810H/CPF-810X)
2. Remove the main tray.
   F.11.9 Main tray (under the paper exit tray) (CPF-810H/CPF-810X)
3. Remove the paddles [1].





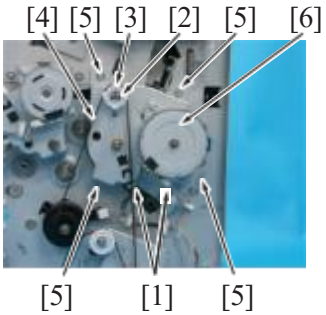
4. **NOTE**
   - **When installing the paddles [1], make sure that the paddle direction matches the shaft holes.**

5. To reinstall, reverse the order of removal.

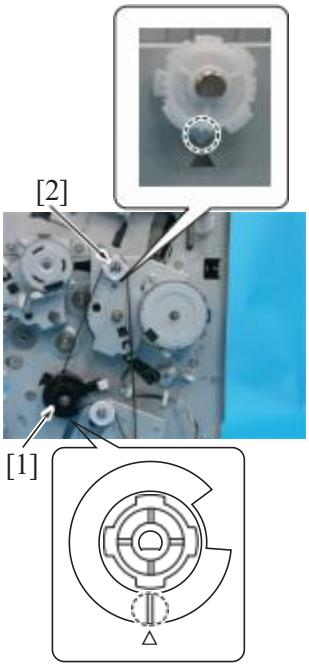
3.5.2 Replacing the upper paddle (saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)

2. Remove the front cover.
F.12.2 Front cover (CPF-810X saddle section)

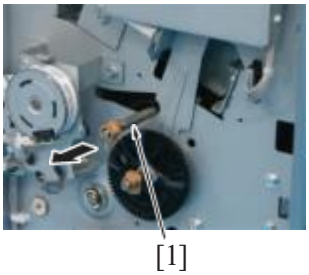


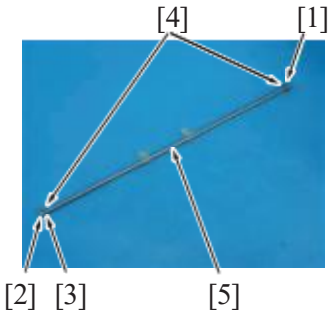
3. Disconnect two connectors [1].
4. Remove the E-ring [2].
5. Remove the gear [3] and belt [4].
6. Remove four screws [5], and remove the center fold guide motor assy [6].



7. **NOTE**
   - **When reinstalling the belt, align the portions of the gear [1] and the gear [2] indicated in the illustration with the triangular marking on the metal plate. Then, install the belt.**

8. Remove the upper paddle assy [1].



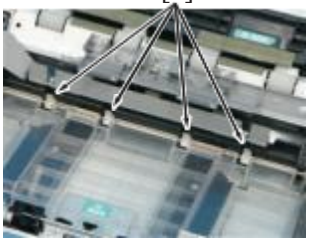


9. Remove the bushing [1].
10. Remove the E-ring [2], and remove the bushing [3].
11. Remove two E-rings [4].
12. Replace the upper paddle [5].

13. To reinstall, reverse the order of removal.

3.5.3 Replacing the lower paddle (saddle section)

[1]



1. Remove the lower paddles [1].

4. Cleaning parts list

- Clean with reference to the numeric values displayed on the total counter or the messages displayed on the control panel.

4.1 CM605/CM805

Section	Part name	Cleaning cycle	Ref. page
Scanner section	Original glass	At abnormal image occurring (image noise, etc.)	E.5.1.1 Cleaning the original glass
	Scanner rails	At abnormal image occurring (synchronized shift, etc.)	E.5.1.2 Cleaning the scanner rails
	Mirrors	At abnormal image occurring (image fogging, image unevenness etc.)	E.5.1.3 Cleaning the mirrors
	Lens	At abnormal image occurring (image fogging, image unevenness etc.)	E.5.1.4 Cleaning the lens
	CCD sensor	At abnormal image occurring	E.5.1.5 Cleaning the CCD sensor
Tray 1	Tray 1 feed roller	At paper feeding jam	E.5.1.6 Cleaning the tray 1 pick-up roller, tray 1 feed roller, tray 1 separation roller
	Tray 1 pick-up roller	At paper feeding jam	
	Tray 1 separation roller	At paper feeding jam	
Tray 2	Tray 2 feed roller	At paper feeding jam	E.5.1.7 Cleaning the tray 2 pick-up roller, tray 2 feed roller, tray 2 separation roller
	Tray 2 pick-up roller	At paper feeding jam	
	Tray 2 separation roller	At paper feeding jam	
	Tray 2 transport roller	At paper feeding jam	E.5.1.8 Cleaning the tray 2 transport roller
Manual bypass tray	Bypass pick-up roller *1	At paper feeding jam	E.5.1.9 Cleaning the bypass pick-up roller
	Manual bypass tray feed roller	At paper feeding jam	E.5.1.10 Cleaning the manual bypass tray feed roller
	Manual bypass tray separation roller	At paper feeding jam	E.5.1.11 Cleaning the manual bypass tray separation roller
Processing section	Transfer belt unit	At abnormal image occurring	E.5.1.16 Cleaning the transfer belt unit
	PH window	At abnormal image occurring	E.5.1.12 Cleaning the PH window
Transport section	Registration roller	60,000	E.5.1.14 Cleaning the registration roller
	Media detection sensor window	330,000	E.5.1.13 Cleaning the media detection sensor window
Image transfer section	Around waste toner collecting port	60,000	E.5.1.15 Cleaning the area around the waste toner collecting port
	Image transfer entrance guide	240,000 or When transfer belt unit is replaced	E.5.1.17 Cleaning the image transfer entrance guide
	IDC sensor window	240,000 or When transfer belt unit is replaced	E.5.1.18 Cleaning the IDC sensor window
Duplex section	Duplex transport roller	60,000	E.5.1.19 Cleaning the duplex transport rollers
Paper exit section	Exit tray front roller	300,000	E.5.1.20 Cleaning the exit tray front roller

*1: CM605/CM805

4.2 DF-713

Part name	Cleaning cycle	Ref. page
Pick-up roller	50,000	E.5.2.1 Cleaning the pick-up roller/feed roller
Feed roller	50,000	

Separation roller	50,000	E.5.2.2 Cleaning the separation roller
Torque limiter and shaft	200,000	E.5.2.3 Cleaning the torque limiter and shaft
Rollers and rolls	50,000	E.5.2.4 Cleaning the miscellaneous rollers E.5.2.5 Cleaning the miscellaneous rolls
Front side scanning guide	50,000	E.5.2.6 Cleaning the front side scanning guide
Reflective sensor section	50,000	E.5.2.7 Cleaning the reflective sensor section
Back side scanning glass	At abnormal image occurring (image noise, etc.)	E.5.2.8 Cleaning the back side scanning glass
Back side scanning guide/Backside scanning shading shaft	At abnormal image occurring (image noise, etc.)	E.5.2.9 Cleaning the back side scanning guide/back side scanning shading shaft

4.3 CPT-810

Part name	Cleaning cycle	Ref. page
Tray 3 pick-up roller	At paper feeding jam	E.5.3.1 Tray 3 pick-up roller, feed roller, separation roller
Tray 3 feed roller	At paper feeding jam	
Tray 3 separation roller	At paper feeding jam	
Tray 4 pick-up roller	At paper feeding jam	E.5.3.2 Tray 4 pick-up roller, feed roller, separation roller
Tray 4 feed roller	At paper feeding jam	
Tray 4 separation roller	At paper feeding jam	
Tray 3 vertical transport roller	At paper feeding jam	E.5.3.3 Tray 3 vertical transport roller, tray 4 vertical transport roller
Tray 4 vertical transport roller	At paper feeding jam	

4.4 CPT-810H

Part name	Cleaning cycle	Ref. page
Pick-up roller	At paper feeding jam	E.5.4.1 Pick-up roller, feed roller, separation roller
Feed roller	At paper feeding jam	
Separation roller	At paper feeding jam	
Vertical transport roller	At paper feeding jam	E.5.4.2 Vertical transport roller

4.5 CPF-810H/CPF-810X

Part name	Cleaning cycle	Ref. page
Paddle (finisher)	300,000	E.5.6.2 Cleaning the paddles
Transport roller (saddle unit)	300,000	E.5.6.1 Cleaning roller and rolls
Folding roller (saddle unit)	300,000	
Upper paddle (saddle unit)	300,000	E.5.6.4 Cleaning the upper paddle (saddle section)
Lower paddle (saddle unit)	300,000	E.5.6.5 Cleaning the lower paddle (saddle section)
Exit tray transport belt (saddle unit)	300,000	E.5.6.3 Cleaning the exit tray conveyance belt (saddle section)
FNS entrance sensor (PS34) (finisher)	300,000	E.5.6.6 Cleaning the FNS entrance sensor (PS34)
FNS middle sensor (PS36) (finisher)	300,000	E.5.6.7 Cleaning the FNS middle sensor (PS36)
Main tray exit sensor (PS37) (finisher)	300,000	E.5.6.8 Cleaning the main tray exit sensor (PS37)

4.6 CPK-810Z

Part name	Cleaning cycle	Ref. page
Fold roller	300,000	E.5.7.1 Cleaning the Z fold roller (CPK-810Z)

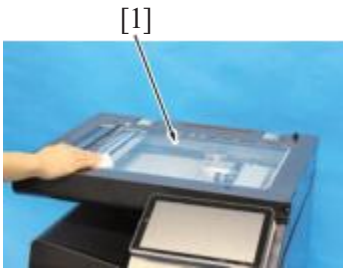
5. Cleaning/Lubrication procedure

NOTE

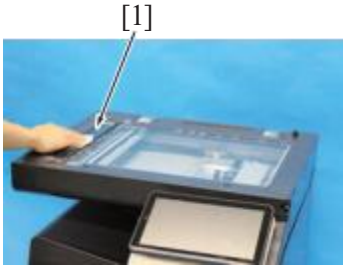
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

5.1 CM605/CM805

5.1.1 Cleaning the original glass



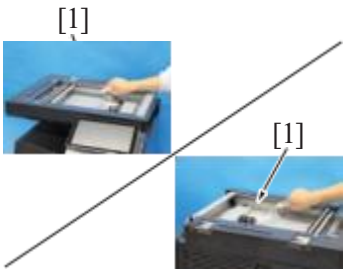
1. Using a cleaning pad dampened with alcohol, wipe the original glass [1] clean of dirt.



2. Using a cleaning pad dampened with alcohol, wipe the document reading glass [1] clean of dirt.

5.1.2 Cleaning the scanner rails

1. Remove the original glass.



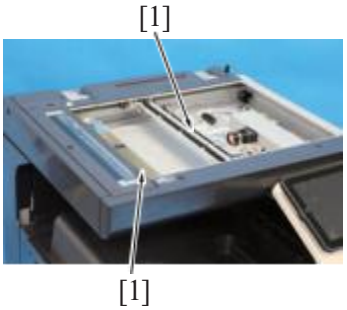
2. Using a cleaning pad dampened with alcohol, wipe the scanner rails [1] clean of dirt.

NOTE

- **Apply lubricant after cleaning.**

5.1.3 Cleaning the mirrors

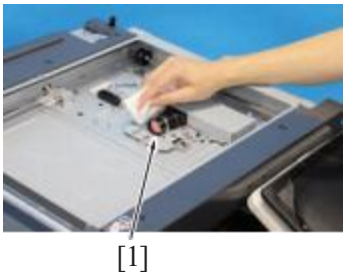
1. Remove the original glass.



2. Using a cleaning pad dampened with alcohol, wipe the mirrors [1] clean of dirt.

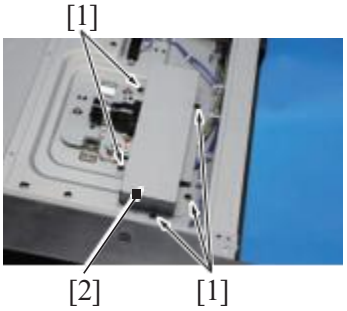
5.1.4 Cleaning the lens

1. Remove the original glass.
2. Clean the lens [1].

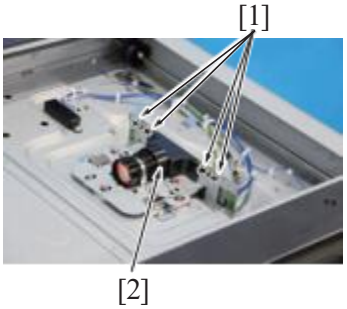


5.1.5 Cleaning the CCD sensor

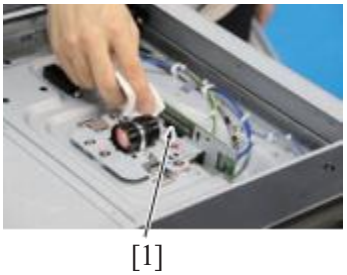
1. Remove the original glass.
2. Remove five screws [1] and remove the CCD unit cover [2].



3. Remove four tabs [1], and remove the CCD sensor cover [2].

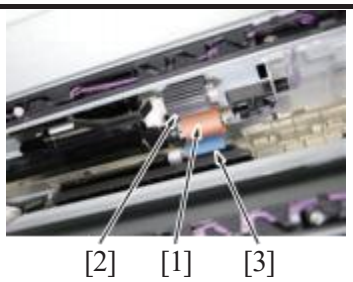


4. Clean the CCD sensor [1].



5.1.6 Cleaning the tray 1 pick-up roller, tray 1 feed roller, tray 1 separation roller

1. Remove the tray 1.
2. Remove the tray 2.

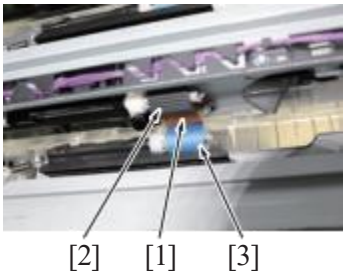


3. Using a cleaning pad dampened with alcohol, wipe the tray 1 feed roller [1], tray 1 pick-up roller [2],and tray 1 separation roller [3] clean of dirt.

5.1.7 Cleaning the tray 2 pick-up roller, tray 2 feed roller, tray 2 separation roller

1. Remove the tray 1.

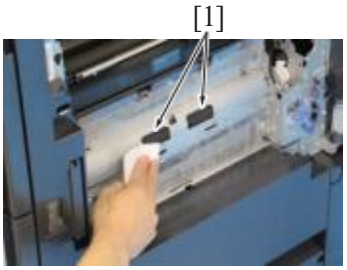
2. Remove the tray 2.



3. Using a cleaning pad dampened with alcohol, wipe the tray 2 feed roller [1], tray 2 pick-up roller [2],and tray 2 separation roller [3] clean of dirt.

5.1.8 Cleaning the tray 2 transport roller

1. Open the right door.



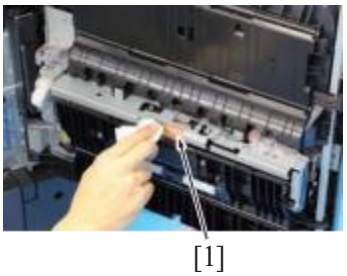
2. Using a cleaning pad dampened with alcohol, wipe the tray 2 transport rollers [1] clean of dirt.

5.1.9 Cleaning the bypass pick-up roller

1. Open the manual bypass tray.
2. Using a cleaning pad dampened with alcohol, wipe the bypass tray pick-up roller [1] clean of dirt.

5.1.10 Cleaning the manual bypass tray feed roller

1. Open the right door.
2. Open the registration unit.



3. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray feed roller [1] clean of dirt.

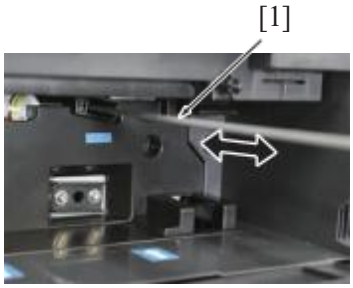
5.1.11 Cleaning the manual bypass tray separation roller

1. Remove the manual bypass tray separation roller unit.
   E.3.1.3 Replacing the manual bypass tray pick-up roller, manual bypass tray feed roller, manual bypass tray separation roller assy

2. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray separation roller [1] clean of dirt.

5.1.12 Cleaning the PH window

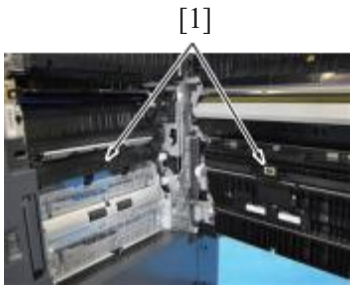
1. Open the front door.
2. Remove the waste toner box.



3. Clean the PH window by putting the PH window cleaning jig [1] back and forth a couple times.

5.1.13 Cleaning the media detection sensor window

1. Open the right door.



2. Clean the media detection sensor windows [1] with air.

5.1.14 Cleaning the registration roller

1. Open the right door.

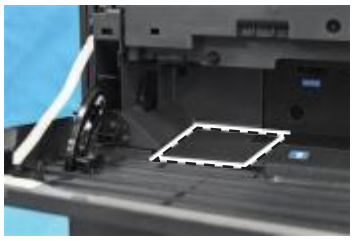
[1]

2. Using a cleaning pad dampened with alcohol, wipe the registration roller [1] clean of dirt.

5.1.15 Cleaning the area around the waste toner collecting port

1. Remove the waste toner transport unit/waste toner box.

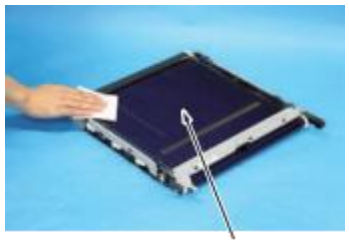
[1]



2. Wipe the areas around the waste toner collecting port clean of spilled toner and dirt using a cleaning pad dampened with water or alcohol.

5.1.16 Cleaning the transfer belt unit

1. Remove the transfer belt unit.
E.3.1.9 Replacing the transfer belt unit



[1]

2. Using a hydro-wipe , wipe the transfer belt [1] clean of dirt.
NOTE
- **Do not wipe out with water.**
- **Do not wipe out with any solvents.**

5.1.17 Cleaning the image transfer entrance guide

1. Remove the transfer belt unit.
E.3.1.9 Replacing the transfer belt unit

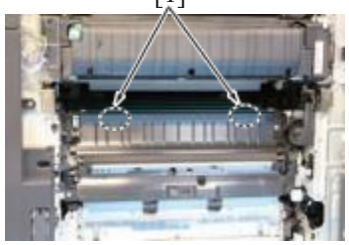
[1]

2. Wipe the image transfer entrance guide [1] clean of dirt using a cleaning pad dampened with water or alcohol.

5.1.18 Cleaning the IDC sensor window

1. Remove the transfer belt unit.
E.3.1.9 Replacing the transfer belt unit

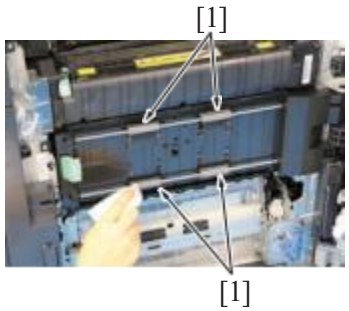
[1]



2. Wipe the IDC sensor windows [1] clean of dirt.
NOTE
- **Do not wipe out with any solvents or alcohols.**

5.1.19 Cleaning the duplex transport rollers

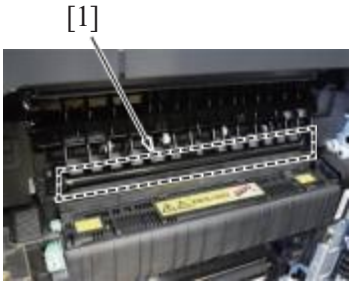
1. Open the right door.
2. Open the registration unit.



3. Using a cleaning pad dampened with water or alcohol, wipe the duplex transport rollers [1] clean of dirt.

5.1.20 Cleaning the exit tray front roller

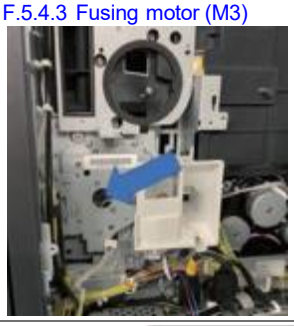
1. Open the right door.

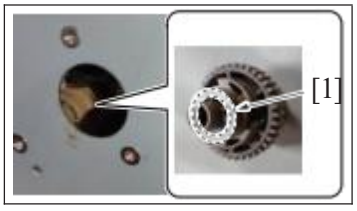


2. Using a cleaning pad dampened with alcohol, wipe the exit tray front roller [1] clean of dirt.

5.1.21 Applying grease to the fusing drive unit

1. Remove the fusing motor.
F.5.4.3 Fusing motor (M3)





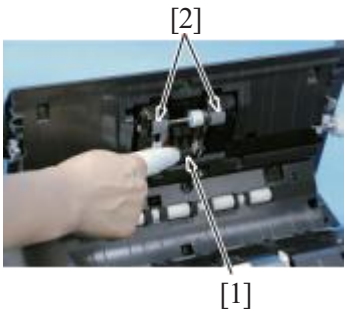
2. Apply grease (MOLYKOTE EM-30L) to the specified area on the fusing drive unit [1].

5.2 DF-713

5.2.1 Cleaning the pick-up roller/feed roller

[1]

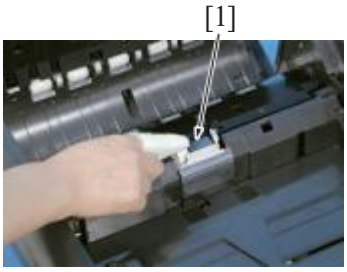
1. Open the left cover [1].



2. Using a cleaning pad dampened with alcohol, wipe the pick-up roller [1] / feed roller [2] clean of dirt.

5.2.2 Cleaning the separation roller

1. Open the left cover [1].

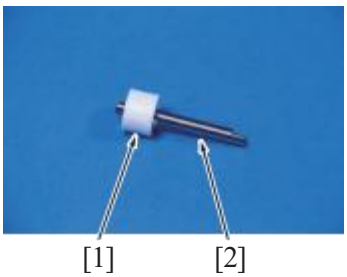


2. Using a cleaning pad dampened with alcohol, wipe the separation roller [1] clean of dirt.

5.2.3 Cleaning the torque limiter and shaft

1. Open the left cover [1].

2. Remove the separation roller.
E.3.2.2 Replacing the separation roller

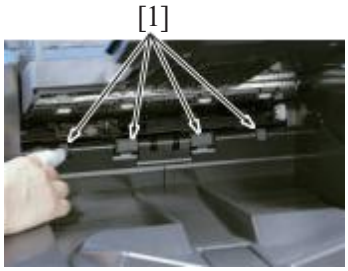


3. Using a cleaning pad, wipe the torque limiter [1] and the shaft [2] clean of dirt.

5.2.4 Cleaning the miscellaneous rollers

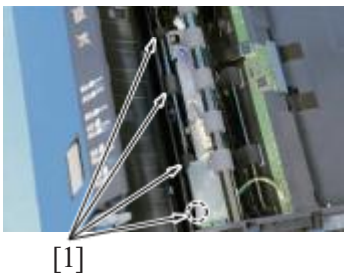
1. Open the left cover [1].

2. Using a cleaning pad dampened with alcohol, wipe the rollers [1] clean of dirt.

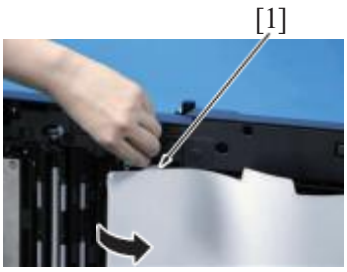


3. Lift up the document feed tray.
4. Using a cleaning pad dampened with alcohol, wipe the rollers [1] clean of dirt.

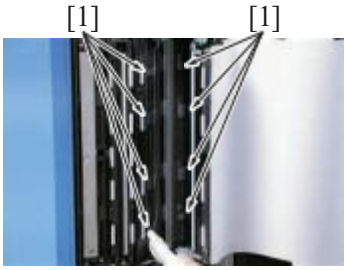
5. Remove the lower guide assy.
F.6.6 Lower guide assy (DF-713)



6. Using a cleaning pad dampened with alcohol, wipe the rollers [1] clean of dirt.



7. Open the opening and closing guide [1].

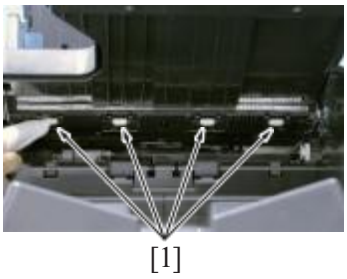


8. Using a cleaning pad dampened with alcohol, wipe the rollers [1] clean of dirt.

9. To reinstall, reverse the order of removal.

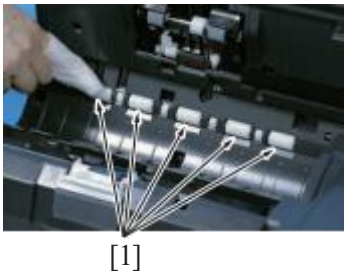
5.2.5 Cleaning the miscellaneous rolls

1. Lift up the document feed tray.

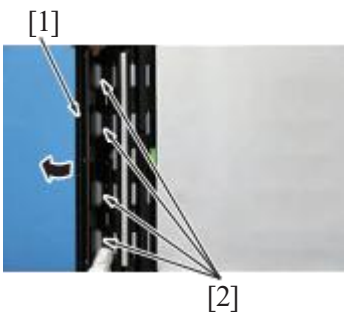


2. Using a cleaning pad dampened with alcohol, wipe the rolls [1] clean of dirt.

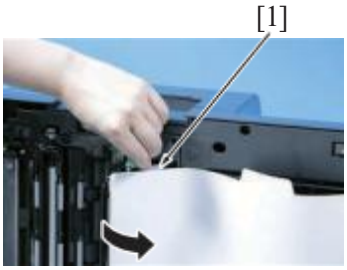
3. Open the left cover [1].



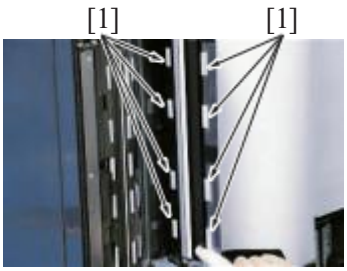
4. Using a cleaning pad dampened with alcohol, wipe the rolls [1] clean of dirt.



5. Open the dual scan document feeder.
6. While opening the pre-reading sheet assy [1], using a cleaning pad dampened with alcohol, wipe the rolls [2] clean of dirt.



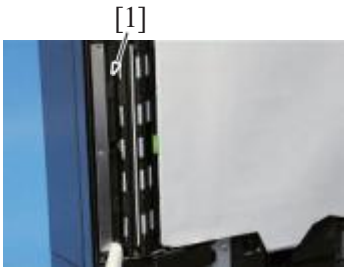
7. Open the opening and closing guide [1].



8. Using a cleaning pad dampened with alcohol, wipe the rolls [1] clean of dirt.

5.2.6 Cleaning the front side scanning guide

1. Open the dual scan document feeder.

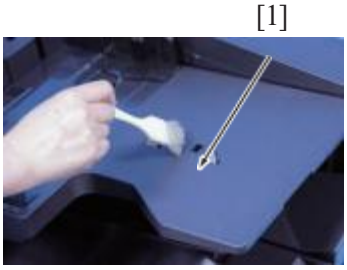


2. Using a cleaning pad dampened with alcohol, wipe the front side scanning guide [1] clean of dirt.

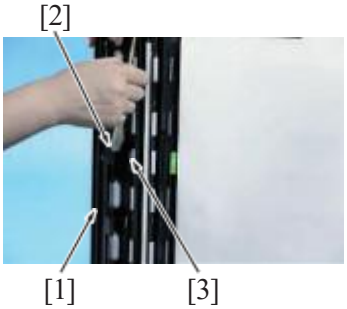
NOTE

- **Be careful not to damage the sheet.**

5.2.7 Cleaning the reflective sensor section



1. Clean the sensor [1] using a brush or other similar tools.

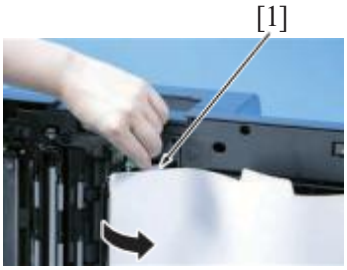


2. Open the dual scan document feeder.

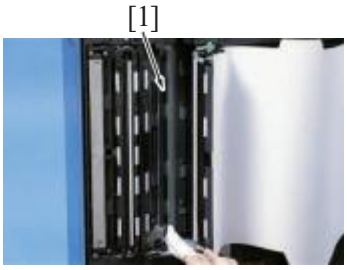
3. Open the pre-reading sheet assy [1], and clean the reflective section [2] and sensor section [3] using a brush or other similar tools。

5.2.8 Cleaning the back side scanning glass

1. Open the dual scan document feeder.



2. Open the opening and closing guide [1].

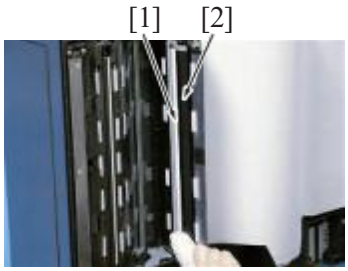


3. Using a cleaning pad, wipe the backside scanning glass [1].

5.2.9 Cleaning the back side scanning guide/back side scanning shading shaft

1. Open the dual scan document feeder.

2. Open the opening and closing guide [1].



3. Using a cleaning pad with alcohol, wipe the backside scanning guide [1] and backside scanning shading shaft [2] clean of dirt.

5.3 CPT-810

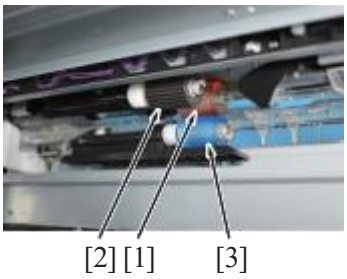
NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

5.3.1 Tray 3 pick-up roller, feed roller, separation roller

1. Remove the tray 3.
   F.7.5 Tray 3, tray 4 (PC-116/CPT-810)
2. Remove the tray 4 or storage box.
   F.7.5 Tray 3, tray 4 (PC-116/CPT-810)

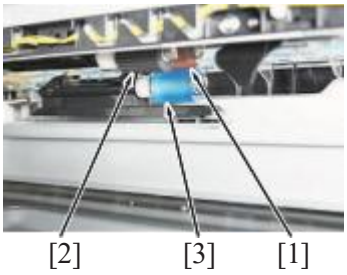
3. Using a cleaning pad dampened with alcohol, wipe the tray 3 feed roller [1], tray 3 pick-up roller [2], tray 3 separation roller [3] clean of dirt.



5.3.2 Tray 4 pick-up roller, feed roller, separation roller

1. Remove the tray 3.
   F.7.5 Tray 3, tray 4 (PC-116/CPT-810)
2. Remove the tray 4.
   F.7.5 Tray 3, tray 4 (PC-116/CPT-810)

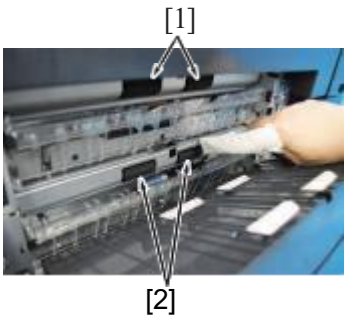
3. Using a cleaning pad dampened with alcohol, wipe the tray 4 feed roller [1], tray 4 pick-up roller [2], tray 4 separation roller [3] clean of dirt.



5.3.3 Tray 3 vertical transport roller, tray 4 vertical transport roller

1. Open the right door.

2. Using a cleaning pad dampened with alcohol, wipe the tray 3 vertical transport rollers [1], tray 4 vertical transport rollers [2] clean of dirt.



5.4 CPT-810H

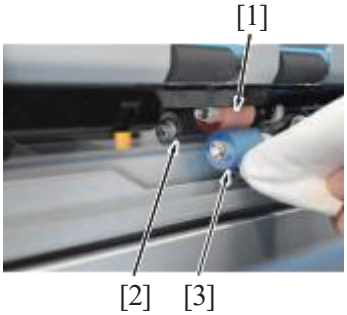
NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

5.4.1 Pick-up roller, feed roller, separation roller

1. Slide out the tray.
2. Open the right door.

3. Using a cleaning pad dampened with alcohol, wipe the feed roller [1], pick-up roller [2],separation roller [3] clean of dirt.



5.4.2 Vertical transport roller

1. Open the right door.

2. Using a cleaning pad dampened with alcohol, wipe the vertical transport roller [1] clean of dirt.

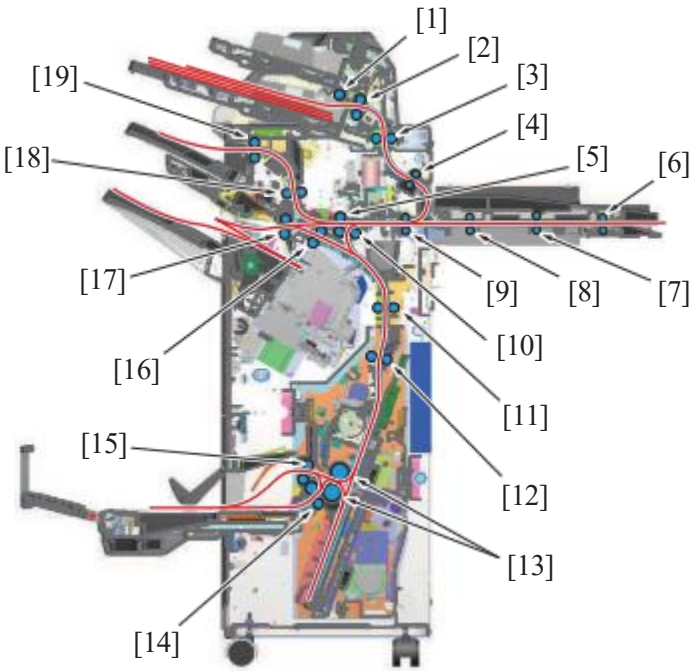
5.6 CPF-810H/CPF-810X

NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

5.6.1 Cleaning roller and rolls

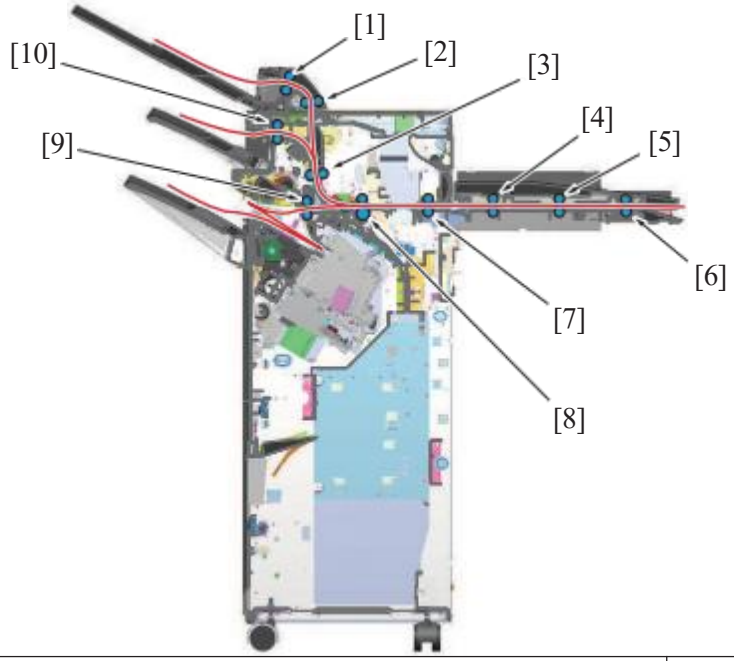
CPF-810X (When CPK-810XP/CPK-810Z/PI-507 installed)



[1]	Pick-up roller/Lw (post inserter) (*)	[2]	Feed roller/Lw, separation roller/Lw (post inserter) (*)
[3]	Transport roller, transport roll (post inserter) (*)	[4]	PI transport roller, PI transport roll
[5]	Transport roller 1/transport roll 2	[6]	RU transport roller 1,transport roll 1 (relay unit) (*)
[7]	RU transport roller 2,transport roll 2 (relay unit) (*)	[8]	RU transport roller 3,transport roll 3 (relay unit) (*)
[9]	FNS entry roller, roll	[10]	Z folding roller (Zfolding unit) (*)
[11]	Saddle section exit roller 2, roll	[12]	Saddle section paper feed roller, roll
[13]	Center folding roller	[14]	Tri-folding roller, roll
[15]	Saddle tray exit roller, roll	[16]	Saddle section exit roller 1, roll
[17]	Receiving roller, Receiving roll	[18]	Sub tray transport roller, roll
[19]	Sub tray exit roller, roll	-	-

- *: Option

CPF-810H (When JS-602 installed)



[1]	Separator exit roller, roll (separator) (*)	[2]	Separator transport roller, roll (separator) (*)

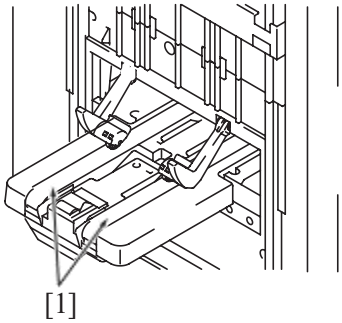
[3]	Sub tray transport roller, roll	[4]	RU transport roller 3,transport roll 3 (relay unit) (*)
[5]	RU transport roller 2,transport roll 2 (relay unit) (*)	[6]	RU transport roller 1,transport roll 1 (relay unit) (*)
[7]	FNS entry roller, roll	[8]	Transport roller 1/transport roller 2
[9]	Receiving roller, receiving roll	[10]	Sub tray exit roller, roll

- *: Option

5.6.2 Cleaning the paddles

1. Using a cleaning pad dampened with alcohol, wipe the paddles [1] clean of dirt.

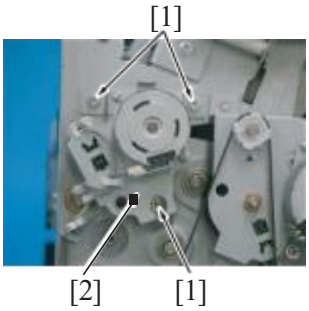
5.6.3 Cleaning the exit tray conveyance belt (saddle section)



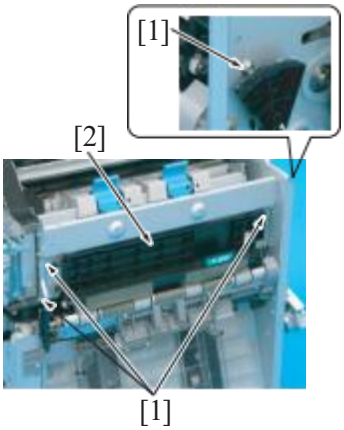
1. Using a cleaning pad dampened with alcohol, wipe the exit tray conveyance belt [1] clean of dirt.

5.6.4 Cleaning the upper paddle (saddle section)

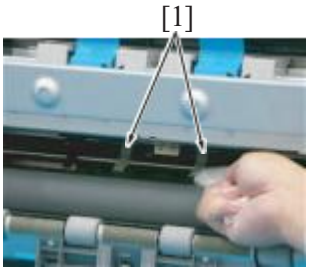
1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)



3. Remove three screws [1], and remove the tri-folding guide motor assy [2].

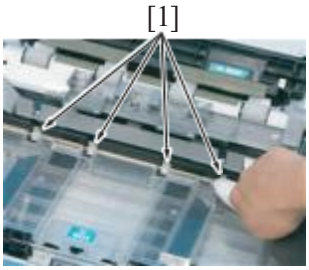


4. Remove four screws [1], and remove the transport assy [2].



5. Using a cleaning pad dampened with alcohol, wipe the paddles [1] clean of dirt.

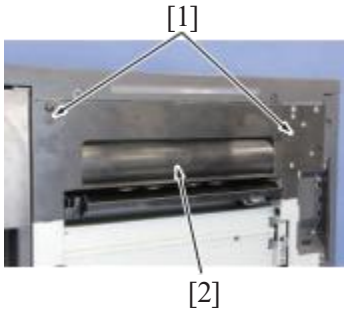
5.6.5 Cleaning the lower paddle (saddle section)



1. Using a cleaning pad dampened with alcohol, wipe the paddles [1] clean of dirt.

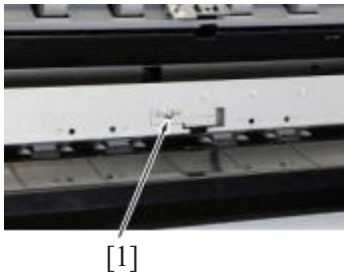
5.6.6 Cleaning the FNS entrance sensor (PS34)

1. Remove the finisher from the main body.
F.11.1 Finisher (CPF-810H/CPF-810X)

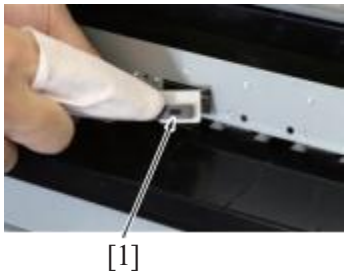


2. Remove two screws [1], and remove the cover [2].

3. Remove the screw [1].



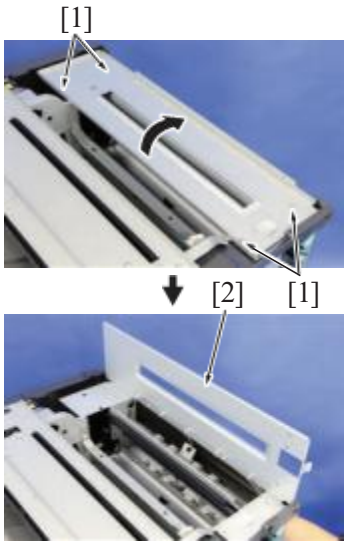
4. Wipe the FNS entrance sensor [1] clean of dirt.
NOTE
- **Do not wipe out with any solvents or alcohols.**



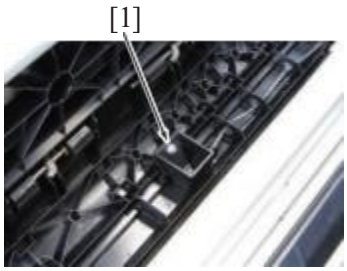
5. To reinstall, reverse the order of removal.

5.6.7 Cleaning the FNS middle sensor (PS36)

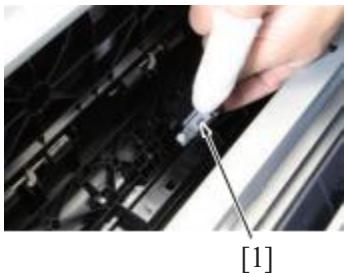
1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)
2. Remove the upper cover/1.
   F.11.2 Upper cover/1 (CPF-810H/CPF-810X)
3. Remove the upper cover/2.
   F.11.3 Upper cover/2 (CPF-810H/CPF-810X)
4. Remove the upper cover/3.
   F.11.4 Upper cover/3 (CPF-810H/CPF-810X)



5. Remove four screws [1], and lift up the plate [2].



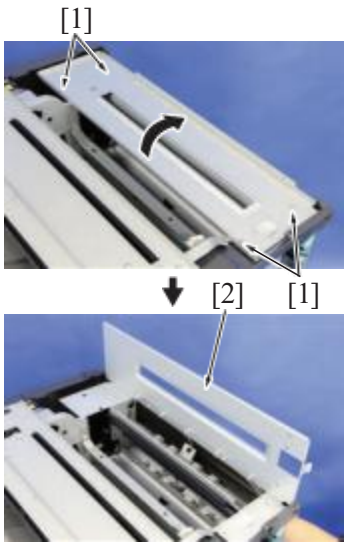
6. Remove the screw [1].



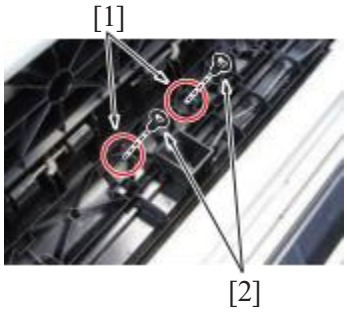
7. Wipe the FNS middle sensor [1] clean of dirt.
   NOTE
   - **Do not wipe out with any solvents or alcohols.**
8. To reinstall, reverse the order of removal.

5.6.8 Cleaning the main tray exit sensor (PS37)

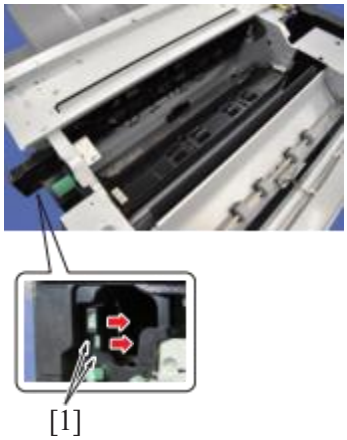
1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)
2. Remove the upper cover/1.
   F.11.2 Upper cover/1 (CPF-810H/CPF-810X)
3. Remove the upper cover/2.
   F.11.3 Upper cover/2 (CPF-810H/CPF-810X)
4. Remove the upper cover/3.
   F.11.4 Upper cover/3 (CPF-810H/CPF-810X)



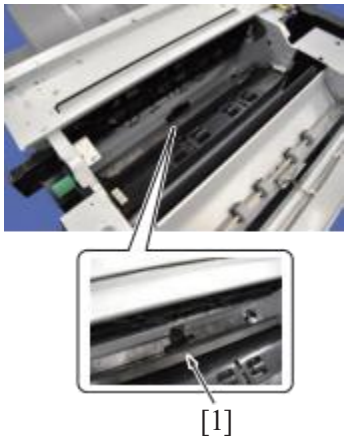
5. Remove four screws [1], and lift up the plate [2].



6. Remove two screws [2] from two holes [1] of the guide.



7. Open the front door of the finisher, and open the guide levers (FS4/FS5) [1].



8. Remove the main tray exit sensor [1], and wipe it clean of dirt.
NOTE
- **Do not wipe out with any solvents or alcohols.**

9. To reinstall, reverse the order of removal.

5.7 CPK-810Z

NOTE
- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

5.7.1 Cleaning the Z fold roller (CPK-810Z)

1. Remove the Z folding unit.
F.14.1 Z Folding Unit (CPK-810Z)

2. Using a cleaning pad dampened with alcohol, wipe the Z fold roller [1] clean of dirt.

[1]

3. To reinstall, reverse the order of removal.

F DISASSEMBLY/REASSEMBLY

1. Disassembly/adjustment prohibited items

1.1 Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

1.2 Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

1.3 Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

1.4 Warnings for disassembly

⚠WARNING

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs on the frame and parts.
  They may injure your hands or fingers.

⚠WARNING

- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.
  A normally protected part may cause unexpected hazards.

⚠WARNING

- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.
  You may be injured by a falling part or unit.

1.5 Warnings / Precautions during setup or transportation

⚠WARNING

- Whenever mounting an option on the machine, be attentive to the motion of the other workers performing the task.

  Another worker may be injured by a pinch point between the machine and the option.

⚠WARNING

- When mounting an option on the machine, be careful about the clearance between the machine and the option.

  You may be injured with your finger or hand pinched between the machine and the option.

⚠CAUTION

- Do not leave the machine unattended during transportation, installation, and/or inspection. If the machine is left unattended, face protrusions toward the wall or take other necessary precautions to prevent.

  A user or other person in the area from stumbling over a protrusion of the machine or being caught by a cable, possibly causing a fall to the floor or other personal injury.

2. Units from which removing is prohibited

2.1 CCD unit

2.1.1 Reason for prohibition

- Since the accuracy of the CCD unit is guaranteed as a unit, no accuracy is guaranteed if it is disassembled. Do no remove any screw which may disassemble the CCD unit.

2.2 PH unit

2.2.1 Reason for prohibition

- The laser runs inside the PH unit. Opening the cover may cause dust to enter and interrupt the laser. Do no remove any screw which may disassemble the PH unit.

2.3 Fusing unit

2.3.1 Reason for prohibition

- Inner part of the fusing unit and the position of the fusing belt are adjusted prior to shipping. Do not remove any screw which may disassemble the fusing unit.

3. Disassembly/assembly warning/caution items

3.1 Removal/installing of boards

⚠CAUTION

- When removing or installing a circuit board or other electrical component, refer to “Handling of boards” and follow the corresponding removal or installing procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.

4. Notes when transporting the machine

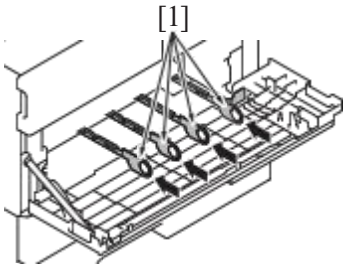
NOTE

- **When transporting a machine to reinstall it in another location, attach the following protective materials to the machine in order to prevent the machine from being damaged or spilling out by vibration during transportation.**
- **The protective materials are removed when the machine is set up. However, be sure to keep the protective materials after finishing the set-up.**

4.1 Protective materials

4.1.1 Protective materials for the photoconductors

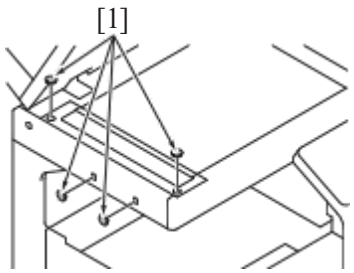
1. Remove the waste toner transport unit/waste toner box.
F.5.2.1 Waste toner transport unit/waste toner box



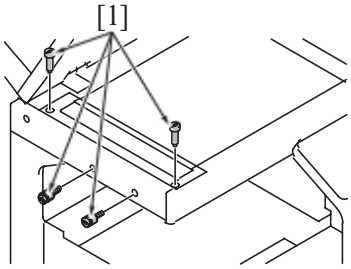
2. Insert the protective materials for the photoconductors [1] in the indicated position and push it as far as it will go.

4.1.2 Scanner packing bracket

1. Check that the exposure unit is at the home position.



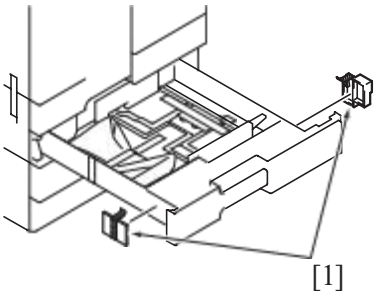
2. Remove four caps [1].



3. Attach the scanner locking materials [1] to fix the scanner.

4.1.3 Paper tray locking materials

1. Slide out the tray 2.

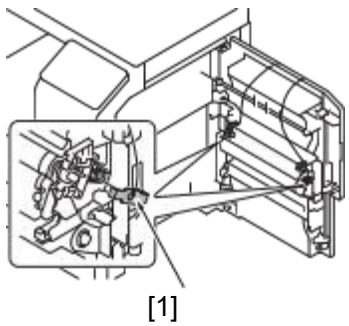


2. Install the locking materials [1].

3. Slide the tray 2 back in.

4.1.4 Transfer roller locking materials

1. Open the right door.



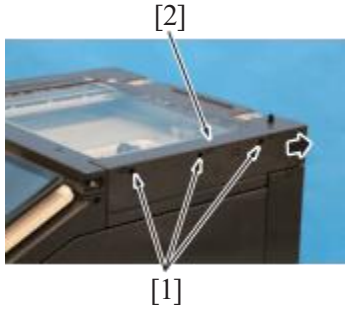
2. Install the locking materials [1].

3. Close the right door.

5. CM605/CM805

5.1 Exterior parts

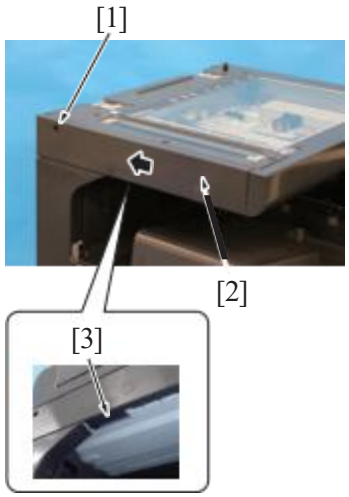
5.1.1 Scanner right cover



1. Remove three screws [1]. Remove the scanner right cover [2] while moving it in the direction shown with the arrow.

2. To reinstall, reverse the order of removal.

5.1.2 Scanner left cover

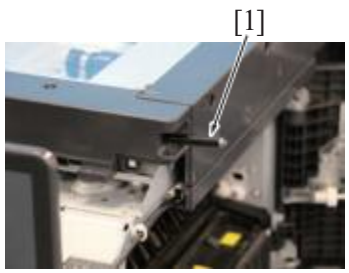


1. Remove the screw [1]. Remove the scanner left cover [2] while moving it in the direction shown with the arrow.
NOTE
- **When removing the scanner left cover, unhook the tab [3] on the bottom of the cover.**

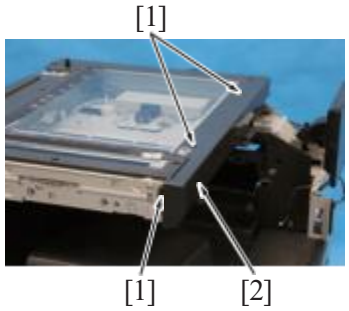
2. To reinstall, reverse the order of removal.

5.1.3 Scanner front cover

1. Remove the scanner left cover.
F.5.1.2 Scanner left cover
2. Remove the control panel upper cover.
F.5.1.5 Control panel upper cover
3. Remove the control panel front cover.
F.5.1.6 Control panel front cover
4. Remove the control panel right cover.
F.5.1.7 Control panel right cover
5. Remove the control panel left cover/2.
F.5.1.9 Control panel left cover/2



6. Remove the stylus pen [1].

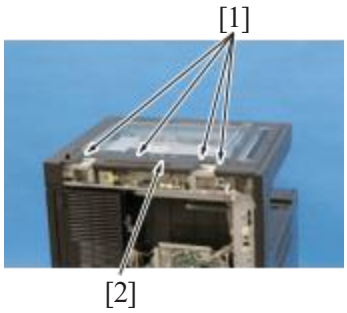


7. Remove two or three screws [1], and remove the scanner front cover [2].
NOTE
- **The number of screws varies depending on the product.**

8. To reinstall, reverse the order of removal.

5.1.4 Scanner upper rear cover

1. Remove the dual scan document feeder.
F.6.7 Dual scan document feeder (DF-713)
2. Remove the lower rear cover. (CM605/CM805)
F.5.1.24 Lower rear cover
3. Remove the duct cover.
F.5.1.20 Duct cover
4. Remove the upper right rear cover. (CM605/CM805)
F.5.1.22 Upper right rear cover

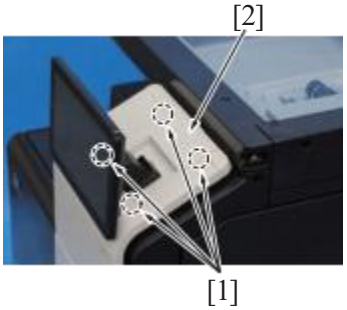


6. Remove two or four screws [1], and remove the scanner upper rear cover [2].
NOTE
- **The number of screws may vary depending on the product.**

7. To reinstall, reverse the order of removal.

5.1.5 Control panel upper cover

1. Raise the control panel.



2. Unhook four tabs [1], and remove the control panel upper cover [2].

3. To reinstall, reverse the order of removal.

5.1.6 Control panel front cover

1. Open the upper front door.
2. Remove the control panel upper cover.
F.5.1.5 Control panel upper cover

3. Remove four screws [1].

4. Slightly tilt down the control panel.

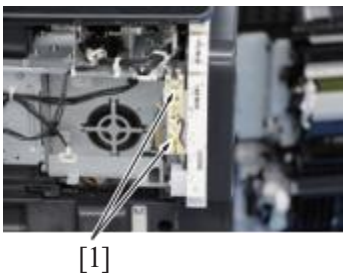
5. Unhook two tabs [1], and remove the control panel front cover [2].

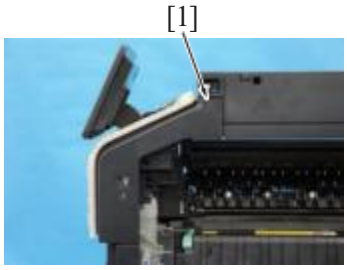
6. To reinstall, reverse the order of removal.

5.1.7 Control panel right cover

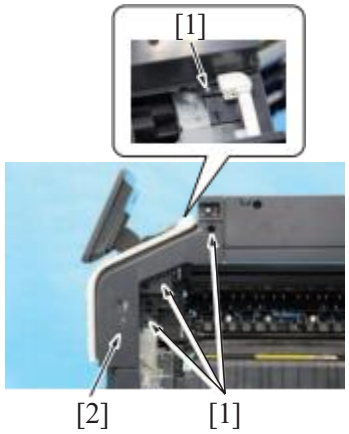
1. Open the right door.
2. Remove the control panel upper cover.
   F.5.1.5 Control panel upper cover
3. Remove the control panel front cover.
   F.5.1.6 Control panel front cover

4. Disconnect two connectors [1].





5. Remove the cap [1].

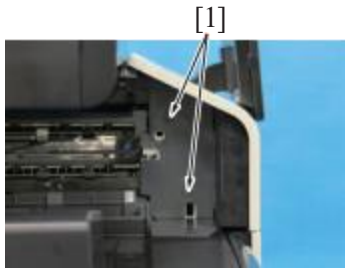


6. Remove four screws [1], and remove the control panel right cover [2].

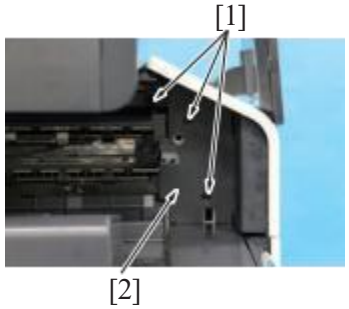
7. To reinstall, reverse the order of removal.

5.1.8 Control panel left cover/1

<CM605/CM805>



1. Remove two caps [1].
NOTE
- **This part may not be provided depending on the product.**

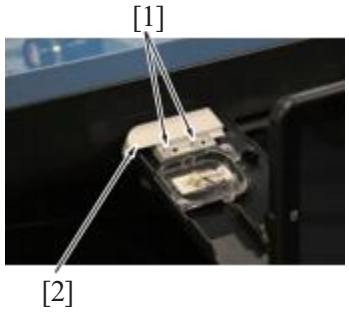


2. Remove three screws [1], and remove the control panel left cover/1 [2].
NOTE
- **The number of screws may be two depending on the product.**

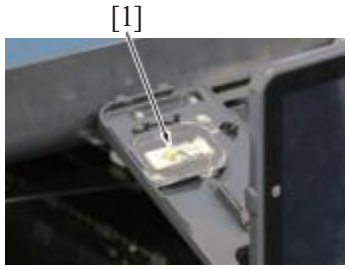
3. To reinstall, reverse the order of removal.

5.1.9 Control panel left cover/2

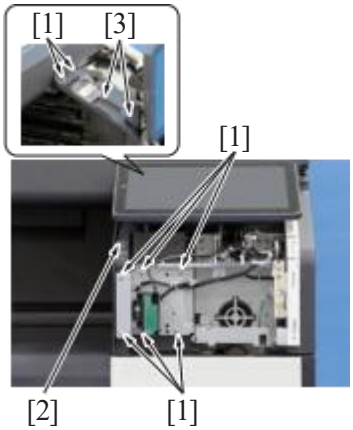
1. Remove the control panel upper cover.
   F.5.1.5 Control panel upper cover
2. Remove the control panel front cover.
   F.5.1.6 Control panel front cover



3. Remove two screws [1], and remove the cover [2].



4. Disconnect the connector [1].

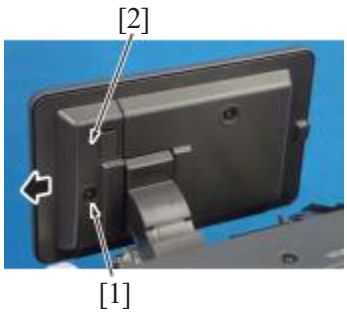


5. Remove eight screws [1], and remove the control panel left cover/2 [2].
   NOTE
   - **When installing the cover, insert two sponges [3] into the harness guide.**

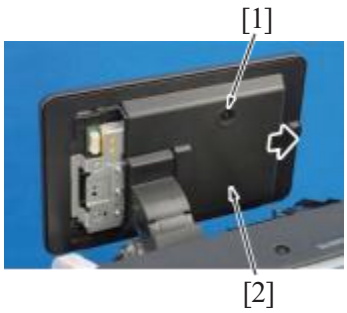
6. To reinstall, reverse the order of removal.

5.1.10 Control panel unit

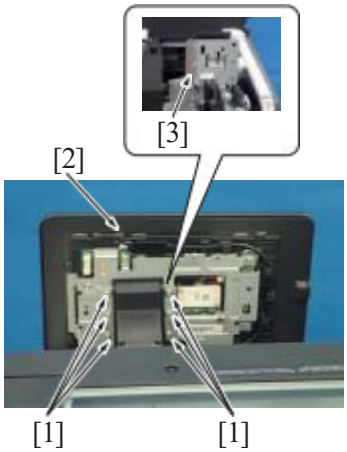
1. Remove the control panel upper cover.
   F.5.1.5 Control panel upper cover
2. Remove the control panel front cover.
   F.5.1.6 Control panel front cover



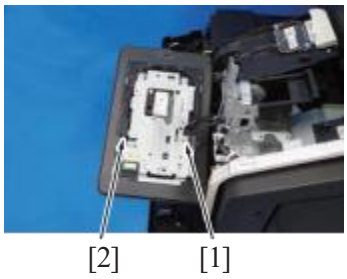
3. Remove the screw [1], and remove the cover [2].



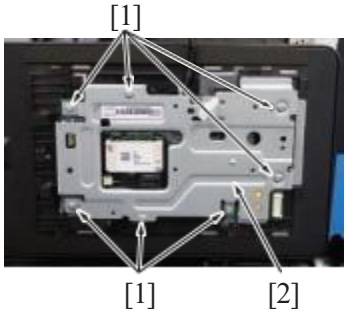
4. Remove the screw [1], and remove the cover [2].



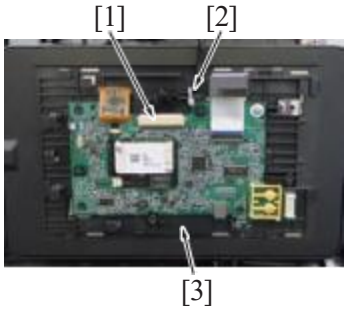
5. Remove six screws [1], and remove the control panel unit [2].
NOTE
- **When removing the control panel unit [2], take care not to drop the plate [3] (on the left side while viewing from the front).**



6. Remove the cable from the wire saddle [1]. Disconnect the cable [2], then remove the cable from the cable guide.



7. Remove seven screws [1], and remove the plate [2].

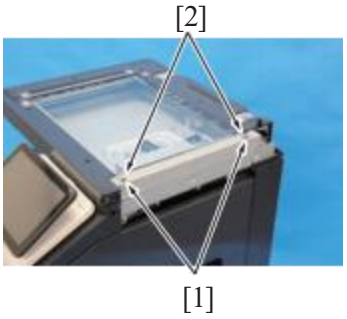


8. Disconnect the connector [1], cut the cable tie [2], and remove the control panel unit [3].
NOTE
- **When installing the control panel unit, use the new cable tie.**

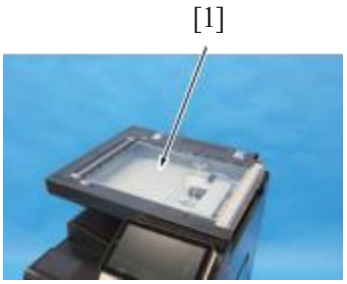
9. To reinstall, reverse the order of removal.

5.1.11 Original glass

1. Remove the scanner right cover.
F.5.1.1 Scanner right cover



2. Remove two screws [1], and remove two original glass locking materials [2].

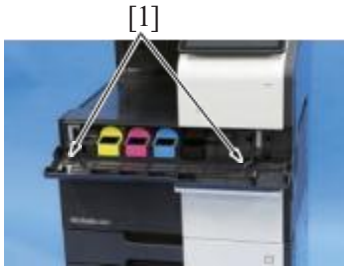


3. Remove the original glass [1].

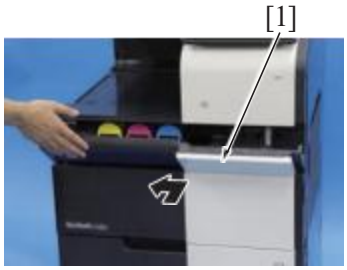
4. To reinstall, reverse the order of removal.

5.1.12 Upper front door

1. Open the upper front door.



2. Remove two C-clips [1].

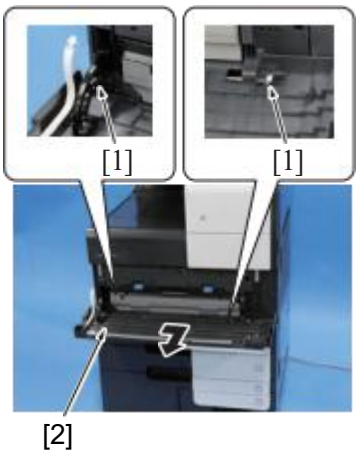


3. Slightly raise the upper front door [1] up, and slide it to the left to remove it.

4. To reinstall, reverse the order of removal.

5.1.13 Lower front door

1. Open the lower front door, and rotate the stopper [1] to remove it.

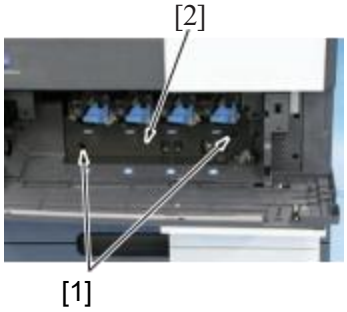


2. Remove two C-clips [1], and remove the lower front door [2].

3. To reinstall, reverse the order of removal.

5.1.14 Front lower cover

1. Remove the waste toner transport unit/waste toner box.
F.5.2.1 Waste toner transport unit/waste toner box

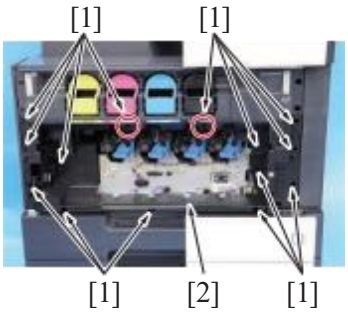


2. Remove two screws [1], and remove the front lower cover [2].

3. To reinstall, reverse the order of removal.

5.1.15 Front cover

1. Remove the upper front door.
   F.5.1.12 Upper front door
2. Remove the lower front door.
   F.5.1.13 Lower front door
3. Remove the waste toner transport unit/waste toner box.
   F.5.2.1 Waste toner transport unit/waste toner box
4. Remove the front lower cover.
   F.5.1.14 Front lower cover

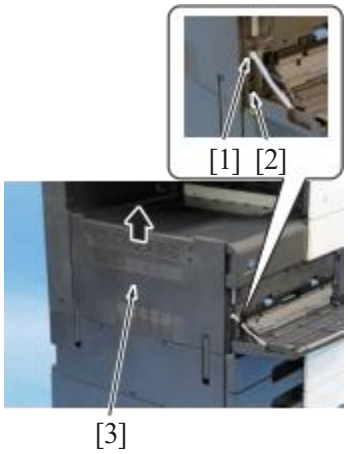


5. Remove nine or 14 screws [1], and remove the front cover [2].
   NOTE
   - **The number of screws varies depending on the product.**
   - **When installing the cover, note that only the type of screws circled in red differs from others.**

6. To reinstall, reverse the order of removal.

5.1.16 Left cover

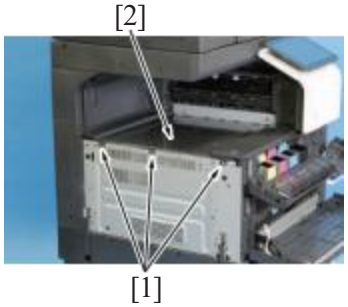
1. Open the lower front door.



2. Rotate the stopper [1] to remove it. Remove the screw [2].
3. Remove the left cover [3] while sliding it upward.
4. To reinstall, reverse the order of removal.

5.1.17 Paper exit cover

1. Open the upper front door.
2. Open the lower front door.
3. Remove the left cover.
   F.5.1.16 Left cover



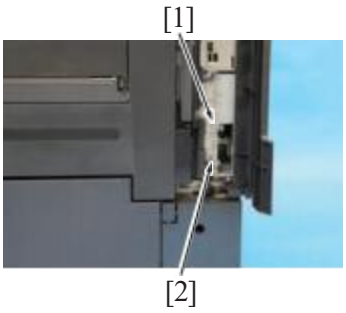
4. Remove three screws [1], and remove the paper exit cover [2].
5. To reinstall, reverse the order of removal.

5.1.18 Right rear cover

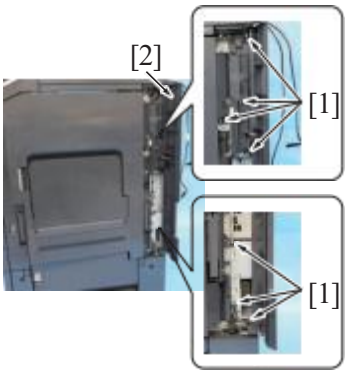
1. Open the right rear cover.

[1]

2. Disconnect two connectors [1] and remove the cable from the cable guide.



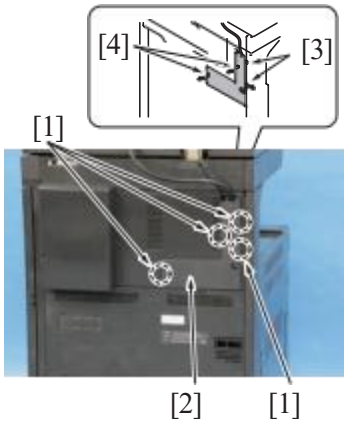
3. Remove the screw [1], and remove the connector cover [2].



4. Remove seven screws [1], and remove the right rear cover [2] as clearing the harness.

5. To reinstall, reverse the order of removal.

5.1.19 DF cable cover



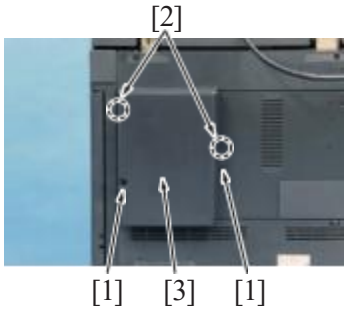
1. Unhook four tabs [1], and remove the DF cable cover [2].

NOTE

- **When mounting the cover, insert two claws [3] into the holes on the main unit cover first. Then fit two claws [4] into the holes.**
- **Be careful not to pinch the harness.**

2. To reinstall, reverse the order of removal.

5.1.20 Duct cover



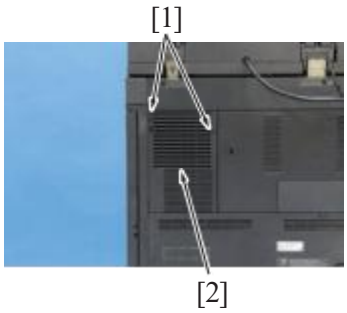
1. Remove two screws [1].
2. Unhook two tabs [2], and remove the duct cover [3].

3. To reinstall, reverse the order of removal.

5.1.21 Upper left rear cover

<CM605/CM805>

1. Remove the duct cover.
   F.5.1.20 Duct cover

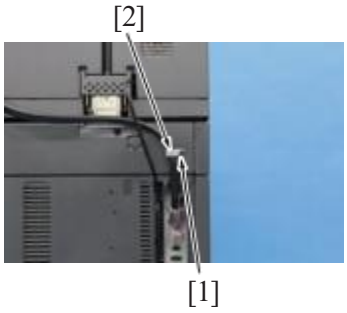


2. Remove two screws [1], and remove the upper left rear cover [2].
3. To reinstall, reverse the order of removal.

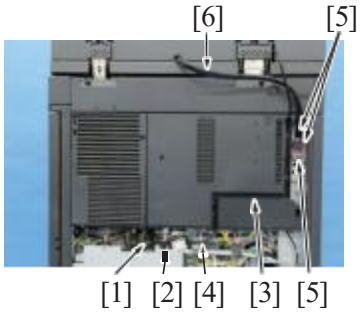
5.1.22 Upper right rear cover

<CM605/CM805>

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the DF cable cover.
   F.5.1.19 DF cable cover

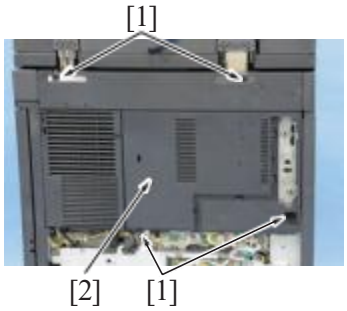


4. Remove the screw [1] and remove the cable retainer [2].



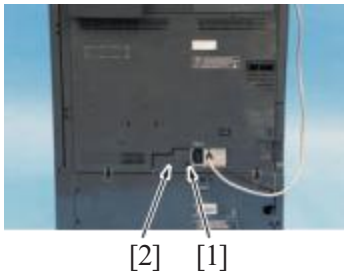
5. Disconnect the connector [1]. Remove the DF cable/1 [4] from the wire saddle [2] and each cable guide [3].
6. Disconnect three connectors [5] and remove the DF cable/2 [6].

7. Remove four screws [1] and remove the upper right rear cover [2].

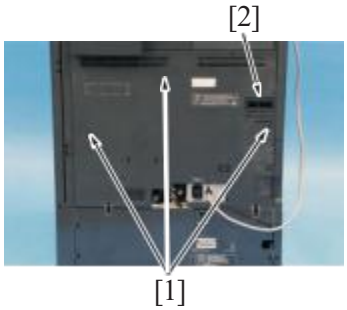


8. To reinstall, reverse the order of removal.

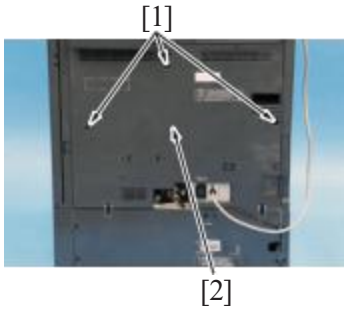
5.1.24 Lower rear cover



1. Remove the screw [1], and remove the paper feed cabinet connector cover [2].



2. Remove three caps [1].
   NOTE
   - **This part may not be provided depending on the product.**
3. Remove the filter [2]. (CM605/CM805)

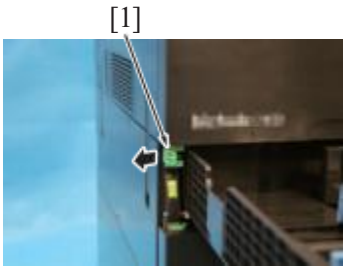


4. Remove three screws [1], and remove the lower rear cover [2].

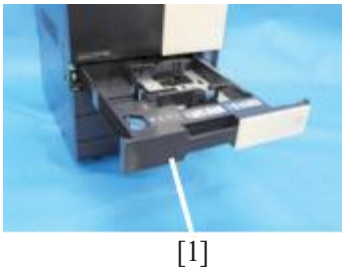
5. To reinstall, reverse the order of removal.

5.1.25 Tray 1

1. Slide out the tray 1 and unload paper from it.



2. Unlock the stopper [1].

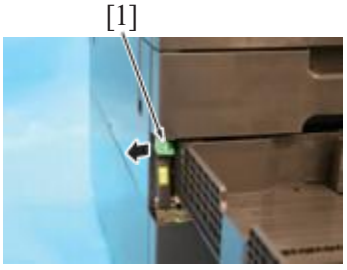


3. Hold up the tray 1 [1] to remove it.

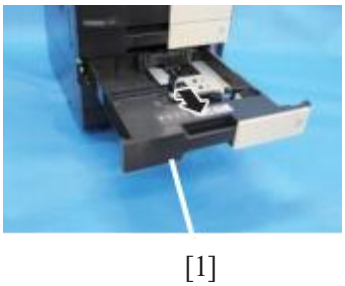
4. To reinstall, reverse the order of removal.

5.1.26 Tray 2

1. Slide out the tray 2 and unload paper from it.



2. Unlock the stopper [1].



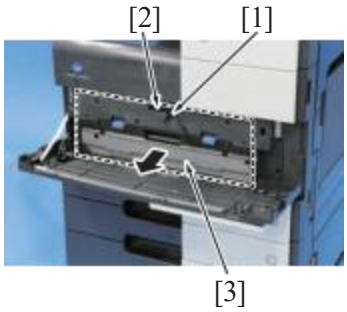
3. Hold up the tray 2 [1] to remove it.

4. To reinstall, reverse the order of removal.

5.2 Units

5.2.1 Waste toner transport unit/waste toner box

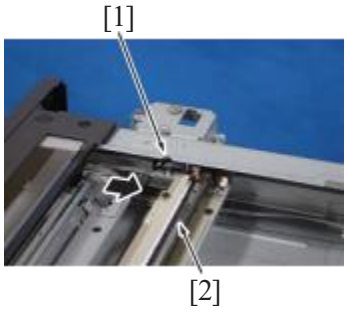
1. Open the lower front door.



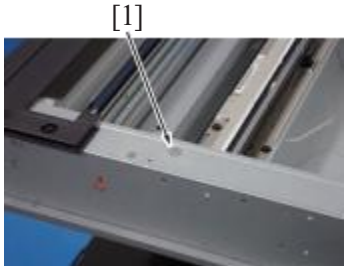
2. Open the cover [1], release the lock [2], and remove the waste toner transport unit/waste toner box [3].
3. To reinstall, reverse the order of removal.

5.2.2 LED exposure unit

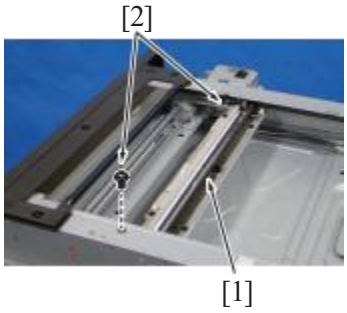
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover
5. Remove the scanner upper rear cover.
   F.5.1.4 Scanner upper rear cover
6. Remove the scanner right cover.
   F.5.1.1 Scanner right cover
7. Remove the scanner left cover.
   F.5.1.2 Scanner left cover
8. Remove the control panel upper cover.
   F.5.1.5 Control panel upper cover
9. Remove the control panel front cover.
   F.5.1.6 Control panel front cover
10. Remove the control panel right cover.
    F.5.1.7 Control panel right cover
11. Remove the control panel left cover/2.
    F.5.1.9 Control panel left cover/2
12. Remove the scanner front cover.
    F.5.1.3 Scanner front cover
13. Remove the original glass.
    F.5.1.11 Original glass



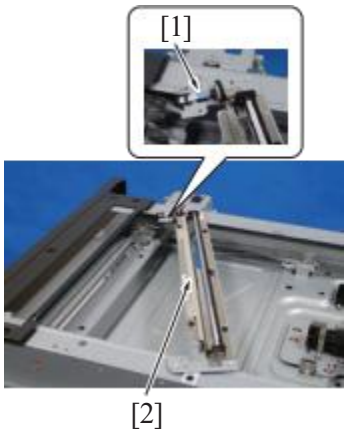
14. Move the LED exposure unit assy [2] to screw access point [1].



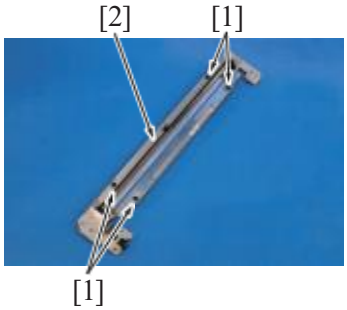
15. Peel off seal [1].



16. Remove two screws [2] of the LED exposure unit assy [1].



17. Disconnect the flat cable [1], and remove the LED exposure unit assy [2].



18. Remove four screws [1], and remove the LED exposure unit [2].

19. To reinstall, reverse the order of removal.

NOTE

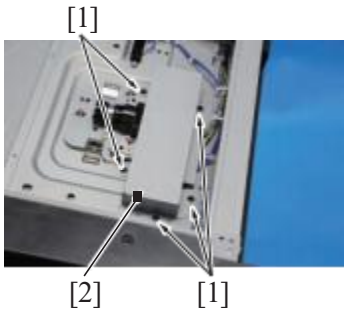
- **When installing the LED exposure unit, be careful not to pinch the flat cable with the screws.**
- **When replacing the LED exposure unit with a brand-new one, peel the protective film from the unit after attaching it.**
- **When replacing the LED exposure unit, order a replacement seal.**

5.2.3 CCD unit

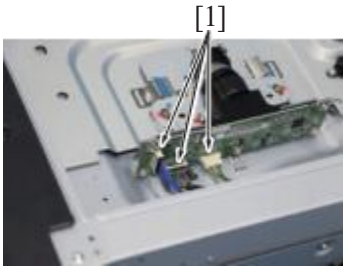
(1) Removal procedure

1. Remove the scanner right cover.
F.5.1.1 Scanner right cover

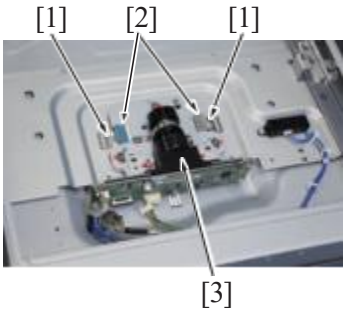
2. Remove the original glass.
F.5.1.11 Original glass



3. Remove five screws [1] and remove the CCD unit cover [2].

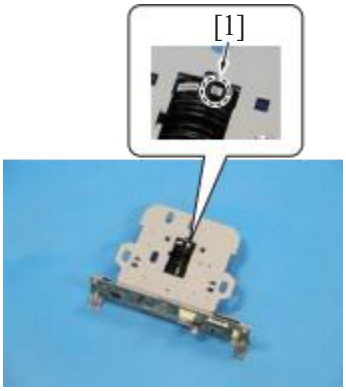


4. Disconnect three connectors [1].

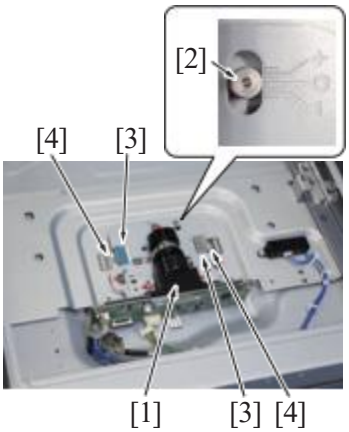


5. Remove the screw [1] each,and remove two retainer plates [2].
6. Remove the CCD unit [3].

(2) Reinstall procedure



1. Check the mark [1] on lens of the CCD unit.
   NOTE
   - **The mark is be "-", "o", or "+".**

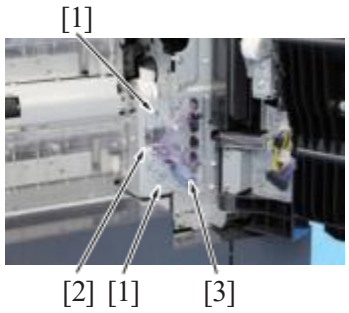


2. Install the CCD unit [1] to the main body.
3. Set the scale [2] of the CCD unit to the same position as the mark checked on step 1, and secure it with two retainer plates [3] and the screw [4] at two points.

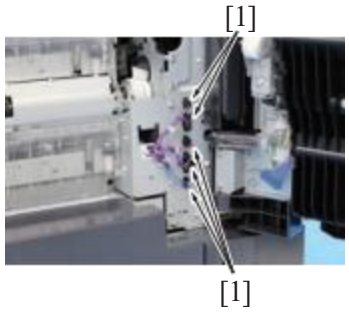
4. For the rest of the mounting procedure, reverse the order of removal.
5. Reinstall the original glass.
6. Turn ON the main power switch.
7. Make adjustments from [Service Mode] -> [Machine] -> [Printer Area] -> [Paper Feed Direction Adj.].
8. Make adjustments from [Service Mode] -> [Machine] -> [Scan Area] -> [Main Scan Zoom Adj.]. If the specifications do not match, loosen the CCD unit mounting screws and move the CCD unit in the sub scan direction as necessary.
   NOTE
   - **Hold the CCD unit by hand when moving it. NEVER use a screwdriver or similar tool to tap to move it. Otherwise, a varied distance between the CCD sensor and lens results.**
9. Make adjustments from [Service Mode] -> [Machine] -> [Scan Area] -> [Scanner Image Side Edge].

5.2.4 Paper feed unit

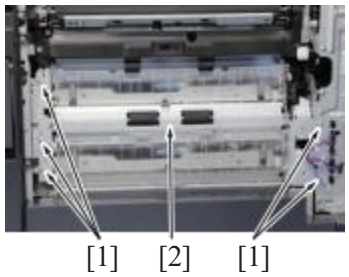
1. Slide out the tray 1 and the tray 2.
2. Open the right door.



3. Remove two screws [1] and the tab [2], and remove the connector cover [3].



4. Disconnect five connectors [1].



5. Remove five screws [1], and remove the paper feed unit [2].

6. To reinstall, reverse the order of removal.

5.2.5 PH unit

WARNING

- Do not supply power with the write unit (PH unit) shifted from the specified mounting position.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

WARNING

- Do not disassemble or adjust the write unit (PH unit) incorporating a laser.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

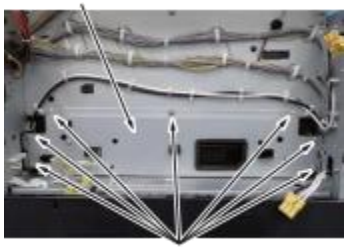
1. Remove the waste toner transport unit/waste toner box.
   F.5.2.1 Waste toner transport unit/waste toner box
2. Remove the left cover.
   F.5.1.16 Left cover
3. Remove the paper exit cover.
   F.5.1.17 Paper exit cover
4. Remove the DC power supply.
   F.5.3.13 DC power supply (DCPU) (CM805) F.5.3.14 DC power supply (DCPU) (CM605)

[1]

[1]

5. Disconnect four connectors [1].

[2]



[1]

6. Remove seven screws [1], and remove the plate [2].

[2]

[1]

7. Remove two screws [1], and remove the set pin [2] for the PH unit.

[2]

[1]

8. Disconnect the flat cable [1], and remove the PH unit [2].

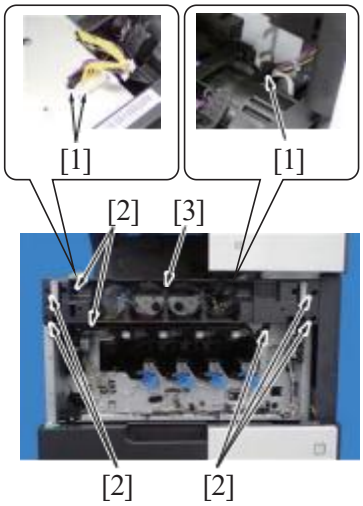
9. To reinstall, reverse the order of removal.
10. Perform the adjustment from [Service Mode] -> [Machine] -> [Printer Area] -> [Leading Edge Adjustment].
11. Perform the adjustment from [Service Mode] -> [Machine] -> [Printer Area] -> [Printer Image Centering Side 1].

5.2.6 Sub hopper unit

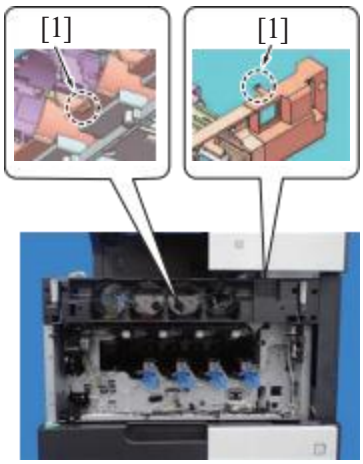
1. Remove the upper front door.
   F.5.1.12 Upper front door
2. Remove the lower front door.
   F.5.1.13 Lower front door
3. Remove the waste toner transport unit/waste toner box.
   F.5.2.1 Waste toner transport unit/waste toner box
4. Remove the front lower cover.
   F.5.1.14 Front lower cover
5. Remove the front cover.

F.5.1.15 Front cover

6. Remove the toner cartridge Y/M/C/K.
E.3.1.4 Replacing the toner cartridge
7. Remove the drum unit Y/M/C/K.
E.3.1.5 Replacing the drum unit
8. Remove the developing unit Y/M/C/K.
E.3.1.6 Replacing the developing unit
9. Remove the left cover.
F.5.1.16 Left cover
10. Remove the paper exit cover.
F.5.1.17 Paper exit cover



11. Disconnect three connectors [1]. Remove seven screws [2], and remove the sub hopper unit [3].

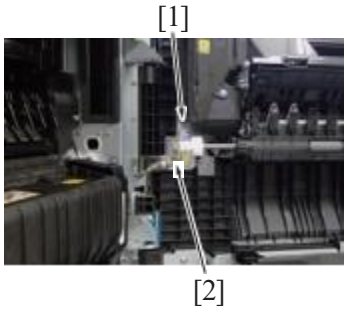


12. **NOTE**
- **Note that two tabs [1] is at the position as shown on the illustration when removal/install.**

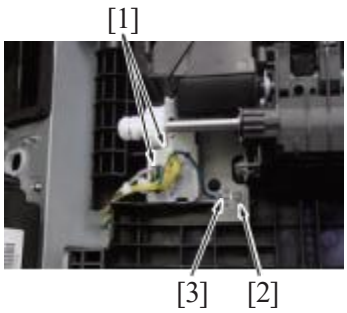
13. To reinstall, reverse the order of removal.

5.2.7 Right door unit

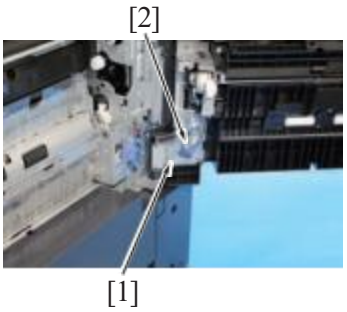
1. Remove the right rear cover.
F.5.1.18 Right rear cover
2. Open the right door.



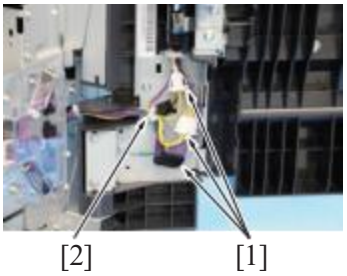
3. Remove the screw [1], and remove the connector cover/1 [2]. (CM605/CM805)



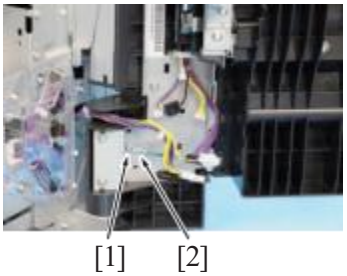
5. Disconnect two connectors [1].
6. Remove the screw [2], and remove the ground terminal [3].



7. Remove the screw [1], and remove the connector cover/2 [2].

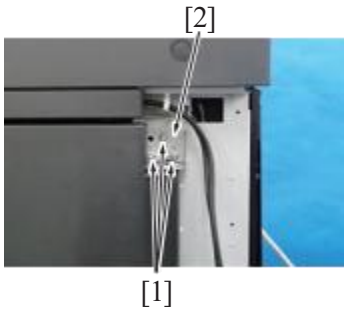


8. Disconnect three connectors [1], and remove the harness from the wire saddle [2].

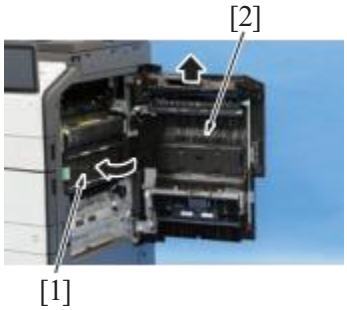


9. Remove the screw [1], and remove the ground terminal [2].

10. Draw the gauge line to the hinge mounting part (upper section) [1] along the cutout of the hinge on the frame of the main body.



11. Remove three screws [1], and remove the hinge (upper section) [2].



12. Close theregist unit [1].
13. Hold up the right door unit [2] to remove it.

14. To reinstall, reverse the order of removal.

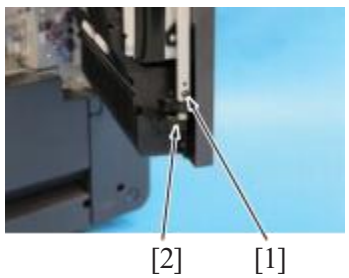
NOTE

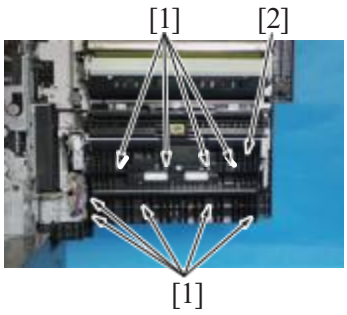
- **When installing the right door unit, align it with the guide lines drawn on the scales indicated on the machine frame. Open and close the right door to check for any interference and correct if necessary.**

5.2.8 Manual bypass tray unit

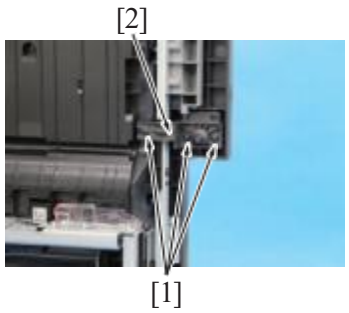
1. Open the right door.
2. Open theregist unit.

3. Remove the screw [1], and remove the shaft holder/1 [2].



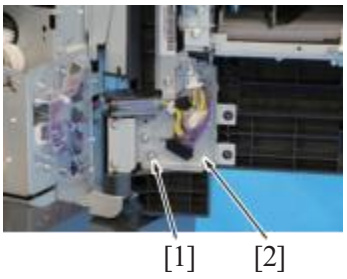


4. Remove nine screws [1], and remove the vertical transport roll assy [2].

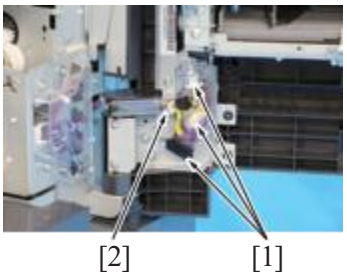


5. Remove three screws [1], and remove the shaft holder/2 [2].

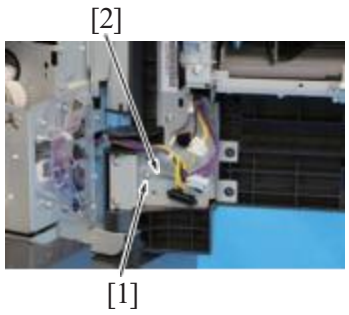
6. Remove two screws [1], and remove the right door lever assy [2].



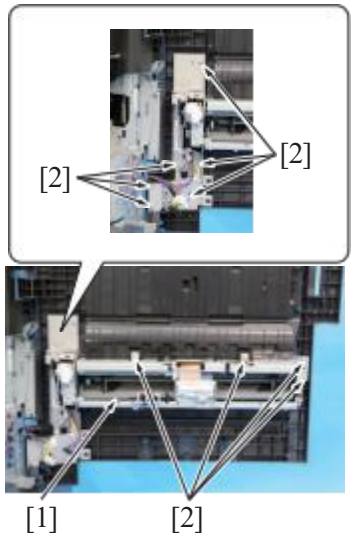
7. Remove the screw [1], and remove the connector cover [2].



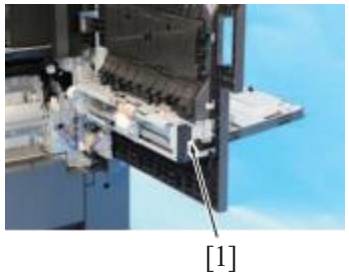
8. Disconnect three connectors [1], and remove the harness from the wire saddle [2].



9. Remove the screw [1], and remove the ground terminal [2].



10. Remove 10 screws [2] of the manual bypass tray unit [1].

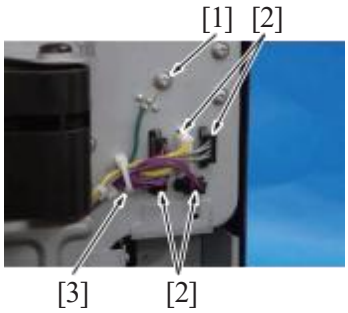


11. Remove the manual bypass tray unit [1].

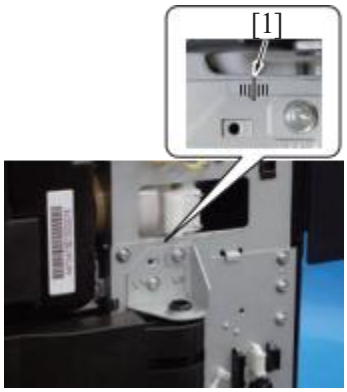
12. To reinstall, reverse the order of removal.

5.2.9 Regist unit (CM805)

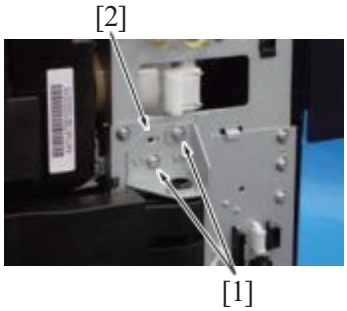
1. Remove the right rear cover.
F.5.1.18 Right rear cover
2. Remove the right door unit.
F.5.2.7 Right door unit



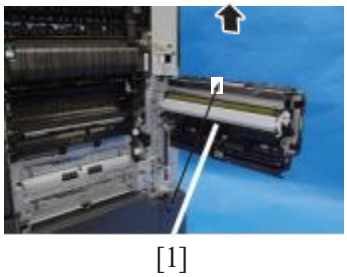
3. Remove the screw [1]. Disconnect four connectors [2]. Remove the harness and ground wire from the wire saddle [3].



4. Draw the gauge line to the hinge mounting part [1] along the cutout of the hinge on the frame of the main body.



5. Remove two screws [1], and remove the hinge [2].

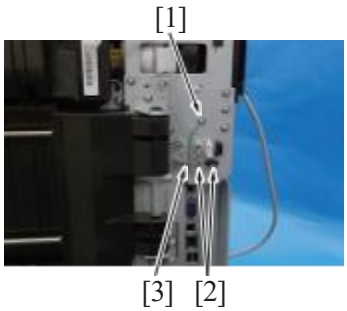


6. Hold up theregist unit [1] to remove it.

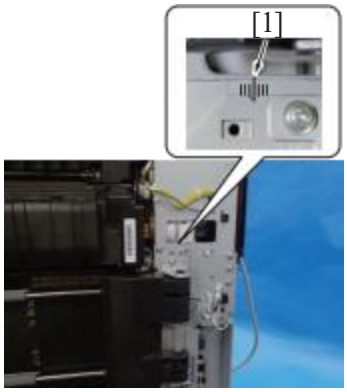
7. To reinstall, reverse the order of removal.

5.2.10 Regist unit (CM605)

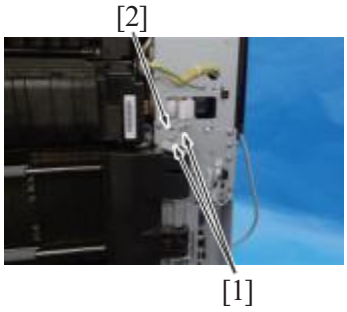
1. Remove the right rear cover.
   F.5.1.18 Right rear cover
2. Remove the right door unit.
   F.5.2.7 Right door unit



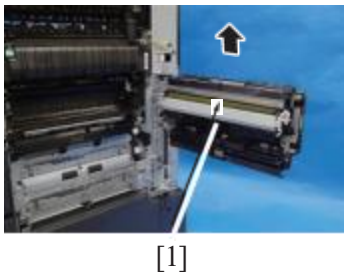
3. Remove the screw [1]. Disconnect two connectors [2]. Remove the harness and ground wire from the wire saddle [3]. (CM605)



5. Draw the gauge line to the hinge mounting part [1] along the cutout of the hinge on the frame of the main body.



6. Remove two screws [1], and remove the hinge [2].

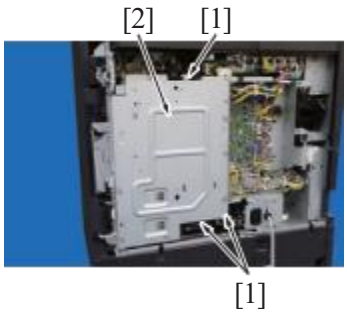


7. Hold up theregist unit [1] to remove it.

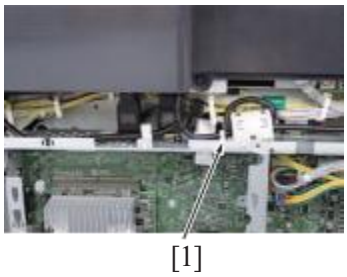
8. To reinstall, reverse the order of removal.

5.2.11 How to open the PWB box

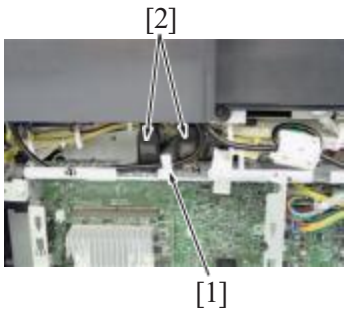
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover



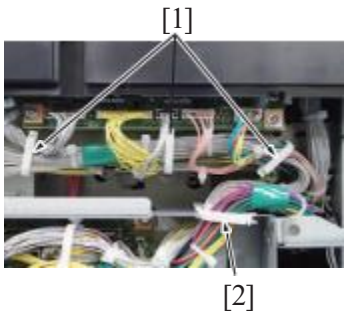
3. Remove three screws [1], and remove the plate [2].



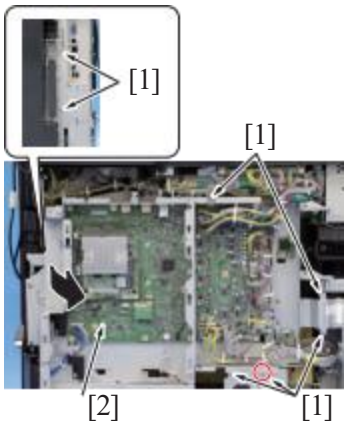
4. Remove the cable from the wire saddle [1].



5. Remove the cable from the wire saddle [1], and disconnect two connectors [2].



6. Remove the harness from three wire saddles [1] and edge cover [2].

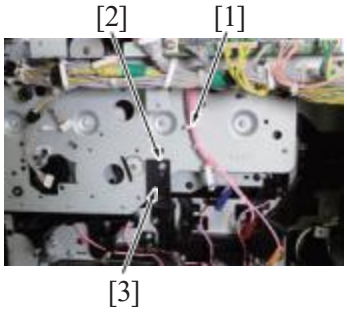


9. Remove seven screws [1] and open the PWB box [2].
   NOTE
   - **When installing the cover, note that only the type of screws circled in red differs from others.**

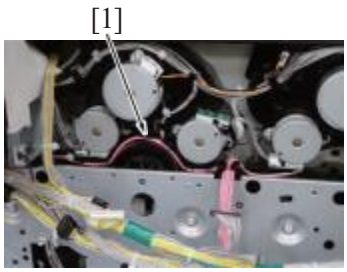
10. To reinstall, reverse the order of removal.

5.2.12 Main drive unit

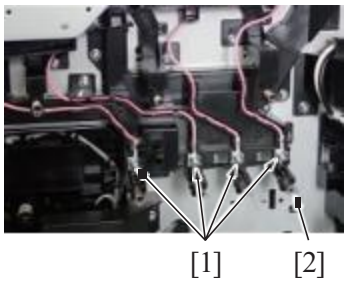
1. Remove the drum unit (Y/M/C/K).
   E.3.1.5 Replacing the drum unit
2. Remove the developing unit (Y/M/C/K).
   E.3.1.6 Replacing the developing unit
3. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
4. Remove the duct cover.
   F.5.1.20 Duct cover
5. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover
6. Remove the right rear cover.
   F.5.1.18 Right rear cover
7. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805) F.5.2.19 Expansion control board assy (CM605)
8. Open the PWB box.
   F.5.2.11 How to open the PWB box
9. Remove the high voltage unit.
   F.5.3.12 High voltage unit (HV)
10. Remove the transport motor.
    F.5.4.1 Transport motor (M1)
11. Remove the PC motor.
    F.5.4.2 PC motor (M2)
12. Remove the developing motor.
    F.5.4.21 Developing motor (M27)
13. Remove the developing solenoid.
    F.5.7.3 Developing solenoid (SD4)
14. Remove the registration motor.
    F.5.4.18 Registration motor (M24) (CM805)
15. Remove the ADU transport motor/2.
    F.5.4.20 ADU transport motor/2 (M26)



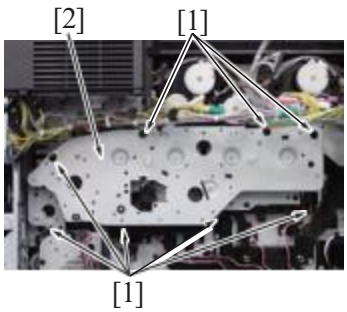
16. Remove the harness from the wire saddle [1].
17. Remove the screw [2], and remove the cover [3].



18. Remove the harness from the harness guide [1].



19. Remove four screws [1], and remove the harness from the harness guide.
NOTE
- **Make sure not to lose the spring [2].**

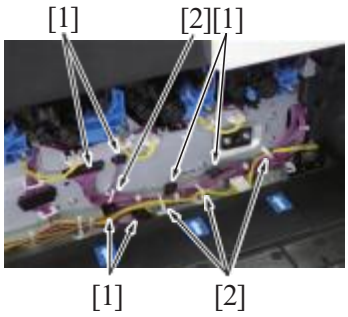


20. Remove eight screws [1], and remove the main drive unit [2].

21. To reinstall, reverse the order of removal.

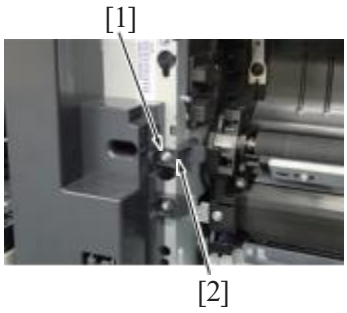
5.2.13 Transport unit (CM805)

1. Remove the waste toner transport unit/waste toner box.
   F.5.2.1 Waste toner transport unit/waste toner box
2. Remove the transfer belt unit.
   E.3.1.9 Replacing the transfer belt unit
3. Remove the front lower cover.
   F.5.1.14 Front lower cover

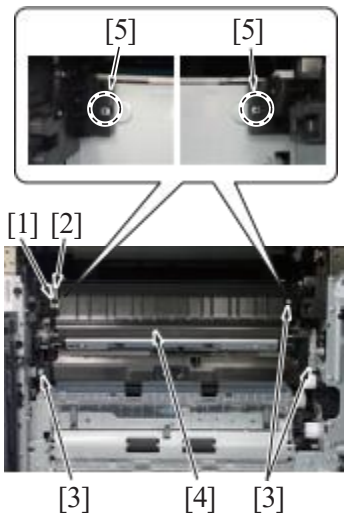


4. Disconnect six connectors [1]. Remove the harness from four wire saddles [2].

5. Open the right door and theregist unit.



6. Remove the screw [1], and remove the stopper [2].



7. Remove the screw [1], and remove the plate spring [2].
8. Remove three screws [3], and remove the transport unit [4].

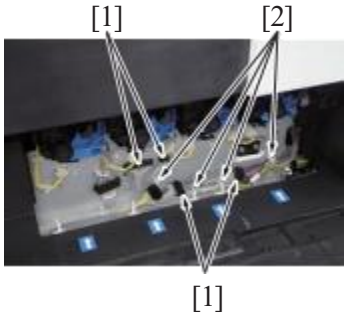
NOTE

- **When removing the transport unit [4], be careful not to damage or deform the guide sheet of the paper feed unit.**
- **When removing the transport unit [4], be careful not to drop the plate nut [5].**

9. To reinstall, reverse the order of removal.

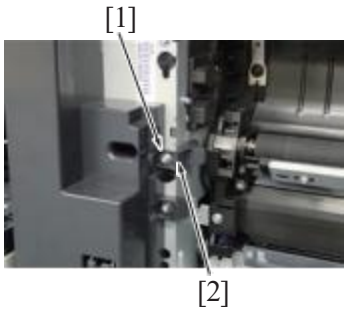
5.2.14 Transport unit (CM605)

1. Remove the waste toner transport unit/waste toner box.
   F.5.2.1 Waste toner transport unit/waste toner box
2. Remove the transfer belt unit.
   E.3.1.9 Replacing the transfer belt unit
3. Remove the front lower cover.
   F.5.1.14 Front lower cover

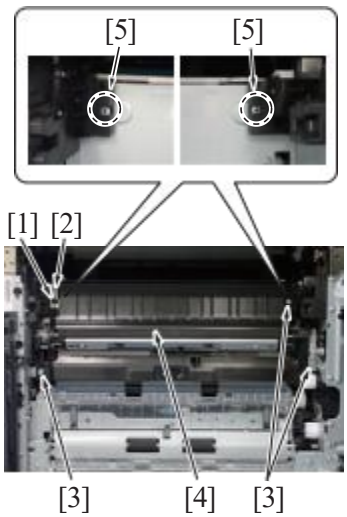


4. Disconnect four connectors [1]. Remove the harness from four wire saddles [2]. (CM605)

5. Open the right door and theregist unit.



6. Remove the screw [1], and remove the stopper [2].



7. Remove the screw [1], and remove the plate spring [2].
8. Remove three screws [3], and remove the transport unit [4].

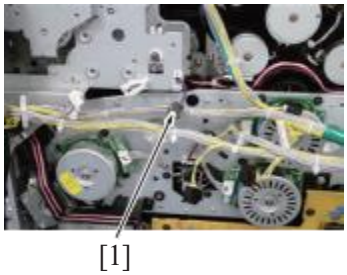
NOTE

- **When removing the transport unit [4], be careful not to damage or deform the guide sheet of the paper feed unit.**
- **When removing the transport unit [4], be careful not to drop the plate nut [5].**

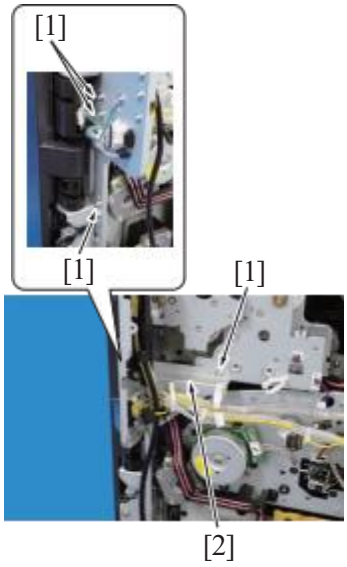
9. To reinstall, reverse the order of removal.

5.2.15 Fusing drive unit

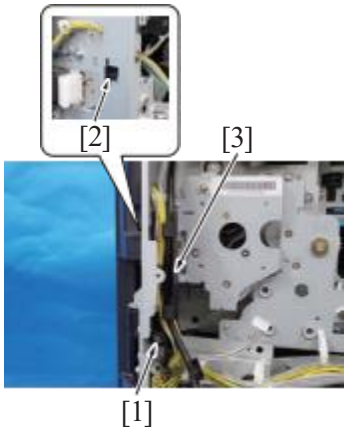
1. Remove the fusing unit.
   E.3.1.11 Replacing the fusing unit
2. Remove the transfer belt unit.
   E.3.1.9 Replacing the transfer belt unit
3. Remove the toner cartridge (Y/M/C/K).
   E.3.1.4 Replacing the toner cartridge
4. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
5. Remove the duct cover.
   F.5.1.20 Duct cover
6. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover
7. Remove the upper left rear cover.
   F.5.1.21 Upper left rear cover
8. Remove the right rear cover.
   F.5.1.18 Right rear cover
9. Remove the left cover.
   F.5.1.16 Left cover
10. Remove the paper exit cover.
    F.5.1.17 Paper exit cover
11. Remove the expansion control board assy.
    F.5.2.18 Expansion control board assy (CM805) F.5.2.19 Expansion control board assy (CM605)
12. Open the PWB box.
    F.5.2.11 How to open the PWB box
13. Remove the fan assy.
    F.5.2.21 Fan assy
14. Remove the fusing motor.
    F.5.4.3 Fusing motor (M3)
15. Remove the fusing pressure motor.
    F.5.4.11 Fusing pressure motor (M11)
16. Disconnect the connector [1].

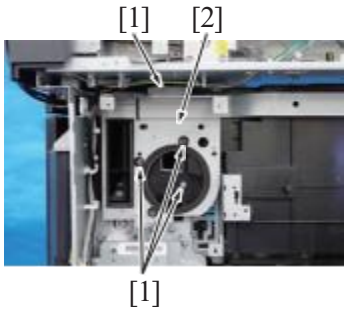


17. Remove four screws [1], and evacuate the plate [2].

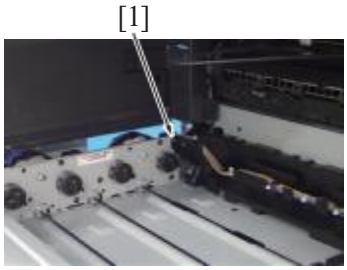


18. Remove the screw [1], and unhook the tab [2].
19. Remove the harness guide [3] as clearing the harness and cables.

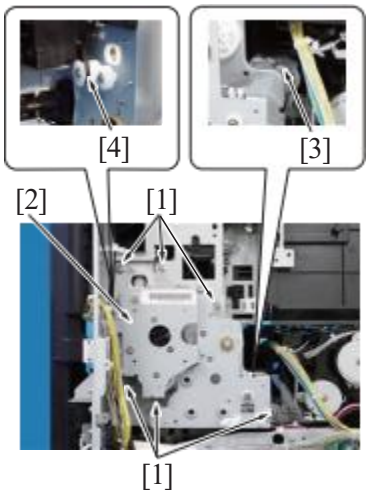




20. Remove four screws [1], and remove the plate [2].



21. Remove the screw [1].



23. To reinstall, reverse the order of removal.

22. Remove six screws [1], and remove the fusing drive unit [2].

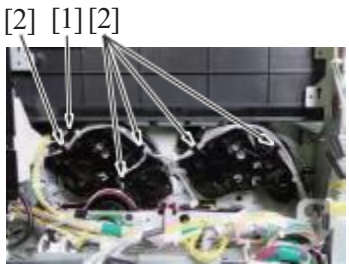
NOTE

- **Install the fusing drive unit, so that the gear assy [3] is in the direction shown in the illustration.**
- **When installing the fusing drive unit, place the belt [4] on the gear.**

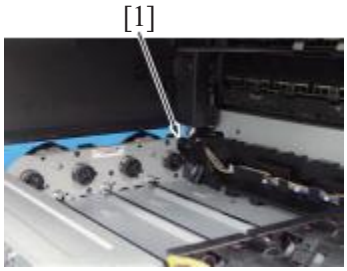
5.2.16 Hopper drive unit

<CM605/CM805>

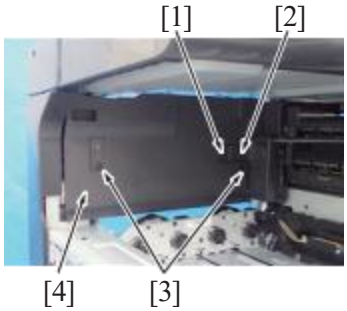
1. Remove the toner cartridge (Y/M/C/K).
   E.3.1.4 Replacing the toner cartridge
2. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
3. Remove the duct cover.
   F.5.1.20 Duct cover
4. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover
5. Remove the HaCS power supply box.
   F.5.2.22 HaCS power supply box (CM805)
6. Remove the left cover.
   F.5.1.16 Left cover
7. Remove the paper exit cover.
   F.5.1.17 Paper exit cover
8. Remove the toner cartridge motor/YM.
   F.5.4.10 Toner cartridge motor/YM (M10)
9. Remove the toner cartridge motor/CK.
   F.5.4.19 Toner cartridge motor/CK (M25)
10. Remove the toner supply motor/Y.
    F.5.4.9 Toner supply motor/Y (M9)
11. Remove the toner supply motor/M.
    F.5.4.8 Toner supply motor/M (M8)
12. Remove the toner supply motor/C.
    F.5.4.7 Toner supply motor/C (M7)



13. Disconnect the connector [1], and remove the harness from five harness guides [2].

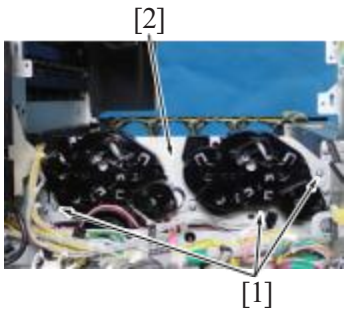


14. Remove the screw [1].



15. Remove the screw [1], and remove the cover [2].
16. Remove two screws [3], and remove the cover [4].

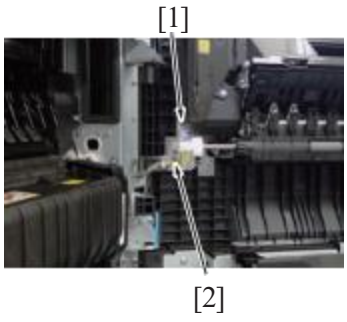
17. Remove three screws [1], and remove the hopper drive unit [2].



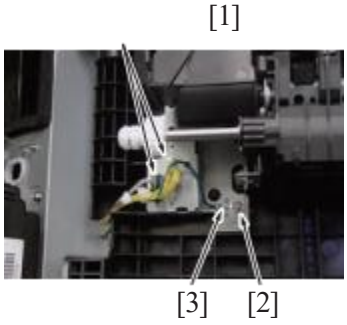
18. To reinstall, reverse the order of removal.

5.2.17 ADU transport unit

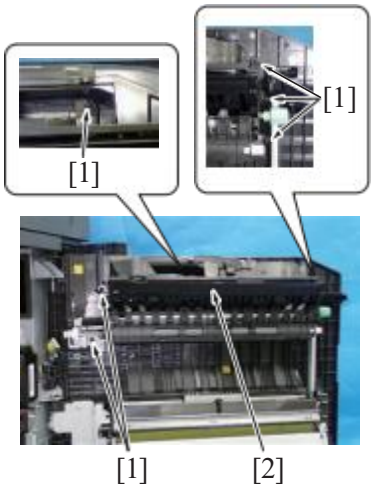
1. Open the right door.



2. Remove the screw [1], and remove the connector cover [2]. (CM605/CM805)



4. Disconnect two connectors [1].
5. Remove the screw [2], and remove the ground terminal [3].

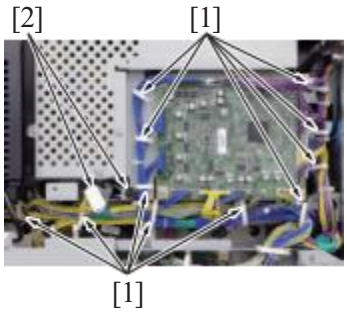


6. Remove six screws [1], and remove the ADU transport unit [2].

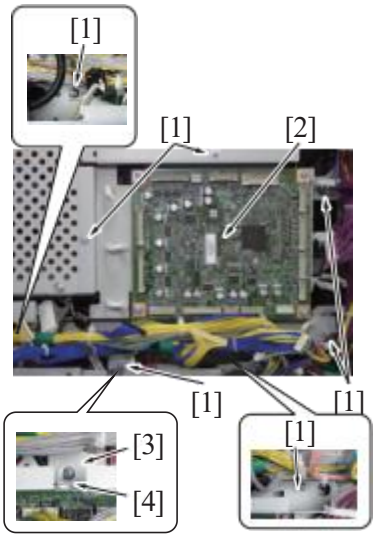
7. To reinstall, reverse the order of removal.

5.2.18 Expansion control board assy (CM805)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover



4. Disconnect all connectors from the expansion control board. Remove the harness from 11 wire saddles [1].
5. Disconnect two connectors [2].

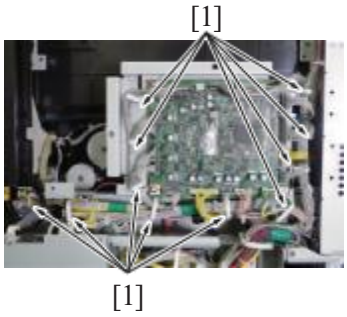


6. Remove seven screws [1], and remove the expansion control board assy [2].
   NOTE
   - **When installing the expansion control board assy, make sure that the expansion control board assy plate [3] is located behind the plate [4] of the board box.**

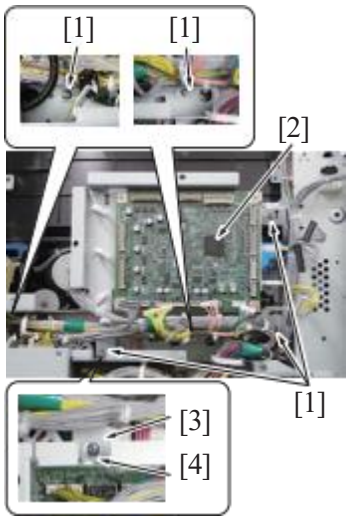
7. To reinstall, reverse the order of removal.

5.2.19 Expansion control board assy (CM605)

1. Remove the lower rear cover. (CM605)
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the upper right rear cover. (CM605)
   F.5.1.22 Upper right rear cover



5. Disconnect all connectors from the expansion control board. Remove the harness from 11 wire saddles [1]. (CM605)

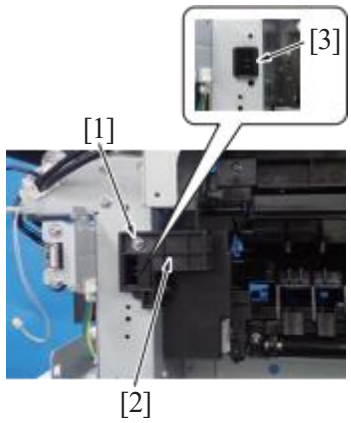


7. Remove five screws [1], and remove the expansion control board assy [2].
NOTE
- **When installing the expansion control board assy, make sure that the expansion control board assy plate [3] is located behind the plate [4] of the board box.**

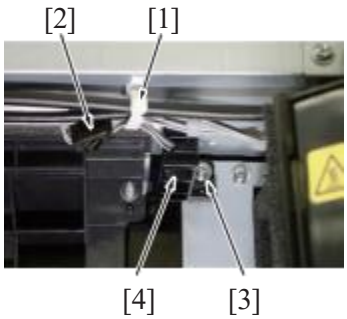
8. To reinstall, reverse the order of removal.

5.2.20 Gate switch unit (CM605/CM805)

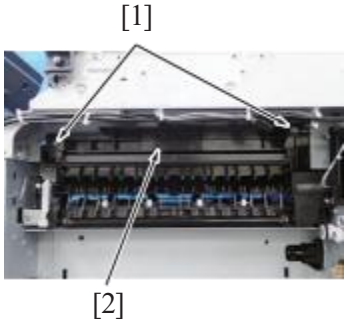
1. Remove the control panel left cover/1.
F.5.1.8 Control panel left cover/1
2. Remove the control panel upper cover.
F.5.1.5 Control panel upper cover
3. Remove the control panel front cover.
F.5.1.6 Control panel front cover
4. Remove the control panel right cover.
F.5.1.7 Control panel right cover
5. Remove the scanner right cover.
F.5.1.1 Scanner right cover
6. Remove the fusing unit.
E.3.1.11 Replacing the fusing unit
7. Open the right door and theregist unit.



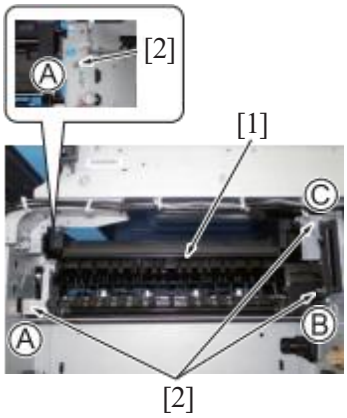
8. Remove the screw [1], and remove the cover [2].
NOTE
- **When removing the cover, take care not to drop the collar [3] located behind the cover [2].**



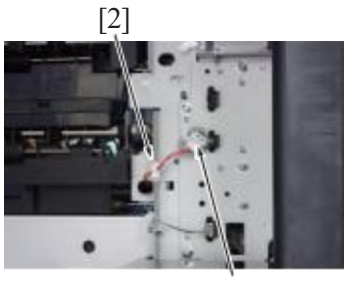
9. Remove the harness from the wire saddle [1]. Disconnect the connector [2].
10. Remove the screw [3], and remove the harness guide [4].



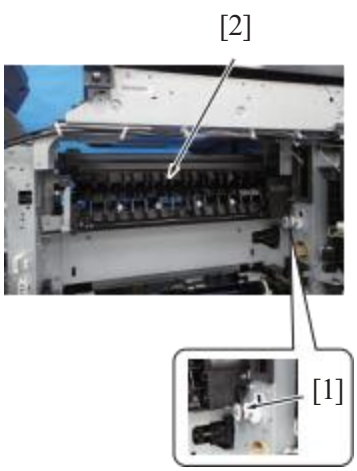
11. Remove two screws [1], and remove the cover [2].



12. Remove four screws [2] of the gate switch unit [1].
NOTE
- **When installing the unit, note that three types of screws is present.**
  A: Shoulder screw (short) x 2
  B: Shoulder screw (long) x 1
  C: SEMS screw x 1



13. Disconnect the connector [1].
14. Remove the harness from the edge cover [2].

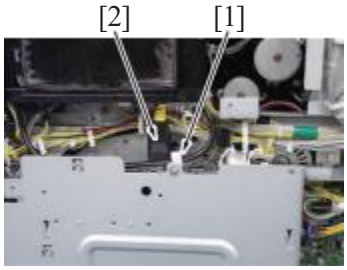


15. Remove the gate switch unit [2] as clearing the belt [1].
NOTE
- **When installing the gate switch unit [2], place the belt [1] on the gear.**

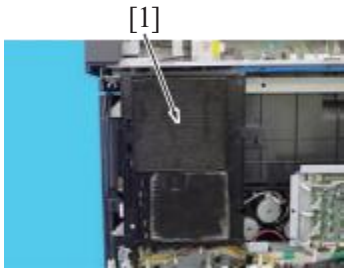
16. To reinstall, reverse the order of removal.

5.2.21 Fan assy

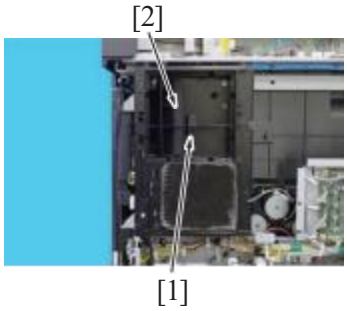
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover
4. Remove the upper left rear cover.
   F.5.1.21 Upper left rear cover
5. Remove the right rear cover.
   F.5.1.18 Right rear cover



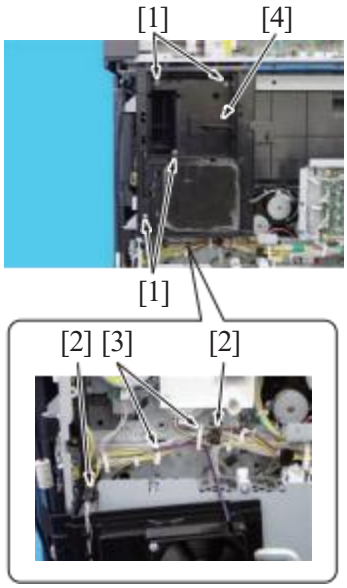
6. Remove the cable from the wire saddle [1], and disconnect the connector [2].



7. Remove the filter [1].



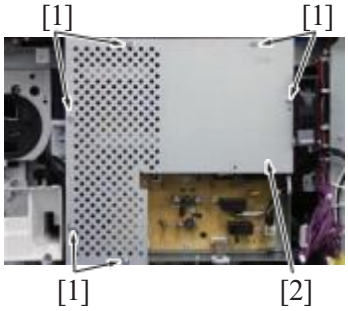
8. Remove the screw [1], and remove the duct [2].



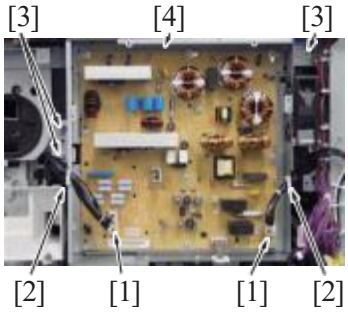
9. Remove four screws [1]. Disconnect two connectors [2].
10. Remove the harness from two wire saddles [3], and remove the fan assy [4].
11. To reinstall, reverse the order of removal.

5.2.22 HaCS power supply box (CM805)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover
4. Remove the upper left rear cover.
   F.5.1.21 Upper left rear cover
5. Remove the right rear cover.
   F.5.1.18 Right rear cover
6. Remove the fan assy.
   F.5.2.21 Fan assy
7. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805)



8. Remove six screws [1], and remove the protective shield [2].



9. Disconnect two connectors [1], and remove the harness from two edge covers [2].
10. Remove three screws [3], and remove the HaCS power supply box [4].
11. To reinstall, reverse the order of removal.

5.3 Boards

5.3.1 Scanner drive board (SCDB)

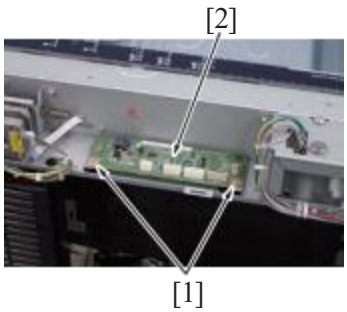
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.

F.5.1.20 Duct cover

3. Remove the upper right rear cover. (CM605/CM805)
F.5.1.22 Upper right rear cover

5. Remove the scanner upper rear cover.
F.5.1.4 Scanner upper rear cover

6. Disconnect all connectors on the scanner drive board.



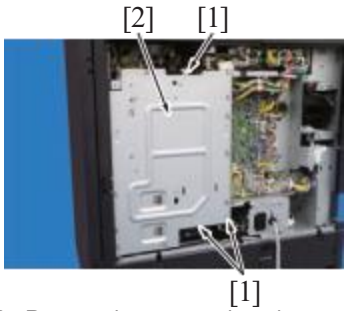
7. Remove two screws [1], and remove the scanner drive board [2].

8. To reinstall, reverse the order of removal.

5.3.2 Base board (BASEB)

1. Remove the lower rear cover.
F.5.1.24 Lower rear cover

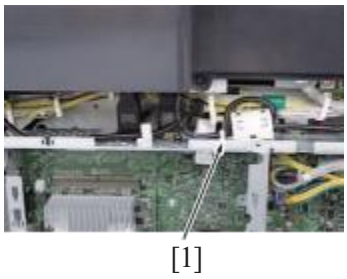
2. Remove three screws [1], and remove the plate [2].



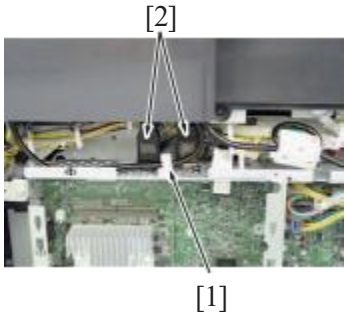
3. Remove the memory board.
F.5.3.21 Memory board (MEMB) (CM805)

4. Remove the CPU board.
F.5.3.4 CPU board (CPUB)

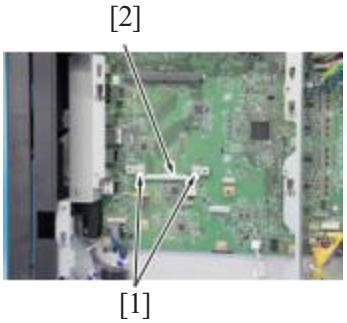
5. Remove the TPM board.
F.5.3.7 TPM board (TPMB)



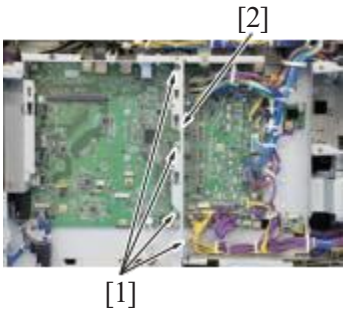
6. Remove the cable from two wire saddles [1].



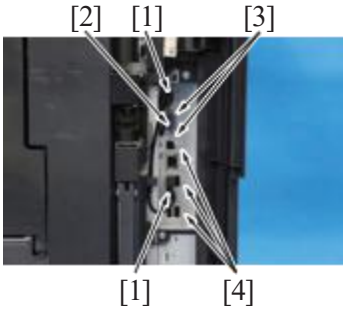
7. Remove the cable from the wire saddle [1], and disconnect two connectors [2].



8. Remove two screws [1], and remove the plate [2].

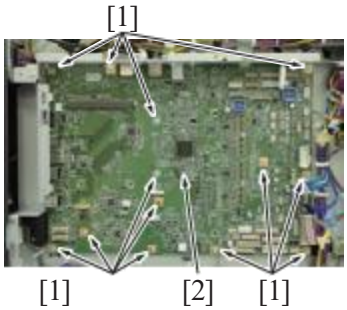


9. Remove four screws [1], and remove the plate [2].



10. Disconnect two connectors [1] from the side of the baseboard. Remove the connector cover [2] and two bolts [3]. Remove three screws [4].

11. Remove all connectors and flat cables on the baseboard.



12. Remove 13 screws [1], and remove the baseboard [2].

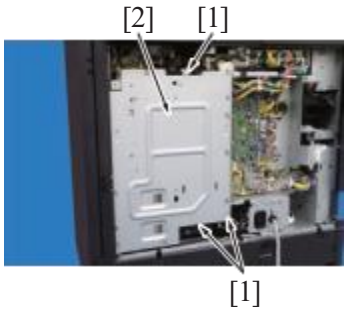
13. To reinstall, reverse the order of removal.

5.3.3 Storage board (STRGB)

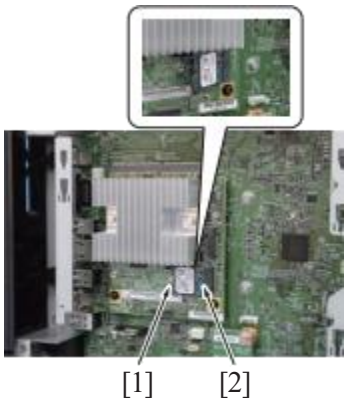
NOTE

- **Never use the combination of the used storage board removed from another machine and the CPU board. This combination causes corruption of stored data. Note that the combination of the original storage board and the used CPU board removed from another machine also causes the same problem.**
- **Never replace the storage board and CPU board with new one at the same time.**
- **When replacing with a 96-layer storage board or a 112-layer storage board, it is necessary to adapt the corresponding BootProgram.**
  Obtain the procedures for checking and updating the version of BootProgram from Knova.
- **Before displacing the storage board, make sure that it is not encrypted. If it is encrypted, it must be decrypted.**

1. Remove the lower rear cover.
F.5.1.24 Lower rear cover



2. Remove three screws [1], and remove the plate [2].



3. Remove the screw [1], and remove the storage board [2].
   NOTE
   - **When mounting the storage board, insert it obliquely.**
4. To reinstall, reverse the order of removal.

Actions after replacement of the board

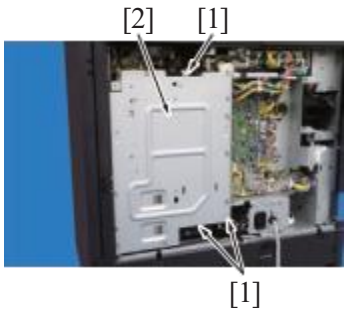
1. Connect the USB memory containing the firmware to the USB port on the main body.
2. Turn the main power switch ON while pressing the Stop key.
3. A firmware update screen appears, touch [START] and start rewriting of the firmware.
4. After rewriting of the firmware is completed, the machine restarts automatically.
5. When the [Recover Data] appears on the screen, touch [Recover Data].
6. When the confirmation message appears, touch [Yes].
7. When the “Turn the main power switch OFF and ON” screen appears, turn OFF the main power switch and remover the USB memory.
8. Turn ON the main power switch.
9. After starting up the machine, check the firmware version in Service Mode.
10. If the firmware version is not the latest, upgrade the firmware.
11. If there is any data retrieved with backup utility, conduct the recovery of data.
12. Install movie data, voice data, font data and other data as necessary.

5.3.4 CPU board (CPUB)

NOTE

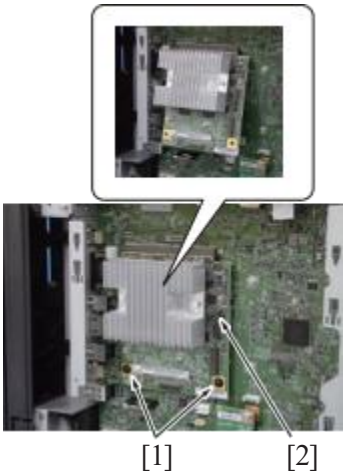
- **Never use the combination of the used CPU board removed from another machine and the storage board. This combination causes corruption of stored data. Note that the combination of the original CPU board and the used storage board removed from another machine also causes the same problem.**
- **Never replace the CPU board and storage board with new one at the same time.**
- **Before displacing the CPU board, make sure that it is not encrypted. If it is encrypted, it must be decrypted.**

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover



2. Remove three screws [1], and remove the plate [2].

3. Remove the memory board.
   F.5.3.21 Memory board (MEMB) (CM805)
4. Remove the storage board.
   F.5.3.3 Storage board (STRGB)



5. Remove two screws [1], and remove the CPU board [2].
   NOTE
   - **When mounting the CPU board, insert it obliquely.**

6. To reinstall, reverse the order of removal.

Actions after replacement of the board

NOTE

- **Be sure to configure settings in [Machine] and [Type] from [Machine Type Select] immediately after replacing the CPU board with a new one.**

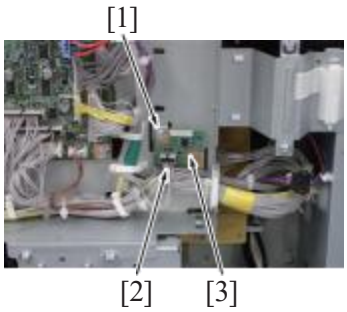
1. Connect the USB memory containing the firmware to the USB port on the main body.
2. Turn the main power switch ON while pressing the Stop key.
3. A firmware update screen appears, touch [Machine Type Select]
4. Enter [Machine] and [Type] information according to the Table : Machine type information. Then touch [Fix].
5. Touch [OK].
6. Turn OFF the main power switch, and remove the USB memory.
7. Turn ON the main power switch.
8. Wait until the trouble code (C-D3C0) screen appears.
9. [Recover Data] appears on the trouble code screen, and touch [Recover Data].
10. When the confirmation message appears, touch [Yes].
11. When the “Turn the main power switch OFF and ON” screen appears, turn OFF the main power switch.
12. Turn OFF and ON the main power switch.
13. Update the firmware to the latest version.

Table: Machine type information

First four digits of the serial number	AA7N	ADXE	AA7P	ADXF	AA7R	ADXG
[Machine]	10	17	10	17	10	17
[Type]	C	C	A	A	0	0

5.3.5 Backup board (ERB)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover



2. Remove the screw [1]. Disconnect the connector [2], and remove the backup board [3].

3. To reinstall, reverse the order of removal.

NOTE

- **Since the counter will be cleared when the backup board is replaced with a new one, replace the following parts with new ones.**

- **Developing unit Y/M/C/K**
- **Drum unit Y/M/C/K**
- **Toner cartridge Y/M/C/K**
- **Transfer belt unit**
- **Fusing unit**
- **Transfer roller**
- **Feed roller, pick-up roller, separation roller (including options)**

NOTE

- **When the new backup board is installed, the error message: "License management error occurred." is displayed. Conduct the i-Option recovery operation.**

4. Open the lower front door and turn ON the main power supply switch.

NOTE

- **Ensure the front lower door is opened.**

NOTE

- **Conduct the readjustment of the above adjustment items before the starting the initial warm-up operation after replacing the backup board.**

5. Turn OFF the main power switch.
6. Turn ON the main power switch and close the lower front door. Check to see that warm-up and image stabilization operations are completed normally.

Table 1: Readjustment items

Adjustment items	Service mode readjustment items	
1	Imaging Process Adjustment	Image Background Adj
2		Max Image Density Adj
3		Grad/Dev AC Bias V Selection
4	System 1	Change Warm Up Time
5	Imaging Process Adjustment	Charge AC Output fine adjustment

Table 2: Readjustment items

Adjustment items	Service mode readjustment items		
1	Machine	Manual Bypass Tray Width Adj	
2		Printer Reg. Loop Adj.	
3		Fusing Temperature	
4	Finisher	FS-FN Adjustment	
5	Machine	Printer Area	Paper Feed Direction Adj.
6		Fusing speed	
7		Printer Area	Printer Image Centering Side 1
8			Prt. Image Center. Side 2 (Dup)
9			Leading Edge Adjustment
10			Leading Edge Adj. Side 2 (Duplex)
11			Tray Printing Position: Tip
12	Imaging Process Adjustment	Transfer Voltage Fine Adj	2nd Transfer Adj.
13			Primary transfer adj.

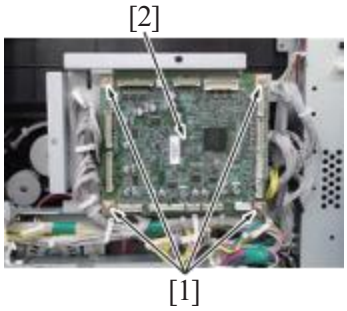
Table 3: Switch No. to be enabled

Region	Switch No. to be enabled
Japan	[6] is set to OFF (normal display)
Other than Japan	[6] is set to ON (reverse display)

5.3.6 Expansion control board (EXCB)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover

5. Disconnect all connectors from the expansion control board.

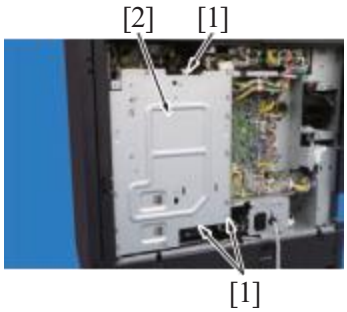


6. Remove four screws [1], and remove the expansion control board [2].

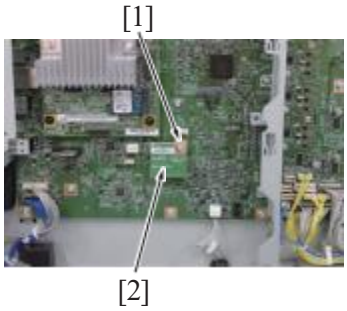
7. To reinstall, reverse the order of removal.

5.3.7 TPM board (TPMB)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover



2. Remove three screws [1], and remove the plate [2].

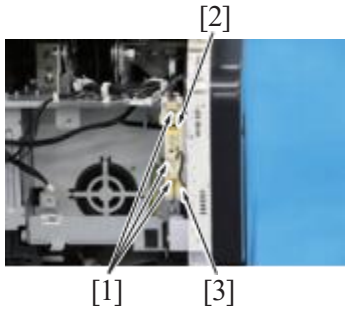


3. Remove the screw [1], and remove the TPM board [2].

4. To reinstall, reverse the order of removal.

5.3.8 Machine condition monitor board (MCMB)

1. Remove the control panel upper cover.
   F.5.1.5 Control panel upper cover
2. Remove the control panel front cover.
   F.5.1.6 Control panel front cover



3. Disconnect three connectors [1]. Unhook the tab [2], and remove the machine condition monitor board [3].

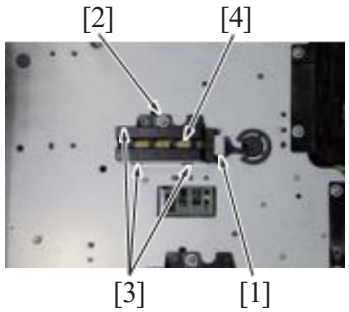
4. To reinstall, reverse the order of removal.

5.3.9 Tray 1 FD paper size board (FDPSB/1), tray 2 FD paper size board (FDPSB/2)

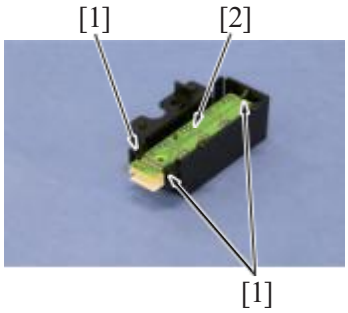
NOTE

- **The tray 1 FD paper size board and the tray 2 FD paper size board are of the same form and mechanism. This procedure shows the steps taken for the tray 1 FD paper size board.**

1. Remove the tray 1.
2. Remove the tray 2.



3. Disconnect the connector [1].
4. Remove the screw [2] and three tabs [3], and remove the tray 1 FD paper size board assy [4].



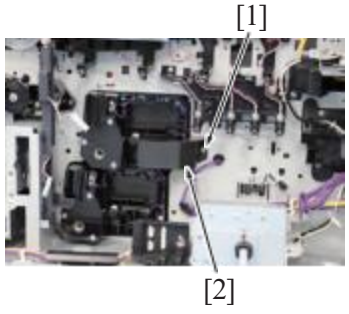
5. Unhook three tabs [1], and remove the tray 1 FD paper size board [2].
6. To reinstall, reverse the order of removal.

5.3.10 Tray 1 CD paper size board (CDPSB/1), tray 2 CD paper size board (CDPSB/2)

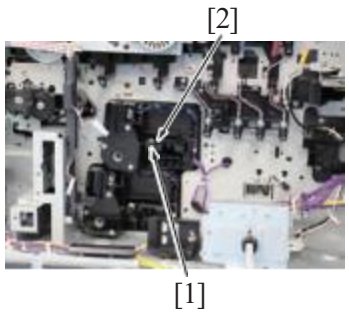
NOTE

- **The tray 1 CD paper size board and the tray 2 CD paper size board are of the same form and mechanism. This procedure shows the steps taken for the tray 1 CD paper size board.**

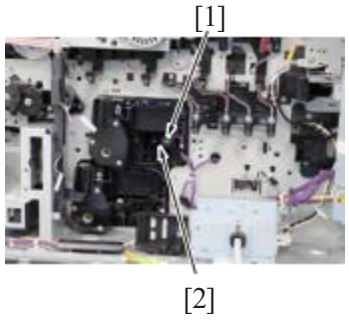
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box
4. Remove the high voltage unit.
   F.5.3.12 High voltage unit (HV)
5. Slide out the tray 1.



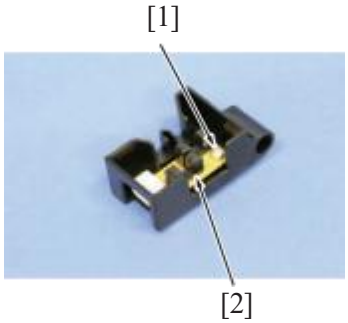
6. Remove the screw [1], and remove the cover [2].



7. Remove screw [1] and spring [2].



8. Remove the connector [1], and remove the tray 1 CD paper size board assy [2].

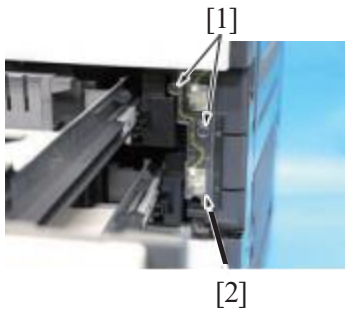


9. Remove the screw [1], and remove the tray 1 CD paper size board [2].

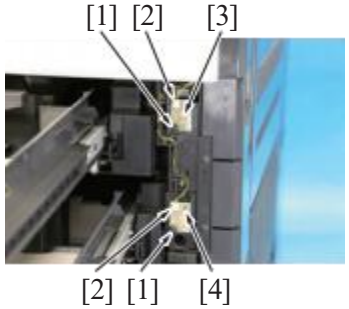
10. To reinstall, reverse the order of removal.

5.3.11 Tray 1 paper empty indicator board (PEIB/1), tray 2 paper empty indicator board (PEIB/2)

1. Slide out the tray 1 and the tray 2.



2. Remove two screws [1], and remove the tray right cover [2].



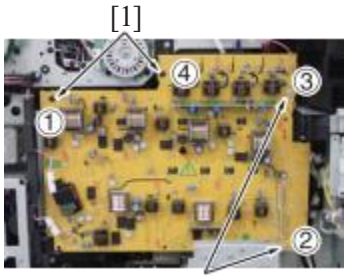
3. Remove one screw [1] each. Disconnect one connector [2] each, and remove the tray 1 paper empty indicator board [3] and the tray 2 paper empty indicator board [4].

4. To reinstall, reverse the order of removal.

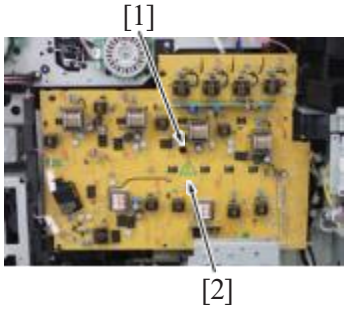
5.3.12 High voltage unit (HV)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box

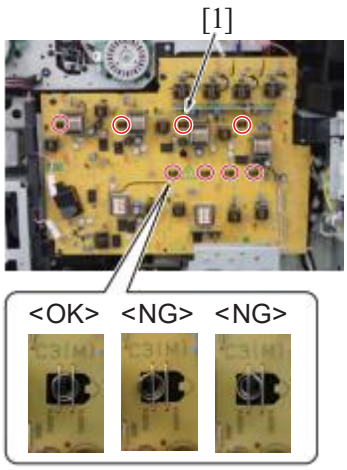
4. Disconnect all connectors and solderless terminals on the high voltage unit.



5. Remove four screws [1] of the high voltage unit.
   NOTE
   - **When installing the high voltage unit, tighten the screws in the order shown in the illustration.**



6. Unhook the tab [1], and remove the high voltage unit [2].

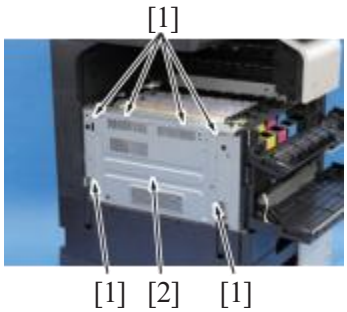


8. To reinstall, reverse the order of removal.

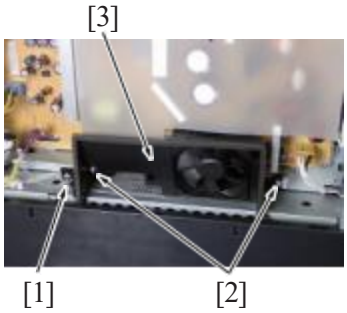
7. **NOTE**
   - **When mounting the high voltage unit, the resinous holder is inserted in the center of the wire, and the terminal contact point [1] must be contacted without fail. The claw also must be firmly hooked.**

5.3.13 DC power supply (DCPU) (CM805)

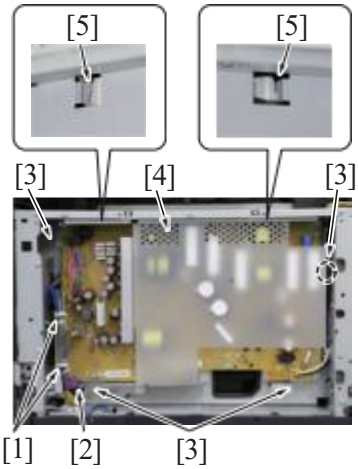
1. Remove the left cover.
   F.5.1.16 Left cover
2. Remove the paper exit cover.
   F.5.1.17 Paper exit cover



3. Remove six screws [1], and remove the DC power supply protective shield [2].



4. Disconnect the connector [1].
5. Remove two screws [2], and remove the PH/power supply cooling fan assy [3].



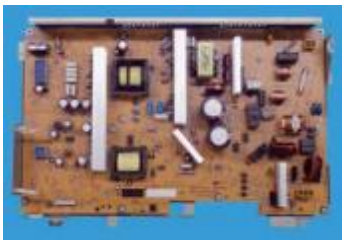
6. Disconnect all connectors on the DC power supply [4].
7. Remove the harness from two wire saddles [1] and edge cover [2].
8. Remove four screws [3], and remove the DC power supply [4].

   NOTE
   - **When installing the DC power supply [4], hook two tabs [5].**

9. To reinstall, reverse the order of removal.

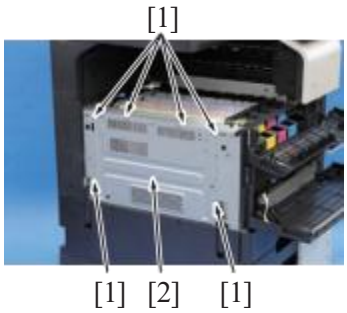
5.3.14 DC power supply (DCPU) (CM605)

NOTE
- **This note applies only to CM605.**
- **Two types of DC power supply (Type A, Type B) are provided depending on the production timing. To replace with the new DC power supply, use the same type as that of the DC power supply installed on the actual machine.**
  - **North America and Europe: A or B Type**
  - **Others: A Type**

Type of DC power supply	
<Type A> 	<Type B>

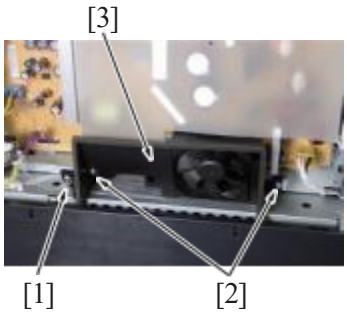
NOTE
- **Type A: CM605**
- **Type B: CM605**

1. Remove the left cover.
   F.5.1.16 Left cover
2. Remove the paper exit cover.
   F.5.1.17 Paper exit cover



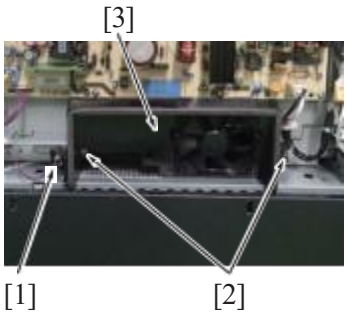
3. Remove six screws [1], and remove the DC power supply protective shield [2].

<Type A>

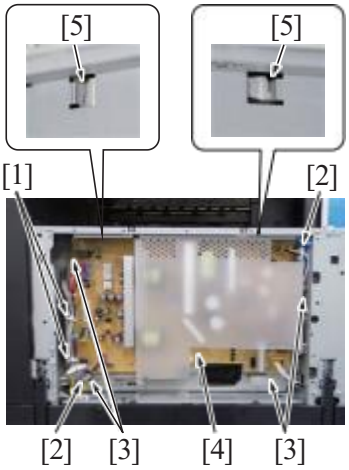


4. Disconnect the connector [1].
5. Remove two screws [2], and remove the PH/power supply cooling fan assy [3].

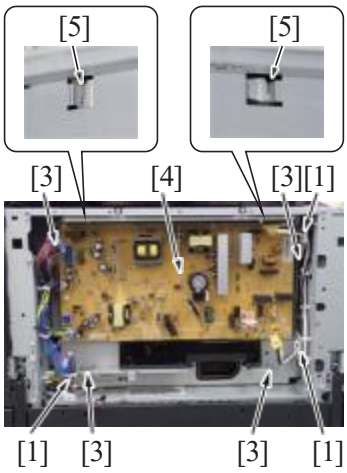
<Type B>



<Type A>



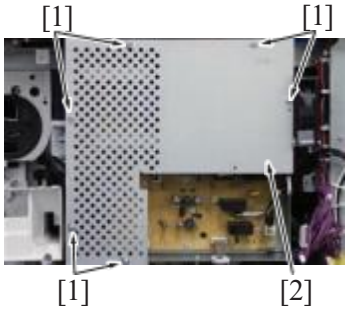
<Type B>



9. To reinstall, reverse the order of removal.

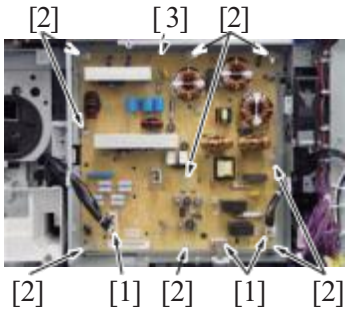
5.3.15 HaCS power supply (FUPU) (CM805)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the duct cover.
   F.5.1.20 Duct cover
3. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover
4. Remove the upper left rear cover.
   F.5.1.21 Upper left rear cover
5. Remove the right rear cover.
   F.5.1.18 Right rear cover
6. Remove the fan assy.
   F.5.2.21 Fan assy
7. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805)



6. Disconnect all connectors on the DC power supply [4].
7. Remove the harness from two wire saddles [1] and two edge covers [2]. (Type A)
   Remove the harness from three edge covers [1]. (Type B)
8. Remove four screws [3], and remove the DC power supply [4].
   NOTE
   - **When installing the DC power supply [4], hook two tabs [5].**

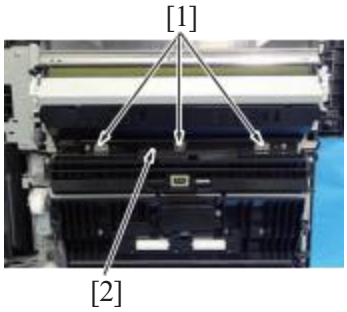
8. Remove six screws [1], and remove the protective shield [2].



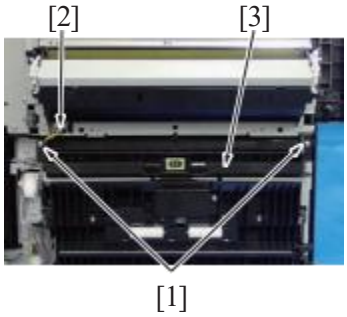
9. Disconnect three connectors [1].
10. Remove nine screws [2], and remove the HaCS power supply [3].
11. To reinstall, reverse the order of removal.

5.3.16 Paper basis weight detection board/TX (PBWDB/TX)

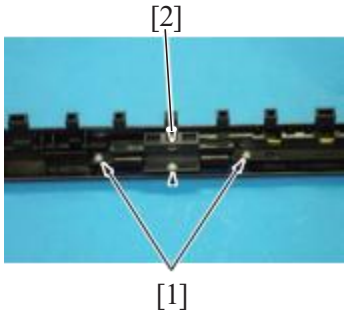
1. Open the right door.



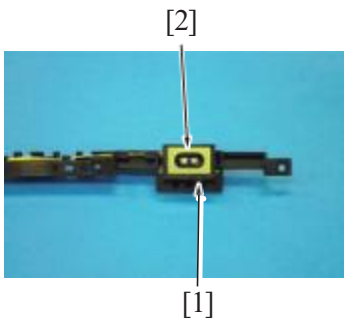
2. Remove three screws [1].
3. Remove the paper type automatic detection board assy/2 [2].



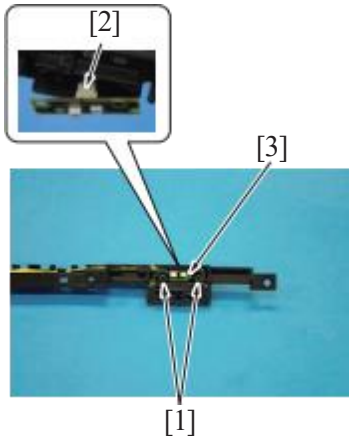
4. Remove two screws [1].
5. Disconnect the connector [2] and remove the paper type automatic detection board assy/1 [3].



6. Remove three screws [1], and remove the paper basis weight detection board/TX assy [2].



7. Remove the screw [1], and remove the cover [2].

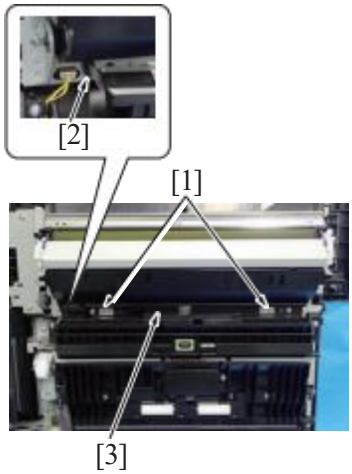


8. Remove two screws [1].
9. Disconnect the connector [2] and remove the paper basis weight detection board/TX [3].

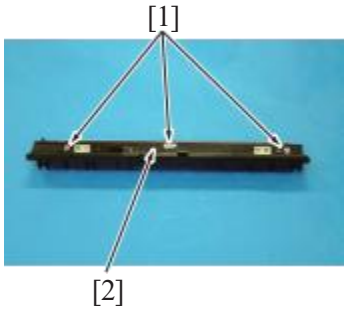
10. To reinstall, reverse the order of removal.

5.3.17 Envelope detection board/RX (ENVDB/RX)

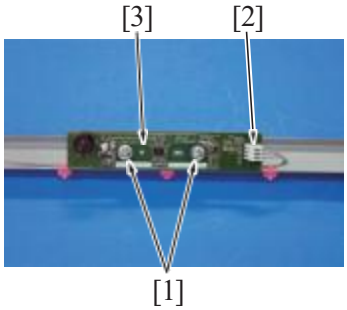
1. Open the right door.



2. Remove two screws [1].
3. Disconnect the connector [2] and remove the paper type automatic detection board assy/2 [3].



4. Remove three screws [1], and remove the cover [2].



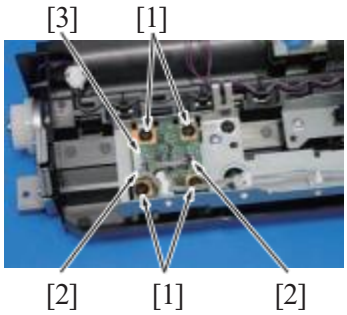
5. Remove two screws [1].
6. Disconnect the connector [2] and remove the envelope detection board/RX [3].

7. To reinstall, reverse the order of removal.

5.3.18 Envelope detection relay board (ENVDRB)

1. Remove the transport unit.

F.5.2.13 Transport unit (CM805) F.5.2.14 Transport unit (CM605)

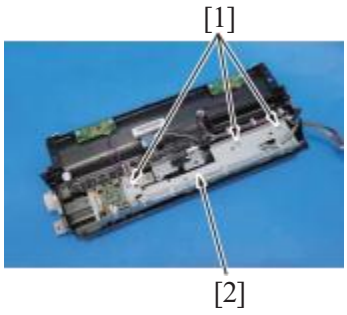


2. Remove four screws [1].
3. Disconnect two connectors [2] and remove the envelope detection relay board [3].

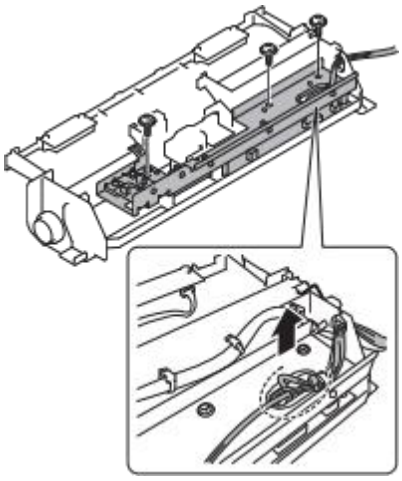
4. To reinstall, reverse the order of removal.

5.3.19 Envelope detection board/TX (ENVDB/TX)

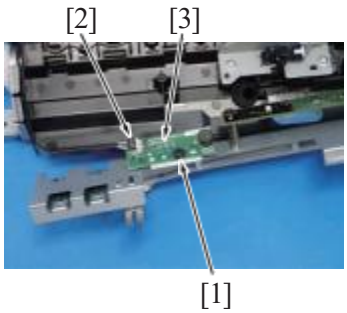
1. Remove the transport unit.
F.5.2.13 Transport unit (CM805) F.5.2.14 Transport unit (CM605)



2. Remove three screws [1] and remove the paper type automatic detection board assy/3 [2].



3. **NOTE**
   - **When reinstalling the paper type automatic detection board assy/3, pull out the wire harnesses so that they do not get caught.**

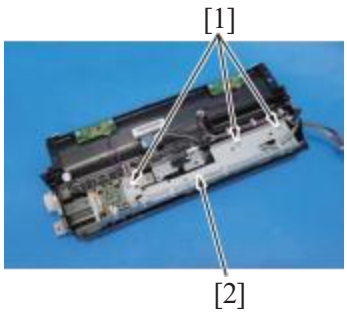


4. Remove the screw [1].
5. Disconnect the connector [2] and remove the envelope detection board/TX [3].

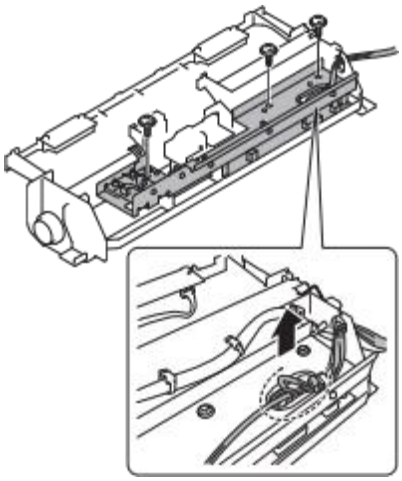
6. To reinstall, reverse the order of removal.

5.3.20 Paper basis weight detection board/RX (PBWDB/RX)

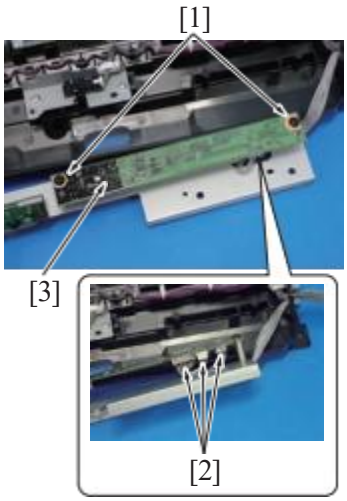
1. Remove the transport unit.
F.5.2.13 Transport unit (CM805) F.5.2.14 Transport unit (CM605)



2. Remove three screws [1] and remove the paper type automatic detection board assy/3 [2].



3. **NOTE**
   - **When reinstalling the paper type automatic detection board assy/3, pull out the wire harnesses so that they do not get caught.**

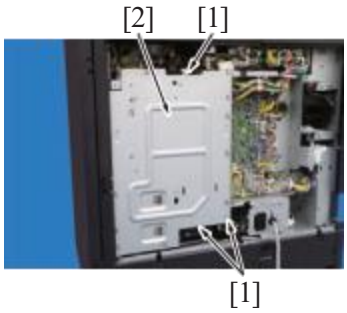


4. Remove two screws [1]. (CM605/CM805)
5. Disconnect three connectors [2] and remove the paper basis weight detection board/RX [3]. (CM605/CM805)

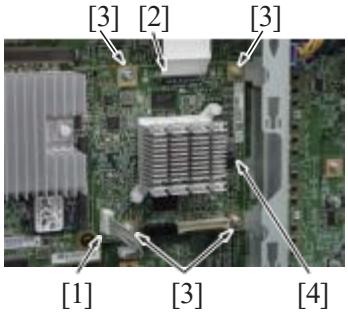
6 To reinstall, reverse the order of removal.

5.3.21 Memory board (MEMB) (CM805)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover



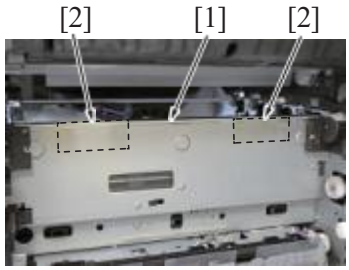
2. Remove three screws [1], and remove the plate [2].



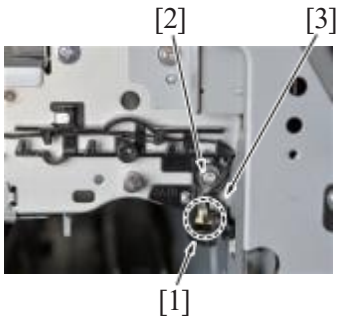
3. Disconnect the connector [1] and remove the flat cable [2].
4. Remove four screws [3], and remove the memory board [4].
5. To reinstall, reverse the order of removal.

5.3.22 Erase LED/K (EL/K)

1. Remove the transport unit.
   Transport unit
2. Remove the sub hopper unit.
   F.5.2.6 Sub hopper unit



3. Peel off the upper side of the seals [2] from the mounting plate [1] of the erase LED/K carefully.
   NOTE
   - **Be careful not to stain the adhesive surface of the seal with fingerprints or dust.**
   - **When installing the erase LED/K (EL/K), the peeled seal must be reattached to the original position.**



4. Disconnect the connector [1] from the erase LED/K (EL/K).
5. Remove the screw [2], and remove the erase LED/K (EL/K) [3].

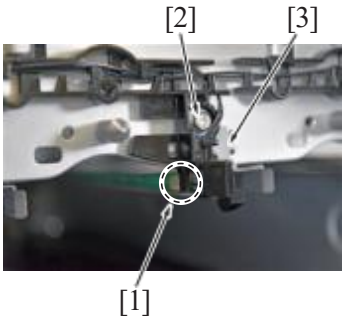
7. To reinstall, reverse the order of removal.

6. **NOTE**
   - **When installing the erase LED/K (EL/K) [1], insert the rear protrusion [2] into the hole [3] on the main body.**
   - **Be careful not to stain the part where the seal peeled off in step 3 will be adhered with fingerprints or dust.**

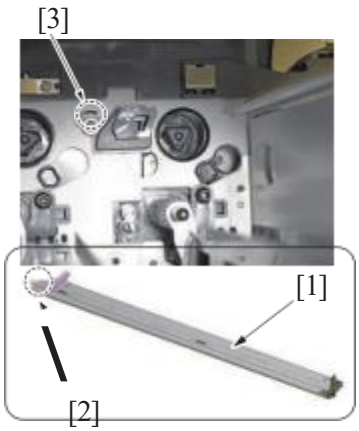
5.3.23 Erase LED/C, /M, /Y (EL/C, EL/M, EL/Y)

NOTE
- **Erase LED/C (EL/C), erase LED/M (EL/M) and erase LED/Y (EL/Y) have a similar configuration. This procedure shows how to remove the erase LED/C (EL/C).**

1. Remove the transfer belt unit.
   Transfer belt unit
2. Remove the sub hopper unit.
   F.5.2.6 Sub hopper unit



3. Disconnect the connector [1] from the erase LED/C (EL/C).
4. Remove the screw [2], and remove the erase LED/C (EL/C) [3].



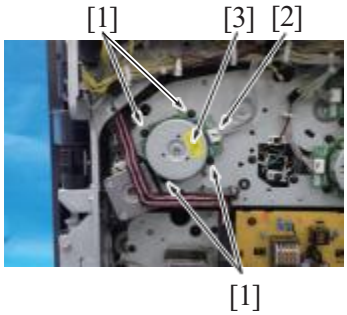
5. **NOTE**
   - **When installing the erase LED/C (EL/C) [1], insert the rear protrusion [2] into the hole [3] on the main body.**

6. To reinstall, reverse the order of removal.

5.4 Motors

5.4.1 Transport motor (M1)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box

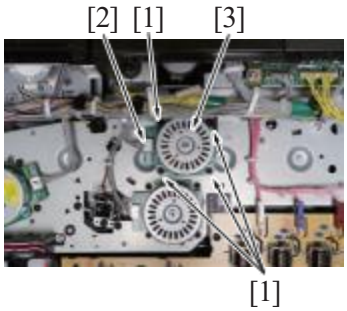


4. Remove four screws [1]. Disconnect the connector [2], and remove the transport motor [3].
NOTE
- **Remove/install holding the plate part of the motor.**

5. To reinstall, reverse the order of removal.

5.4.2 PC motor (M2)

1. Remove the lower rear cover.
F.5.1.24 Lower rear cover
2. Remove the right rear cover.
F.5.1.18 Right rear cover
3. Open the PWB box.
F.5.2.11 How to open the PWB box



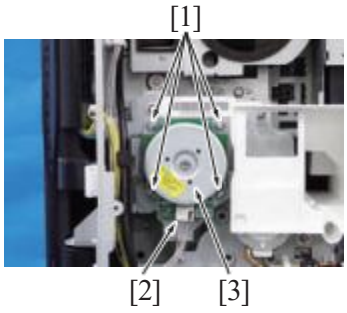
4. Remove four screws [1]. Disconnect the connector [2], and remove the PC motor [3].
NOTE
- **Remove/install holding the plate part of the motor.**

5. To reinstall, reverse the order of removal.

5.4.3 Fusing motor (M3)

<CM605/CM805>

1. Remove the fan assy.
F.5.2.21 Fan assy



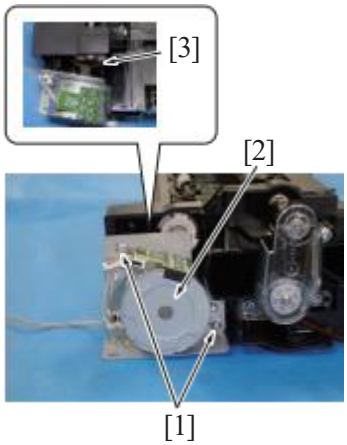
2. Remove four screws [1]. Disconnect the connector [2], and remove the fusing motor [3].
NOTE
- **Remove/install holding the plate part of the motor.**

3. To reinstall, reverse the order of removal.

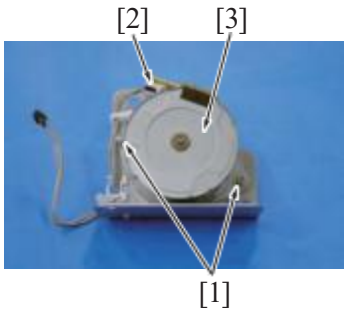
5.4.4 Paper exit/reverse motor (M4)

<CM605/CM805>

1. Remove the gate switch unit.
   F.5.2.20 Gate switch unit (CM605/CM805)



2. Remove two screws [1], and remove the paper exit/reverse motor assy [2].
   NOTE
   - **When installing, place the gear of the paper exit/reverse motor assy [2] on the belt [3].**



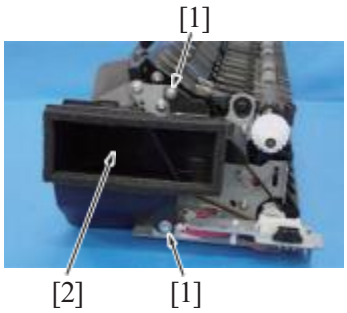
3. Remove two screws [1]. Disconnect the connector [2], and remove the paper exit/reverse motor [3].

4. To reinstall, reverse the order of removal.

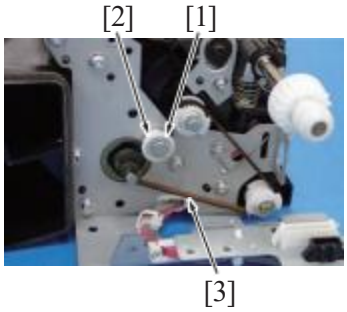
5.4.5 ADU transport motor/1 (M5)

<CM605/CM805>

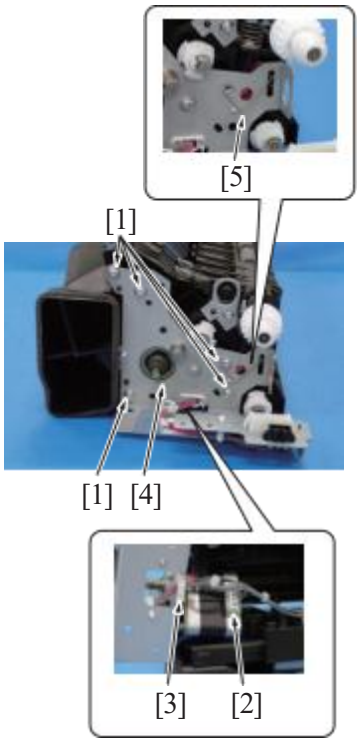
1. Remove the ADU transport unit.
F.5.2.17 ADU transport unit



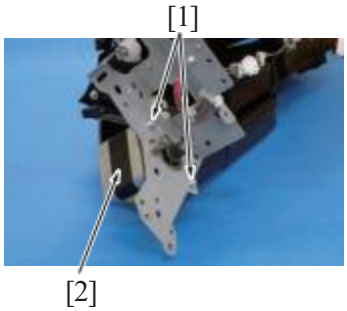
2. Remove two screws [1], and remove the duct [2].



3. Remove the E-ring [1], and remove the pulley [2] and the belt [3].



4. Remove five screws [1]. Disconnect the connector [2] and remove the harness from the edge cover [3] to release the ADU transport motor/1 assy [4].
NOTE
- **When installing, set the wire [5] as shown in the illustration.**

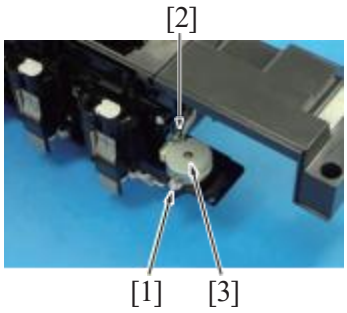


5. Remove two screws [1], and remove the ADU transport motor/1 [2].

6. To reinstall, reverse the order of removal.

5.4.6 Toner supply motor/K (M6)

1. Remove the sub hopper unit.
   F.5.2.6 Sub hopper unit

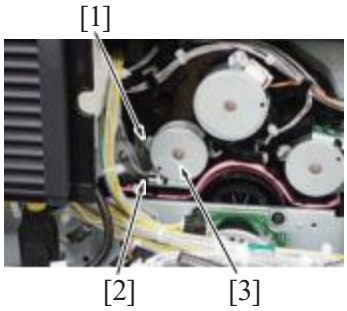


2. Remove the screw [1].
3. Disconnect the connector [2] and remove the toner supply motor/K [3].

4. To reinstall, reverse the order of removal.

5.4.7 Toner supply motor/C (M7)

1. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805) F.5.2.19 Expansion control board assy (CM605)
2. Remove the HaCS power supply box. (CM805)
   F.5.2.22 HaCS power supply box (CM805)

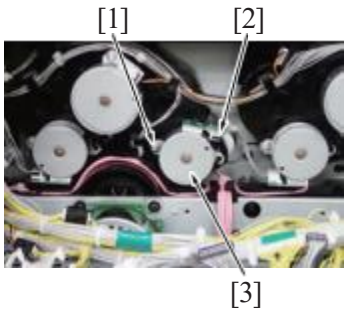


3. Remove the screw [1]. Disconnect the connector [2], and remove the toner supply motor/C [3].

4. To reinstall, reverse the order of removal.

5.4.8 Toner supply motor/M (M8)

1. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805) F.5.2.19 Expansion control board assy (CM605)
2. Remove the HaCS power supply box. (CM805)
   F.5.2.22 HaCS power supply box (CM805)

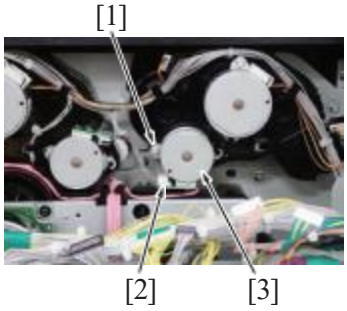


3. Remove the screw [1]. Disconnect the connector [2], and remove the toner supply motor/M [3].

4. To reinstall, reverse the order of removal.

5.4.9 Toner supply motor/Y (M9)

1. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805) F.5.2.19 Expansion control board assy (CM605)
2. Remove the HaCS power supply box. (CM805)
   F.5.2.22 HaCS power supply box (CM805)



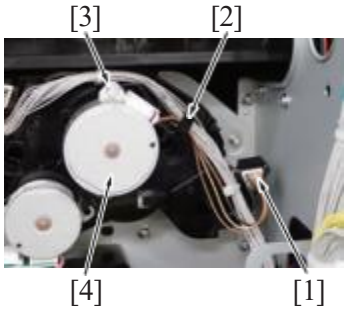
3. Remove the screw [1]. Disconnect the connector [2], and remove the toner supply motor/Y [3].

4. To reinstall, reverse the order of removal.

5.4.10 Toner cartridge motor/YM (M10)

<CM605/CM805>

1. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805)
2. Remove the HaCS power supply box.
   F.5.2.22 HaCS power supply box (CM805)



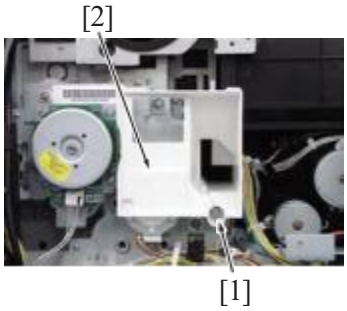
3. Disconnect the connector [1], and remove the harness from the harness guide [2].
4. Remove the screw [3], and remove the toner cartridge motor/YM [4].

5. To reinstall, reverse the order of removal.

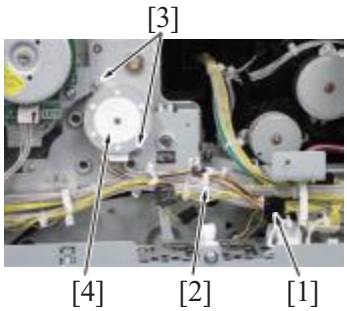
5.4.11 Fusing pressure motor (M11)

<CM605/CM805>

1. Remove the fan assy.
F.5.2.21 Fan assy



2. Remove the screw [1], and remove the duct [2].

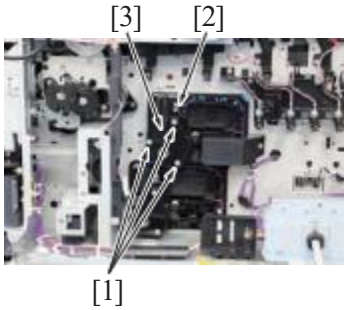


3. Disconnect the connector [1], and remove the harness from the wire saddle [2]. Remove two screws [3], and remove the fusing pressure motor [4].

4. To reinstall, reverse the order of removal.

5.4.12 Tray 1 lift-up motor (M12)

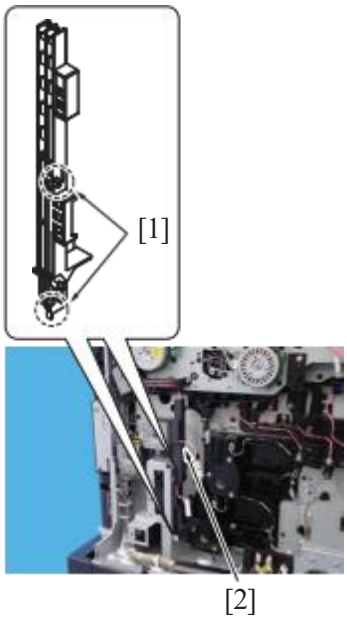
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box
4. Remove the high voltage unit.
   F.5.3.12 High voltage unit (HV)
5. Slide out the tray 1.



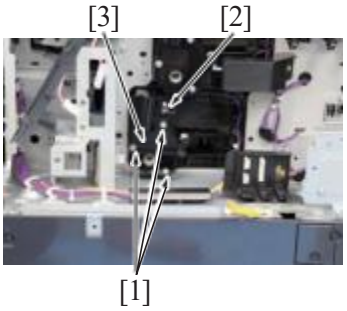
6. Remove three screws [1]. Disconnect the connector [2], and remove the tray 1 lift-up motor [3].
7. To reinstall, reverse the order of removal.

5.4.13 Tray 2 lift-up motor (M13)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box
4. Remove the high voltage unit.
   F.5.3.12 High voltage unit (HV)
5. Slide out the tray 2.



6. Unhook two tabs [1], and remove the harness guide [2].

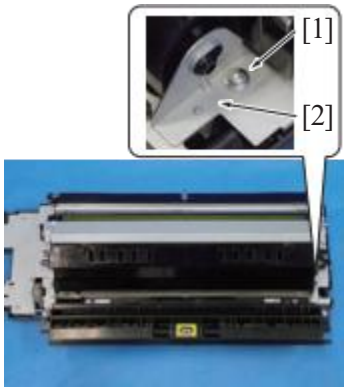


7. Remove three screws [1]. Disconnect the connector [2], and remove the tray 2 lift-up motor [3].

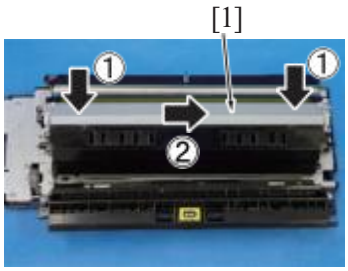
8. To reinstall, reverse the order of removal.

5.4.14 Fusing shutter motor (M15) (CM805)

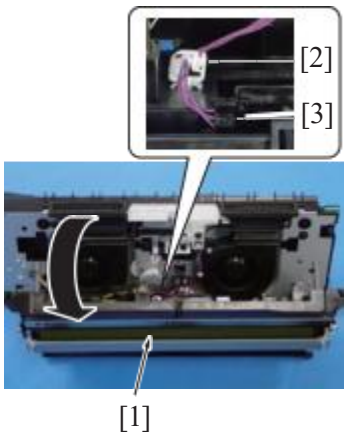
1. Remove theregist unit.
F.5.2.9 Regist unit (CM805)



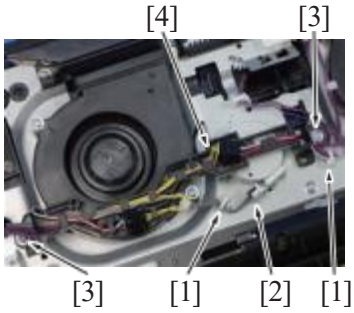
2. Remove the screw [1], and remove the plate [2].



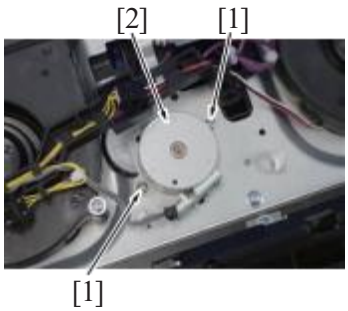
3. While pressing the 2nd transfer assy [1] on from the top, slide it to the right to unlock it.



4. Slowly open the 2nd transfer assy [1].
5. Remove the harness from the wire saddle [2], and disconnect the connector [3].
6. Remove the 2nd transfer assy [1].



7. Remove the harness from two wire saddles [1], and disconnect the connector [2].
8. Remove two screws [3], and move the harness guide [4].

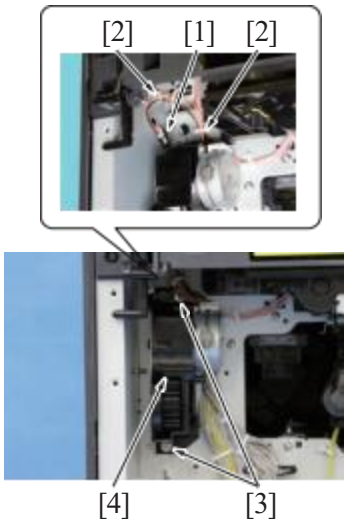


9. Remove two screws [1], and remove the fusing shutter motor [2].

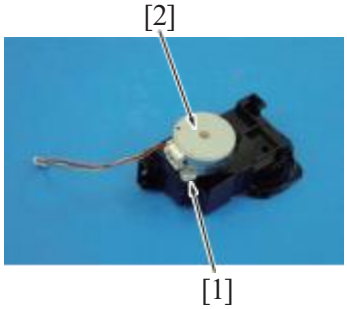
10. To reinstall, reverse the order of removal.

5.4.15 Waste toner transport motor (M20)

1. Remove the upper front door.
   F.5.1.12 Upper front door
2. Remove the lower front door.
   F.5.1.13 Lower front door
3. Remove the waste toner transport unit/waste toner box.
   F.5.2.1 Waste toner transport unit/waste toner box
4. Remove the front lower cover.
   F.5.1.14 Front lower cover
5. Remove the front cover.
   F.5.1.15 Front cover



6. Disconnect the connector [1], and remove the harness from two wire saddles [2].
7. Remove two screws [3], and remove the waste toner transport motor assy [4].

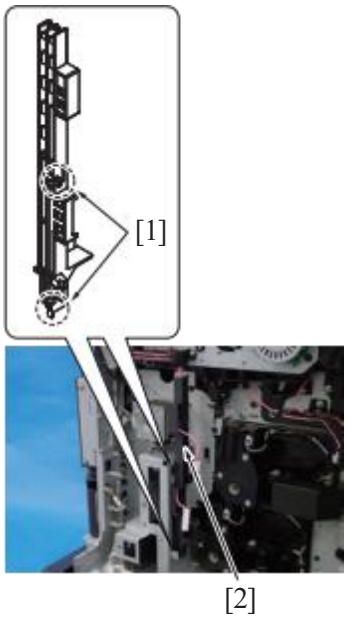


8. Remove the screw [1], and remove the waste toner transport motor [2].

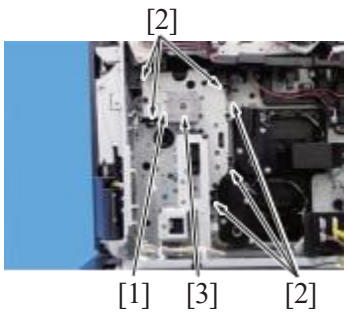
9. To reinstall, reverse the order of removal.

5.4.16 Paper feed motor (M22)

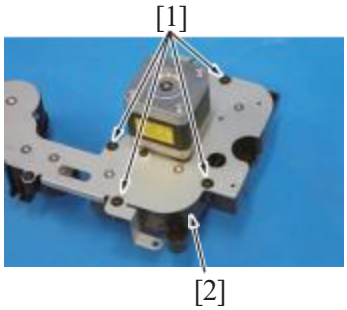
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box
4. Remove the high voltage unit.
   F.5.3.12 High voltage unit (HV)
5. Remove the tray 2 vertical transport motor (M23).
   F.5.4.17 Tray 2 vertical transport motor (M23)



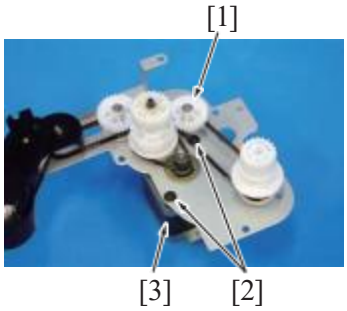
6. Unhook two tabs [1], and remove the harness guide [2].



7. Disconnect the connector [1].
8. Remove six screws [2], and remove the paper feed motor assy [3].



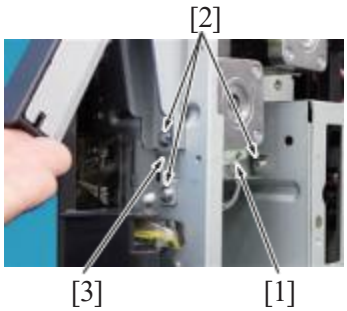
9. Remove four screws [1], and remove the cover [2].



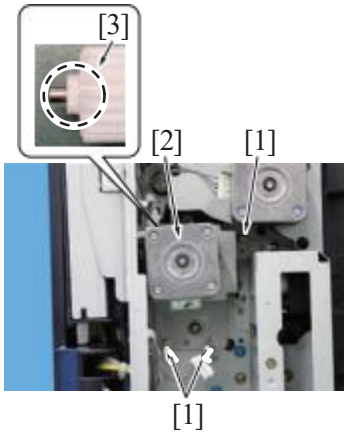
10. Remove the gear [1].
11. Remove two screws [2], and remove the paper feed motor [3].
12. To reinstall, reverse the order of removal.

5.4.17 Tray 2 vertical transport motor (M23)

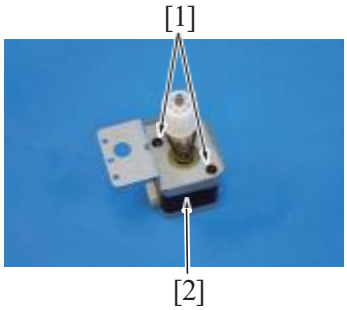
1. Remove the lower rear cover.
F.5.1.24 Lower rear cover
2. Remove the right rear cover.
F.5.1.18 Right rear cover
3. Open the PWB box.
F.5.2.11 How to open the PWB box



4. Disconnect the connector [1].
5. Remove three screws [2], and remove the plate [3].



6. Remove three screws [1], and remove the tray 2 vertical transport motor assy [2].
NOTE
- **Depending on the time of production, the spacer [3] may be provided. When removing the motor assy, pay attention not to drop the spacer [3].**

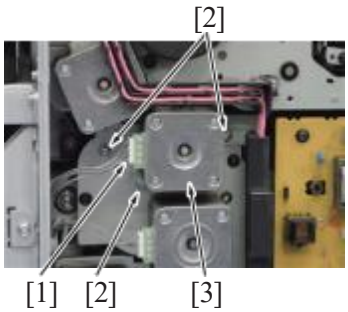


7. Remove two screws [1], and remove the tray 2 vertical transport motor [2].
8. To reinstall, reverse the order of removal.

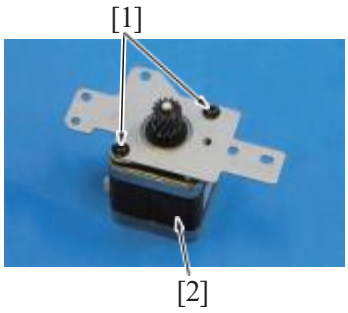
5.4.18 Registration motor (M24) (CM805)

1. Remove the lower rear cover.
F.5.1.24 Lower rear cover
2. Remove the right rear cover.
F.5.1.18 Right rear cover

3. Open the PWB box.
F.5.2.11 How to open the PWB box



4. Disconnect the connector [1].
5. Remove three screws [2] and remove the registration motor assy [3].



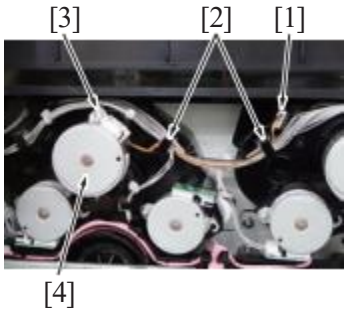
6. Remove two screws [1], and remove the registration motor [2].

7. To reinstall, reverse the order of removal.

5.4.19 Toner cartridge motor/CK (M25)

<CM605/CM805>

1. Remove the expansion control board assy.
   F.5.2.18 Expansion control board assy (CM805)
2. Remove the HaCS power supply box.
   F.5.2.22 HaCS power supply box (CM805)

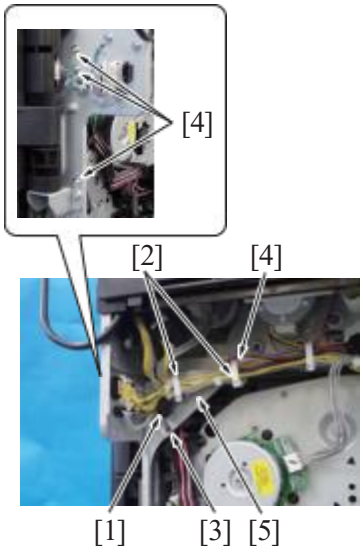


3. Disconnect the connector [1], and remove the harness from two harness guides [2].
4. Remove the screw [3], and remove the toner cartridge motor/CK [4].

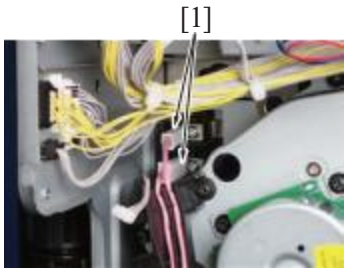
5. To reinstall, reverse the order of removal.

5.4.20 ADU transport motor/2 (M26)

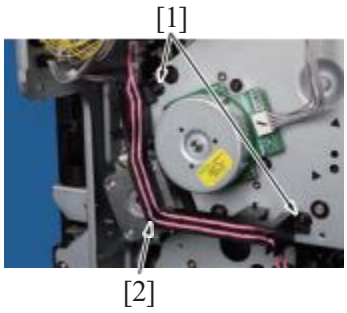
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box
4. Remove the registration motor.
   F.5.4.18 Registration motor (M24) (CM805)



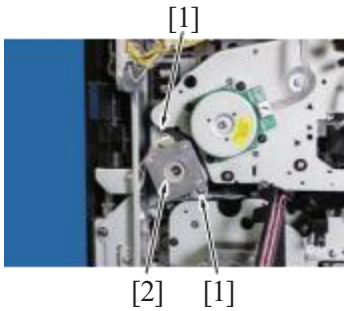
5. Disconnect the connector [1].
6. Remove the harness from two wire saddles [2] and the edge cover [3].
7. Remove four screws [4], and remove the plate [5].



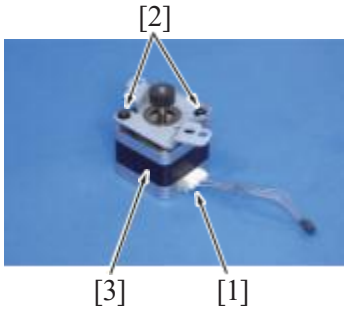
8. Disconnect two solderless terminals [1].



9. Remove two screws [1], and remove the harness guide [2].



10. Remove two screws [1], and remove the ADU transport motor/2 assy [2].

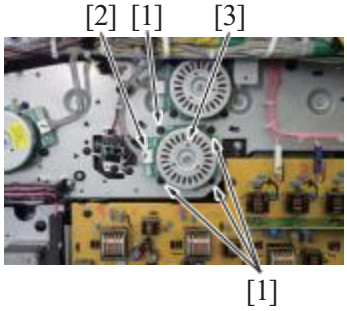


11. Disconnect the connector [1].
12. Remove two screws [2], and remove the ADU transport motor/2 [3].

13. To reinstall, reverse the order of removal.

5.4.21 Developing motor (M27)

1. Remove the lower rear cover.
F.5.1.24 Lower rear cover
2. Remove the right rear cover.
F.5.1.18 Right rear cover
3. Open the PWB box.
F.5.2.11 How to open the PWB box



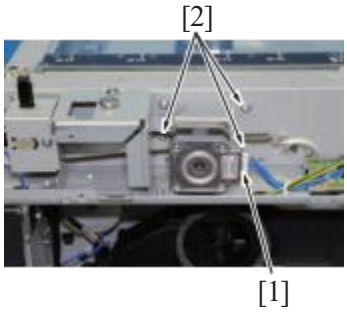
4. Remove four screws [1]. Disconnect the connector [2], and remove the developing motor [3].
NOTE
- **Remove/install holding the plate part of the motor.**

5. To reinstall, reverse the order of removal.

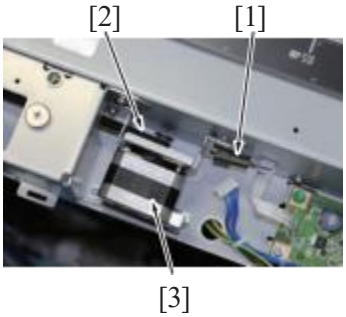
5.4.22 Scanner motor (M201)

(1) Removal procedure

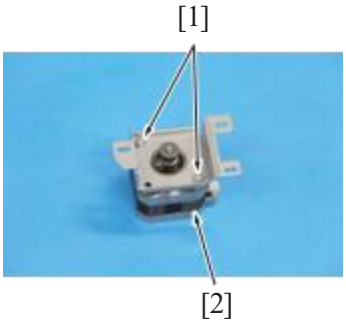
1. Remove the lower rear cover. (CM605/CM805)
F.5.1.24 Lower rear cover
2. Remove the duct cover.
F.5.1.20 Duct cover
3. Remove the upper right rear cover. (CM605/CM805)
F.5.1.22 Upper right rear cover
5. Remove the scanner right cover.
F.5.1.1 Scanner right cover
6. Remove the scanner upper rear cover.
F.5.1.4 Scanner upper rear cover



7. Disconnect the connector [1], and remove three screws [2].

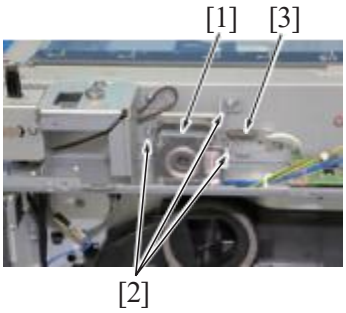


8. Remove the spring [1] and the belt [2], and remove the scanner motor assy [3].



9. Remove two screws [1], and remove the scanner motor [2].

(2) Reinstall procedure



1. Attach the spring [3] to the scanner motor assy [1].
2. Temporarily secure the scanner motor assy [1] with three screws [2].

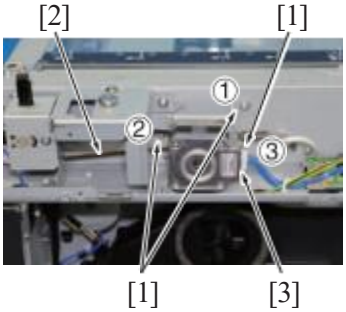
NOTE

- **The screws [2] should be temporarily tightened to a degree that the position of the motor can be adjusted by the spring force.**
- **When installing the scanner motor, make sure that the scanner motor is disconnected with the connector.**

3. Attach the drive belt [2] to the pulley [1] and the gear of scanner motor.
4. Move the scanner motor assy [3] in the direction shown in the illustration for two to three times, then make sure that it runs smoothly.

NOTE

- **Make sure that the drive belt [2] is properly kept tight by the spring [4] force.**
- **If the deflection or tension of the drive belt [2] is excessive, the scanner unit does not work correctly. This may result in trouble.**
- **Make sure that the drive belt [2] is attached to the pulley [1] correctly.**



5. Tighten three screws [1] in the order shown in the illustration to fix the scanner motor assy.

NOTE

- **When tightening the screw [1], make sure that the scanner motor assy is not touched.**
- **After securing the scanner motor assy, check again that the deflection and tension of the drive belt [2] are not excessive.**

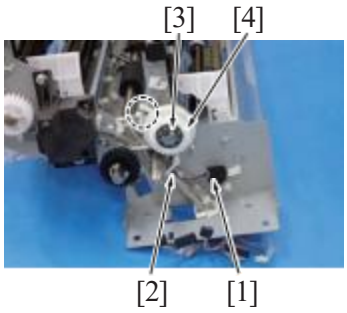
6. Connect the connector [3] to the scanner motor.
7. Perform the adjustment from [Service Mode] -> [Machine] -> [Scan Area] -> [Main Scan Zoom Adj.].

5.5 Clutches

5.5.1 Tray 2 paper feed clutch (CL1)

<CM605/CM805>

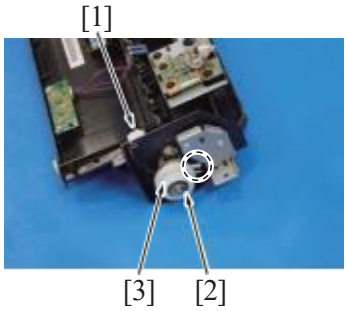
1. Remove the paper feed unit.
   F.5.2.4 Paper feed unit



2. Disconnect the connector [1]. Remove the harness from the wire saddle [2].
3. Remove the E-ring [3], and remove the tray 2 paper feed clutch [4].
   NOTE
   - **When mounting the tray 2 paper feed clutch, set the convex part of the stopper into the concave part of the tray 2 paper feed clutch [4].**
4. To reinstall, reverse the order of removal.

5.5.4 Registration clutch (CL4) (CM605)

1. Remove the waste toner transport unit/waste toner box.
   F.5.2.1 Waste toner transport unit/waste toner box
2. Remove the transfer belt unit.
   E.3.1.9 Replacing the transfer belt unit
3. Remove the front lower cover.
   F.5.1.14 Front lower cover
4. Remove the transport unit.
   F.5.2.13 Transport unit (CM805) F.5.2.14 Transport unit (CM605)

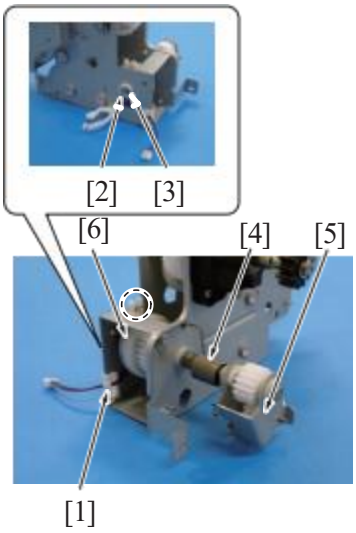


5. Disconnect the connector [1]. Remove the E-ring [2], and remove the registration clutch [3].
NOTE
- **When mounting the registration clutch, set the convex part of the stopper into the concave part of the registration clutch [3].**

6. To reinstall, reverse the order of removal.

5.5.5 1st transfer pressure clutch (CL5)

1. Remove the fusing drive unit.
F.5.2.15 Fusing drive unit

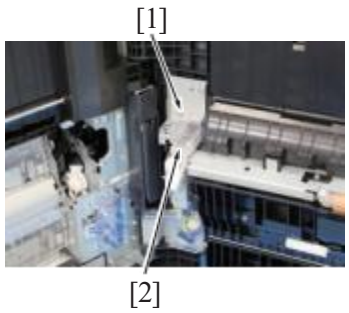


2. Remove the harness from the edge cover [1]. Remove the E-ring [2] and bushing [3]. Remove the spring [4], remove the gear assy [5], and remove the 1st transfer pressure clutch [6].
NOTE
- **When mounting the 1st transfer pressure clutch, set the convex part of the stopper into the concave part of the 1st transfer pressure clutch [6].**

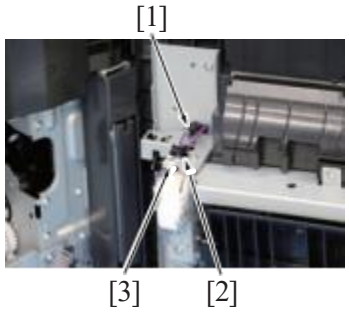
3. To reinstall, reverse the order of removal.

5.5.7 Bypass tray paper feed clutch (CL7)

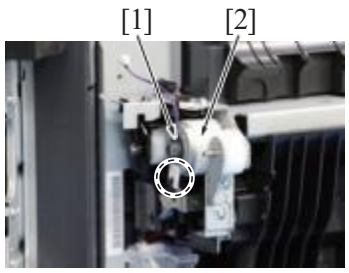
1. Open the right door.
2. Open theregist unit.



3. Remove the screw [1], and remove the connector cover [2].



4. Disconnect the connector [1], and remove the harness from the harness guide [2] and the edge cover [3].



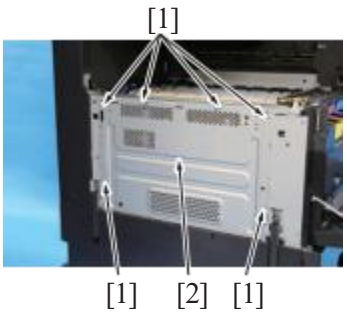
5. Remove the E-ring [1], and remove the bypass tray paper feed clutch [2].
   NOTE
   - **When mounting the bypass tray paper feed clutch, set the convex part of the stopper into the concave part of the bypass tray paper feed clutch [2].**

6. To reinstall, reverse the order of removal.

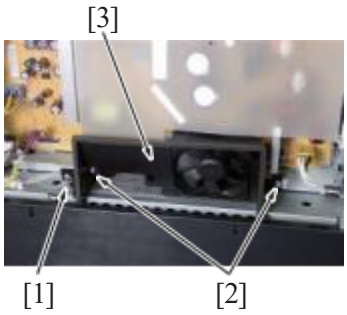
5.6 Fans

5.6.1 PH/power supply cooling fan (FM1)

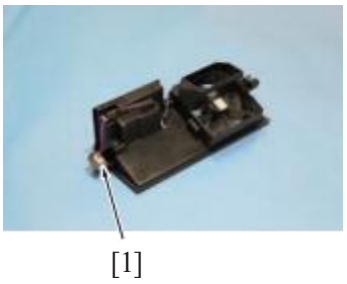
1. Remove the left cover.
   F.5.1.16 Left cover
2. Remove the paper exit cover.
   F.5.1.17 Paper exit cover



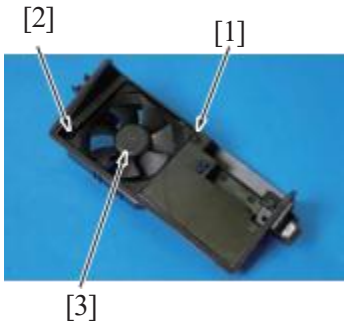
3. Remove six screws [1], and remove the DC power supply protective shield [2].



4. Disconnect the connector [1].
5. Remove two screws [2], and remove the PH/power supply cooling fan assy [3].



6. Disconnect the connector [1], and remove the harness from the harness guide.

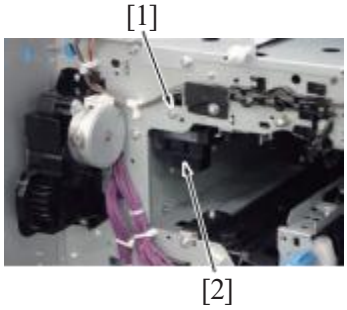


7. Remove the screw [1]. Unhook the tab [2], and remove the PH/power supply cooling fan [3].

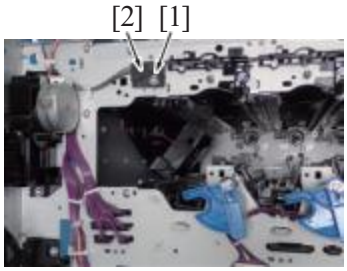
9. To reinstall, reverse the order of removal.

5.6.2 Transfer belt cleaner cooling fan (FM2)

1. Remove the DC power supply.
   F.5.3.13 DC power supply (DCPU) (CM805) F.5.3.14 DC power supply (DCPU) (CM605)
2. Remove the transfer belt unit.
   E.3.1.9 Replacing the transfer belt unit
3. Remove the sub hopper unit.
   F.5.2.6 Sub hopper unit

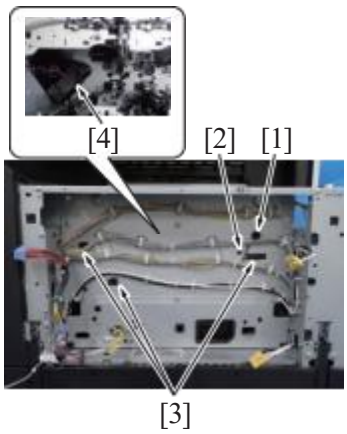


4. Remove the screw [1], and remove the waste toner pipe [2].

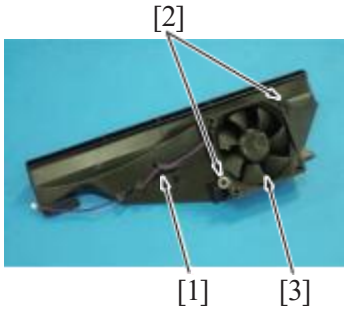


5. Remove the screw [1], and remove the cover [2].

6. Remove the rail [1].
NOTE
- **When installing, insert the tip of the rail into the position shown in the illustration.**



7. Disconnect the connector [1].
8. Remove the screw [2].
9. Release three tabs [3], and remove the transfer belt cleaner cooling fan assy [4].



10. Remove the harness from the harness guide [1].
11. Remove two screws [2], and remove the transfer belt cleaner cooling fan [3].

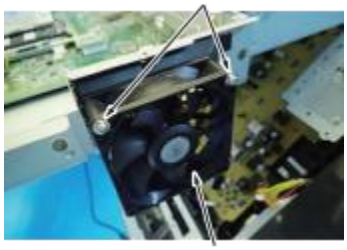
12. To reinstall, reverse the order of removal.

5.6.3 Rear side cooling fan (FM3)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box

4. Remove the harness from the wire saddle [1], and disconnect the connector [2].

[1]

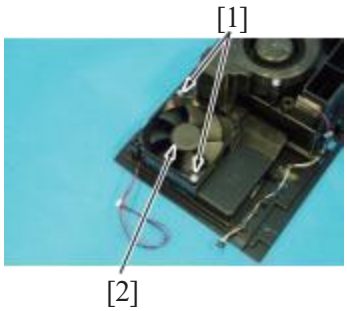


5. Remove two screws [1], and remove the rear side cooling fan [2].

6. To reinstall, reverse the order of removal.

5.6.4 Toner cartridge cooling fan (FM4)

1. Remove the fan assy.
   F.5.2.21 Fan assy

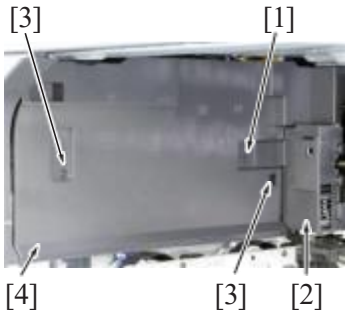


2. Remove two screws [1], and remove the toner cartridge cooling fan [2].

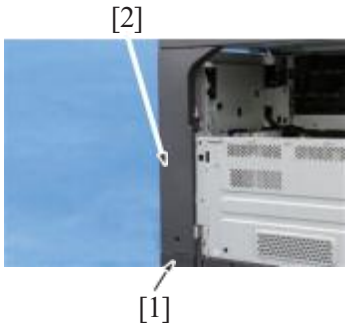
3. To reinstall, reverse the order of removal.

5.6.5 HaCS power supply cooling fan (FM5) (CM805)

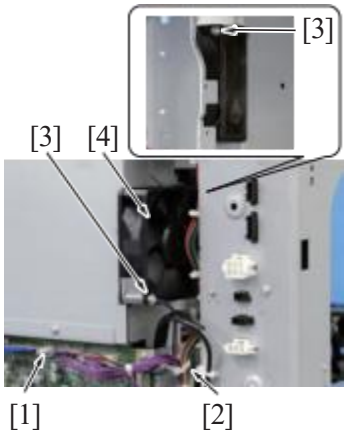
1. Open the upper front door.
2. Open the lower front door.
3. Remove the left cover.
   F.5.1.16 Left cover
4. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
5. Remove the duct cover.
   F.5.1.20 Duct cover
6. Remove the DF cable cover.
   F.5.1.19 DF cable cover
7. Remove the upper right rear cover.
   F.5.1.22 Upper right rear cover



8. Remove the screw [1], and remove the cover [2].
9. Remove two screws [3], and remove the cover [4].



10. Remove the screw [1], and remove the cover [2].



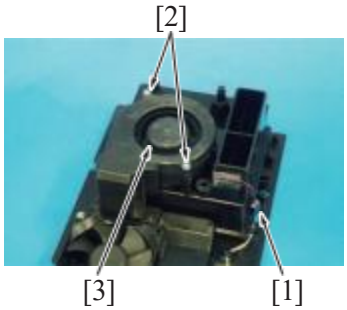
11. Disconnect the connector [1], and remove the harness from the wire saddle [2].
12. Remove two screws [3], and remove the HaCS power supply cooling fan [4].

13. To reinstall, reverse the order of removal.

5.6.6 Paper cooling fan (FM8)

<CM605/CM805>

1. Remove the fan assy.
F.5.2.21 Fan assy



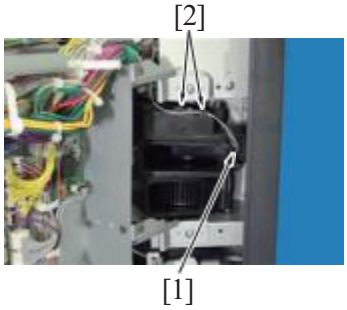
2. Disconnect the connector [1]. Remove two screws [2], and remove the paper cooling fan [3].

3. To reinstall, reverse the order of removal.

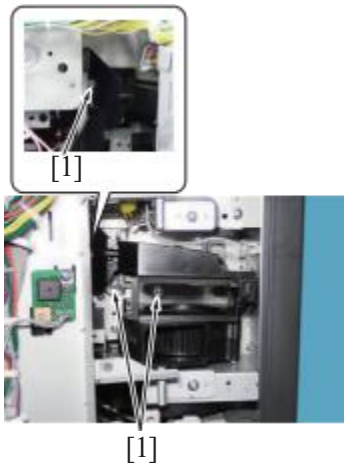
5.6.7 Toner suction fan (FM11)

NOTE
- **This part may not be available depending on the production timing. (North America of CM605 only)**

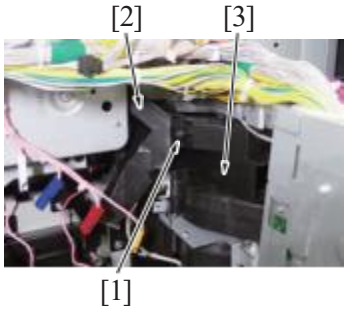
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Open the PWB box.
   F.5.2.11 How to open the PWB box
3. Remove the high voltage unit.
   F.5.3.12 High voltage unit (HV)



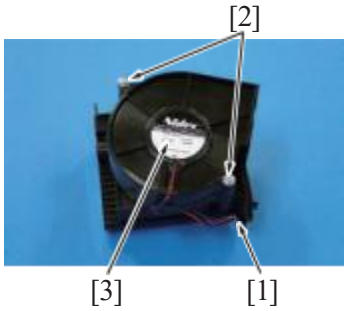
4. Disconnect the connector [1], and remove the harness from two harness guides [2].



5. Remove three screws [1].



6. Remove the screw [1], and remove the duct [2]. Remove the toner suction fan assy [3].

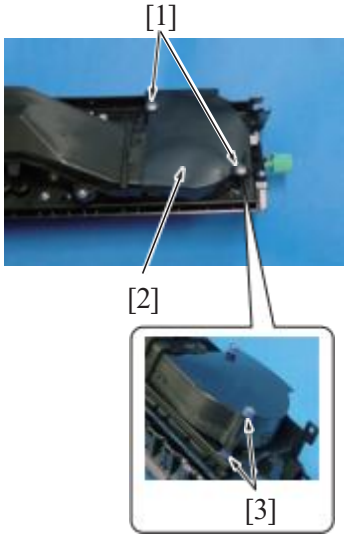


7. Disconnect the connector [1]. Remove two screws [2], and remove the toner suction fan [3].

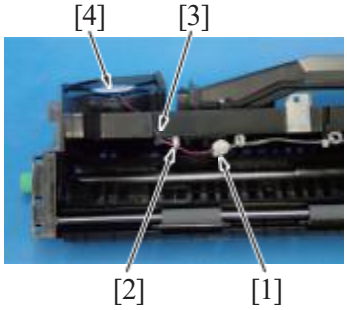
8. To reinstall, reverse the order of removal.

5.6.8 UFP scavenging fan/Fr (FM17)

1. Remove the ADU transport unit.
F.5.2.17 ADU transport unit



2. Remove two screws [1], and remove the film [2].
NOTE
- **When attaching the film [2], set the rubber [3] to each of the upper and lower sides as shown in the illustration.**

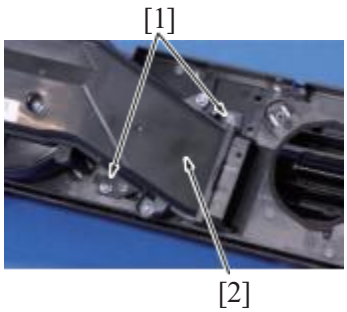


3. Disconnect the connector [1], remove the harness from the wire saddle [2] and harness guide [3], and remove the UFP scavenging fan/Fr [4].

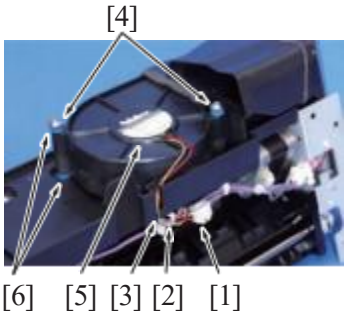
4. To reinstall, reverse the order of removal.

5.6.9 UFP scavenging fan/Rr (FM18) (CM805)

1. Remove the ADU transport unit.
F.5.2.17 ADU transport unit
2. Remove the UFP scavenging fan/Fr.
F.5.6.8 UFP scavenging fan/Fr (FM17)



3. Remove two screws [1], and remove the duct [2].



4. Disconnect the connector [1], and remove the harness from the wire saddle [2] and harness guide [3].
5. Remove two screws [4], and remove the UFP scavenging fan/Rr [5].

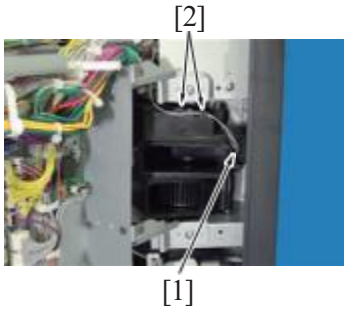
NOTE

- **When attaching the UFP scavenging fan/Rr [5], set the rubber [6] to each of the upper and lower sides as shown in the illustration.**

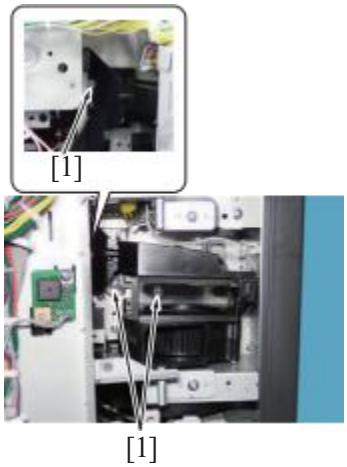
6. To reinstall, reverse the order of removal.

5.6.10 DV cooling fan (FM19)

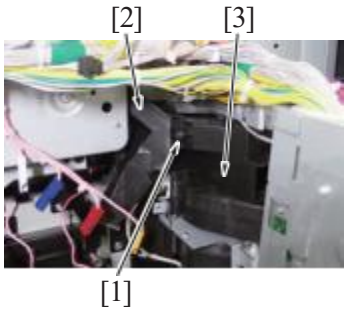
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Open the PWB box.
   F.5.2.11 How to open the PWB box
3. Remove the high voltage unit.
   F.5.3.12 High voltage unit (HV)



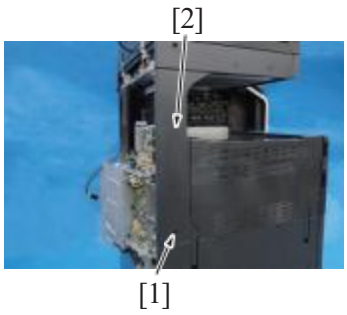
4. Disconnect the connector [1], and remove the harness from two harness guides [2].



5. Remove three screws [1].

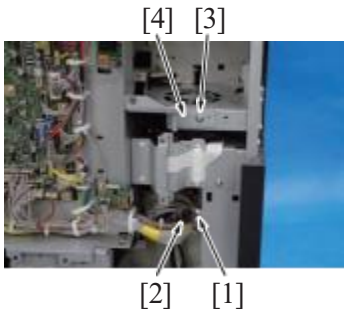


6. Remove the screw [1], and remove the duct [2]. Remove the toner suction fan assy [3].

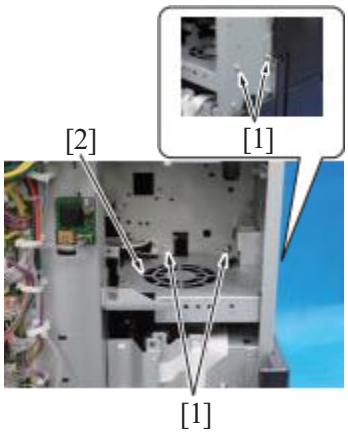


7. Remove the screw [1], and remove the cover [2].

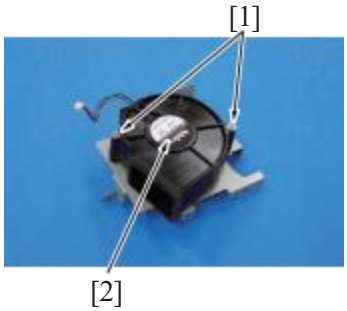
8. Close the PWB box.



9. Remove the harness from the wire saddle [1], and disconnect the connector [2].
10. Remove the screw [3], and remove the shaft [4] of the board box.



11. Remove four screws [1], and remove the DV cooling fan assy [2].

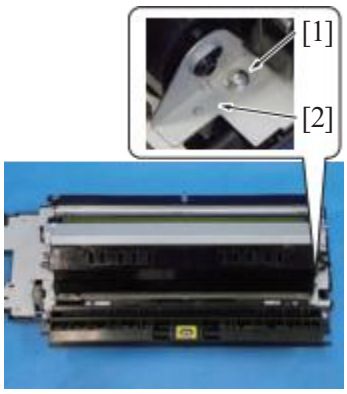


12. Remove two screws [1], and remove the DV cooling fan [2].

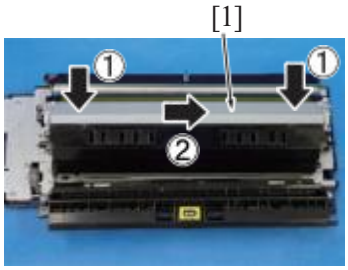
13. To reinstall, reverse the order of removal.

5.6.11 Fusing edge cooling fan/Fr (FM21) (CM805)

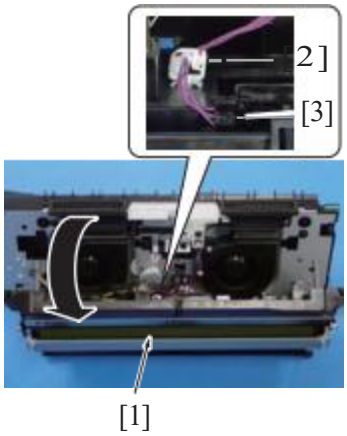
1. Remove theregist unit.
F.5.2.9 Regist unit (CM805)



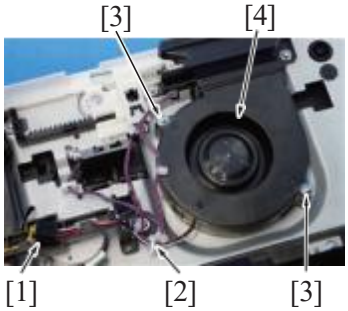
2. Remove the screw [1], and remove the plate [2].



3. While pressing the 2nd transfer assy [1] on from the top, slide it to the right to unlock it.



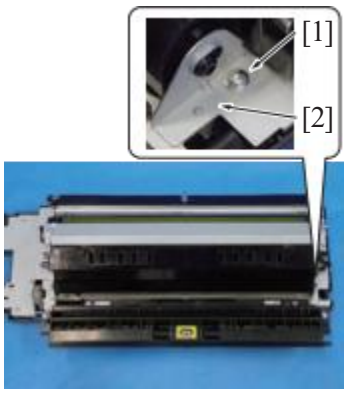
4. Slowly open the 2nd transfer assy [1].
5. Remove the harness from the wire saddle [2], and disconnect the connector [3].
6. Remove the 2nd transfer assy [1].



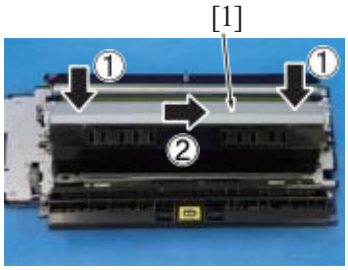
7. Disconnect the connector [1], and remove the harness from the wire saddle [2].
8. Remove two screws [3], and remove the fusing edge cooling fan/Fr [4].
9. To reinstall, reverse the order of removal.

5.6.12 Fusing edge cooling fan/Rr (FM22) (CM805)

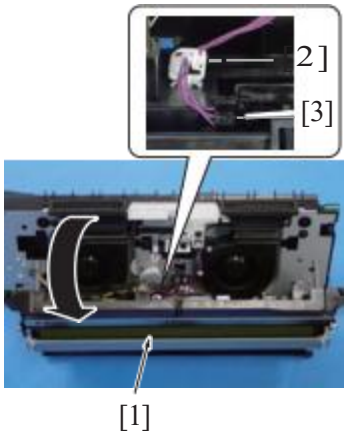
1. Remove theregist unit.
F.5.2.9 Regist unit (CM805)



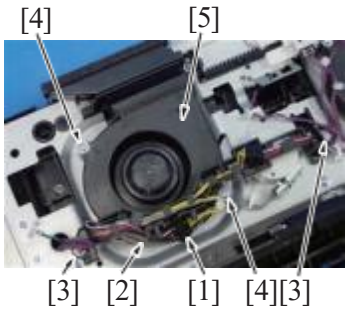
2. Remove the screw [1], and remove the plate [2].



3. While pressing the 2nd transfer assy [1] on from the top, slide it to the right to unlock it.



4. Slowly open the 2nd transfer assy [1].
5. Remove the harness from the wire saddle [2], and disconnect the connector [3].
6. Remove the 2nd transfer assy [1].

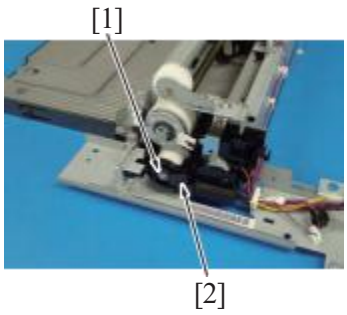


7. Disconnect the connector [1], and remove the harness from the harness guide [2].
8. Remove two screws [3], and move the harness guide [2].
9. Remove two screws [4], and remove the fusing edge cooling fan/Rr [5].
10. To reinstall, reverse the order of removal.

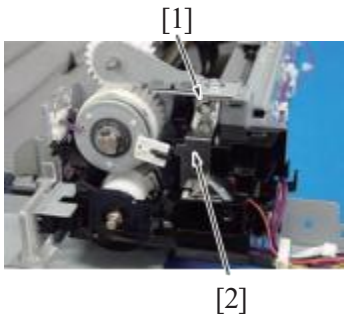
5.7 Others

5.7.1 Bypass tray lift-up solenoid (SD1)

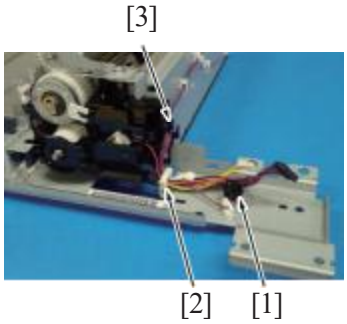
1. Remove the manual bypass tray unit.
F.5.2.8 Manual bypass tray unit



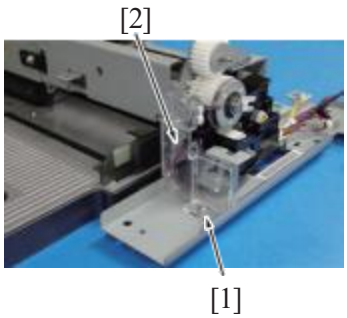
2. Remove the E-ring [1], and remove the actuator [2].



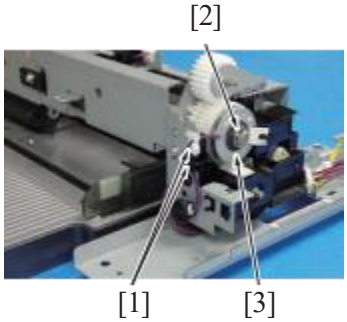
3. Remove the screw [1], and remove the plate [2].



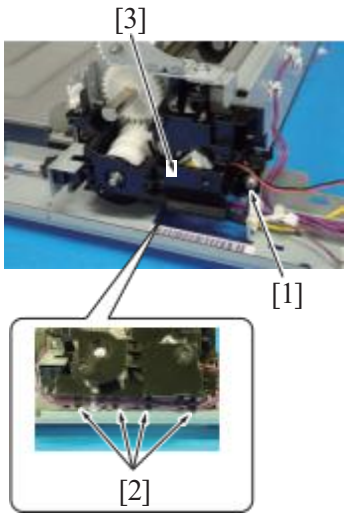
4. Disconnect the connector [1], and remove the harness from the edge cover [2].
5. Remove the harness from the harness guide [3].



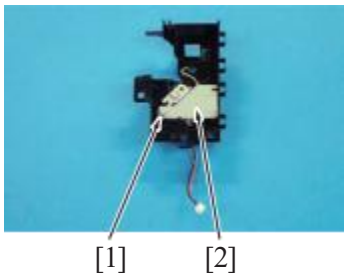
6. Remove the screw [1], and remove the cover [2].



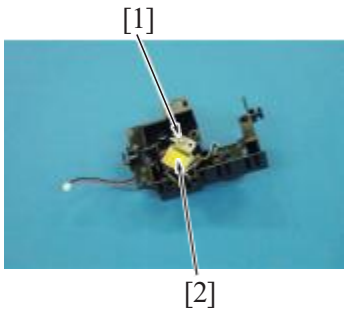
7. Remove the harness from two harness guides [1]. Remove the E-ring [2], and evacuate the bypass tray paper feed clutch [3].



8. Remove the screw [1], and remove the bypass tray lift-up solenoid assy [3] while removing the harness from four harness guides [2].



9. Remove the screw [1], and remove the plate [2].

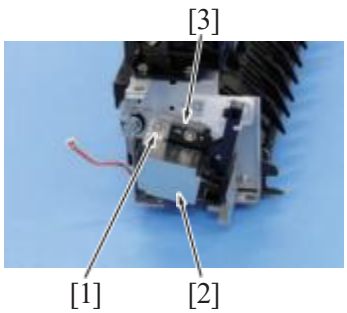


10. Remove the screw [1], and remove the bypass tray lift-up solenoid [2].

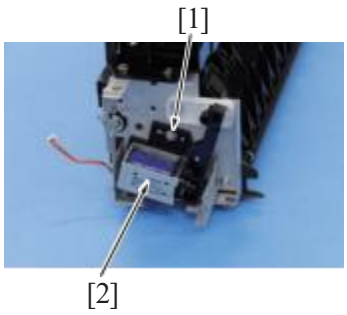
11. To reinstall, reverse the order of removal.

5.7.2 Exit path switch solenoid (SD3)

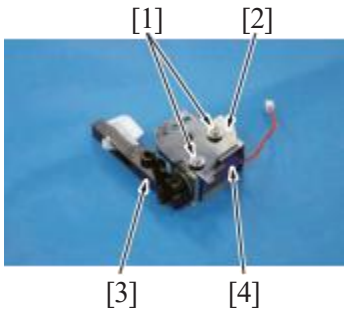
1. Remove the gate switch unit.
F.5.2.20 Gate switch unit (CM605/CM805)



2. Remove the screw [1], and remove the plate [2]. Remove the spring [3].



3. Remove the screw [1], and remove the exit path switch solenoid assy [2].

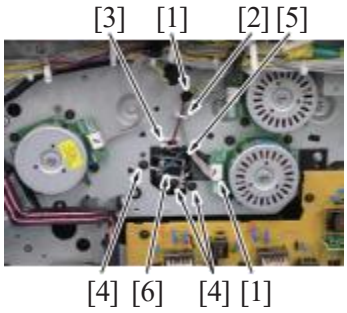


4. Remove two screws [1], and remove the cover [2]. Remove the actuator [3], and remove the exit path switch solenoid [4].

5. To reinstall, reverse the order of removal.

5.7.3 Developing solenoid (SD4)

1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover
2. Remove the right rear cover.
   F.5.1.18 Right rear cover
3. Open the PWB box.
   F.5.2.11 How to open the PWB box

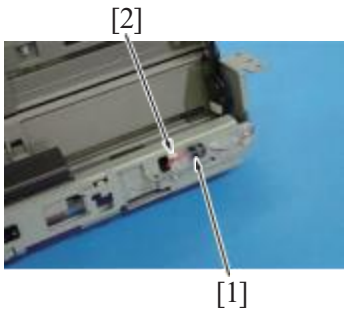


4. Disconnect two connectors [1], and remove the harness from the wire saddle [2] and the edge cover [3].
5. Remove three screws [4]. Remove the harness and ground wire from the harness guide [5], and remove the developing solenoid [6].

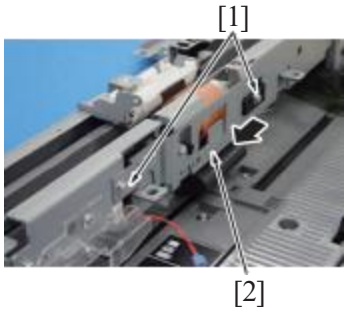
6. To reinstall, reverse the order of removal.

5.7.4 Bypass tray pick-up roller solenoid (SD6)

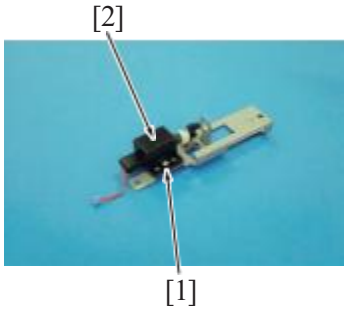
1. Remove the manual bypass tray unit.
   F.5.2.8 Manual bypass tray unit



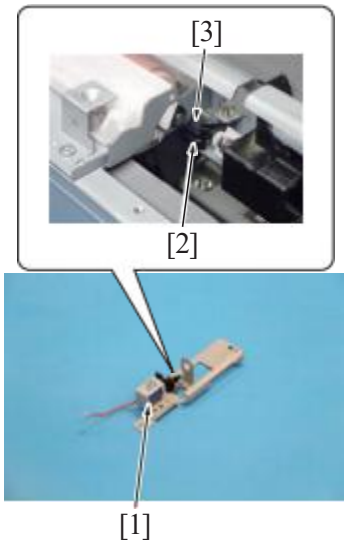
2. Disconnect the connector [1], and remove the harness from the harness guide [2].



3. Remove two screws [1] and remove the bypass tray pick-up roller solenoid assy [2].



4. Remove the screw [1], and remove the cover [2].

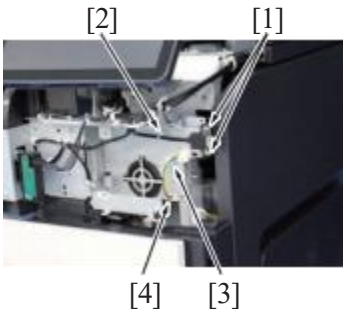


5. Remove the bypass tray pick-up roller solenoid [1].
NOTE
- **Install the bypass tray pick-up roller solenoid, so that the tab [2] is in a position under the bypass tray pick-up roller cover [3].**

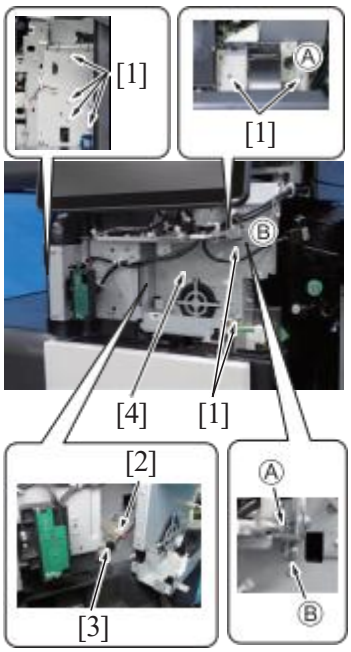
6. To reinstall, reverse the order of removal.

5.7.5 FAX speaker (SP1)

1. Remove the control panel upper cover.
   F.5.1.5 Control panel upper cover
2. Remove the control panel front cover.
   F.5.1.6 Control panel front cover
3. Remove the control panel right cover.
   F.5.1.7 Control panel right cover
4. Remove the control panel left cover/1.
   F.5.1.8 Control panel left cover/1



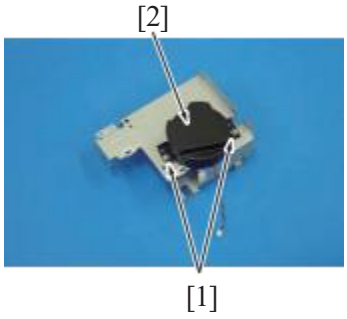
5. Remove two screws [1]. Remove the cable from the wire saddle [2]. Remove the wire saddle [3], and remove the harness from the harness guide [4].



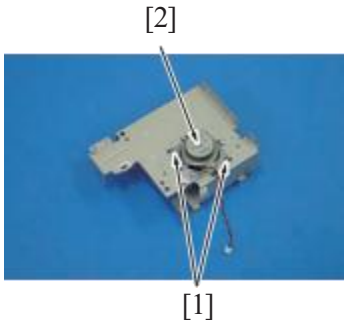
6. Remove eight screws [1].
7. Remove the harness from the wire saddle [2], and disconnect the connector [3]. Remove the FAX speaker assy [4].

NOTE

- **When removing the FAX speaker assy, make sure to remove the screw [A] first.**
- **When installing the FAX speaker assy, make sure to install the screw [B] first.**



8. Remove two screws [1], and remove the cover [2].



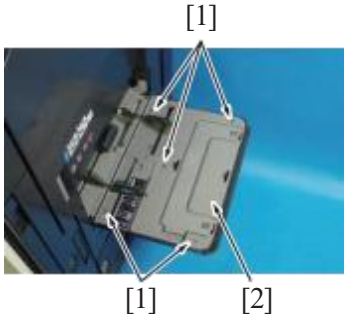
9. Remove two screws [1], and remove the FAX speaker [2].

10. To reinstall, reverse the order of removal.

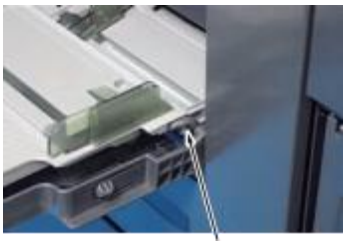
5.7.6 Bypass tray CD paper size VR (VR1)

(1) Removal procedure

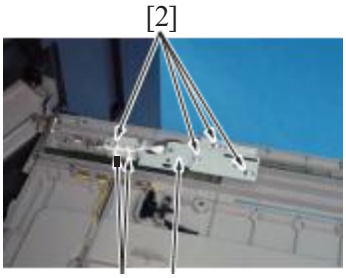
1. Open the manual bypass tray.



2. Remove five screws [1], and remove the cover [2].

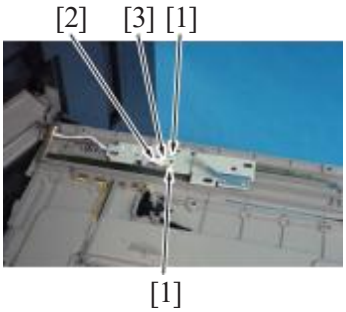


3. Remove the harness from the harness guide [1].



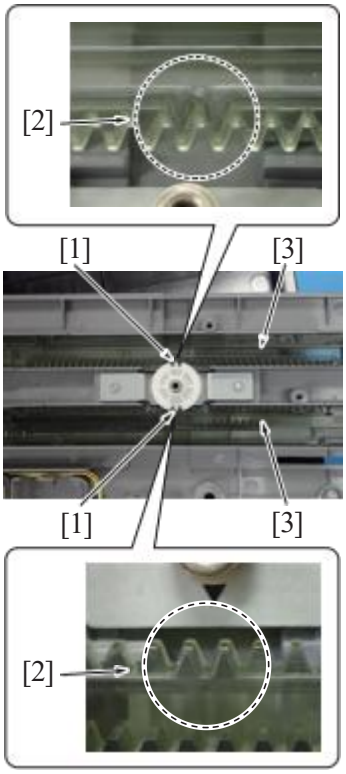
4. Remove the harness from two wire saddles [1].
5. Remove four screws [2], and remove the bypass tray CD paper size VR assy [3].

6. Remove the gear [1].

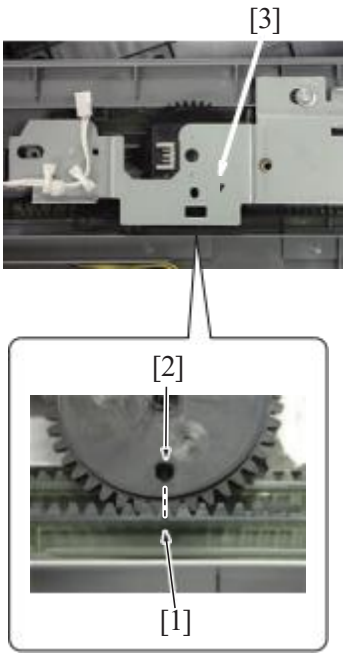


7. Remove two screws [1].
8. Disconnect the connector [2], and remove the bypass tray CD paper size VR [3].

(2) Reinstall procedure



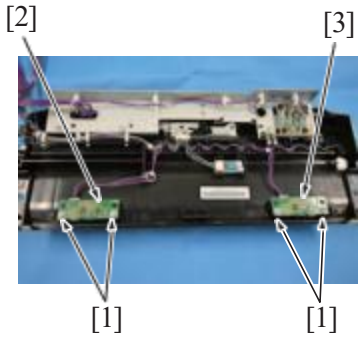
1. Align the match mark [2] on the bypass guide rack gear with two gear ribs [1], and install two bypass guide rack gears [3].



2. When installing the bypass tray CD paper size VR assy [3], make sure that the concavity [1] on the bypass guide rack gear and the gear hole [2] on the bypass tray CD paper size VR assy are placed in a straight line.
3. Secure the bypass tray CD paper size VR assy with four screws.
4. To reinstall, reverse the order of removal.
5. After the bypass tray CD paper size VR base has been mounted, check that the lever of the bypass tray CD paper size VR moves smoothly in a manner operatively connected to the bypass guide.

5.7.7 IDC sensor

1. Remove the transport unit.
   F.5.2.13 Transport unit (CM805) F.5.2.14 Transport unit (CM605)



2. Remove four screws [1], and remove the IDC sensor/Fr [2] and IDC sensor/Rr [3].

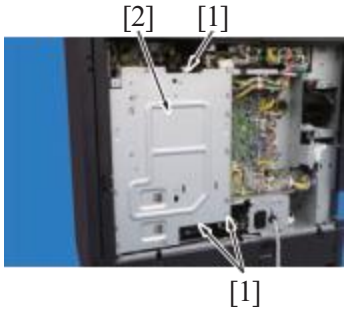
3. To reinstall, reverse the order of removal.

5.7.8 Coin battery

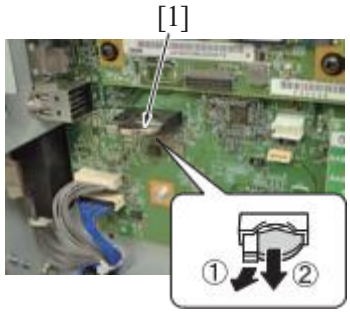
NOTE

- **When replacing the coin battery, be sure to use our specified coin battery (CR2032) (authorized with UL1642). Installing batteries other than the same type or equivalent may cause leakage of the battery fluid.**
- **Before replacing the coin battery, be sure to check "F.3.1 Removal/installing of boards."**

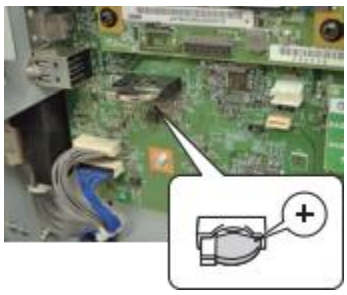
1. Remove the lower rear cover.
   F.5.1.24 Lower rear cover



2. Remove three screws [1], and remove the plate [2].



3. Remove the coin battery [1].



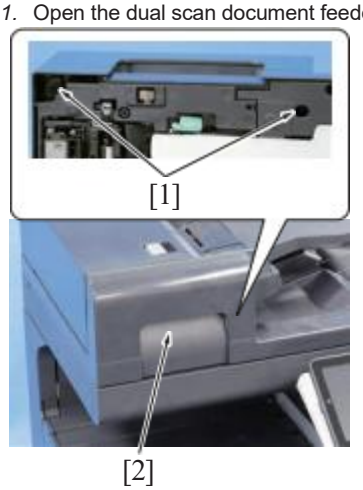
4. **NOTE**
   - **Install a new coin battery with the + side facing up.**

5. To reinstall, reverse the order of removal.

6. DF-713

6.1 Front cover (DF-713)

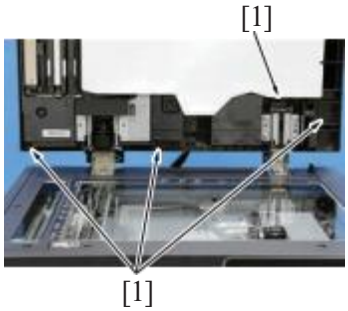
1. Open the dual scan document feeder.



2. Remove two screws [1], and remove the front cover [2].
3. To reinstall, reverse the order of removal.

6.2 Rear cover (DF-713)

1. Open the dual scan document feeder.

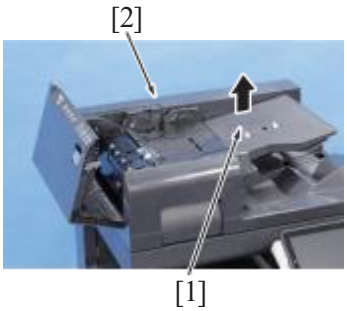


2. Remove four screws [1].

NOTE

- **If the dual scan document feeder is set to be lifted up at angles up to 60 degrees due to the set position of the stopper for the hinge, change the set position to the lower side so that the dual scan document feeder can be opened completely.**

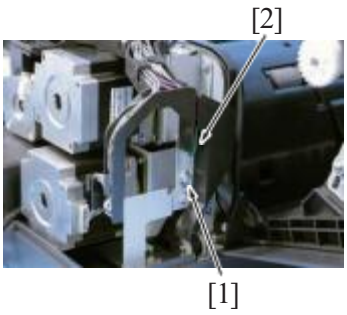
3. Open the left cover [1].



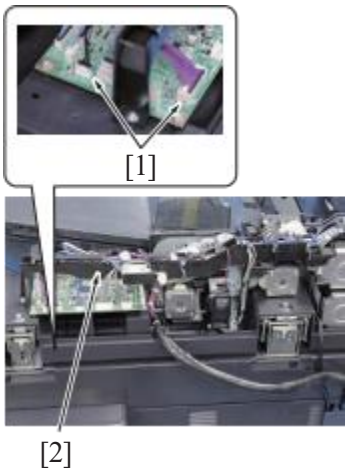
4. Slightly lift up the document feed tray [1].
5. Remove the rear cover [2].
6. To reinstall, reverse the order of removal.

6.3 Left cover unit (DF-713)

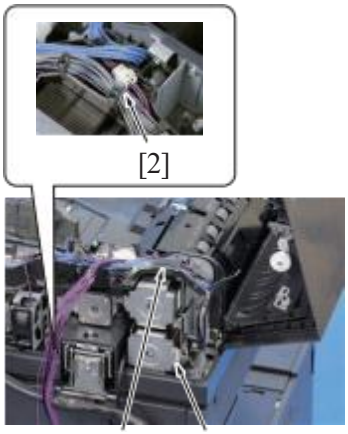
1. Remove the rear cover.
   F.6.2 Rear cover (DF-713)
2. Remove the front cover.
   F.6.1 Front cover (DF-713)



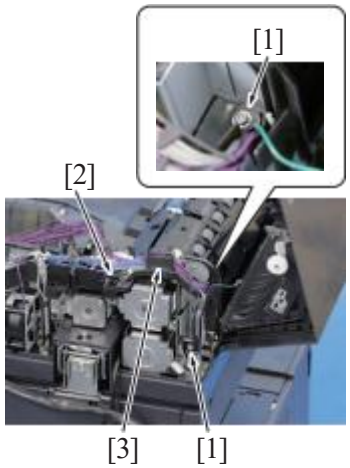
3. Remove the screw [1], and remove the ground earth [2] from the harness guide.



4. Disconnect two connectors [1], and remove the harness from the harness guide [2].

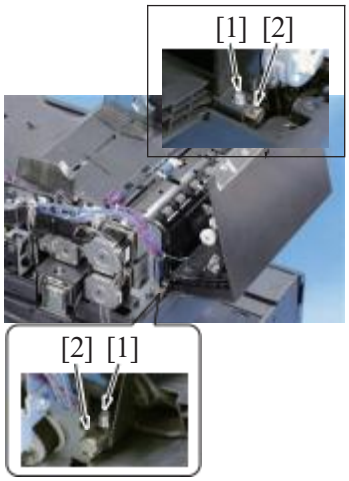


5. Remove the wire saddle [1], and disconnect two connectors [2].

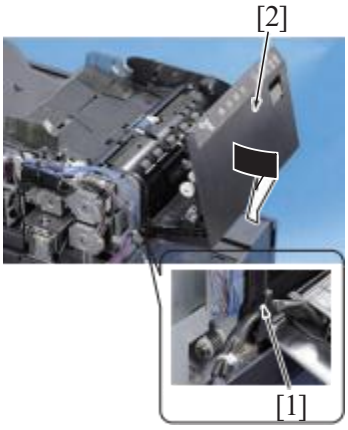


6. Remove two screws [1].
7. Unhook the tab [2], remove the harness from the harness guide [3], and remove the harness guide [3].

8. Remove two screws [1], and remove two shafts [2].



9. Remove the left cover unit [2] as shown in the illustration while pressing the harness into the hole [1] shown in the illustration.



10. To reinstall, reverse the order of removal.

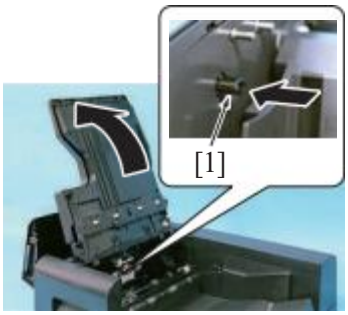
6.4 How to open the document feed tray (DF-713)

1. Open the left cover [1].

2. Lift up the document feed tray while pressing the document feed tray lock lever [1] in.

NOTE

- **Operation must be done while supporting the document feed tray to prevent it from being closed.**



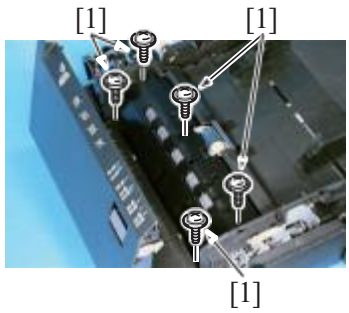
6.5 Stamp unit cover (DF-713)

1. Open the document feed tray.
   F.6.4 How to open the document feed tray (DF-713)

2. Remove the stamp unit cover [1], so that the bottom lock tabs [2] opens.

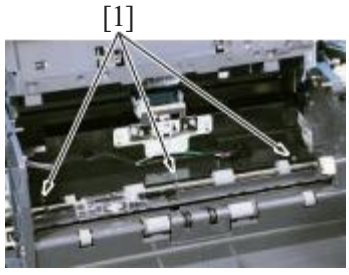
6.6 Lower guide assy (DF-713)

1. Remove the front cover.
   F.6.1 Front cover (DF-713)
2. Remove the rear cover.
   F.6.2 Rear cover (DF-713)

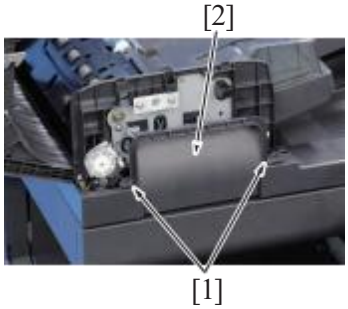


3. Remove five screws [1].

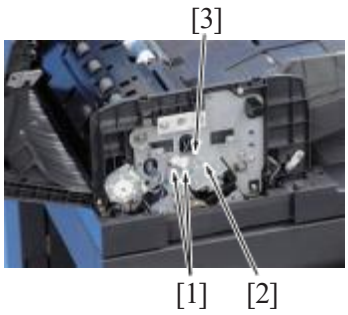
4. Open the document feed tray.
   F.6.4 How to open the document feed tray (DF-713)



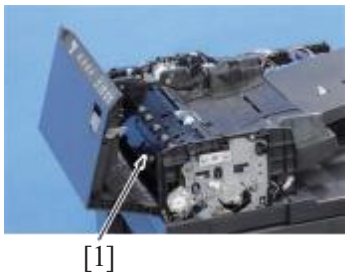
5. Remove three screws [1].



6. Remove two screws [1], and remove the cover [2].



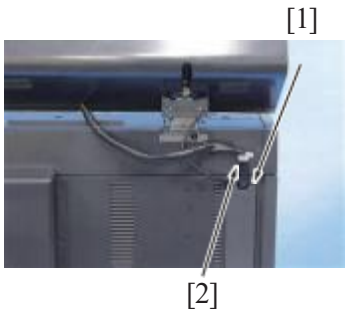
7. Disconnect two connectors [1], remove the screw [2], and disconnect the ground wire [3].



8. Remove the lower guide assy [1].

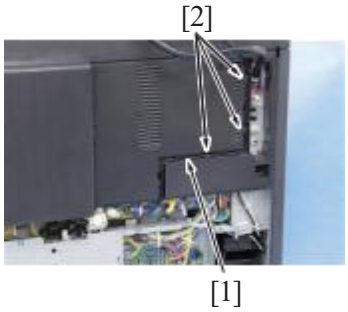
9. To reinstall, reverse the order of removal.

6.7 Dual scan document feeder (DF-713)

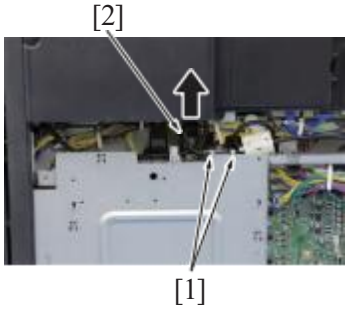


1. Remove the screw [1], and remove the cable tie [2].

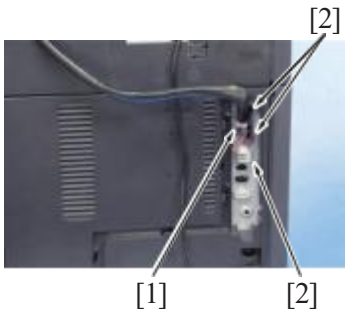
2. Remove the DF cable cover.
F.5.1.19 DF cable cover
3. Remove the lower rear cover.
F.5.1.24 Lower rear cover



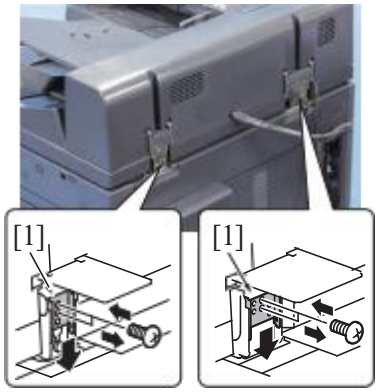
4. Remove the cable [1] from the cable guide [2].



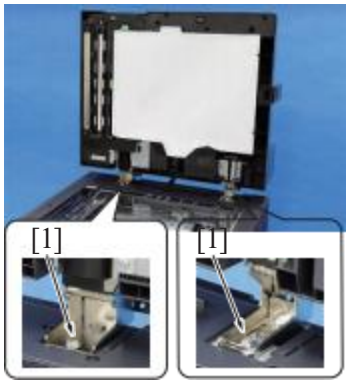
5. Remove the cable from two wire saddles [1], and disconnect the connector [2].



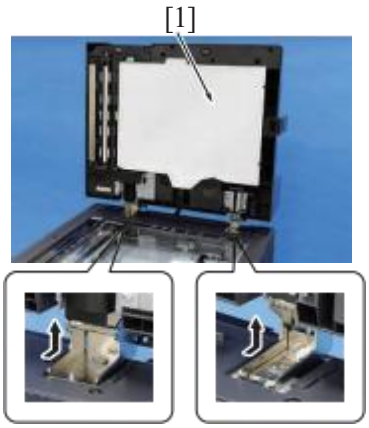
6. Remove the cable tie [1], and disconnect three connectors [2].



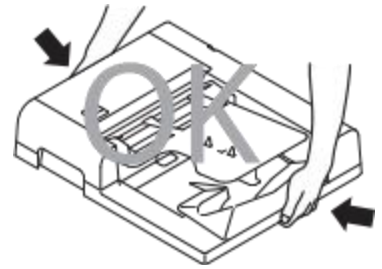
7. Change the set position of the hinge stopper [1] to the lower side.
NOTE
- **After you installed the dual scan document feeder, make sure to return the hinge stopper [1] to the original position.**

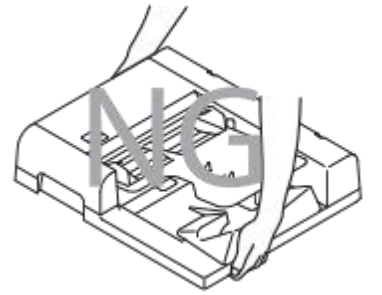


8. Open the dual scan document feeder at an angle up to 90 degrees.
9. Remove two screws [1].



10. Remove the dual scan document feeder [1].





11. **NOTE**

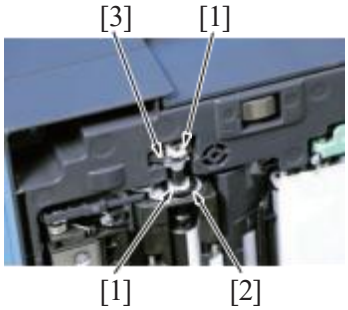
- **When carrying the dual scan document feeder, be sure to hold onto the specified positions. The feeder main body can be distorted if held at inappropriate positions.**
- **After removing the dual scan document feeder from the machine, place it on the floor or the like as shown in the illustration.**

12. To reinstall, reverse the order of removal.

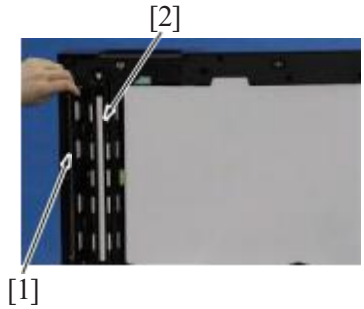
6.8 Front side glass cleaning roller unit (DF-713)

1. Open the dual scan document feeder.

2. Remove the C-clip [1] and the bushing [2].



3. Remove two C-clips [1], move the bushing [2], and remove the belt [3].



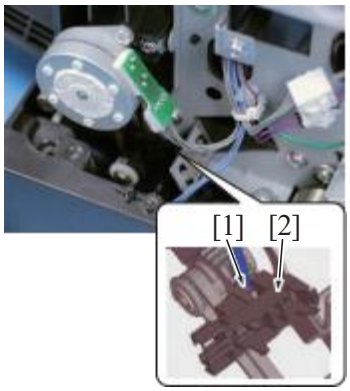
4. Remove the front side glass cleaning roller unit [2] while opening the pre-read sheet assy [1].

5. To reinstall, reverse the order of removal.

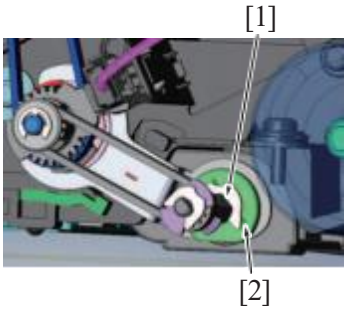
NOTE

- **When installing the front side glass cleaning roller unit, the following adjustment is necessary.**

1. **Adjust the actuator [1] so that it is positioned where it blocks the light of the document reading glass cleaning sensor [2], and install the belt.**

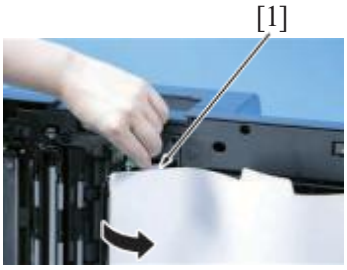


2. **Align the D cut surface [1] of the shaft with the lines [2] marked on the bushing.**

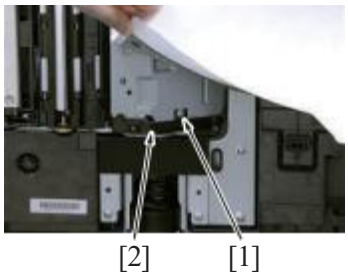


6.9 Back side glass cleaning roller unit (DF-713)

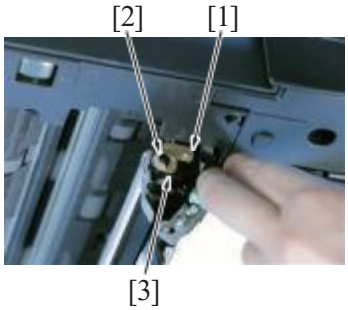
1. Open the dual scan document feeder.



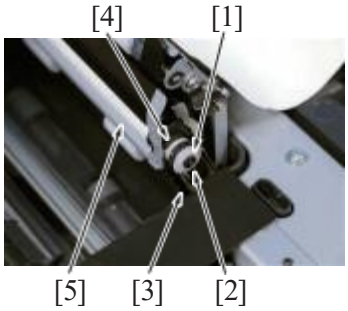
2. Open the opening and closing guide [1].



3. While peeling off the mat, remove the screw [1], and while opening the opening and closing guide, remove the cover [2].



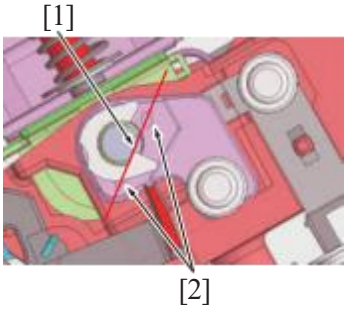
4. Remove the screw [1] and C-clip [2], and remove the bushing [3].



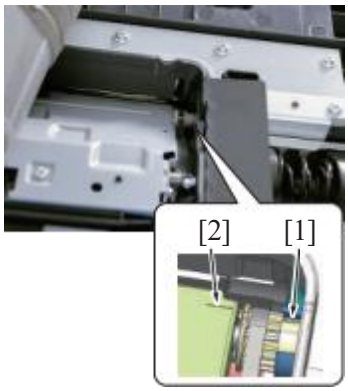
5. Remove the C-clip [1].
6. Remove the gear [2], and remove the belt [3].
7. Remove the bushing [4].
8. Remove the backside glass cleaning roller unit [5].
9. To reinstall, reverse the order of removal.

NOTE

- **When installing the back side glass cleaning roller unit, the following adjustment is necessary.**



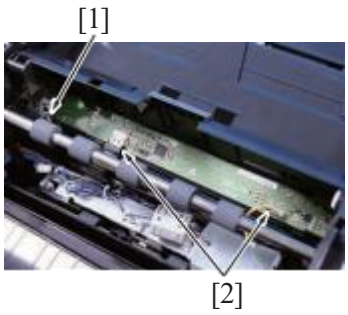
1. **Align the D cut surface [1] of the shaft with the lines [2] marked on the bushing.**



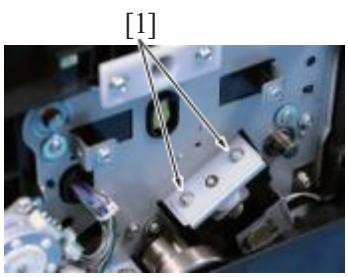
2. **When installing the belt, align the line [1] on the pulley and the line [2] on the transport guide.**

6.10 CIS module (CIS) (DF-713)

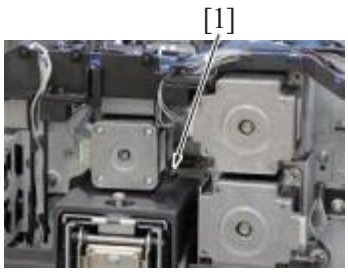
1. Remove the lower guide assy.
F.6.6 Lower guide assy (DF-713)



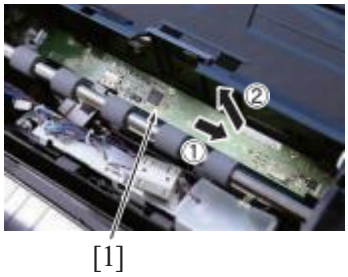
2. Remove the screw [1], and disconnect two connectors [2].



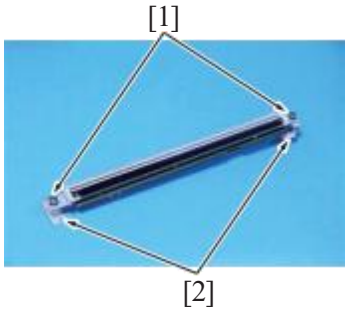
3. Remove two screws (front side) [1].



4. Remove the screw (rear side) [1].



5. Remove the CIS module [1] as shown in the illustration.



6. Remove the E-rings [1] on the right and left and remove the plates [2].

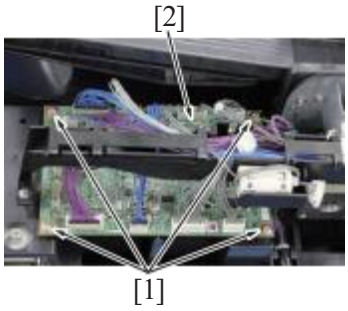
7. To reinstall, reverse the order of removal.

NOTE

- **Be sure to perform the following steps after the CIS module has been replaced with a new one.**
- **Adjust the back side skew feed on the dual scan document feeder.**

6.11 DF control board (DFCB) (DF-713)

1. Remove the rear cover.
   F.6.2 Rear cover (DF-713)



2. Disconnect all connectors from the board.
3. Remove four screws [1], and remove the DF control board [2].

4. To reinstall, reverse the order of removal.

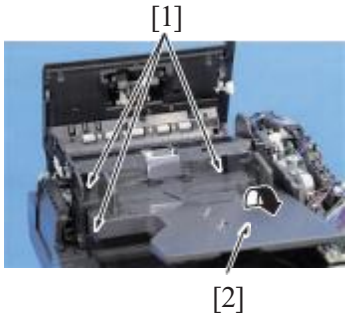
NOTE

- **Be sure to install the firmware after the DF control board has been replaced with a new one.**

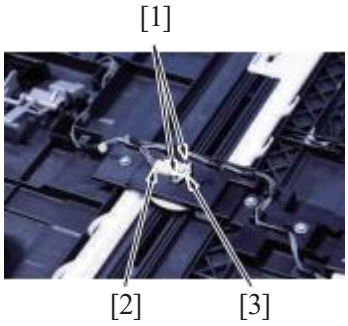
6.12 Document width size sensor (VR1) (DF-713)

1. Remove the front cover.
   F.6.1 Front cover (DF-713)
2. Remove the rear cover.

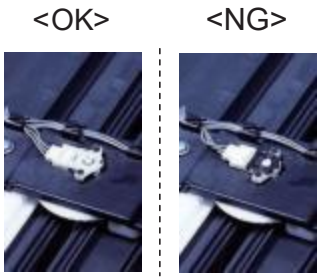
F.6.2 Rear cover (DF-713)



3. Unhook three tabs [1].
4. Rotate the document feed tray [2] to remove it.



5. Remove two screws [1], disconnect the connector [2], and remove the document width size sensor [3].



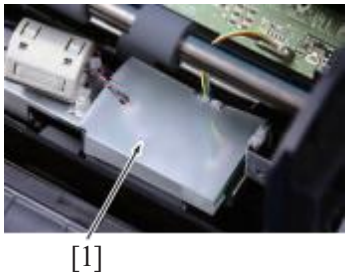
6. **NOTE**
   - **For mounting the document width size sensor, mount it in the direction shown on the illustration.**

7. To reinstall, reverse the order of removal.

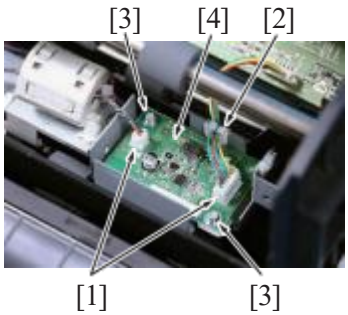
NOTE
- **Be sure to perform the following operation when the document width size sensor is replaced.**
- **Turn OFF the main power switch and turn it ON again and check whether size detection operates normally.**

6.13 CIS power supply (CISPU) (DF-713)

1. Remove the lower guide assy.
   F.6.6 Lower guide assy (DF-713)



2. Open the protective sheet [1].



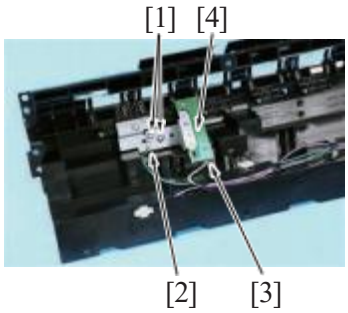
3. Disconnect two connectors [1].
4. Remove the harness from the edge cover [2].
5. Remove two screws [3], and remove the CIS power supply [4].

6. To reinstall, reverse the order of removal.

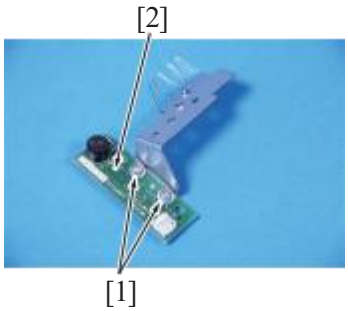
6.14 Multi feed detection board/TX (MFDB/TX) (DF-713)

NOTE
- **Replace the multi feed detection boards for transmission (MFDB/TX) and reception (MFDB/RX) together as a set.**
- **Check the DF firmware version and update it to the latest version.**

1. Remove the lower guide assy.
   F.6.6 Lower guide assy (DF-713)

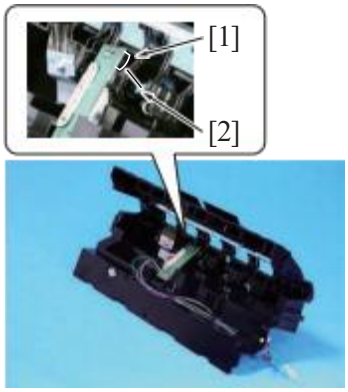


2. Remove two screws [1], and disconnect the ground wire [2].
3. Disconnect the connector [3] and remove the multi feed detection board/TX assy [4].



4. Remove two screws [1], and remove the multi feed detection board/TX [2].

5. To reinstall, reverse the order of removal.

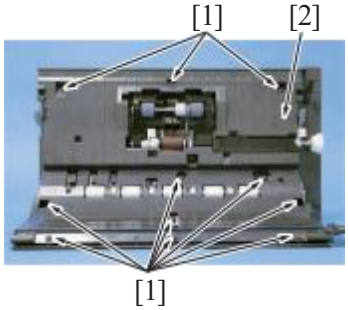


6. **NOTE**
   - **Install the board so that the sensor part [1] is engaged in the concave part [2].**

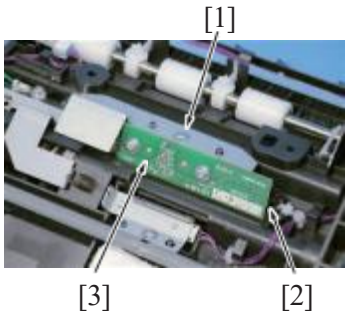
6.15 Multi feed detection board/RX (MFDB/RX) (DF-713)

NOTE
- **Replace the multi feed detection boards for transmission (MFDB/TX) and reception (MFDB/RX) together as a set.**
- **Check the DF firmware version and update it to the latest version.**

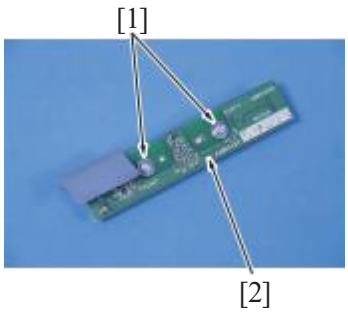
1. Remove the left cover unit.
   F.6.3 Left cover unit (DF-713)



2. Remove 11 screws [1], and remove the cover [2].

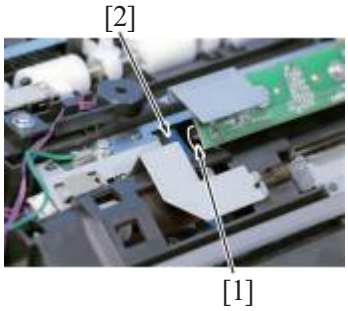


3. Remove the screw [1], disconnect the connector [2], and remove the multi feed detection board/RX assy [3].



4. Remove two screws [1], and remove the multi feed detection board/RX [2].

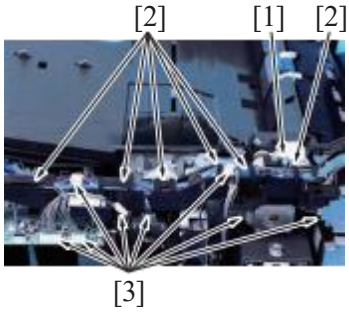
5. To reinstall, reverse the order of removal.



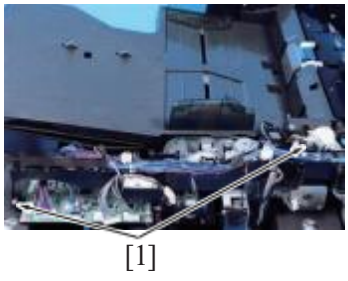
6. **NOTE**
   - **Install the board so that the sensor part [1] is engaged in the concave part [2].**

6.16 Document feed motor (M1) (DF-713)

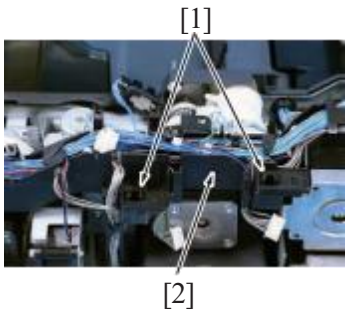
1. Remove the rear cover.
   F.6.2 Rear cover (DF-713)



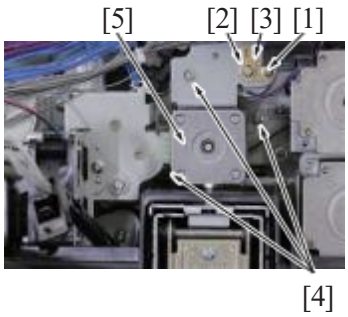
2. Remove the screw, and disconnect the ground wire [1].
3. Remove six wire saddles [2], and disconnect eight connectors [3].



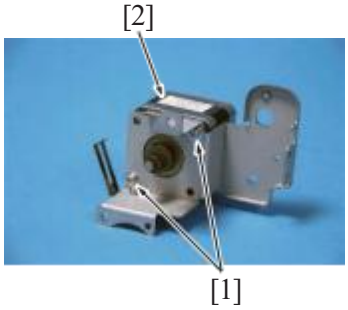
4. Remove two screws [1].



5. Unhook two tabs [1], remove the harness from the harness guide [2], and remove the harness guide [2].



6. Remove the screw [1], and remove the E-ring [2] and bushing [3].
7. Remove three screws [4], and remove the document feed motor assy [5].

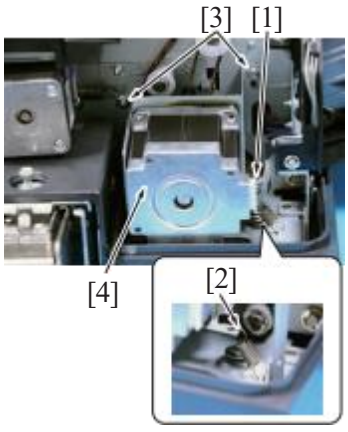


8. Remove two screws [1], and remove the document feed motor [2].

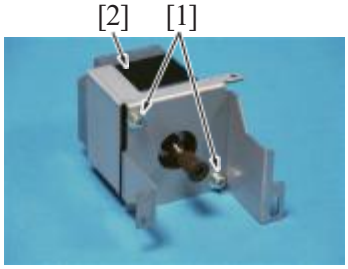
9. To reinstall, reverse the order of removal.

6.17 Document registration motor (M2) (DF-713)

1. Remove the rear cover.
   F.6.2 Rear cover (DF-713)
2. Remove the document reading motor.
   F.6.18 Document reading motor (M3) (DF-713)



3. Disconnect the connector [1].
4. Remove the spring [2].
5. Remove two screws [3], and remove the document registration motor assy [4].

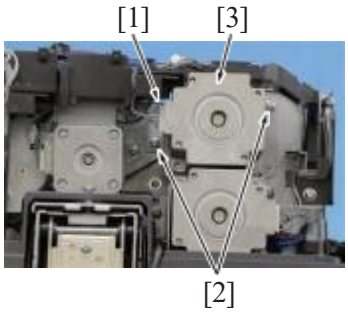


6. Remove two screws [1], and remove the document registration motor [2].

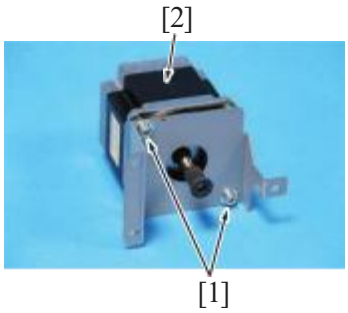
7. To reinstall, reverse the order of removal.

6.18 Document reading motor (M3) (DF-713)

1. Remove the rear cover.
F.6.2 Rear cover (DF-713)

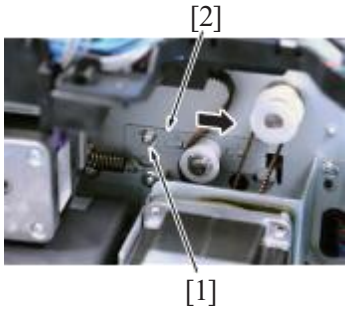


2. Disconnect the connector [1].
3. Remove two screws [2], and remove the document reading motor assy [3].

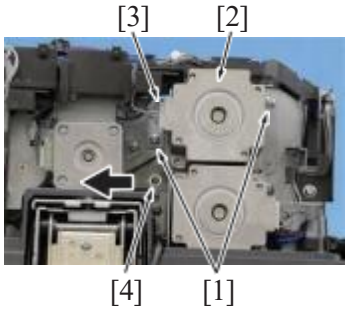


4. Remove two screws [1], and remove the document reading motor [2].

5. To reinstall, perform the following procedures.



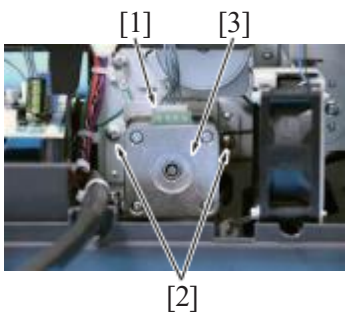
6. Loosen the screw [1] and move the tension plate [2] in the direction of the arrow to reduce the belt tension.
7. Tighten the screw [1].



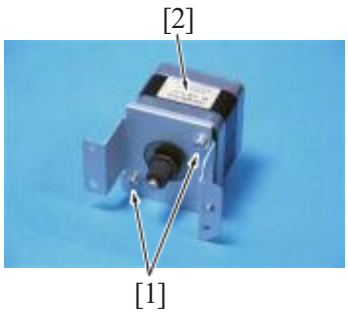
8. Install the document reading motor assy [2] with two screws [1].
9. Connect the connector [3].
10. Loosen the screw [4] and apply tension to the belt.
11. Tighten the screw [4].

6.19 Document exit motor (M4) (DF-713)

1. Remove the rear cover.
F.6.2 Rear cover (DF-713)



2. Disconnect the connector [1], remove two screws [2], and remove the document exit motor assy [3].

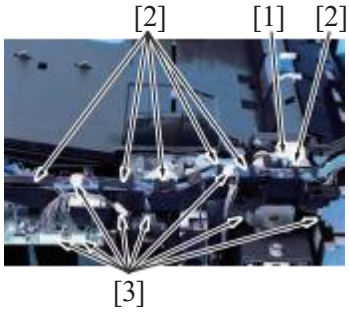


3. Remove two screws [1], and remove the document exit motor [2].

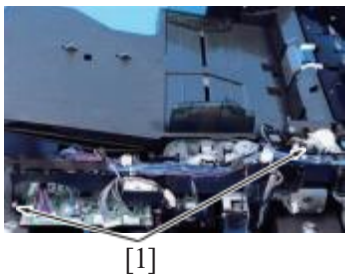
4. To reinstall, reverse the order of removal.

6.20 DF lift-up motor (M5) (DF-713)

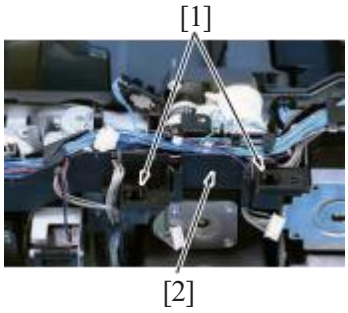
1. Remove the rear cover.
F.6.2 Rear cover (DF-713)



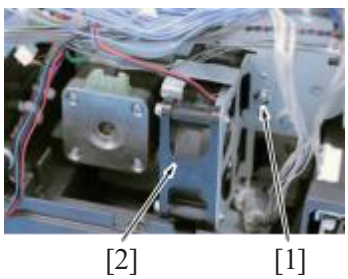
2. Remove the screw, and disconnect the ground wire [1].
3. Remove six wire saddles [2], and disconnect eight connectors [3].



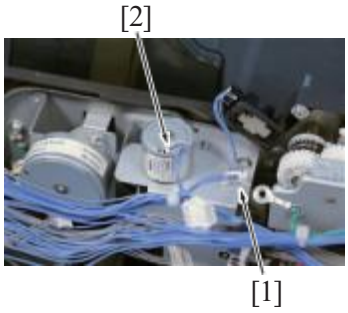
4. Remove two screws [1].



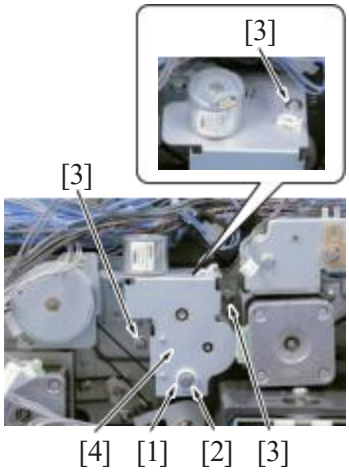
5. Unhook two tabs [1], remove the harness from the harness guide [2], and remove the harness guide [2].



6. Remove the screw [1], and remove the DF cooling fan assy [2].



7. Remove the harness from the wire saddle [1].
8. Disconnect the connector [2].

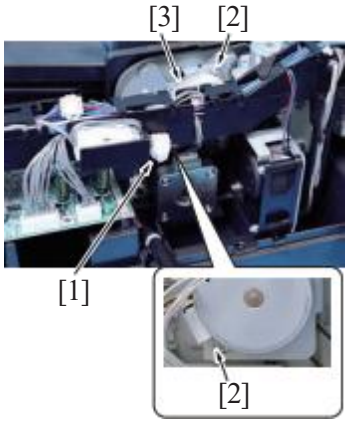


9. Remove the E-ring [1], and remove the bushing [2].
10. Remove three screws [3], and remove the DF lift-up motor [4].

11. To reinstall, reverse the order of removal.

6.21 CIS cleaning motor (M7) (DF-713)

1. Remove the rear cover.
F.6.2 Rear cover (DF-713)

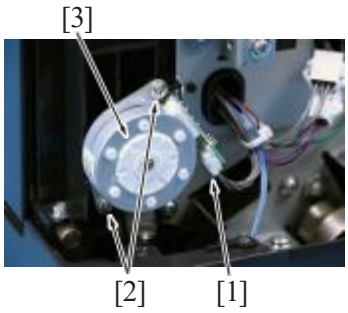


2. Disconnect the connector [1].
3. Remove two screws [2], and remove the CIS cleaning motor [3].

4. To reinstall, reverse the order of removal.

6.22 Document reading glass cleaning motor (M8) (DF-713)

1. Remove the front cover.
F.6.1 Front cover (DF-713)

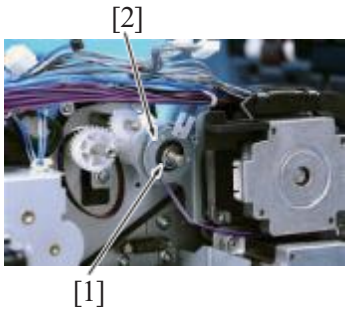


2. Disconnect the connector [1].
3. Remove two screws [2], and remove the document reading glass cleaning motor [3].

4. To reinstall, reverse the order of removal.

6.23 Document feed clutch (CL1) (DF-713)

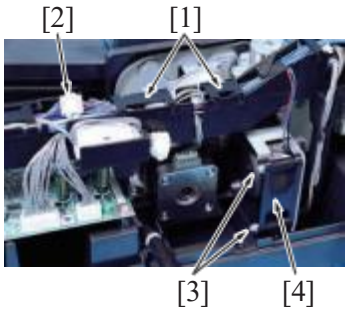
1. Remove the rear cover.
   F.6.2 Rear cover (DF-713)
2. Remove the document feed motor assy.
   F.6.16 Document feed motor (M1) (DF-713)



3. Remove the E-ring [1], and remove the document feed clutch [2].
4. To reinstall, reverse the order of removal.

6.24 DF cooling fan (FM) (DF-713)

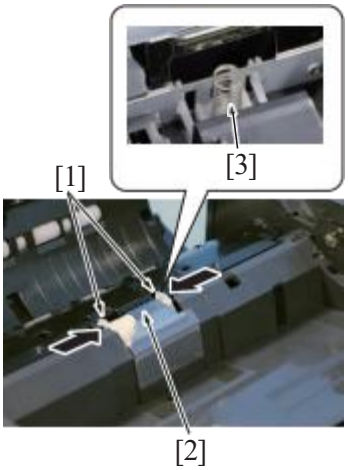
1. Remove the rear cover.
   F.6.2 Rear cover (DF-713)



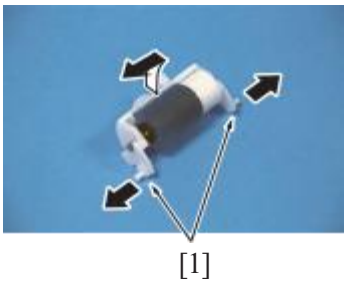
2. Remove two wire saddles [1], disconnect the connector [2], and remove the harness from the wire guide.
3. Remove two screws [3], and remove the DF cooling fan [4].
4. To reinstall, reverse the order of removal.

6.25 Separation roller torque limiter (DF-713)

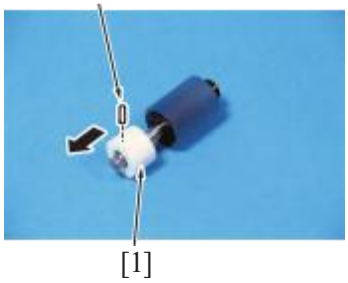
1. Open the left cover [1].



2. Grip both sides [1] of the holder and remove the separation roller assy [2].
   NOTE
   - **Do not lose the spring [3] at the lower part of the separation roller assy [2].**



3. Remove the shaft while spreading the holder [1].
NOTE
- **Take care not to spread the holder too much, it may cause damage.**

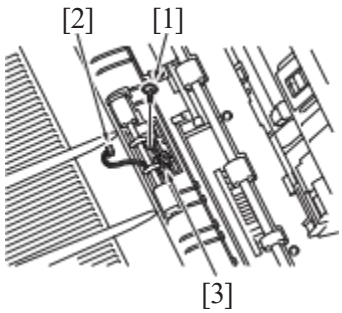


4. Remove the torque limiter [1] from the shaft.
NOTE
- **Take care not to lose the pin [2].**

5. To reinstall, reverse the order of removal.

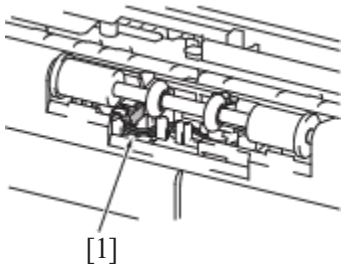
6.26 Stamp unit (SP-501)

1. Open the document feed tray.
F.6.4 How to open the document feed tray (DF-713)
2. Remove the stamp unit cover.
F.6.5 Stamp unit cover (DF-713)



3. Remove the screw [1], and disconnect the ground wire.
4. Disconnect the connector [2], and remove the stamp unit [3].

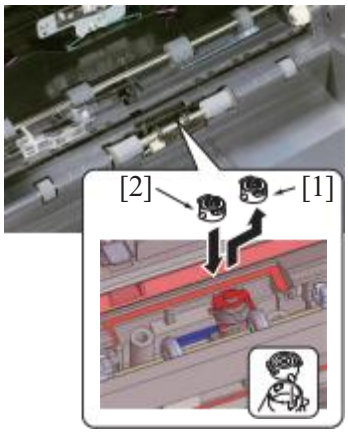
5. To reinstall, reverse the order of removal.



6. **NOTE**
- **Install the stamp unit as shown in the illustration, so that the harness [1] does not interfere with the roller.**

6.27 Stamp (SP-501)

1. Open the document feed tray.
F.6.4 How to open the document feed tray (DF-713)
2. Remove the stamp unit cover.
F.6.5 Stamp unit cover (DF-713)



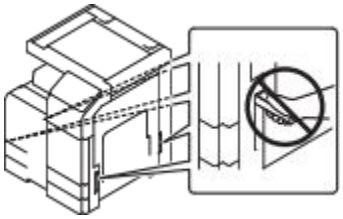
3. Remove the used stamp [1] and install the spare TX marker stamp [2].
NOTE
- **Align the round pin of the stamp to the groove in the stamp unit.**

7. CPT-810

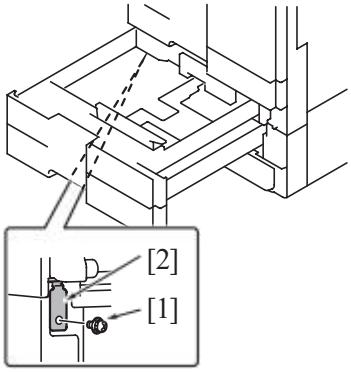
7.1 Paper feed cabinet (PC-116/CPT-810)

⚠CAUTION

- When holding the transportation handles, be careful not to catch your fingers in the main body.

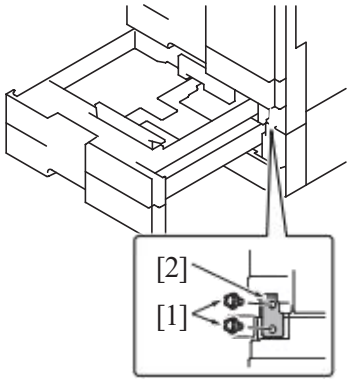


1. Slide out the tray 2 and tray 3.



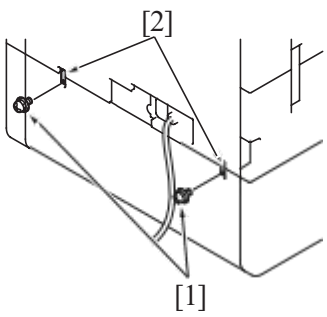
2. Remove the screw [1], and remove the fixing bracket [2].

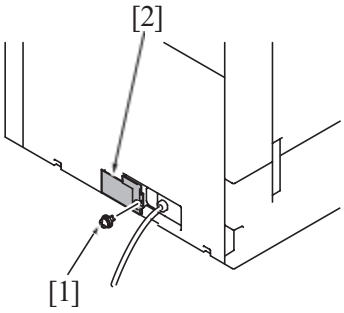
3. Remove two screws [1], and remove the fixing bracket [2].



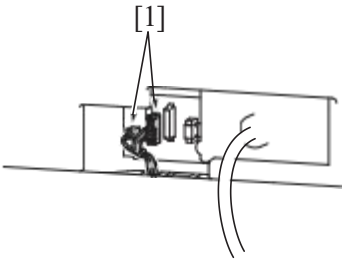
4. Slide the tray 2 and tray 3 back in.

5. Remove two screws [1], and remove two fixing brackets [2].



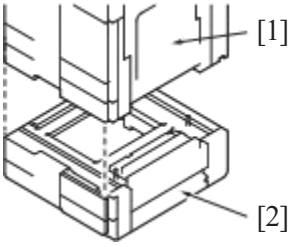


6. Remove the screw [1], and remove the rear under cover [2].



7. Disconnect connectors [1].

8. Pull out the transportation handles.



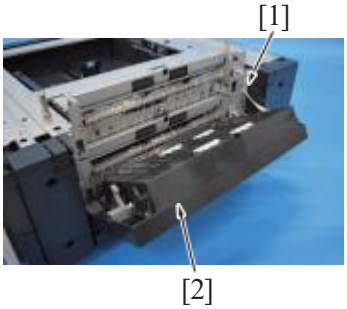
9. Hold the transportation handles at the right and left of the main body, and lift the main body [1] and then remove the paper feed cabinet [2].

NOTE

- **When transporting or moving the main body, assign adequate number of persons.**

7.2 Right door (CPT-810)

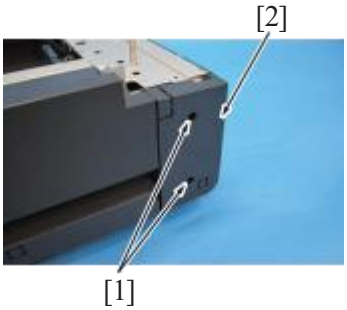
1. Open the right door.



2. Remove the screw [1], and remove the right door [2].

3. To reinstall, reverse the order of removal.

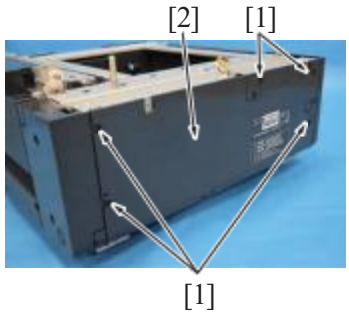
7.3 Right rear cover (CPT-810)



1. Remove two screws [1], and remove the right rear cover [2].

2. To reinstall, reverse the order of removal.

7.4 Rear cover (/CPT-810)



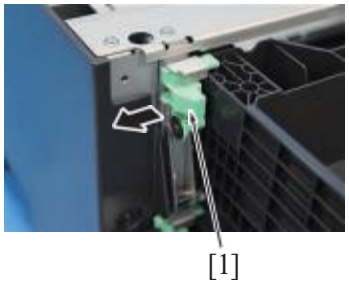
1. Remove five screws [1], and remove the rear cover [2].
2. To reinstall, reverse the order of removal.

7.5 Tray 3, tray 4 (CPT-810)

NOTE

- **The tray 3 and the tray 4 have same mechanism. This procedure shows the steps taken for the tray 3.**

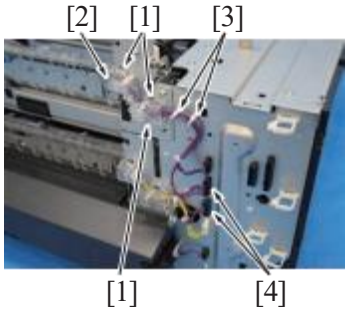
1. Slide out the tray 3 and unload paper from it.
2. Move the stopper [1] to the left.



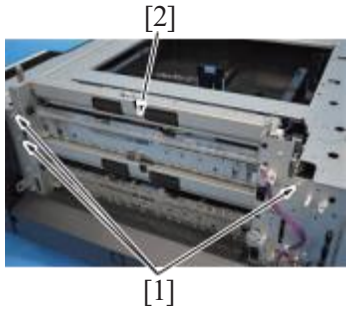
3. Hold up the tray 3 to remove it.
4. To reinstall, reverse the order of removal.

7.6 Tray 3 paper feed unit (PC-116/CPT-810)

1. Remove the right door.
   F.7.2 Right door (PC-116/CPT-810)
2. Remove the right rear cover.
   F.7.3 Right rear cover (PC-116/CPT-810)
3. Slide out the tray 3.



4. Unhook three tabs [1], and remove the harness cover [2].
5. Remove the harness from two wire saddles [3].
6. Disconnect two connectors [4].

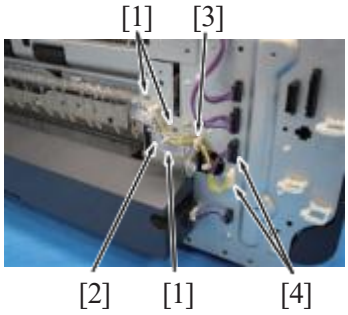


7. Remove three screws [1], and remove the tray 3 paper feed unit [2].

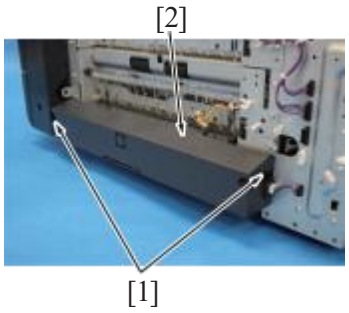
8. To reinstall, reverse the order of removal.

7.7 Tray 4 paper feed unit (CPT-810)

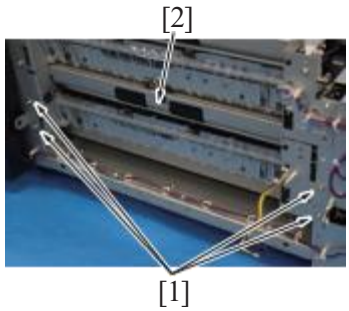
1. Remove the right door.
   F.7.2 Right door (PC-116/CPT-810)
2. Remove the right rear cover.
   F.7.3 Right rear cover (PC-116/CPT-810)
3. Slide out the tray 4.



4. Unhook three tabs [1], and remove the harness cover [2].
5. Remove the harness from the wire saddle [3].
6. Disconnect two connectors [4].



7. Remove two screws [1], and remove the cover [2].

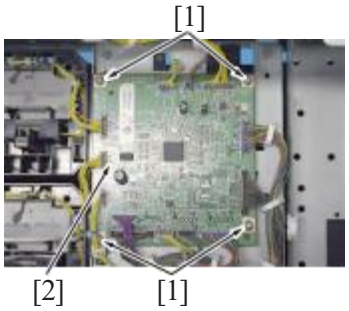


8. Remove four screws [1], and remove the tray 4 paper feed unit [2].

9. To reinstall, reverse the order of removal.

7.8 PC control board (PCCB) (CPT-810)

1. Remove the rear cover.
   F.7.4 Rear cover (PC-116/CPT-810)



2. Disconnect all connectors on the PC control board.
3. Remove four screws [1], and remove the PC control board [2].

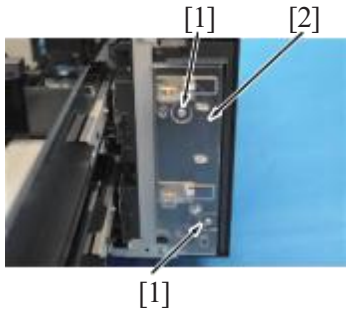
4. To reinstall, reverse the order of removal.

7.9 Tray 3 paper empty indicator board (PEIB/3), tray 4 paper empty indicator board (PEIB/4) (CPT-810)

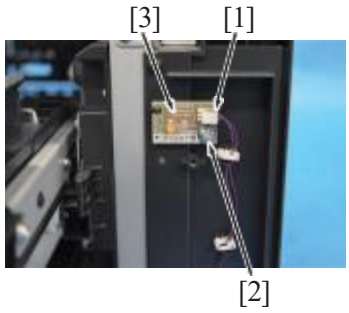
NOTE

- **The tray 3 paper empty indicator board and the tray 4 paper empty indicator board are of the same form and mechanism. This procedure shows the steps taken for the tray 3 paper empty indicator board.**

1. Slide out the tray 3.
2. Slide out the tray 4.



3. Remove two screws [1], and remove the right front cover [2].



4. Disconnect the connector [1].
5. Remove the screw [2], and remove the tray 3 paper empty indicator board [3].

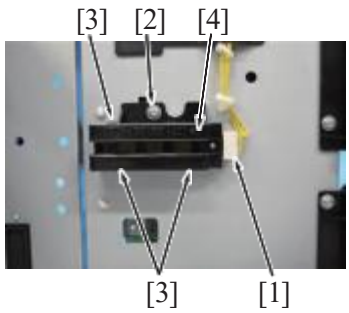
6. To reinstall, reverse the order of removal.

7.10 Tray 3 FD paper size board (FDPSB/3), tray 4 FD paper size board (FDPSB/4) (PC-116/CPT-810)

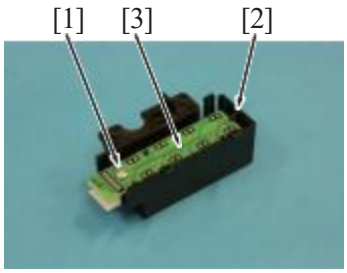
NOTE

- **The tray 3 FD paper size board and the tray 4 FD paper size board are of the same form and mechanism. This procedure shows the steps taken for the tray 3 FD paper size board.**

1. Remove the tray 3 and tray 4.
F.7.5 Tray 3, tray 4 (PC-116/CPT-810)



2. Disconnect the connector [1].
3. Remove the screw [2] and three tabs [3], and remove the tray 3 FD paper size board assy [4].

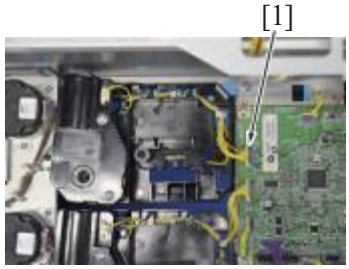


4. Remove the screw [1] and the tab [2], and remove the tray 3 FD paper size board [3].

5. To reinstall, reverse the order of removal.

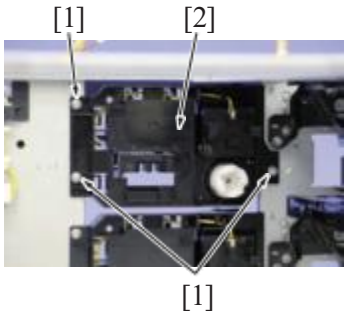
7.11 Tray 3 CD paper size board (CDPSB/3) (CPT-810)

1. Remove the rear cover.
F.7.4 Rear cover (PC-116/CPT-810)

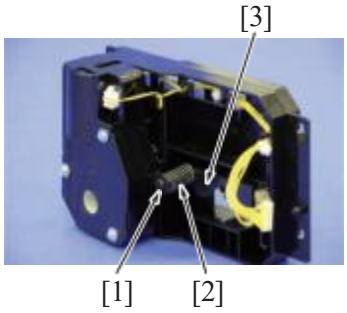


2. Disconnect the connector [1] on the PC control board.

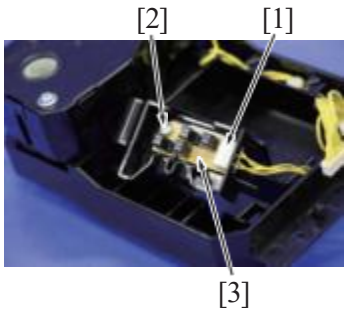
3. Remove the tray 3 and tray 4.
F.7.5 Tray 3, tray 4 (PC-116/CPT-810)



4. Remove three screws [1], and remove the tray 3 lift-up motor assy [2].



5. Remove the screw [1], remove the spring [2], and remove the tray 3 CD paper size board [3].

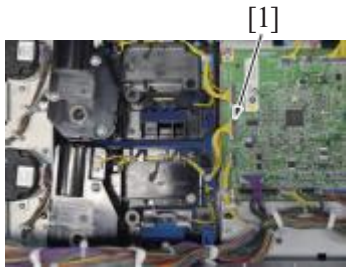


6. Disconnect the connector [1].
7. Remove the screw [2], and remove the tray 3 CD paper size board [3].

8. To reinstall, reverse the order of removal.

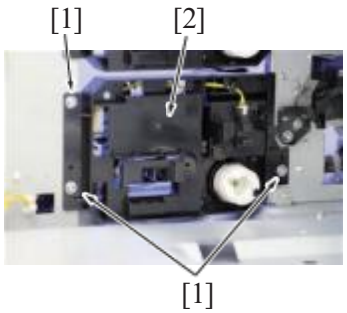
7.12 Tray 4 CD paper size board (CDPSB/4) (CPT-810)

1. Remove the rear cover.
   F.7.4 Rear cover (PC-116/CPT-810)

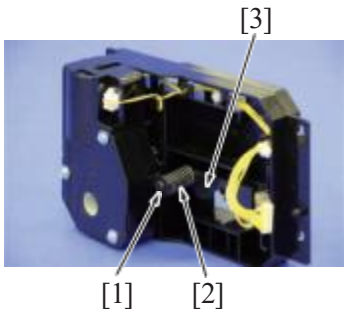


2. Disconnect the connector [1] on the PC control board.

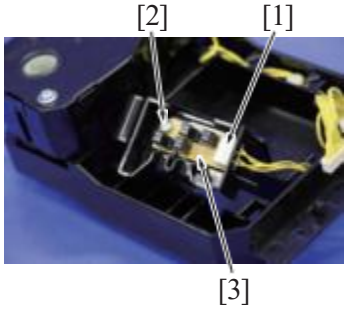
3. Remove the tray 3 and tray 4.
   F.7.5 Tray 3, tray 4 (PC-116/CPT-810)



4. Remove three screws [1], and remove the tray 4 lift-up motor assy [2].



5. Remove the screw [1], remove the spring [2], and remove the tray 4 CD paper size board [3].



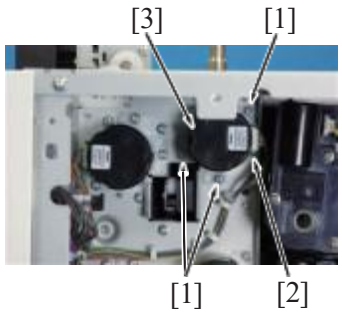
6. Disconnect the connector [1].
7. Remove the screw [2], and remove the tray 4 CD paper size board [3].
8. To reinstall, reverse the order of removal.

7.13 Tray 3 paper feed motor (M111), tray 4 paper feed motor (M121) (PC-116/CPT-810)

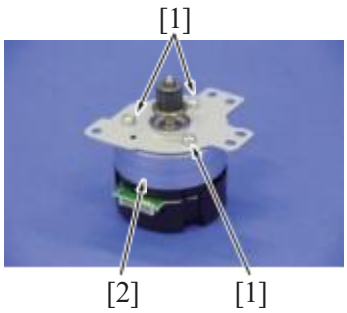
NOTE

- **The tray 3 paper feed motor and the tray 4 paper feed motor are of the same form and mechanism. This procedure shows the steps taken for the tray 3 paper feed motor.**

1. Remove the rear cover.
   F.7.4 Rear cover (PC-116/CPT-810)



2. Remove three screws [1].
3. Disconnect the connector [2], and remove the tray 3 paper feed motor assy [3].
   NOTE
   - **When mounting the tray 3 paper feed motor assy, use care not to forget to set the belt to the gear.**



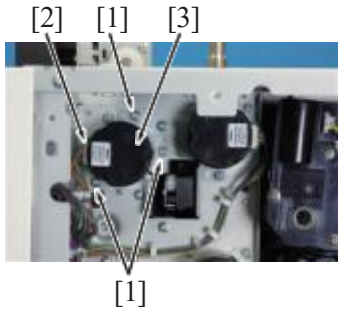
4. Remove three screws [1], and remove the tray 3 paper feed motor [2].

5. To reinstall, reverse the order of removal.

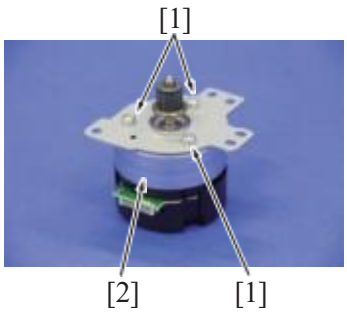
7.14 Tray 3 vertical transport motor (M112), tray 4 vertical transport motor (M122) (PC-116/CPT-810)

NOTE
- **The tray 3 vertical transport motor and the tray 4 vertical transport motor are of the same form and mechanism. This procedure shows the steps taken for the tray 3 vertical transport motor.**

1. Remove the rear cover.
   F.7.4 Rear cover (PC-116/CPT-810)



2. Remove three screws [1].
3. Disconnect the connector [2], and remove the tray 3 vertical transport motor assy [3].
   NOTE
   - **When mounting the tray 3 vertical transport motor assy, use care not to forget to set the belt to the gear.**



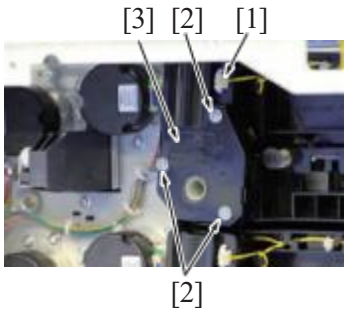
4. Remove three screws [1], and remove the tray 3 vertical transport motor [2].

5. To reinstall, reverse the order of removal.

7.15 Tray 3 lift-up motor (M113), tray 4 lift-up motor (M123) (CPT-810)

NOTE
- **The tray 3 lift-up motor and the tray 4 lift-up motor are of the same form and mechanism. This procedure shows the steps taken for the tray 3 lift-up motor.**

1. Remove the rear cover.
   F.7.4 Rear cover (PC-116/CPT-810)



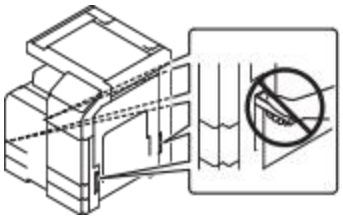
2. Disconnect the connector [1].
3. Remove three screws [2], and remove the tray 3 lift-up motor [3].
4. To reinstall, reverse the order of removal.

8. CPT-810H

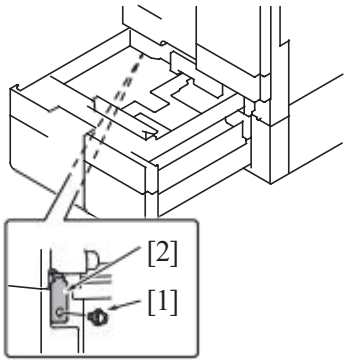
8.1 Paper feed cabinet (CPT-810H)

CAUTION

- When holding the transportation handles, be careful not to catch your fingers in the main body.

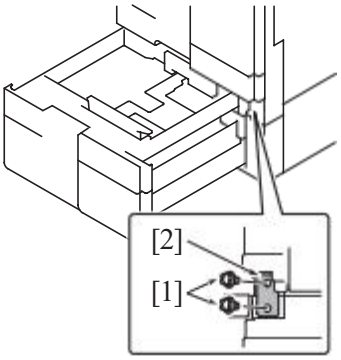


1. Slide out the tray 2 and tray 3.



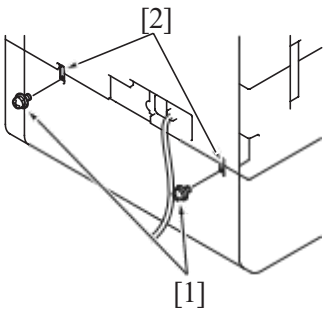
2. Remove the screw [1], and remove the fixing bracket [2].

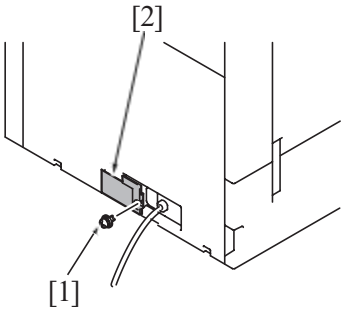
3. Remove two screws [1], and remove the fixing bracket [2].



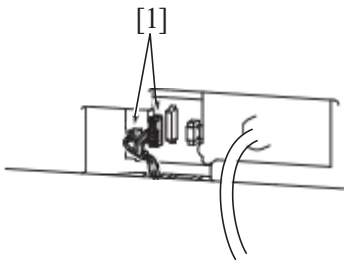
4. Slide the tray 2 and tray 3 back in.

5. Remove two screws [1], and remove two fixing brackets [2].



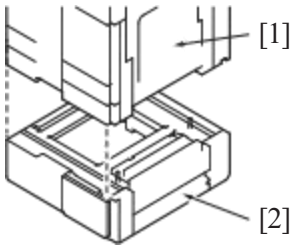


6. Remove the screw [1], and remove the rear under cover [2].



7. Disconnect three connectors [1].

8. Pull out the transportation handles.



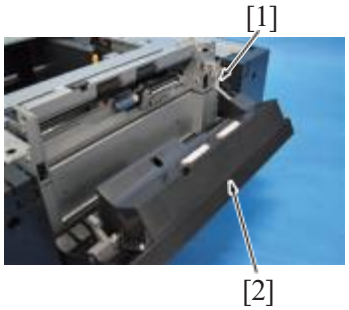
9. Hold the transportation handles at the right and left of the main body, and lift the main body [1] and then remove the paper feed cabinet [2].

NOTE

- **When transporting or moving the main body, assign adequate number of persons.**

8.2 Right door (CPT-810H)

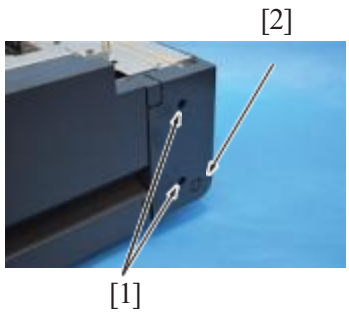
1. Open the right door.



2. Remove the screw [1], and remove the right door [2].

3. To reinstall, reverse the order of removal.

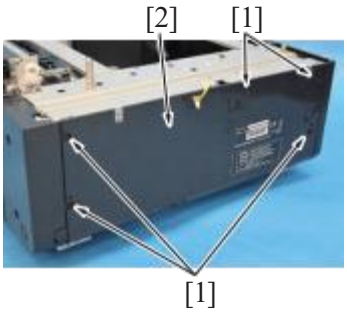
8.3 Right rear cover (CPT-810H)



1. Remove two screws [1], and remove the right rear cover [2].

2. To reinstall, reverse the order of removal.

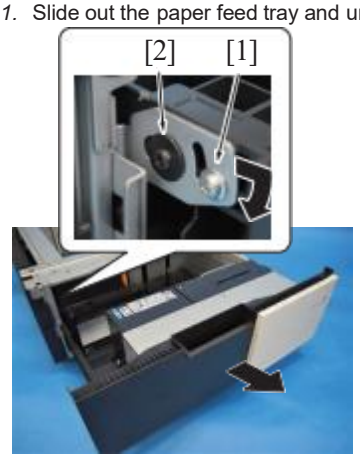
8.4 Rear cover (CPT-810H)



1. Remove five screws [1], and remove the rear cover [2].
2. To reinstall, reverse the order of removal.

8.5 Paper feed tray (CPT-810H)

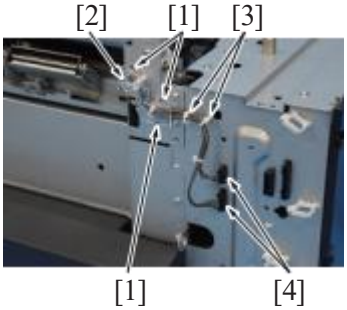
1. Slide out the paper feed tray and unload paper from it.



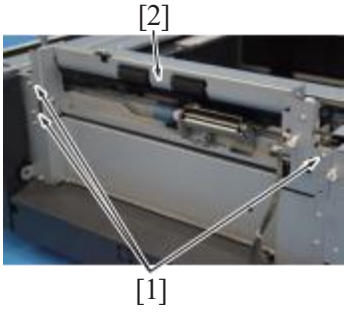
2. Loosen the screw [1], and pull down the stopper [2].
3. Remove the paper feed tray.
4. To reinstall, reverse the order of removal.

8.6 Paper feed unit (CPT-810H)

1. Remove the right door.
   F.8.2 Right door (CPT-810H)
2. Remove the right rear cover.
   F.8.3 Right rear cover (CPT-810H)
3. Slide out the paper feed tray.



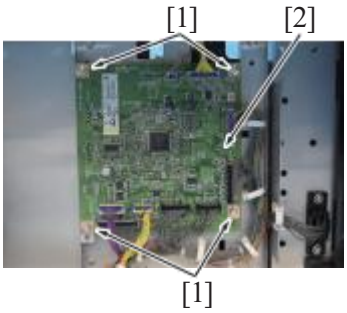
4. Unhook three tabs [1], and remove the harness cover [2].
5. Remove the harness from two wire saddles [3].
6. Disconnect two connectors [4].



7. Remove three screws [1], and remove the paper feed unit [2].
8. To reinstall, reverse the order of removal.

8.7 PC control board (PCCB) (CPT-810H)

1. Remove the rear cover.
   F.8.4 Rear cover (CPT-810H)

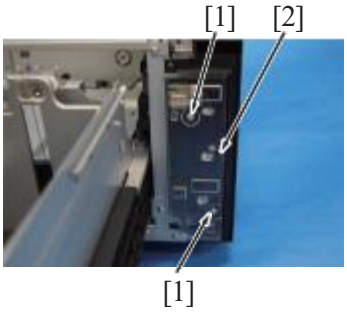


2. Disconnect all connectors on the PC control board.
3. Remove four screws [1], and remove the PC control board [2].

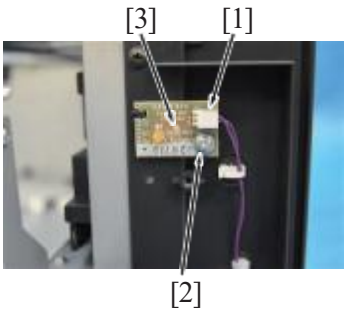
4. To reinstall, reverse the order of removal.

8.8 Tray 3 paper empty indicator board (PEIB/3) (CPT-810H)

1. Slide out the paper feed tray.



2. Remove two screws [1], and remove the front right cover [2].

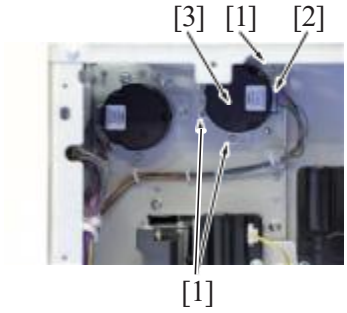


3. Disconnect the connector [1].
4. Remove the screw [2], and remove the tray 3 paper empty indicator board [3].

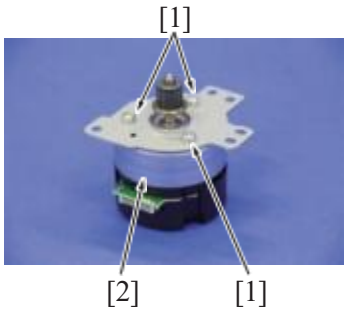
5. To reinstall, reverse the order of removal.

8.9 Paper feed motor (M131) (CPT-810H)

1. Remove the rear cover.
   F.8.4 Rear cover (CPT-810H)



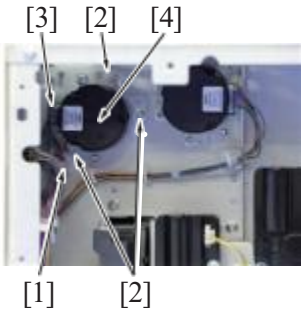
2. Remove three screws [1].
3. Disconnect the connector [2], and remove the paper feed motor assy [3].
   NOTE
   - **When mounting the paper feed motor assy, use care not to forget to set the belt to the gear.**



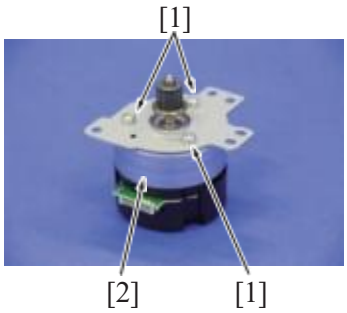
4. Remove three screws [1], and remove the paper feed motor [2].
5. To reinstall, reverse the order of removal.

8.10 Vertical transport motor (M132) (CPT-810H)

1. Remove the rear cover.
   F.8.4 Rear cover (CPT-810H)



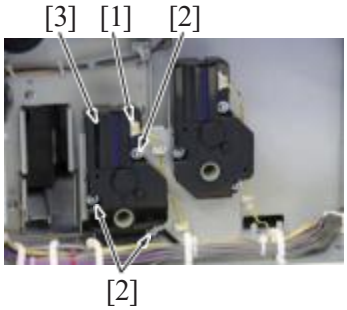
2. Remove the harness from the wire saddle [1].
3. Remove three screws [2].
4. Disconnect the connector [3], and remove the vertical transport motor assy [4].
   NOTE
   - **When mounting the vertical transport motor assy, use care not to forget to set the belt to the gear.**



5. Remove three screws [1], and remove the vertical transport motor [2].
6. To reinstall, reverse the order of removal.

8.11 Elevator motor (M134) (CPT-810H)

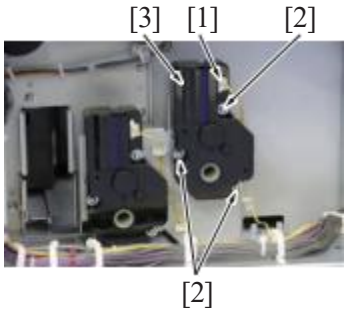
1. Slide out the paper feed tray.
2. Remove the rear cover.
   F.8.4 Rear cover (CPT-810H)



3. Disconnect the connector [1].
4. Remove three screws [2], and remove the elevator motor [3].
5. To reinstall, reverse the order of removal.

8.12 Shifter motor (M133) (CPT-810H)

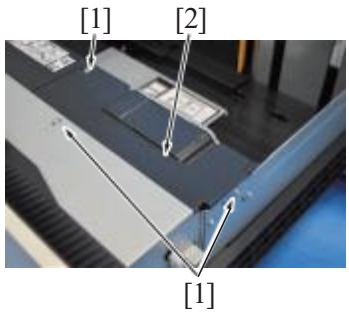
1. Slide out the paper feed tray.
2. Remove the rear cover.
   F.8.4 Rear cover (CPT-810H)



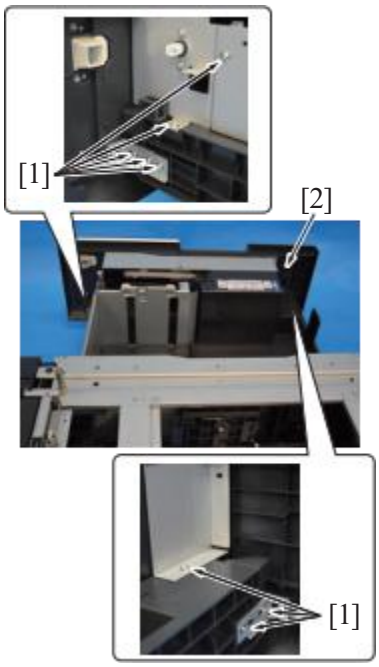
3. Disconnect the connector [1].
4. Remove three screws [2], and remove the shifter motor [3].
5. To reinstall, reverse the order of removal.

8.13 Wire (CPT-810H)

1. Slide out the paper feed tray.

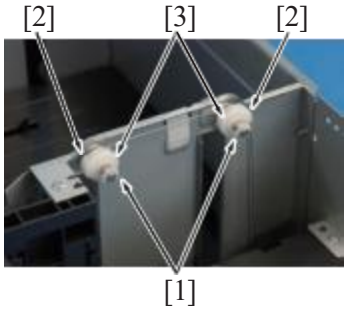


2. Remove three screws [1], and remove the cover [2].

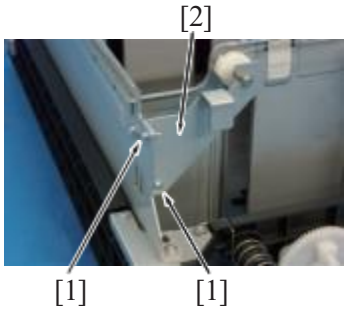


3. Remove eight screws [1], and remove the front cover assy [2].

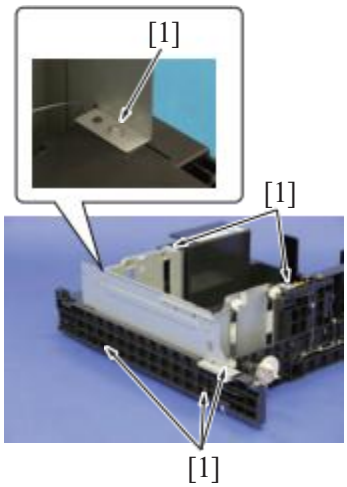
4. Remove the paper feed tray.
F.8.5 Paper feed tray (CPT-810H)



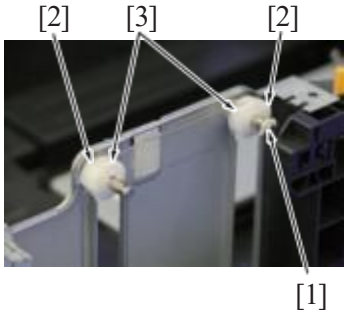
5. Remove two C-rings [1].
6. Remove two pulley covers [2].
7. Remove two pulleys [3].



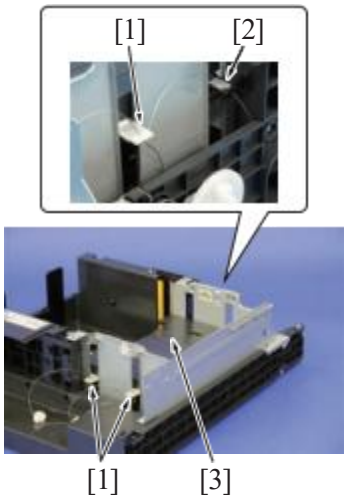
8. Remove two screws [1], and remove the plate [2].



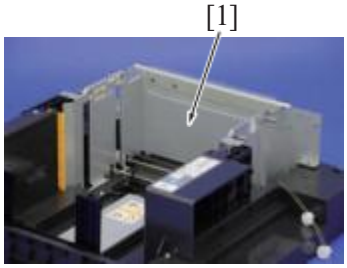
9. Remove six screws [1] of the right paper guide plate.



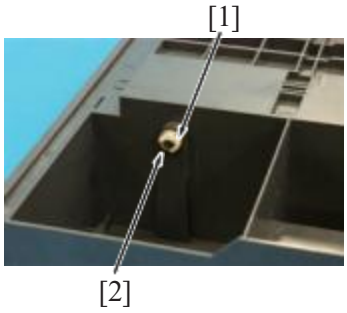
10. Remove the C-ring [1].
11. Remove two pulley covers [2].
12. Remove two pulleys [3].



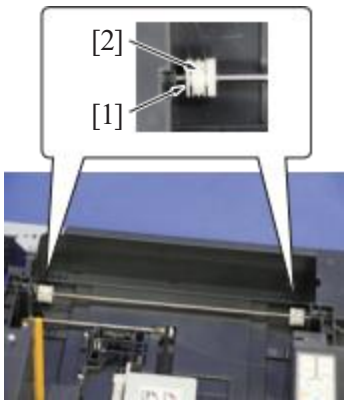
13. Remove three cable holding jigs (white) [1] and the cable holding jig (black) [2], and remove the main tray [3].
NOTE
- **Use care not to bend the wires.**



14. Remove the right paper guide plate assy [1].



15. Turn the tray upside down.
16. Remove the C-ring [1] and the bushing [2].



17. Turn the tray back to the original status.
18. Remove two C-rings [1] and two wire pulleys [2].
19. Remove the wire from the wire pulley [2].

NOTE

- **Take care not to lose the pin.**
- **When reinstalling the wire pulley [2], check that the direction of the wire coming from both wire pulleys are the same.**

20. To reinstall, reverse the order of removal.

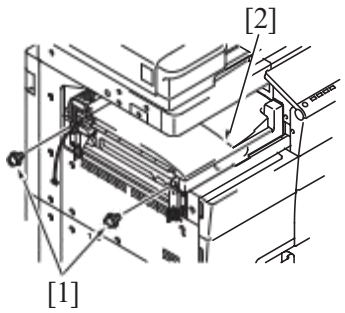
9. PC-417

Not applicable

10. CPK-810R

10.1 RU transport unit (CPK-810R)

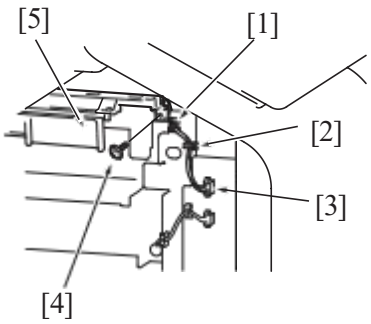
1. Remove the finisher from the main body.
   Finisher (FS-539/FS-539SD)
   F.11.1 Finisher (CPF-810H/CPF-810X)



2. Remove two screws [1], and remove the horizontal transport unit [2].
3. To reinstall, reverse the order of removal.

10.2 Sensor unit (CPK-810R)

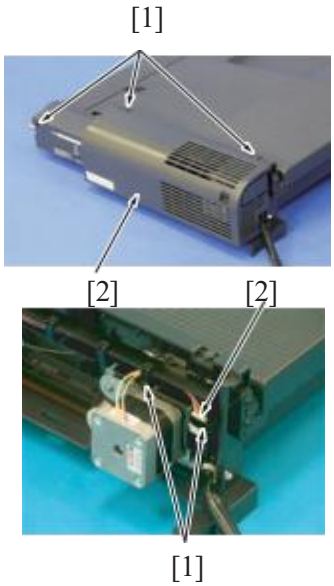
1. Remove the RU transport unit.
   F.10.1 RU transport unit (CPK-810R)
2. Remove the control panel left cover/1.
   F.5.1.8 Control panel left cover/1



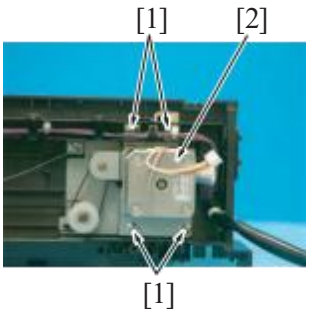
3. Remove the harness from the edge cover [1] and wire saddle [2].
4. Disconnect the connector [3].
5. Remove the screw [4], and remove the sensor unit [5].
6. To reinstall, reverse the order of removal.

10.3 RU transport motor (M1) (CPK-810R)

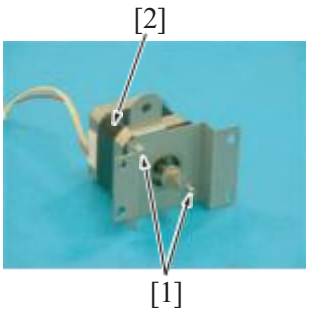
1. Remove the RU transport unit.
   F.10.1 RU transport unit (CPK-810R)



2. Remove three screws [1], and remove the rear cover [2] of the RU transport unit.
3. Remove the harness from two wire saddles [1].
4. Disconnect the connector [2].



5. Remove four screws [1], and remove the RU transport motor assy [2].



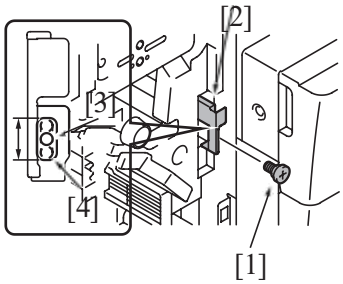
6. Remove two screws [1], and remove the RU transport motor [2].

7. To reinstall, reverse the order of removal.

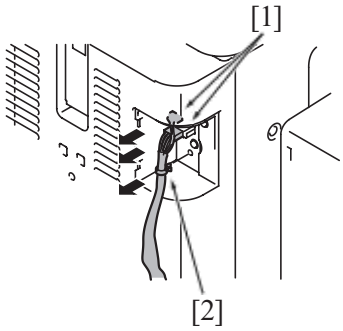
11. CPF-810H/CPF-810X

11.1 Finisher (CPF-810H/CPF-810X)

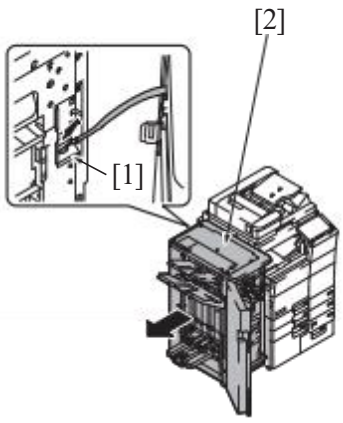
1. Open the front door of the finisher.



2. Remove the screw [1], and pull out the lever [2].
NOTE
- **When installing the finisher, make sure that the screw hole [3] locates within the scope of the mounting hole of the lever [4].**



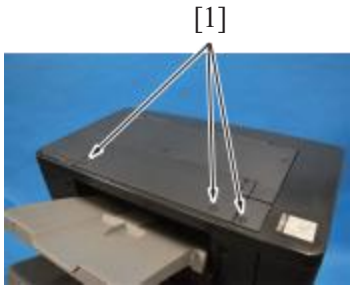
3. Disconnect two connectors [1], and pull out the insertion part of the cable tie [2].



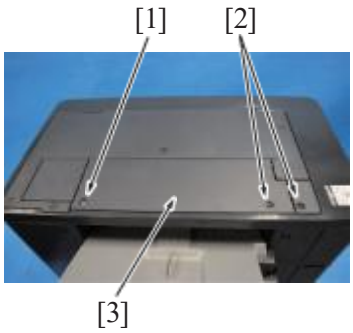
4. Disconnect the connector [1], and remove the finisher [2] from the main body.

5. To reinstall, reverse the order of removal.

11.2 Upper cover/1 (CPF-810H/CPF-810X)



1. Remove three caps [1].

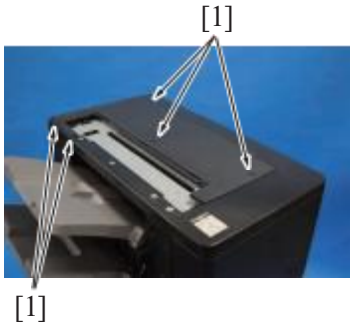


2. Remove the screw [1] and two screws [2], and remove the upper cover/1 [3].
NOTE
- **When installing the screws, be careful not to attach them incorrect, since the screw [1] and the screw [2] are of different types.**

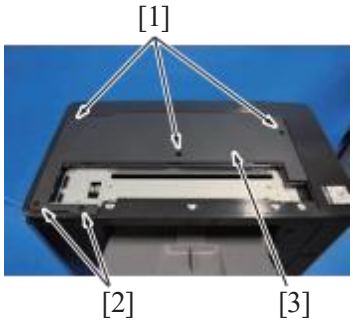
3. To reinstall, reverse the order of removal.

11.3 Upper cover/2 (CPF-810H/CPF-810X)

1. Remove the upper cover/1.
F.11.2 Upper cover/1 (CPF-810H/CPF-810X)



2. Remove five caps [1].

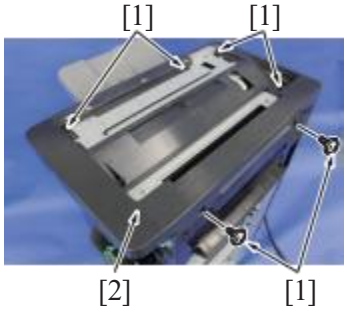


3. Remove three screws [1] and two screws [2], and remove the upper cover/2 [3].
NOTE
- **When installing the screws, be careful not to attach them incorrect, since the screw [1] and the screw [2] are of different types.**

4. To reinstall, reverse the order of removal.

11.4 Upper cover/3 (CPF-810H/CPF-810X)

1. Remove the upper cover/1.
F.11.2 Upper cover/1 (CPF-810H/CPF-810X)
2. Remove the upper cover/2.
F.11.3 Upper cover/2 (CPF-810H/CPF-810X)

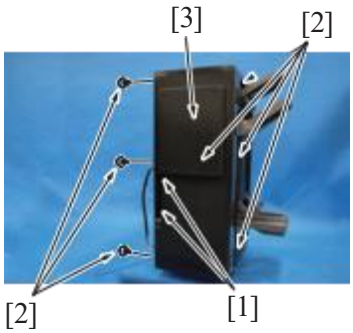


3. Remove six screws [1], and remove the upper cover/3 [2].

4. Reinstall the above parts following the removal steps in reverse.

11.5 Rear cover (CPF-810H/CPF-810X)

1. Remove the finisher from the main body.
F.11.1 Finisher (CPF-810H/CPF-810X)

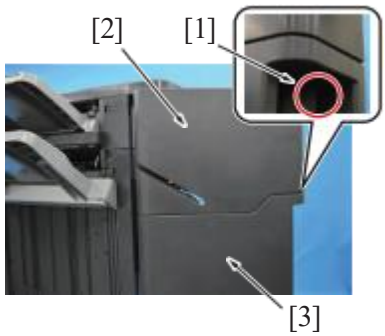


2. Remove the cable located behind the finisher from two wire saddles [1].
3. Remove seven screws [2], and remove the rear cover [3].

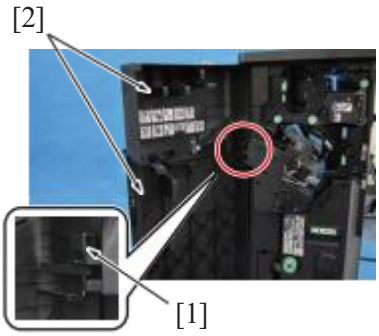
4. To reinstall, reverse the order of removal.

11.6 Front door (CPF-810H/CPF-810X)

1. Open the front door.



2. While holding down the lock [1], divide the door into the upper part [2] and lower part [3].

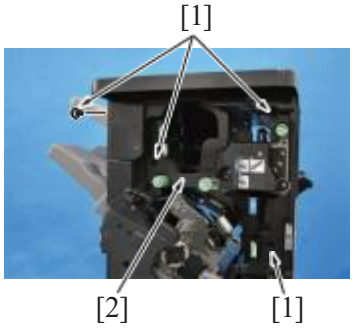


3. Remove the stopper [1], and remove the front door (upper part and lower part) [2].

4. To reinstall, reverse the order of removal.

11.7 Front upper cover (CPF-810H/CPF-810X)

1. Remove the front door.
F.11.6 Front door (CPF-810H/CPF-810X)

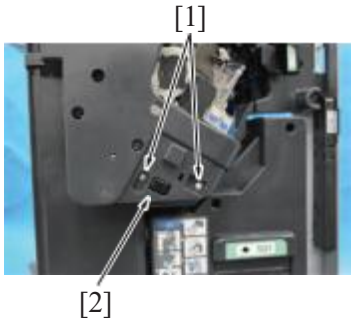


2. Remove four screws [1], and remove the front upper cover [2] while sliding the guide lever (FS4 to FS8). When the punch kit is installed, be sure to remove the cover after removing the punch-hole scraps box.

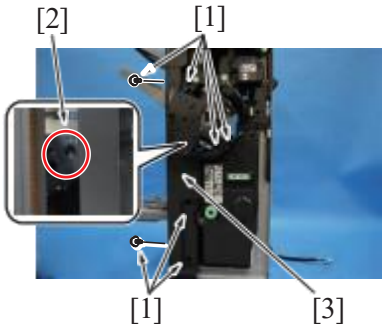
3. To reinstall, reverse the order of removal.

11.8 Front lower cover (CPF-810H/CPF-810X)

1. Remove the front door.
F.11.6 Front door (CPF-810H/CPF-810X)



2. Remove two screws [1], and remove the stapler lock cover [2].

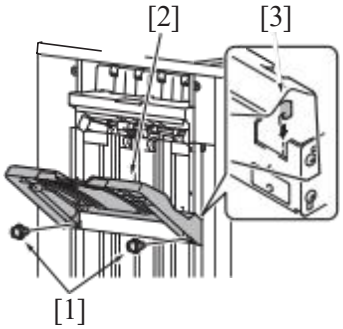


3. Remove seven screws [1], and disconnect the connector [2] located behind the front lower cover.
4. Remove the front lower cover [3].
5. To reinstall, reverse the order of removal.

11.9 Main tray (under the paper exit tray) (CPF-810H/CPF-810X)

1. Remove the rear cover.
F.11.5 Rear cover (CPF-810H/CPF-810X)

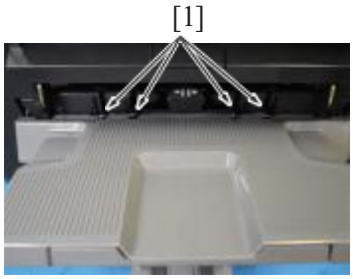
2. Hold the main tray [2] by your hands, slide the gear coupling [1] to the right, and slightly lower the main tray [2].



3. Remove two screws [1], and remove the main tray [2].

NOTE

- **When installing the main tray, be sure to hang the hooks [3] of the main tray on the two concave parts of the finisher, then fix it.**



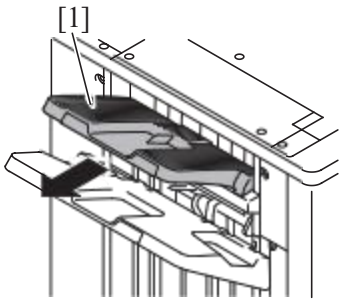
4. **NOTE**
   - **When installing the main tray, make sure that the paper surface detect lever is located above the tray.**

5. To reinstall, reverse the order of removal.

CAUTION

- Note that when sliding the coupling, the main tray may suddenly fall down. Be sure to hold it by your hands.

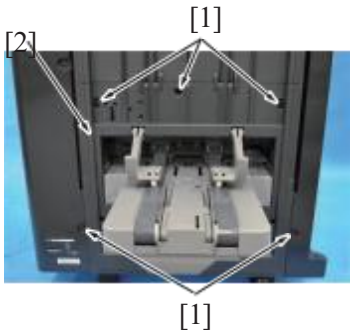
11.10 Sub tray (over the paper exit tray) (CPF-810H/CPF-810X)



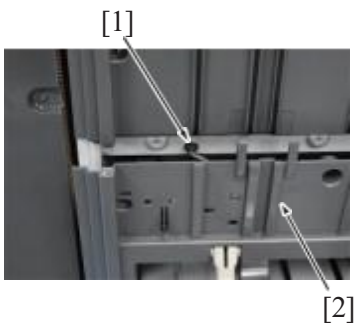
1. Remove the sub tray [1].

2. Reinstall the above parts following the removal steps in reverse.

11.11 Left lower cover (CPF-810H/CPF-810X)

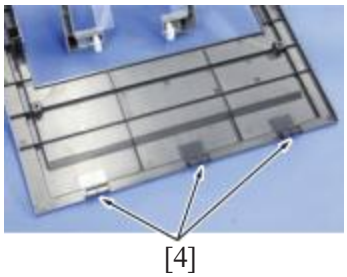


1. Remove five screws [1], and slide the left lower cover [2] downward.



2. Disconnect the connector [1], and remove the left lower cover [2].

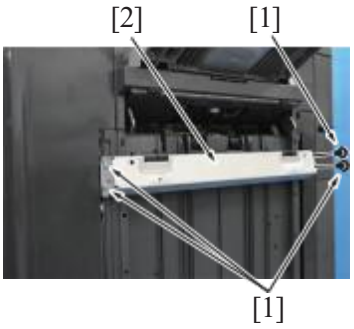
3. **NOTE**
   - **When installing the cover, be sure to hook the three tabs [4] of the left lower cover on the finisher plate.**



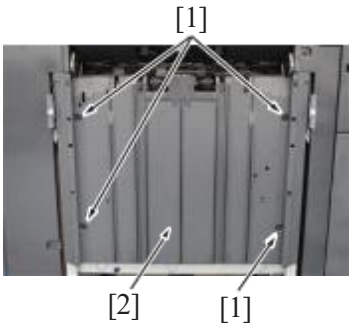
4. To reinstall, reverse the order of removal.

11.12 Left upper cover (CPF-810H/CPF-810X)

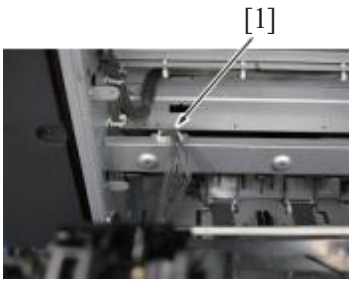
1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the main tray.
   F.11.9 Main tray (under the paper exit tray) (CPF-810H/CPF-810X)
3. Remove four screws [1], and remove the plate [2].



4. Remove four screws [1], and remove the left upper cover [2].



5. Disconnect the connector [1] located behind the left upper cover.

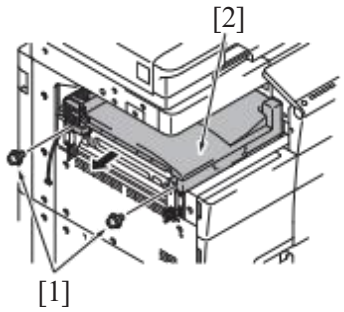


6. **NOTE**
   - **When installing the cover, be sure to mount the top part of the left upper cover on the two inner tabs [1] of the finisher.**

7. To reinstall, reverse the order of removal.

11.13 Horizontal transport unit (CPF-810H/CPF-810X)

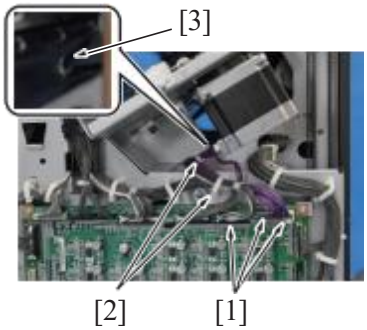
1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)



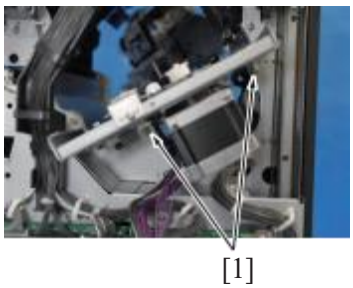
2. Remove two screws [1], and remove the horizontal transport unit [2].
3. To reinstall, reverse the order of removal.

11.14 Stapler unit (CPF-810H/CPF-810X)

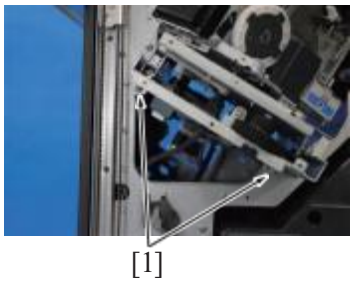
1. Remove the rear cover.
   F.11.5 Rear cover (CPF-810H/CPF-810X)
2. Remove the front door.
   F.11.6 Front door (CPF-810H/CPF-810X)
3. Remove the front lower cover.
   F.11.8 Front lower cover (CPF-810H/CPF-810X)



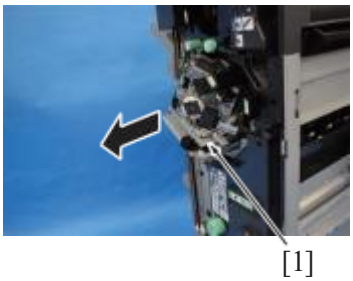
4. Disconnect three connectors [1], and remove the harness from two wire saddles [2].
5. Remove the harness from the wire saddle [3] located under the stapler unit.



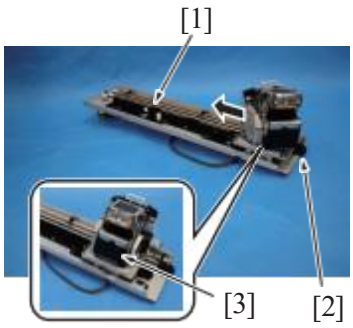
6. Remove two screws [1] from the back of the finisher.



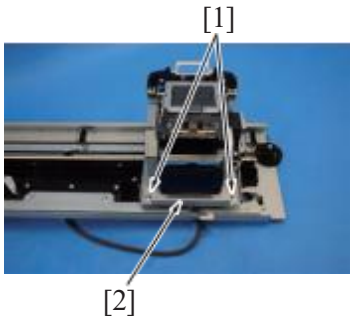
7. Remove two screws [1] from the front of the finisher.



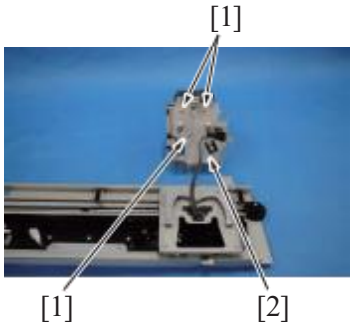
8. Remove the stapler assy [1] from the finisher.
NOTE
- **While removing the stapler assy [1], be careful not to hit the stapler against the finisher frame.**



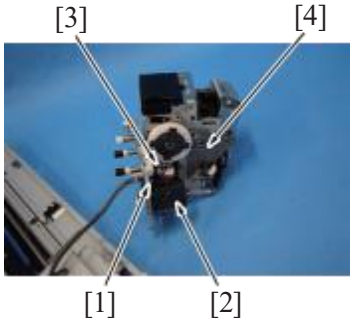
9. Put the stapler assy [1] on a stable workbench.
10. Rotate the stapler transfer dial [2] and move the stapler unit to the position [3] where it becomes parallel.



11. Remove two screws [1], and remove the plate [2].
12. Remove the stapler assy.



13. Remove three screws [1], and remove the plate [2].

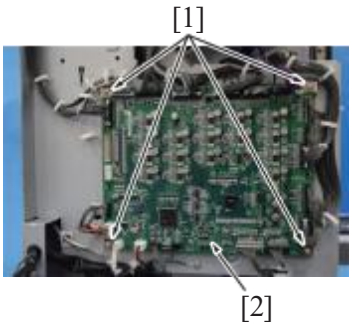


14. Remove the screw [1], and remove the connector protective cover [2].
15. Disconnect two connectors [3], and remove the stamp unit [4].

16. To reinstall, reverse the order of removal.

11.15 FS control board (FSCB) (CPF-810H/CPF-810X)

1. Remove the rear cover.
F.11.5 Rear cover (CPF-810H/CPF-810X)

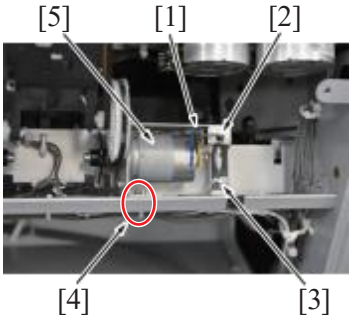


2. Disconnect all connectors from the FS control board.
3. Remove four screws [1], and remove the FS control board [2].

4. To reinstall, reverse the order of removal.

11.16 Bundle eject motor (M1) (CPF-810H/CPF-810X)

1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)

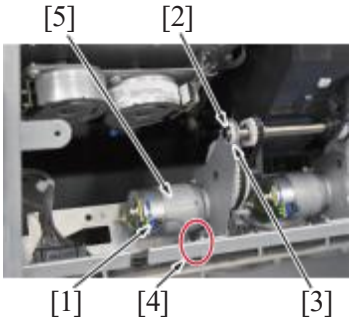


3. Disconnect the connector [1], and remove the harness from the edge cover [2] and wire saddle [3].
4. Remove two screws [4], and remove the bundle eject motor [5].

5. To reinstall, reverse the order of removal.

11.17 Pre-eject drive motor (M2) (CPF-810H/CPF-810X)

1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)

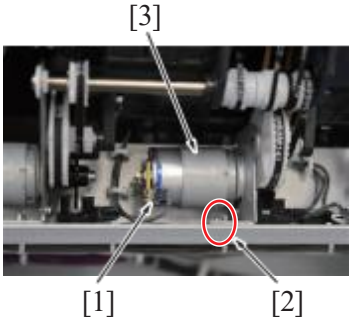


3. Disconnect the connector [1].
4. Remove the E-ring [2] and bushing [3].
5. Remove two screws [4], and remove the pre-eject drive motor [5].

6. To reinstall, reverse the order of removal.

11.18 Stacker plate drive motor (M3) (CPF-810H/CPF-810X)

1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)

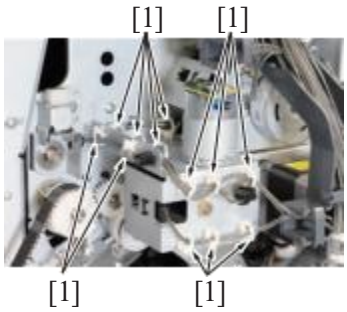


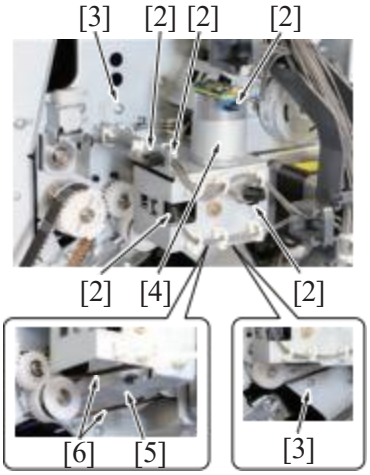
3. Disconnect the connector [1].
4. Remove two screws [2], and remove the stacker plate drive motor [3].

5. To reinstall, reverse the order of removal.

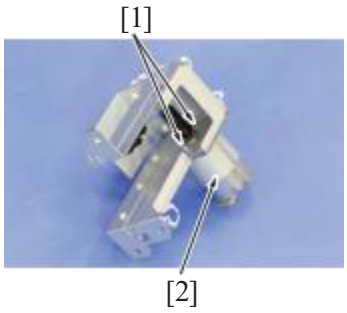
11.19 Route change gate motor (M4) (CPF-810H/CPF-810X)

1. Remove the rear cover.
   F.11.5 Rear cover (CPF-810H/CPF-810X)





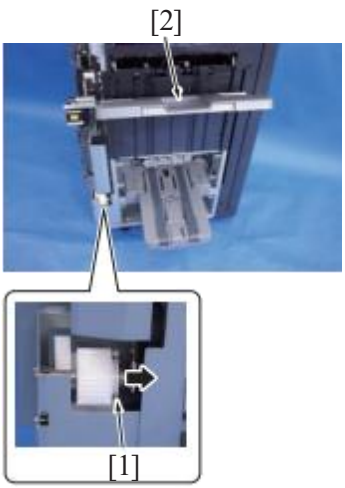
2. Remove the harness from 12 wire saddles [1].
3. Disconnect five connectors [2].
4. Remove two screws [3] and remove the route change gate motor assy [4].
   NOTE
   - **During installation, you must pass the metal plate [5] between the belt [6].**



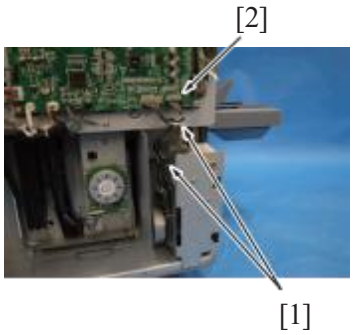
5. Remove two screws [1] and remove the route change gate motor [2].
6. Reinstall the above parts following the removal steps in reverse.

11.20 Main tray up/down motor (M6) (CPF-810H/CPF-810X)

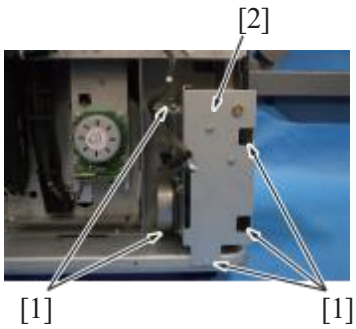
1. Remove the rear cover.
   F.11.5 Rear cover (CPF-810H/CPF-810X)



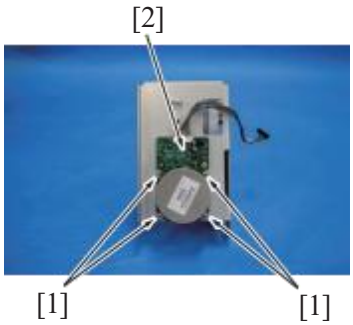
2. Hold the main tray [2] by your hands, slide the gear coupling [1] to the right, and lower the main tray [2] to the lowest level.



3. Remove the harness from two wire saddles [1], and disconnect the connector [2].



4. Remove five screws [1], and remove the main tray up/down motor assy [2].



5. Remove four screws [1], and remove the main tray up/down motor [2].

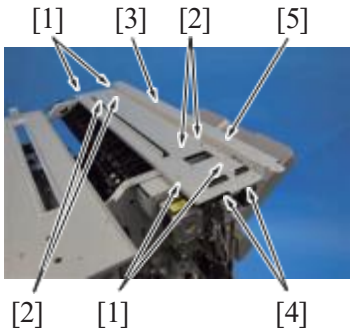
6. To reinstall, reverse the order of removal.

⚠CAUTION

- Note that when sliding the coupling, the main tray may suddenly fall down. Be sure to hold it by your hands.

11.21 Paddle up/down motor (M7)/arm drive motor (M8)/FNS paddle motor (M9) (CPF-810H/CPF-810X)

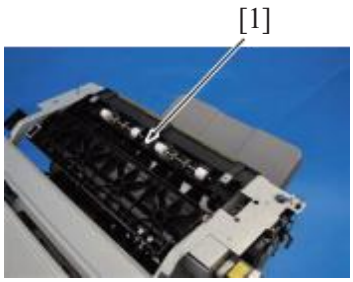
1. Remove the rear cover.
   F.11.5 Rear cover (CPF-810H/CPF-810X)
2. Remove the upper cover/1.
   F.11.2 Upper cover/1 (CPF-810H/CPF-810X)
3. Remove the upper cover/2.
   F.11.3 Upper cover/2 (CPF-810H/CPF-810X)
4. Remove the upper cover/3.
   F.11.4 Upper cover/3 (CPF-810H/CPF-810X)
5. Remove the front door.
   F.11.6 Front door (CPF-810H/CPF-810X)
6. Remove the front lower cover.
   F.11.8 Front lower cover (CPF-810H/CPF-810X)
7. Remove the front upper cover.
   F.11.7 Front upper cover (CPF-810H/CPF-810X)
8. Remove the sub tray (paper exit upper tray).
   F.11.10 Sub tray (over the paper exit tray) (CPF-810H/CPF-810X)



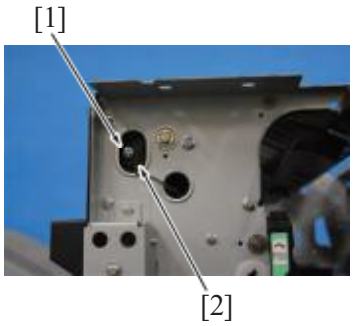
9. Remove four screws [1],four screws [2] and the screw [3],disconnect two connectors [4], and remove the metal plate [5].

NOTE

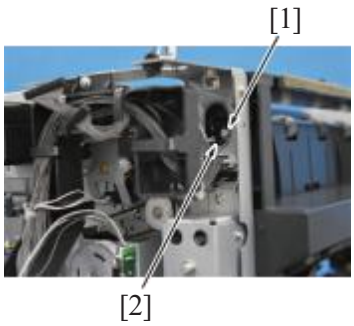
- **When installing the screws, be careful not to attach them incorrect, since the screw [1], screw [2] and the screw [3] are of different types.**



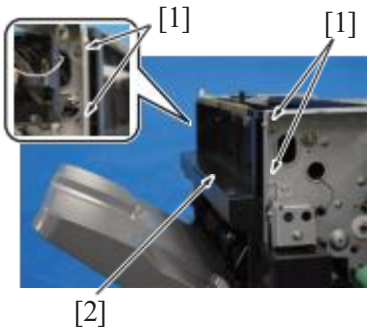
10. Remove the transfer roller unit [1].



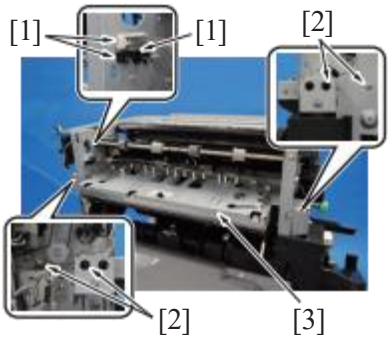
11. Remove the screw [1], and remove the sub tray full sensor/in (PS41) [2].



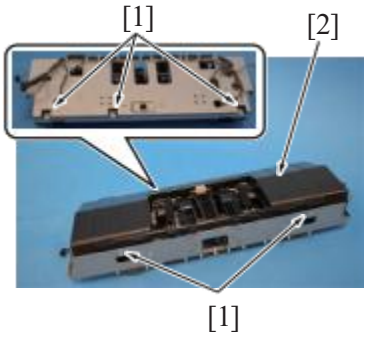
12. Remove the screw [1], and remove the sub tray full sensor/out (PS39) [2].



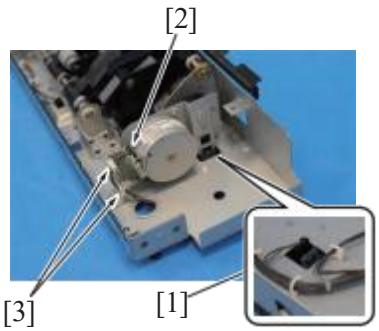
13. Remove four screws [1], and remove the cover [2].



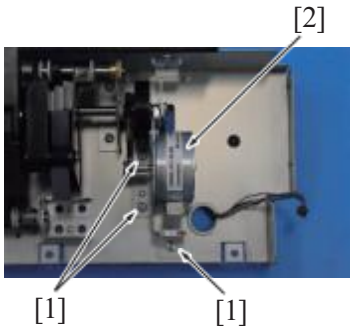
14. Disconnect three connectors [1], remove four screws [2], and remove the upper paddle unit [3].



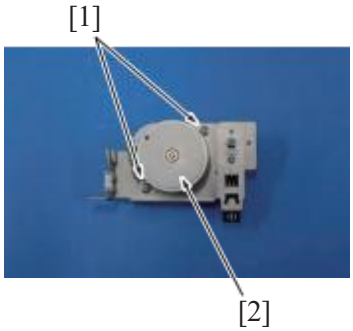
15. Remove five screws [1], and remove the cover [2].



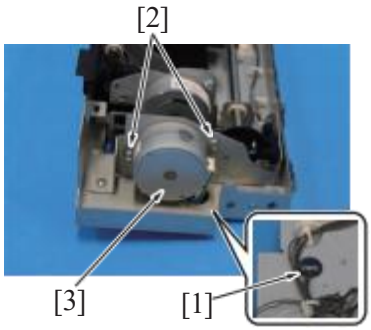
16. Disconnect the connector [1].
17. Disconnect the connector [2], and remove the harness from two edge covers [3].



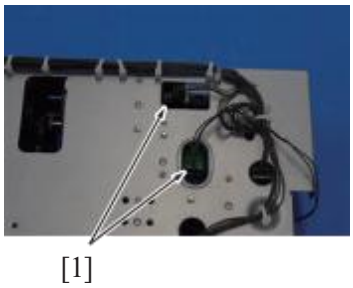
18. Remove three screws [1], and remove the paddle up/down motor assy [2].



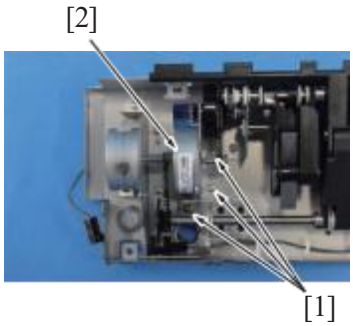
19. Remove two screws [1], and remove the paddle up/down motor [2].



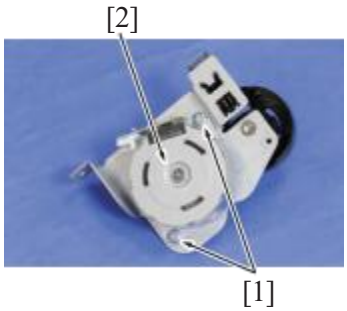
20. Disconnect the connector [1].
21. Remove two screws [2], and remove the arm drive motor [3].



22. Disconnect two connectors [1].



23. Remove three screws [1], and remove the FNS paddle motor assy [2].

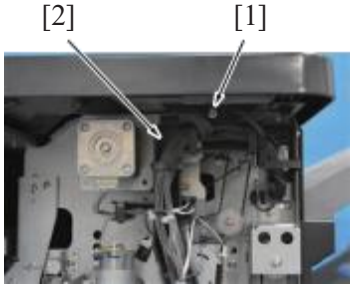


24. Remove two screws [1], and remove the FNS paddle motor [2].

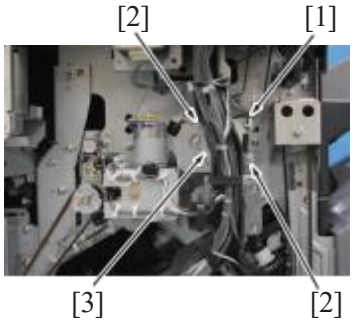
25. To reinstall, reverse the order of removal.

11.22 Receiving roller retraction motor (M10) (CPF-810H/CPF-810X)

1. Remove the rear cover.
F.11.5 Rear cover (CPF-810H/CPF-810X)



2. Remove the screw [1], and loosen the harness guide [2].

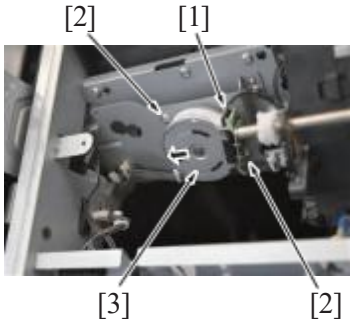


3. Disconnect the connector [1], remove two screws [2], and remove the receiving roller retraction motor [3].

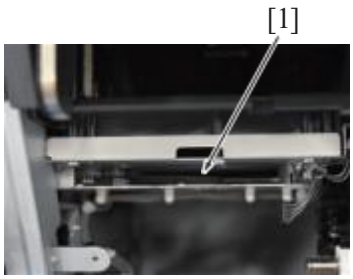
4. To reinstall, reverse the order of removal.

11.23 Trailing edge stopper motor/Rr (M11) (CPF-810H/CPF-810X)

1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)
3. Remove the alignment motor/Rr.
   F.11.25 Alignment motor/Rr (M13) (CPF-810H/CPF-810X)
4. Remove the pre-eject drive motor.
   F.11.17 Pre-eject drive motor (M2) (CPF-810H/CPF-810X)



5. Disconnect the connector [1], remove two screws [2], and remove the trailing edge stopper motor/Rr [3].

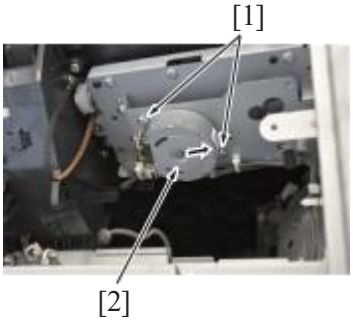


6. **NOTE**
   - **When installing the motor, place the belt [1] on the gear.**

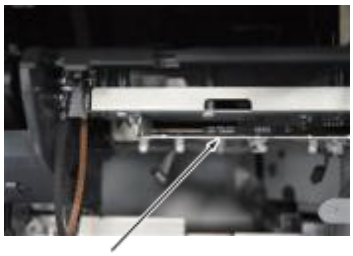
7. To reinstall, reverse the order of removal

11.24 Trailing edge stopper motor/Fr (M12) (CPF-810H/CPF-810X)

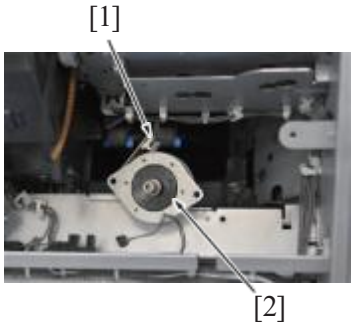
1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)
3. Remove the alignment motor/Fr.
   F.11.26 Alignment motor/Fr (M14) (CPF-810H/CPF-810X)
4. Remove the bundle eject motor.
   F.11.16 Bundle eject motor (M1) (CPF-810H/CPF-810X)



5. Remove two screws [1], and remove the trailing edge stopper motor/Fr [2].



6. **NOTE**
   - **When installing the motor, place the belt [1] on the gear.**

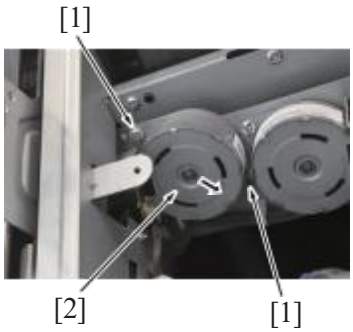


7. Disconnect the connector [1], and remove the trailing edge stopper motor/Fr [2].

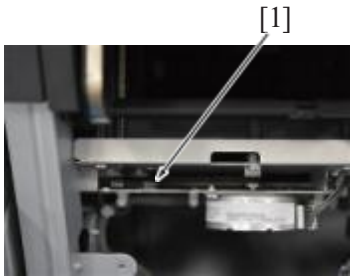
8. To reinstall, reverse the order of removal.

11.25 Alignment motor/Rr (M13) (CPF-810H/CPF-810X)

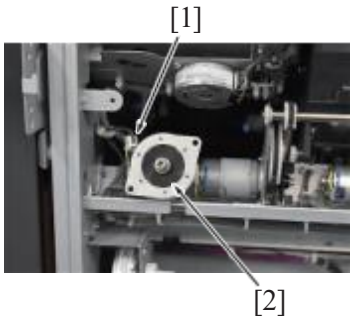
1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)



3. Remove two screws [1] and remove the alignment motor/Rr [2].



4. **NOTE**
   - **When installing the motor, place the belt [1] on the gear.**

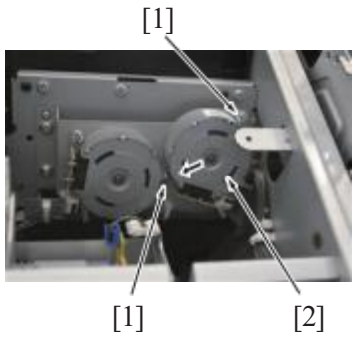


5. Disconnect the connector [1], and remove the alignment motor/Rr [2].

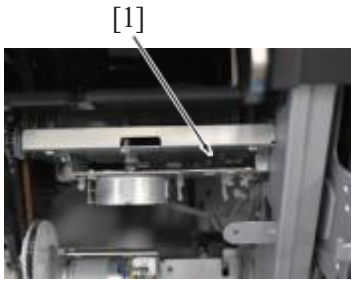
6. To reinstall, reverse the order of removal.

11.26 Alignment motor/Fr (M14) (CPF-810H/CPF-810X)

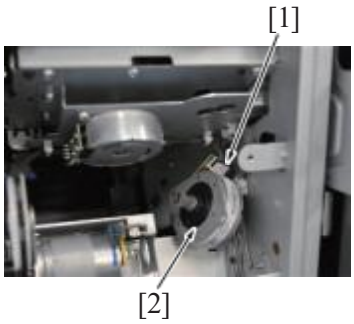
1. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
2. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)



3. Remove two screws [1] and remove the alignment motor/Fr [2].



4. **NOTE**
   - **When installing the motor, place the belt [1] on the gear.**

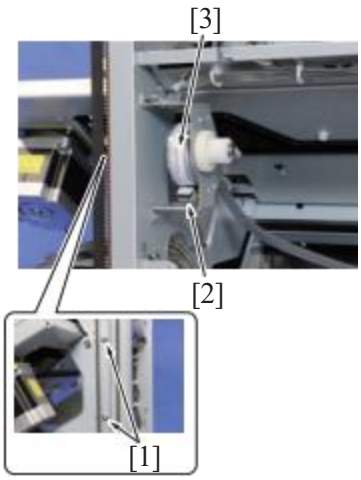


5. Disconnect the connector [1], and remove the alignment motor/Fr [2].

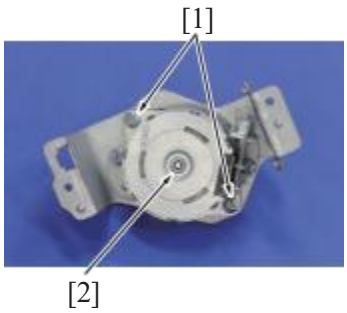
6. To reinstall, reverse the order of removal.

11.27 Paper delivery control motor (M15) (CPF-810H/CPF-810X)

1. Remove the rear cover.
   F.11.5 Rear cover (CPF-810H/CPF-810X)
2. Remove the left lower cover.
   F.11.11 Left lower cover (CPF-810H/CPF-810X)
3. Remove the left upper cover.
   F.11.12 Left upper cover (CPF-810H/CPF-810X)



4. Remove two screws [1], disconnect the connector [2], and remove the paper delivery control motor assy [3].

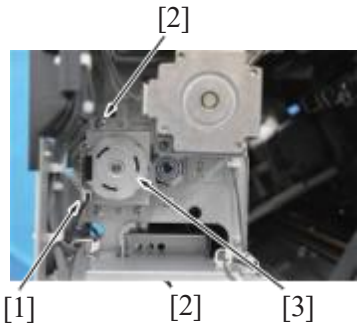


5. Remove two screws [1], and remove the paper delivery control motor [2].

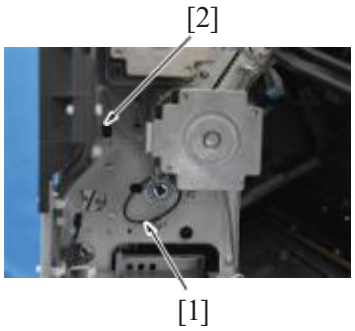
6. To reinstall, reverse the order of removal.

11.28 SD discharge motor (M16) (CPF-810H/CPF-810X)

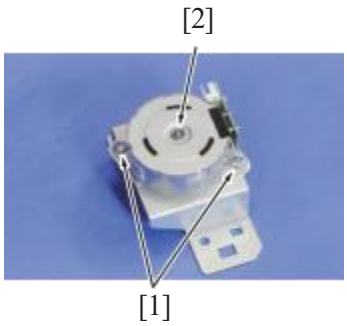
1. Remove the rear cover.
F.11.5 Rear cover (CPF-810H/CPF-810X)



2. Disconnect the connector [1].
3. Remove three screws [2], and remove the SD discharge motor assy [3].



4. **NOTE**
   - **When installing the motor, place the belt [1] on the gear, then hook it on the tab [2].**

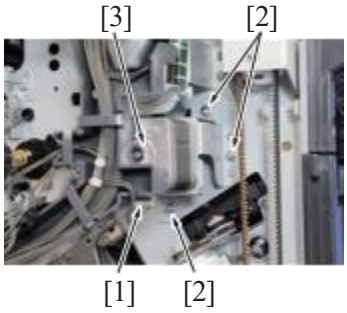


5. Remove two screws [1], and remove the SD discharge motor [2].

6. To reinstall, reverse the order of removal.

11.29 FNS discharge motor (M17) (CPF-810H/CPF-810X)

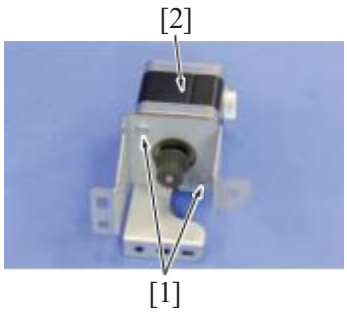
1. Remove the rear cover.
F.11.5 Rear cover (CPF-810H/CPF-810X)



2. Disconnect the connector [1].
3. Remove three screws [2], and remove the FNS discharge motor assy [3].

NOTE

- **When installing the motor, place the belt [1] on the gear.**

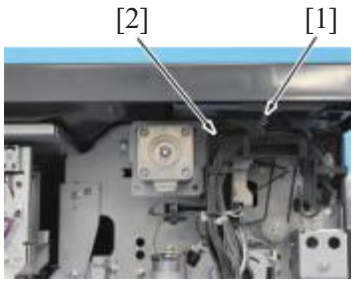


4. Remove two screws [1], and remove the FNS discharge motor [2].

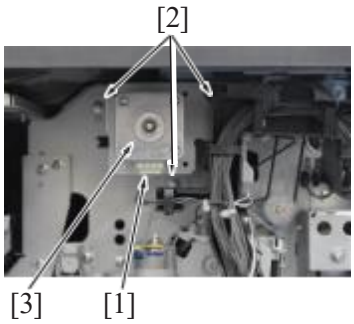
5. To reinstall, reverse the order of removal.

11.30 Sub tray discharge motor (M18) (CPF-810H/CPF-810X)

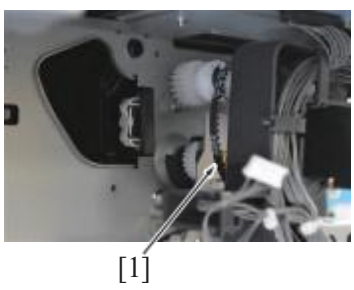
1. Remove the rear cover.
F.11.5 Rear cover (CPF-810H/CPF-810X)



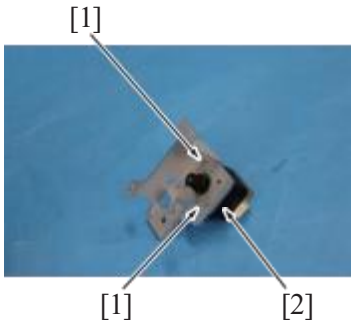
2. Remove the screw [1], and loosen the harness guide [2].



3. Disconnect the connector [1].
4. Remove three screws [2], and remove the sub tray discharge motor assy [3].



5. **NOTE**
   - **When installing the motor, place the belt [1] on the gear.**

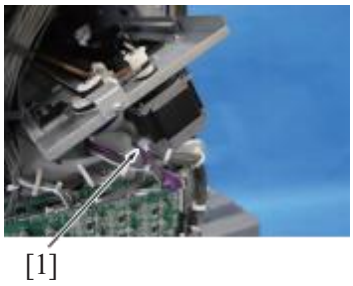


6. Remove two screws [1], and remove the sub tray discharge motor [2].

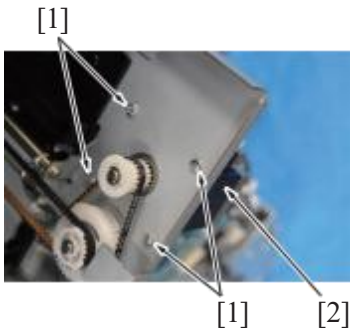
7. To reinstall, reverse the order of removal.

11.31 Stapler movement motor (M19) (CPF-810H/CPF-810X)

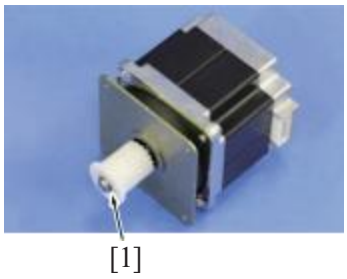
1. Remove the rear cover.
F.11.5 Rear cover (CPF-810H/CPF-810X)



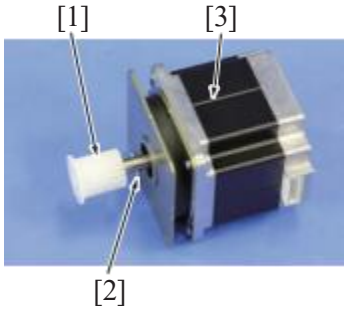
2. Disconnect the connector [1].



3. Remove four screws [1], and remove the stapler movement motor assy [2].



4. Remove the E-ring [1].



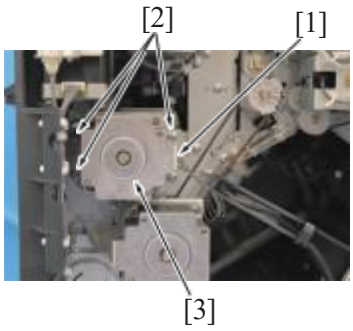
5. Remove the gear [1], pin [2], and remove the stapler movement motor [3].

6. To reinstall, reverse the order of removal.

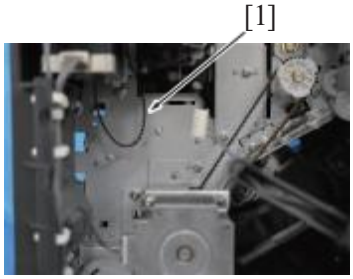
11.32 FNS entry transport motor (M20) (CPF-810H/CPF-810X)

1. Remove the rear cover.

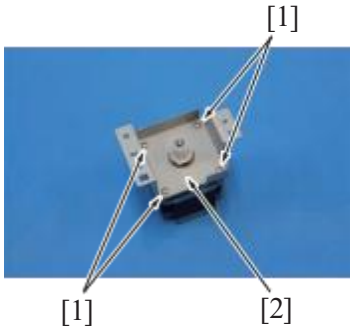
F.11.5 Rear cover (CPF-810H/CPF-810X)



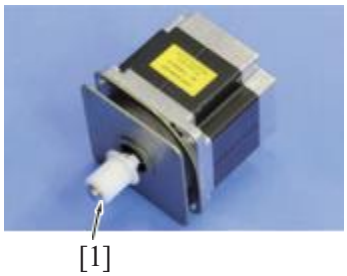
2. Disconnect the connector [1].
3. Remove three screws [2], and remove the FNS entry transport motor assy [3].



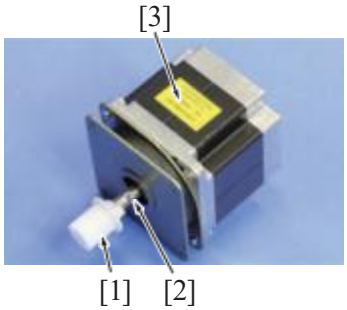
4. **NOTE**
   - **When installing the motor, place the belt [1] on the gear.**



5. Remove four screws [1], and remove the plate [2].



6. Remove the E-ring [1].

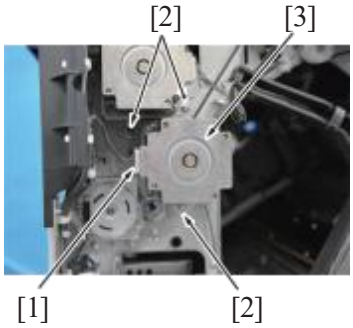


7. Remove the gear [1], pin [2], and remove the FNS entry transport motor [3].

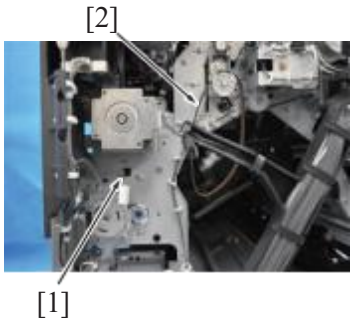
8. To reinstall, reverse the order of removal.

11.33 ZU discharge motor (M21) (CPF-810H/CPF-810X)

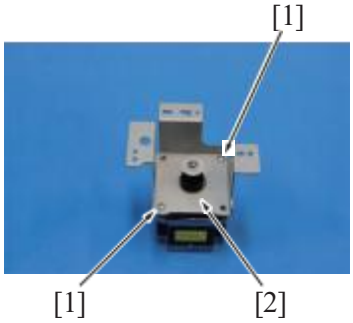
1. Remove the rear cover.
   F.11.5 Rear cover (CPF-810H/CPF-810X)



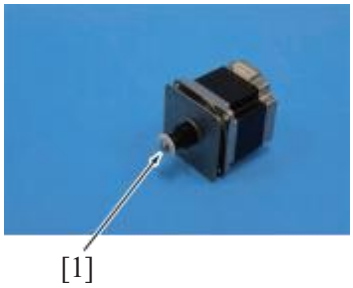
2. Disconnect the connector [1].
3. Remove three screws [2], and remove the ZU discharge motor assy [3].



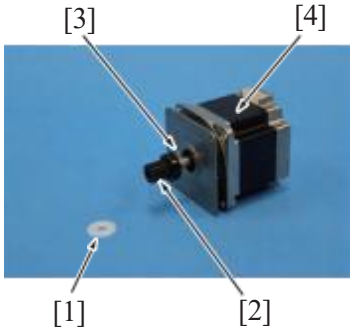
4. **NOTE**
   - **When installing the motor, hook it on the tab [1], then place the belt [2] on the gear.**



5. Remove two screws [1], and remove the plate [2].



6. Remove the E-ring [1].



7. Remove the flange [1], gear [2] and pin [3], and remove the ZU discharge motor [4].

8. To reinstall, reverse the order of removal.

12. CPF-810X saddle section

12.1 Saddle unit (CPF-810X saddle section)

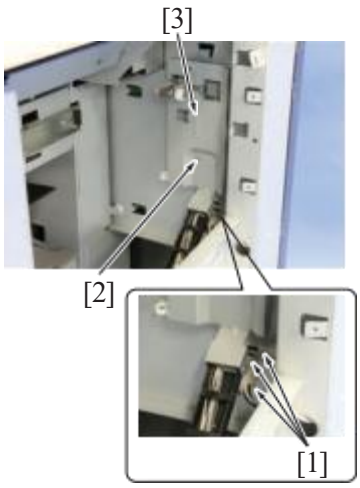
⚠CAUTION

- Be careful not to catch your finger in the edge of the rail when mounting the saddle unit on the right rail for the saddle unit installation.

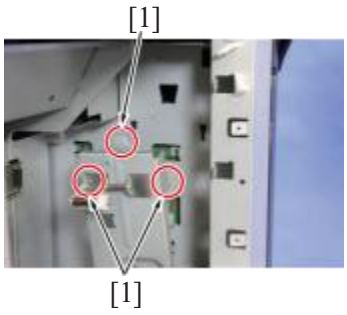
⚠CAUTION

- Be careful not to jam your finger in the connecting section of the pantograph.

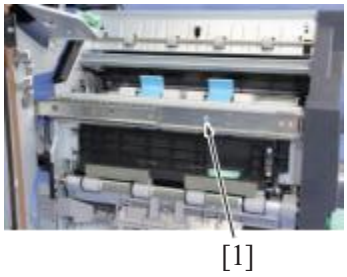
1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)
2. Remove the front door of the finisher.
   F.11.6 Front door (CPF-810H/CPF-810X)
3. Remove the finisher front lower cover.
   F.11.8 Front lower cover (CPF-810H/CPF-810X)



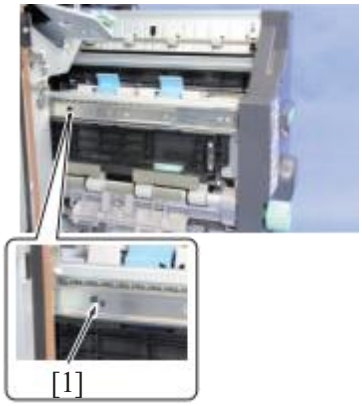
4. Disconnect three connectors [1] on the pantograph.
5. Remove the screw [2] and remove the pantograph [3].



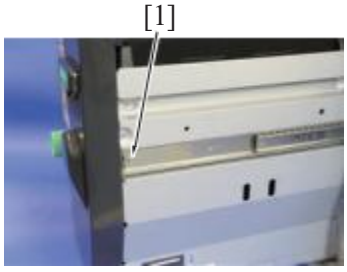
6. **NOTE**
   - **For installation of the pantograph, insert three hooks [1] on the pantograph of the saddle unit into the back holes inside the finisher.**



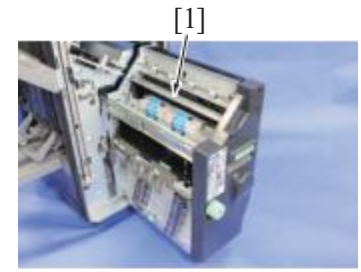
7. Remove the screw [1].

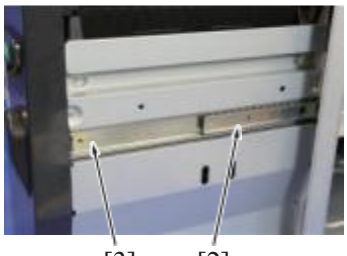


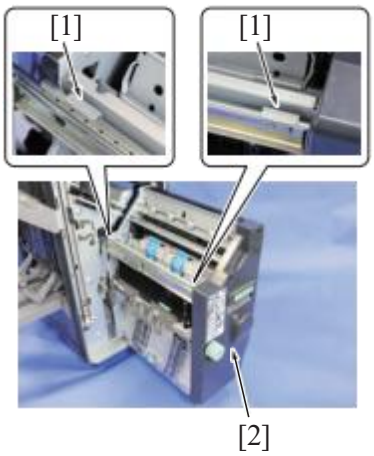
8. Push back the saddle unit into the position of the illustration, and then remove the screw [1].



9. Pull out the saddle unit and remove the screw [1].







10. Place the right rail [2] to inside the finisher while holding the saddle unit in the section indicated in the figure [1] and raising it.

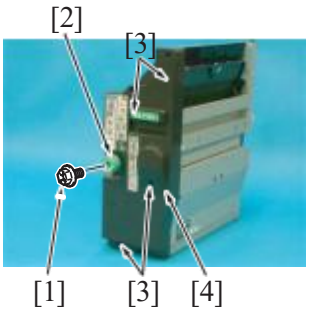
NOTE

- **Place the boss [3] of the saddle unit into the hole in the right rail when installing the saddle unit.**

11. Remove the saddle unit [2] from two tabs [1].

12. To reinstall, reverse the order of removal.

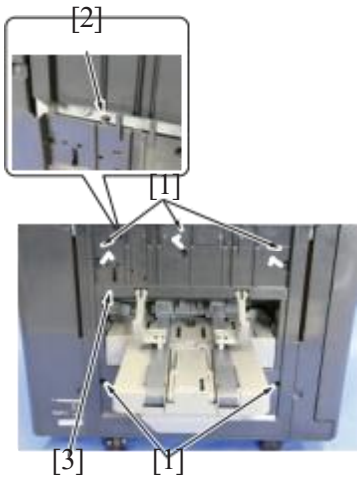
12.2 Front cover (CPF-810X saddle section)



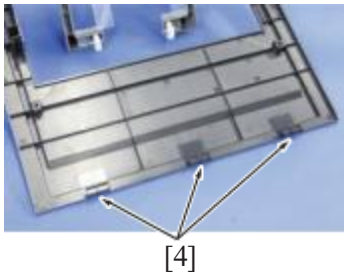
1. Remove the screw [1], and remove the jam clearing dial [2].
2. Remove four screws [3], and remove the front cover [4].

3. To reinstall, reverse the order of removal.

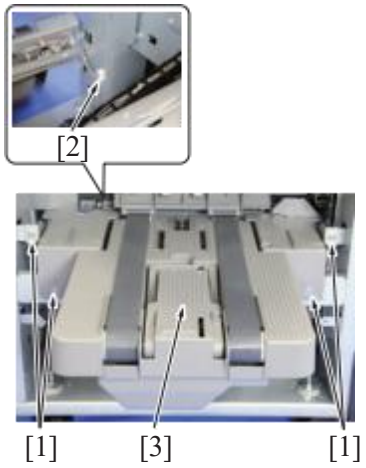
12.3 Exit tray (CPF-810X saddle section)



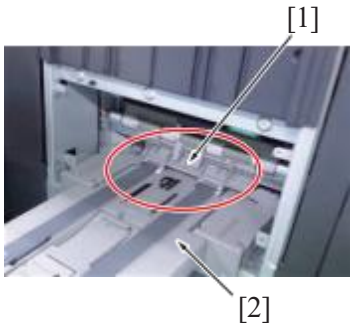
1. Remove five screws [1].
2. Disconnect the connector [2] and remove the left lower cover [3].



3. **NOTE**
   - **Install after hooking three tabs [4] of the left lower cover when installing.**



4. Remove four screws [1].
5. Disconnect the connector [2] and remove the exit tray [3].

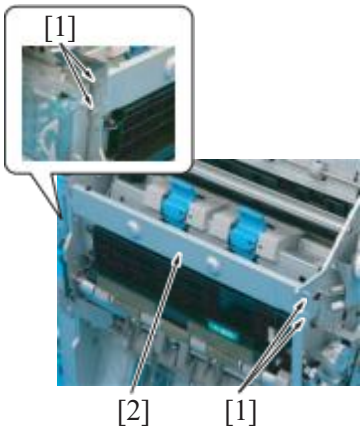


6. **NOTE**
   - **When installing the exit tray, make sure that the roll [1] is located above the exit tray [2].**

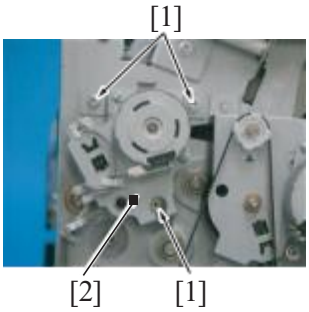
7. To reinstall, reverse the order of removal.

12.4 Stapler unit (CPF-810X saddle section)

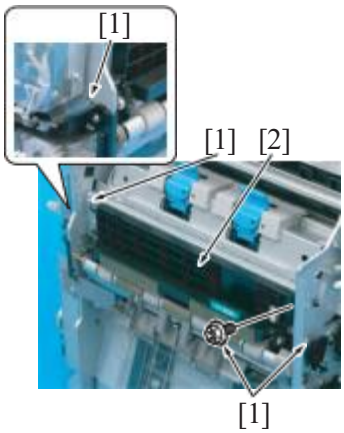
1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)



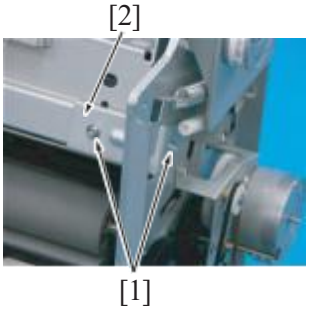
3. Remove four screws [1], and remove the plate [2].



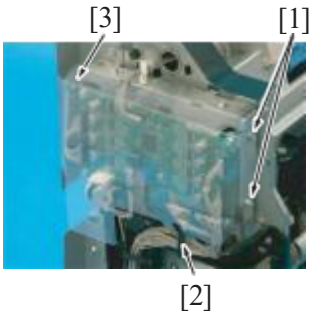
4. Remove three screws [1], and remove the tri-folding guide motor assy [2].



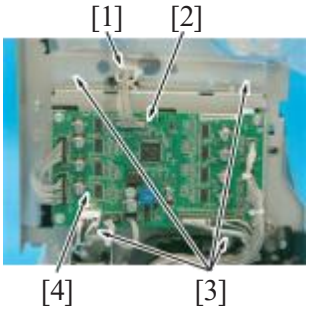
5. Remove four screws [1], and remove the transport assy [2].



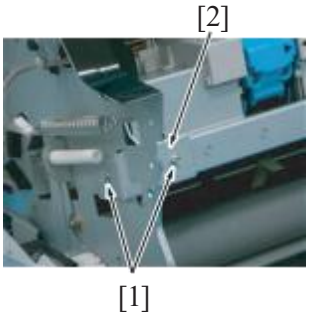
6. Remove two screws [1], and remove the plate [2].



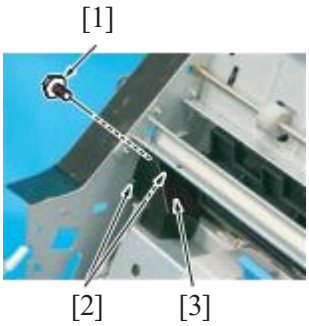
7. Remove two screws [1].
8. Detach the board support film [3] from the harness guide tabs [2].



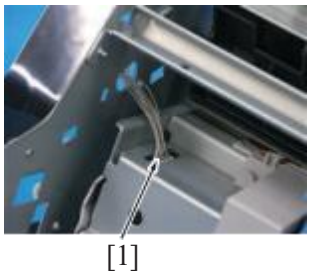
9. Remove the harness from the wire saddle [1].
10. Disconnect the connector [2].
11. Remove four screws [3], and remove the SD control board assy [4].



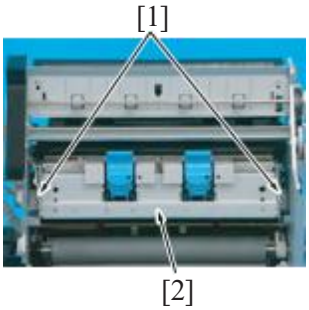
12. Remove two screws [1], and remove the plate [2].



13. Remove the screw [1].
14. Unhook two tabs [2], and remove the cover [3].



15. Disconnect the connector [1].

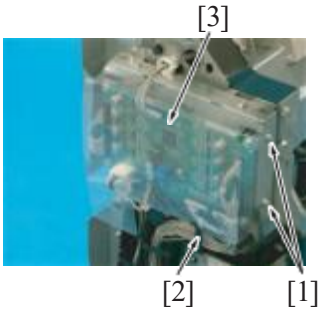


16. Remove two screws [1], and remove the stapler unit [2].

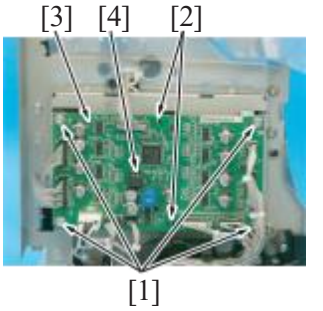
17. To reinstall, reverse the order of removal.

12.5 SD control board (SDCB) (CPF-810X saddle section)

1. Remove the saddle unit.
F.12.1 Saddle unit (CPF-810X saddle section)



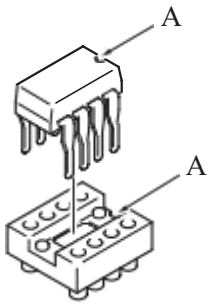
2. Remove two screws [1].
3. Remove the board support film [3] from the harness guide [2].



4. Disconnect all connectors on the SD control board.
5. Remove four screws [1].
6. Remove the SD control board [3] from two tabs [2].

NOTE

- **Remount the EEPROM (U3) [4] when the SD control board (SDCB) is replaced.**
  Install the EEPROM (U3) [4] from the old SD control board on to the new SD control board.



7. **NOTE**
   - **When mounting EEPROM (U3), align the notches (indicated by "A" in the illustration).**

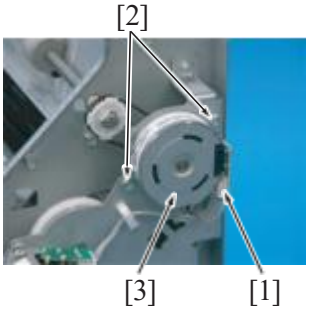
8. To reinstall, reverse the order of removal.

NOTE

- **After replacing the SD control board, be sure to install the latest firmware.**

12.6 SD transport motor (M101) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)

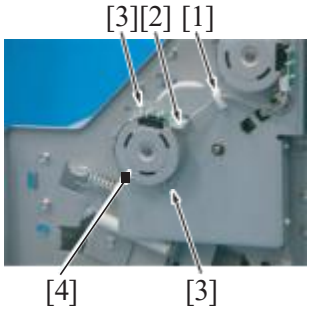


3. Disconnect the connector [1].
4. Remove two screws [2], and remove the SD transport motor [3].

5. To reinstall, reverse the order of removal.

12.7 Paper discharge control motor (M102) (CPF-810X saddle section)

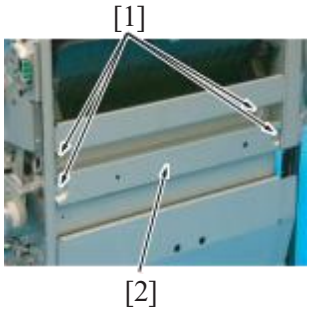
1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)



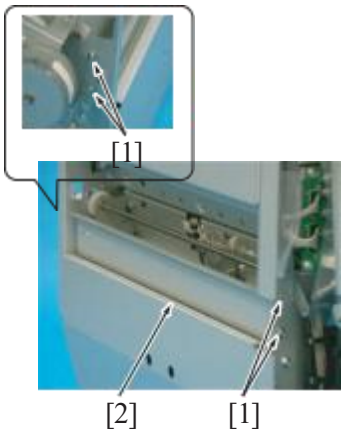
3. Remove the harness from the wire saddle [1], and disconnect the connector [2].
4. Remove two screws [3], and remove the paper discharge control motor [4].
5. To reinstall, reverse the order of removal.

12.8 Alignment motor (M103) (CPF-810X saddle section)

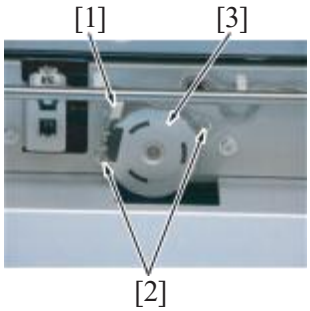
1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)



3. Remove four screws [1], and remove the plate [2].



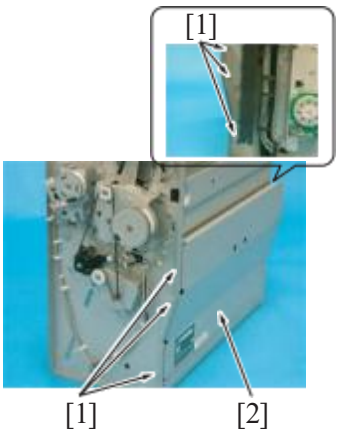
4. Remove four screws [1], and remove the plate [2].



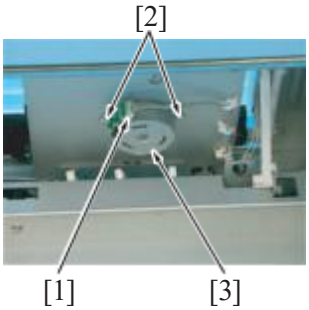
5. Disconnect the connector [1].
6. Remove two screws [2], and remove the alignment motor [3].
7. To reinstall, reverse the order of removal.

12.9 Stopper drive motor (M104) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)



3. Remove six screws [1], and remove the plate [2].

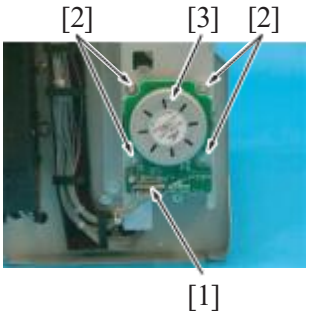


4. Disconnect the connector [1].
5. Remove two screws [2], and remove the stopper drive motor [3].

6. To reinstall, reverse the order of removal.

12.10 Center fold roller motor (M105) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)

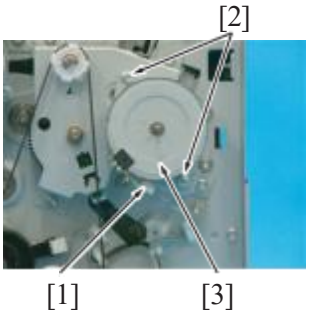


2. Disconnect the connector [1].
3. Remove four screws [2], and remove the center fold roller motor [3].

4. To reinstall, reverse the order of removal.

12.11 Center fold guide motor (M106) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)



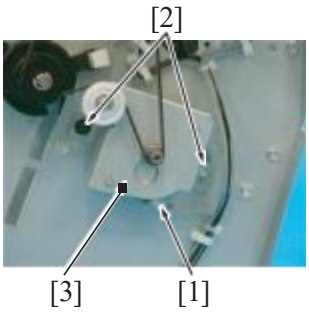
3. Disconnect the connector [1].
4. Remove two screws [2] and remove the center fold guide motor [3].

5. To reinstall, reverse the order of removal.

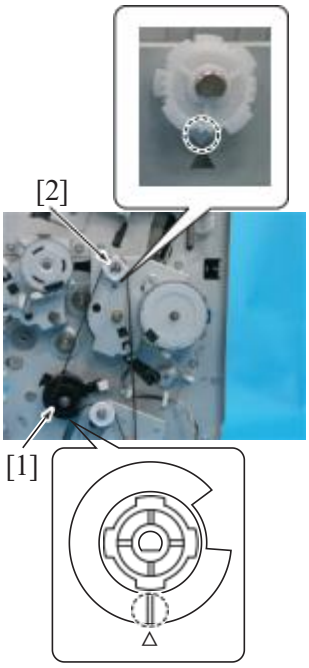
12.12 SD paddle motor (M107) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.

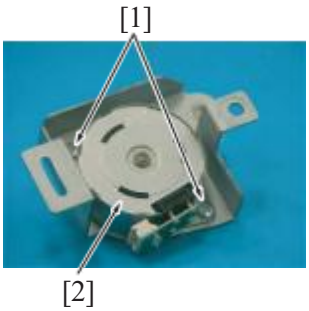
F.12.2 Front cover (CPF-810X saddle section)



3. Disconnect the connector [1].
4. Remove two screws [2], and remove the SD paddle motor assy [3].



5. **NOTE**
   - **When reinstalling the belt, align the portions of the gear [1] and the gear [2] indicated in the illustration with the triangular marking on the metal plate. Then, install the belt.**

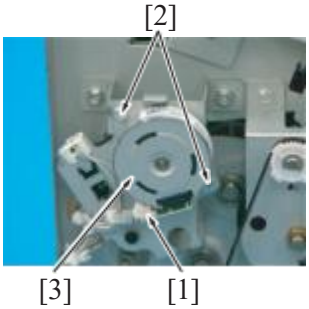


6. Remove two screws [1], and remove the SD paddle motor [2].

7. To reinstall, reverse the order of removal.

12.13 Tri-folding guide motor (M108) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)

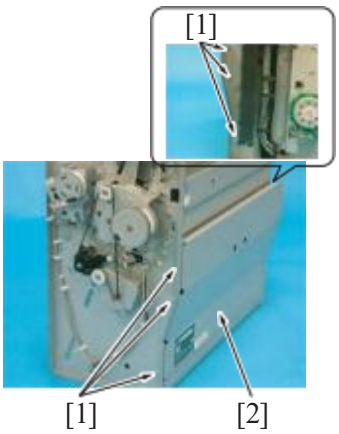


3. Disconnect the connector [1].
4. Remove two screws [2], and remove the tri-folding guide motor [3].

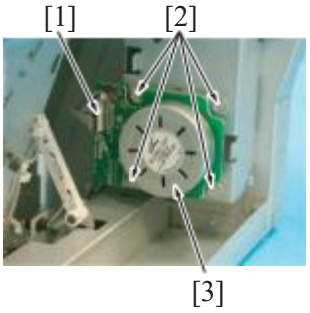
5. To reinstall, reverse the order of removal.

12.14 Center fold knife motor (M109) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)



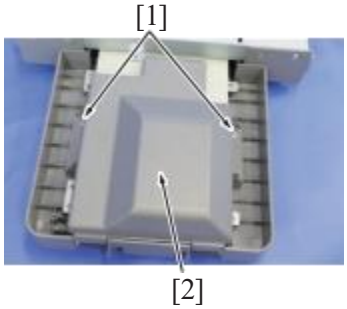
3. Remove six screws [1], and remove the plate [2].



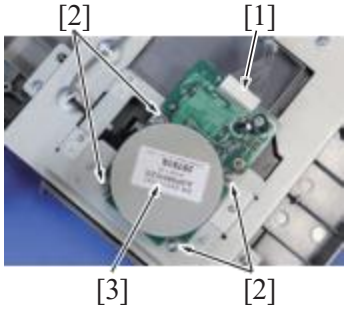
4. Disconnect the connector [1].
5. Remove four screws [2], and remove the center fold knife motor [3].
6. To reinstall, reverse the order of removal.

12.15 Paper transport belt motor (M134) (CPF-810X saddle section)

1. Remove the exit tray.
   F.12.3 Exit tray (CPF-810X saddle section)



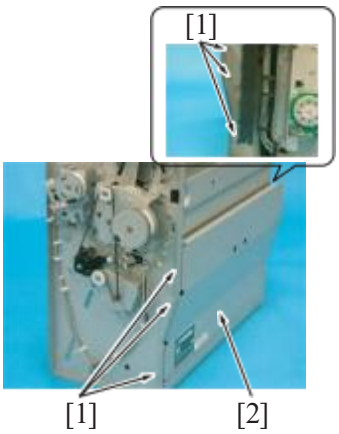
2. Remove two screws [1], and remove the cover [2].



3. Disconnect the connector [1].
4. Remove four screws [2] and remove the paper transport belt motor [3].
5. To reinstall, reverse the order of removal.

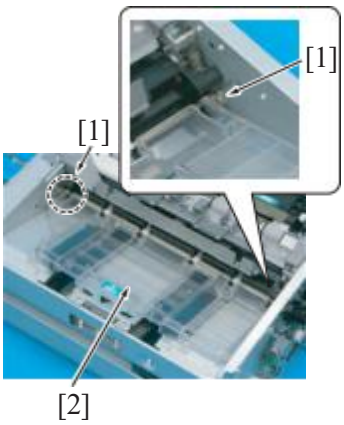
12.16 Stopper solenoid (SD101) (CPF-810X saddle section)

1. Remove the saddle unit.
   F.12.1 Saddle unit (CPF-810X saddle section)
2. Remove the front cover.
   F.12.2 Front cover (CPF-810X saddle section)

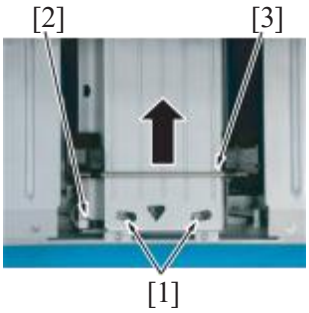


3. Remove six screws [1], and remove the plate [2].

4. Place the saddle unit as shown in the illustration.

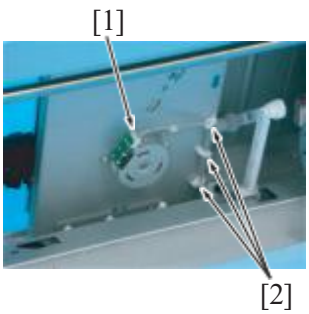


5. Remove two stoppers [1], and remove the guide plate [2].

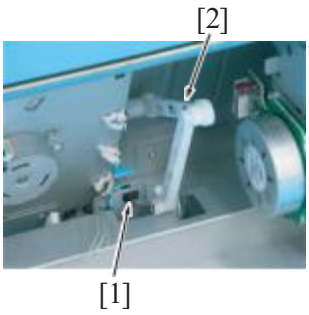


6. Slide the lever unit [3] upward.
7. Remove two screws [1] and disconnect the connector [2].

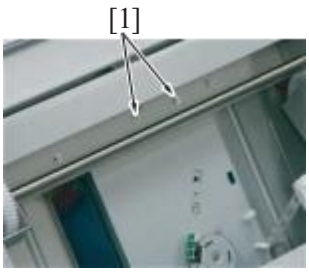
8. Raise the saddle unit.



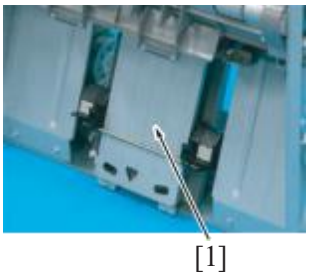
9. Disconnect the connector [1], and remove the harness from three wire saddles [2].



10. Disconnect the connector [1], and remove the drive lever [2].



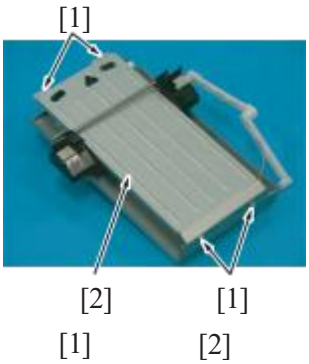
11. Remove two screws [1].



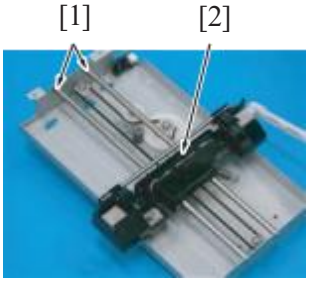
12. Remove the guide plate assy [1].

NOTE

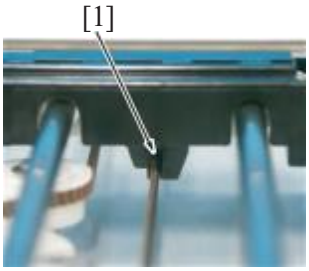
- **When installing the guide plate assy, perform mechanical adjustment.**
  G.7.1 Half-fold skew adjustment



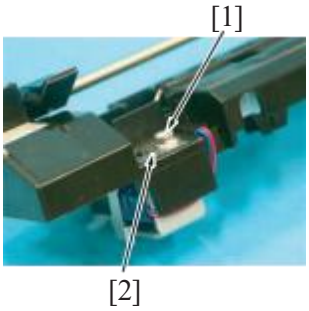
13. Remove four screws [1], and remove the plate [2].



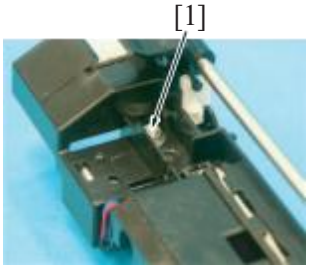
14. Remove two E-rings [1], and remove the stopper guide [2].



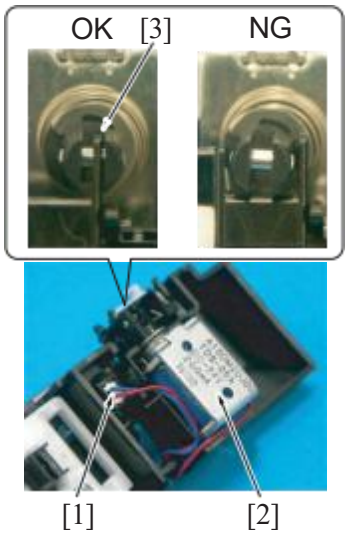
15. **NOTE**
- **When installing the stopper guide, fit the belt into the stopper guide groove [1].**



16. Remove the screw [1], and remove the plate [2].



17. Remove the screw [1].



18. Disconnect the connector [1], and remove the stopper solenoid [2].

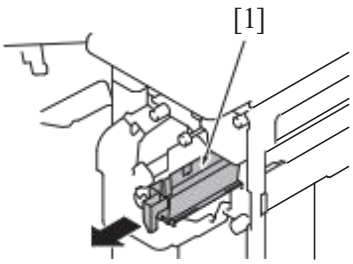
NOTE
- **When installing the stopper solenoid, fit its tip into the place [3] shown in the illustration.**

19. To reinstall, reverse the order of removal.

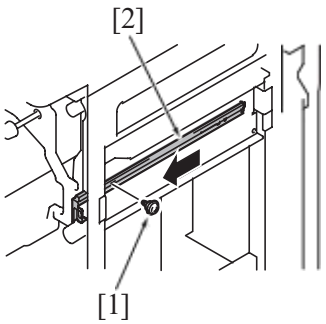
13. CPK-810XP

13.1 Punch Kit (CPK-810XP)

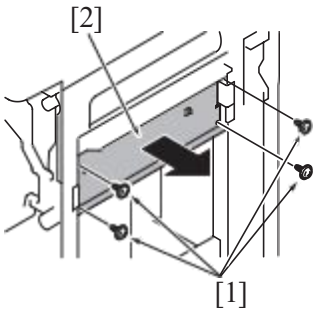
1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)
2. Remove the rear cover of the finisher.
   F.11.5 Rear cover (CPF-810H/CPF-810X)
3. Open the front door of the finisher.



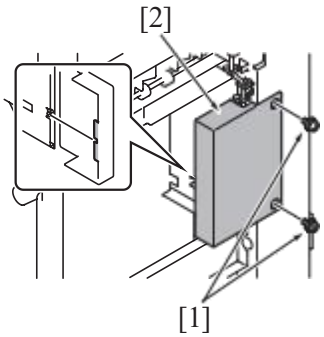
4. Remove the punch-hole scraps box [1].



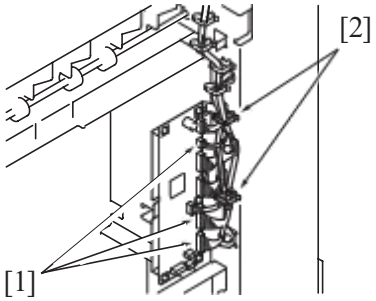
5. Remove the screw [1], and remove the plate [2].



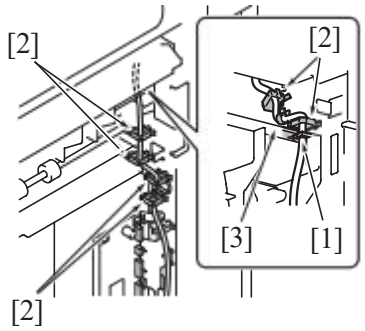
6. Remove four screws [1], and remove the plate [2].



7. Remove two screws [1], and remove the board cover [2].



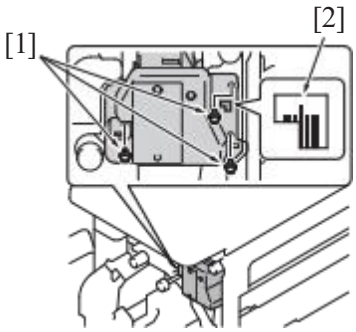
8. Disconnect three connectors [1].
9. Remove the harness from two wire saddles [2].



10. Remove the harness from the harness guide [1].
11. Remove the harness from six wire saddles [2].

NOTE

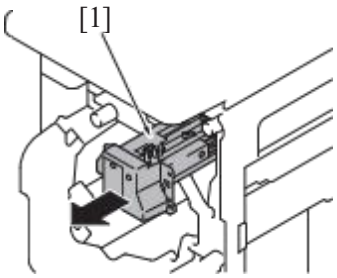
- **When installing the unit, place the harness clamp [3] between the two top wire saddles.**



12. Remove three screws [1].

NOTE

- **When installing the unit, be sure to fix it along the center line of the gauge lines [2].**



13. Pull out to remove the punch kit [1] from the finisher.

14. To reinstall, reverse the order of removal.

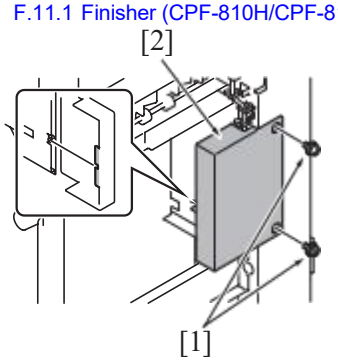
NOTE

If the paper jam error around the punch kit is displayed on the control panel when turning ON the machine after installing the punch kit, check the following:

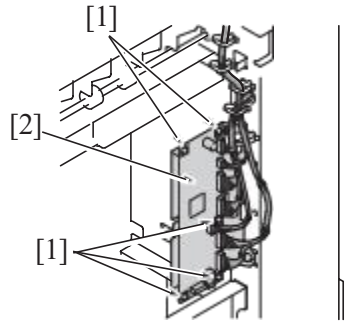
- **No paper pieces are left on the paper path.**
- **Execute the** I.11.1.6 Punch F. Sensor Intensity Adj.**. After the adjustment, open and close the front door of the finisher to confirm that the JAM displays disappear.**
- **Before turning OFF the main power switch, wait at least 10 seconds after the JAM displays disappear.**

13.2 Punch control board (PKCB) (CPK-810XP)

1. Remove the finisher from the main body.
F.11.1 Finisher (CPF-810H/CPF-810X)



2. Remove two screws [1], and remove the board cover [2].

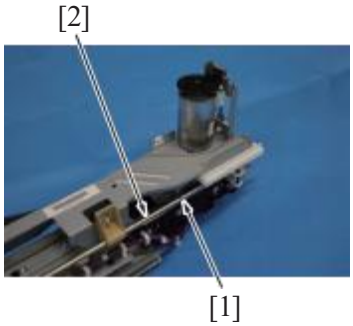


3. Disconnect all connectors from the punch control board.
4. Remove five screws [1], and remove the punch control board [2].

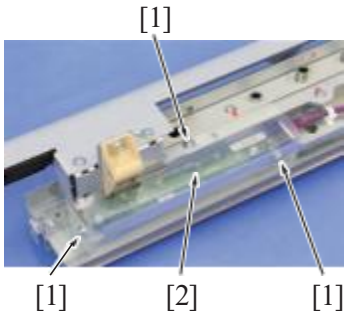
5. To reinstall, reverse the order of removal.

13.3 Paper size detect board (PSDTB) (CPK-810XP)

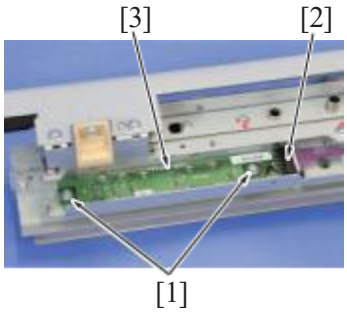
1. Remove the punch kit.
F.13.1 Punch Kit (CPK-810XP)



2. Remove the E-ring [1], and pull out the punch oscillating section [2].



3. Remove three screws [1], and remove the board protective shield [2].



4. Remove two screws [1], disconnect the connector [2], and remove the paper size detection board [3].

5. To reinstall, reverse the order of removal.

NOTE

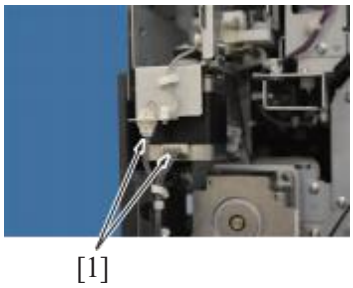
If the paper jam error around the punch kit is displayed on the control panel when turning ON the machine after installing the punch kit, check the following:

- **No paper pieces are left on the paper path.**
- **Execute the I.11.1.6 Punch F. Sensor Intensity Adj.. After the adjustment, open and close the front door of the finisher to confirm that the JAM displays disappear.**
- **Before turning OFF the main power switch, wait at least 10 seconds after the JAM displays disappear.**

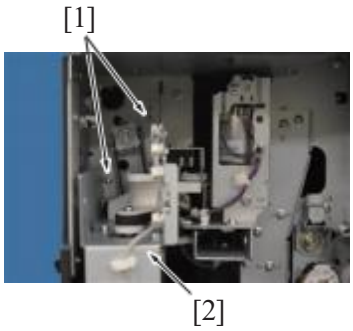
13.4 Punch oscillating motor (M302) (CPK-810XP)

1. Remove the rear cover of the finisher.
F.11.5 Rear cover (CPF-810H/CPF-810X)

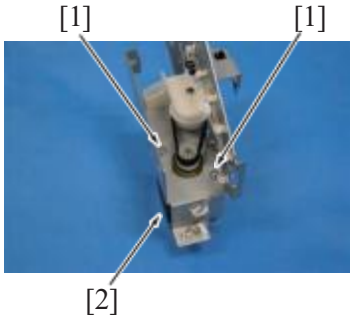
2. Disconnect two connectors [1].



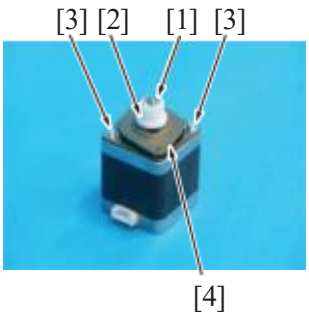
3. Remove two screws [1], and remove the punch oscillating motor unit [2].



4. Remove two screws [1], and remove the punch oscillating motor [2].



5. Remove the E-ring [1], and remove the gear [2].
   NOTE
   - **Take care not to lose the pin.**
6. Remove two screws [3], and remove the plate [4].

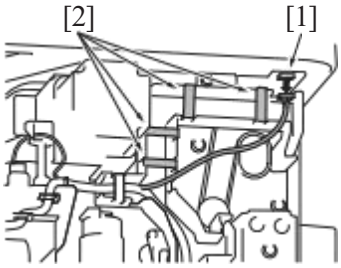


7. To reinstall, reverse the order of removal.
   NOTE
   If the paper jam error around the punch kit is displayed on the control panel when turning ON the machine after installing the punch kit, check the following:
   - **No paper pieces are left on the paper path.**
   - **Execute the I.11.1.6 Punch F. Sensor Intensity Adj.. After the adjustment, open and close the front door of the finisher to confirm that the JAM displays disappear.**
   - **Before turning OFF the main power switch, wait at least 10 seconds after the JAM displays disappear.**

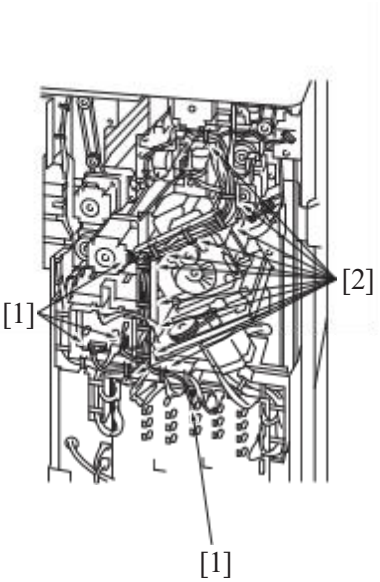
14. CPK-810Z

14.1 Z Folding Unit (CPK-810Z)

1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)
2. Remove the rear cover of the finisher.
   F.11.5 Rear cover (CPF-810H/CPF-810X)

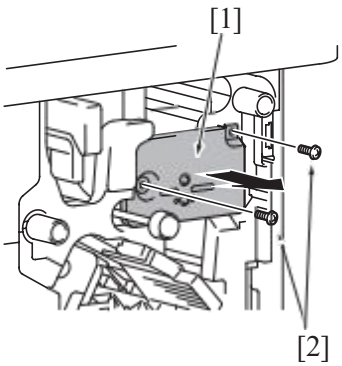


3. Disconnect the connector [1], and pull out the harness from the harness guide [2].



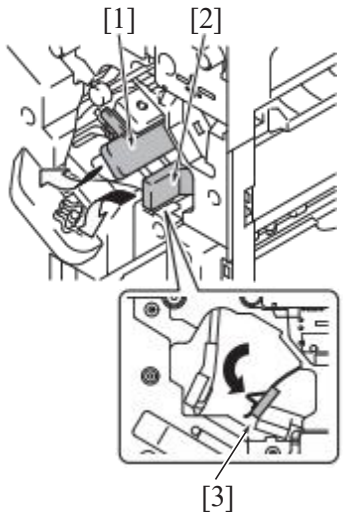
4. Disconnect four connectors [1], and remove the harness from the harness guide [2].

5. Open the front door of the finisher.

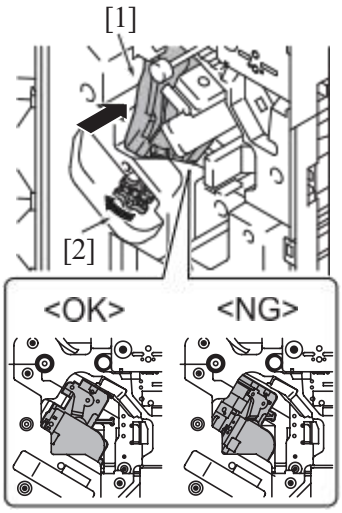


6. When the plate [1] has been installed, remove two screws [2], and remove the plate [1].

7. If the punch kit is mounted, remove the it.
   F.13.1 Punch Kit (CPK-810XP)

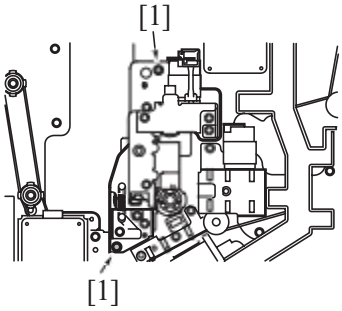


8. Open three jam removal levers. ([1], [2] and [3])

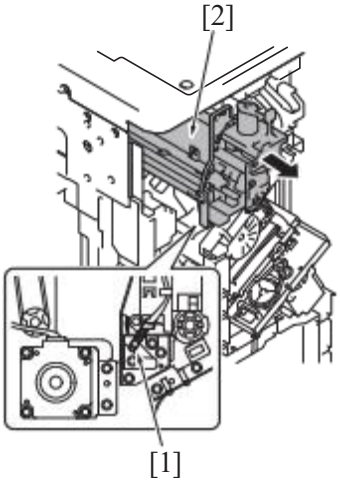


9. **NOTE**

- **If the lever does not open because the stapler [1] is being blocked, rotate the stapler transfer dial [2] and move the stapler [1] towards the rear until the dial stops.**
- **If the stapler rotated (tilted) at the rear of the finisher, move it forward until it becomes straight and again move it backward.**



10. Remove two screws [1].



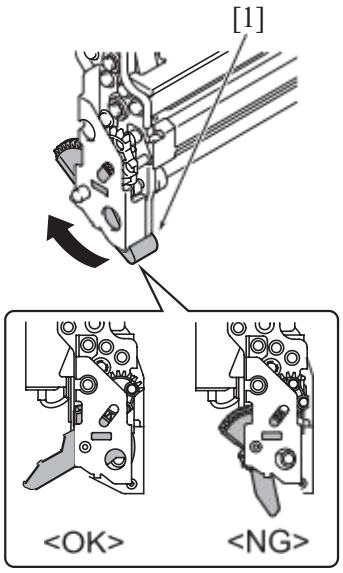
11. Remove the Z folding unit [2] from the finisher by lifting it a little with the shaft lever [1] of the lower part of the Z folding unit slided upper left.

12. To reinstall, reverse the order of removal.

13. **NOTE**

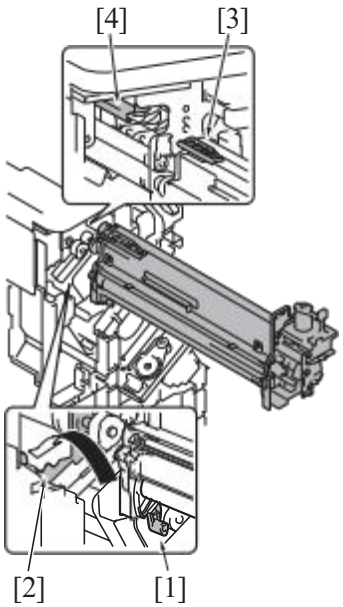
Take note of the following when installing:

- **If the jam removal lever [1] of Z folding unit is not in the position shown in the illustration, pull the lever to set to the position shown in the illustration.**



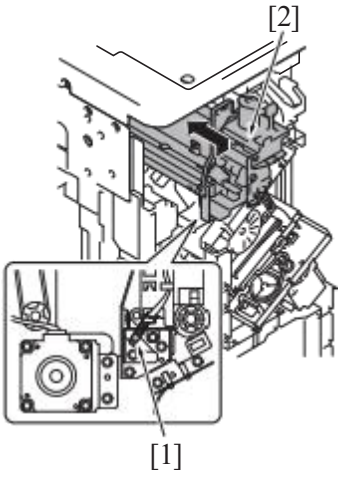
14. **NOTE**

- **Do not make the lever [1] caught on the lower frame [2] of the finisher opening.**
- **Put the upper resin part [3] of the Z folding unit on the rail [4] of the finisher opening.**



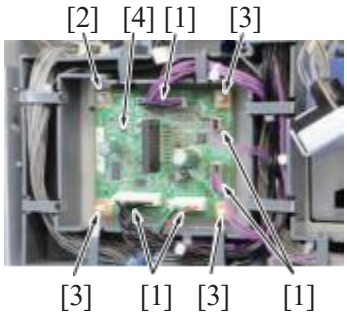
15. **NOTE**

- **Hold up the Z folding unit [2] a little to insert further, with the shaft lever [1] on the lower part of the Z folding unit slided to the upper left.**



14.2 ZU drive board (ZUDB) (CPK-810Z)

1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)
2. Remove the rear cover of the finisher.
   F.11.5 Rear cover (CPF-810H/CPF-810X)

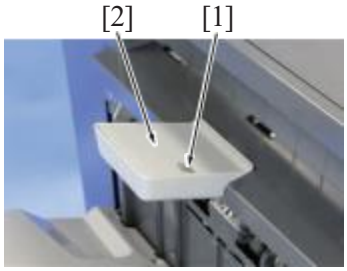


3. Disconnect five connectors [1] from the ZU drive board.
4. Remove the screw [2] and three board supports [3], and remove the ZU drive board [4].

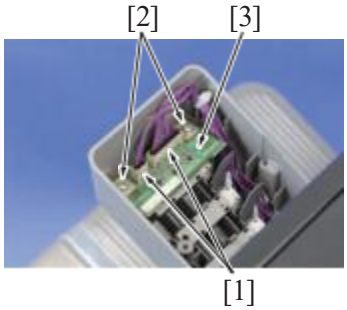
5. To reinstall, reverse the order of removal.

14.3 ZU relay board (ZURB) (CPK-810Z)

1. Remove the sub tray (paper exit upper tray) from the finisher.
   F.11.10 Sub tray (over the paper exit tray) (CPF-810H/CPF-810X)



2. Remove the screw [1], and remove the cover [2].

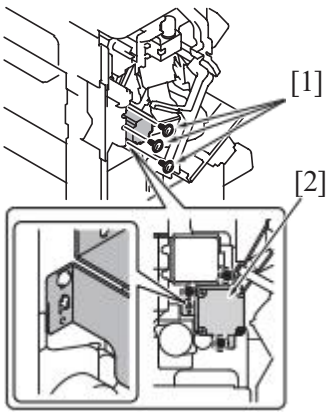


3. Disconnect the two connectors [1] from the ZU relay board.
4. Remove two screws [2], and remove the ZU relay board [3].

5. To reinstall, reverse the order of removal.

14.4 ZU transport motor (M500) (CPK-810Z)

1. Remove the finisher from the main body.
   F.11.1 Finisher (CPF-810H/CPF-810X)
2. Remove the rear cover of the finisher.
   F.11.5 Rear cover (CPF-810H/CPF-810X)

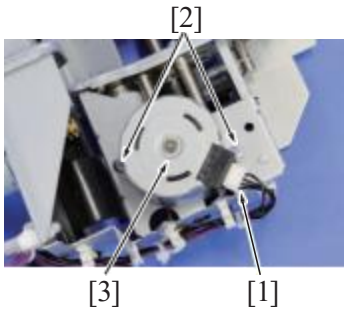


3. Disconnect the connector, remove three screws [1], and remove the ZU transport motor [2].

4. To reinstall, reverse the order of removal.

14.5 Folding guide motor (M501) (CPK-810Z)

1. Remove the Z-folding unit.
   F.14.1 Z Folding Unit (CPK-810Z)

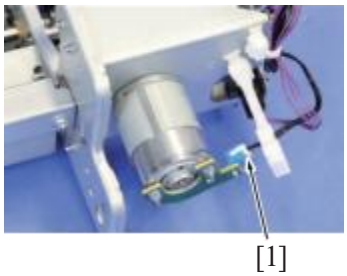


2. Disconnect the connector [1].
3. Remove two screws [2], and remove the folding guide motor [3].
4. To reinstall, reverse the order of removal.

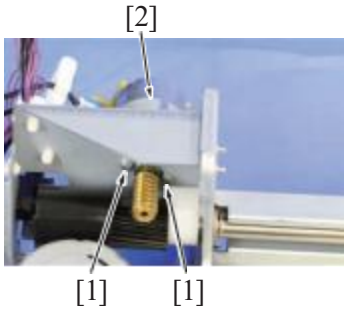
14.6 Pressure motor (M502) (CPK-810Z)

1. Remove the Z-folding unit.
   F.14.1 Z Folding Unit (CPK-810Z)

2. Disconnect the connector [1].



3. Remove two screws [1], and remove the pressure motor [2].



4. To reinstall, reverse the order of removal.

G MECHANICAL ADJUSTMENT

1. ADVANCE CHECKS

Before attempting to work adjustments and settings, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently. (e.g., elevator and air conditioner that generate electric noise)
- The installation site is environmentally appropriate:
  - High temperature, high humidity, direct sunlight, ventilation, etc.
  - Levelness of the installation site

  NOTICE
  - A.3.3.2 Installation Requirements
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, document reading glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠WARNING

- To unplug the power cord of the machine before starting the service job procedures.
- If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.
- Special care should be used when handling the fusing unit which can be extremely hot.

⚠CAUTION

- The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.
- Take care not to damage the PC drum with a tool or similar device.
- Do not touch IC pins with bare hands.

2. CM605/CM805

2.1 Skew Adj.

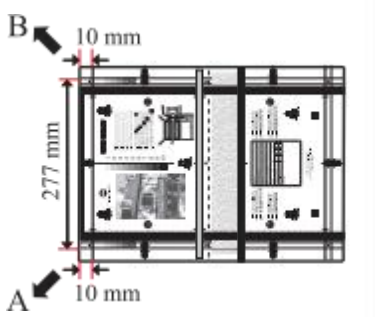
Purpose

- This adjustment must be made in the following case:
  - Images are tilted when scanning or copying images.

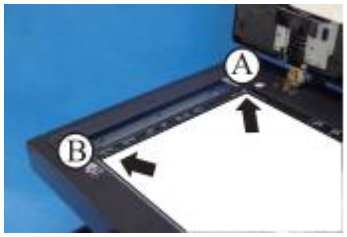
NOTE

- **Perform a test print and make sure the printed image is not tilted.**
- **If printed images are tilted, make adjustments from [Service Mode] -> [Machine] -> [Printer Area] before making this adjustment.**
- **After performing the print head skew adjustment, perform the [Scan Area] function from [Service Mode] -> [Machine].**

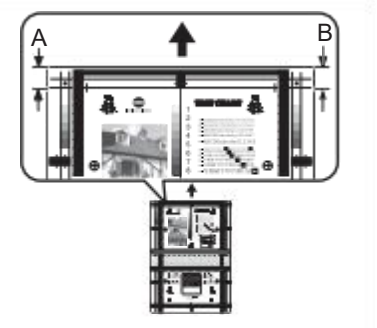
2.1.1 Confirmation procedure



1. Prepare a chart to check for tilting.



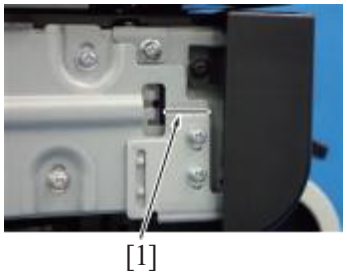
2. Set the test chart on the original document glass.
   NOTE
   - **Set the test chart against the original document scale and make sure the gap between the test chart and original document scale is 0.3 mm or less.**
3. Make sure the original document cover is completely closed.
4. Press the Start key to make a copy.



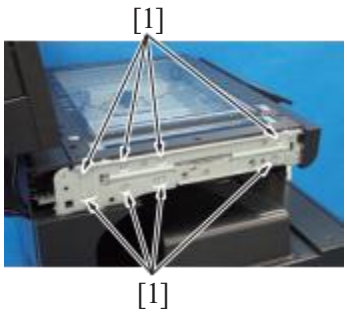
5. Check copy for image tilting.
6. Perform the following adjustment if the image tilt (different between width A and width B) is more than the standard of ±1.4 mm.

2.1.2 Adjustment procedure

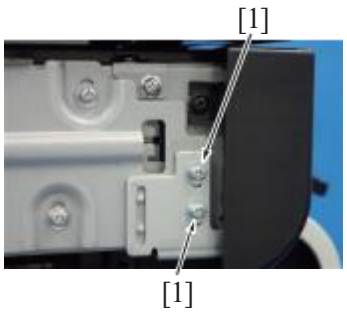
1. Remove the scanner left cover.



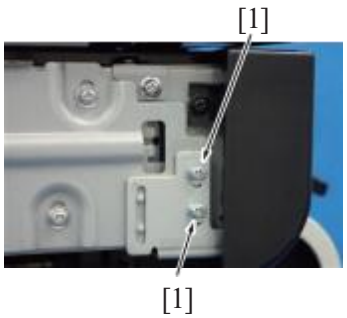
2. Record the default value [1] before making adjustments.



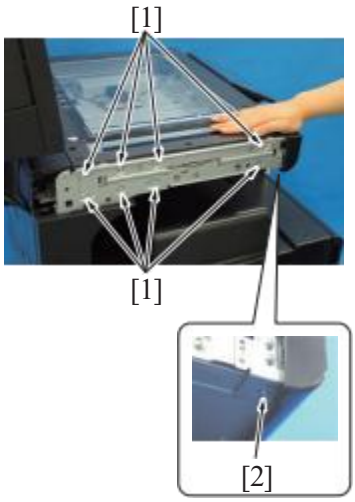
3. Loosen eight screws [1].



4. Loosen two screws [1], and adjust the scanner orientation.
   - Subtract width B from width A to calculate the difference. Use a value of two times this difference as the amount of scanner movement.
     Positive value differences
     Ex.) If the difference is +2, move the scanner up by 4 mm (4 scales).
     Negative value differences
     Ex.) If the difference is -2, move the scanner down by 4 mm (4 scales).



5. Tighten two screws [1].

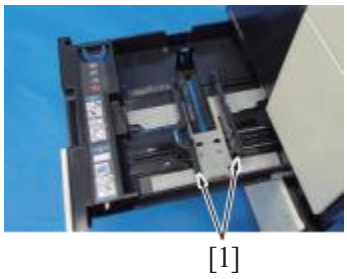


6. Tighten eight screws [1] while pressing down on the scanner.
   NOTE
   - **Tighten the screws while the bottom of the scanner makes contact with the plate [2].**
   - **Do not press the scanner with too much force that causes the support column to give. (Tightening the screws with too much force applied to the support column will cause skew to occur once you release the scanner.**

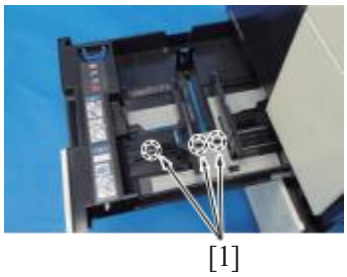
2.2 Centering adjustment of the tray 1/2

Purpose
- This adjustment must be made in the following case:
  - When an image printed on a copy is displaced from the correct position with the use of the tray1/2.

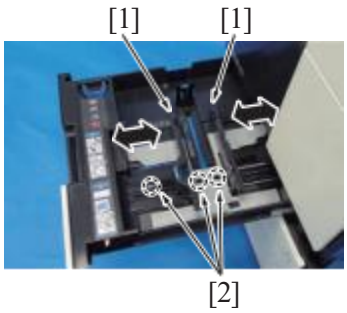
Procedure
1. Make a test print and check the amount of misalignment.
2. Pull out the tray where this adjustment is made.



3. Stretch the paper guides [1] to the minimum size position.



4. Loosen three screws [1].

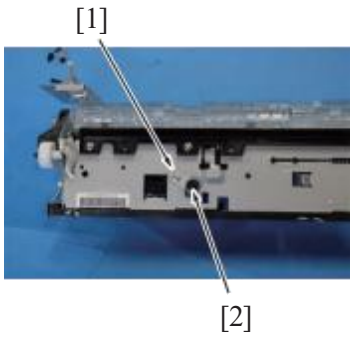


5. Move the paper guides [1] complete according to the amount of themis-centering you checked in step 1 and adjust the center position of it.
6. Tighten three screws [2].

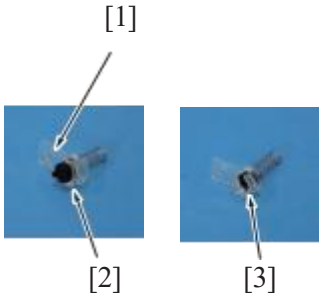
7. Make another test print and check the amount of misalignment.

2.3 Adjusting the tray 1 paper pick-up pressure

1. Remove the paper feed unit.
F.5.2.4 Paper feed unit



2. Remove the screw [1], and remove the spring assy [2].



3. Switching the front and backside of the cover [1] installing direction adjusts the pick-up pressure.
4. For the normal spring pressure, install it as [3], and to decrease the spring pressure, install it as [2].

2.4 Adjusting the parallelism of the fusing unit path

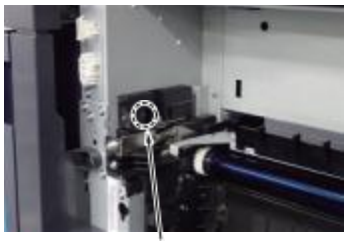
Purpose

- This adjustment must be made in the following case:

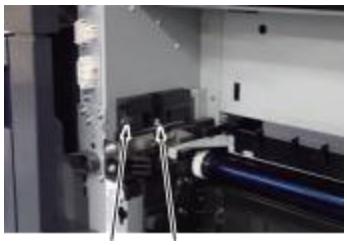
- When the second transfer paper feed path and the fusing section path are not parallel and caused wrinkles on the paper.

Procedure

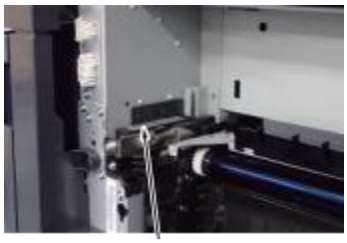
1. Remove the fusing unit.
   E.3.1.11 Replacing the fusing unit



2. Remove the screw [1] for the fusing unit positioning material.



3. Remove the screw [1], and remove the fusing unit positioning material [2].



4. 0.6 mm adjusting shim plate [1] is installed as the standard status. Add or reduce the number of shims to adjust the parallelism.
   - Removing the standard adjusting shim plate: The fusing unit mounting position (front side) will move down by 0.6 mm.
   - Adding one adjusting shim plate: The fusing mounting position (front side) will move up by 0.6mm.

   Adjusting shim plate parts number: A161 1126##

5. To reinstall, reverse the order of removal.
6. Make a test print to check whether paper is fed properly.

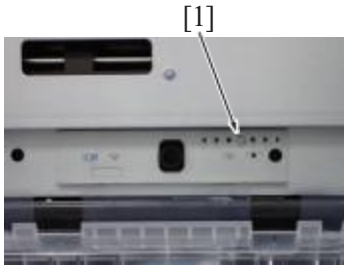
2.5 PH skew adjustment

Purpose

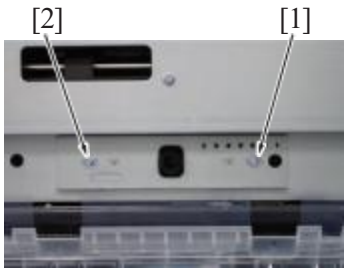
- This adjustment must be made in the following case:
  - The leading edge skew occurs.

Procedure

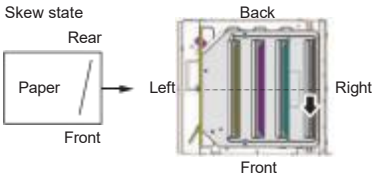
1. Remove the transport unit.
   F.5.2.13 Transport unit (CM805) F.5.2.14 Transport unit (CM605)

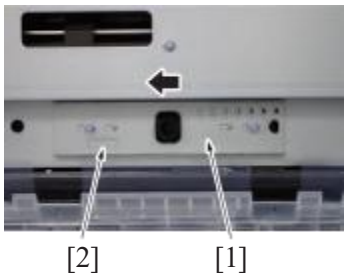


2. Remove the screw [1].



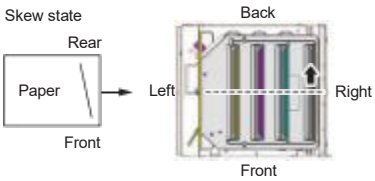
3. Temporarily tighten the screw that removed in step 2 in the long hole [1]. Loosen the fixing screw [2].

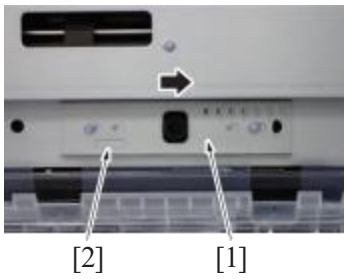




4. Confirm the skew state, and move the slide plate [1] in the adjustment direction to fit the index [2].

- Upper illustration: Shift the PH forward to accelerate the writing on the front side.
- Lower illustration: Shift the PH backward to accelerate the writing on the rear side.

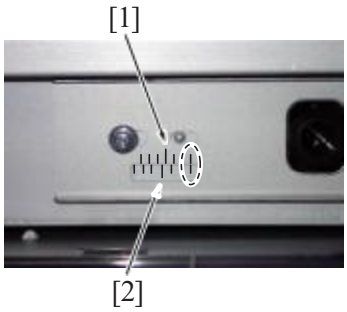




5. NOTICE

The adjust widths are as follows. The illustration shows when the scale is set to +3 (+0.3%).

- Skew adjust width: -3 (leftmost line) to +3 (rightmost line) (±0.3%)
- 1 index 0.1% (0.4 mm)
- Upper index [1]: every 2.2 mm
- Lower index [2]: every 2.6 mm



[1]

6. Tighten two screws [1].

7. To reinstall, reverse the order of removal.
8. Perform a copy and check the skew result. Repeat steps from 1 through 7 as necessary.

2.6 Control panel tilt adjustment

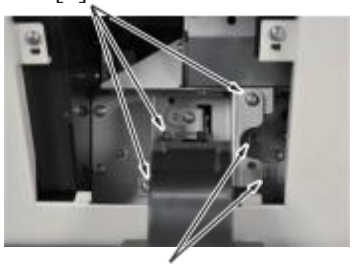
[1]

1. Remove the panel back cover [1]. (snap-fit)

[1]

2. Remove the black cover [1] of the panel hinge part. (snap-fit)

[1]



[1]

3. Loosen five screws [1], and rotate the panel hinge to correct the tilt.

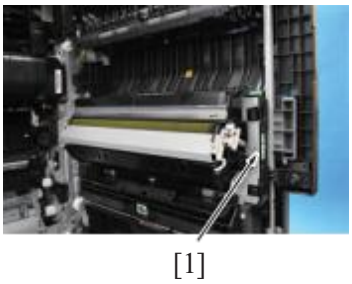
2.7 Adjusting the height of the manual bypass tray feed roller

Purpose

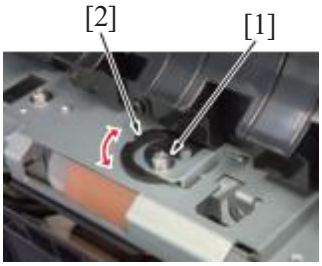
- This adjustment must be made in the following case:
- Paper jam occurs when feeding thick paper such as envelopes or postcards, or thin paper.

Procedure

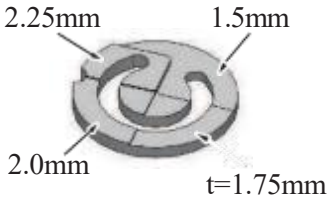
1. Open the right door.



2. Open the 2nd transfer unit [1].



3. Loosen the screw [1].
4. Rotate the spacer [2] to change the position.
5. Tighten the screw [1].



6. NOTICE
- The thickness of the spacer is divided into four levels of 1.5, 1.75, 2.0, and 2.25 mm for each rotation of 90 degrees.
- The spacer is fixed at 1.75 mm by default.
- The paper feed roller moves up and down depending on the position of the spacer, by which the engagement amount of the manual bypass tray feed roller and the separation mylar is adjusted.
- When a paper jam occurs when using thick paper such as envelopes or postcards, move the spacer to the thin position. When a paper jam occurs when using thin paper, move the spacer to the thick position.

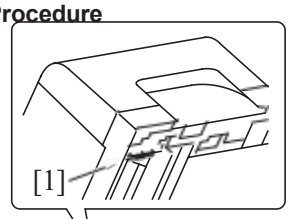
3. DF-713

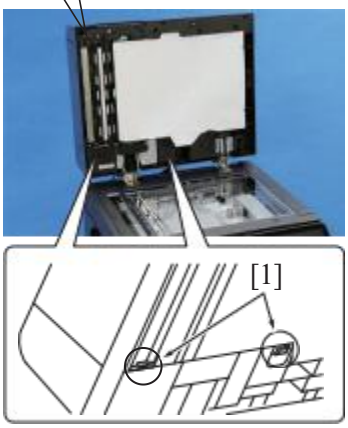
3.1 Adjusting the height of the dual scan document feeder

Purpose

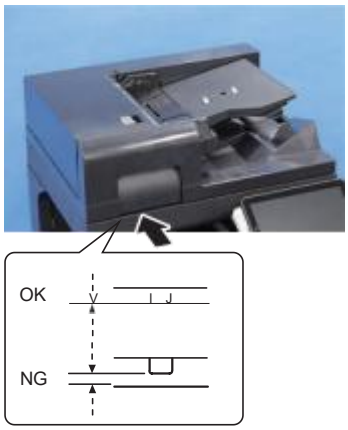
- This adjustment must be made in the following case:
  - When the dual scan document feeder has been removed.

Procedure

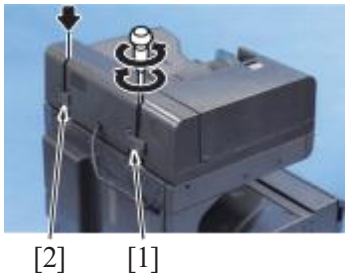




1. Check the clearance between the upper face of scanner and the protrusion [1] on the dual scan document feeder (3 spots).



2. **NOTE**
   - **There must be no clearance between the protrusion [1] on the dual scan document feeder and the upper face of scanner.**
3. If there is any clearance, the following adjustment is needed.



4. Remove the clearance by turning the adjusting screw [1].
   - Clockwise rotation: Lifting up the rear side
   - Counterclockwise rotation: Lowering the rear side
5. Use the adjusting screw [2] when further adjustment is needed.
   - Clockwise rotation: Lifting up the rear side
   - Counterclockwise rotation: Lowering the rear side

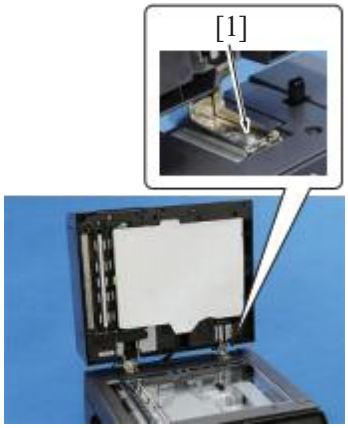
3.2 Adjusting front side skew feed on dual scan document feeder

Purpose

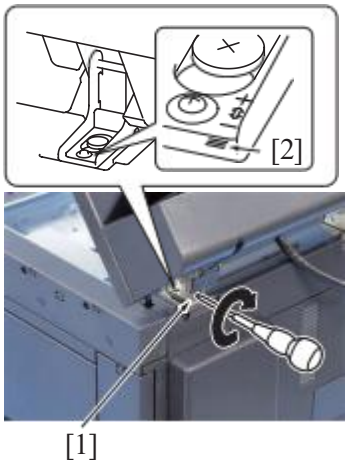
- This adjustment must be made in the following case:
  - When the dual scan document feeder has been removed.

Procedure

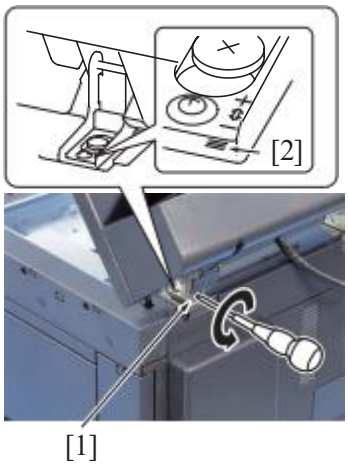
1. Call the Service Mode to the screen, and measure the skew of the dual scan document feeder.
   [Service Mode] -> [ADF] -> [Skew Measurement] -> [DFSkew(Front)].
2. If the value of [Avg. Value] does not fall within the “specified range”, perform the following adjustment.



3. Loosen the mounting screw [1] on the right hinge viewed from the front.



4. If "1.0" is displayed in the [Scale], turn the adjusting screw clockwise to move the scale scribe line one graduation in the "+" direction.
Example: If the scribe line is on graduation "3" before adjusting, adjust the scribe line to graduation "4".
NOTE
- **Look at the guide lines [2] when making the adjustment.**
- **When turning the adjusting screw [1], be sure not to raise the dual scan document feeder until in an upright position. It may damage the adjusting screw [1].**



5. If "-1.0" is displayed in the [Scale], turn the adjusting screw counterclockwise to move the scale scribe line one graduation in the "-" direction.
Example: If the scribe line is on graduation "3" before adjusting, adjust the scribe line to graduation "2".
NOTE
- **Look at the guide lines [2] when making the adjustment.**
- **When turning the adjusting screw [1], be sure not to raise the dual scan document feeder until in an upright position. It may damage the adjusting screw [1].**

6. After the adjustment is completed, tighten the mounting screw [1] on right side hinge securely with screwdriver.

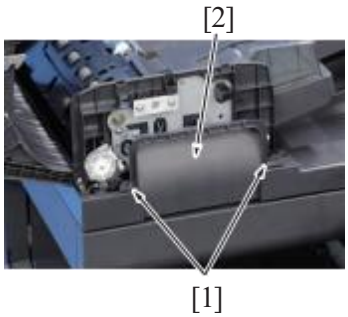
3.3 Adjusting back side skew feed on dual scan document feeder

Purpose

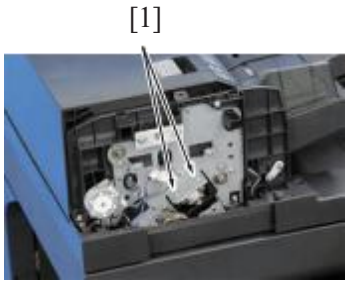
- This adjustment must be made in the following case:
  - When the dual scan document feeder has been removed.
  - When the CIS module has been removed.

Procedure

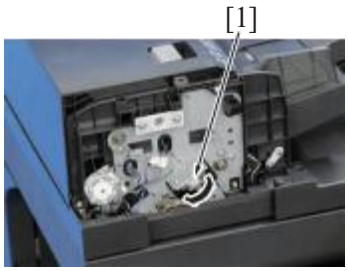
1. Call the Service Mode to the screen, and measure the skew of the dual scan document feeder.
   [Service Mode] -> [ADF] -> [Skew Measurement] -> [DFSkew(Back)].
2. If the value of [Avg. Value] does not fall within the “specified range”, perform the following adjustment.
3. Remove the front cover of the dual scan document feeder.
   F.6.1 Front cover (DF-713)



4. Remove two screws [1], and remove the cover [2].



5. Loosen two screws [1].



6. Depending on the difference of the skew value, turn the adjustment dial [1] and adjust.
   - When the difference is a positive (+) value, turn the dial clockwise.
   - When the difference is a negative (-) value, turn the dial counterclockwise.

7. After completing the adjustment, tighten the screw loosened in step 5.
8. Re-scan the chart five times by selecting [Service Mode] -> [ADF] -> [Skew Measurement] -> [DFSkew(Back)] and measure the average Skew value.
9. Check the [Avg. Value] is within the “specified range”.
10. If the value of [Avg. Value] does not fall within the “specified range”, repeat the adjustment.
11. Attach the front cover.

3.4 Adjusting the pressure of the separation roller

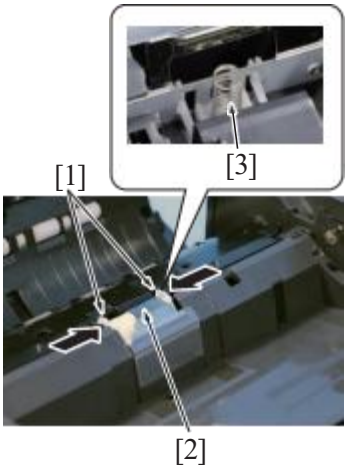
Purpose

- This adjustment must be made in the following case: The adjustment is available in three different levels.
  - Original misfeed often occurs.

Procedure

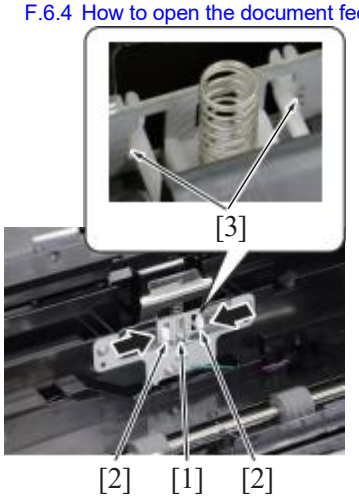
1. Open the left cover [1].

2. Grip both sides [1] of the holder and remove the separation roller assy [2].
   NOTE
   - **Do not lose the spring [3] at the lower part of the separation roller assy [2].**



3. Open the document feed tray.
   F.6.4 How to open the document feed tray (DF-713)

4. Remove the screw [1].
5. Grasp the parts [2] and make the adjustment to align with the metal plate groove [3].
   NOTE
   - **When align with the upper groove, the spring is stronger.**
   - **When align with the lower groove, the spring is weaker.**



6. To reinstall, reverse the order of removal.

4. CPT-810

4.1 Paper reference position

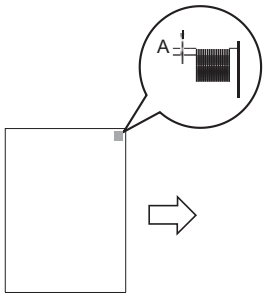
Purpose

- This adjustment must be made in the following cases:
  - When the PH unit has been replaced.
  - When the image on the print is offset in the main scan direction.
  - When adjustment in [Service Mode] -> [Machine] -> [Printer Area] -> [Printer Image Centering Side 1] does not resolve a problem.

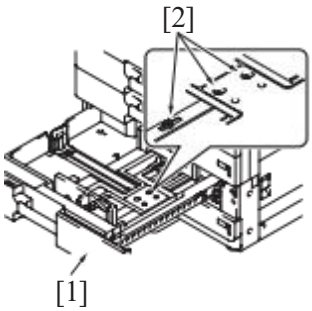
NOTE

- **When the optional finisher CPF-810H, or CPF-810X is installed, mechanical adjustment is necessary before adjustment [Printer Image Centering Side 1].**

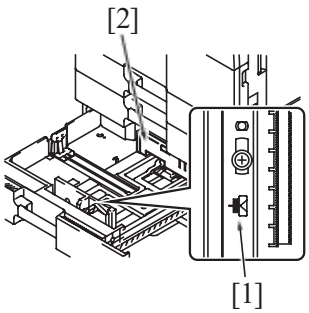
Procedure



1. Measure the width of printed reference line A.
   - Target: 3.0 ± 1.0 mm



2. Slide out the tray [1] and unload paper from it.
3. Loosen three screws [2].



4. Watching the graduations [1] provided in the drawer, move the paper width guide [2] in the rear.
   - If width A is greater than the target, move the paper width guide toward the front.
   - If width A is smaller than the target, move the paper width guide toward the rear.

5. Tighten three screws which have been loosened.
6. Perform another test print and check the reference deviation.

5. CPT-810H

5.1 Paper reference position

Purpose

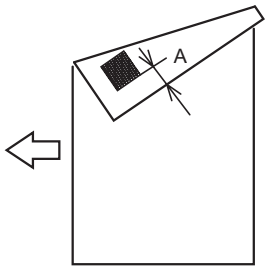
- This adjustment must be made in the following cases:
  - When the PH unit has been replaced.
  - When the image on the print is offset in the main scan direction.
  - When adjustment in [Service Mode] -> [Machine] -> [Printer Area] -> [Printer Image Centering Side 1] does not resolve a problem.

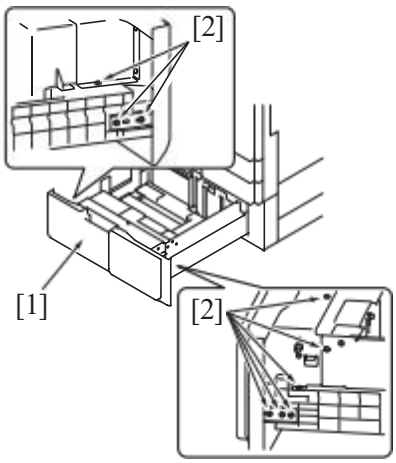
NOTE

- **When the optional finisher CPF-810H, or CPF-810X is installed, mechanical adjustment is necessary before adjustment [Printer Image Centering Side 1].**

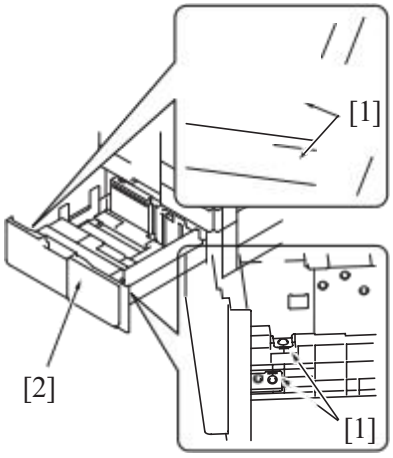
Procedure

1. Measure the width of printed reference line A. Target: 3.0 ± 1.0 mm





2. Slide out the paper feed tray [1] and unload paper from it.
3. Loosen nine screws [2].



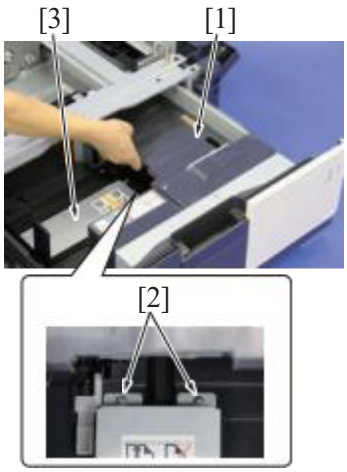
4. Watching the graduations [1] provided near the screws, move the front cover assy [2].
  - If width A is greater than the target, move the front cover assy toward the rear.
  - If width A is smaller than the target, move the front cover assy toward the front.

5. Tighten nine screws which have been loosened.
6. Perform another test print and check the reference deviation.

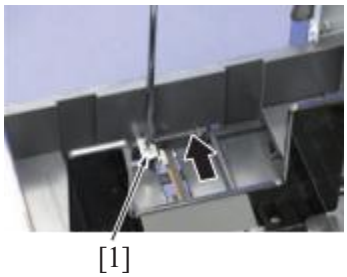
5.2 Shifter movement timing belt adjustment

Procedure

1. Slide out the paper feed tray.



2. While raising the main tray [1], and remove two screws [2] that hold the shift tray in position.
   NOTE
   - **When reinstalling, use caution because the wire of the main tray [1] comes off easily.**
3. Remove the shift tray [3].



4. Move the sifter.
5. Loosen the tension pulley assy fixing screw [1] and move it in the direction of the arrow.
6. After moving the shifter, tighten the tension pulley assy fixing screw [1].

6. CPK-810XP

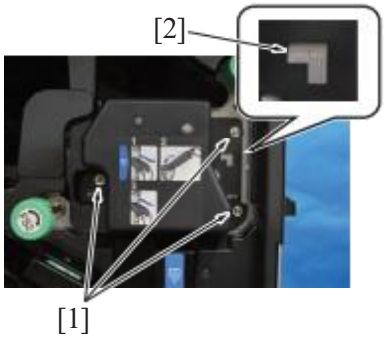
6.1 Punch hole deviation correction

Purpose

- This adjustment must be made in the following case:
  - The punch holes are on a slanted line.

Procedure

1. Turn ON the main power switch, and make a copy in the punch mode.
2. Fold the output paper in half and check whether the punch holes are aligned. If the punch holes are misaligned, make the following adjustment.
3. Open the front door.



4. Loosen three screws [1] and move them to the left and right by the amount of skew using the mark [2] as a guide.
   - When the rear side is wide, move to the left.
   - When the front side is wide, move to the right.
5. Make anther copy in the punch mode, and check the punch hole position.

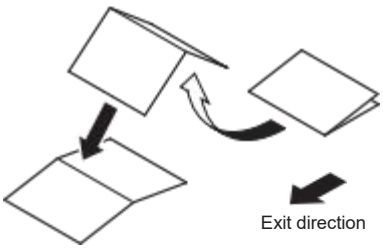
7. CPF-810X

7.1 Half-fold skew adjustment

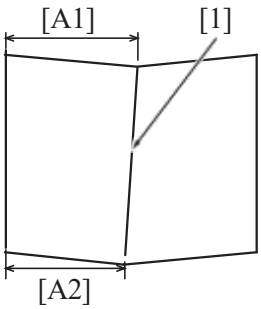
Purpose

- This adjustment must be made in the following case:
  - Fold line goes off the tolerance in the half-fold mode.
  - When reinstalling the guide plate assy, perform mechanical adjustment.

Procedure

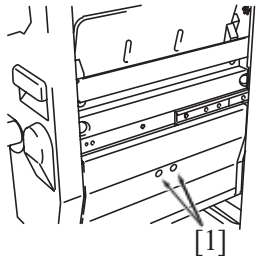


1. Make a copy in the half-fold mode.
2. Unfold the paper that exits the main body and lay the paper with the ridge facing up.

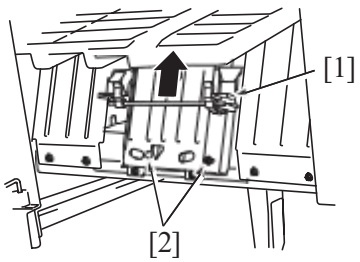


3. Confirm the skew of the fold line [1] of the output copy sample (Widths of A1 and A2)
   Target: A1-A2=±1.0 mm
4. In case the figure exceeds the above mentioned target, follow the adjustment procedures below.

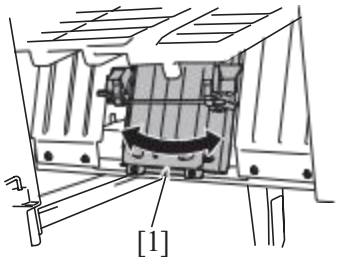
5. Open the front door of the finisher.
6. Pull the saddle unit.



7. Loosen two screws [1].

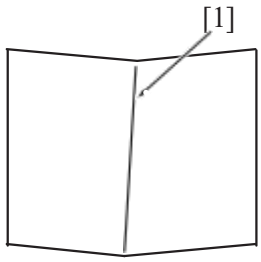


8. Slide the lever unit [1] upward.
9. Loosen two screws [2].



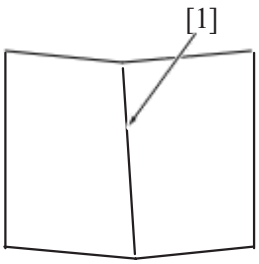
10. Incline the guide plate assy [1] forward or backward according to the deviation of the crease.

In case the cease [1] skews as the right side:



- In case the cease skews as the right side:
  Incline the guide plate assy backward.

In case the cease [1] skews as the left side:



- In case the cease skews as the left side:
  Incline the guide plate assy forward.

11. Make the copy sample again to confirm the cease skew.
12. Reinstall the above parts following the removal steps in reverse.

H UTILITY MODE

1 Network Settings

1.1 Network Settings

When the IPv4 Auto option is enabled, manual settings are unavailable; when the Auto option is disabled, manual settings become available.

The numeric keypad on the manual settings interface defaults to the first input field for the IP address. Click on an input field to associate the keypad with that field.

1.2 Network Information

Displays relevant wired network information. For specific display items, refer to the menu structure.

2 Print Settings

2.1 Default Tray

The tray for printing can be selected. For specific options, refer to the menu structure.

If the default tray is set to an optional tray but the optional tray is not detected after startup, the default tray will reset to the default value (see menu structure). Due to the current design, the panel enters the home screen before the print engine is ready, so information about the installation of optional trays may not be accurately obtained. Therefore, the panel will wait until the print engine is ready before performing a reset based on the optional tray installation information. It is normal for the default tray not to reset during the period between the panel entering the home screen and the print engine becoming ready.

2.2 Paper Size/Type

Trays only display detected paper sizes (single item), while the multi-purpose feeder displays all supported paper sizes.

If an optional tray is not detected after startup, the paper type for the optional tray will reset to the default value (see menu structure). Due to the current design, the panel enters the home screen before the print engine is ready, so information about the installation of optional trays may not be accurately obtained. Therefore, the panel will wait until the print engine is ready before performing a reset based on the optional tray installation information. It is normal for the paper type of the corresponding tray not to reset if the optional tray is reinstalled during the period between the panel entering the home screen and the print engine becoming ready.

2.3 Custom Paper Size

Click on the value display box to show numeric keypad 2.

The left navigation bar must display the currently selected option for the function.

2.4 Advanced Imaging

Function options differ between monochrome and color machines. For details, refer to the menu structure.

Parameters for color balance and image adjustment can be set by clicking on the corresponding level.

Image quality can be set to the optimal settings for the original document to achieve the best print quality.

Print density can be adjusted.

Toner save mode can be enabled or disabled.

When "Restore Default Settings" is clicked, a confirmation prompt will appear. Confirming will reset the function; canceling will not.

2.5 Error Job Handling

The left navigation bar must display the currently selected option for the function.

Delay time range: 1–999 seconds.

The delay time value is only displayed when the "Delay Delete" option is selected and hidden in other cases.

Click on the value display box to show numeric keypad 1.

3 System Settings

3.1 Sleep Time Settings

The left navigation bar must display the currently selected option for the function.

Set the time for the device to enter sleep mode.

When sleep conditions are met and the set sleep time has elapsed, the device enters sleep mode. For details, refer to the sleep introduction.

3.2 Time/Date

Set the time and date information displayed on the panel.

Click on the time or date display box to show a wheel. Use the wheel to adjust the time or date. Click again to hide the wheel and apply the settings.

3.3 Screen Brightness

The left navigation bar must display the currently selected option for the function.

Set the brightness of the panel screen. Click on the corresponding segment or slide the button to set the value.

3.4 Ambient Light

This function can be enabled or disabled.

3.5 Restore Factory Settings

All panel parameters will be restored to default settings. For specific parameters affected, refer to parameter storage.

After clicking the function, a prompt will appear: "The printer will restart. Are you sure you want to restore factory settings?" Confirming will restore factory settings; canceling will not.

3.6 Sound/Volume

The left navigation bar must display the currently selected option for the function.

Set the volume for operation prompts on the panel.

When the function is disabled, other options are unavailable.

3.7 Version Information

For display items, refer to the menu structure: H Machine Settings Mode > 4. Machine Settings

3.8 Information Reports

Select the information report to print. After selection, click to print.

3.9 Auto Reset Settings

When the screen times out and returns to the home screen, if this function is enabled, copy parameters will be reset to default values. Parameters not reset include color balance, image adjustment, and toner save mode.

4 Security Management

4.1 Job Control

When the switch is enabled, the corresponding function will be unavailable.

4.2 Port Control

Function Item	Parameter Selection	Function Description
USB Port	Off	Disables USB port
	On	Enables USB port
Network Port	Off	Disables network port
	On	Enables network port

4.3 Password Change

Password change is not affected by the enable/disable status of other security management functions.
The password must be 8 digits or letters.

4.5 Color Copy Permission

When the function is enabled, color can be selected for copies, and the default value is color. When the function is disabled, color cannot be selected for copies, and the default value is black and white.

4.6 Retain Copy Settings

If "Retain Copy Settings" is disabled, clicking "Reset" will reset all Advanced Imaging functions.

If "Retain Copy Settings" is disabled, clicking "Restore Default Settings" for Color Balance/Image Adjustment will reset the Color Balance/Image Adjustment functions.

If "Retain Copy Settings" is enabled, clicking "Reset" will not reset any Advanced Imaging functions.

If "Retain Copy Settings" is enabled, clicking "Restore Default Settings" for Color Balance/Image Adjustment will reset the Color Balance/Image Adjustment functions.

I SERVICE MODE

Notes:

Service mode is for qualified technicians only. Do not enter during printing or error states.
Reboot required after exiting service mode for normal operation.
Factory reset does not affect service mode settings.
Functions are model-specific and vary by device.
External components (stapler, high-capacity tray) may appear in menus regardless of physical presence.
Access password: **36

1 Machine Settings

1.1 Fuser Temperature Adjustment

Purpose: Adjust heating roller temperature for different media types to optimize fusing under varying environmental conditions. Adjusts thresholds only – does not affect heating performance (e.g., warm-up time).
Validation: Changes are not visually observable; verify via serial port engine data.

Third-Level Menu	Fourth-Level Menu	Adjustment Range & Method
600dpi	Plain Paper	Press +/-，Adjust ±5 units，（-20~+10）
	Transparency Film	Press +/-，Adjust ±5 units，（-20~+10）
	+Plain Paper+	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper 1	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper 1+	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper2	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper3	Press +/-，Adjust ±5 units，（-20~+10）
	Postcard	Press +/-，Adjust ±5 units，（-20~+10）
	Envelope	Press +/-，Adjust ±5 units，（-20~+10）
1200dpi	Plain Paper	Press +/-，Adjust ±5 units，（-20~+10）
	Transparency Film	Press +/-，Adjust ±5 units，（-20~+10）
	+Plain Paper+	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper 1	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper 1+	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper2	Press +/-，Adjust ±5 units，（-20~+10）
	Thick Paper3	Press +/-，Adjust ±5 units，（-20~+10）
	Postcard	Press +/-，Adjust ±5 units，（-20~+10）
	Envelope	Press +/-，Adjust ±5 units，（-20~+10）

1.2 User Transport Speed

Purpose: Resolve paper jams caused by speed mismatch due to thermal expansion of fuser components. Does not affect final output speed.
Validation: Changes are not visually observable; verify via serial port engine data.

Third-Level Menu	Fourth-Level Menu	Adjustment Range & Method
600dpi	Plain Paper	-20 to +20 (Keypad input)
	Thick Paper 1/1+	-20 to +20 (Keypad input)
	Thick Paper 2-3	-20 to +20 (Keypad input)
1200dpi	Thick Paper 2-3	-20 to +20 (Keypad input)

1.3 Print Area Alignment

Purpose: Adjust print start position (main/sub-scanning direction) for different media and paper trays.
Effect: Positive/negative values shift image position in opposite directions.
Note: Applied based on paper feed direction.

Third-Level Menu	Fourth-Level Menu	Adjustment Range & Method	Description
Main Margin Adjustment	Plain Paper	±0.2 steps (-3.0~+3.0)	Adjusts **top margin** for all media types. - Duplex: Applied to **back side** image - Simplex: Applied to **front side** image
	Plain Paper+	±0.2 steps (-3.0~+3.0)	
	Thick Paper 1/1+	±0.2 steps (-3.0~+3.0)	
	Thick Paper 2	±0.2 steps (-3.0~+3.0)	
	Thick Paper 3	±0.2 steps (-3.0~+3.0)	
	Transparency Film	±0.2 steps (-3.0~+3.0)	
	Envelope	±0.2 steps (-3.0~+3.0)	
Centering	Paper Tray 1	±0.2 steps (-3.0~+3.0)	Adjusts **left margin** for paper trays. - Duplex: Applied to **back side** image - Simplex: Applied to **front side** image
	Paper Tray 2	±0.2 steps (-3.0~+3.0)	
	Paper Tray 3	±0.2 steps (-3.0~+3.0)	
	Paper Tray 4	±0.2 steps (-3.0~+3.0)	
	Multi-Purpose Feeder (MPF)	±0.2 steps (-3.0~+3.0)	
Main Margin Adj. (Duplex 2nd)	Plain Paper	±0.2 steps (-3.0~+3.0)	Adjusts **top margin** for duplex unit. - Duplex: Applied to **front side** image - **Disabled** in simplex mode
	Plain Paper+	±0.2 steps (-3.0~+3.0)	
	Thick Paper 1/1+	±0.2 steps (-3.0~+3.0)	
	Thick Paper 2	±0.2 steps (-3.0~+3.0)	
	Thick Paper 3	±0.2 steps (-3.0~+3.0)	
Centering (Duplex 2nd)	Paper Tray 1	±0.2 steps (-3.0~+3.0)	Adjusts **left margin** for duplex unit. - Duplex: Applied to **front side** image - **Disabled** in simplex mode
	Paper Tray 2	±0.2 steps (-3.0~+3.0)	
	Paper Tray 3	±0.2 steps (-3.0~+3.0)	
	Paper Tray 4	±0.2 steps (-3.0~+3.0)	
	Multi-Purpose Feeder (MPF)	±0.2 steps (-3.0~+3.0)	
Paper Tray Print Position	1st Short	±0.2 steps (-3.0~+3.0)	Adjusts **top margin** for paper trays. **Applies to both duplex and simplex** printing
	1st Long	±0.2 steps (-3.0~+3.0)	
	Paper Trays 2/3/4/ High-Capacity Tray	±0.2 steps (-3.0~+3.0)	
	Multi-Purpose Feeder (MPF)	±0.2 steps (-3.0~+3.0)	

1.4 Printer Registration Amplitude

Function: Corrects image skew when paper is improperly loaded in trays.
Effect: Positive/negative values shift image position in opposite directions.
Note:

CH/MH = Color High/Mono High speed modes

CL/ML = Color Low/Mono Low speed modes

Third-Level Menu	Fourth-Level Menu	Fifth-Level Menu	Adjustment Range (CH/MH)	Adjustment Range (CL/ML)
600dpi	Paper Tray 1	Plain Paper	±1 steps (-11~+7)	±1 steps (-11~+7)
		Plain Paper+	±1 steps (-11~+7)	±1 steps (-11~+7)
		Thick Paper 1/1+	±1 steps (-11~+7)	±1 steps (-11~+7)
		Thick Paper 2/3	±1 steps (-11~+7)	±1 steps (-11~+7)
	Paper Trays 2-4/ High-Capacity Tray	Plain Paper	±1 steps (-11~+7)	±1 steps (-11~+7)
		Plain Paper+	±1 steps (-11~+7)	±1 steps (-11~+7)
		Thick Paper 1/1+	±1 steps (-11~+7)	±1 steps (-11~+7)
		Thick Paper 2/3	±1 steps (-11~+7)	±1 steps (-11~+7)
	Multi-Purpose Feeder (MPF)	Plain Paper	±1 steps (-10~+8)	±1 steps (-11~+7)
		Plain Paper+	±1 steps (-11~+7)	±1 steps (-11~+7)
		Thick Paper 1/1+	±1 steps (-10~+8)	±1 steps (-11~+7)
		Thick Paper 2/3	±1 steps (-10~+8)	±1 steps (-11~+7)
	Duplex Unit	Plain Paper	±1 steps (-9~+10)	±1 steps (-12~+8)
		Plain Paper+	±1 steps (-11~+7)	±1 steps (-11~+7)
		Thick Paper 1/1+	±1 steps (-9~+10)	±1 steps (-12~+8)
		Thick Paper 2/3	±1 steps (-9~+10)	±1 steps (-12~+8)
1200dpi	Paper Tray 1	All Media	±1 steps (-11~+7)	±1 steps (-11~+7)
	Paper Trays 2-4/ High-Capacity Tray	All Media	±1 steps (-11~+7)	±1 steps (-11~+7)
	Multi-Purpose Feeder (MPF)	All Media	±1 steps (-10~+8)	±1 steps (-11~+7)
	Duplex Unit	All Media	±1 steps (-9~+10)	±1 steps (-12~+8)

1.5 Color Calibration Adjustment

Function: Adjusts print start position for different color channels.
Effect: Positive/negative values shift image position in opposite directions.

Third-Level Menu	Fourth-Level Menu	Fifth-Level Menu	Adjustment Range
Plain Paper	Cyan	x	±1 steps (-6~+6)
	Magenta	x	±1 steps (-6~+6)
	Yellow	x	±1 steps (-6~+6)
Plain Paper+	Cyan	x	±1 steps (-6~+6)
	Magenta	x	±1 steps (-6~+6)
	Yellow	x	±1 steps (-6~+6)
Thick Paper 1/1+	Cyan	x	±1 steps (-6~+6)
	Magenta	x	±1 steps (-6~+6)
	Yellow	x	±1 steps (-6~+6)
Thick Paper 2	Cyan	x	±1 steps (-6~+6)
	Magenta	x	±1 steps (-6~+6)
	Yellow	x	±1 steps (-6~+6)
Thick Paper 3	Cyan	x	±1 steps (-6~+6)
	Magenta	x	±1 steps (-6~+6)
	Yellow	x	±1 steps (-6~+6)
Y (Unknown)	Cyan		±1 steps (-6~+6)
	Magenta		±1 steps (-6~+6)
	Yellow		±1 steps (-6~+6)

1.6 Skew Adjustment

Function: Reads engine skew values or returns skew correction motor to default position while clearing accumulated skew backup.

Third-Level Menu	Fourth-Level Menu	Function	Value Range
Skew Adjustment	Cyan	Read-only value	624 to 1218 (Step: 1)
	Magenta	Read-only value	624 to 1218 (Step: 1)
	Yellow	Read-only value	624 to 1218 (Step: 1)

Third-Level Menu	Fourth-Level Menu	Function	Value Range
Skew Reset		Execute on click	N/A

1.7 Multi-Purpose Feeder (MPF) Adjustment

Function: Records max/min resistance of MPF potentiometer to calculate linear resistance, ensuring accurate paper size detection.

Note: During max/min width adjustment, technicians must manually slide MPF guides to extreme positions.

Third-Level Menu	Function
Max Width	Execute on click
Min Width	Execute on click

1.8 Ozone Fan Stop Delay

Function: Sets ozone fan stop delay time.

Third-Level Menu	Adjustment Range
Stop Delay Time	±1 steps (0~15)

1.9 Stapler Settings

Function: Configures stapler parameters.
Effect: Positive/negative values shift stapling position in opposite directions.
Note: Fold position adjustment is mechanically limited:
Max adjustment: 10mm
Applicable only when folded document (FD) length ≤ 441.2mm

Third-Level Menu	Fourth-Level Menu	Fifth-Level Menu	Adjustment Range
FS-FN Adjustment (CPF-810H)	**Central Stapling Position**	All	±0.1 steps (-10.0~+10.0)
		JIS B4 Short Edge	±0.1 steps (-10.0~+10.0)
		Ledger Short Edge	±0.1 steps (-10.0~+10.0)
		SRA3	±0.1 steps (-10.0~+10.0)
		A4 Short Edge	±0.1 steps (-10.0~+10.0)
		Legal Short Edge	±0.1 steps (-10.0~+10.0)
		8K Short Edge	±0.1 steps (-10.0~+10.0)
		A3 Short Edge	±0.1 steps (-10.0~+10.0)
		A3 Wide (12"x18")	±0.1 steps (-10.0~+10.0)

Third-Level Menu	Fourth-Level Menu	Fifth-Level Menu	Adjustment Range
		Letter Short Edge	±0.1 steps (-10.0~+10.0)
	Fold Position	All	±0.1 steps (-10.0~+10.0)
		JIS B4 Short Edge	±0.1 steps (-10.0~+10.0)
		Ledger Short Edge	±0.1 steps (-10.0~+10.0)
		SRA3	±0.1 steps (-10.0~+10.0)
		A4 Short Edge	±0.1 steps (-10.0~+10.0)
		Legal Short Edge	±0.1 steps (-10.0~+10.0)
		8K Short Edge	±0.1 steps (-10.0~+10.0)
		A3 Short Edge	±0.1 steps (-10.0~+10.0)
		A3 Wide (12"x18")	±0.1 steps (-10.0~+10.0)
		Letter Short Edge	±0.1 steps (-10.0~+10.0)
	Punch Vertical Position	All	±0.1 steps (-5.0~+5.0)
		JIS B4 Short Edge	±0.1 steps (-5.0~+5.0)
		A4 Short Edge	±0.1 steps (-5.0~+5.0)
		JIS B5 Short Edge	±0.1 steps (-5.0~+5.0)
		A3 Short Edge	±0.1 steps (-5.0~+5.0)
		A4 Long Edge	±0.1 steps (-5.0~+5.0)
		JIS B5 Long Edge	±0.1 steps (-5.0~+5.0)
		A5 Long Edge	±0.1 steps (-5.0~+5.0)
		Ledger Short Edge	±0.1 steps (-5.0~+5.0)
		Legal Short Edge	±0.1 steps (-5.0~+5.0)
		Letter Short Edge	±0.1 steps (-5.0~+5.0)
		8K Short Edge	±0.1 steps (-5.0~+5.0)
		BIG 16K Short Edge	±0.1 steps (-5.0~+5.0)
		Letter Long Edge	±0.1 steps (-5.0~+5.0)
		Statement Long Edge	±0.1 steps (-5.0~+5.0)
		BIG 16K Long Edge	±0.1 steps (-5.0~+5.0)
	Punch Vertical Pos. (Z-fold)		±0.1 steps (-5.0~+5.0)
	Punch Horizontal Pos. (Z-fold)		±0.1 steps (-5.0~+5.0)

Third-Level Menu	Fourth-Level Menu	Fifth-Level Menu	Adjustment Range
	1st Z-fold Position	All	±0.1 steps (-12.8~+12.7)
		Plain Paper	±0.1 steps (-12.8~+12.7)
	2nd Z-fold Position	All	±0.1 steps (-12.8~+12.7)
		Plain Paper	±0.1 steps (-12.8~+12.7)
	1st Tri-fold Adjustment	All	±0.1 steps (-10.0~+10.0)
		A4 Short Edge	±0.1 steps (-10.0~+10.0)
		Letter Short Edge	±0.1 steps (-10.0~+10.0)
		BIG 16K Short Edge	±0.1 steps (-10.0~+10.0)
	2nd Tri-fold Adjustment	All	±0.1 steps (-10.0~+10.0)
		A4 Short Edge	±0.1 steps (-10.0~+10.0)
		Letter Short Edge	±0.1 steps (-10.0~+10.0)
		BIG 16K Short Edge	±0.1 steps (-10.0~+10.0)
	Finisher Check	Paper Transport Motor	Execute on click
		Paper Entrance Motor	Execute on click
		Paper Exit Motor	Execute on click
		Paper Align Plate Motor/F	Execute on click
		Main Tray Lift/Lower Motor	Execute on click
		Paper Align Plate Motor/R	Execute on click
		Side Stopper Guide Motor	Execute on click
		Exit Belt Motor	Execute on click
		Exit Roller Retract Motor	Execute on click
		Paper Release Ctrl Motor	Execute on click
		Side Stapler Move Motor	Execute on click
		Pre-Discharge Drive Motor	Execute on click
		Blade Motor	Execute on click
		Exit Switching	Execute on click
		FD Stopper Drive Motor	Execute on click
		Blade Arm Motor	Execute on click
		Pusher Motor	Execute on click

Third-Level Menu	Fourth-Level Menu	Fifth-Level Menu	Adjustment Range
		Sub Tray Exit Motor	Execute on click
		Bero Motor	Execute on click
		ZU Feed Motor	Execute on click
		JS Exit Feed Guide	Execute on click
		SD Entrance Feed Motor	Execute on click
		SD Belt Tray Feed Motor	Execute on click
		ZU Folder	Execute on click
		ZU Guide Motor	Execute on click
		ZU Pressure Motor	Execute on click
		M302/Shake Drive M:HP Search	Execute on click
		M301/Punch Drive M:HP Search	Execute on click
		M301/Punch Drive M:2-Hole Punch	Execute on click
		M301/Punch Drive M:3/4-Hole Punch	Execute on click
		SD Paper Transport Motor	Execute on click
		Folding Roller Motor	Execute on click
		Lead Edge Clamp Solenoid	Execute on click
		Lead Edge Stopper Motor	Execute on click
		CD Align Plate Motor	Execute on click
		Folding Knife Motor	Execute on click
		Waste Box Switch Motor	Execute on click
		Trail Edge Clamp Plate Motor	Execute on click
		SD Blade Motor	Execute on click
		Tri-fold Knife Motor	Execute on click
	Folding Page Limit	Tri-fold	Keypad input (1~3 pages)
		Z-fold	Options: 50/40/30/20 sheets

1.10 Fault Reset

Function: Manually send a reset command to the engine to clear all A and B level critical faults.
PS: If the fault recurs after reset, the fault will be reported again.

Third-level menu	Function Description

Fault reset	Reset the engine and clear the fault code

1.11 New Product Confirmation

Function: Since some printer components cannot automatically recognize new products, manual instructions need to be issued to notify the engine that new products have been installed after replacing with new components.

PS: Since the transfer belt and the toner cartridge filter screen are two components that are together, they are also replaced simultaneously when replaced, so the life of the toner cartridge filter screen will also be reset synchronously when resetting the transfer belt life.

Third-level menu	Function Description
Fixing unit	Notification: The engine has installed a new product
Transfer belt	Notification: The engine has installed a new product

2 Image Processing Adjustment

2.1 Stabilizer

Function: Execute image stabilization sequences without clearing the historical data of image stabilization control, or execute image stabilization sequences after initializing the historical data of image stabilization control.

Third-level menu	Function Description
Initialize image stabilization	Click to start execution
Only image stabilization	Click to start execution

2.2 D Max Concentration

Function: Adjust the maximum concentration of different color channels in print or copy mode.

Effect: Modifying this adjustment value will change the image density effect, with positive and negative adjustment values having opposite effects.

Third-level menu	Fourth-level menu	Five-level menu	Adjust the range
D Max concentration	Photocopy	Blue	Press +/- to adjust by 1 step, (-10~+10)
		Magenta	Press +/- to adjust by 1 step, (-10~+10)
		Yellow	Press +/- to adjust by 1 step, (-10~+10)
		Black	Press +/- to adjust by 1 step, (-10~+10)
	Print	Blue	Press +/- to adjust by 1 step, (-10~+10)
		Magenta	Press +/- to adjust by 1 step, (-10~+10)
		Yellow	Press +/- to adjust by 1 step, (-10~+10)

		Black	Press +/- to adjust by 1 step, (-10~+10)

2.3 Background Voltage Limit

Function: Improve the phenomenon of image edge burrs. Lowering the voltage may affect the image density, making the image fade, while increasing the voltage can improve the image edge burrs.

Effect: This adjustment option cannot be observed with the naked eye, so it can only be determined whether the function is correct through interaction with the serial engine data.

Third-level menu	Adjust the range
Blue	Press +/- to adjust by 1 step, (-5~+5)
Magenta	Press +/- to adjust by 1 step, (-5~+5)
Yellow	Press +/- to adjust by 1 step, (-5~+5)
Black	Press +/- to adjust by 1 step, (-5~+5)

2.4 Monochrome Concentration Adjustment

Function: Adjust black density

Effect: Modifying this adjustment value will change the image density effect, with positive and negative adjustment values having opposite effects.

Adjust the range
Press +/- to adjust by 1 step, (-2~+2)

2.5 Removable voltage adjustment

Function: De-electrifies the paper to prevent it from adhering to the transcribing roller.

Effect: This adjustment option cannot be observed with the naked eye, so it can only be determined whether the function is correct through interaction with the serial engine data.

Third-level menu	Adjust the range
First Page	Press +/- to adjust by 1 step, range (-3~+3), and auto is also available. After selecting auto, it cannot be adjusted via +/-
Second page	Press +/- to adjust by 1 step, range (-3~+3), and auto is also available. After selecting auto, it cannot be adjusted via +/-

2.6Transfer Output Refinement

Function: Affects the intensity of the image.

Effect: This adjustment option cannot be observed with the naked eye, so it can only be determined whether the function is correct through interaction with the serial engine data.

Third-level menu	Fourth-level menu	Five-level menu	Adjust the range
First Transfer Adjustment	C		Press +/- to adjust by 1 step, (-8~+7)
	M		Press +/- to adjust by 1 step, (-8~+7)
	Y		Press +/- to adjust by 1 step, (-8~+7)
	K		Press +/- to adjust by 1 step, (-8~+7)
Second transfer adjustment	600dpi-previous	Current switch	Optional "On" or "Off"
		Normal paper - Color	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper black	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper + color	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper + black	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1-color	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1 - black	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1+-color	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1+-black	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 2	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 3	Press +/- to adjust by 1 step, (-8~+7)
		Postcard	Press +/- to adjust by 1 step, (-8~+7)
		Envelop	Press +/- to adjust by 1 step, (-8~+7)
		Transparent film	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper - smooth	Press +/- to adjust by 1 step, (-8~+7)
	600dpi-After	Current switch	Optional "On" or "Off"
		Normal paper - Color	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper black	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper + color	Press +/- to adjust by 1 step, (-8~+7)

		Normal paper + black	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1+	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 2	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 3	Press +/- to adjust by
		Postcard	1 step, (-8~+7)
	1200dpi-前	Current switch	Optional "On" or "Off"
		Normal paper - Color	Press +/- to adjust by
		Normal paper black	1 step, (-8~+7)
		Normal paper + color	Press +/- to adjust by
		Normal paper + black	
		Normal paper black	Press +/- to adjust by
		Thick paper 1-color	1 step, (-8~+7)
		Thick paper 1-color	Press +/- to adjust by
		Thick paper 1+-black	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1+-black	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 2	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 3	Press +/- to adjust by 1 step, (-8~+7)
		Postcard	Press +/- to adjust by 1 step, (-8~+7)
		Envelop	Press +/- to adjust by 1 step, (-8~+7)
		Transparent film	Press +/- to adjust by 1 step, (-8~+7)
	1200dpi-After	Current switch	Optional "On" or "Off"
		Normal paper - Color	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper black	Press +/- to adjust by 1 step, (-8~+7)

		Normal paper + color	Press +/- to adjust by 1 step, (-8~+7)
		Normal paper + black	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 1+	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 2	Press +/- to adjust by 1 step, (-8~+7)
		Thick paper 3	Press +/- to adjust by 1 step, (-8~+7)
		Postcard	Press +/- to adjust by 1 step, (-8~+7)

2.7 Charging AC Output Adjustment

Function: Adjusting it will cause the potential on the surface of the photosensitive body to change, thereby improving the image quality (scattered black dots on white paper).

Effect: This adjustment option cannot be observed with the naked eye, so it can only be determined whether the function is correct through interaction with the serial engine data.

Third-level menu	Adjust the range
Vpp-C	Press +/- to adjust by 1 step, range (-12~+8)
Vpp-M	Press +/- to adjust by 1 step, range (-12~+8)
Vpp-Y	Press +/- to adjust by 1 step, range (-12~+8)
Vpp-K	Press +/- to adjust by 1 step, range (-12~+8)

2.8 Thick Paper Concentration Adjustment

Function: Set the concentration of different colors when the paper medium is set to thick paper.

Effect: Modifying this adjustment value will change the image density effect, with positive and negative adjustment values having opposite effects.

PS: Type 1 thick paper refers to thick paper 1/thick paper 1+, and Type 2 thick paper refers to thick paper 2/thick paper

Third-level menu	Fourth-level menu	Adjust the range
Thick paper type 1	Blue	Press +/- to adjust by 1 step, (-5~+5)
	Magenta	Press +/- to adjust by 1 step, (-5~+5)
	Yellow	Press +/- to adjust by 1 step, (-5~+5)
	Black	Press +/- to adjust by 1 step, (-5~+5)
Thick paper type 2	Blue	Press +/- to adjust by 1 step, (-5~+5)
	Magenta	Press +/- to adjust by 1 step, (-5~+5)

	Yellow	Press +/- to adjust by 1 step, (-5~+5)
	Black	Press +/- to adjust by 1 step, (-5~+5)

2.9 Developer AC Voltage Options

Function: In a low-pressure environment, the normal mode may have white spots in the image. Set the High Altitude White Spots Mode to solve this problem.

Effect: This adjustment option cannot be observed with the naked eye, so it can only be determined whether the function is correct through interaction with the serial engine data.

Optional
"Open", "Close"

2.10 Black Adjustment

Function: After the change, it will cause the output frequency of the high-voltage phenomenon to change, which is a setting value for the tendency of image quality.

The improvement effect on the inconsistency of the edge concentration of the color block backend is significant

2. Improves the overall uniformity of the image (toner distribution state).

Effect: This adjustment option cannot be observed with the naked eye, so it can only be determined whether the function is correct through interaction with the serial engine data.

Optional
"Standard", "K-Priority", "Edge Shrinkage"

2.11 TCR Carbon Powder Supply

Function: Manually trigger the engine to fill the hopper with different colored powder or material. Effect:

Manually control the printer engine to add toner.

PS: The specific value of TCR can be obtained from the TCR-C, TCR-M, TCR-Y, TCR-K column in the Level History section.

Third-level menu	Optional
TCR toner supply	"Blue", "Magenta", "Yellow", "Black" (can be selected multiple times)
Material hopper toner filling	Click to start execution

3 System 1

3.1 Preheat

Function: Modify preheat mode (time)

mode1 corresponds to domestic Japan, preheating time 30s mode2 standard mode, preheat time 30s;

mode3 will improve the paper curl issue caused by the temperature difference inside and outside the machine, preheating time 30s mode4 is long-term heating, preheating time 60s.

Optional
"Mode 1", "Mode 2", "Mode 3", "Mode 4"

PS: The engine has default values at the time of manufacture. When encountering issues such as paper or toner powder falling off, you can try changing different modes. Otherwise, it is not recommended to modify this mode.

4 Status Confirmation

4.1 Sensor Inspection

Function: Displays the status of the sensor and switch input terminals when the machine remains stationary. After clicking start, the sensor check begins.

Effect: The reading value item may not be observable with the naked eye at the sensor location, so it can only be determined whether the function is correct through serial engine data interaction.

PS: The reading range of all sub-items of this function is 0 or 1, with 1 indicating the sensor is ON and 0 indicating the sensor is OFF.

Third-level menu	Fourth-level menu
Paper Tray 1	Paper is out
	The paper will be empty
	Raise the upper limit
Paper Tray 2	Paper is out
	The paper will be empty
	Load paper
	Raise the upper limit
Paper Tray 3	Paper is out
	The paper will be empty
	Load paper
	Raise the upper limit
Paper tray 4	Paper is out
	The paper will be empty
	Load paper
	Raise the upper limit
Multifunctional paper feeder	Multiple FD sizes 1
	Multiple FD sizes 2
	Push position
	Paper is out
Paper tray 3/4	Front sensor of middle roller
	Exclude
	Anilox amplitude detection
	Enhance the limit
	Improve the lower limit/stop the shifting disk
	Shift box in place

Built-in large capacity paper box	Load paper
	Vertical transmission
	Paper is out
	Main disk empty
	The paper will be empty
	Isolation panel position
	Box opened
	Shift disk empty
	Built-in large capacity paper box paper capacity detection
Waste powder	Waste powder is full
Fixing	Rolling junction conversion
Transfer belt	Retract

4.2 Table Number

Function: Display voltage readings.

PS: The black and white models have no C/M/Y readings.

Third-level menu	Fourth-level menu	Read value range
Normal paper/Normal paper+	Vdc-C	100～800V Step: 1V
	Vdc-M	100～800V Step: 1V
	Vdc-Y	100～800V Step: 1V
	Vdc-K	100～800V Step: 1V
	Vg-C	300～1000V Step: 1V
	Vg-M	300～1000V Step: 1V
	Vg-Y	300～1000V Step: 1V
	Vg-K	300～1000V Step: 1V
Thick paper 1/1+	Vdc-C	100～800V Step: 1V
	Vdc-M	100～800V Step: 1V
	Vdc-Y	100～800V Step: 1V
	Vdc-K	100～800V Step: 1V
	Vg-C	200～1200V Step: 1V
	Vg-M	200～1200V Step: 1V
	Vg-Y	200～1200V Step: 1V
	Vg-K	200～1200V Step: 1V
Thick paper 2/3	Vdc-C	100～800V Step: 1V
	Vdc-M	100～800V Step: 1V
	Vdc-Y	100～800V Step: 1V
	Vdc-K	100～800V Step: 1V

	Vg-C	300～1000V Step: 1V
	Vg-M	300～1000V Step: 1V
	Vg-Y	300～1000V Step: 1V
	Vg-K	300～1000V Step: 1V
Black	Vdc-C	100～800V Step: 1V
	Vdc-M	100～800V Step: 1V
	Vdc-Y	100～800V Step: 1V
	Vdc-K	100～800V Step: 1V
	Vg-C	300～1000V Step: 1V
	Vg-M	300～1000V Step: 1V
	Vg-Y	300～1000V Step: 1V
	Vg-K	300～1000V Step: 1V
LD brightness value	C	1400-3600 mJ/m^2 Step Width 1 mJ/m^2
	M	1400-3600 mJ/m^2 Step Width 1 mJ/m^2
	Y	1400-3600 mJ/m^2 Step Width 1 mJ/m^2
	K	1400-3600 mJ/m^2 Step Width 1 mJ/m^2
Charging AC output value 1	Vpp-C1	500～2500V Step Width 1V
	Vpp-M1	500～2500V Step Width 1V
	Vpp-Y1	500～2500V Step Width 1V
	Vpp-K1	500～2500V Step Width 1V
Charging AC output value 2	Vpp-C2	0 to 350 [0.01V] Step Width 1 [0.01V] 01V]
	Vpp-M2	0 to 350 [0.01V] Step Width 1 [0.01V]
	Vpp-Y2	01V]
	Vpp-K2	0 to 350 [0.01V] Step Width 1 [0.01V]

4.3Level History 1

Function: Display voltage readings.

PS: The black and white models have no C/M/Y readings.

Third-level menu	Read value range
TCR-C	0 to 2100 (0 to 21%)
TCR-M	0 to 2100 (0 to 21%)
TCR-Y	0 to 2100 (0 to 21%)
TCR-K	0 to 2100 (0 to 21%)
IDC1	0 to 999 Step: 1 (0~9.99V)
IDC2	0 to 999 Step: 1 (0~9.99V)

Central heating temperature	0 to 255 Step: 1 (0 to 255°C)
Intermediate heating temperature	0 to 260 Step: 1 (0 to 260°C)
Heating side temperature	0 to 255 Step: 1 (0 to 255°C)
Main heating temperature	0 to 255 Step: 1 (0 to 255°C)

4.4 Level History 2

Function: Display voltage readings.

Third-level menu	Read value range
IDC sensor adjustment 1	0 to 255 Step: 1 (No units)
IDC sensor adjustment 2	0 to 255 Step: 1 (No units)
ATCV-C	5～40 Step:1（5～40 μA Step:1μA）
ATCV-M	5～40 Step:1（5～40 μA Step:1μA）
ATCV-Y	5～40 Step:1（5～40 μA Step:1μA）
ATCV-K	5～40 Step:1（5～40 μA Step:1μA）
ATCV-2nd	0 to 4800 Step: 1 (0 to 4800V Step: 1V)

.4.5 Temperature/Humidity/Pressure

Function: Display the internal environment sensor data of the printer.

Third-level menu	Read value range
Internal temperature	0~100 Step: 1 (0~100℃ Step: 1℃)
Humidity	0~100 Step: 1 (0~100% Step: 1%)
Absolute humidity	0-100 Step: 1 (0-100g/m3 Step: 1g/m3)
Paper temperature	0~100 Step: 1 (0~100℃ Step: 1℃)

4.6 Color Calibration

Function: Display color calibration readings.

Third-level menu	Fourth-level menu	Five-level menu	Read value range
Front part	X	C	±2911
		M	±2911
		Y	±2911
	Y	C	±2911
		M	±2911
		Y	±2911
rear	X	C	±2911
		M	±2911
		Y	±2911

	Y	C	±2911
		M	±2911
		Y	±2911
Oblique adjustment	Initial value	C	N/A
		M	N/A
		Y	N/A
	Adjust the value	C	N/A
		M	N/A
		Y	N/A
	Move	C	N/A
		M	N/A
		Y	N/A

5 Scanner Diagnostics

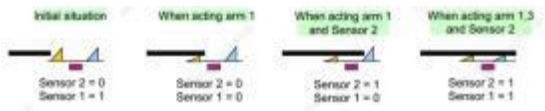
5.1 Sensor Test

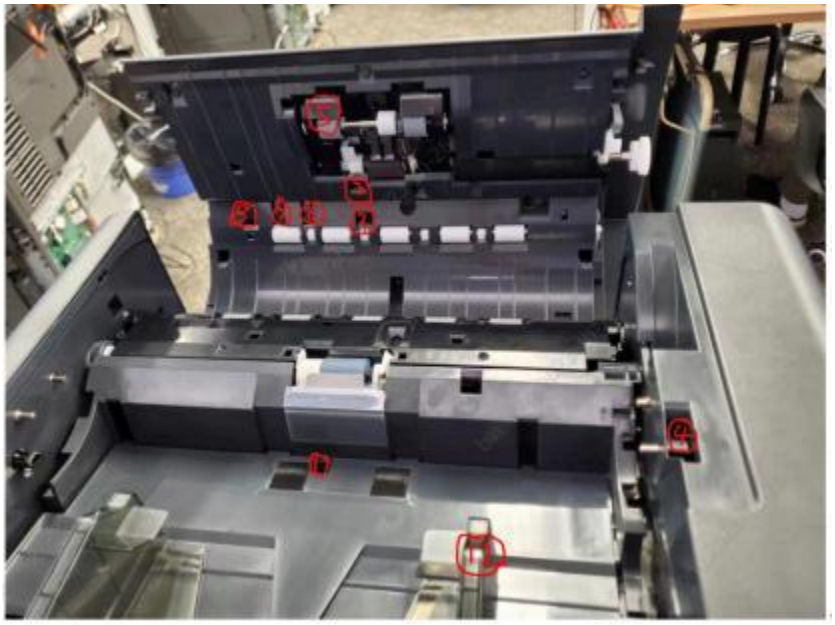
Function: Used to check whether the functions of various sensors are normal. FB-related sensors

Sensor Name	Panel display		Parameter description
	1	0	
document size detection sensor 1	ON	OFF	FB paper length automatic recognition sensor 1,1 has recognized paper length, 0 has not recognized paper length
document size detection sensor 2	ON	OFF	FB Paper Length Automatic Recognition Sensor 2, 1 Paper length recognized, 0 Paper length not recognized
home position sensor	ON	OFF	Scanner home position sensor detection, 1 at home, 0 not at home
DF shading apparatus home position sensor	ON	OFF	ADF - home sensor detection, 1 for home, 0 not at home
document cover 0-degree sensor	ON	OFF	FB cover opening 0° detection sensor, 1 closed, 0 open cover
document cover 20-degree sensor	ON	OFF	FB cover opening 20° detection sensor, if the cover is opened more than 20°, the FB cover can automatically rise, 1 for closed, 0 for open

ADF-related sensors

Sensor Name	Panel display		Parameter description
	1	0	
Empty sensor	ON	OFF	Cover with hand, become 1
Sensor behind separator	ON	OFF	Cover with hand, become 1
Resist loop sensor	ON	OFF	Cover with hand, become 1
Sensor before scan slit	ON	OFF	Not sure how to trigger

Exit sensor	ON	OFF	Push with your hand, becoming 1
Take-up section cover sensor	OPEN	CLOSE	Cover the sensor at location with a small piece of paper, and it becomes 0
ADF cover sensor	OPEN	CLOSE	Open the entire ADF cover, become 1
Guide section sensor in CIS	OPEN	CLOSE	Open, becomes 1
Mixed-size sensor 1	ON	OFF	Lift the sensor at here, set to 0
Mix size sensor 2	ON	OFF	Lift the sensor at here, set to 0
Mix size sensor 3	ON	OFF	Lift the sensor at here, set to 0
Length sensor 1	ON	OFF	
Length sensor 2	ON	OFF	
Contact/ retract sensor	ON	OFF	Not sure how to trigger
FAN LOCK	ON	OFF	Not sure how to trigger
Lift-up limit sensor	ON	OFF	Press with your hand, becoming 1
Lift-up lower limit sensor	ON	OFF	Lift with your hand, becoming 0
Brush Home position sensor	ON	OFF	Not sure how to trigger



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5.2 Paper Road Test

Function: After clicking the confirm button, the scanner starts the paper feeding test. If there is paper in the ADF, it will feed the paper from the ADF first for scanning, and the number of sheets fed into the ADF will increase by 1 each time it scans; if there is no paper in the ADF, it will start from the flatbed Scan, after scanning a piece of paper, increase the paper count on the FB by 1, and stop after clicking Cancel.

5.3 ADF Parameter Settings

Function: Adjusts the vertical and horizontal offset or zoom in and out of the scanned image during ADF scanning to prevent the image edges from being cut off. First adjust the image zoom factor, then adjust the offset.

Second-level menu	Third-level menu	Value range	Unit	Parameter description
ADF parameter settings	Main Scan (Front)	-50 to 50 (step)	0.1mm/step	When the main scan (front) is negative, the image shifts downward; conversely, it shifts upward. Each adjustment of 1 step represents a shift of 0.1mm.
	Main Scan (Post)	-50 to 50 (step)	0.1mm/step	When the main scan (rear) is negative, the image shifts downward ; conversely, it shifts upward. Each adjustment of 1 step represents a shift of 0.1mm.
	Child scan 1-side	-44 to 44 (step)	0.1mm/step	When the child scan 1-when the side is positive, the image shifts to the right; when negative, it shifts to the left. Each adjustment of 1 step represents a shift of 0.1mm.
	Child scan 2 - side	-44 to 44 (step)	0.1mm/step	When the 2-child scan side is positive, the image shifts to the right; conversely, it shifts to the left. Each adjustment of 1 step represents a shift of 0.1mm.
	Original text	-20 to 20 (step)	0.001/step	Positive image zoom factor, when positive, each 1 step represents an enlargement of 0.001 times, and when negative, each 1 step represents a reduction of 0.001 times.
	Back side paper orientation zoom	-20 to 20 (step)	0.001/step	The zoom factor of the reverse image, when positive, each 1 step represents an enlargement of 0.001 times, and when negative, each 1 step represents a reduction of 0.001 times.

PS: This adjustment takes effect immediately after modification.

5.4 Manual alignment of scanner

Function: Adjusts the vertical and horizontal offset of the scan image during FB scanning to prevent the image edges from being cut off.

Second-level menu	Third-level menu	Value range	Unit	Parameter description
Scanner	FB upper margin	-30 to 30 (step)	0.1mm/step	When negative, the image shifts downward, and vice versa. Each adjustment of 1 step represents a shift of 0.1mm.
	FB left margin	-57 to 57 (step)	0.1mm/step	When it is negative, the image shifts to the right, and vice versa. Each adjustment of 1 step represents a shift of 0.1mm.

manual alignment	FB vertical magnification	-10 to 10 (step)	0.001/step	When less than 0, it shrinks vertically; when greater than 0, it expands vertically; each adjustment of 1 step represents a 0.001-fold expansion or shrinkage
	FB horizontal amplification	-10 to 10 (step)	0.001/step	When less than 0, horizontally shrink; when greater than 0, horizontally expand; each adjustment of 1 step represents a 0.001 expansion or shrinkage.
	ADF manual margin	-73 to 73 (step)	0.02769mm/step	ADF scan position calibration, each 1 step represents calibration 0.02769mm

PS: This adjustment takes effect immediately after modification.

5.5 Clear Scan Engine Internal Failure

Function: The scanning engine will save some internal failures, causing these failures to be reported again when the next power-on is turned on, even though these failures have been eliminated. It is necessary to send a command to the scanning engine to clear these failures so that the next power-on can function normally.

6. Event Log

Function: Print detailed log information recorded by the machine. Clicking on the event log can print the log information recorded by the printer.

J TROUBLESHOOTING

1. JAM CODE

Initial check items

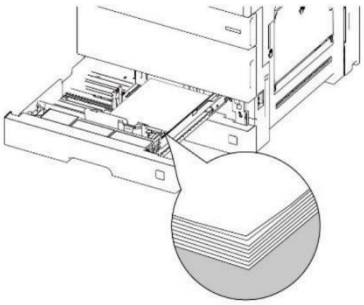
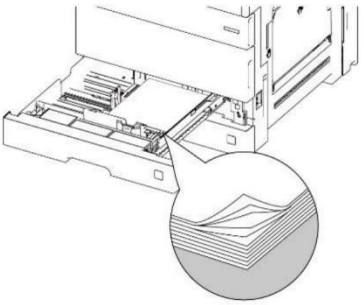
- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct user on proper paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path or replace the part on the paper path if necessary.
Are rolls or rollers dirty, deformed, or worn?	Clean the defective roll or roller. Replace the defective roll or roller.
Are the paper size and the detected paper size by the edge guide are matching?	Adjust the edge guide to match the paper size.

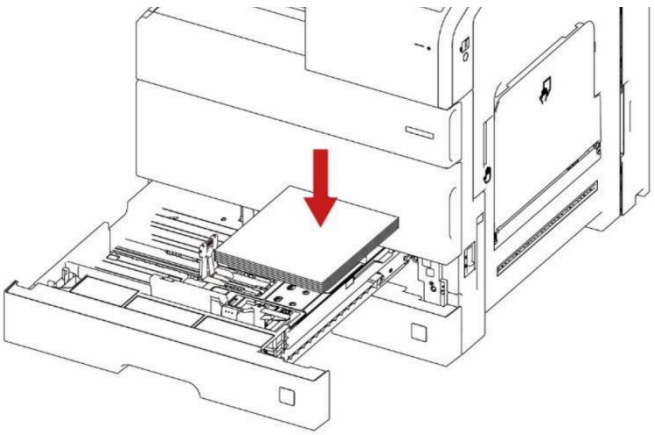
1.1 Avoiding jams

Correct loading of paper

• Make sure that the paper lies flat in the tray.

Correct paper loading	Incorrect paper loading
	

• Do not load or remove atray while the printer is printing.
• Do not load too much paper. Make sure that the stack height is below the maximum paper fill indicator.
• Do not slide paper into the tray. Load paper as shown in the figure.



• Make sure that the paper guide is placed correctly, and keep a gap between the paper guide and the paper to prevent the paper guide from clinging to the paper.

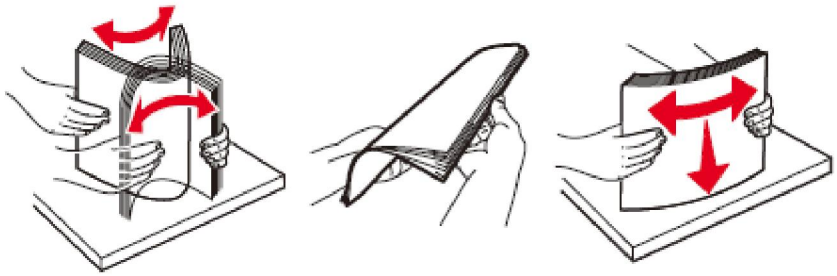
• After the paper is loaded, push the tray back to the printer. Please make sure that the tray is clamped tightly in the slot.

Use recommended paper

• Use only recommended paper or special media.

• Do not load paper that is wrinkled, creased, damp, bent, or curled.

• Flex, fan out and align the paper edges before loading.



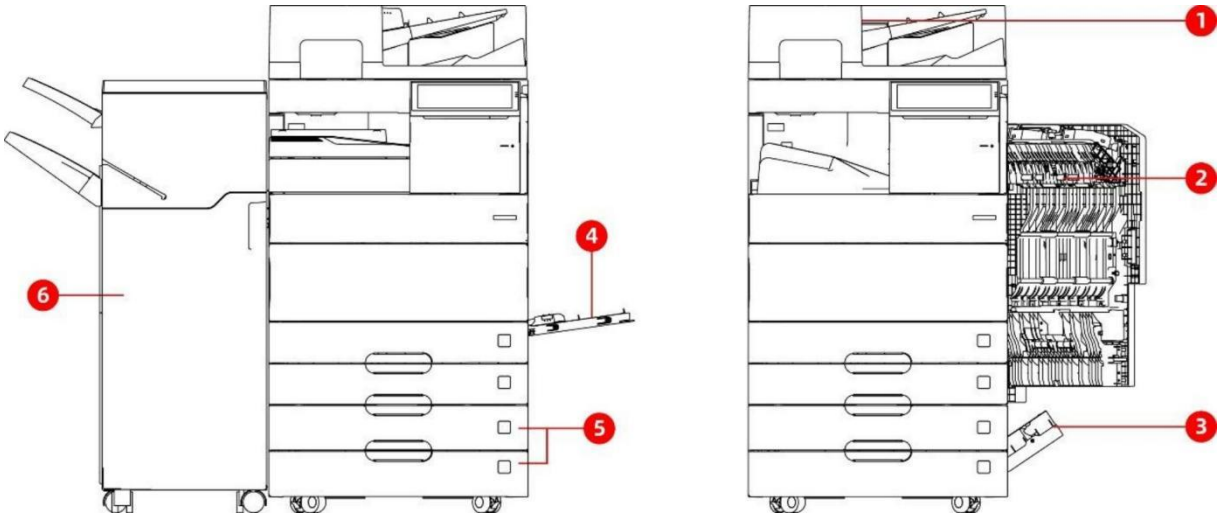
• Do not use paper that has been cut or trimmed by hand.

• Do not mix paper sizes, weights, or types in the same tray

• Make sure that the paper size and type are set correctly on the computer or printer control panel.

• Store paper according to manufacturer recommendations.

1.2 Locate jammed paper

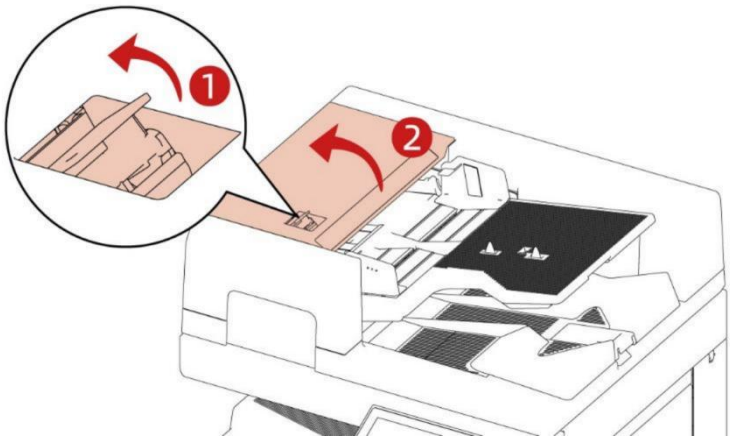


No.	Paper jam locations
1	Automatic document feeder (ADF)
2	Door C
3	Door D
4	Multi-purpose paper feeder
5	Tray 3,4
6	Stapler • Binding Finisher • Punching Finisher • Booklet Finisher • Z-fold finisher

1.3 Cleaning Jammed Paper

Paper jam in the automatic document feeder (ADF)

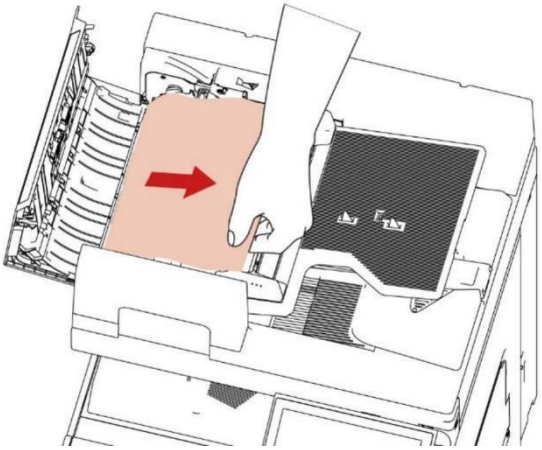
1. Open the ADF's top cover.



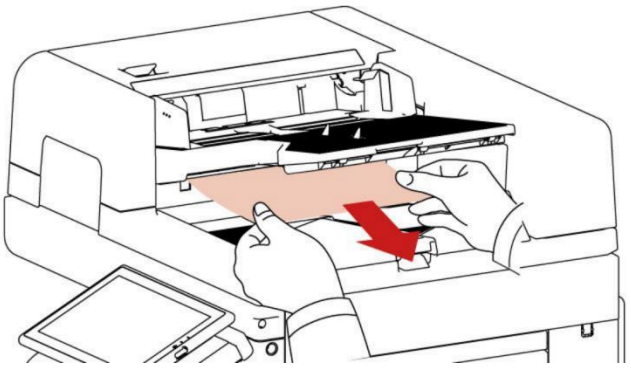
2. Remove the jammed paper from any position below.

Note: • Make sure that all paper fragments are removed.

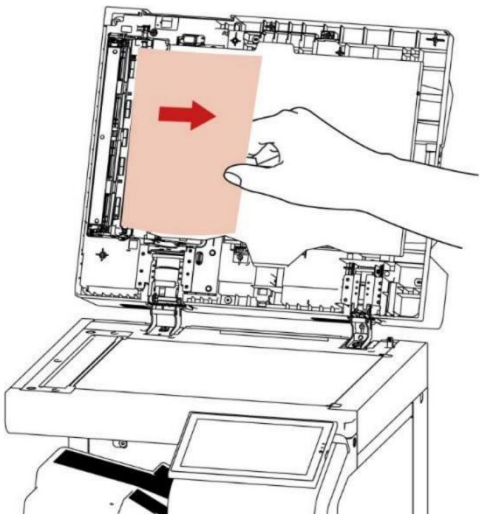
• Upper cover of document feeder



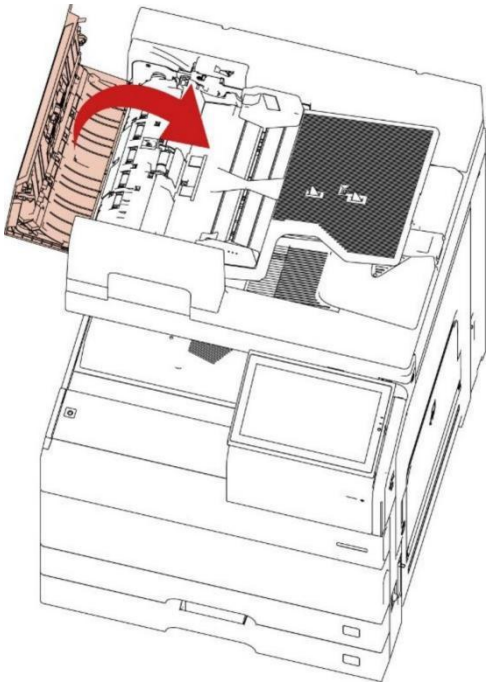
• Lower cover of document feeder



• DF1 unit



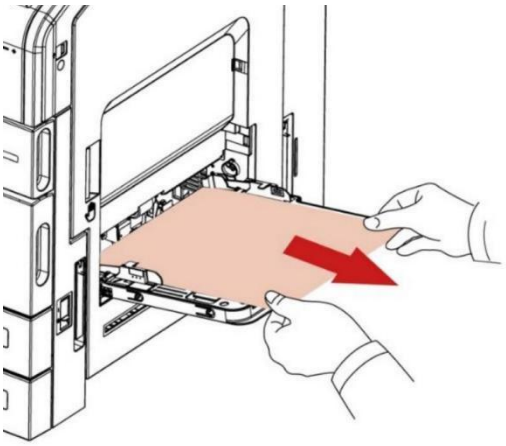
3. After removing the paper jamed, close the top cover and then the printer will be back to the ready state.



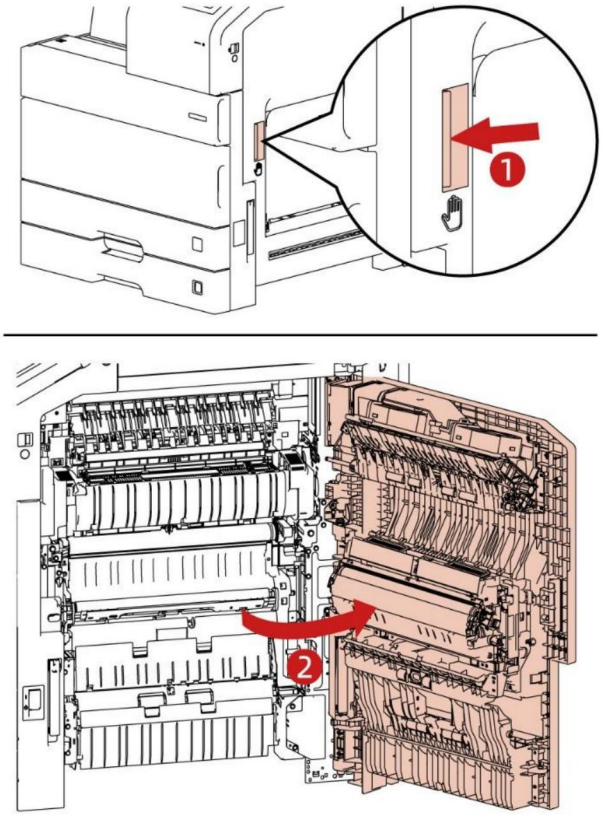
The paper is jammed in the multi-purpose paper feeder

1. Takeout the paper from the multi-purpose paper feeder.
2. Remove the jammed paper.

Note: • Make sure that all paper fragments are removed.



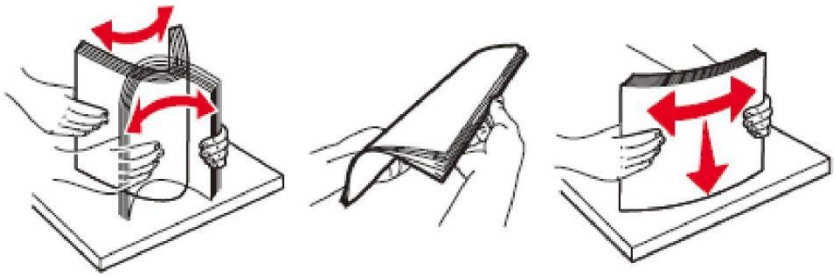
3. Open the door C to remove all paper fragments.



Note: • The inside of the printer maybe very hot. To avoid being burned by heating components, please wait for the surface to cool before touching the components.

• Make sure that the door does not hit any cables connected to the printer.

4. Close cover C.
5. Flex, fan out and align the paper edges before loading.



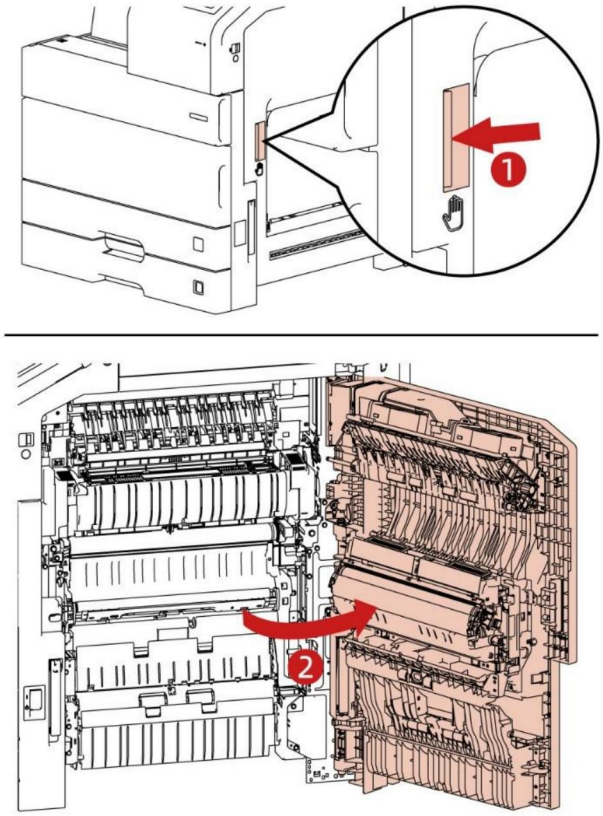
6. Reload the paper.

The paper is jammed in the door C

1. Open the door C.

Note: • The inside of the printer maybe very hot. To avoid being burned by heating components, please wait for the surface to cool before touching the components.

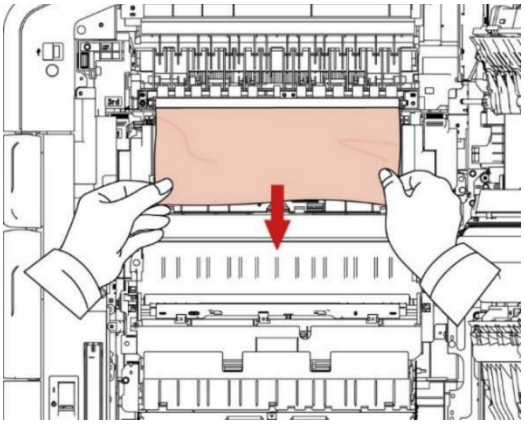
• Make sure that the door does not hit any cables connected to the printer.



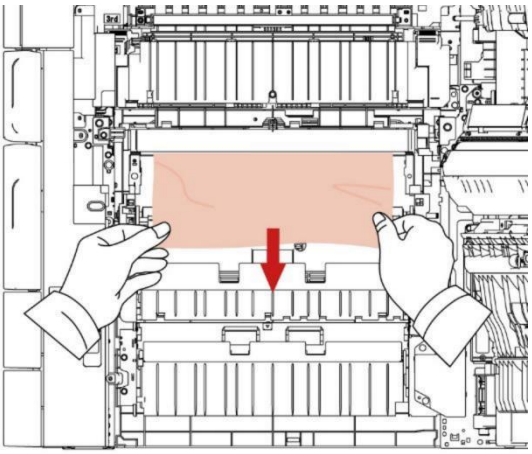
3. Remove the jammed paper from any position below.

Note: • Make sure that all paper fragments are removed.

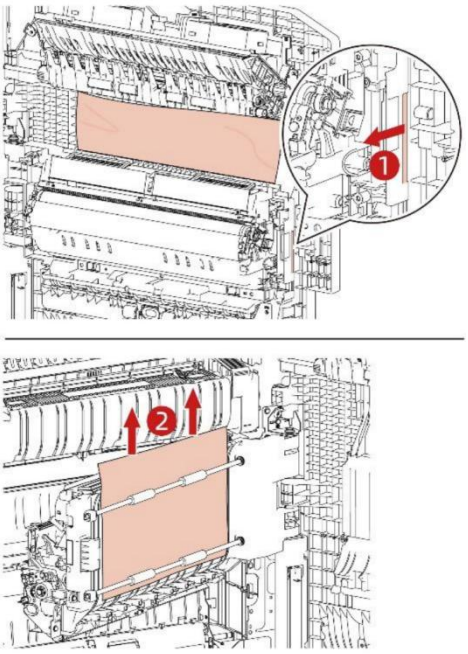
• Fuser area



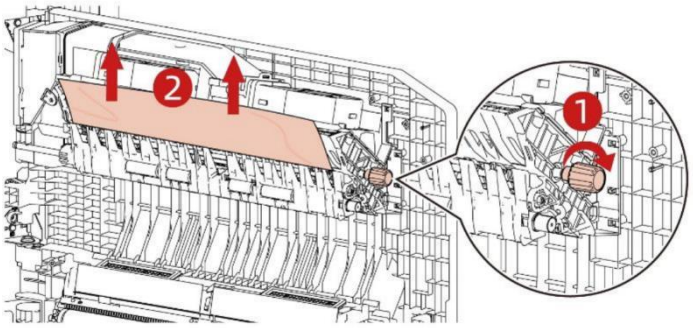
• Below the fuser area



• Duplex printing area



• Above the duplex printing area



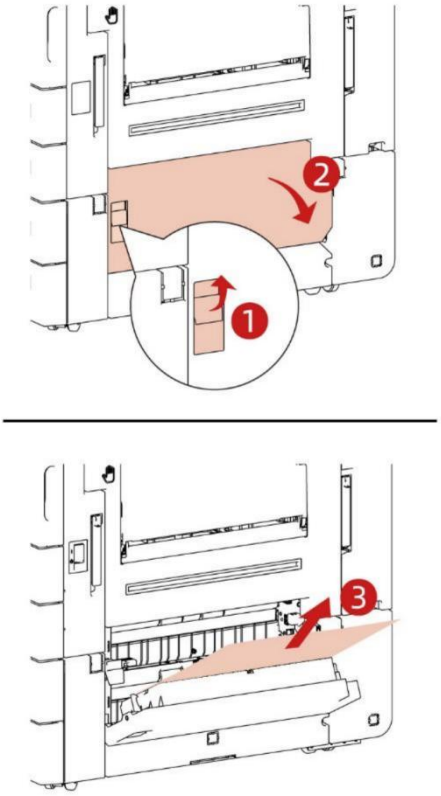
3. Open the tray, and takeout the jammed paper.

Note: • Make sure that all paper fragments are removed.

4. Close the tray, and then close the door.

The paper is jammed in the door D

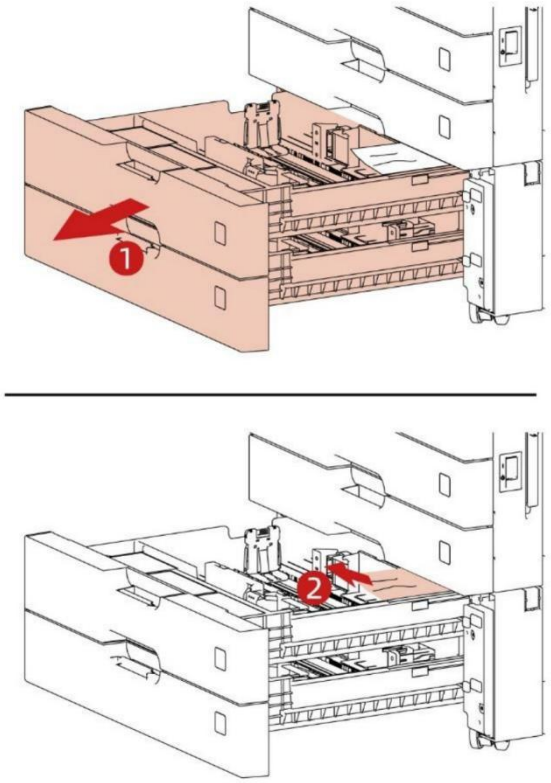
1. Open the door D, and then takeout the jammed paper.



Note: • Open the door C to confirm that all paper fragments have been removed, and then close the door.

2. Open the tray, and takeout the jammed paper.

Note: • Make sure that all paper fragments are removed.

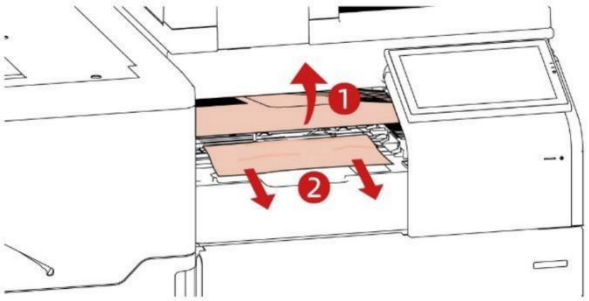


3. Close the tray, and then close the door.

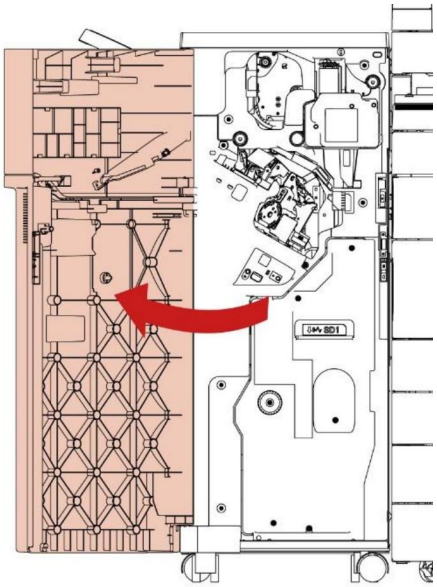
The paper is jammed in the stapler

1. Open the door G, and then takeout the jammed paper.

Note: • Make sure that all paper fragments are removed.



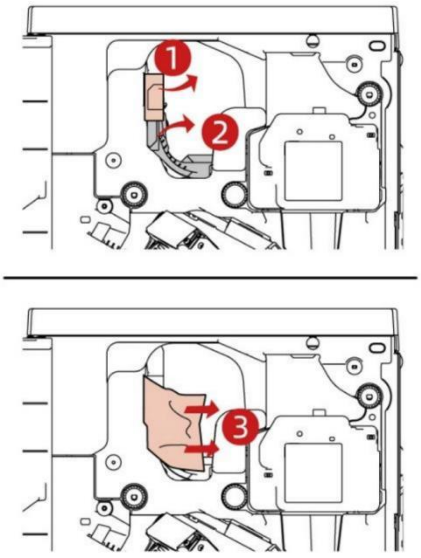
2. Open the door H.



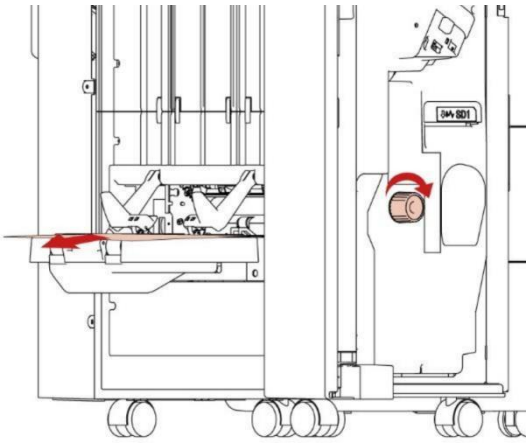
4. Remove the jammed paper from any position below.

Note: • Make sure that all paper fragments are removed.

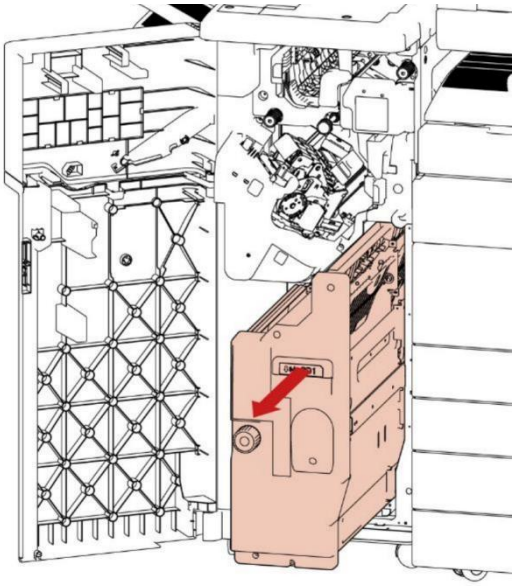
• Area FS4 and FS5



• Area SD3



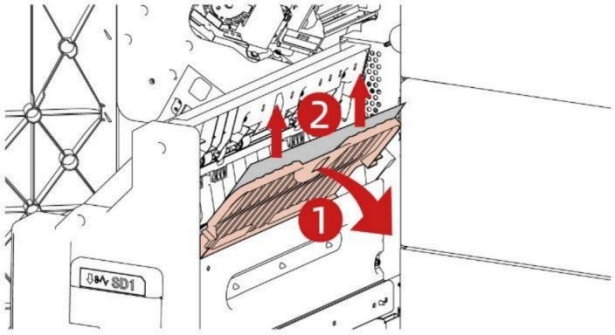
4. Pull out the booklet maker.



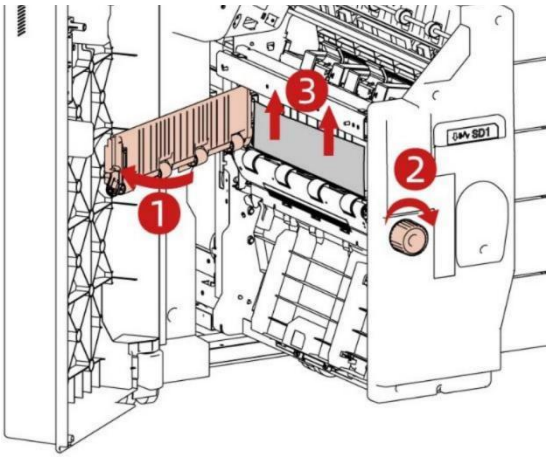
5. Remove the jammed paper from any position below.

Note: • Make sure that all paper fragments are removed.

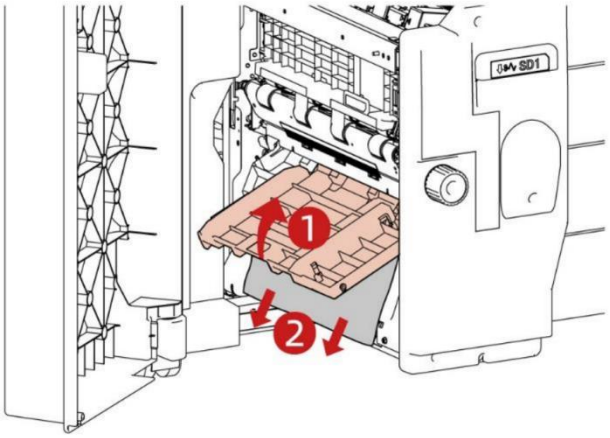
• Area SD2



• Area SD5



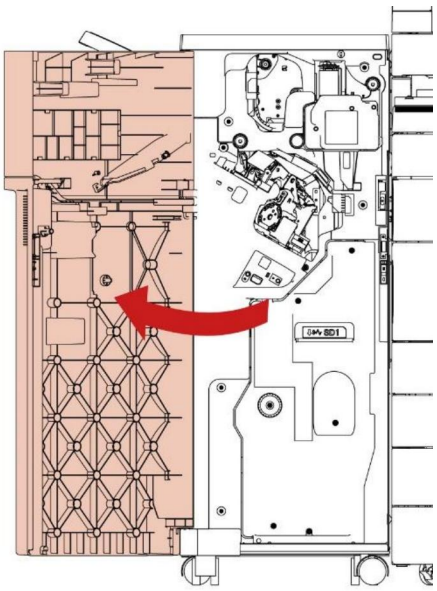
• Area SD4



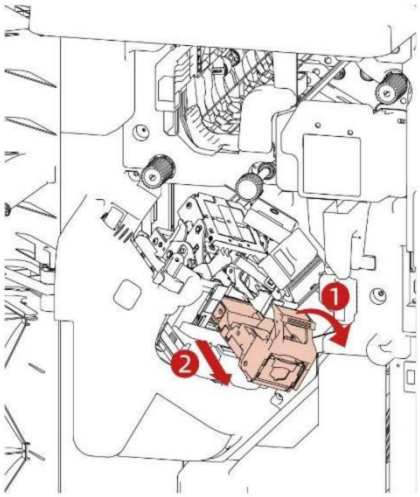
7. Push the booklet maker back to its original place.
8. Close doors H and G.

Staples are stuck in the hole punch and stapler finisher

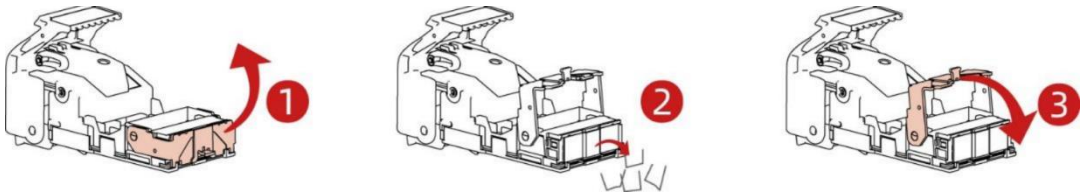
1. Open the door H.



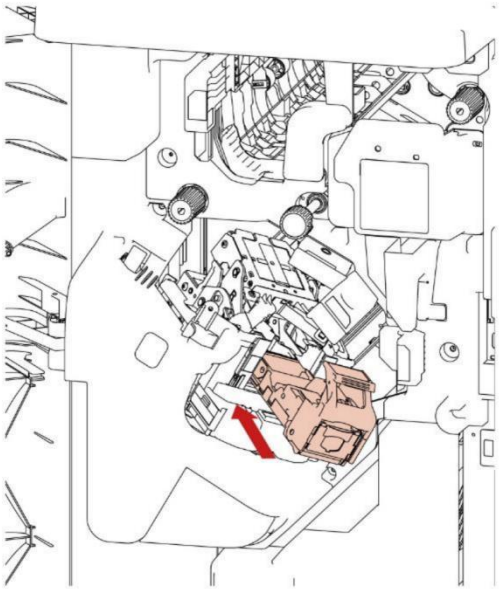
2. Remove the staple box holder.



3. Remove the loose staples.



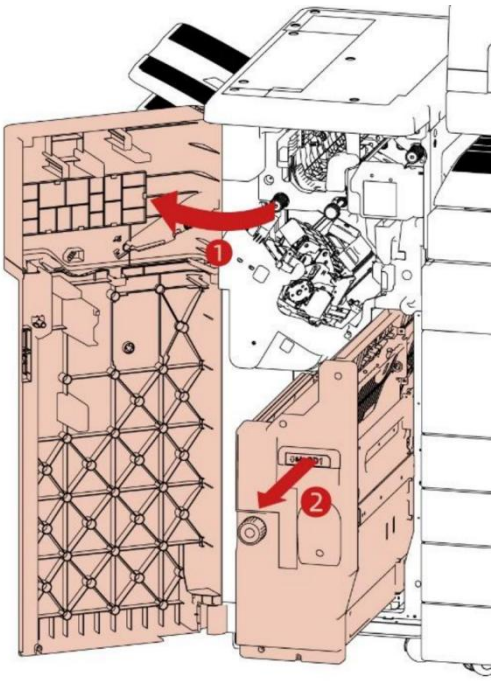
4. Insert a new staple box holder until it clicks into place.



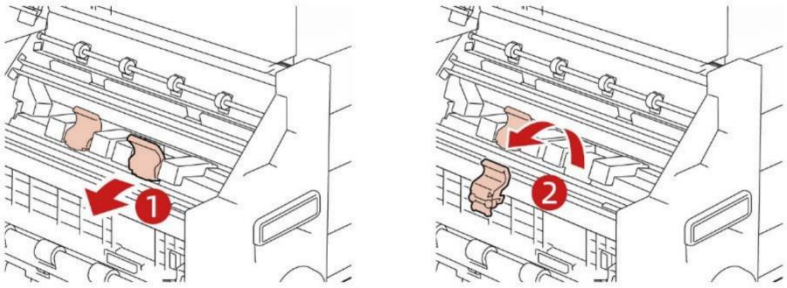
5. Close the cover.

Staples are stuck in the booklet finisher

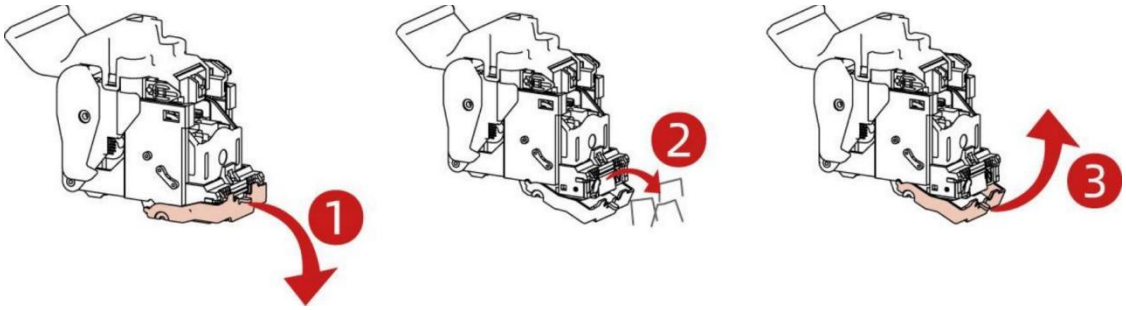
1. Open the door H and pullout the booklet maker.



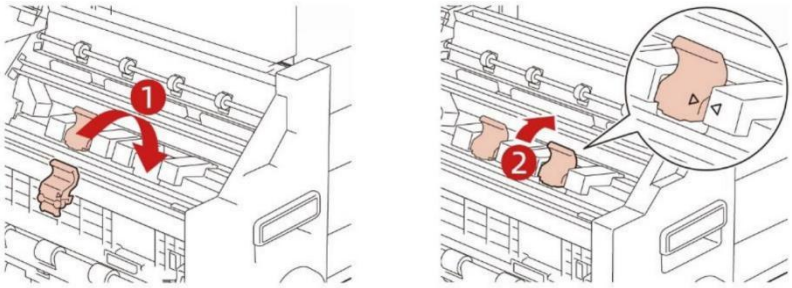
2. Remove the staple box holder.



3. Remove the loose staples.



4. Insert a new staple box holder until it clicks into place.



5. Push the booklet maker back to its original place and close the door.

1.4 List of the JAM code

JAM code	JAM type
10-01	Misfeed at manual bypass paper feed section
10-02	
10-04	
10-40	
11-01	Misfeed at tray 1 paper feed section
11-02	
11-04	
11-05	
11-40	
12-01	Misfeed at tray 2 paper feed section
12-05	
12-40	
13-01	Misfeed at tray 3 paper feed section
13-05	
13-40	
14-01	Misfeed at tray 4 paper feed section
14-05	
14-40	
15-01	Misfeed at external LCT paper feed section
15-40	
16-01	Misfeed at transfer LCT paper feed/transport section
16-05	
16-40	
17-30	Tray 3/4 horizontal transport section
17-31	
17-40	Tray 3/4 intermediate transport roller section
17-41	
20-01	Misfeed at vertical transport section
20-02	
20-04	
20-21	
20-22	
30-03	Misfeed at 2nd transfer section
32-01	Misfeed at fusing/paper exit section
32-05	
32-06	
32-30	
66-02	Misfeed at DF paper feed section
66-03	Misfeed at DF transport section
66-13	
66-23	
66-33	
66-04	Misfeed at DF paper exit section
66-14	
66-05	Misfeed at DF image reading section
66-06	
66-07	Misfeed at DF paper feed/transport/image reading/turnover/paper exit section
66-08	Double feed detection jam
66-54	DF controller jam
72-11	Misfeed at FS transport section
72-14	
72-15	
72-16	
72-17	
72-18	

JAM code	JAM type
72-19	
72-21	
72-22	
72-23	
72-25	Misfeed at SD paper exit section
72-26	
72-31	Misfeed at JS exit section
72-34	
72-35	Misfeed at PI section
72-40	Misfeed at ZU section
72-41	
72-43	Misfeed at PK section
72-49	Misfeed at PI section
72-50	
72-51	
72-70	Misfeed at PK section
72-75	Misfeed at FS paper exit section
72-76	
72-77	
72-81	Misfeed at FS staple section
72-84	Misfeed at SD staple section
72-85	Misfeed at SD transport section
72-86	
72-87	
75-42	Misfeed at RU section
75-43	
92-01	Misfeed at duplex pre-registration section
92-02	
92-04	
92-40	
93-10	Misfeed at duplex transport section
99-01	Controller JAM (paper size error (paper length))
99-02	Controller JAM (controller forced stop command)
99-03	Controller JAM (image processing)
99-04	Controller JAM (a job reservation in the main body is not released)
99-05	Controller JAM (main body not starting a job)
99-06	Controller JAM (print control on the main body is not completed)
99-07	Controller JAM (main body not completing a job)
99-08	Controller JAM (finisher not starting a job)
99-09	Controller JAM (finisher not completing a job)
99-10	Controller JAM (paper size error (paper width))
99-11	Controller JAM (main motor failure to turn)
99-12	Controller JAM (laser malfunction)
99-13	Controller JAM (image stabilization timeout)
99-14	
99-15	Controller JAM (heating roller temperature sensor abnormally high temperature detection)
99-16	Controller JAM (Media mismatch)

JAM that do not display the JAM code

JAM type	JAM detection timing	Ref. page
Misfeed at tray 1 paper feed section	Paper jam of a sheet of paper left at the tray 1 paper feed section results, if the tray 1 paper feed sensor (PS23) is turned ON when operation stops due to the tray 1 FD size error.	L.1.5.2 11-01, 11-02, 11-04, 11-05, 11-40
Misfeed at tray 2 paper feed section	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if the tray 2 vertical transport sensor (PS19) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.3 12-01, 12-05, 12-40

JAM type	JAM detection timing	Ref. page
	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at tray 3 paper feed section	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if the tray 3 vertical transport sensor (PS113) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.4 13-01, 13-05, 13-40
	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if the tray 3 paper feed sensor (PS152) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at tray 4 paper feed section	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if the tray 4 vertical transport sensor (PS123) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.5 14-01, 14-05, 14-40
	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if the tray 4 paper feed sensor (PS162) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at external LCT paper feed section	Paper jam of a sheet of paper left at the external LCT paper feed section results, if the LU paper feed sensor (PS3) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.6 15-01, 15-40
	Paper jam of a sheet of paper left at the external LCT paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at transfer LCT paper feed/transport section	Paper jam of a sheet of paper left at the transfer LCT transport section results, if the vertical transport sensor (PS133) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.7 16-01, 16-05, 16-40
	Paper jam of a sheet of paper left at the transfer LCT transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Tray 3/4 horizontal transport section	Paper jam of a sheet of paper left at the tray 3/4 horizontal transport section results, if the horizontal transport sensor (PS158) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.8 17-30, 17-31
	Paper jam of a sheet of paper left at the tray 3/4 horizontal transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Tray 3/4 intermediate transport roller section	Paper jam of a sheet of paper left at the tray 3/4 intermediate transport roller section results, if the tray vertical transport sensor (PS153) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.5.9 17-40, 17-41
	Paper jam of a sheet of paper left at the tray 3/4 intermediate transport roller section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at vertical transport section	Paper jam of a sheet of paper left at the vertical transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.6.2 20-21 L.1.6.3 20-22
Misfeed at 2nd transfer section	Paper jam of a sheet of paper left at the 2nd transfer section results, if the registration sensor/1 (PS1) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.7.1 30-03

JAM type	JAM detection timing	Ref. page
	Paper jam of a sheet of paper left at the 2nd transfer section results, if the registration sensor/2 (PS72) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset. (CM805 only)	
	Paper jam of a sheet of paper left at the 2nd transfer section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at fusing/paper exit section	Paper jam of a sheet of paper left at the paper exit section results, if the paper exit sensor (PS3) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.7.2 32-01, 32-05, 32-06, 32-30
	Paper jam of a sheet of paper left at the paper exit section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	
Misfeed at DF paper feed section	Paper jam of a sheet of paper left at the DF paper feed section results, if the after separate sensor (PS4) is turned ON when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.	L.1.8.1 66-02
Misfeed at DF transport section	Paper jam of a sheet of paper left at the DF transfer section results, if the document registration sensor (PS5) is turned ON when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.	L.1.8.2 66-03, 66-13, 66-23, 66-33
Misfeed at DF paper exit section	Paper jam of a sheet of paper left at the DF paper exit section results, if the document exit sensor (PS7) is turned ON (unblocked) when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.	L.1.8.3 66-04, 66-14
Misfeed at DF image reading section	Paper jam of a sheet of paper left at the DF image reading section results, if the document reading sensor (PS6) is turned ON when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.	L.1.8.4 66-05, 66-06
Misfeed at duplex pre-registration section	Paper jam of a sheet of paper left at the duplex pre-registration section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.10.1 92-01, 92-02, 92-04, 92-40
Misfeed at duplex transport section	Paper jam of a sheet of paper left at the duplex transport section results, if the ADU paper passage sensor/1 (PS40) is turned ON (unblocked) or the ADU paper passage sensor/2 (PS41) is turned ON (blocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	L.1.10.2 93-10
	Paper jam of a sheet of paper left at the duplex transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	

1.5 1#-##

1.5.1 10-01, 10-02, 10-04, 10-40

Contents

JAM type	Misfeed at manual bypass paper feed section	
JAM code	10-01, 10-02, 10-04, 10-40	
JAM detection timing	10-01	The leading edge of the paper is not turned ON (unblocked) the registration sensor/1 (PS1) even after the lapse of a given period of time after the manual bypass tray starts to feed paper.
	10-02	For paper fed from the manual bypass tray, loop forming has not been complete before a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
	10-04	The leading edge of the paper is not turned ON the registration sensor/2 (PS72) even after the lapse of a given period of time after the manual bypass tray starts to feed paper. (CM805only)
	10-40	For paper fed from the manual bypass tray, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
Misfeed processing location	Right door	

Relevant parts	• Transport motor (M1) (CM605) • Paper feed motor (M22) (CM605/CM805) • Registration motor (M24) (CM805) • Registration clutch (CL4) (CM605) • Bypass tray paper feed clutch (CL7) • Bypass tray lift-up solenoid (SD1) • Bypass tray pick-up roller solenoid (SD6) (CM605/CM805) • Registration sensor/1 (PS1) • Registration sensor/2 (PS72) (CM805) • Base board (BASEB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	BASEB CN15E-9 (ON)	4-C
3	PS72 I/O check, sensor check	BASEB CN15E-19 (ON)	5-C
4	CL4 load check • Check code: 21 • Multi code: 2	BASEB CN15E-2 (ON)	3-C
5	CL7 load check • Check code: 20 • Multi code: 3	BASEB CN26EA-12 (ON)	10-K
6	SD1 load check • Check code: 23 • Multi code: 3	BASEB CN26EA-9 (ON)	10-K
7	M1 load check • Check code: 40 • Multi code: 1, 2, 4 (CM605)	BASEB CN19EA-1 to 5	1-C
8	M22 load check • Check code: 28 • Multi code: 31, 32, 33, 34 (CM805), 31, 32, 34 (CM605)	BASEB CN31E-1 to 4	23-K
9	M24 load check • Check code: 26 • Multi code: 1, 2, 3, 4 (CM805)	BASEB CN31E-9 to 12	24-K
10	Replace BASEB.	-	-

1.5.2 11-01, 11-02, 11-04, 11-05, 11-40

Contents

JAM type	Misfeed at tray 1 paper feed section	
JAM code	11-01, 11-02, 11-04, 11-05, 11-40	
JAM detection timing	11-01	After the tray 1 starts to feed paper, the registration sensor/1 (PS1) is not turned ON (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 1 paper feed sensor (PS23).
	11-02	For paper fed from the tray 1, loop forming has not been complete before a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
	11-04	The leading edge of the paper is not turned ON (unblocked) the registration sensor/2 (PS72) even after the lapse of a given period of time after the tray 1 starts to feed paper. (CM805 only)
	11-05	The leading edge of the paper is not turned ON the tray 1 paper feed sensor (PS23) even after the lapse of a given period of time after the tray 1 starts to feed paper.
	11-40	For paper fed from the tray 1, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the tray 1 paper feed section results, if the tray 1 paper feed sensor (PS23) is turned ON when operation stops due to the tray 1 FD size error.
Misfeed processing location	• Right door • Tray 1	

Relevant parts	• Transport motor (M1) (CM605) • Paper feed motor (M22) (CM605/CM805) • Registration motor (M24) (CM805) • Registration clutch (CL4) (CM605) • Registration sensor/1 (PS1) • Tray 1 paper feed sensor (PS23) • Registration sensor/2 (PS72) (CM805i) • Base board (BASEB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-

Step	Action	Control signal	Location of electrical component
2	PS1 I/O check, sensor check	BASEB CN15E-9 (ON)	4-C
3	PS72 I/O check, sensor check	BASEB CN15E-19 (ON)	5-C
4	PS23 I/O check, sensor check	BASEB CN23E-2 (ON)	15-K
5	CL3 load check • Check code: 20 • Multi code: 1	BASEB CN26EA-20 (ON)	11-K
6	CL4 load check • Check code: 21 • Multi code: 2	BASEB CN15E-2 (ON)	3-C
7	CL10 load check • Check code: 20 • Multi code: 4	BASEB CN27EA-2 (ON)	13-K
8	M1 load check • Check code: 40 • Multi code: 1, 2, 4 (CM605)	BASEB CN19EA-1 to 5	1-C
9	M22 load check • Check code: 28 • Multi code: 31, 32, 33, 34 (CM805),31, 32, 34 (CM605)	BASEB CN31E-1 to 4	23-K
10	M24 load check • Check code: 26 • Multi code: 1, 2, 3, 4 (CM805)	BASEB CN31E-9 to 12	24-K
11	Replace BASEB.	-	-

1.5.3 12-01, 12-05, 12-40

Contents

JAM type	Misfeed at tray 2 paper feed section	
JAM code	12-01, 12-05, 12-40	
JAM detection timing	12-01	After the tray 2 starts to feed paper, the tray 2 vertical transport sensor (PS19) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 2 paper feed sensor (PS20).
	12-05	The leading edge of the paper is not turned ON the tray 2 paper feed sensor (PS20) even after the lapse of a given period of time after the tray 2 starts to feed paper.
	12-40	For paper fed from the tray 2, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if the tray 2 vertical transport sensor (PS19) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 2 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 2	
Relevant parts	• Paper feed motor (M22) (CM605/CM805) • Tray 2 vertical transport motor (M23) (CM605/CM805) • Tray 2 paper feed clutch (CL1) • Tray 2 vertical transport sensor (PS19) • Tray 2 paper feed sensor (PS20) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS19 I/O check, sensor check	BASEB CN23E-8 (ON)	15-K
3	PS20 I/O check, sensor check	BASEB CN23E-5 (ON)	15-K
4	CL1 load check • Check code: 20 • Multi code: 2	BASEB CN23E-16 (ON)	16-K
5	CL2 load check • Check code: 21 • Multi code: 1	BASEB CN23E-19 (ON)	17-K
6	M1 load check • Check code: 40 • Multi code: 1, 2, 4	BASEB CN19EA-1 to 5	1-C
7	M22 load check • Check code: 28 • Multi code: 31, 32, 33, 34 (CM805), 31, 32, 34 (CM605)	BASEB CN31E-1 to 4	23-K
8	M23 load check • Check code: 28 • Multi code: 36, 37, 38, 39 (CM805), 36, 37, 39 (CM605)	BASEB CN31E-5 to 8	23-K
9	Replace BASEB.	-	-

1.5.4 13-01, 13-05, 13-40

When CPT-810 is installed Contents

JAM type	Misfeed at tray 3 paper feed section (When PC-116 or CPT-810 is installed)	
JAM code	13-01, 13-05, 13-40	
JAM detection timing	13-01	After the tray 3 starts to feed paper, the tray 3 vertical transport sensor (PS113) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 3 paper feed sensor (PS112).
	13-05	The leading edge of the paper is not turned ON the tray 3 paper feed sensor (PS112) even after the lapse of a given period of time after the tray 3 starts to feed paper.
	13-40	For paper fed from the tray 3, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if the tray 3 vertical transport sensor (PS113) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 3 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 3	
Relevant parts	• Tray 3 paper feed motor (M111) • Tray 3 vertical transport motor (M112) • Tray 3 paper feed sensor (PS112) • Tray 3 vertical transport sensor (PS113) • PC control board (PCCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS112 I/O check, sensor check	PCCB CN4-11 (ON)	PC-116/CPT-810 5 to 6-C
3	PS113 I/O check, sensor check	PCCB CN4-14 (ON)	PC-116/CPT-810 5-C
4	M111 load check • Check code: 28 • Multi code: 11, 12, 13, 14 (CM805), 11, 12, 14 (CM605)	PCCB CN5-1 to 8/PCCB CN21-4 to 6	PC-116/CPT-810 3 to 4-C
5	M112 load check • Check code: 28 • Multi code: 21, 22, 23, 24 (CM805),22, 24 (CM605)	PCCB CN5-9 to 16/PCCB CN21-1 to 3	PC-116/CPT-810 3 to 4-C
6	Replace PCCB.	-	-

1.5.5 14-01, 14-05, 14-40

When CPT-810 is installed

Contents

JAM type	Misfeed at tray 4 paper feed section (When CPT-810 is installed)	
JAM code	14-01, 14-05, 14-40	
JAM detection timing	14-01	After the tray 4 starts to feed paper, the tray 4 vertical transport sensor (PS123) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 4 paper feed sensor (PS122).
	14-05	The leading edge of the paper is not turned ON the tray 4 paper feed sensor (PS122) even after the lapse of a given period of time after the tray 4 starts to feed paper.
	14-40	For paper fed from the tray 4, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if the tray 4 vertical transport sensor (PS123) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 4 paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 4	
Relevant parts	• Tray 4 paper feed motor (M121) • Tray 4 vertical transport motor (M122) • Tray 4 paper feed sensor (PS122) • Tray 4 vertical transport sensor (PS123) • PC control board (PCCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS122 I/O check, sensor check	PCCB CN18C-2 (ON)	CPT-810 7-K
3	PS123 I/O check, sensor check	PCCB CN18C-5 (ON)	CPT-810 7-K
4	M121 load check • Check code: 28 • Multi code: 16, 17, 18, 19 (CM805), 16, 17, 19 (CM605)	PCCB CN9C-1 to 8/PCCB CN22-5 to 7	CPT-810 5 to 6-K
5	M122 load check • Check code: 28 • Multi code: 26, 27, 28, 29 (CM805), 26, 27, 29 (CM605)	PCCB CN9C-9 to 16/PCCB CN22-1 to 3	CPT-810 5 to 6-K
6	Replace PCCB.	-	-

1.5.6 15-01, 15-40

Contents

JAM type	Misfeed at external LCT paper feed section (When LU-207 or LU-302 is installed)	
JAM code	15-01, 15-40	
JAM detection timing	15-01	The leading edge of the paper is not turned ON the LU paper feed sensor (PS3) even after the lapse of a given period of time after the external LCT starts to feed paper.
	15-40	For paper fed from the external LCT, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the external LCT paper feed section results, if the LU paper feed sensor (PS3) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the external LCT paper feed section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• LU paper feed motor (M2) • LU paper feed sensor (PS3) • LU drive board (LUDB) • Base board (BASEB) • PC control board (PCCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the pick-up roller load adjustment of the LCT.	-	-
3	PS3 I/O check, sensor check	LUDB CN5-8 (ON)	LU-207/LU-302 4-G
4	M2 load check • Check code: 28 • Multi code: 41, 42, 43, 44 (CM805), 41, 42, 44 (CM605)	LUDB CN4-5 to 8	LU-207/LU-302 3-G
5	Replace LUDB. (LU-207 / LU-302)	-	-
6	Replace BASEB.	-	-
7	PCCB F10 or F12 conduction check. (PC-417)	-	-
8	Replace PCCB. (PC-116/CPT-810 / CPT-810H / PC-417)	-	-

1.5.7 16-01, 16-05, 16-40

Contents

JAM type	Misfeed at transfer LCT paper feed/transport section (When CPT-810H installed)	
JAM code	16-01, 16-05, 16-40	
JAM detection timing	16-01	After the transfer LCT starts to feed paper, the vertical transport sensor (PS133) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the paper feed sensor (PS132).
	16-05	The leading edge of the paper is not turned ON the paper feed sensor (PS132) even after the lapse of a given period of time after the transfer LCT starts to feed paper.
	16-40	For paper fed from the transfer LCT, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the transfer LCT transport section results, if the vertical transport sensor (PS133) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the transfer LCT transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Paper feed motor (M131) • Vertical transport motor (M132) • Paper feed sensor (PS132) • Vertical transport sensor (PS133) • PC control board (PCCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS132 I/O check, sensor check	PCCB CN4-11 (ON)	CPT-810H 7-J
3	PS133 I/O check, sensor check	PCCB CN4-14 (ON)	CPT-810H 6-J
4	M131 load check • Check code: 28 • Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)	PCCB CN5-1 to 8/PCCB CN21-4 to 6	CPT-810H 4-C/4-J
5	M132 load check • Check code: 28 • Multi code: 6, 7, 8, 9 (CM805), 6, 7, 9 (CM605)	PCCB CN5-9 to 16/PCCB CN21-1 to 3	CPT-810H 4-J/5-C
6	Replace PCCB.	-	-

1.5.8 17-30, 17-31

Contents

JAM type	Tray 3/4 horizontal transport section (When PC-417 is installed)	
JAM code	17-30, 17-31	
JAM detection timing	17-30	The horizontal transport sensor (PS158) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 3 paper feed sensor (PS152).
	17-31	The vertical transport sensor (PS153) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the horizontal transport sensor (PS158).
	-	Paper jam of a sheet of paper left at the tray 3/4 horizontal transport section results, if the horizontal transport sensor (PS158) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 3/4 horizontal transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Tray 3/4 horizontal transport unit	
Relevant parts	• Intermediate motor (M151) • Transport motor (M152) • Tray 3 transport clutch (CL152) • Horizontal transport clutch (CL153) • Tray 3 paper feed sensor (PS152) • Vertical transport sensor (PS153) • Horizontal transport sensor (PS158)	
	• PC control board (PCCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS152 I/O check, sensor check	PCCB CN7-2 (ON)	PC-417 5-C
3	PS158 I/O check, sensor check	PCCB CN7-5 (ON)	PC-417 5-C
4	PS153 I/O check, sensor check	PCCB CN4-14 (ON)	PC-417 2-C
5	CL152 operation check	PCCB CN19-6 (ON)	PC-417 6-C
6	CL153 operation check	PCCB CN19-8 (ON)	PC-417 5-C
7	M151 load check • Check code: 28 • Multi code: 56, 57, 58, 59 (CM805), 56, 57, 59 (CM605)	PCCB CN20-1 to 3	PC-417 7-K
8	M152 load check • Check code: 28 • Multi code: 51, 52, 53, 54 (CM805), 51, 52, 54 (CM605)	PCCB CN5-1 to 8	PC-417 7-K
9	PCCB F4 conduction check	-	-
10	Replace PCCB.	-	-

1.5.9 17-40, 17-41

Contents

JAM type	Tray 3/4 intermediate transport roller section (When PC-417 is installed)	
JAM code	17-40, 17-41	
JAM detection timing	17-40	The vertical transport sensor (PS153) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 4 paper feed sensor (PS162).
	17-41	The tray 2 vertical transport sensor (PS19) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the vertical transport sensor (PS153).
	-	Paper jam of a sheet of paper left at the tray 3/4 intermediate transport roller section results, if the tray vertical transport sensor (PS153) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the tray 3/4 intermediate transport roller section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Right door • Tray 3/4 horizontal transport unit	
Relevant parts	• Intermediate motor (M151) • Transport motor (M152) • Tray 2 vertical transport motor (M23) (CM605/CM805) • Tray 4 paper feed clutch (CL161) • Vertical transport sensor (PS153) • Tray 4 paper feed sensor (PS162) • Tray 2 vertical transport sensor (PS19) • PC control board (PCCB) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS153 I/O check, sensor check	PCCB CN4-14 (ON)	PC-417 2-C
3	PS162 I/O check, sensor check	PCCB CN4-11 (ON)	PC-417 3-C
4	PS19 I/O check, sensor check	BASEB CN23E-8 (ON)	15-K
5	CL161 operation check	PCCB CN19-3 (ON)	PC-417 6-C
6	M151 load check • Check code: 28 • Multi code: 56, 57, 58, 59 (CM805), 56, 57, 59 (CM605)	PCCB CN20-1 to 3	PC-417 7-K
7	M152 load check • Check code: 28 • Multi code: 51, 52, 53, 54 (CM805), 51, 52, 54 (CM605)	PCCB CN5-1 to 8	PC-417 7-K
8	M23 load check • Check code: 28 • Multi code: 36, 37, 38, 39 (CM805), 36, 37, 39 (CM605)	BASEB CN31E-5 to 8	23-K
9	PCCB F4 conduction check	-	-
10	Replace PCCB.	-	-
11	Replace BASEB.	-	-

1.6 2#-##

1.6.1 20-01, 20-02, 20-04

Contents

JAM type	Misfeed at vertical transport section	
JAM code	20-01, 20-02, 20-04	
JAM detection timing	20-01	The registration sensor/1 (PS1) is not turned ON (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 2 vertical transport sensor (PS19).
	20-02	For paper fed from the tray 2, tray 3, tray 4, or LCT, loop forming has not been complete before a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
	20-04	The registration sensor/2 (PS72) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 2 vertical transport sensor (PS19). (Not for CM605/CM805)
Misfeed processing location	Right door	

Relevant parts	• Transport motor (M1) (CM605) • Tray 2 vertical transport motor (M23) (CM605/CM805) • Registration motor (M24) (CM805) • Registration clutch (CL4) (CM605) • Registration sensor/1 (PS1) • Tray 2 vertical transport sensor (PS19) • Registration sensor/2 (PS72) (CM805) • Base board (BASEB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	BASEB CN15E-9 (ON)	4-C
3	PS72 I/O check, sensor check	BASEB CN15E-19 (ON)	5-C
4	PS19 I/O check, sensor check	BASEB CN23E-8 (ON)	15-K
5	CL2 load check • Check code: 21 • Multi code: 1	BASEB CN23E-19 (ON)	17-K
6	CL4 load check • Check code: 21 • Multi code: 2	BASEB CN15E-2 (ON)	3-C
7	M1 load check • Check code: 40 • Multi code: 1, 2, 4 (CM605)	BASEB CN19EA-1 to 5	1-C
8	M23 load check • Check code: 28 • Multi code: 36, 37, 38, 39 (CM805), 36, 37, 39 CM605)	BASEB CN31E-5 to 8	23-K
9	M24 load check • Check code: 26 • Multi code: 1, 2, 3, 4 (CM805)	BASEB CN31E-9 to 12	24-K
10	Replace BASEB.	-	-

1.6.2 20-21

(1) When CPT-810 is installed

Contents

JAM type	Misfeed at vertical transport section (tray 3) (When PC-116 or CPT-810 is installed)	
JAM code	20-21	
JAM detection timing	20-21	The tray 2 vertical transport sensor (PS19) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 3 vertical transport sensor (PS113).
	-	Paper jam of a sheet of paper left at the vertical transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Tray 2 vertical transport motor (M23) (CM605/CM805) • Tray 3 vertical transport motor (M112) • Tray 2 vertical transport sensor (PS19) • Tray 3 vertical transport sensor (PS113) • Base board (BASEB) • PC control board (PCCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS113 I/O check, sensor check	PCCB CN4-14 (ON)	PC-116/CPT-810 5-C
3	PS19 I/O check, sensor check	BASEB CN23E-8 (ON)	15-K
4	CL2 load check • Check code: 21 • Multi code: 1	BASEB CN23E-19 (ON)	17-K

5	M112 load check • Check code: 28 • Multi code: 21, 22, 23, 24 (CM805), 21, 22, 24 (CM605)	PCCB CN5-9 to 16/PCCB CN21-1 to 3	PC-116/CPT-810 3 to 4-C
6	M23 load check • Check code: 28 • Multi code: 36, 37, 38, 39 (CM805), 36, 37, 39 (CM605)	BASEB CN31E-5 to 8	23-K
7	Replace BASEB.	-	-
8	Replace PCCB.	-	-

(2) When CPT-810H is installed Contents

JAM type	Misfeed at vertical transport section (tray 3) (When CPT-810H is installed)	
JAM code	20-21	
JAM detection timing	20-21	The tray 2 vertical transport sensor (PS19) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the vertical transport sensor (PS133).
	-	Paper jam of a sheet of paper left at the vertical transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Tray 2 vertical transport motor (M23) (CM605/CM805) • Vertical transport motor (M132) • Tray 2 vertical transport sensor (PS19) • Vertical transport sensor (PS133) • Base board (BASEB) • PC control board (PCCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS133 I/O check, sensor check	PCCB CN4-14 (ON)	CPT-810H 6-J
3	PS19 I/O check, sensor check	BASEB CN23E-8 (ON)	15-K
4	CL2 load check • Check code: 21 • Multi code: 1	BASEB CN23E-19 (ON)	17-K
5	M132 load check • Check code: 28 • Multi code: 6, 7, 8, 9 (CM805),6, 7, 9 (CM605)	PCCB CN5-9 to 16/PCCB CN21-1 to 3	CPT-810H 4-J/5-C
6	M23 load check • Check code: 28 • Multi code: 36, 37, 38, 39 (CM805), 36, 37, 39 (CM605)	BASEB CN31E-5 to 8	23-K
7	Replace BASEB.	-	-
8	Replace PCCB.	-	-

1.6.3 20-22

Contents

JAM type	Misfeed at vertical transport section (tray 4) (When CPT-810 is installed)	
JAM code	20-22	
JAM detection timing	20-22	The tray 3 vertical transport sensor (PS113) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the tray 4 vertical transport sensor (PS123).
	-	Paper jam of a sheet of paper left at the vertical transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	

Relevant parts	• Tray 3 vertical transport motor (M112) • Tray 4 vertical transport motor (M122) • Tray 3 vertical transport sensor (PS113) • Tray 4 vertical transport sensor (PS123) • PC control board (PCCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS123 I/O check, sensor check	PCCB CN18-5 (ON)	CPT-810 7-K
3	PS113 I/O check, sensor check	PCCB CN4-14 (ON)	CPT-810 5-C
4	M122 load check • Check code: 28 • Multi code: 26, 27, 28, 29 (CM805), 26, 27, 29 (CM605)	PCCB CN9C-9 to 16/PCCB CN22-1 to 3	CPT-810 5 to 6-K
5	M112 load check • Check code: 28 • Multi code: 21, 22, 23, 24 (CM805), 21, 22, 24 (CM605)	PCCB CN5-9 to 16/PCCB CN21-1 to 3	CPT-810 3 to 4-C
6	Replace PCCB.	-	-

1.7 3#-##

1.7.1 30-03 Contents

JAM type	Misfeed at 2nd transfer section	
JAM code	30-03	
JAM detection timing	30-03	The fusing loop sensor (PS2) is not turned ON (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (unblocked) the registration sensor/1 (PS1).
	-	Paper jam of a sheet of paper left at the 2nd transfer section results, if the registration sensor/1 (PS1) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the 2nd transfer section results, if the registration sensor/2 (PS72) is turned ON when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset. (CM805 only)
	-	Paper jam of a sheet of paper left at the 2nd transfer section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Transport motor (M1) (CM605) • Registration motor (M24) (CM805) • Registration clutch (CL4) (CM605) • Registration sensor/1 (PS1) • Fusing loop sensor (PS2) • Registration sensor/2 (PS72) (CM805) • Expansion control board (EXCB) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	BASEB CN15E-9 (ON)	4-C
3	PS72 I/O check, sensor check	BASEB CN15E-19 (ON)	5-C
4	PS2 I/O check, sensor check	EXCB CN13EX-6 (ON)	5-X
5	CL4 load check • Check code: 21 • Multi code: 2	BASEB CN15E-2 (ON)	3-C
6	M1 load check • Check code: 40 • Multi code: 1, 2, 4 (CM605)	BASEB CN19E-1 to 5	1-C
7	M24 load check • Check code: 26 • Multi code: 1, 2, 3, 4 (CM805)	BASEB CN31E-9 to 12	24-K

8	Replace EXCB.	-	-
9	Replace BASEB.	-	-

1.7.2 32-01, 32-05, 32-06, 32-30

Contents

JAM type	Misfeed at fusing/paper exit section	
JAM code	32-01, 32-05, 32-06, 32-30	
JAM detection timing	32-01	The leading edge of the paper is not turned ON (unblocked) the ADU paper passage sensor/1 (PS40) even after the lapse of a given period of time after the reverse sequence is started.
	32-05	The paper exit sensor (PS3) is not turned OFF (blocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (unblocked) PS3.
	32-06	The paper exit sensor (PS3) is not turned ON (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (unblocked) the fusing loop sensor (PS2).
	32-30	A trouble of the heating roller assy's failure to turn has been detected during a print cycle.
	-	Paper jam of a sheet of paper left at the paper exit section results, if the paper exit sensor (PS3) is turned ON (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the paper exit section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• Fusing motor (M3) • Paper exit/reverse motor (M4) • ADU transport motor/1 (M5) • Exit path switch solenoid (SD3) • Fusing loop sensor (PS2) • Paper exit sensor (PS3) • ADU paper passage sensor/1 (PS40) • Expansion control board (EXCB) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	EXCB CN13EX-6 (ON)	5-X
3	PS3 I/O check, sensor check	BASEB CN22E-3 (ON)	11-C
4	PS40 I/O check, sensor check	BASEB CN22E-6 (ON)	11-C
5	SD3 load check • Check code: 83 • Multi code: 0	BASEB CN13E-7 (ON)	12-C
6	M3 load check • Check code: 45 • Multi code: 1, 2, 3, 4, 6 (CM805), 1, 2, 4, 6 (CM605)	BASEB CN19EA-6 to 10	1-C
7	M4 load check • Check code: 84 • Multi code: 1, 2, 3, 4, 6, 7, 8, 9 (CM805), 1, 2, 4, 6, 7, 9 (CM605)	BASEB CN18E-3 to 6	5-C
8	M5 load check • Check code: 85 • Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)	BASEB CN18E-7 to 10	5-C
9	Replace EXCB.	-	-
10	Replace BASEB.	-	-

1.8 6#-##

1.8.1 66-02 Contents

JAM type	Misfeed at DF paper feed section
JAM code	66-02

JAM detection timing	66-02	The after separate sensor (PS4) is not turned ON even after the lapse of a given period of time after the document feed motor (M1) has energized.
	-	Paper jam of a sheet of paper left at the DF paper feed section results, if the after separate sensor (PS4) is turned ON when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Left cover	
Relevant parts	• Document feed motor (M1) • Document feed clutch (CL1) • After separate sensor (PS4) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the adjusting the pressure of the separation roller.	-	-
3	PS4 I/O check, sensor check	DFCB CN5A-8 (ON)	DF 8-J
4	CL1 load check • Check code: 60 • Multi code: 145	DFCB CN19-5 (ON)	DF 5-C
5	M1 load check • Check code: 60 • Multi code: 1, 2	DFCB CN3-1 to 4	DF 12-C
6	DFCB ICP2 or ICP10 conduction check.	-	-
7	Replace DFCB.	-	-

1.8.2 66-03, 66-13, 66-23, 66-33

Contents

JAM type	Misfeed at DF transport section	
JAM code	66-03, 66-13, 66-23, 66-33	
JAM detection timing	66-03	The after separate sensor (PS4) is not turned OFF even after the lapse of a given period of time after PS4 has turned ON.
	66-13	The document registration sensor (PS5) is not turned ON even after the lapse of a given period of time after the after separate sensor (PS4) has turned ON.
	66-23	The document registration sensor (PS5) is not turned OFF even after the lapse of a given period of time after PS5 has turned ON.
	66-33	The document reading sensor (PS6) is not turned ON after a lapse of a given time after the document registration sensor (PS5) is turned ON.
	-	Paper jam of a sheet of paper left at the DF transfer section results, if the document registration sensor (PS5) is turned ON when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Left cover	
Relevant parts	• Document feed motor (M1) • Document registration motor (M2) • Document reading motor (M3) • Document feed clutch (CL1) • After separate sensor (PS4) • Document registration sensor (PS5) • Document reading sensor (PS6) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS4 I/O check, sensor check	DFCB CN5A-8 (ON)	DF 8-J
3	PS5 I/O check, sensor check	DFCB CN5B-8 (ON)	DF 9-J
4	PS6 I/O check, sensor check	DFCB CN11-2 (ON)	DF 2-C
5	CL1 load check • Check code: 60 • Multi code: 145	DFCB CN19-5 (ON)	DF 5-C
6	M1 load check • Check code: 60 • Multi code: 1, 2	DFCB CN3-1 to 4	DF 12-C

7	M2 load check • Check code: 60 • Multi code: 17, 18, 19	DFCB CN3-5 to 10	DF 12-C
8	M3 load check • Check code: 60 • Multi code: 33, 34, 35	DFCB CN2-1 to 6	DF 13-C
9	DFCB ICP3 or ICP11 conduction check.	-	-
10	Replace DFCB.	-	-

1.8.3 66-04, 66-14

Contents

JAM type	Misfeed at DF paper exit section	
JAM code	66-04, 66-14	
JAM detection timing	66-04	The document exit sensor (PS7) is not turned ON (unblocked) even after the lapse of a given period of time after the document reading sensor (PS6) has turned ON.
	66-14	The document exit sensor (PS7) is not turned OFF (blocked) even after the lapse of a given period of time after the document reading sensor (PS6) has turned OFF.
	-	Paper jam of a sheet of paper left at the DF paper exit section results, if the document exit sensor (PS7) is turned ON (unblocked) when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	• Left cover • Opening and closing guide	
Relevant parts	• Document reading motor (M3) • Document exit motor (M4) • Document reading sensor (PS6) • Document exit sensor (PS7) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS6 I/O check, sensor check	DFCB CN11-2 (ON)	DF 2-C
3	PS7 I/O check, sensor check	DFCB CN13-3 (ON)	DF 7-C
4	M3 load check • Check code: 60 • Multi code: 33, 34, 35	DFCB CN2-1 to 6	DF 13-C
5	M4 load check • Check code: 60 • Multi code: 49, 50, 51, 52	DFCB CN15-1 to 4	DF 11-C
6	Replace DFCB.	-	-

1.8.4 66-05, 66-06

Contents

JAM type	Misfeed at DF image reading section	
JAM code	66-05, 66-06	
JAM detection timing	66-05	The document reading sensor (PS6) is not turned OFF after a lapse of a given time after the document registration sensor (PS5) is turned OFF.
	66-06	The document reading sensor (PS6) is turned ON earlier than a given time after PS6 is turned OFF during original transportation.
	-	Paper jam of a sheet of paper left at the DF image reading section results, if the document reading sensor (PS6) is turned ON when the main power switch is turned ON, a DF left cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Left cover	
Relevant parts	• Document reading motor (M3) • Document registration sensor (PS5) • Document reading sensor (PS6) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the adjustment of original stop position.	-	-

3	PS5 I/O check, sensor check	DFCB CN5B-8 (ON)	DF 9-J
4	PS6 I/O check, sensor check	DFCB CN11-2 (ON)	DF 2-C
5	M3 load check • Check code: 60 • Multi code: 33, 34, 35	DFCB CN2-1 to 6	DF 13-C
6	DFCB ICP1 conduction check	-	-
7	Replace DFCB.	-	-

1.8.5 66-07

Contents

JAM type	Misfeed at DF paper feed/transport/image reading/turnover/paper exit section	
JAM code	66-07	
JAM detection timing	66-07	Due to a remaining sheet of paper that has not been detected by sensors, before the start of a job, a sensor detects the sheet at an unexpected timing.
Misfeed processing location	Left cover	
Relevant parts	• Document registration sensor (PS5) • Document reading sensor (PS6) • Document exit sensor (PS7) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the adjustment of original stop position.	-	-
3	Make the adjusting the pressure of the separation roller.	-	-
4	PS5 I/O check, sensor check	DFCB CN5B-8 (ON)	DF 9-J
5	PS6 I/O check, sensor check	DFCB CN11-2 (ON)	DF 2-C
6	PS7 I/O check, sensor check	DFCB CN13-3 (ON)	DF 7-C
7	Replace DFCB.	-	-

1.8.6 66-08

Contents

JAM type	Double feed detection jam	
JAM code	66-08	
JAM detection timing	66-08	The double feed of document is detected within a given period of time after the leading edge of the paper has turned ON the document registration sensor (PS5).
Misfeed processing location	Left cover	
Relevant parts	• Multi feed detection board/TX (MFDB/TX) • Multi feed detection board/RX (MFDB/RX) • DF control board (DFCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Replace MFDB/TX.	-	-
3	Replace MFDB/RX.	-	-
4	Replace DFCB.	-	-

1.8.7 66-54

Contents

JAM type	DF controller jam	
JAM code	66-54	
JAM detection timing	66-54	The lift up DF lift-up lower limit sensor (PS3) is not turned ON after a lapse of a given time after the last sheet of original is fed out.
Misfeed processing location	Left cover	

Relevant parts	• Document feed motor (M1) • Document registration motor (M2) • Document reading motor (M3) • Document exit motor (M4) • After separate sensor (PS4) • Document registration sensor (PS5) • Document reading sensor (PS6) • Document exit sensor (PS7) • DF control board (DFCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS4 I/O check, sensor check	DFCB CN5A-8 (ON)	DF 8-J
3	PS5 I/O check, sensor check	DFCB CN5B-8 (ON)	DF 9-J
4	PS6 I/O check, sensor check	DFCB CN11-2 (ON)	DF 2-C
5	PS7 I/O check, sensor check	DFCB CN13-3 (ON)	DF 7-C
6	M1 load check • Check code: 60 • Multi code: 1, 2	DFCB CN3-1 to 4	DF 12-C
7	M2 load check • Check code: 60 • Multi code: 17, 18, 19	DFCB CN3-5 to 10	DF 12-C
8	M3 load check • Check code: 60 • Multi code: 33, 34, 35	DFCB CN2-1 to 6	DF 13-C
9	M4 load check • Check code: 60 • Multi code: 49, 50, 51, 52	DFCB CN15-1 to 4	DF 11-C
10	Replace DFCB.	-	-

1.9 7#-##

1.9.1 72-11

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-11	
JAM detection timing	72-11	The FNS middle sensor (PS36) is not turned ON even after the set period of time has elapsed after the FNS entrance sensor (PS34) is turned ON by the paper.
Misfeed processing location	Front door	
Relevant parts	• FNS entry transport motor (M20) • ZU discharge motor (M21) • FNS entrance sensor (PS34) • FNS middle sensor (PS36) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS34 I/O check, sensor check	FSCB J8<A>-5 (ON)	CPF-810H/CPF-810X 7-D
3	PS36 I/O check, sensor check	FSCB J12<A>-10 (ON)	CPF-810H/CPF-810X 14 to 15-D
4	M20 operation check	FSCB J8<A>-8 to 11	CPF-810H/CPF-810X 7-D
5	M21 operation check	FSCB J8<A>-12 to 15	CPF-810H/CPF-810X 7-D
6	Replace FSCB.	-	-

1.9.2 72-14

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)
JAM code	72-14

JAM detection timing	72-14	The SD discharge sensor (PS35) is not turned ON even after the set period of time has elapsed after the main tray exit sensor (PS37) is turned ON by the paper.
Misfeed processing location	Front door	
Relevant parts	• FNS discharge motor (M17) • SD discharge sensor (PS35) • Main tray exit sensor (PS37) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS35 I/O check, sensor check	FSCB J14<B>-2 (ON)	CPF-810H/CPF-810X 17-K to L
3	PS37 I/O check, sensor check	FSCB J12<B>-10 (ON)	CPF-810H/CPF-810X 16-D
4	M17 operation check	FSCB J14<A>-1 to 4	CPF-810H/CPF-810X 18-K to L
5	Replace FSCB.	-	-

1.9.3 72-15

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-15	
JAM detection timing	72-15	The SD discharge sensor (PS35) is not turned OFF even after the lapse of a given period of time after the leading edge of the paper has turned ON PS35.
Misfeed processing location	Front door	
Relevant parts	• SD discharge motor (M16) • SD discharge sensor (PS35) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS35 I/O check, sensor check	FSCB J14<B>-2 (ON)	CPF-810H/CPF-810X 17-K to L
3	M16 operation check	FSCB J8<B>-1 to 4	CPF-810H/CPF-810X 8-D
4	Replace FSCB.	-	-

1.9.4 72-16

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-16	
JAM detection timing	72-16	The FNS entrance sensor (PS34) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) the RU entrance sensor (PS2).
Misfeed processing location	Horizontal transport unit cover	
Relevant parts	• RU transport motor (M1) • RU entrance sensor (PS2) • FNS entrance sensor (PS34) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	FSCB J8<B>-12 (ON)	CPF-810H/CPF-810X 8-D
3	PS34 I/O check, sensor check	FSCB J8<A>-5 (ON)	CPF-810H/CPF-810X 7-D
4	M1 operation check	FSCB J8<A>-6 to 9	CPF-810H/CPF-810X 8-D
5	Replace FSCB.	-	-

1.9.5 72-17

When CPF-810H or CPF-810X is installed Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-17	
JAM detection timing	72-17	The FNS entrance sensor (PS34) is not turned OFF even after the lapse of a given period of time after the leading edge of the paper has turned ON PS34.
Misfeed processing location	Front door	
Relevant parts	• FNS entry transport motor (M20) • FNS entrance sensor (PS34) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS34 I/O check, sensor check	FSCB J8<A>-5 (ON)	CPF-810H/CPF-810X 7-D
3	M20 operation check	FSCB J8-8 to 11	CPF-810H/CPF-810X 7-D
4	Replace FSCB.	-	-

1.9.6 72-18

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-18	
JAM detection timing	72-18	• The main tray exit sensor (PS37) is not turned ON even after the set period of time has elapsed after the FNS middle sensor (PS36) is turned ON by the paper. • While the buffer is controlled, the main tray exit sensor (PS37) is not tuned ON even after the lapse of a given period of time after the reverse rotation drive is started.
Misfeed processing location	Front door	
Relevant parts	• Route change gate motor (M4) • FNS middle sensor (PS36) • Main tray exit sensor (PS37) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS36 I/O check, sensor check	FSCB J12<A>-10 (ON)	CPF-810H/CPF-810X 14 to 15-D
3	PS37 I/O check, sensor check	FSCB J12<B>-10 (ON)	CPF-810H/CPF-810X 16-D
4	M4 operation check	FSCB J12<B>-4 to 5	CPF-810H/CPF-810X 16-D
5	Replace FSCB.	-	-

1.9.7 72-19

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-19	
JAM detection timing	72-19	The main tray exit sensor (PS37) is not turned OFF even after the set period of time has elapsed after the FNS middle sensor (PS36) is turned OFF by the paper.
Misfeed processing location	Front door	
Relevant parts	• FNS discharge motor (M17) • Main tray exit sensor (PS37) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS37 I/O check, sensor check	FSCB J12<B>-10 (ON)	CPF-810H/CPF-810X 16-D
3	M17 operation check	FSCB J12<A>-1 to 4	CPF-810H/CPF-810X 14-D
4	Replace FSCB.	-	-

1.9.8 72-21

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-21	
JAM detection timing	72-21	The alignment tray paper detection sensor (PS32) is not turn OFF even after the set period of time has elapsed after the start of exiting paper.
Misfeed processing location	Front door	
Relevant parts	• Pre-eject drive motor (M2) • Alignment tray paper detection sensor (PS32) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS32 I/O check, sensor check	FSCB J21-12 (ON)	CPF-810H/CPF-810X 4-D
3	M2 operation check	FSCB J22<A>-3 to 4	CPF-810H/CPF-810X 1-D
4	Replace FSCB.	-	-

1.9.9 72-22

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-22	
JAM detection timing	72-22	The sub tray exit sensor (PS24) is not turned ON (blocked) even after the lapse of a given period of time after the paper reaches the paper transport acceleration point.
Misfeed processing location	Front door	
Relevant parts	• Sub tray discharge motor (M18) • Sub tray exit sensor (PS24) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS24 I/O check, sensor check	FSCB J14<A>-14 (ON)	CPF-810H/CPF-810X 17-K to L
3	M18 operation check	FSCB J12<A>-5 to 8	CPF-810H/CPF-810X 14-D
4	Replace FSCB.	-	-

1.9.10 72-23

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS transport section (When CPF-810H or CPF-810X is installed)	
JAM code	72-23	
JAM detection timing	72-23	The sub tray exit sensor (PS24) is not turned OFF (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) PS24.
Misfeed processing location	Front door	
Relevant parts	• Sub tray discharge motor (M18) • Sub tray exit sensor (PS24)	

	• FNS entrance sensor (PS34) • FNS middle sensor (PS36) • Main tray exit sensor (PS37) • FS control board (FSCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Clean the sensor of paper path.	-	-
3	PS24 I/O check, sensor check	FSCB J14<A>-14 (ON)	CPF-810H/CPF-810X 17-K to L
4	M18 operation check	FSCB J12<A>-5 to 8	CPF-810H/CPF-810X 14-D
5	Replace FSCB.	-	-

1.9.11 72-25, 72-26

When CPF-810X is installed

Contents

JAM type	Misfeed at SD paper exit section (When CPF-810X is installed)	
JAM code	72-25, 72-26	
JAM detection timing	72-25	The fold exit sensor (PS112) is not turned ON by the paper even after the lapse of a given period of time after the half-fold exit operation started.
	72-26	The fold exit sensor (PS112) is not turned OFF even after the lapse of a given period of time after the leading edge of the paper has turned ON PS112.
Misfeed processing location	• Front door • Stacker unit	
Relevant parts	• Center fold roller motor (M105) • Fold exit sensor (PS112) • SD control board (SDCB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS112 I/O check, sensor check	SDCB J9-2 (ON)	CPF-810H/CPF-810X 5-P
3	M105 operation check	SDCB J11-1 to 10	CPF-810H/CPF-810X 2-K
4	Replace SDCB.	-	-
5	Replace FSCB.	-	-

1.9.12 72-31, 72-34

Contents

JAM type	Misfeed at JS exit section (When CPF-810H+JS-602 or CPF-810X+JS-602 is installed)	
JAM code	72-31, 72-34	
JAM detection timing	72-31	The job tray paper exit sensor (PS402) is not turned ON (blocked) even after the set period of time has elapsed after the FNS middle sensor (PS36) is turned OFF by the paper.
	72-34	The job tray paper exit sensor (PS402) is not turned OFF (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) PS402.
Misfeed processing location	Separator cover	
Relevant parts	• Sub tray discharge motor (M18) • Job tray paper exit sensor (PS402) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS402 I/O check, sensor check	FSCB J10-6 (ON)	CPF-810H/CPF-810X 9-M
3	M18 operation check	FSCB J12<A>-5 to 8	CPF-810H/CPF-810X 14-D
4	Replace FSCB.	-	-

1.9.13 72-35

Contents

JAM type	Misfeed at PI section (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	
JAM code	72-35	
JAM detection timing	72-35	The paper entrance sensor/Lw (PS206) is not turned OFF (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) PS206.
Misfeed processing location	Upper door	
Relevant parts	• Transport motor (M203) • Registration clutch (CL203) • Paper entrance sensor/Lw (PS206) • PI drive board (PIDB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS206 I/O check, sensor check	PIDB CN53<A>-5 (ON)	PI-507 10-C
3	CL203 operation check	PIDB CN57-1 (ON)	PI-507 5 to 6-C
4	M203 operation check	PIDB CN57-1 to 11	PI-507 5-C
5	PIDB ICP4 conduction check	-	-
6	Replace PIDB.	-	-
7	Replace FSCB.	-	-

1.9.14 72-40, 72-41

Contents

JAM type	Misfeed at ZU section (When CPF-810H+CPK-810Z or CPF-810X+CPK-810Z is installed)	
JAM code	72-40, 72-41	
JAM detection timing	72-40	When the first fold is started in Z-fold mode, the FNS middle sensor (PS36) is not turned OFF even after the lapse of a given period of time after the leading edge of the paper has turned ON PS36.
	71-41	When the second fold is started in Z-fold mode, the FNS middle sensor (PS36) is not switched from ON to OFF by the paper after the set period of time has elapsed.
Misfeed processing location	Front door	
Relevant parts	• ZU transport motor (M500) • Folding guide motor (M501) • FNS discharge motor (M17) • FNS middle sensor (PS36) • ZU drive board (ZUDB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS36 I/O check, sensor check	FSCB J12<A>-10 (ON)	CPF-810H/CPF-810X 14 to 15-D
3	M500 operation check	ZUDB CN6-1 to 6	CPK-810Z 1 to 2-B
4	M501 operation check	ZUDB CN6-9 to 12	CPK-810Z 2-B
5	M17 operation check	FSCB J12<B>-1 to 4	CPF-810H/CPF-810X 14-D
6	ZUDB ICP1 or ICP2 conduction check	-	-
7	Replace ZUDB.	-	-
8	Replace FSCB.	-	-

1.9.15 72-43

When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed Contents

JAM type	Misfeed at PK section (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)	
JAM code	72-43	
JAM detection timing	72-43	The punch home sensor (PS301) is not turned ON (unblocked) after a lapse of a given time after the punch drive motor (M301) starts rotating.

	-	Paper jam of a sheet of paper left at the PK section results, when the main power switch is turned ON, and the paper is detected by the paper size detect board (PSDTB).
Misfeed processing location	Front door	
Relevant parts	72-43	• Punch drive motor (M301) • Punch home sensor (PS301) • Punch control board (PKCB) • FS control board (FSCB)
	Residual paper jam	• Paper size detect board (PSDTB) • FS control board (FSCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS301 I/O check, sensor check	PKCB CN36-5 (ON)	CPK-810XP 3-C
3	M301 operation check	PKCB CN35-1 to 3	CPK-810XP 2-C
4	Replace PKCB.	-	-
5	Replace FSCB.	-	-

Residual paper jam

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Adjust the sensitivity (light intensity) by selecting [Service Mode] -> [Finisher] -> [FS-FN adjustment] -> [Punch F. Sensor Intensity Adj.]. After adjustment, open and then close the front door, and check if the residual paper jam indication disappears. To turn off the main power switch, wait for more than 10 seconds until the residual paper jam indication disappears	-	-
3	Replace PKCB.	-	-
4	Replace FSCB.	-	-

1.9.16 72-49

Contents

JAM type	Misfeed at PI section (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	
JAM code	72-49	
JAM detection timing	72-49	The paper entrance sensor/Up (PS201) is not turned OFF (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) PS201.
Misfeed processing location	Upper door	
Relevant parts	• Transport motor (M203) • Registration clutch (CL203) • Paper entrance sensor/Up (PS201) • PI drive board (PIDB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS201 I/O check, sensor check	PIDB CN53<A>-2 (ON)	PI-507 10-C
3	CL203 operation check	PIDB CN57-1 (ON)	PI-507 5 to 6-C
4	M203 operation check	PIDB CN57-1 to 11	PI-507 5-C
5	PIDB ICP4 conduction check	-	-
6	Replace PIDB.	-	-
7	Replace FSCB.	-	-

1.9.17 72-50

Contents

JAM type	Misfeed at PI section (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	
JAM code	72-50	
JAM detection timing	72-50	The PI discharge sensor (PS33) is not turned ON even after the set period of time has elapsed after the paper entrance sensor/Up (PS201) turns ON (blocked) by a paper.

Misfeed processing location	Upper door
Relevant parts	• FNS entry transport motor (M20) • Paper entrance sensor/Up (PS201) • PI discharge sensor (PS33) • PI drive board (PIDB) • FS control board (FSCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS201 I/O check, sensor check	PIDB CN53<A>-2 (ON)	PI-507 10-C
3	PS33 I/O check, sensor check	FSCB J8<A>-3 (ON)	CPF-810H/CPF-810X 6-D
4	M20 operation check	FSCB J8<A>-8 to 11	CPF-810H/CPF-810X 7-D
5	PIDB ICP4 conduction check	-	-
6	Replace PIDB.	-	-
7	Replace FSCB.	-	-

1.9.18 72-51

Contents

JAM type	Misfeed at PI section (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	
JAM code	72-51	
JAM detection timing	72-51	The PI discharge sensor (PS33) is not turned ON even after the set period of time has elapsed after the paper entrance sensor/Lw (PS206) turns ON (blocked) by a paper.
Misfeed processing location	Upper door	
Relevant parts	• FNS entry transport motor (M20) • Paper entrance sensor/Lw (PS206) • PI discharge sensor (PS33) • PI drive board (PIDB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS206 I/O check, sensor check	PIDB CN53<A>-5 (ON)	PI-507 10-C
3	PS33 I/O check, sensor check	FSCB J8<A>-3 (ON)	CPF-810H/CPF-810X 6-D
4	M20 operation check	FSCB J8<A>-8 to 11	CPF-810H/CPF-810X 7-D
5	PIDB ICP4 conduction check	-	-
6	Replace PIDB.	-	-
7	Replace FSCB.	-	-

1.9.19 72-70

Contents

JAM type	Misfeed at PK section (When FS-533+PK-519 is installed)	
JAM code	72-70	
JAM detection timing	72-70	The paper feed sensor (PS201) is not turned OFF even after the lapse of a given period of time after the leading edge of the paper has turned ON PS201.
Misfeed processing location	Finisher punch section	
Relevant parts	• Fusing motor (M3) • Paper conveyance motor (M101) • Paper feed sensor (PS201) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS201 I/O check, sensor check	PKCB CN204	FS-533 (PK-519) 5-C
3	M3 load check • Check code: 45 • Multi code: 1, 4, 5, 6	BASEB CN19EA-6 to 10	1-C

4	M101 operation check	FSCB CN101	FS-533 6-J
5	Replace FSCB.	-	-

1.9.20 72-75

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS paper exit section (When CPF-810H or CPF-810X is installed)	
JAM code	72-75	
JAM detection timing	72-75	The upper paddle home sensor (PS25) is not turned ON (unblocked) even after the set period of time has elapsed after the FNS paddle motor (M9) is energized at the time other than the initial operation.
Misfeed processing location	Main tray	
Relevant parts	• FNS paddle motor (M9) • Upper paddle home sensor (PS25) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS25 I/O check, sensor check	FSCB J4<B>-13 (ON)	CPF-810H/CPF-810X 16-K to L
3	M9 operation check	FSCB J4<B>-7 to 10	CPF-810H/CPF-810X 17-K to L
4	Replace FSCB.	-	-

1.9.21 72-76

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS paper exit section (When CPF-810H or CPF-810X is installed)	
JAM code	72-76	
JAM detection timing	72-76	The gripper home sensor (PS3) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the bundle eject motor (M1) is energized at the time other than the initial operation.
Misfeed processing location	Main tray	
Relevant parts	• Bundle eject motor (M1) • Gripper home sensor (PS3) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS3 I/O check, sensor check	FSCB J22<A>-13 (ON)	CPF-810H/CPF-810X 2-D
3	M1 operation check	FSCB J22<A>-1 to 2	CPF-810H/CPF-810X 1-D
4	Replace FSCB.	-	-

1.9.22 72-77

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS paper exit section (When CPF-810H or CPF-810X is installed)	
JAM code	72-77	
JAM detection timing	72-77	The alignment home sensor (PS6/PS9) is not turned OFF (unblocked) even after the set period of time has elapsed after the alignment motor (M13/M14) is energized at the time other than the initial operation.
Misfeed processing location	Main tray	

Relevant parts	• Alignment motor/Rr (M13) • Alignment motor/Fr (M14) • Alignment plate home sensor/Rr (PS6) • Alignment plate home sensor/Fr (PS9) • FS control board (FSCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS6 I/O check, sensor check	FSCB J21-10 (ON)	CPF-810H/CPF-810X 4-D
3	PS9 I/O check, sensor check	FSCB J18-10 (ON)	CPF-810H/CPF-810X 6-D
4	M13 operation check	FSCB J21-1 to 4	CPF-810H/CPF-810X 4-D
5	M14 operation check	FSCB J18-1 to 4	CPF-810H/CPF-810X 5-D
6	Replace FSCB.	-	-

1.9.23 72-81

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at FS staple section (When CPF-810H or CPF-810X is installed)	
JAM code	72-81	
JAM detection timing	72-81	The stapler home sensor does not turn ON even after the lapse of a given period of time after the stapler motor is energized.
Misfeed processing location	Front door	
Relevant parts	• Stapler unit • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Replace the stapler unit.	-	-
3	Replace FSCB.	-	-

1.9.24 72-84

When CPF-810X is installed

Contents

JAM type	Misfeed at SD staple section (When CPF-810X is installed)	
JAM code	72-84	
JAM detection timing	72-84	The stapler home position sensor/Rr does not turn ON even after the lapse of a given period of time after the staple operation started.
Misfeed processing location	• Front door • Stacker unit	
Relevant parts	• Stapler unit • SD control board (SDCB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Replace the stapler unit.	-	-
3	Replace SDCB.	-	-
4	Replace FSCB.	-	-

1.9.25 72-85

When CPF-810X is installed

Contents

JAM type	Misfeed at SD transport section (When CPF-810X is installed)	
JAM code	72-85	
JAM detection timing	72-85	The SD entrance sensor (PS101) is not turned ON (blocked) even after the set period of time has elapsed after the SD discharge sensor (PS35) is turned ON by the paper.

Misfeed processing location	• Front door • Stacker unit
Relevant parts	• SD discharge motor (M16) • SD entrance sensor (PS101) • SD discharge sensor (PS35) • SD control board (SDCB) • FS control board (FSCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS35 I/O check, sensor check	FSCB J14<B>-2 (ON)	CPF-810H/CPF-810X 17-K to L
3	PS101 I/O check, sensor check	SDCB J4-3 (ON)	CPF-810H/CPF-810X 4-K
4	M16 operation check	FSCB J8<B>-1 to 4	CPF-810H/CPF-810X 8-D
5	Replace SDCB.	-	-
6	Replace FSCB.	-	-

1.9.26 72-86

When CPF-810X is installed

Contents

JAM type	Misfeed at SD transport section (When CPF-810X is installed)	
JAM code	72-86	
JAM detection timing	72-86	The SD entrance sensor (PS101) is not turned OFF (unblocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (blocked) PS101.
Misfeed processing location	Front door	
Relevant parts	• SD transport motor (M101) • SD entrance sensor (PS101) • SD control board (SDCB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS101 I/O check, sensor check	SDCB J4-3 (ON)	CPF-810H/CPF-810X 4-K
3	M101 operation check	SDBC J5-8 to 11	CPF-810H/CPF-810X 3-K
4	Replace SDCB.	-	-
5	Replace FSCB.	-	-

1.9.27 72-87

When CPF-810X is installed

Contents

JAM type	Misfeed at SD transport section (When CPF-810X is installed)	
JAM code	72-87	
JAM detection timing	72-87	The center staple/foldstacker paper detect sensor (PS103) is not turned ON even after the lapse of a given period of time after the leading edge of the paper has turned ON the SD entrance sensor (PS101).
Misfeed processing location	• Front door • Stacker unit	
Relevant parts	• SD transport motor (M101) • SD entrance sensor (PS101) • Center staple/foldstacker paper detect sensor (PS103) • SD control board (SDCB) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS101 I/O check, sensor check	SDCB J4-3 (ON)	CPF-810H/CPF-810X 4-K
3	PS103 I/O check, sensor check	SDCB J7-12 (ON)	CPF-810H/CPF-810X 5-P
4	M101 operation check	SDBC J5-8 to 11	CPF-810H/CPF-810X 3-K
5	Replace SDCB.	-	-
6	Replace FSCB.	-	-

1.9.28 75-42

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at RU section (When CPF-810H or CPF-810X is installed)	
JAM code	75-42	
JAM detection timing	75-42	The RU entrance sensor (PS2) is not turned ON (blocked) even after the lapse of a given period of time after the leading edge of the paper has turned OFF (unblocked) the main body's paper exit sensor (PS3).
Misfeed processing location	Horizontal transport cover	
Relevant parts	• RU transport motor (M1) • Paper exit sensor (PS3) • RU entrance sensor (PS2) • FS control board (FSCB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS3 I/O check, sensor check	BASEB CN22E-3 (ON)	11-C
3	PS2 I/O check, sensor check	FSCB J8<B>-12 (ON)	CPF-810H/CPF-810X 8-D
4	M1 operation check	FSCB J8<B>-6 to 9	CPF-810H/CPF-810X 8-D
5	FSCB F1 conduction check	-	-
6	Replace FSCB.	-	-

1.9.29 75-43

When CPF-810H or CPF-810X is installed

Contents

JAM type	Misfeed at RU section (When CPF-810H or CPF-810X is installed)	
JAM code	75-43	
JAM detection timing	75-43	The RU entrance sensor (PS2) is not turned OFF (unlocked) even after the lapse of a given period of time after PS2 is turned ON (blocked).
Misfeed processing location	Horizontal transport cover	

Relevant parts	• RU transport motor (M1) • RU entrance sensor (PS2) • FS control board (FSCB)

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	FSCB J8<B>-12 (ON)	CPF-810H/CPF-810X 8-D
3	M1 operation check	FSCB J8<B>-6 to 9	CPF-810H/CPF-810X 8-D
4	FSCB F1 conduction check	-	-
5	Replace FSCB.	-	-

1.10 9#-##

1.10.1 92-01, 92-02, 92-04, 92-40

Contents

JAM type	Misfeed at duplex pre-registration section	
JAM code	92-01, 92-02, 92-04, 92-40	
JAM detection timing	92-01	The leading edge of the paper is not turned ON (unblocked) the registration sensor/1 (PS1) even after the lapse of a given period of time after a duplex paper feed sequence has been started.
	92-02	For the second-side feed of paper in the duplex mode, loop forming has not been complete before the second side of a sheet enters the registration roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
	92-04	The registration sensor/2 (PS72) is not turned ON even after the lapse of a given period of time after a duplex paper feed sequence has been started. (CM805 only)
	92-40	For the second-side feed of paper in the duplex mode, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.
	-	Paper jam of a sheet of paper left at the duplex pre-registration section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• DU transport motor/2 (M26) (CM605/CM805) • Registration sensor/1 (PS1) • Registration sensor/2 (PS72) (CM805) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	BASEB CN15E-9 (ON)	4-C
3	PS72 I/O check, sensor check	BASEB CN15E-19 (ON)	5-C
4	CL6 load check • Check code: 81 • Multi code: 0	BASEB CN18E-1 (REM)	5-C
5	M1 load check • Check code: 40 • Multi code: 1, 2, 4	BASEB CN19EA-1 to 5	1-C
6	M26 load check • Check code: 85 • Multi code: 6, 7, 8, 9 (CM805), 6, 7, 9 (CM605)	BASEB CN18E-11 to 14	6-C
7	Replace BASEB.	-	-

1.10.2 93-10

Contents

JAM type	Misfeed at duplex transport section
JAM code	93-10

JAM detection timing	93-10	The ADU paper passage sensor/2 (PS41) is not turned ON (blocked) even after the lapse of a given period of time after the leading edge of the paper has turned ON (unblocked) the ADU paper passage sensor/1 (PS40).
	-	Paper jam of a sheet of paper left at the duplex transport section results, if the ADU paper passage sensor/1 (PS40) is turned ON (unblocked) or the ADU paper passage sensor/2 (PS41) is turned ON (blocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
	-	Paper jam of a sheet of paper left at the duplex transport section results, if a sheet of paper is determined to exist at a position detected when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.
Misfeed processing location	Right door	
Relevant parts	• ADU transport motor/1 (M5) • ADU transport motor/2 (M26) (CM605/CM805) • ADU paper passage sensor/1 (PS40) • ADU paper passage sensor/2 (PS41) • Expansion control board (EXCB) • Base board (BASEB)	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS40 I/O check, sensor check	BASEB CN22E-6 (ON)	11-C
3	PS41 I/O check, sensor check	EXCB CN13EX-9 (ON)	4-X
4	CL6 load check • Check code: 81 • Multi code: 0	BASEB CN18E-1 (REM)	5-C
5	M1 load check • Check code: 40 • Multi code: 1, 2, 4	BASEB CN19EA-1 to 5	1-C
6	M5 load check • Check code: 85 • Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)	BASEB CN18E-7 to 10	5-C
7	M26 load check • Check code: 85 • Multi code: 6, 7, 8, 9 (CM805), 6, 7, 9 (CM605)	BASEB CN18E-11 to 14	6-C
8	Replace EXCB.	-	-
9	Replace BASEB.	-	-

1.10.3 99-01

Contents

JAM type	Controller JAM (paper size error (paper length))	
JAM code	99-01	
JAM detection timing	99-01	• As a result of a paper size error (paper length), the controller transmits a forced stop command to the printer engine and the printer engine is internally processing the size error. • As a result of a paper size error (paper length), the controller transmits a forced stop command to the printer engine; but the paper causing the size error cannot be fed out.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.4 99-02

Contents

JAM type	Controller JAM (controller forced stop command)
JAM code	99-02

JAM detection timing	99-02	The controller transmits a forced stop command under a condition other than a paper size error during a print cycle.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.5 99-03

Contents

JAM type	Controller JAM (image processing)	
JAM code	99-03	
JAM detection timing	99-03	Image stabilization not completing a job.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.6 99-04

Contents

JAM type	Controller JAM (a job reservation in the main body is not released)	
JAM code	99-04	
JAM detection timing	99-04	A job reservation is not released after a lapse of a given time after that a print start command has been received.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.7 99-05

Contents

JAM type	Controller JAM (main body not starting a job)	
JAM code	99-05	
JAM detection timing	99-05	A waiting status is not released even with a print start command received.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.8 99-06

Contents

JAM type	Controller JAM (print control on the main body is not completed)	
JAM code	99-06	
JAM detection timing	99-06	Print control is not completed even after a job has been completed.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-

Step	Action	Control signal	Location of electrical component
2	Open and close the lower front door of the main body.	-	-

1.10.9 99-07

Contents

JAM type	Controller JAM (main body not completing a job)	
JAM code	99-07	
JAM detection timing	99-07	The engine does not stop after a lapse of a given time after that a print has finished.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.10 99-08

Contents

JAM type	Controller JAM (finisher not starting a job)	
JAM code	99-08	
JAM detection timing	99-08	The finisher does not accept a print start command.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body. Or, open and close the front door of the finisher.	-	-

1.10.11 99-09

Contents

JAM type	Controller JAM (finisher not completing a job)	
JAM code	99-09	
JAM detection timing	99-09	• A paper exit or paper finishing process inside the finisher is not completed. • The finisher does not start during a reset procedure from the jam.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body. Or, open and close the front door of the finisher.	-	-

1.10.12 99-10

Contents

JAM type	Controller JAM (paper size error (paper width)) (CM805)	
JAM code	99-10	
JAM detection timing	99-10	• As a result of a paper size error (paper width), the controller transmits a forced stop command to the printer engine and the printer engine is internally processing the size error. • As a result of a paper size error (paper width), the controller transmits a forced stop command to the printer engine; but the paper causing the size error cannot be fed out.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.13 99-11

Contents

JAM type	Controller JAM (main motor failure to turn)	
JAM code	99-11	
JAM detection timing	99-11	A trouble of the main motor's failure to turn has been detected during a print cycle.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.14 99-12

Contents

JAM type	Controller JAM (laser malfunction)	
JAM code	99-12	
JAM detection timing	99-12	A laser malfunction has been detected during a print cycle.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.15 99-13, 99-14

Contents

JAM type	Controller JAM (image stabilization timeout)	
JAM code	99-13, 99-14	
JAM detection timing	99-13	Even after a predetermined period of time since the image stabilization start command has been received, no image stabilization start report is received (registration recalculation is not complete).
	99-14	After the image stabilization start command has been received, the response from the controller is lost for more than 1 minute.
Misfeed processing location	-	
Relevant parts	-	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.16 99-15

Contents

JAM type	Controller JAM (heating roller temperature sensor abnormally high temperature detection)	
JAM code	99-15	
JAM detection timing	99-15	Detected temperature of the heating roller temperature sensor (TEMS) goes beyond a given temperature for a given period of time consecutively.

Misfeed processing location	-
Relevant parts	-

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

1.10.17 99-16

Contents

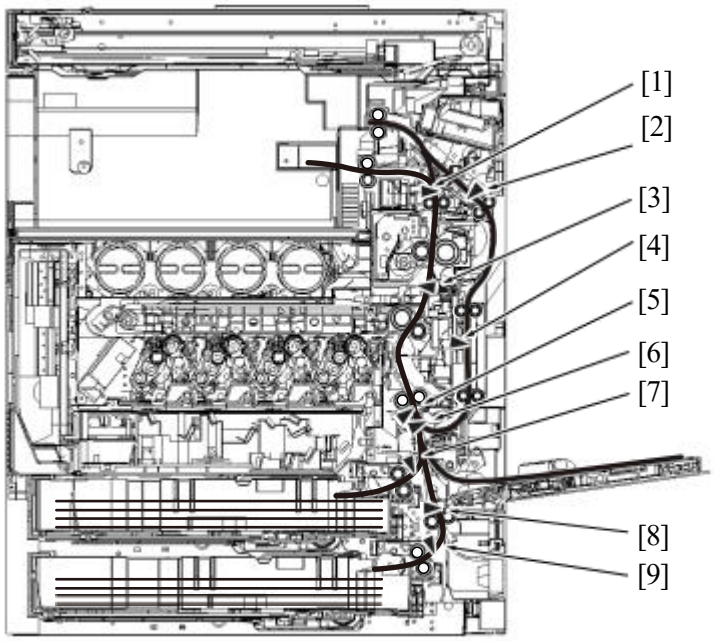
JAM type	Controller JAM (Media mismatch)	
JAM code	99-16	
JAM detection timing	99-16	When the inner Finisher is installed and the media sensor is enabled, the paper type set on the panel and the paper type detected by the media sensor are different.
Misfeed processing location	Duplex section	
Relevant parts	Media sensor	

Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the lower front door of the main body.	-	-

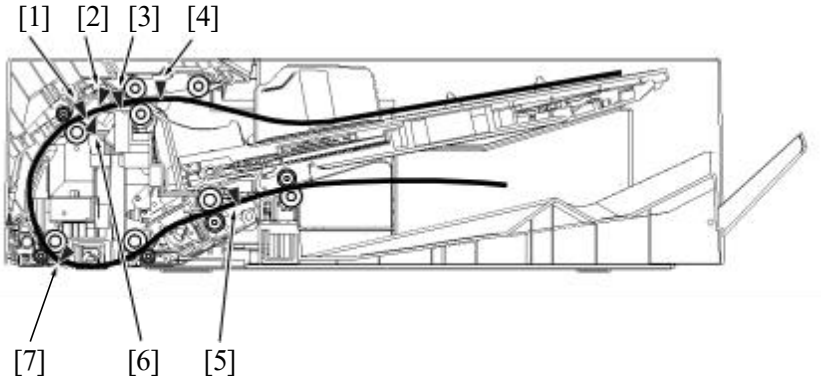
1.11 Sensor layout

1.11.1 CM605/CM805



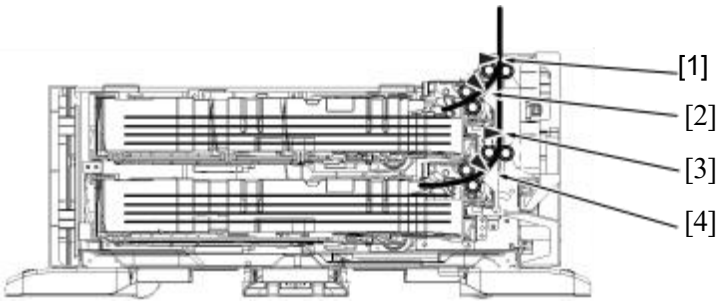
[1]	Paper exit sensor (PS3)	[2]	ADU paper passage sensor/1 (PS40)
[3]	Fusing loop sensor (PS2)	[4]	ADU paper passage sensor/2 (PS41)
[5]	Registration sensor/1 (PS1)	[6]	Registration sensor/2 (PS72)
[7]	Tray 1 paper feed sensor (PS23)	[8]	Tray 2 vertical transport sensor (PS19)
[9]	Tray 2 paper feed sensor (PS20)	-	-

1.11.2 DF-713



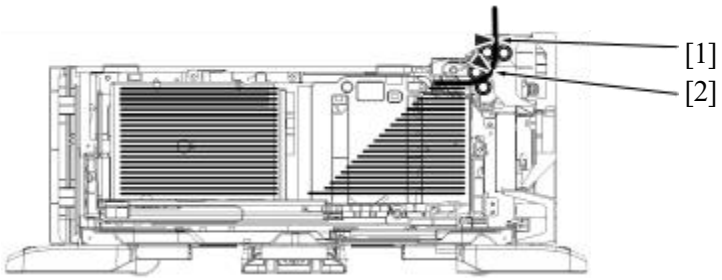
[1]	Document registration sensor (PS5)	[2]	Multi feed detection board/RX (MFDB/RX)
[3]	After separate sensor (PS4)	[4]	Document feed sensor (PS21)
[5]	Document exit sensor (PS7)	[6]	Multi feed detection board/TX (MFDB/TX)
[7]	Document reading sensor (PS6)	-	-

1.11.3 CPT-810



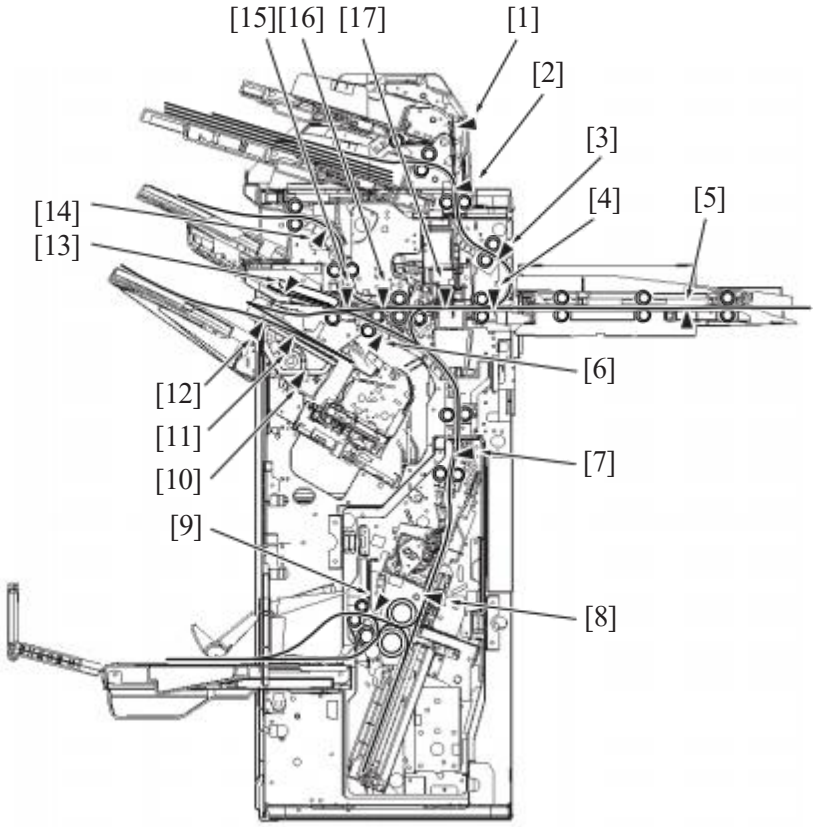
[1]	Tray 3 vertical transport sensor (PS113)	[2]	Tray 3 paper feed sensor (PS112)
[3]	Tray 4 vertical transport sensor (PS123)	[4]	Tray 4 paper feed sensor (PS122)

1.11.4 CPT-810H



[1]	Vertical transport sensor (PS133)	[2]	Paper feed sensor (PS132)

1.11.5 CPF-810H/CPF-810X/CPK-810XP/CPK-810Z



[1]	Paper entrance sensor/Up (PS201): PI-507	[2]	Paper entrance sensor/Lw (PS206): PI-507
[3]	PI discharge sensor (PS33)	[4]	FNS entrance sensor (PS34)
[5]	RU entrance sensor (PS2): CPK-810R	[6]	SD discharge sensor (PS35)
[7]	SD entrance sensor (PS101): SD	[8]	Center staple/foldstacker paper detect sensor (PS103): SD
[9]	Fold exit sensor (PS112): SD	[10]	Gripper home sensor (PS3)
[11]	Alignment tray paper detection sensor (PS32)	[12]	Alignment plate home sensor/Rr (PS6) Alignment plate home sensor/Fr (PS9)
[13]	Upper paddle home sensor (PS25)	[14]	Sub tray exit sensor (PS24)
[15]	Main tray exit sensor (PS37)	[16]	FNS middle sensor (PS36)
[17]	Punch home sensor (PS301): CPK-810XP	-	-

2. MALFUNCTION CODE

2.1 Display procedure

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the control panel.
- Touching the maintenance call mark will display the corresponding malfunction code on the state confirm screen.

2.2 List of the malfunction code

- If an image stabilization or scanner fault occurs, the corresponding malfunction code appears.

Malfunction code	Contents
S-1	CCD gain adjustment failure
S-2	CIS gain adjustment failure
D-1	Split line detect (front side)
D-3	Split line detect (backside)
P-5	IDC sensor/Fr failure
P-28	IDC sensor/Rr failure
P-6	Drum/Development unit (C) failure
P-7	Drum/Development unit (M) failure
P-8	Drum/Development unit (Y) failure
P-9	Drum/Development unit (K) failure
P-14	Skew correction trouble
P-21	Color regist test pattern failure
P-22	Color regist adjust failure
P-27	Secondary transfer ATVC failure
P-33	LD malfunction
P-34	Atmospheric pressure sensor failure
P-35	Media sensor failure
P-36	Media sensor failure 2 *1
P-37	PH optical system dirt
P-38	Feeding paper size sensor failure *2
P-39	Paper exit cooling fan failure *3
P-40	Fusing motor torque failure
P-41	Machine inside temperature sensor failure
P-42	PH temperature sensor failure
P-43	Paper temperature sensor failure

- *1: CM605/CM805
- *2: CM805
- *3: When OT-513 or JS-508 is installed.

2.3 S-1

Contents

Malfunction type	CCD gain adjustment failure
Malfunction code	S-1
Malfunction detection timing	It is detected that the CCD clamp gain adjustment value is faulty.
Relevant parts	• LED exposure unit • CCD unit • Scanner drive board (SCDB) • Base board (BASEB)

Procedure

1. Correct the connector connection between CCDB CN2-BASEB CN6 if faulty.
2. Check for possible extraneous light and correct as necessary.
3. Clean the lens,mirrors, CCD surface, and shading sheet if dirty.
4. Correct reflective mirror of the scanner if faulty, or change scanner mirror.
5. Replace the CCD unit.
6. Replace SCDB.
7. Replace BASEB.

2.4 S-2

Contents

Malfunction type	CIS gain adjustment failure
Malfunction code	S-2
Malfunction detection timing	It is detected that the CIS clamp gain adjustment value is faulty.
Relevant parts	• CIS module (CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Correct the connector connection between CIS CN2-BASEB CN5 if faulty.
2. Check CPUB for proper installation and correct as necessary.
3. Check for possible extraneous light and correct as necessary.
4. Wipe clean the backside scanning glass surface and shading sheet.
5. Replace CIS.
6. Replace CPUB.
7. Replace BASEB.

2.5 D-1

Contents

Malfunction type	Split line detect (front side)
Malfunction code	D-1
Malfunction detection timing	• While recovering from the power save mode or when the main power switch and power key are ON, it detects whether or not stain exist at the document reading glass when the DF is closed. This warning will be displayed if the original is set to DF when stain exist.
Relevant parts	• Document reading glass cleaning motor (M8) • Document reading glass cleaning sensor (PS18) • DF control board (DFCB)

Procedure

1. Wipe clean the document reading glass surface.
2. Check the front side glass cleaning roller unit for proper installation and correct if necessary. Clean the front side glass cleaning roller unit if dirty.
3. Check DFCB connector for proper connection and correct as necessary.
4. M8 operation check
5. Replace the front side glass cleaning roller unit.
6. Replace DFCB.

2.6 D-3

Contents

Malfunction type	Split line detect (backside)
Malfunction code	D-3
Malfunction detection timing	• While recovering from the power save mode or when the main power switch and power key are ON, it detects whether or not stain exist at the backside original scanning section (CIS) when the DF is closed. This warning will be displayed if the original is set to DF when stain exist.
Relevant parts	• CIS module (CIS) • CIS power supply (CISPU) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Wipe clean the CIS glass surface.
2. Check the backside glass cleaning roller unit for proper installation and correct if necessary. Clean the backside glass cleaning roller unit if dirty.
3. If there is a problem in the CIS module connection, correct the faulty connection.
4. Replace CIS.
5. Replace CISPU.
6. Replace CPUB.
7. Replace BASEB.

2.7 P-5, P-28

Contents

Malfunction type	IDC sensor/Fr failure, IDC sensor/Rr failure
Malfunction code	P-5, P-28
Malfunction detection timing	• During IDC sensor light intensity correction, output voltage detected for all eight sample patterns are 3.35 V or more. • During IDC sensor light intensity correction, sensor output voltage for light intensity selected after the correction is under 0.7 V. • During IDC base surface detective control, sensor output voltage detected is under 0.7 V or over 3.35V. • During image stabilization (gamma correction control), detected output value for IDC sensor did not go below threshold (half the value of what is detected by IDC sensor on the belt surface) for three consecutive times (position of the pattern end is not detected). • During image stabilization (gamma correction control), sensor's output value of each color for hyper 0 gradation after the primary approximation is half the detection level on the belt surface or under.
Relevant parts	• IDC sensor/Fr (IDCS/Fr) • IDC sensor/Rr (IDCS/Rr) • High voltage unit (HV) • Transfer belt unit • Base board (BASEB)

Procedure

1. Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2. Replace the transfer belt unit if the transfer belt is damaged.
3. Reinstall or reconnect IDCS/Fr, connectors connecting between IDCS/Fr-relay CN77-BASEB CN15E, if any of the foregoing parts is installed or connected improperly.
4. Reinstall or reconnect IDCS/Rr, connectors connecting between IDCS/Rr-relay CN77-BASEB CN15E, if any of the foregoing parts is installed or connected improperly.
5. Clean IDCS/Fr or IDCS/Rr if it is dirty.
6. Check the connector between HV CN1-BASEB CN26E, HV CN2-BASEB CN21E for proper connection.
7. Open/close the lower front door, run an image stabilization sequence, and select [State Confirmation] -> [Level History 1] to check the IDC value.
   IDC1: IDCS/Fr
   IDC2: IDCS/Rr
   If the value is 1.0 V or less, replace IDCS/Fr or IDCS/Rr.
8. Replace BASEB.

2.8 P-6, P-7, P-8, P-9

Contents

Malfunction type	Drum/Development unit (C) failure, Drum/Development unit (M) failure, Drum/Development unit (Y) failure, Drum/Development unit (K) failure
Malfunction code	P-6, P-7, P-8, P-9
Malfunction detection timing	• All density readings taken from the density pattern produced on the transfer belt are equal or under the predetermined value during max. density adjustment (Vg/Vdc adjustment). • All density readings taken from the density pattern produced on the transfer belt are equal or more the predetermined value during max. density adjustment (Vg/Vdc adjustment).
Relevant parts	• Drum unit/Y,M,C,K • Developing unit/Y,M,C,K • IDC sensor/Fr (IDCS/Fr) • IDC sensor/Rr (IDCS/Rr) • Base board (BASEB) • High voltage unit (HV) • Transfer belt unit

Procedure

1. Check the setting value in [Max Image Density Adj] of [Service Mode] -> [Imaging Process Adjustment] and, if it is negative, readjust.
2. Check the drive transmission portion of the drum/developing unit and correct as necessary.
3. Clean the IDC sensor/Fr (IDCS/Fr) or IDC sensor/Rr (IDCS/Rr) window if dirty.
4. Clean the contact of the drum/developing unit connector if dirty.
5. Check the connector between HV CN1-BASEB CN26E, HV CN2-BASEB CN21E for proper connection.
6. Replace the drum unit.
7. Replace the developing unit.
8. Replace the transfer belt unit.
9. Replace HV.
10. Replace BASEB.

2.9 P-14

Contents

Malfunction type	Skew correction trouble
Malfunction code	P-14
Malfunction detection timing	• The difference between the skew default position setting value and the cumulative amount of skew adjustment values goes over the predetermined value. • HP signals for the skew correction motor is detected the predetermined number of times during the skew correction.
Relevant parts	• IDC sensor/Fr (IDCS/Fr) • IDC sensor/Rr (IDCS/Rr) • Drum unit/Y,M,C,K • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB) • PH unit

Procedure

1. Check the drive transmission portion of the drum unit and correct as necessary.
2. Clean the contact of the drum unit connector if dirty.
3. Reinstall or reconnect IDCS/Fr, connectors connecting between IDCS/Fr-relay CN77-BASEB CN15E, if any of the foregoing parts is installed or connected improperly.
4. Reinstall or reconnect IDCS/Rr, connectors connecting between IDCS/Rr-relay CN77-BASEB CN15E, if any of the foregoing parts is installed or connected improperly.
5. Clean IDCS/Fr or IDCS/Rr if it is dirty.
6. Check the connector between the PH unit-relay CN300-EXCB CN7EX for proper connection and correct as necessary.
7. Check the connectors of the EXCB for proper connection and correct as necessary.
8. Check the connectors on BASEB for proper connection and correct as necessary.
9. Replace IDCS/Fr or IDCS/Rr.
10. Replace the drum unit.
11. Replace the PH unit.
12. Replace EXCB.
13. Replace CPUB.
14. Replace BASEB.

2.10 P-21

Contents

Malfunction type	Color regist test pattern failure
Malfunction code	P-21
Malfunction detection timing	• During pre-pattern detection, pre-pattern edge (start/ endpoint of effective area) is not detected within the pre-pattern search area. • During detection of regist pattern at vertical/horizontal direction, pattern edge (start/endpoint of effective area) is not detected within the pattern search area of each unit.
Relevant parts	• Transfer belt unit • PH unit • Expansion control board (EXCB) • Base board (BASEB)

Procedure

1. Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2. Replace the transfer belt unit if the transfer belt is damaged.
3. Replace the PH unit.
4. Replace EXCB.
5. Replace BASEB.

2.11 P-22

Contents

Malfunction type	Color regist adjust failure
Malfunction code	P-22
Malfunction detection timing	• The gap between maximum and minimum value of deviations among each color (the values before averaging) is over the predetermined value. • Average deviation exceeds the predetermined value. • In case the final value of the deviation after stabilization exceeds the predetermined value, it is regarded as failure even if the average deviation is withintolerance.

Relevant parts	• Drum unit/Y,M,C,K • Developing unit/Y,M,C,K • IDC sensor/Fr (IDCS/Fr) • IDC sensor/Rr (IDCS/Rr) • Base board (BASEB)

Procedure

1. Slide out the drum/developing unit and reinstall it in position.
2. Reinstall or reconnect IDCS/Fr, connectors connecting between IDCS/Fr-relay CN77-BASEB CN15E, if any of the foregoing parts is installed or connected improperly.
3. Reinstall or reconnect IDCS/Rr, connectors connecting between IDCS/Rr-relay CN77-BASEB CN15E, if any of the foregoing parts is installed or connected improperly.
4. Check the vertical transport guide for installed position and correct as necessary.
5. Replace BASEB.

2.12 P-27

Contents

Malfunction type	Secondary transfer ATVC failure
Malfunction code	P-27
Malfunction detection timing	An abnormal average value is detected during an adjustment of the second transfer ATVC value.
Relevant parts	• High voltage unit (HV) • Base board (BASEB) • Image transfer entrance guide • 2nd transfer assy • Transfer belt unit

Procedure

1. Check the contact between the roller opposed to the 2nd transfer roller in the transfer belt unit and the grounding terminal. Clean the joint or correct if necessary.
2. Check the image transfer entrance guide for proper installation and correct if necessary.
3. Check that the spring does not come off during the pressure operation of the 2nd transfer roller and correct if necessary.
4. Check the contact at the joint of the 2nd transfer assy and HV. Clean the joint or correct if necessary.
5. Replace the transfer belt unit.
6. Replace HV.
7. Replace BASEB.

2.13 P-33

Contents

Malfunction type	LD malfunction
Malfunction code	P-33
Malfunction detection timing	The DETOUT signal of the LD drive detected malfunction consecutively for the predetermined frequency.
Relevant parts	• Laser diode/Y (LD/Y) • Laser diode/M (LD/M) • Laser diode/C (LD/C) • Laser diode/K (LD/K) • Laser drive board (LDDB) • PH unit • Expansion control board (EXCB) • Base board (BASEB)

Procedure

1. Replace the PH unit.
2. Replace EXCB.
3. Replace BASEB.

2.14 P-34

Contents

Malfunction type	Atmospheric pressure sensor failure
Malfunction code	P-34
Malfunction detection timing	An error of the atmospheric pressure sensor (ATMPRS) is detected.
Relevant parts	• Atmospheric pressure sensor (ATMPRS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between ATMPRS-BASEB CN27E for proper connection and correct as necessary.

2. Clean the cover on ATMPRS, if it is dirty.
3. Replace CPUB.
4. Replace BASEB.

2.15 P-35

Contents

Malfunction type	Media sensor failure
Malfunction code	P-35
Malfunction detection timing	• The light intensity of each LED is out of the predetermined value during performing the calibration of the optical sensor. Perform the calibration when the right door is opened and closed, when recovering from the Sleep/ErP Auto Power Off mode, when the main power switch is turned ON, and when a certain amount of sensor ambient temperature changes. • When the obtained voltage value is determined to be an abnormal value during detection before feeding paper.
Relevant parts	• Paper basis weight detection board/TX (PBWDB/TX) • Paper basis weight detection board/RX (PBWDB/RX) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Open the right door and check if there is any foreign matter between PBWDB/TX and PBWDB/RX.
2. Check if the mylar and reflector part between PBWDB/TX and PBWDB/RX are damaged or peeled off, or clogging by paper dust.
   Clean up it as necessary.
   Replace if damaged.
3. Check the connector between PBWDB/TX CN1ML-relay CN606-relay CN608-relay CN607-relay CN254-relay CN253-PBWDB/RX CN3MD for proper connection and correct as necessary.
4. Check the connector between PBWDB/RX CN2MD-relay CN253-relay CN254-EXCB CN6EX for proper connection and correct as necessary.
5. Check the connector between PBWDB/RX CN1MD-relay CN255-relay CN256-BASEB CN36E for proper connection and correct as necessary.
6. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
7. Check CPUB for proper installation and correct as necessary.
8. Replace EXCB.
9. Replace CPUB.
10. Replace BASEB.

2.16 P-36

Contents

Malfunction type	Media sensor failure 2 (CM605/CM805)
Malfunction code	P-36
Malfunction detection timing	• When starting the machine, or the lower front door or the right door is opened and closed, ultrasonic waves sensor error is detected. • Measure the received voltages when CLK is output and when CLK is not output, and the values are determined to be faulty.
Relevant parts	• Envelope detection board/TX (ENVDB/TX) • Envelope detection board/RX (ENVDB/RX) • Envelope detection relay board (ENVDRB) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Open the right door and check if there is any foreign matter such as paper.
2. Check the connector between ENVDB/RX CN491-relay CN602-relay CN9-EXCB CN13EX for proper connection and correct as necessary.
3. Check the connector between ENVDB/TX CN490-ENVDRB CN1 for proper connection and correct as necessary.
4. Check the connector between ENVDRB CN2-relay CN253-relay CN254-EXCB CN6EX for proper connection and correct as necessary.
5. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
6. Check CPUB for proper installation and correct as necessary.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

2.17 P-37

Contents

Malfunction type	PH optical system dirt

Malfunction code	P-37
Malfunction detection timing	SOS signal is not detected even once while the PH contamination detection control is being performed.
Relevant parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between the PH unit-relay CN307-BASEB CN17E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the PH unit.
4. Replace CPUB.
5. Replace BASEB.

2.18 P-38

Contents

Malfunction type	Feeding paper size sensor failure (CM805)
Malfunction code	P-38
Malfunction detection timing	At the sensor check when starting the machine or starting the print, feeding paper size sensor/1 (PS50) or feeding paper size sensor/2 (PS51) is ON.
Relevant parts	• Feeding paper size sensor/1 (PS50) • Feeding paper size sensor/2 (PS51) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Select [Service Mode] -> [State Confirmation] -> [Sensor Check] and check the sensor operation.
2. Check the connector between PS50-relay CN171-BASEB CN40E for proper connection and correct as necessary.
3. Check the connector between PS51-relay CN171-BASEB CN40E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace CPUB.
6. Replace BASEB.

2.19 P-39

Contents

Malfunction type	Paper exit cooling fan failure (When OT-513 or JS-508 is installed)
Malfunction code	P-39
Malfunction detection timing	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Relevant parts	• Paper exit cooling fan (FM23) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM23-relay CN710-EXCB CN15EX for proper connection and correct as necessary.
2. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace FM23.
5. Replace EXCB.
6. Replace CPUB.
7. Replace BASEB.

2.20 P-40

Contents

Malfunction type	Fusing motor torque failure
Malfunction code	P-40
Malfunction detection timing	When the fusing motor average torque exceeds the predetermined value for the first five jobs.
Relevant parts	• Fusing motor (M3) • Fusing drive unit • Fusing unit

Procedure

1. Remove the fusing motor (M3), and apply grease (MOLYKOTE EM-30L) to the specified area on the fusing drive unit.
2. Replace when an obvious error is found on the fusing drive unit.
3. Replace the fusing motor (M3).
4. Replace the fusing unit.

2.21 P-41

Contents

Malfunction type	Machine inside temperature sensor failure
Malfunction code	P-41
Malfunction detection timing	• After turning ON, when the detected temperature of the paper feed thermistor (TH4) is 10°C and above, the detected temperature of the temperature/humidity sensor (TEM/HUMS) is 0°C. • Turning OFF or entry in sleep mode resets the warning.
Relevant parts	• Temperature/humidity sensor (TEM/HUMS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between TEM/HUMS-BASEB CN15E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the temperature/humidity sensor (TEM/HUMS).
4. Replace CPUB.
5. Replace BASEB.

2.22 P-42

Contents

Malfunction type	PH temperature sensor failure
Malfunction code	P-42
Malfunction detection timing	• After turning ON, when the detected temperature of the paper feed thermistor (TH4) is 10°C and above, the detected temperature of the PH temperature sensor is 0°C. • Turning OFF or entry in sleep mode resets the warning.
Relevant parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between the PH unit-relay CN308-BASEB CN17E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the PH unit.
4. Replace CPUB.
5. Replace BASEB.

2.23 P-43

Contents

Malfunction type	Paper temperature sensor failure
Malfunction code	P-43
Malfunction detection timing	• After turning ON, when the detected temperature of the temperature/humidity sensor (TEM/HUMS) is 10°C and above, the detected temperature of the paper feed thermistor (TH4) is 0°C. • Turning OFF or entry in sleep mode resets the warning.
Relevant parts	• Paper feed thermistor (TH4) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between TH4-relay CN29-BASEB CN27EA for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the paper feed thermistor (TH4).
4. Replace CPUB.
5. Replace BASEB.

3. TROUBLE CODE

Note: After maintenance is completed, for Rank A/B errors, please clear the fault codes in service mode and restart the printer; otherwise, the codes cannot be eliminated. For Rank C errors, perform a restart to recover.

3.1 List of the trouble code

Trouble Code	Repair Code	Contents	Rank	Self-diag. (Full)
00-02	C0002	Paper feed communication error (When PC-116, CPT-810, CPT-810H, or PC-417 is installed)	C	-
01-04	C0104	Tray 3/4 feeder transportation motor failure to turn (When PC-417 is installed)	B	-
01-05	C0105	Tray 3/4 feeder transportation motor turning at abnormal timing (When PC-417 is installed)	B	-
01-06	C0106	Tray 3 paper feed motor turning at abnormal timing (When PC-116 or CPT-810 is installed)	B	-
		Transfer LCT paper feed motor turning at abnormal timing (When CPT-810H is installed)		
01-07	C0107	Tray 3 vertical transport motor turning at abnormal timing (When PC-116 or CPT-810 is installed)	B	-
		Transfer LCT vertical transport motor turning at abnormal timing (When CPT-810H is installed)		
		Intermediate motor turning at abnormal timing (When PC-417 is installed)		
01-08	C0108	Tray 4 paper feed motor turning at abnormal timing (When CPT-810 is installed)	B	-
01-09	C0109	Tray 4 vertical transport motor turning at abnormal timing (When CPT-810 is installed)	B	-
02-02	C0202	Tray 1 feeder up/down abnormality	B	-
02-04	C0204	Tray 2 feeder up/down abnormality	B	-
02-06	C0206	Tray 3 feeder up/down abnormality (When PC-116, CPT-810, or PC-417 is installed)	B	-
02-08	C0208	Tray 4 feeder up/down abnormality (When CPT-810 or PC-417 is installed)	B	-
02-10	C0210	Transfer LCT lift failure (When CPT-810H is installed)	B	-
02-11	C0211	Manual feed up/down abnormality	B	-
02-14	C0214	Transfer LCT shift failure (When CPT-810H is installed)	B	-
02-16	C0216	External LCT up/down abnormality (When LU-207 or LU-302 is installed)	B	-
10-03	C1003	PK communication error (Finisher detection) (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)	C	-
10-04	C1004	Finisher communication error (Engine detection) (When FS-533, FS-539, FS-539SD, CPF-810H, CPF-810X, or JS-508 is installed)	C	-
10-07	C1007	PI communication error (Finisher detection) (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	C	-
10-13	C1013	PK communication error (PK detection) (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)	C	-
10-14	C1014	Finisher communication error (Finisher detection) (When FS-533, FS-539, FS-539SD, CPF-810H, CPF-810X, or JS-508 is installed)	C	-
10-17	C1017	PI communication error (PI detection) (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	C	-
10-81	C1081	SD communication error (Finisher detection) (When FS-539SD or CPF-810X is installed)	C	-
10-82	C1082	SD communication error (SD detection) (When FS-539SD or CPF-810X is installed)	C	-
11-02	C1102	Tray lift up motor drive malfunction (When FS-533 is installed)	B	-
		Main tray up/down motor drive malfunction (When FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)		
11-03	C1103	Alignment motor/Fr drive malfunction (When FS-533, FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-04	C1104	Stacker plate drive motor malfunction (When CPF-810H or CPF-810X is installed)	B	-
11-05	C1105	Bundle eject motor drive malfunction (When FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-

11-06	C1106	Stapler movement motor drive malfunction (When FS-533, FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-09	C1109	Stapler motor drive malfunction (When FS-533, FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-12	C1112	Stapler motor malfunction (When FS-539SD or CPF-810X is installed	B	-
11-13	C1113	Stopper drive motor malfunction (When FS-539SD or CPF-810X is installed)	B	-
11-14	C1114	Alignment motor drive malfunction (When FS-539SD or CPF-810X is installed)	B	-
11-15	C1115	Center fold knife motor malfunction (When FS-539SD or CPF-810X is installed)	B	-
11-24	C1124	Tray lift motor/Lw drive malfunction (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	B	-
11-25	C1125	Tray lift motor/Up drive malfunction (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	B	-
11-27	C1127	Punch oscillating motor malfunction (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)	B	-
11-30	C1130	ZU transport motor drive malfunction (When CPF-810H+CPK-810Z or CPF-810X+CPK-810Z is installed)	B	-
11-31	C1131	Folding guide motor drive malfunction (When CPF-810H+CPK-810Z or CPF-810X+CPK-810Z is installed)	B	-
11-32	C1132	Punch motor drive malfunction (When FS-533+PK-519 is installed)	B	-
		Punch drive motor drive malfunction (When FS-539+PK-524, FS-539SD+PK-524, CPF-810H+CPK-810XP, or CPF-810X+CPK-810XP is installed)		
11-33	C1133	Pressure motor drive malfunction (When CPF-810H+CPK-810Z or CPF-810X+CPK-810Z is installed)	B	-
11-40	C1140	Alignment motor/Rr drive malfunction (When FS-533, FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-41	C1141	FNS paddle motor drive malfunction (When FS-539, FS-539SD, CPF-810H, CPF-810X is installed)	B	-
11-42	C1142	Paddle up/down motor drive malfunction (When CPF-810H or CPF-810X is installed)	B	-
11-43	C1143	Arm drive motor drive malfunction (When CPF-810H or CPF-810X is installed)	B	-
11-44	C1144	Pre-eject drive motor drive malfunction (When FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-45	C1145	Trailing edge stopper motor drive malfunction (When FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-46	C1146	Trail edge stopper motor/Rr drive malfunction (When CPF-810H or CPF-810X is installed)	B	-
11-52	C1152	Paper transport belt motor malfunction (When CPF-810X is installed)	B	-
11-56	C1156	SD paddle motor malfunction (When FS-539SD or CPF-810X is installed)	B	-
11-82	C1182	Tray shift motor drive malfunction (When JS-508 is installed)	B	-
11-84	C1184	Paper delivery control motor drive malfunction (When FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-95	C1195	Paper discharge control motor malfunction (When FS-539SD or CPF-810X is installed)	B	-
11-96	C1196	Center fold guide motor malfunction (When FS-539SD or CPF-810X is installed)	B	-
11-97	C1197	Tri-folding guide motor malfunction (When FS-539SD or CPF-810X is installed)	B	-
11-A1	C11A1	Exit roller pressure/ retraction drive malfunction (When FS-533 is installed)	B	-
11-A2	C11A2	Receiving roller retraction motor drive malfunction (When FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-C5	C11C5	Paper size detect board malfunction (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)	B	-
11-E1	C11E1	Paper exit switching drive malfunction (When FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)	B	-
11-E2	C11E2	Paper exit switching (JS) drive malfunction (When CPF-810H or CPF-810X is installed)	B	-
14-02	C1402	FS nonvolatile memory error (When FS-533 is installed)	C	-
14-03	C1403	PK flash ROM error (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)	C	-

14-04	C1404	PI flash ROM error (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)	C	-
21-52	C2152	Transfer belt fault at initial position return	B	-
21-53	C2153	Transfer belt spacing fault at K pressure switching	B	-
21-54	C2154	Transfer belt contact fault at all pressure switching	B	-
21-55	C2155	Transfer belt contact fault after K pressure established	B	-
21-56	C2156	Transfer belt spacing fault after all pressure established	B	-
22-04	C2204	Waste toner transport motor failure to turn	B	-
22-53	C2253	PC motor failure to turn	B	-
22-54	C2254	PC motor turning at abnormal timing	B	-
22-55	C2255	Developing motor failure to turn	B	-
22-56	C2256	Developing motor turning at abnormal timing	B	-
23-50	C2350	Toner suction fan failure to turn (CM605/CM805)	B	-
23-55	C2355	Transfer belt cleaner cooling fan failure to turn	B	-
23-57	C2357	DV cooling fan failure to turn	B	-
24-11	C2411	Developing unit/C new article release	B	-
24-12	C2412	Developing unit/M new article release	B	-
24-13	C2413	Developing unit/Y new article release	B	-
24-14	C2414	Developing unit/K new article release	B	-
25-51	C2551	Abnormally low toner density detected cyan TCR sensor	B	-
25-52	C2552	Abnormally high toner density detected cyan TCR sensor	B	-
25-53	C2553	Abnormally low toner density detected magenta TCR sensor	B	-
25-54	C2554	Abnormally high toner density detected magenta TCR sensor	B	-
25-55	C2555	Abnormally low toner density detected yellow TCR sensor	B	-
25-56	C2556	Abnormally high toner density detected yellow TCR sensor	B	-
25-57	C2557	Abnormally low toner density detected black TCR sensor	B	-
25-58	C2558	Abnormally high toner density detected black TCR sensor	B	-
25-59	C2559	Cyan TCR sensor adjustment failure	B	-
25-5A	C255A	Magenta TCR sensor adjustment failure	B	-
25-5B	C255B	Yellow TCR sensor adjustment failure	B	-
25-5C	C255C	Black TCR sensor adjustment failure	B	-
25-61	C2561	Cyan TCR sensor failure	B	-
25-62	C2562	Magenta TCR sensor failure	B	-
25-63	C2563	Yellow TCR sensor failure	B	-
25-64	C2564	Black TCR sensor failure	B	-
26-50	C2650	Main backup media access error	C	-
2A-11	C2A11	Drum unit/C new release failure	B	-
2A-12	C2A12	Drum unit/M new release failure	B	-
2A-13	C2A13	Drum unit/Y new release failure	B	-
2A-14	C2A14	Drum unit/K new release failure	B	-
2A-21	C2A21	Toner cartridge/C new release failure	C	-
2A-22	C2A22	Toner cartridge/M new release failure	C	-
2A-23	C2A23	Toner cartridge/Y new release failure	C	-
2A-24	C2A24	Toner cartridge/K new release failure	C	-
31-01	C3101	Pressure roller pressure failure	B	-
31-03	C3103	Pressure roller release failure	B	-
31-04	C3104	Fusing shutter failure (CM805)	B	-
32-01	C3201	Fusing motor failure to turn	B	-
32-02	C3202	Fusing motor turning at abnormal timing	B	-
32-03	C3203	Fusing motor torque failure	C	-
33-02	C3302	Paper cooling fan failure to turn	B	-
33-06	C3306	Fusing edge cooling fan/Fr failure to fr turn (CM805)	B	-
33-07	C3307	Fusing edge cooling fan/Rr failure to fr turn (CM805)	B	-
34-25	C3425	Fusing warm-up trouble	A	-
37-22	C3722	Fusing abnormally high temperature detection (Edge of the heating roller)	A	-
37-25	C3725	Fusing abnormally high temperature detection (Main of the heating roller)	A	-
37-26	C3726	Fusing abnormally high temperature detection (Center of the heating roller)	A	-

37-37	C3737	Fusing abnormally high temperature detection hard protector (Center of the heating roller)	A	-
38-25	C3825	Fusing abnormally low temperature detection (Main of the heating roller)	A	-
38-26	C3826	Fusing abnormally low temperature detection (Center of the heating roller)	A	-
39-22	C3922	Fusing sensor wire breaks detection (Edge of the heating roller)	A	-
39-25	C3925	Fusing sensor wire breaks detection (Main of the heating roller)	A	-
39-26	C3926	Fusing sensor wire breaks detection (Center of the heating roller)	A	-
39-2B	C392B	Fusing sensor wire breaks detection (difference of temperature)	A	-
40-A2	C40A2	Mechanical controller PF communication data error	C	-
40-A3	C40A3	Mechanical controller PF transmission timeout	C	-
40-A4	C40A4	Mechanical controller PF communication pulse error	C	-
40-A5	C40A5	QSPI communication clock switching error	C	-
40-A6	C40A6	Mechanical controller ASIC communication error	C	-
40-C3	C40C3	CTL PF transmission timeout 1	C	-
40-C5	C40C5	CTL PF transmission timeout 2	C	-
41-01	C4101	Polygon motor rotation trouble	B	-
45-01	C4501	Laser malfunction	B	-
51-02	C5102	Transport motor failure to turn	B	-
51-03	C5103	Transport motor turning at abnormal timing	B	-
53-51	C5351	PH/power supply cooling fan failure to turn	B	-
53-55	C5355	Toner cartridge cooling fan failure to turn	B	-
53-58	C5358	HaCS power supply cooling fan failure to turn (CM805)	B	-
53-60	C5360	Clean unit fan failure to turn (When CU-102 is installed)	B	-
53-61	C5361	UFP scavenging fan/Fr failure to turn (CM605/CM805)	B	-
53-62	C5362	UFP scavenging fan/Rr failure to turn (CM805)	B	-
53-63	C5363	Tacking fan failure to turn (CM605)	B	-
53-70	C5370	Rear side cooling fan failure to turn	C	Target
53-72	C5372	MFP control board CPU temperature failure	C	Target
55-01	C5501	AC signal abnormality (CM605)	C	-
56-01	C5601	Engine control malfunction	C	-
56-03	C5603	Expansion control board communication error	C	-
56-05	C5605	Engine communication data error	C	-
56-06	C5606	Engine transmission timeout	C	-
56-10	C5610	PH LD drive communication error	C	-
56-20	C5620	Mechanical controller WDT error	C	-
60-01	C6001	DF related configuration error 1	C	Target
60-02	C6002	DF related configuration error 2	C	-
61-02	C6102	Drive system home sensor malfunction	B	Target
61-03	C6103	Slider over running	B	Target
61-04	C6104	Back side cleaning home sensor abnormality (initial)	B	Target
61-05	C6105	Back side cleaning home sensor abnormality (normal)	B	Target
67-04	C6704	Image input time out	C	Target
67-51	C6751	CCD clamp/gain adjustment failure	B	Target
67-52	C6752	ASIC clock input error (front side)	C	Target
67-53	C6753	ASIC clock input error (backside)	C	Target
67-54	C6754	CIS clamp adjustment failure	B	Target
67-55	C6755	CIS gain adjustment failure	B	Target
67-56	C6756	CCD power-supply voltage malfunction	C	Target
69-01	C6901	DSC board mount failure 1 (When SC-509 is installed)	C	Target
69-02	C6902	DSC board bus check NG1-1 (When SC-509 is installed)	C	Target
69-03	C6903	DSC board bus check NG1-2 (When SC-509 is installed)	C	Target
69-11	C6911	DSC board mount failure 2 (When SC-509 is installed)	C	Target
69-12	C6912	DSC board bus check NG2-1 (When SC-509 is installed)	C	Target
69-13	C6913	DSC board bus check NG2-2 (When SC-509 is installed)	C	Target
6F-01	C6F01	Scanner sequence trouble 1	C	Target
6F-02	C6F02	Scanner sequence trouble 2	C	Target

6F-03	C6F03	Scanner sequence trouble 3	C	Target
6F-04	C6F04	Scanner sequence trouble 4	C	Target
6F-05	C6F05	Scanner sequence trouble 5	C	Target
6F-06	C6F06	Scanner sequence trouble 6	C	Target
6F-07	C6F07	Scanner sequence trouble 7	C	Target
6F-08	C6F08	Scanner sequence trouble 8	C	Target
6F-09	C6F09	Scanner sequence trouble 9	C	Target
6F-0A	C6F0A	Scanner sequence trouble 10	C	Target
6F-DC	C6FDC	Scanner sequence trouble DC	B	Target
6F-DD	C6FDD	Scanner sequence trouble DD	B	Target
71-06	C7106	Paper exit/reverse motor failure	C	-
71-07	C7107	ADU transport motor/1 failure	C	-
71-11	C7111	Tray 1 lift-up motor failure	C	-
71-12	C7112	Tray 2 lift-up motor failure	C	-
71-31	C7131	Toner supply motor/C failure	C	-
71-32	C7132	Toner cartridge motor/CK failure	C	-
71-33	C7133	Toner supply motor/M failure	C	-
71-34	C7134	Toner cartridge motor/YM failure	C	-
71-35	C7135	Toner supply motor/Y failure	C	-
71-37	C7137	Toner supply motor/K failure	C	-
71-39	C7139	Waste toner transport motor failure	C	-
71-41	C7141	Fusing pressure motor failure	C	-
71-51	C7151	Skew correction motor/C failure	C	-
71-52	C7152	Skew correction motor/M failure	C	-
71-53	C7153	Skew correction motor/Y failure	C	-
71-60	C7160	Fusing shutter motor failure (CM805i)	C	-
71-61	C7161	Paper feed failure (CM805i)	C	
71-62	C7162	Tray 2 vertical transport motor failure	C	-
71-63	C7163	Registration motor failure (CM805)	C	-
71-64	C7164	ADU transport motor/2 failure (CM605/CM805)	C	-
72-02	C7202	Tray 2 paper feed clutch failure	C	-
72-06	C7206	Bypass tray paper feed clutch failure	C	-
72-0A	C720A	Registration clutch failure (CM605)	C	-
72-0B	C720B	1st transfer pressure clutch failure	C	-
72-41	C7241	Bypass tray lift-up solenoid failure	C	-
72-42	C7242	Bypass tray pick-up roller solenoid failure (CM605/CM805)	C	-
72-43	C7243	Exit path switch solenoid failure	C	-
72-51	C7251	Developing solenoid failure	C	-
73-01	C7301	PH/power supply cooling fan failure	C	-
73-02	C7302	Transfer belt cleaner cooling fan failure	C	-
73-04	C7304	Toner cartridge cooling fan failure (CM605/CM805)	C	-
73-05	C7305	Paper cooling fan failure	C	-
73-10	C7310	DV cooling fan failure	C	-
73-11	C7311	Fusing edge cooling fan/Rr failure (CM805)	C	-
73-12	C7312	Toner suction fan failure (CM605/CM805)	C	-
73-13	C7313	UFP scavenging fan/Fr failure (CM605/CM805)	C	-
73-14	C7314	UFP scavenging fan/Rr failure (CM805)	C	-
73-15	C7315	Fusing edge cooling fan/Fr failure (CM805)	C	-
73-17	C7317	Paper exit cooling fan failure	C	-
74-01	C7401	Erase LED/K failure	C	-
74-02	C7402	Erase LED/C failure, Erase LED/M failure, Erase LED/Y failure	C	-
75-01	C7501	Tray 2 upper limit sensor failure	C	-
75-02	C7502	Tray 1 upper limit sensor failure	C	-
76-01	C7601	Power line A1 error	C	-
76-02	C7602	Power line A2 error	C	-

Trouble Code	Repair Code	Contents	Rank	Self-diag. (Full)
76-03	C7603	Power line A3 error	C	-
76-04	C7604	Power line A4 error	C	-
76-05	C7605	Power line A5 error	C	-
76-06	C7606	Power line A6 error	C	-
76-07	C7607	Power line A7 error	C	-
76-0A	C760A	Power line A10 error	C	-
76-0B	C760B	Power line A11 error	C	-
76-0C	C760C	Power line A12 error	C	-
76-0D	C760D	Power line A13 error	C	-
76-0E	C760E	Power line A14 error	C	-
76-0F	C760F	Power line A15 error	C	-
76-10	C7610	Power line A16 error	C	-
76-22	C7622	Power line B2 error	C	-
76-23	C7623	Power line B3 error	C	-
76-24	C7624	Power line B4 error (CM605/CM805)	C	-
76-31	C7631	Supply power line 1 error	C	-
76-33	C7633	Supply power line 3 error	C	-
81-03	C8103	Lift up mechanism trouble (Upward movement)	B	-
81-06	C8106	Lift up mechanism failure (Downward movement)	B	-
81-07	C8107	Glass cleaning mechanism trouble	B	-
83-02	C8302	DF cooling fan failure	B	-
84-02	C8402	Multi feed detection board failure	C	-
94-01	C9401	Exposure LED lighting failure	B	Target
94-02	C9402	Exposure LED lighting abnormally	B	Target
94-03	C9403	CIS LED lighting failure	B	Target
94-04	C9404	CIS LED lighting abnormally	B	Target
97-01	C9701	Front side reading device cable break detection	A	Target
97-02	C9702	Back side reading device cable break detection	A	Target
A0-51	CA051	Standard controller configuration failure	C	-
A0-52	CA052	Controller hardware error	C	-
A0-53	CA053	Controller start failure	C	-
B0-04	CB004	Fax board DipSw setting error	C	Target
B0-05	CB005	No fax board is installed. Mistake in installation. Defective HW.	C	Target
B0-06	CB006	USB connection is interrupted	C	Target
B1-10	CB110	Program control error (instance acquisition error)	C	Target
B1-12	CB112	Semaphore control error	C	Target
B1-13	CB113	I/F error among tasks	C	Target
B1-14	CB114	Message queue generation error	C	Target
B1-15	CB115	I/F error with fax (I/F error between main body and fax)	C	Target
B1-20	CB120	Soft error	C	Target
B1-22	CB122	Modem-DAA initialize error	C	Target
B1-23	CB123	Modem-DAA power save recovery error	C	Target
B1-25	CB125	ISW failure of SubCPU	C	Target
B1-26	CB126	Timeout of suspension process (Codec control)	C	Target
B1-27	CB127	Timeout of suspension process (communication control)	C	Target
B1-28	CB128	Timeout of suspension process (line control)	C	Target
B1-29	CB129	Timeout of suspension process (modem control)	C	Target
B1-30	CB130	I/F error with main body (fax softerror)	C	Target
B1-31	CB131	I/F error with main body (reception frame error)	C	Target
B1-34	CB134	I/F error with main body (sequence error)	C	Target
B1-35	CB135	I/F error with main body	C	Target
B1-36	CB136	ACK waiting timeout	C	Target
B1-37	CB137	I/F error with main body (RESET reception from main body)	C	Target
B1-39	CB139	Modem responses waiting timeout (during playing voice guidance when switching between TEL and FAX)	C	Target
B1-41	CB141	Fax soft error (received unexpected command)	C	Target
B1-42	CB142	Fax soft error (received undefined command)	C	Target

Trouble Code	Repair Code	Contents	Rank	Self-diag. (Full)
B1-43	CB143	Fax soft error (command frame length error)	C	Target
B1-44	CB144	Fax soft error (parameter length error)	C	Target
B1-45	CB145	Fax soft error (received undefined parameter)	C	Target
B1-46	CB146	Fax soft error (command/response sequence error)	C	Target
B1-50	CB150	Program control error (instance acquisition error)	C	Target
B1-51	CB151	Job start error	C	Target
B1-52	CB152	Doc access error	C	Target
B1-53	CB153	Program control error (logic error)	C	Target
B1-54	CB154	Program control error (table control error)	C	Target
B1-58	CB158	Job generation error	C	Target
B1-60	CB160	Program control error (instance acquisition error)	C	Target
B1-62	CB162	Program control error (interface error)	C	Target
B1-63	CB163	Program control error (sequence error)	C	Target
B1-65	CB165	Program control error (table control error)	C	Target
B1-67	CB167	Sending image access error (image acquisition error)	C	Target
B1-68	CB168	Receiving image access error (image storage error)	C	Target
B1-69	CB169	Sending image access error (image deletion error)	C	Target
B1-70	CB170	Program control error (table control error)	C	Target
B1-71	CB171	Program control error (instance acquisition error)	C	Target
B1-73	CB173	Program control error (interface error)	C	Target
B1-76	CB176	Unable to secure domain for header (TTI) image generation	C	Target
B1-77	CB177	Header (TTI) image generation error	C	Target
B1-85	CB185	Receiving data size logic error (Receiving data are not multiples of dotline)	C	Target
B1-86	CB186	Unable to secure domain for receiving image	C	Target
B1-87	CB187	Receiving image conversion error	C	Target
B1-88	CB188	Program control error (table control error)	C	Target
B1-90	CB190	USB sending error	C	Target
B1-91	CB191	USB sending error	C	Target
B1-92	CB192	Error retry 5 sec. T.O (No response or other errors)	C	Target
B1-93	CB193	No response due to detach of USB	C	Target
B1-95	CB195	Attach not detected for 1 min. after recovery from sleep when receiving	C	Target
B1-96	CB196	Detach not detected for 1 min. when shifting to sleep	C	Target
B1-97	CB197	USB I/F error during formatting when main power switch ON	C	Target
B1-98	CB198	Attach not detected for 1 min. after recovery from sleep at the time other than receiving	C	Target
C0-02	CC002	Vendor internal error	C	Target
C1-51	CC151	ROM contents error upon startup (MSC)	C	Target
C1-52	CC152	ROM contents error upon startup (IR)	C	Target
C1-55	CC155	Finisher ROM error (When FS-533, FS-539, FS-539SD, CPF-810H, CPF-810X, or JS-508 is installed)	C	-
C1-56	CC156	DF ROM error	C	Target
C1-59	CC159	ROM contents error upon startup (DSC1)	C	Target
C1-5A	CC15A	ROM contents error upon startup (DSC2)	C	Target
C1-5B	CC15B	Flash ROM error (saddle) (When FS-539SD or CPF-810X is installed)	C	-
C1-5C	CC15C	Engine Flash ROM writing error	C	-
C1-63	CC163	ROM contents error (PRT)	C	-
C1-64	CC164	ROM contents error (MSC)	C	Target
C1-70	CC170	Dynamic link error during starting (AP0)	C	Target
C1-71	CC171	Dynamic link error during starting (AP1)	C	Target
C1-72	CC172	Dynamic link error during starting (AP2)	C	Target
C1-73	CC173	Dynamic link error during starting (AP3)	C	Target
C1-74	CC174	Dynamic link error during starting (AP4)	C	Target
C1-80	CC180	Dynamic link error during starting (LDR)	C	Target
C1-81	CC181	Dynamic link error during starting (IBR)	C	Target
C1-82	CC182	Dynamic link error during starting (IID)	C	Target
C1-83	CC183	Dynamic link error during starting (IPF)	C	Target
C1-84	CC184	Dynamic link error during starting (IMY)	C	Target

Trouble Code	Repair Code	Contents	Rank	Self-diag. (Full)
C1-85	CC185	Dynamic link error during starting (SPF)	C	Target
C1-86	CC186	Dynamic link error during starting (OAP)	C	Target
C1-90	CC190	Outline font load error	C	Target
C1-91	CC191	Setting parameter load error (LDR)	C	Target
C2-11	CC211	Authentication device general error	C	Target
C2-12	CC212	User validation error	C	Target
C2-13	CC213	User registration error/Card information setting error	C	Target
C2-14	CC214	User information deletion error	C	Target
C2-16	CC216	Acquisition failure of the number of trials/Initialize error of number of authentication	C	Target
C3-01	CC301	Authentication customize data error	B	Target
C3-02	CC302	Authentication customize data version mismatch error	B	Target
CC-00	CCC00	Public user account track information error	B	-
D0-02	CD002	JOB RAM save error	C	Target
D0-04	CD004	Storage access error (connection failure)	C	Target
D0-0F	CD00F	Storage data transfer error	C	Target
D0-10	CD010	Storage unformat	C	Target
D0-11	CD011	Storage out of specifications mounted	C	Target
D0-12	CD012	Mount error due to storage being unformatted	C	Target
D0-20	CD020	Storage verify error	C	Target
D0-30	CD030	Storage management information reading error	C	Target
D0-41	CD041	Storage command execution error	C	Target
D0-42	CD042		C	Target
D0-43	CD043		C	Target
D0-44	CD044		C	Target
D0-45	CD045		C	Target
D0-46	CD046		C	Target
D0-47	CD047	Storage SCSI library error	C	Target
D0-48	CD048		C	Target
D0-49	CD049		C	Target
D0-4A	CD04A		C	Target
D0-4B	CD04B		C	Target
D0-50	CD050	Storage recovery timeout	C	Target
D0-72	CD072	Second-hand SSD or second-hand CPU board installed	C	Target
D0-73	CD073	Storage type mismatch	C	Target
D1-10	CD110	Wireless LAN destination initialization error	C	Target
D2-01	CD201	File memory mounting error	C	Target
D0-02	CD202	Memory capacity discrepancy	C	Target
D0-03	CD203	Memory capacity discrepancy 2	C	Target
D2-11	CD211	PCI-SDRAM DMA operation failure	C	Target
D2-12	CD212	Compression/extraction timeout detection	C	Target
D2-41	CD241	Encryption ASIC setting error	C	Target
D2-42	CD242	Encryption ASIC mounting error	C	Target
D2-52	CD252	No relay circuit boards for IC-420 mounting at IC-420 mount setting	C	Target
D2-61	CD261	USB hub board failure	C	Target
D2-62	CD262	Extension network adapter installation error	C	Target
D2-D1	CD2D1	VLAN setting configuration error	B	-
D3-##	CD3##	Nonvolatile data error	C	Target
D3-13	CD313	TPM key data error	C	Target
D3-8E	CD38E	Nonvolatile data save error (SPI-Flash)	C	Target
D3-90	CD390	Nonvolatile data checksum error	C	Target
D3-91	CD391	Nonvolatile data save error (Storage)	-	Target
D3-92	CD392	Nonvolatile data save error (EEPROM)	C	Target
D3-B1	CD3B1	DB server startup failure	C	Target
D3-B3	CD3B3	DB access failure	C	Target
D3-B4	CD3B4	No DB definition file	C	Target

D3-B5	CD3B5	DB definition file error	C	Target

D3-C0	CD3C0	New board detection	C	Target
D4-01	CD401	NACK command incorrect	C	Target
D4-02	CD402	ACK command incorrect	C	Target
D4-03	CD403	Checksum error	C	Target
D4-04	CD404	Receiving packet incorrect	C	Target
D4-05	CD405	Receiving packet analysis error	C	Target
D4-06	CD406	ACK receiving timeout	C	Target
D4-07	CD407	Retransmission timeout	C	Target
D4-11	CD411	Touch panel board error	C	Target
D4-12	CD412	Touch panel type mismatch	C	Target
D4-13	CD413	Electrostatic touch panel operation mode error	C	Target
D6-01	CD601	Trouble related to security	-	-
D6-02	CD602			
D6-03	CD603			
D7-01	CD701	Mechanical controller flash ROM writing error	C	-
D7-02	CD702	Mechanical controller flash ROM device error	C	-
D7-03	CD703	FW download communication fault	C	-
D7-04	CD704	Finisher Flash ROM device error (When FS-533, FS-539, FS-539SD, CPF-810H, CPF-810X, or JS-508 is installed)	C	-
DC-##	CDC##	Trouble related to security	-	-
DF-50	CDF50	ASIC image version failure	C	Target
DF-51	CDF51	ASIC image version failure (backside) (When DF is installed)	C	Target
DF-70	CDF70	ASIC image access failure	C	Target
DF-71	CDF71	ASIC image access failure (backside) (When DF is installed)	C	Target
DF-A0	CDFA0	ASIC image error	C	Target
DF-A1	CDFA1	ASIC image error (backside) (When DF is installed)	C	Target
E0-01	CE001	Abnormal message queue	C	Target
E0-02	CE002	Message and method parameter failure	C	Target
E0-03	CE003	Task error	C	Target
E0-04	CE004	Event error	C	Target
E0-05	CE005	Memory access error	C	Target
E0-06	CE006	Header access error	C	Target
E0-07	CE007	DIMM initialize error	C	Target
E0-09	CE009	Memory resource shortage error	C	Target
E0-12	CE012	Failed to receive the entropy from Haveged	C	Target
E0-13	CE013	Virus scan engine startup failure (8 GB storage)	C	Target
E0-14	CE014	Virus scan engine startup failure (storage error)	C	Target
E0-15	CE015	Secret information issue error	C	Target
E1-01	CE101	Browser finish detected	C	Target
E2-01	CE201	Transmission operation log storage fault	C	Target
E2-02	CE202	PDL interpreter error	C	Target
E2-03	CE203	Unrecoverable error	C	Target
E2-04	CE204	SIP / T.38 library loading failure	C	Target
E3-01	CE301	Referring incorrect memory	C	Target
E3-02	CE302	Incorrect command	C	Target
E3-03	CE303	Finished due to error inside Qt library	C	Target
E3-04	CE304	Finished due to error outside Qt library	C	Target
E3-05	CE305	Program forced to stop	C	Target
E4-01	CE401	Shared memory connection timeout	C	Target
ED-01	CED01	The authentication application information does not exist in the storage in the enhanced server authentication state.	C	Target
EE-E1	CEEE1	CPU board (MSC) malfunction	C	Target
EE-E2	CEEE2	Scanner section malfunction	A	Target
EE-E3	CEEE3	Base board (ENG) malfunction	A	Target
F###	CF###	Trouble code (CF###) is referred to as abort code. For details of abort code, refer to “ABORT CODE”.	C	-

3.7 C0###

3.7.1 C0002 Contents

Trouble type	C0002: Paper feed communication error (When PC-116, CPT-810, CPT-810H, or PC-417 is installed)
Rank	C
Trouble detection condition	When the baseboard (BASEB) is receiving data, a communication error is detected.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • PC control board (PCCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct or replace the connector connection between the main body and the paper feed cabinet if faulty.
3. Check CPUB for proper installation and correct as necessary.
4. Rewrite the firmware.
5. PCCB F11 conduction check (PC-417)
6. Replace PCCB. (PC-116/CPT-810 / CPT-810H / PC-417)
7. Replace CPUB.
8. Replace BASEB.

3.7.2 C0104, C0105

Contents

Trouble type	• C0104: Tray 3/4 feeder transportation motor failure to turn (When PC-417 is installed) • C0105: Tray 3/4 feeder transportation motor turning at abnormal timing (When PC-417 is installed)
Rank	B
Trouble detection condition	• C0104: The control circuit detects motor failure to turn while the motor is turning. • C0105: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	Tray 3/4
Relevant electrical parts	• Transport motor (M152) • PC control board (PCCB)

Procedure

1. Check the connector between M152-PCCB CN5 for proper connection and correct as necessary.
2. Check the connector of M152 for proper drive coupling and correct as necessary.
3. M152 load check
   - Check code: 28
   - Multi code: 51, 52, 53, 54 (CM805), 51, 52, 54 (CM605)
   - Control signal: PCCB CN5-1 to 8
   - Location of electrical component: 7-K
4. Replace M152.
5. PCCB F300 conduction check
6. Replace PCCB.

3.7.3 C0106

(1) When CPT-810 is installed

Contents

Trouble type	C0106: Tray 3 paper feed motor turning at abnormal timing (When PC-116 or CPT-810 is installed)
Rank	B
Trouble detection condition	• The control circuit detects motor failure to turn while the motor is turning. • The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Tray 3 paper feed motor (M111) • PC control board (PCCB)

Procedure

1. Check the connector between M111-PCCB (CN5/CN21) for proper connection and correct as necessary.
2. Check the connector of M111 for proper drive coupling and correct as necessary.
3. M111 load check
   - Check code: 28
   - Multi code: 11, 12, 13, 14 (CM805), 11, 12, 14 (CM605)

- Control signal: PCCB CN5-5 (CW/CCW)/PCCB CN21-4,5,6 (U2/V2/W2)
- Location of electrical component: PC-116/CPT-810 3 to 4-C

4. Replace M111.
5. Replace PCCB.

(2) When CPT-810H is installed Contents

Trouble type	C0106: Transfer LCT paper feed motor turning at abnormal timing (When CPT-810H is installed)
Rank	B
Trouble detection condition	• The control circuit detects motor failure to turn while the motor is turning. • The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Paper feed motor (M131) • PC control board (PCCB)

Procedure

1. Check the connector between M131-PCCB (CN5/CN21) for proper connection and correct as necessary.
2. Check the connector of M131 for proper drive coupling and correct as necessary.
3. M131 load check
   - Check code: 28
   - Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)
   - Control signal: PCCB CN5-5 (CW/CCW)/PCCB CN21-4,5,6 (U2/V2/W2)
   - Location of electrical component: CPT-810H 4-J/5-C
4. Replace M131.
5. Replace PCCB.

3.7.4 C0107

(1) When CPT-810 is installed

Contents

Trouble type	C0107: Tray 3 vertical transport motor turning at abnormal timing (When PC-116 or CPT-810 is installed)
Rank	B
Trouble detection condition	• The control circuit detects motor failure to turn while the motor is turning. • The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Tray 3 vertical transport motor (M112) • PC control board (PCCB)

Procedure

1. Check the connector between M112-PCCB (CN5/CN21) for proper connection and correct as necessary.
2. Check the connector of M112 for proper drive coupling and correct as necessary.
3. M112 load check
   - Check code: 28
   - Multi code: 21, 22, 23, 24 (CM805), 21, 22, 24 (CM605)
   - Control signal: PCCB CN5-13 (CW/CCW)/PCCB CN21-1,2,3 (U1/V1/W1)
   - Location of electrical component: PC-116/CPT-810 3 to 4-C
4. Replace M112.
5. Replace PCCB.

(2) When CPT-810H is installed Contents

Trouble type	C0107: Transfer LCT vertical transport motor turning at abnormal timing (When CPT-810H is installed)
Rank	B
Trouble detection condition	• The control circuit detects motor failure to turn while the motor is turning. • The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Vertical transport motor (M132) • PC control board (PCCB)

Procedure

1. Check the connector between M132-PCCB (CN5/CN21) for proper connection and correct as necessary.
2. Check the connector of M132 for proper drive coupling and correct as necessary.
3. M132 load check
   - Check code: 28
   - Multi code: 46, 47, 48, 49 (CM805), 46, 47, 49 (CM605)
   - Control signal: PCCB CN5-13 (CW/CCW)/PCCB CN21-1,2,3 (U1/V1/W1)
   - Location of electrical component: CPT-810H 4-J/5-C
4. Replace M132.
5. Replace PCCB.

3.7.5 C0108

Contents

Trouble type	C0108: Tray 4 paper feed motor turning at abnormal timing (When CPT-810 is installed)
Rank	B
Trouble detection condition	• The control circuit detects motor failure to turn while the motor is turning. • The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Tray 4 paper feed motor (M121) • PC control board (PCCB)

Procedure

1. Check the connector between M121-PCCB (CN9C/CN22) for proper connection and correct as necessary.
2. Check the connector of M121 for proper drive coupling and correct as necessary.
3. M121 load check
   - Check code: 28
   - Multi code: 16, 17, 18, 19 (CM805), 16, 17, 19 (CM605)
   - Control signal: PCCB CN9C-5 (CW/CCW)/PCCB CN22-5,6,7 (U4/V4/W4)
   - Location of electrical component: CPT-810 5 to 6-K
4. Replace M121.
5. Replace PCCB.

3.7.6 C0109

Contents

Trouble type	C0109: Tray 4 vertical transport motor turning at abnormal timing (When CPT-810 is installed)
Rank	B
Trouble detection condition	• The control circuit detects motor failure to turn while the motor is turning. • The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Tray 4 vertical transport motor (M122) • PC control board (PCCB)

Procedure

1. Check the connector between M122-PCCB (CN9C/CN22) for proper connection and correct as necessary.
2. Check the connector of M122 for proper drive coupling and correct as necessary.
3. M122 load check
   - Check code: 28
   - Multi code: 26, 27, 28, 29 (CM805), 26, 27, 29 (CM605)
   - Control signal: PCCB CN9C-13 (CW/CCW)/PCCB CN22-1,2,3 (U3/V3/W3)
   - Location of electrical component: CPT-810 5 to 6-K
4. Replace M122.
5. Replace PCCB.

3.7.7 C0202

Contents

Trouble type	C0202: Tray 1 feeder up/down abnormality
Rank	B
Trouble detection condition	The tray 1 upper limit sensor (PS25) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 1
Relevant electrical parts	• Tray 1 lift-up motor (M12) • Tray 1 upper limit sensor (PS25) • CPU board (CPUB)

	• Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M12-relay CN180-BASEB CN25E for proper connection and correct as necessary.
3. Check the connector of M12 for proper drive coupling and correct as necessary.
4. Check the connector between PS25-relay CN30-BASEB CN26E for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. PS25 I/O check, sensor check
   - Control signal: BASEB CN26EA-15 (ON)
   - Location of electrical component: 11-K
7. M12 load check
   - Check code: 23
   - Multi code: 4
   - Control signal: BASEB CN25E-1 (REM)
   - Location of electrical component: 17-K
8. Replace M12.
9. Replace CPUB.
10. Replace BASEB.

3.7.8 C0204

Contents

Trouble type	C0204: Tray 2 feeder up/down abnormality
Rank	B
Trouble detection condition	The tray 2 upper limit sensor (PS22) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 2
Relevant electrical parts	• Tray 2 lift-up motor (M13) • Tray 2 upper limit sensor (PS22) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M13-relay CN181-BASEB CN25E for proper connection and correct as necessary.
3. Check the connector of M13 for proper drive coupling and correct as necessary.
4. Check the connector between PS22-relay CN40-BASEB CN23E for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. PS22 I/O check, sensor check
   - Control signal: BASEB CN23E-12 (ON)
   - Location of electrical component: 16-K
7. M13 load check
   - Check code: 23
   - Multi code: 5
   - Control signal: BASEB CN25E-10 (REM)
   - Location of electrical component: 18-K
8. Replace M13.
9. Replace CPUB.
10. Replace BASEB.

3.7.9 C0206

When CPT-810 is installed

Contents

Trouble type	C0206: Tray 3 feeder up/down abnormality (When PC-116 or CPT-810 is installed)
Rank	B
Trouble detection condition	The tray 3 upper limit sensor (PS116) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 3
Relevant electrical parts	• Tray 3 lift-up motor (M113) • Tray 3 upper limit sensor (PS116) • PC control board (PCCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M113-PCCB CN6C for proper connection and correct as necessary.
3. Check the connector of M113 for proper drive coupling and correct as necessary.
4. Check the connector between PS116-relay CN24-PCCB CN4 for proper connection and correct as necessary.

5. Check CPUB for proper installation and correct as necessary.
6. PS116 I/O check, sensor check
   - Control signal: PCCB CN4-3 (ON)
   - Location of electrical component: PC-116/CPT-810 7-C
7. M113 load check
   - Check code: 23
   - Multi code: 6
   - Control signal: PCCB CN6C-8 to 9
   - Location of electrical component: PC-116/CPT-810 1-C
8. Replace M113.
9. Replace PCCB.
10. Replace CPUB.
11. Replace BASEB.

3.7.10 C0208

When CPT-810 is installed

Contents

Trouble type	C0208: Tray 4 feeder up/down abnormality (When CPT-810 is installed)
Rank	B
Trouble detection condition	The tray 4 upper limit sensor (PS126) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	Tray 4
Relevant electrical parts	• Tray 4 lift-up motor (M123) • Tray 4 upper limit sensor (PS126) • PC control board (PCCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M123-PCCB CN8C for proper connection and correct as necessary.
3. Check the connector of M123 for proper drive coupling and correct as necessary.
4. Check the connector between PS126-relay CN47-PCCB CN7C for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. PS126 I/O check, sensor check
   - Control signal: PCCB CN7C-3 (ON)
   - Location of electrical component: CPT-810 8-K
7. M123 load check
   - Check code: 23
   - Multi code: 7
   - Control signal: PCCB CN8C-8 to 9
   - Location of electrical component: CPT-810 3-K
8. Replace M123.
9. Replace PCCB.
10. Replace CPUB.
11. Replace BASEB.

3.7.11 C0210

Contents

Trouble type	C0210: Transfer LCT lift failure (When CPT-810H is installed)
Rank	B
Trouble detection condition	• The main tray upper limit sensor (PS136) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the main tray began. • The shifter stop / lower limit position sensor (PS138) is not turned OFF (unblocked) even after the set period of time has elapsed after the paper lift-up operation for the main tray began. • The main tray upper limit sensor (PS136) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operating. • The main tray upper limit sensor (PS136) is not turned OFF (unblocked) even after the set period of time has elapsed after the paper lift-down operation began. • The shifter stop / lower limit position sensor (PS138) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-down operation began.
Trouble isolation	LCT
Relevant electrical parts	• Main tray upper limit sensor (PS136) • Shifter stop / lower limit position sensor (PS138) • Elevator motor (M134) • PC control board (PCCB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.

2. Check the connector between M134-PCCB CN10L for proper connection and correct as necessary.
3. Check the connector of M134 for proper drive coupling and correct as necessary.
4. Check the connector between PS136-relay CN1-PCCB CN4 for proper connection and correct as necessary.
5. Check the connector between PS138-relay CN16-PCCB CN14L for proper connection and correct as necessary.
6. PS136 I/O check, sensor check
   - Control signal: PCCB CN4-3 (ON)
   - Location of electrical component: CPT-810H 8-J
7. PS138 I/O check, sensor check
   - Control signal: PCCB CN14L-6 (ON)
   - Location of electrical component: CPT-810H 3-J
8. M134 load check
   - Check code: 23
   - Multi code: 9, 10
   - Control signal: PCCB CN10L-1 to 2
   - Location of electrical component: CPT-810H 6-J
9. Replace M134.
10. Replace PCCB.

3.7.12 C0211

Contents

Trouble type	C0211: Manual feed up/down abnormality
Rank	B
Trouble detection condition	• The bypass lift-up position sensor (PS26) is not turned OFF (unblock) even after the paper feed motor (M22) rotates for a given period of time after the position is switched from standby position at lift-up plate to the feed position. • The bypass lift-up position sensor (PS26) is not turned ON (blocked) even after the paper feed motor (M22) rotates for a given period of time after the position is switched from feed position at lift-up plate to the standby position.
Trouble isolation	Manual
Relevant electrical parts	• Paper feed motor (M22) (CM605/CM805) • Bypass tray lift-up solenoid (SD1) • Bypass tray lift-up position sensor (PS26) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M22-BASEB CN31E for proper connection and correct as necessary.
2. Check the connector of M22 for proper drive coupling and correct as necessary.
3. Check the connector between PS26-relay CN13-BASEB CN26E for proper connection and correct as necessary.
4. Check the connector between SD1-relay CN21-relay CN13-BASEB CN26E for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. PS26 I/O check, sensor check
   - Control signal: BASEB CN26EA-6 (ON)
   - Location of electrical component: 9-K
7. SD1 load check
   - Check code: 23
   - Multi code: 3
   - Control signal: BASEB CN26EA-9 (ON)
   - Location of electrical component: 10-K
8. M22 load check
   - Check code: 28
   - Multi code: 31, 32, 33, 34 (CM805), 31, 32, 34 (CM605)
   - Control signal: BASEB CN31E-1 to 4
   - Location of electrical component: 23-K
9. Replace M22.
10. Replace CPUB.
11. Replace BASEB.

3.7.13 C0214

Contents

Trouble type	C0214: Transfer LCT shift failure (When CPT-810H is installed)
Rank	B

Trouble detection condition	• The shifter stop / lower limit position sensor (PS138) is not turned OFF (unblocked) even after the set period of time has elapsed after the shift operation began (shift to the right). • The shifter home sensor (PS139) is not turned OFF (unblocked) even after the set period of time has elapsed after the shift operation began (shift to the right). • The shifter stop / lower limit position sensor (PS138) is not turned ON (blocked) even after the set period of time has elapsed after the return operation began (shift to the left). • The shifter home sensor (PS139) is not turned ON (blocked) even after the set period of time has elapsed after the return operation began (shift to the left).
Trouble isolation	LCT
Relevant electrical parts	• Shifter stop / lower limit position sensor (PS138) • Shifter home sensor (PS139) • Shifter motor (M133) • PC control board (PCCB)

Procedure

1. Remove the tray and check to see if a piece of paper is not left inside the machine.
2. Check the connector between M133-PCCB CN10L for proper connection and correct as necessary.
3. Check the connector of M133 for proper drive coupling and correct as necessary.
4. Check the connector between PS138-relay CN16-PCCB CN14L for proper connection and correct as necessary.
5. Check the connector between PS139-relay CN16-PCCB CN14L for proper connection and correct as necessary.
6. PS138 I/O check, sensor check
   - Control signal: PCCB CN14L-6 (ON)
   - Location of electrical component: CPT-810H 3-J
7. PS139 I/O check, sensor check
   - Control signal: PCCB CN14L-3 (ON)
   - Location of electrical component: CPT-810H 3-J
8. M133 load check
   - Check code: 23
   - Multi code: 11, 12
   - Control signal: PCCB CN10L-3 to 4
   - Location of electrical component: CPT-810H 5-J
9. Replace M133.
10. Replace PCCB.

3.7.14 C0216

Contents

Trouble type	C0216: External LCT up/down abnormality (When LU-207 or LU-302 is installed)
Rank	B
Trouble detection condition	The LU upper limit sensor (PS2) is not turned ON (blocked) even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
Trouble isolation	LCT
Relevant electrical parts	• LU upper limit sensor (PS2) • LU lift-up motor (M1) • LU drive board (LUDB)

Procedure

1. Check the connector between M1-LUDB CN3 for proper connection and correct as necessary.
2. Check the connector of M1 for proper drive coupling and correct as necessary.
3. Check the connector between PS2-relay CN406 (LU-207),relay CN3<B> (LU-302)-LUDB CN5 for proper connection and correct as necessary.
4. PS2 I/O check, sensor check
   - Control signal: LUDB CN5-3 (ON)
   - Location of electrical component: LU-207/LU-302 4-G
5. M1 load check
   - Check code: 23
   - Multi code: 8
   - Control signal: LUDB CN3-4 (ON)
   - Location of electrical component: LU-207/LU-302 3-G
6. Replace M1. (LU-207 / LU-302)
7. Replace LUDB. (LU-207 / LU-302)

3.8 C1###

3.8.1 C1003, C1013

Contents

Trouble type	• C1003: PK communication error (Finisher detection) (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed) • C1013: PK communication error (PK detection) (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)

Rank	C
Trouble detection condition	When a communication error is detected between the FS control board (FSCB) and the punch control board (PKCB).
Trouble isolation	-
Relevant electrical parts	• Punch control board (PKCB) • FS control board (FSCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace PKCB.
4. Replace FSCB.

3.8.2 C1004, C1014

When CPF-810H or CPF-810X is installed

Contents

Trouble type	• C1004: Finisher communication error (Engine detection) (When CPF-810H or CPF-810X is installed) • C1014: Finisher communication error (Finisher detection) (When CPF-810H or CPF-810X is installed)
Rank	C
Trouble detection condition	When a communication error is detected between the baseboard (BASEB) and the FS control board (FSCB).
Trouble isolation	-
Relevant electrical parts	• FS control board (FSCB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB.
4. Replace BASEB.

3.8.3 C1007, C1017

Contents

Trouble type	• C1007: PI communication error (Finisher detection) (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed) • C1017: PI communication error (PI detection) (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)
Rank	C
Trouble detection condition	When a communication error is detected between the FS control board (FSCB) and the PI drive board (PIDB).
Trouble isolation	-
Relevant electrical parts	• PI drive board (PIDB) • FS control board (FSCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace PIDB.
4. Replace FSCB.

3.8.4 C1081, C1082.

When CPF-810X is installed

Contents

Trouble type	• C1081: SD communication error (Finisher detection) (When CPF-810X is installed) • C1082: SD communication error (SD detection) (When CPF-810X is installed)
Rank	C
Trouble detection condition	When a communication error is detected between the FS control board (FSCB) and the SD control board (SDCB).
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold (C1081 only)
Relevant electrical parts	• SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace SDCB.
4. Replace FSCB.

3.8.5 C1102

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C1102: Main tray up/down motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• While the exit tray is being lifted, the main tray lift up detection sensor (PS16/PS17) or main tray empty sensor (PS13) is not turned ON (blocked) after the set period of time has elapsed after the main tray up/down motor (M6) is energized. • While the exit tray is being lowered, the main tray full sensor (PS12) is not turned ON (blocked) after the set period of time has elapsed after the main tray up/down motor (M6) is energized.
Trouble isolation	-
Relevant electrical parts	• Main tray up/down motor (M6) • Main tray lift up detection sensor/Fr (PS16) • Main tray lift up detection sensor/Rr (PS17) • Main tray full sensor (PS12) • Main tray empty sensor (PS13) • FS control board (FSCB)

Procedure

1. Check the connector between M6-FSCB J23 for proper connection and correct as necessary.
2. Check the connector of M6 for proper drive coupling and correct as necessary.
3. Check the connector between PS16-relay CN10B-FSCB J20 for proper connection and correct as necessary.
4. Check the connector between PS17-relay CN10B-FSCB J20 for proper connection and correct as necessary.
5. Check the connector between PS12-relay CN9-FSCB J19 for proper connection and correct as necessary.
6. Check the connector between PS13-relay CN10A-FSCB J20 for proper connection and correct as necessary.
7. PS16 I/O check, sensor check
   - Control signal: FSCB J20<B>-4 (ON)

- Location of electrical component: CPF-810H/CPF-810X 11-D

8. PS17 I/O check, sensor check
   - Control signal: FSCB J20<B>-7 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 11-D
9. PS12 I/O check, sensor check
   - Control signal: FSCB J19-7 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 9-D
10. PS13 I/O check, sensor check
    - FSCB J20<A>-6 (ON)
    - Location of electrical component: CPF-810H/CPF-810X 10-D
11. M6 operation check
    - Control signal: FSCB J23-1 to 11
    - Location of electrical component: CPF-810H/CPF-810X 12-D
12. Replace M6.
13. FSCB F5, F8, F12 conduction check
14. Replace FSCB.

3.8.6 C1103

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C1103: Alignment motor/Fr drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The alignment plate home sensor/Fr (PS9) is not turned OFF (unblocked) after the set period of time has elapsed after the plate drive starts from the home position. • The alignment plate home sensor/Fr (PS9) is not turned ON (blocked) after the set period of time has elapsed after the alignment motor/Fr (M14) is energized when the plate returned to the home position. • The alignment plate/Fr does not reach the specified position within the set period of time.
Trouble isolation	-
Relevant electrical parts	• Alignment motor/Fr (M14) • Alignment plate home sensor/Fr (PS9) • FS control board (FSCB)

Procedure

1. Check the connector between M14-relay CN5-FSCB J18 for proper connection and correct as necessary.
2. Check the connector of M14 for proper drive coupling and correct as necessary.
3. Check the connector between PS9-relay CN5-FSCB J18 for proper connection and correct as necessary.
4. PS9 I/O check, sensor check
   - Control signal: FSCB J18-10 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 6-D
5. M14 operation check
   - Control signal: FSCB J18-1 to 4
   - Location of electrical component: CPF-810H/CPF-810X 5-D
6. Replace M14.
7. Replace FSCB.

3.8.7 C1104

Contents

Trouble type	C1104: Stacker plate drive motor malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The stacker plate home sensor (PS30) is not turned OFF (unblocked) after the set period of time has elapsed after the plate drive starts from the home position. Or, the stacker plate position sensor (PS29) is not turned ON (blocked) even after the set period of time has elapsed. • The stacker plate home sensor (PS30) is not turned ON (blocked) after the set period of time has elapsed after the stacker plate drive motor (M3) is energized when the plate returned to the home position.
Trouble isolation	-
Relevant electrical parts	• Stacker plate drive motor (M3) • Stacker plate position sensor (PS29) • Stacker plate home sensor (PS30) • FS control board (FSCB)

Procedure

1. Check the connector between M3-relay CN1B-FSCB J22 for proper connection and correct as necessary.
2. Check the connector of M3 for proper drive coupling and correct as necessary.
3. Check the connector between PS29-relay CN2-relay CN1B-FSCB J22 for proper connection and correct as necessary.
4. Check the connector between PS30-relay CN2-relay CN1B-FSCB J22 for proper connection and correct as necessary.
5. PS29 I/O check, sensor check
   - Control signal: FSCB J22<B>-7 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 3-D
6. PS30 I/O check, sensor check

- Control signal: FSCB J22<B>-10 (ON)
- Location of electrical component: CPF-810H/CPF-810X 3-D

7. M3 operation check
   - Control signal: FSCB J22<B>-1 to 2
   - Location of electrical component: CPF-810H/CPF-810X 2-D
8. Replace M3.
9. Replace FSCB.

3.8.8 C1105

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C1105: Bundle eject motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	The gripper home sensor (PS3) is not turned OFF (blocked) or ON (unblocked) even after the set period of time has elapsed after the bundle eject motor (M1) is energized.
Trouble isolation	-
Relevant electrical parts	• Bundle eject motor (M1) • Gripper home sensor (PS3) • FS control board (FSCB)

Procedure

1. Check the connector between M1-relay CN1A-FSCB J22 for proper connection and correct as necessary.
2. Check the connector of M1 for proper drive coupling and correct as necessary.
3. Check the connector between PS3-relay CN1A-FSCB J22 for proper connection and correct as necessary.
4. PS3 I/O check, sensor check
   - Control signal: FSCB J22<A>-13 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 2-D
5. M1 operation check
   - Control signal: FSCB J22<A>-1 to 2
   - Location of electrical component: CPF-810H/CPF-810X 1-D
6. Replace M1.
7. Replace FSCB.

3.8.9 C1106

(3) When CPF-810H or CPF-810X is installed Contents

Trouble type	C1106: Stapler movement motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The corner staple position sensor/Fr (PS53) is not turned OFF (unblocked) after the set period of time has elapsed after the stapler drive starts from the home position. • The corner staple position sensor/Fr (PS53) is not turned ON (blocked) after the set period of time has elapsed after the stapler movement motor (M19) is energized when the stapler returned to the home position. • The stapler does not reach the specified position within the set period of time.
Trouble isolation	Staple
Relevant electrical parts	• Stapler movement motor (M19) • Corner staple position sensor/Fr (PS53) • FS control board (FSCB)

Procedure

1. Check the connector between M19-FSCB J17 for proper connection and correct as necessary.
2. Check the connector of M19 for proper drive coupling and correct as necessary.
3. Check the connector between PS53-FSCB J16 for proper connection and correct as necessary.
4. PS53 I/O check, sensor check
   - Control signal: FSCB J16<B>-3 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 15-K to L
5. M19 operation check
   - Control signal: FSCB J17-8 to 11
   - Location of electrical component: CPF-810H/CPF-810X 13 to 14-D
6. Replace M19.
7. FSCB F10 or F13 conduction check
8. Replace FSCB.

3.8.10 C1109

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C1109: Stapler motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The stapler sensor is not turned OFF or ON even after the set period of time has elapsed after the stapler motor (M5) is energized. • The stapler center position sensor (PS20) is turned ON (blocked), when the stapler motor (M5) is running.
Trouble isolation	Staple
Relevant electrical parts	• Stapler unit • Stapler center position sensor (PS20) • FS control board (FSCB)

Procedure

1. Check the connector between the stapler unit-FSCB J17 for proper connection and correct as necessary.
2. Check the connector of the stapler unit for proper drive coupling and correct as necessary.
3. Check the connector between PS20-FSCB J16 for proper connection and correct as necessary.
4. PS20 I/O check, sensor check
   - Control signal: FSCB J16<A>-3
   - Location of electrical component: CPF-810H/CPF-810X 14-K to L
5. Replace the stapler unit.
6. Replace FSCB.

3.8.11 C1112

When CPF-810X is installed

Contents

Trouble type	C1112: Stapler motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	• The stapler home sensor is not turned ON even after the set period of time has elapsed while the stapler motor is energized. • The stapler home sensor is not turned OFF even after the set period of time has elapsed after the stapler home sensor is turned ON.
Trouble isolation	• Staple • Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Stapler unit • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between the stapler unit-SDCB J4 for proper connection and correct as necessary.
2. Check the connector of the stapler unit for proper drive coupling and correct as necessary.
3. Replace the stapler unit.
4. Replace SDCB.
5. FSCB F7 conduction check
6. Replace FSCB.

3.8.12 C1113

When CPF-810X is installed

Contents

Trouble type	C1113: Stopper drive motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	The stopper home sensor (PS106) is not turned OFF (unblocked) or ON (blocked) even after the set period of time has elapsed after the stopper drive motor (M104) is energized.
Trouble isolation	• Staple • Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Stopper drive motor (M104) • Stopper home sensor (PS106) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M104-SDCB J10 for proper connection and correct as necessary.
2. Check the connector of M104 for proper drive coupling and correct as necessary.
3. Check the connector between PS106-SDCB J10 for proper connection and correct as necessary.
4. PS106 I/O check, sensor check
   - Control signal: SDCB J10-5 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 2-P
5. M104 operation check
   - Control signal: SDCB J10-6 to 9
   - Location of electrical component: CPF-810H/CPF-810X 2-P
6. Replace M104.
7. Replace SDCB.
8. Replace FSCB.

3.8.13 C1114

When CPF-810X is installed

Contents

Trouble type	C1114: Alignment motor drive malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	The alignment home sensor (PS104) is not turned OFF (unblocked) or ON (blocked) even after the set period of time has elapsed after the alignment motor (M103) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Alignment motor (M103) • Alignment home sensor (PS104) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M103-relay CN29-SDCB J7 for proper connection and correct as necessary.
2. Check the connector of M103 for proper drive coupling and correct as necessary.
3. Check the connector between PS104-relay CN29-SDCB J7 for proper connection and correct as necessary.
4. PS104 I/O check, sensor check
   - Control signal: SDCB J7-6 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 6-P
5. M103 operation check
   - Control signal: SDCB J7-7 to 10
   - Location of electrical component: CPF-810H/CPF-810X 5-P
6. Replace M103.
7. Replace SDCB.
8. Replace FSCB.

3.8.14 C1115

When CPF-810X is installed

Contents

Trouble type	C1115: Center fold knife motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	The center fold knife home sensor (PS108) is not turned OFF (unblocked) or ON (blocked) even after the set period of time has elapsed after the center fold knife motor (M109) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Center fold knife motor (M109) • Center fold knife home sensor (PS108) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M109-SDCB J11 for proper connection and correct as necessary.
2. Check the connector of M109 for proper drive coupling and correct as necessary.
3. Check the connector between PS108-relay CN29-SDCB J7 for proper connection and correct as necessary.
4. PS108 I/O check, sensor check
   - Control signal: SDCB J7-3 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 6-P
5. M109 operation check
   - Control signal: SDCB J11-11 to 20
   - Location of electrical component: CPF-810H/CPF-810X 2-K
6. Replace M109.
7. Replace SDCB.
8. Replace FSCB.

3.8.15 C1124

Contents

Trouble type	C1124: Tray lift motor/Lw drive malfunction (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)
Rank	B
Trouble detection condition	The tray upper limit sensor/Lw (PS209) or tray lower limit sensor/Lw (PS210) is not turned ON (blocked) after the set period of time has elapsed after the tray lift motor/Lw (M202) is energized.
Trouble isolation	Post inserter
Relevant electrical parts	• Tray lift motor/Lw (M202) • Tray upper limit sensor/Lw (PS209) • Tray lower limit sensor/Lw (PS210) • PI drive board (PIDB) • FS control board (FSCB)

Procedure

1. Check the connector between M202-relay CN206-PIDB CN56 for proper connection and correct as necessary.
2. Check the connector of M202 for proper drive coupling and correct as necessary.
3. Check the connector between PS209-relay CN237-PIDB CN53 for proper connection and correct as necessary.

4. Check the connector between PS210-relay CN236-PIDB CN53 for proper connection and correct as necessary.
5. PS209 I/O check, sensor check
   - Control signal: PIDB CN53<A>-8 (ON)
   - Location of electrical component: PI-507 10-C
6. PS210 I/O check, sensor check
   - Control signal: PIDB CN53<A>-11 (ON)
   - Location of electrical component: PI-507 11-C
7. M202 operation check
   - Control signal: PIDB CN56-5 to 6
   - Location of electrical component: PI-507 9-C
8. Replace M202.
9. Replace PIDB.
10. Replace FSCB.

3.8.16 C1125

Contents

Trouble type	C1125: Tray lift motor/Up drive malfunction (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)
Rank	B
Trouble detection condition	The tray upper limit sensor/Up (PS204) or tray lower limit sensor/Up (PS205) is not turned ON (blocked) after the set period of time has elapsed after the tray lift motor/Up (M201) is energized.
Trouble isolation	Post inserter
Relevant electrical parts	• Tray lift motor/Up (M201) • Tray upper limit sensor/Up (PS204) • Tray lower limit sensor/Up (PS205) • PI drive board (PIDB) • FS control board (FSCB)

Procedure

1. Check the connector between M201-relay CN203-PIDB CN54 for proper connection and correct as necessary.
2. Check the connector of M201 for proper drive coupling and correct as necessary.
3. Check the connector between PS204-relay CN235-PIDB CN55 for proper connection and correct as necessary.
4. Check the connector between PS205-relay CN235-PIDB CN55 for proper connection and correct as necessary.
5. PS204 I/O check, sensor check
   - Control signal: PIDB CN55-8 (ON)
   - Location of electrical component: PI-507 8-C
6. PS205 I/O check, sensor check
   - Control signal: PIDB CN55-7 (ON)
   - Location of electrical component: PI-507 8-C
7. M201 operation check
   - Control signal: PIDB CN54-7 to 8
   - Location of electrical component: PI-507 6 to 7-C
8. Replace M201.
9. Replace PIDB.
10. Replace FSCB.

3.8.17 C1127

Contents

Trouble type	C1127: Punch oscillating motor malfunction (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)
Rank	B
Trouble detection condition	The punch oscillating home sensor (PS303) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the punch oscillating motor (M302) is energized.
Trouble isolation	Punch
Relevant electrical parts	• Punch oscillating motor (M302) • Punch oscillating home sensor (PS303) • Punch control board (PKCB) • FS control board (FSCB)

Procedure

1. Check the connector between M302-PKCB CN34 for proper connection and correct as necessary.
2. Check the connector of M302 for proper drive coupling and correct as necessary.
3. Check the connector between PS303-relay CN342-PKCB CN37 for proper connection and correct as necessary.
4. PS303 I/O check, sensor check
   - Control signal: PKCB CN37-2 (ON)
   - Location of electrical component: CPK-810XP 5-C
5. M302 operation check
   - Control signal: PKCB CN34-1 to 6
   - Location of electrical component: CPK-810XP 5-C
6. Replace M302.
7. PKCB ICP2 conduction check
8. Replace PKCB.
9. Replace FSCB.

3.8.18 C1130

Contents

Trouble type	C1130: ZU transport motor drive malfunction (When CPF-810H+CPK-810Z or CPF-810X+CPK-810Z is installed)
Rank	B
Trouble detection condition	• The guide home sensor (PS500) is not turned OFF (unblocked) after the set period of time has elapsed after the folding guide drive starts from the home position. • The guide home sensor (PS500) is not turned ON (blocked) after the set period of time has elapsed after the ZU transport motor (M500) is energized when the folding guide returned to the home position. • The folding guide does not reach the specified position within the set period of time.
Trouble isolation	Z fold
Relevant electrical parts	• ZU transport motor (M500) • Guide home sensor (PS500) • ZU drive board (ZUDB)

Procedure

1. Check the connector between M500-ZUDB CN6 for proper connection and correct as necessary.
2. Check the connector of M500 for proper drive coupling and correct as necessary.
3. Check the connector between PS500-ZUDB CN5 for proper connection and correct as necessary.
4. PS500 I/O check, sensor check
   - Control signal: ZUDB CN5-3 (ON)
   - Location of electrical component: CPK-810Z 3-B
5. M500 operation check
   - Control signal: ZUDB CN6-1 to 6
   - Location of electrical component: CPK-810Z 1 to 2-B
6. Replace M500.
7. Replace ZUDB.

3.8.19 C1131

Contents

Trouble type	C1131: Folding guide motor drive malfunction (When CPF-810H+CPK-810Z or CPF-810X+CPK-810Z is installed)
Rank	B
Trouble detection condition	• The chopper home sensor (PS501) is not turned OFF (unblocked) after the set period of time has elapsed after the folding claw drive starts from the home position. • The chopper home sensor (PS501) is not turned ON (blocked) after the set period of time has elapsed after the folding guide motor (M501) is energized when the folding claw returned to the home position. • The folding claw does not reach the specified position within the set period of time.
Trouble isolation	Z fold
Relevant electrical parts	• Folding guide motor (M501) • Chopper home sensor (PS501) • ZU drive board (ZUDB)

Procedure

1. Check the connector between M501-ZUDB CN6 for proper connection and correct as necessary.
2. Check the connector of M501 for proper drive coupling and correct as necessary.
3. Check the connector between PS501-ZUDB CN5 for proper connection and correct as necessary.
4. PS501 I/O check, sensor check
   - Control signal: ZUDB CN5-9 (ON)
   - Location of electrical component: CPK-810Z 4-B
5. M501 operation check
   - Control signal: ZUDB CN6-9 to 12
   - Location of electrical component: CPK-810Z 2-B
6. Replace M501.
7. Replace ZUDB.

3.8.20 C1132

When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed Contents

Trouble type	C1132: Punch drive motor drive malfunction (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)
Rank	B
Trouble detection condition	The punch home sensor (PS301) is not turned ON (unblocked) or OFF (blocked) even after the set period of time has elapsed while the punch drive motor (M301) is energized.
Trouble isolation	-

Relevant electrical parts	• Punch drive motor (M301) • Punch home sensor (PS301) • Punch control board (PKCB) • FS control board (FSCB)

Procedure

1. Check the connector between M301-relay CN351-PKCB CN35 for proper connection and correct as necessary.
2. Check the connector of M301 for proper drive coupling and correct as necessary.
3. Check the connector between PS301-PKCB CN36 for proper connection and correct as necessary.
4. PS301 I/O check, sensor check
   - Control signal: PKCB CN36-5 (ON)
   - Location of electrical component: CPK-810XP 3-C
5. M301 operation check
   - Control signal: PKCB CN35-1 to 3
   - Location of electrical component: CPK-810XP 2-C
6. Replace M301.
7. Replace PKCB.
8. Replace FSCB.

3.8.21 C1133

Contents

Trouble type	C1133: Pressure motor drive malfunction (When CPF-810H+CPK-810Z or CPF-810X+CPK-810Z is installed)
Rank	B
Trouble detection condition	The press home sensor (PS502) is not turned ON (unblocked), even after the set period of time has elapsed after the pressure motor (M502) starts searching its home position. Or, is not turned OFF (blocked) after it is turned ON (unblocked).
Trouble isolation	Z fold
Relevant electrical parts	• Pressure motor (M502) • Press home sensor (PS502) • ZU drive board (ZUDB)

Procedure

1. Check the connector between M502-ZUDB CN6 for proper connection and correct as necessary.
2. Check the connector of M502 for proper drive coupling and correct as necessary.
3. Check the connector between PS502-ZUDB CN5 for proper connection and correct as necessary.
4. PS502 I/O check, sensor check
   - Control signal: ZUDB CN5-6 (ON)
   - Location of electrical component: CPK-810Z 4-B
5. M502 operation check
   - Control signal: ZUDB CN6-7 (DRV)
   - Location of electrical component: CPK-810Z 2-B
6. Replace M502.
7. ZUDB ICP3 conduction check
8. Replace ZUDB.

3.8.22 C1140

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C1140: Alignment motor/Rr drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The alignment plate home sensor/Rr (PS6) is not turned OFF (unblocked) after the set period of time has elapsed after the plate drive starts from the home position. • The alignment plate home sensor/Rr (PS6) is not turned ON (blocked) after the set period of time has elapsed while the alignment motor/Rr (M13) is energized when the plate returned to the home position. • The plate does not reach the specified position within the set period of time.
Trouble isolation	-
Relevant electrical parts	• Alignment motor/Rr (M13) • Alignment plate home sensor/Rr (PS6) • FS control board (FSCB)

Procedure

1. Check the connector between M13-relay CN3-FSCB J21 for proper connection and correct as necessary.
2. Check the connector of M13 for proper drive coupling and correct as necessary.
3. Check the connector between PS6-relay CN4-relay CN3-FSCB J21 for proper connection and correct as necessary.
4. PS6 I/O check, sensor check
   - Control signal: FSCB J21-10 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 4-D
5. M13 operation check
   - Control signal: FSCB J21-1 to 4

- Location of electrical component: CPF-810H/CPF-810X 4-D

6. Replace M13.
7. Replace FSCB.

3.8.23 C1141

(2) When CPF-810H or CPF-810X is installed Contents

Trouble type	C1141: FNS paddle motor drive malfunction (When CPF-810H or CPF-810X is installed)

Rank	B
Trouble detection condition	The upper paddle home sensor (PS25) is not turned OFF (blocked) or ON (unblocked) even after the set period of time has elapsed while the FNS paddle motor (M9) is energized.
Trouble isolation	Staple
Relevant electrical parts	• FNS paddle motor (M9) • Upper paddle home sensor (PS25) • FS control board (FSCB)

Procedure

1. Check the connector between M9-relay CN13B-FSCB J14 for proper connection and correct as necessary.
2. Check the connector of M9 for proper drive coupling and correct as necessary.
3. Check the connector between PS25-relay CN13B-FSCB J14 for proper connection and correct as necessary.
4. PS25 I/O check, sensor check
   - Control signal: FSCB J14<B>-13 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 16-K to L
5. M9 operation check
   - Control signal: FSCB J14<B>-7 to 10
   - Location of electrical component: CPF-810H/CPF-810X 17-K to L
6. Replace M9.
7. Replace FSCB.

3.8.24 C1142

Contents

Trouble type	C1142: Paddle up/down motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	The paddle up/down home sensor (PS27) is not turned OFF (blocked) or ON (unblocked) even after the set period of time has elapsed while the paddle up/down motor (M7) is energized.
Trouble isolation	Staple
Relevant electrical parts	• Paddle up/down motor (M7) • Paddle up/down home sensor (PS27) • FS control board (FSCB)

Procedure

1. Check the connector between M7-relay CN13A-FSCB J14 for proper connection and correct as necessary.
2. Check the connector of M7 for proper drive coupling and correct as necessary.
3. Check the connector between PS27-relay CN13A-FSCB J14 for proper connection and correct as necessary.
4. PS27 I/O check, sensor check
   - Control signal: FSCB J14<A>-7 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 18-K to L
5. M7 operation check
   - Control signal: FSCB J14<A>-1 to 4
   - Location of electrical component: CPF-810H/CPF-810X 18-K to L
6. Replace M7.
7. Replace FSCB.

3.8.25 C1143

Contents

Trouble type	C1143: Arm drive motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	The arm home sensor (PS26) is not turned ON (unblocked) or OFF (blocked) even after the set period of time has elapsed while the arm drive motor (M8) is energized.
Trouble isolation	-
Relevant electrical parts	• Arm drive motor (M8) • Arm home sensor (PS26) • FS control board (FSCB)

Procedure

1. Check the connector between M8-relay CN13A-FSCB J14 for proper connection and correct as necessary.
2. Check the connector of M8 for proper drive coupling and correct as necessary.
3. Check the connector between PS26-relay CN13B-FSCB J14 for proper connection and correct as necessary.
4. PS26 I/O check, sensor check
   - Control signal: FSCB J14<B>-6 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 17-K to L
5. M8 operation check
   - Control signal: FSCB J14<A>-8 to 11
   - Location of electrical component: CPF-810H/CPF-810X 18-K to L
6. Replace M8.
7. Replace FSCB.

3.8.26 C1144

When CPF-810H or CPF-810X is installed Contents

Trouble type	C1144: Pre-eject drive motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The trailing edge stopper home sensor (PS31) is not turned OFF after the set period of time has elapsed after the trailing edge stopper drive starts from the home position. Or, the trailing edge stopper does not reach the specified position within the set period of time. • The trailing edge stopper home sensor (PS31) is not turned ON after the set period of time has elapsed after the pre-eject drive motor (M2) is energized when the trailing edge stopper returned to the home position.
Trouble isolation	-
Relevant electrical parts	• Pre-eject drive motor (M2) • Trailing edge stopper home sensor (PS31) • FS control board (FSCB)

Procedure

1. Check the connector between M2-relay CN1A-FSCB J22 for proper connection and correct as necessary.
2. Check the connector of M2 for proper drive coupling and correct as necessary.
3. Check the connector between PS31-relay CN2-relay CN1B-FSCB J22 for proper connection and correct as necessary.
4. PS31 I/O check, sensor check
   - Control signal: FSCB J22<B>-13 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 3-D
5. M2 operation check
   - Control signal: FSCB J22<A>-3 to 4
   - Location of electrical component: CPF-810H/CPF-810X 1-D
6. Replace M2.
7. Replace FSCB.

3.8.27 C1145

When CPF-810H or CPF-810X is installed Contents

Trouble type	C1145: Trailing edge stopper motor/Fr drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The trailing edge stopper sensor/Fr (PS10) is not turned OFF (unblocked) after the set period of time has elapsed after the trailing edge stopper drive starts from the home position. • The trailing edge stopper sensor/Fr (PS10) is not turned ON (blocked) after the set period of time has elapsed after the trailing edge stopper motor/Fr (M12) is energized when the trailing edge stopper returned to the home position.
Trouble isolation	Staple
Relevant electrical parts	• Trailing edge stopper motor/Fr (M12) • Trailing edge stopper sensor/Fr (PS10) • FS control board (FSCB)

Procedure

1. Check the connector between M12-relay CN5-FSCB J18 for proper connection and correct as necessary.
2. Check the connector of M12 for proper drive coupling and correct as necessary.
3. Check the connector between PS10-relay CN5-FSCB J18 for proper connection and correct as necessary.
4. PS10 I/O check, sensor check
   - Control signal: FSCB J18-13 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 6-D
5. M12 operation check
   - Control signal: FSCB J18-14 to 17
   - Location of electrical component: CPF-810H/CPF-810X 6-D
6. Replace M12.
7. Replace FSCB.

3.8.28 C1146

Contents

Trouble type	C1146: Trailing edge stopper motor/Rr drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The trailing edge stopper sensor/Rr (PS7) is not turned OFF (unblocked) after the set period of time has elapsed after the trailing edge stopper drive starts from the home position. • The trailing edge stopper sensor/Rr (PS7) is not turned ON (blocked) after the set period of time has elapsed after the trailing edge stopper motor/Rr (M11) is energized when the trailing edge stopper returned to the home position.
Trouble isolation	-
Relevant electrical parts	• Trailing edge stopper motor/Rr (M11) • Trailing edge stopper sensor/Rr (PS7) • FS control board (FSCB)

Procedure

1. Check the connector between M11-relay CN4-relay CN3-FSCB J21 for proper connection and correct as necessary.
2. Check the connector of M11 for proper drive coupling and correct as necessary.
3. Check the connector between PS7-relay CN4-relay CN3-FSCB J21 for proper connection and correct as necessary.
4. PS7 I/O check, sensor check
   - Control signal: FSCB J21-16 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 5-D
5. M11 operation check
   - Control signal: FSCB J21-17 to 20
   - Location of electrical component: CPF-810H/CPF-810X 5-D
6. Replace M11.
7. Replace FSCB.

3.8.29 C1152

Contents

Trouble type	C1152: Paper transport belt motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	Even after a predetermined period of time has elapsed since the paper transport belt motor (M134) starts operation, the lock signal is not set to L (turning).
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Paper transport belt motor (M134) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M134-relay CN21-FSCB J24 for proper connection and correct as necessary.
2. Check the connector of M134 for proper drive coupling and correct as necessary.
3. M134 operation check
   - Control signal: FSCB J24-1 to 11
   - Location of electrical component: CPF-810H/CPF-810X 7-M
4. Replace M134.
5. Replace SDCB.
6. FSCB F4 or F8 conduction check
7. Replace FSCB.

3.8.30 C1156

When CPF-810X is installed

Contents

Trouble type	C1156: SD paddle motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	The paddle home sensor (PS105) is not turned OFF (blocked) or ON (unblocked) even after the set period of time has elapsed while the SD paddle motor (M107) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• SD paddle motor (M107) • Paddle home sensor (PS105) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M107-SDCB J8 for proper connection and correct as necessary.
2. Check the connector of M107 for proper drive coupling and correct as necessary.

3. Check the connector between PS105-SDCB J8 for proper connection and correct as necessary.
4. PS105 I/O check, sensor check
   - Control signal: SDCB J8-3 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 4-P
5. M107 operation check
   - Control signal: SDCB J8-4 to 7
   - Location of electrical component: CPF-810H/CPF-810X 3-P
6. Replace M107.
7. Replace SDCB.
8. Replace FSCB.

3.8.31 C1182

Contents

Trouble type	C1182: Tray shift motor drive malfunction (When JS-508 is installed)
Rank	B
Trouble detection condition	• The tray shift home sensor (PS1) is not turned ON (blocked) after the set period of time has elapsed after the tray shift motor (M1) is energized (start of moving to the home position.) • The tray shift home sensor (PS1) is not turned OFF (unblocked) after the set period of time has elapsed after the tray shift motor (M1) is energized (start of moving to the shift position.)
Trouble isolation	Staple
Relevant electrical parts	• Tray shift motor (M1) • Tray shift home sensor (PS1) • JS control board (JSCB)

Procedure

1. Check the connector between M1-JSCB CN208 for proper connection and correct as necessary.
2. Check the connector of M1 for proper drive coupling and correct as necessary.
3. Check the connector between PS1-JSCB CN208 for proper connection and correct as necessary.
4. PS1 I/O check, sensor check
   - Control signal: JSCB CN208-5 (ON)
   - Location of electrical component: JS-508 5-C
5. M1 operation check
   - Control signal: JSCB CN208-1 (DRV)
   - Location of electrical component: JS-508 4 to 5-C
6. Replace M1.
7. JSCB ICP3 conduction check
8. Replace JSCB.

3.8.32 C1184

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C1184: Paper delivery control motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	• The paper delivery control home sensor (PS11) is not turned OFF (blocked) after the set period of time has elapsed after the paper detection lever drive starts from the home position. • The paper delivery control home sensor (PS11) is not turned ON (unblocked) after the set period of time has elapsed after the paper delivery control motor (M15) is energized when the paper detection lever returned to the home position.
Trouble isolation	-

Relevant electrical parts	• Paper delivery control motor (M15) • Paper delivery control home sensor (PS11) • FS control board (FSCB)

Procedure

1. Check the connector between M15-FSCB J19 for proper connection and correct as necessary.
2. Check the connector of M15 for proper drive coupling and correct as necessary.
3. Check the connector between PS11-relay CN10A-FSCB J20 for proper connection and correct as necessary.
4. PS11 I/O check, sensor check
   - Control signal: FSCB J20<A>-3 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 10-D
5. M15 operation check
   - Control signal: FSCB J19-1 to 4
   - Location of electrical component: CPF-810H/CPF-810X 9-D
6. Replace M15.
7. Replace FSCB.

3.8.33 C1195

When CPF-810X is installed

Contents

Trouble type	C1195: Paper discharge control motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	The curl cover detection sensor (PS102) is not turned OFF (unblocked) or ON (blocked) even after the set period of time has elapsed after the paper discharge control motor (M102) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Paper discharge control motor (M102) • Curl cover detection sensor (PS102) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M102-relay CN25-relay CN26-SDCB J5 for proper connection and correct as necessary.
2. Check the connector of M102 for proper drive coupling and correct as necessary.
3. Check the connector between PS102-relay CN25-relay CN26-SDCB J5 for proper connection and correct as necessary.
4. PS102 I/O check, sensor check
   - Control signal: SDCB J5-3 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 3-K
5. M102 operation check
   - Control signal: SDCB J5-4 to 7
   - Location of electrical component: CPF-810H/CPF-810X 3-K
6. Replace M102.
7. Replace SDCB.
8. Replace FSCB.

3.8.34 C1196

When CPF-810X is installed

Contents

Trouble type	C1196: Center fold guide motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	The guide home sensor (PS107) is not turned OFF (unblocked) or ON (blocked) even after the set period of time has elapsed after the center fold guide motor (M106) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Center fold guide motor (M106) • Guide home sensor (PS107) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M106-SDCB J9 for proper connection and correct as necessary.
2. Check the connector of M106 for proper drive coupling and correct as necessary.
3. Check the connector between PS107-SDCB J9 for proper connection and correct as necessary.
4. PS107 I/O check, sensor check
   - Control signal: SDCB J9-6 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 4-P
5. M106 operation check
   - Control signal: SDCB J9-7 to 10
   - Location of electrical component: CPF-810H/CPF-810X 4-P
6. Replace M106.
7. Replace SDCB.
8. Replace FSCB.

3.8.35 C1197

When CPF-810X is installed

Contents

Trouble type	C1197: Tri-folding guide motor malfunction (When CPF-810X is installed)
Rank	B
Trouble detection condition	The tri-folding gate home sensor (PS111) is not turned OFF (blocked) or ON (unblocked) even after the set period of time has elapsed while the tri-folding guide motor (M108) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Tri-folding guide motor (M108) • Tri-folding gate home sensor (PS111) • SD control board (SDCB) • FS control board (FSCB)

Procedure

1. Check the connector between M108-SDCB J8 for proper connection and correct as necessary.
2. Check the connector of M108 for proper drive coupling and correct as necessary.
3. Check the connector between PS111-SDCB J8 for proper connection and correct as necessary.
4. PS111 I/O check, sensor check
   - Control signal: SDCB J8-10 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 3-P
5. M108 operation check
   - Control signal: SDCB J8-11 to 14
   - Location of electrical component: CPF-810H/CPF-810X 3-P
6. Replace M108.
7. Replace SDCB.
8. Replace FSCB.

3.8.36 C11A1

Contents

Trouble type	C11A1: Exit roller pressure/ retraction drive malfunction (When FS-533 is installed)
Rank	B
Trouble detection condition	The pick up roller position sensor (PS105) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the exit roller lift up motor (M104) is energized.
Trouble isolation	-
Relevant electrical parts	• Exit roller lift up motor (M104) • Pick up roller position sensor (PS105) • FS control board (FSCB)

Procedure

1. Check the connector between M104-FSCB CN109 for proper connection and correct as necessary.
2. Check the connector of M104 for proper drive coupling and correct as necessary.
3. Check the connector between PS105-FSCB CN110 for proper connection and correct as necessary.
4. PS105 I/O check, sensor check
   - Control signal: FSCB CN110
   - Location of electrical component: FS-533 7-D to E
5. M104 operation check
   - Control signal: FSCB CN109
   - Location of electrical component: FS-533 9-D to E
6. Replace M104.
7. FSCB CP104 conduction check
8. Replace FSCB.

3.8.37 C11A2

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C11A2: Receiving roller retraction motor drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	The receiving roller retraction sensor (PS22) is not turned OFF (blocked) or ON (unblocked) even after the set period of time has elapsed after the receiving roller retraction motor (M10) is energized.
Trouble isolation	-
Relevant electrical parts	• Receiving roller retraction motor (M10) • Receiving roller retraction sensor (PS22) • FS control board (FSCB)

Procedure

1. Check the connector between M10-FSCB J12 for proper connection and correct as necessary.
2. Check the connector of M10 for proper drive coupling and correct as necessary.
3. Check the connector between PS22-FSCB J12 for proper connection and correct as necessary.
4. PS22 I/O check, sensor check
   - Control signal: FSCB J12<B>-3 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 15-D
5. M10 operation check
   - Control signal: FSCB J12<A>-15 to 16
   - Location of electrical component: CPF-810H/CPF-810X 15-D
6. Replace M10.
7. Replace FSCB.

3.8.38 C11C5

Contents

Trouble type	C11C5: Paper size detect board malfunction (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)
Rank	B
Trouble detection condition	The size of a transported paper is not detected, causing no punch operation.
Trouble isolation	-
Relevant electrical parts	Paper size detect board (PSDTB)

Procedure

1. Check the sensor part of PSDTB, to clean if it is dirty.
2. Check the connector between PSDTB-PKCB CN38 for proper connection and correct as necessary.
3. Replace PSDTB.

3.8.39 C11E1

When CPF-810H or CPF-810X is installed

Contents

Trouble type	C11E1: Paper exit switching drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	The route change gate home sensor (PS21) is not turned OFF (unblocked) or ON (blocked) even after the set period of time has elapsed after the route change gate motor (M4) is energized.
Trouble isolation	-
Relevant electrical parts	• Route change gate motor (M4) • Route change gate home sensor (PS21) • FS control board (FSCB)

Procedure

1. Check the connector between M4-FSCB J12 for proper connection and correct as necessary.
2. Check the connector of M4 for proper drive coupling and correct as necessary.
3. Check the connector between PS21-FSCB J12 for proper connection and correct as necessary.
4. PS21 I/O check, sensor check
   - Control signal: FSCB J12<B>-8 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 16-A
5. M4 operation check
   - Control signal: FSCB J21<B>-4 to 5
   - Location of electrical component: CPF-810H/CPF-810X 16-D
6. Replace M4.
7. Replace FSCB.

3.8.40 C11E2

Contents

Trouble type	C11E2: Paper exit switching (JS) drive malfunction (When CPF-810H or CPF-810X is installed)
Rank	B
Trouble detection condition	The sub tray/JS route change gate home sensor (PS23) is not turned OFF (unblocked) or ON (blocked) even after the set period of time has elapsed after the sub tray discharge motor (M18) is energized.
Trouble isolation	-
Relevant electrical parts	• Sub tray discharge motor (M18) • Sub tray/JS route change gate home sensor (PS23) • FS control board (FSCB)

Procedure

1. Check the connector between M18-FSCB J12 for proper connection and correct as necessary.
2. Check the connector of M18 for proper drive coupling and correct as necessary.
3. Check the connector between PS23-FSCB J12 for proper connection and correct as necessary.
4. PS23 I/O check, sensor check
   - Control signal: FSCB J12<A>-14 (ON)
   - Location of electrical component: CPF-810H/CPF-810X 15-D
5. M18 operation check
   - Control signal: FSCB J12<A>-5 to 8
   - Location of electrical component: CPF-810H/CPF-810X 15-D
6. Replace M18.
7. Replace FSCB.

3.8.41 C1402

Contents

Trouble type	C1402: FS nonvolatile memory error (When FS-533 is installed)
Rank	C
Trouble detection condition	When the main power switch is turned ON, malfunctioning of the nonvolatile memory on the FS control board (FSCB) is detected.
Trouble isolation	-
Relevant electrical parts	FS control board (FSCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB.

3.8.42 C1403

Contents

Trouble type	C1403: PK flash ROM error (When CPF-810H+CPK-810XP or CPF-810X+CPK-810XP is installed)
Rank	C
Trouble detection condition	Data of flash ROM of the PK is determined to be faulty when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	Punch control board (PKCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace PKCB.

3.8.43 C1404

Contents

Trouble type	C1404: PI flash ROM error (When CPF-810H+PI-507 or CPF-810X+PI-507 is installed)
Rank	C
Trouble detection condition	Data of flash ROM of the PI is determined to be faulty when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	PI drive board (PIDB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace PIDB.

3.9 C2###

3.9.1 C2152, C2153, C2154, C2155, C2156

Contents

Trouble type	• C2152: Transfer belt fault at initial position return • C2153: Transfer belt spacing fault at K pressure switching • C2154: Transfer belt contact fault at all pressure switching • C2155: Transfer belt contact fault after K pressure established • C2156: Transfer belt spacing fault after all pressure established
Rank	B
Trouble detection condition	• C2152: The 1st transfer pressure sensor (PS39) is unable to detect "switch from retraction to pressure" or "switch from pressure to retraction" within a given period time after the 1st transfer pressure clutch (CL5) has stared engagement during an initial position return. • C2153: The 1st transfer pressure sensor (PS39) does not detect “switch from pressure to retraction” within a given period time after 1st transfer pressure clutch (CL5) has stared engagement. • C2154: The 1st transfer pressure sensor (PS39) does not detect “switch from retraction to pressure” within a given period time after 1st transfer pressure clutch (CL5) has stared engagement. • C2155: The 1st transfer pressure sensor (PS39) is turned ON (blocked) after the lamps of given time after the 1st transfer pressure clutch (CL5) turned OFF when the release operation is finished. • C2156: The 1st transfer pressure sensor (PS39) is turned OFF (unblocked) after the laps of given time after the 1st transfer pressure clutch (CL5) turned OFF when the pressing operation is finished.
Trouble isolation	-
Relevant electrical parts	• Fusing motor (M3) • 1st transfer pressure clutch (CL5) • 1st transfer pressure sensor (PS39) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M3-BASEB CN19E for proper connection and correct as necessary.
2. Check the connector of M3 for proper drive coupling and correct as necessary.
3. Check the connector between PS39-relay CN113-BASEB CN13E for proper connection and correct as necessary.
4. Check the connector between CL5-relay CN118-EXCB CN14EX for proper connection and correct as necessary.
5. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
6. Check CPUB for proper installation and correct as necessary.

7. PS39 I/O check, sensor check
   - Control signal: BASEB CN13E-3 (ON)
   - Location of electrical component: 12-C

8. CL5 load check
   - Check code: 24
   - Multi code: 1, 2, 100, 101, 102, 104, 105, 106 (CM805), 1, 2, 100, 102, 104, 106 (CM605)
   - Control signal: EXCB CN14EX-9 (REM)
   - Location of electrical component: 6-P
9. M3 load check
   - Check code: 45
   - Multi code: 1, 2, 3, 4, 6 (CM805), 1, 2, 4, 6 (CM605)
   - Control signal: BASEB CN19EA-6 to 10
   - Location of electrical component: 1-C
10. Replace M3.
11. Replace EXCB.
12. Replace CPUB.
13. Replace BASEB.

3.9.2 C2204

Contents

Trouble type	C2204: Waste toner transport motor failure to turn
Rank	B
Trouble detection condition	The turning detection sensor detects failure to turn for a predetermined number of times while the motor is turning.
Trouble isolation	-
Relevant electrical parts	• Waste toner transport motor (M20) • Waste toner box set sensor (PS100) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Clean the PS100 if it has toner or paper dust, etc.
2. Replacing the waste toner box.
3. Check the connector between M20-relay CN92-EXCB CN10EX for proper connection and correct as necessary.
4. Check the connector of M20 for proper drive coupling and correct as necessary.
5. Check the connector between PS100-EXCB CN8EX for proper connection and correct as necessary.
6. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
7. Check CPUB for proper installation and correct as necessary.
8. PS100 I/O check, sensor check
   - Control signal: EXCB CN8EX-6 (ON)
   - Location of electrical component: 20-X
9. M20 load check
   - Check code: 44
   - Multi code: 1
   - Control signal: EXCB CN10EX-12 to 15
   - Location of electrical component: 22-P
10. Replace M20.
11. Replace EXCB.
12. Replace CPUB.
13. Replace BASEB.

3.9.3 C2253, C2254

Contents

Trouble type	• C2253: PC motor failure to turn • C2254: PC motor turning at abnormal timing
Rank	B
Trouble detection condition	• C2253: The control circuit detects motor failure to turn while the motor is turning. • C2254: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• PC motor (M2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M2-BASEB CN19E for proper connection and correct as necessary.
2. Check the connector of M2 for proper drive coupling and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. M2 load check
   - Check code: 41

- Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)
- Control signal: BASEB CN19EB-1 to 5
- Location of electrical component: 2-C

5. Replace M2.
6. Replace CPUB.
7. Replace BASEB.

3.9.4 C2255, C2256

Contents

Trouble type	• C2255: Developing motor failure to turn • C2256: Developing motor turning at abnormal timing
Rank	B
Trouble detection condition	• C2255: The control circuit detects motor failure to turn while the motor is turning. • C2256: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Developing motor (M27) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M27-BASEB CN19E for proper connection and correct as necessary.
2. Check the connector of M27 for proper drive coupling and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. M27 load check
   - Check code: 50
   - Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)
   - Control signal: BASEB CN19EB-6 to 10
   - Location of electrical component: 2-C
5. Replace M27.
6. Replace CPUB.
7. Replace BASEB.

3.9.5 C2350

Contents

Trouble type	C2350: Toner suction fan failure to turn (CM605/CM805)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Toner suction fan (FM11) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM11-relay CN62-relay CN63-EXCB CN15EX for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM11 load check
   - Check code: 42
   - Multi code: 8
   - Control signal: EXCB CN15EX-1 (REM), EXCB CN15EX-3 (LOCK)
   - Location of electrical component: 25-X
6. Replace FM11.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

3.9.6 C2355

Contents

Trouble type	C2355: Transfer belt cleaner cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-

Relevant electrical parts	• Transfer belt cleaner cooling fan (FM2) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM2-relay CN115-EXCB CN10EX for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM2 load check
   - Check code: 42
   - Multi code: 13, 14
   - Control signal: EXCB CN10EX-9 (REM), EXCB CN10EX-11 (LOCK)
   - Location of electrical component: 22-P
6. Replace FM2.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

3.9.7 C2357

Contents

Trouble type	C2357: DV cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• DV cooling fan (FM19) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM19-relay CN804-BASEB CN37E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM19 load check
   - Check code: 42
   - Multi code: 15, 16
   - Control signal: BASEB CN37E-1 (REM), BASEB CN37E-3 (LOCK)
   - Location of electrical component: 7-X
5. Replace FM19.
6. Replace CPUB.
7. Replace BASEB.

3.9.8 C2411, C2412, C2413, C2414

Contents

Trouble type	• C2411: Developing unit/C new article release • C2412: Developing unit/M new article release • C2413: Developing unit/Y new article release • C2414: Developing unit/K new article release
Rank	B
Trouble detection condition	The status with the new unit is not cleared after the new developing unit is set.
Trouble isolation	-
Relevant electrical parts	• Developing unit/C,M,Y,K • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the developing unit.
2. Check the connector between the developing unit/C-relay CN251-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2411)
3. Check the connector between the developing unit/M-relay CN250-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2412)
4. Check the connector between the developing unit/Y-relay CN249-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2413)
5. Check the connector between the developing unit/K-relay CN252-relay CN25-EXCB CN4EX for proper connection and correct as necessary. (C2414)
6. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
7. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.

8. Check CPUB for proper installation and correct as necessary.
9. Replace the corresponding developing unit.
10. Replace EXCB.
11. Replace CPUB.
12. Replace BASEB.

3.9.9 C2551, C2553, C2555

Contents

Trouble type	• C2551: Abnormally low toner density detected cyan TCR sensor • C2553: Abnormally low toner density detected magenta TCR sensor • C2555: Abnormally low toner density detected yellow TCR sensor
Rank	B
Trouble detection condition	When sampling data is determined in TC ratio calculation control, TCR sensor output is higher than a predetermined value for a predetermined number of times in a row even though there is toner in the sub hopper.
Trouble isolation	-
Relevant electrical parts	• Developing unit/C,M,Y • Toner cartridge/C,M,Y • PH unit • Toner empty sensor/Y (PS34) • Toner empty sensor/M (PS33) • Toner empty sensor/C (PS32) • Toner cartridge motor/YM (M10) • Toner cartridge motor/CK (M25) • Toner supply motor/Y (M9) • Toner supply motor/M (M8) • Toner supply motor/C (M7) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Perform image troubleshooting procedure if image density is low.
2. Reinstall the developing unit.
3. Reinstall the toner cartridge.
4. Check the connector between the developing unit/C-relay CN251-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2551)
5. Check the connector between the developing unit/M-relay CN250-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2553)
6. Check the connector between the developing unit/Y-relay CN249-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2555)
7. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
8. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
9. Check CPUB for proper installation and correct as necessary.
10. M10, M25 operation check
    - Control signal: EXCB CN11EX-5 to 8 (M10), EXCB CN11EX-1 to 4 (M25)
    - Location of electrical component: 4-P
11. M7, M8, M9 operation check
    - Control signal: EXCB CN11EX-17 to 20 (M7), EXCB CN11EX-13 to 16 (M8), EXCB CN11EX-9 to 12 (M9)
    - Location of electrical component: 4-P
12. If the toner empty sensor and its surroundings inside the sub hopper are dirtied with toner, clean them.
13. Replace the corresponding developing unit.
14. Replace EXCB.
15. Replace CPUB.
16. Replace BASEB.

3.9.10 C2552, C2554, C2556, C2558

Contents

Trouble type	• C2552: Abnormally high toner density detected cyan TCR sensor • C2554: Abnormally high toner density detected magenta TCR sensor • C2556: Abnormally high toner density detected yellow TCR sensor • C2558: Abnormally high toner density detected black TCR sensor
Rank	B
Trouble detection condition	The TC ratio of the toner determined by the toner replenishment control is detected to be the predetermined value or over for consecutive times.
Trouble isolation	-
Relevant electrical parts	• Developing unit/C,M,Y,K • Toner cartridge/C,M,Y,K • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the developing unit.
2. Reinstall the toner cartridge.
3. Check the connector between the developing unit/C-relay CN251-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2552)
4. Check the connector between the developing unit/M-relay CN250-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2554)
5. Check the connector between the developing unit/Y-relay CN249-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2556)
6. Check the connector between the developing unit/K-relay CN252-relay CN25-EXCB CN4EX for proper connection and correct as necessary. (C2558)
7. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
8. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
9. Check CPUB for proper installation and correct as necessary.
10. Replace the corresponding developing unit.
11. Replace EXCB.
12. Replace CPUB.
13. Replace BASEB.

3.9.11 C2557

Contents

Trouble type	C2557: Abnormally low toner density detected black TCR sensor
Rank	B
Trouble detection condition	When sampling data is determined in TC ratio calculation control, TCR sensor output is higher than a predetermined value for a predetermined number of times in a row even though there is toner in the sub hopper.
Trouble isolation	-
Relevant electrical parts	• Developing unit/K • Toner cartridge/K • PH unit • Toner empty sensor/K (PS31) • Toner cartridge motor/CK (M25) • Toner supply motor/K (M6) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Perform image troubleshooting procedure if image density is low.
2. Reinstall the developing unit/K.
3. Reinstall the toner cartridge/K.
4. Check the connector between the developing unit/K-relay CN252-relay CN25-EXCB CN4EX for proper connection and correct as necessary.
5. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
6. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
7. Check CPUB for proper installation and correct as necessary.
8. M25 operation check
   - Control signal: EXCB CN11EX-1 to 4
   - Location of electrical component: 4-P
9. M6 operation check
   - Control signal: EXCB CN10EX-16 to 19
   - Location of electrical component: 23-P
10. If the toner empty sensor and its surroundings inside the sub hopper are dirtied with toner, clean them.
11. Replace the developing unit/K.
12. Replace EXCB.
13. Replace CPUB.
14. Replace BASEB.

3.9.12 C2559, C255A, C255B

Contents

Trouble type	• C2559: Cyan TCR sensor adjustment failure • C255A: Magenta TCR sensor adjustment failure • C255B: Yellow TCR sensor adjustment failure
Rank	B
Trouble detection condition	TCR sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.
Trouble isolation	-

Relevant electrical parts	• Developing unit/C,M,Y • Toner cartridge motor/YM (M10) • Toner cartridge motor/CK (M25) • Toner supply motor/Y (M9) • Toner supply motor/M (M8) • Toner supply motor/C (M7) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the developing unit.
2. Check the connector between the developing unit/C-relay CN251-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2559)
3. Check the connector between the developing unit/M-relay CN250-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C255A)
4. Check the connector between the developing unit/Y-relay CN249-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C255B)
5. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
6. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
7. Check CPUB for proper installation and correct as necessary.
8. M10, M25 operation check
   - Control signal: EXCB CN11EX-5 to 8 (M10), EXCB CN11EX-1 to 4 (M25)
   - Location of electrical component: 4-P
9. M7, M8, M9 operation check
   - Control signal: EXCB CN11EX-17 to 20 (M7), EXCB CN11EX-13 to 16 (M8), EXCB CN11EX-9 to 12 (M9)
   - Location of electrical component: 4-P
10. Replace the corresponding developing unit.
11. Replace EXCB.
12. Replace CPUB.
13. Replace BASEB.

3.9.13 C255C

Contents

Trouble type	C255C: Black TCR sensor adjustment failure
Rank	B
Trouble detection condition	TCR sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.
Trouble isolation	-
Relevant electrical parts	• Developing unit/K • Toner cartridge motor/CK (M25) • Toner supply motor/K (M6) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the developing unit/K.
2. Check the connector between the developing unit/K-relay CN252-relay CN25-EXCB CN4EX for proper connection and correct as necessary.
3. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
4. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. M25 operation check
   - Control signal: EXCB CN11EX-1 to 4
   - Location of electrical component: 4-P
7. M6 operation check
   - Control signal: EXCB CN10EX-16 to 19
   - Location of electrical component: 23-P
8. Replace the developing unit/K.
9. Replace EXCB.
10. Replace CPUB.
11. Replace BASEB.

3.9.14 C2561, C2562, C2563, C2564

Contents

Trouble type	• C2561: Cyan TCR sensor failure • C2562: Magenta TCR sensor failure • C2563: Yellow TCR sensor failure • C2564: Black TCR sensor failure
Rank	B

Trouble detection condition	• Alarm signals for each TCR sensor is detected more than the predetermined number of times. • This detection is used for detecting disconnection of TCR sensor connector.
Trouble isolation	-
Relevant electrical parts	• Developing unit/C,M,Y,K • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reinstall the developing unit.
2. Check the connector between the developing unit/C-relay CN251-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2561)
3. Check the connector between the developing unit/M-relay CN250-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2562)
4. Check the connector between the developing unit/Y-relay CN249-relay CN248-EXCB CN6EX for proper connection and correct as necessary. (C2563)
5. Check the connector between the developing unit/K-relay CN252-relay CN25-EXCB CN4EX for proper connection and correct as necessary. (C2564)
6. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
7. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
8. Check CPUB for proper installation and correct as necessary.
9. Replace the corresponding developing unit.
10. Replace EXCB.
11. Replace CPUB.
12. Replace BASEB.

3.9.15 C2650

Contents

Trouble type	C2650: Main backup media access error
Rank	C
Trouble detection condition	• The re-written data, which has been read out, checked and founded as error, is read out again and found as error. • The error was found when reading out the counter value. • The main body detects that the backup board is not mounted.
Trouble isolation	-
Relevant electrical parts	• Backup board (ERB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between ERB CN1-BASEB CN27E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace CPUB.
4. Replace BASEB.
5. Replace ERB.
   1. Replace the current ERB with a new one.
   2. Replace the following components with new ones.
   3. Turn ON the main power switch and check to see that warm-up is started.
   Make sure that malfunction codes other than C2650 or improper IU/TC placement is not detected.
   4. Make the specified readjustments.
6. If the above actions do not solve the problem, contact Pantum.

3.9.16 C2A11, C2A12, C2A13, C2A14

Contents

Trouble type	• C2A11: Drum unit/C new release failure • C2A12: Drum unit/M new release failure • C2A13: Drum unit/Y new release failure • C2A14: Drum unit/K new release failure
Rank	B
Trouble detection condition	The status with the new unit is not cleared after the new drum unit is set.
Trouble isolation	-
Relevant electrical parts	• Drum unit/C,M,Y,K • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Clean the connection between the drum unit and the main body if dirty.
2. Reinstall the drum unit.

3. Check the connector between the drum unit/C-relay CN47-relay CN149-EXCB CN4EX for proper connection and correct as necessary. (C2A11)
4. Check the connector between the drum unit/M-relay CN46-relay CN149-EXCB CN4EX for proper connection and correct as necessary. (C2A12)
5. Check the connector between the drum unit/Y-relay CN45-relay CN149-EXCB CN4EX for proper connection and correct as necessary. (C2A13)
6. Check the connector between the drum unit/K-relay CN48-relay CN149-EXCB CN4EX for proper connection and correct as necessary. (C2A14)
7. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
8. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
9. Check CPUB for proper installation and correct as necessary.
10. Replace the corresponding drum unit.
11. Replace EXCB.
12. Replace CPUB.
13. Replace BASEB.

3.9.17 C2A21, C2A22, C2A23, C2A24

Contents

Trouble type	• C2A21: Toner cartridge/C new release failure • C2A22: Toner cartridge/M new release failure • C2A23: Toner cartridge/Y new release failure • C2A24: Toner cartridge/K new release failure
Rank	C
Trouble detection condition	The status with the new unit is not cleared after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	• Toner cartridge/C,M,Y,K • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Clean the connection between the toner cartridge and the main body if dirty.
2. Check the connector between the toner cartridge/C-relay CN82-relay CN79-EXCB CN5EX for proper connection and correct as necessary. (C2A21)
3. Check the connector between the toner cartridge/M-relay CN81-relay CN79-EXCB CN5EX for proper connection and correct as necessary. (C2A22)
4. Check the connector between the toner cartridge/Y-relay CN80-relay CN79-EXCB CN5EX for proper connection and correct as necessary. (C2A23)
5. Check the connector between the toner cartridge/K-relay CN83-relay CN79-EXCB CN5EX for proper connection and correct as necessary. (C2A24)
6. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
7. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
8. Check CPUB for proper installation and correct as necessary.
9. Reinstall the toner cartridge.
10. Check the harness for proper connection and correct as necessary.
11. Replace the corresponding toner cartridge.
12. Replace EXCB.
13. Replace CPUB.
14. Replace BASEB.

3.10 C3###

3.10.1 C3101, C3103

Contents

Trouble type	• C3101: Pressure roller pressure failure • C3103: Pressure roller release failure
Rank	B
Trouble detection condition	• C3101: The fusing pressure home sensor (PS38) is not turned ON (blocked) even after the lapse of a predetermined period of time after the fusing pressure motor (M11) has started rotating during pressure by the pressure roller. • C3103: The fusing pressure home sensor (PS38) is not turned OFF (unblocked) even after the lapse of a predetermined period of time after the fusing pressure motor (M11) has started rotating during retraction of the pressure roller.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • Fusing pressure motor (M11) • Fusing pressure home sensor (PS38) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M11-relay CN112-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector between the fusing unit-relay CN95, CN96-BASEB CN4E for proper connection and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. PS38 I/O check, sensor check
   - Control signal: BASEB CN4E-3 (ON)
   - Location of electrical component: 7-C
6. M11 load check
   - Check code: 45
   - Multi code: 7, 8, 9
   - Control signal: EXCB CN14EX-11 to 14
   - Location of electrical component: 6-P

7. Replace M11.
8. Replace the fusing unit.
9. Replace EXCB.
10. Replace CPUB.
11. Replace BASEB.

3.10.2 C3104

Contents

Trouble type	C3104: Fusing shutter failure (CM805)
Rank	B
Trouble detection condition	• The fusing shutter home sensor (PS47) is not turned OFF (unblocked) even after the lapse of a predetermined period of time after the fusing shutter motor (M15) is activated when the shutter is completely opened. • The fusing shutter home sensor (PS47) is not turned ON (blocked) even after the lapse of a predetermined period of time after the fusing shutter motor (M15) is activated when the shutter is completely closed.
Trouble isolation	-
Relevant electrical parts	• Fusing shutter motor (M15) • Fusing shutter home sensor (PS47) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M15-relay CN164-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector of M15 for proper drive coupling and correct as necessary.
3. Check the connector between PS47-relay CN9-EXCB CN13EX for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. PS47 I/O check, sensor check
   - Control signal: EXCB CN13EX-12 (ON)
   - Location of electrical component: 16-X
6. M15 load check
   - Check code: 45
   - Multi code: 10, 11
   - Control signal: EXCB CN14EX-15 to 18
   - Location of electrical component: 18-P
7. Replace M15.
8. Replace EXCB.
9. Replace CPUB.
10. Replace BASEB.

3.10.3 C3201, C3202

Contents

Trouble type	• C3201: Fusing motor failure to turn • C3202: Fusing motor turning at abnormal timing
Rank	B
Trouble detection condition	• C3201: The control circuit detects motor failure to turn while the motor is turning. • C3202: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • Fusing motor (M3) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between M3-BASEB CN19E for proper connection and correct as necessary.
4. Check the M3 for possible overload and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. M3 load check
   - Check code: 45
   - Multi code: 1, 2, 3, 4, 6 (CM805), 1, 2, 4, 6 (CM605)
   - Control signal: BASEB CN19EA-6 to 10
   - Location of electrical component: 1-C
7. Replace M3.
8. Replace the fusing unit.
9. Replace CPUB.
10. Replace BASEB.

3.10.4 C3203

Contents

Trouble type	C3203: Fusing motor torque failure
Rank	C
Trouble detection condition	When the fusing motor average torque exceeds the predetermined value for the first five jobs.
Trouble isolation	-
Relevant electrical parts	• Fusing motor (M3) • Fusing drive unit • Fusing unit

Procedure

1. Remove the fusing motor (M3), and apply grease (MOLYKOTE EM-30L) to the specified area on the fusing drive unit.
2. Replace when an obvious error is found on the fusing drive unit.
3. Replace the fusing motor (M3).
4. Replace the fusing unit.

3.10.5 C3302

Contents

Trouble type	C3302: Paper cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Paper cooling fan (FM8) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM8-relay CN27-relay CN28-EXCB CN14EX for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM8 load check
   - Check code: 42
   - Multi code: 9, 10
   - Control signal: EXCB CN14EX-1 (REM), EXCB CN14EX-3 (LOCK)
   - Location of electrical component: 5-P
6. Replace FM8.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

3.10.6 C3306

Contents

Trouble type	C3306: Fusing edge cooling fan/Fr failure to fr turn (CM805)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Fusing edge cooling fan/Fr (FM21) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM21-relay CN162-relay CN161-BASEB CN22E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM21 load check
   - Check code: 42
   - Multi code: 19, 20
   - Control signal: BASEB CN22E-13 (REM), BASEB CN22E-15 (LOCK)
   - Location of electrical component: 12-C
5. Replace FM21.
6. Replace CPUB.
7. Replace BASEB.

3.10.7 C3307

Contents

Trouble type	C3307: Fusing edge cooling fan/Rr failure to fr turn (CM805)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Fusing edge cooling fan/Rr (FM22) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM22-relay CN163-relay CN161-BASEB CN22E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM22 load check
   - Check code: 42
   - Multi code: 19, 20
   - Control signal: BASEB CN22E-16 (REM), BASEB CN22E-18 (LOCK)
   - Location of electrical component: 13-C
5. Replace FM22.
6. Replace CPUB.
7. Replace BASEB.

3.10.8 C3425

Contents

Trouble type	C3425: Fusing warm-up trouble
Rank	A
Trouble detection condition	• Detected temperature of the heating roller temperature sensor (TEMS) does not go up a given range of temperature even after a lapse of given period of time at warm up. • The temperature detected by the heating roller temperature sensor (TEMS) does not shift from the pre-standby state even after the lapse of a predetermined period of time after the completion of warm-up.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • HaCS power supply (FUPU) (CM805) • Heating roller temperature sensor (TEMS) • DC power supply (DCPU) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN95, CN96-BASEB CN4E for proper connection and correct as necessary.
4. Check the connector between BASEB CN2E-DCPU CN7 for proper connection and correct as necessary.
5. Check CPUB for proper installation and correct as necessary.
6. Replace the fusing unit.
7. Replace the HaCS power supply (FUPU).
8. Replace CPUB.
9. Replace BASEB.
10. Replace DCPU. (CM805 / CM605)

3.10.9 C3722, C3725, C3726

Contents

Trouble type	• C3722: Fusing abnormally high temperature detection (Edge of the heating roller) • C3725: Fusing abnormally high temperature detection (Main of the heating roller) • C3726: Fusing abnormally high temperature detection (Center of the heating roller)
Rank	A
Trouble detection condition	• C3722: Detected temperature of the heating roller thermistor/Edg (TH1) goes beyond a given temperature for a given period of time consecutively. • C3725: Detected temperature of the heating roller temperature sensor (TEMS) goes beyond a given temperature for a given period of time consecutively. • At the first time the high temperature abnormally is detected after the main power switch is turned on, Controller JAM 99-15 (heating roller temperature sensor abnormally high temperature detection) will be displayed. From the 2nd time that the high temperature abnormally is detected, the trouble code C3725 will be displayed. • C3726: Detected temperature of the heating roller thermistor/Ctr (TH2) goes beyond a given temperature for a given period of time consecutively.

Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3722: Heating roller thermistor/Edg (TH1) • C3725: Heating roller temperature sensor (TEMS) • C3726: Heating roller thermistor/Ctr (TH2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN95-BASEB CN4E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the fusing unit.
6. Replace CPUB.
7. Replace BASEB.

3.10.10 C3737

Contents

Trouble type	C3737: Fusing abnormally high temperature detection hard protector (Center of the heating roller)
Rank	A
Trouble detection condition	C3737: An abnormally high temperature is detected on the hard protector circuit (center of the heating roller).
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3737: Heating roller temperature sensor (TEMS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN95-BASEB CN4E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the fusing unit.
6. Replace CPUB.
7. Replace BASEB.

3.10.11 C3825, C3826

Contents

Trouble type	• C3825: Fusing abnormally low temperature detection (Main of the heating roller) • C3826: Fusing abnormally low temperature detection (Center of the heating roller)
Rank	A
Trouble detection condition	• C3825: The heating roller temperature sensor (TEMS) continues to detect a temperature lower than a predetermined one for a predetermined period of time. • C3826: The heating roller thermistor/Ctr (TH2) continues to detect a temperature lower than a predetermined one for a predetermined period of time.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3825: Heating roller temperature sensor (TEMS) • C3826: Heating roller thermistor/Ctr (TH2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN95-BASEB CN4E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the fusing unit.
6. Replace CPUB.
7. Replace BASEB.

3.10.12 C3922, C3925, C3926

Contents

Trouble type	• C3922: Fusing sensor wire breaks detection (Edge of the heating roller) • C3925: Fusing sensor wire breaks detection (Main of the heating roller) • C3926: Fusing sensor wire breaks detection (Center of the heating roller)
Rank	A
Trouble detection condition	• C3922: The maximum value and minimum value of detected temperature of the heating roller thermistor/Edg (TH1) is compared after a lapse of given time from starting of warm up and the gap between the value of maximum and minimum is below a given temperature. • C3925: The maximum value and minimum value of detected temperature of the heating roller temperature sensor (TEMS) is compared after a lapse of given time from starting of warm up and the gap between the value of maximum and minimum is below a given temperature. • C3926: The maximum value and minimum value of detected temperature of the heating roller thermistor/Ctr (TH2) is compared after a lapse of given time from starting of warm up and the gap between the value of maximum and minimum is below a given temperature.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3922: Heating roller thermistor/Edg (TH1) • C3925: Heating roller temperature sensor (TEMS) • C3926: Heating roller thermistor/Ctr (TH2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN95-BASEB CN4E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the fusing unit.
6. Replace CPUB.
7. Replace BASEB.

3.10.13 C392B

Contents

Trouble type	C392B: Fusing sensor wire breaks detection (difference of temperature)
Rank	A
Trouble detection condition	The difference between the temperature corrected by the heating roller thermistor/Edg (TH1) and the temperature detected by the heating roller thermistor/Ctr (TH2) exceeds a predetermined value.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • Heating roller thermistor/Edg (TH1) • Heating roller thermistor/Ctr (TH2) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the open/close operation of the right door.
3. Check the connector between the fusing unit-relay CN95-BASEB CN4E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the fusing unit.
6. Replace CPUB.
7. Replace BASEB.

3.11 C4###

3.11.1 C40A2, C40A3, C40A4, C40A5, C40A6, C40C3, C40C5

Contents

Trouble type	• C40A2: Mechanical controller PF communication data error • C40A3: Mechanical controller PF transmission timeout • C40A4: Mechanical controller PF communication pulse error • C40A5: QSPI communication clock switching error • C40A6: Mechanical controller ASIC communication error • C40C3: CTL PF transmission timeout 1 • C40C5: CTL PF transmission timeout 2
Rank	C

Trouble detection condition	A CPU communication error is detected.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. BASEB F8E conduction check
6. Replace BASEB.

3.11.2 C4101

Contents

Trouble type	C4101: Polygon motor rotation trouble
Rank	B
Trouble detection condition	• The polygon motor fails to turn stably even after the lapse of a given period of time after activating and changing rotation speed the polygon motor. • Motor lock signal detects HIGH for a given period time consecutively during the polygon motor is rotating.
Trouble isolation	-
Relevant electrical parts	• PH unit • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between the PH unit-relay CN306-EXCB CN10EX for proper connection and correct as necessary.
2. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace the PH unit.
5. Replace EXCB.
6. Replace CPUB.
7. Replace BASEB.

3.11.3 C4501

Contents

Trouble type	C4501: Laser malfunction
Rank	B
Trouble detection condition	• SOS signal is not detected even after the lapse of a given period of time after starting the laser output. • SOS signal is not detected for a given period of time during printing or IDC sensor adjustment.
Trouble isolation	-
Relevant electrical parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between the PH unit-relay CN307-BASEB CN17E for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the PH unit.
4. Replace CPUB.
5. Replace BASEB.

3.12 C5###

3.12.1 C5102, C5103

Contents

Trouble type	• C5102: Transport motor failure to turn • C5103: Transport motor turning at abnormal timing
Rank	B
Trouble detection condition	• C5102: The control circuit detects motor failure to turn while the motor is turning. • C5103: The control circuit detects motor turning while the motor remains stationary.
Trouble isolation	-

Relevant electrical parts	• Transport motor (M1) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between M1-BASEB CN19E for proper connection and correct as necessary.
2. Check the loading status of the main drive, and correct the error as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. M1 load check
   - Check code: 40
   - Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)
   - Control signal: BASEB CN19EA-1 to 5
   - Location of electrical component: 1-C
5. Replace M1.
6. Replace CPUB.
7. Replace BASEB.

3.12.2 C5351

Contents

Trouble type	C5351: PH/power supply cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• PH/power supply cooling fan (FM1) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM1-relay CN26-EXCB CN10EX for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM1 load check
   - Check code: 42
   - Multi code: 1
   - Control signal: EXCB CN10EX-6 (REM), EXCB CN10EX-8 (LOCK)
   - Location of electrical component: 22-P
6. Replace FM1.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

3.12.3 C5355

Contents

Trouble type	C5355: Toner cartridge cooling fan failure to turn (CM605/CM805)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Toner cartridge cooling fan (FM4) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM4-relay CN78-EXCB CN14EX for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM4 load check
   - Check code: 42
   - Multi code: 2, 3
   - Control signal: EXCB CN14EX-4 (REM), EXCB CN14EX-6 (LOCK)
   - Location of electrical component: 17-P
6. Replace FM4.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

3.12.4 C5358

Contents

Trouble type	C5358: HaCS power supply cooling fan failure to turn (CM805)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• HaCS power supply cooling fan (FM5) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM5-EXCB CN9EX for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM5 load check
   - Check code: 42
   - Multi code: 17, 18
   - Control signal: EXCB CN9EX-1 (REM), EXCB CN9EX-3 (LOCK)
   - Location of electrical component: 21-X
6. Replace FM5.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

3.12.5 C5360

Contents

Trouble type	C5360: Clean unit fan failure to turn (When CU-102 is installed)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Exhaust fan/1 (FM14) • Exhaust fan/2 (FM15) • Clean unit drive board (CUDB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between CUDB CN1-relay CN28D-BASEB CN28E for proper connection and correct as necessary.
2. Check the connector between FM14-relay CN182-CUDB CN3, FM15-relay CN165-CUDB CN2 for proper connection and correct as necessary.
3. Check the fan for possible overload and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM14 load check
   - Check code: 42
   - Multi code: 9, 10
   - Control signal: CUDB CN3
   - Location of electrical component: 27-L
6. FM15 load check
   - Check code: 42
   - Multi code: 9, 10
   - Control signal: CUDB CN2
   - Location of electrical component: 28-L
7. Replace the defective fan. (FM14 / FM15)
8. Replace CUDB.
9. Replace CPUB.
10. Replace BASEB.

3.12.6 C5361

Contents

Trouble type	C5361: UFP scavenging fan/Fr failure to turn (CM605/CM805)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• UFP scavenging fan/Fr (FM17) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM17-relay CN801-relay CN5-BASEB CN22E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM17 load check
   - Check code: 42
   - Multi code: 12
   - Control signal: BASEB CN22E-7 (REM), BASEB CN22E-9 (LOCK)
   - Location of electrical component: 12-C
5. Replace FM17.
6. Replace CPUB.
7. Replace BASEB.

3.12.7 C5362

Contents

Trouble type	C5362: UFP scavenging fan/Rr failure to turn (CM805)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• UFP scavenging fan/Rr (FM18) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM18-relay CN802-relay CN5-BASEB CN22E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM18 load check
   - Check code: 42
   - Multi code: 12
   - Control signal: BASEB CN22E-10 (REM), BASEB CN22E-12 (LOCK)
   - Location of electrical component: 12-C
5. Replace FM18.
6. Replace CPUB.
7. Replace BASEB.

3.12.8 C5363

Contents

Trouble type	C5363: Tacking fan failure to turn (When FS-533+MK-607 is installed) (CM605)
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Paper exit cooling fan (FM23) • Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
2. Check the connector between FM23-relay CN710-EXCB CN15EX for proper connection and correct as necessary.
3. Check the fan for possible overload and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. FM23 load check
   - Check code: 42
   - Multi code: 21, 22
   - Control signal: EXCB CN15EX-4 (REM), EXCB CN15EX-6 (LOCK)
   - Location of electrical component: 26-X
6. Replace FM23.
7. Replace EXCB.
8. Replace CPUB.
9. Replace BASEB.

3.12.9 C5370

Contents

Trouble type	C5370: Rear side cooling fan failure to turn
Rank	C
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Rear side cooling fan (FM3) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between FM3-relay CN193-BASEB CN17 for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. FM3 operation check
   - Control signal: BASEB CN17-3 (LOCK), BASEB CN17-4 (PWM)
   - Location of electrical component: 24-D to E
5. Replace FM3.
6. Replace CPUB.
7. BASEB F1 conduction check
8. Replace BASEB.

3.12.10 C5372

Contents

Trouble type	C5372: MFP control board CPU temperature failure
Rank	C
Trouble detection condition	Temperature failure of CPU on the CPU board was detected.
Trouble isolation	-
Relevant electrical parts	CPU board (CPUB)

Procedure

1. Reboot the machine.
2. Check for clogging in the ventilation path between the CPUB and the PH/power supply cooling fan, and correct as necessary.
3. Replace CPUB.

3.12.11 C5501

Contents

Trouble type	C5501: AC signal abnormality (CM605)
Rank	C
Trouble detection condition	The zero cross signal is not input during fusing phase control.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • DC power supply (DCPU) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the connector between the fusing unit-relay CN95-BASEB CN4E for proper connection and correct as necessary.
3. Check the connector between DCPU CN7-BASEB CN2E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the fusing unit.
6. Replace CPUB.
7. Replace BASEB.
8. Replace DCPU. (CM805 / CM605)

3.12.12 C5601

Contents

Trouble type	C5601: Engine control malfunction
Rank	C
Trouble detection condition	Engine control malfunction is detected with port monitor control.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Replace CPUB.
4. Replace BASEB.

3.12.13 C5603

Contents

Trouble type	C5603: Expansion control board communication error
Rank	C
Trouble detection condition	Communication error is detected in expansion control board.
Trouble isolation	-
Relevant electrical parts	• Expansion control board (EXCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reboot the machine.
2. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
3. Check the connector between EXCB CN2EX-BASEB CN12E for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace EXCB.
6. Replace CPUB.
7. Replace BASEB.

3.12.14 C5605, C5606

Contents

Trouble type	• C5605: Engine communication data error • C5606: Engine transmission timeout
Rank	C
Trouble detection condition	A communication error is detected between CPUs.
Trouble isolation	-

Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.12.15 C5610

Contents

Trouble type	C5610: PH LD drive communication error
Rank	C
Trouble detection condition	LD drive write data and read data disagree with each other a predetermined number of consecutive times.
Trouble isolation	-
Relevant electrical parts	• PH unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Reboot the machine.
2. Check the connector between BASEB CN17E-relay CN307-PH unit for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace the PH unit.
5. Replace CPUB.
6. Replace BASEB.

3.12.16 C5620

Contents

Trouble type	C5620: Mechanical controller WDT error
Rank	C
Trouble detection condition	Communication error is detected in mechanical controller ASIC.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.13 C6###

3.13.1 C6001

Contents

Trouble type	C6001: DF related configuration error 1
Rank	C
Trouble detection condition	Inconsistency in the configuration with the installed DF is detected on the main body.
Trouble isolation	-
Relevant electrical parts	• DF control board (DFCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the type of the installed DF and replace it if it is a wrong one.
2. Check the connector between DFCB CN12-relay CN3DF-BASEB CN9E for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace DFCB.
5. Replace CPUB.

6. Replace BASEB.

3.13.2 C6002

Contents

Trouble type	C6002: DF related configuration error 2
Rank	C
Trouble detection condition	Inconsistency in the configuration with the installed DF is detected on the main body.
Trouble isolation	-
Relevant electrical parts	• DF control board (DFCB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the type of the installed DF and replace it if it is a wrong one.
2. Correct the harness connection between DFCB CN12-relay CN3DF-BASEB CN9E if faulty.
3. Check CPUB for proper installation and correct as necessary.

3.13.3 C6102, C6103

Contents

Trouble type	• C6102: Drive system home sensor malfunction • C6103: Slider over running
Rank	B
Trouble detection condition	C6102: • The scanner home sensor (PS201) is unable to detect the scanner located at its home position. • The scanner home sensor (PS201) is unable to detect a scanner even when the scanner motor (M201) has been driven to move the scanner over the maximum travelling distance. • The scanner home sensor (PS201) detects the scanner when the scanner has moved the maximum travelling distance from the position, at which it blocks the scanner home sensor (PS201).
	C6103: The scanner home sensor (PS201) detects the scanner at its home position during a period of time that begins with the time when a prescan command and a scan preparation command are executed and ends when a home return command is executed.
Trouble isolation	Scanner
Relevant electrical parts	• Scanner home sensor (PS201) • Scanner motor (M201) • Scanner drive board (SCDB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Correct or change the scanner drive (pulley, gear, belt) if it is faulty.
2. Correct the scanner motor set screw if loose.
3. Adjust [Image Position: Leading Edge] and [Sub Scan Zoom Adj.].
4. Check the connector between M201-SCDB CN4 for proper connection and correct as necessary.
5. Check the connector between PS201-SCDB CN6 for proper connection and correct as necessary.
6. Check the connector between SCDB CN2-BASEB CN6E for proper connection and correct as necessary.
7. Check CPUB for proper installation and correct as necessary.
8. PS201 I/O check, sensor check
   - Control signal: SCDB CN6-3 (ON)
   - Location of electrical component: 25-P
9. M201 operation check
   - Control signal: SCDB CN4-1 to 4
   - Location of electrical component: 26-P
10. Replace SCDB.
11. Replace CPUB.
12. Replace BASEB.

3.13.4 C6104, C6105

Contents

Trouble type	• C6104: Back side cleaning home sensor abnormality (initial) • C6105: Back side cleaning home sensor abnormality (normal)
Rank	B
Trouble detection condition	C6104: • The CIS cleaning sensor (PS9) does not change from H to L even after the lapse of a given period of time after the home position detecting operation is started at the initial operation. • The CIS cleaning sensor (PS9) does not change from L to H even after the lapse of a given period of time after the home position detecting operation is started at the initial operation.

	C6105: At the time of operation other than the initial operation, the CIS cleaning sensor (PS9) error is detected.
Trouble isolation	Scanner
Relevant electrical parts	• CIS cleaning sensor (PS9) • CIS cleaning motor (M7) • DF control board (DFCB)

Procedure

1. Check if the opening and closing guide is firmly closed.
2. Check the connector between M7-relay CN61-DFCB CN14 for proper connection and correct as necessary.
3. Check the connector of M7 for proper drive coupling and correct as necessary.
4. Check the connector between PS9-relay CN121-DFCB CN18 for proper connection and correct as necessary.
5. PS9 I/O check, sensor check
   - Control signal: DFCB CN18-6 (ON)
   - Location of electrical component: DF 4-C
6. M7 load check
   - Check code: 60
   - Multi code: 65, 66, 67
   - Control signal: DFCB CN14-6 to 9
   - Location of electrical component: DF 7-C
7. Replace M7.
8. DFCB ICP4, ICP7, ICP15 conduction check
9. Replace DFCB.

3.13.5 C6704

Contents

Trouble type	C6704: Image input time out
Rank	C
Trouble detection condition	Image data is not input from the scanner to the CPU board (CPUB).
Trouble isolation	Scanner
Relevant electrical parts	• CCD unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Memory Bus Check] -> [Scanner -> Memory], and conduct the memory bus function.
2. Check the connector between CCDB CN2-BASEB CN6 for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace the CCD unit.
5. Replace CPUB.
6. Replace BASEB.

3.13.6 C6751

Contents

Trouble type	C6751: CCD clamp/gain adjustment failure
Rank	B
Trouble detection condition	• The adjustment value is 0 or 255 during a CCD clamp adjustment. • The peak value of the output data is 64 or less during a CCD gain adjustment.
Trouble isolation	Scanner
Relevant electrical parts	• LED exposure unit • CCD unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between CCDB CN2-BASEB CN6 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Check for possible extraneous light and correct as necessary.
4. Clean the lens,mirrors, CCD surface, and shading sheet if dirty.
5. Correct reflective mirror of the scanner if faulty, or change scanner mirror.
6. Replace the CCD unit.
7. Replace CPUB.
8. Replace BASEB.

3.13.7 C6752

Contents

Trouble type	C6752: ASIC clock input error (front side)

Rank	C
Trouble detection condition	When starting the machine, verification on reading and writing the predetermined value for image processing ASIC on CCD board (CCDB) was conducted, and verification failure was detected.
Trouble isolation	Scanner
Relevant electrical parts	• CCD unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between CCDB CN2-BASEB CN6 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the CCD unit.
4. Replace CPUB.
5. Replace BASEB.

3.13.8 C6753

Contents

Trouble type	C6753: ASIC clock input error (backside)
Rank	C
Trouble detection condition	When starting the machine, verification on reading and writing the predetermined value for CPU (image processing section) on CPU board (CPUB) was conducted, and verification failure was detected.
Trouble isolation	Scanner
Relevant electrical parts	• CIS module (CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Replace CIS.
3. Replace CPUB.
4. Replace BASEB.

3.13.9 C6754, C6755

Contents

Trouble type	• C6754: CIS clamp adjustment failure • C6755: CIS gain adjustment failure
Rank	B
Trouble detection condition	• C6754: After the gain adjustment is performed at the start-up, the CIS clamp adjustment value is too high or too low. • C6755: After the gain adjustment is performed at the start-up, the peak value of the output data is lower than a given value.
Trouble isolation	Scanner
Relevant electrical parts	• CIS module (CIS) • CIS power supply (CISPU) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between CIS CN2-BASEB CN5 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Correct the harness connection between CIS CN1-CISPU CN2 if faulty.
4. Check for possible extraneous light and correct as necessary.
5. Clean the backside reading glass and the shading sheet if dirty.
6. Replace CIS.
7. Replace CISPU.
8. Replace CPUB.
9. Replace BASEB.

3.13.10 C6756

Contents

Trouble type	C6756: CCD power-supply voltage malfunction
Rank	C
Trouble detection condition	Power is not supplied to CCD after the lapse of a given period of time after the main power switch or power key is turned ON or the machine recovers from the sleep mode.
Trouble isolation	-

Relevant electrical parts	• CCD unit • Scanner drive board (SCDB) • DC power supply (DCPU) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Rewrite the firmware to G00-G4 or later version.
2. Correct the harness connection between CCDB CN1-SCDB CN5 if faulty.
3. Correct the harness connection between SCDB CN1-BASEB CN7E if faulty.
4. Correct the harness connection between BASEB CN1E, CN14E-DCPU CN5, CN6 if faulty.
5. Check CPUB for proper installation and correct as necessary.
6. Replace the CCD unit.
7. SCDB ICP1 conduction check
8. Replace SCDB.
9. Replace CPUB.
10. Replace BASEB.
11. Replace DCPU. (CM805 / CM605)

3.13.11 C6901, C6902, C6903, C6911, C6912, C6913

Contents

Trouble type	• C6901: DSC board mount failure 1 (When SC-509 is installed) • C6902: DSC board bus check NG1-1 (When SC-509 is installed) • C6903: DSC board bus check NG1-2 (When SC-509 is installed) • C6911: DSC board mount failure 2 (When SC-509 is installed) • C6912: DSC board bus check NG2-1 (When SC-509 is installed) • C6913: DSC board bus check NG2-2 (When SC-509 is installed)
Rank	C
Trouble detection condition	• C6901: When MFP detects that DSC board/1 (front side) is not properly installed. • C6902, C6903: When DSC bus check (front side) detects an error. • C6911: When MFP detects that DSC board/1 (backside) is not properly installed. • C6912, C6913: When DSC bus check (backside) detects an error.
Trouble isolation	-
Relevant electrical parts	• DSC board/1 (DSCB/1; SC-509) • CPU board (CPUB)

Procedure

1. Check the connector between DSCB/1 CN1-CPUB CN9 for proper connection and correct as necessary.
2. Replace DSCB/1.
3. Replace CPUB.

3.13.12 C6F01, C6F02, C6F03, C6F04, C6F05, C6F06, C6F07, C6F08, C6F09, C6F0A, C6FDC, C6FDD

Contents

Trouble type	• C6F01: Scanner sequence trouble 1 • C6F02: Scanner sequence trouble 2 • C6F03: Scanner sequence trouble 3 • C6F04: Scanner sequence trouble 4 • C6F05: Scanner sequence trouble 5 • C6F06: Scanner sequence trouble 6 • C6F07: Scanner sequence trouble 7 • C6F08: Scanner sequence trouble 8 • C6F09: Scanner sequence trouble 9 • C6F0A: Scanner sequence trouble 10 • C6FDC: Scanner sequence trouble DC • C6FDD: Scanner sequence trouble DD
Rank	• C6F01 to C6F0A: C • C6FDC, C6FDD: B
Trouble detection condition	The original transport interval becomes shorter than the predetermined value due to an original transport control error in original reading in DF.
Trouble isolation	Scanner
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • DF control board (DFCB)

Procedure

1. Correct the harness connection between main body and DF if faulty.
2. Check CPUB for proper installation and correct as necessary.
3. Replace DFCB.
4. Replace CPUB.
5. Replace BASEB.

3.14 C7###

3.14.1 C7106 Contents

Trouble type	C7106: Paper exit/reverse motor failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Paper exit/reverse motor (M4) • Base board (BASEB)

Procedure

1. Check the connector between M4-relay CN820-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of M4 for proper drive coupling and correct as necessary.
3. M4 conduction check.
   - Control signal: BASEB CN18E-3 to 6
   - Location of electrical component: 5-C
4. Replace M4.
5. Replace BASEB.

3.14.2 C7107

Contents

Trouble type	C7107: ADU transport motor/1 failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• ADU transport motor/1 (M5) • Base board (BASEB)

Procedure

1. Check the connector between M5-relay CN86-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of M5 for proper drive coupling and correct as necessary.
3. M5 conduction check.
   - Control signal: BASEB CN18E-7 to 10
   - Location of electrical component: 5-C
4. Replace M5.
5. Replace BASEB.

3.14.3 C7111

Contents

Trouble type	C7111: Tray 1 lift-up motor failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	Tray 1
Relevant electrical parts	• Tray 1 lift-up motor (M12) • Base board (BASEB)

Procedure

1. Check the connector between M12-relay CN180-BASEB CN25E for proper connection and correct as necessary.
2. Check the connector of M12 for proper drive coupling and correct as necessary.
3. M12 conduction check.
   - Control signal: BASEB CN25E-1 (REM)
   - Location of electrical component: 17-K
4. Replace M12.
5. Replace BASEB.

3.14.4 C7112

Contents

Trouble type	C7112: Tray 2 lift-up motor failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	Tray 2

Relevant electrical parts	• Tray 2 lift-up motor (M13) • Base board (BASEB)

Procedure

1. Check the connector between M13-relay CN181-BASEB CN25E for proper connection and correct as necessary.
2. Check the connector of M13 for proper drive coupling and correct as necessary.
3. M13 conduction check.
   - Control signal: BASEB CN25E-10 (REM)
   - Location of electrical component: 18-K
4. Replace M13.
5. Replace BASEB.

3.14.5 C7131

Contents

Trouble type	C7131: Toner supply motor/C failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner supply motor/C (M7) • Expansion control board (EXCB)

Procedure

1. Check the connector between M7-EXCB CN11EX for proper connection and correct as necessary.
2. Check the connector of M7 for proper drive coupling and correct as necessary.
3. M7 conduction check.
   - Control signal: EXCB CN11EX-17 to 20
   - Location of electrical component: 5-P
4. Replace M7.
5. Replace EXCB.

3.14.6 C7132

Contents

Trouble type	C7132: Toner cartridge motor/CK failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner cartridge motor/CK (M25) • Expansion control board (EXCB)

Procedure

1. Check the connector between M25-relay CN128-EXCB CN11EX for proper connection and correct as necessary.
2. Check the connector of M25 for proper drive coupling and correct as necessary.
3. M25 conduction check.
   - Control signal: EXCB CN11EX-1 to 4
   - Location of electrical component: 4-P
4. Replace M25.
5. Replace EXCB.

3.14.7 C7133

Contents

Trouble type	C7133: Toner supply motor/M failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner supply motor/M (M8) • Expansion control board (EXCB)

Procedure

1. Check the connector between M8-EXCB CN11EX for proper connection and correct as necessary.
2. Check the connector of M8 for proper drive coupling and correct as necessary.
3. M8 conduction check.
   - Control signal: EXCB CN11EX-13 to 16
   - Location of electrical component: 4-P
4. Replace M8.
5. Replace EXCB.

3.14.8 C7134

Contents

Trouble type	C7134: Toner cartridge motor/YM failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner cartridge motor/YM (M10) • Expansion control board (EXCB)

Procedure

1. Check the connector between M10-relay CN125-EXCB CN11EX for proper connection and correct as necessary.
2. Check the connector of M10 for proper drive coupling and correct as necessary.
3. M10 conduction check.
   - Control signal: EXCB CN11EX-5 to 8
   - Location of electrical component: 4-P
4. Replace M10.
5. Replace EXCB.

3.14.9 C7135

Contents

Trouble type	C7135: Toner supply motor/Y failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner supply motor/Y (M9) • Expansion control board (EXCB)

Procedure

1. Check the connector between M9-EXCB CN11EX for proper connection and correct as necessary.
2. Check the connector of M9 for proper drive coupling and correct as necessary.
3. M9 conduction check.
   - Control signal: EXCB CN11EX-9 to 12
   - Location of electrical component: 4-P
4. Replace M9.
5. Replace EXCB.

3.14.10 C7137

Contents

Trouble type	C7137: Toner supply motor/K failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner supply motor/K (M6) • Expansion control board (EXCB)

Procedure

1. Check the connector between M6-relay CN126-EXCB CN10EX for proper connection and correct as necessary.
2. Check the connector of M6 for proper drive coupling and correct as necessary.
3. M6 conduction check.
   - Control signal: EXCB CN10EX-16 to 19
   - Location of electrical component: 23-P
4. Replace M6.
5. Replace EXCB.

3.14.11 C7139

Contents

Trouble type	C7139: Waste toner transport motor failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-

Relevant electrical parts	• Waste toner transport motor (M20) • Expansion control board (EXCB)

Procedure

1. Check the connector between M20-relay CN92-EXCB CN10EX for proper connection and correct as necessary.
2. Check the connector of M20 for proper drive coupling and correct as necessary.
3. M20 conduction check.
   - Control signal: EXCB CN10EX-12 to 15
   - Location of electrical component: 22-P
4. Replace M20.
5. Replace EXCB.

3.14.12 C7141

Contents

Trouble type	C7141: Fusing pressure motor failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Fusing pressure motor (M11) • Expansion control board (EXCB)

Procedure

1. Check the connector between M11-relay CN112-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector of M11 for proper drive coupling and correct as necessary.
3. M11 conduction check.
   - Control signal: EXCB CN14EX-11 to 14
   - Location of electrical component: 6-P
4. Replace M11.
5. Replace EXCB.

3.14.13 C7151, C7152, C7153

Contents

Trouble type	• C7151: Skew correction motor/C failure • C7152: Skew correction motor/M failure • C7153: Skew correction motor/Y failure
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-

Relevant electrical parts	• PH unit • Expansion control board (EXCB)

Procedure

1. Check the connector between the PH unit-relay CN300-EXCB CN7EX for proper connection and correct as necessary.
2. PH unit conduction check
   - Control signal: EXCB CN7EX-1 to 6 (C7153), EXCB CN7EX-7 to 12 (C7152), EXCB CN7EX-13 to 18 (C7151)
   - Location of electrical component: 20 to 21-P
3. Replace the PH unit.
4. Replace EXCB.

3.14.14 C7160

Contents

Trouble type	C7160: Fusing shutter motor failure (CM805)
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Fusing shutter motor (M15) • Expansion control board (EXCB)

Procedure

1. Check the connector between M15-relay CN164-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector of M15 for proper drive coupling and correct as necessary.
3. M15 conduction check.
   - Control signal: EXCB CN14EX-15 to 18
   - Location of electrical component: 18-P
4. Replace M15.
5. Replace EXCB.

3.14.15 C7161

Contents

Trouble type	C7161: Paper feed motor failure (CM805)
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Paper feed motor failure (M22) • Base board (BASEB)

Procedure

1. Check the connector between M22-BASEB CN31E for proper connection and correct as necessary.
2. Check the connector of M22 for proper drive coupling and correct as necessary.
3. M22 conduction check.
   - Control signal: BASEB CN31E-1 to 4
   - Location of electrical component: 23-K
4. Replace M22.
5. Replace BASEB.

3.14.16 C7162

Contents

Trouble type	C7162: Tray 2 vertical transport motor failure (CM605/CM805)
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Tray 2 vertical transport motor (M23) • Base board (BASEB)

Procedure

1. Check the connector between M23-BASEB CN31E for proper connection and correct as necessary.
2. Check the connector of M23 for proper drive coupling and correct as necessary.
3. M23 conduction check.
   - Control signal: BASEB CN31E-5 to 8
   - Location of electrical component: 23-K
4. Replace M23.
5. Replace BASEB.

3.14.17 C7163

Contents

Trouble type	C7163: Registration motor failure (CM805)

Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Registration motor (M24) • Base board (BASEB)

Procedure

1. Check the connector between M24-BASEB CN31E for proper connection and correct as necessary.
2. Check the connector of M24 for proper drive coupling and correct as necessary.
3. M24 conduction check.
   - Control signal: BASEB CN31E-9 to 12
   - Location of electrical component: 24-K
4. Replace M24.
5. Replace BASEB.

3.14.18 C7164

Contents

Trouble type	C7164: ADU transport motor/2 failure (CM605/CM805)
Rank	C
Trouble detection condition	After starting the motor, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• ADU transport motor/2 (M26) • Base board (BASEB)

Procedure

1. Check the connector between M26-relay CN12-BASEB CN18E for proper connection and correct as necessary.
2. Check the connector of M26 for proper drive coupling and correct as necessary.
3. M26 conduction check.
   - Control signal: BASEB CN18E-11 to 14
   - Location of electrical component: 6-C
4. Replace M26.
5. Replace BASEB.

3.14.20 C7202

Contents

Trouble type	C7202: Tray 2 paper feed clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	Tray 2
Relevant electrical parts	• Tray 2 paper feed clutch (CL1) • Base board (BASEB)

Procedure

1. Check the connector between CL1-relay CN43-relay CN40-BASEB CN23E for proper connection and correct as necessary.
2. Check the connector of CL1 for proper drive coupling and correct as necessary.
3. CL1 conduction check.
   - Control signal: BASEB CN23E-16 (ON)
   - Location of electrical component: 16-K
4. Replace CL1.
5. Replace BASEB.

3.14.22 C7206

Contents

Trouble type	C7206: Bypass tray paper feed clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	Manual
Relevant electrical parts	• Bypass tray paper feed clutch (CL7) • Base board (BASEB)

Procedure

1. Check the connector between CL7-relay CN20-relay CN13-BASEB CN26E for proper connection and correct as necessary.
2. Check the connector of CL7 for proper drive coupling and correct as necessary.
3. CL7 conduction check.
   - Control signal: BASEB CN26EA-12 (ON)
   - Location of electrical component: 10-K
4. Replace CL7.
5. Replace BASEB.

3.14.24 C720A

Contents

Trouble type	C720A: Registration clutch failure (CM605)
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Registration clutch (CL4) • Base board (BASEB)

Procedure

1. Check the connector between CL4-relay CN73-relay CN170-BASEB CN15E for proper connection and correct as necessary.
2. Check the connector of CL4 for proper drive coupling and correct as necessary.
3. CL4 conduction check.
   - Control signal: BASEB CN15E-2 (ON)
   - Location of electrical component: 3-C
4. Replace CL4.
5. Replace BASEB.

3.14.25 C720B

Contents

Trouble type	C720B: 1st transfer pressure clutch failure
Rank	C
Trouble detection condition	After starting the clutch, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• 1st transfer pressure clutch (CL5) • Expansion control board (EXCB)

Procedure

1. Check the connector between CL5-relay CN118-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector of CL5 for proper drive coupling and correct as necessary.
3. CL5 conduction check.
   - Control signal: EXCB CN14EX-9 (REM)
   - Location of electrical component: 6-P
4. Replace CL5.
5. Replace EXCB.

3.14.27 C7241

Contents

Trouble type	C7241: Bypass tray lift-up solenoid failure
Rank	C
Trouble detection condition	After starting the solenoid, an error is detected for the malfunction detection signal.
Trouble isolation	Manual

Relevant electrical parts	• Bypass tray lift-up solenoid (SD1) • Base board (BASEB)

Procedure

1. Check the connector between SD1-relay CN21-relay CN13-BASEB CN26E for proper connection and correct as necessary.
2. Check the connector of SD1 for proper drive coupling and correct as necessary.
3. SD1 conduction check.
   - Control signal: BASEB CN26EA-9 (ON)
   - Location of electrical component: 10-K
4. Replace SD1.
5. Replace BASEB.

3.14.28 C7242

Contents

Trouble type	C7242: Bypass tray pick-up roller solenoid failure (CM605/CM805)
Rank	C
Trouble detection condition	After starting the solenoid, an error is detected for the malfunction detection signal.
Trouble isolation	Manual
Relevant electrical parts	• Bypass tray pick-up roller solenoid (SD6) • Base board (BASEB)

Procedure

1. Check the connector between SD6-relay CN191-relay CN13-BASEB CN26E for proper connection and correct as necessary.
2. Check the connector of SD6 for proper drive coupling and correct as necessary.
3. SD6 conduction check.
   - Control signal: BASEB CN26EA-7 (ON)
   - Location of electrical component: 10-K
4. Replace SD6.
5. Replace BASEB.

3.14.29 C7243

Contents

Trouble type	C7243: Exit path switch solenoid failure
Rank	C
Trouble detection condition	After starting the solenoid, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Exit path switch solenoid (SD3) • Base board (BASEB)

Procedure

1. Check the connector between SD3-relay CN208-relay CN108-BASEB CN13E for proper connection and correct as necessary.
2. Check the connector of SD3 for proper drive coupling and correct as necessary.
3. SD3 conduction check.
   - Control signal: BASEB CN13E-7 (ON)
   - Location of electrical component: 12-C
4. Replace SD3.
5. Replace BASEB.

3.14.30 C7251

Contents

Trouble type	C7251: Developing solenoid failure
Rank	C
Trouble detection condition	After starting the solenoid, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Developing solenoid (SD4) • Expansion control board (EXCB)

Procedure

1. Check the connector between SD4-relay CN159-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector of SD4 for proper drive coupling and correct as necessary.
3. SD4 conduction check.
   - Control signal: EXCB CN14EX-7 (REM)
   - Location of electrical component: 5-P
4. Replace SD4.
5. Replace EXCB.

3.14.31 C7301

Contents

Trouble type	C7301: PH/power supply cooling fan failure
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• PH/power supply cooling fan (FM1) • Expansion control board (EXCB)

Procedure

1. Check the connector between FM1-relay CN26-EXCB CN10EX for proper connection and correct as necessary.
2. Check the connector of FM1 for proper drive coupling and correct as necessary.
3. FM1 conduction check.
   - Control signal: EXCB CN10EX-6 (REM), EXCB CN10EX-8 (LOCK)
   - Location of electrical component: 22-P
4. Replace FM1.
5. Replace EXCB.

3.14.32 C7302

Contents

Trouble type	C7302: Transfer belt cleaner cooling fan failure
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Transfer belt cleaner cooling fan (FM2) • Expansion control board (EXCB)

Procedure

1. Check the connector between FM2-relay CN115-EXCB CN10EX for proper connection and correct as necessary.
2. Check the connector of FM2 for proper drive coupling and correct as necessary.
3. FM2 conduction check.
   - Control signal: EXCB CN10EX-9 (REM), EXCB CN10EX-11 (LOCK)
   - Location of electrical component: 22-P
4. Replace FM2.
5. Replace EXCB.

3.14.33 C7304

Contents

Trouble type	C7304: Toner cartridge cooling fan failure (CM605/CM805)
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner cartridge cooling fan (FM4) • Expansion control board (EXCB)

Procedure

1. Check the connector between FM4-relay CN78-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector of FM4 for proper drive coupling and correct as necessary.
3. FM4 conduction check.
   - Control signal: EXCB CN14EX-4 (REM), EXCB CN14EX-6 (LOCK)
   - Location of electrical component: 17-P
4. Replace FM4.
5. Replace EXCB.

3.14.34 C7305

Contents

Trouble type	C7305: Paper cooling fan failure
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Paper cooling fan (FM8) • Expansion control board (EXCB)

Procedure

1. Check the connector between FM8-relay CN27-relay CN28-EXCB CN14EX for proper connection and correct as necessary.
2. Check the connector of FM8 for proper drive coupling and correct as necessary.
3. FM8 conduction check.
   - Control signal: EXCB CN14EX-1 (REM), EXCB CN14EX-3 (LOCK)
   - Location of electrical component: 5-P
4. Replace FM8.
5. Replace EXCB.

3.14.35 C7310

Contents

Trouble type	C7310: DV cooling fan failure
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• DV cooling fan (FM19) • Base board (BASEB)

Procedure

1. Check the connector between FM19-relay CN804-BASEB CN37E for proper connection and correct as necessary.
2. Check the connector of FM19 for proper drive coupling and correct as necessary.
3. FM19 conduction check.
   - Control signal: BASEB CN37E-1 (REM), BASEB CN37E-3 (LOCK)
   - Location of electrical component: 7-X
4. Replace FM19.
5. Replace BASEB.

3.14.36 C7311

Contents

Trouble type	C7311: Fusing edge cooling fan/Rr failure (CM805)
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Fusing edge cooling fan/Rr (FM22) • Base board (BASEB)

Procedure

1. Check the connector between FM22-relay CN163-relay CN161-BASEB CN22E for proper connection and correct as necessary.
2. Check the connector of FM22 for proper drive coupling and correct as necessary.
3. FM22 conduction check.
   - Control signal: BASEB CN22E-16 (REM), BASEB CN22E-18 (LOCK)
   - Location of electrical component: 13-C
4. Replace FM22.
5. Replace BASEB.

3.14.37 C7312

Contents

Trouble type	C7312: Toner suction fan failure (CM605/CM805)
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Toner suction fan (FM11) • Expansion control board (EXCB)

Procedure

1. Check the connector between FM11-relay CN62-relay CN63-EXCB CN15EX for proper connection and correct as necessary.
2. Check the connector of FM11 for proper drive coupling and correct as necessary.
3. FM11 conduction check.
   - Control signal: EXCB CN15EX-1 (REM), EXCB CN15EX-3 (LOCK)
   - Location of electrical component: 25-X
4. Replace FM11.
5. Replace EXCB.

3.14.38 C7313

Contents

Trouble type	C7313: UFP scavenging fan/Fr failure (CM605/CM805)
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• UFP scavenging fan/Fr (FM17) • Base board (BASEB)

Procedure

1. Check the connector between FM17-relay CN801-relay CN5-BASEB CN22E for proper connection and correct as necessary.
2. Check the connector of FM17 for proper drive coupling and correct as necessary.
3. FM17 conduction check.
   - Control signal: BASEB CN22E-7 (REM), BASEB CN22E-9 (LOCK)
   - Location of electrical component: 12-C
4. Replace FM17.
5. Replace BASEB.

3.14.39 C7314

Contents

Trouble type	C7314: UFP scavenging fan/Rr failure (CM805)
Rank	B
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-

Relevant electrical parts	• UFP scavenging fan/Rr (FM18) • Base board (BASEB)

Procedure

1. Check the connector between FM18-relay CN802-relay CN5-BASEB CN22E for proper connection and correct as necessary.
2. Check the connector of FM18 for proper drive coupling and correct as necessary.
3. FM18 conduction check.
   - Control signal: BASEB CN22E-10 (REM), BASEB CN22E-12 (LOCK)
   - Location of electrical component: 12-C
4. Replace FM18.
5. Replace BASEB.

3.14.40 C7315

Contents

Trouble type	C7315: Fusing edge cooling fan/Fr failure (CM805)
Rank	B
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Fusing edge cooling fan/Fr (FM21) • Base board (BASEB)

Procedure

1. Check the connector between FM21-relay CN162-relay CN161-BASEB CN22E for proper connection and correct as necessary.
2. Check the connector of FM21 for proper drive coupling and correct as necessary.
3. FM21 conduction check.
   - Control signal: BASEB CN22E-13 (REM), BASEB CN22E-15 (LOCK)
   - Location of electrical component: 12-C
4. Replace FM21.
5. Replace BASEB.

3.14.41 C7317

Contents

Trouble type	C7317: Paper exit cooling fan failure
Rank	C
Trouble detection condition	After starting the fan, an error is detected for the malfunction detection signal.
Trouble isolation	-
Relevant electrical parts	• Paper exit cooling fan (FM23) • Expansion control board (EXCB)

Procedure

1. Check the connector between FM23-relay CN710-EXCB CN15EX for proper connection and correct as necessary.
2. Check the connector of FM23 for proper drive coupling and correct as necessary.
3. FM23 conduction check.
   - Control signal: EXCB CN15EX-4 (REM), EXCB CN15EX-6 (LOCK)
   - Location of electrical component: 26-X
4. Replace FM23.
5. Replace EXCB.

3.14.42 C7401

Contents

Trouble type	C7401: Erase LED/K failure
Rank	C
Trouble detection condition	After erase LED/K started to light up, an error is detected for the failure detection signal.
Trouble isolation	-
Relevant electrical parts	• Erase LED/K (EL/K) • Expansion control board (EXCB)

Procedure

1. Check the connector between EL/K-EXCB CN16EX for proper connection and correct as necessary.
2. EL/K conduction check.
   - Control signal: EXCB CN16EX-2 (REM)
   - Location of electrical component: 19-X
3. Replace EL/K.
4. Replace EXCB.

3.14.43 C7402

Contents

Trouble type	C7402: Erase LED/C failure, Erase LED/M failure, Erase LED/Y failure
Rank	C
Trouble detection condition	• After erase LED/C started to light up, an error is detected for the failure detection signal. • After erase LED/M started to light up, an error is detected for the failure detection signal. • After erase LED/Y started to light up, an error is detected for the failure detection signal.
Trouble isolation	-

Relevant electrical parts	• Erase LED/C (EL/C) • Erase LED/M (EL/M) • Erase LED/Y (EL/Y) • Expansion control board (EXCB)

Procedure

1. Check the connector between EL/C-EXCB CN16EX for proper connection and correct as necessary.
2. Check the connector between EL/M-EXCB CN16EX for proper connection and correct as necessary.
3. Check the connector between EL/Y-EXCB CN16EX for proper connection and correct as necessary.
4. EL/C conduction check.
   - Control signal: EXCB CN16EX-6 (REM)
   - Location of electrical component: 19-X
5. Replace EL/C.
6. EL/M conduction check.
   - Control signal: EXCB CN16EX-8 (REM)
   - Location of electrical component: 19-X
7. Replace EL/M.
8. EL/Y conduction check.
   - Control signal: EXCB CN16EX-10 (REM)
   - Location of electrical component: 19-X
9. Replace EL/Y.
10. Replace EXCB.

3.14.44 C7501

Contents

Trouble type	C7501: Tray 2 upper limit sensor failure
Rank	C
Trouble detection condition	The tray 2 upper limit sensor (PS22) does not change even after the lapse of a predetermined period of time after tray 2 is opened and closed, after C-0204 (Tray 2 feeder up/down abnormality) is detected.
Trouble isolation	Tray 2
Relevant electrical parts	• Tray 2 upper limit sensor (PS22) • Base board (BASEB)

Procedure

1. Check the connector between PS22-relay CN40-BASEB CN23E for proper connection and correct as necessary.
2. Replace PS22.
3. Replace BASEB.

3.14.45 C7502

Contents

Trouble type	C7502: Tray 1 upper limit sensor failure
Rank	C
Trouble detection condition	The tray 1 upper limit sensor (PS25) does not change even after the lapse of a predetermined period of time after tray 1 is opened and closed, after C-0202 (Tray 1 feeder up/down abnormality) is detected.
Trouble isolation	Tray 1
Relevant electrical parts	• Tray 1 upper limit sensor (PS25) • Base board (BASEB)

Procedure

1. Check the connector between PS25-relay CN30-BASEB CN26E for proper connection and correct as necessary.
2. Replace PS25.
3. Replace BASEB.

3.14.46 C7601

Contents

Trouble type	C7601: Power line A1 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Transport motor (M1) • Base board (BASEB)

Procedure

1. BASEB F1E conduction check
2. Check the connector between M1-BASEB CN19E for proper connection and correct as necessary.
3. M1 load check
   - Check code: 40
   - Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)
   - Control signal: BASEB CN19EA-1 to 5
   - Location of electrical component: 1-C
4. Replace M1.
5. Replace BASEB.

3.14.47 C7602

Contents

Trouble type	C7602: Power line A2 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• PC motor (M2) • Base board (BASEB)

Procedure

1. BASEB F2E conduction check
2. Check the connector between M2-BASEB CN19E for proper connection and correct as necessary.
3. M2 load check
   - Check code: 41
   - Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)
   - Control signal: BASEB CN19EB-1 to 5
   - Location of electrical component: 1 to 2-C
4. Replace M2.
5. Replace BASEB.

3.14.48 C7603

Contents

Trouble type	C7603: Power line A3 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Developing motor (M27) • Base board (BASEB)

Procedure

1. BASEB F3E conduction check
2. Check the connector between M27-BASEB CN19E for proper connection and correct as necessary.
3. M27 load check
   - Check code: 50
   - Multi code: 1, 2, 3, 4 (CM805), 1, 2, 4 (CM605)
   - Control signal: BASEB CN19EB-6 to 10
   - Location of electrical component: 2-C
4. Replace M27.
5. Replace BASEB.

3.14.49 C7604

Contents

Trouble type	C7604: Power line A4 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Fusing motor (M3) • Base board (BASEB)

Procedure

1. BASEB F4E conduction check
2. Check the connector between M3-BASEB CN19E for proper connection and correct as necessary.
3. M3 load check
   - Check code: 45
   - Multi code: 1, 2, 3, 4, 6 (CM805), 1, 2, 4, 6 (CM605)
   - Control signal: BASEB CN19EA-6 to 10
   - Location of electrical component: 1-C
4. Replace M3.
5. Replace BASEB.

3.14.50 C7605

Contents

Trouble type	C7605: Power line A5 error
Rank	C

Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• High voltage unit (HV) • Base board (BASEB)

Procedure

1. BASEB F5E conduction check
2. Check the connector between HV CN1-BASEB CN26E, HV CN2-BASEB CN21E for proper connection and correct as necessary.
3. Replace HV.
4. Replace BASEB.

3.14.51 C7606

Contents

Trouble type	C7606: Power line A6 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Base board (BASEB)

Procedure

1. BASEB F6E conduction check.
2. Replace BASEB.

3.14.52 C7607

Contents

Trouble type	C7607: Power line A7 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Registration clutch (CL4) (CM605) • Bypass tray paper feed clutch (CL7) • Base board (BASEB)

Procedure

1. BASEB F7E conduction check
2. Check the connector between CL2-relay CN44-relay CN40-BASEB CN23E for proper connection and correct as necessary.
3. Check the connector between CL3-relay CN33-relay CN30-BASEB CN26E for proper connection and correct as necessary.
4. Check the connector between CL4-relay CN73-relay CN170-BASEB CN15E for proper connection and correct as necessary.
5. Check the connector between CL7-relay CN20-relay CN13-BASEB CN26E for proper connection and correct as necessary.

6. Check the connector between CL10-relay CN28-BASEB CN27E for proper connection and correct as necessary.
7. CL2 conduction check.
   - Control signal: BASEB CN23E-19 (ON)
   - Location of electrical component: 17-K
8. CL3 conduction check.
   - Control signal: BASEB CN26EA-20 (ON)
   - Location of electrical component: 11-K
9. CL4 conduction check.
   - Control signal: BASEB CN15E-2 (ON)
   - Location of electrical component: 3-C
10. CL7 conduction check.
   - Control signal: BASEB CN26EA-12 (ON)
   - Location of electrical component: 10-K
11. CL10 conduction check.
   - Control signal: BASEB CN27EA-2 (ON)
   - Location of electrical component: 13-K
12. Replace CL2.
13. Replace CL3.
14. Replace CL4.
15. Replace CL7.
16. Replace CL10.
17. Replace BASEB.

3.14.53 C760A

Contents

Trouble type	C760A: Power line A10 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.

Trouble isolation	• Tray 3 • Tray 4
Relevant electrical parts	• PC control board (PCCB) • Base board (BASEB)

Procedure

1. BASEB F11E conduction check
2. Check the connector between PCCB CN2-relay CN65-BASEB CN29E for proper connection and correct as necessary.
3. Replace PCCB. (PC-116/CPT-810 / CPT-810H / PC-417)
4. Replace BASEB.

3.14.54 C760B

Contents

Trouble type	C760B: Power line A11 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Expansion control board (EXCB) • Base board (BASEB)

Procedure

1. BASEB F12E conduction check
2. Check the connector between EXCB CN1EX-BASEB CN11E for proper connection and correct as necessary.
3. Replace EXCB.
4. Replace BASEB.

3.14.55 C760C

Contents

Trouble type	C760C: Power line A12 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Total counter (TCT) (Japan models only) • Key counter (KCT) • Base board (BASEB)

Procedure

1. BASEB F13E conduction check

2. Check the connector between TCT-relay CN117-BASEB CN13E for proper connection and correct as necessary. (Japan models only)
3. Check the connector between KCT-relay CN119-BASEB CN3E for proper connection and correct as necessary.
4. Replace the key counter.
5. Replace BASEB.

3.14.56 C760D

Contents

Trouble type	C760D: Power line A13 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• DF control board (DFCB) • Scanner drive board (SCDB) • Base board (BASEB)

Procedure

1. BASEB F14E conduction check
2. BASEB F15E conduction check
3. Check the connector between SCDB CN1-BASEB CN7E for proper connection and correct as necessary.
4. Check the connector between DFCB CN12-relay CN2DF-BASEB CN9E for proper connection and correct as necessary.
5. Replace SCDB.
6. Replace DFCB.
7. Replace BASEB.

3.14.57 C760E

Contents

Trouble type	C760E: Power line A14 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Front door switch (SW2) • Right door switch (SW3) • Base board (BASEB)

Procedure

1. BASEB F15E conduction check
2. Check the connector between SW2-BASEB CN3E for proper connection and correct as necessary.
3. Check the connector between SW3-BASEB CN3E, CN4E for proper connection and correct as necessary.
4. Replace SW2 or SW3.
5. Replace BASEB.

3.14.58 C760F

Contents

Trouble type	C760F: Power line A15 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Clean unit drive board (CUDB) • Base board (BASEB)

Procedure

1. BASEB F17E conduction check
2. Check the connector between CUDB CN1-relay CN28D-BASEB CN28E for proper connection and correct as necessary.
3. Replace CUDB.
4. Replace BASEB.

3.14.59 C7610

Contents

Trouble type	C7610: Power line A16 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-

Relevant electrical parts	• Envelope detection board/RX (ENVDB/RX) • Base board (BASEB)

Procedure

1. BASEB F19E conduction check
2. Check the connector between ENVDB/RX CN1MD-relay CN255-relay CN256-BASEB CN36E for proper connection and correct as necessary.
3. Replace ENVDB/RX.
4. Replace BASEB.

3.14.60 C7622, C7623

Contents

Trouble type	• C7622: Power line B2 error • C7623: Power line B3 error
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• PH unit • Expansion control board (EXCB)

Procedure

1. EXCB ICP1 or ICP3 conduction check.
2. Check the connector between the PH unit-relay CN306-EXCB CN10EX for proper connection and correct as necessary.
3. Check the connector between the PH unit-relay CN300-EXCB CN7EX for proper connection and correct as necessary.
4. Replace the PH unit.
5. Replace EXCB.

3.14.61 C7624

Contents

Trouble type	C7624: Power line B4 error (CM605/CM805)
Rank	C
Trouble detection condition	The fuse detection unit detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• Envelope detection relay board (ENVDRB) • Expansion control board (EXCB)

Procedure

1. EXCB ICP5 conduction check
2. Check the connector between ENVDRB CN2-relay CN253-relay CN254-EXCB CN6EX for proper connection and correct as necessary.
3. Replace ENVDRB.
4. Replace EXCB.

3.14.62 C7631

Contents

Trouble type	C7631: Supply power line 1 error
Rank	C
Trouble detection condition	All of the fuse detection units of the same supply power line (24V11) detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPU) • Expansion control board (EXCB) • Base board (BASEB)

Procedure

1. BASEB F11E, F12E, F13E, F14E, F15E, F17E conduction check
2. Check the connector between DCPU CN6-BASEB CN14E for proper connection and correct as necessary.
3. Check the connector between BASEB CN11E-EXCB CN1EX for proper connection and correct as necessary.
4. Replace BASEB.
5. Replace EXCB.
6. Replace DCPU. (CM805 / CM605)

3.14.63 C7633

Contents

Trouble type	C7633: Supply power line 3 error

Rank	C
Trouble detection condition	All of the fuse detection units of the same supply power line (24V21) detected an error for a predetermined time.
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPU) • Base board (BASEB)

Procedure

1. Check the connector between DCPU CN6-BASEB CN20E for proper connection and correct as necessary.
2. Replace BASEB.
3. Replace DCPU. (CM805 / CM605)

3.15 C8###

3.15.1 C8103

Contents

Trouble type	C8103: Lift up mechanism trouble (Upward movement)
Rank	B
Trouble detection condition	The DF lift-up upper limit sensor (PS2) is not turned ON (blocked) after a lapse of a given time after the DF lift-up motor (M5) moves up (is turned forward).
Trouble isolation	DF
Relevant electrical parts	• DF lift-up motor (M5) • DF lift-up upper limit sensor (PS2) • DF control board (DFCB)

Procedure

1. Check the connector between M5-DFCB CN9 for proper connection and correct as necessary.
2. Check the connector of M5 for proper drive coupling and correct as necessary.
3. Check the connector between PS2-DFCB CN5A for proper connection and correct as necessary.
4. PS2 I/O check, sensor check
   - Control signal: DFCB CN5A-6 (ON)
   - Location of electrical component: DF 8-J
5. M5 load check
   - Check code: 60
   - Multi code: 97, 98
   - Control signal: DFCB CN9-1 to 5
   - Location of electrical component: DF 5-C
6. Replace M5.
7. DFCB ICP5 conduction check
8. Replace DFCB.

3.15.2 C8106

Contents

Trouble type	C8106: Lift up mechanism failure (Downward movement)
Rank	B
Trouble detection condition	The DF lift-up lower limit sensor (PS3) is not turned ON (blocked) after a lapse of a given time after the DF lift-up motor (M5) goes down (is turned backward).
Trouble isolation	DF
Relevant electrical parts	• DF lift-up motor (M5) • DF lift-up lower limit sensor (PS3) • DF control board (DFCB)

Procedure

1. Check the connector between M5-DFCB CN9 for proper connection and correct as necessary.
2. Check the connector of M5 for proper drive coupling and correct as necessary.
3. Check the connector between PS3-DFCB CN10 for proper connection and correct as necessary.
4. PS3 I/O check, sensor check
   - Control signal: DFCB CN10-3 (ON)
   - Location of electrical component: DF 10-C
5. M5 load check
   - Check code: 60
   - Multi code: 97, 98
   - Control signal: DFCB CN9-1 to 5
   - Location of electrical component: DF 5-C
6. Replace M5.
7. Replace DFCB.

3.15.3 C8107

Contents

Trouble type	C8107: Glass cleaning mechanism trouble
Rank	B
Trouble detection condition	The document reading glass cleaning sensor (PS18) is not turned ON (blocked) after the set period of time has elapsed after the document reading glass cleaning motor (M8) is energized.
Trouble isolation	DF
Relevant electrical parts	• Document reading glass cleaning motor (M8) • Document reading glass cleaning sensor (PS18) • DF control board (DFCB)

Procedure

1. Check the connector between M8-DFCB CN14 for proper connection and correct as necessary.
2. Check the connector of M8 for proper drive coupling and correct as necessary.
3. Check the connector between PS18-DFCB CN18 for proper connection and correct as necessary.
4. PS18 I/O check, sensor check
   - Control signal: DFCB CN18-3 (ON)
   - Location of electrical component: DF 3-C
5. M8 load check
   - Check code: 60
   - Multi code: 65, 66, 67
   - Control signal: DFCB CN14-1 to 4
   - Location of electrical component: DF 6-C
6. Replace M8.
7. Replace DFCB.

3.15.4 C8302

Contents

Trouble type	C8302: DF cooling fan failure
Rank	B
Trouble detection condition	The fan lock signal remains Low for a predetermined continuous period of time while the fan is turning.
Trouble isolation	DF
Relevant electrical parts	• DF cooling fan (FM) • DF control board (DFCB)

Procedure

1. Check the connector between FM-relay CN115-DFCB CN19 for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. FM load check

- Check code: 60
- Multi code: 113
- Control signal: DFCB CN19-1 (REM), DFCB CN19-3 (LOCK)
- Location of electrical component: DF 4-C

4. Replace FM.
5. Replace DFCB.

3.15.5 C8402

Contents

Trouble type	C8402: Multi feed detection board failure
Rank	C
Trouble detection condition	When the main power switch ON or when the original is being conveyed, the AD value there is no paper loaded state is out of the predetermined range.
Trouble isolation	DF
Relevant electrical parts	• Multi feed detection board/TX (MFDB/TX) • Multi feed detection board/RX (MFDB/RX) • DF control board (DFCB)

Procedure

1. Check the DF firmware version and update it to the latest version.
2. Check the connector between MFDB/TX-relay CN114-DFCB CN23 for proper connection and correct as necessary.
3. Check the connector between MFDB/RX-DFCB CN22 for proper connection and correct as necessary.
4. MFDB/TX operation check
   - Control signal: DFCB CN23-1 to 3
   - Location of electrical component: DF 11-J
5. MFDB/RX operation check
   - Control signal: DFCB CN22-1 to 4
   - Location of electrical component: DF 10-J
6. Replace the multi feed detection boards for MFDB/TX and MFDB/RX together as a set.
7. Replace DFCB.

3.16 C9###

3.16.1 C9401, C9402

Contents

Trouble type	• C9401: Exposure LED lighting failure • C9402: Exposure LED lighting abnormally
Rank	B
Trouble detection condition	• C9401: The output from the CCD sensor is a predetermined value or less during CCD sensor gain adjustment. • C9402: The average output value of the CCD sensor with the scanner at its standby position is a predetermined value or more at the end of a scan job.
Trouble isolation	Scanner
Relevant electrical parts	• LED exposure unit • Flat cable (LED exposure unit) • CCD unit • Scanner drive board (SCDB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Correct the harness connection between SCDB CN3-LU201 if faulty.
2. Check the connector between SCDB CN2-BASEB CN6E for proper connection and correct as necessary.
3. Check the connector between CCDB CN2-BASEB CN6 for proper connection and correct as necessary.
4. Check CPUB for proper installation and correct as necessary.
5. Replace the LED exposure unit.
6. Replace the CCD unit.
7. SCDB ICP2 conduction check
8. Replace SCDB.
9. Replace CPUB.
10. Replace BASEB.

3.16.2 C9403, C9404

Contents

Trouble type	• C9403: CIS LED lighting failure • C9404: CIS LED lighting abnormally
Rank	B
Trouble detection condition	• C9403: At the CIS gain adjustment, the machine detected that the output of the CIS LED is lower than the specified value. • C9404: After a scan job is completed, the machine detected that the average output of the CIS LED is greater than the specified value.
Trouble isolation	Scanner
Relevant electrical parts	• CIS cable • CIS module (CIS) • CIS power supply (CISPU) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the backside scanning shading shaft for any stain, and clean up it as necessary.
2. Check that the bushing of the backside glass cleaning roller unit is on the standby position.
3. Correct the harness connection between CIS CN2-BASEB CN5 if faulty.
4. Correct the harness connection between CIS CN1-CISPU CN2 if faulty.
5. Check CPUB for proper installation and correct as necessary.
6. Measure the voltage of CISPU CN1-2.
   - Control signal: CISPU CN1-2 (DC12V)
   - Location of electrical component: DF 4-I
7. Measure the voltage of CIS CN1-1, CN1-2 and CN1-5.
   - Control signal: CIS CN1-1 (DC5V), CIS CN1-2 (DC5V), CIS CN1-5 (DC12V)
   - Location of electrical component: DF 5-I
8. For any abnormality in the measurement result, replace the CIS cable.
9. Replace CIS.
10. Replace CISPU.
11. Replace CPUB.
12. Replace BASEB.

3.16.3 C9701

Contents

Trouble type	C9701: Front side reading device cable break detection
Rank	A
Trouble detection condition	The cable between the CCD board (CCDB) and the baseboard (BASEB) is break.
Trouble isolation	Scanner
Relevant electrical parts	• CCD unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Correct the cable connection between CCDB CN2-BASEB CN6 if faulty.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the CCD unit.
4. Replace CPUB.
5. Replace BASEB.

3.16.4 C9702

Contents

Trouble type	C9702: Back side reading device cable break detection
Rank	A
Trouble detection condition	The cable between the CIS module (CIS) and the baseboard (BASEB) is break.
Trouble isolation	Scanner
Relevant electrical parts	• CIS cable • CIS module (CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Correct the cable connection between CIS CN2- BASEB CN5 if faulty.
2. Check CPUB for proper installation and correct as necessary.
3. Replace the CIS cable.
4. Replace CIS.
5. Replace CPUB.
6. BASEB F19E conduction check
7. Replace BASEB.

3.17 CA###

3.17.1 CA051, CA052, CA053

Contents

Trouble type	• CA051: Standard controller configuration failure • CA052: Controller hardware error • CA053: Controller start failure
Rank	C
Trouble detection condition	• CA051: The controller of the CPU board (CPUB) is faulty. • CA052: A controller hardware error is detected in the network interface. • CA053: A controller start failure is detected in the controller interface.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.18 CC###

3.18.1 CC002 Contents

Trouble type	CC002: Vendor internal error
Rank	C
Trouble detection condition	Error occurs inside the vendor.
Trouble isolation	-
Relevant electrical parts	• Vendor • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch. Turn OFF and ON the power switch at the vendor side.
2. Check the connector between the vendor-BASEB CN33E for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace CPUB.
5. Replace BASEB.
6. Replace the vendor.

3.18.2 CC151, CC152

Contents

Trouble type	• CC151: ROM contents error upon startup (MSC) • CC152: ROM contents error upon startup (IR)
Rank	C
Trouble detection condition	A fault is detected in a sequence of ROM contents check of the CPUB during starting.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the ROM version.
2. Rewrite the firmware.
3. Check CPUB for proper installation and correct as necessary.
4. Replace CPUB.
5. Replace BASEB.

3.18.3 CC155

When CPF-810H, or CPF-810X is installed Contents

Trouble type	CC155: Finisher ROM error (When FS-533, FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)
Rank	C

Trouble detection condition	Data of flash ROM of the finishing options is determined to be faulty when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	FS control board (FSCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB. (FS-533 / FS-539/FS-539SD / CPF-810H/CPF-810X)

3.18.4 CC156

Contents

Trouble type	CC156: DF ROM error
Rank	C
Trouble detection condition	Upgrade of the firmware has not been successful.
Trouble isolation	-
Relevant electrical parts	DF control board (DFCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace DFCB.

3.18.5 CC159, CC15A

Contents

Trouble type	• CC159: ROM contents error upon startup (DSC1) • CC15A: ROM contents error upon startup (DSC2)
Rank	C
Trouble detection condition	A fault is detected in a sequence of ROM contents check of the DSC board during starting.
Trouble isolation	-
Relevant electrical parts	DSC board/1 (DSCB/1; SC-509)

Procedure

1. Correct the harness connection of DSCB/1 if faulty.
2. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
3. Rewrite the firmware.
4. Replace DSCB/1.

3.18.6 CC15B

Contents

Trouble type	CC15B: Flash ROM error (saddle) (When FS-539SD or CPF-810X is installed)
Rank	C
Trouble detection condition	Data of flash ROM of the saddle is determined to be faulty when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	SD control board (SDCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace SDCB. (FS-539SD / CPF-810X)

3.18.7 CC15C

Contents

Trouble type	CC15C: Engine Flash ROM writing error
Rank	C
Trouble detection condition	Data of flash ROM of the engine is determined to be faulty.
Trouble isolation	-

Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.18.8 CC163

Contents

Trouble type	CC163: ROM contents error (PRT)
Rank	C
Trouble detection condition	The wrong model of firmware is detected in the engine during the initial connection to the engine is being checked.
Trouble isolation	-
Relevant electrical parts	• Backup board (ERB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Rewrite the firmware.
2. Replace CPUB.
   NOTE
   - **When taking the above steps, check whether CPUB is defective or not without replacing the ERB.**

   1. Turn OFF the main power switch and replace the current CPUB with a new one.
   2. Update the firmware.
   3. After completing the firmware update, turn OFF and ON the main power switch and check to see that warm-up is started.
   4. When the trouble cannot be solved, reinstall the removed CPUB to the original board.
3. Replace BASEB.
4. If the above actions do not solve the problem, contact Pantum.

3.18.9 CC164

Contents

Trouble type	CC164: ROM contents error (MSC)
Rank	C
Trouble detection condition	• The wrong model of firmware is detected in the CPU board when the main power switch is turned ON. • The machine type information (Machine, Type) registered to the machine differs from the actual machine type.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB)

Procedure

1. Check the ROM version.
2. Check the machine type information registered and reenter as necessary.
   For details the machine information, see “Entering the machine type information”.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace STRGB.
6. If the above actions do not solve the problem, contact Pantum.

3.18.10 CC170, CC171, CC172, CC173, CC174, CC180, CC181, CC182, CC183, CC184, CC185, CC186

Contents

Trouble type	• CC170: Dynamic link error during starting (AP0) • CC171: Dynamic link error during starting (AP1) • CC172: Dynamic link error during starting (AP2) • CC173: Dynamic link error during starting (AP3) • CC174: Dynamic link error during starting (AP4) • CC180: Dynamic link error during starting (LDR) • CC181: Dynamic link error during starting (IBR) • CC182: Dynamic link error during starting (IID) • CC183: Dynamic link error during starting (IPF) • CC184: Dynamic link error during starting (IMY) • CC185: Dynamic link error during starting (SPF) • CC186: Dynamic link error during starting (OAP)

Rank	C
Trouble detection condition	A dynamic link error occurs in the program on the CPU board due to an insufficient memory space available, a ROM fault, or other reason when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. If the trouble code "C-C180" has occurred, check to install the appropriate loadable device driver for an authentication unit which is installed to the MFP.
   When the appropriate loadable device driver is not installed, reinstall the appropriate loadable device driver.
2. Check CPUB for proper installation and correct as necessary.
3. Replace CPUB.
4. Replace BASEB.
5. If the above actions do not solve the problem, contact Pantum.

3.18.11 CC190

Contents

Trouble type	CC190: Outline font load error
Rank	C
Trouble detection condition	An error occurred while loading the outline font.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format] and perform the function.
4. Replace STRGB.
5. Replace CPUB.
6. Replace BASEB.

3.18.12 CC191

Contents

Trouble type	CC191: Setting parameter load error (LDR)
Rank	C
Trouble detection condition	Upon startup, the processing of the loadable device driver setting data file failed. • RAM disk file creation failed. • Reading from the flash ROM failed. • An error occurred in API of the authentication module.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
2. Check CPUB for proper installation and correct as necessary.
3. Reinstall the loadable device driver.
4. Rewrite the firmware.
5. Replace CPUB.
6. Replace BASEB.

3.18.13 CC211

Contents

Trouble type	CC211: Authentication device general error
Rank	C
Trouble detection condition	When using the authentication device, authentication data is not to meet the specifications.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.

3.18.14 CC212

Contents

Trouble type	CC212: User validation error
Rank	C
Trouble detection condition	• An error occurred while validating the user authentication information. • The loadable device driver is not successfully installed.

Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. When this trouble code is generated after installing the loadable device driver, check to see if there is any file other than loadable device driver in USB memory used. If there is any file, reinstall the loadable device driver.
2. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
5. Re-register the user authentication information.
6. Replace the authentication unit.

3.18.15 CC213

Contents

Trouble type	CC213: User registration error/Card information setting error
Rank	C
Trouble detection condition	• IC card advanced settings data is not correct when starting-up the authentication device. • Authentication information data is not correct when starting-up the authentication device. • IC card advanced settings data is not correct when setting the IC card advanced settings. • Authentication information data is not correct when setting the IC card advanced settings. • IC card advanced settings data is not correct when registering the authentication information. • Authentication information data is not correct when registering the authentication information. • IC card advanced settings data is not correct when editing the authentication information. • Authentication information data is not correct when editing the authentication information.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
4. Reset the authentication settings. (card type, IC card advanced settings, and etc.)
5. Re-register the user authentication information.

3.18.16 CC214

Contents

Trouble type	CC214: User information deletion error
Rank	C
Trouble detection condition	The deletion of the user information is uncompleted.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.

3.18.17 CC216

Contents

Trouble type	CC216: Acquisition failure of the number of trials/Initialize error of number of authentication
Rank	C
Trouble detection condition	An error occurred during user authentication using optional authentication unit AU-102.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • Authentication unit

Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
4. Reset the number of authentication trials.

3.18.18 CC301

Contents

Trouble type	CC301: Authentication customize data error
Rank	B
Trouble detection condition	• The master authentication customize data is corrupted upon startup. • Registration of authentication customize data in the main body has failed upon startup.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Reinstall the authentication customize data.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.18.19 CC302

Contents

Trouble type	CC302: Authentication customize data version mismatch error
Rank	B
Trouble detection condition	The authentication customize data version is later than the firmware version of the machine.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Rewrite the main body firmware with the latest one and reinstall the authentication customize data.
2. Replace CPUB.
3. Replace BASEB.

3.18.20 CCC00

Contents

Trouble type	CCC00: Public user account track information error
Rank	B
Trouble detection condition	At the first time of startup, the nonvolatile status is reset incompletely due to any trouble (such as a shut off of the main power).
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Replace STRGB.
2. Replace CPUB.
3. Replace BASEB.

3.19 CD###

3.19.1 CD002 Contents

Trouble type	CD002: JOB RAM save error
Rank	C
Trouble detection condition	The error in save of job data to the memory / storage and its read error are detected.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.

2. Check CPUB for proper installation and correct as necessary.
3. Replace STRGB.
4. Replace CPUB.
5. Replace BASEB.

3.19.2 CD004, CD00F, CD020

Contents

Trouble type	• CD004: Storage access error (connection failure) • CD00F: Storage data transfer error • CD020: Storage verify error
Rank	C
Trouble detection condition	• CD004: Unable to communicate between the storage and CPU board (CPUB). • CD00F: Data transfer from the storage is faulty. • CD020: The data abnormality is detected by the storage verify check.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace STRGB.
4. Replace CPUB.
5. Replace BASEB.

3.19.3 CD010

Contents

Trouble type	CD010: Storage unformat
Rank	C
Trouble detection condition	Unformatted storage is connected.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace STRGB.
4. Replace CPUB.
5. Replace BASEB.

3.19.4 CD011

Contents

Trouble type	CD011: Storage out of specifications mounted
Rank	C
Trouble detection condition	A storage that falls outside the specifications is connected.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check the storage specifications.
2. Replace STRGB.

3.19.5 CD012

Contents

Trouble type	CD012: Mount error due to storage being unformatted
Rank	C
Trouble detection condition	• The storage is not logically formatted after the whole data in the storage has been deleted by overwriting. • The storage that has replaced an old one is not logically formatted.

Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

Replace STRGB.

3.19.6 CD030

Contents

Trouble type	CD030: Storage management information reading error
Rank	C
Trouble detection condition	The machine fails to read administrative information data saved in the storage.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace STRGB.

3.19.7 CD041, CD042, CD043, CD044, CD045, CD046

Contents

Trouble type	CD041, CD042, CD043, CD044, CD045, CD046: Storage command execution error
Rank	C
Trouble detection condition	The error occurred inside the storage.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check the storage specifications.
2. Replace STRGB.

3.19.8 CD047, CD048, CD049, CD04A, CD04B

Contents

Trouble type	CD047, CD048, CD049, CD04A, CD04B: Storage SCSI library error
Rank	C
Trouble detection condition	The error occurred inside the storage.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Check the storage specifications.
2. Replace STRGB.

3.19.9 CD050

Contents

Trouble type	CD050: Storage recovery timeout
Rank	C
Trouble detection condition	The storage fails to recover from the power save mode within the predetermined period of time.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check STRGB for proper installation and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Reinstall STRGB.
4. Replace STRGB.

3.19.10 CD072

Contents

Trouble type	CD072: Second-hand Storage board or second-hand CPU board installed
Rank	C
Trouble detection condition	The storage board (STRGB) or CPU board (CPUB) used on other MFPs is installed.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB)

Procedure

1. Replace the board with the new F.5.3.3 Storage board (STRGB) and F.5.3.4 CPU board (CPUB).

Or, reuse the original F.5.3.3 Storage board (STRGB) and F.5.3.4 CPU board (CPUB).

3.19.11 CD073

Contents

Trouble type	CD073: Storage type is different
Rank	C
Trouble detection condition	When the installed storage and the configured storage are different.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • microSD

Procedure

1. Check the storage typesettings and correct if the wrong storage is set.

3.19.12 CD110

Contents

Trouble type	CD110: Wireless LAN destination initialization error
Rank	C
Trouble detection condition	When an initialization error occurred on the settings of the wireless LAN in the upgrade kit (UK-221).
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Check the UK-221 connector for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Replace UK-221.

3.19.13 CD201, CD202, CD203

Contents

Trouble type	• CD201: File memory mounting error • CD202: Memory capacity discrepancy • CD203: Memory capacity discrepancy 2
Rank	C
Trouble detection condition	CD201: • The file memory is not mounted. • The file has any abnormality.
	CD202: • File memory capacity on the CPU board (CPUB) is not enough. • File memory capacity necessary for duplex printing is not enough.
	CD203: File memory capacity on the CPU board (CPUB) is not enough.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.19.14 CD211, CD212

Contents

Trouble type	• CD211: PCI-SDRAM DMA operation failure • CD212: Compression/extraction timeout detection
Rank	C
Trouble detection condition	• CD211: Hardware related to the transfer of memory image of the CPU board (CPUB) fails to respond. • CD212: Hardware related to the BTC compression function of the CPU board (CPUB) fails to respond.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.19.15 CD241, CD242

Contents

Trouble type	• CD241: Encryption ASIC setting error • CD242: Encryption ASIC mounting error
Rank	C
Trouble detection condition	• CD241: Initialization error of the encrypted ASIC is detected during the machine is starting. • CD242: The faulty of the installation of encrypted ASIC is detected during the machine is starting.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check CPUB for proper installation and correct as necessary.
2. Check BASEB connector for proper connection and correct as necessary.
3. Replace CPUB.
4. Replace BASEB.

3.19.16 CD252

Contents

Trouble type	CD252: No relay circuit boards for IC-420 mounting at IC-420 mount setting
Rank	C
Trouble detection condition	EFI relay circuit boards (EFIRYB: VI-516) are not mounted when the IC-420 is set to mount setting at Service Mode.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • EFI relay board (EFIRYB: VI-516)

Procedure

1. Check EFIRYB for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Replace EFIRYB.
4. Replace CPUB.
5. Replace BASEB.

3.19.17 CD261

Contents

Trouble type	CD261: USB hub board failure
Rank	C
Trouble detection condition	• When a failure is detected in USB hub board included in the local interface kit. • Non-standard USB device is connected.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB) • USB hub board (USBHB EK-608 or EK-609)

Procedure

1. Check the operation with another USB device.
2. Check USBHB for proper connection and correct as necessary.
3. Replace USBHB.
4. Replace CPUB.
5. Replace BASEB.

3.19.18 CD262

Contents

Trouble type	CD262: Extension network adapter installation error
Rank	C
Trouble detection condition	• When the 2nd network card settings is set to “Set” but the upgrade kit (UK-221) is not installed. • Upgrade Kit (UK-221) is faulty.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Check the UK-221 connector for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Replace UK-221.

3.19.19 CD2D1

Contents

Trouble type	CD2D1: VLAN setting configuration error
Rank	B
Trouble detection condition	At start up of the MFP, the reception condition of VLAN setting activation is not satisfied.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • Backup board (ERB)

Procedure

1. Check if all VLAN setting reception conditions are satisfied.

- The storage board (STRGB) must be installed.
- If the IC card reader is connected, the LDD ofAU-201S has been installed.
- The software SW12 (bit1) has been set to "PKI unsupported" (0x00). (PKI mode setting unavailable)

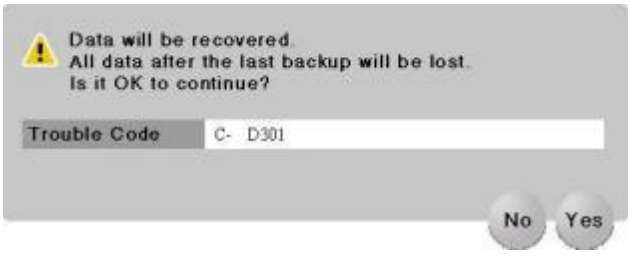
3.19.20 CD3##

Contents

Trouble type	CD3##: Nonvolatile data error
Rank	C
Trouble detection condition	CD3##: Abnormality is detected by the abnormal check of each nonvolatile data.
Trouble isolation	-

Action

1. Touch [Recover Data] displayed at the lower right portion on the trouble screen.
2. A screen confirming whether to recover data appears.



3. Select [Yes].
4. The screen will be shifted to the data restoration screen to perform data restoration.

NOTE

- **When the restoration is performed in a short time, data restoration screen may not be displayed.**

5. Check the message which indicates that the data restoration was successfully conducted. Turn OFF the main power switch and turn it ON again more than 10 seconds after.

NOTE

- **In case it failed to restore data, return to the trouble code screen.**

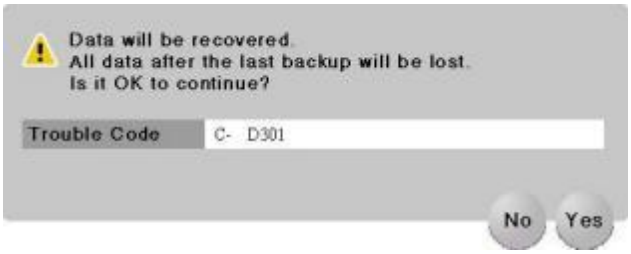
3.19.21 CD313

Contents

Trouble type	CD313: TPM key data error
Rank	C
Trouble detection condition	A fault occurs in the TPM key data.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Touch [Recover Data] displayed at the lower right portion on the trouble screen.
2. A screen confirming whether to recover data appears.



3. Select [Yes].
4. The screen will be shifted to the data restoration screen to perform data restoration.

   NOTE
   - **When the restoration is performed in a short time, data restoration screen may not be displayed.**
5. Check the message which indicates that the data restoration was successfully conducted. Turn OFF the main power switch and turn it ON again more than 10 seconds after.

   NOTE
   - **In case it failed to restore data, return to the trouble code screen.**
6. Replace the current TPMB with a new one.
7. Replace CPUB.
8. Replace BASEB.

3.19.22 CD38E

Contents

Trouble type	CD38E: Nonvolatile data save error (SPI-Flash)
Rank	C
Trouble detection condition	The "ISW download flag" saved in the SPI-Flash has an illegal value.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Rewrite the firmware.
2. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.

3.19.23 CD390

Contents

Trouble type	CD390: Nonvolatile data checksum error
Rank	C
Trouble detection condition	C-D390 code is normally shown when the CPU board (CPUB) is replaced with a new one.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Wait until “Recover Data” appears. (MFP will reboot maximum 2 times by itself.) Touch the “Recover Data” button and follow the instructions that appear on the control panel to restore (backup) data.

3.19.24 CD391

Contents

Trouble type	CD391: Nonvolatile data save error (Storage)
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	-

Procedure

NOTE

- **Contact the responsible people of Pantum before taking some countermeasures.**

3.19.25 CD392

Contents

Trouble type	CD392: Nonvolatile data save error (EEPROM)
Rank	C

Trouble detection condition	The backup board (ERB) is replaced with a new one.
Trouble isolation	-
Relevant electrical parts	Backup board (ERB)

Procedure

1. Replace the following components with new ones.
   - Developing unit/Y,M,C,K
   - Drum unit/Y,M,C,K
   - Toner cartridge/Y,M,C,K
   - Transfer belt unit
   - Fusing unit
   - Transfer roller
   - Feed roller, pick-up roller, separation roller (including options)
2. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
3. Set the various setting values in the service mode again.
4. If the above actions do not solve the problem, contact Pantum.

3.19.26 CD3B1, CD3B3, CD3B4, CD3B5

Contents

Trouble type	• CD3B1: DB server startup failure • CD3B3: DB access failure • CD3B4: No DB definition file • CD3B5: DB definition file error
Rank	C
Trouble detection condition	• CD3B1: When starting the MFP, PostgreSQL server startup has not been successful. • CD3B3: When starting the MFP, SQL DB access fails in PostgreSQL server startup processing. • CD3B4: When starting the MFP, SQL DB definition file does not exist in PostgreSQL server startup processing. • CD3B5: When starting the MFP, there is an error in SQL DB definition file in PostgreSQL server startup processing.
Trouble isolation	-
Relevant electrical parts	CPU board (CPUB)

Procedure

1. Reboot the machine.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.

3.19.27 CD3C0

Contents

Trouble type	CD3C0: New board detection
Rank	C
Trouble detection condition	The board is replaced with a new one.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Wait until “Recover Data” appears. (MFP will reboot maximum 2 times by itself.) Touch the “Recover Data” button and follow the instructions that appear on the control panel to restore (backup) data.

3.19.28 CD401, CD402, CD403, CD404, CD405, CD406, CD407, CD411, CD412, CD413

Contents

Trouble type	• CD401: NACK command incorrect • CD402: ACK command incorrect • CD403: Checksum error • CD404: Receiving packet incorrect • CD405: Receiving packet analysis error • CD406: ACK receiving timeout • CD407: Retransmission timeout • CD411: Touch panel board error • CD412: Touch panel type mismatch • CD413: Electrostatic touch panel operation mode error
Rank	C
Trouble detection condition	When abnormality is found in the communication of controller.
Trouble isolation	-
Relevant electrical parts	• Control panel • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check whether there is a strong electromagnetic noise source near the main body.
2. Check the connector between the control panel-BASEB CN7 for proper connection and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace CPUB.
5. Replace BASEB.

3.19.29 CD601, CD602, CD603

Contents

Trouble type	CD601, CD602, CD603: Trouble related to security
Rank	-
Trouble detection condition	-
Trouble isolation	-

Procedure

1. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch. If the above actions do not solve the problem, contact Pantum.

3.19.30 CD701, CD702, CD703

Contents

Trouble type	• CD701: Mechanical controller flash ROM writing error • CD702: Mechanical controller flash ROM device error • CD703: FW download communication fault
Rank	C
Trouble detection condition	CD701: A mechanical controller flash ROM writing sequence is interrupted in its mid-operation due to, for example, power being shut off.
	CD702: An erase error or other device fault occurs during mechanical controller flash ROM writing.
	CD703: Irregular data is received during FW downloading. • Places are changed in the order of write completion pulses. • A write completion pulse is received for a memory for which binary writing is not permitted. • Final checksum mismatch in FW download • Two-minute timeout (no response from CTL, the number of transfer data items less than the specified)
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace CPUB.
4. Replace BASEB.

3.19.31 CD704

When CPF-810H, or CPF-810X is installed Contents

Trouble type	CD704: Finisher Flash ROM device error (When FS-533, FS-539, FS-539SD, CPF-810H, or CPF-810X is installed)
Rank	C
Trouble detection condition	An erase error or other device fault occurs during the finisher flash ROM writing.
Trouble isolation	-
Relevant electrical parts	FS control board (FSCB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB. (FS-533 / FS-539/FS-539SD / CPF-810H/CPF-810X)

3.19.32 CDC##

Contents

Trouble type	CDC##: Trouble related to security
Rank	-
Trouble detection condition	-
Trouble isolation	-

Procedure

NOTE

- **Contact the responsible people of Pantum before taking some countermeasures.**

3.19.33 CDF50, CDF70, CDFA0

Contents

Trouble type	• CDF50: ASIC image version failure • CDF70: ASIC image access failure • CDFA0: ASIC image error
Rank	C
Trouble detection condition	Communication error is detected between the CPU board (CPUB) and the CCD board (CCDB).
Trouble isolation	-
Relevant electrical parts	• CCD unit • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between BASEB CN6-CCDB CN2 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace the CCD unit.
5. Replace CPUB.
6. Replace BASEB.

3.19.34 CDF51, CDF71, CDFA1

Contents

Trouble type	• CDF51: ASIC image version failure (backside) • CDF71: ASIC image access failure (backside) • CDFA1: ASIC image error (backside)
Rank	C
Trouble detection condition	Communication error is detected between the CPU board (CPUB) and the CIS module (CIS).
Trouble isolation	-
Relevant electrical parts	• CIS module (CIS) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connector between CIS CN2-BASEB CN5 for proper connection and correct as necessary.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CIS.

5. Replace CPUB.
6. Replace BASEB.

3.20 CE###

3.20.1 CE001, CE003, CE004, CE005, CE006, CE007, CE009

Contents

Trouble type	• CE001: Abnormal message queue • CE003: Task error • CE004: Event error • CE005: Memory access error • CE006: Header access error • CE007: DIMM initialize error • CE009: Memory resource shortage error
Rank	C
Trouble detection condition	CPU board (CPUB) is faulty.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.20.2 CE002

Contents

Trouble type	CE002: Message and method parameter failure
Rank	C
Trouble detection condition	CPU board (CPUB) is faulty.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Replace STRGB.
2. Replace CPUB.
3. Replace BASEB.

3.20.3 CE012

Contents

Trouble type	CE012: Failed to receive the entropy from Haveged
Rank	C
Trouble detection condition	The machine fails to receive the entropy from Haveged.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Turn OFF and ON the main power switch.

3.20.4 CE013

Contents

Trouble type	CE013: Virus scan engine startup failure (8 GB storage)
Rank	C
Trouble detection condition	When the virus scan settings are effective, change from storage board (STRGB) to microSD (8 GB).
Trouble isolation	-
Relevant electrical parts	microSD

Procedure

1. Reboot the machine.

2. To disable Virus Scan Functions.
3. Replace the microSD and replace the STRGB.

3.20.5 CE014

Contents

Trouble type	CE014: Virus scan engine startup failure (storage error)
Rank	C
Trouble detection condition	The file or data that is necessary to start the virus scan has been lost.
Trouble isolation	-
Relevant electrical parts	Storage board (STRGB)

Procedure

1. Reboot the machine. (MFP will reboot maximum 2 times by itself.)
2. Replace STRGB.

3.20.6 CE015

Contents

Trouble type	CE015: Secret information issue error
Rank	C
Trouble detection condition	When starting the machine, the machine fails to issue the secret information.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Turn OFF and ON the main power switch.

3.20.7 CE101

Contents

Trouble type	CE101: Browser finish detected
Rank	C
Trouble detection condition	• The browser is automatically recovered (restarted) after the main body detected that the browser (separate process) has stopped with fault. • When the “Malfunction finish is detected over predetermined number of times” or “the browser task process is except in idle (printing, etc.)”.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.20.8 CE201

Contents

Trouble type	CE201: Transmission operation log storage fault
Rank	C
Trouble detection condition	When the transmission log storage failed, it repeats retrial until transmission operation log is stored. The trouble is detected when the retrial failed for predetermined number of times.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.20.9 CE202

Contents

Trouble type	CE202: PDL interpreter error
Rank	C
Trouble detection condition	An error inside the CPU board (CPUB) is detected during converting the PDL information.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Replace CPUB.
3. Replace BASEB.

3.20.10 CE203

Contents

Trouble type	CE203: Unrecoverable error
Rank	C
Trouble detection condition	An error does not recover even after an auto recovery.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Update the firmware.
3. Perform the self-diagnostic function.
4. Replace CPUB.
5. Replace BASEB.

3.20.11 CE204

Contents

Trouble type	CE204: SIP / T.38 library loading failure
Rank	C
Trouble detection condition	Installed an illegal library of SIP/T.38.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. Install a legal library of LK-117.

3.20.12 CE301, CE302, CE303, CE304, CE305

Contents

Trouble type	• CE301: Referring incorrect memory • CE302: Incorrect command • CE303: Finished due to error inside Qt library • CE304: Finished due to error outside Qt library • CE305: Program forced to stop
Rank	C
Trouble detection condition	• When performing treatment (program) to the firmware controlling the MFP controller, a malfunction is detected when the control sequence went abnormal. • In almost cases, when the control sequence goes abnormal in certain conditions and on certain timing, it results in malfunction.
Trouble isolation	-
Relevant electrical parts	-

Procedure

1. When the trouble code "C-E301" occurs, check that if the combination of the version of the MFP firmware and the version of the installed authentication unit loadable device driver is proper.
   If the combination of the MFP firmware and the loadable device driver is improper, install the latest MFP firmware, then install the latest loadable device driver.
2. Execute [Self-diag. (Full)].
3. For details, see “L.4 TROUBLESHOOTING USING SELF-DIAG. (FULL)”.

3.20.13 CE401

Contents

Trouble type	CE401: Shared memory connection timeout
Rank	C
Trouble detection condition	A CPU communication error is detected when power save is turned ON.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Check CPUB for proper installation and correct as necessary.
3. Rewrite the firmware.
4. Replace CPUB.
5. Replace BASEB.

3.20.14 CED01

Contents

Trouble type	CED01: The authentication application information does not exist in the storage in the enhanced server authentication state.
Rank	C
Trouble detection condition	With “Enhanced Server Authentication” set, no authentication application registration information is found in the storage.
Trouble isolation	-
Relevant electrical parts	• Storage board (STRGB) • CPU board (CPUB) • Base board (BASEB)

Procedure

1. Turn OFF and ON the main power switch.
2. Check STRGB for proper installation and correct as necessary.
3. Check CPUB for proper installation and correct as necessary.
4. Replace STRGB.
5. If the above actions do not solve the problem, contact Pantum.

3.20.15 CEEE1, CEEE3

Contents

Trouble type	• CEEE1: CPU board (MSC) malfunction • CEEE3: Base board (ENG) malfunction
Rank	• CEEE1: C • CEEE3: A
Trouble detection condition	• CEEE1: CPU board is faulty. • CEEE3: Base board is faulty.
Trouble isolation	-
Relevant electrical parts	• CPU board (CPUB) • Base board (BASEB)

Procedure

1. Check the connectors on BASEB for proper connection and correct as necessary.
2. Replace CPUB.
3. Replace BASEB.

3.20.16 CEEE2

Contents

Trouble type	CEEE2: Scanner section malfunction
Rank	A
Trouble detection condition	A scanner part is faulty.
Trouble isolation	-
Relevant electrical parts	• LED exposure unit • CCD unit • Scanner drive board (SCDB)

Procedure

1. Correct the connector connection between CCDB and SCDB if faulty.
2. Replace SCDB.
3. Replace the CCD unit.

3.21 Software Faults

Fault Symptom	Solution
Printer icon not displayed in the "Devices and Printers" folder.	Reinstall the printer driver. Ensure the USB cable and power cable are properly connected.
Printer is in "Ready" mode but does not execute any print jobs.	Restart the printer. If the issue persists, reinstall the printer driver. Ensure the USB cable or network cable is properly connected.
Driver installation fails.	Check if the Print Spooler service is running. Check if the printer power is on and the connection is normal.
Driver becomes unusable after the printer's IP address changes.	Modify the port IP address in the printer driver settings. If the above methods do not resolve the issue, reinstall the printer driver. Recommendations: - Set the network printer to a static IP address. - In a DHCP network, bind the IP address to the printer's MAC address.

3.22 Error Messages

Error Messages	Cause	Action
Toner Cartridge Not Detected	Toner cartridge not installed correctly or damaged.	Reinstall toner cartridge properly or replace with a new one.
Low Toner	Toner level low in any cartridge	Prepare a corresponding new toner cartridge.
Toner Cartridge Depleted	Toner exhausted in any cartridge.	Replace with a new toner cartridge.
Incompatible Toner Cartridge	The toner cartridge is not supported by the printer.	Replace with a printer-compatible toner cartridge.
Waste Toner Bottle Not Detected	Waste toner bottle not installed correctly.	Remove and reinsert the waste toner bottle.
Waste Toner Bottle Near Full	Waste toner bottle capacity almost full.	Prepare a new waste toner bottle.
Waste Toner Bottle Full	Waste toner bottle capacity full.	Replace with a new waste toner bottle.
Drum Unit Not Detected	Drum unit not installed correctly or damaged.	Reinstall drum unit properly or replace with a new one.
Drum Unit Near End of Life	Any drum unit approaching end of life.	Prepare a corresponding new drum unit.
Drum Unit Reached End of Life	Any drum unit has reached end of life.	Replace with a new drum unit.
Incompatible Drum Unit	The drum unit is not supported by the printer.	Replace with a printer-compatible drum unit.
Paper Feed Failure	Paper not loaded correctly. Paper exceeds specifications.	Load paper correctly.
Paper Size/Type Mismatch	Paper size/type settings in driver don't match printer panel settings.	Replace paper with matching size/type on printer side.
Paper Jam	Paper not loaded properly.	Reload paper correctly.

Scanner Busy	Another job in progress.	Cancel current job or wait for completion.
Scan Failure	Internal scanner error.	Contact after-sales support.
ADF Out of Paper	When ADF is selected as the scan source and no paper is placed in the ADF to start a copy or scan job, this message is displayed.	Please load the paper correctly.
ADF Paper Jam	When using the ADF for copying or scanning, if paper jams or fails to feed, this message is displayed.	Please clear the jam, organize the document, reload it into the ADF, and retry the scanning operation.

3.23 Common malfunctions

Defects	Causes of defects	Solutions
Abnormal Copy Image	• Scanner dirty or defective • Toner cartridge dirty or damaged	• Clean scanner • Clean or replace toner cartridge
The printer does not work	• The cable between the computer and the printer is not connected properly. • Error in specifying the print port. • The printer is offline and User Guide of Printer is checked. • The printer has not recovered from an internal error, such as a paper jam, paper empty, etc. • Driver program of printer is not installed correctly.	• Disconnect and then reconnect the printer cable. • Check the Windows printer settings to ensure that the print job has been sent to the correct port. If the computer has more than one port, make sure that the printer is connected to the correct port. • Make sure that the printer is in the normal online status. • Please eliminate errors so that the printer can recover to its normal state. • Unload and reinstall the driver program of printer.
No Response During Network Printing	• Faulty connection between computer and printer • Printer driver improperly installed • Internal printer malfunction	• Disconnect and reconnect printer cable • Uninstall and reinstall printer drivers
Scan Error	• Data cable improperly connected • Scanner driver improperly installed • Error message displayed on LCD screen	• Ensure data cable is securely connected • Reinstall scanner drivers

4. TROUBLESHOOTING USING SELF-DIAG. (FULL)

4.1 Error code resetting procedures

1. Stop the machine with the Error Code screen being displayed.
2. Turn OFF the main power switch. After waiting 10 seconds, turn ON the main power switch again.
3. Reboot the machine.

NOTE

- **If the error has not been resolved, the trouble code will reappear after rebooting the machine.**

4.2 Error Code List

Error code	Target device	Diagnosis item	Reason of error	Relevant electrical parts
E1-1	NVMeSSD	Device recognition	Engagement failure Mounting failure	Storage board (STRGB) CPU board (CPUB)
E1-2		R/W check	STRGB error (data failure)	Storage board (STRGB)
E1-3		S.M.A.R.T diag.	STRGB error (data failure)	Storage board (STRGB)
E1-4		MFP FW checksum	STRGB error (data failure)	MFP firmware
E1-5		Partition check	STRGB error (data failure)	Storage board (STRGB)
E2-1	microSD	Device recognition	Engagement failure Mounting failure	microSD CPU board (CPUB)
E2-2		R/W check	microSD error (data failure)	microSD
E2-3		S.M.A.R.T diag.	microSD error (data failure)	microSD
E2-4		MFP FW checksum	microSD error (data failure)	MFP firmware
E2-5		Partition check	microSD error (data failure)	microSD
E3-1	I2C	TPM	Connection failure Parts defect	TPM board (TPMB) Base board (BASEB) CPU board (CPUB)
E3-2		AUDIO (control)	Connection failure Parts defect	Base board (BASEB) CPU board (CPUB)
E3-3		PS-CPU	Connection failure Parts defect	Base board (BASEB) CPU board (CPUB)
E4-1	System/image memory	WORK0 (Main memory ch.A)	Engagement failure Mounting failure DRAM failure	CPU board (CPUB)
E4-2		WORK1 (Main memory ch.B)	Engagement failure Mounting failure DRAM failure	CPU board (CPUB)
E4-3		FILE0 (A800 memory ch.A)	Engagement failure Mounting failure DRAM failure	Memory board (MEMB)
E4-4		FILE1 (A800 memory ch.B)	Engagement failure Mounting failure DRAM failure	Memory board (MEMB)
E5-1	Various USB devices	IRIS0	Connection failure Parts defect	CPU board (CPUB)
E5-2		USB3.0-HUB chip (baseboard)	Connection failure Parts defect	CPU board (CPUB) Base board (BASEB)
E5-3		USB2.0-HUB chip (baseboard)	Connection failure Parts defect	Base board (BASEB)
E5-4		USB device HUB chip (USB hub board)	Connection failure Parts defect	USB hub board (USBHB) Base board (BASEB)
E5-5		DAC-IC	Connection failure Parts defect	USB hub board (USBHB)
E5-6		Fax expansion board (HUB chip)	Connection failure Parts defect	Fax expansion board Base board (BASEB)
E5-7		Fax board (line 1)	Connection failure Parts defect	Fax board/1 (FAXB/1) Fax expansion board Base board (BASEB)
E5-8		Fax board (line 2)	Connection failure Parts defect	Fax board/2 (FAXB/2) Fax expansion board Base board (BASEB)
E5-9		Fax board (line 3)	Connection failure Parts defect	Fax board/3 (FAXB/3) Fax expansion board
E5-10		Fax board (line 4)	Connection failure Parts defect	Fax board/4 (FAXB/4) Fax expansion board
E5-11		Upgrade kit (UK-221)	Connection failure Parts defect	Wireless LAN board (WLANB) Base board (BASEB)
E5-12		Authentication unit	Connection failure Parts defect	Authentication unit Base board (BASEB)
E6-1	CCD board	I/P image bus check	Image bus failure	Connection cable CCD board (CCDB) CPU board (CPUB) Base board (BASEB)
E6-2		Line RAM comparison	CCD sensor failure	CCD board (CCDB)

E7-1	CIS module	I/P image bus check	Image bus failure	CIS cable CIS module (CIS)
				CPU board (CPUB) Base board (BASEB)
E7-2		Line RAM comparison	CIS sensor failure	CIS module (CIS)
E8-1	DF control board	MINET communication check	ADF microcomputer communication failure	Connection cable DF control board (DFCB) CPU board (CPUB) Base board (BASEB)
E9-1	Memory board (A800)	Compress/exp check	A800 error	Memory board (MEMB)
E10-1	DSC board (Security kit)	Image bus check (front side)	Engagement failure Mounting failure	DSC board/1 (DSCB/1)
E10-2		Image bus check (backside)	Engagement failure Mounting failure	DSC board/1 (DSCB/1) CPU board (CPUB)
E11-1	CPU board	Compress/exp check	S800 error	CPU board (CPUB)
E11-2		O/P image bus check	S800 error	CPU board (CPUB)
E12-1	PCIe	PCIe device check IRIS(0)	PCIe device error	CPU board (CPUB)
E12-2		PCIe device check IRIS(1)		CPU board (CPUB)
E12-3		PCIe device check NVMeSSD		Storage board (STRGB) CPU board (CPUB)
E12-4		PCIe device check A800		Memory board (MEMB) CPU board (CPUB)

Troubleshooting against multiple error codes

Error code	Action
E1-1, E5-1, E12-1, E12-3	Execute E12-1.
E4-1, E4-2, E11-1, E11-2	Execute E4-1.
E4-3, E4-4, E9-1, E12-2, E12-4	Execute E12-2.

4.3 E1-1

Contents

Error code	E1-1
Target device	NVMeSSD
Diagnosis item	Device recognition
Reason of error	Engagement failure Mounting failure
Relevant electrical parts	Storage board (STRGB) CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Correct the mounting of CPUB if faulty.
4. Replace STRGB.
5. Replace CPUB.

4.4 E1-2

Contents

Error code	E1-2
Target device	NVMeSSD
Diagnosis item	R/W check
Reason of error	STRGB error (data failure)
Relevant electrical parts	Storage board (STRGB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Replace STRGB.

4.5 E1-3

Contents

Error code	E1-3
Target device	NVMeSSD
Diagnosis item	S.M.A.R.T diag.
Reason of error	STRGB error (data failure)
Relevant electrical parts	Storage board (STRGB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Replace STRGB.

4.6 E1-4

Contents

Error code	E1-4
Target device	NVMeSSD
Diagnosis item	MFP FW checksum
Reason of error	STRGB error (data failure)
Relevant electrical parts	MFP firmware

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Perform re-installation of the firmware.

4.7 E1-5

Contents

Error code	E1-5
Target device	NVMeSSD
Diagnosis item	Partition check
Reason of error	STRGB error (data failure)
Relevant electrical parts	Storage board (STRGB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Replace STRGB.

4.8 E2-1

Contents

Error code	E2-1
Target device	microSD
Diagnosis item	Device recognition
Reason of error	Engagement failure Mounting failure
Relevant electrical parts	microSD CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of microSD if faulty.
3. Correct the mounting of CPUB if faulty.
4. Replace microSD.
5. Replace CPUB.

4.9 E2-2

Contents

Error code	E2-2
Target device	microSD
Diagnosis item	R/W check

Reason of error	microSD error (data failure)
Relevant electrical parts	microSD

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of microSD if faulty.
3. Replace microSD.

4.10 E2-3

Contents

Error code	E2-3
Target device	microSD
Diagnosis item	S.M.A.R.T diag.
Reason of error	microSD error (data failure)
Relevant electrical parts	microSD

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of microSD if faulty.
3. Replace microSD.

4.11 E2-4

Contents

Error code	E2-4
Target device	microSD
Diagnosis item	MFP FW checksum
Reason of error	microSD error (data failure)
Relevant electrical parts	MFP firmware

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Perform re-installation of the firmware.

4.12 E2-5

Contents

Error code	E2-5
Target device	microSD
Diagnosis item	Partition check
Reason of error	microSD error (data failure)
Relevant electrical parts	microSD

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of microSD if faulty.
3. Replace microSD.

4.13 E3-1

Contents

Error code	E3-1
Target device	I2C

Diagnosis item	TPM
Reason of error	Connection failure Parts defect
Relevant electrical parts	TPM board (TPMB) CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of TPMB if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Replace TPMB.
6. Replace CPUB.
7. Replace BASEB.

4.14 E3-2, E3-3

Contents

Error code	E3-2, E3-3	
Target device	I2C	
Diagnosis item	E3-2	AUDIO (control)
	E3-3	PS-CPU
Reason of error	Connection failure Parts defect	
Relevant electrical parts	CPU board (CPUB) Base board (BASEB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace CPUB.
5. Replace BASEB.

4.15 E4-1, E4-2

Contents

Error code	E4-1, E4-2	
Target device	System/image memory	
Diagnosis item	E4-1	WORK0 (Main memory ch.A)
	E4-2	WORK1 (Main memory ch.B)
Reason of error	Engagement failure Mounting failure DRAM failure	
Relevant electrical parts	CPU board (CPUB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Replace CPUB.

4.16 E4-3, E4-4

Contents

Error code	E4-3, E4-4	
Target device	System/image memory	
Diagnosis item	E4-3	FILE0 (A800 memory ch.A)
	E4-4	FILE1 (A800 memory ch.B)
Reason of error	Engagement failure Mounting failure DRAM failure	
Relevant electrical parts	Memory board (MEMB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of MEMB if faulty.
3. Replace MEMB. (CM805/CM605)

4.17 E5-1

Contents

Error code	E5-1

Target device	Various USB devices
Diagnosis item	IRIS0
Reason of error	Connection failure Parts defect
Relevant electrical parts	CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Replace CPUB.

4.18 E5-2

Contents

Error code	E5-2
Target device	Various USB devices
Diagnosis item	USB3.0-HUB chip (baseboard)
Reason of error	Connection failure Parts defect
Relevant electrical parts	CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace CPUB.
5. Replace BASEB.

4.19 E5-3

Contents

Error code	E5-3
Target device	Various USB devices
Diagnosis item	USB2.0-HUB chip (baseboard)
Reason of error	Connection failure Parts defect
Relevant electrical parts	Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of BASEB or the connection of connectors if faulty.
3. Replace BASEB.

4.20 E5-4

Contents

Error code	E5-4
Target device	Various USB devices
Diagnosis item	USB device HUB chip (USB hub board)
Reason of error	Connection failure Parts defect

Relevant electrical parts	USB hub board (USBHB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of USBHB or the connection of connectors if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace USBHB.
5. Replace BASEB.

4.21 E5-5

Contents

Error code	E5-5
Target device	Various USB devices
Diagnosis item	DAC-IC
Reason of error	Connection failure Parts defect
Relevant electrical parts	USB hub board (USBHB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of USBHB or the connection of connectors if faulty.
3. Replace USBHB.

4.22 E5-6, E5-7, E5-8, E5-9, E5-10

Contents

Error code	E5-6, E5-7, E5-8, E5-9, E5-10	
Target device	Various USB devices	
Diagnosis item	E5-6	Fax expansion board (HUB chip)
	E5-7	Fax board (line 1)
	E5-8	Fax board (line 2)
	E5-9	Fax board (line 3)
	E5-10	Fax board (line 4)
Reason of error	Connection failure Parts defect	
Relevant electrical parts	Fax board/1 (FAXB/1) Fax board/2 (FAXB/2) Fax board/3 (FAXB/3) Fax board/4 (FAXB/4) Fax expansion board Base board (BASEB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of the fax board or the connection of connectors if faulty.
3. Correct the mounting of the fax expansion board or the connection of connectors if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Replace the fax board. (Fax board (line 1), Fax board (line 2) / Fax board (line 3), Fax board (line 4))
6. Replace the fax expansion board.
7. Replace BASEB.

4.23 E5-11

Contents

Error code	E5-11
Target device	Various USB devices
Diagnosis item	Upgrade kit (UK-221)
Reason of error	Connection failure Parts defect
Relevant electrical parts	Wireless LAN board (WLANB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of the upgrade kit (UK-221) or the connection of connectors if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace WLANB.
5. Replace BASEB.

4.24 E5-12

Contents

Error code	E5-12
Target device	Various USB devices
Diagnosis item	Authentication unit
Reason of error	Connection failure Parts defect
Relevant electrical parts	Authentication unit Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting and connection of the authentication unit if faulty.
3. Correct the mounting of BASEB or the connection of connectors if faulty.
4. Replace the authentication unit.
5. Replace BASEB.

4.25 E6-1, E6-2

Contents

Error code	E6-1, E6-2	
Target device	CCD board	
Diagnosis item	E6-1	I/P image bus check
	E6-2	Line RAM comparison
Reason of error	E6-1	Image bus failure
	E6-2	CCD sensor failure
Relevant electrical parts	E6-1	Connection cable CCD board (CCDB) CPU board (CPUB) Base board (BASEB)
	E6-2	CCD board (CCDB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CCDB or the connection cable if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Replace the connection cable.
6. Replace the CCD unit.
7. Replace CPUB.
8. Replace BASEB.

4.26 E7-1, E7-2

Contents

Error code	E7-1, E7-2	
Target device	CIS module	
Diagnosis item	E7-1	I/P image bus check
	E7-2	Line RAM comparison
Reason of error	E7-1	Image bus failure
	E7-2	CIS sensor failure
Relevant electrical parts	E7-1	CIS cable CIS module (CIS) CPU board (CPUB) Base board (BASEB)
	E7-2	CIS module (CIS)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CIS or the CIS cable if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Replace the CIS cable.
6. Replace CIS.
7. Replace CPUB.
8. Replace BASEB.

4.27 E8-1

Contents

Error code	E8-1
Target device	DF control board
Diagnosis item	MINET communication check
Reason of error	ADF microcomputer communication failure
Relevant electrical parts	Connection cable DF control board (DFCB) CPU board (CPUB) Base board (BASEB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of DFCB or the connection of connectors if faulty.
3. Correct the mounting of CPUB if faulty.
4. Correct the mounting of BASEB or the connection of connectors if faulty.
5. Correct the connection of the connection cable if faulty.
6. Replace the connection cable.
7. Replace DFCB.
8. Replace CPUB.
9. Replace BASEB.

4.28 E9-1

Contents

Error code	E9-1
Target device	Memory board (A800)
Diagnosis item	Compress/exp check
Reason of error	A800 error
Relevant electrical parts	Memory board (MEMB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of MEMB if faulty.
3. Replace MEMB. (CM805 / CM605)

4.29 E10-1, E10-2

Contents

Error code	E10-1, E10-2	
Target device	DSC board (Security kit)	
Diagnosis item	E10-1	Image bus check (front side)
	E10-2	Image bus check (backside)
Reason of error	Engagement failure Mounting failure	
Relevant electrical parts	DSC board/1 (DSCB/1)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of DSCB/1or the connection of connectors if faulty.
3. Replace DSCB/1.

4.30 E11-1, E11-2

Contents

Error code	E11-1, E11-2	
Target device	CPU board	
Diagnosis item	E11-1	Compress/exp check
	E11-2	O/P image bus check
Reason of error	E11-1	S800 error
	E11-2	S800 error
Relevant electrical parts	CPU board (CPUB)	

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of CPUB if faulty.
3. Replace CPUB.

4.31 E12-1, E12-2, E12-3, E12-4

Contents

Error code	E12-1, E12-2, E12-3, E12-4	
Target device	PCIe	
Diagnosis item	E12-1	PCIe device check IRIS(0)
	E12-2	PCIe device check IRIS(1)
	E12-3	PCIe device check NVMeSSD
	E12-4	PCIe device check A800
Reason of error	PCIe device error	
Relevant electrical parts	E12-1, E12-2	CPU board (CPUB)
	E12-3	Storage board (STRGB) CPU board (CPUB)
	E12-4	Memory board (MEMB) CPU board (CPUB)

Corrective action procedure

1. Turn OFF the main power switch and unplug the power cord. Connect the power cord after 15 sec. or more, and turn ON the main power switch.
2. Correct the mounting of STRGB if faulty.
3. Correct the mounting of MEMB if faulty.
4. Correct the mounting of CPUB if faulty.
5. Replace STRGB.
6. Replace MEMB. (CM805 / CM605)
7. Replace CPUB.

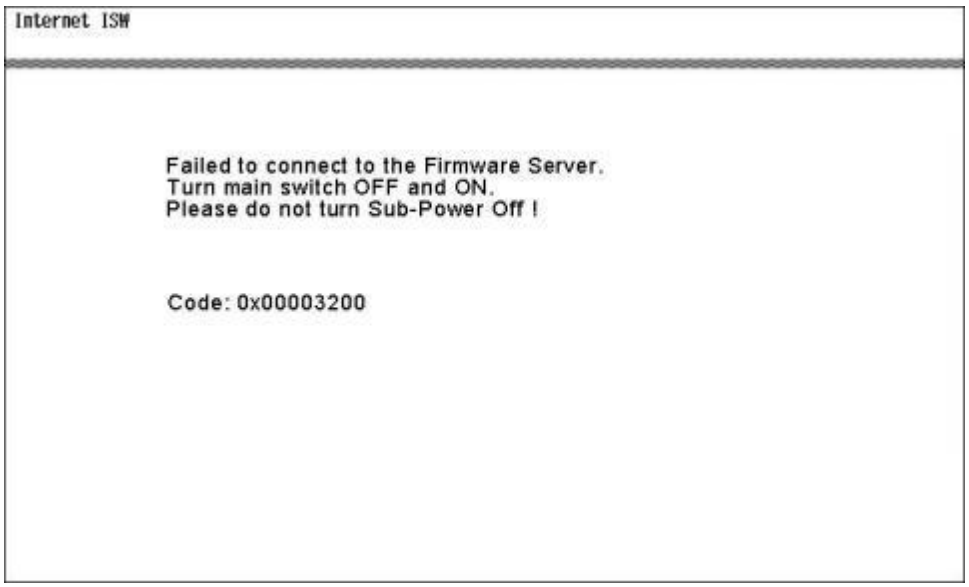
5. TROUBLESHOOTING WHEN NG IS DISPLAYED ON THE SELF-DIAG. (INDIVIDUAL)

Not applicable.

6. ERROR CODE FOR THE INTERNET ISW

6.1 Error code list for the Internet ISW

- When a trouble occurred while conducting the Internet ISW and it was not normally connected, the message on the status and the error code will be displayed on the control panel.



NOTE

- **When a code other than the error code list is displayed, contact and inform the error code.**

6.2 0x0#

Error code	Description	Countermeasure
0x00111101	Error concerning the network • Disconnection occurred.	• Check the User's network environment. • Check to see if the FTP server operates normally.
0x00111110	Error concerning the network • The network is not connected.	
0x00110010	Error concerning the network • Others	
0x00001###	FTP error • Reply code when it failed to be connected.	• Check to see if the FTP server operates normally. • Check the IP address, user's name, etc.
0x00002###	FTP error • Error reply code for the user command or pass command.	Check to see if the FTP server operates normally.
0x00003###	FTP error • Error reply code for the CWD command.	
0x00004###	FTP error • Error reply code for the TYPE command.	Check to see if the FTP server operates normally.
0x00005###	FTP error • Error reply code for the PORT command.	
0x00006###	FTP error • Error reply code for the PASV command.	• Check to see if the FTP server operates normally. • Set the PASV mode to "OFF", and try it again.
0x00007###	FTP error • Error reply code for the RETR command.	• Check to see if the FTP server operates normally. • Wait for about 30 minutes and try it again.

6.3 0x1#

Error code	Description	Countermeasure
0x10000100	• It cannot be accepted because of the job currently being executed. • ISW being executed by other method.	Wait for the current job to be completed and try it again.
0x10000101	It cannot be accepted because the power key is OFF.	Turn power key ON and try it again.
0x10000102	The Internet ISW is already being executed.	Wait for the current Internet ISW to be completed.
0x10000107	File access error • The file downloaded has an error. • The header of the file which has been read has an error. • The size of the file to be downloaded is too large. • When it is identified to be the different type of firmware.	Check to see if the downloaded firmware is of the correct type.
0x10000108	The area firmware is stored is destroyed, and another ISW is necessary.	Wait until ISW is automatically executed on MFP side.

6.4 0x2#

Error code	Description	Countermeasure
0x20000000	The temporary error when running the subset • When starting the Internet ISW in a normal program, therebooting will start and the Internet ISW will be executed with the subset program. During the process by the subset program, it has to be in the “Failed” status unless the Internet ISW is successfully conducted. This code is used temporarily to make it in error status.	Wait until ISW is automatically executed on MFP side.

7. TROUBLES THAT DO NOT DISPLAY THE TROUBLE CODE

7.1 Machine is not energized at all (DCPU operation check)

Contents

Trouble type	Machine is not energized at all
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• Main power switch (SW1) • Base board (BASEB) • DC power supply (DCPU)

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is a power voltage supplied across CN1-1, 2 on DCPU?	7-T	NO	Check wiring from power outlet to DCPU CN1.
2	Are the fuses on DCPU conducting?	-	NO	Replace DCPU.
3	Is DC5 V being output to CN5-1, 2, 3 on DCPU?	9 to 10-T	NO	Replace DCPU.
4	Is DC24 V being output to CN6-3, 10 on DCPU?	7 to 8-T	NO	• Check the WIRING from the wall BASEB to DCPU. • Replace DCPU. • Replace BASEB.
5	The LED on BASEB is blinking?	-	NO	Replace BASEB.
6	Is DC24 V being output to CN6-1, 8 on DCPU?	7 to 8-T	NO	Replace DCPU.

7.2 Fusing heaters do not operate

Contents

Trouble type	Fusing heaters do not operate
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• Main power switch (SW1) • Right door switch (SW3) • DC power supply (DCPU) • Base board (BASEB) • Fusing unit

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is a power voltage supplied across CN6-1, 8 on DCPU? During this time, the right door should be closed.	7 to 8-T	NO	Check wiring from power outlet to DCPU to BASEB to SW3.
2	Is the power source voltage applied across BASEB CN4E-5, 13?	7 to 8-F	YES	Replace the fusing unit.
			NO	• Replace DCPU. • Replace BASEB.

7.3 Power is not supplied to DF

Contents

Trouble type	Power is not supplied to DF
Rank	-

Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPU) • DF

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being output from CN1DF-1 on DF?	3-K	YES	Malfunction in DF.
2	Is DC24 V being output from CN6-5 on DCPU?	8-T	NO	Check wiring from DCPU to DF.
3	Are the fuses on DCPU conducting?	-	YES	Replace DCPU.
			NO	Malfunction in DF.

7.4 Power is not supplied to option

7.4.1 CPT-810/CPT-810HContents

Trouble type	Power is not supplied to PC-116/CPT-810/CPT-810H/PC-417.
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPU) • Base board (BASEB) • PC-116/CPT-810/CPT-810H/PC-417

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being output from CN65?	26-D	NO	Malfunction in cabinet.
2	Is DC24 V being output to CN29E-1 on BASEB?	26-F	NO	Check wiring from DCPU to BASEB to cabinet.
3	Are the fuses on DCPU conducting?	-	YES	Replace DCPU.
			NO	Malfunction in cabinet.

7.4.2 CPF-810H/CPF-810X

Contents

Trouble type	Power is not supplied to FS-539/FS-539SD/CPF-810H/CPF-810X.
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• DC power supply (DCPU) • FS-539/FS-539SD/CPF-810H/CPF-810X

Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being output from CN1FS-1?	5-K	NO	Malfunction in finisher.
2	Is DC24 V being output from CN6-6 on DCPU?	8-T	NO	Check wiring from DCPU to finisher.
3	Are the fuses on DCPU conducting?	-	YES	Replace DCPU.
			NO	Malfunction in finisher.

8. OTHER TROUBLE

8.1 Firmware error warning

- Warning message: A firmware error occurred.
- While the enhanced security mode is enabled, if MFP is restarted by turning the main power switch OFF and ON or other operations, self-testing is performed internally. If the self-testing detects firmware error, this warning appears.

Action

1. Set Enhanced Security Mode to “OFF” in Administrator Settings and touch “OK.”
2. Turn OFF and ON the main power switch.
3. Check that the warning screen is not displayed.
4. Rewrite the firmware.
5. Set the Enhanced Security Mode.

8.2 Storage lock password error warning

Detection timing

- Warning message: Reset Storage Lock Password.
- There is a mismatch between the password registered in the storage and that registered in the main body.
- Wrong machine type information is input.

Action

< Checking the machine type information >

NOTE

- **Perform the following steps, if this malfunction occurs when the CPU board is replaced with a new one.**
- **Prepare a USB flash drive in which firmware data is recorded.**

1. Call the firmware updateselection screen to the display.
   NOTICE
   - USB memory
2. Touch [Machine Type Select].
3. Check the setting values of [Machine] and [Type] and enter the correct setting values. For details, see “Machine type information of F.5.3.4 CPU board (CPUB)”.

< Re-registering the correct Storage Lock Password >

1. Touch Menu.
2. Touch [Utility].
3. Touch [Storage Management].
4. Enter the administrator password and touch [OK].
5. Touch [Storage Lock Password].
6. Enter the currently set Storage Lock Password twice.
7. Touch [END].
8. When the screen that indicates the completion of setting of the Storage Lock Password appears, turn OFF and ON the main power switch.

< Performing Storage Physical Format >

1. Call the Service Mode to the screen.
2. Touch these keys in this order: [State Confirmation] -> [Memory/Storage Adjustment] -> [Format].
3. Touch [Physical Format].
4. Touch [Start].
5. When Physical Format is completed, turn OFF and ON the main power switch.

8.3 Progress bar stops halfway when the main power switch is turned on

- Communication error occurs on the storage board and the CPU board, and the progress bar stops at 25%.

Action

1. Rewrite the firmware.
2. Update Boot Program.
3. Replace the storage board.
4. Replace the CPU board.

NOTE

- **Obtain the procedures for updating Boot Program from Knova.**

8.4 Trouble of time shift

- The date/time of panel/report/fax/CSRC etc. shifts due to the coin battery depletion.

Action

1. Set the time correctly in Time Zone/Date Setting.
   Time Zone/Date & Time Input mode
2. Set the time correctly in CSRC date setting.

Set the time correctly on the [Date/Time Setting] screen in [Service Mode] -> [CS Remove] -> [Remote Care] -> [Maintenance/Default Settings] -> [Detail Setting].

3. Turn OFF the main power switch, unplug the power cord, and wait one minute.
4. Plug the power cord and turn ON the main power switch.
5. Check if the time is correct.

<Incorrect time>

In the case that the base board of the coin battery is replaceable

NOTE

- **When replacing the coin battery, be sure to use our specified coin battery (CR2032) (authorized with UL1642).**

1. Remove the coin battery and measure the voltage with a tester.
   F.5.7.8 Coin battery
2. If the value is 2.5V or less,replace with a new coin battery.
3. Take actions again, then check if the time is correct.

In the case that the base board of the coin battery is not replaceable

1. Measure the voltage of the coin battery with a tester.
2. If the value is 2.5V or less, replace the baseboard.
3. Take actions again, then check if the time is correct.

8.5 Problem that MFP does not Start

- When problems occur that MFP does not start, such as the indicator stays at 25%, reboots after display of 50%, screen is black, use the recovery tool to diagnose the CPU board, storage board, etc., and identify the parts that need to be recovered or replaced.

Action

1. Prepare the data corruption check/recovery tool.
2. Use the data corruption check/recovery tool to make diagnosis.
3. Take actions according to the diagnosis result.

NOTE

- **For details of the data corruption check/recovery tool, refer to Knova.**

9. IMAGE QUALITY PROBLEM

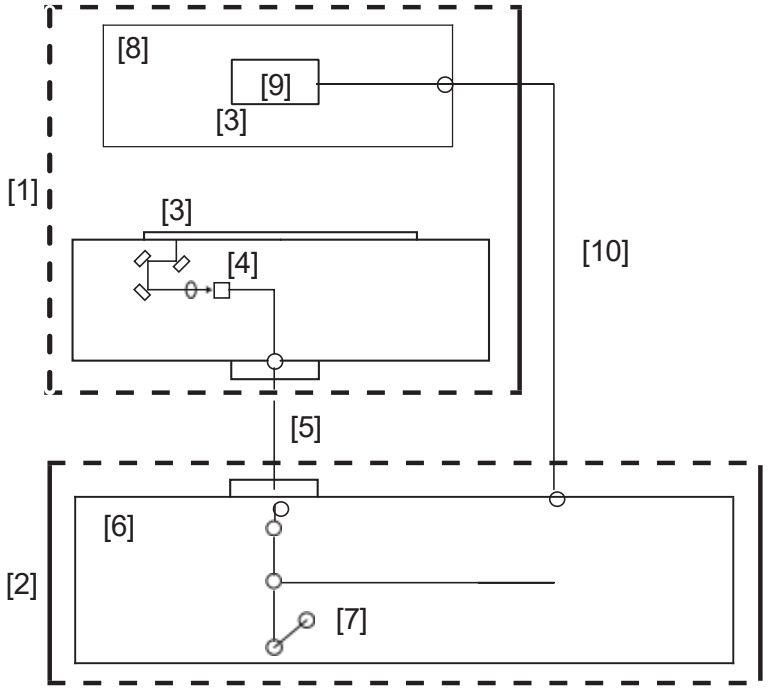
9.1 Troubleshooting procedure overview

Test pattern printing

- Following give an overview of a procedure to isolate a faulty spot of an image trouble using a test pattern.
- A faulty spot that is responsible for an image trouble is isolated by printing a test pattern (Error diffusion) to determine whether an image trouble is evident and determining which color of toner,Y, M, C, or K, has the trouble.

(1) Scanner system image trouble

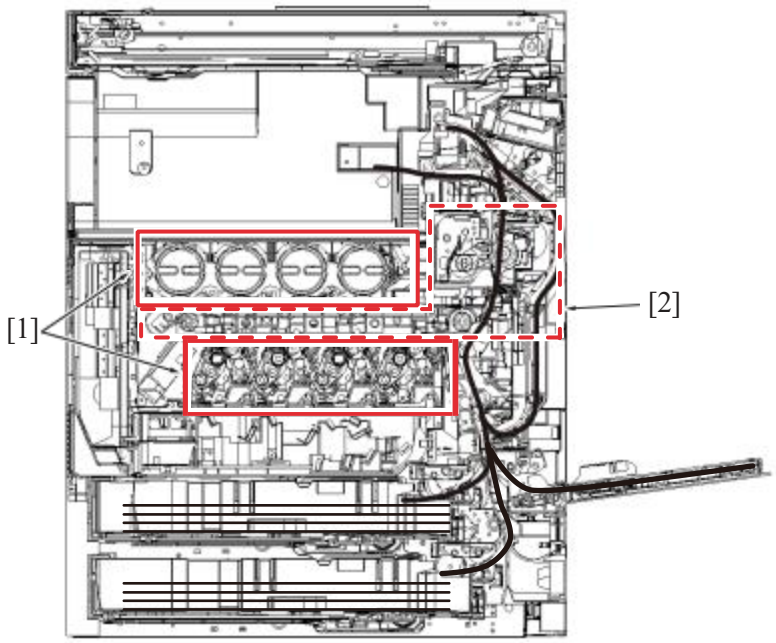
- If an image trouble occurs during a copy cycle, use the image trouble that may be evident on the test pattern printed to determine whether the trouble is attributable to the scanner system or the printer system.
- If no image trouble occurs on a test pattern produced following a print cycle, the image trouble is determined to be attributable to the scanner system.



[1]	Scanner system	[2]	Printer system
[3]	Document scan	[4]	CCD board (CCDB)
[5]	I/F cable (only front side)	[6]	Base board (BASEB)
[7]	Print output	[8]	DF
[9]	CIS module (CIS)	[10]	I/F cable (only rear side)

(2) Printer system image trouble

- If the image trouble is attributable to the printer system, determine whether the image trouble occurs with one to three colors, or with four colors of Y, M, C, and K.
- If the same image trouble occurs with four colors, the image trouble is determined to be that of the four-color system.



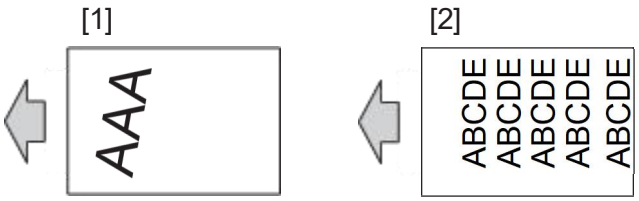
[1]	Faulty spot responsible for an image trouble of the single-to-three-color system	[2]	Faulty spot responsible for an image trouble of the four-color system

9.2 Corrective action procedure

9.2.1 Skewed image/Image deviation

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

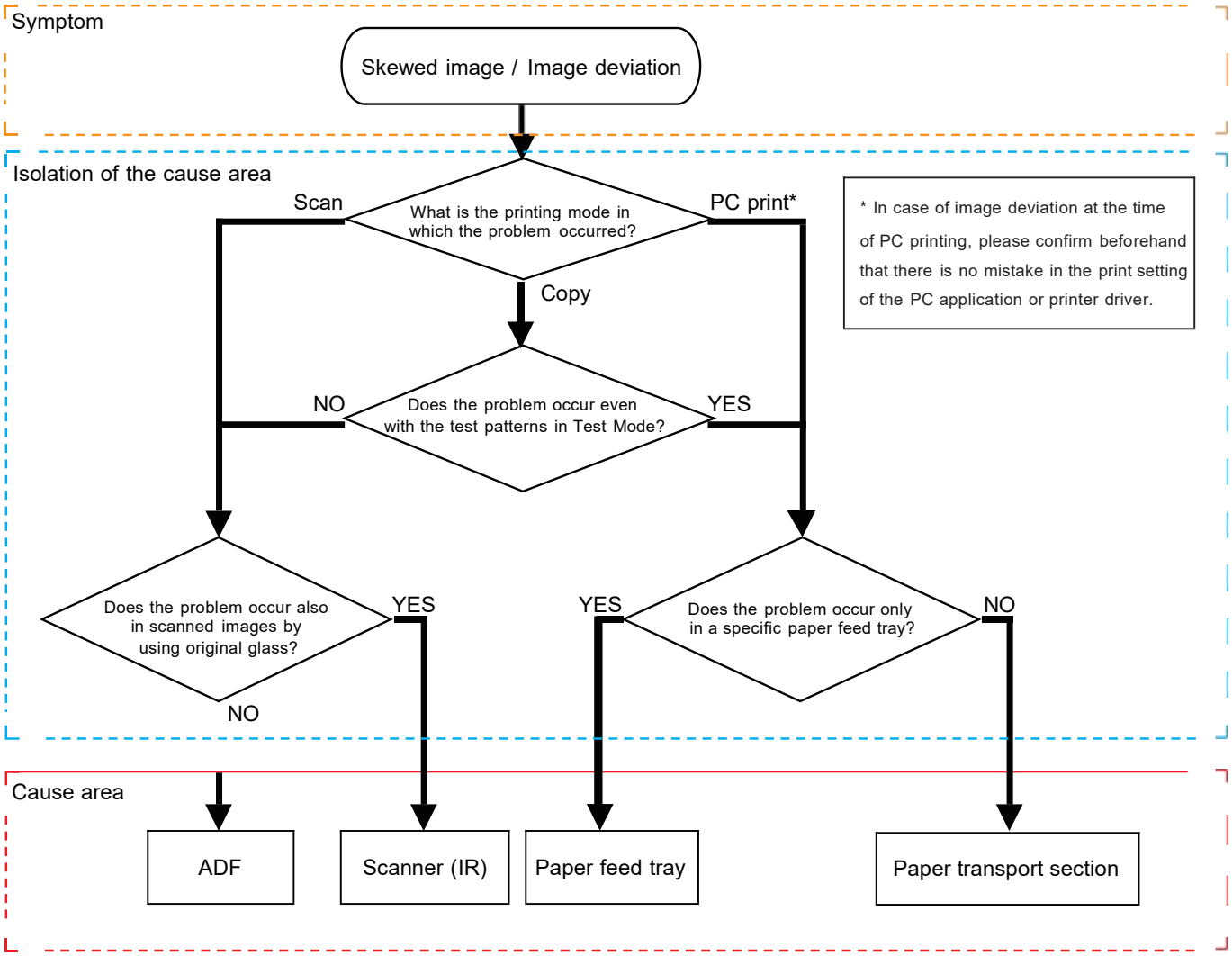


[1]	Skewed image	[2]	Image deviation

(2) Troubleshooting procedure

Flowchart for isolating the cause area

- The figure below is a flowchart for isolating the cause area of image deviation / skewed image (four main cause areas are covered).
- After isolating the cause area according to the flowchart, please perform the troubleshooting described on the next page for each cause area.



Troubleshooting steps for each cause area

NOTE

- **If the problem can not be solved after "(1) First steps of troubleshooting," check "(2) Individual adjustment items".**
- **In "(2) Individual adjustment item," perform adjustment and test according to the manual description procedure of each item.**

< ADF >

(1) First steps of troubleshooting

Step	Contents
1	Check the set position of original and document width guide, and correct it if needed.
2	Check the paper path, and remove any paper pieces or foreign matters.
3	Check each roller for dirt and wear, and clean or replace it if needed.
4	If there is looseness in the screw of the ADF hinge part, fix it and perform the installation settings of ADF.
5	Perform test printing/scanning to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

(2) Individual adjustment items

Skewed image	1. ADF adjusting the height
	2. Skew Measurement
	3. Registration Loop Adj. (Perform this item only if the problem is not resolved by adjustment 1 and 2.)
Image deviation	1. Feed Zoom
	2. FD-Mag. Adj. (B)
	3. Auto Stop Position Adjustment (Before performing this adjustment, adjustment 1 and 2 needs to be completed.)

NOTE

- **If the trouble can not be solved by the above adjustment, replace the CCD unit.**
- **If there is a problem only on the back side image after the above adjustment, replace the CIS module.**

< Scanner (IR) >

(1) First steps of troubleshooting

Step	Contents
1	Check the set position of original, and correct it if needed.

Step	Contents
2	When using a thick original (like a book), check whether the user strongly presses the document cover/ADF. *The scanner section may not move smoothly due to the excessive pressure, and which may cause image deviation.
3	If original glass is not installed properly, reinstall original glass.
4	Perform test printing/scanning to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

(2) Individual adjustment items

Image deviation	Scanner Area

NOTE
If the trouble can not be solved by the above adjustment, replace the CCD unit.

< Paper feed tray >
(1) First steps of troubleshooting

Step	Contents
1	Correct the paper settings, if the paper size/type in the tray and the paper settings selected on the machine are not matched.
2	Check the set position of paper or paper length guide / paper width guide, and correct it if needed. * For a paper tray that uses only a specific paper size, it is possible to fix the paper width guide to a specific paper size position by attaching a screw to the screw hole on the paper width guide (backside). It is possible to prevent problems due to wrong paper setting, but be careful as users will not be able to change paper sizes by themselves.
3	Check the paper path and the backside of the tray, and remove any paper pieces or foreign matters.
4	Check each roller for dirt and wear, and clean or replace it if needed.
5	Perform test printing to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

(2) Individual adjustment items

Skewed image	Printer Reg. Loop Adj.
Image deviation	Printer Area * If the image deviation in the main scan direction (side edge) can not be adjusted completely, perform the mechanical adjustment on below for the affected tray.
	Mechanical adjustment: Centering adjustment of the tray 1/2 / Centering adjustment of the tray 3/4 (PC-417)
	Mechanical adjustment: Paper reference position (PC-116/CPT-810)/Paper reference position (CPT-810H)

NOTE
If the trouble can not be solved by the above adjustment, check the Paper transport section.

< Paper transport section >
(1) First steps of troubleshooting

Step	Contents
1	Check the set position of paper or paper length guide / paper width guide, and correct it if needed. * For a paper tray that uses only a specific paper size, it is possible to fix the paper width guide to a specific paper size position by attaching a screw to the screw hole on the paper width guide (backside). It is possible to prevent problems due to wrong paper setting, but be careful as users will not be able to change paper sizes by themselves.
2	If the Right door unit / Regist unit (inner door on the vertical transport section) is half-open, make it correct position.
3	Check the paper path, transport rollers, and registration section, and remove any paper pieces / foreign matters / paper dust.
4	Perform test printing to check whether the problem has been resolved. If it can not be resolved, confirm "(2) individual adjustment items".

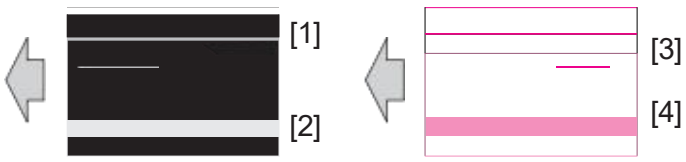
(2) Individual adjustment items

Skewed image	Printer Reg. Loop Adj.

NOTE
If the trouble can not be solved by the above adjustment, reinstall the Right door unit / Regist unit (CM805 /CM605).

9.2.2 White line 1, White band 1, Color line 1, Color band 1

Typical faulty images
The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band

[3] Color line	[4] Color band

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Sharp white line or colored line is blurry.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals.	NO	Clean or correct the terminal.
4	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
5	Photoconductor section	Scratches on photoconductor.	YES	• Clean. • Replace the drum unit.
6	Photoconductor section	Toner line or dirt on photoconductor. (improper cleaning)	YES	Replace the drum unit.
7	1st transfer section	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
8	1st transfer section	Scratches or dirt on 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
9	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the developing unit.
			NO	Replace the PH unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
2	Transfer belt unit	Lines that can be removed by cleaning are evident on the transfer belt. (improper cleaning)	YES	• Check or clean the cleaning blade. • Replace the transfer belt unit.
3	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.

Step	Section	Check item	Result	Action
4	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
5	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
6	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
7	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
8	Fusing unit	Scratches on belt or roller in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the base board.

Scanner troubleshooting procedure

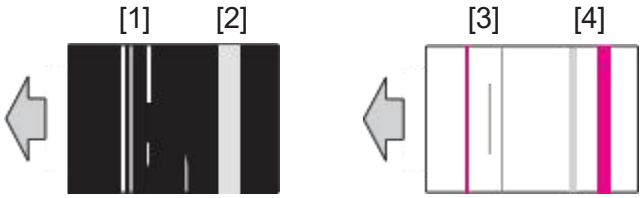
Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	When original glass is being used	A fault occurs in the image read through the original glass.	YES	Go to step 5.
3	When DF is being used: 1st side	A fault occurs in the image read from the 1st side while DF is being used.	YES	Go to step 11.
4	When DF is being used: 2nd side	A fault occurs in the image read from the 2nd side while DF is being used.	YES	Go to step 18.
Main bodyside_original glass				
5	DF side_ Original pad	Original pad of DF is dirty.	YES	Clean.
6	Original glass	Original glass is dirty.	YES	Clean.
7	Shading sheet	Shading sheet is dirty.	YES	Clean.
8	Parts along scanning path	Mirror, lens, light guide or reflectors is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
Main bodyside_DF original reading section				
9	Main bodyside_reading section	Document reading glass of main body is dirty.	YES	Clean.
10	DF side_ document reading glass cleaning brush	Document reading glass cleaning brush of DF is dirty.	YES	Clean.
11	Main bodyside_shading sheet	Shading sheet of main body is dirty.	YES	Clean.
12	Parts along scanning path	Mirror, lens, light guide, or reflectors is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
DF side_original reading section				
13	CIS glass cleaning	CIS glass is dirty.	YES	Clean.
14	CIS reading section	CIS reading section is dirty.	YES	Clean.

Step	Section	Check item	Result	Action
15	CIS cleaning brush	CIS cleaning brush is dirty.	YES	Clean.
16	Shading sheet	Shading sheet is dirty.	YES	Clean.
17	Scanning section	CIS reading section is dirty.	YES	Clean.
			NO	Replace the CIS module.

9.2.3 White line 2, White band 2, Color line 2, Color band 2

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band
[3]	Color line	[4]	Color band

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Sharp white line or colored line is blurry.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals.	NO	Clean or correct the terminal.
4	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
5	Photoconductor section	Scratches on photoconductor.	YES	• Clean. • Replace the drum unit.
6	Photoconductor section	Toner line or dirt on photoconductor. (improper cleaning)	YES	Replace the drum unit.

Step	Section	Check item for the faulty color	Result	Action for the faulty color
7	1st transfer section	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
8	1st transfer section	Scratches or dirt on 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
9	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the developing unit.
			NO	• Check the high voltage unit, developing unit, and the drum unit for wiring and connection. • Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action

1	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
2	Transfer belt unit	Lines that can be removed by cleaning are evident on the transfer belt. (improper cleaning)	YES	• Check or clean the cleaning blade. • Replace the transfer belt unit.
3	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
4	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
5	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
6	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
7	Fusing unit	Dirt or foreign matter on paper path or separation claw of the fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
8	Fusing unit	Scratches on belt or roller in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the base board.

Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
			NO	Replace the CCD unit.
3	When DF is being used: 1st side	Document reading glass or document reading glass cleaning brush is dirty.	YES	Clean.
			NO	Replace the CCD unit.
4	When DF is being used: 2nd side	CIS glass or CIS cleaning brush is dirty.	YES	Clean.
			NO	Replace the CIS module.

9.2.4 Uneven density 1

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	IDC sensor is dirty.	YES	Clean.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	High image density original	Uneven density in sub scan direction occurs at a pitch of 40 mm to 50 mm when a multi-copy cycle is run using an original with high image density (50% or more).	YES	Feed 10 to 20 blank sheets of paper with no originals placed, as the developing unit fails to keep up with a high demand for toner.
2	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
3	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (65AA-99##). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
4	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the drum unit.
5	1st transfer section	Dirt, scratches, or foreign matter on the 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
6	1st transfer section	Faulty pressure/retraction operation of the 1st transfer roller.	YES	• Correct or replace the drive system. • Replace the transfer belt unit.
7	Developing section	Toper hopper operates improperly or contains foreign matter.	YES	• Correct or remove. • Replace the hopper drive unit.
8	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the developing unit.
			NO	• Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
2	Transfer belt unit	Lines that can be removed by cleaning are evident on the transfer belt. (improper cleaning)	YES	• Check and clean the cleaning blade.

Step	Section	Check item	Result	Action
				• Replace the transfer belt unit.
3	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
4	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
5	Transfer belt unit	Transfer belt rotates faultily.	YES	Replace the transfer belt unit.
6	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
7	2nd transfer section	Faulty pressure/retraction operation of the 2nd transfer roller.	YES	• Correct. • Replace the transfer roller unit.
8	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
9	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
10	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] , and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the fusing unit. • Replace the high voltage unit. • Replace the base board.

9.2.5 Uneven density 2

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	IDC sensor is dirty.	YES	Clean.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.

Step	Section	Check item for the faulty color	Result	Action for the faulty color
3	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the drum unit.
4	Photoconductor section	Photoconductor drives faultily.	YES	• Correct. • Replace the drum unit.
5	1st transfer section	Scratches or dirt on 1st transfer roller.	YES	• Clean. • Replace the transfer belt unit.
6	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace the developing unit.
			NO	• Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
2	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
3	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
4	Transfer belt unit	Transfer belt rotates faultily.	YES	• Correct. • Replace the transfer belt unit.
5	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
6	2nd transfer section	Faulty pressure/retraction operation of the 2nd transfer roller.	YES	• Correct. • Replace the transfer roller unit.
7	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
8	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
9	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the fusing unit. • Replace the high voltage unit. • Replace the base board.

9.2.6 Faint image, low image density (ID lowering)

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
3	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
4	IDC sensor	IDC sensor is dirty.	YES	Clean.

Step	Section	Check item	Result	Action
5	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (65AA-99##). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals.	NO	Clean or correct the terminal.
4	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
5	Hopper drive unit section	Faulty connector connection between the toner supply motor (M6 to M9) and expansion control board (CN10EX, CN11EX).	YES	Reconnect the connector.
6	Hopper drive unit section	Faulty in the drive of sub hopper.	YES	• Correct. • Replace the hopper drive unit.
7	Service Mode -> TCR data	Select [Service Mode] -> [State Confirmation] -> [Level History 1] and the measured value is correct. TCR-C, TCR-Y: normal value 5.5 to 8.5 % TCR-M: normal value 5 to 8 % TCR-K: normal value 4 to 7 %	NO	Select [Service Mode] -> [Imaging Process Adjustment] -> [Manual Toner Add] and perform the function.
8	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
2	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
3	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.

Step	Section	Check item	Result	Action
4	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization]], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the base board.

Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
2	Parts along scanning path	Mirror, lens, light guide, or reflectors is dirty.	YES	Clean.
3	Main bodyside_shading sheet	Shading sheet of main body is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
4	When DF is being used: 1st side	Document reading glass or document reading glass cleaning brush is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
5	When DF is being used: 2nd side	• Shading correction surface of DF is dirty. • CIS glass or CIS cleaning brush is dirty.	YES	Clean.
			NO	Replace the CIS module.

9.2.7 Gradation reproduction failure

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

Troubleshooting procedure

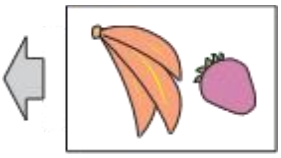
Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
3	Write section	Dirt or foreign matter on the dust-proof glass of the PH of the color which is responsible for the abnormal image.	YES	Clean the PH window.
4	Charging section	Foreign matter on charging roller of the color which is responsible for the abnormal image.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
5	IDC sensor	IDC sensor is dirty.	YES	Clean.
6	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

Step	Section	Check item	Result	Action
7	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
8	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the drum unit that is responsible for the abnormal image. • Replace the developing unit that is responsible for the abnormal image. • Replace the PH unit. • Replace the high voltage unit. • Replace the expansion control board. • Replace the base board.

9.2.8 Color reproducibility error

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
3	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
6	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (65AA-99##). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
4	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
5	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
6	IDC sensor	IDC sensor is dirty.	YES	Clean.
7	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

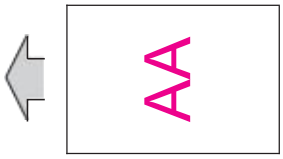
Step	Section	Check item	Result	Action
8	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
9	Connector connection	Faulty connector connection the high voltage unit (CN1, CN2) and baseboard (CN21E, CN26E).	YES	Reconnect the connector.
10	Service Mode -> Initialize	Select [Service Mode] -> [Imaging Process Adjustment]	YES	Readjust.

	+ Image Stabilization	-> [Stabilizer] -> [Initialize + Image Stabilization] , and the image trouble is eliminated.	NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the expansion control board. • Replace the base board.

9.2.9 Incorrect color image registration

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Connector connection	Faulty connector connection the PH unit and expansion control board (CN7EX, CN10EX).	YES	Reconnect the connector.
2	Service Mode -> Color Registration Adjustment	Select [Service Mode] -> [Machine] -> [Color Registration Adjustment] and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] , and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the PH unit. • Replace the expansion control board. • Replace the base board.

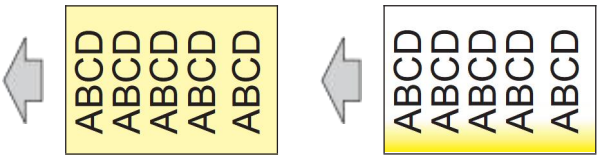
Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original contains incorrect color registration.	YES	Change the original.
3	When DF is being used	DF does not lie flat.	YES	• Adjust the DF height. • Replace DF if it is deformed or hinges are broken.
4	Scanner rails	Foreign matter on scanner rails.	YES	Clean and apply lubricant. *
5	When original glass is being used	Scanner moves smoothly.	YES	Replace the CCD unit.
			NO	• Replace the scanner motor. • Replace the scanner drive board.
6	When DF is being used: Registration Loop Adj.	Select [Service Mode] -> [ADF] -> [Registration Loop Adj.] and make the necessary adjustment, and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the CCD unit.
7	When DF is being used: Paper path	There is dirty on paper path or roller of DF.	YES	Clean.
			NO	Replace the CIS module.

9.2.10 Foggy background

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Malfunction code	The maintenance call mark is displayed on the panel.	YES	Perform the relevant troubleshooting procedure corresponding to the malfunction code.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
3	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
4	IDC sensor	IDC sensor is dirty.	YES	Clean.
5	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
7	Service Mode -> Charge AC Output fine adjustment	Fog occurs unevenly on the left-hand side with respect to the paper feeding direction. Or fog occurs in part of the paper. The fog is reduced when [Service Mode] -> [Imaging Process Adjustment] -> [Charge AC Output fine adjustment] are selected and the setting value is increased.	NO	Return the setting value to the original one and go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.

3	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals.	NO	Clean or correct the terminal.
4	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
5	Service Mode -> TCR data	Select [Service Mode] -> [State Confirmation] -> [Level History 1] and the measured value is correct. TCR-C, TCR-Y: normal value 5.5 to 8.5 % TCR-M: normal value 5 to 8 % TCR-K: normal value 4 to 7 %	NO	Select [Service Mode] -> [Imaging Process Adjustment] -> [Manual Toner Add] and perform the function.
6	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
7	Connector connection	Faulty connector connection the high voltage unit (CN1,CN2), baseboard (CN12E, CN21E, CN26E), and expansion control board (CN2EX, CN7EX, CN10EX).	YES	Reconnect the connector.
8	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the drum unit. • Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
2	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
3	Service Mode -> Max Image Density Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Max Image Density Adj] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the base board.

Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	NO	Go to the next step.
3	Basic -> Density	Change the density setting, and the image trouble is eliminated.	NO	Go to the next step.
4	When DF is being used	DF does not lie flat.	YES	• Adjust the DF height. • Replace DF if it is deformed or hinges are broken.
5	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.

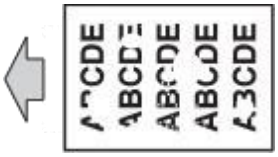
Step	Section	Check item	Result	Action
6	Parts along scanning path	Mirror, lens, light guide, or reflectors is dirty.	YES	Clean.
7	Main bodyside_shading sheet	Shading sheet of main body is dirty.	YES	Clean.
8	When DF is being used: 1st side	Document reading glass or document reading glass cleaning brush is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
9	When DF is being used: 2nd side	• Shading correction surface of DF is dirty. • CIS glass or CIS cleaning brush is dirty.	YES	Clean.
			NO	Replace the CIS module.

9.2.11 Void areas, White spots

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

[1]



[2]

[1]	Void areas	[2]	White spots

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Use in areas with low atmospheric pressure	Select [Service Mode] -> [Imaging Process Adjustment] -> [Grad/Dev AC Bias V Selection] and change the setting to [ON]. This eliminates the trouble.	NO	Change the setting to [OFF] and go to the next step.
3	IDC sensor	IDC sensor is dirty.	YES	Clean.
4	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
5	Service Mode -> Charge AC Output fine adjustment	The white spots is eliminated when [Service Mode] -> [Imaging Process Adjustment] -> [Charge AC Output fine adjustment] are selected and the setting value is increased.	NO	Return the setting value to the original one and go to the next step.
7	Service Mode -> Primary transfer adj.	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] -> [Primary transfer adj.] and the image trouble is eliminated. * Decrease the setting value for white dots.	NO	Return the setting value to the original one and go to the next step.
8	Service Mode -> 2nd transfer adj.	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] -> [2nd Transfer Adj.] and the image trouble is eliminated. * Increase or decrease the setting value to find a specific value at which the trouble is eliminated.	NO	Return the setting value to the original one and go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the drum unit.
4	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals.	NO	Clean or correct the terminal.
5	Developing section	Toner bristles not even on the developing roller, resulting in a void area.	YES	Replace the developing unit.
6	1st transfer section	There is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
7	Connector connection	Faulty connector connection the high voltage unit (CN1,CN2), baseboard (CN12E, CN21E, CN26E), and expansion control board (CN2EX, CN7EX, CN10EX).	YES	Reconnect the connector.
8	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the drum unit. • Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

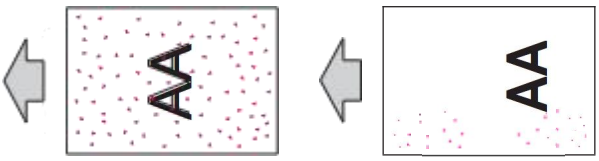
Step	Section	Check item	Result	Action
1	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.

2	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
3	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
4	Connector connection	Faulty connector connection the high voltage unit (CN1, CN2) and baseboard (CN21E, CN26E).	YES	Reconnect the connector.
5	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the high voltage unit.

9.2.12 Color spot

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	IDC sensor	IDC sensor is dirty.	YES	Clean.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
4	Service Mode -> Charge AC Output fine adjustment	Fine colored dots evident on the left-hand side with respect to the paper feeding direction. Or fine color spots are evident on a particular portion in the paper. The color spots are reduced when [Service Mode] -> [Imaging Process Adjustment] -> [Charge AC Output fine adjustment] are selected and the setting value is increased.	NO	Return the setting value to the original one and go to the next step.
5	Service Mode -> Transfer Voltage Fine Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] and the image trouble is eliminated. * Decrease the setting value for color spots.	NO	Return the setting value to the original one and go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the drum unit.
4	Photoconductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals.	NO	Clean or correct the terminal.
5	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
6	Connector connection	Faulty connector connection the high voltage unit (CN1,CN2), baseboard (CN12E, CN21E, CN26E), and expansion control board (CN2EX, CN7EX, CN10EX).	YES	Reconnect the connector.
7	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the drum unit. • Replace the PH unit. • Replace the high voltage unit.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.

Step	Section	Check item	Result	Action
2	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
3	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
4	Connector connection	Faulty connector connection the high voltage unit (CN1, CN2) and baseboard (CN21E, CN26E).	YES	Reconnect the connector.
5	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the high voltage unit.

Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
			NO	Replace the CCD unit.
4	When DF is being used: 1st side	Document reading glass or document reading glass cleaning brush is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
5	When DF is being used: 2nd side	CIS glass or CIS cleaning brush is dirty.	YES	Clean.
			NO	Replace the CIS module.

9.2.13 Blurred image

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH of the color which is responsible for the abnormal image.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller of the color which is responsible for the abnormal image.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt or foreign matter on the photoconductor of the PH of the color which is responsible for the abnormal image.	YES	• Clean. • Replace the drum unit.
			NO	Replace the PH unit.

Scanner troubleshooting procedure

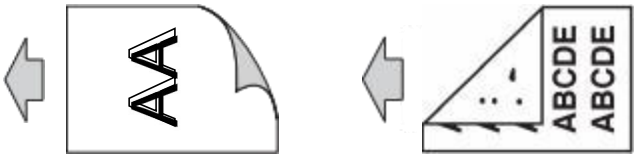
Step	Section	Check item	Result	Action

1	Original	Original is folded, bent, or raised.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When original glass is being used	Original glass tilts.	YES	Corrected to the correct position.
4	Parts along scanning path	Mirror, lens, light guide, or reflectors is dirty.	YES	Clean.
5	When DF is being used	DF does not lie flat.	YES	• Adjust the DF height. • Replace DF if it is deformed or hinges are broken.
6	When DF is being used: 1st side	Document reading glass tilts.	YES	Corrected to the correct position.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
7	When DF is being used: 2nd side	CIS glass or CIS cleaning brush is tilted.	YES	Corrected to the correct position.
			NO	Replace the CIS module.

9.2.14 Back marking

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



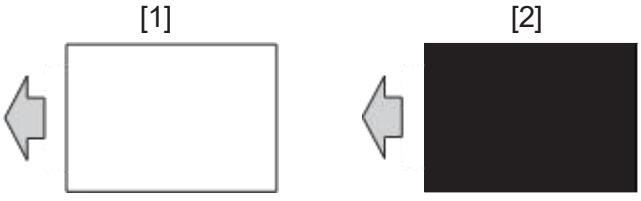
Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
3	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
4	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
5	Fusing unit	Scratches on belt or roller in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the high voltage unit.

9.3.15 Blank copy, Black copy

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1] Blank copy	[2] Black copy

Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action

1	2nd transfer section	There is a positive contact between the application terminals of the 2nd transfer and the connection terminals (T2, E1) and ground terminal of the high voltage unit.	NO	Clean or correct the terminal.
2	Transfer belt unit	With the color of toner responsible for the abnormal image, there is a positive contact between the transfer belt application terminals and the high voltage unit connection terminals (Y: T1-4; M: T1-3; C: T1-2; K: T1-1).	NO	Clean or correct the terminal.
3	Photoconductor section	The drum unit of the color of toner responsible for the abnormal image is installed properly.	NO	Reinstall.
4	Photoconductor section	With the color of toner responsible for the abnormal image, there is a positive contact between the drum charge corona bias application terminals and the high voltage unit connection terminals.	NO	Clean or correct the terminal.
5	Developing section	With the color of toner responsible for the abnormal image, there is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (Y: B4; M: B3; C: B2; K: B1).	NO	Clean or correct the terminal.
6	Connector connection	Faulty connector connection the high voltage unit (CN1, CN2) and baseboard (CN21E, CN26E).	YES	Reconnect the connector.
7	Write section	Faulty connector connection the expansion control board (CN7EX, CN10EX).	YES	Reconnect the connector.

Scanner troubleshooting procedure

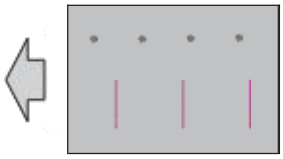
Step	Section	Check item	Result	Action
1	Black copy: Scanner section	Foreign matter on scanner rails. Faulty the driveshaft and pulley shaft.	YES	Clean and apply lubricant. *
2		Scanner moves smoothly.	NO	• Replace the scanner motor. • Replace the scanner drive board.
3	• When original glass is being used • When DF is being used: 1st side	None of the terminal pins of the connection cable between the CCD board (CN2) and the baseboard (CN6) is bent and a positive connection is made.	NO	Reconnect the connector.
4	• When original glass is being used • When DF is being used: 1st side	Replace the connection cable between the machine and the DF. This eliminates the trouble.	YES	Replace the connection cable.
5	• When original glass is being used • When DF is being used: 1st side	Select [Service Mode] -> [State Confirmation] -> [Self-diag.(Full)] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	• Replace the CCD unit. • Replace the base board.

Step	Section	Check item	Result	Action
6	When DF is being used: 2nd side	Faulty connector connection the CIS power supply (CN50), relay connector (CN117), main body connection section (CN1DF), baseboard (CN10E, CN14E),and DC power supply (CN6).	YES	Reconnect the connector.
7	When DF is being used: 2nd side	Faulty connector connection the high CIS module (CN2) and baseboard (CN5).	YES	Reconnect the connector.
8	When DF is being used: 2nd side	Replace the connection cable between the CIS module and the baseboard. This eliminates the trouble.	YES	Replace the connection cable.

9.2.16 Uneven pitch

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action for the faulty color
1	Uneven pitch at 94 to 96 mm interval	Dirt, scratches, or foreign matter on the photoconductor.	YES	• Clean. • Replace the drum unit.
2	Uneven pitch at 36 mm interval	Dirt, scratches, or foreign matter on the developing roller.	YES	• Clean. • Replace the developing unit.
3	Write section	Dirt or foreign matter on the dust-proof glass of the PH.	YES	Clean the PH window.
4	Charging section	Foreign matter on charging roller.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe (65AA-99##). Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
5	Connector connection	Faulty connector connection the high voltage unit (CN1, CN2) and baseboard (CN21E, CN26E).	YES	Reconnect the connector.
			NO	• Replace the high voltage unit. • Replace the base board.

4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Uneven pitch	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
2	Uneven pitch at 75 mm interval	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.
3	Uneven pitch at 126 mm interval	Dirt, scratches, or foreign matter on the fusing belt.	YES	• Clean. • Replace the fusing unit.
4	Uneven pitch at 100 mm interval	Dirt, scratches, or foreign matter on the fusing pressure roller.	YES	• Clean. • Replace the fusing unit.
5	Paper path	There is dirty or foreign matter on paper path.	YES	Check or clean the paper path including the duplex section.
			NO	• Replace the transfer belt unit. • Replace the high voltage unit. • Replace the base board.

9.2.17 Uneven gloss, Rough gloss

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

Troubleshooting procedure

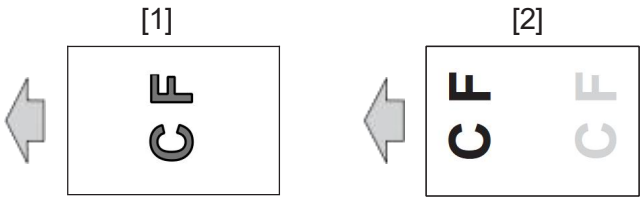
Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Fusing Temperature	Select [Service Mode] -> [Machine] -> [Fusing Temperature] and lower the fusing temperature, and the image trouble is eliminated.	NO	Return the fusing temperature to the original one and go to the next step.
3	Exit tray front roller, Exit roller	Faulty pressure operation of the exit tray front roller or exit roller.	YES	Correct.

4	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
5	Fusing unit	Scratches on belt or roller in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the power supply of fusing.

9.2.18 Poor fusing performance, Offset

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Poor fusing performance	[2]	Offset

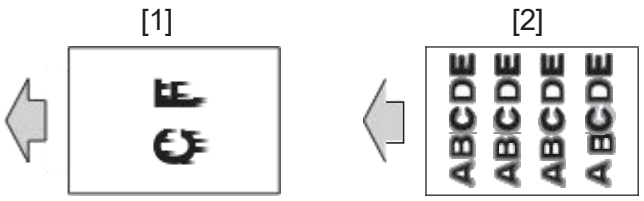
Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Fusing Temperature	Select [Service Mode] -> [Machine] -> [Fusing Temperature] and make the necessary adjustment, and the image trouble is eliminated. * Poor fusing performance: Decrease the setting value * Offset: Increase or decrease the setting value	NO	Return the setting value to the original one and go to the next step.
3	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
4	Fusing unit	Scratches on belt or roller in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the power supply of fusing.

9.2.19 Brush effect, Image bleeding

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Brush effect	[2]	Image bleeding

Initial troubleshooting procedure

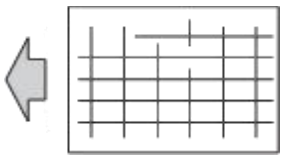
Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
2	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
3	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.
4	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
5	2nd transfer section	Dirt or foreign matter on the 2nd transfer roller.	YES	• Remove the foreign matter. • Replace the transfer roller unit.

6	Service Mode -> Fusing Temperature	Select [Service Mode] -> [Machine] -> [Fusing Temperature] and make the necessary adjustment, and the image trouble is eliminated. * Increase or decrease the setting value	NO	Return the setting value to the original one and go to the next step.
7	Service Mode -> Fusing Transport Speed	Select [Service Mode] -> [Machine] -> [Fusing Transport Speed] and make the necessary adjustment, and the image trouble is eliminated. * Brush effect: Increase or decrease the setting value * Image bleeding: Increase or decrease the setting value	NO	Return the setting value to the original one and go to the next step.
8	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
9	Fusing unit	Scratches on belt or roller in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the power supply of fusing.

9.2.20 Blurred fine lines

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Damp paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper settingselected on the machine.	YES	Make the paper setting again on the machine.
3	Unclear thin line in main scan direction	Select [Service Mode] -> [Machine] -> [LD adjustment] -> [LD Light Width Adjustment] and the image trouble is eliminated.	NO	Return the setting value to the original one and go to the next step.
4	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Write section	Dirt or foreign matter on the dust-proof glass of the PH of the color which is responsible for the abnormal image.	YES	Clean the PH window.
2	Charging section	Foreign matter on charging roller of the color which is responsible for the abnormal image.	YES	Lightly wipe the surface clean of foreign matter using hydro-wipe . Note: Do not apply a strong force to the surface of the charging roller, as doing so can damage the surface.
3	Photoconductor section	Dirt or foreign matter on the photoconductor of the PH of the color which is responsible for the abnormal image.	YES	• Clean. • Replace the drum unit.
4	Transfer belt unit	Dirt, scratches, or foreign matter on the transfer belt.	YES	• Clean. • Replace the transfer belt unit.
			NO	Replace the PH unit.

Scanner troubleshooting procedure

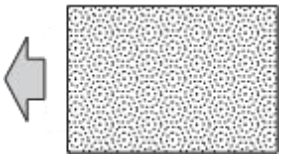
Step	Section	Check item	Result	Action
1	Original	Original is folded, bent, or raised.	YES	Change the original.
2	When original glass is being used	Original glass tilts.	YES	Corrected to the correct position.
3	When DF is being used	DF does not lie flat.	YES	• Adjust the DF height. • Replace DF if it is deformed or hinges are broken.
4	When DF is being used:	Document reading glass tilts.	YES	Corrected to the correct position.

	1st side		NO	• Replace the LED exposure unit. • Replace the CCD unit.
5	When DF is being used: 2nd side	CIS glass or CIS cleaning brush is tilted.	YES	Corrected to the correct position.
			NO	Replace the CIS module.

9.3.21 Moire

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	NO	Go to the next step.
3	Original direction	Change the direction in which the original is placed. This eliminates moire.	YES	Change the original direction.
4	Service Mode -> Stabilizer	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Stabilization Only] and the image trouble is eliminated.	NO	Go to the next step.

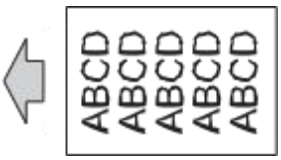
Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Service Mode -> Paper Feed Direction Adj.	Select [Service Mode] -> [Machine] -> [Printer Area] -> [Paper Feed Direction Adj.] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
2	Service Mode -> Initialize + Image Stabilization	Select [Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer] -> [Initialize + Image Stabilization] and [Gradation Adjust], and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the PH unit. • Replace the base board.

9.2.22 Distorted image

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



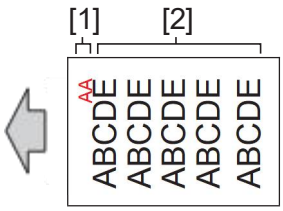
Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Installation state	Machine not installed on a flat site.	YES	Install the machine horizontally.
2	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When original glass is being used	Original glass not installed properly.	YES	Corrected to the correct position.
			NO	Replace the CCD unit.
4	When DF is being used: Distortion on 1st side	CCD board not installed properly.	YES	Corrected to the correct position.
			NO	Replace the CCD unit.
5	When DF is being used: Distortion on 2nd side	CIS module not installed properly.	YES	Corrected to the correct position.
			NO	Replace the CIS module.

9.2.23 ACS malfunction

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Color original section	[2]	Black and white original section

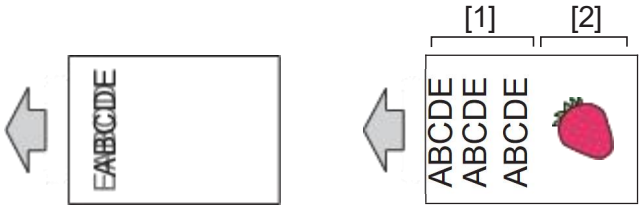
Troubleshooting procedure

Procedure	Section	Check item	Result	Action
1	Original Type	Select [Copy] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
2	Original direction	Change the direction in which the original is placed. This eliminates the trouble.	YES	Change the original direction.

9.2.24 Abnormal image

Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Data on the previous page	[2]	Data on the next page

Troubleshooting procedure

Step	Section	Check item	Result	Action
1	When original glass is being used When DF is being used: 1st side	None of the terminal pins of the connection cable between the CCD board (CN2) and the baseboard (CN6) is bent and a positive connection is made.	NO	Reconnect the connector.
2	When original glass is being used When DF is being used: 1st side	Replace the connection cable between the CCD board and the baseboard. This eliminates the trouble.	YES	Replace the connection cable.
			NO	• Replace the CCD unit. • Replace the base board.
3	When DF is being used: 2nd side	Faulty connector connection the CIS power supply (CN50), relay connector (CN117), main body connection section (CN1DF), baseboard (CN10E, CN14E),and DC power supply (CN6).	YES	Reconnect the connector.
4	When DF is being used: 2nd side	Faulty connector connection the high CIS module (CN2) and baseboard (CN5).	YES	Reconnect the connector.
5	When DF is being used: 2nd side	Replace the connection cable between the CIS module and the dual scan image processing board. This eliminates the trouble.	YES	Replace the connection cable.

10. IC PROTECTOR

10.1 Outline

- To increase product safety, this MFP has an IC protector installed in each board. ICP is a component that protects IC.
- If the amount of the current supplied to the electrical parts such as motor exceeds the set level, ICP trips to protect IC from over current.
- The IC is provided with an over current protective function which works when the current exceeds the specified value to protect the IC from over current.
  For an IC that is provided with an over current protective function and being protected, if the problem is solved, the MFP will recover after turning OFF/ON the main power switch without replacing the board.
- The following list contains IC protector installed in each board, related devices, and symptoms when an over current occurs.

10.2 IC protector list

10.2.1 CM605/CM805

(1) Base board

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1E	M1	Transport motor	Power line A1 error	C7601
F2E	M2	PC motor	Power line A2 error	C7602
F3E	M21	Developing motor	Power line A3 error	C7603
F4E	M3	Fusing motor	Power line A4 error	C7604
F5E	HV	High voltage unit	Power line A5 error	C7605
F6E	-	24V clamp circuit in mechanical controller of baseboard	Power line A6 error	C7606
F7E	CL2	Tray 2 vertical transport clutch	Power line A7 error	C7607
	CL3	Tray 1 paper feed clutch		
	CL4	Registration clutch		
	CL7	Bypass tray paper feed clutch		
	CL10	Paper feed roller fast clutch		
F8E	-	3.3V DC/DC converter in mechanical controller of baseboard	Mechanical controller ASIC communication error	C40A6
F9E	-	DF	No fuse detection function	-
F10E	-	Scanner unit	No fuse detection function	-
F11E	PCCB	PC control board	Power line A10 error	C760A
F12E	EXCB	Expansion control board	Power line A11 error	C760B
F13E	TCT	Total counter (Japan models only)	Power line A12 error	C760C
	KCT	Key counter		
F14E	DFCB	DF control board	Power line A13 error	C760D
	SCDB	Scanner drive board		
	-	F15E		
F15E	SW2	Front door switch	Power line A14 error	C760E
	SW3	Right door switch		
F17E	CUDB	Clean unit drive board	Power line A15 error	C760F
F19E	-	DF	Back side reading device cable break detection	C9702
	-	Scanner unit		
	ENVDB/RX	Envelope detection board/RX	Power line A16 error	C7610
ICP5	FAXB/2	Fax board/2 (FAX line 2)	FAX board error 5 (No fax board is installed. Mistake in installation. Defective HW.)	CB005
ICP6	FAXB/1	Fax board/1 (FAX line 1 or FAX line 1 to 3, FAX line 1 to 4)	FAX board error 5 (No fax board is installed. Mistake in installation. Defective HW.)	CB005
F1	FM3	Rear side cooling fan	Rear side cooling fan failure to turn	C5370

(b) IC with over current protective function

ICP No.	Symbol	Target part name	When over current protective function works	
			Symptom in each load	Trouble code and others
IC2	-	Control panel	Control panel power not turned ON	-

IC61	-	Vendor	Unable to detect vendor "Turn ON the power of the vendor" display	-
IC85	-	Wireless LAN	Extension network adapter installation error	CD262
IC86	USBHB	USB hub board	Unable to detect USB memory	-
	-	Authentication unit	Unable to detect authentication unit "Cannot find the connection with authentication unit. Turn OFF/ON the main power switch after the connection is found." display	-

(2) Expansion control board

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	M15	Skew correction motor/C	Power line B3 error	C7623
	M16	Skew correction motor/M		
	M17	Skew correction motor/Y		
ICP3	M14	Polygon motor	Power line B2 error	C7622
ICP5	ENVDRB	Envelope detection relay board (CM605/CM805)	Power line B4 error	C7624

(3) Scanner drive board

(a) ICP

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	CCDB	CCD board	CCD power-supply voltage malfunction Scanner sequence trouble 2	C6756 C6F02
	M201	Scanner motor		
	PS201	Scanner home sensor		
ICP2	LU201	LED exposure unit	Exposure LED lighting failure	C9401

10.2.2 DF-713

(1) DF control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	M3	Document reading motor	Misfeed at image reading section	-
ICP2	M1	Document feed motor	Misfeed at paper feed section	-
ICP3	M2	Document registration motor	Misfeed at transport section	-
ICP4	-	DC5V generation circuit	Back side cleaning home sensor abnormality (initial)	C6104
ICP5	M5	DF lift-up motor	Lift up mechanism trouble (Upward movement)	C8103
ICP6	PS1	Document empty sensor	Misfeed at paper feed section	-
ICP7	M8	Document reading glass cleaning motor	Back side cleaning home sensor abnormality (initial)	C6104
	M7	CIS cleaning motor		
	M4	Document exit motor		
ICP8	SD1	Stamp solenoid	Unable to place a stamp	-
ICP10	FM	DF cooling fan	Misfeed at paper feed section	-
	CL1	Document feed clutch		
ICP11	PS4	After separate sensor	Misfeed at transport section	-
	PS5	Document registration sensor		
	PS6	Document reading sensor		
	PS11	Document length size sensor/2		
	PS21	Document feed sensor		
ICP15	PS2	DF lift-up upper limit sensor	Back side cleaning home sensor abnormality (initial)	C6104
	PS3	DF lift-up lower limit sensor		
	PS7	Document exit sensor		
	PS9	CIS cleaning sensor		
	PS10	Document length size sensor/1		
	PS13	Mixed Original sensor/1		

	PS14	Mixed Original sensor/2		
	PS15	Mixed Original sensor/3		
	PS16	Upper door sensor		
	PS18	Document reading glass cleaning sensor		
	PS20	CIS cover sensor		
	PS26	Document feed tray sensor		
	TH	DF temperature sensor		
	VR1	Document width size sensor		
	MFDB/RX	Multi feed detection board/RX		
ICP16	MFDB/TX	Multi feed detection board/TX	No double feed detection function	-

(2) CIS power supply

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	-	CIS unit	CIS LED does not light up.	C6753
				C6754
				C6755
				C9403

10.2.3 CPF-810H/CPF-810X

(1) FS control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	M1	RU transport motor	Misfeed at RU section	-
F2	-	24V to 5V DC to DC converter	Unable to be detected	-
F3	ZURB	ZU relay board	Tray up/down malfunction at initial operation, unable to be detected upper position of Z-fold batch	-
F4	M134	Paper transport belt motor	Paper transport belt motor malfunction	C1152
F5	M6	Main tray up/down motor	Main tray up/down motor drive malfunction	C1102
F6	SW1	Front door open detect switch	No operation of inrush current prevention function	-
F7	-	Stapler unit	Stapler motor malfunction	C1112
	PKCB	Punch control board	Unable to be detected	-
	MSTIB	Manual staple indicator board	No light up of manual staple LED	-
F8	M6	Main tray up/down motor	Main tray up/down motor drive malfunction	C1102
	M134	Paper transport belt motor	Paper transport belt motor malfunction	C1152

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F9	ZUDB	ZU drive board	No operation of ZU folding motor	-
F10	PS6	Alignment plate home sensor/Rr	Stapler movement motor drive malfunction	C1106
	PS7	Trailing edge stopper sensor/Rr		
	PS9	Alignment plate home sensor/Fr		
	PS10	Trailing edge stopper sensor/Fr		
	PS11	Paper delivery control home sensor		
	PS12	Main tray full sensor		
	PS13	Main tray empty sensor		
	PS14	Main tray lift down detection sensor/Fr		
	PS15	Main tray lift down detection sensor/Rr		
	PS16	Main tray lift up detection sensor/Fr		
	PS17	Main tray lift up detection sensor/Rr		
	PS18	Flat staple position sensor/Rr		
	PS19	Corner staple position sensor/Rr		
	PS20	Stapler center position sensor		
	PS21	Route change gate home sensor		
	PS22	Receiving roller retraction sensor		
	PS24	Sub tray exit sensor		
	PS25	Upper paddle home sensor		
	PS26	Arm home sensor		
	PS27	Paddle up/down home sensor		
	PS32	Alignment tray paper detection sensor		
	PS35	SD discharge sensor		
	PS37	Main tray exit sensor		
	PS38	Main tray upper sensor/out		
	PS39	Sub tray full sensor/out		
	PS40	Main tray upper sensor/in		
	PS41	Sub tray full sensor/in		
	PS51	Main tray middle position sensor		
	PS52	Flat staple position sensor/Fr		
F11	PS23	Sub tray/JS route change gate home sensor	ZU transport motor drive malfunction Folding guide motor drive malfunction Pressure motor drive malfunction Cover opened display Residual paper jam display Unable to detect SD Unable to detect ZU	C1130 C1131 C1133
	PS33	PI discharge sensor		
	PS34	FNS entrance sensor		
	PS36	FNS middle sensor		
	PS401	Job tray door sensor		
	PS402	Job tray paper exit sensor		
	PS403	Job tray full sensor		
	PS2	RU entrance sensor		
	PS3	RU cover open/close detection sensor		
	PIDB	PI drive board		
	PIRB	PI relay board		
	ZURB	ZU relay board		
	SDCB	SD control board		
F12	PS1	Gripper motor sensor	Main tray up/down motor drive malfunction “Remove paper.” display	C1102
	PS2	Pre-eject encoder sensor		
	PS3	Gripper home sensor		
	PS4	Stacker plate encoder sensor		
	PS29	Stacker plate position sensor		
	PS30	Stacker plate home sensor		
	PS31	Trailing edge stopper home sensor		
	PS55	Front door open/close detection sensor		
	PS135	SD exit full sensor		
	PS141	SD exit tray limit sensor		
	PS143	SD exit tray lift sensor		

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F13	PS18	Flat staple position sensor/Rr	Stapler movement motor drive malfunction	C1106
	PS19	Corner staple position sensor/Rr		
	PS20	Stapler center position sensor		
	PS24	Sub tray exit sensor		
	PS39	Sub tray full sensor/out		
	PS52	Flat staple position sensor/Fr		
	PS53	Corner staple position sensor/Fr		
	PS54	Manual staple sensor		
	PS402	Job tray paper exit sensor		

(2) SD control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	-	24V to 5V DC to DC converter	Unable to detect the saddle unit Unable to detect the finisher "There is an open component." display	-

10.2.4 CPK-810XP

(1) Punch control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	-	DC5V sensor and others in the board	Finisher communication error (Finisher detection)	C1014
ICP2	M302	Punch oscillating motor	Punch oscillating motor drive malfunction	C1127

10.2.5 CPK-810Z

(1) ZU drive board

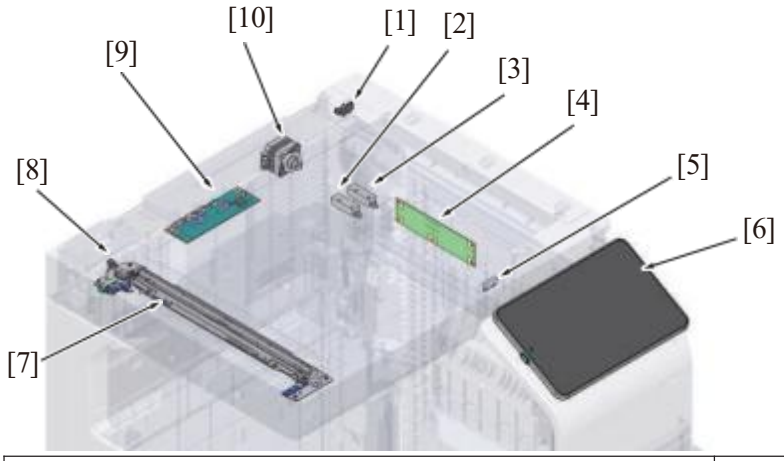
ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	M501	Center folding guide motor	Misfeed at fold section	-
ICP2	M501	Center folding guide motor		
ICP3	M502	Pressure motor	Pressure motor drive malfunction	C1133

K PARTS/CONNECTOR LAYOUT DRAWING

1. PARTS LAYOUT DRAWING

1.1 CM605/CM805

1.1.1 Scanner section

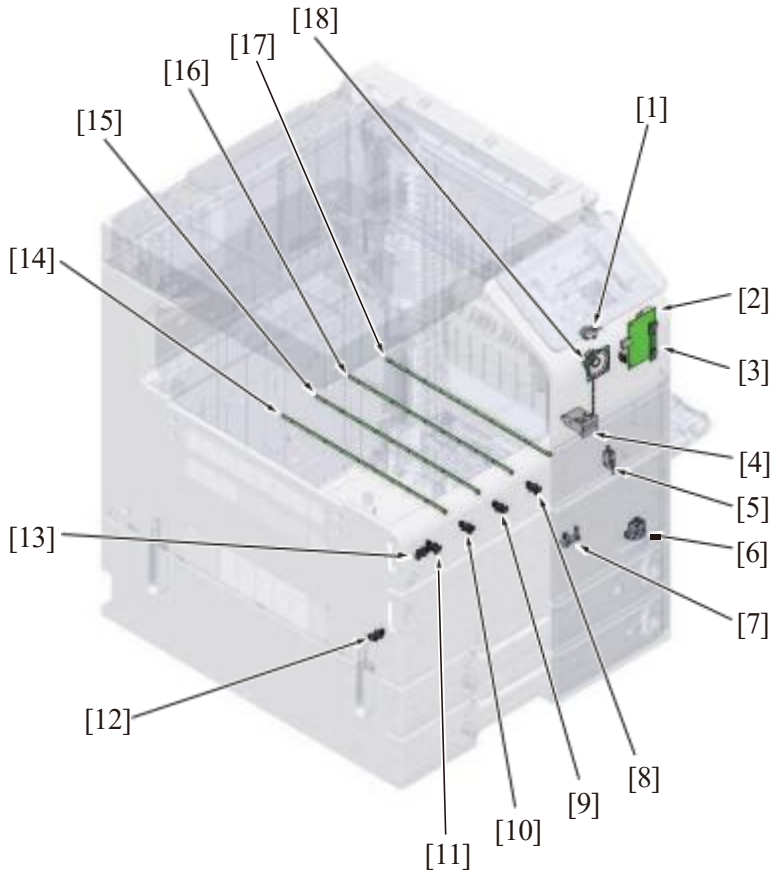


[1]	Angle sensor (PS202)	[2]	Original size sensor/1 (PS204)
[3]	Original size sensor/2 (PS205) *	[4]	CCD board (CCDB)
[5]	Original cover sensor (RS201)	[6]	Control panel unit
[7]	LED exposure unit (LU201)	[8]	Scanner home sensor (PS201)
[9]	Scanner drive board (SCDB)	[10]	Scanner motor (M201)

*: Excluding Japan models

1.1.2 Front side

(1) Board/switch/sensor/others

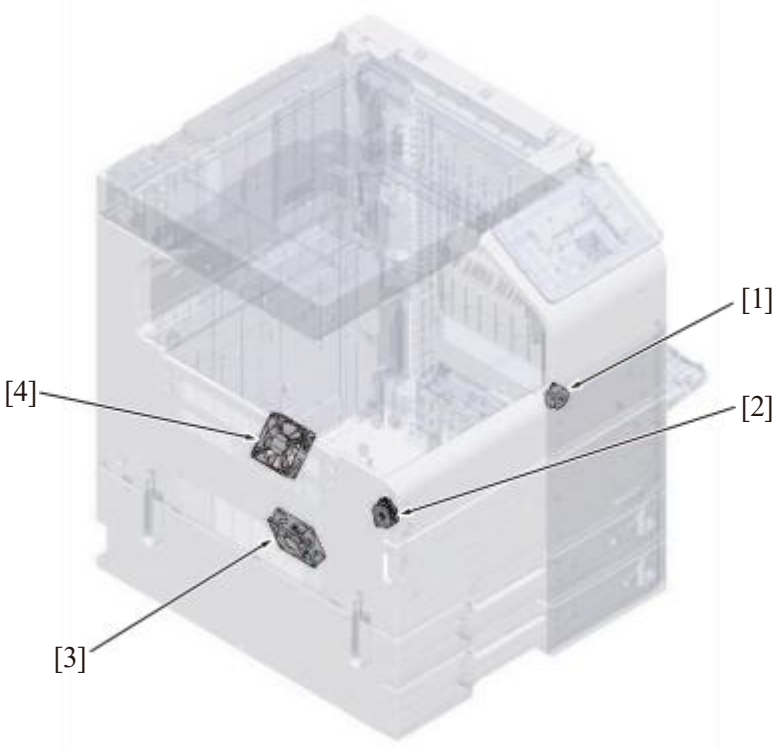


[1]	Right door switch (SW3)	[2]	USB hub board (USBHB) *1
[3]	Machine condition monitor board (MCMB)	[4]	Total counter (TCT) *2, *3

[5]	Front door switch (SW2)	[6]	Main power switch (SW1)
[7]	Waste toner full sensor (PS101)	[8]	Toner empty sensor/K (PS31)
[9]	Toner empty sensor/C (PS32)	[10]	Toner empty sensor/M (PS33)
[11]	Toner empty sensor/Y (PS34)	[12]	Waste toner box set sensor (PS100)
[13]	Front upper door sensor (PS43)	[14]	Erase LED/Y (EL/Y)
[15]	Erase LED/M (EL/M)	[16]	Erase LED/C (EL/C)
[17]	Erase LED/K (EL/K)	[18]	Fax speaker (SP1)

*1: Option
*2: Japan models only
*3: CM605/CM805 only

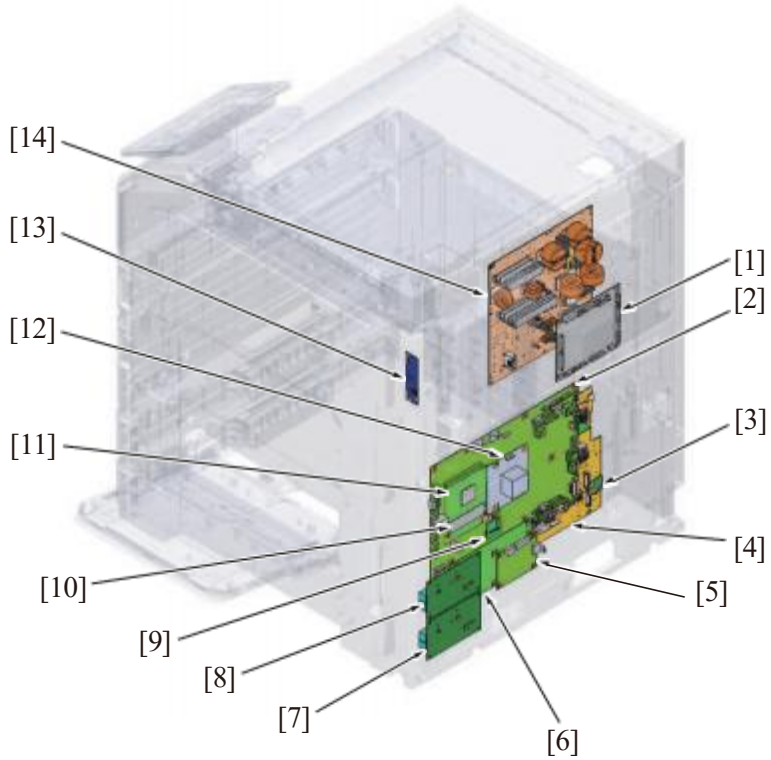
(2) Load



[1]	Toner supply motor/K (M6)	[2]	Waste toner transport motor (M20)
[3]	PH/power supply cooling fan (FM1)	[4]	Transfer belt cleaner cooling fan (FM2)

1.1.3 Back side

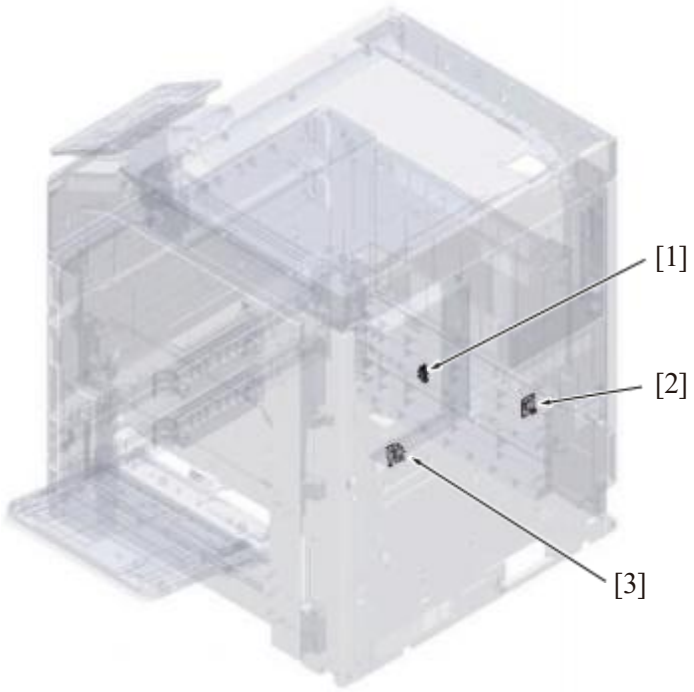
(1) Board



[1]	Expansion control board (EXCB)	[2]	Base board (BASEB)
[3]	Backup board (ERB)	[4]	High voltage unit (HV)
[5]	EFI relay board (EFIRYB) *1	[6]	DSC board/1 (DSCB/1) *1
[7]	Fax board/1 (FAXB/1) *1	[8]	Fax board/2 (FAXB/2) *1
[9]	TPM board (TPMB)	[10]	Storage board (STRGB)
[11]	CPU board (CPUB)	[12]	Memory board (MEMB) *3
[13]	Wireless LAN board (WLANB) *1,	[14]	HaCS power supply (FUPU) *2

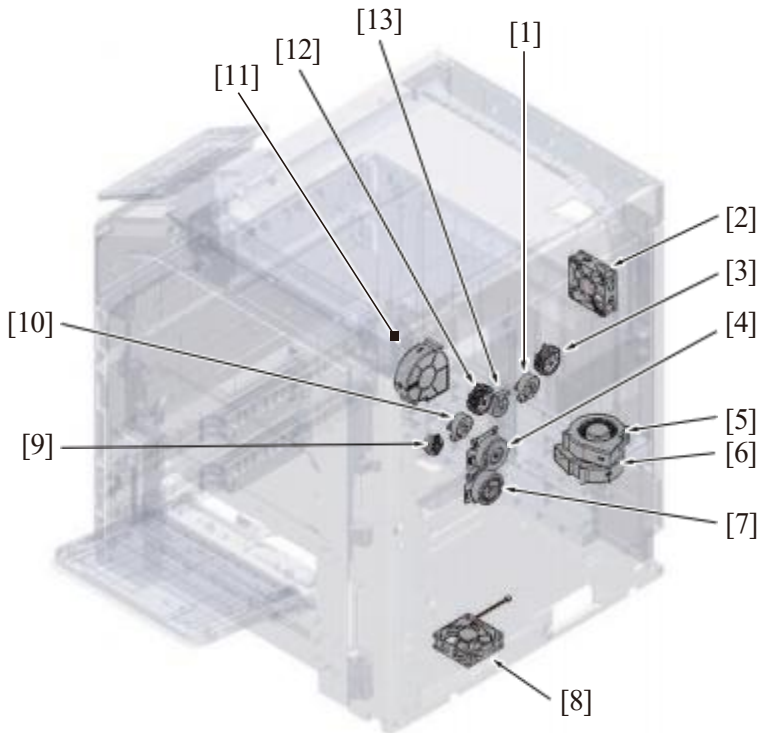
*1: Option
*2: CM805 only
*3: Standard equipment in CM805, option in CM605

(2) Switch/sensor/others



[1]	1st transfer pressure sensor (PS39)	[2]	Atmospheric pressure sensor (ATMPRS)
[3]	Developing solenoid (SD4)	-	-

(3) Load



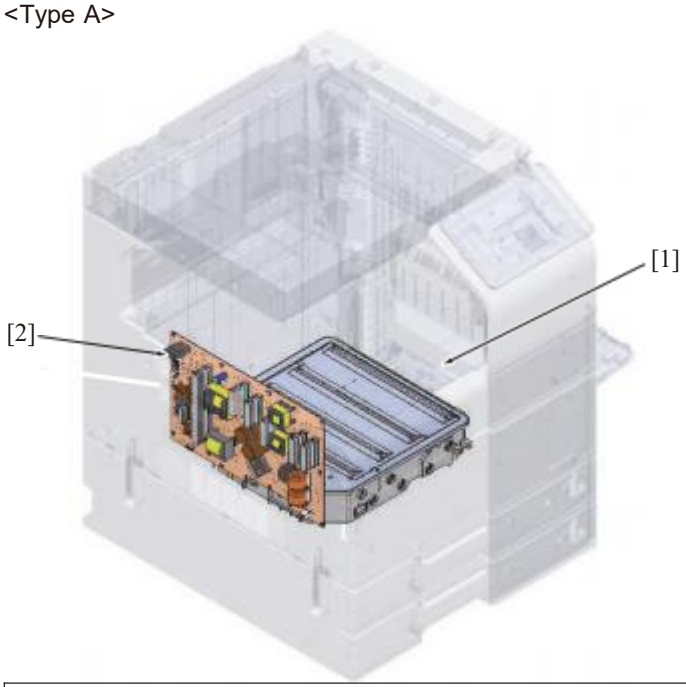
[1]	Toner supply motor/Y (M9)	[2]	HaCS power supply cooling fan (FM5) *1
[3]	Toner cartridge motor/YM (M10)	[4]	PC motor (M2)
[5]	Toner suction fan (FM11) *2, *3	[6]	DV cooling fan (FM19)
[7]	Developing motor (M27)	[8]	Rear side cooling fan (FM3)
[9]	1st transfer pressure clutch (CL5)	[10]	Toner supply motor/C (M7)
[11]	Paper cooling fan (FM8)	[12]	Toner cartridge motor/CK (M25)
[13]	Toner supply motor/M (M8)	-	-

*1: CM805 only
*2: CM605/CM805 only

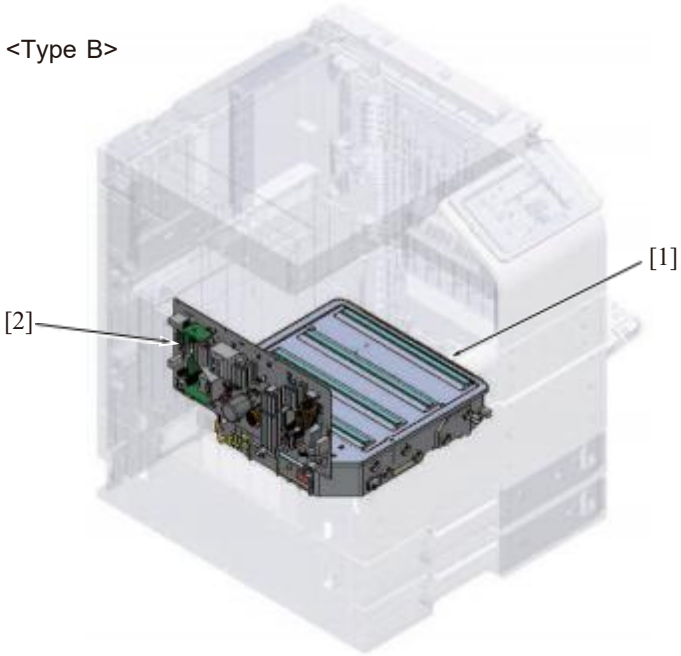
*3: This part may not be available depending on the production timing. (North America of CM605 only)

1.1.4 Left side

<Type A>



<Type B>

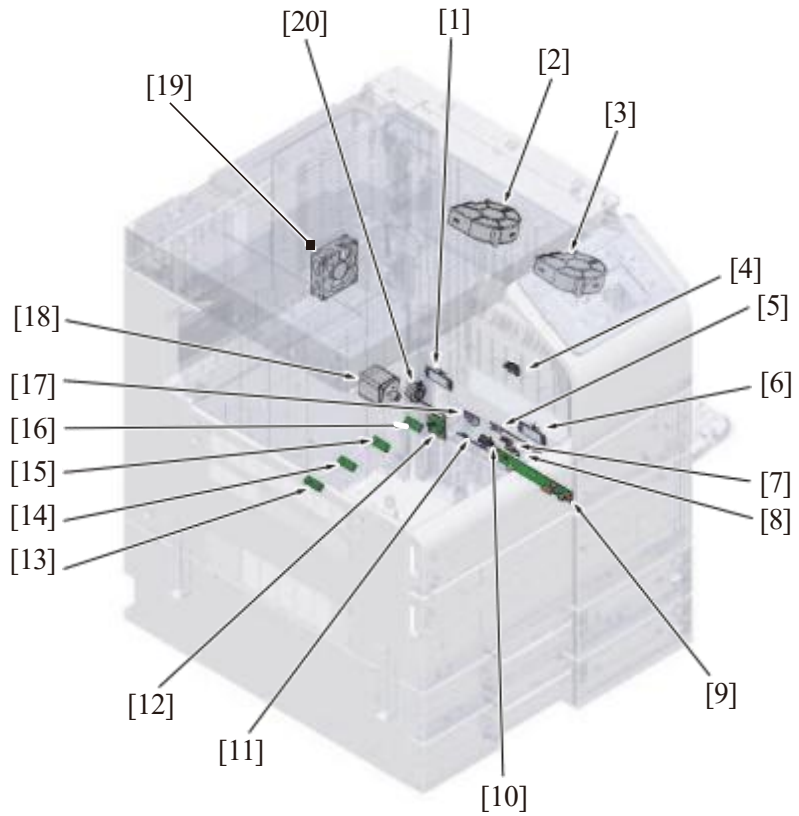


[1]	PH unit	[2]	DC power supply (DCPU) *1

*1: Two types of DC power supply (Type A, Type B) are provided depending on the production timing.

1.1.5 Right side

CM605/CM805



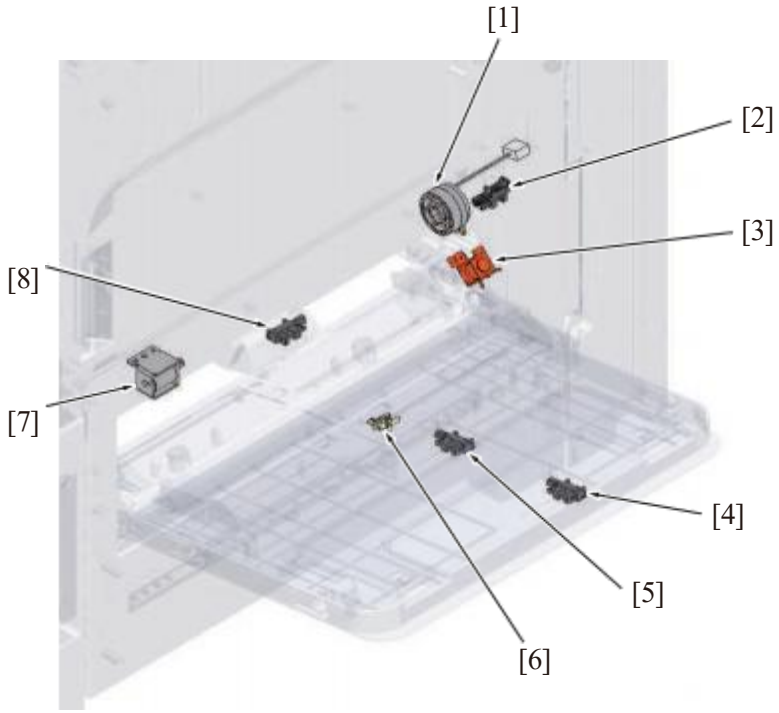
[1]	IDC sensor/Rr (IDCS/Rr)	[2]	UFP scavenging fan/Rr (FM18) *5
[3]	UFP scavenging fan/Fr (FM17)	[4]	Fusing loop sensor (PS2)
[5]	Envelope detection board/RX (ENVDB/RX)	[6]	IDC sensor/Fr (IDCS/Fr)

[7]	Registration sensor/2 (PS72) *1	[8]	Paper basis weight detection board/TX (PBWDB/TX)
[9]	Paper basis weight detection board/RX (PBWDB/RX)	[10]	Registration sensor/1 (PS1)

[11]	Envelope detection board/TX (ENVDB/TX)	[12]	Envelope detection relay board (ENVDRB) *4
[13]	TCR sensor/Y (TCRS/Y)	[14]	TCR sensor/M (TCRS/M)
[15]	TCR sensor/C (TCRS/C)	[16]	TCR sensor/K (TCRS/K)
[17]	Temperature/humidity sensor (TEM/HUMS)	[18]	Registration motor (M24) *3
[19]	Toner cartridge cooling fan (FM4)	[20]	Registration clutch (CL4) *2

*1: CM805 only
*2: CM605 only *3: CM805 only
*4: CM605/CM805 only *5:
CM805 only

1.1.6 Manual bypass tray

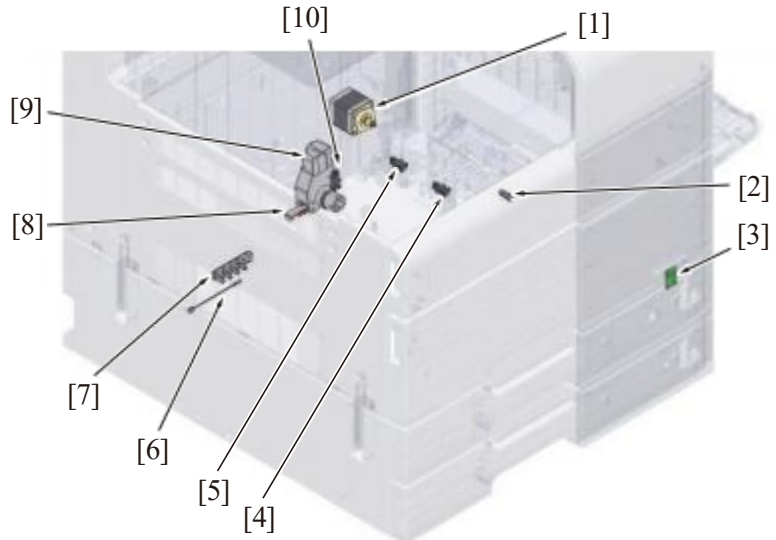


[1]	Bypass tray paper feed clutch (CL7)	[2]	Bypass tray lift-up position sensor (PS26)
[3]	Bypass tray lift-up solenoid (SD1)	[4]	Bypass tray FD paper size sensor/2 (PS29)
[5]	Bypass tray FD paper size sensor/1 (PS28)	[6]	Bypass tray CD paper size VR (VR1)
[7]	Bypass tray pick-up roller solenoid (SD6) *	[8]	Bypass tray paper empty sensor (PS27)

*: CM605/CM805 only

1.1.7 Tray 1

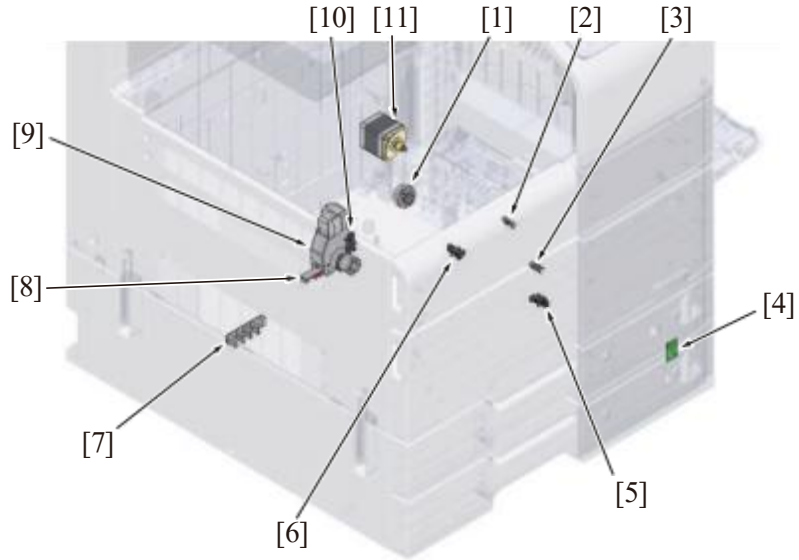
CM605/CM805



[1]	Paper feed motor (M22)	[2]	Tray 1 paper feed sensor (PS23)
[3]	Tray 1 paper empty indicator board (PEIB/1)	[4]	Tray 1 upper limit sensor (PS25)
[5]	Tray 1 paper empty sensor (PS24)	[6]	Paper feed thermistor (TH4)
[7]	Tray 1 FD paper size board (FDPSB/1)	[8]	Tray 1 CD paper size board (CDPSB/1)
[9]	Tray 1 lift-up motor (M12)	[10]	Tray 1 paper near empty sensor (PS11)

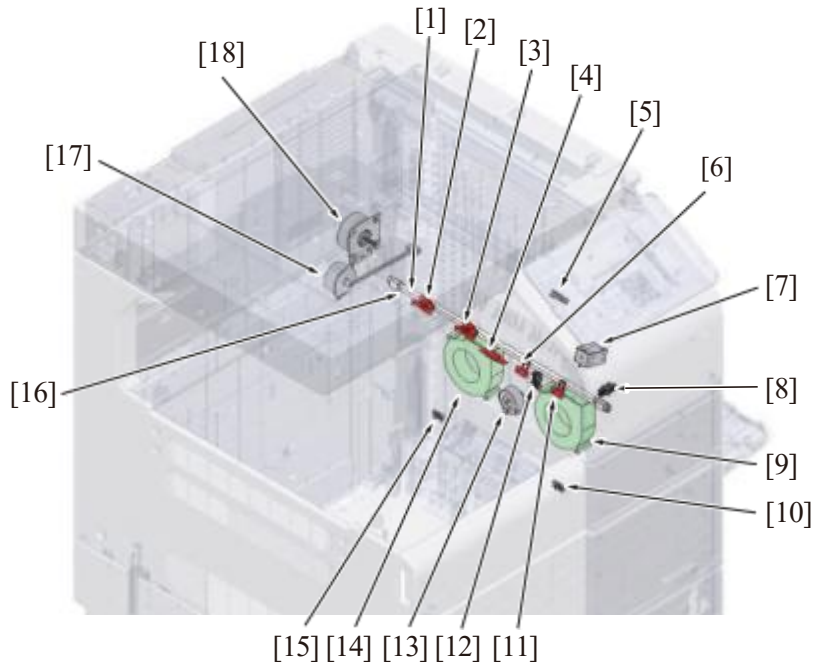
1.1.8 Tray 2

CM605/CM805



[1]	Tray 2 paper feed clutch (CL1)	[2]	Tray 2 vertical transport sensor (PS19)
[3]	Tray 2 paper feed sensor (PS20)	[4]	Tray 2 paper empty indicator board (PEIB/2)
[5]	Tray 2 paper empty sensor (PS21)	[6]	Tray 2 upper limit sensor (PS22)
[7]	Tray 2 FD paper size board (FDPSB/2)	[8]	Tray 2 CD paper size board (CDPSB/2)
[9]	Tray 2 lift-up motor (M13)	[10]	Tray 2 paper near empty sensor (PS12)
[11]	Tray 2 vertical transport motor (M23)	-	-

1.1.9 Fusing/paper exit section

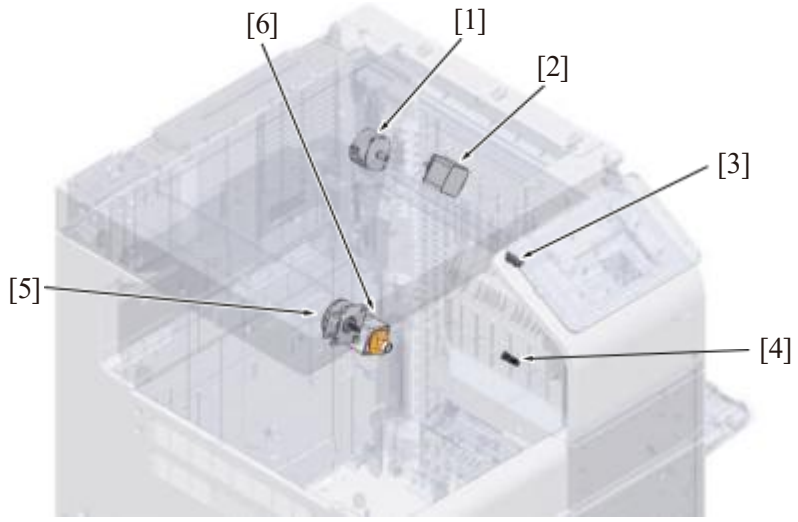


[1]	Fusing heater lamp/1 (FH1)	[2]	Heating roller thermostat/Edg (TS2)
[3]	Heating roller thermostat/Ctr (TS1)	[4]	Heating roller temperature sensor (TEMS)
[5]	Paper exit sensor (PS3)	[6]	Heating roller thermistor/Ctr (TH2)
[7]	Exit path switch solenoid (SD3)	[8]	Fusing pressure home sensor (PS38)
[9]	Fusing edge cooling fan/Fr (FM21) *	[10]	Feeding paper size sensor/1 (PS50) *
[11]	Heating roller thermistor/Edg (TH1)	[12]	Fusing shutter home sensor/1 (PS47) *
[13]	Fusing shutter motor (M15) *	[14]	Fusing edge cooling fan/Rr (FM22) *
[15]	Feeding paper size sensor/2 (PS51) *	[16]	Fusing heater lamp/2 (FH2)
[17]	Fusing pressure motor (M11)	[18]	Fusing motor (M3)

*: CM805 only

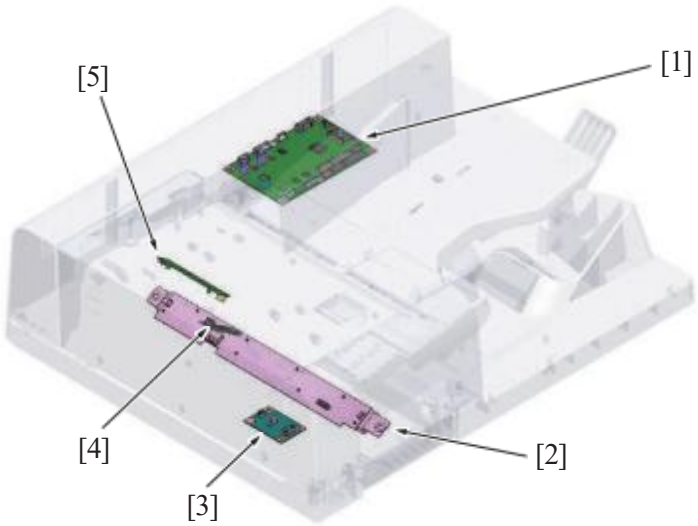
1.1.10 Duplex section

CM605/CM805

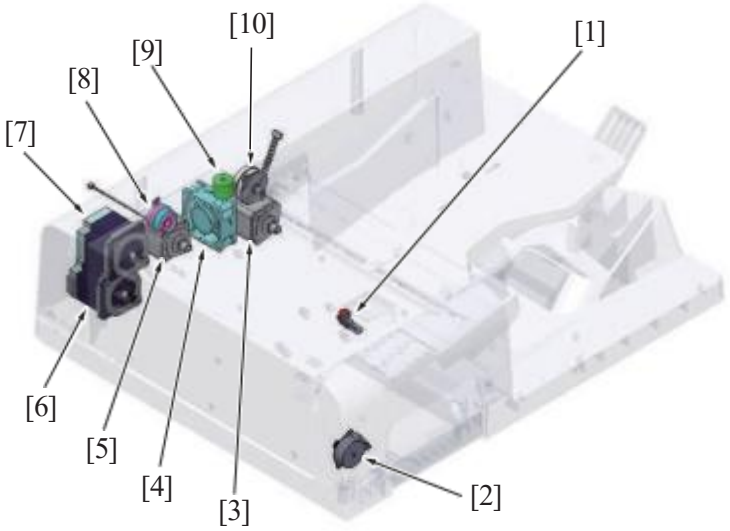


[1]	Paper exit/reverse motor (M4)	[2]	ADU transport motor/1 (M5)
[3]	ADU paper passage sensor/1 (PS40)	[4]	ADU paper passage sensor/2 (PS41)
[5]	Transport motor (M1)	[6]	ADU transport motor/2 (M26)

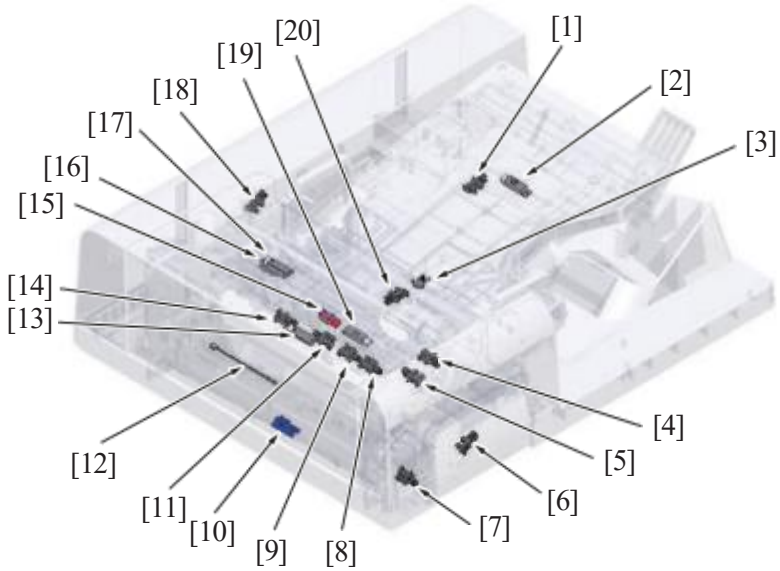
1.2 DF-713



[1]	DF control board (DFCB)	[2]	CIS module (CIS)
[3]	CIS power supply (CISPU)	[4]	Multi feed detection board/TX (MFDB/TX)
[5]	Multi feed detection board/RX (MFDB/RX)	-	-

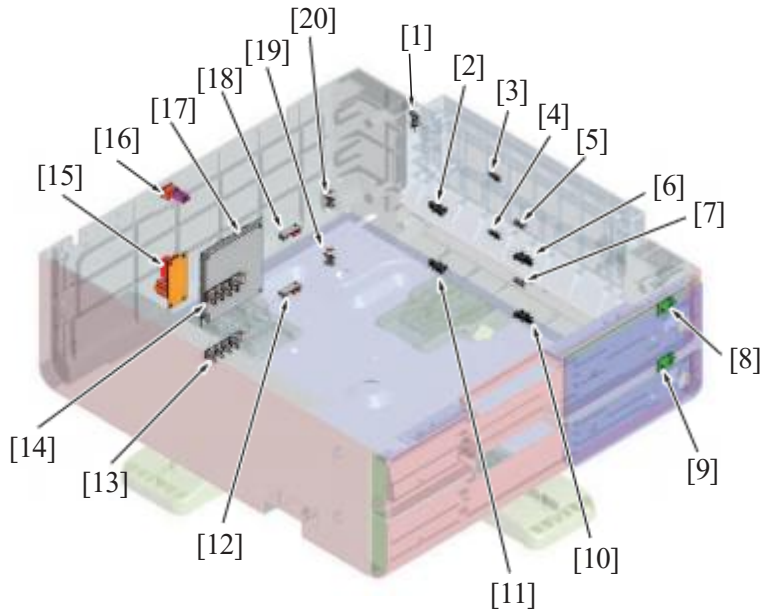


[1]	Stamp solenoid (SD)	[2]	Document reading glass cleaning motor (M8)
[3]	Document exit motor (M4)	[4]	DF cooling fan (FM)
[5]	Document feed motor (M1)	[6]	Document registration motor (M2)
[7]	Document reading motor (M3)	[8]	Document feed clutch (CL1)
[9]	DF lift-up motor (M5)	[10]	CIS cleaning motor (M7)



[1]	Document length size sensor/1 (PS10)	[2]	Document length size sensor/2 (PS11)
[3]	Document width size sensor (VR1)	[4]	Document exit sensor (PS7)
[5]	DF lift-up lower limit sensor (PS3)	[6]	CIS cover sensor (PS20)
[7]	Front side cleaning home sensor (PS18)	[8]	Mixed original sensor/3 (PS15)
[9]	Mixed original sensor/2 (PS14)	[10]	Document reading sensor (PS6)
[11]	Mixed original sensor/1 (PS13)	[12]	DF temperature sensor (TH)
[13]	Registration sensor (PS5)	[14]	Document feed tray sensor (PS26)
[15]	After separate sensor (PS4)	[16]	Back side cleaning home sensor (PS9)
[17]	Document feed sensor (PS21)	[18]	Upper door sensor (PS16)
[19]	Document empty sensor (PS1)	[20]	Upper limit sensor (PS2)

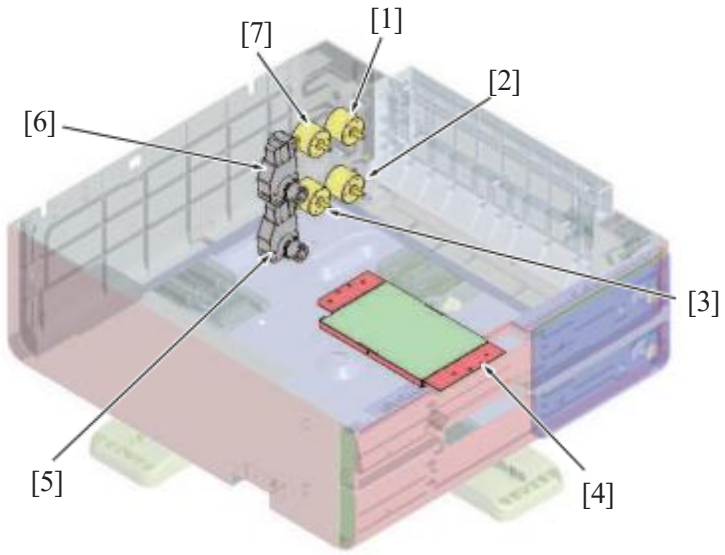
1.3 CPT-810



[1]	Right bottom door sensor (PS111)	[2]	Tray 3 upper limit sensor (PS116)
[3]	Tray 3 vertical transport sensor (PS113)	[4]	Tray 4 vertical transport sensor (PS123)
[5]	Tray 3 paper feed sensor (PS112)	[6]	Tray 3 paper empty sensor (PS114)
[7]	Tray 4 paper feed sensor (PS122)	[8]	Tray 3 paper empty indicator board (PEIB/3)
[9]	Tray 4 paper empty indicator board (PEIB/4)	[10]	Tray 4 paper empty sensor (PS124)
[11]	Tray 4 upper limit sensor (PS126)	[12]	Tray 4 CD paper size board (CDPSB/4)
[13]	Tray 4 FD paper size board (FDPSB/4)	[14]	Tray 3 FD paper size board (FDPSB/3)

[15]	Dehumidifier relay board (DERYB)*	[16]	Dehumidification heaterswitch (SW4) *
[17]	PC control board (PCCB)	[18]	Tray 3 CD paper size board (CDPSB/3)
[19]	Tray 4 paper near empty sensor (PS125)	[20]	Tray 3 paper near empty sensor (PS115)

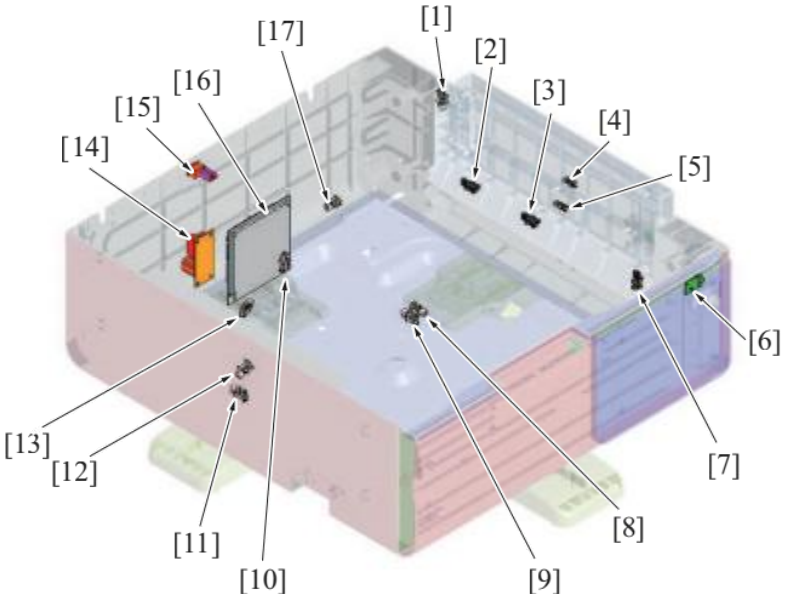
*: Japan models only



[1]	Tray 3 vertical transport motor (M112)	[2]	Tray 4 vertical transport motor (M122)
[3]	Tray 4 paper feed motor (M121)	[4]	PC dehumidifier heater (DH1) *
[5]	Tray 4 lift-up motor (M123)	[6]	Tray 3 lift-up motor (M113)
[7]	Tray 3 paper feed motor (M111)	-	-

*: Japan models only

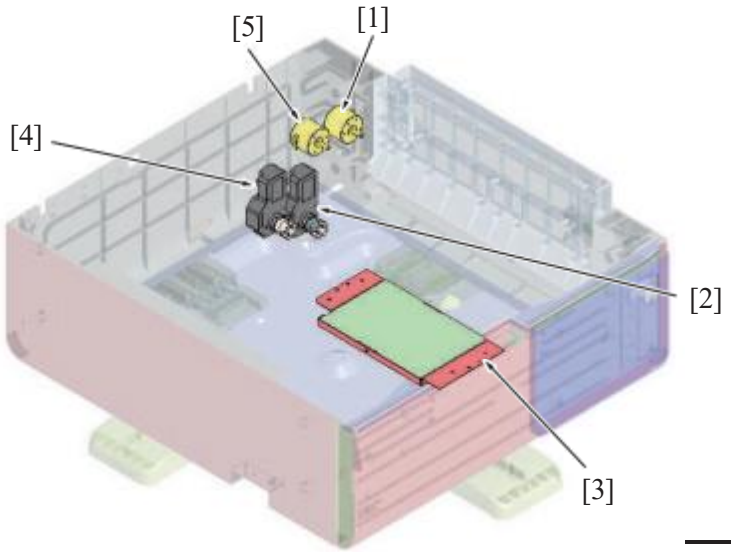
1.4 CPT-810H



[1]	Right bottom door sensor (PS131)	[2]	Main tray upper limit sensor (PS136)
[3]	Main tray upper paper empty sensor (PS137)	[4]	Vertical transport sensor (PS133)
[5]	Paper feed sensor (PS132)	[6]	Tray 3 paper empty indicator board (PEIB/3)
[7]	Cassette set sensor (PS143)	[8]	Main tray paper empty sensor (PS134)
[9]	Shifter stop / lower limit position sensor (PS138)	[10]	Division board sensor (PS142)
[11]	Shifter home sensor (PS139)	[12]	Sub tray paper empty sensor (PS141)
[13]	Sub tray paper remaining amount sensor (PS140)	[14]	Dehumidifier relay board (DERYB)*

[15]	Dehumidification heaterswitch (SW4) *	[16]	PC control board (PCCB)
[17]	Main tray paper near empty sensor (PS135)	-	-

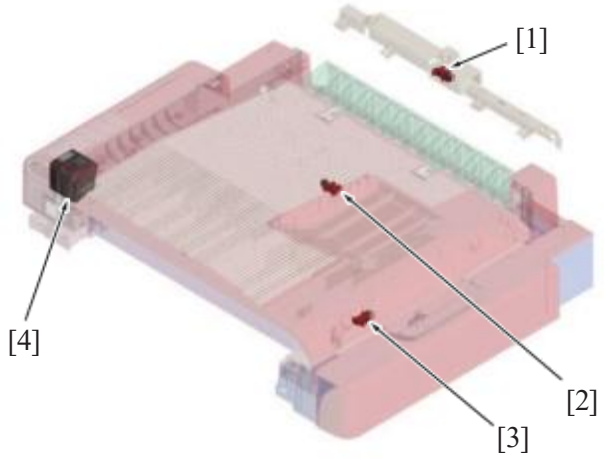
*: Japan models only



[1]	Vertical transport motor (M132)	[2]	Elevator motor (M134)
[3]	PC dehumidifier heater (DH1) *	[4]	Shifter motor (M133)
[5]	Paper feed motor (M131)	-	-

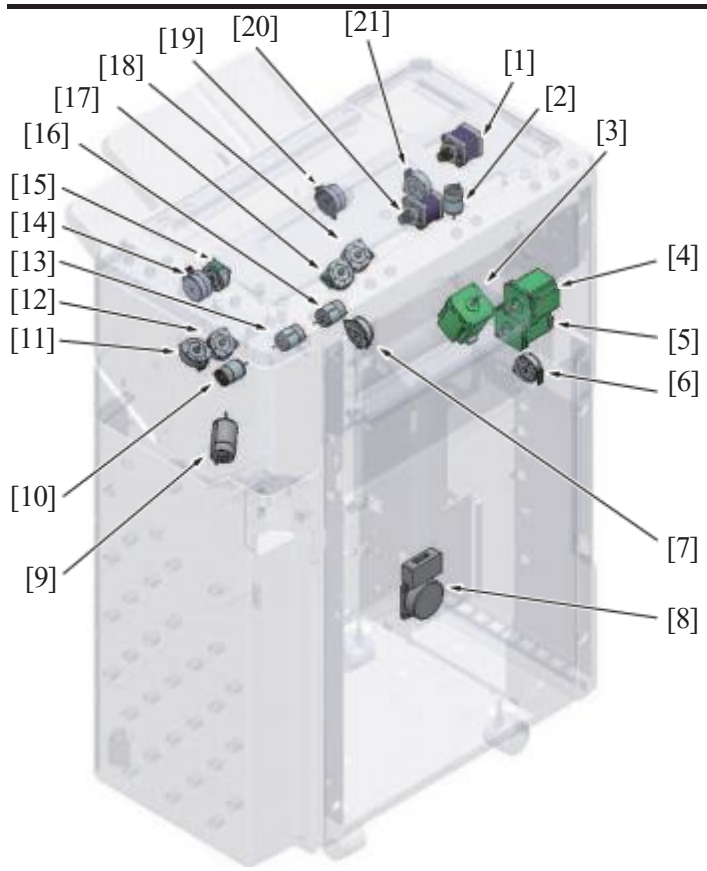
*: Japan models only
*: Japan models only

1.5 CPK-810R

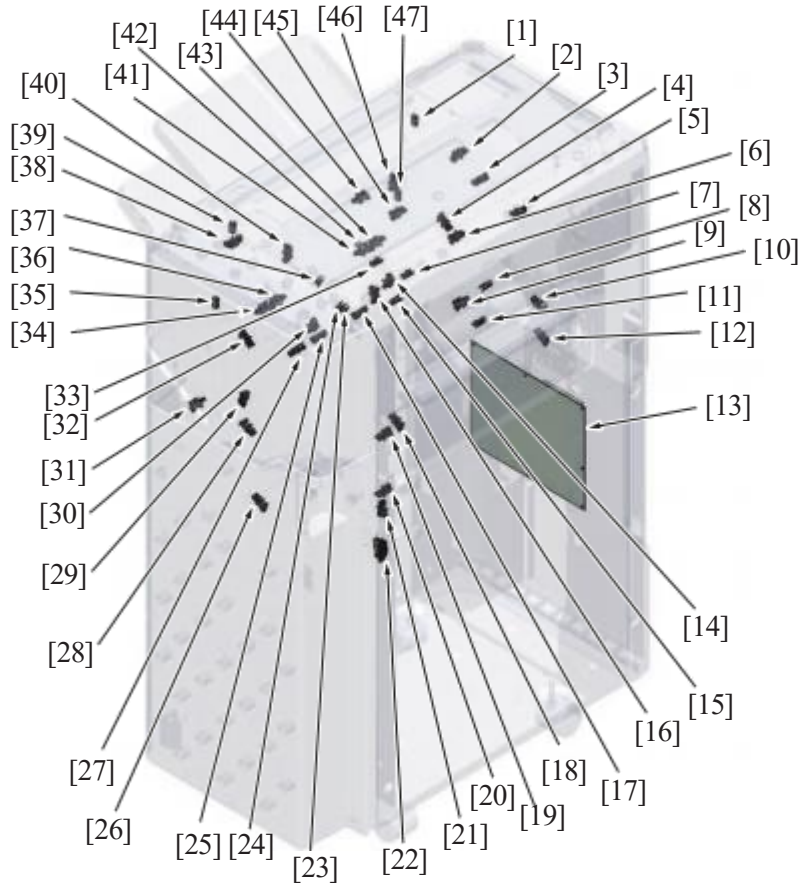


[1]	3rd exit tray full sensor (PS1)	[2]	RU entrance sensor (PS2)
[3]	RU cover open/close detection sensor (PS3)	[4]	RU transport motor (M1)

1.6 CPF-810H/CPF-810X

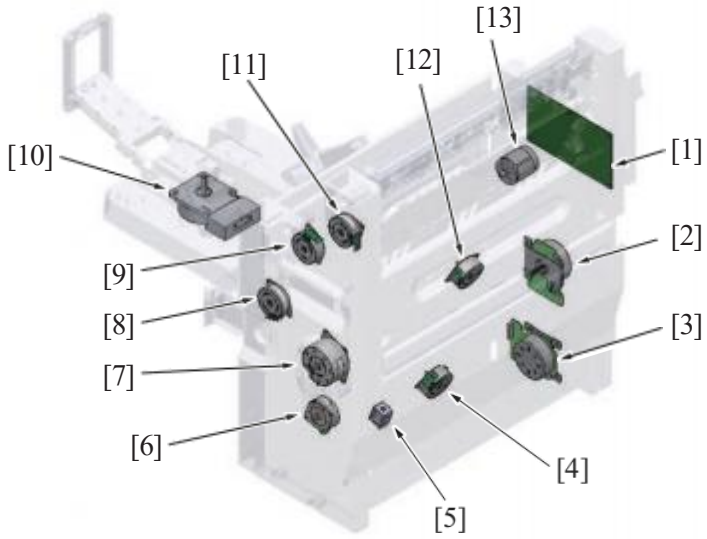


[1]	Sub tray exit motor (M18)	[2]	Route change gate motor (M4)
[3]	Stapler movement motor (M19)	[4]	FNS entry transport motor (M20)
[5]	ZU discharge motor (M21)	[6]	SD discharge motor (M16)
[7]	Stapler motor (M5)	[8]	Paper delivery control motor (M15)
[9]	Main tray up/down motor (M6)	[10]	Bundle eject motor (M1)
[11]	Alignment motor/Fr (M14)	[12]	Trailing edge stopper motor/Fr (M12)
[13]	Stacker plate drive motor (M3)	[14]	Arm drive motor (M8)
[15]	FNS paddle motor (M9)	[16]	Pre-eject drive motor (M2)
[17]	Trailing edge stopper motor/Rr (M11)	[18]	Paddle up/down motor (M7)
[19]	Alignment motor/Rr (M13)	[20]	FNS discharge motor (M17)
[21]	Receiving roller retraction motor (M10)	-	-

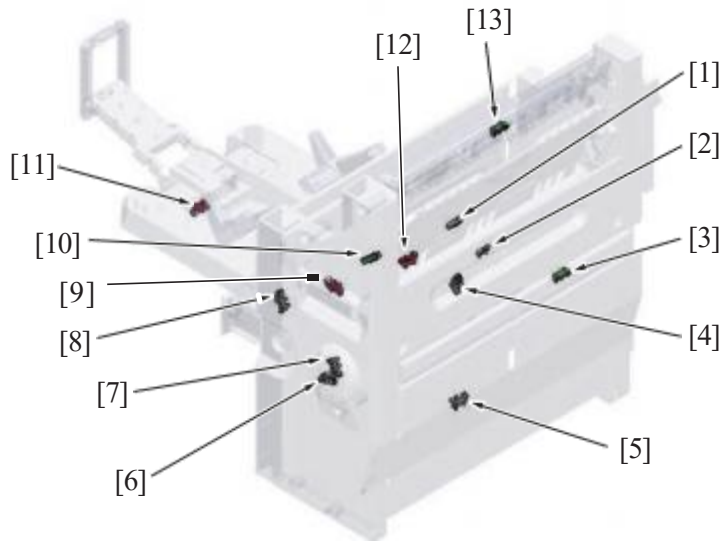


[1]	Sub tray full sensor/out (PS39)	[2]	Sub tray/JS route change gate home sensor (PS23)
[3]	Receiving roller retraction sensor (PS22)	[4]	Alignment plate home sensor/Rr (PS6)
[5]	Route change gate home sensor (PS21)	[6]	Main tray middle position sensor (PS51)
[7]	FNS middle sensor (PS36)	[8]	PI discharge sensor (PS33)
[9]	Flat staple position sensor/Rr (PS18)	[10]	Punch scraps box set sensor (PS28)
[11]	FNS entrance sensor (PS34)	[12]	Corner staple position sensor/Rr (PS19)
[13]	FS control board (FSCB)	[14]	Trailing edge stopper sensor/Rr (PS7)
[15]	SD discharge sensor (PS35)	[16]	Gripper home sensor (PS3)
[17]	Pre-eject encoder sensor (PS2)	[18]	Stapler center position sensor (PS20)
[19]	Main tray full sensor (CPF-810X) (PS12)	[20]	Main tray full sensor (CPF-810H) (PS12)
[21]	Front door open/close detection sensor (PS55)	[22]	Front door open detect switch (SW1)
[23]	Trailing edge stopper home sensor (PS31)	[24]	Stacker plate home sensor (PS30)
[25]	Stacker plate encoder sensor (PS4)	[26]	Corner staple position sensor/Fr (PS53)
[27]	Gripper motor sensor (PS1)	[28]	Flat staple position sensor/Fr (PS52)
[29]	Paper delivery control home sensor (PS11)	[30]	Trailing edge stopper sensor/Fr (PS10)
[31]	Manual staple sensor (PS54)	[32]	Main tray exit sensor (PS37)
[33]	Alignment plate home sensor/Fr (PS9)	[34]	Main tray lift up detection sensor/Fr (PS16)
[35]	Main tray upper sensor/out (PS38)	[36]	Main tray lift down detection sensor/Fr (PS14)
[37]	Stacker plate position sensor (PS29)	[38]	Arm home sensor (PS26)
[39]	Sub tray full sensor/in (PS41)	[40]	Paddle home sensor (PS25)
[41]	Alignment tray paper detection sensor (PS32)	[42]	Main tray lift down detection sensor/Rr (PS15)
[43]	Main tray lift up detection sensor/Rr (PS17)	[44]	Sub tray exit sensor (PS24)
[45]	Main tray empty sensor (PS13)	[46]	Paddle up/down home sensor (PS27)
[47]	Main tray upper sensor/in (PS40)	-	-

1.7 CPF-810X saddle section

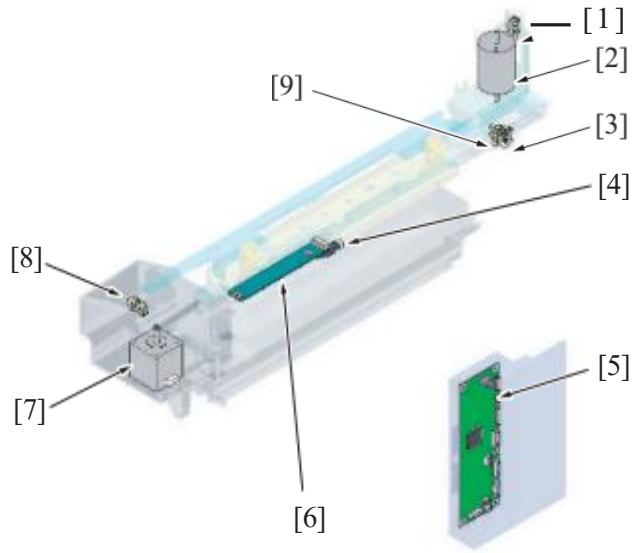


[1]	SD control board (SDCB)	[2]	Center fold roller motor (M105)
[3]	Center fold knife motor (M109)	[4]	Stopper drive motor (M104)
[5]	Stopper solenoid (SD101)	[6]	SD paddle motor (M107)
[7]	Center fold guide motor (M106)	[8]	Tri-folding guide motor (M108)
[9]	Paper discharge control motor (M102)	[10]	Paper transport belt motor (M134)
[11]	SD transport motor (M101)	[12]	Alignment motor (M103)
[13]	Center stapler motor (M110)	-	-



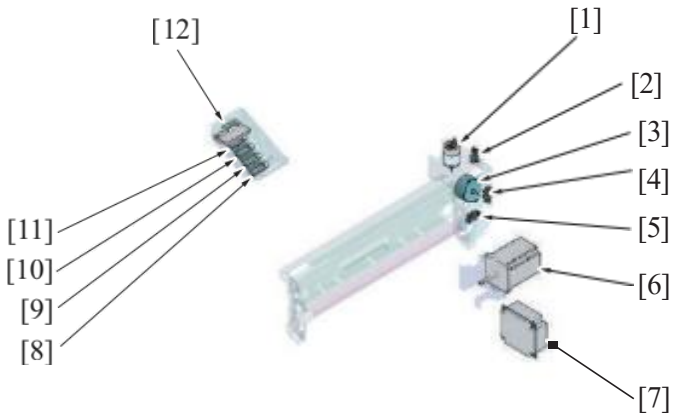
[1]	Center staple/foldstacker paper detect sensor (PS103)	[2]	Fold exit sensor (PS112)
[3]	Center fold knife home sensor (PS108)	[4]	Alignment home sensor (PS104)
[5]	Stopper home sensor (PS106)	[6]	Paddle home sensor (PS105)
[7]	Guide home sensor (PS107)	[8]	Tri-folding gate home sensor (PS111)
[9]	SD exit full sensor (PS135)	[10]	Curl cover detection sensor (PS102)
[11]	SD exit tray limit sensor (PS141)	[12]	SD exit tray lift sensor (PS143)
[13]	SD entrance sensor (PS101)	-	-

1.8 CPK-810XP



[1]	Punch motor sensor (PS306)	[2]	Punch drive motor (M301)
[3]	Punch position sensor (PS307)	[4]	Punch hole scraps box full sensor (PS302)
[5]	Punch control board (PKCB)	[6]	Paper size detect board (PSDTB)
[7]	Punch oscillating motor (M302)	[8]	Punch oscillating home sensor (PS303)
[9]	Punch home sensor (PS301)	-	-

1.9 CPK-810Z



[1]	Pressure motor (M502)	[2]	Press home sensor (PS502)
[3]	Folding guide motor (M501)	[4]	Guide home sensor (PS500)
[5]	Chopper home sensor (PS501)	[6]	ZU transport motor (M500)
[7]	ZU drive board (ZUDB)	[8]	Upper limit sensor/4 (PS506)
[9]	Upper limit sensor/3 (PS505)	[10]	Upper limit sensor/2 (PS504)
[11]	Upper limit sensor/1 (PS503)	[12]	ZU relay board (ZURB)

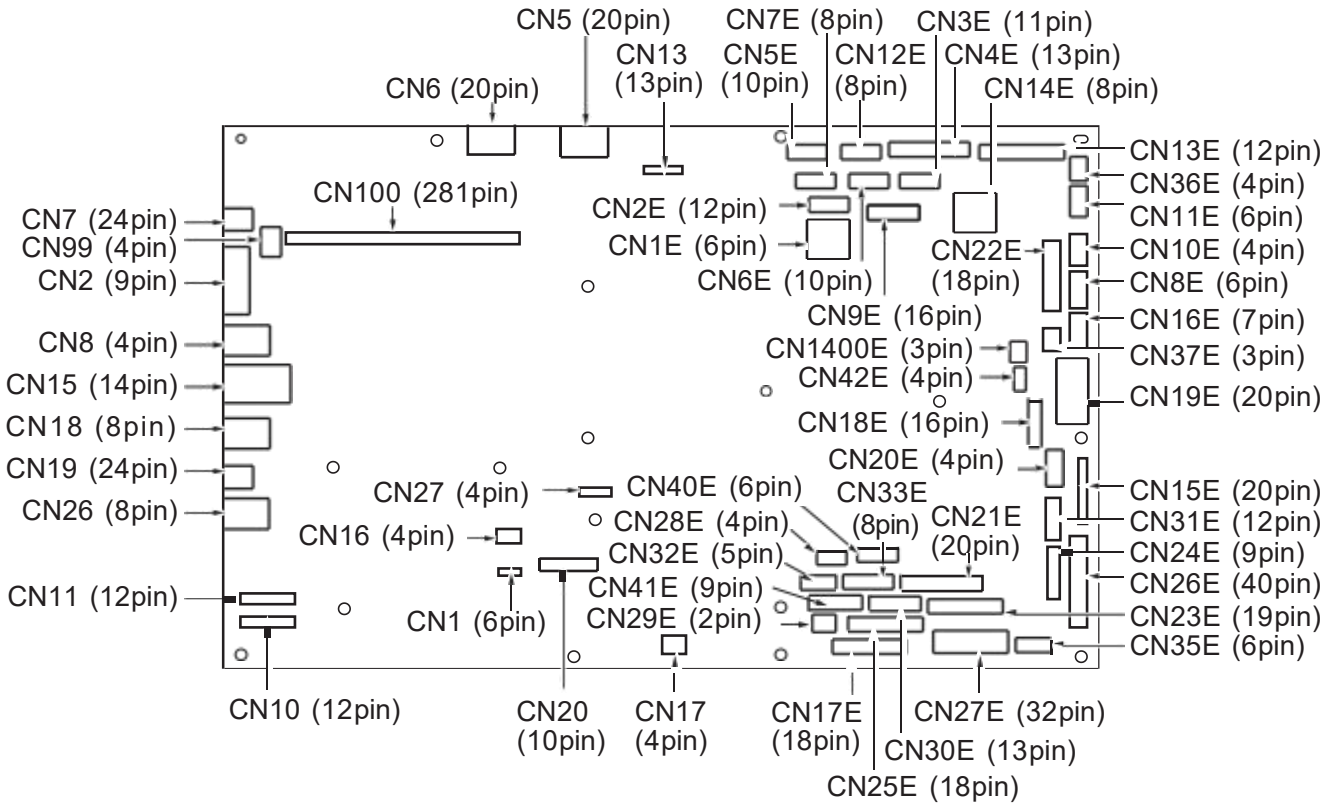
2. CONNECTOR LAYOUT DRAWING

2.1 BOARD CONNECTOR LAYOUT DRAWING

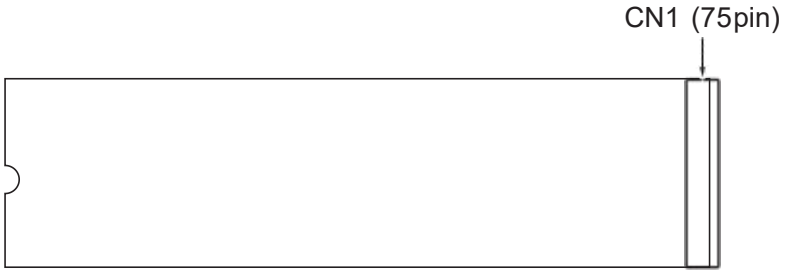
2.1.1 CM605/CM805

(1) Base board (BASEB)

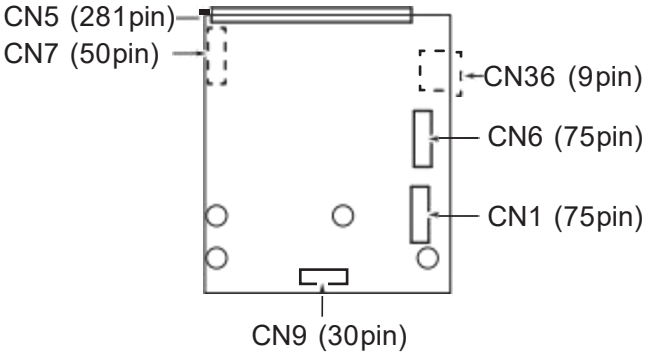
CM605/CM805



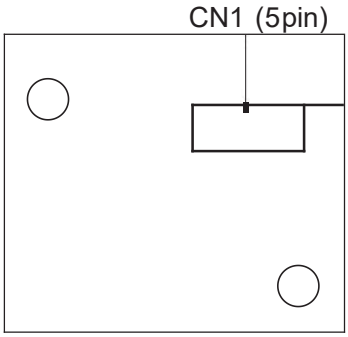
(2) Storage board (STRGB)



(3) CPU board (CPUB)

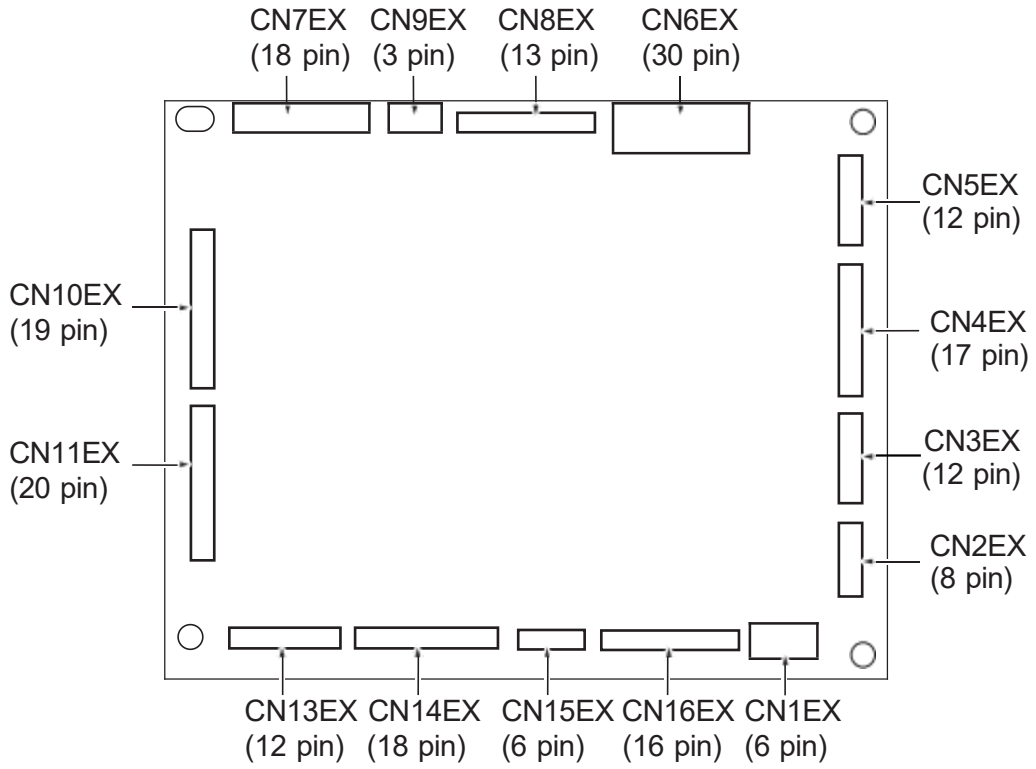


(4) Backup board (ERB)

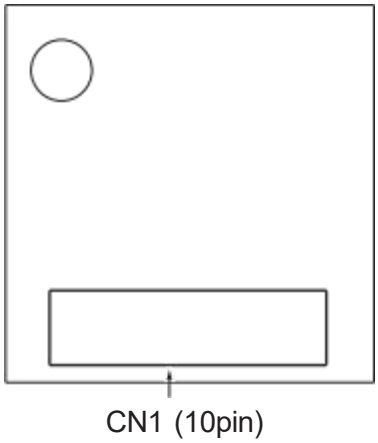


(5) Expansion control board (EXCB)

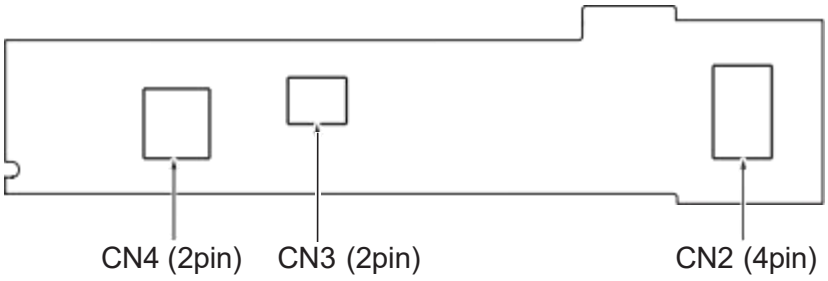
CM605/CM805



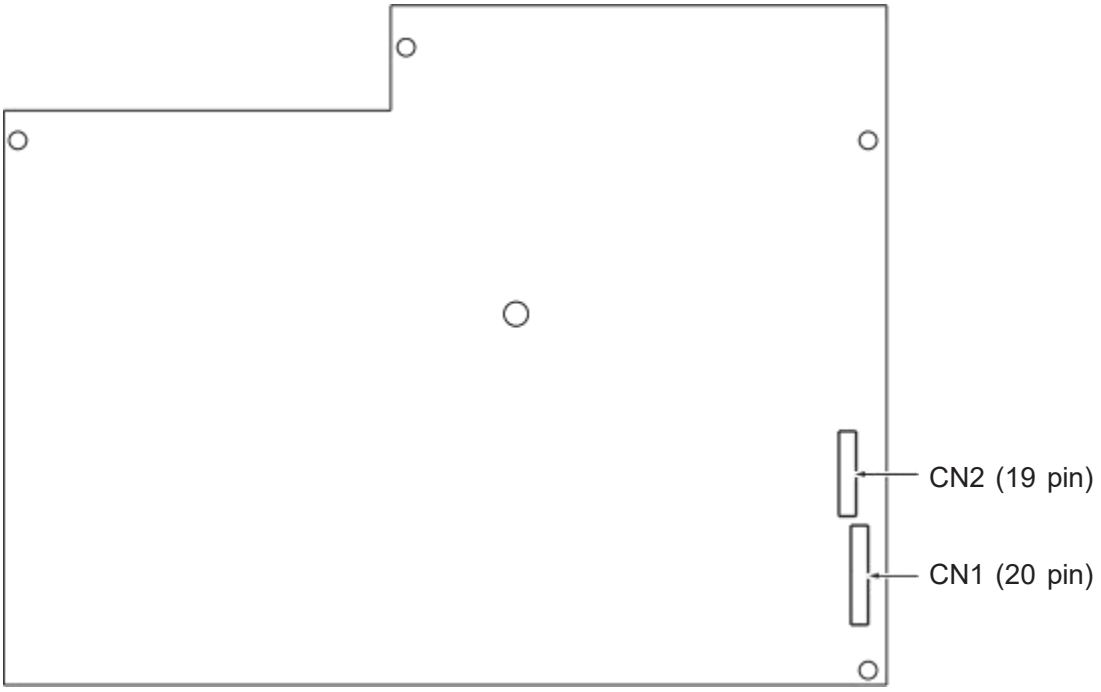
(6) TPM board (TPMB)



(7) Machine condition monitor board (MCMB)

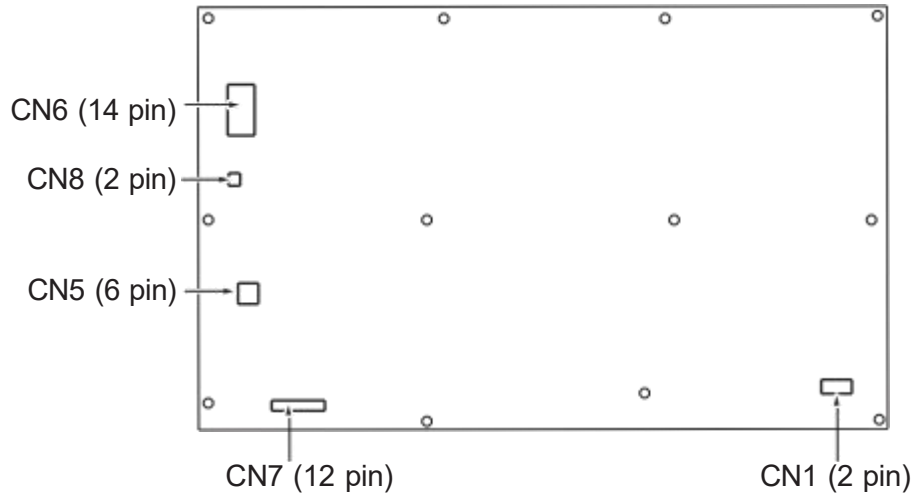


(8) High voltage unit (HV)



(9) DC power supply (DCPU)

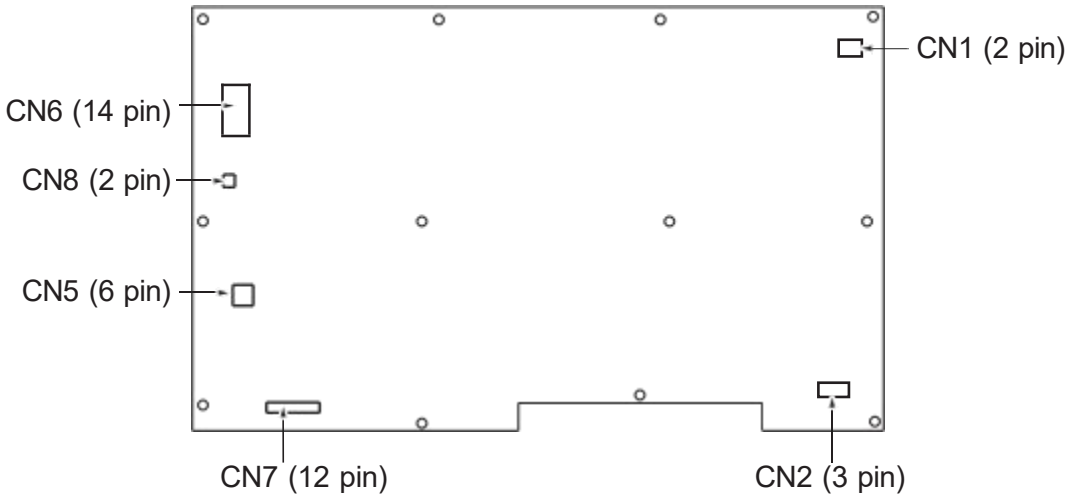
CM805



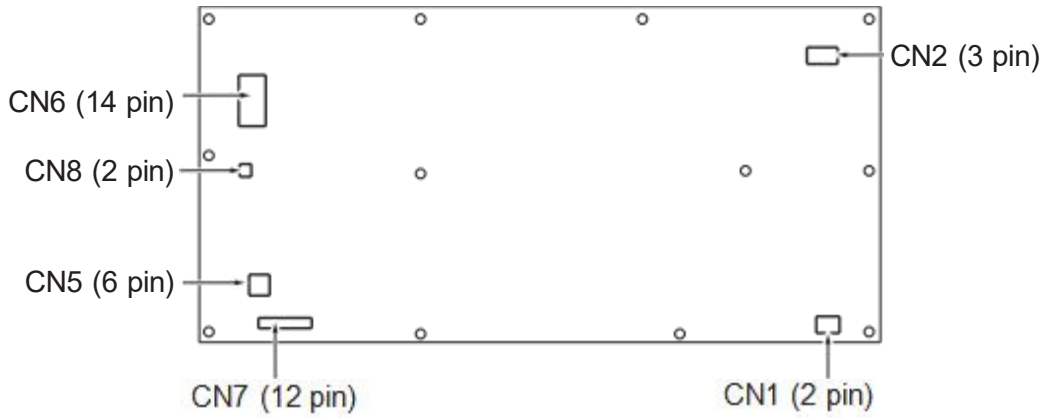
CM605 NOTE

- **Two types of DC power supply (Type A, Type B) are provided depending on the production timing.**
  - **North America and Europe: A or B Type**
  - **Others: A Type**
- **For European models, both Type A and Type B have no CN8.**

<Type A>

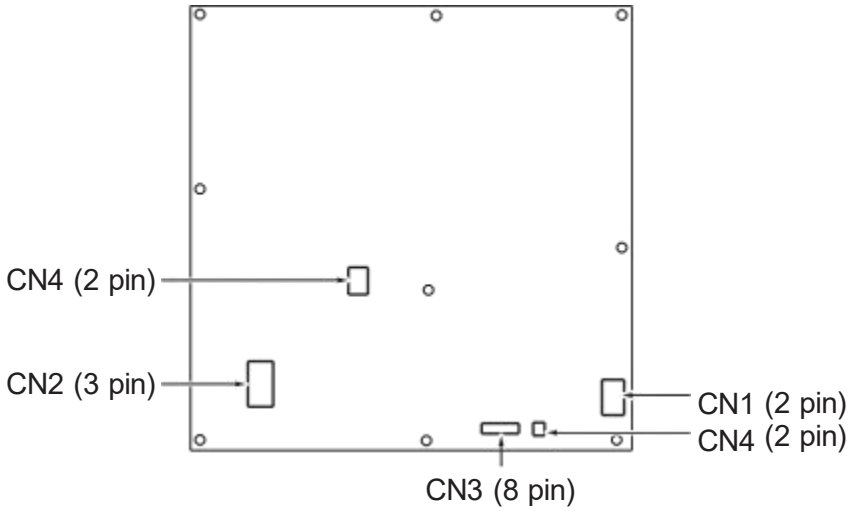

CN1 (2 pin)
CN6 (14 pin)
CN8 (2 pin)
CN5 (6 pin)
CN7 (12 pin)
CN2 (3 pin)

<Type B>

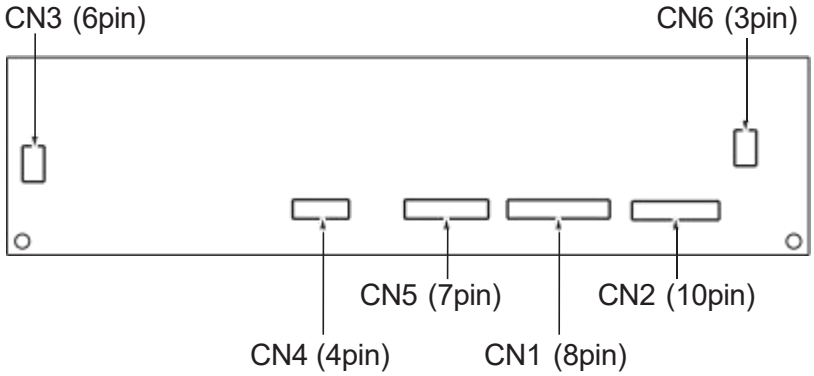

CN2 (3 pin)
CN6 (14 pin)
CN8 (2 pin)
CN5 (6 pin)
CN7 (12 pin)
CN1 (2 pin)

(10) HaCS power supply (FUPU)

CM805

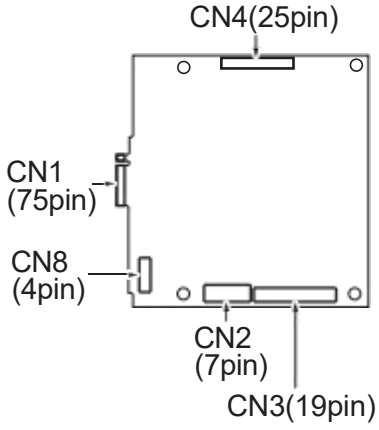


(11) Scanner drive board (SCDB)

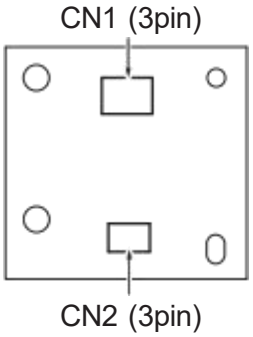


(12) Memory board (MEMB)

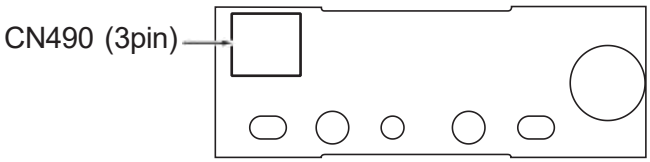
CM805



(13) Envelope detection relay board (ENVDRB) (CM605/CM805)

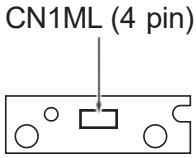


(14) Envelope detection board/TX (ENVDB/TX)

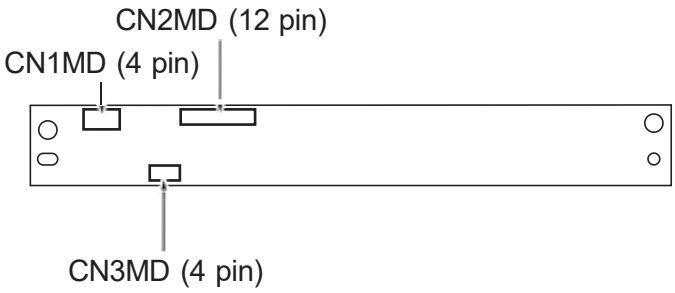


(15) Envelope detection board/RX (ENVDB/RX)

(16) Paper basis weight detection board/TX (PBWDB/TX)

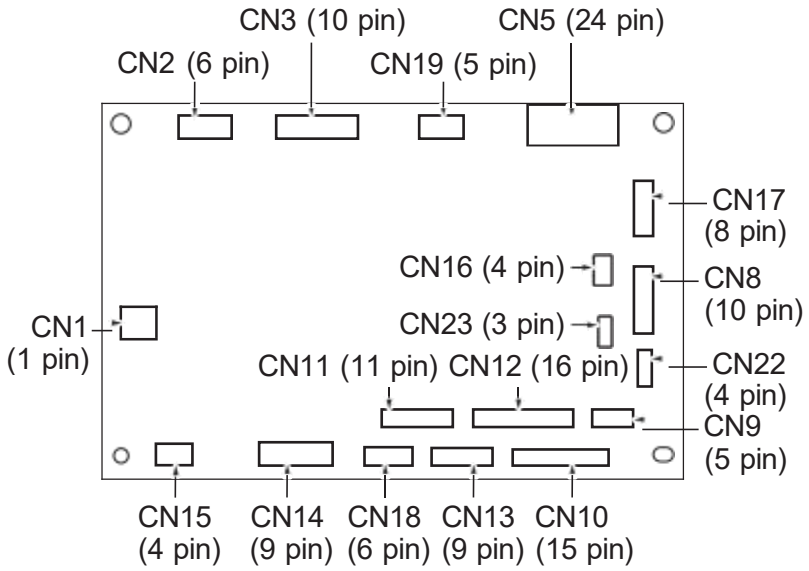


(17) Paper basis weight detection board/RX (PBWDB/RX)
CM605/CM805

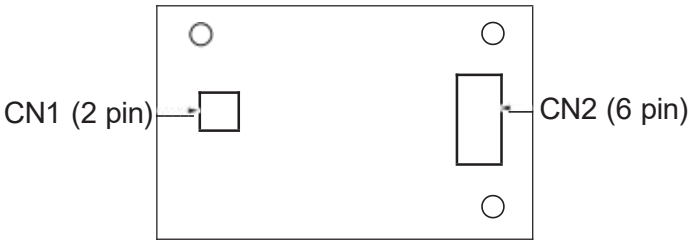


2.1.2 DF-713

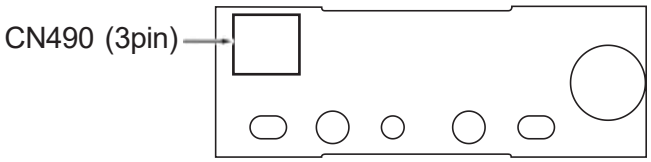
DF control board (DFCB)



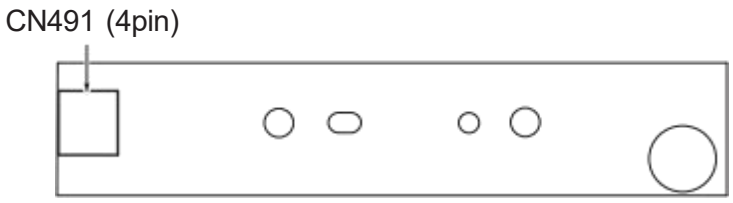
CIS power supply (CISPU)



Multi feed detection board/TX (MFDB/TX)



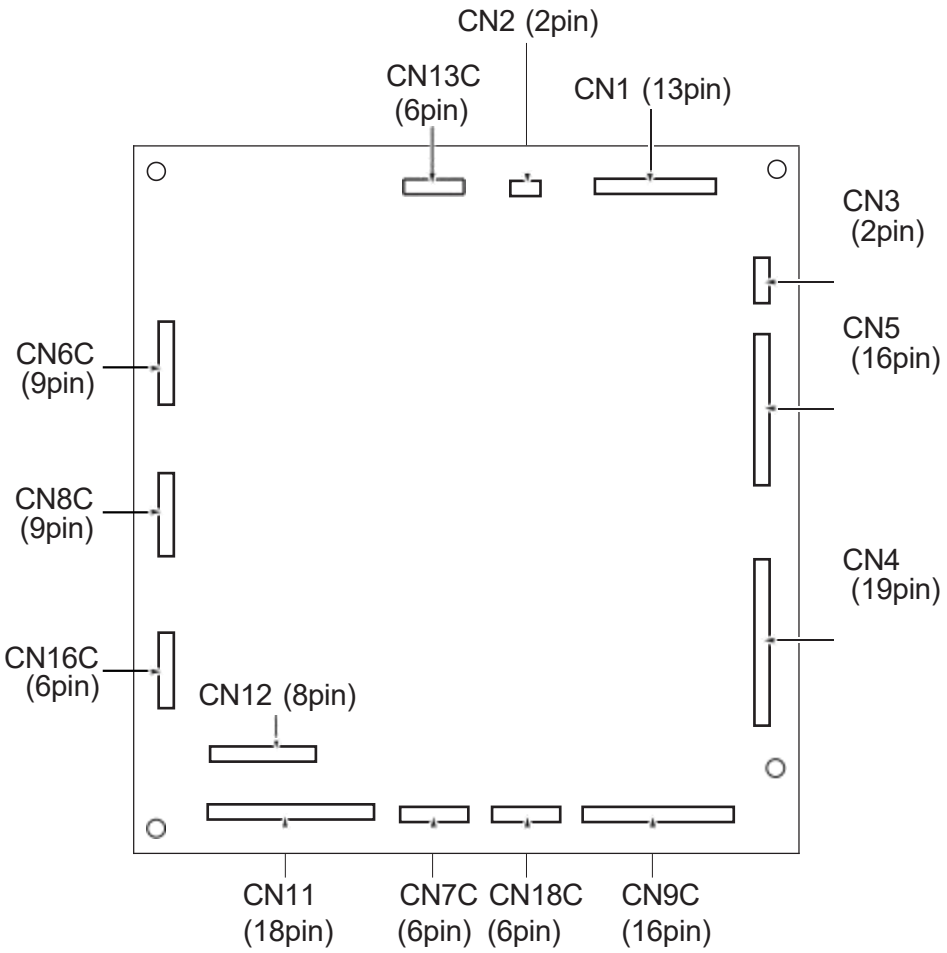
Multi feed detection board/RX (MFDB/RX)



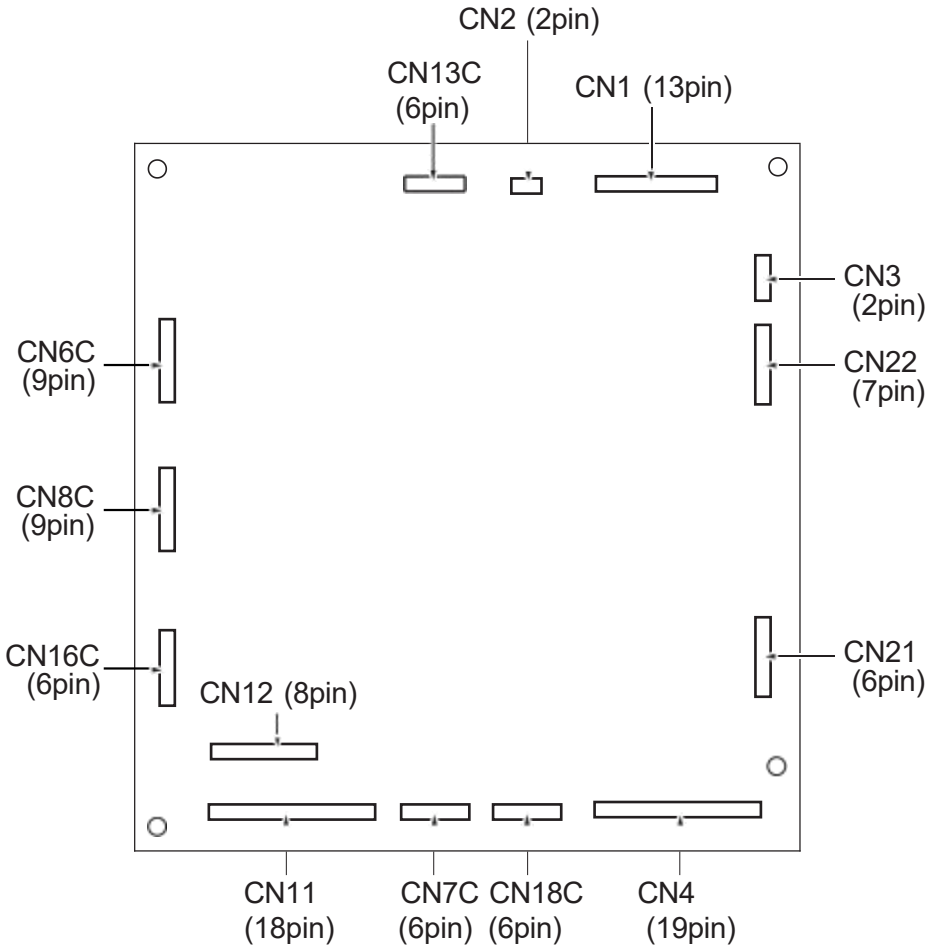
2.1.3 CPT-810

PC control board (PCCB)

Japan: AAV5-002, US/EU/Others: AAV5-WY2



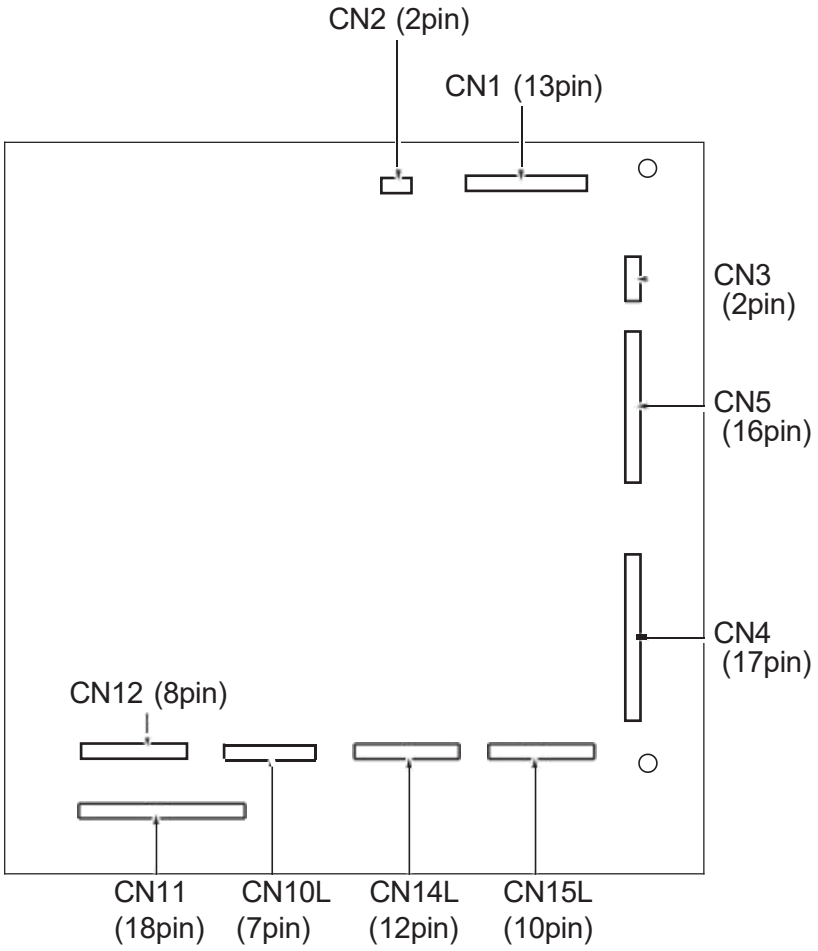
Japan: AAV5-008, US/EU/Others: AAV5-WY8



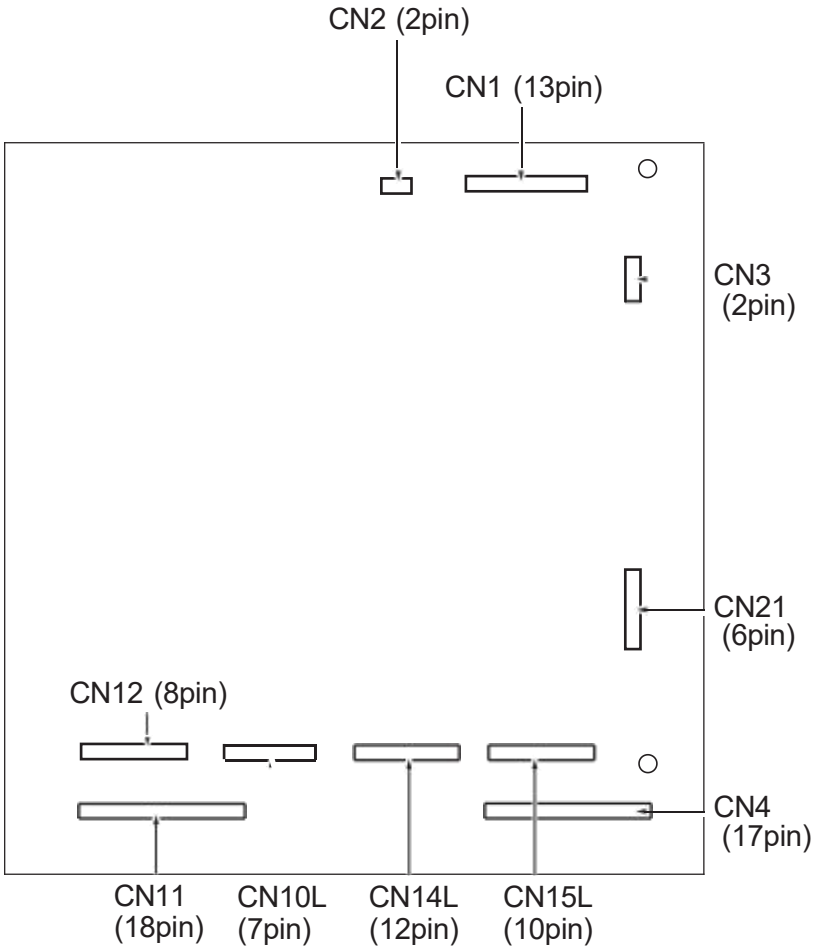
2.1.4 CPT-810H

PC control board (PCCB)

Japan: AAV5-003, US: AAV5-013, EU/Others: AAV5-WY3

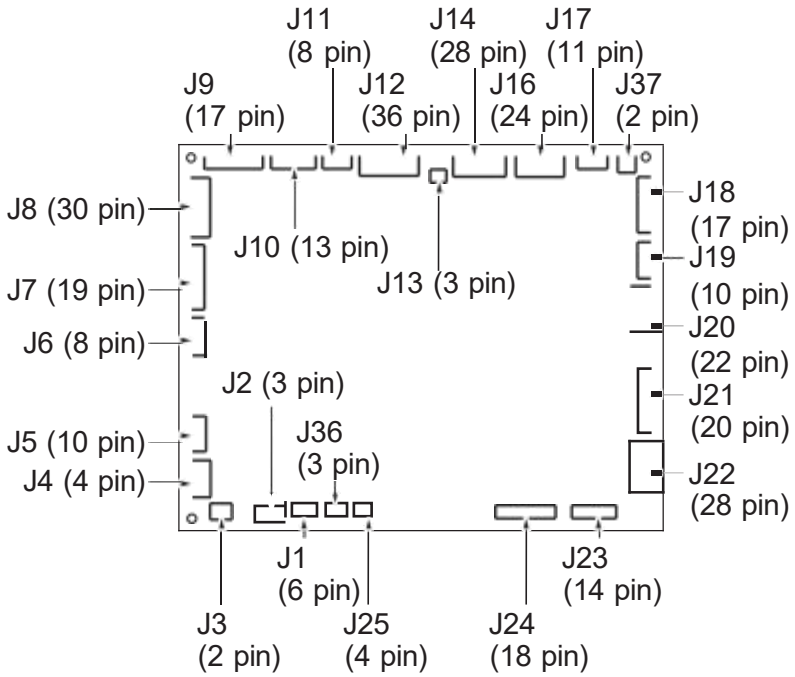


Japan: AAV5-009, US: AAV5-019, EU/Others: AAV5-WY9



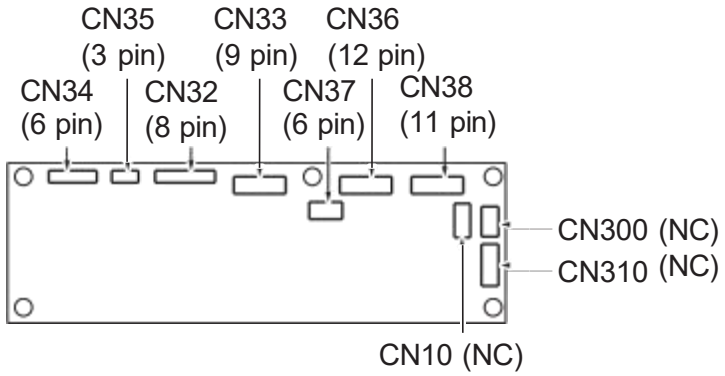
2.1.5 CPF-810H/CPF-810X

FS control board (FSCB)



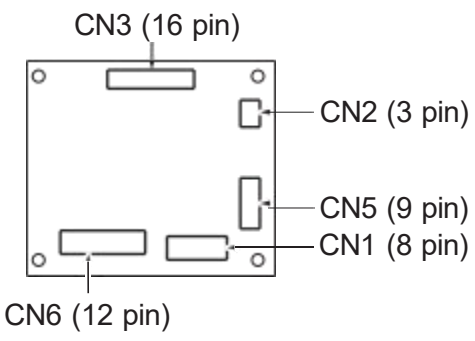
2.1.6 CPK-810XP

PK control board (PKCB)

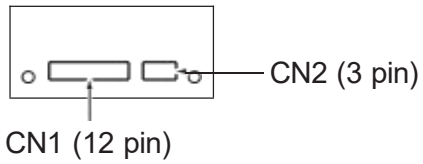


2.1.7 CPK-810Z

ZU drive board (ZUDB)



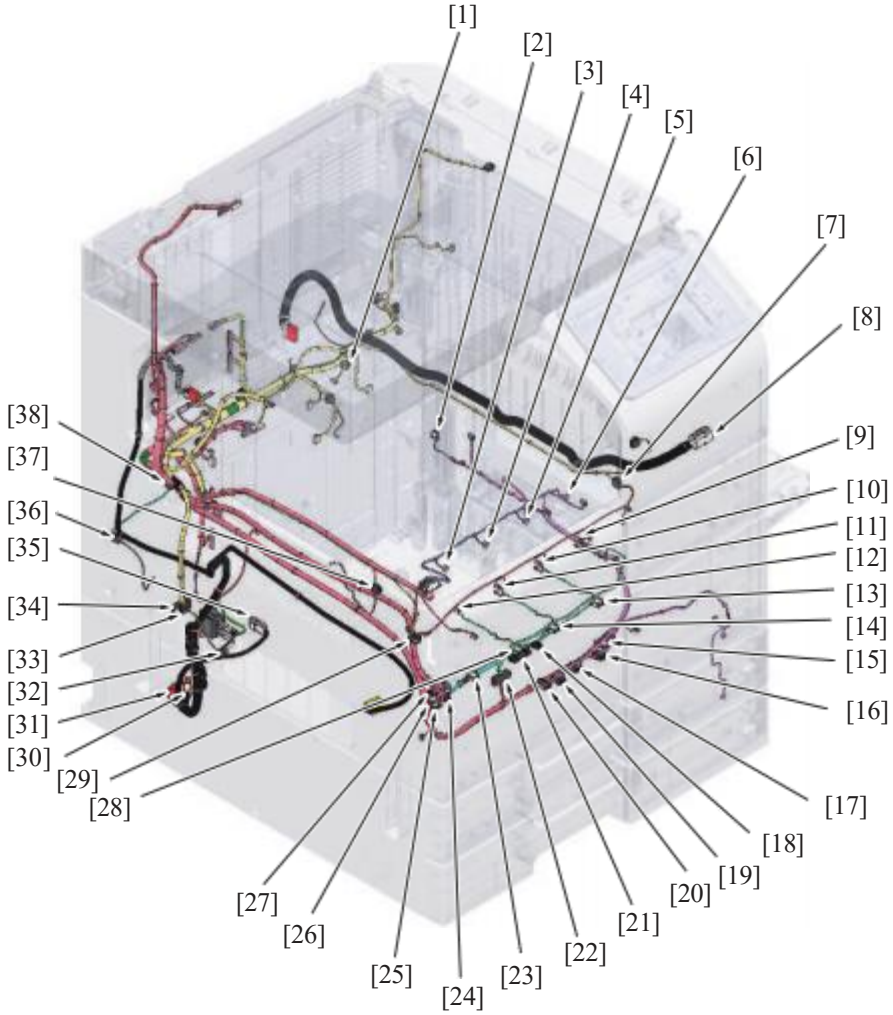
ZU relay board (ZURB)



2.2 RELAY CONNECTOR LAYOUT DRAWING

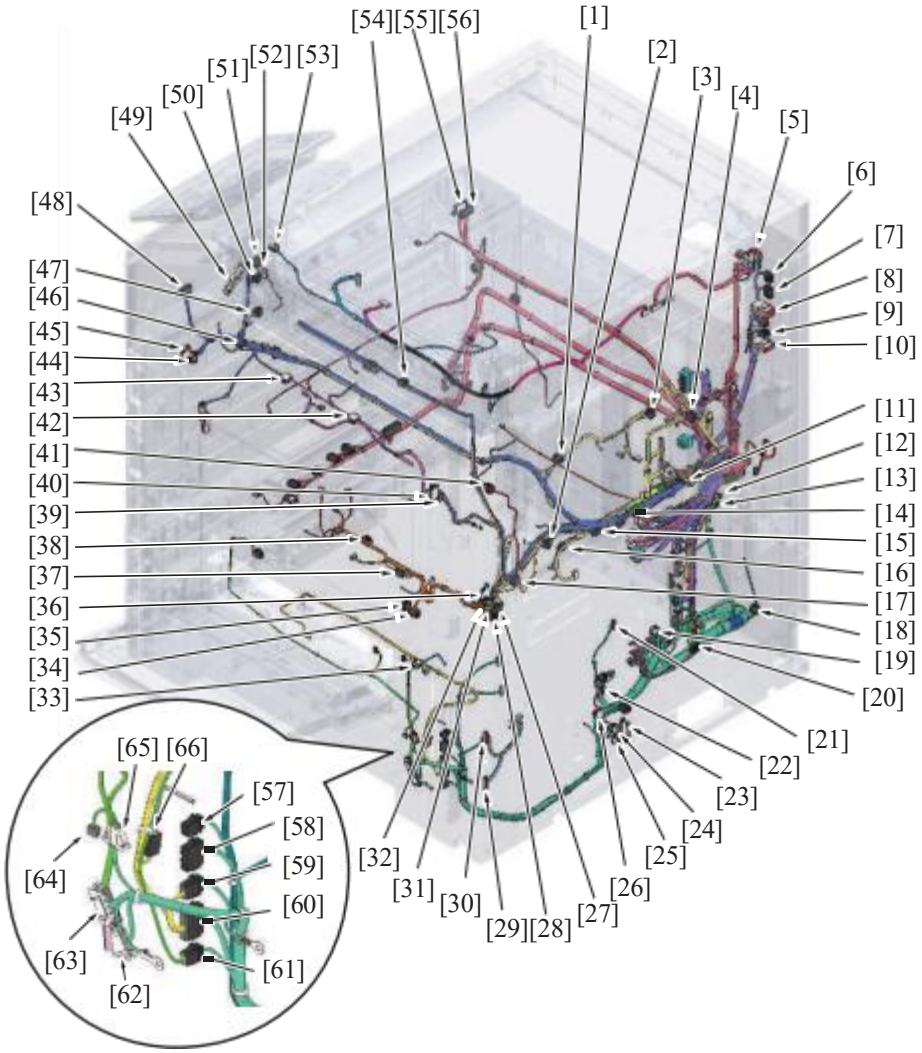
2.2.1 CM605/CM805

(1) Main body



No.	CN No.	Pin	Location	No.	CN No.	Pin	Location
[1]	CN118	2 Pin	17-Q	[2]	CN73 (CM605)	2 Pin	3-C
[3]	CN80	3 Pin	18-W	[4]	CN81	3 Pin	18-W
[5]	CN82	3 Pin	18-W	[6]	CN83	3 Pin	17-W
[7]	CN126	4 Pin	23-Q	[8]	CN2FIX (CM805)	4 Pin	7-D
					CN1FIX (CM605)	3 Pin	7-D
[9]	CN48	3 Pin	23-W	[10]	CN47	3 Pin	23-W
[11]	CN46	3 Pin	23-W	[12]	CN45	3 Pin	23-W
[13]	CN252	5 Pin	22-W	[14]	CN251	5 Pin	22-W
[15]	CN111	7 Pin	2-D	[16]	CN77	8 Pin	4-D
[17]	CN172	3 Pin	5-D	[18]	CN255	4 Pin	25-Q

[19]	CN170	9 Pin	3-D	[20]	CN171	6 Pin	5-D
[21]	CN253	19 Pin	25-Q	[22]	CN149	12 Pin	23-W
[23]	CN249	5 Pin	21-W	[24]	CN256	4 Pin	25-R
[25]	CN25	5 Pin	22-W	[26]	CN248	15 Pin	21-W
[27]	CN254	19 Pin	24-R	[28]	CN250	5 Pin	22-W
[29]	CN92	4 Pin	22-Q	[30]	CN1AC	2 Pin	6-X, 8-X, 10-X, 11-X
[31]	CN3AC	2 Pin	7-X, 12-X, 14-X	[32]	CN26	3 Pin	22-Q
[33]	CN306	5 Pin	21-Q	[34]	CN300	18 Pin	20-Q
[35]	CN2AC	2 Pin	25-E	[36]	CN62	3 Pin	25-W
[37]	CN115	3 Pin	22-Q	[38]	CN63	3 Pin	25-W

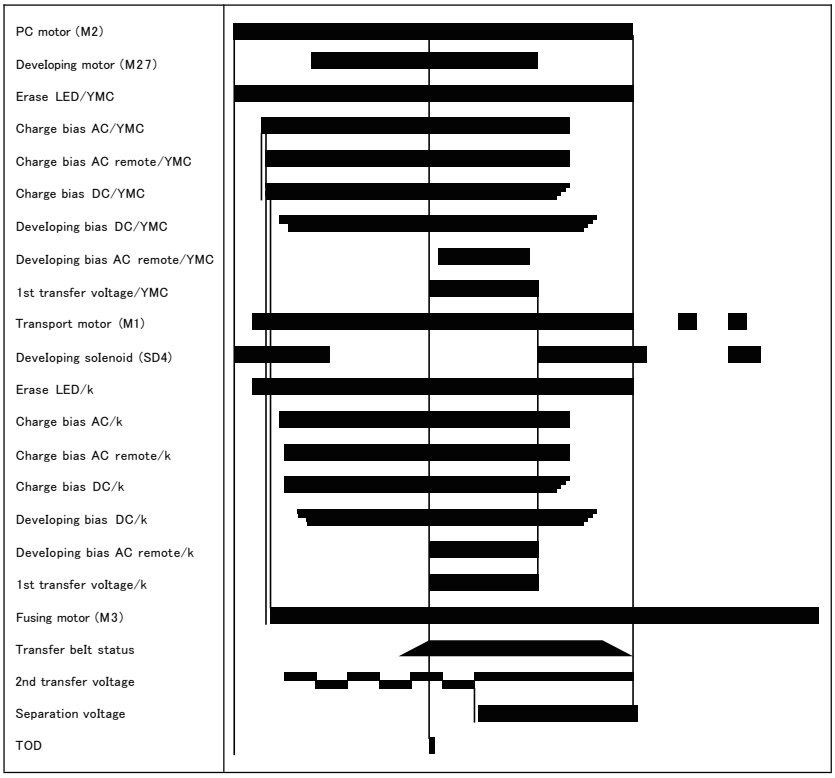


No.	CN No.	Pin	Location	No.	CN No.	Pin	Location
[1]	CN113	3 Pin	13-D	[2]	CN78	3 Pin	17-Q
[3]	CN128	4 Pin	15-Q	[4]	CN125	4 Pin	15-Q
[5]	CN150	4 Pin	9-P	[6]	CN3DF	7 Pin	4-K
[7]	CN2DF	9 Pin	3-K	[8]	CN1DF	6 Pin	3-K
[9]	CN2FN	6 Pin	5-K	[10]	CN1FN	3 Pin	5-K
[11]	CN607	4 Pin	24-R	[12]	CN307	16 Pin	18-Q
[13]	CN308	2 Pin	19-Q	[14]	CN503	10 Pin	20-D
[15]	CN112	4 Pin	18-Q	[16]	CN159	2 Pin	17-Q
[17]	CN28	3 Pin	17-R	[18]	CN804	3 Pin	24-J
[19]	CN29	2 Pin	13-J	[20]	CN28D	6 Pin	28-I
[21]	CN180	9 Pin	17-I	[22]	CN181	9 Pin	18-I
[23]	CN66	13 Pin	26-E	[24]	CN355	3 Pin	27-D, 28-D
[25]	CN65	2 Pin	26-E	[26]	CN193	4 Pin	24-E
[27]	CN164 (CM805/C55)	4 Pin	18-Q	[28]	CN608	4 Pin	26-P
[29]	CN155	12 Pin	22-D	[30]	CN154	12 Pin	21-D
[31]	CN161	6 Pin	12-D	[32]	CN9	13 Pin	15-W
[33]	CN20	2 Pin	10J	[34]	CN606	4 Pin	26-P
[35]	CN602	3 Pin	15-W	[36]	CN12	4 Pin	6-D
[37]	CN163 (CM805)	3 Pin	12-Q	[38]	CN162 (CM805)	3 Pin	12-Q
[39]	CN86	6 Pin	6-D	[40]	CN5	12 Pin	11-D
[41]	CN27	3 Pi	17-Q	[42]	CN802 (CM805)	3 Pin	12-C
[43]	CN801	3 Pin	11-C	[44]	CN96	3 Pin	7-D
[45]	CN95	9 Pin	7-D	[46]	CN156	2 Pin	14-C

No.	CN No.	Pin	Location	No.	CN No.	Pin	Location
[47]	CN710	3 Pin	26-W	[48]	CN120	6 Pin	9-E
[49]	CN900	2 Pin	8-D	[50]	CN108	2 Pin	13-D
[51]	CN153	3 Pin	13-D	[52]	CN208	2 Pin	13-C
[53]	CN603	2 Pin	12-Q	[54]	CN820	4 Pin	5-D
[55]	CN151	12 Pin	17-W	[56]	CN79	12 Pin	18-W
[57]	CN34	3 Pin	15-I	[58]	CN30	8 Pin	11-I
[59]	CN36	4 Pin	15-I	[60]	CN40	10 Pin	16-I
[61]	CN37	3 Pin	15-I	[62]	CN19	6 Pin	19-I
[63]	CN13	12 Pin	10-I	[64]	CN21	2 Pin	10-J
[65]	CN16	3 Pin	19-I	[66]	CN43	2 Pin	16-J

L TIMING CHART

Time chart when printing



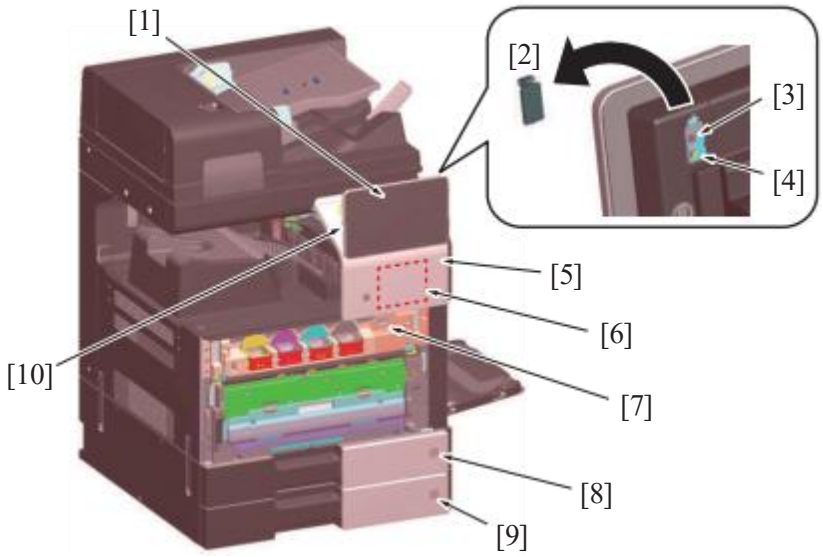
M THEORY OF OPERATION

1. CM605/CM805

1.1 INTERFACE SECTION

1.1.1 Configuration

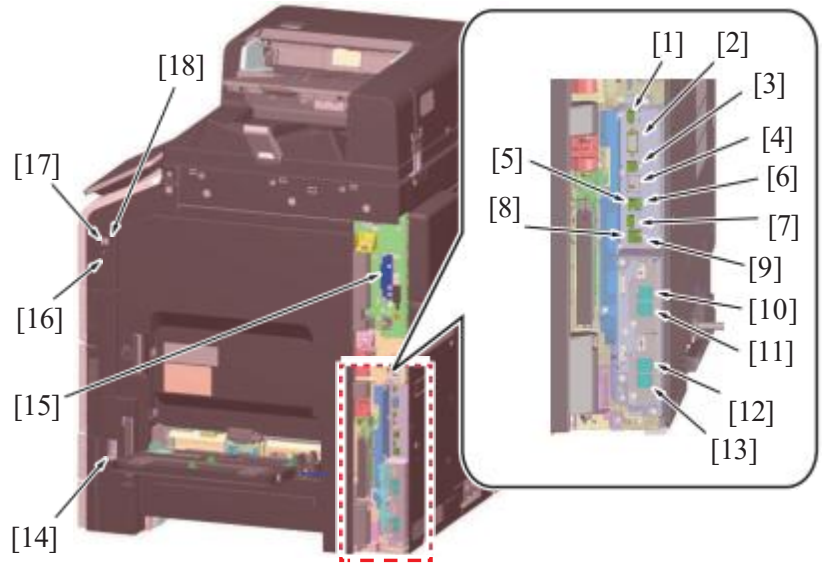
(1) Front side



[1]	Control panel	[2]	Key cover
[3]	Rear stop key	[4]	Rear reset key
[5]	Operation status indicator section	[6]	IC card reading position (*1)
[7]	Total counter (*2)	[8]	Tray 1 paper remaining amount display
[9]	Tray 2 paper remaining amount display	[10]	Power key

- *1: When equipped with optional authentication unit.
- *2: Japan model only

(2) Right side



[1]	Control panel connection connector	[2]	Serial port (for CS Remote Care modem connection)
[3]	USB port (Type B) USB2.0/1.1	[4]	Network port (1000Base-T/100Base-TX/10Base-T)
[5]	USB port (Type A, connect to the USB board at the front side) (*3)	[6]	USB port (Type A, for authentication unit)

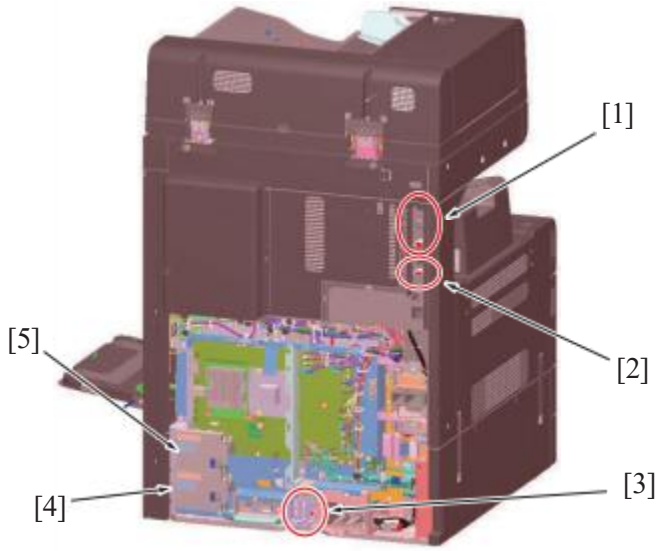
[7]	USB port (Type C, for wireless LAN)	[8]	USB port (Type A, for Fax line 1)
[9]	USB port (Type A, for Fax line 2)	[10]	LINE port 2 (for telephone line 2) (*2)
[11]	TEL port 2 (not used)	[12]	LINE port 1 (for telephone mainline) (*1)
[13]	TEL port 1 (for external telephone mainline) (*1)	[14]	Main power switch (SW1)
[15]	Wireless LAN board (UK-221)	[16]	Voice guidance output terminal (*3)
[17]	USB port (Type A, optional) (*3)	[18]	USB port (Type A, standard)

- *1: When only one optional FK-514 unit is mounted
- *2: When two optional FK-514 units are mounted
- *3: When local interface kit EK-608/EK-609 is mounted.

NOTE

- **If only one optional FK-514 is mounted, always mount it to the main line position (lower side).**

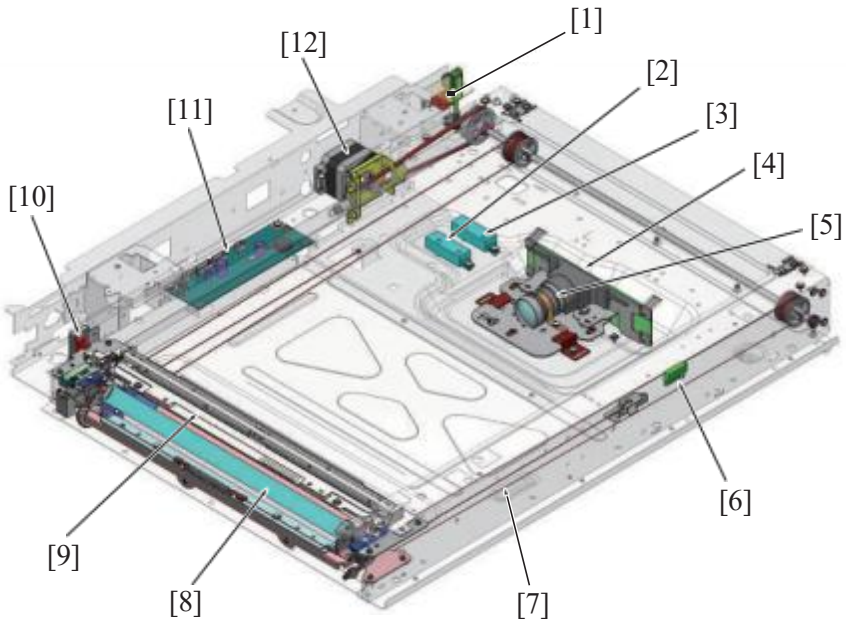
(3) Rear side



[1]	Document feeder connection connector	[2]	Finisher connection connector
[3]	Paper feed cabinet connection connector	[4]	FAX Kit FK-514 (for mainline)
[5]	FAX Kit FK-514 (for line 2)	-	-

1.2 SCANNER SECTION

1.2.1 Configuration

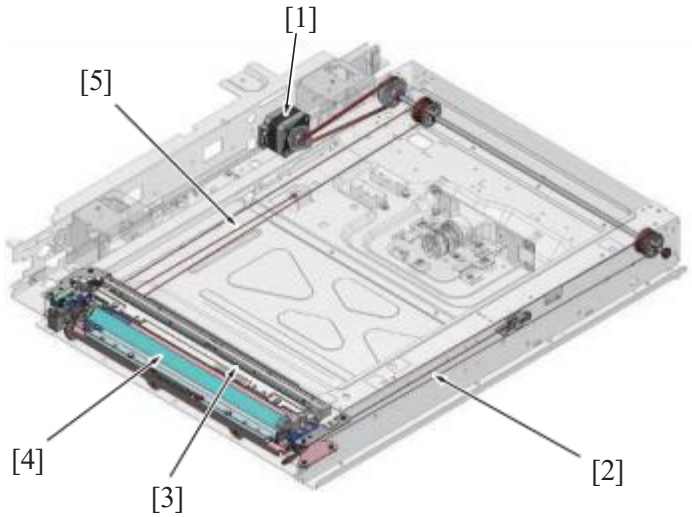


[1]	Angle sensor (PS202)	[2]	Original size sensor/1 (PS204)
[3]	Original size sensor/2 (PS205) *1	[4]	CCD board (CCDB)

[5]	CCD unit	[6]	Original cover sensor (RS201)
[7]	Scanner cable	[8]	Mirror unit
[9]	LED exposure unit (LU201)	[10]	Scanner home sensor (PS201)
[11]	Scanner drive board (SCDB)	[12]	Scanner motor (M201)

*1
Japan: Not included
Asia Pacific: Standard equipment
North America, Europe: Optional (compatible with service parts)

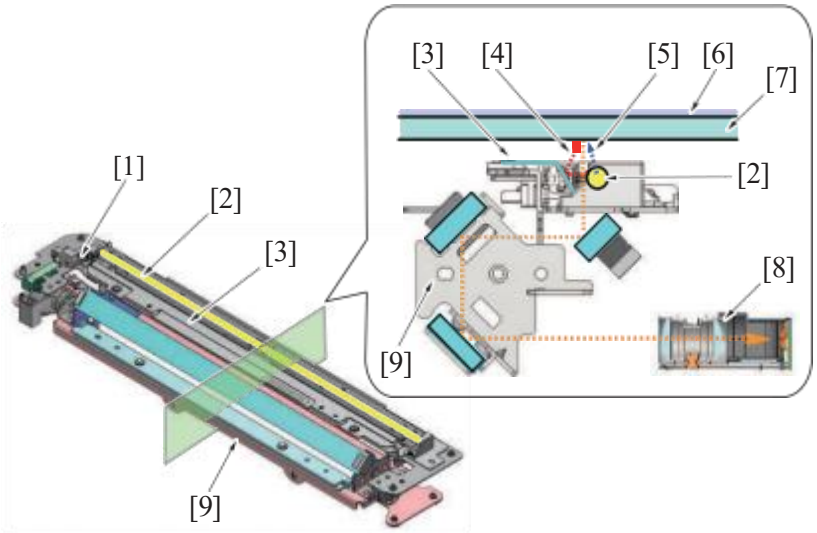
1.2.2 Drive



[1]	Scanner motor (M201)	[2]	Scanner drive cable/Fr
[3]	LED exposure unit (LU201)	[4]	Mirror unit
[5]	Scanner drive cable/Rr	-	-

1.2.3 LED exposure unit

- LEDs (Light Emitting Diodes) are used for the light source of the scanner section for power saving.
- LEDs mounted on the LED board on one side (rear side) of the LED exposure unit emit light.
- Light emitted from the LED travels along the light guide.
- A direct light that has traveled along the light guide and an indirect light reflected from the reflective mirror are irradiating on the original. Thus the original is exposed to steady, uniform light.
- The light reflected off the exposed original is irradiated onto the CCD unit by the mirror unit.



[1]	LED board	[2]	Light guide
[3]	Reflective mirror	[4]	Indirect light
[5]	Direct light	[6]	Original

[7]	Original glass	[8]	CCD unit
[9]	Mirror unit	-	-

1.2.4 When the power is ON

1. When the power is turned ON, the LED exposure unit moves to the home position.
2. With the LED exposure unit located at the home position, the LED lights up and then the LED exposure unit moves to the shading position (under the shading correction sheet).
3. The gain value of the CCD sensor output voltage to R, G, and B is adjusted.
4. After adjusting the gain value, a shading correction is performed.
5. The LED exposure unit moves in the return direction and stops at the home position.
6. When the DF (or the original cover) is raised for placement of the original, the LED exposure unit moves to the original size detection position.

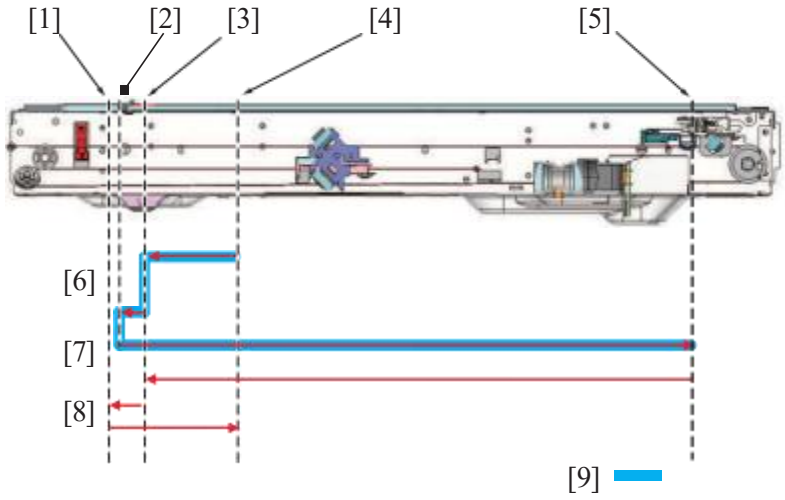
1.2.5 Control when the Start key is pressed

(1) Original scanning mode

- Original scanning mode has two types: Original cover mode and DF mode.

(a) Original cover mode

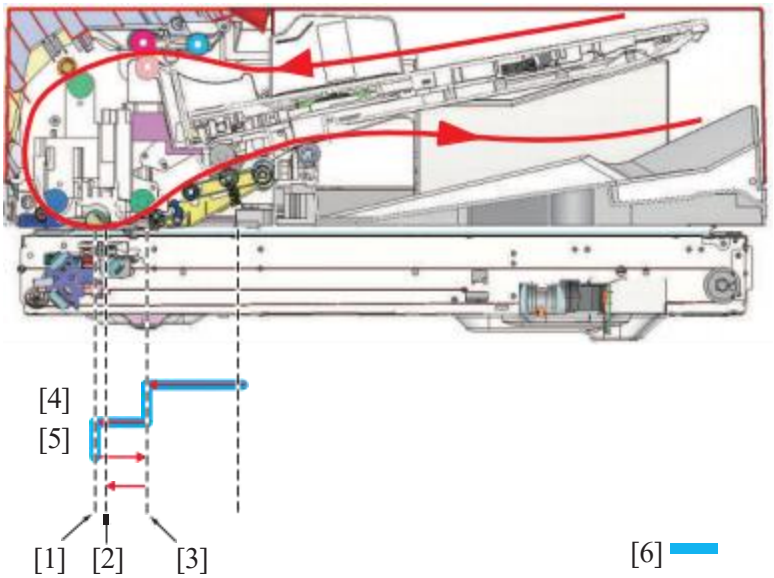
1. Turning the Start key ON will turn the LED ON.
2. The LED exposure unit moves in the return direction and stops at the shading position. At the shading position, the gain adjustment is made.
3. The LED exposure unit moves in the return direction and stops at the scan start position.
4. To start a scan, the LED exposure unit moves from the scan start position to the leading edge of an original while performing shading correction.
   The exposure unit will start reading the original image from the leading edge.
   The unit will finish reading the image at the trailing edge of the original.
5. The LED will turn OFF when the reading is complete.
6. The LED exposure unit returns from the position of the trailing edge of the original. At the shading position, it is determined that the LED is turned OFF.
   Then the LED exposure unit moves to the home position, and next moves to the original size detection position.
   It scans only once even for the color-copies, since R, G, and B data will all be memorized in one scanning.



[1]	Home position	[2]	Scan start position
[3]	Shading position	[4]	Original size detection position
[5]	Trailing edge of the image	[6]	Gain adjustment
[7]	Read original	[8]	Return
[9]	The LED turns ON	-	-

(b) DF mode

- The original fed by the document feeder will be read at the DF original glass for. The LED exposure unit will move to the reading position and stops. The original will be read as the paper is transferred.



[1]	Original reading position	[2]	Home position
[3]	Shading position	[4]	Shading correction
[5]	Read original	[6]	The LED turns ON

(2) Original scanning control

- The light reflected off the exposed original reaches the CCD sensor via the mirror unit and lens.
- The CCD sensor outputs an electric signal (analog) that varies according to the intensity of the light.
- One CCD sensor has a photo receiver that individually responds to each of the three primary colors of R, G, and B.
- The electric signal is converted to digital data for each of R, G, and B by the board (CCDB), becoming individual digital signals.

(a) Calibration

The following adjustment and correction (calibration) are made before the original is scanned, so that the image of the original can be adequately read.

- Gain adjustment
- Shading correction

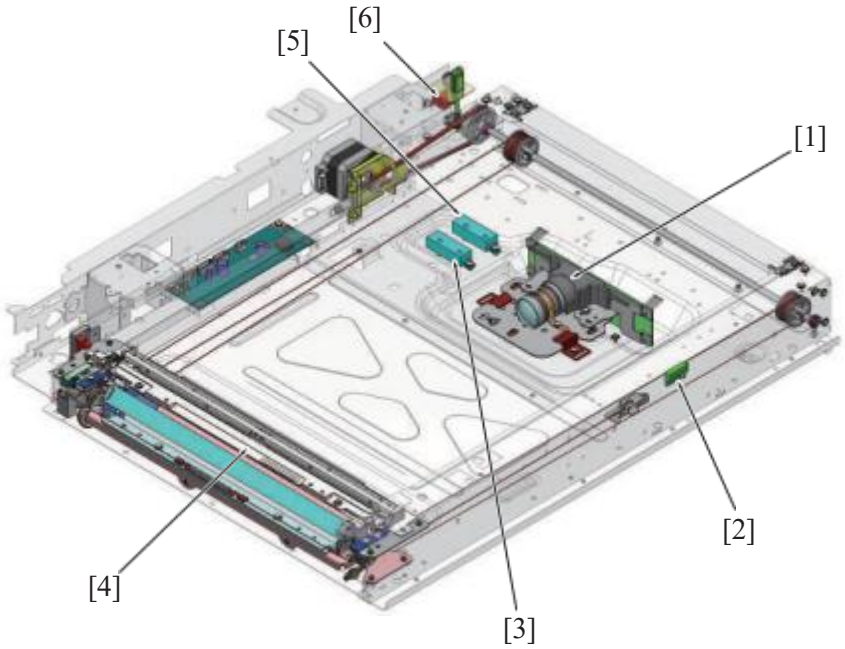
1.2.6 Original scanning area

- Main scanning direction: Max. 297.0 mm (11 11/16 inches)
- Sub scanning direction: Max. 431.8 mm (17 inches)

1.2.7 Original size detection control

(1) Detection method

- For the length direction, the fixed reflective original size sensor is used.
- CCD reads the original width direction, so that the width size can be detected.
- A standard original size is determined depending on the detection state of the original size sensor and the width that the CCD detects.
- For a custom size, the control sets a smallest possible standard size that is larger than the custom size in question to thereby prevent void image.

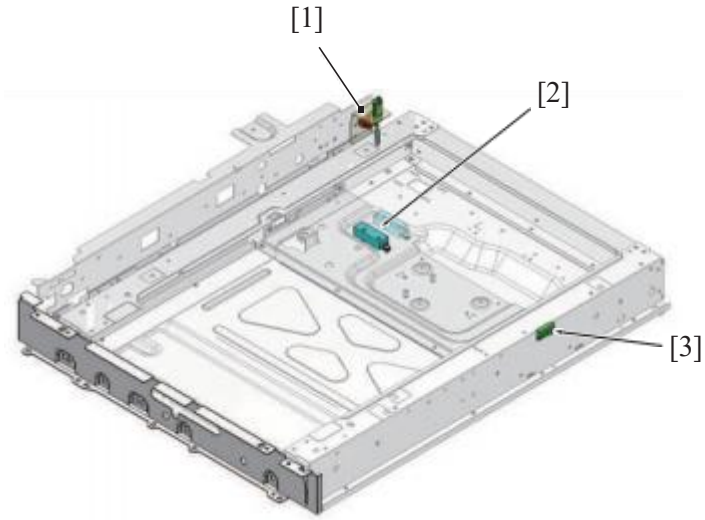


[1]	CCD unit	[2]	Original cover sensor (RS201)
[3]	Original size sensor/1 (PS204)	[4]	LED exposure unit (LU201)
[5]	Original size sensor/2 (PS205) *1	[6]	Angle sensor (PS202)

*1
Japan: Not included
Asia Pacific: Standard equipment
North America, Europe: Optional (compatible with service parts)

(2) Detection timing

- The size in the length direction is detected and determined depending on the state of the original size sensor when the angle sensor is activated from the deactivated state.
- The size in the width direction is detected twice. First when the angle sensor is activated and second when the original cover sensor is activated.
- The original size is reset when the original cover sensor is deactivated from activated state as a result of the DF being raised.



[1]	Angle sensor (PS202)	[2]	Original size sensor 1 (PS204)
[3]	Original cover sensor (RS201)	-	-

(3) Original size judgment

NOTE

- **Table 1 or 2 can be selected in the service mode.**

(a) Criterion (for Japan)

Table 1

Original size sensor/1	Main scanning width (mm)					
	0 to 130.0 sheets	Up to 153.0	Up to 187.0	Up to 215.0	Up to 262.0	262.1 or over
OFF	No original	A5S	B5S	A4S	B5	A4
ON	A3	B4	B4	B4	B4	A3

Table 2

Original size sensor/1	Main scanning width (mm)								
	0 to 130.0 sheets	Up to 143.9	Up to 153.0	Up to 187.0	Up to 213.0	Up to 220.9	Up to 262.0	Up to 284.4	284.5 or over
OFF	No original	$5^1/_2$×$8^1/_2$S	A5S	B5S	A4S	$8^1/_2$×11S	B5	$8^1/_2$×11	A4
ON	A3	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	B4S	11×17S	A3

(b) Criterion (for China and countries using the metric)

Table 1

Original size sensor		Main scanning width (mm)								
/1	/2	0 to 130.0 sheets	Up to 153.0	Up to 187.0	Up to 200.0	Up to 215.0	Up to 225.0	Up to 261.5	Up to 275.0	Up to 275.1
OFF	-	No original	A5 S	B5S	16K S	A4S	B5	B5	16K	A4
ON	-	A3	FLS	FLS	FLS	FLS	FLS	B4	8K	A3

Table 2

Original size sensor		Main scanning width (mm)											
/1	/2	0 to 130.0 sheets	Up to 143.9	Up to 153.0	Up to 187.0	Up to 200.0	Up to 213.0	Up to 220.9	Up to 225.0	Up to 261.5	Up to 274.7	Up to 284.4	Up to 284.5
OFF	OFF	No original	$5^1/_2$×$8^1/_2$ S	A5 S	B5S	16K S	A4S	$8^1/_2$×11 S	B5	B5	16K	$8^1/_2$×11	A4
ON	OFF	A3	FLS	FLS	FLS	FLS	FLS	FLS	FLS	B4	8K	11×17	A3
OFF	ON	A3	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	B4	B4	8K	11×17	A3
ON	ON	A3	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	B4	B4	8K	11×17	A3

(c) Criterion (for countries using inch)

Table 1

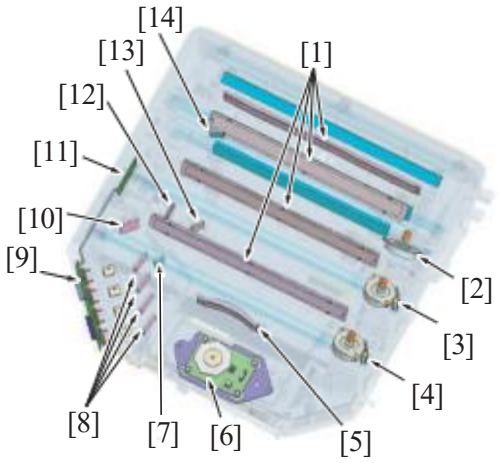
Original size sensor		Main scanning width (mm)			
/1	/2	0 to 130.0 sheets	Up to 144.7	Up to 220.9	Up to 221.0
OFF	-	No original	$5^1/_2$×$8^1/_2$S	$8^1/_2$×11 S	$8^1/_2$×11
ON	-	11×17	$8^1/_2$×14	$8^1/_2$×14	11×17

Table 2

Original size sensor		Main scanning width (mm)								
/1	/2	0 to 130.0 sheets	Up to 143.9	Up to 153.0	Up to 187.0	Up to 213.0	Up to 220.9	Up to 225.0	Up to 262.0	Up to 284.4	Up to 284.5
OFF	OFF	No original	$5^1/_2$×$8^1/_2$S	A5 S	B5S	A4S	$8^1/_2$×11 S	B5	B5	$8^1/_2$×11	A4
ON	OFF	A3	FLS	FLS	FLS	FLS	FLS	FLS	B4	11×17	A3
OFF	ON	A3	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	B4	B4	11×17	A3
ON	ON	A3	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	$8^1/_2$×14	B4	B4	11×17	A3

1.3 WRITE SECTION (PH SECTION)

1.3.1 Configuration

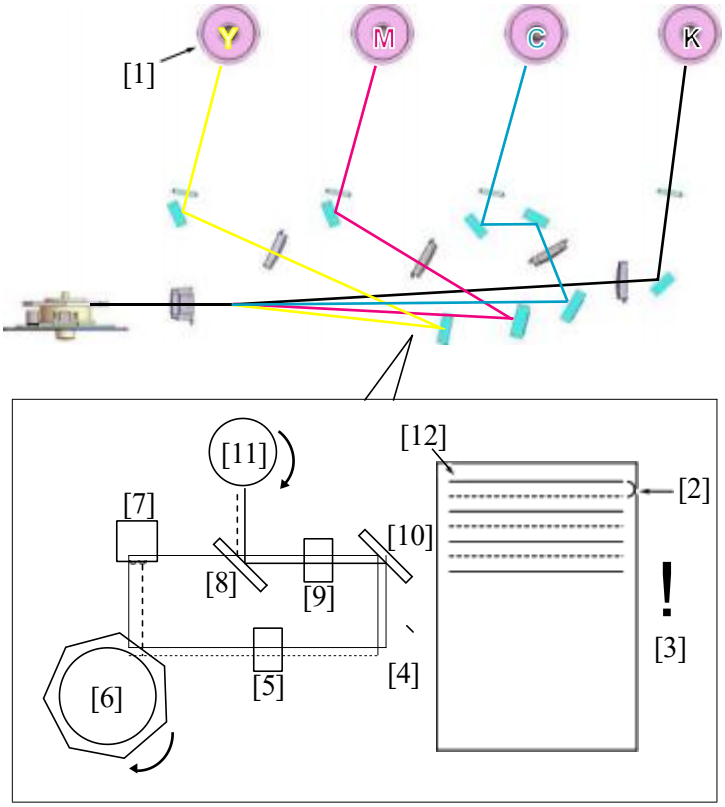


[1]	G2 lens	[2]	Skew correction motor/C
[3]	Skew correction motor/M	[4]	Skew correction motor/Y
[5]	G1 lens	[6]	Polygon motor (M14)
[7]	Cylindrical lens	[8]	Synthetic mirror/ Y,M,C,K
[9]	Laser drive board (LDDB)	[10]	Return mirror (light source)
[11]	Index board (INDEXB)	[12]	Index lens
[13]	Return mirror (Index)	[14]	Index mirror

1.3.2 Overview

- The surface of the photoconductor is irradiated with a laser light and an electrostatic latent image is thereby formed.
- The PH unit has a four color exposure unit single-piece configuration. A semiconductor laser is provided for each of four different colors. A single polygon motor is used to make a scan.
- The polygon mirror has seven faces.
- A rotating polygon mirror is irradiated with a laser light emitted from the laser diode on the laser drive board to let the laser light scan.
- CM805 is equipped with a two-beam-array laser diode. Two beams of laser light are irradiated from the two vertically arranged elements. With the laser light, A two-line scanning is performed through a single face of the polygon mirror.
- CM605 is equipped with a single-beam-array laser diode. A single-line scanning is performed through a single face of the polygon mirror.

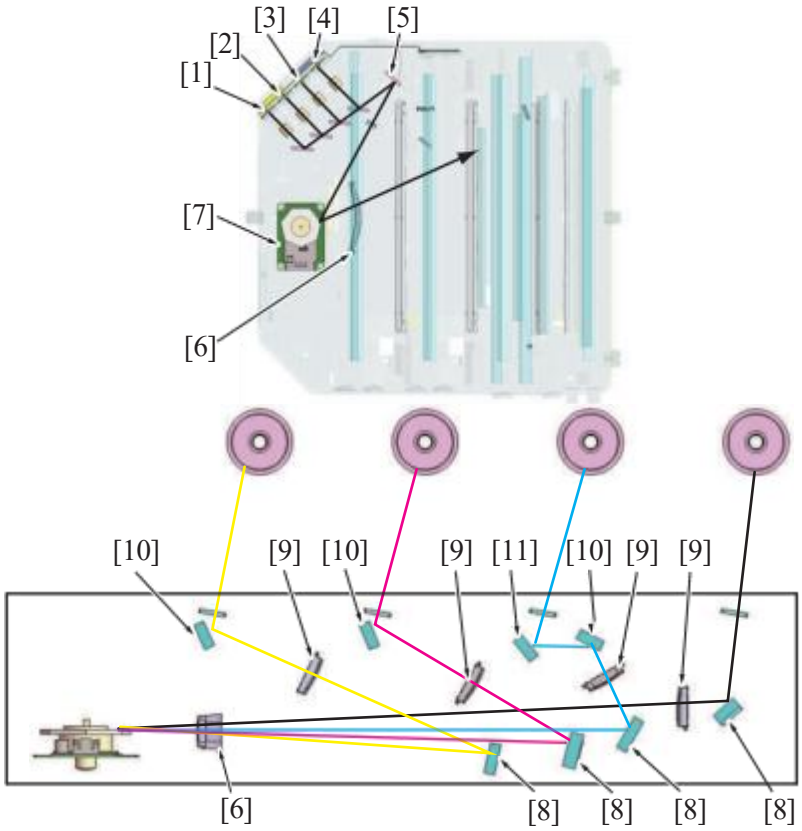
Image of two-beam laser



[1]	Photoconductor Y	[2]	One line, two scan
[3]	Photoconductor rotation direction	[4]	Return mirror 1
[5]	G1 lens	[6]	Polygon mirror
[7]	Laser diode	[8]	Return mirror 3
[9]	G2 lens	[10]	Return mirror 2
[11]	Photoconductor	[12]	Beam

1.3.3 Laser exposure process

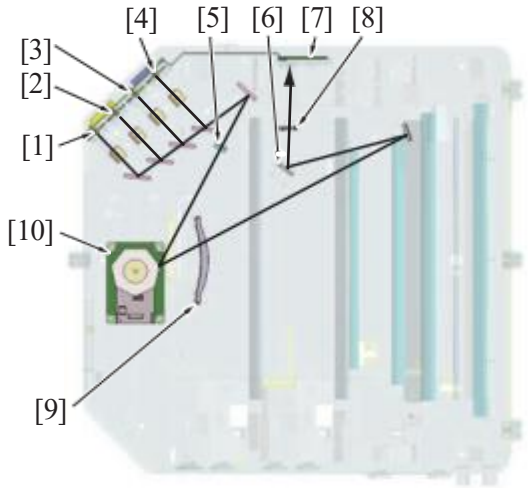
1. The laser light of each color enters the cylindrical lens via the synthetic mirror and return mirror (light source).
2. At the cylindrical lens, each laser light is condensed in the vicinity of the polygon mirror.
3. Since the angle of incidence for each color of laser light varies, the laser light reflected by the polygon mirror is reflected in a different angle for each color.
4. The condensing angle of each color of laser light is corrected by the G1 lens and then reaches each return mirror.
5. The K laser light is condensed on the photoconductor surface via the G2 lens and return mirror1. The Y laser light is condensed on the photoconductor surface via the return mirror1, G2 lens, and return mirror2. The M laser light is condensed on the photoconductor surface via the return mirror1, G2 lens, and return mirror2. The C laser light is condensed on the photoconductor surface via the return mirror1, G2 lens, return mirror2, and return mirror3.



[1]	Laser diode/K (LD/K)	[2]	Laser diode/C (LD/C)
[3]	Laser diode/M (LD/M)	[4]	Laser diode/Y (LD/Y)
[5]	Return mirror (light source)	[6]	G1 lens
[7]	Polygon motor (M14)	[8]	Return mirror 1
[9]	G2 lens	[10]	Return mirror 2
[11]	Return mirror 3	-	-

1.3.4 Laser emission timing

- After a print cycle has been started, when the stable rotation signals of photoconductor and polygon motor are detected, a laser ON signal is output from the baseboard.
- The laser ON signal causes each laser diode to turn ON and emit a laser beam.
- The K laser light that is irradiated to the index board after it passes through the return mirror (light source), cylindrical lens, polygon mirror, G1 lens,index mirror, return mirror (index), and index lens generates an index signal.
- This index signal has a function of keeping the same laser light emission timing per every one line in the main scanning direction.
- The index signal is generated with the K laser light only. The laser light emission timing for other colors is determined with reference to K.
- If the index signal is not detected within a predetermined period of time, the machine determines that it is a laser emission fault, displaying “trouble code: C4501 laser malfunction”.
- The machine continuously monitors the index signal. If the index signal cannot be detected at regular intervals, the machine determines that it is a laser emission fault, displaying “trouble code: C4501 laser malfunction”.



[1]	Laser diode/K (LD/K)	[2]	Laser diode/C (LD/C)

[3]	Laser diode/M (LD/M)	[4]	Laser diode/Y (LD/Y)

[5]	Cylindrical lens	[6]	Return mirror (Index)
[7]	Index board (INDEXB)	[8]	Index lens
[9]	G1 lens	[10]	Polygon motor (M14)

1.3.5 Laser emission stop

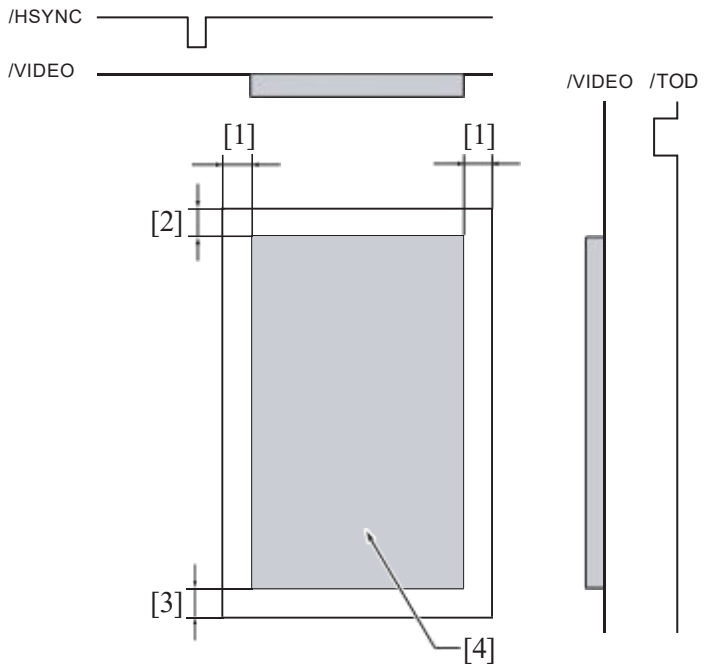
Emission of the laser beam is stopped if any of the following conditions is encountered during printing:
- End of a print job
- Laser emission of Y, M, and C is stopped if the print mode is changed from color to black during printing.
- The front door or any other door is opened.
- A misfeed occurs.
- A malfunction occurs.

1.3.6 Laser emission area

(1) Main scanning direction
- The print start position in the main scanning direction is determined by the main scanning print start signal (HSYNC) and the width of the paper.
- The laser emission area is determined by the paper size. The area on both edges of the paper is, however, the void image area.

(2) Sub scanning direction
- The print start position in the sub scanning direction is determined with the image write signal (TOD). Also, it is determined with the system speed.
- The laser emission area is determined by the paper size. The area on both edges of the paper is, however, the void image area.

Modes	Void image area	
	Main scanning direction	Sub scanning direction
Copy	3 mm (1/8 inches) from the edge of the paper	4.2 mm (3/16 inches) from the leading edge of the paper
	3 mm (1/8 inches) from the edge of the paper	3 mm (1/8 inches) from the trailing edge of the paper
PC Print	4.2 mm (3/16 inches) from the edge of the paper	4.2 mm (3/16 inches) from the leading edge of the paper
	4.2 mm (3/16 inches) from the edge of the paper	4.2 mm (3/16 inches) from the trailing edge of the paper



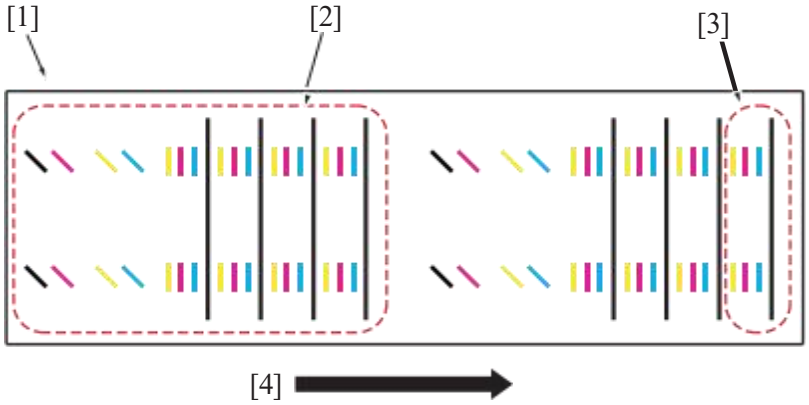
[1]	Void image area at edge of paper	[2]	Void image area at leading edge of paper
[3]	Void image area at trailing edge of paper	[4]	Laser emission area

1.3.7 Color registration control (color shift correction) system

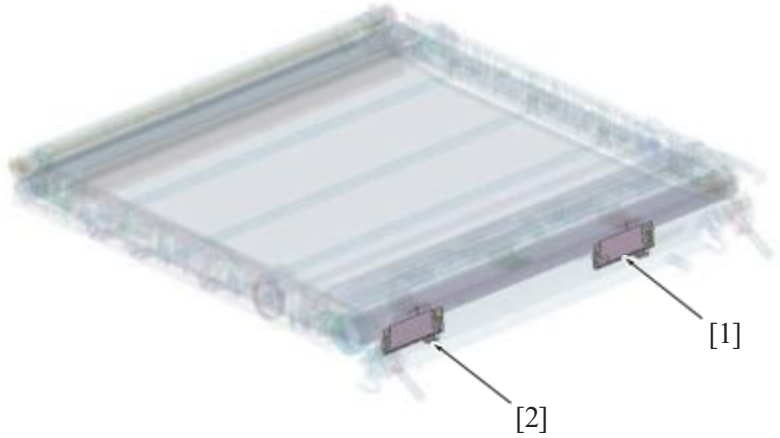
(1) Overview of control

- In a tandem engine, each four different color has an independent image reproduction process. Color shift may occur because of part accuracy variations in PH unit. The color registration control system automatically detects color shift and correct color shift in the main and sub scanning directions.
- The color shift detection sequence proceeds as follows. A pattern each is produced at the front and rear on the transfer belt. Each of IDC sensors at the front and rear reads the corresponding pattern. The amount of color shift in each of the sub scanning and main scanning directions is then calculated and stored in memory.
- The amount of color shift in the sub scanning direction is read from the pattern falling within the sub scanning detection range. The amount of color shift in the main scanning direction is read from the pattern falling within the main scanning detection range.

- From data readings, the machine calculateshow much the position of each of the different colors should be corrected. Based on the calculated data, the machine controls each dot during image output, thereby correcting the color shift amount.



[1]	Transfer belt	[2]	Detection area for main scanning direction
[3]	Detection area for sub scanning direction	[4]	Movement direction of the transfer belt



[1]	IDC sensor/Rr (IDCS/Rr)	[2]	IDC sensor/Fr (IDCS/Fr)

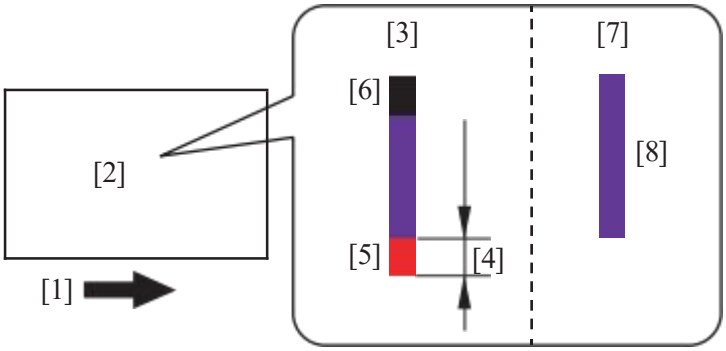
(2) Types of color shift

- Color shift is misalignment of the images of three different colors, yellow (Y), magenta (M),and cyan (C), with respect to the image of black (K).
- Four different types of color shift can occur: color shift in the main scan direction, color shift due to overall scaling error in the main scan direction, color shift in the sub scan direction, and imageskew.

(3) Correction of color shift in the main scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the main scan direction, changing the write start timing in the main scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.

* When the image of magenta is misaligned with respect to the image of black (K) in the sub scan direction



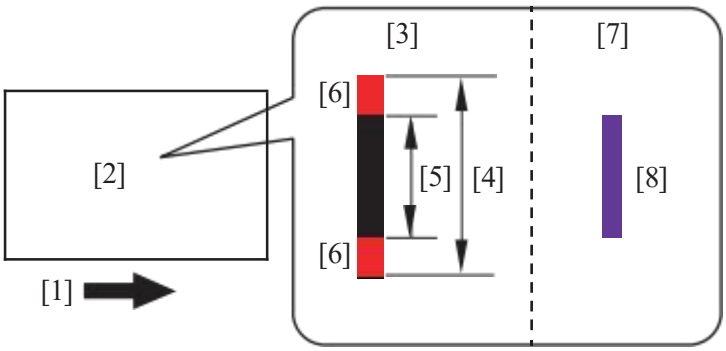
[1]	Rotational direction of the transfer belt	[2]	Transfer belt

[3]	Before correction	[4]	Color shift
[5]	Magenta (M)	[6]	Black (K)
[7]	After correction	[8]	No color shift

Correction of color shift due to overall scaling error in the main scan direction

- If the image of each color (Y, M, C) and the image of black (K) vary in length in the main scan direction, changing the clock frequency of the laser diode can correct the length difference in the main scan direction. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.

* When the image of magenta is longer than the image of black (K)

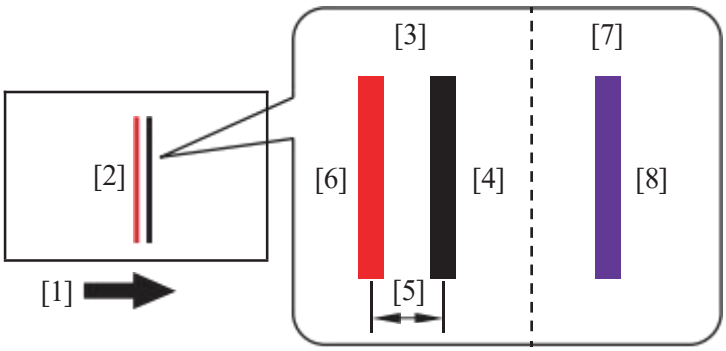


[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Before correction	[4]	Magenta (M)
[5]	Black (K)	[6]	Color shift
[7]	After correction	[8]	No color shift

(5) Correction of color shift in the sub scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the sub scan direction, changing the write start timing in the sub scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.

* When the image of magenta is misaligned with respect to the image of black (K) in the sub scan direction

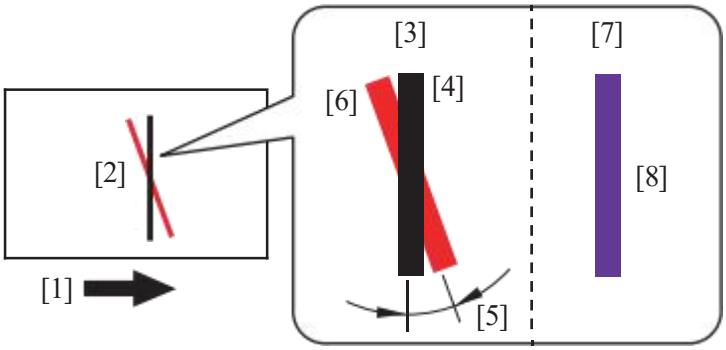


[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Before correction	[4]	Black (K)
[5]	Color shift	[6]	Magenta (M)
[7]	After correction	[8]	No color shift

(6) Skew (imageskew)

- If the image of each color (Y, M, C) is tilted against the image of black (K) in the sub scanning direction, the imageskew can be corrected by tilting the G2 lens of the PH unit. Imageskew correction needs to be performed separately for the respective colors (Y, M, C).
- Imageskew is adjusted at timing when the image stabilization sequence is started.

* When the image of magenta is tilted against the image of black (K)

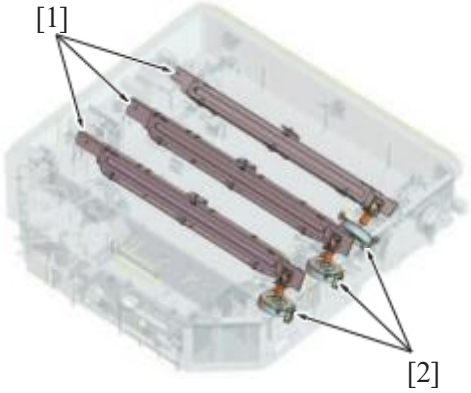


[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Before correction	[4]	Black (K)
[5]	Color shift	[6]	Magenta (M)
[7]	After correction	[8]	No color shift

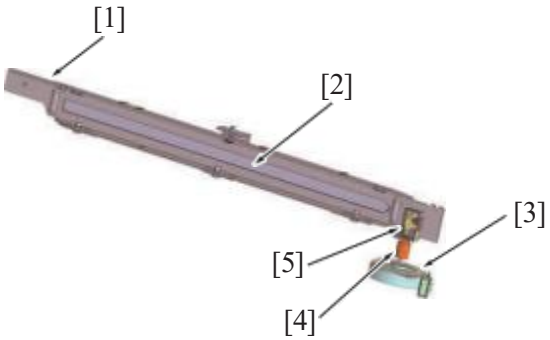
1.3.8 Color skew correction control

(1) Overview of control

- Temperature may change inside the PH unit and the components can change over time. These phenomena may cause color skew problems. To prevent the problems, individual G2 lenses that correspond to Y, M, and C respectively have a color skew auto adjustment mechanism.
- When the skew correction motor runs, the G2 lenses move up and down to perform an automatic color skew correction.



[1]	G2 lens	[2]	Skew correction motor

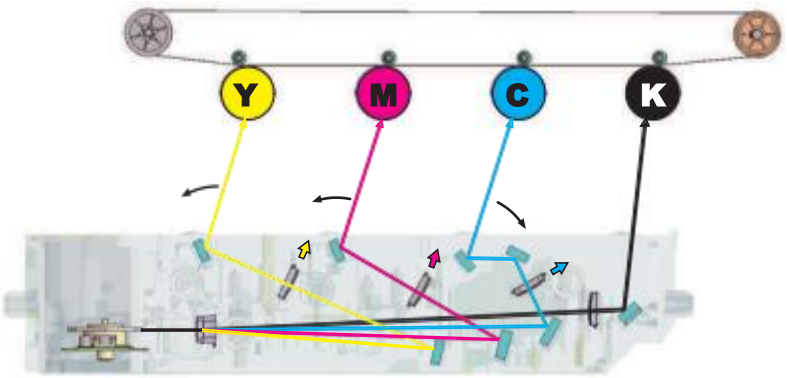


[1]	G2 lens tilting shaft	[2]	G2 lens: The lens is tilted to correct color skew.
[3]	Skew correction motor	[4]	Drive gear
[5]	G2 lens drive cam	-	-

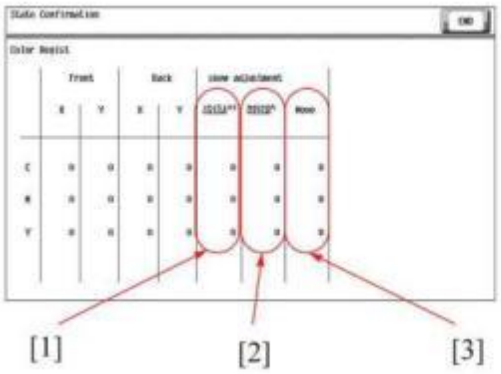
(2) Skew adjustment method

- The following describe the direction in which the beam moves by the skew correction motors.
- When the skew correction motors rotate, the G2 lens moves in the direction of the arrow that is illustrated below, the beam moves.
- Only cyan uses a greater number of turnover mirrors, one more than yellow or magenta does, which results in the direction in which the beam moves being different from that of yellow and magenta.

Skew adjustment direction: Direction in which the beam moves when the skew correction motor/Y, M, C rotates clockwise



(3) Skew correction motor adjustment value panel display



[1]	Select [Service Mode] -> [Machine] -> [Print Head Skew Adj.] and call [Adjust Value] (default adjustment value unique to the PH unit) to the screen, in steps.	[2]	Shows the skew correction value after the image stabilization process, in steps.
[3]	Shows the skew correction value after the image stabilization process relative to that of the last image stabilization process, in steps.	-	-

(4) Operation timing

- The color registration control (color shift correction) and the color skew correction control operate at one time.
- The color skew amount is calculated for each color using the numeric value calculated with the sub scanning registration pattern detected and based on the previous correction data.

1.3.9 Skew adjustment/skew adjustment reset

- There are cases where the “color skew correction control” cannot be executed for some reason. The machine provides functions that allow you to reset the “skew adjustment data” against these situations.
- For details of the Service Mode, see “I.1.9 Print Head Skew Adj..”

(1) Possible conditions and causes

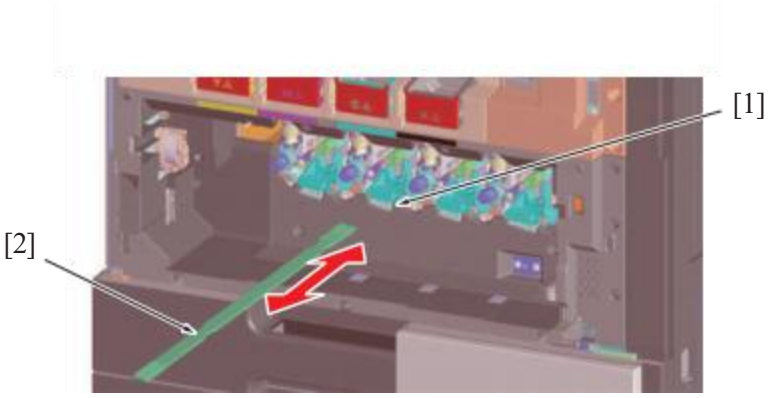
- When the PH unit has been replaced with new one.
- The alarm code “P-14: skew correction trouble” is displayed.
- A door is opened or the main power switch is turned OFF during color skew correction control, causing the skew correction sequence to be halted; as a result, the current position of the skew correction motor is unknown.
- The backup position information of the skew adjustment motor settings in the machine is lost operations such as replacement of the storage board.

1.3.10 PH unit temperature detection control

- The temperature inside the PH unit is measured at intervals of 30 sec. by the PH temperature sensor mounted in the PH unit.
- The detected temperature data is recorded to form part of the environmental information data and used for controlling, for example, color registration, 1st transfer output determination, and transfer roller cleaning.

1.3.11 PH window cleaning

- The PH window, if contaminated, blocks the path of the laser beam and the surface of the photoconductor can no longer be exposed properly. This could result in image problems, including white bands or white lines on the print image.
- The PH window is provided with a cleaning guide that prevents any image problem caused by a dirty PH window from occurring.



[1]	Cleaning port	[2]	PH window cleaning tool

PH window cleaning procedures

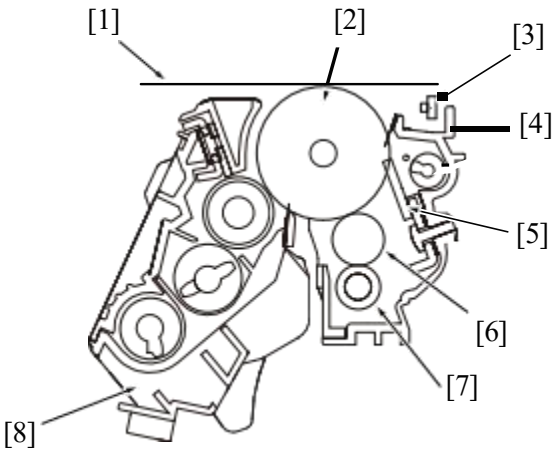
- Slowly pull to the front the PH window cleaning tool and push it back into the original position. This allows the cleaning material mounted on the PH window cleaning tool to remove any foreign matter from the surface of the PH window.
- The machine is not equipped with any mechanism that automatically cleans the PH window. This makes it necessary to clean the PH window manually at regular intervals.

PH window cleaning timing

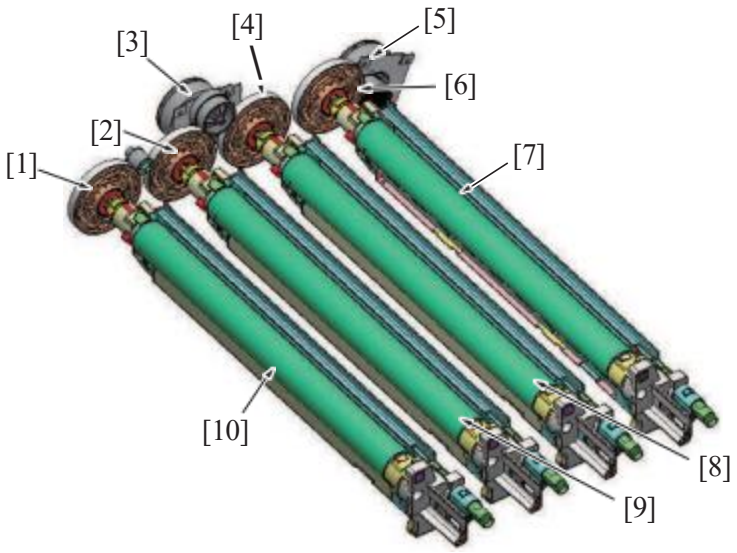
- Clean the PH window of each color when the drum unit/K is replaced with a new one.

1.4 PHOTOCONDUCTOR SECTION

1.4.1 Configuration



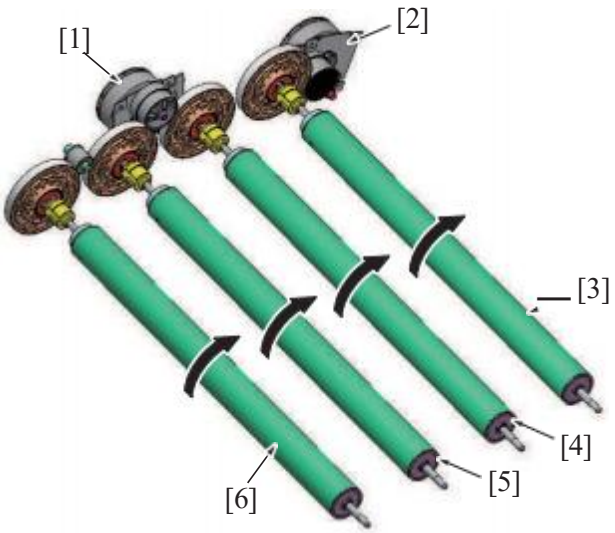
[1]	Transfer belt	[2]	Photoconductor
[3]	Erase LED	[4]	Toner collecting screw
[5]	Cleaning blade	[6]	Charging roller
[7]	Cleaning roller	[8]	Developing unit



[1]	Color PC drive gear/Y	[2]	Color PC drive gear/M
[3]	PC motor (M2)	[4]	Color PC drive gear/C
[5]	Transport motor (M1)	[6]	PC drive gear/K
[7]	Drum unit/K	[8]	Drum unit/C
[9]	Drum unit/M	[10]	Drum unit/Y

1.4.2 Drive

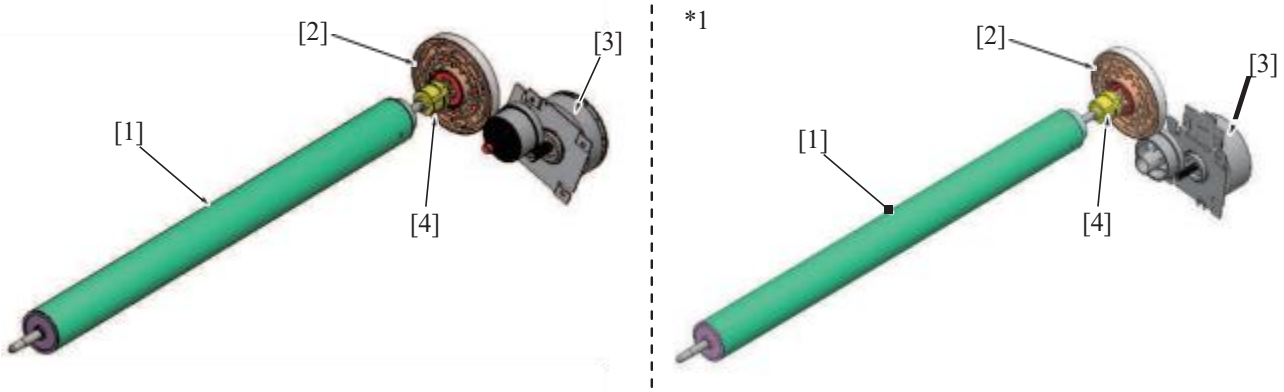
• Two independent photoconductor motors (for color and black) are used for the drive mechanism to suppress incorrect color registration and uneven pitch.



[1]	PC motor (M2)	[2]	Transport motor (M1)
[3]	Photoconductor/K	[4]	Photoconductor/C
[5]	Photoconductor/M	[6]	Photoconductor/Y

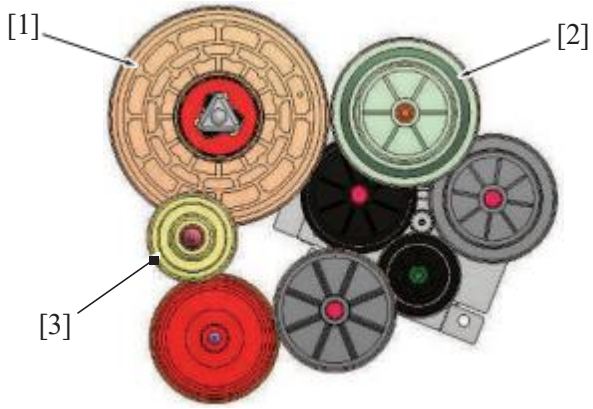
(1) Photoconductor/K drive mechanism

- The transport motor drives the photoconductor/K.
- The transport motor is the common source that provides a drive to manual bypass feed, tray feed, transfer belt, and others.
- Drive is transmitted to the photoconductor when the triangular-prism-shaped shaft is engaged with the mating coupling part.



[1]	Photoconductor/K	[2]	Photoconductor drive gear/K
[3]	Transport motor (M1)	[4]	Coupling

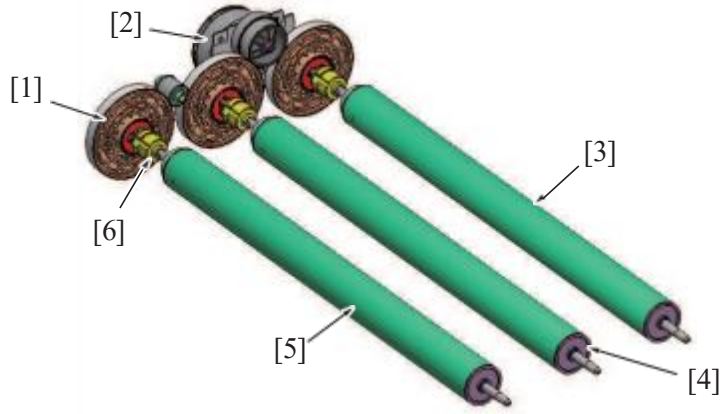
*1: Not for CM605/CM805



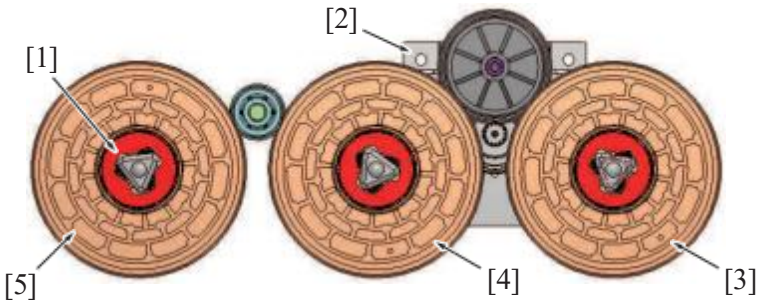
[1]	Photoconductor drive gear/K	[2]	Transfer belt drive gear
[3]	Developing unit drive gear	-	-

(2) Photoconductor/Y, M, C drive mechanism

- The photoconductors/Y, M, C are driven by the PC motor.
- Drive is transmitted to the photoconductor when the triangular-prism-shaped shaft is engaged with the mating coupling part.



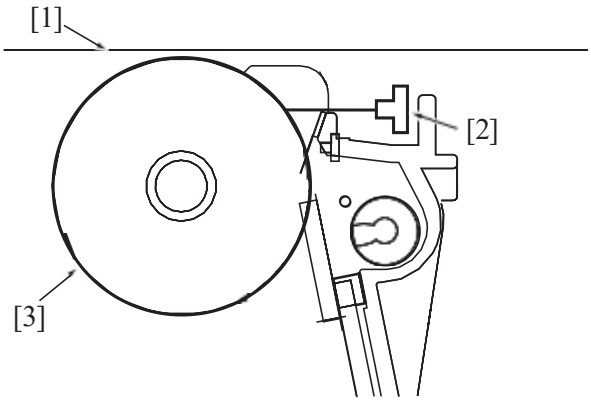
[1]	Color photoconductor drive gear/Y	[2]	PC motor (M2)
[3]	Photoconductor/C	[4]	Photoconductor/M
[5]	Photoconductor/Y	[6]	Coupling



[1]	Triangular-prism-shaped coupling part	[2]	PC motor (M2)
[3]	Color photoconductor drive gear/C	[4]	Color photoconductor drive gear/M
[5]	Color photoconductor drive gear/Y	-	-

1.4.3 Erase LED control

- The potential left on the photoconductor is neutralized by turning ON the erase LED.
- The neutralization of any residual potential on the photoconductor helps improve cleaning performance of toner left on the surface of the photoconductor.



[1]	Transfer belt	[2]	Erase LED
[3]	Photoconductor	-	-

Erase LED ON timing

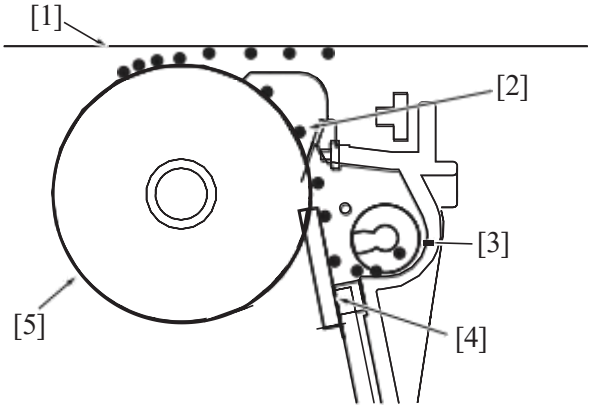
- The erase LED is turned ON when the photoconductor starts rotating.

Erase LED OFF timing

- The erase LED is turned OFF after the lapse of a predetermined period of time after the corona charge output has been shutdown. (That is, the erase lamp is turned OFF after all charge left on the surface of the photoconductor is neutralized.)

1.4.4 Photoconductor cleaning

- Part of the toner image that is not transferred is left on the surface of the photoconductor. The residual toner is scraped off by the cleaning blade.
- Toner, which has been scraped off the surface of the photoconductor, is conveyed by the toner collecting screw toward to the front of the machine. It is discharged in the waste toner box.



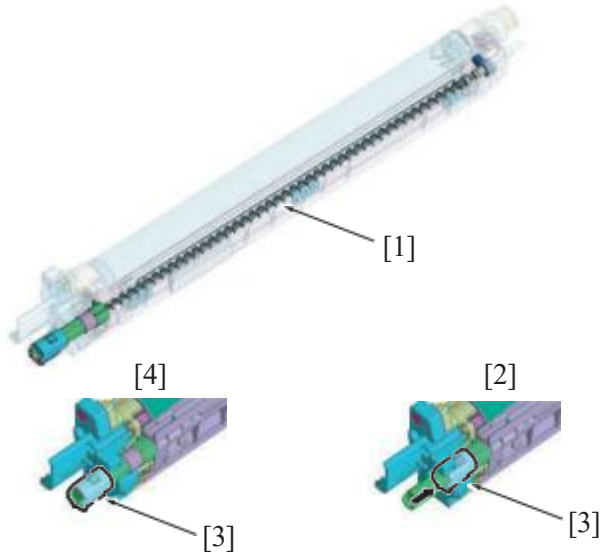
[1]	Transfer belt	[2]	Waste toner
[3]	Toner collecting screw	[4]	Cleaning blade
[5]	Photoconductor	-	-

Cleaning blade

- The cleaning blade is pressed up against the surface of the photoconductor at all times. No cleaning blade retraction mechanism is provided.
- The cleaning blade scrapes residual toner off the surface of the photoconductor as the photoconductor is rotated.

Toner conveyance/collection mechanism

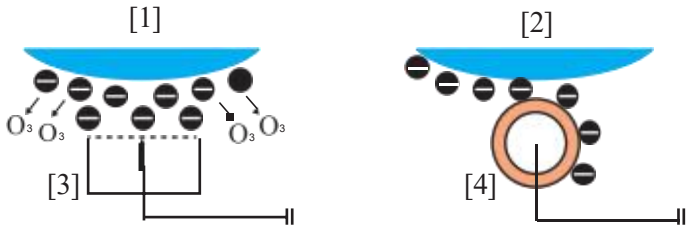
- The toner collecting screw is rotated by the driving force transmitted from the photoconductor. (The toner collecting screw rotates in time with the rotation of the photoconductor.)
- Rotation of the toner collecting screw conveys toner scraped off the surface of the photoconductor toward the front of the machine.
- The toner conveyed to the front of the machine is discharged via the toner collecting port into the waste toner box.
- The toner collecting port is provided with a shutter mechanism. Mounting the waste toner transport unit pushes the shutter at the toner collecting port, opening the toner collecting port. The shutter is closed by the waste toner transport unit removal and prevents the toner spilling from the toner collecting port.



[1]	Toner collecting screw	[2]	Shutter open
[3]	Shutter	[4]	Shutter close

1.4.5 Electrostatic charger control

- A charging roller is used in the electrostatic charger.
- The charging roller does not apply high voltages in comparison to a comb electrode and generates no ozone, so that no ozone filter is mounted.



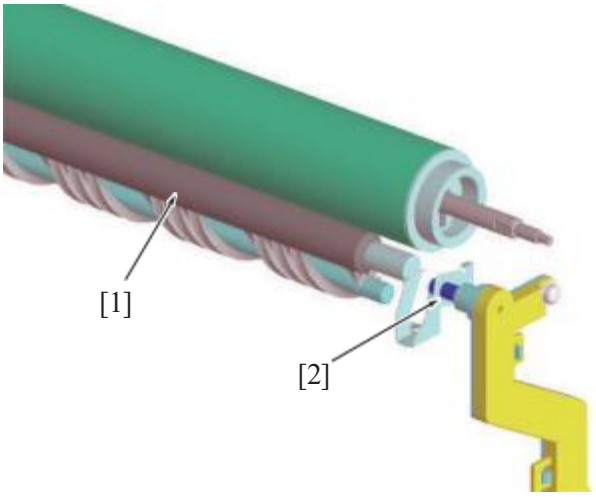
[1]	Comb electrode charge	[2]	Roller charging
[3]	Comb electrode	[4]	Charging roller

<Charge application start timing>

- Charge is applied to the electrostatic charger application terminal when the photoconductor (transport motor and PC motor) drive motor starts rotating at a steady speed.

<Charge application end timing>

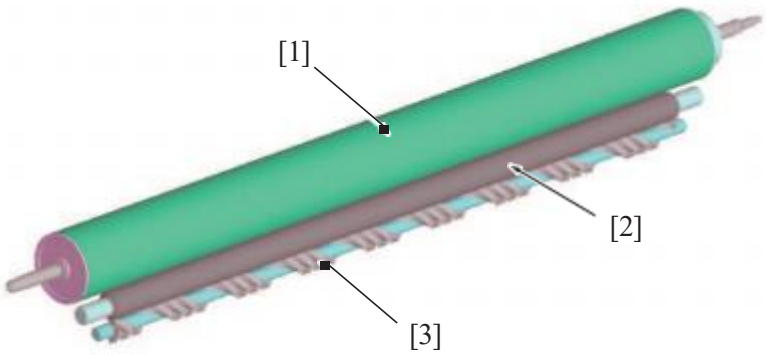
- Application of the charge to the electrostatic charger application terminal is terminated when the surface of the photoconductor which faces the transfer belt as the 1st transfer output is turned OFF moves past the charging position.



[1]	Charging roller	[2]	Electrostatic charger application terminal

1.4.6 Charging roller cleaning

- If the charging roller becomes contaminated, the surface of the photoconductor can no longer be charged uniformly, so that uneven charge occurs. Uneven charge of the photoconductor results in irregular streaks or other print image defects.
- The cleaning roller rotates by following the rotation of the charging roller, continuously cleaning contamination from the charging roller surface.



[1]	Photoconductor	[2]	Charging roller
[3]	Cleaning roller	-	-

1.4.7 Drum unit mounting detection

The drum unit is provided with a DC set board. The board detects set of the corresponding drum unit.

NOTE

- **For details of the unit life, refer to "E.1 Concept of maintenance."**

Detection timing

- The unit mounting detection control is performed under any of the following conditions:
  - "The power switch is turned ON (with the front door and right door are closed)"
  - "The front door or right door is opened and closed with the power switch in ON position"

Operation when it is detected that no units are mounted

- The message "Drum Unit Installation Error" appears on the control panel and the machine prohibits initiation of any new print cycle.
- The message "Drum Unit Installation Error" disappears as soon as a drum unit is mounted.

(1) New article detection

Detection timing

- The new article detection control is performed if it is determined through the "unit mounting detection" control that the drum unit is correctly mounted in place.

Operation when the developing unit is determined to be new

- The life counter of the drum unit is reset to zero and the control proceeds to the life detection control.
- The result of the new article detection is recorded in the storage board of the main body.
- The life counter is available for the drum unit of each color. The counter value is recorded in the storage board of the main body.

(2) New release disable mode

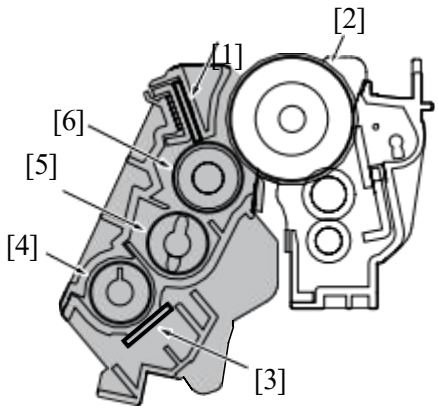
- No new article detection control is performed for the drum unit when the new releasedisable mode is used.
- The new releasedisable mode should be used only for troubleshooting purposes.

NOTE

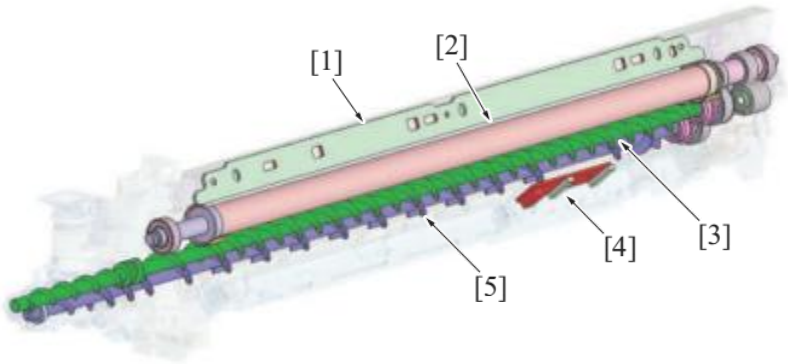
- **See "New Release Disable mode" for more detailed operating precautions.**

1.5 DEVELOPING SECTION

1.5.1 Configuration



[1]	Doctor blade	[2]	Photoconductor
[3]	TCR sensor	[4]	Toner supply screw
[5]	Toner collecting screw	[6]	Developing roller

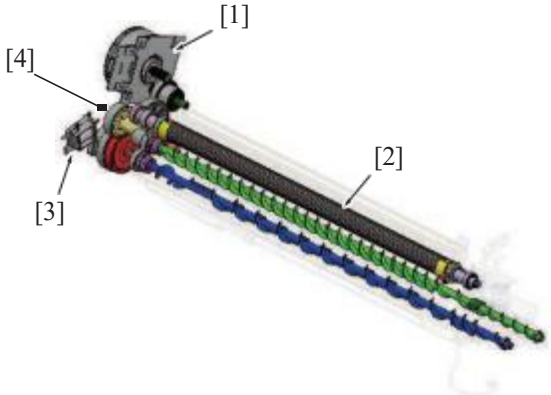


[1]	Doctor blade	[2]	Developing roller
[3]	Toner collecting screw	[4]	TCR sensor
[5]	Toner supply screw	-	-

1.5.2 Drive

(1) Developing section/K drive mechanism

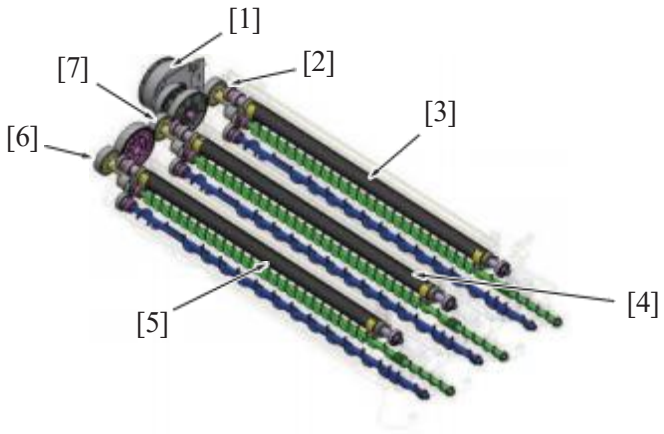
- The transport motor rotates to transmit the drive force to the developing drive gear/K. Thus, the developing roller/K is driven.



[1]	Transport motor (M1)	[2]	Developing roller/K
[3]	Developing solenoid (SD4)	[4]	Developing drive gear/K

(2) Developing section/Y, M, C drive mechanism

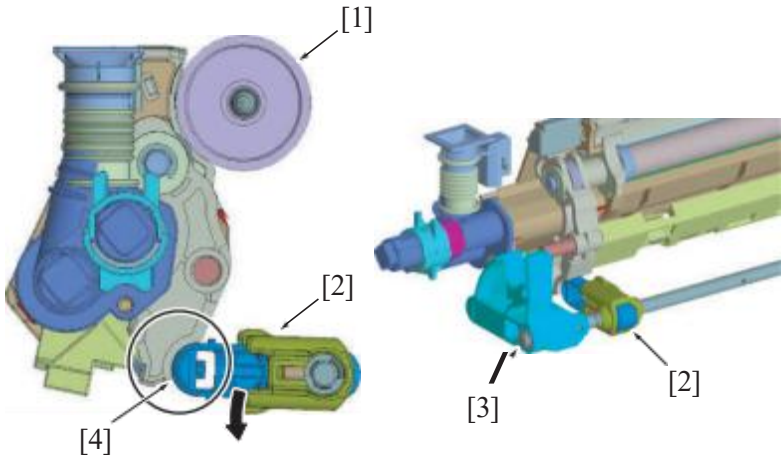
- Drive force from the developing motor is transmitted to the developing drive gear so that the developing section/Y, M, C is driven. Rotation of the developing motor transmits drive to the developing drive gear Y, M, C, which drives each of the developing rollers.



[1]	Developing motor (M27)	[2]	Developing drive gear/C
[3]	Developing roller/C	[4]	Developing roller/M
[5]	Developing roller/Y	[6]	Developing drive gear/Y
[7]	Developing drive gear/M	-	-

1.5.3 Developing unit pressure/releases mechanism

- A mechanism is provided that releases the developing unit from the PC drum to prevent the photoconductor from being damaged when the drum unit is to be removed.
- Rotating the release lever clockwise will cause the rib fixed to the lever to fit into the groove in the developing unit, so that the developing unit is pressed against the drum unit.
- Rotating the release lever counterclockwise will cause the rib fixed to the lever to leave the groove in the developing unit, so that the developing unit is released from the drum unit.



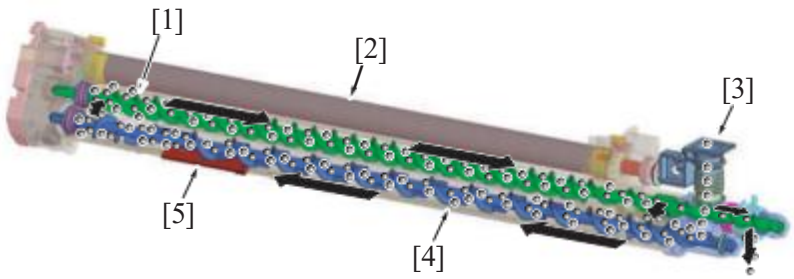
[1]	Photoconductor	[2]	Rib
[3]	Release lever	[4]	Groove

1.5.4 Developer flow

1. Toner replenished via the toner replenishing port located at the front side of the main body is fed to the toner supply screw.
2. The developer is conveyed toward the rear of the unit, while being agitated and electrically charged, by the toner supply screw.
3. The TCR sensor is equipped on the underside of the developing unit detects toner to carrier (T/C) ratio during this time. If the T/C ratio is lower than a predetermined value, toner is replenished.
4. The developer, fed to the rear of the developing unit, is conveyed further onto the toner collecting screw.
5. The developer fed to the toner collecting screw is conveyed onto the developing roller because of the magnetic pole positioning of the developing roller.
6. The doctor blade then controls the height of the developer brush to ensure that the developer on the developing roller levels out.
7. Only the toner contained in the developer sticks to the electrostatic latent image on the surface of the photoconductor. The developer that is left on the developing roller is returned to the toner collecting screw by the magnetic pole positioning of the developing roller.
8. The part of the circulating developer is collected in the waste toner box through the toner collecting port located at the front side of the toner collecting screw. The toner collecting port is provided with a shutter mechanism. Mounting the waste toner box pushes the shutter at the toner collecting port, opening the toner collecting port. The shutter is closed by the waste toner box removal and prevents the toner spilling from the toner collecting port.

NOTE

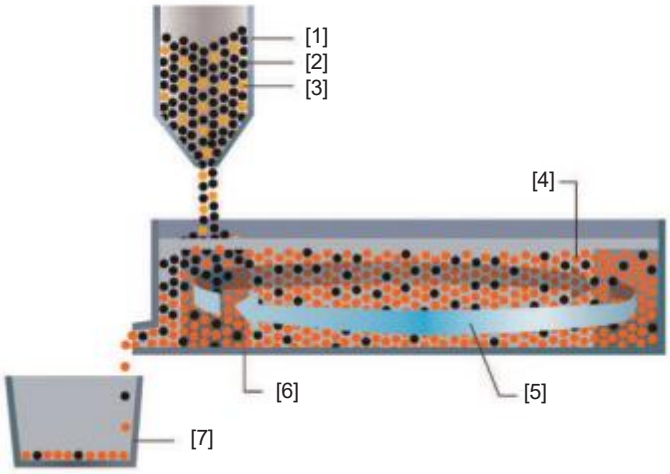
- **The toner replenishing port of the developing unit is not provided with a shutter mechanism. (The toner hopper section is equipped with a shutter.)**
- **When removing the developing unit, the developing unit must be held in a horizontal position with care not to allow toner to spill from the toner replenishing port.**



[1]	Toner collecting screw	[2]	Developing roller
[3]	Toner replenishing port	[4]	Toner supply screw
[5]	TCR sensor	-	-

1.5.5 Auto refining developing system

- The developing unit/Y,M,C,K incorporates the auto refining developing system.
- The interior of the toner cartridge is packed with both toner and carrier. The developing unit is replenished with fresh carrier at the same time of replenishing the toner.
- Excess carrier in the developing unit is discharged, thereby inhibiting carrier left in the developing unit from being deteriorated and maintaining stable image quality for an extended period of time.

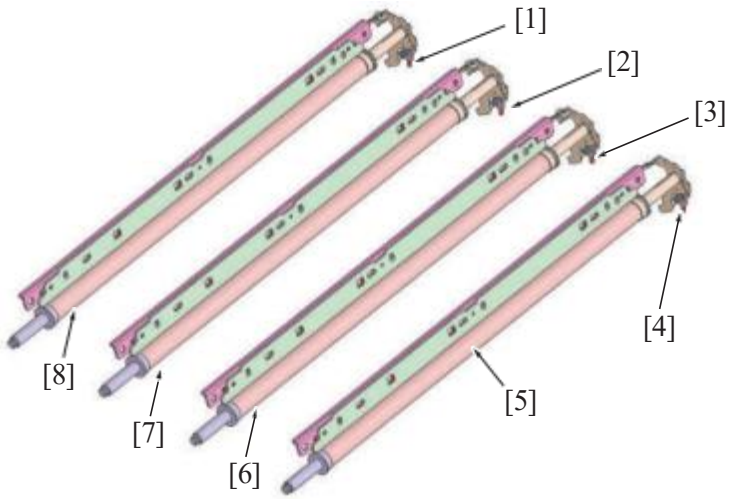


[1]	Toner Cartridge	[2]	Toner
[3]	New carrier	[4]	Low degree of deterioration of entire carrier
[5]	Circulation and agitation	[6]	Developing unit
[7]	Waste toner box	-	-

1.5.6 Developing bias

- The developing bias voltage (Vdc) is applied to the developing roller so that an adequate amount of toner is attracted onto the surface of the photoconductor.
- In addition to the negative DC (-) component, +AC voltage is applied during development to help toner to be attracted more easily to the surface of the photoconductor. This AC component is applied only while development is taking place. At any other timing, only the DC (-) Vdc is applied.
- The developing bias (Vdc) is supplied from high voltage unit.

- The developing bias voltage supplied from the high voltage unit is applied to the developing roller of each color of toner via the metal shaft of the developing drive gear.
- See “IMAGE FORMING CONTROL” for the timing to apply the bias voltage.



[1]	Developing bias voltage application terminal/Y	[2]	Developing bias voltage application terminal/M
[3]	Developing bias voltage application terminal/C	[4]	Developing bias voltage application terminal/K
[5]	Developing roller/K	[6]	Developing roller/C
[7]	Developing roller/M	[8]	Developing roller/Y

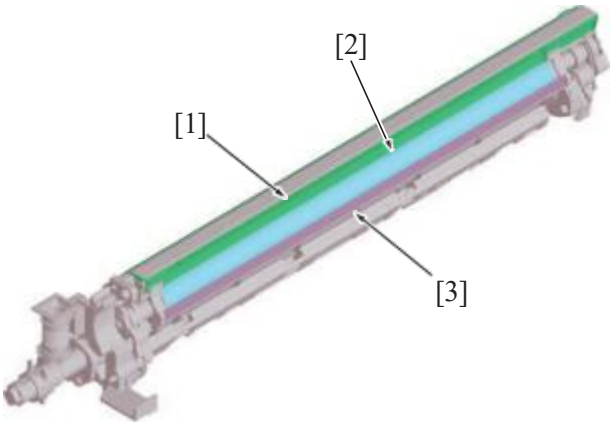
Grad/Dev AC Bias V Selection

- The “Grad/Dev AC Bias V” can be changed by changing the setting of [Service Mode] -> [Imaging Process Adjustment] -> [Grad/Dev AC Bias V Selection]. This provides development performance that responds to various types of environment of the users.
- Turning ON the “Grad/Dev AC Bias V Selection” allows the “Grad/Dev AC Bias V” to be decreased down to a voltage value lower than the ordinary specified value.
- With the ordinary specified value set for the “Grad/Dev AC Bias V” in low atmospheric pressure environments, such as at high altitudes, leak could occur, resulting in white dots. Leak, and thus white dots on the image, can be prevented from occurring by lowering the “Grad/ Dev AC Bias V”.

- For details of the Service Mode, see "I.3.13 Grad/Dev AC Bias V Selection."

1.5.7 Toner scattering prevention

- The toner scattering prevention plate and toner scattering prevention sheet are equipped in an area around the developing roller, functioning to prevent toner from scattering.



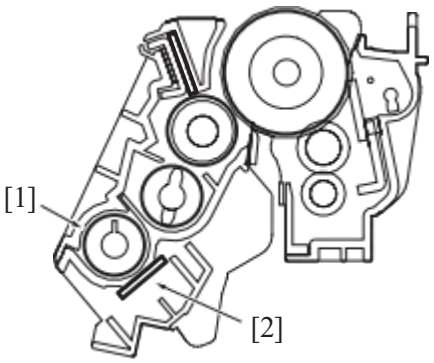
[1]	Toner scattering prevention plate	[2]	Developing roller
[3]	Toner scattering prevention sheet	-	-

1.5.8 Developing cooling

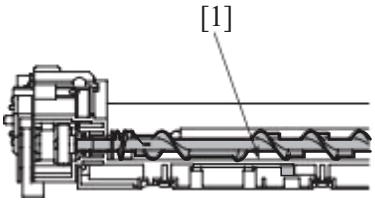
- The transfer belt cleaner cooling fan is provided to circulate air through the inside of the machine, so that the areas around the developing unit, drum unit, toner hopper, and the transfer belt unit can be cooled.

1.5.9 Toner density control

- The TCR sensor is mounted on the underside of each of the developing sections. The TCR sensor for C, M, Y and K is a non-contact magnetic type. Each of these sensors detects toner-to-carrier ratio (TC) of the developer. The reading is used for determining the amount of toner supplied.
- Only when a new developing unit is installed in the machine, an automatic adjustment (calibration) is made of each of these TCR sensors. The automatic adjustment of TCR sensors cannot be done at your own discretion.
- The target TC ratio are around 4.0% to 8.5%.
- The magnetic permeability (powder density) of the carrier in the developer is measured to determine the TC ratio.
- The TCR sensor is integrated with the developing unit. When the TCR sensor is to be replaced with a new one, the entire developing unit must be replaced.
- For replenishment of toner to the developing unit, see "Auxiliary toner replenishing control for toner hopper."



[1]	Toner supply screw	[2]	TCR sensor



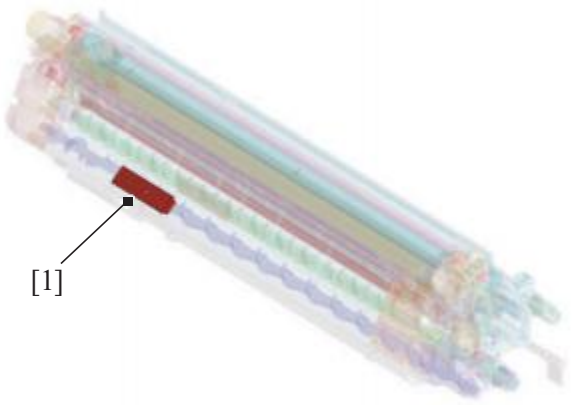
[1]	TCR sensor	-	-

1.5.10 Developing unit mounting detection

- The developing unit of each color of toner is provided with a TCR sensor. The sensor detects the mounting state of the corresponding developing unit.

NOTE

- **For details of the unit life, refer to "E.1 Concept of maintenance."**



[1]	TCR sensor	-	-

Detection timing

- The unit mounting detection control is performed under any of the following conditions:
  - "The power switch is turned ON (with the front door and right door are closed)"
  - "The front door or right door is opened and closed with the power switch in ON position"

Operation when it is detected that no units are mounted

- The message "Developing Unit Installation Error" appears on the control panel and the machine prohibits initiation of any new print cycle.
- The message "Developing Unit Installation Error" disappears as soon as a developing unit is mounted.

(1) New article detection

- The TCR sensor detects whether the developing unit is new or not.

Detection timing

- The new article detection control is performed if it is determined through the "unit mounting detection" control that the developing unit is correctly mounted in place.

Operation when the developing unit is determined to be new

- The TCR sensor automatic adjustment control (calibration) is performed.
- The image stabilization control is performed.
- The life counter of the developing unit is reset to zero.
- After the above controls are performed, the operation proceeds to the life detection control.
- The result of the new article detection is recorded in the storage board of the main body.
- The life counter is available for the developing unit of each color. The counter value is recorded in the storage board of the main body.

(2) New release disable mode

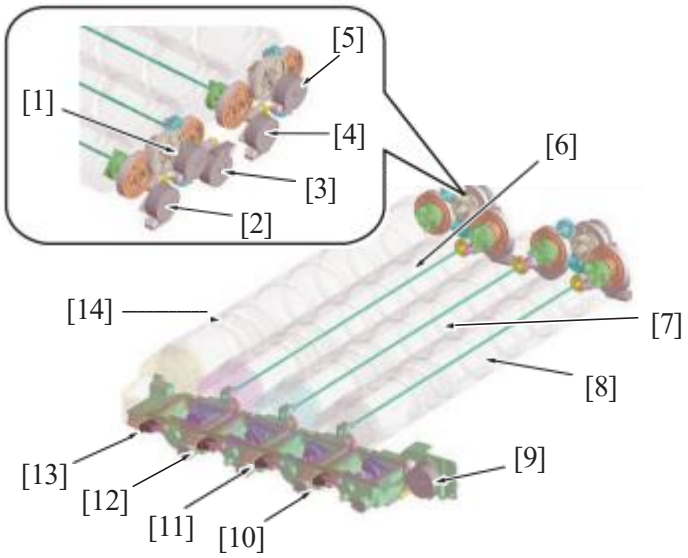
- The new releasedisable mode is used when a new developing unit is temporarily used for performing troubleshooting procedures of a machine.
- No new article detection control is performed for the developing unit when the new releasedisable mode is used.
- The new releasedisable mode should be used only for troubleshooting purposes.

NOTE

- **See "New Release Disable mode" for more detailed operating precautions.**

1.6 TONER SUPPLY SECTION

1.6.1 Configuration

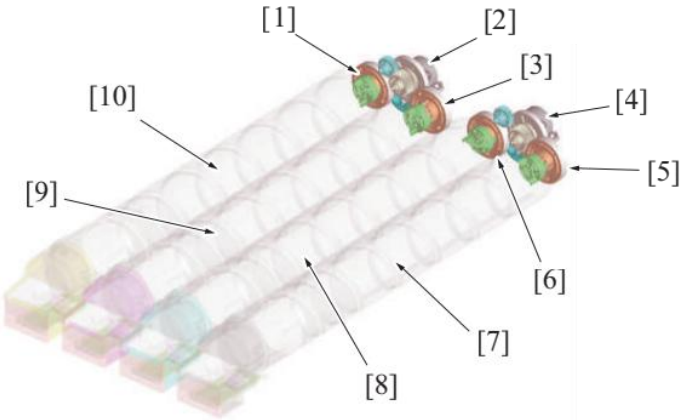


[1]	Toner cartridge motor/CK (M25)	[2]	Toner supply motor/C (M7)
[3]	Toner supply motor/M (M8)	[4]	Toner supply motor/Y (M9)
[5]	Toner cartridge motor/YM (M10)	[6]	Toner cartridge/M
[7]	Toner cartridge/C	[8]	Toner cartridge/K
[9]	Toner supply motor/K (M6)	[10]	Toner empty sensor/K (PS31)
[11]	Toner empty sensor/C (PS32)	[12]	Toner empty sensor/M (PS33)
[13]	Toner empty sensor/Y (PS34)	[14]	Toner cartridge/Y

1.6.2 Drive

(1) Toner cartridge drive

- The toner cartridge motor rotates to drive the toner cartridge. The interior of the toner cartridge is in spiral form. As the toner cartridge rotates, toner inside the toner cartridge is conveyed toward the toner replenishing port that is located at the front side. So that the toner hopper is replenished with the toner from the toner cartridge.
- The toner cartridge motor/Y,M drives the toner cartridge/Y,M; and the toner cartridge motor/CK drives the toner cartridge/C,K.
- The toner cartridge drive is switched depending on the color and monochrome print applications.

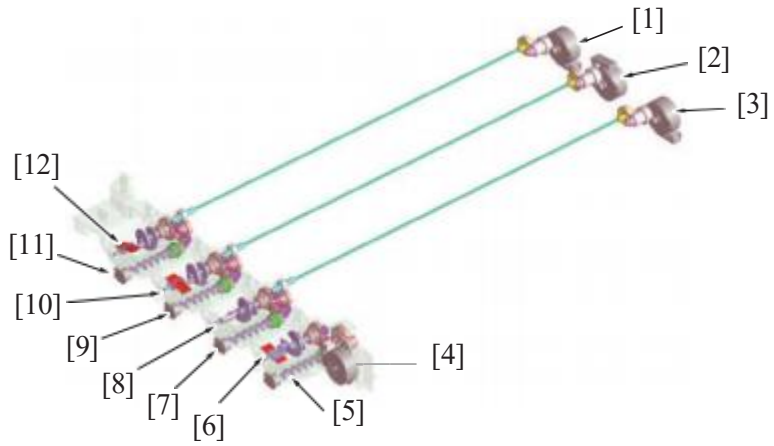


[1]	Toner cartridge drive gear/Y	[2]	Toner cartridge motor/YM (M10)
[3]	Toner cartridge drive gear/M	[4]	Toner cartridge motor/CK (M25)
[5]	Toner cartridge drive gear/K	[6]	Toner cartridge drive gear/C
[7]	Toner cartridge/K	[8]	Toner cartridge/C
[9]	Toner cartridge/M	[10]	Toner cartridge/Y

(2) Toner hopper drive

- Rotation of the toner supply motor causes the toner agitating blade and toner conveying screw inside the toner hopper to rotate.

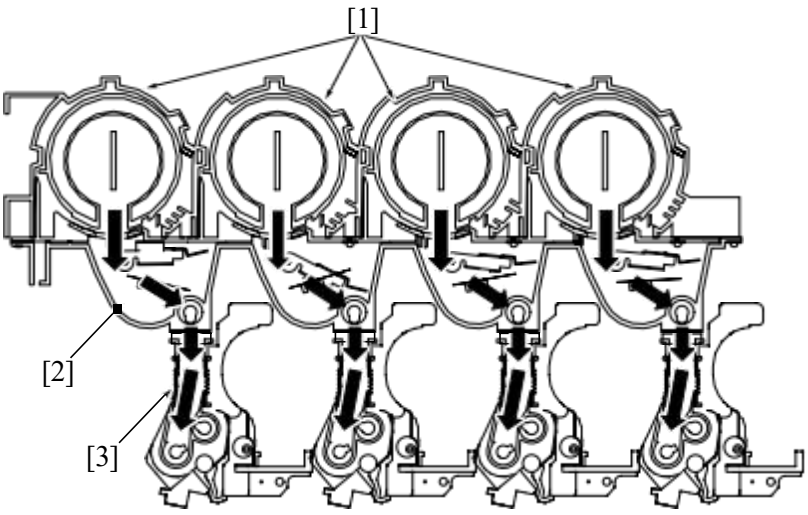
- Toner conveyed into the toner hopper is agitated by the toner agitating blade.
- As the toner conveying screw rotates, toner is conveyed onto the toner replenishing port located at the front side inside the toner hopper, so that the toner is fed into the developing unit via the toner replenishing pipe.



[1]	Toner supply motor/Y (M9)	[2]	Toner supply motor/M (M8)
[3]	Toner supply motor/C (M7)	[4]	Toner supply motor/K (M6)
[5]	Toner conveying screw/K	[6]	Toner agitating blade/K
[7]	Toner conveying screw/C	[8]	Toner agitating blade/C
[9]	Toner conveying screw/M	[10]	Toner agitating blade/M
[11]	Toner conveying screw/Y	[12]	Toner agitating blade/Y

1.6.3 Toner replenishing overview

- The toner replenishing mechanism in this machine has a two-step replenishing structure. One is replenishing the toner hopper with the toner from the toner cartridge. The other one is replenishing the developing unit with the toner from the toner hopper.
- The toner cartridge incorporates the auto refining developing system for all colors.
- The interior of the toner cartridge is packed with both toner and carrier. The developing unit is replenished with fresh carrier at the same time of replenishing the toner. Excess carrier in the developing unit is discharged, thereby inhibiting carrier left in the developing unit from being deteriorated and maintaining stable image quality for an extended period of time.
- For details of the auto refining developing system, see “P.1.5.5 Auto refining developing system.”

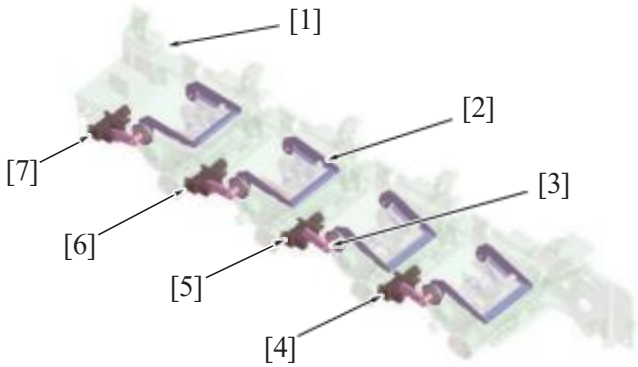


[1]	Toner cartridge	[2]	Toner hopper
[3]	Toner replenishing pipe	-	-

1.6.4 Toner replenishing from toner bottle to toner hopper

(1) Toner replenishing mechanism

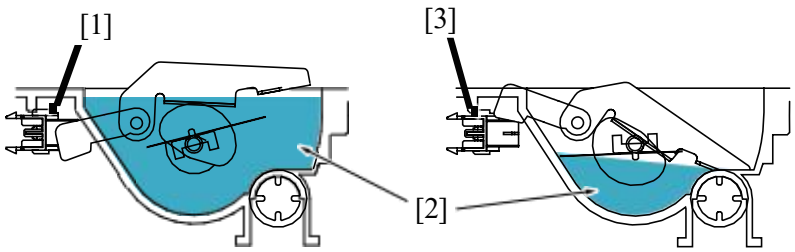
- The toner replenishing from the toner cartridge to the toner hopper is determined by unblocking and blocking the toner empty sensor.
- If the toner empty sensor is unblocked a predetermined number of times, the machine determines that the toner in the toner hopper decreases. So that,the toner cartridge motor is energized and a toner replenishing sequence is started.
- The toner hopper for each color of toner is provided with a toner empty sensor.
- The detection plate is moved up and down by the cam that is mounted coaxially with the toner agitating blade.
- Operative association of the actuator that is attached to the detection plate with the detection plate changes the state of the toner empty sensor.



[1]	Toner hopper	[2]	Detection plate
[3]	Actuator	[4]	Toner empty sensor/K (PS31)
[5]	Toner empty sensor/C (PS32)	[6]	Toner empty sensor/M (PS33)
[7]	Toner empty sensor/Y (PS34)	-	-

(2) Toner replenishing control

- The toner replenishing control is started when the drive of the toner cartridge motor is started.
- During a predetermined period of time, when the toner empty sensor switches from OFF to ON, the machine increments the empty counter by one. Next, the toner cartridge motor is rotated for a predetermined period of time, so that toner is supplied from the toner cartridge to the toner hopper.
- When the empty counter reaches the predetermined value, the machine determines that the toner hopper is in the empty condition.
- If the toner empty sensor remains OFF, the machine resets the empty counter to zero.

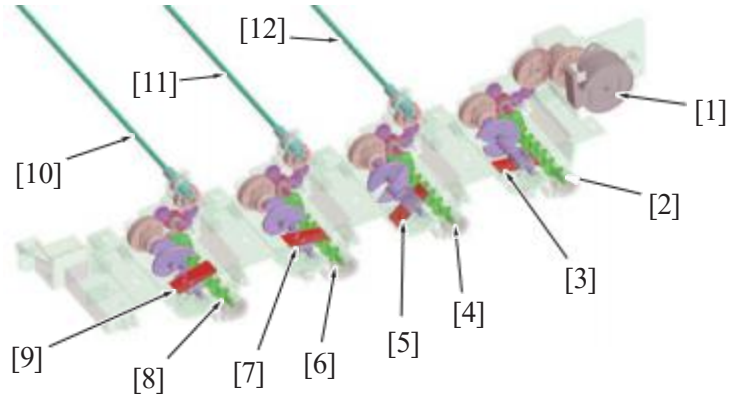


[1]	Toner empty sensor: OFF	[2]	Toner
[3]	Toner empty sensor: ON	-	-

1.6.5 Toner replenishing from toner hopper to developing unit

(1) Toner replenishing mechanism

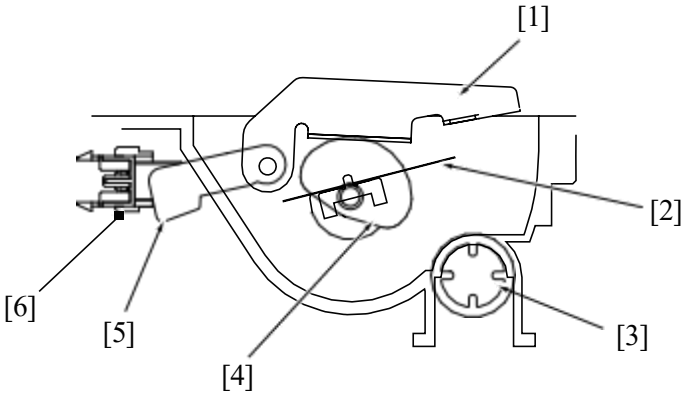
- Four toner supply motors drive the toner conveying screws and the toner agitating blades provided in the toner hoppers of four different colors of toner.
- The toner supply motor of each color drives the toner conveying screw and the toner agitating blade.
- The toner agitating blade rotates to agitate toner in the toner hopper.
- The toner conveying screw rotates to replenish the developing unit with toner.



[1]	Toner supply motor/K (M6)	[2]	Toner conveying screw/K
[3]	Toner agitating blade/K	[4]	Toner conveying screw/C
[5]	Toner agitating blade/C	[6]	Toner conveying screw/M
[7]	Toner agitating blade/M	[8]	Toner conveying screw/Y
[9]	Toner agitating blade/Y	[10]	Drive from toner supply motor/Y
[11]	Drive from toner supply motor/M	[12]	Drive from toner supply motor/C

(2) Toner agitating blade drive

1. Toner conveying screw is rotated by the driving of the toner supply motor.
2. The rotation of the toner conveying screw is transmitted to the toner agitating blade drive gear, which results in the toner agitating blade being rotated. The toner agitating blade rotates to agitate toner in the toner hopper.
3. The cam mounted coaxially with the toner agitating blade moves the detection plate and actuator up and down.



[1]	Detection plate	[2]	Toner agitating blade
[3]	Toner conveying screw	[4]	Cam (operatively connected to toner agitating blade shaft)
[5]	Actuator	[6]	Toner empty sensor

(3) Toner replenishing control

- Control of replenishing the developing unit with toner from the toner hopper is performed only when the developing unit is driven.
- The toner replenishing time (the amount of toner supplied) during the toner replenishing control is determined based on the T/C ratio detected by the TCR sensor (noncontact magnetic type) disposed at the developing unit for each color of toner and the amount of toner to be consumed (estimated) for the image to be printed.
- If replenishing is interrupted by a paper misfeed, the front door opened or closed, or any similar event, the required replenishing time is carried forward to the next replenishing control sequence.
- For details of the TCR sensor, see “Toner density control.”

1.6.6 Auxiliary toner replenishing control for toner hopper

- If the amount of toner in the toner hopper is likely decreasing, control is performed to supply toner forcibly from the toner cartridge to the toner hopper.
- The machine prohibits initiation of any new print cycle while the auxiliary toner replenishing control is being executed.

(1) Operation timing

- Rotate the toner cartridge motor for a predetermined time to supply toner from the toner cartridge to the toner hopper under one of the following conditions:
  - [Manual Toner Add] is executed from [Service Mode] -> [Imaging Process Adjustment].
  - The toner cartridge is replaced with a new one after a toner empty condition is detected in the toner cartridge (toner empty reset control is performed)

(2) End timing

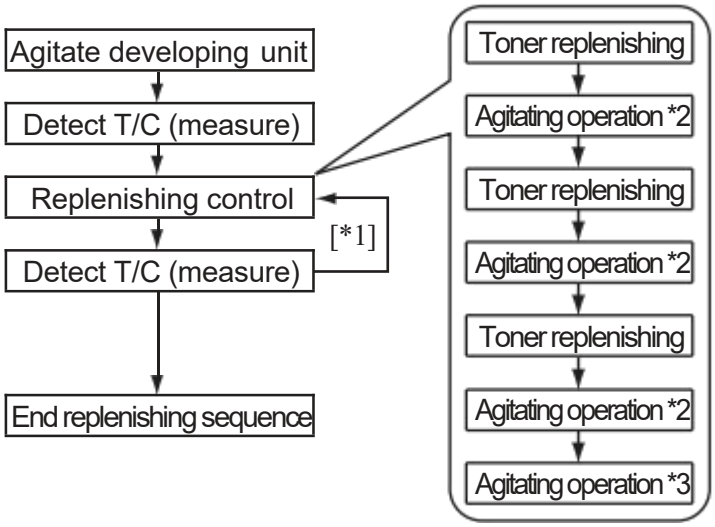
- The auxiliary toner replenishing control is terminated under any of the following conditions:
  - A predetermined period of time elapses after the toner cartridge motor has been energized
  - The front door is opened and closed
  - An error or malfunction occurs
  - The machine enters the power save or sleep mode

1.6.7 Auxiliary toner replenishing control for developing unit

- If the T/C ratio detected by the TCR sensor is equal to, or lower than, a predetermined value at the start of a print cycle, initiation of the print cycle is prohibited and the developing unit is replenished with toner from the toner hopper until the T/C value reaches the predetermined value.
- The auxiliary toner replenishing control for developing unit is terminated as soon as the predetermined T/C ratio is recovered. It is also terminated if the auxiliary toner replenishing control for developing unit is repeated ten sets. Also, it will be terminated when a toner empty condition is detected in the toner cartridge.

(1) Operation flow

- When the auxiliary toner replenishing control is performed, the following operations will also be performed. Agitate the toner hopper, calculate the T/C ration with the TCR sensor for each color, and replenish toner from toner cartridge to the toner hopper are performed.
- The auxiliary toner replenishing control is performed for a maximum of about 5 min.



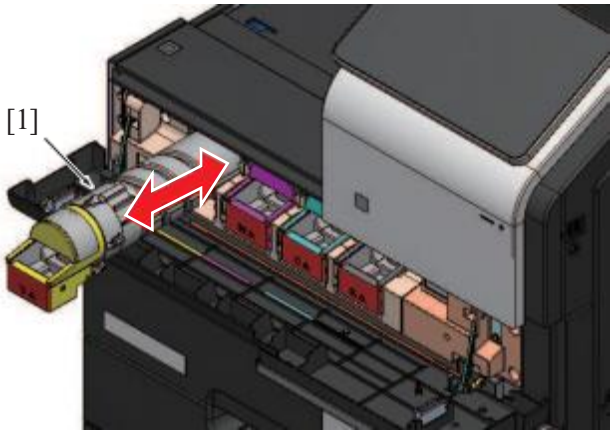
- *1: If a predetermined T/C is not reached, return to replenishing control. (amaximum of 10 times)
- *2: Agitate developing unit during replenishing
- *3: Agitate developing unit after replenishing

1.6.8 Toner spillage prevention shutter

(1) Toner cartridge

Mounting

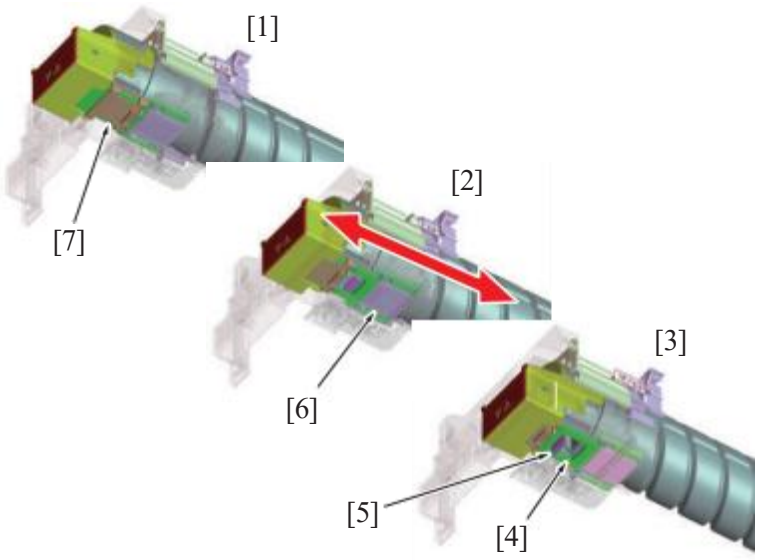
- The shutter of the toner replenishing port is opened when the toner cartridge has been inserted straight into the toner cartridge mounting portion.
- The toner cartridge motor rotates to drive the toner cartridge.
- As the toner cartridge rotates, toner inside the toner cartridge is conveyed toward the toner replenishing port, so that the toner hopper is replenished with toner.



[1]	Toner cartridge/Y	-	-

Removal

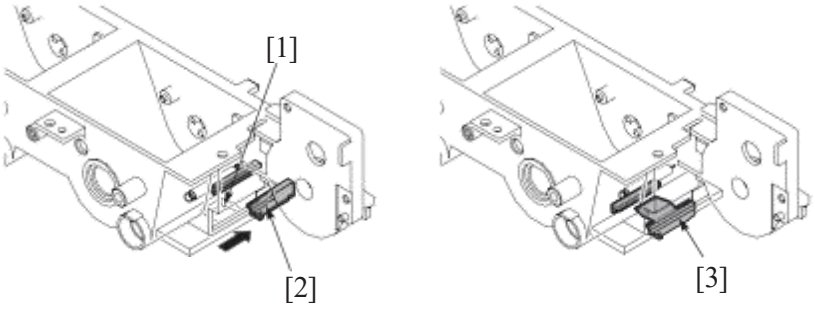
- The shutter at the toner replenishing port must be closed when the toner cartridge is to be removed.
- Pulling out the handle of the toner cartridge straight closes the shutter of the toner replenishing port.
- The toner cartridge has a two-layered structure consisting of an inner shutter and an outer shutter. When the toner cartridge is pulled out, the inner shutter starts to close, and the toner is thereby prevented from spilling from the toner supply port.



[1]	The toner cartridge removed	[2]	Detaching the toner cartridge
[3]	The toner cartridge installed	[4]	Toner cartridge toner replenishing port
[5]	Inner shutter	[6]	Shutter on main bodyside
[7]	Outer shutter	-	-

(2) Toner hopper

- The toner replenishing port of the toner hopper of each color of toner is provided with a toner spillage prevention shutter that prevents toner from spilling during removal or reinstallation of the developing unit.
- Mounting the developing unit pushes the shutter at the toner replenishing port, opening the toner replenishing port. Removing the developing unit, on the other hand, closes the shutter and toner is thereby prevented from spilling from the toner replenishing port.



[1]	Toner replenishing port	[2]	Toner hopper toner spillage prevention shutter (opened: toner replenishing position)
[3]	Toner hopper toner spillage prevention shutter (closed: developing unit removal position)	-	-

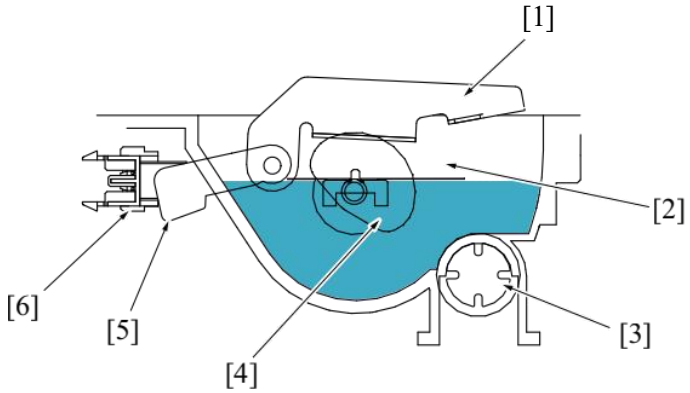
1.6.9 Toner empty detection control

NOTE

- **For the life of the toner cartridge, refer to "E.1 Concept of maintenance."**

(1) Toner empty detection

- The toner empty sensor provided for the toner hopper of each color of toner is used to determine the amount of toner still available for use in the toner hopper.
- The cam that is mounted coaxially with the detection plate moves up and down depending on the remaining amount of the toner. Thus, the toner empty sensor detects the condition.
- If the empty counter exceeds 3 during control of replenishing the toner hopper with toner, a toner empty condition is considered. As a result, it prompts to perform the toner empty control.



[1]	Detection plate	[2]	Toner agitating blade
[3]	Toner conveying screw	[4]	Cam (operatively connected to toner agitating blade shaft)
[5]	Actuator	[6]	Toner empty sensor

Toner empty detection timing

- The toner replenishing control is started when the drive of the toner supply motor is started.
- The output of the toner empty sensor is monitored for a predetermined period of time. If the toner empty sensor is turned ON from the OFF state, during the predetermined period of time, the machine determines that the “toner hopper runs out of toner (or there is only a small amount of toner left in the toner hopper)” and increments the empty counter by one.
- If the toner empty sensor remains OFF, the machine determines that “toner is still available for use in the toner hopper”,resetting the empty counter to zero.
- These operations are repeated. When the empty counter reaches the predetermined value, the machine determines that the toner hopper is in the empty condition. Then, it shows the message “Toner is near empty” on the control panel.

(2) Resetting the toner near empty and toner empty conditions

- After a toner near empty condition and a toner empty condition have been detected, either of the two controls will be performed.
  “Auxiliary toner replenishing control for toner hopper” or “auxiliary toner replenishing control for developing unit” (Both may be performed in certain cases)
- The toner near empty/empty display is reset when the control is normally terminated.
- Initiation of a new print cycle is prohibited during execution of the “auxiliary toner replenishing control for toner hopper” and “auxiliary toner replenishing control for developing unit”.

List of controls

Control name	Parts to be controlled	Description
Auxiliary toner replenishing control for developing unit	Developing unit	Recovers the T/C ratio of the developer in the developing unit.
Auxiliary toner replenishing control for toner hopper	Toner hopper	Recovers the amount of toner in the toner hopper.

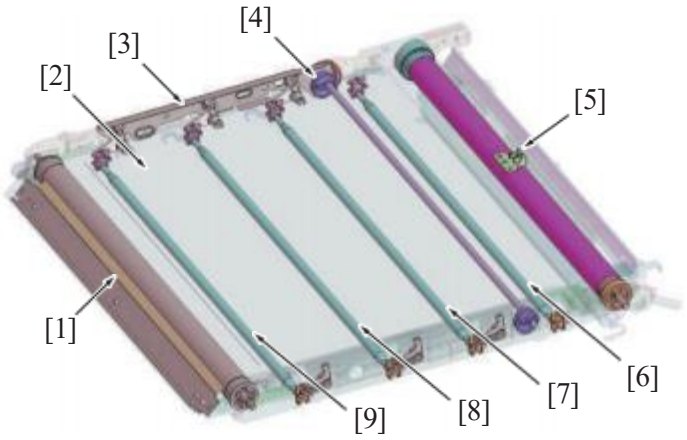
Condition	Toner in unit	
	Toner hopper	Toner cartridge
Near empty	Available	Decreasing
Empty 1	Decreasing	Not available
Empty 2	Not available	Not available

Toner empty condition resetting timing

- The “auxiliary toner replenishing control for toner hopper” or “auxiliary toner replenishing control for developing unit” is executed under any of the following conditions after a toner near empty/toner empty condition has been detected:
  “The main power switch is turned ON”
  “Release in sub power off mode”
  “Opening/closing the upper front door”

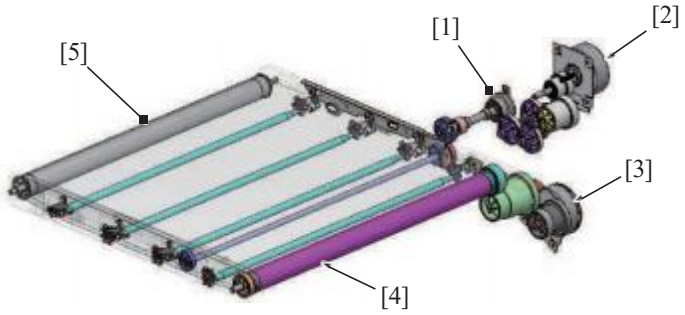
1.7 1ST TRANSFER SECTION

1.7.1 Configuration



[1]	Cleaning blade	[2]	Transfer belt
[3]	1st transfer roller pressure mechanism	[4]	1st transfer roller pressure cam
[5]	Separation claw	[6]	1st transfer roller/K
[7]	1st transfer roller/C	[8]	1st transfer roller/M
[9]	1st transfer roller/Y	-	-

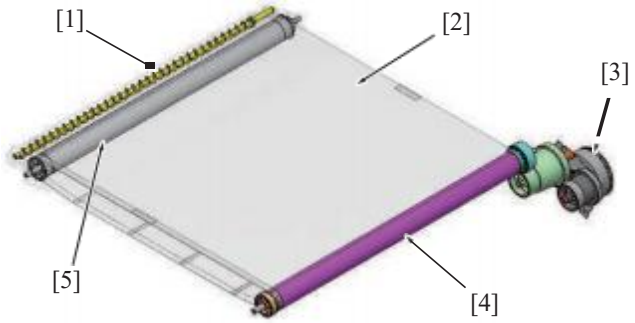
1.7.2 Drive



[1]	1st transfer pressure clutch (CL5)	[2]	Fusing motor (M3)
[3]	Transport motor (M1)	[4]	Transfer belt drive roller
[5]	Transfer belt driven roller	-	-

1.7.3 Transfer belt drive

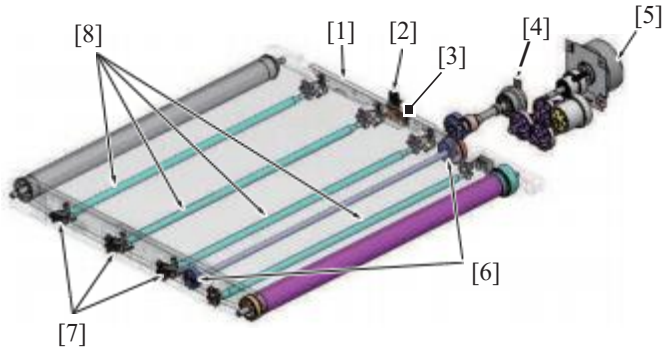
- The transfer belt drive roller is rotated by the driving force of the transport motor.
- Rotation of the transfer belt causes the transfer belt driven roller to rotate. The drive transmission gear located at the transfer belt driven roller rotates the waste toner conveying screw of the cleaning mechanism.



[1]	Waste toner conveying screw	[2]	Transfer belt
[3]	Transport motor (M1)	[4]	Transfer belt drive roller
[5]	Transfer belt driven roller	-	-

1.7.4 1st transfer roller pressure mechanism

- Pressure mechanism is equipped for pressing the 1st transfer rollers/Y, M, C to inside the transfer belt at the 1st transfer.
- The 1st transfer roller /K always presses the transfer belt to the PC drum /K.
- Rotation of the fusing motor is transmitted to the 1st transfer pressure clutch via the fusing drive release gear.
- When the 1st transfer pressure clutch is turned ON, the rotation of the fusing motor is transmitted to the drive gear.
- Rotation of the drive gear rotates the pressure cam, so that the position of contact between the slide plate and the cam is varied.
- The 1st transfer roller pressure spring provided for the slide plate causes the slide plate to move to the pressure position. (Toward the transfer belt driven roller side.)
- The movement of the slide plate results in the 1st transfer roller drive arm being rotated. The rotation of the 1st transfer roller drive arm lowers the 1st transfer roller/Y, M, C, so that the transfer belt is pressed against the PC drum.
- When the slide plate moves to the pressure position, the leading edge of the slide plate pushes the actuator of the 1st transfer pressure sensor.
- The actuator blocks the 1st transfer pressure sensor and the slide plate movement is detected.
- The 1st transfer pressure clutch is turned OFF.
- The cam will stop rotating and the siding plate will stop.
- The 1st transfer roller/Y, M, C will stay being pressed.

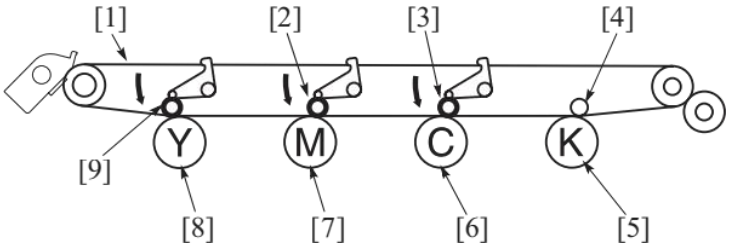


1.7.5 Pressure/retraction control by print mode

- To prevent the degradation of the PC drum/Y, M, C, the transfer belt is retracted from the color PC drum in the black mode.
- In the black mode, the 1st transfer roller/Y, M, C is retracted and the color drum unit and color developing unit are stopped.
- The 1st transfer roller/K is pressed against the PC drum/K at all times in both black and color modes.

(1) Color mode

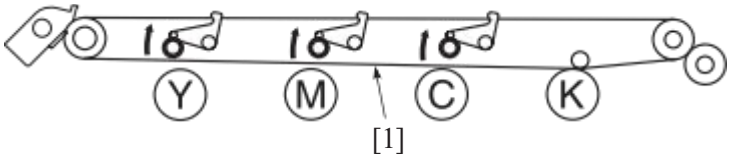
- In the color mode, the 1st transfer roller is where the PC drum is pressed against the transfer belt for all four colors of toner.



[1]	Transfer belt	[2]	1st transfer roller/M
[3]	1st transfer roller/C	[4]	1st transfer roller/K
[5]	Photoconductor/K	[6]	Photoconductor/C
[7]	Photoconductor/M	[8]	Photoconductor/Y
[9]	1st transfer roller/Y	-	-

(2) Black mode

- In the black mode, the 1st transfer roller/Y, M, C is where the PC drum/Y, M, C leaves the transfer belt, while the 1st transfer roller/K is where the PC drum/K is pressed against the transfer belt. This allows the PC drum/Y, M, C to stop rotating in this mode.



[1]	Transfer belt (retraction position)	-	-

(3) ACS mode

(a) ACS mode overview

- When making a copy, any desired copy mode can be selected from the control panel. (Default setting: Auto Color Selection) The auto color mode is called the ACS (Auto Color Selection) mode. (In PC print job, auto color as the setting item in the printer driver corresponds to the ACS.)
- In ACS mode, the machine analyzes the image data of the original scanned by the “scanner section” to determine whether the image data is colored or in black.
- Determining that it is a color original, the machine presses the 1st transfer roller and runs a color print job.
- Determining that it is a black original, the machine retracts the 1st transfer roller and runs a black print job.

(b) Control of 1st transfer roller in ACS mode

- The number of sheets of continuous series of black originals is counted when color originals are changed to black originals.
- Pressure of the 1st transfer roller is controlled according to the number of sheets of continuous series of black originals during a multi-print cycle, thereby achieving both high print productivity and degradation prevention of consumables.
- “Control of 1st transfer roller in ACS mode” is executed only when a copy is made with “Auto Color” selected from the control panel. It is not executed when “Full Color”, “Black”, “2 Color”, or “Single Color” is selected.
- The control is executed, for “PC print”, only if the print cycle is run with “Auto Color” selected from the printer driver screen. It is not executed when “Full Color” or “Grayscale” is selected.
- The 1st transfer roller /Y, M, C is in the pressed position (color mode) in its initial state.

NOTE

- **The control of 1st transfer roller in the ACS mode is enabled only after the number of sheets of continuous series of black originals has been counted. It is therefore not an effective control for a copy print job involving only one copy set/stack. The control is effectively operable for the following print jobs: Since on the first copy, the control can be performed only for where the original is read and counted.**
  - **“Copy print of the second copy set/stack and onward”**
  - **“Copy print from a registered job”**
  - **“PC print job”**

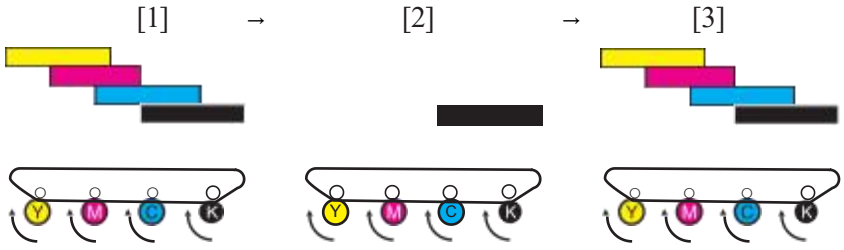
(c) When the number of multi-copies is as specified or under

- ACS control starts counting the number of multi-copies of the black original when switched from the color original to the black original.
- The black printing will start with color mode. (with the 1st transfer roller /Y/M/C being pressed) Developing or transfer does not take place with the developing unit (Y, M, C), but, since the transfer belt is pressed, the PC drum and the developing roller are rotated as the transfer belt rotates. An advantage during pressure of the 1st transfer roller/Y, M, C is that the loss time produced as a result of retraction of the 1st transfer roller can be reduced relative to print productivity.

(d) When the number of multi-copies is as specified or over

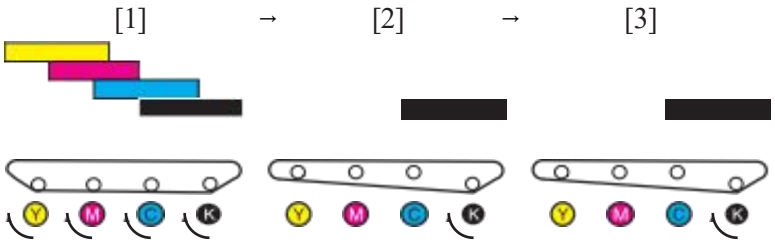
- The black printing will start when the color mode is complete and the 1st transfer roller /Y/M/C is retracted to be switched to the black mode. Degradation due to wasteful rotation of the developing unit (Y, M, C) and drum unit (Y, M, C) can be prevented as an advantage during retraction of the 1st transfer roller.

When printing in black with color mode (effecting black printing with the four PC drums rotating)



[1]	Color mode	[2]	Color mode
[3]	Color mode	-	-

Printing after switched to black mode



[1]	Color mode	[2]	Black mode
[3]	Black mode	-	-

(e) Black original specified values

- Number of multiple black originals during plain paper printing

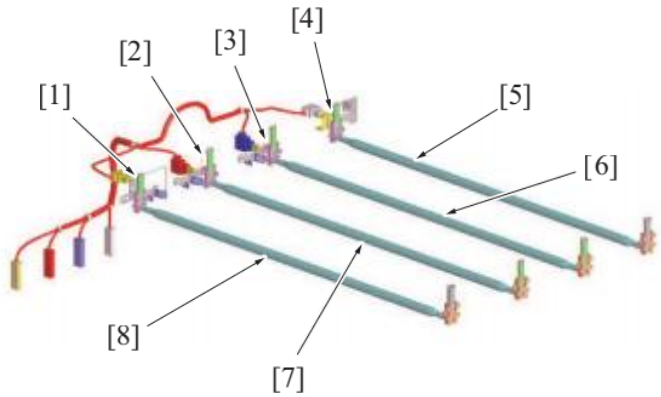
Paper length	Black printing in color mode	Black printing after switched to black mode
216 mm or less	4 sheets or less	5 sheets or more
Over 216 mm and up to 297 mm	2 sheets or less	3 sheets or more
Over 297 mm and up to 381 mm	2 sheets or less	3 sheets or more
Over 381 mm and up to 432 mm	2 sheets or less	3 sheets or more
Over 432 mm and up to 457 mm	2 sheets or less	3 sheets or more
Over 457 mm	Switched to black mode	

(4) ACS mode control change with the Engine FW DipSW

- The pressure control for the 1st transfer roller during ACS mode can be changed by changing the setting of Engine FW DipSW “No.25” from [OFF (default)] to [ON]. Refer to “Choice of ACS parameter.”
- When “OFF” is selected, productivity has the priority and printing is conducted with the transfer belt being pressed onto the color photoconductors even when the specified quantity of black printing is included. In that case, the color photoconductors rotate unnecessarily during black printing. The color photoconductors deteriorate by the amount of rotation.
- When “ON“ is selected, black printing quantity threshold until switching to K press (release of color photoconductors) becomes smaller.
- This setting is to be used when the degradation control of the color photoconductors should have priority over printing productivity.

1.7.6 1st transfer control

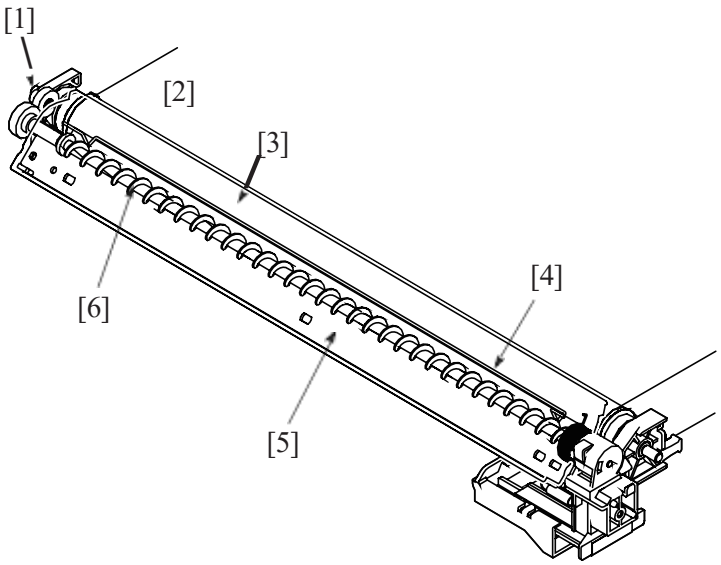
- To transfer the toner image formed on the surface of the PC drum onto the transfer belt, the transfer current supplied from the high voltage unit is applied to the 1st transfer roller of each color.



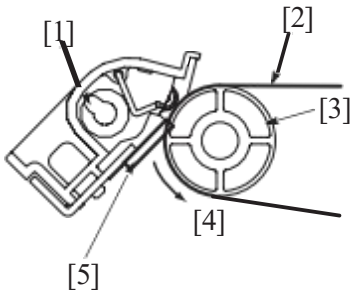
[1]	1st transfer current application terminal/Y	[2]	1st transfer current application terminal/M
[3]	1st transfer current application terminal/C	[4]	1st transfer current application terminal/K
[5]	1st transfer roller/K	[6]	1st transfer roller/C
[7]	1st transfer roller/M	[8]	1st transfer roller/Y

1.7.7 Transfer belt cleaning

- The toner image on the surface of the transfer belt is transferred onto the paper. (2nd transfer)
- Part of the toner image is left on the surface of the transfer belt after the 2nd transfer. A cleaning blade is provided on the transfer belt. It functions to remove the residual toner (waste toner).



[1]	Drive transmission gear	[2]	Transfer belt
[3]	Transfer belt driven roller	[4]	Caking-of-toner prevention blade
[5]	Cleaning blade	[6]	Toner collecting screw



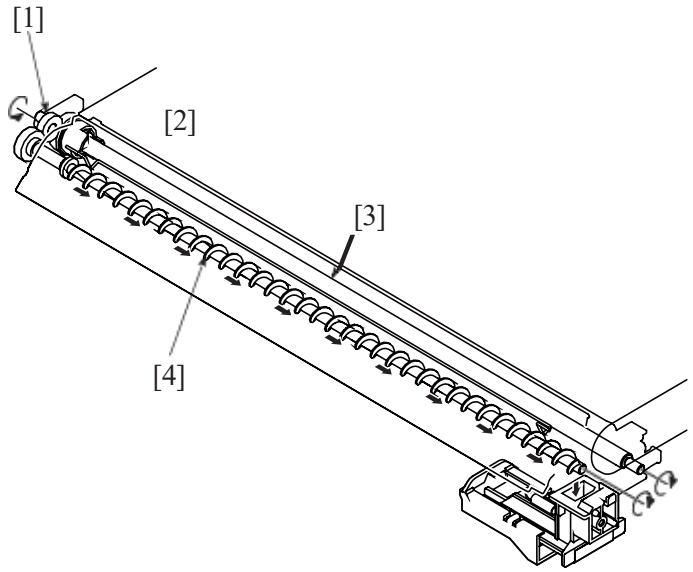
[1]	Toner collecting screw	[2]	Transfer belt
[3]	Transfer belt driven roller	[4]	Transfer belt rotative direction (forward rotation)
[5]	Cleaning blade	-	-

(1) Cleaning blade

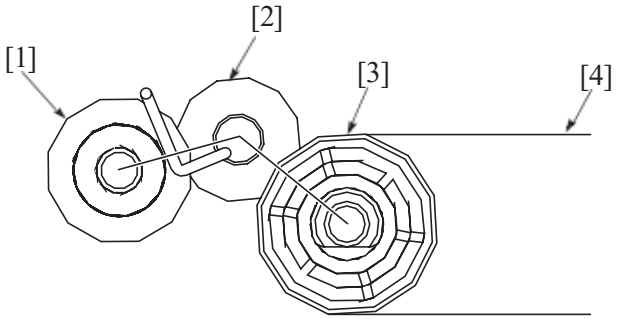
- The cleaning blade, of a fixed blade type, is pressed up against the surface of the transfer belt at all times. No cleaning blade retraction mechanism is provided.
- The waste toner on the surface of the transfer belt is scraped off as the transfer belt is rotated.

(2) Waste toner conveying/collecting mechanism

- Drive for the toner collecting screw comes from the transfer belt driven roller. (The toner collecting screw rotates in time with rotation of the transfer belt.)
- The rotation of the toner collecting screw conveys waste toner scraped off the surface of the transfer belt toward the front of the machine.
- There is a caking-of-toner prevention blade installed. It prevents waste toner from caking at the toner collecting screw portion.
- The toner conveyed to the front of the machine is discharged via the toner collecting port into the waste toner box.



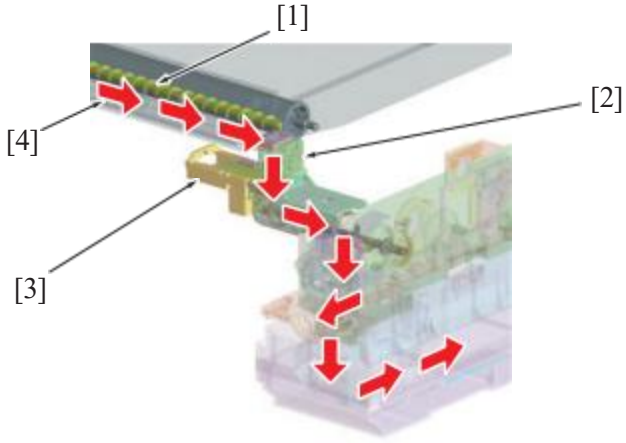
[1]	Drive connecting gear	[2]	Transfer belt
[3]	Transfer belt driven roller	[4]	Toner collecting screw



[1]	Toner collecting screw	[2]	Drive connecting gear
[3]	Transfer belt driven roller	[4]	Transfer belt

1.7.8 Waste toner spillage prevention shutter

- The toner collecting port is provided with a waste toner spillage prevention shutter that prevents waste toner from spilling during removal or reinstallation of the waste toner transport unit.
- Mounting the waste toner transport unit pushes the shutter at the toner collecting port, opening the toner collecting port. The shutter is closed by the waste toner transport unit removal and prevents the toner spilling from the toner collecting port.



[1]	Toner collecting screw	[2]	Toner collecting port

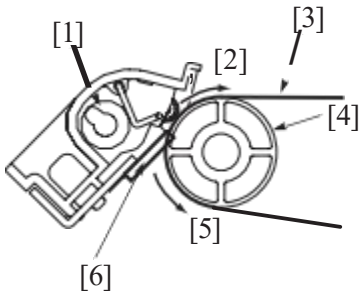
[3]	Shutter	[4]	Waste toner flow

1.7.9 Cleaning blade foreign matter removal control

- The transfer belt is rotated backward to a small extent and then rotated forward to remove foreign matter (dust, toner, etc.) wedged between the transfer belt and the edge of the cleaning blade.

<Operation timing>

- The backward rotation control is provided at the completion of every print job.



[1]	Toner collecting screw	[2]	Backward rotation
[3]	Transfer belt	[4]	Transfer belt driven roller
[5]	Forward rotation	[6]	Cleaning blade

1.7.10 Transfer belt new article detection

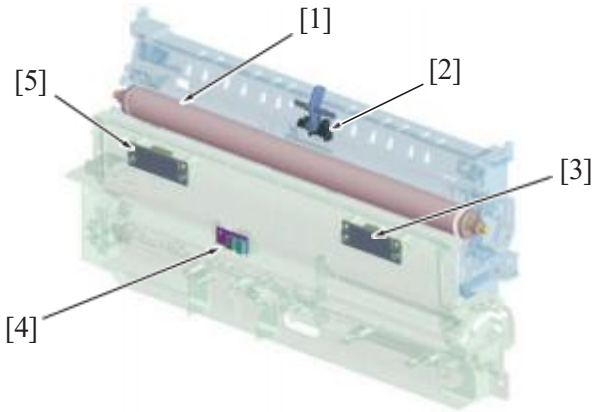
- The transfer belt unit is not provided with any new article detection mechanism.

NOTE

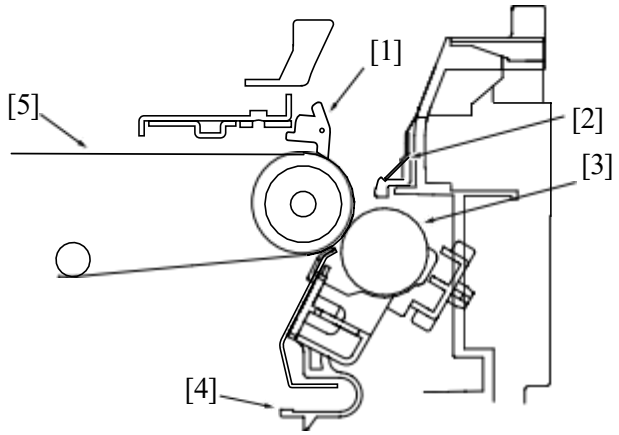
- **For the life of the toner cartridge, refer to "E.1 Concept of maintenance."**

1.8 2ND TRANSFER SECTION

1.8.1 Configuration

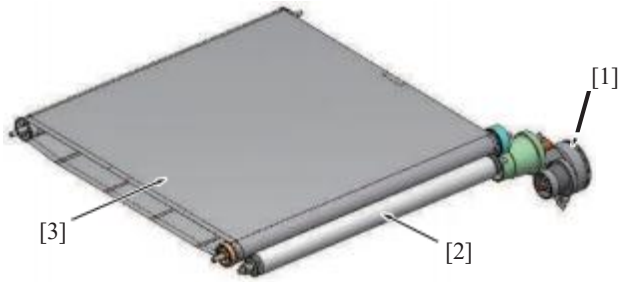


[1]	2nd transfer roller	[2]	Fusing loop sensor (PS2)
[3]	IDC sensor/Fr (IDCS/Fr)	[4]	Temperature/humidity sensor (TEM/HUMS)
[5]	IDC sensor/Rr (IDCS/Rr)	-	-



[1]	Separation claw	[2]	Charge neutralizing needle
[3]	2nd transfer roller	[4]	2nd transfer roller lock release lever
[5]	Transfer belt	-	-

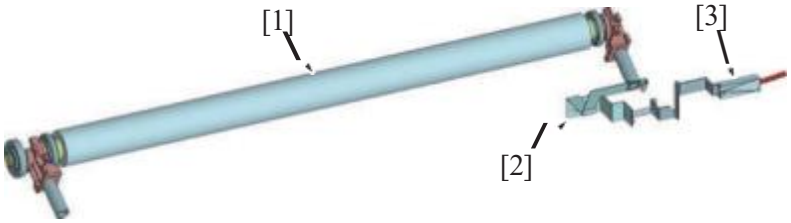
1.8.2 Drive



[1]	Transport motor (M1)	[2]	2nd transfer roller
[3]	Transfer belt	-	-

1.8.3 2nd transfer control

- To transfer the toner image formed on the transfer belt onto the paper, the 2nd transfer voltage supplied from the high voltage unit is applied to the 2nd transfer roller.
- Resistance of the 2nd transfer roller changes with an environmental change, durability, and other factors. To maintain an optimum output voltage, fixed current is passed through the 2nd transfer roller and the voltage being outputted at that time is detected. An appropriate 2nd transfer voltage is determined based on the measured voltage and other information such as “type of paper used”, “temperature and humidity”, “color mode or black mode”, and “1-sided/2-sided”.



[1]	2nd transfer roller	[2]	2nd transfer voltage conductive plate
[3]	2nd transfer voltage application terminal	-	-

Execution timing

- The 2nd transfer control is executed when a print job is received under any of the following conditions:
  "Main power switch is turned ON"
  "Power key is pushed"
  "The machine exits the sleep mode"
  "The threshold value of a change in machine interior temperature is exceeded."

2nd transfer control during image stabilization control

- In this machine, the 2nd transfer roller does not have a retraction mechanism, so that the transfer belt and 2nd transfer roller are pressed up against each other at all times.
- During image stabilization control, a toner image for adjustment purpose is formed on the surface of the transfer belt. A negative voltage is therefore applied to the 2nd transfer roller during image stabilization control. The amount of toner sticking to the 2nd transfer roller is thereby reduced.

1.8.4 Control of toner application to 2nd transfer roller

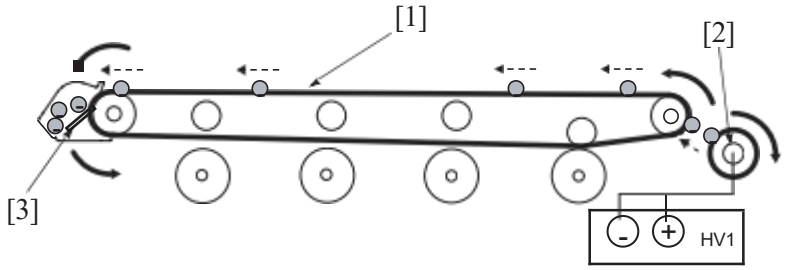
- In this machine, the 2nd transfer roller does not have a retraction mechanism, so that the transfer belt and 2nd transfer roller are pressed up against each other at all times.
- If a new 2nd transfer roller that has replaced an old one is left to stand idle for a long period of time, a substance contained in the new roller sticks to the surface of the transfer belt, which could result in noise in the print image.
- To prevent the substance contained in the 2nd transfer roller from sticking to the transfer belt, Y toner is applied to the surface of a new 2nd transfer roller at the time of replacement. (The Y toner image that corresponds to two complete revolutions of the transfer roller is formed on the surface of the transfer belt and is then transferred onto the surface of the 2nd transfer roller.)
- The Y toner that is less noticeable is used for the toner to be applied, in consideration of back marking.

Execution timing

- The control is executed when the life counter of the 2nd transfer roller in the service mode is reset to zero.

1.8.5 2nd transfer roller cleaning

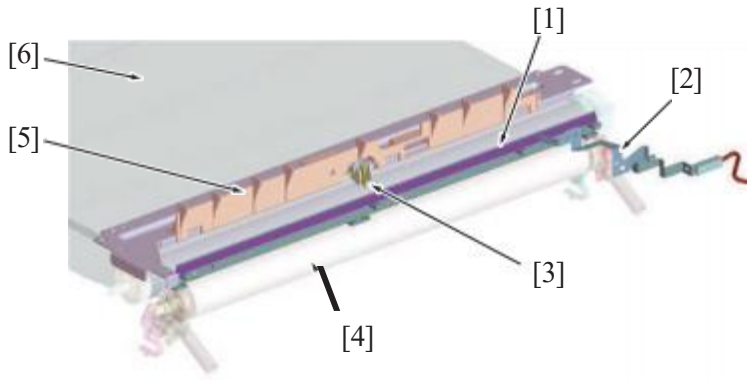
- In order to remove the remaining toner on the 2nd transfer roller, -/+ (DC) charge is applied alternately to transfer the remaining toner on the 2nd transfer roller to the transfer belt. (The number of times that electrical charge is applied to the 2nd transfer roller is different depending on each situation.)
- The cleaning blade then scrapes off the toner on the surface of the transfer belt.



[1]	Transfer belt	[2]	2nd transfer roller
[3]	Cleaning blade	-	-

1.8.6 Charge neutralization and separation of paper

- To neutralize any residual potential on the paper which has undergone the 2nd transfer process, there is a charge neutralizing needle mounted on the guide plate after the 2nd transfer roller. There is a resin guide that prevents the electrode from directly contacting the paper.
- The residual potential neutralized by the charge neutralizing needle is grounded via a conductive plate.
- In order to separate the paper from the transfer belt without fail after the 2nd transfer, a separation claw is mounted (center one point.)
- The paper winding prevention guide prevents paper from being wound around the transfer belt again after its being separated from the transfer belt by the separation claw.



[1]	Charge neutralizing needle	[2]	Charge neutralizing needle conductive plate (ground)
[3]	Separation claw	[4]	2nd transfer roller
[5]	Paper winding prevention guide	[6]	Transfer belt

1.8.7 Transfer roller unit new article detection

- The transfer roller unit is not provided with any new article detection mechanism.

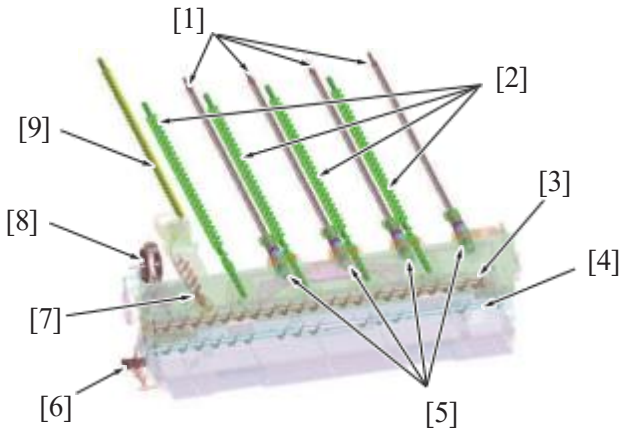
NOTE

- **For the life of the 2nd transfer roller, refer to "E.1 Concept of maintenance."**

1.9 TONER COLLECTING SECTION

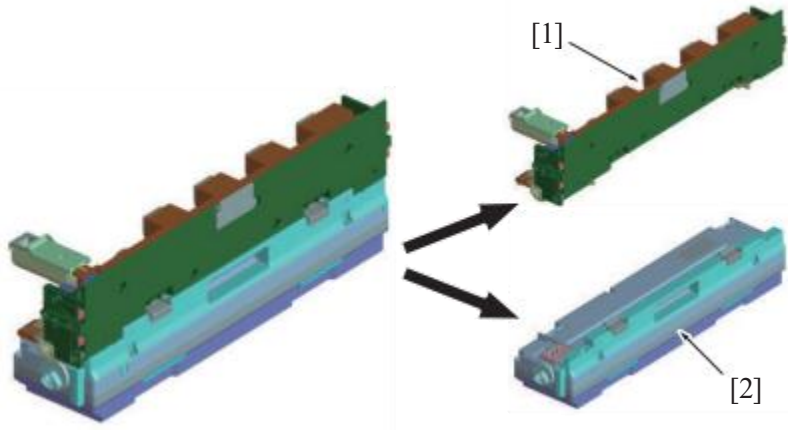
1.9.1 Configuration

Waste toner collecting section



[1]	Toner collecting screw (Drum unit)	[2]	Toner collecting screw (Developing unit)
[3]	Waste toner conveying screw 1	[4]	Toner collecting screw (Waste toner box)
[5]	Toner collecting port (Drum unit)	[6]	Waste toner box set sensor (PS46)
[7]	Waste toner conveying screw 2	[8]	Waste toner transport motor (M20)
[9]	Toner collecting screw (Transfer belt section)	-	-

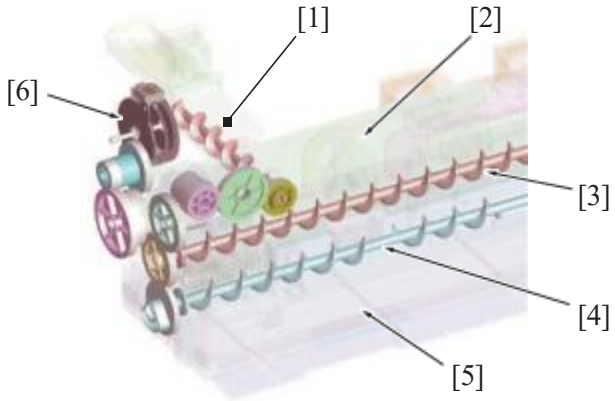
Waste toner box



[1]	Waste toner transport unit	[2]	Waste toner box

1.9.2 Waste toner box drive mechanism

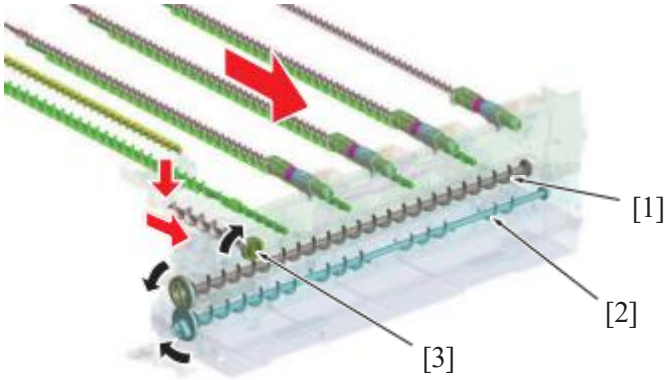
- The waste toner box is driven by the dedicated waste toner transport motor.
- The driving force of the waste toner transport motor is transmitted to the waste toner conveying screw 1 and 2 of the waste transport unit as well as to the toner collecting screw of the waste toner box.



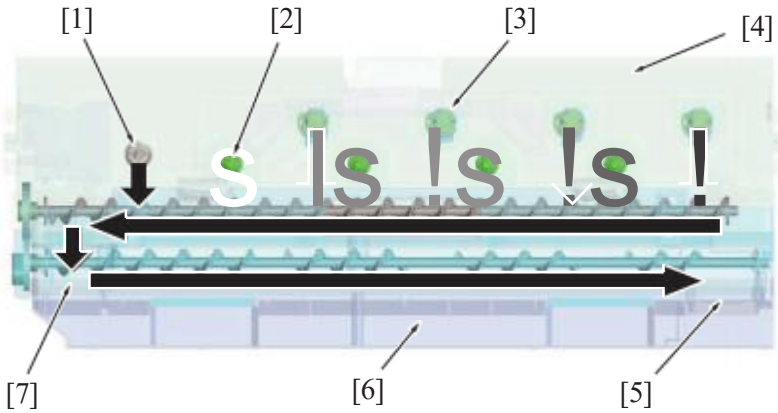
[1]	Waste toner conveying screw 2	[2]	Waste toner transport unit
[3]	Waste toner conveying screw 1	[4]	Toner collecting screw
[5]	Waste toner box	[6]	Waste toner transport motor (M20)

1.9.3 Control of waste toner conveyance through waste toner box

- Waste toner in the transfer belt unit and drum units, and excess toner in the developing unit are conveyed onto the waste toner box by the toner collecting screw.
- Waste toner and waste developer (waste carrier + waste toner) are collected through the toner collecting ports for the each units.
- The collected waste toner falls immediately under the waste toner transport screw 1 of the waste toner transport unit, and is transported by the waste toner transport screw 1.
- The waste toner is transported from the joint portion of the transport unit and waste toner box to the waste toner box.
- A toner collecting screw is provided in the waste toner box, conveying the waste toner uniformly to the opposite side of the joint portion.
- There is a detection window for detecting a waste toner full condition provided at the opposite side of the joint portion. When the conveyed waste toner exceeds a predetermined height, waste toner spills over the waste toner full condition detection section.



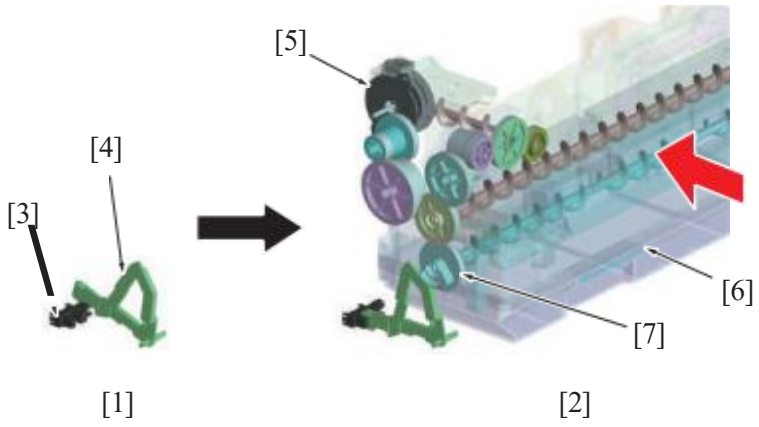
[1]	Waste toner conveying screw 1	[2]	Toner collecting screw
[3]	Waste toner conveying screw 2	-	-



[1]	Toner collecting port (transfer belt unit)	[2]	Toner collecting port (developing unit)
[3]	Toner collecting port (drum unit)	[4]	Waste toner transport unit
[5]	Waste toner full condition detection window	[6]	Waste toner box
[7]	Joint portion	-	-

1.9.4 Waste toner box-in-position detection

- The waste toner box set sensor detects mounting condition of the waste toner box. It prevents the machine from being operated with the waste toner box yet to be mounted in place.
- The waste toner box set sensor also detects the rotation of the drive section, preventing a failure of the MFP such as waste toner stagnation due to rotation failure.
- After the front door or the right door is closed, the toner collecting screw of the waste toner box is rotated for one turn.
- A rotation detection cam provided at the drive gear of the toner collection screw rotates and moves the lever.
- The machine determines that the waste toner box is mounted in place when the waste toner box set sensor is blocked or unblocked.



[1]	Unblocked	[2]	Blocked
[3]	Waste toner box set sensor (PS46)	[4]	Lever

[5]	Waste toner transport motor (M20)	[6]	Waste toner box
[7]	Rotation detection cam	-	-

1.9.5 Waste toner box full detection

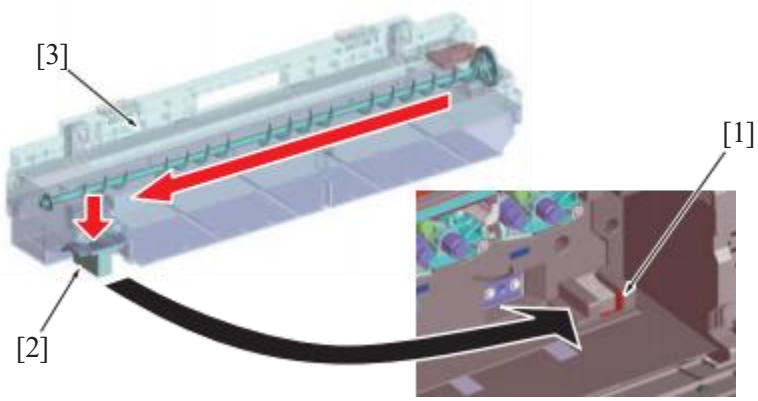
- The waste toner full sensor provided on the waste toner box install section is used to determine the amount of waste toner that is accumulated in the waste toner box.

NOTE

- **For the life of the waste toner box, refer to "E.1 Concept of maintenance".**

Waste toner near-full

- The toner collecting screw provided in the waste toner box conveys waste toner in the box. A window for detecting a waste toner full condition is equipped at of the waste toner box. When the conveyed waste toner exceeds a predetermined height, it spills over the waste toner full condition detection window.
- If the waste toner full sensor is blocked by the waste toner stagnant over the waste toner full condition detection window for a predetermined period of time or longer, the "waste toner full detection counter" is incremented according to the image density information of the print image during each of subsequent print jobs.
- When the waste toner full detection counter reaches a threshold value, the machine determines that there is a waste toner near-full condition.



[1]	Waste toner full sensor (PS45)	[2]	Waste toner full condition detection window
[3]	Waste toner box	-	-

<Execution timing>

- The waste toner box near-full detection control is performed under any of the following conditions:
  - "The machine determines that the waste toner box is mounted in place using the waste toner box set sensor."
  - "During a print cycle"
  - "During execution of image stabilization control"

Waste toner full

- When the waste toner full detection counter reaches a threshold value, the machine determines that there is a waste toner full condition.

<Execution timing>

- The waste toner box full detection control is performed under any of the following conditions:
  - "The machine determines that the waste toner box is mounted in place using the waste toner box set sensor."
  - "The waste toner full sensor detects a waste toner near-full condition."
  - "During a print cycle"
  - "During execution of image stabilization control"

1.9.6 Waste toner box new article detection

- The waste toner box is not provided with any new article detection mechanism. Detection made by the waste toner full sensor is used for detecting a new waste toner box.
- When the waste toner full display appears, the existing waste toner box is replaced with a new one. When the waste toner full sensor remains unblocked for a predetermined period of time or more, the machine determines that the normal state is recovered (the old waste toner box is replaced with a new one).
- Determining that a new waste toner box has been mounted, the machine resets the waste toner full display, allowing the initiation of a new print cycle.

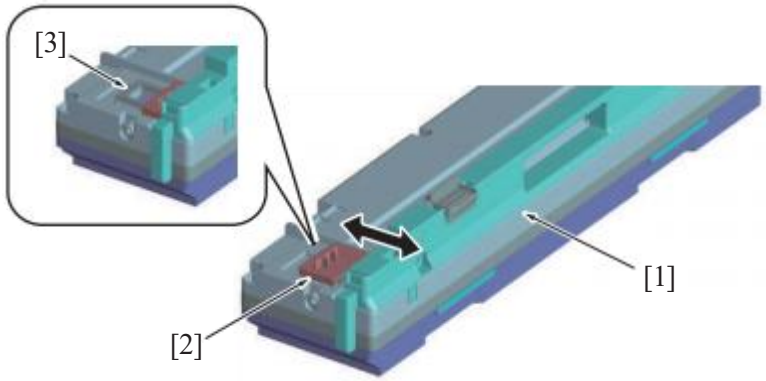
Timing at which to reset the waste toner full display

- The waste toner box full detection control is performed under any of the following conditions:
  - "The waste toner full sensor detects a waste toner full condition."
  - "The power switch is turned ON"
  - "The front door is closed"

1.9.7 Waste toner spillage prevention shutter

- A waste toner spillage prevention shutter is provided at the joint port of the waste toner transport unit and waste toner box, preventing the waste toner from spilling during removal or reinstallation of the waste toner box.
- Inserting the waste toner box into its mounting position pushes the shutter at toner collecting port of the waste toner box, thus opening the toner collecting port.

- Removing the waste toner box allows the shutter spring to close the shutter at the toner collecting port.

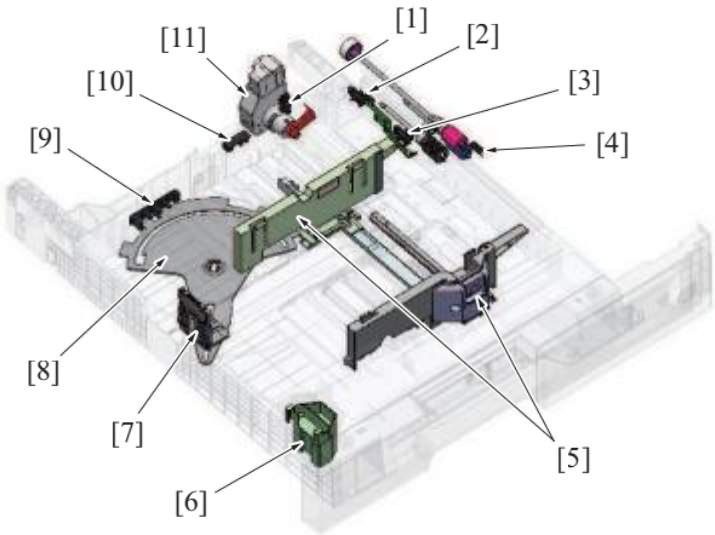


[1]	Waste toner box	[2]	Shutter
[3]	Toner collecting port	-	-

1.10 PAPER FEED SECTION

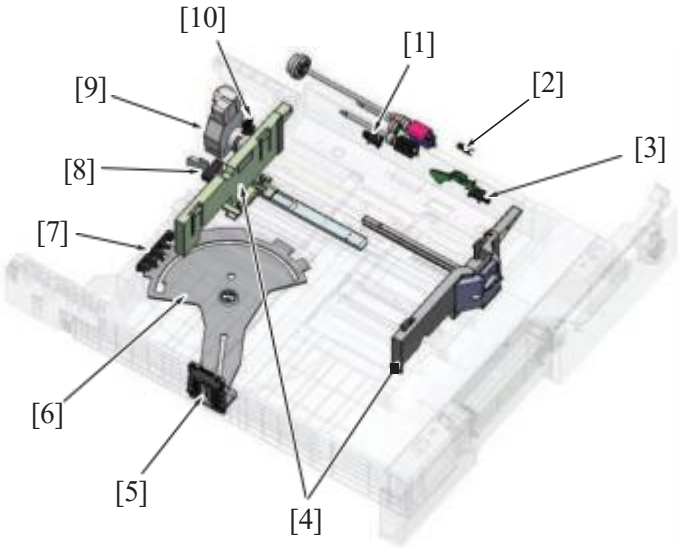
1.10.1 Configuration

(1) Tray 1



[1]	Tray 1 paper near empty sensor (PS11)	[2]	Tray 1 paper empty sensor (PS24)
[3]	Tray 1 upper limit sensor (PS25)	[4]	Tray 1 paper feed sensor (PS23)
[5]	Paper width guide	[6]	Attachment for small-sized paper
[7]	Paper length guide	[8]	Paper length detection plate
[9]	Tray 1 FD paper size board (FDPSB/1)	[10]	Tray 1 CD paper size board (CDPSB/1)
[11]	Tray 1 lift-up motor (M12)	-	-

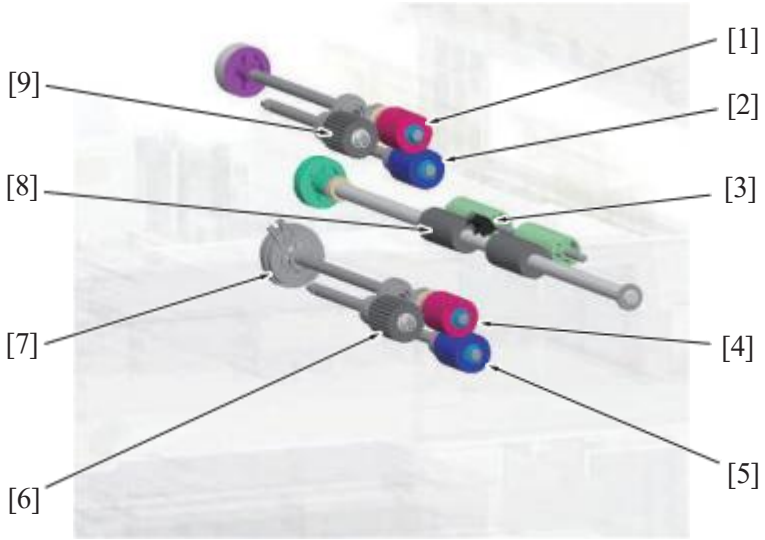
(2) Tray 2



[1]	Tray 2 upper limit sensor (PS22)	[2]	Tray 2 paper feed sensor (PS20)
[3]	Tray 2 paper empty sensor (PS21)	[4]	Paper width guide
[5]	Paper length guide	[6]	Paper length detection plate
[7]	Tray 2 FD paper size board (FDPSB/2)	[8]	Tray 2 CD paper size board (CDPSB/2)
[9]	Tray 2 lift-up motor (M13)	[10]	Tray 2 paper near empty sensor (PS12)

(3) Paper feed/transport section

CM605/CM805



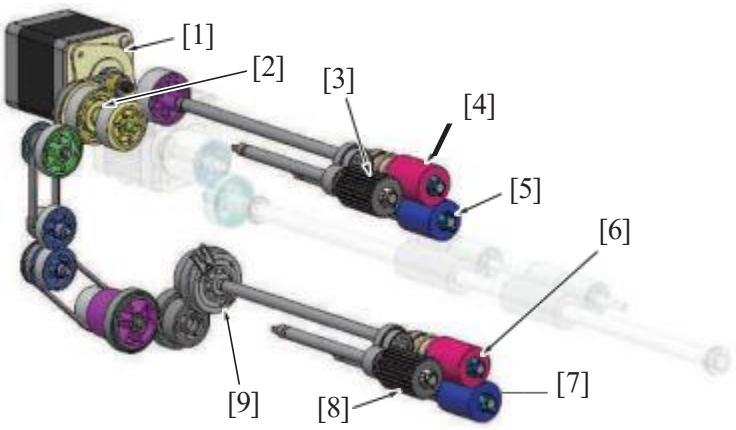
[1]	Tray 1 feed roller	[2]	Tray 1 separation roller
[3]	Tray 2 vertical transport sensor (PS19)	[4]	Tray 2 feed roller
[5]	Tray 2 separation roller	[6]	Tray 2 pick-up roller
[7]	Tray 2 paper feed clutch (CL1)	[8]	Tray 2 vertical transport roller
[9]	Tray 1 pick-up roller	-	-

1.10.2 Drive

CM605/CM805

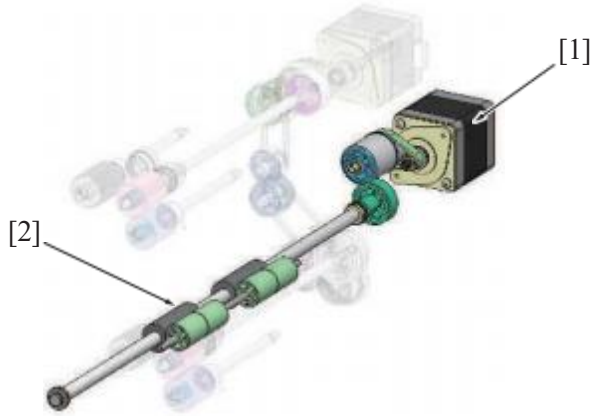
- Paper feed motor drives the feed roller sections of the tray 1 and tray 2.
- Normal and reverse rotation of the paper feed motor enables switching the drive between the feed roller sections of the tray 1 and tray 2.
- The one-way clutch on the paper feed motor driveshaft switches drive modes.
- The drive section of paper feed tray 2 has a clutch that controls the rotation of the paper feed roller section.
- The tray 2 vertical transport motor drives the vertical transport roller.

Paper feed drive



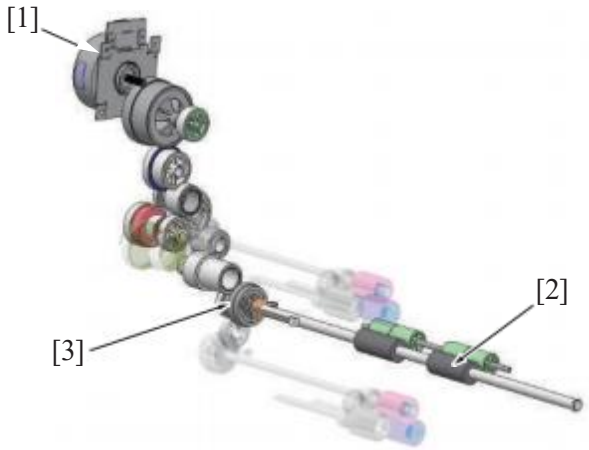
[1]	Paper feed motor (M22)	[2]	One-way clutch
[3]	Tray 1 pick-up roller	[4]	Tray 1 feed roller
[5]	Tray 1 separation roller	[6]	Tray 2 feed roller
[7]	Tray 2 separation roller	[8]	Tray 2 pick-up roller
[9]	Tray 2 paper feed clutch (CL1)	-	-

Transport drive (Tray 2)



[1]	Tray 2 vertical transport motor (M23)	[2]	Vertical transport roller

Transport drive (Tray 2)



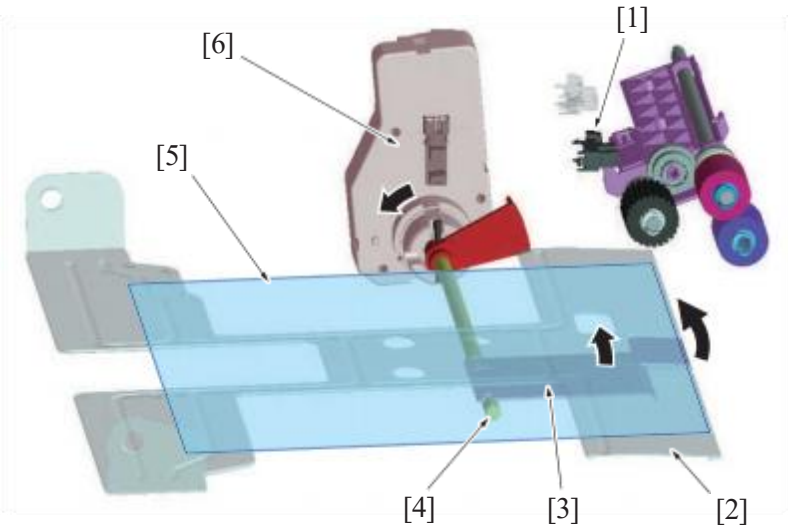
[1]	Transport motor (M1)	[2]	Tray 2 vertical transport roller
[3]	Tray 2 vertical transport clutch (CL2)	-	-

1.10.3 Up/down control

- Tray 1 and tray 2 are controlled in the same control procedure.

(1) Up operation

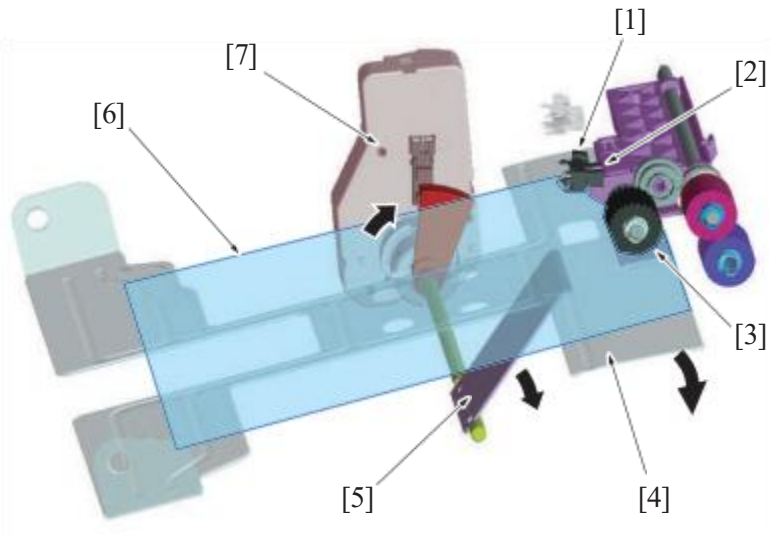
- The paper lift-up plate B is located under the paper lift-up plate A.
- The lift-up plate driveshaft of the tray 1/2 lift-up motor is connected to paper lift-up plate B.
- When the driveshaft of the tray 1/2 lift-up motor rotates, paper lift-up plate B raises paper lift-up plate A.



[1]	Tray 1 upper limit sensor (PS25) Tray 2 upper limit sensor (PS22)	[2]	Paper lift-up plate A
[3]	Paper lift-up plate B	[4]	Lift-up plate driveshaft
[5]	Paper	[6]	Tray 1 lift-up motor (M12) Tray 2 lift-up motor (M13)

(2) Down operation

- When the tray is slid out of the machine, the coupling of tray 1/2 lift-up motor and the lift-up plate driveshaft are disconnected from each other.
- When the driving force of tray 1/2 lift-up motor is released from the lift-up plate driveshaft, the paper lift-up plate starts lowering by its own weight.



[1]	Tray 1 upper limit sensor (PS25) Tray 2 upper limit sensor (PS22)	[2]	Light blocking plate of upper limit sensor
[3]	Pick-up roller	[4]	Paper lift-up plate A
[5]	Paper lift-up plate B	[6]	Paper
[7]	Tray 1 lift-up motor (M12) Tray 2 lift-up motor (M13)	-	-

(3) Operation timing

(a) When the tray is slid in

- When the tray is slid into the machine, the sensor on the tray 1/2 FD paper size board is blocked. The machine then determines that the tray is slid into position.
- The paper lift-up plate is lowering when the tray is slid out, so that the tray 1/2 upper limit sensor is unblocked.
- Determining after tray insertion that the tray 1/2 upper limit sensor is unblocked, the machine lets the tray 1/2 lift-up motor rotate to start the up operation of the paper lift-up plate.
- When the paper stack is raised to a predetermined height after the up operation of the paper lift-up plate has been started, the tray 1/2 upper limit sensor is blocked.
- Determining that the tray 1/2 upper limit sensor is blocked, the machine stops the tray 1/2 lift-up motor to complete the up operation of the paper lift-up plate.
- Control is provided to make sure that only one tray performs the up operation at one time.
- If the tray is slid out during the up operation of the paper lift-up plate and accordingly the sensor on the tray 1/2 FD paper size board is unblocked, the up operation of the paper lift-up plate is terminated.

(b) During a print cycle

- When the amount of paper decreases as the unit keeps printing, the pick-up roller will gradually come down to unblock the tray 1/2 upper limit sensor. The tray 1/2 lift-up motor will rotate again to lift up the paper lift-up plate.
- When the tray 1/2 upper limit sensor is blocked, the tray 1/2 lift-up motor will stop to stop lift-up the paper lift-up plate.
- The sequence of these operations is repeated to keep constant the pressure between the pick-up roller and paper stack (paper take-up pressure) regardless of the amount of paper still available for use.

1.10.4 Paper feed control

<CM605/CM805>

Pick-up control

- The paper feed motor turns ON after a predetermined period of time has lapsed from receiving the print start signal. The normal and reverse rotation of the paper feed motor transfers the drive to the tray 1 and tray 2.
- When the paper feed motor is turned ON, the driving force of it transfers to the tray 1 pick-up roller and feed roller. Paper is picked up and fed by the rotation of these rollers.
- The driving force from the paper feed motor transfers to the tray 2 pick-up roller and paper feed roller when the tray 2 paper feed clutch turns ON. These rollers rotate to pick up and feed a sheet of paper into the machine.

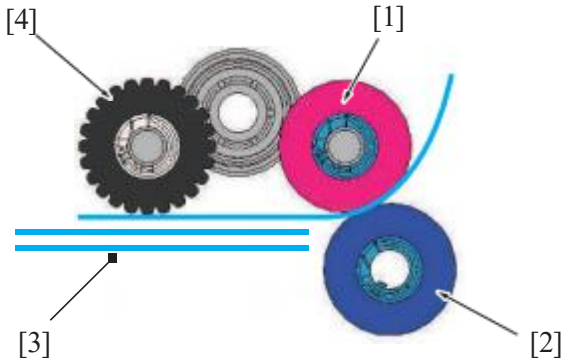
Pick-up control

- The tray 1/2 paper feed clutch is energized after the lapse of a predetermined period of time after the print start signal.
- The driving force of the transport motor is transmitted to the pick-up roller and paper feed roller when the tray 1/2 paper feed clutch is energized. These rollers rotate to pick up and feed a sheet of paper into the machine.

Separation control

- The separation roller is pressed up against the feed roller by the pressure of a spring and an acting pressure generated from torque of the torque limiter.

- The acting pressure of the feed roller/separation roller/torque limiter serves as the limit torque for preventing double feed.
- When there is no sheet of paper or only one sheet of paper between the separation roller and feed roller, the limit torque is exceeded and the separation roller follows the rotation of the feed roller.
- If there are two or more sheets of paper between the separation roller and feed roller, the limit torque is greater than the friction force of the paper, so that the separation roller is not rotated.
- The separation roller causes the lower sheet of paper in contact with the separator roller to be pushed backward in the direction of the tray, so that the lower sheet of paper is properly separated.



[1]	Feed roller	[2]	Separation roller
[3]	Paper	[4]	Pick-up roller

1.10.5 Paper feed retry control

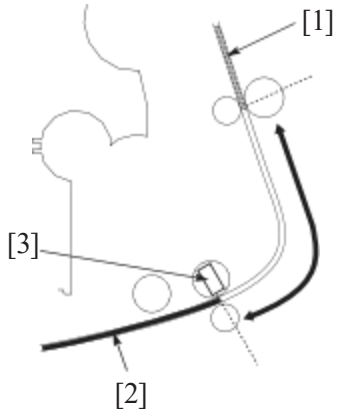
- If the specified sensor is unable to detect the paper even after the lapse of a predetermined period of time after the start of the paper feed sequence, the machine determines that there is a paper misfeed. To reduce possibility of paper misfeed, if a paper misfeed is detected during a print job under the following conditions, the paper feed sequence is performed again (retry) twice. A paper misfeed results if the specified sensor is still unable to detect the paper even after the paper feed retry sequence, the machine determines that there is a paper misfeed.
- The paper feed retry control performs paper feed retry in two ways depending on the paper ports and black/color mode. One is to perform paper feed retry only. The other one is to discard the created image data, and recreate a new image data, then perform paper feed retry.

Paper port	Paper feed retry control		Sensor name
	Paper feed retry operation	Recreate image data + Paper feed retry	
Manual bypass tray	To be performed in black mode.	To be performed in color mode.	Registration sensor
Tray 1	-	To be performed both in color and black mode.	
Tray 2	To be performed in black mode.	To be performed in color mode.	Tray 2 vertical transport sensor
Tray 3 (Option: 1 way / 2 way paper feed cabinet)			Tray 3 vertical transport sensor
Tray 4 (Option: 2 way paper feed cabinet)	To be performed both in color and black mode.	-	Tray 4 vertical transport sensor
Tray 3 (Option: Parallel large capacity cabinet)			Tray 3 paper feed sensor
Tray 4 (Option: Parallel large capacity cabinet)			Tray 4 paper feed sensor
LCC (Option: Large capacity cabinet)	To be performed in black mode.	To be performed in color mode.	LCC vertical transport sensor
LCT (Option: Large capacity unit)	To be performed both in color and black mode.	-	LU paper feed sensor

1.10.6 Feed roller speed reduction control

- During multi-print cycles, the target printed pages number is maintained due to correction of the transport speed variations and a proper paper-to-paper distance.
- Measure the time that is taken from starting paper feed to the paper feed sensor ON. If the paper-to-paper distance is too narrow, the paper roller is decelerated for a predetermined time, so that a proper paper-to-paper distance can be achieved.
- Feed roller speed reduction control is implemented when paper is fed from the following paper trays.

Paper port	Controlled roller	Sensor name
Tray 1	Tray 1 feed roller	Tray 1 paper feed sensor
Tray 2	Tray 2 feed roller	Tray 2 paper feed sensor



[1]	Preceding sheet	[2]	Sheet of paper being controlled
[3]	Paper feed sensor	-	-

1.10.7 Vertical transport roller speed reduction control

- In the same manner as with the feed roller speed reduction control, control is performed to reduce the speed of the vertical transport roller during a multi-print cycle, thereby maintaining a proper paper-to-paper distance.
- Time it takes the vertical transport sensor to be activated after the start of a paper feed sequence is measured. If the distance between two sheets of paper is determined to be narrow, the vertical transport roller is decelerated for a predetermined period of time, so that a proper paper-to-paper distance can be achieved.
- Vertical transport roller speed reduction control is implemented paper is fed from the following paper trays.

Paper port	Controlled roller	Sensor name
Tray 3 (Option: 1 way / 2 way paper feed cabinet)	Tray 3 vertical transport roller	Tray 3 vertical transport sensor
Tray 4 (Option: 2 way paper feed cabinet)	Tray 4 vertical transport roller	Tray 4 vertical transport sensor
LCC (Option: Large capacity cabinet)	LCT vertical transport roller	LCT vertical transport sensor
LCT (Option: Large capacity unit)	LU roller	LU paper feed sensor

1.10.8 Paper transport control

(1) Tray 1

- The tray 1 feed roller feeds the paper onto the registration roller.
- The tray 1 paper feed sensor located downstream of the tray 1 feed roller detects the paper that is fed from the feed roller.
- The paper from the feed roller moves past the registration roller and reaches a predetermined position. Thus the paper feed motor is turned OFF to cancel the drive for the paper feed section. (CM605/CM805)
- The pick-up roller and feed roller follow the movement of the paper, continuing rotating. The pick-up roller and feed roller stop rotating after the paper moves past them.
- If the registration sensor is unable to detect paper even after the lapse of a predetermined period of time, the machine determines that there is a paper misfeed at tray 1.

(2) Tray 2

- The tray 2 feed roller feeds the paper onto the tray 2 vertical transport roller.
- The tray 2 paper feed sensor located downstream of the tray 2 feed roller detects the paper fed from the tray 2 feed roller.
- The tray 2 vertical transport sensor is located downstream of the tray 2 vertical transport roller along the paper path. It detects the leading edge of the paper from the feed roller. Thus the paper feed motor and tray 2 paper feed clutch turns OFF to cancel the drive of the paper feed section. (CM605/CM805)
- The pick-up roller and feed roller follow the movement of the paper, continuing rotating. The pick-up roller and feed roller stop rotating after the paper moves past them.
- If the tray 2 vertical transport sensor does not detect the leading edge of paper even after the lapse of a predetermined period of time, the machine determines that there is a paper jam (misfeed) at the tray 2.

1.10.9 Downstream exit control during multi-print cycle

- When a paper jam in the paper feed section is detected, the print operation does not stop immediately. Paper that has been printed completely and paper that can be printed completely is discharged outside of the machine after being printed.
- Completely discharge printed paper to make jam removal easily and reduce paper consumption.

Downstream exit control jams

Misfeed at tray 1 paper feed section	Misfeed at LCC (Large capacity cabinet) paper feed section
Misfeed at tray 2 paper feed section	Misfeed at LCT (Large capacity unit) paper feed section

Misfeed at tray 3 paper feed section	Misfeed at manual bypass tray paper feed section
Misfeed at tray 4 paper feed section	Misfeed at vertical transport section

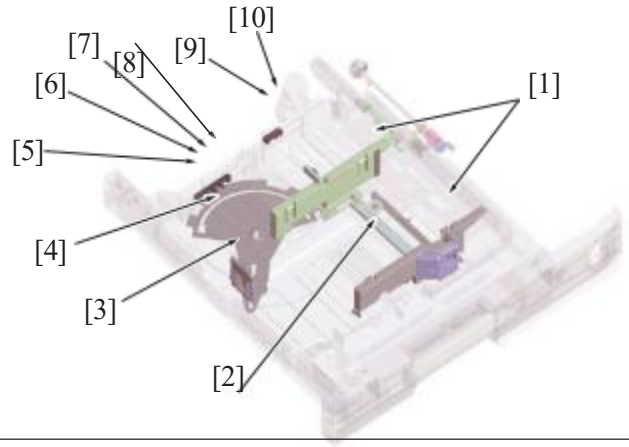
1-sided printing

1. Stops the feeding of paper where the jam occurred and the transport operation.
2. Sheet after a 1-sided image transfer is discharged.
3. Transfer and fuse image onto, and exit, sheet before a 1-sided image.

2-sided printing

1. Stops the feeding of paper where the jam occurred and the transport operation.
2. Sheet after a 2-sided image transfer is discharged.
3. Transfers, fuses 1-sided image onto the sheets at the reverse/duplex section, and then exit the sheets.
4. 2-sided printing is performed on the sheet before 1-sided image transfer, which is then discharged.

1.10.10 Paper size detection control



[1]	Paper width guide	[2]	Paper width detection plate
[3]	Paper length detection plate	[4]	Paper length guide
[5]	Paper length sensor 4	[6]	Paper length sensor 3
[7]	Paper length sensor 2	[8]	Paper length sensor 1
[9]	Paper width sensor 1	[10]	Paper width sensor 2

Paper width detection (CD)

- The size in paper width is detected with the combination of ON/OFF the transmission type photosensors 1, 2 on the CD paper size board.
- The paper width sensor is unblocked or blocked depending on the position of the paper width detection plate that is connected with the paper width guide.

Paper length detection (FD)

- The size in paper length is detected with the combination of ON/OFF transmission type photosensors 1 to 4 on the FD paper size board.
- The paper length sensors 1 to 4 are unblocked or blocked depending on the paper length detection plate that is connected with the paper length guide.
- The sensor on the FD paper size board also functions to detect whether the tray is mounted.

(1) Sheet size determination

- Two paper width sensors detect the paper width, and four paper length sensors detect the paper length. Paper size is determined with the combination of the above paper width and paper length.

Paper size	FD paper size board				CD paper size board	
	Sensor 4	Sensor 3	Sensor 2	Sensor 1	Sensor 2	Sensor 1
SRA3 (*1)	H	L	L	H	H	H
A3 Wide (*1)	H	L	L	H	L	H
A3	L	L	H	L	L	H
B4	L	H	H	H	L	H
A4S	H	H	L	L	L	L
A4	H	L	L	H	L	H
B5S	L	H	H	L	L	L
B5	L	H	L	L	L	H
A5S (*2)	H	L	H	L	L	L
Invoice S (*2)	H	L	H	L	L	L
Ledger (11×17)	L	L	H	L	H	H
$8^1/_2$×14 (Legal)	L	H	H	H	L	L
$8^1/_2$×11S (LetterS)	L	L	L	H	L	L

Paper size	FD paper size board				CD paper size board	
	Sensor 4	Sensor 3	Sensor 2	Sensor 1	Sensor 2	Sensor 1
$8^1/_2$×11 (Letter)	H	L	H	L	H	H
FLS S	H	H	H	H	L	L
8K S (270 mm x 390 mm)	L	H	L	H	H	H
16K (270 mm × 195 mm)	L	H	H	L	H	H

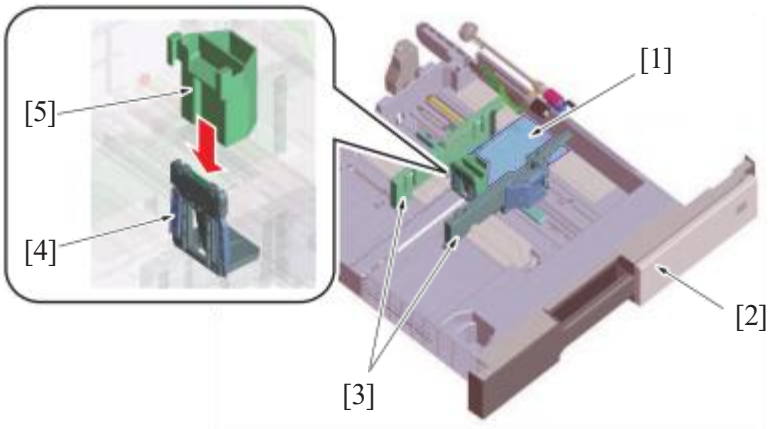
- *1: SRA3 and A3 Wide are support only from the tray 2 and the bypass tray.
- *2: For regions using inches, Invoice S size is detected. For other regions, A5S size is detected.

Sensor states

Sensor	Physical state	
	HIGH signal	LOW signal
FD paper size board: sensor 1 to 4	Blocking	Unblocked
CD paper size board: sensor 1, 2		

1.10.11 Regulation of trailing edge of small-sized paper

- Small-sized paper whose length is 148 mm to 182 mm can be set to Tray 1.
- To set small-sized paper, attach the attachment for small-sized paper provided in Tray 1 to the paper length guide.



[1]	Small-sized paper	[2]	Tray 1
[3]	Paper width guide	[4]	Paper length guide
[5]	Attachment for small-sized paper	-	-

1.10.12 Remaining paper detection control

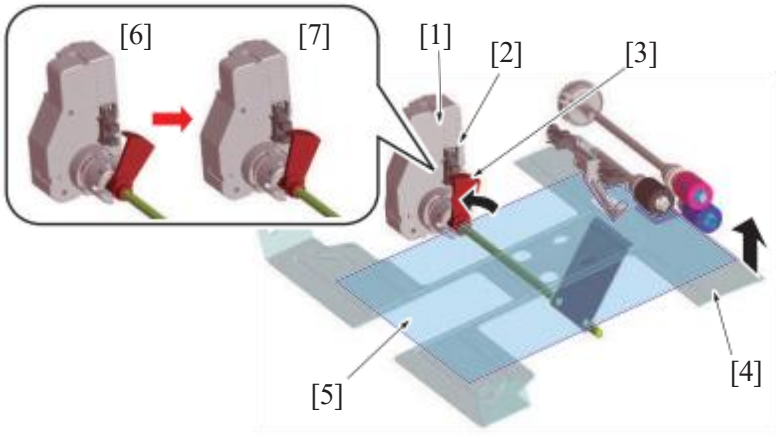
- The remaining paper detection control is performed under any of the following conditions:
  - "Tray 1/tray 2 is closed in position"
  - "The up/down control of the paper lift-up plate is completed"

(1) Paper near-empty detection

- The tray 1/2 near empty sensor detects a paper near-empty condition of the tray.
- As paper is consumed, the paper lift-up plate is raised. This raises the near empty detection actuator provided at the lift-up plate drive shaft of the lift-up motor.
- When the near empty detection actuator is raised to a position at which the tray 1/2 near empty sensor is blocked, the machine detects a near-empty condition.

NOTE

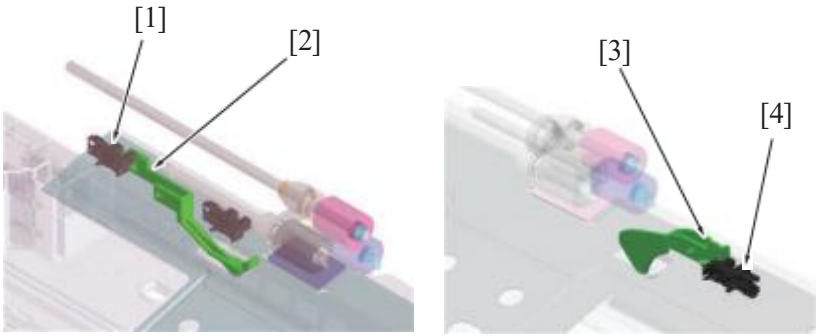
- **A near-empty condition is detected when the amount of paper still available for use becomes about 50 sheets.**



[1]	Tray 1 lift-up motor (M12) Tray 2 lift-up motor (M13)	[2]	Tray 1 paper near empty sensor (PS11) Tray 2 paper near empty sensor (PS12)
[3]	Actuator	[4]	Paper lift-up plate
[5]	Paper	[6]	When a sufficient amount of paper is loaded
[7]	Near empty condition	-	-

(2) Paper empty detection

- A paper empty condition is detected by the tray 1/2 paper empty sensor.
- The actuator goes down when all paper in the tray is fed.
- The actuator detects an empty condition when the paper empty sensor is blocked.



[6] [5]

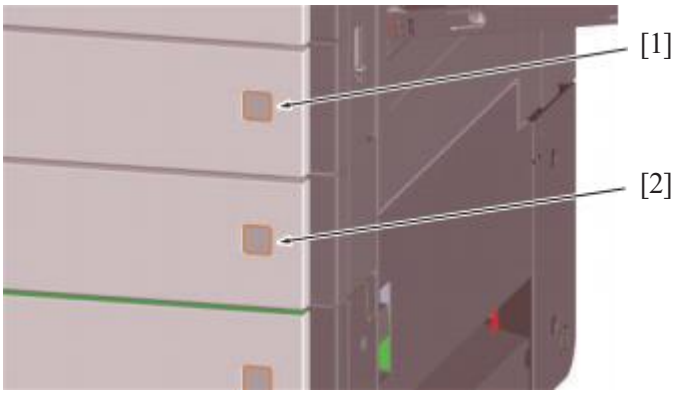
[1]	Tray 1 paper empty sensor (PS24)	[2]	Actuator
[3]	Actuator	[4]	Tray 2 paper empty sensor (PS21)
[5]	Tray 2	[6]	Tray 1

(3) Remaining paper level display

- The amount of remaining paper is indicated by the LED on the right side of each tray and by the screen of the control panel.
- The following table shows display statuses.

Tray condition	Empty	Near empty	Other statuses (Including during lift-up and no tray conditions)
LED status	Lit	Blinking/OFF *	OFF

- *: LED turns OFF when Paper Remainder is set to Type 2: [Service Mode] -> [System 1] -> [Machine State LED Setting] -> [Paper Remainder].



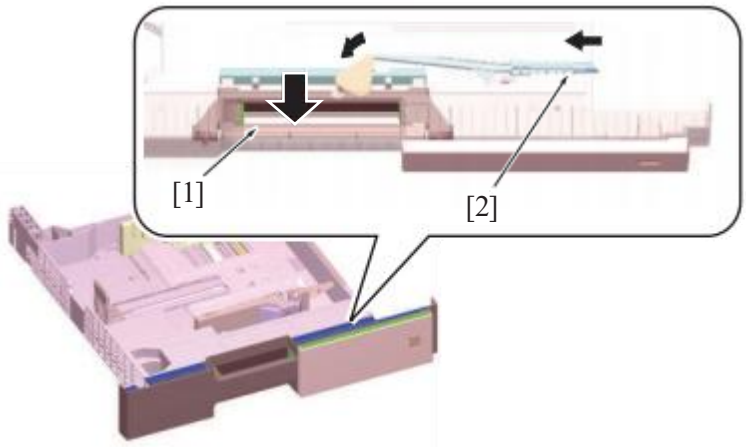
[1]	Tray 1 empty indicator	[2]	Tray 2 empty indicator

1.10.13 Paper feed tray locking mechanism

- The paper feed tray is provided with a locking mechanism.

(1) Unlocking the paper feed tray
- By drawing the lever on the back of handle to the front, the tray lock lever equipped on the right side of the paper feed tray is disengaged.
- Rollers are provided for the right and left tray rails. They reduce the operating force required for sliding in/out the paper feed tray.

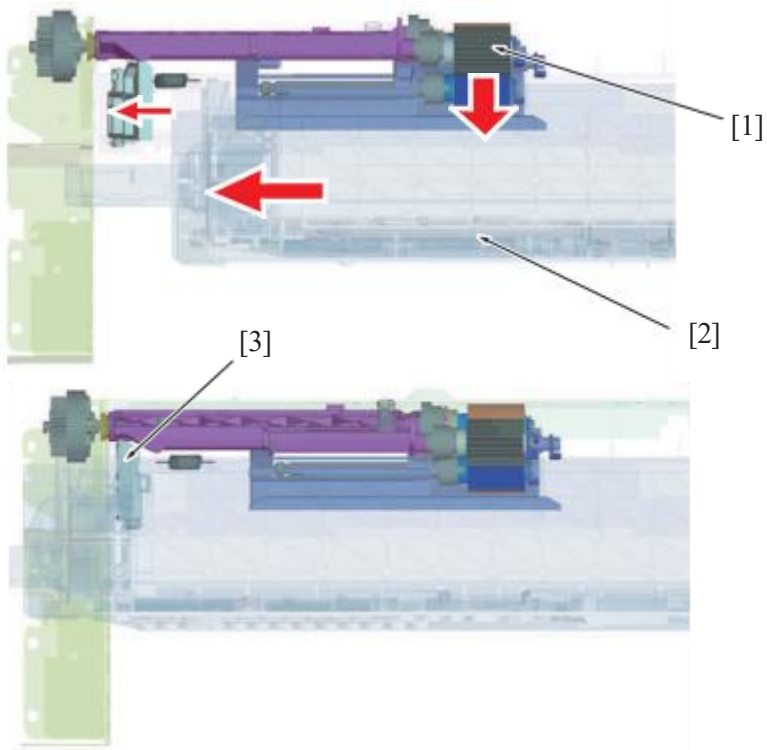
(2) Locking the paper feed tray
- Pushing the paper feed tray all the way toward the rear will allow the paper feed tray to be slid into the machine.
- When the paper feed tray is inserted all the way in place, the tray lock lever equipped on the right side of the paper feed tray locks the tray in place.
- To prevent false detection, the paper feed tray is equipped with a spring in the rear that pushes the tray back out if the tray is not inserted all the way in place.



[1]	Lever of the paper feed tray	[2]	Lock lever

1.10.14 Roller retract mechanism

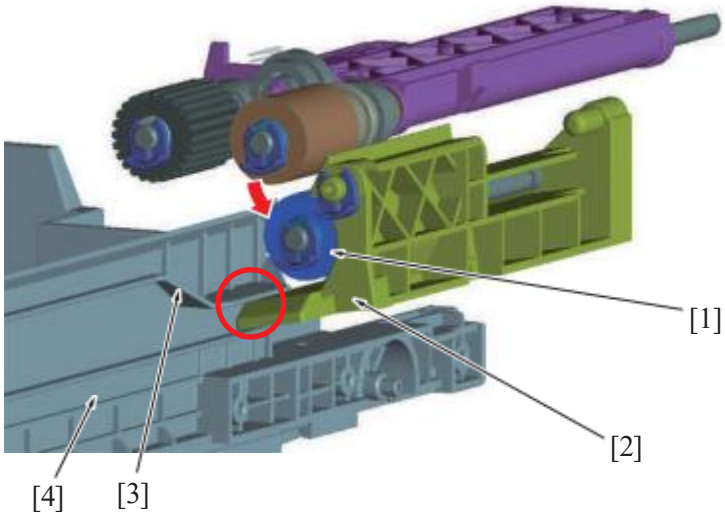
(1) Pick-up roller retract mechanism
- A mechanism to retract the pick-up roller is provided, in order to avoid damaging stacked paper when the paper feed tray is inserted.
- When the paper feed tray is open, the retraction lever in the back of the machine presses the pick-up roller up to the retract position.
- When the pick-up roller is in the retract position, paper cannot be damaged as the pick-up roller does not make contact with the stacked paper.
- Closing the paper feed tray presses the retraction lever to move the pick-up roller to the a position such that it can supply paper.



[1]	Pick-up roller	[2]	Paper Tray
[3]	Retraction lever	-	-

(2) Separation roller retract mechanism

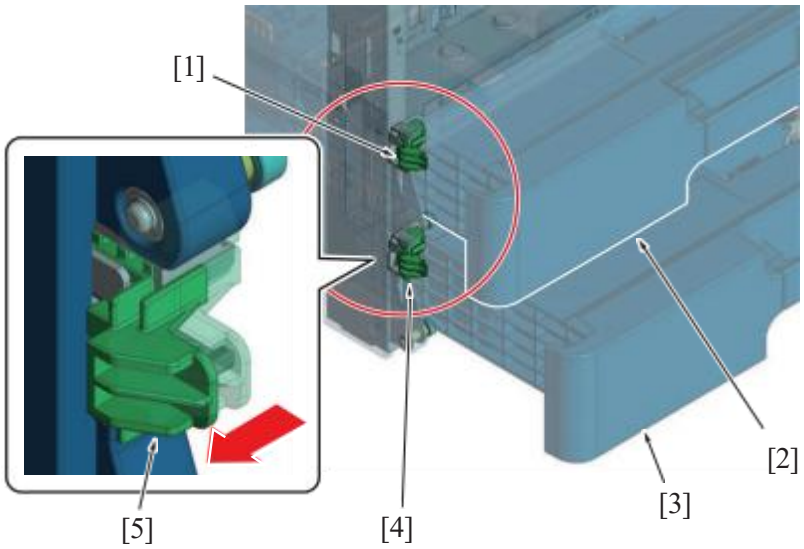
- A mechanism to pressure/release the separation roller is provided. It prevents the paper that is remained in the machine from being damaged or spilling out into the machine.
- Ribs on the paper feed tray pass over the top of the separation roller holder protrusion when the tray is opened or closed. It releases the separation roller and feed roller.
- Paper that is caught between the rollers is released through releasing separation roller and feed roller. It helps prevent paper from accumulating inside the machine.
- When the feed tray is closed completely, the tray ribs and separation roller holder protrusion do not interfere with each other. This design pressures the separation roller and feed roller to supply paper.



[1]	Separation roller	[2]	Separation roller holder
[3]	Rib	[4]	Paper Tray

1.10.15 Paper feed tray stopper release mechanism

- The paper feed tray is equipped with a stopper mechanism.
- When paper is placed, the stopper prevents the paper feed tray from falling off from the machine even if it is pulled out.
- The paper feed tray can be removed if paper is remained inside the machine at the time of handling a paper jam or a misfeed.



[1]	Tray 1 stopper	[2]	Tray 1
[3]	Tray 2	[4]	Tray 2 stopper
[5]	Tray stopper release	-	-

Releasing the paper feed tray stopper

- Press the stopper on its left side, the stopper lock will be released.

Locking the paper tray stopper

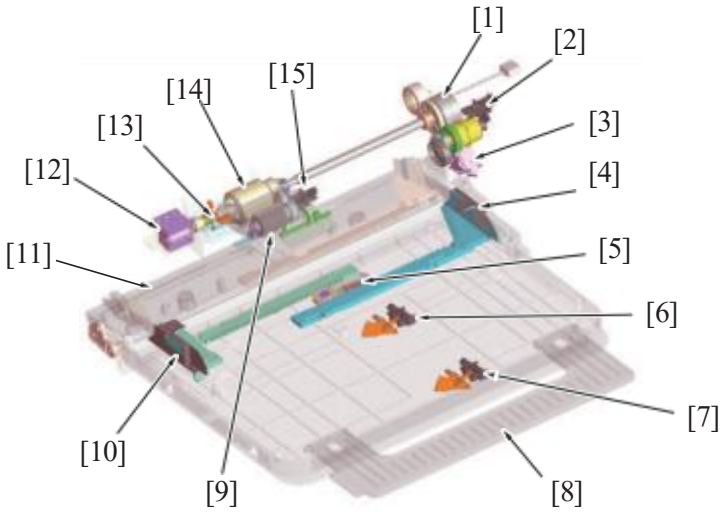
- Press the stopper on its right side, the stopper lock will be locked.

NOTE

- **A mechanism is provided to push and lock the stopper through closing the paper tray to its home position even if you forget to lock it. (Mechanism to prevent forgetting lock)**

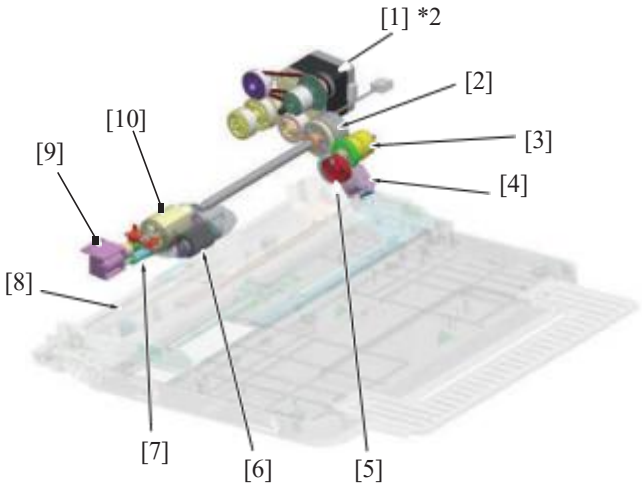
1.11 PAPER FEED SECTION (MANUAL BYPASS TRAY)

1.11.1 Configuration



[1]	Bypass tray paper feed clutch (CL7)	[2]	Bypass tray lift-up position sensor (PS26)
[3]	Bypass tray lift-up solenoid (SD1)	[4]	Paper guide (rear side)
[5]	Bypass tray CD paper size VR (VR1)	[6]	Bypass tray FD paper size sensor/1 (PS28)
[7]	Bypass tray FD paper size sensor/2 (PS29)	[8]	Sub tray
[9]	Bypass pick-up roller	[10]	Paper guide (front side)
[11]	Paper lift-up plate	[12]	Bypass tray pick-up roller solenoid (SD6)
[13]	Manual bypass tray separation roller	[14]	Manual bypass tray feed roller
[15]	Bypass tray paper empty sensor (PS27)	-	-

1.11.2 Drive



[1]	Paper feed motor (M22)	[2]	Bypass tray paper feed clutch (CL7)
[3]	Paper lift-up plate clutch (mechanical)	[4]	Bypass tray lift-up solenoid (SD1)
[5]	Paper lift-up cam	[6]	Bypass pick-up roller
[7]	Manual bypass tray separation roller	[8]	Paper lift-up plate
[9]	Bypass tray pick-up roller solenoid (SD6)	[10]	Manual bypass tray feed roller

1.11.3 Up/down control

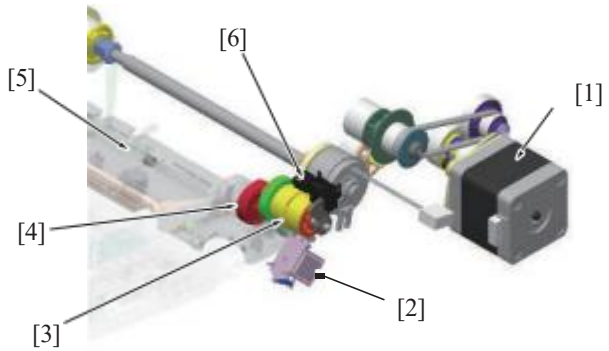
- The paper lift-up plate is moved up and down by the paper feed motor (M22) (CM605/CM805)

(1) Up operation

- The bypass tray lift-up solenoid is energized for a predetermined period of time during rotation of the motor. This unlocks the paper lift-up plate clutch and the driving force of the motor is transmitted to the paper lift-up cam.
- As the paper lift-up cam rotates, the paper lift-up plate which has so far been pushed down by the paper lift-up cam is raised to the paper feed position by the spring.

(2) Down operation

- The bypass tray lift-up solenoid is energized for a predetermined period of time during rotation of the motor. This rotates the paper lift-up cam, so that the cam pushes the paper lift-up plate down into its standby position.

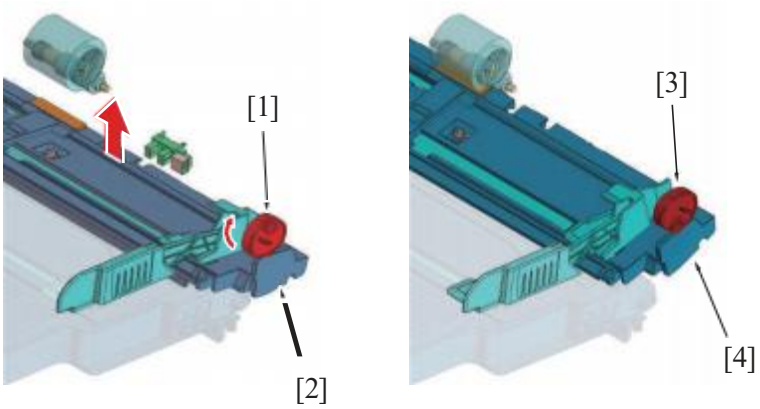


[1]	Paper feed motor (M22)	[2]	Bypass tray lift-up solenoid (SD1)
[3]	Paper lift-up plate clutch (mechanical)	[4]	Paper lift-up cam
[5]	Paper lift-up plate	[6]	Bypass tray lift-up position sensor (PS26)

(3) Operation timing

(a) Move to paper feed position (up)

- At the start of a manual bypass paper feed sequence, the paper lift-up plate is raised to the paper feed position.
- After the lapse of a predetermined period of time, the bypass tray lift-up solenoid is deenergized. The paper lift-up plate is stopped at the paper feed position.
- The actuator of bypass lift-up position sensor rotates in synchronism with the paper lift-up cam. When the paper lift-up plate is raised, the actuator rotates to thereby unblock the bypass tray lift-up position sensor. Then, the machine determines that the paper lift-up plate is raised to the paper feed position.
- If the bypass tray lift-up position sensor remains unblocked even after the bypass tray lift-up solenoid has been deenergized, the machine determines that the paper lift-up plate is at the paper feed position.
- As the paper level lowers during paper feed, the spring pushes up the paper lift-up plate, so that the paper stack is pushed up to the optimum paper feed position.



[1]	Paper lift-up cam (standby position)	[2]	Paper lift-up plate (standby position)
[3]	Paper lift-up cam (paper feed position)	[4]	Paper lift-up plate (paper feed position)

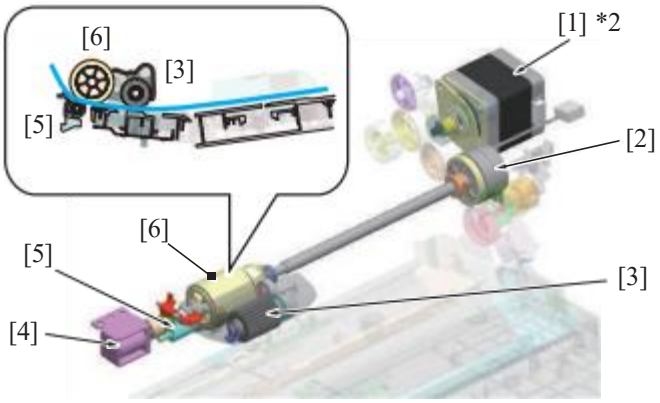
(b) Move to standby position (down)

- The paper lift-up plate is lowered if there is no print job that uses the manual bypass trays and the paper exit sensor detects a sheet of paper fed from the manual bypass tray.
- The paper lift-up plate is lowered if the above conditions are met even during execution of another job.
- If a bypass paper empty condition is detected at the paper feed position, the paper lift-up plate is lowered to the standby position.
- If a paper misfeed occurs, the paper lift-up plate is stopped at the paper feed position. When the motor rotates stably after themisfeed is cleared, the paper lift-up plate is lowered to the standby position.
- After the lapse of a predetermined period of time, the bypass tray lift-up solenoid is deenergized. The paper lift-up plate is stopped at the standby position. As the paper lift-up plate lowers, the bypass lift-up position sensor is blocked. The machine determines that the paper lift-up plate is at the standby position based on the fact that the bypass lift-up position sensor is blocked even after the bypass tray lift-up solenoid has been deenergized.

1.11.4 Paper feed control

(1) Pick-up control

- The paper feed motor (M22) (CM605/CM805), drives the manual bypass tray to feed paper.
- The bypass tray lift-up solenoid is energized by a print start signal and the paper is raised to the paper feed position.
- The bypass tray pick-up roller solenoid is energized, and the bypass tray pick-up roller is pressed onto the paper. (CM605/CM805)
- The bypass tray paper feed clutch is energized.
- When the bypass tray paper feed clutch is energized, the drive from the motor is transmitted to the bypass tray pick-up roller (CM605/CM805) and manual bypass tray paper feed roller, so that the paper can be fed in.
- The manual bypass tray paper feed roller feeds the paper onto the registration roller.
- When the paper fed from the manual bypass tray is reached onto the registration roller, the bypass tray paper feed clutch is deenergized to stop the manual bypass tray paper feed roller from rotating.
- The bypass tray pick-up roller solenoid is deenergized, and the bypass tray pick-up roller is released from the paper. (CM605/CM805)
- The bypass tray lift-up solenoid is energized and the paper is lowered to the standby position.
- If the registration sensor does not detect paper even after the lapse of a predetermined period of time, the machine determines that there is a paper misfeed at the manual bypass tray. Note, however, that the paper feed sequence is repeated a second time if a paper misfeed is detected. If the registration sensor is still unable to detect paper, the machine determines that there is a paper misfeed at the manual bypass tray. (Paper feed retry control)



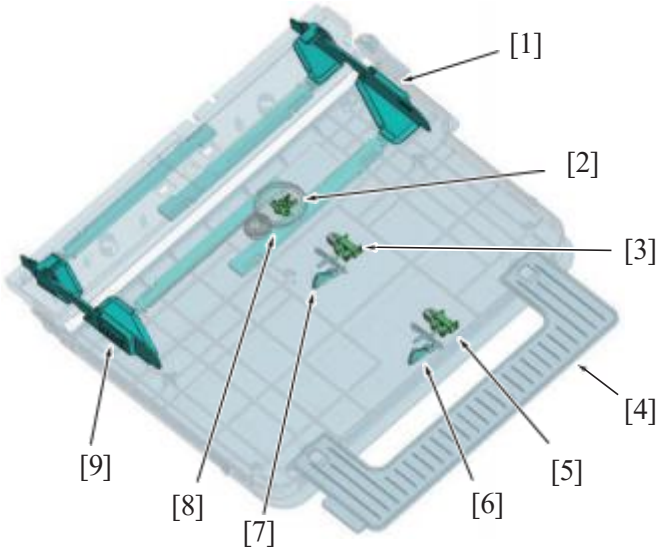
[1]	Paper feed motor (M22)	[2]	Bypass tray paper feed clutch (CL7)
[3]	Bypass pick-up roller	[4]	Bypass tray pick-up roller solenoid (SD6)
[5]	Manual bypass tray separation roller	[6]	Manual bypass tray feed roller

(2) Separation control

- The manual bypass tray separation roller is pressed up against, and driven by, the manual bypass tray feed roller. A torque limiteris equipped on the shaft of the manual bypass tray separator roller.
- The acting pressure of the manual bypass tray feed roller/manual bypass tray separation roller/torque limiter serves as the limit torque for preventing double feed.
- When there is no sheet of paper or only one sheet of paper between the manual bypass tray separation roller and manual bypass tray feed roller, the limit torque is exceeded and the manual bypass tray separation roller follows the rotation of the manual bypass tray paper feed roller.
- If there are two or more sheets of paper between the manual bypass tray separation roller and manual bypass tray feed roller, the limit torque is greater than the friction force of the paper, so that the manual bypass tray separation roller stops rotating.
- Because of the stationary manual bypass tray separation roller, the lower sheet of paper in contact with the manual bypass tray separation roller is not fed in, so that the first sheet of paper is properly separated from the second sheet of paper.

1.11.5 Paper size detection control

- The standard size of the paper loaded in the manual section is detected automatically by the combination of ON or OFF positions of the two bypass FD paper size sensors and the bypass CD paper size VR.
- The two bypass FD paper size sensors are mounted in positions at which they can detect length even with the sub tray closed.
- The size detection gear rotates by the moving of the paper guide. The bypass CD paper size VR mounted on the same axis as the size detection gear detects the paper width.
- The machine supports detection of SRA3 size.
- Irregular paper sizes and postcard can be used by entering the custom size.



[1]	Paper guide (rear side)	[2]	Bypass tray CD paper size VR (VR1)
[3]	Bypass tray FD paper size sensor/1 (PS28)	[4]	Sub tray
[5]	Bypass tray FD paper size sensor/2 (PS29)	[6]	Actuator 2
[7]	Actuator 1	[8]	Size detection gear

[9]	Paper guide (front side)	-	-

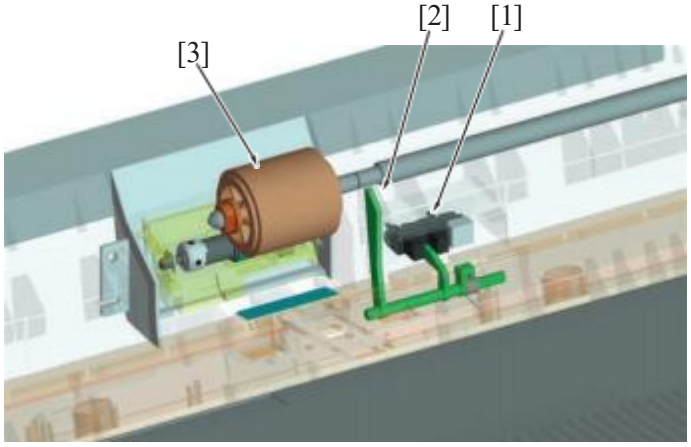
(1) Sheet size determination

Paper size detected	Bypass FD paper size sensor/1	Bypass FD paper size sensor/2	Bypass CD paper size VR
			Unit: mm
A6S	OFF	OFF	Less than 115
B6S			115 to 144 inclusive
A5 (*)			196 to 225 inclusive (*)
Invoice (5 1/2× 8 1/2) (*)			
B5 *			242 to 268 inclusive (*)
Executive (7 1/4 × 10 1/2) (*)			
A5S (*)	ON	OFF	133 to 164 inclusive (*)
Invoice S (5 1/2× 8 1/2 S) (*)			
B5S (*)			169 to less than 196 (*)
Executive S (7 1/4× 10 1/2 S) (*)			
A4S (*)			196 to 225 inclusive (*)
Letter S (8 1/2×11S) (*)			
Letter (8 1/2×11)			255 to less than 288
A4			288 to 330 inclusive
Legal (8 1/2×14)	ON	ON	201 to 231 inclusive
B4			242 to less than 268
Ledger (11 × 17)			268 to less than 288
A3			288 to less than 301
A3 wide (12 × 18)			301 to 312.5 inclusive
SRA3			Over 312.5 and up to 330

- *: When the area is in inches, the size is detected in inches; for other areas, A/B size is detected.

1.11.6 Paper empty detection control

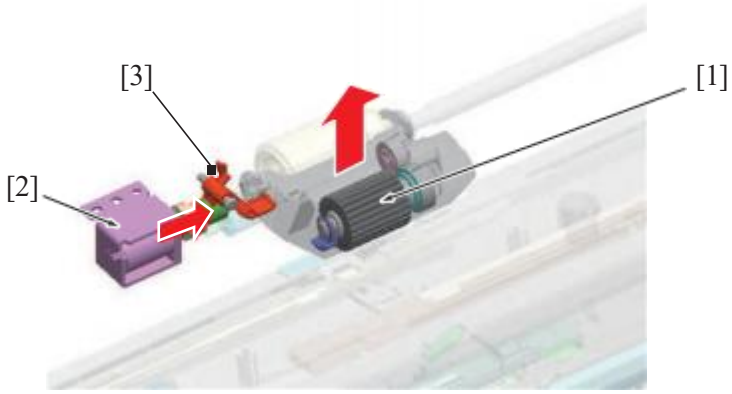
- When the paper is loaded in the manual bypass tray, the paper empty detection actuator is pressed by the leading edge of the paper. The paper empty detection actuator is pressed to unblock the bypass paper empty sensor.
- When there is no paper on the manual tray, the paper empty detection actuator is raised. The paper empty detection actuator is returned to its original position to thereby block the bypass paper empty sensor.



[1]	Bypass tray paper empty sensor (PS27)	[2]	Actuator
[3]	Manual bypass tray feed roller	-	-

1.11.7 Bypass tray pick-up roller retract mechanism (CM605/CM805)

- When the paper is set to the paper feed tray, there is a mechanism which retracts the pick-up roller and the separation roller to prevent the paper damage.
- When printing, the bypass tray pick-up roller solenoid is energized, and the bypass tray pick-up roller is pressed onto the paper.
- After a print job, the bypass tray pick-up roller solenoid is deenergized, and the bypass tray pick-up roller is released from the paper.

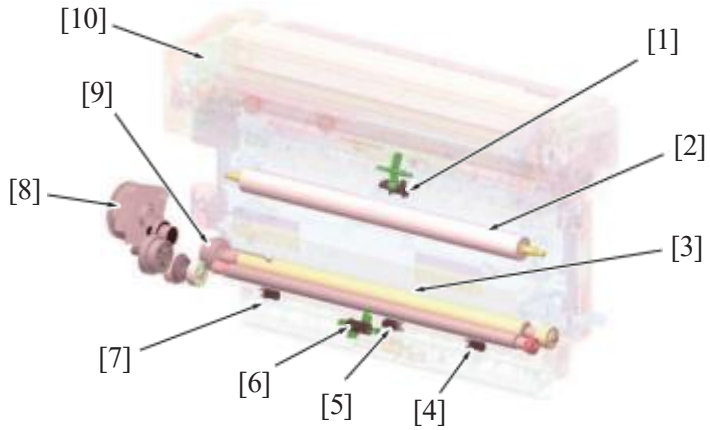


[1]	Bypass pick-up roller	[2]	Bypass tray pick-up roller solenoid (SD6)
[3]	Lever	-	-

1.12 REGISTRATION SECTION

1.12.1 Configuration

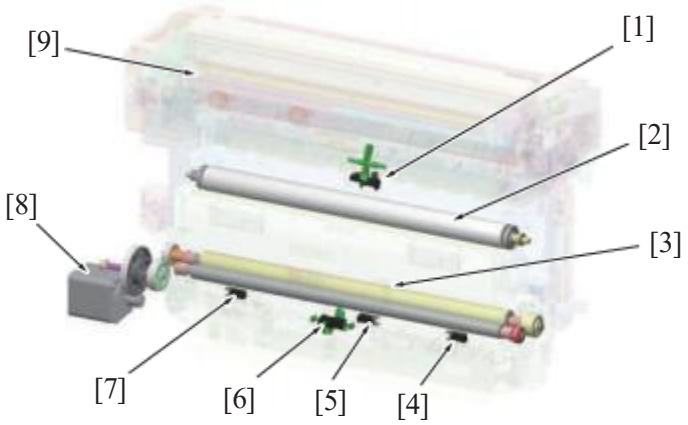
CM605



[1]	Fusing loop sensor (PS2)	[2]	2nd transfer roller
[3]	Registration roller	[4]	Feeding paper size sensor/1 (PS50) (*)
[5]	Registration sensor/2 (PS72) (*)	[6]	Registration sensor/1 (PS1)
[7]	Feeding paper size sensor/2 (PS51) (*)	[8]	Transport motor (M1)
[9]	Registration clutch (CL4)	[10]	Fusing unit

- *: Not for CM605/CM805

CM805



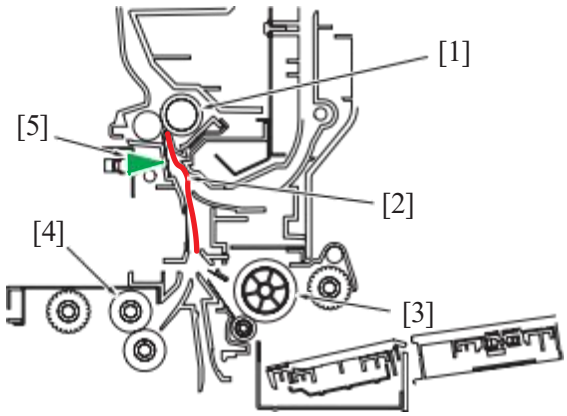
[1]	Fusing loop sensor (PS2)	[2]	2nd transfer roller
[3]	Registration roller	[4]	Feeding paper size sensor/1 (PS50)
[5]	Registration sensor/2 (PS72)	[6]	Registration sensor/1 (PS1)
[7]	Feeding paper size sensor/2 (PS51)	[8]	Registration motor (M24)
[9]	Fusing unit	-	-

1.12.2 Registration control

- In CM605, the transfer motor and registration clutch control the rotation of the registration roller. In CM805, the registration motor controls the rotation.
- The paper will create a loop between the tray 1 paper feed roller (or tray 2 vertical transport roller or bypass paper feed roller) and the registration roller when the paper is being conveyed in order to correct the skew.
- Registration roller is controlled in order to synchronize the timing the unit starts writing the image and conveying paper.

(1) Operation

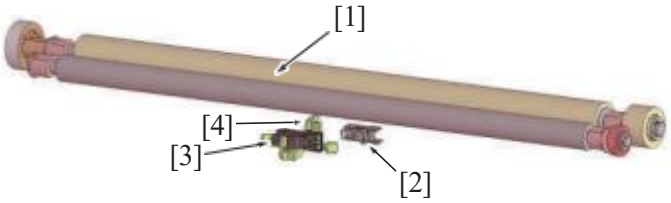
1. The paper is transported while the registration roller is stationary.
2. The registration sensor1 detects the leading edge of the paper, which is interpreted to mean that the paper has reached the registration roller.
3. A paper loop is formed thus skew in the paper is corrected.
4. The registration roller rotates to transport the paper.



[1]	Registration roller	[2]	Loop formation
[3]	Manual bypass tray feed roller	[4]	Tray 1 paper feed roller
[5]	Registration sensor/1 (PS1)	-	-

1.12.3 Paper trailing edge detection

- In CM805, a registration sensor/2 is installed to detect the trailing edge of the paper.
- The registration sensor/2 is a reflective optical sensor which detects paper using reflected light.
- The registration sensor/1 detects the leading edge/trailing edge of paper. However, the detection accuracy with the registration sensor/1 (photo sensor + actuator) decreases due to the increase of the paper transporting speed.
- The combination of the registration sensor/1 and registration sensor/2 can increase the detection accuracy and reduce the variation of paper transport.



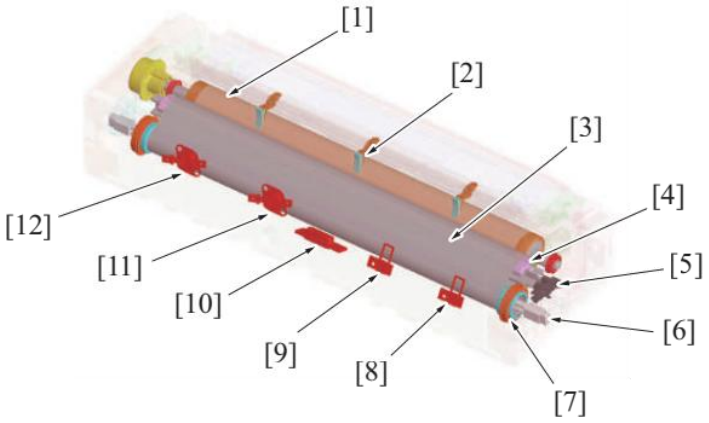
[1]	Registration roller	[2]	Registration sensor/2
[3]	Registration sensor/1	[4]	Actuator for registration sensor/1

1.12.4 Automatic detection of paper type

- Intelligent media sensor is provided as a standard equipment which enables detecting the paper kind.
- See “IM-102” for information of the intelligent media sensor.

1.13 FUSING SECTION

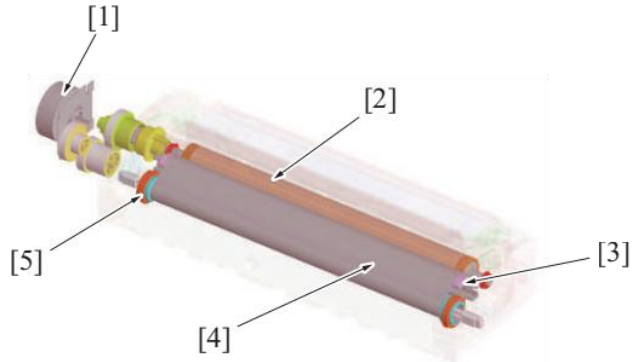
1.13.1 Configuration



[1]	Pressure roller	[2]	Paper separator claws (contact type)
[3]	Fusing belt	[4]	Fusing pad
[5]	Fusing pressure home sensor (PS38)	[6]	Fusing heater lamp assy
[7]	Heating roller	[8]	Heating roller thermistor/Edg (TH1)
[9]	Heating roller thermistor/Ctr (TH2)	[10]	Heating roller temperature sensor (TEMS)
[11]	Heating roller thermostat/Ctr (TS1)	[12]	Heating roller thermostat/Edg (TS2)

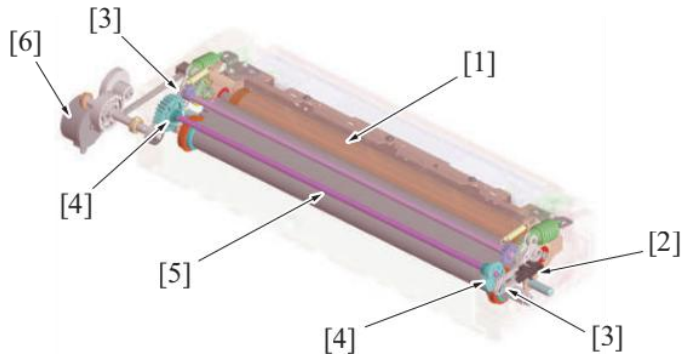
1.13.2 Drive

(1) Fusing section roller drive



[1]	Fusing motor (M3)	[2]	Pressure roller
[3]	Fusing pad	[4]	Fusing belt
[5]	Heating roller	-	-

(2) Pressure roller pressure drive



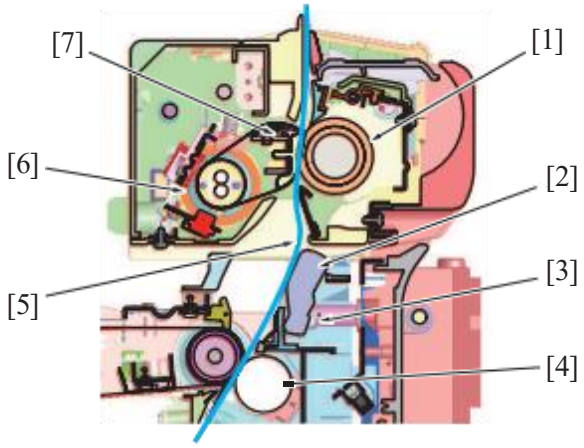
[1]	Pressure roller	[2]	Fusing pressure home sensor (PS38)
[3]	Fusing lever	[4]	Pressure cam
[5]	Cam shaft	[6]	Fusing pressure motor (M11)

1.13.3 Fusing speed correction

(1) Fusing loop control

- To prevent double transferred images and brush effects that occur due to a difference in speed between paper transport during image transfer and fusing, a loop is formed in the paper between the 2nd transfer and fusing sections.
- The fusing loop sensor detects the length of the loop formed in the paper between the 2nd transfer section and the fusing roller.
- The fusing motor increases or decreases the fusing speed according to the length of loop in the paper, thereby ensuring that the length of loop falls within a predetermined range.

Fusing loop sensor	Loop amount	Fusing speed
Unblocking	Large	Speed-up
Blocking	Small	Slowdown



[1]	Pressure roller	[2]	Actuator
[3]	Fusing loop sensor (PS2)	[4]	2nd transfer roller
[5]	Fusing loop	[6]	Heating roller
[7]	Fusing pad	-	-

Operation timing

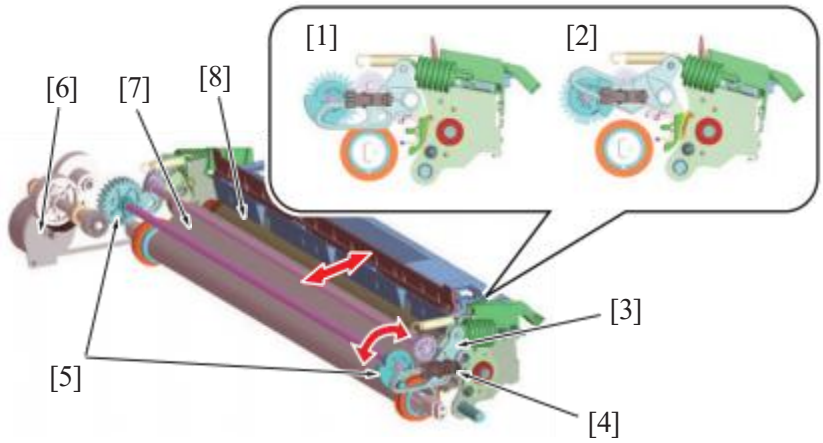
- It starts controlling when the front-edge of the paper reaches to the predetermined position before the fusing roller.
- The fusing speed is decelerated so that a loop is formed in the paper between the 2nd transfer roller and the fusing roller.
- When the paper loop amount is large, the fusing loop sensor is unblocked, and the fusing speed is increased.
- When the paper loop amount is small, the fusing loop sensor is blocked, and the fusing speed is decreased.
- The fusing speed is increased or decreased as necessary to make sure that the paper loop amount falls within a predetermined range, thereby absorbing a difference between the fusing speed and image transfer speed.
- The fusing loop control will finish after the trailing of the paper passes the 2nd transfer roller.

Fusing speed adjustment

- If double transferred images or brush effects occur due to inadequate paper loop before fusing, adjust the fusing speed using [Service Mode] -> [Machine] -> [Fusing transport speed].

1.13.4 Fusing pressure/retraction control

- To maintain durability of the fusing belt, the fusing pressure roller is retracted (*1) from the fusing belt during any time other than a print cycle. (The roller is, however, retracted during a print cycle using envelopes/postcard (Japan model only).)
  *1: The pressure roller does not completely retract from the fusing belt but is slightly pressed to the fusing belt.
- The pressure roller is pressed against, and retracted from, the fusing belt by rotating the pressure cam through forward or backward rotation of the fusing pressure motor.
- The fusing pressure home sensor detects the pressure roller at its pressure position.
- The position at which the pressure roller is retracted is controlled by the period of time (number of pulses) through which the fusing pressure motor is rotated.
- When there is no change in the output of the fusing pressure home sensor even after the lapse of a predetermined period of time after the fusing pressure motor has started rotating, the machine determines that there is a pressure/retraction fault and displays the “Trouble code C3101: Pressure roller separation failure” message or “Trouble code C3103: Pressure roller release failure” message.



[1]	Pressure position	[2]	Release position
[3]	Pressure lever	[4]	Fusing pressure home sensor (PS38)
[5]	Pressure cam	[6]	Fusing pressure motor (M11)
[7]	Fusing belt	[8]	Pressure roller

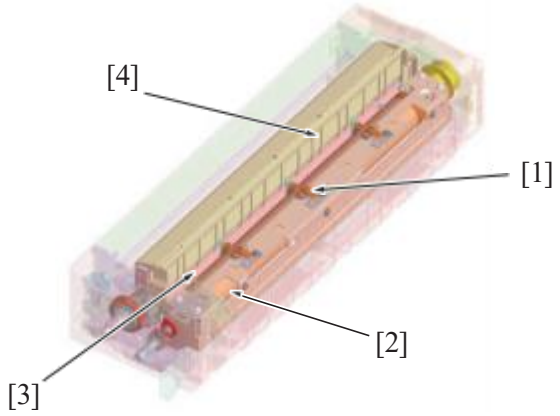
(1) Operation timing

State		Pressure roller position
Warm-up	At the start of a warm-up cycle	Retraction
Pre-standby	At the start of the pre-standby	Pressure
Standby	At the start of the standby	Retraction
Printing	For envelopes/postcards (*3)	Retraction
	For paper types other than envelopes/ postcards (*3)	Pressure
When printing the multi jobs	When current printing is for other than envelopes/postcards (*3) and the next job is for the envelopes/postcards (*3).	Pressure -> Retraction (*1)
	When current printing is for the envelopes/ postcards (*3) and the next job is for other than envelopes/postcards (*3).	Retraction -> Pressure (*1)
Energy save mode (lower power mode, sleep mode)		Full retraction (*2)
When a malfunction or misfeed occurs		Full retraction (*2)
When the fusing heater lamp is turned OFF (a door opened, a malfunction occurs, or other factors.)		Stop

- *1: Pressure/retraction will be conducted after the currently printed paper passes between the fusing belt and the pressure roller. The timing for the next paper to be fed will be delayed during the pressure/retraction and keep the certain period of time between feeding the papers.
- *2: The pressure roller and the fusing belt are fully retracted.
- *3: Japan model only

1.13.5 Paper separation mechanism

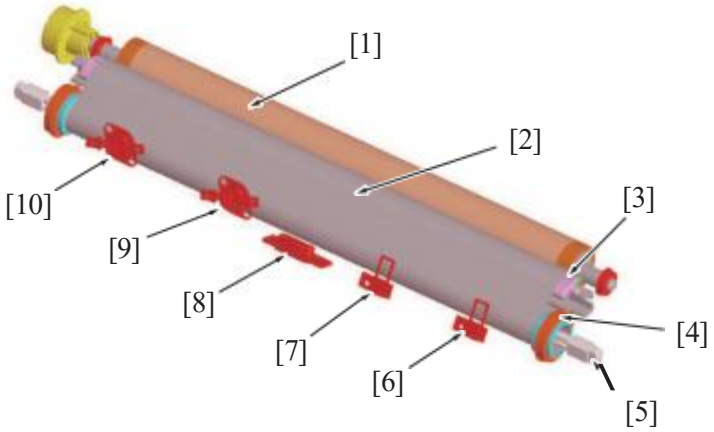
- Paper separator claws are provided on the pressure roller side and the fusing belt side in order to separate the sheet of paper reliably after the fusing process.
- Three contact type paper separator claws are installed on the pressure roller side.
- 13 noncontact type paper separator claws are installed on the fusing belt side.



[1]	Paper separator claws (contact type)	[2]	Pressure roller
[3]	Fusing belt	[4]	Paper separator claws (noncontact)

1.13.6 Fusing temperature control

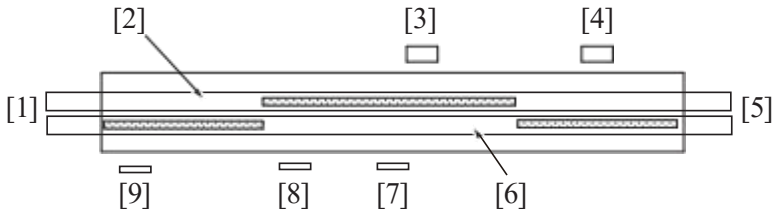
- Fusing temperature control uses the heating roller temperature sensor and the heating roller thermistor that detect the surface temperature of the fusing belt to turn ON or OFF the fusing heater lamp as necessary.
- The fusing heater lamp when turned ON heats the fusing belt to a set temperature.



[1]	Pressure roller	[2]	Fusing belt
[3]	Fusing pad	[4]	Heating roller
[5]	Fusing heater lamp assy	[6]	Heating roller thermistor/Edg (TH1)
[7]	Heating roller thermistor/Ctr (TH2)	[8]	Heating roller temperature sensor (TEMS)
[9]	Heating roller thermostat/Ctr (TS1)	[10]	Heating roller thermostat/Edg (TS2)

(1) Fusing heater lamp

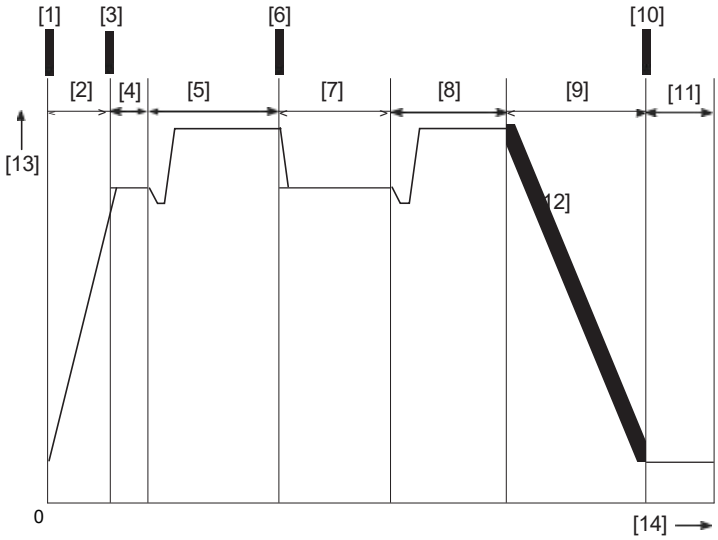
- The heating roller contains a fusing heater lamp assy in it. The fusing heater lamp turns ON to generate heat, which heats the heating roller and fusing belt.
- The fusing heater lamp assy consists of two heaters, each having a unique heating range different from each other.
  - The fusing heater lamp/1 (center) heats on the central portion of the heating roller.
  - The fusing heater lamp/2 (side) heats on both ends of the heating roller.
- The fusing heater lamp is turned ON or OFF according to the width of the paper and the surface temperature of the fusing belt.
  - For a paper width of 209 mm or less, the fusing heater lamp/1 is used to heat the central portion.
  - For a paper width exceeding 209 mm, the surface temperature of the fusing belt is measured and only the fusing heater lamp/1 and both the fusing heater lamps/1 and 2 are alternately turned ON.



[1]	Front of machine	[2]	Fusing heater lamp/1 (FH1)
[3]	Heating roller thermostat/Ctr (TS1)	[4]	Heating roller thermostat/Edg (TS2)
[5]	Rear of machine	[6]	Fusing heater lamp/2 (FH2)
[7]	Heating roller temperature sensor (TEMS)	[8]	Heating roller thermistor/Ctr (TH2)
[9]	Heating roller thermistor/Edg (TH1)	-	-

(2) Temperature control chart

* An example when a machine is warmed up under a normal ambient condition

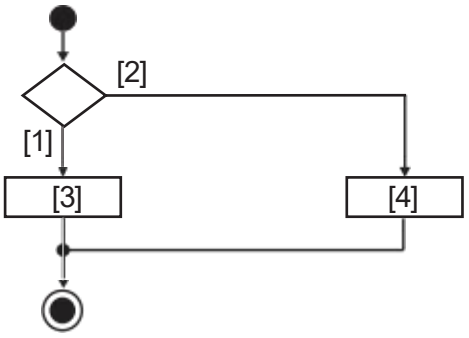


[1]	Main power switch ON	[2]	Warm-up control
[3]	Warm-up completed	[4]	Pre-standby control
[5]	Standby control (including a countermeasure against overshoot)	[6]	Print request
[7]	Print control	[8]	In standby
[9]	Low power mode	[10]	Entry in sleep mode
[11]	Sleep mode	[12]	Fusing belt temperature
[13]	Temperature	[14]	Time

(3) Fusing temperature control during warm-up

- To prevent image fixability from being degraded due to environmental changes when the main power switch is turned ON, two different warm-up modes are incorporated for fusing temperature control.
- The warm-up mode is performed “at low temperatures”, or “at ordinary temperatures”.
- When the temperature of the fusing belt reaches the warm-up completion temperature, control is passed onto the pre-standby process.

Warm up mode	Conditions
Warm-up at low temperatures	• Temp-Inside: 15°C or less • Heating roller thermistor/Ctr (TH2) detected temperature: 15°C or less
Warm-up at ordinary temperatures	• Temp-Inside: Exceeds 15°C



[1]	Temp-Inside: 15°C or less Heating roller thermistor/Ctr (TH2) detected temperature: 15°C or less	[2]	Temp-Inside: Above 15°C
[3]	Warm-up at low temperatures	[4]	Warm-up at ordinary temperatures

(4) Temperature control during pre-standby

- After the warm-up completion temperature is reached, control is then passed onto the pre-standby process.
- The temperature control in the pre-standby state turns ON or OFF the fusing heater lamp as necessary in order to maintain the fusing belt temperature at a level that enables printing.
- A print job, when received during the pre-standby state, can be started without waiting.

(5) Temperature control during stand-by

- If no print request is received after the temperature control in the pre-standby state is started, control is passed onto the standby process.
- The temperature control in the standby state maintains the fusing belt temperature at a predetermined temperature.
- The control is intended to shorten time it takes the temperature to reach the printable level when a print request is received.
- An overshoot preventive process may be performed before control is passed onto the temperature control in the standby state.
- The fusing motor repeats rotating (at low speed) and stopping for 15 seconds after the standby starts. After the 15-sec. period, the fusing motor is deenergized.

(6) Temperature control during the print cycle

(a) Temperature control

- The machine enters a print state as it receives a print control and carries out a print cycle at a set temperature corresponding to the type of paper selected for the job.
- The fusing temperature is measured during the print cycle and temperature control suitable for the print condition is performed accordingly.

(7) Energy save mode

- The machine enters the energy save mode from any standby state to thereby reduce power consumption (TEC value).
- The energy save mode may be either the low power mode or sleep mode, whichever is enabled depending on the set conditions.

NOTE

TEC value (Typical Electricity Consumption):

- **Energy saving criteria for copiers and printers to comply with the Energy Start program.**
- **Power consumption (kWh) at the office assuming operation of a product for one week (5 working days + 2 holidays) is calculated from the print speed and power consumption of the product.**

(a) Temperature control during low power mode

- To reduce power consumption during the low power mode, power to the fusing heater lamp is shutdown to stop heating the fusing belt.

(b) Temperature control during sleep mode

- To reduce power consumption during the sleep mode, power to the fusing heater lamp is shutdown to stop heating the fusing belt.
- If the fusing belt temperature is decreased to room temperature, the printable temperature can be recovered within the same period of time as that of warm-up.

(8) Fusing-related control

- The following types of control are available as they relate to fusing temperature:
- For detailed setting method, see each item.

(a) Service Mode

- [Machine] -> [Fusing Temperature]
- [Machine] -> [Heater Control Level]
- [System 1] -> [Warmup]

(b) Enhanced Security

- [Engine FW DipSW / No.5 Choice of high humidity circumstance]
- [Engine FW DipSW / No.13 Choice of securing fusibility]

1.13.7 HaCS control

- Feed back of the heat main temperature controls the halogen heater, and adjust heat roller temperature to an optimal level.
- HaCS control is performed in CM805.

Fixed power control

- To adjust the heat roller temperature with predetermined power, regardless of the heat main temperature.
- To perform fixed power control during warming up.

PID control

- To adjust the temperature through increasing or decreasing the reference power according to the difference between the heat main temperature and the heat roller target temperature. (P control)
  - If the heat main temperature is lower than the target temperature, increase the reference power.
  - If the heat main temperature is higher than the target temperature, decrease the reference power.
- In the temperature adjustment for P control, an error may occur against the target temperature. At regular intervals, calculate the difference between the heat main temperature and the heat roller target temperature. If the calculated value is out of the predetermined range, the predetermined value is added to or subtracted from the reference power to correct the error. (I control)
- For I control, to make the correction with calculating the difference, it takes a long time to correct the power after a temperature difference occurs. Therefore, it is not possible to deal with a rapid temperature change. Thus, if the difference between the heat main temperature and the heat roller target temperature is out of the predetermined range, the predetermined value is added to or subtracted from the reference power to deal with the rapid temperature change. (D control)
- PID control combines the P control, I control and D control. It determines the heater power and adjusts the temperature.
- During standby and printing, the PID control is performed.

1.13.8 Plain paper fusing temperature control

- Two different target temperatures control the printing on plain paper.

Basis weight	Control contents
Plain paper (60 g/m^2 to 70 g/m^2 (15 15/16 lb to 18 5/8 lb))	The base weight is limited to 60 g/m^2 to 70 g/m^2 (15 15/16 lb to 18 5/8 lb). Power consumption (TEC value) is controlled through lowering the target temperature to lower than the normal fusing temperature.
Plain paper (60 g/m^2 to 90 g/m^2 (15 15/16 lb to 23 15/16 lb))	The normal target temperature controls the fusing temperature control of plain paper.

(1) Setting procedure

1. Select [Paper] on the basic screen.
2. Select a paper port.
3. Select [Paper Type].
4. After selecting [Plain paper], touch the set key to display the setting screen.
5. Set [Eco] to ON.

NOTE

- **"ON" is specified by default for Japan.**
- **You can only use the [Alter Paper Thickness] key for plain paper.**

1.13.9 Smart fusing control

- Lower the target temperature as much as possible according to the information of each sheet of paper to control the fusing temperature adjustment. In this way, the power consumption (TEC value) is controlled.
- Smart fusing control is only performed when the execution conditions below are met.
- If these execution conditions are not met, the normal fusing temperature control is performed.

(1) Smart fusing control execution conditions

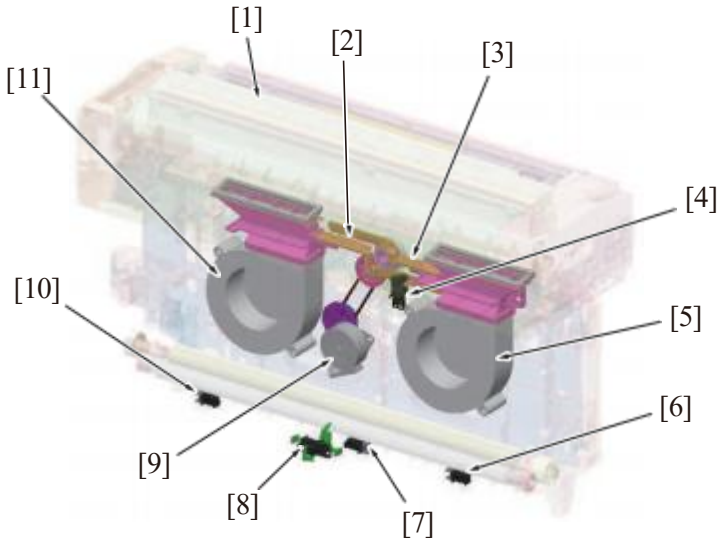
Function		Execution conditions
Temp-Inside		10 °C and above
Print mode		Only for PC printing, BOX printing, and direct printing (USB) (*1)
Basic Settings	Print zoom	Only 100%
	Paper type	Plain paper only
Layout	Combination	1 in 1 only
	Image shift	No
Cover sheet insertion	Cover sheet	No
	Back cover	No
	Inter sheet	No
	OHP interleave	No
	Booklet	No
Image quality	Select color	Black mode only
	Gloss mode	No
	Toner save (density 50%)	No
	Edge enhancement	No
	Negative-positive reversal	No
	Maximum black density	80% or more to 90% or less
	Line width	1.5pt or less
	Character decoration	Normal characters only (*2)
	Character size	16pt or less
	Image object	No
Stamp/page printing	No watermarks	No
	No overlay	No
	No copy security	No
	No header/footer	No
	No management number	No

- *1: Copies are not included in the control
- *2: Bold characters are not included in the control

1.13.10 Fusing edge cooling mechanism

- When small-size paper is fed continuously, the temperature at both ends of the fusing unit rises in the area outside the paper feeding area.

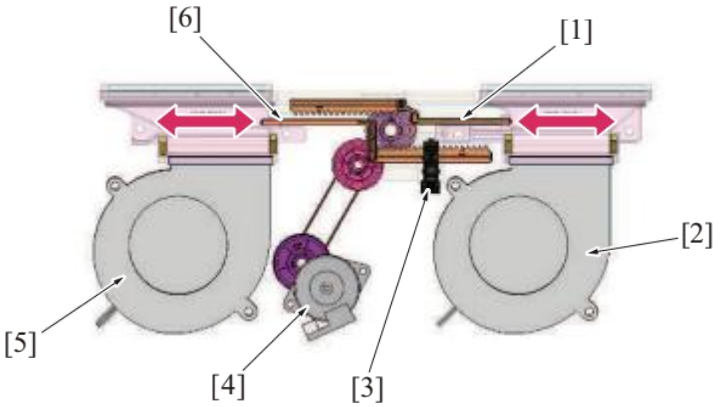
- Two cooling fans are provided before and after the door inside the main body. They blow air to both ends of the fusing unit to control the rise in the temperature.
- Change the cooling area according to the size of the paper passing through.
- This mechanism is installed in CM805.



[1]	Fusing unit	[2]	Shutter/Rr
[3]	Shutter/Fr	[4]	Fusing shutter home sensor (PS47)
[5]	Fusing edge cooling fan/Fr (FM21)	[6]	Feeding paper size sensor/1 (PS50)
[7]	Registration sensor/2 (PS72)	[8]	Registration sensor/1 (PS1)
[9]	Fusing shutter motor (M15)	[10]	Feeding paper size sensor/2 (PS51)
[11]	Fusing edge cooling fan/Rr (FM22)	-	-

Changing the cooling area

- A shutter is equipped in both fusing edge cooling fan/Fr and fusing edge cooling fan/Rr.
- The shutter operates depending on the width of the paper passing through, which changes the width of the fan opening.
- The fusing shutter motor drives the shutter.
- The fusing shutter home sensor detects the shutter home position (fully opened position).



[1]	Shutter/Fr	[2]	Fusing edge cooling fan/Fr (FM21)
[3]	Fusing shutter home sensor (PS47)	[4]	Fusing shutter motor (M15)
[5]	Fusing edge cooling fan/Rr (FM22)	[6]	Shutter/Rr

Feeding paper width detection

- The feeding paper width is determined by the setting value of the paper tray and the feeding paper size sensor/1 and /2.
- If the paper tray setting is 250 mm or more, check the status of the feeding paper size sensor.
- When the leading edge of the paper passes a predetermined distance from the feeding paper size sensor, check the feeding paper size sensor.
- If either sensor is OFF, a warning is displayed to show that the paper size is mismatched.

1.13.11 Protection from abnormal temperatures

(1) First approach: software protection

- If the heating roller temperature sensor detects a predetermined temperature or more continuously, the temperature is determined to be abnormally high and a “trouble code C3725: Fusing abnormally high temperature detection (Main of the heating side)” will be displayed.
- If the heating roller thermistor/Edg detects a predetermined temperature or more continuously, the temperature is determined to be abnormally high and a “trouble code C3722: Fusing abnormally high temperature detection (Edge of the heating side)” will be displayed.
- If the heating roller thermistor/Ctr detects a predetermined temperature or more continuously, the temperature is determined to be abnormally high and a “trouble code C3726: Fusing abnormally high temperature detection (Center of the heating side)” will be displayed.
- When the trouble code is displayed, printing will be prohibited.

(2) Second approach: hardware protection

- A different protection is provided when the CPU overruns, becoming unable to detect the malfunction of an abnormally high temperature. If the heating roller temperature sensor detects an abnormal temperature, the heater relay of the DC power supply is turned OFF through the baseboard. Power supply to the fusing heater lamp is then shutdown.
- When the hardware circuit in the baseboard detects the heater relay being OFF, the temperature is judged to be abnormally high. Trouble code C3737: Fusing abnormally high temperature detection (Hard protector) will be displayed.
- Through these control procedures, the power supply to the heater lamps can be shutdown before the thermostat is activated. It thereby suppresses damage to the fusing unit itself.

(3) Third approach: thermostat protection

- If detection of the abnormally high temperature through approaches 1 and 2 above is not possible due to a defective the heating roller temperature sensor, heating roller thermistor or other reason, the thermostat comes into play to shutdown the power supply to the heater lamp.

1.13.12 Fusing PPM control

(1) PPM control

- To achieve the intended level of fixability of printed images, the PPM control reduces the number of printed pages per minute by widening the distance between sheets of paper.

PPM mode	Control execution conditions	Purpose	Specific controls	Print productivity (*1)
Low temperature environment mode	Room temperature at the start of the print cycle is 18°C or less	To achieve the intended level of fixability under low temperature environment	To prevent fixability from being degraded in a multi-print cycle, paper-to-paper distance is widened to thereby limit a decrease in the fusing temperature.	100%: default value 90% 80% 70% 60% 50%
High humidity environment mode (*2)	Environmental humidity at the start of the print cycle is a predetermined value or more	To suppress occurrence of paper curl under high humidity environment	Paper-to-paper distance is widened in a multi-print cycle run under high humidity environment so as to prevent paper from curling, thereby achieving a required fusing temperature.	100%: default value 70% 50%
Paper curl suppression mode	“Mode 3” is selected for “Change Warm Up Time” of the service mode	To suppress occurrence of paper curl under conditions other than high humidity environment	Paper-to-paper distance is widened in a multi-print cycle run under any condition other than high humidity environment so as to prevent paper from curling, thereby achieving a required fusing temperature.	100%: default value 50%
Heating roller end temperature rise suppression mode	• Print request is received for paper with a paper width of 209 mm or less • Temperature of the heating roller ends becomes a predetermined value or more	To suppress inordinate rise in temperature on heating roller ends in a print cycle using paper of a small size	Paper-to-paper distance is widened in a multi-print cycle so as to prevent the temperature on ends of the heating roller from increasing, thereby promoting reduction in temperature.	100%: default value 90% 80% 70% 60% 50% 40% 30%

PPM mode	Control execution conditions	Purpose	Specific controls	Print productivity (*1)
Reduced power supply mode	Only an insufficient power is supplied to the fusing heater lamp, resulting in a fusing temperature lower than a predetermined value	To achieve the intended level of fixability under low power supply condition	To prevent fixability from being degraded in a multi-print cycle, paper-to-paper distance is widened to thereby limit a decrease in the fusing temperature.	70%: default value 50%

Thin paper mode	"100%" is selected for "PPM Control Choice" of the service mode	To increase the print productivity of thin paper and recycled paper. To increase productivity during printing using thin paper. * The choice of 100% may result in paper curling.	Paper-to-paper distance is narrowed to thereby increase productivity.	100% 70%: default value (*3)
Fusing strength improving mode	Choice of improving the fusibility strength (Engine FW DIP SW: No.35) is set	To achieve the fusing strength and prevent the paper from curling when choice of improving the fusibility strength is being used.	• During the eraser test raise the setting temperature to achieve the fusing strength. • Improve the heat supply to the paper and the toner, and prevent the paper from curling at the same time.	70%
105 g/m^2 paper mode	Plain paper+ (91-105 g/m^2) is selected	To achieve the intended level of fixability when the 105 g/m^2 paper is being used	Normally, 105 g/m^2 paper is passed through at full speed. However, when the fusing unit is not warmed up, such as first in the morning, change the productivity and achieve the intended level of fixability.	100%: Default value 90%
Index paper mode	The index paper is selected	To prevent the paper curl in high temperature and high humidity circumstance	When the detected temperature of the paper temperature sensor exceeds 28°C, lower productivity to control the temperature rise of the fusing unit.	100%: Default value 70%
Feeding paper size sensor failure detection mode (CM805 only)	The paper size was not detected due to dirt or malfunction of the feeding paper size sensor	To prevent losing durability of the fusing unit during the feeding paper size sensor failure.	Lower productivity during the outbreak of feeding paper size sensor failure (Malfunction code: P-38).	Depends on the paper type and the print mode. • Plain paper (black): 69% (CM805)

- *1: Exemplary calculation of print speed: If 36 ppm can be achieved at a print productivity of 100% on A4 plain paper, a change in print productivity to 90% results in 32.4 ppm.
- *3: For recycled paper, the print productivity will be set to 70% when "Mode 3" is selected for warm-up choice. For thin paper, the print productivity will be set to 70% regardless of the mode setting for warm-up choice.

1.13.13 Fusing unit new article detection

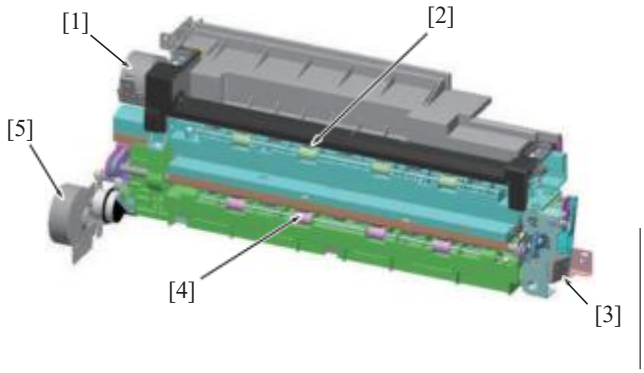
- Any new article detection mechanism is not provided to the fusing unit.

NOTE

- **Fusing For details of the unit life, refer to "E.1 Concept of maintenance."**

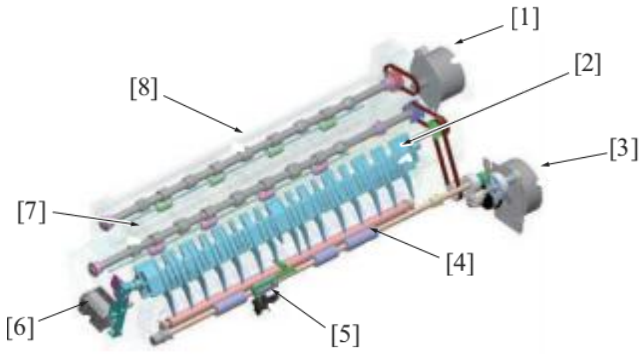
1.14 PAPER EXIT/REVERSE SECTION

1.14.1 Configuration



[1]	Paper exit/reverse motor (M4)	[2]	Reverse roller
[3]	Exit path switch solenoid (SD3)	[4]	Paper exit roller
[5]	Fusing motor (M3)	-	-

1.14.2 Drive

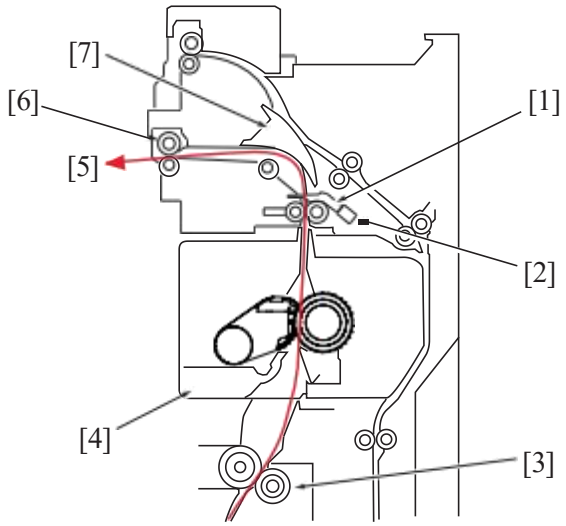


[1]	Paper exit/reverse motor (M4)	[2]	Paper exit/reverse switch gate
[3]	Fusing motor (M3)	[4]	Exit tray front roller
[5]	Paper exit sensor (PS3)	[6]	Exit path switch solenoid (SD3)
[7]	Paper exit roller	[8]	Reverse roller

1.14.3 Transport control

(1) Paper exit by paper exit roller

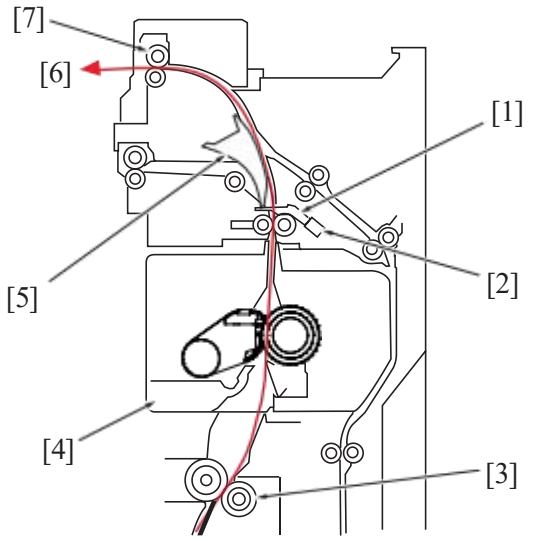
- If the paper is fed out by way of the paper exit roller, the paper exit roller is rotated forward to transport the paper.
- The initial position of the paper exit/reverse switch gate establishes a paper path through the paper exit roller, so that its position is not changed.
- The paper exit roller is driven by the fusing motor.



[1]	Actuator	[2]	Paper exit sensor (PS3)
[3]	2nd transfer roller	[4]	Fusing unit
[5]	Transported to paper exit tray or finisher	[6]	Paper exit roller
[7]	Paper exit/reverse switch gate: solenoid OFF position	-	-

(2) Paper exit by reverse roller

- The paper is fed from the reverse roller to the paper exit tray, only if Relay unit/Job separator capable of feeding paper out through the reverse roller is mounted.
- When the paper is to be fed out via the reverse roller, the switchback motor is rotated forward to thereby transport the paper.
- The exit path switch solenoid is energized in order to establish a paper path through the reverse roller by changing the position of the paper exit/reverse switch gate.
- The reverse roller is started at timing at which the leading edge of the paper enters the paper exit/reverse section.
- The reverse roller is stopped when the paper is fed a predetermined distance after the reverse roller after the paper exit sensor has detected the trailing edge of the paper.

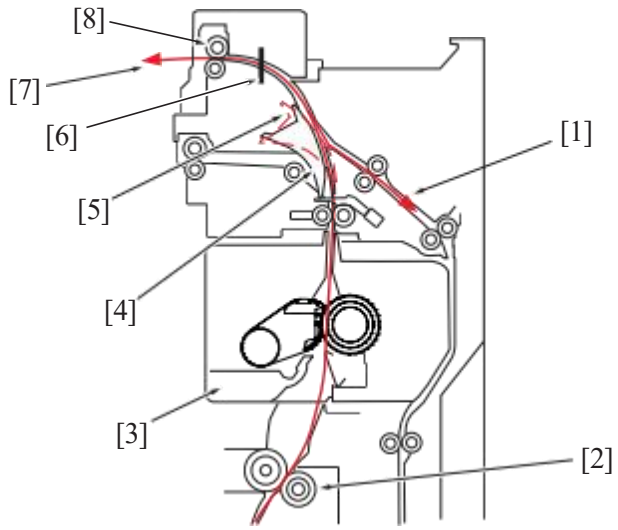


[1]	Actuator	[2]	Paper exit sensor (PS3)
[3]	2nd transfer roller	[4]	Fusing unit
[5]	Paper exit/reverse switch gate: solenoid ON position	[6]	Paper exit to paper exit tray
[7]	Reverse roller	-	-

(3) Duplex section transport

- When the paper is to be fed into the duplex section, the reverse roller is rotated forward to transport the paper to the reverse position and then rotated backward, thereby transporting the paper onto the duplex section.
- Until the paper is transported up to the reverse stop position, the exit path switch solenoid is energized to place the paper exit/reverse switch gate in a position at which the paper path through the reverse roller is established.
- When the paper reaches the reverse stop position, the paper exit/reverse switch gate returns to its original position to thereby prevent the paper from moving backward into the fusing section.
- The reverse roller is started to rotate forward at timing at which the leading edge of the paper enters the paper exit/reverse section.

- The reverse roller is stopped from forward rotation at timing at which the paper reaches the reverse stop position after the paper exit sensor has detected the trailing edge of the paper.
- The reverse roller is started to rotate backward at timing at which the preceding paper moves past a predetermined position of the duplex section.
- The reverse roller is stopped from backward rotation at timing at which the trailing edge of the paper enters the duplex section.

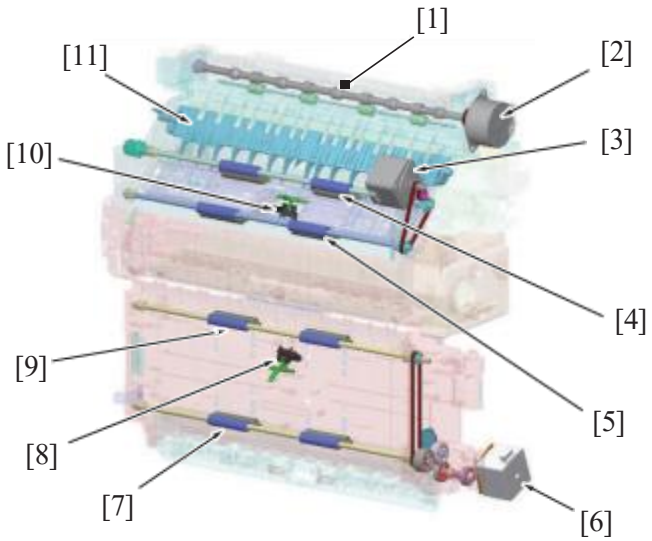


[1]	Transporting to duplex section	[2]	2nd transfer roller
[3]	Fusing unit	[4]	Paper exit/reverse switch gate: solenoid ON position
[5]	Paper exit/reverse switch gate: solenoid OFF position	[6]	Reverse stop position
[7]	Transporting to reverse stop position	[8]	Reverse roller

1.15 DUPLEX SECTION

1.15.1 Configuration

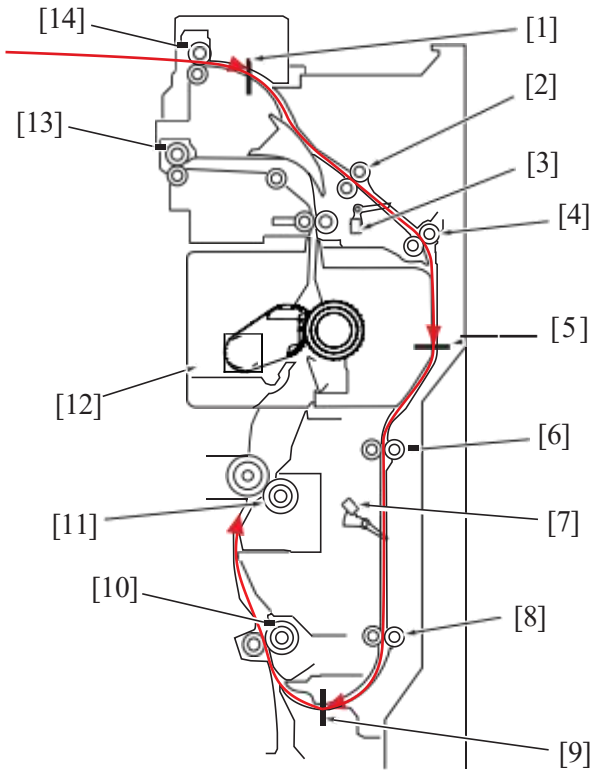
CM605/CM805



[1]	Reverse roller	[2]	Paper exit/reverse motor (M4)
[3]	ADU transport motor/1 (M5)	[4]	ADU transport roller 1
[5]	ADU transport roller 2	[6]	ADU transport motor/2 (M26)
[7]	ADU transport roller 4	[8]	ADU paper passage sensor/2 (PS41)
[9]	ADU transport roller 3	[10]	ADU paper passage sensor/1 (PS40)
[11]	Paper exit/reverse switch gate	-	-

1.15.2 Paper transport control

- In duplex transportation, the paper transported from the reverse roller is transported to the internal duplex section by the ADU transport roller 1 and ADU transport roller 2.
- In duplex pre-registration, the paper is conveyed to the registration roller at the vertical transport section by the ADU transport roller 3 and ADU transport roller 4.



[1]	Stop position 1	[2]	ADU transport roller1
[3]	ADU paper passage sensor/1 (PS40)	[4]	ADU transport roller2
[5]	Stop position 2	[6]	ADU transport roller3
[7]	ADU paper passage sensor/2 (PS41)	[8]	ADU transport roller4
[9]	Stop position 3	[10]	Registration roller
[11]	2nd transfer roller	[12]	Fusing unit
[13]	Paper exit roller	[14]	Reverse roller

(1) Transport roller control

- The ADU transport motor/1 drives the ADU transport roller 1 and ADU transport roller 2.
- The ADU transport motor/2 drives the ADU transport roller 3 and ADU transport roller 4. (CM605/CM805)
- The ADU transport roller 3 and ADU transport roller 4 are driven by controlling rotation of the transport motor with the ADU transport clutch. (Not for CM605/CM805)

(2) Paper entrance control

< CM605/CM805 >

- The reverse motor at the paper exit/reverse section is deenergized to stop transport of the paper temporarily (stop position 1). The reverse motor thereafter rotates in reverse to transport the paper into the duplex section.
- At the same time that the reverse motor is rotated backward, ADU transport roller 1 and ADU transport roller 2 start rotating.
- The ADU paper passage sensor/1 located downstream of the ADU transport roller 1 detects the leading edge of the paper transported to the duplex section.
- If a preceding sheet of paper being transported through the duplex section is yet to reach a predetermined position downstream of the registration roller, the transport of the paper is stopped temporarily (stop position 2).
- When the advanced sheet of paper moves past the specified position, the transport of the paper is resumed.
- If the ADU paper passage sensor/2 does not detect the leading edge of the paper even after the lapse of a predetermined period of time after the ADU paper passage sensor/1 has detected the leading edge of the paper, the machine determines that a paper misfeed occurs at the duplex transport part.
- When the leading edge of paper reaches the predetermined position, the ADU transport roller 3 and ADU transport roller 4 start rotating to transport the paper.
- ADU paper passage sensor/2 detects the leading edge of the paper.
- When the paper moves past ADU transport roller 4 and reaches the specified position, the transport of the paper is stopped temporarily (stop position 3).

(3) Duplex paper feed control

< CM605/CM805 >

- The ADU transport roller 3 and ADU transport roller 4 start rotating at a predetermined paper feed time to resume the transport of the paper.
- ADU transport roller 1 and ADU transport roller 2 start rotating, if they have been stationary.
- The paper is fed from ADU transport roller 4 onto the registration roller at the vertical transport part.

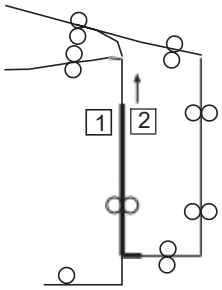
1.15.3 Duplex circulation control

- The duplex circulation control is performed differently according to the length of the paper path direction.

Length of paper in the feed direction	Duplex circulation control
458 mm or less	One-sheet circulation operation
432 mm or less	Two-sheet circulation operation
216 mm or less	Three-sheet circulation operation

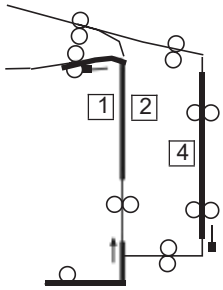
(1) One-sheet circulation operation

- After the second side is printed for each sheet, the paper is transported to the duplex pre-registration section. After the first side is printed, the paper is then discharged outside of the machine.



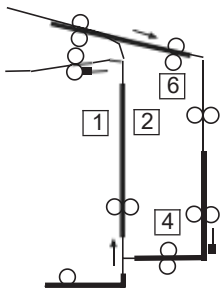
(2) Two-sheet circulation operation

- The sheet having the first side being printed and the sheet having the second side being printed are transported alternately.



(3) Three-sheet circulation operation

- The sheet having the first side being printed and the sheet having the second side being printed are transported alternately. A third sheet is stored in the machine during printing the other sheets.

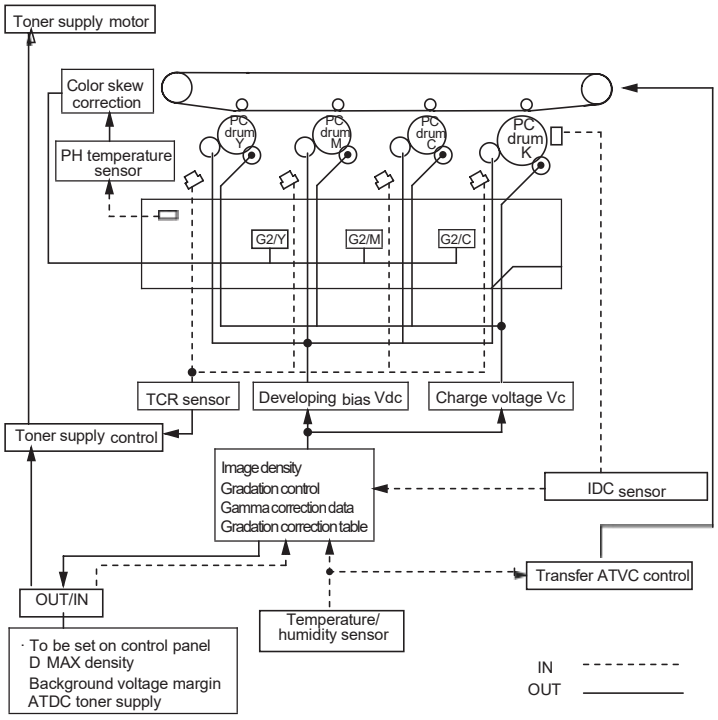


1.16 IMAGE STABILIZATION CONTROL

1.16.1 Overview

• The machine provides the following image stabilization control to ensure stabilized copy image.

Purpose	Control	Control means
To stabilize image density To stabilize gradation	IDC sensor adjustment control Max. density adjustment control LD intensity adjustment control Registration control (color shift correction) Gamma correction control	IDC sensor Temperature/humidity sensor PH temperature sensor
To stabilize toner density	TCR control (Y, M, C, K)	TCR sensor
To stabilize image transfer	Transfer output control Transfer ATVC	Temperature/humidity sensor



1.16.2 Description of control

(1) IDC sensor adjustment control

- Controls changes in characteristics due to change with time and contamination of the transfer belt and IDC sensor, part-to-part variations in the sensors, and change of environment.
- The intensity (current value) of the IDC sensor is adjusted on the surface of the transfer belt, on which no toner sticks (background level).

(2) Max. density adjustment control

- The developing bias (Vdc) is adjusted to control changes in the solid density resulting from changes in the amount of charge in toner due to variations in developing characteristics and exposure intensity, variations in sensitivity of the photoconductor, environment, and durability.
- Patterns are produced on the surface of the transfer belt and the IDC sensor detects the amount of toner sticking to them.
- Referring to the detected data and the environment data taken by the temperature/ humidity sensors, the developing bias value that results in the appropriate maximum density is calculated and stored in memory.

(3) LD intensity adjustment control

- It adjusts the variation in reproducibility of the thin line and the reverse outline, which is resulting from the variations in electrostatic characteristics of the photoconductor, developing characteristics and transfer characteristics in terms of individual difference, environment and durability, to make it the target level.
- It produces detection patterns on the surface of the transfer belt with the given level of LD intensity and detects the output value of IDC sensor.

- LD intensity is calculated from the detected IDC sensor data.

(4) Color registration control (color shift correction)

- Color shift occurs on the tandem engine including image forming units for each color, due to the variations in internal parts and mounting accuracies. The color registration control system automatically detects color shift and correct color shift in the main and sub scanning directions.
- The color shift is detected as follows. A pattern is produced at each of front and rear ends of the transfer belt. The IDC sensors at the front and rear ends read respective patterns to thereby calculate and store color shift amounts in the sub scanning and main scanning directions.
- From data readings, the machine calculateshow much the position of each of the different colors should be corrected. Based on the calculated data, the machine controls each dot during image output, thereby correcting the color shift amount.

(5) Gamma correction control

- The gamma correction value is adjusted to correct changes in gamma characteristics to a linear one. The changes in gamma characteristics are caused with variations in the photoconductor sensitivity, developing characteristics, durability, environment, and parts variations in manufacturing.
- Patterns are produced on the surface of the transfer belt and the IDC sensor detects the pattern. From that result, it calculates the gradation characteristics output by the current engine.

- An optimum gamma correction value is determined for each color by calculating gamma correction data from the detected data of each of the colors of C, M,Y, and K.

1.16.3 Control contents

(1) Image stabilization type (mode)

- Six different modes of image stabilization are available.
- A specific mode is selected according to the environmental conditions and print requirements, thereby achieving stabilized image at all times.

Stabilization type	Contents
Mode 1 (initialization and image stabilization)	Executed when “Initialize + Image Stabilization” is selected from the control panel. (Executed with all parameters set to their default values.)
Mode 1 (long image stabilization)	Executed mainly when there is a change in environmental condition and when consumables are replaced.
Mode 2 (short image stabilization)	Executed when the specified number of sheets are printed.
Mode 3 (gamma correction + color registration control)	Executed when the count of the number of printed pages during a print cycle reaches 400.
Mode 4 (color registration control)	Executed when there is a change in machine interior temperature.
Mode 5 (monochrome, long image stabilization)	Dedicated to monochrome and executed when there is a change in environmental condition.
Mode 6 (monochrome, short image stabilization)	Dedicated to monochrome and executed when the number of printed pages during a print cycle reaches 400.

(2) Control sequence by mode

- A different control sequence applies according to the mode of image stabilization.
- Control is performed in the specified sequence for each mode.

Sequence	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5 (*2)	Mode 6 (*2)
1	IDC sensor adjustment	IDC sensor detection (*1)	IDC sensor detection (*1)	IDC sensor detection (*1)	IDC sensor adjustment	IDC sensor detection (*1)
2	Dmax density adjustment	Dmax density adjustment	Color registration adjustment (simplified)	Color registration adjustment (simplified)	Dmax density adjustment	Dmax density adjustment
3	LD light intensity adjustment	Color registration adjustment (simplified)	Gamma correction (simplified)	-	LD light intensity adjustment	Gamma correction
4	Color registration adjustment	Gamma correction (simplified)	-	-	Dmax density adjustment	-
5	Dmax density adjustment	-	-	-	Gamma correction	-
6	Gamma correction (simplified)	-	-	-	-	-

- *1: The IDC sensor uses the output value calculated in the last IDC registration sensor adjustment and check that the value measured on the surface of the transfer belt (background level) is within the specified range. If the measured value is out of the specified range, mode 1 is used when the next image stabilization is carried out.
- *2: Monochrome-only mode

1.16.4 Operation timing

(1) Predrive operation

- The following describe the stabilization operations executed when, for example, the main power switch is turned ON, the sleep mode is canceled, the front door is closed, or a malfunction is reset.

Mode	Operation condition	Stabilization mode setting
Mode 1	• A new drum unit or a new developing unit is detected. • A new transfer belt is detected. • The machine recovers from a toner empty condition. • While a malfunction code is being displayed.	• Not specified
	• In the last image stabilization, the value of IDC sensor detection was out of the specified range. • A change in environment is detected. (a change in environment exceeding the threshold value is detected since the last image stabilization sequence) • The count of the number of printed pages is 10,000 as counted from the last LD adjustment. • After skew adjustment reset (service mode).	• Standard or Color priority selection
Mode 2	• A Dmax adjustment request is received as a result of the last gamma correction. • The count of the number of printed pages after the gamma adjustment is 400 or more.	• Standard or Color priority selection

Mode	Operation condition	Stabilization mode setting
	• Information is provided indicating that the last stabilization control was discontinued. • There is a change in temperature after the lapse of a predetermined period of time after a developing drive stop.	
	• The stabilization is executed when the main power switch is turned ON even without the operating condition	• Only Color priority selection
Mode 4	• There is a change of a predetermined value or more in temperature after the color registration adjustment (when exiting from the sleep mode).	• Only Color priority selection
Mode 5	• In the last image stabilization, the value of IDC sensor detection was out of the specified range. • A change in environment is detected. (a change in environment exceeding the threshold value is detected since the last image stabilization sequence) • The count of the number of printed pages is 10,000 as counted from the last LD adjustment. • A predetermined period of time or more elapses after a developing drive stop.	• Only Black priority selection
Mode 6	• A Dmax adjustment request is received as a result of the last gamma correction. • The count of the number of printed pages after the gamma adjustment is 400 or more. • Information is provided indicating that the last stabilization control was discontinued.	• Only Black priority selection

(a) Stabilization mode setting

- Optimum image stabilization control can be selected using the administrator mode or service mode according to user's use condition.
- Three options available are the standard, color priority, and black priority modes.
- Mode of image stabilization setting is provided to maintain image quality and achieve the following purposes.
  1. To reduce frequency at which the stabilization control is performed in order to reduce cost per print for users who have a low print volume and low color ratio
  2. To shorten time between when the machine is turned ON and when it is ready for printing
  3. To maintain convenience for users having a high color frequency

Mode	Control
Standard	• Color stabilization is executed if image adjustments are necessary for color print or black print during predrive.
Color priority	• Stabilization is executed unconditionally when the main power switch is turned ON. • Color stabilization is executed if image adjustments are necessary for color print or black print during predrive.
Black priority	• Black stabilization is executed if image adjustments are necessary for black print during predrive. • Color stabilization is executed before color print if image adjustments are necessary for color print.

(2) During a print cycle

- When the stabilization execution condition is met during printing, a specific image stabilization mode according to the condition is selected and executed.

(a) During a color print cycle

	Operation condition	Stabilization	Operation

Stabilization execution condition (*1)	Print count after Dmax adjustment	Print count after gamma correction	Stabilization execution condition (*2)	Change of a predetermine dvalue or more in temperature after last stabilization (*3)	The number of pages yet to be printed of the current print job	Print count after last stabilization (*4)	(mode)	timing during print
Any of the conditions is met	-	-	-	Available	A predetermine dnumber of pages or more	-	Mode 1 is executed	Executed by interrupting the print cycle
					Less than a predetermine dnumber of pages			Executed after a print cycle
				-	-	1000 sheets or more		Executed by interrupting the print cycle
					-	800 sheets or more		Executed between print sets

	Operation condition						Stabilization (mode)	Operation timing during print
Stabilization execution condition (*1)	Print count after Dmax adjustment	Print count after gamma correction	Stabilization execution condition (*2)	Change of a predetermine dvalue or more in temperature after last stabilization (*3)	The number of pages yet to be printed of the current print job	Print count after last stabilization (*4)		
					-	400 sheets or more		Executed after a print cycle
None of the conditions is met	800 sheets or more		Any of the conditions is met	Available	A predetermine dnumber of pages or more	-		Executed by interrupting the print cycle
					Less than a predetermine dnumber of pages			Executed after a print cycle
				-	-	1000 sheets or more		Executed by interrupting the print cycle
					-	800 sheets or more		Executed between print sets
					-	400 sheets or more		Executed after a print cycle
			None of the conditions is met	Available	A predetermine dnumber of pages or more	-	Mode 2 is executed	Executed by interrupting the print cycle
					Less than a predetermine dnumber of pages			Executed after a print cycle
				-	-	1000 sheets or more		Executed by interrupting the print cycle
					-	800 sheets or more		Executed between print sets
					-	400 sheets or more		Executed after a print cycle

	800 sheets or less	400 sheets or more	Any of the conditions is met	Available	A predetermined number of pages or more	-	Mode 1 is executed	Executed by interrupting the print cycle
					Less than a predetermined number of pages			Executed after a print cycle
				-	-	1000 sheets or more		Executed by interrupting the print cycle
					-	800 sheets or more		Executed between print sets
					-	400 sheets or more		Executed after a print cycle
			None of the conditions is met	Available	A predetermined number of pages or more	-	Mode 3 is executed	Executed by interrupting the print cycle
					Less than a predetermined number of pages			Executed after a print cycle

	Operation condition						Stabilization (mode)	Operation timing during print
Stabilization execution condition (*1)	Print count after Dmax adjustment	Print count after gamma correction	Stabilization execution condition (*2)	Change of a predetermined value or more in temperature after last stabilization (*3)	The number of pages yet to be printed of the current print job	Print count after last stabilization (*4)		
				-	-	1000 sheets or more		Executed by interrupting the print cycle
					-	800 sheets or more		Executed between print sets
					-	400 sheets or more		Executed after a print cycle
		400 sheets or less	-	Available	A predetermined number of pages or more	-	Mode 4 is executed	Executed by interrupting the print cycle
					Less than a predetermined number of pages			Executed after a print cycle

- *1: Stabilization execution condition:
  - A change in environment is detected. (a change in environment exceeding the threshold value is detected since the last image stabilization sequence)
  - The count of the number of printed pages is 10,000 as counted from the last LD adjustment.
- *2: Stabilization execution condition:
  - In the last image stabilization, the value of IDC sensor detection was out of the specified range.
  - The last warning code is displayed.
- *3: Detected by both the PH temperature sensor and temperature/humidity sensor
- *4: Counting method of printed pages

Paper length	Count	
	Color mode	Monochrome mode
216 mm or less	2	1
More than 216 mm	4	2

(b) During a monochrome print cycle

Stabilization execution condition (*1)	Print count after gamma correction	Stabilization execution condition (*2)	Stabilization (mode)	Operation timing during print

Any of the conditions is met	-	-	Mode 5	Executed by interrupting the print cycle
None of the conditions is met	400 sheets or more	Any of the conditions is met	Mode 5	Executed by interrupting the print cycle
		None of the conditions is met	Mode 6	Executed by interrupting the print cycle

- *1: Stabilization execution condition:
  - A change in environment is detected. (a change in environment exceeding the threshold value is detected since the last image stabilization sequence)
  - The count of the number of printed pages is 10,000 as counted from the last LD adjustment.
- *2: Stabilization execution condition:
  - In the last image stabilization, the value of IDC sensor detection was out of the specified range.
  - The last warning code is displayed.

(3) Service Mode

- Types (modes) of image stabilization to be executed with the menu of the service mode will be described.

Menu of service mode	Type (mode) of image stabilization to be executed	
Stabilizer ([Service Mode] -> [Imaging Process Adjustment] -> [Stabilizer])	Initialize+Image Stabilization	Mode 1
	Stabilization Only	Mode 2

(4) Expert Adjustment

- Types (modes) of image stabilization to be executed with the menu of the expert mode will be described.

Menu of expert mode	Type (mode) of image stabilization to be executed	
Image Stabilization ([Utility] -> [Expert Adjustment] -> [Image Stabilization])	Initialize+Image Stabilization	Mode 1
	Stabilization Only	Mode 2

1.16.5 Image stabilization control during SRA3 size printing

- This control is enabled when the Engine FW DIPSW No.19 is set.
- In the following cases, the image stabilization control is executed according to each paper size before printing. When the paper size is changed from the SRA3 size to other size or from other size to the SRA3 size.

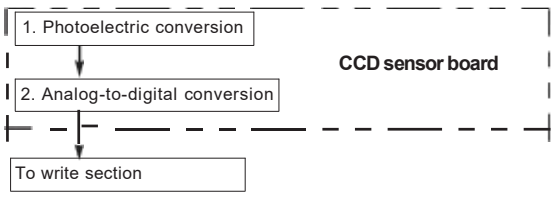
Paper size		Image stabilization control executed	
Before change	After change	Normal	Monochrome-dedicated mode
SRA3 size	Except for the SRA3 size	Long image stabilization	Monochrome long image stabilization
Except for the SRA3 size	SRA3 size	SRA3 long image stabilization before printing *1	SRA3 monochrome long image stabilization before printing *2

*1: The control contents of the SRA3 long image stabilization before printing are the same as long image stabilization.
*2: The control contents of the SRA3 monochrome long image stabilization before printing are the same as monochrome long image stabilization.

1.17 IMAGE PROCESSING

1.17.1 Scanner section image processing block diagram

(1) Processing flow



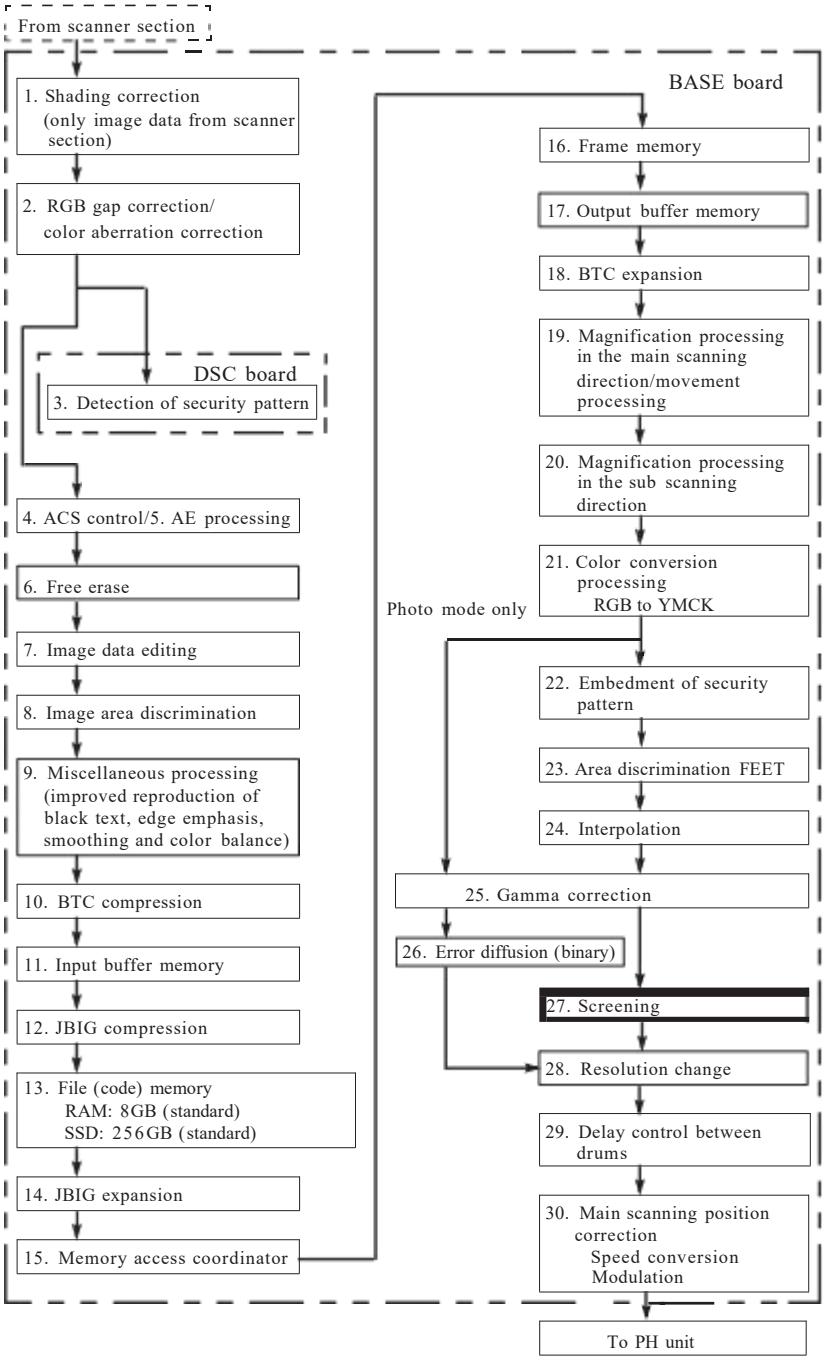
(2) Detail

The following detail the image processing operations performed by the scanner section.

1. A reduction type CCD sensor is used to read the light reflected off the original and convert the optical data to a corresponding electric signal. To make data processing faster, data transfer and output are done through two channels, one for even-numbered pixels and the other for odd-numbered pixels.
2. The odd and even analog signals output from the CCD sensor chips are synthesized to form a single string of signal data which is in turn converted to 10-bit digital signals (1024 gradation levels).
3. The image data is transmitted to baseboard on the write section through the interface cable.

1.17.2 Write section image processing block diagram

(1) Processing flow



(2) Detail

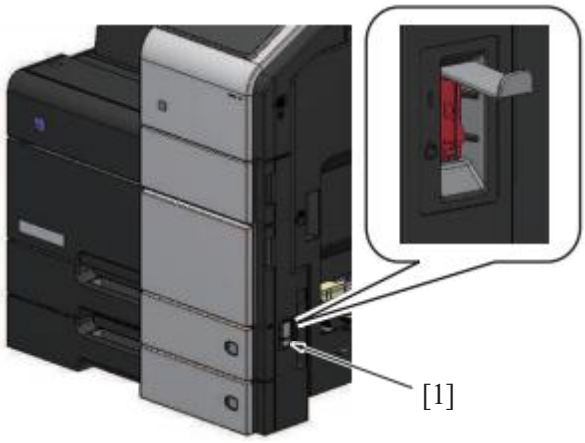
The following detail the image processing operations performed by baseboard on the Write section.

1. Correct variations in reading caused by pixel-to-pixel variations in sensitivity of the CCD sensor and uneven light distribution by the exposure LED. A peak-hold-type shading correction is performed, in which the maximum value of two or more readings of two or more lines is taken to prevent effect due to dust or dirt on the shading sheet. (only image data from scanner section)
2. To correct differences in the position of each chip of CCD sensors R, G, and B, FIFO memory is adopted to match the output timing. Also correct color aberration of the lens.
3. The security pattern created during printing on this machine is detected and copying is enabled or disabled through a password. (when the security kit SC-509 is mounted)
4. The scanning area is divided into multiple blocks. The ratio of color or monochrome is calculated for each of these blocks. The machine then determines whether the entire original is colored or monochrome.
5. A histogram of lightness for AE processing is generated. The AE level of the document is determined based on this histogram and AE processing is performed.
6. If outer document elimination is selected from the control panel, document area determination processing is performed for each line within the document area data acquired during prescan. Then, the START and END positions of the document area in the main scanning direction are detected and the area outside the START and END positions is erased as the outside-the-document area.
7. R, G, and B data are then converted to value and color component data for adjustments of saturation, lightness, and hue.
8. Each image area, whether it is a color edge area, black edge area, dot area, or a continuous gradation area, is discriminated.
9. Other types of processing performed are the improved reproduction of black text, edge emphasis, smoothing and color balance.
10. Each image data of R, G, and B is compressed to reduce the consumption of data capacity.

11. Temporarily stores the BTC-compressed image data.
12. The stored image data is compressed in the JBIG (Joint bi-level image experts group) format.
13. Each image data of R, G, and B in the copy, print, scan, and fax mode is stored. In PS printing, multi-valued data of Y, M, C, and K is stored.
14. The image data read from the file memory is uncompressed through a method in a reverse way of JBIG compression. At this time, image rotating or sorting processing is conducted.
15. JBIG image data are expanded in the frame memory.
16. Each image data of R, G, and B is stored in frame memory.
17. Temporarily stores the image data output from the frame memory.
18. The image data is expanded through a method opposite to that used in the BTC compression.
19. FIFO memory is used to enlarge or reduce images in the main scanning direction. The image is enlarged by increasing the number of data readings and reduced by decreasing the number of data readings.
20. Reduction processing is conducted in sub scanning direction. No processing is done at same size or zoom, but at reduction, the lines are thinned out.
21. The R, G, and B data is converted to theY, M, C, and K density data. Also, the masking processing, which compensates for the deviation in the spectral reflection characteristics of the toner, and UCR/BP processing are performed on the image data.
22. The security pattern is embedded in the image data. Either enabling copying through a password or unconditionally prohibiting copying can be selected from the control panel for the security pattern to be embedded. (when the security kit SC-509 is mounted)
23. Edge of letter and lineal drawing gets area discrimination and FEET processing is conducted according to the discrimination result.
24. When FEET processing is conducted, interpolation is done so that no influence is given to continuous gradation portion.
25. Makes the necessary corrections so that the printed gradations have linear characteristics, since the image density of the input image data is not directly proportional to that of the printed image because of the changing developing and photoconductor characteristics.
26. In photo mode during copying and PC print, the image is processed as multi-valued data (8-bit data). In any mode other than photo, the error diffusion method is employed to process the image as binary (1-bit) data.
27. Creates the density distribution of a predetermined pattern to enable outstanding gradation reproduction.
28. For 1200 dpi writing, the 600 dpi image data is converted to corresponding 1200 dpi image data.
29. Image data of the file memory is developed to the frame memory and output delay control for the interval of photoconductors,Y, M, C, K is conducted.
30. Correct the shear in printing start position in the main scanning direction, which occurs when each PH unit of Y, M, C, K is exposed on the photoconductor. Adjust the processing speed in the board (main scanning) to conform to the input processing speed.

1.18 POWER SUPPLY SECTION

1.18.1 Main power switch



[1]	Main power switch	- -

NOTE

- **To turn OFF and ON the main power switch, first turn OFF the main power switch and wait for 10 sec. or more before turning it ON again. If a setting value or values in the service mode are changed, it takes 10 sec. or more to incorporate the setting changes properly in the machine.**

(1) Power supply

WARNING

When the power cord is unplugged after turning OFF the main power switch, partial power switches will remain powered for monitoring the operation of the main power switch.
Therefore, at the time of disassembly and reassembly, be sure to turn OFF the main power switch and unplug the power cord from the power outlet. Turn OFF the main power switch and unplug the power cord from the power outlet.

When replacing a unit or board with the power cord being connected to the power outlet, a risk of electric shock or damaging the unit or board exists.

- When the main power switch is turned OFF but the power cord is still connected to the power outlet, only the following power switches are powered.

5.1V	• Base board • DC power supply unit • Dehumidifier drive board • Paper feed cabinet • Large Capacity Unit

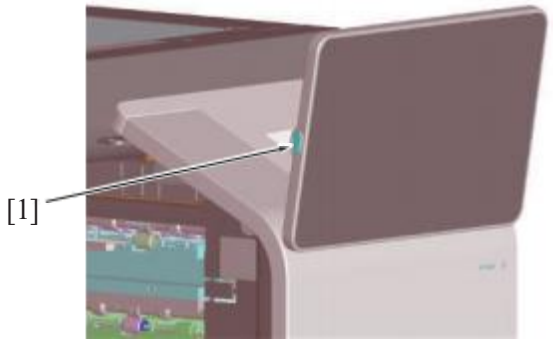
(2) Quick start up function

- This function shortens the start up time (*).
- A “Quick start up data” is generated, the CPU operating power is powered between a certain time after the main power switch is turned OFF to maintain the On Board Memory in the storage board.
- After the “Quick start up data” has been saved, the CPU operating power turns OFF. However, partial power switches will remain powered for monitoring the operation of the main power switch.
- At next time, the saved “Quick start up data” will be used to start up the machine.

NOTE

- ***: Start up time indicates "Panel accessible time", "BOX screen accessible time" and "Network accessible time".**
- **After the main power switch is turned OFF, turn on the main power switch before the "Quick start up data" is saved to start up the machine at normal speed.**
- **Also, when the power cord is unplugged before the "Quick start up data" is saved after the main power switch is turned OFF, the machine will start up at normal speed.**

1.18.2 Power key



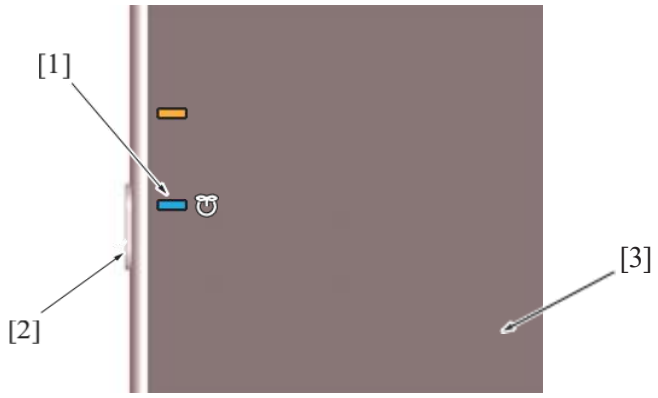
[1]	Power key	-	-

(1) Power key functions

- The power key offers two functions, serving as the power save button and the sub-power switch found in conventional models, depending on how long it is held down.
- In the default setting,holding down the power key for a short time sets the machine into the power save mode (low power mode) and holding it down for a long time sets the machine into the sub power OFF mode.
- The mode can be changed from the following: [Administrator] -> [Maintenance] -> [Timer Setting] -> [Power Settings].

How long the power key is held down	Default setting	Settings changed by Administrator Settings
Short time	Low power mode (*2)	Sleep mode (*2)
		Sub power OFF mode (*1)
Longtime	Sub power OFF mode	ErP auto power off mode (*1)

(2) Status in each mode



[1]	Power key LED	[2]	Power key
[3]	Control panel	-	-

Mode		State	Power key LED
Standby		All functions are ready to accept and ready to perform jobs.	Lit up blue
Power save mode	Low power mode	• Power consumption is limited to a level lower than the standby state with the fusing temperature control minimized. • Reset when a job is received or the machine is operated.	Blinking in blue
	Sleep mode (*2) (Not reduce)	• Power consumption is reduced in low power mode. • Sensors that are used internally are operating.	Blinking in blue
	Sleep mode (*2) (Reduce)	• Power is supplied only to a portion of the baseboard required for receiving a job. • When an original is placed on the scanner, a job is received, or the machine is operated, the system wakes up.	

Mode	State	Power key LED

	Sleep mode (High)	• Power is supplied only to a portion of the baseboard required for receiving a job. • Reset when a job is received or the machine is operated.	
Sub power OFF mode	Sleep mode (Not reduce)	• Power consumption is reduced in low power mode. • Sensors that are used internally are operating. • Wake-up time is shorter than when “Enabled or High” is selected. • The system wakes up when the sub power is turned on.	Lit up orange
	Sleep mode (Reduce)	• Power is supplied only to a portion of the baseboard required for receiving a job. • A job can be received, but printing is performed when power is turned ON. • Wake-up time is longer than when “Disabled” is selected.	
	Sleep mode (High)	• Power is supplied only to the baseboard. • A job can be received, but printing is performed when power is turned ON. • Wake-up time is longer than when “Disabled” is selected. • Power is reduced when “Enabled” is selected.	
ErP auto power off mode		• Power consumption to the lowest level. • Reset only by the power key or the weekly timer setting. • No jobs can be received. (*1) • The system can also wake up when this machine is equipped with the optional wireless LAN kit.	Blinking in orange

• *1: In ErP auto power OFF mode, this machine cannot receivedata or faxes, and also it cannot scan or print an original.

(3) Power supply

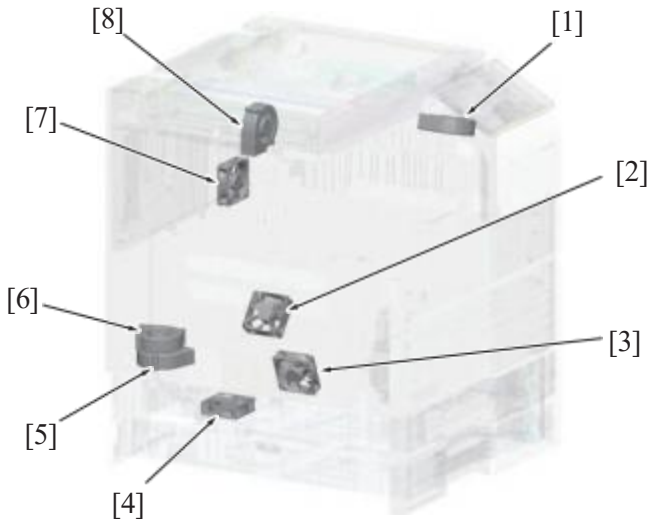
Power is supplied only to the following portions in the sleep mode and the sub power OFF mode.

5.1V	• MFP controller • FAX CPU • Main body storage • USB hub board • Wireless LAN board • Memory board
	• Angle sensor • Original cover sensor • Control panel

1.19 FAN CONTROL

1.19.1 Configuration

CM605



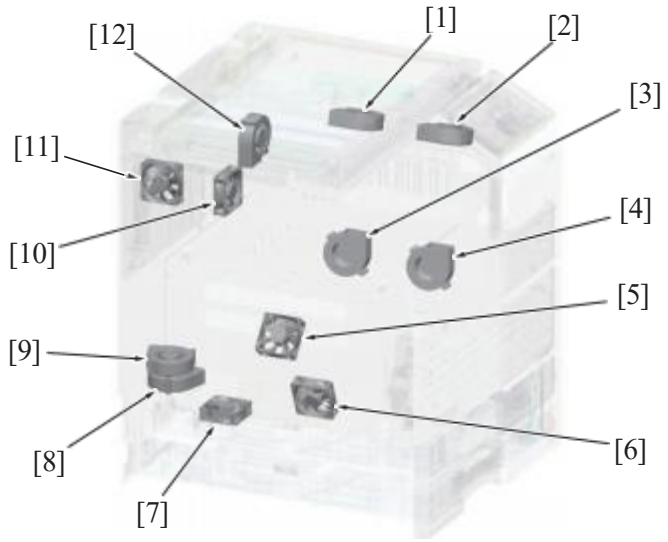
[1]	UFP scavenging fan/Fr (FM17) *2	[2]	Transfer belt cleaner cooling fan (FM2)

[3]	PH/power supply cooling fan (FM1)	[4]	Rear side cooling fan (FM3)
[5]	DV cooling fan (FM19)	[6]	Toner suction fan (FM11) *1, *2
[7]	Toner cartridge cooling fan (FM4) *2	[8]	Paper cooling fan (FM8)

*1: This part may not be available depending on the production timing. (North America of CM605 only)

*2: CM605

CM805



[1]	UFP scavenging fan/Rr (FM18)	[2]	UFP scavenging fan/Fr (FM17)
[3]	Fusing edge cooling fan/Rr (FM22)	[4]	Fusing edge cooling fan/Fr (FM21)
[5]	Transfer belt cleaner cooling fan (FM2)	[6]	PH/power supply cooling fan (FM1)
[7]	Rear side cooling fan (FM3)	[8]	DV cooling fan (FM19)
[9]	Toner suction fan (FM11)	[10]	Toner cartridge cooling fan (FM4)
[11]	HaCS power supply cooling fan (FM5)	[12]	Paper cooling fan (FM8)

1.19.2 Control

CM605

Motor name	Control conditions (outline)	Control
PH/power supply cooling fan (FM1)	In standby (*1)	Stop
	During warm-up	Stop (*4)
	Printing	Stop (*4)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Stop (*4)
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Transfer belt cleaner cooling fan (FM2)	In standby (*1)	Stop
	During warm-up	Stop
	Printing	Half or full speed (*3)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Half or full speed (*3)
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Rear side cooling fan (FM3)	In standby	30% air flow relative to that of full speed
	During warm-up	30% air flow relative to that of full speed
	Printing	Full speed
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed

Motor name	Control conditions (outline)	Control
	At paper-jam, in trouble	30% air flow relative to that of full speed
	In low-power	30% air flow relative to that of full speed
	Sleep mode	Stop
Toner cartridge cooling fan (FM4) (*7)	In standby (*1)	Stop

	During warm-up	Stop (*4)
	Printing	Stop (*4)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Stop (*4)
	At paper-jam, in trouble	Stop (*4)
	In low-power	Stop (*4)
	Sleep mode	Stop
Paper cooling fan (FM8)	In standby (*1)	Stop
	At warm-up	Stop (*5)
	Printing	Half speed (*3)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Stop (*5)
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Toner suction fan (FM11) (*6, *7)	In standby	Stop
	During warm-up	Stop
	Printing	Full speed
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
UFP scavenging fan/Fr (FM17) (*7)	In standby (*1)	Stop
	During warm-up	Stop (*3)(*4)(*5)
	Printing	Stop (*3)(*4)(*5)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Stop (*3)(*4)(*5)
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
DV cooling fan (FM19)	In standby (*1)	Stop
	During warm-up	Stop
	Printing	Half or Stop (*8)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Half or Stop (*8)
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop

- *1: If the machine enters the “In standby” state, the fan motor turns for predetermined time before stopping.
- *2: Some operations selected in the service mode (Paper path check etc.)
- *3: Half speed when the temperature in the machine is below 35°C, and full speed when the temperature is above 35°C.
- *4: Full speed when the operating rate exceeds 25%.
- *5: Full speed when an optional clean unit is installed.
- *6: This part may not be available depending on the production timing. (North America of CM605 only)
- *7: CM605
- *8: Half speed (CM605) or Stop (Not for CM605/CM805) when the temperature in the machine is below 35°C.

CM805

Motor name	Control conditions (outline)	Control
PH/power supply cooling fan (FM1)	In standby (*1)	Stop
	During warm-up	Full speed
	Printing	Full speed

Motor name	Control conditions (outline)	Control
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Transfer belt cleaner cooling fan (FM2)	In standby (*1)	Stop

	During warm-up	Stop
	Printing	Half or full speed (*3)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Half or full speed (*3)
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Rear side cooling fan (FM3)	In standby	30% air flow relative to that of full speed
	During warm-up	30% air flow relative to that of full speed
	Printing	Full speed
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	30% air flow relative to that of full speed
	In low-power	30% air flow relative to that of full speed
	Sleep mode	Stop
Toner cartridge cooling fan (FM4)	In standby (*1)	Stop
	During warm-up	Stop (*4)
	Printing	Full speed
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	Stop (*4)
	In low-power	Stop (*4)
	Sleep mode	Stop
HaCS power supply cooling fan (FM5)	In standby (*1)	Stop
	During warm-up	Full speed
	Printing	Full speed
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Paper cooling fan (FM8)	In standby (*1)	Stop
	At warm-up	Full speed
	Printing	Half speed (*5)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Toner suction fan (FM11)	In standby	Stop
	During warm-up	Stop
	Printing	Full speed
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
UFP scavenging fan/Fr (FM17) UFP scavenging fan/Rr (FM18) (*6)	In standby (*1)	Stop
	During warm-up	Full speed

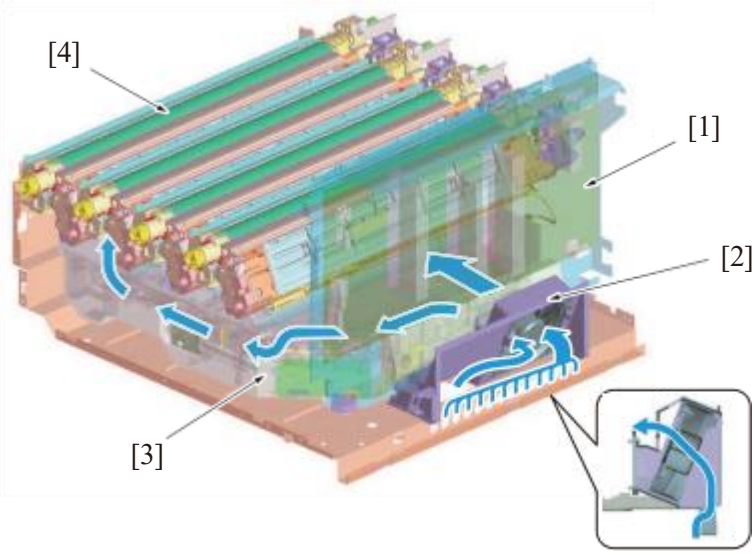
Motor name	Control conditions (outline)	Control
	Printing	Half speed (*5)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Full speed
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop

DV cooling fan (FM19)	In standby (*1)	Stop
	During warm-up	Stop
	Printing	Half or Stop (*6)
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Half or Stop (*6)
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop
Fusing edge cooling fan/Fr (FM21) Fusing edge cooling fan/Rr (FM22)	In standby	Stop
	During warm-up	Stop
	Printing	Half or full speed
	At initial operation, image stabilization, transfer cleaning, drive function (*2)	Stop
	At paper-jam, in trouble	Stop
	In low-power	Stop
	Sleep mode	Stop

- *1: If the machine enters the “In standby” state, the fan motor turns for predetermined time before stopping.
- *2: Some operations selected in the service mode (Paper path check etc.)
- *3: Half speed when the temperature in the machine is below 35°C, and full speed when the temperature is above 35°C.
- *4: Full speed when the operating rate exceeds 25%.
- *5: Full speed when an optional clean unit is installed.
- *6: Half speed (CM805) or Stop (Not for CM605/CM805) when the temperature in the machine is below 35°C.

1.19.3 PH/power supply cooling fan

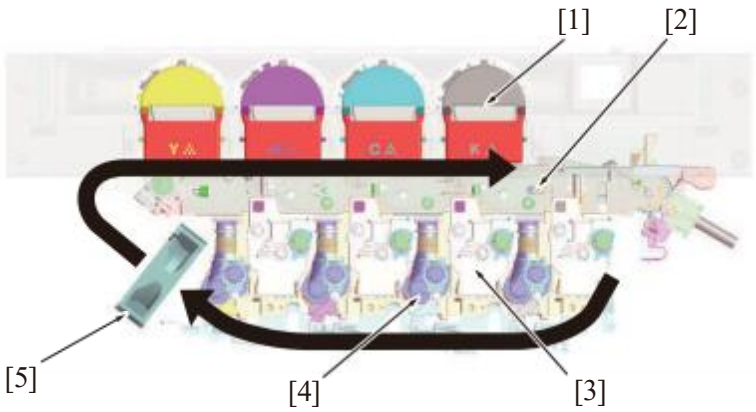
- Draws outside air into the inside of the machine to prevent the temperature around the DC power supply, PH unit section, developing/drum unit.
- Air is drawn from around the edges of the first paper cassette and sent to each unit viaducts.



[1]	DC power supply section	[2]	PH/power supply cooling fan (FM1)
[3]	PH unit	[4]	Developing/drum unit

1.19.4 Transfer belt cleaner cooling fan

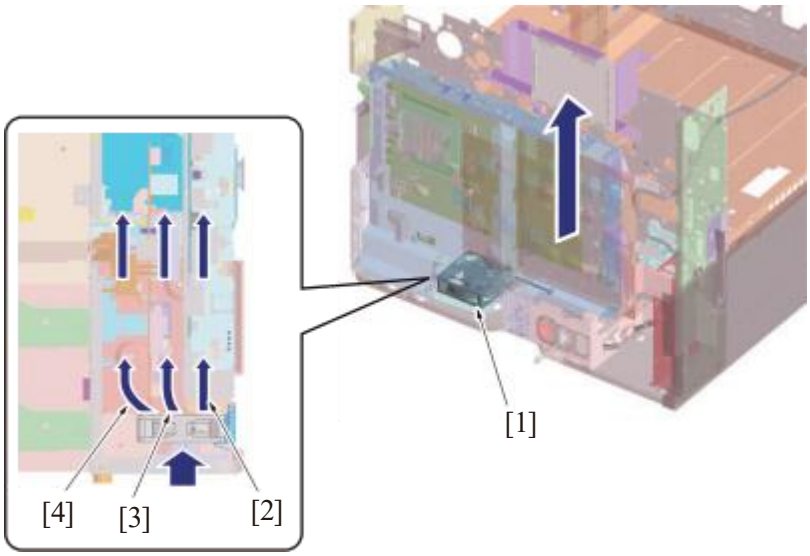
- The transfer belt cleaner cooling fan is provided to circulate air through the inside of the machine, so that the areas around the developing unit, drum unit, toner hopper, and the transfer belt unit can be cooled.
- Air around the developing unit and drum unit is drawn in.
- The air drawn in flows between the toner cartridge and the transfer belt unit and is blown against the toner cartridge/K.



[1]	Toner cartridge/K	[2]	Transfer belt unit
[3]	Drum unit	[4]	Developing unit
[5]	Transfer belt cleaner cooling fan (FM2)	-	-

1.19.5 Rear side cooling fan

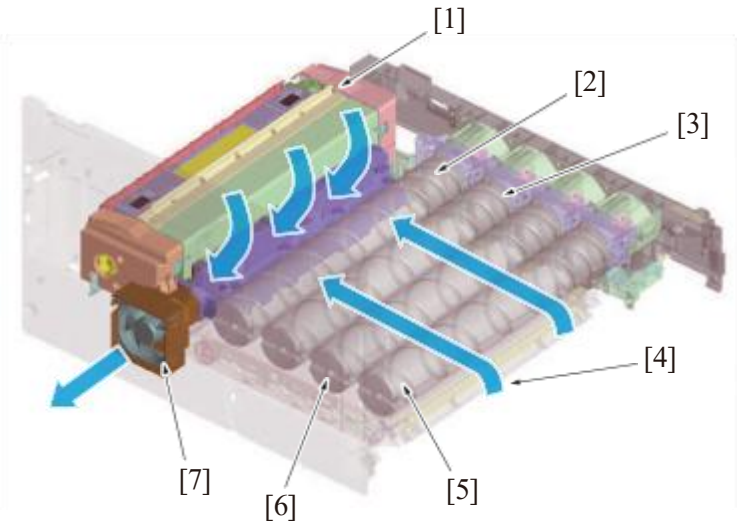
- The machine draws outside air from the bottom rear side. The air is blown inside the machine to cool the baseboard, high voltage unit and drive unit to prevent the surrounding temperature from rising.



[1]	Machine rear side cooling fan (FM3)	[2]	Air to the baseboard
[3]	Air to the high voltage unit	[4]	Air to drive unit section

1.19.6 Toner cartridge cooling fan (CM605/CM805)

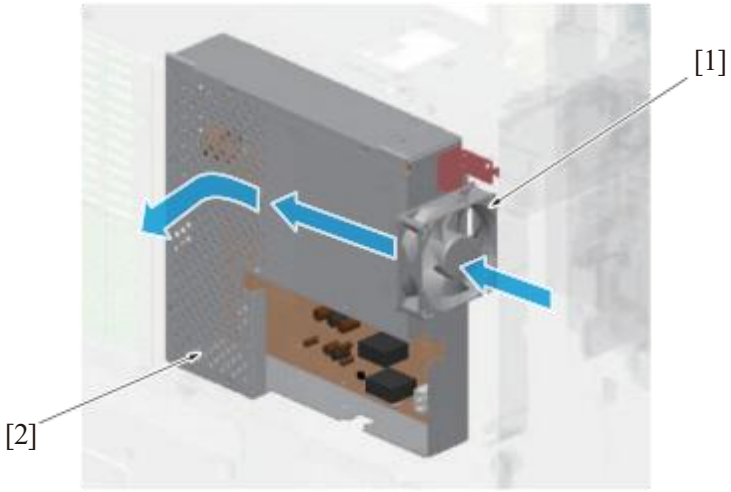
- The machine is equipped with a toner cartridge cooling fan to equipped cooling to the toner cartridge area and the fusing section.
- The air from the transfer belt cleaner cooling fan is drawn into the toner cartridge area and cooled.
- Creation of air flow between the fusing unit and toner cartridge may make the heat generates from the fusing unit hardly reach the toner cartridge area. This structure limits the increase in temperature of the toner cartridge area.
- The toner cartridge cooling fan sucks the air and sends it to the back of the main body through the duct. Then, the air is discharged out of the machine via the filter.



[1]	Fusing unit	[2]	Toner cartridge/K
[3]	Toner cartridge/C	[4]	Air from transfer belt cleaner cooling fan
[5]	Toner cartridge/Y	[6]	Toner cartridge/M
[7]	Toner cartridge cooling fan (FM4)	-	-

1.19.7 HaCS power supply cooling fan

- The HaCS power supply cooling fan cools the HaCS power supply.
- The HaCS power supply cooling fan in the power supply box draws the air from the sides of the main body. It blows this air to cool the power supply boards.

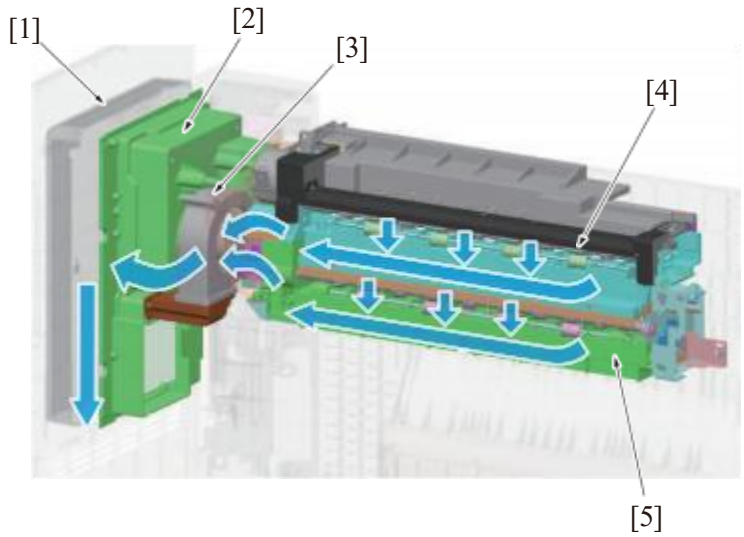


[1]	HaCS power supply cooling fan (FM5)	[2]	Power supply box

1.19.8 Paper cooling fan

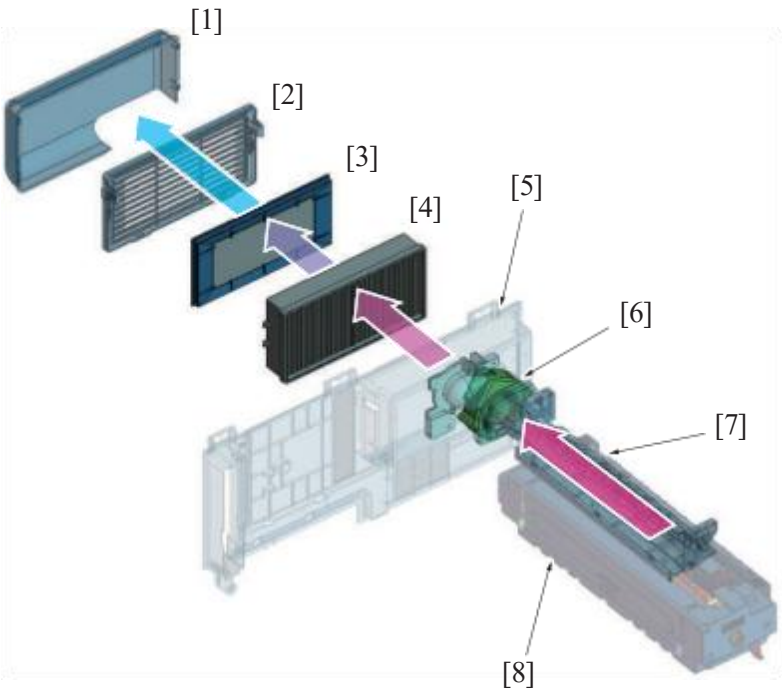
- The paper cooling fan cools the paper after fusing and the paper exit/reverse section.
- The paper cooling fan sucks the warm air from the area of the paper exit/reverse section and discharges it out of the machine via the filter.
- The air is discharged externally from the main body rear side and is exhausted downward from the duct cover.

CM605/CM805



[1]	Duct cover	[2]	Deodorant filter/UFP filter (*)
[3]	Paper cooling fan (FM8)	[4]	Paper reverse section
[5]	Paper exit section	-	-

- *: The deodorant filter is provided as standard equipment for all destinations.
- ***: The UFP filter is provided as standard equipment to European models, and CM805 (serial No. AA7P00700001/AA7N00700001 or later).**



[1]	Duct cover	[2]	Filter cover
[3]	Deodorant filter	[4]	UFP filter
[5]	Upper rear cover	[6]	Paper cooling fan (FM8)
[7]	Paper exit/reverse section	[8]	Fusing unit

(1) UFP removal function

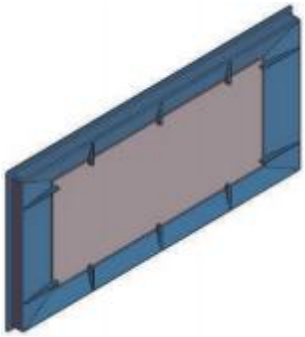
- The UFP filter removes UFPs in the air.

NOTE

- **The UFP filter does not require a periodic replacement.**
- **A higher air cleaning performance can be achieved through installing optional clean unit CU-102.**

(2) Deodorization function

- The deodorant filter removes odors in the air.



NOTE

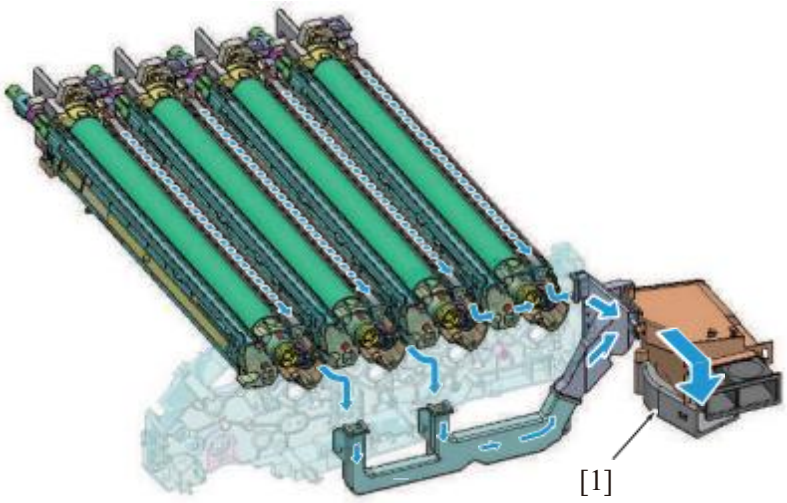
- **The deodorant filter does not require a periodical replacement.**

1.19.9 Toner suction fan

NOTE

- **This mechanism may not be available depending on the production timing. (North America of CM605 only)**

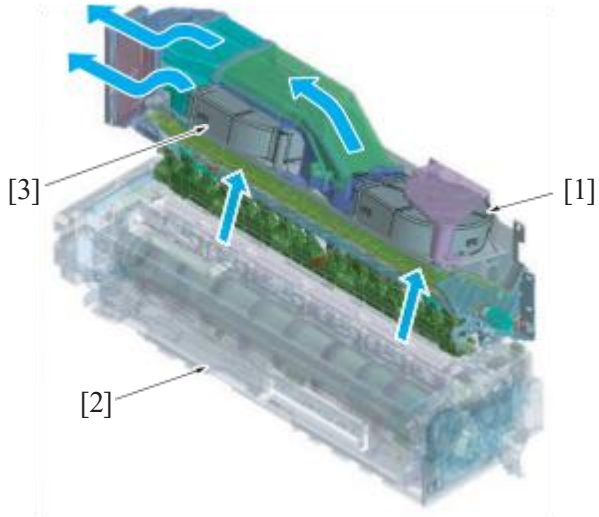
- The toner suction fan draws the toner dust from the ends of the developer unit to prevent the contamination of the main body.
- The air that is sucked through the duct is discharged out of the machine through the toner filter.



[1]	Toner suction fan (FM11)	-	-

1.19.10 UFP scavenging fan (CM605/CM805)

- The external air is sucked from the paper reverse section. Thus the hot air around the fusing section and the reverse section is discharged out of the machine.
- CM805 is equipped with two UFP scavenging fans.
- The UFP scavenging fan sucks the air and sends it to the rear side of the main body through the duct. Then the air is discharged out of the machine via the filter.

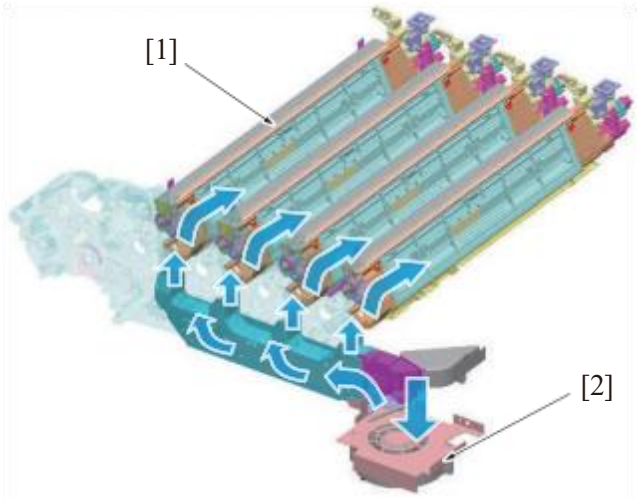


[1]	UFP scavenging fan/Fr (FM17)	[2]	Fusing unit
[3]	UFP scavenging fan/Rr (FM18) (*)	-	-

- *: Equipped in CM805 only

1.19.11 DV cooling fan

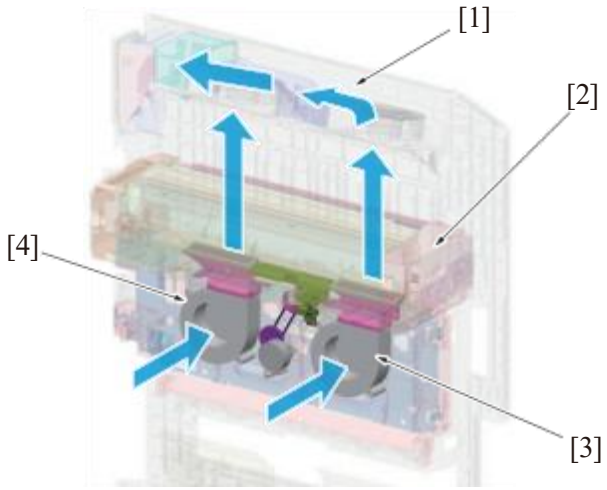
- The external air that is sucked from the rear side of the main body is blown into the machine via the duct.
- The air that is sucked in cools the developing unit and the drum unit.



[1]	Developing unit	[2]	DV cooling fan (FM19)

1.19.12 Fusing edge cooling fan

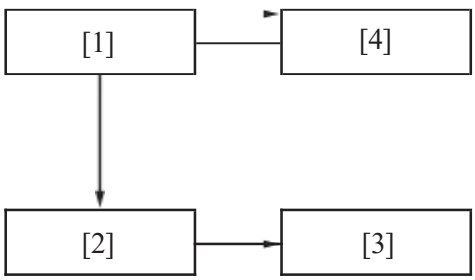
- When small-size paper is fed continuously, the temperature at both ends of the fusing unit rises in the area outside the paper feeding area.
- Two cooling fans are arranged before and after the door inside the main body. Therefore, the temperature at both ends of the fusing section is prevented from rising. These fans blow air from the lower side of the fusing section.
- A mechanism for switching the cooling width according to the size of the paper passing through is provided.
- The UFP scavenging fan which is arranged at the top of the right doorsends the cooled air to the rear side of the main body. Then the air is discharged out of the machine via the filter.



[1]	Exhaust from the UFP scavenging fan out of the machine	[2]	Fusing unit
[3]	Fusing edge cooling fan/Fr (FM21)	[4]	Fusing edge cooling fan/Rr (FM22)

1.20 COUNTER CONTROL

1.20.1 Configuration



[1]	Base board (mechanical control area) (BASEB)	[2]	Base board (controller area) (BASEB)
[3]	Electronic counter	[4]	Total counter
[5]	Key counter (option)	-	-

1.20.2 Operation

Name	Function/system
Total counter	• Number of total for copying/printing all jobs will be displayed. • A mechanical counter driven by an electric signal • Counts one when an exit signal is applied to it.
Electronic counter	• Number of total in copy/print/fax/scan mode will be displayed on the screen as described below. • Black, full color, mono color, and 2 color • Total counter, large size counter, color total (copy + printer), scan counter, fax TX counter, fax RX counter, No. of originals counter, No. of prints counter, total duplex counter • Counts one when an exit signal is applied to it.
Key counter (option)	• When charging prints by using the key counter, copies cannot be made without the key counter. However PC prints and fax TX/RX service are available without the key counter. • Displays the cumulative number of copies while the key counter is being mounted. • A mechanical counter driven by an electric signal • Counts one when a paper feed start signal or image forming start signal, whichever occurs earlier, is applied to it

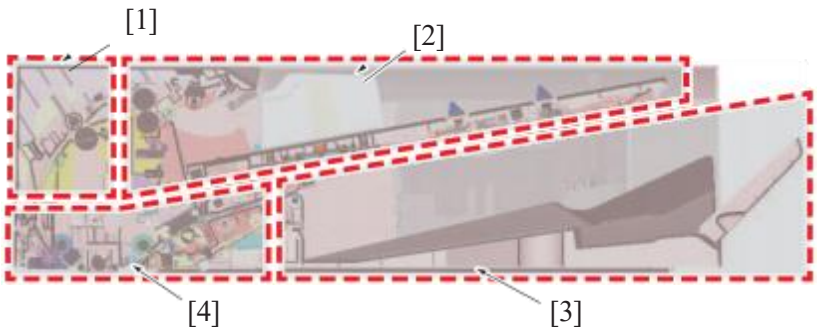
NOTE

- **The counting modes can be selected at [Billing Setting] of Service Mode. For details, see "Counter Setting."**

2. DF-713

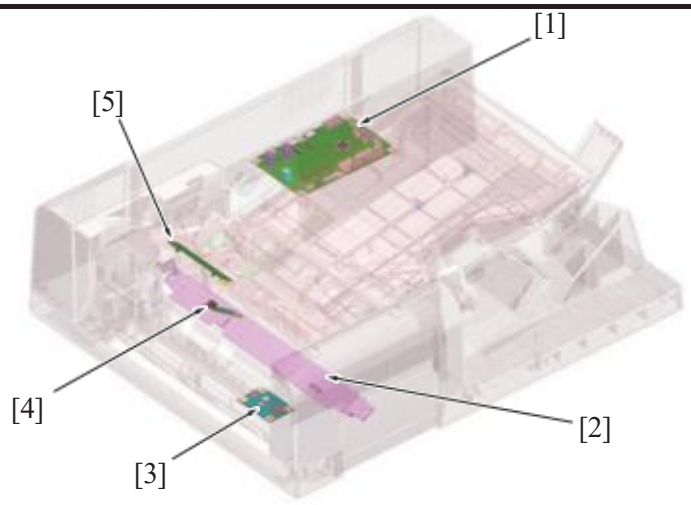
2.1 Configuration

2.1.1 Section configuration

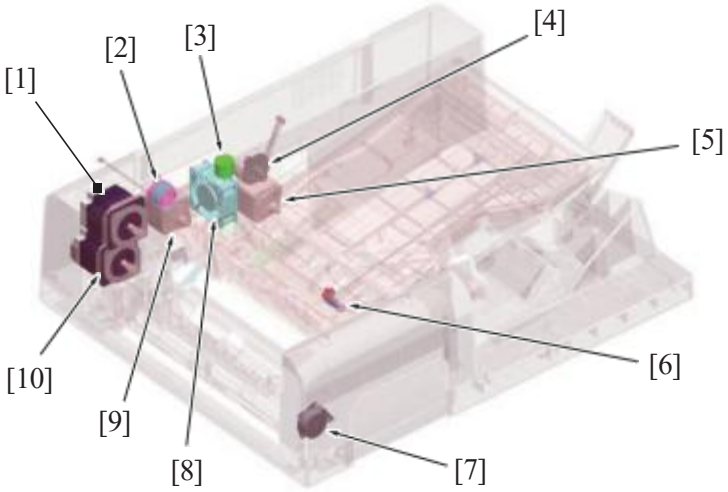


[1]	Document registration section	[2]	Document feed section
[3]	Document exit section	[4]	Document reading section

2.1.2 Main part configuration

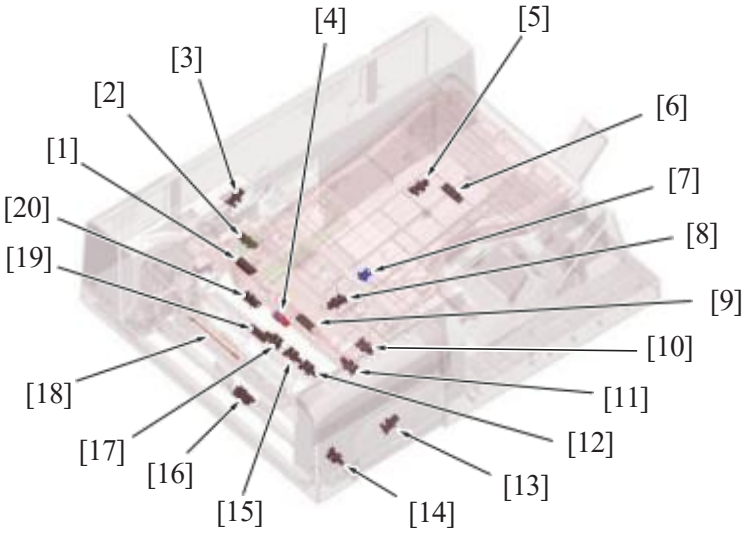


[1]	DF control board (DFCB)	[2]	CIS module (CIS)
[3]	CIS power supply (CISPU)	[4]	Multi feed detection board/TX (MFDB/TX)
[5]	Multi feed detection board/RX (MFDB/RX)	-	-



[1]	Document reading motor (M3)	[2]	Document feed clutch (CL1)
[3]	DF lift-up motor (M5)	[4]	CIS cleaning motor (M7)

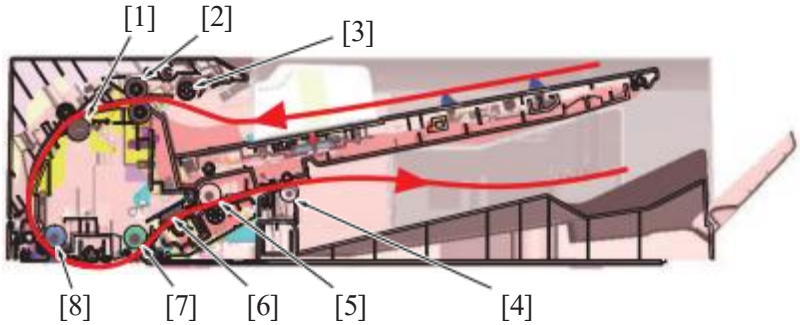
[5]	Document exit motor (M4)	[6]	Stamp solenoid (SD1)
[7]	Document reading glass cleaning motor (M8)	[8]	DF cooling fan (FM)
[9]	Document feed motor (M1)	[10]	Document registration motor (M2)



[1]	Document feed sensor (PS21)	[2]	CIS cleaning sensor (PS9)
[3]	Upper door sensor (PS16)	[4]	After separate sensor (PS4)
[5]	Document length size sensor/1 (PS10)	[6]	Document length size sensor/2 (PS11)
[7]	Document width size sensor (VR1)	[8]	DF lift-up upper limit sensor (PS2)
[9]	Document empty sensor (PS1)	[10]	Document exit sensor (PS7)
[11]	DF lift-up lower limit sensor (PS3)	[12]	Mixed original sensor/3 (PS15)
[13]	CIS cover sensor (PS20)	[14]	Document reading glass cleaning sensor (PS18)
[15]	Mixed original sensor/2 (PS14)	[16]	Document reading sensor (PS6)
[17]	Mixed original sensor/1 (PS13)	[18]	DF temperature sensor (TH)
[19]	Document registration sensor (PS5)	[20]	Document feed tray sensor (PS26)

2.2 Outline

Paper path



[1]	Document registration roller	[2]	Document feed roller
[3]	Document pick-up roller	[4]	Document exit roller
[5]	Document reading roller 3	[6]	CIS module (CIS)
[7]	Document reading roller 2	[8]	Document reading roller 1

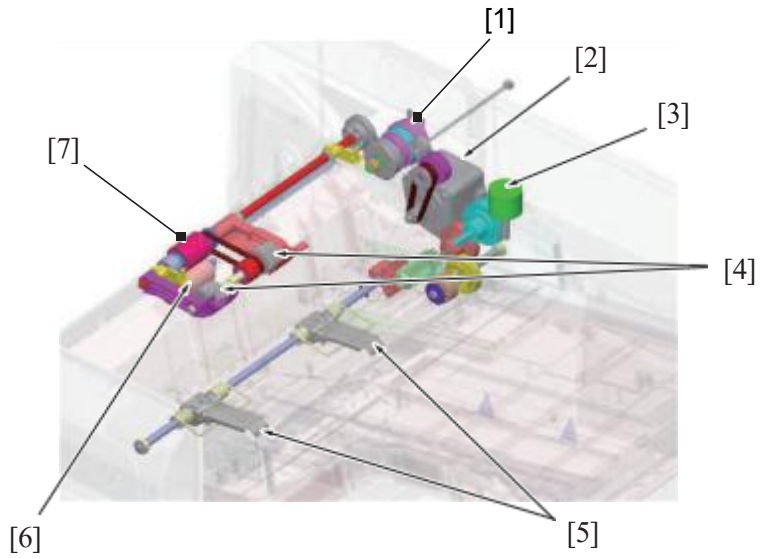
Paper path operation

1. When the original is set, the document empty sensor detects the leading edge of the original.
2. When the Start key is pressed, the DF lift-up motor is energized and the document feed tray rises to the feed position.
3. The document feed motor is energized, and the document pick-up roller and document feed roller are rotated to start feeding the first original.
4. When the document registration sensor detects the leading edge of the original, a loop is formed in the original.
5. After a loop is created in the original, the document registration motor turns ON. The drive of the document registration motor rotates the document registration roller, transporting the original to the reading section.
6. The document reading motor is energized at a predetermined time after the document registration motor turned ON. The drive of the document reading motor rotates the reading rollers 1, 2, 3 and the document exit roller.

7. The scanner starts reading the front side of the original at a predetermined time after the document reading sensor detects the leading edge of the original.
8. When the leading edge of the original moves past the reading roller 2, reading of the backside of the original is started by the CIS module. (Reading of the backside of the original is done only in the 2-sided mode.)
9. The drive of the reading roller 3 transports the original to the original exit section.
10. The drive of the exit roller feeds the original out.
11. The document reading motor is deenergized after the lapse of a predetermined period of time after the trailing edge of the original has deactivated the document exit sensor.

2.3 Document feed section

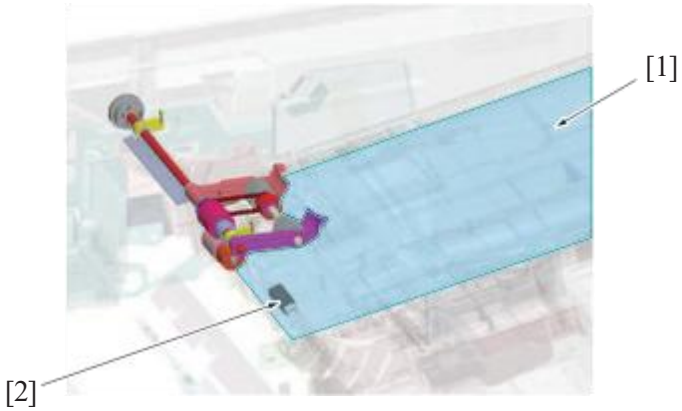
2.3.1 Drive



[1]	Document feed clutch (CL1)	[2]	Document feed motor (M1)
[3]	DF lift-up motor (M5)	[4]	Document pick-up roller
[5]	Lift-up lever	[6]	Document separation roller
[7]	Document feed roller	-	-

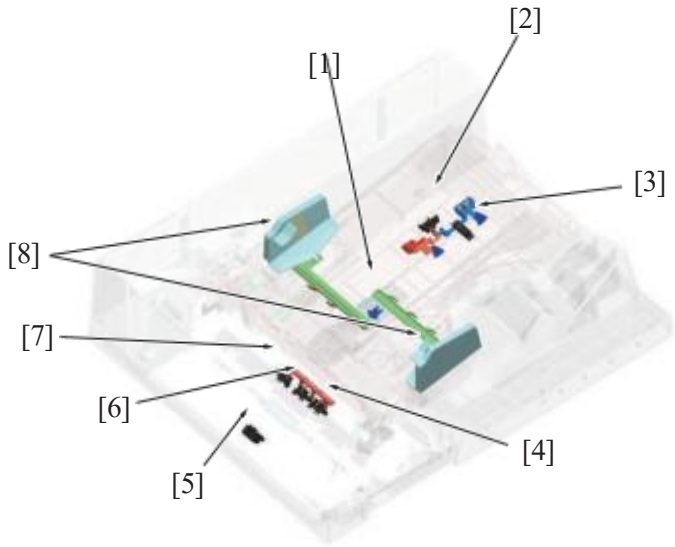
2.3.2 Document set/empty detection

- When an original is loaded on the document feed tray, the document empty sensor detects that the presence of the original.
- When all pages of the original are fed in, the document empty sensor detects that there are no more originals on the document feed tray.

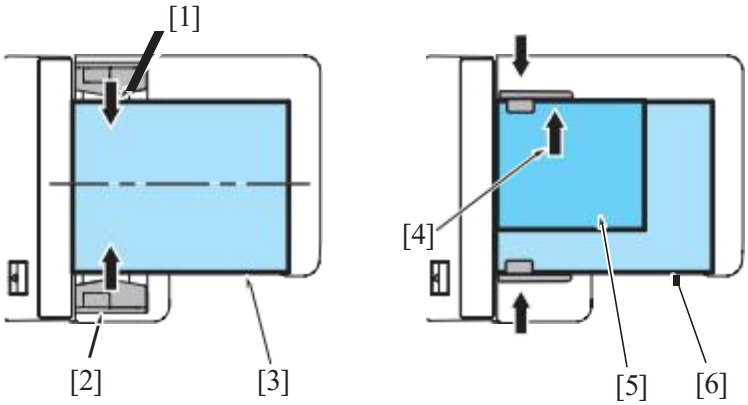


[1]	Original	[2]	Document empty sensor (PS1)

2.3.3 Document size detection mechanism



[1]	Document width size sensor (VR1)	[2]	Document length size sensor/1 (PS10)
[3]	Document length size sensor/2 (PS11)	[4]	Mixed original sensor/3 (PS15)
[5]	Document reading sensor (PS6)	[6]	Mixed original sensor/2 (PS14)
[7]	Mixed original sensor/1 (PS13)	[8]	Document width guide



[1]	Adjust the document width guide plates (center alignment)	[2]	Document width guide plates
[3]	Original (standard mode)	[4]	Align the original with narrow width with the rear side of the document width guide plates (rear alignment)
[5]	Original with narrow width (mixed original mode)	[6]	Original with wide width (mixed original mode)

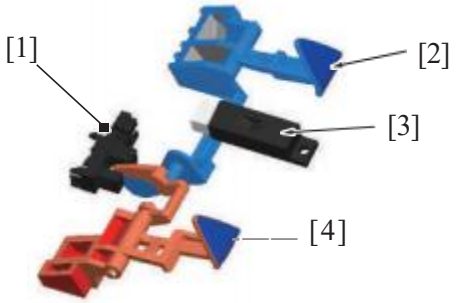
(1) Standard mode

(a) Detecting the width of the original

- The width of the original is set on the document feed tray will be detected by the document width sensor.
- A variable resistor is incorporated in the document width sensor. Its resistance value varies in association with the movement of the document width guide.
- The original is to be loaded in the document feed tray by aligning it with reference to the center of the document feed tray in the standard mode. In the mixed original mode, the original is aligned to the rear side.

(b) Detecting the length of the original

- The length of the original is set on the document feed tray will be detected by the document length sensors/1 and /2.
- The document length sensor/1 is a transmission type, while document length sensor/2 is a reflection type. Document length size sensor/1 is detected by two actuators, those are actuator 1 and actuator 2.
- When the document feed tray is not loaded with any originals, document length sensor/1 is blocked. When an original is loaded and only actuator 1 is pressed, the document length size sensor/1 is unblocked. When both actuator 1 and actuator 2 are pressed, a blocked document length sensor/1 is detected by actuator 2.



[1]	Document length size sensor/1 (PS10)	[2]	Actuator 2
[3]	Document length size sensor/2 (PS11)	[4]	Actuator 1

(c) Document feed tray size detection

- The original size is determined by the combination of the results of detection made of the width and length of the original.

<For Japan>

Sensor		Original size			
Document length size sensor/2 (PS11)		OFF	OFF	Reflector	Reflector
Document length size sensor/1 (PS10)		Blocked	Unblocked	Unblocked	Blocked
Document width size sensor (VR1)	114.5 mm (4 1/2 inches)	Postcard	B5S	A4S	A3
	136 mm (5 3/8 inches)	B6S	B5S	A4S	A3
	163 mm (6 7/16 inches)	A5S	B5S	A4S	A3
	190.6 mm (7 1/2 inches)	B5S	B5S	A4S	A3
	236.5 mm (9 5/16 inches)	A5	8 1/2 x 11 S	A4S	Foolscap
	266.2 mm (10 1/2 inches)	B5	B4	B4	B4
	286.2 mm (11 1/4 inches)	8 1/2 x 11	11 x 17	11 x 17	11 x 17
	(307 mm)	A4	A3	A3	A3

<For North America>

Sensor		Original size			
Document length size sensor/2 (PS11)		OFF	OFF	Reflector	Reflector
Document length size sensor/1 (PS10)		Blocked	Unblocked	Unblocked	Blocked
Document width size sensor (VR1)	158.7 mm (6 1/4 inches)	5 1/2 x 8 1/2S	8 1/2 x 11 S	8 1/2 x 14	11 x 17
	194 mm (7 5/8 inches)	B5S	B5S	8 1/2 x 14	11 x 17
	236.5 mm (9 5/16 inches)	5 1/2 x 8 1/2	8 1/2 x 11 S	A4S	8 1/2 x 14
	266.2 mm (10 1/2 inches)	B5	B4	B4	B4
	286.2 mm (11 1/4 inches)	8 1/2 x 11	11 x 17	11 x 17	11 x 17
	(307 mm)	A4	A3	A3	A3

<For Europe>

Sensor		Original size			
Document length size sensor/2 (PS11)		OFF	OFF	Reflector	Reflector
Document length size sensor/1 (PS10)		Blocked	Unblocked	Unblocked	Blocked
Document width size sensor (VR1)	114.5 mm (4 1/2 inches)	A6S	B5S	A4S	A3
	136 mm (5 3/8 inches)	B6S	B5S	A4S	A3
	163 mm (6 7/16 inches)	A5S	B5S	A4S	A3
	190.6 mm (7 1/2 inches)	B5S	B5S	A4S	A3
	236.5 mm (9 5/16 inches)	A5	8 1/2 x 11 S	A4S	Foolscap

Sensor		Original size			
	266.2 mm (10 1/2 inches)	B5	B4	B4	B4
	286.2 mm (11 1/4 inches)	$8^1/_2$ x 11	11 x 17	11 x 17	11 x 17
	(307 mm)	A4	A3	A3	A3

(2) Mixed original detection/AMS mode

(a) Detecting the width of the original

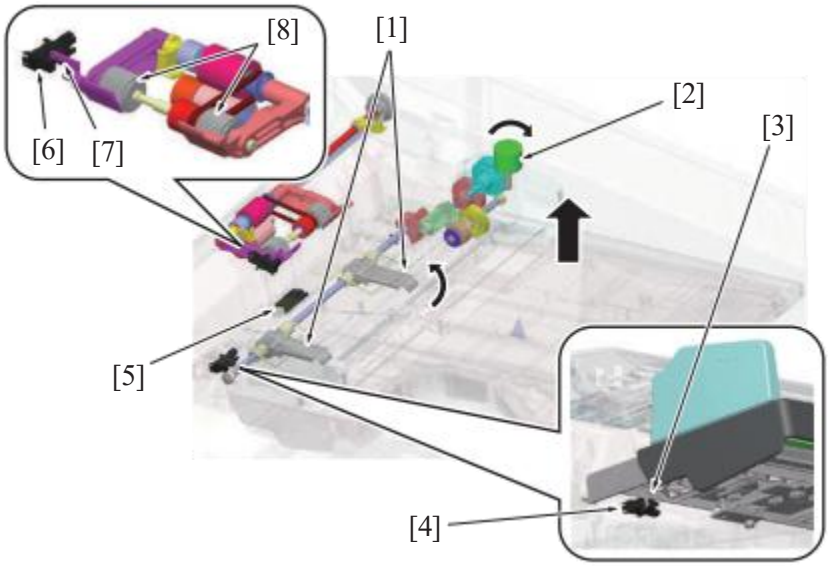
- In the mixed original/AMS mode, no width is determined on the document feed tray; rather, the width is detected while the originals are being fed. Three mixed original sensors are disposed at positions immediately after the document feed section, functioning to detect the width of the original.

(b) Detecting the length of the original

- In the mixed original/AMS mode, no length is determined on the document feed tray; rather, the length of the original is calculated and determined based on the period of time during which the document reading sensor remains activated.

2.3.4 Up/down control for the document feed tray

- The document feed tray rises to feed originals.
- The DF lift-up motor performs up/down control of the document feed tray.
- The document feed tray is lowered due to completion of a job, paper jam, or paper misloading.



[1]	Lift-up lever	[2]	DF lift-up motor (M5)
[3]	Lower limit detection actuator	[4]	DF lift-up lower limit sensor (PS3)
[5]	Document empty sensor (PS1)	[6]	DF lift-up upper limit sensor (PS2)
[7]	Upper limit detection actuator	[8]	Document pick-up roller

(1) Preliminary up operation

- The document feed tray stops in the lower limit position during standby.
- When a job starts with the document feed tray at the lower limit position, the tray will take longer to rise until paper is fed.
- To shorten the time from the job start to end, raise the document feed tray to the standby position in advance.
- The document feed tray standby position can be adjusted through [Administrator] -> [System Settings] -> [ADF Settings]. If OFF is selected, do not raise the tray but standby at the lower limit position.

(2) Up operation

- The document feed tray stops in the lower limit position during standby.
- When an original is loaded into the tray, the document empty sensor detects the original. The DF lift-up motor turns ON when the control panel is touched.
- The drive of the DF lift-up motor moves the lift-up lever and raise the document feed tray to the standby position.
- The DF lift-up motor is driven to lift the document feed tray to the document feed position when the Start key is pressed.
- The top surface of the original pushes up the document pick-up roller. The lift operation stops at the timing when the DF lift-up upper limit sensor is unblocked.
- The number of originals decrease as each original is fed. The lift operation is performed again once the DF lift-up upper limit sensor is blocked to maintain an optimal paper feed position.

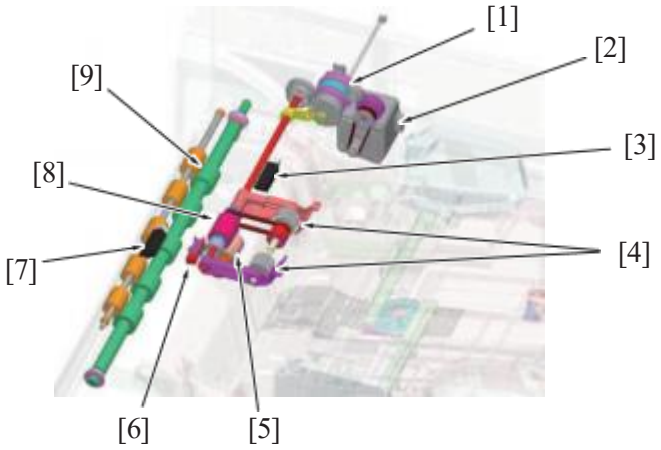
(3) Down operation

- When all pages of an original has been fed and the document empty sensor detects the empty state, the DF lift-up motor operates in reverse.
- The drive of the DF lift-up motor moves the lift-up lever and lower the document feed tray.

- The operation to lower the document feed tray stops when the DF lift-up lower limit sensor is blocked.
- The document feed tray is lowered in an original empty state when a job is completed or originals are removed.
- The document feed tray is lowered due to a paper jam, paper misloading, or a state that the DF is raised.

2.3.5 Document feed control

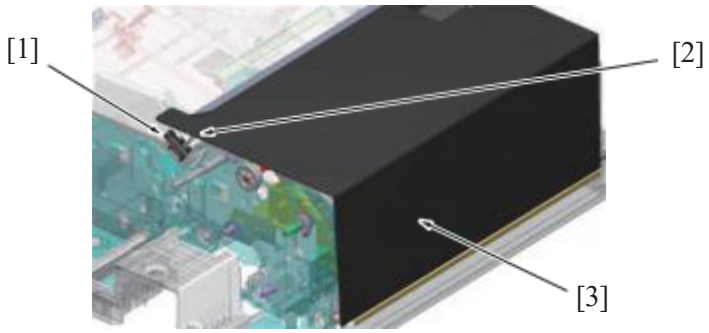
- The document feed motor drives the document feeding.
- The drive from the document feed motor is transmitted to the document pick-up roller and document feed roller when the document feed clutch is energized. The original is picked up and fed in by the rotation of the rollers.
- The original picked up and fed in is transported onto the document registration roller.



[1]	Document feed clutch (CL1)	[2]	Document feed motor (M1)
[3]	Document feed sensor (PS21)	[4]	Document pick-up roller
[5]	Document separation roller	[6]	After separate sensor (PS4)
[7]	Document registration sensor (PS5)	[8]	Document feed roller
[9]	Document registration roller	-	-

2.3.6 Upper door open/close detection mechanism

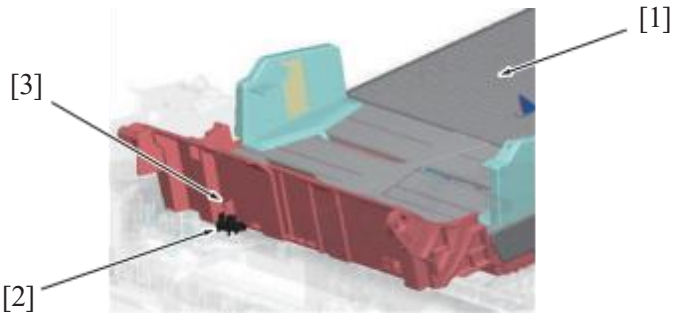
- An upper door sensor is provided to detect the state of the upper door of the document feed section.
- A rib on the upper cover blocks the upper door sensor to detect that the upper door of the document feed section is closed.



[1]	Upper door sensor (PS16)	[2]	Rib
[3]	Upper door	-	-

2.3.7 Document feed tray open and close detection mechanism

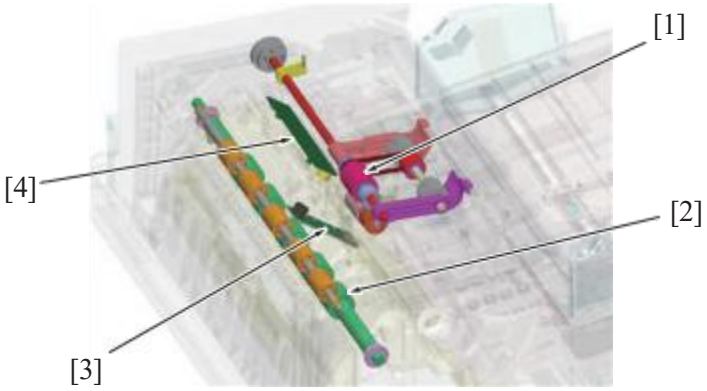
- The document feed tray sensor is provided to detect the state of the document feed tray.
- A rib at the bottom of the document feed tray blocks the document feed tray sensor to detect that the document feed tray is closed.



[1]	Document feed tray	[2]	Document feed tray sensor (PS26)
[3]	Rib	-	-

2.3.8 Double feed detection

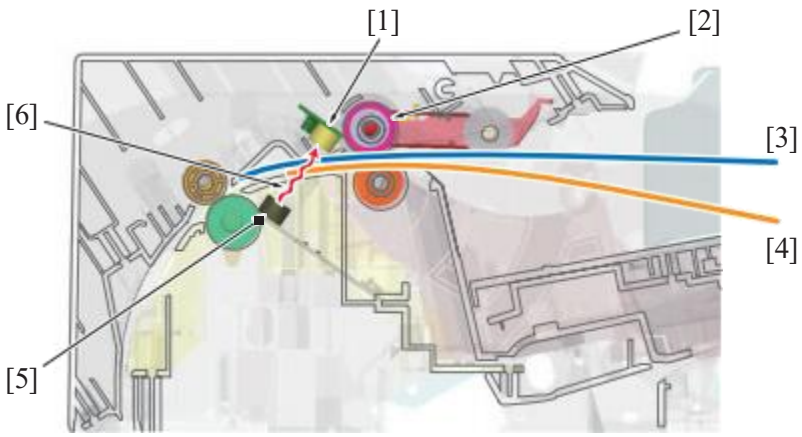
- A sensor is provided as a standard equipment which enables detecting double feed of originals.
- At double feed detection, the passing originals come in contact with ultrasonic waves. Depending on the amount of unblocked ultrasonic waves, it can be determined whether originals are double feed.
- Double feed detection uses a detection board that is configured with one pair of a receiver and a transmitter.



[1]	Document feed roller	[2]	Document registration roller
[3]	Multi feed detection board/TX (MFDB/TX)	[4]	Multi feed detection board/RX (MFDB/RX)

(1) Double feed detection control

- Originals come into contact with ultrasonic waves that are transmitted from the multi feed detection board/TX (transmitter). The ultrasonic waves are received on the multi feed detection board/RX (receiver).
- The ultrasonic waves attenuate due to the air layer between originals when originals are double feed.
- The voltage at the receiver is checked. A determination of original double feed is made if the voltage is the same as or less than a predetermined value.
- The following lists the type of originals that can be detected for double feed.
  - Originals with weight of 35 to 210 g/m^2 (9 5/16 to 55 7/8 lb). Other types of originals may not be detected properly when double feed occurs.

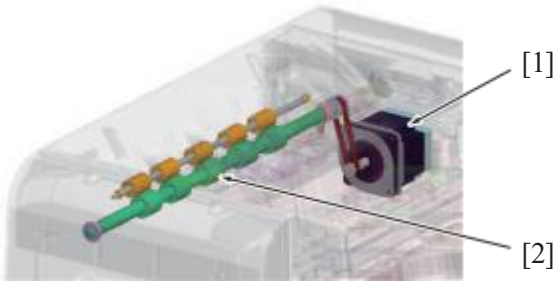


[1]	Multi feed detection board/RX (MFDB/RX)	[2]	Document feed roller
[3]	Scanned original	[4]	Double feed original
[5]	Multi feed detection board/TX (MFDB/TX)	[6]	Ultrasonic waves

2.4 Document registration section

2.4.1 Drive

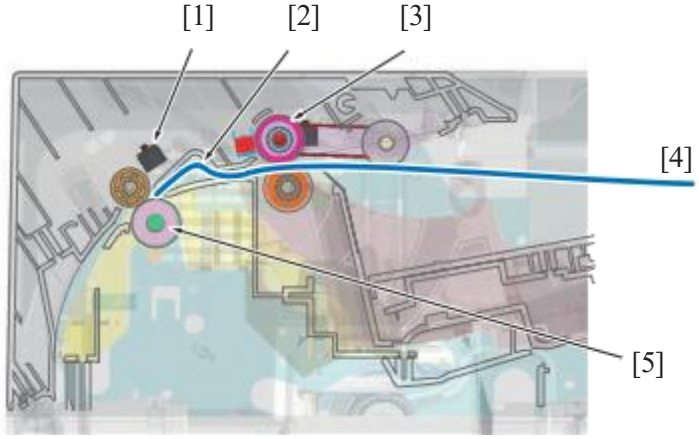
- The document registration motor drives the document registration roller.



[1]	Document registration motor (M2)	[2]	Document registration roller

2.4.2 Registration control

- During transporting an original, a loop is created on the original between the document feed roller and document registration roller to correct any original skew.
- The document registration sensor detects original, and controls the timing to de-energize the document registration motor.



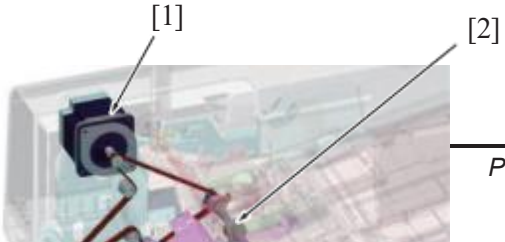
[1]	Document registration sensor (PS5)	[2]	Loop formation
[3]	Document feed roller	[4]	Original
[5]	Registration roller	-	-

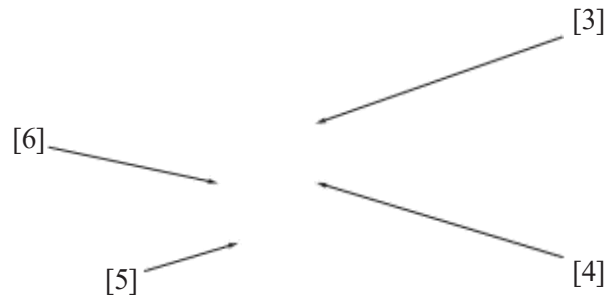
2.5 Document reading section

2.5.1 Drive

Document reading drive

- The document reading rollers 1, 2, and 3 are driven by the document reading motor.

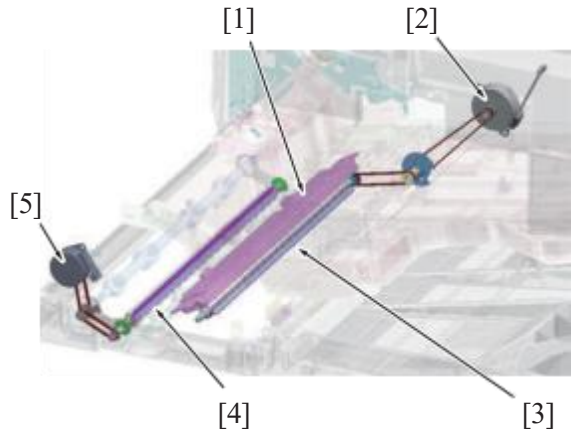




[1]	Document reading motor (M3)	[2]	Document reading roller 3
[3]	CIS module (CIS)	[4]	Document reading roller 2
[5]	Document reading roll	[6]	Document reading roller 1

Document reading glass / CIS glass cleaning drive

- The document reading glass cleaning brush is rotated by the document reading glass cleaning motor and the glass surface is thereby cleaned.
- The CIS cleaning brush is rotated by the CIS cleaning motor and the CIS surface is thereby cleaned.



[1]	CIS module (CIS)	[2]	CIS cleaning motor (M7)
[3]	CIS cleaning brush	[4]	Document reading glass cleaning brush
[5]	Document reading glass cleaning motor (M8)	-	-

2.5.2 Document reading transport control

- The document reading rollers 1, 2, and 3 are driven by the document reading motor.
- When the leading edge of the original moves past the document reading roller 1, the document reading sensor (reflector type) disposed downstream of the roller detects the original. The length of the original is also detected based on the period of time during which the sensor remains activated.
- The scanner starts reading the front side of the original at a predetermined time after the document reading sensor detects the leading edge of the original.
- When the leading edge of the original moves past the document reading roller 2, reading of the backside of the original is started by the CIS module. (For double-sided originals)

[2]

[5]

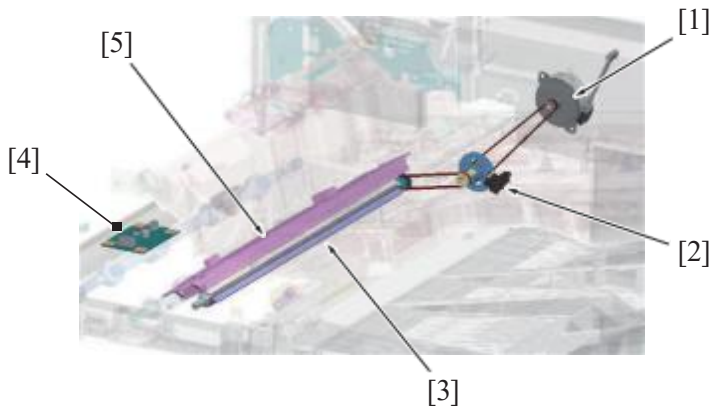
[3]

[4]

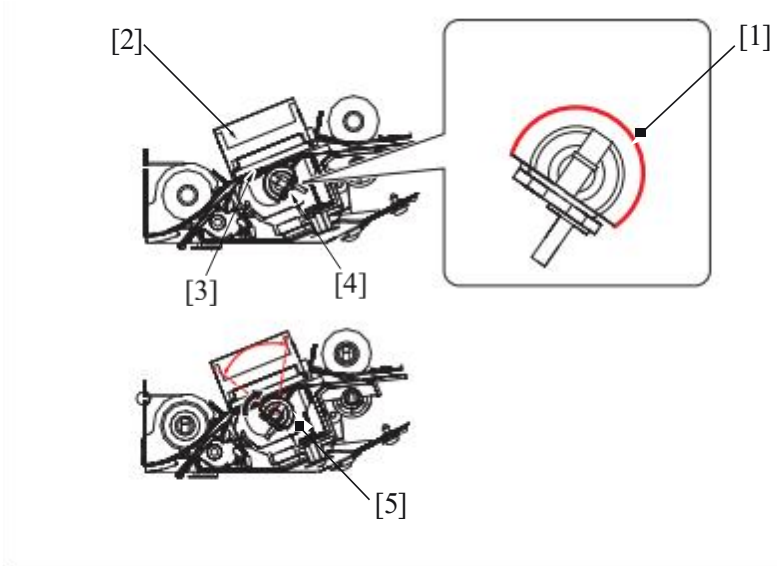
[1]	Document reading motor (M3)	[2]	Document reading roller 3
[3]	CIS module (CIS)	[4]	Document reading roller 2
[5]	Document reading sensor (PS6)	[6]	Document reading roller 1

2.5.3 CIS document reading control

- The backside of the original is read by the CIS (contact image sensor) module. The image data read by the CIS is transferred to the main body.
- The CIS document reading section consists of the CIS module, CIS power supply and CIS cleaning mechanism.
- LEDs are used as the light source of CIS module.
- A CIS cleaning brush to which a white plate is affixed is disposed on the side opposite the CIS module.



[1]	CIS cleaning motor (M7)	[2]	CIS cleaning sensor (PS9)
[3]	CIS cleaning brush	[4]	CIS power supply (CISPU)
[5]	CIS module (CIS)	-	-



[1]	White plate affixed	[2]	CIS module (CIS)
[3]	CIS glass	[4]	CIS cleaning brush (home position)
[5]	CIS cleaning brush (shading correction position)	-	-

CIS control when power turns ON or awakes from sleep mode

1. The LEDs of CIS module turn ON.
2. The CIS cleaning brush is detected at the home position.
3. The CIS cleaning brush is rotated and brought to a stop at the shading correction position.
4. Shading correction is performed twice.
5. After the adjustments, the LEDs turn OFF.
6. The CIS cleaning brush is rotated and brought to a stop at the home position.

CIS control when the original is loaded

1. The CIS cleaning brush is detected at the home position.
2. The LEDs of CIS module turn ON.
3. The CIS cleaning brush is rotated four rounds.
   - The cleaning brush cleans the CIS glass during the first turn.
   - The cleaning brush uses the shading correction surface to perform the shading correction during the second and third turn.
   - The cleaning brush uses the shading correction surface to perform “ADF Scan Glass Contamin. Sensitivity” during the fourth turn.
4. The LEDs turn OFF.
5. The CIS cleaning brush is rotated and brought to a stop at the home position.

CIS control when the Start key is pressed

- This control is performed only in the 2-sided original reading mode.

1. The CIS cleaning brush is detected at the home position.
2. The LEDs of CIS module turn ON.
3. The CIS cleaning brush is rotated three rounds.
   - The cleaning brush cleans the CIS glass during the first turn.
   - The cleaning brush uses the shading correction surface to perform the shading correction during the second and third turn.
4. With the LEDs ON, the CIS cleaning brush is brought to a stop at the home position (waiting for the original).
5. The backside of the original is read as the original moves over the CIS.
6. During printing, CIS cleaning operation is performed each time that an original is read.

NOTE

- **If a print cycle produces a large number of printed pages continuously, either the CIS cleaning operation or the shading correction is performed.**
- **The shading correction is performed at a predetermined interval during a multiprint cycle in order to maintain an appropriate correction value.**

<Cleaning operation>

1. The cleaning brush is rotated one complete turn.
   (The cleaning brush normally makes one turn, but makes three turns in the despeckle mode.)
2. With the LEDs ON, the cleaning brush is brought to a stop at the home position (waiting for the original).

<Shading correction operation>

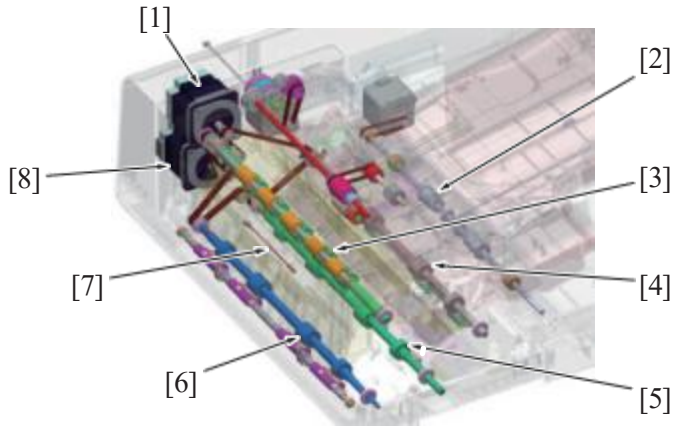
1. The cleaning brush is rotated three complete turns.
   - The cleaning brush cleans the CIS glass during the first turn.
   - The cleaning brush uses the shading correction surface to perform the shading correction during the second and third turn. The shading correction is performed (a total of twice).
2. With the LEDs ON, the cleaning brush is brought to a stop at the home position (waiting for the original).

After the print cycle

1. The LED will turn OFF when the reading is complete.
2. The cleaning brush is turned backward (to tame the brush).
3. The cleaning brush is brought to a stop when the home position is detected.
4. The LEDs turn ON.
5. The cleaning brush is rotated four complete turns.
   - The cleaning brush cleans the CIS glass during the first turn.
   - The cleaning brush uses the shading correction surface to perform the shading correction during the second and third turn.
   - The cleaning brush uses the shading correction surface to perform “ADF Scan Glass Contamin. Sensitivity” during the fourth turn.
6. The cleaning brush is brought to a stop at the home position.
7. The LEDs turn OFF.

2.5.4 Reading speed correction control

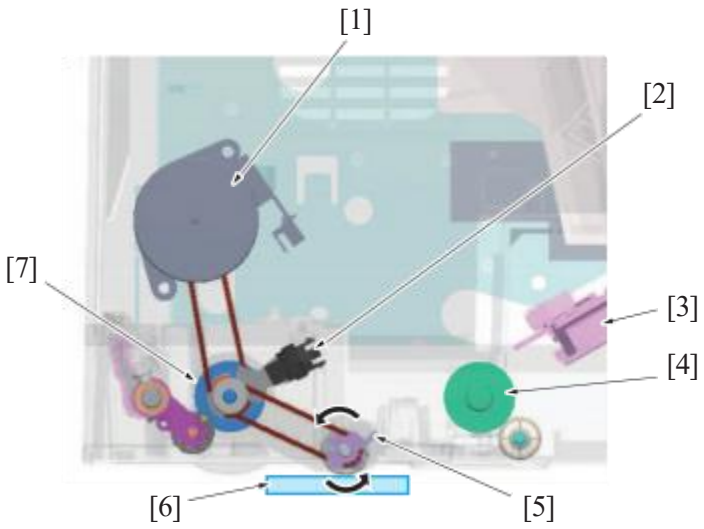
- Depending on the environmental temperature, the roller diameter and the original reading speed may change.
- When the temperature is low, the roller diameter shrinks, and when the temperature is high, the roller diameter expands.
- Changes in the reading speed affect the magnification factor in the paper feeding direction.
- Depending on the temperature that the DF temperature sensor detects, the reading speed is corrected. So that the magnification factor in the paper feeding direction is controlled at a constant level.



[1]	Document reading motor (M3)	[2]	Document exit roller
[3]	Document registration roller	[4]	Document reading roller 3
[5]	Document reading roller 2	[6]	Document reading roller 1
[7]	DF temperature sensor (TH)	[8]	Document registration motor (M2)

2.5.5 Document reading glass contamination prevention control

- A reading line can occur if the document reading glass is contaminated with dust or dirt. The document reading glass cleaning mechanism prevents this fault from occurring.
- The document reading glass cleaning brush rotates to remove dust sticking to the document reading glass.
- The document reading glass cleaning brush is rotated by the document reading glass cleaning motor.
- The document reading glass cleaning sensor detects the home position of the document reading glass cleaning brush.



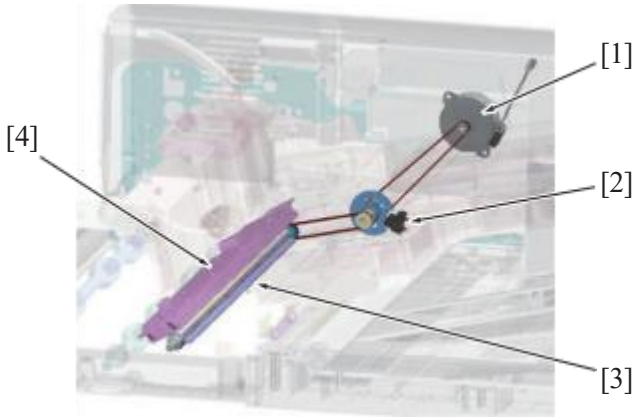
[1]	Document reading glass cleaning motor (M8)	[2]	Document reading glass cleaning sensor (PS18)
[3]	CIS module (CIS)	[4]	Document reading roller 2
[5]	Document reading glass cleaning brush	[6]	Document reading glass
[7]	Document reading roller 1	-	-

Overview of cleaning operation

Condition		Cleaning operation
Predrive operation	Power ON	Rotates the cleaning brush one complete turn to check for its correct operation.
	Awaking from sleep mode	
Start key ON	Before starting reading	Rotates the cleaning brush one complete turn to perform cleaning.
	During reading (not performed in black mode)	Rotates the cleaning brush one complete turn to perform cleaning for every two originals during continuous reading of originals.
		Rotates the cleaning brush three complete turns to perform cleaning for each original during continuous reading of originals, if the despeckle mode is selected.
	After completing reading last original	The cleaning brush tends to curl if repeatedly operated in one direction only, resulting in poor cleaning performance. To straighten the brush, it is rotated one complete turn in the backward direction when reading of the last original is completed.

2.5.6 CIS glass contamination prevention control

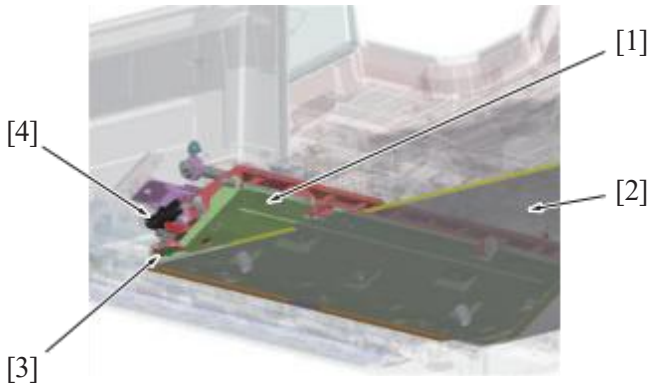
- The CIS glass is cleaned only when two sides of the original are to be read.
- When the backside cleaning motor is energized, the CIS cleaning brush is rotated to remove dust and dirt from the surface of the CIS glass.
- Cleaning of the document reading glass (front side) takes place at a different timing from that of the CIS glass (backside), so cleaning of the backside is driven differently from the front side.
- The CIS cleaning brush at its home position is detected by the CIS cleaning sensor.



[1]	CIS cleaning motor (M7)	[2]	CIS cleaning sensor (PS9)
[3]	CIS cleaning brush	[4]	CIS module (CIS)

2.5.7 Opening and closing guide set detection

- The opening and closing guide is provided to facilitate the paper jam removal procedures performed near the backside reading section.
- The CIS cover sensor detects opening/closing guide set.

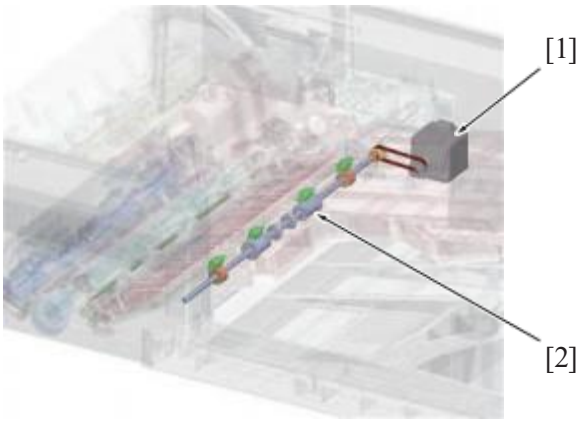


[1]	Opening and closing guide	[2]	Original cover sheet
[3]	Lever	[4]	CIS cover sensor (PS20)

2.6 Document exit section

2.6.1 Drive

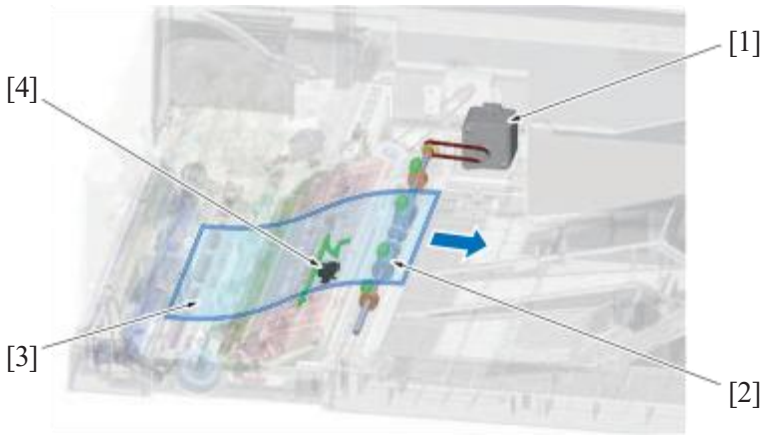
- The document exit motor drives the document exit roller.



[1]	Document exit motor (M4)	[2]	Document exit roller

2.6.2 Document exit mechanism

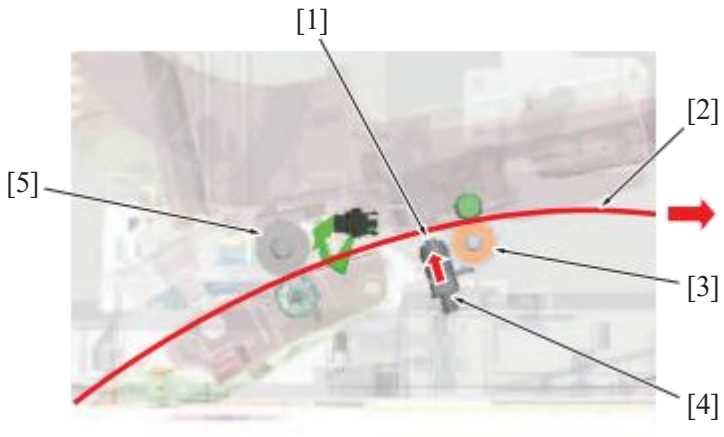
- In the document exit section, the document exit roller discharges the originals that are transported from the document reading section to the exit tray.
- The document exit motor drives the document exit roller.
- The document exit motor is stopped at a predetermined time after the trailing edge of the original deactivates the document exit sensor.



[1]	Document exit motor (M4)	[2]	Document exit roller
[3]	Original	[4]	Document exit sensor (PS7)

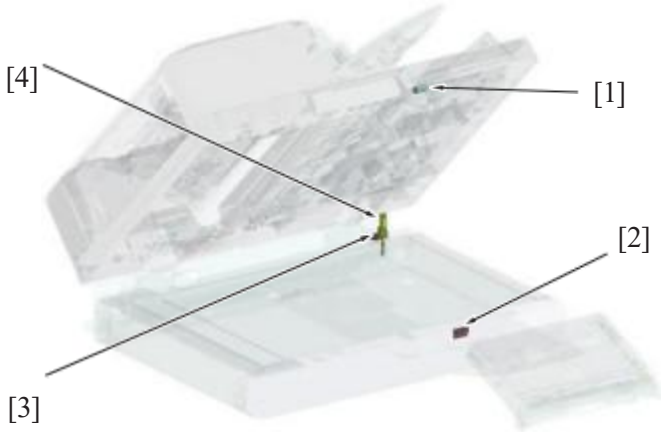
2.6.3 Faxed document stamp function (SP-501)

- Mounting optional “Stamp unit SP-501” allows a stamp to be placed on a faxed document.
- The stamp solenoid located upstream of the document exit roller is energized when the original is about to be fed out and the stamp mounted on the solenoid plunger is pressed against the surface of the original. This places a faxed mark (+) on the surface of the original.
- This function is not used for “Copy” or “Scan”.



[1]	Stamp unit (SP-501)	[2]	Original
[3]	Document exit roller	[4]	Stamp solenoid (SD1)
[5]	Document reading roller 3	-	-

2.7 DF open/close detection mechanism



[1]	Magnet	[2]	Original cover sensor (RS201) (Main body scanner section)
[3]	Angle sensor (PS202) (Main body scanner section)	[4]	Detection lever

DF open/close detection

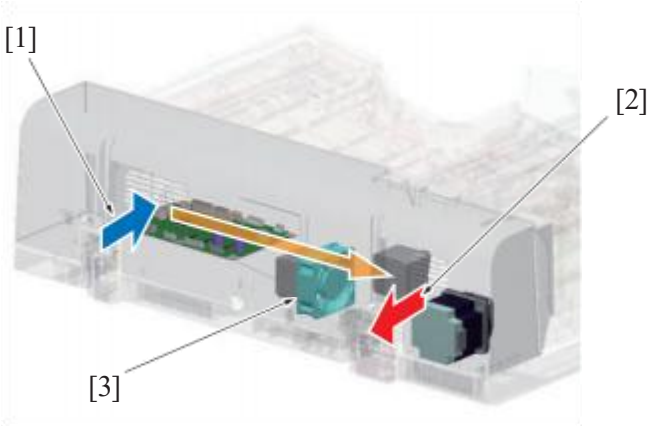
- The magnet is installed to detect the open/close status of the DF on the main bodyside.
- The original cover sensor on the main body will turn ON by the magnet when lowering the DF.

Original exchange detection

- An angle detection mechanism is provided to detect the operation of exchanging originals when the DF is used as the original cover of the main body.
- When the DF is raised to a predetermined angle or more, the detection lever is pushed up by a spring. The angle sensor that has been blocked by the detection lever is now unblocked. It is, as a result, detected that the DF “is raised to a predetermined angle or more”.
- When, on the other hand, the DF is lowered to a predetermined angle or less, the detection lever is pushed down. Then, the angle sensor, which has been unblocked, is blocked, so that it is detected that the DF “is lowered to a predetermined angle or less”.
- When the DF state undergoes changes from a condition of being fully lowered to a condition of “being raised to a predetermined angle or more” and then to a condition of “being lowered to a predetermined angle or less”, it is determined that “an original is placed manually on the original glass”. Then the original size detection control will be started.

2.8 Cooling inside the unit mechanism

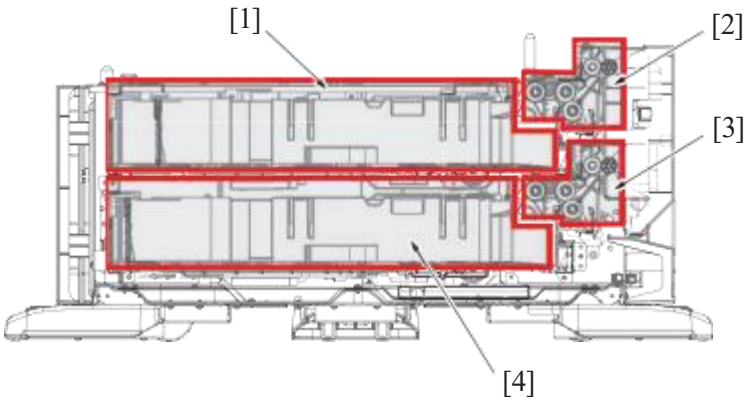
- The DF cooling fan prevents the temperature of the DF control board and drive motor inside the document feeder from rising.
- The DF cooling fan drives during reading originals and blows the external air that is drawn in from the rear side to cool the originals.



[1]	Drawing in external air	[2]	Discharging air out of the machine
[3]	DF cooling fan (FM)	-	-

3. CPT-810

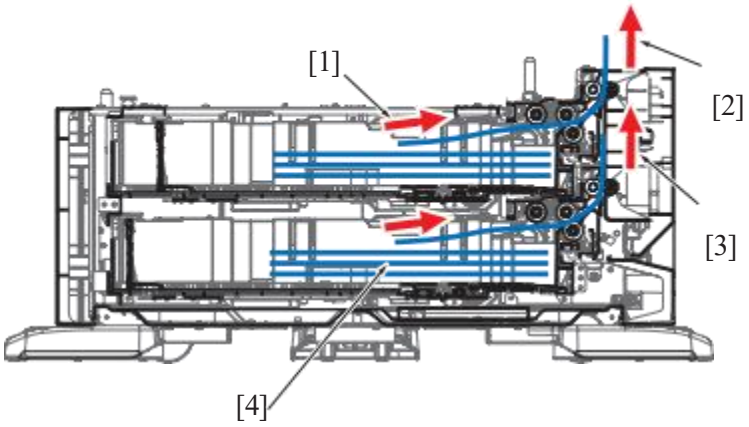
3.1 CONFIGURATION



[1]	Paper feed tray section (tray 3)	[2]	Tray 3 paper feed section
[3]	Tray 4 paper feed section (*)	[4]	Paper feed tray section (tray 4) (*)

- *: CPT-810 only

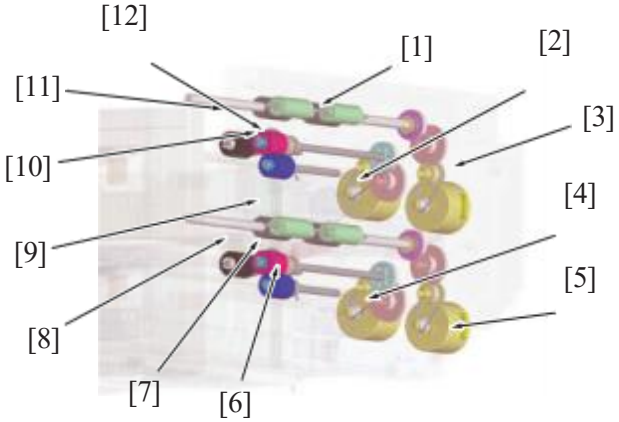
3.2 PAPER PATH



[1]	Paper feed from tray 3	[2]	Transportation to main body
[3]	Vertical transport (*)	[4]	Paper feed from tray 4 (*)

- *: CPT-810 only

3.3 DRIVE



[1]	Tray 3 vertical transport roller	[2]	Tray 3 paper feed motor (M111)

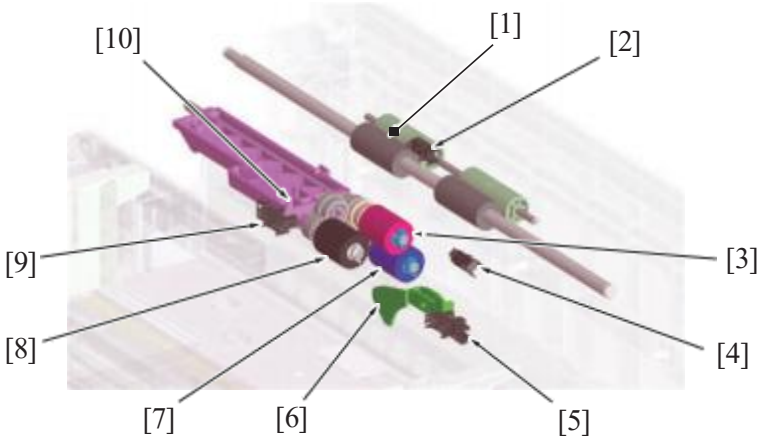
[3]	Tray 3 vertical transport motor (M112)	[4]	Tray 4 paper feed motor (M121)
[5]	Tray 4 vertical transport motor (M122)	[6]	Tray 4 separation roller
[7]	Tray 4 feed roller	[8]	Tray 4 pick-up roller
[9]	Tray 4 vertical transport roller	[10]	Tray 3 separation roller
[11]	Tray 3 pick-up roller	[12]	Tray 3 feed roller

- *: Tray 4 is for CPT-810 only.

3.4 Paper feed section

3.4.1 Paper feed drive mechanism

- Tray 3 has a paper feed drive mechanism having the same arrangement as that of tray 4.
- The paper feed motor drives the pick-up roller and feed roller to take up and feed a sheet of paper into the main body.
- Then, the vertical transport motor transports the paper through the vertical transport section.
- The pick-up roller takes up sheets of paper and the feed roller and separation roller ensure that only one sheet of paper is separated and fed into the main body.
- The tray is raised to cause the paper to push the pick-up roller. This raises the upper limit detection actuator, so that the upper limit is detected.
- The paper empty sensor detects when paper in the drawer runs out.

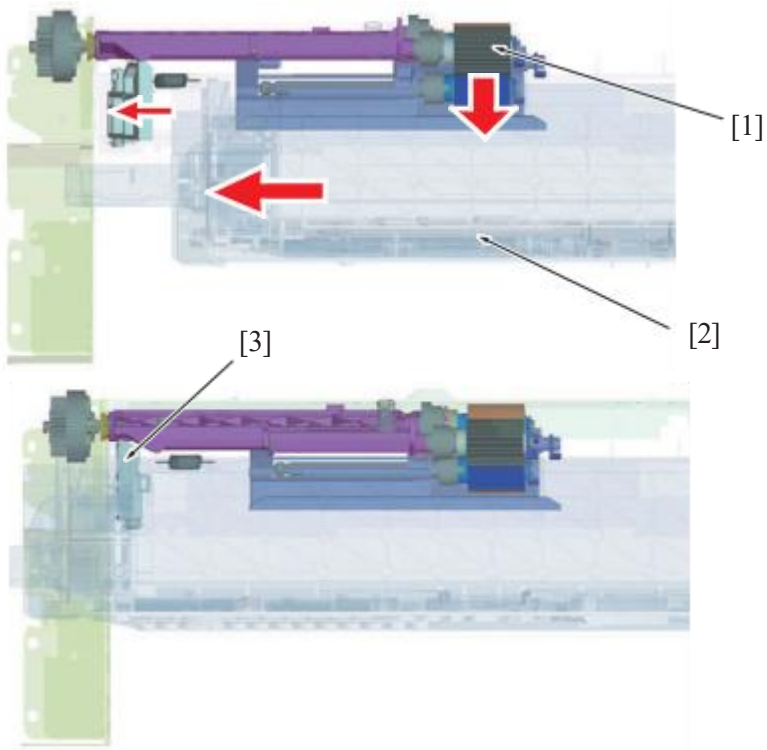


[1]	Vertical transport roller	[2]	Tray 3 vertical transport sensor (PS113) Tray 4 vertical transport sensor (PS123)
[3]	Feed roller	[4]	Tray 3 paper feed sensor (PS112) Tray 4 paper feed sensor (PS122)
[5]	Tray 3 paper empty sensor (PS114) Tray 4 paper empty sensor (PS124)	[6]	Empty detection actuator
[7]	Separation roller	[8]	Pick-up roller
[9]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)	[10]	Upper limit detection actuator

3.4.2 Roller retract mechanism

(1) Pick-up roller retract mechanism

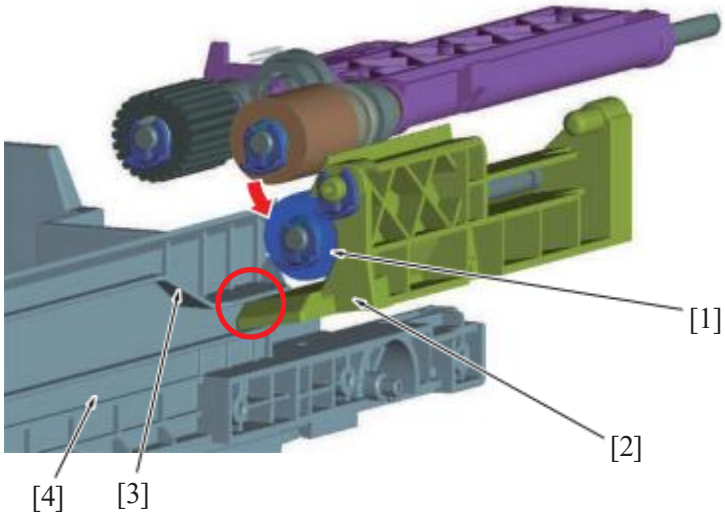
- A mechanism to retract the pick-up roller is provided, in order to avoid damaging stacked paper when the paper feed tray is inserted.
- When the paper feed tray is open, the retraction lever in the back of the machine presses the pick-up roller up to the retract position.
- When the pick-up roller is in the retract position, paper cannot be damaged as the pick-up roller does not make contact with the stacked paper.
- Closing the paper feed tray presses the retraction lever to move the pick-up roller to the a position such that it can supply paper.



[1]	Pick-up roller	[2]	Paper Tray
[3]	Retraction lever	-	-

(2) Separation roller retract mechanism

- A mechanism to pressure/release the separation roller is provided. It prevents the paper that is remained in the machine from being damaged or spilling out into the machine.
- Ribs on the paper feed tray pass over the top of the separation roller holder protrusion when the tray is opened or closed. It releases the separation roller and feed roller.
- Paper that is caught between the rollers is released through releasing separation roller and feed roller. It helps prevent paper from accumulating inside the machine.
- When the feed tray is closed completely, the tray ribs and separation roller holder protrusion do not interfere with each other. This design pressures the separation roller and feed roller to supply paper.



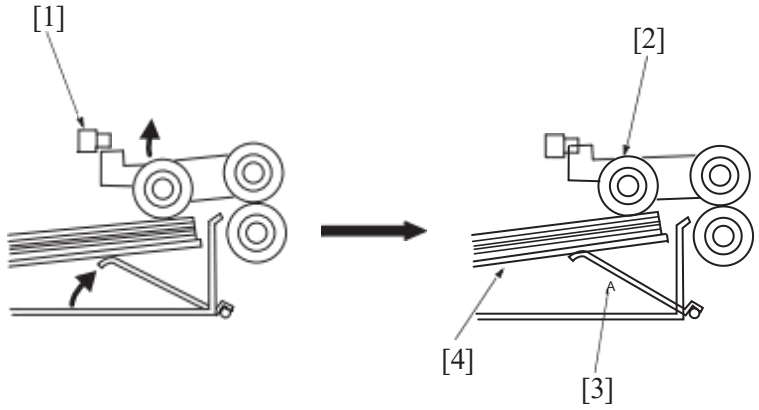
[1]	Separation roller	[2]	Separation roller holder
[3]	Rib	[4]	Paper Tray

3.4.3 Paper lifting motion

- The energized lift-up motor raises the paper lifting plate.
- The paper stack of the tray pushes up the pick-up roller.
- When the upper limit position is detected by the upper limit sensor, it stops raising the paper lifting plate.

(1) When the drawer is slid in

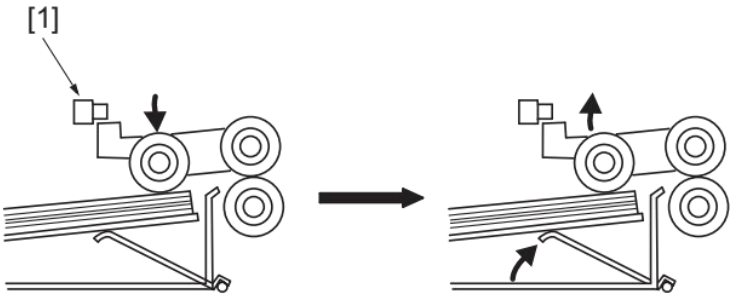
1. The FD paper size board of each tray detects whether the drawer is slid in or out.
2. When the FD paper size board is activated, the lift-up motor is energized to thereby raise the paper lifting plate.
3. The paper lifting plate goes up and the top surface of the paper stack pushes up the pick-up roller.
4. The lifting motion stops as soon as the upper limit sensor detects the upper limit position.



[1]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)	[2]	Pick-up roller
[3]	Paper lift-up plate B	[4]	Paper lift-up plate A

(2) During a print cycle

1. When the paper amount decreases, lowering the pick-up roller during the print cycle, the upper limit sensor is unblocked and the paper lifting plate goes up.
2. The lift-up motor is driven until the upper limit sensor is blocked again.

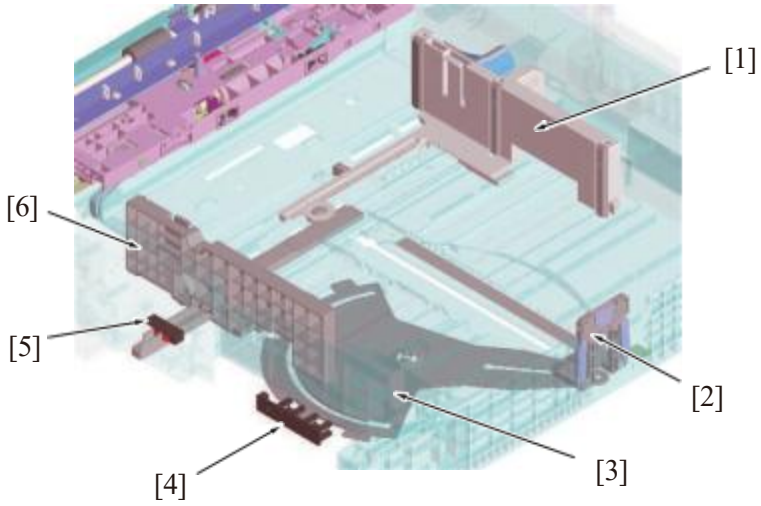


[1]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)	-	-

3.5 Paper feed tray section

3.5.1 Paper size detection

- When the paper length guide of the drawer is moved, the circular paper length detection plate located on the bottom of the drawer turns.
- The paper length is detected by the lever that operates in conjunction with the paper length detection plate, and four paper length detection sensors on the FD paper size board.
- Moving the paper width guide activates or deactivates two paper width detection sensors on the CD paper size board through the cutout in the lever.
- The combination of the four paper length detection sensors and two paper width detection sensors that are either activated or deactivated, determines the size of the paper loaded in the drawer.
- The sensor on the FD paper size board detects whether the drawer is open or not.



[1]	Paper width guide (front)	[2]	Paper length guide
[3]	Paper length detection plate	[4]	Tray 3 FD paper size board (FDPSB/3) Tray 4 FD paper size board (FDPSB/4)
[5]	Tray 3 CD paper size board (CDPSB/3) Tray 4 CD paper size board (CDPSB/4)	[6]	Paper width guide (rear)

3.5.2 Paper feed tray locking mechanism

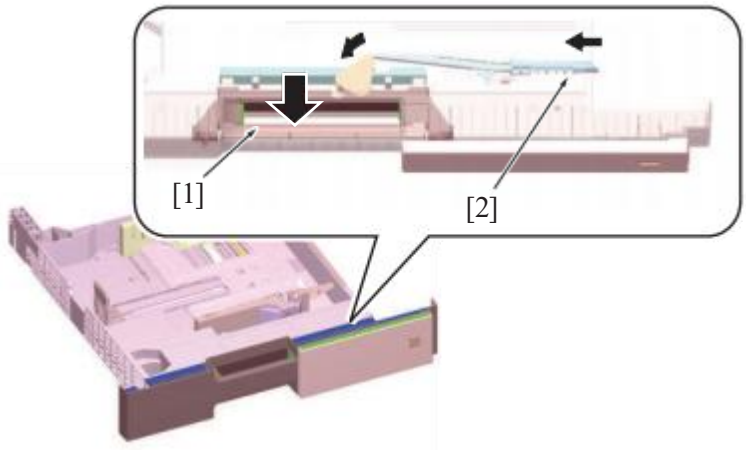
- The paper feed tray is provided with a locking mechanism.

(1) Unlocking the paper feed tray

- By drawing the lever on the back of handle to the front, the tray lock lever equipped on the right side of the paper feed tray is disengaged.
- Rollers are provided for the right and left tray rails. They reduce the operating force required for sliding in/out the paper feed tray.

(2) Locking the paper feed tray

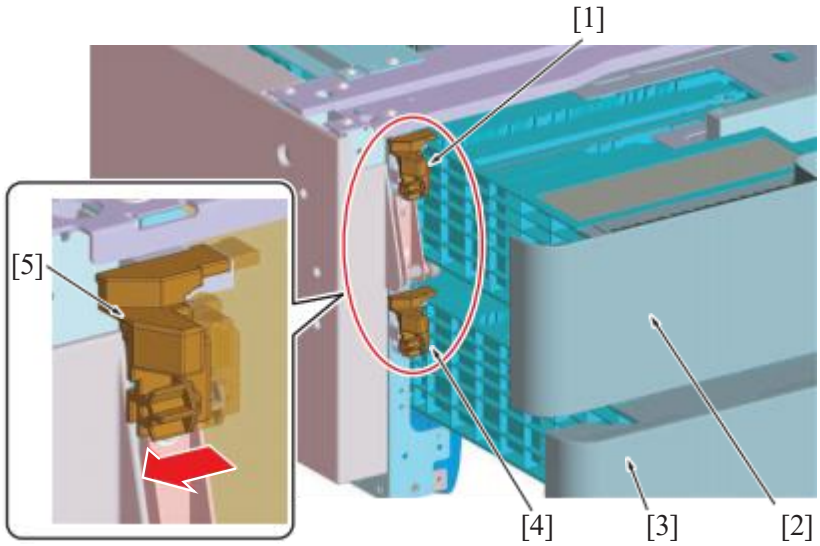
- Pushing the paper feed tray all the way toward the rear will allow the paper feed tray to be slid into the machine.
- When the paper feed tray is inserted all the way in place, the tray lock lever equipped on the right side of the paper feed tray locks the tray in place.
- To prevent false detection, the paper feed tray is equipped with a spring in the rear that pushes the tray back out if the tray is not inserted all the way in place.



[1]	Lever of the paper feed tray	[2]	Lock lever

3.5.3 Paper feed tray stopper release mechanism

- The paper feed tray is equipped with a stopper mechanism.
- When paper is placed, the stopper prevents the paper feed tray from falling off from the machine even if it is pulled out.
- The paper feed tray can be removed if paper is remained inside the machine at the time of handling a paper jam or a misfeed.



[1]	Tray 3 stopper	[2]	Tray 3
[3]	Tray 4	[4]	Tray 4 stopper
[5]	Tray stopper release	-	-

(1) Releasing the paper feed tray stopper

- Press the stopper on its left side, the stopper lock will be released.

(2) Locking the paper feed tray stopper

- Press the stopper on its right side, the stopper lock will be locked.

NOTE

- **A mechanism is provided to push and lock the stopper through closing the paper tray to its home position even if you forget to lock it. (Mechanism to prevent forgetting lock)**

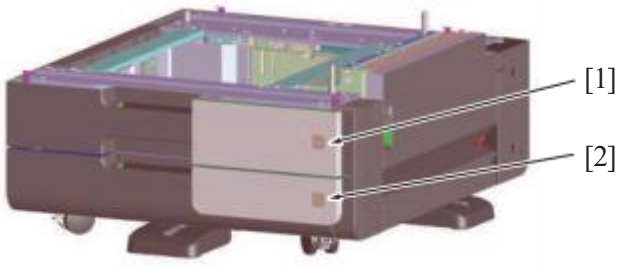
3.5.4 Remaining paper display mechanism

- The amount of remaining paper is indicated by the LED on the right side of each tray and by the screen of the control panel.
- The estimate amount of paper for near empty is around 50 sheets.

(1) Display state

Tray status	Empty	Near empty	Other status (During lifting-up and with tray not being set included)
LED status	Lit	OFF/Blink (*)	OFF

- *: The near empty display may be OFF or Blink as set from [Machine State LED Setting] in [Service Mode] -> [System 1].

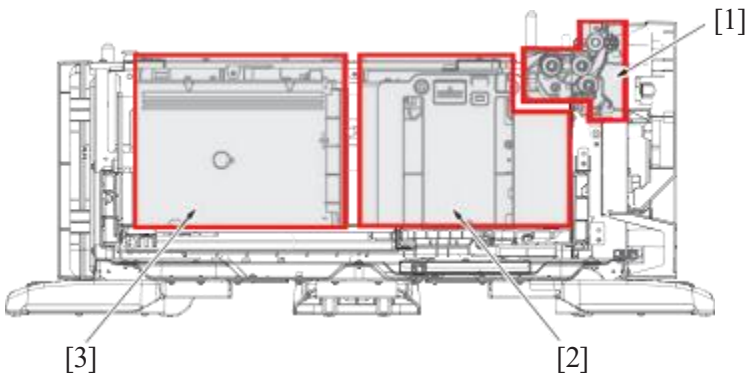


[1]	Tray 3 paper remaining amount display LED	[2]	Tray 4 paper remaining amount display LED (*)

- *: CPT-810 only

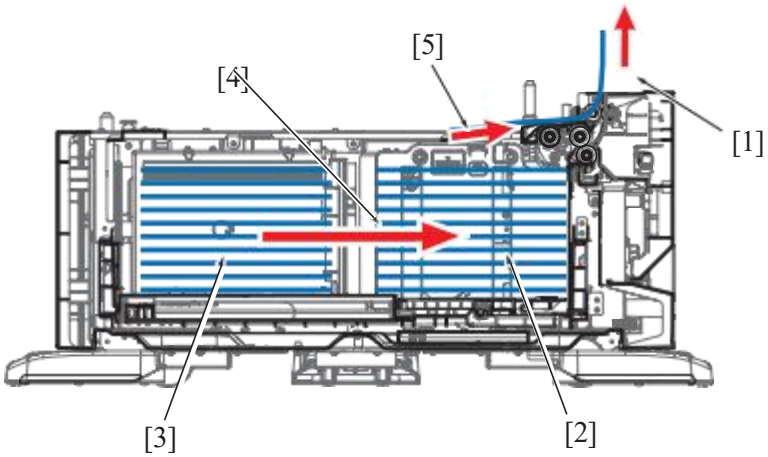
4. CPT-810H

4.1 CONFIGURATION



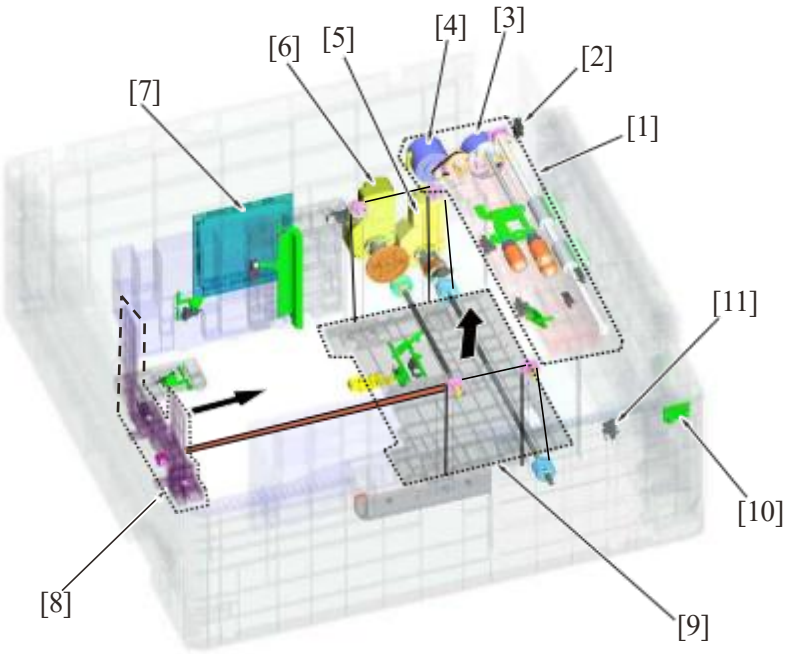
[1]	Paper feed section	[2]	Main tray
[3]	Sub tray	-	-

4.2 PAPER PATH



[1]	Transportation to main body	[2]	Main tray
[3]	Sub tray	[4]	Move from the sub tray to the main tray
[5]	Paper feed from main tray	-	-

4.3 DRIVE

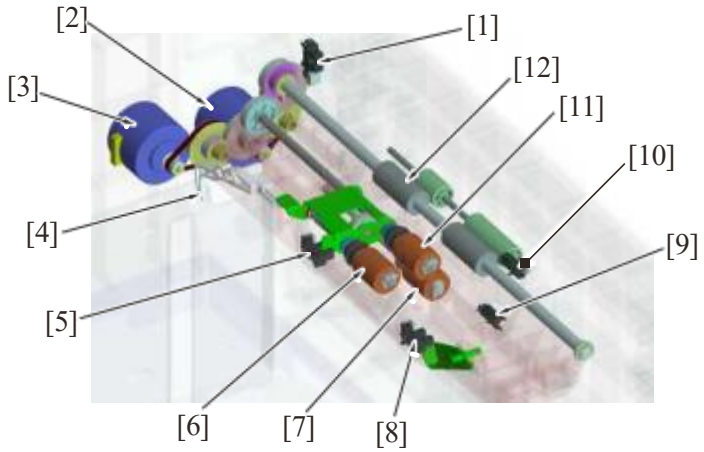


[1]	Paper feed section	[2]	Right bottom door sensor (PS131)
[3]	Vertical transport motor (M132)	[4]	Paper feed motor (M131)
[5]	Elevator motor (M134)	[6]	Shifter motor (M133)
[7]	PC control board (PCCB)	[8]	Shifter
[9]	Elevator tray	[10]	Tray 3 paper empty indicator board (PEIB/3)
[11]	Cassette set sensor (PS143)	-	-

4.4 Paper feed section

4.4.1 Paper feed drive mechanism

- The paper feed motor drives the pick-up roller and feed roller to take up and feed a sheet of paper into the main body.
- Then, the vertical transport motor transports the paper through the vertical transport section.
- The pick-up roller takes up sheets of paper and the feed roller and separation roller ensure that only one sheet of paper is separated and fed into the main body.
- When the drawer is slid in, the lever is pushed to lower the pick-up roller.
- The main tray is raised to cause the paper to push the pick-up roller. The tray is brought to a stop when the main tray upper limit sensor detects the upper limit.
- The main tray upper paper empty sensor detects whether paper is loaded on the main tray at the upper limit position.



[1]	Right bottom door sensor (PS131)	[2]	Vertical transport motor (M132)
[3]	Paper feed motor (M131)	[4]	Lever
[5]	Main tray upper limit sensor (PS136)	[6]	Pick-up roller
[7]	Separation roller	[8]	Main tray upper paper empty sensor (PS137)

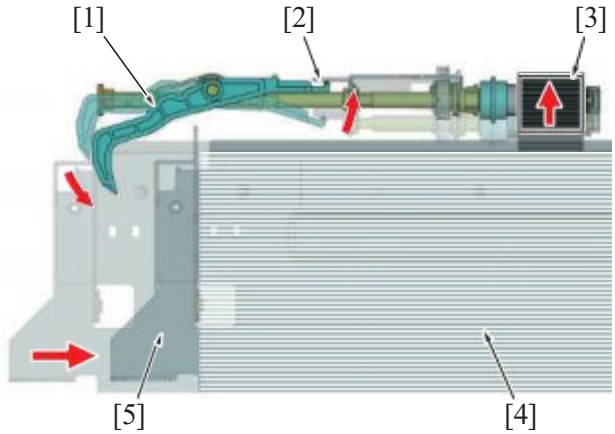
[9]	Paper feed sensor (PS132)	[10]	Vertical transport sensor (PS133)
[11]	Feed roller	[12]	Vertical transport roller

4.4.2 Roller retract mechanism

(1) Pick-up roller retract mechanism

- The pick-up roller comes down through spring pressure when the paper feed tray is closed. When paper is placed, the roller is pressed against the paper surface. (Paper feed position)
- If the paper feed tray lock is released, the roller lifting lever is also released and the pick-up roller holder is pushed up to the retraction position.
- Thus, when the paper feed tray is inserted or pulled out, the pick-up roller prevents the paper from being damaged.

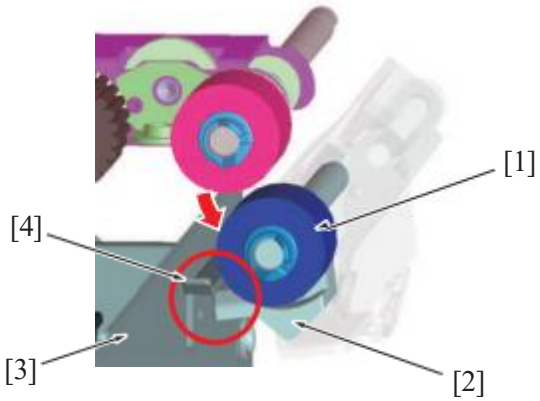
Left side view



[1]	Roller lifting lever	[2]	Pick-up roller holder
[3]	Pick-up roller (retract position)	[4]	Paper
[5]	Paper feed tray (lock released)	-	-

(2) Separation roller retract mechanism

- A mechanism to pressure/release the separation roller is provided. It prevents the paper that is remained in the machine from being damaged or spilling out into the machine.
- The rib provided in the feeder tray passes above the separation roller retract lever when the tray is pulled out and inserted, separating the separation roller from the paper feed roller.
- Paper that is caught between the rollers is released through releasing separation roller and feed roller. It helps prevent paper from accumulating inside the machine.
- When the paper feed tray is fully inserted, the rib on the tray side does not interfere with the separation roller retract lever, and the separation roller and the paper feed roller are pressed, allowing the paper feed operation.



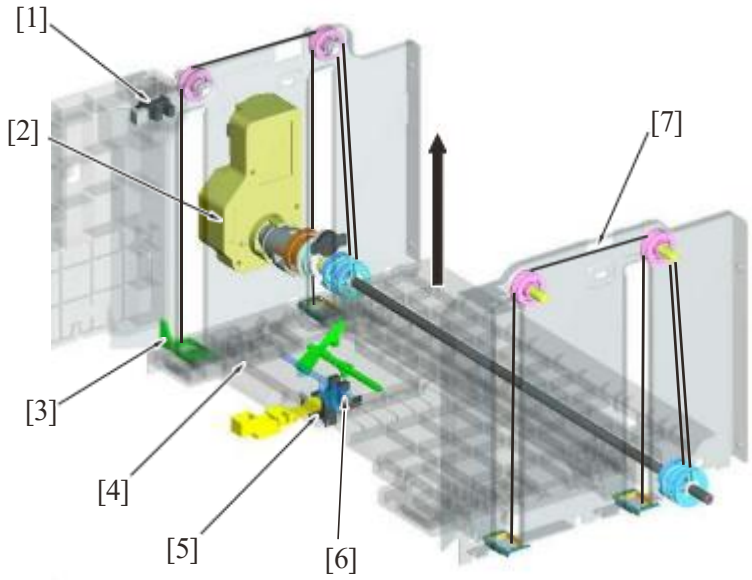
[1]	Separation roller	[2]	Separation roller retract lever
[3]	Paper Tray	[4]	Rib

4.5 Main tray section

4.5.1 Main tray up / down mechanism

- The elevator tray is suspended by the cables at the front and rear.

- As the elevator motor turns forward or backward, the cables are wound to raise or lower the tray.
- The amount of paper left in the main tray is calculated using time for the lifting motion (period of time through which the elevator motor is kept energized).
- When the amount of paper becomes small, the near empty detection actuator blocks the main tray paper near empty sensor.
- When paper in the main tray runs out, the main tray paper empty sensor detects that condition and a descent motion of the main tray is started.
- The shifter stop/lower limit position sensor detects the main tray at its lower limit position.

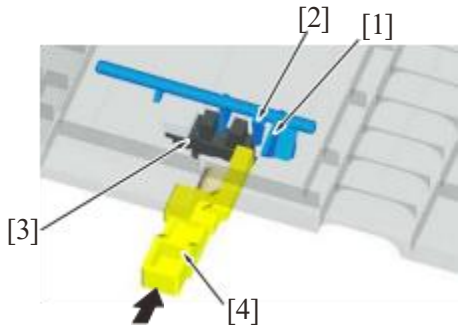


[1]	Main tray paper near empty sensor (PS135)	[2]	Elevator motor (M134)
[3]	Near empty detection actuator	[4]	Main tray
[5]	Shifter stop / lower limit position sensor (PS138)	[6]	Main tray paper empty sensor (PS134)
[7]	Wire	-	-

4.5.2 Main tray lower limit detection

(1) Main tray lower limit detection

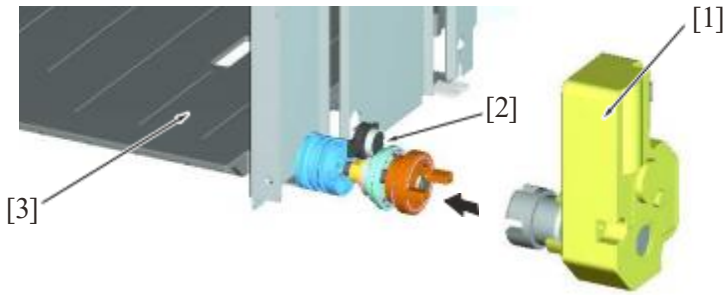
- If the sub tray is detected to be loaded with paper when paper on the main tray runs out, the descent motion of the main tray is started.
- The shifter stop/lower limit position sensor detects the lower limit position of the main tray.
- This sensor has two functions and detects also the stop position of the shifter.
- The shift stop position detection actuator portion detects the shifter stop position when it is pushed as a result of the lever being pushed by the shifter.



[1]	Lower limit detection actuator portion	[2]	Shifter stop position detection actuator portion
[3]	Shifter stop / lower limit position sensor (PS138)	[4]	Lever

(2) Main tray lower operation

- If the sub tray is detected to be not loaded with paper when paper on the main tray runs out, the descent motion of the main tray is not performed. The main tray is lowered when the drawer is slid out.
- When the drawer is slid out, the elevator motor is disengaged from the gear, so that the main tray lowers by its own weight.
- At this time, an effect of the damper connected to the gear prevents the main tray from lowering swiftly and ensures a slow descent motion.

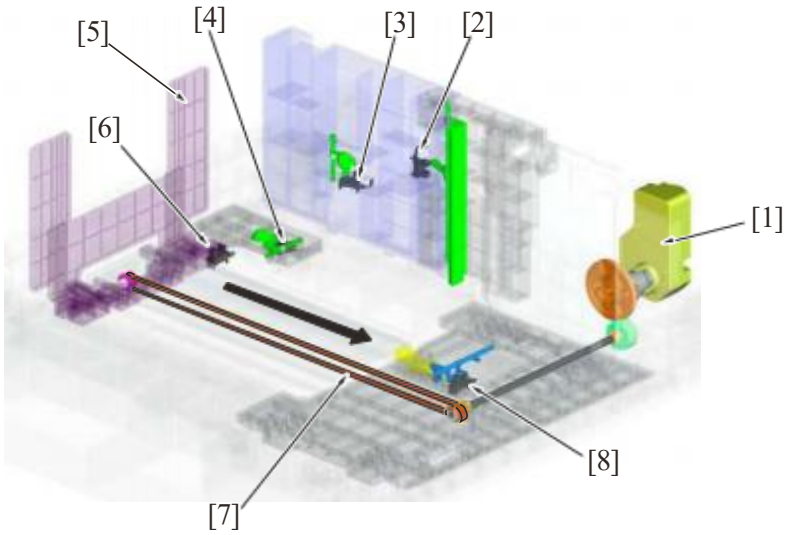


[1]	Elevator motor (M134)	[2]	Damper
[3]	Main tray	-	-

4.6 Sub tray section

4.6.1 Shifter drive mechanism

- If the main tray runs out of paper, while the sub tray is loaded with paper, the paper stack on the sub tray is moved to the main tray.
- The shifter motor drives the belt, which moves the shifter to thereby move the paper stack.
- The shifter moves to the position of the shifter stop/lower limit position sensor. Then, the shifter motor is rotated backward to return the shifter to, and stop it at, the position at which the shifter home sensor is blocked.

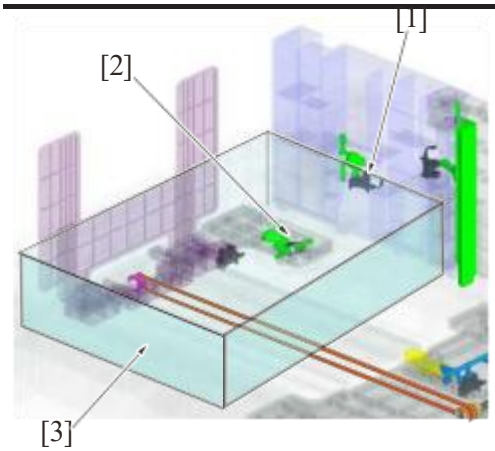


[1]	Shifter motor (M133)	[2]	Division board sensor (PS142)
[3]	Sub tray paper remaining amount sensor (PS140)	[4]	Sub tray paper empty sensor (PS141)
[5]	Shifter	[6]	Shifter home sensor (PS139)
[7]	Belt	[8]	Shifter stop / lower limit position sensor (PS138)

4.6.2 Sub tray paper remaining amount

- The amount of paper left on the sub tray, is detected by the combination of states of the sub tray paper remaining amount sensor and the sub tray paper empty sensor. The amount of paper left is detected at three different levels.
- Roughly speaking, the sub tray paper remaining amount sensor is deactivated from the activated state when the amount of paper left is about half the capacity of the tray.

Paper remaining amount	Sub tray paper remaining amount sensor	Sub tray paper empty sensor
Large	ON	ON
Small	OFF	ON
None	OFF	OFF



[1]	Sub tray paper remaining amount sensor (PS140)	[2]	Sub tray paper empty sensor (PS141)
[3]	Paper	-	-

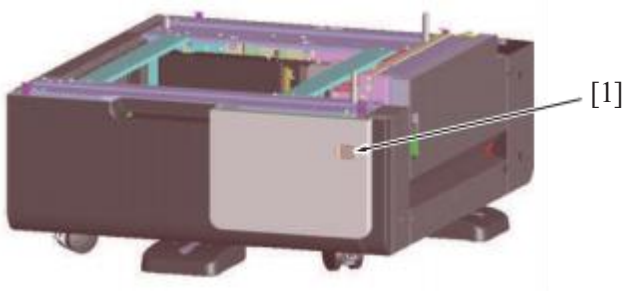
4.7 Remaining paper display mechanism

- The amount of remaining paper is indicated by the LED on the right side of each tray and by the screen of the control panel.

4.7.1 Display state

Tray status	Empty	Near empty	Other status (During lifting-up and with tray not being set included)
LED status	Lit	OFF/Blink (*)	OFF

NOTICE
- The LED is OFF regardless of the amount of paper left in the tray in the energy save mode.

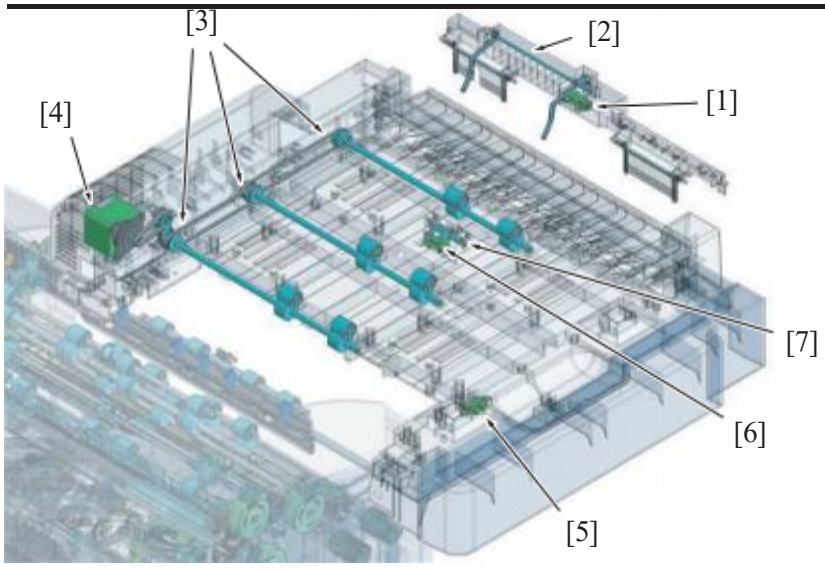


[1]	Tray paper remaining amount display LED	-	-

5. CPK-810R

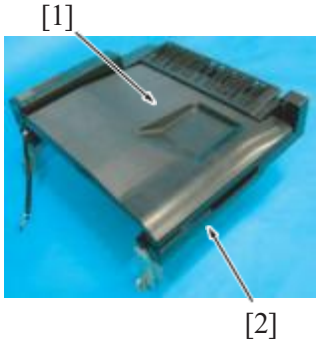
5.1 Configuration

- The RU section (horizontal transport section) transfers paper that is fed out from the main body paper exit section to an optional finisher paper feed section.
- The RU door is installed at the upper part of the RU section. Access to the horizontal transport roller is enabled by opening the door upward. To be used for periodical cleaning of the roller and dealing with the paper misfeed at the RU section and other necessary operations.



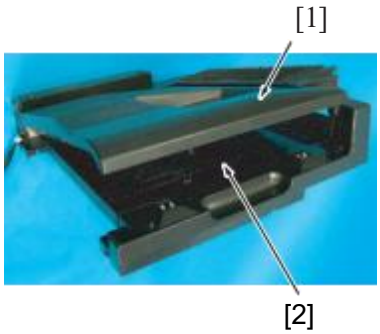
[1]	3rd exit tray full sensor (PS1): Exit section of main body	[2]	3rd exit tray full sensor actuator: Exit section of main body
[3]	RU section horizontal transport roller	[4]	RU transport motor (M1)
[5]	RU cover open/close detection sensor (PS3)	[6]	RU entrance sensor (PS2)
[7]	RU entrance sensor actuator	-	-

3rd tray on the RU section



[1]	3rd tray	[2]	Relay Unit CPK-810R

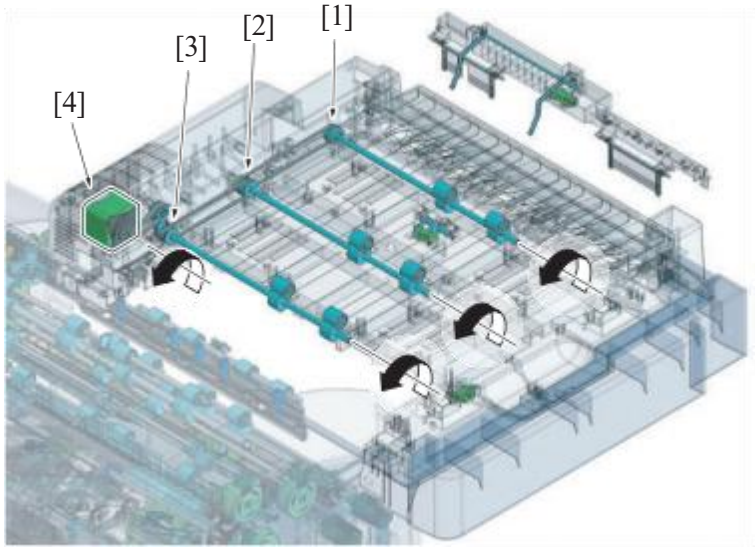
RU section door is opened



[1]	RU section door	[2]	Horizontal transport section

5.2 Drive

- The RU transport motor drives the RU section. It drives three RU section horizontal transport roller.
- The RU section horizontal transport roller is driven using the drive belt.

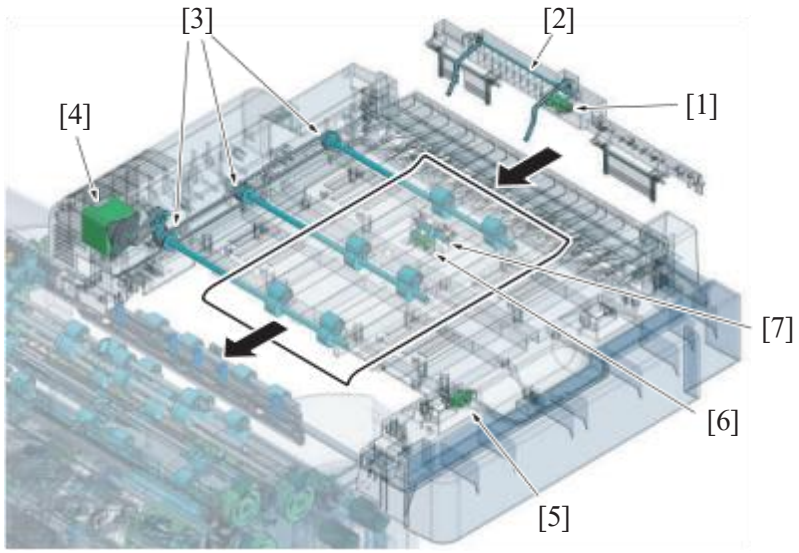


[1]	RU section horizontal transport roller1	[2]	RU section horizontal transport roller2
[3]	RU section horizontal transport roller3	[4]	RU transport motor (M1)

5.3 Paper transport control

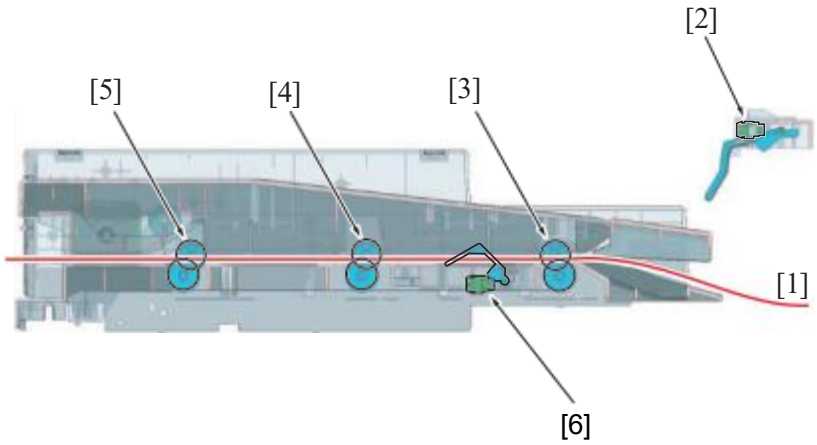
- It transports the paper that is discharged from the lower exit of the main body paper exit section, to the RU section with the feed guide.
- It transports the paper to the finisher section, using three RU section horizontal transport rollers.
- The RU entrance sensor actuator is installed downstream of the paper path of the RU section horizontal transport roller 1, and the RU entrance sensor detects the paper transportation status.

Perspective view



[1]	3rd exit tray full sensor (PS1)	[2]	3rd exit tray full sensor actuator
[3]	RU section horizontal transport roller	[4]	RU transport motor (M1)
[5]	RU cover open/close detection sensor (PS3)	[6]	RU entrance sensor (PS2)
[7]	RU entrance sensor actuator	-	-

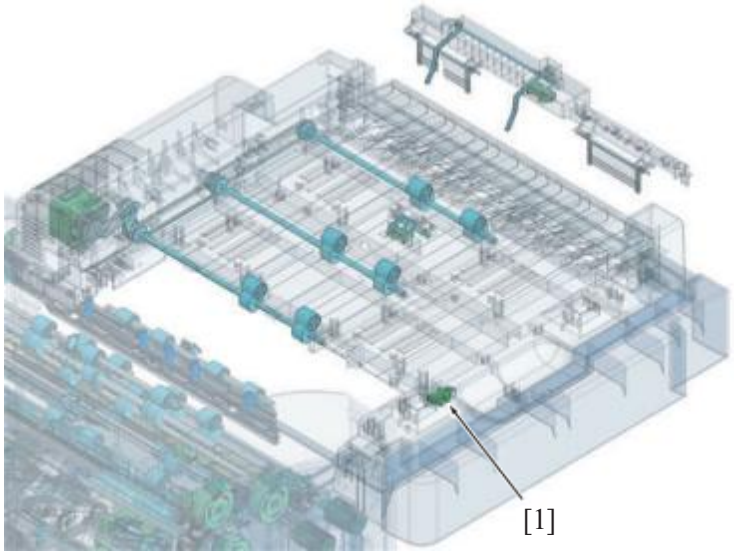
Front view



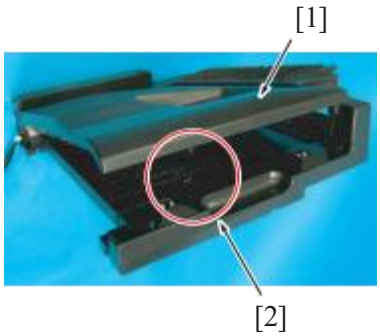
[1]	Paper	[2]	3rd exit tray full sensor (PS1)
[3]	RU section horizontal transport roller 1	[4]	RU section horizontal transport roller 2
[5]	RU section horizontal transport roller 3	[6]	RU entrance sensor (PS2)

5.4 RU section door open/close detection mechanism

- The RU door open/close detection sensor installed at the front left of the RU section, detects open/close of the RU door.
- Opening the RU door, the warning screen will display on the control panel. All the setting operations and jobs are disabled while the warning screen is displayed. The printing job is interrupted, and the paper being transported causes paper misfeed. The warning screen can be cancelled by closing the door.



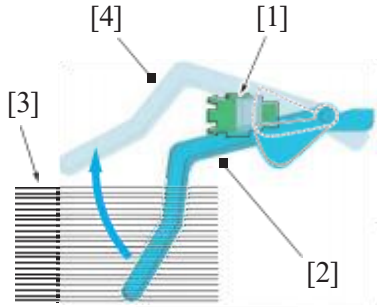
[1]	RU cover open/close detection sensor (PS3)	-	-



[1]	RU door	[2]	RU cover open/close detection sensor (PS3)

5.5 3rd exit tray full detection mechanism

- When a predetermined quantity of paper is discharged to the 3rd exit tray, the 3rd exit tray full sensor actuator will be pushed up by the discharged paper. When the actuator is pushed up to the predetermined position, the 3rd exit tray full sensor will be unblocked by the actuator to detect the exit tray full.
- The 3rd tray full is detected, the warning screen will display on the control panel. All setting operations and jobs will be disabled when the warning screen is displayed on the screen. The warning message will be released by removing the paper on the 3rd tray.



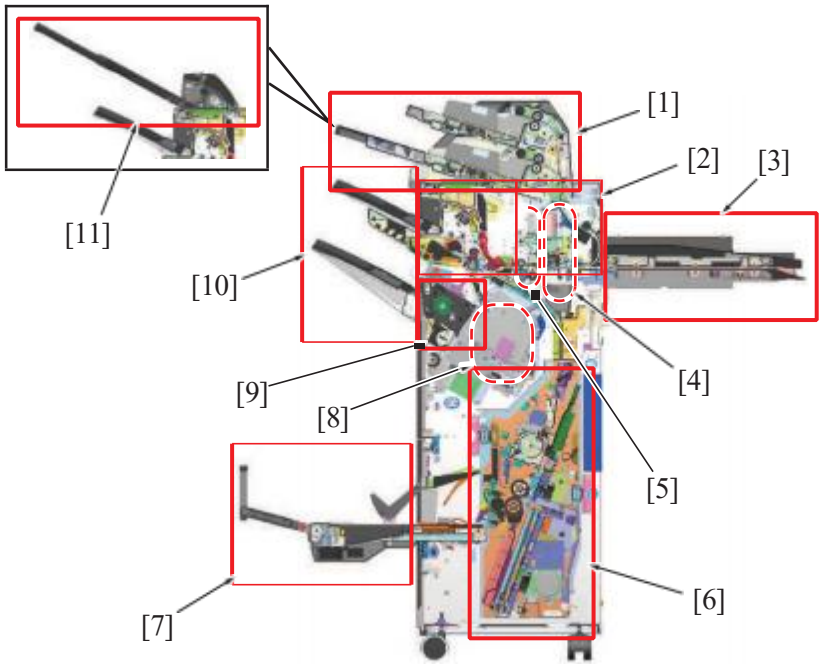
[1]	3rd exit tray full sensor (PS1)	[2]	3rd exit tray full sensor actuator (no paper)

[3]	Paper	[4]	3rd exit tray full sensor actuator (exit tray full)

6. CPF-810H/CPF-810X/CPK-810XP/CPK-810Z

6.1 CONFIGURATION

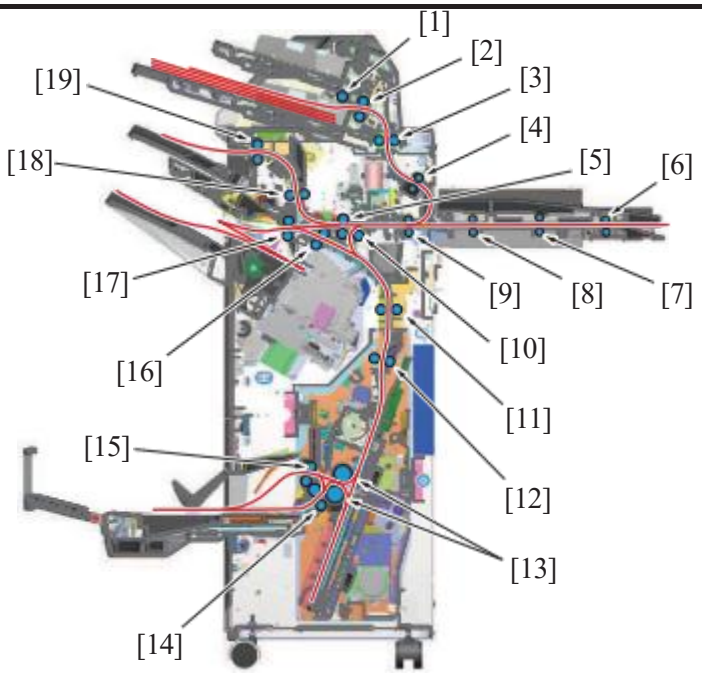
- For the CPF-810H model, the horizontal transport section, transport section, alignment section, output tray (main tray/sub tray),and stapler section are all integrated.
- The CPF-810X is the model of a finisher that the saddle section is added to CPF-810H.



[1]	Post inserter section (when PI-507 is installed)	[2]	Transport section
[3]	Horizontal transport section	[4]	Punch section (When CPK-810XP installed)
[5]	Z folding section (when CPK-810Z is installed)	[6]	Saddle section (CPF-810X only)
[7]	Saddle tray section (CPF-810X only)	[8]	Stapler section
[9]	Alignment section	[10]	Exit tray section
[11]	Job separator section (when JS-602 is installed)	-	-

6.2 PAPER PATH

CPF-810X, CPK-810XP, CPK-810Z installed

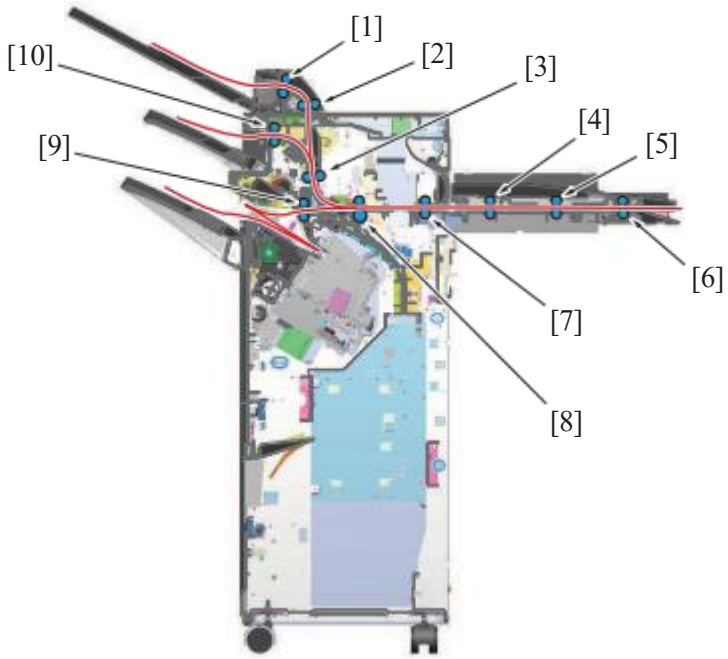


[1]	Pick-up roller/Lw (post inserter) (*)	[2]	Feed roller/Lw, separation roller/Lw (post inserter) (*)
[3]	Transport roller, transport roll (post inserter) (*)	[4]	PI transport roller, PI transport roll

[5]	Transport roller 1/transport roll 2	[6]	RU transport roller 1,transport roll 1 (relay unit) (*)
[7]	RU transport roller 2,transport roll 2 (relay unit) (*)	[8]	RU transport roller 3,transport roll 3 (relay unit) (*)
[9]	FNS entry roller, roll	[10]	Z-fold roller (Z-fold unit) (*)
[11]	Saddle section exit roller 2, roll	[12]	Saddle section paper feed roller, roll
[13]	Center folding roller	[14]	Tri-folding roller, roll
[15]	Sub tray exit roller, roll	[16]	Saddle section exit roller 1, roll
[17]	Receiving roller, Receiving roll	[18]	Sub tray transport roller, roll
[19]	Sub tray exit roller, roll	-	-

- *: Option

CPF-810H/JS-602 installed



[1]	Job separator exit roller, roll (separator) (*)	[2]	Job separator transport roller, roll (separator) (*)
[3]	Sub tray transport roller, roll	[4]	RU transport roller 3,transport roll 3 (relay unit) (*)
[5]	RU transport roller 2,transport roll 2 (relay unit) (*)	[6]	RU transport roller 1,transport roll 1 (relay unit) (*)
[7]	FNS entry roller, roll	[8]	Transport roller 1/transport roll 2

[9]	Receiving roller, Receiving roll	[10]	Sub tray exit roller, roll

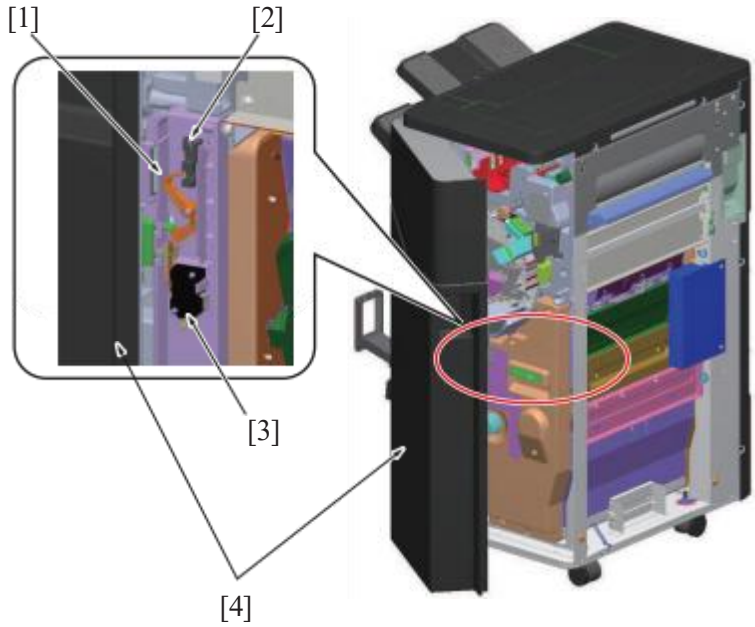
- *: Option

6.3 FINISHER SECTION

6.3.1 Door open/close detection mechanism

(1) Front door open/close detection mechanism

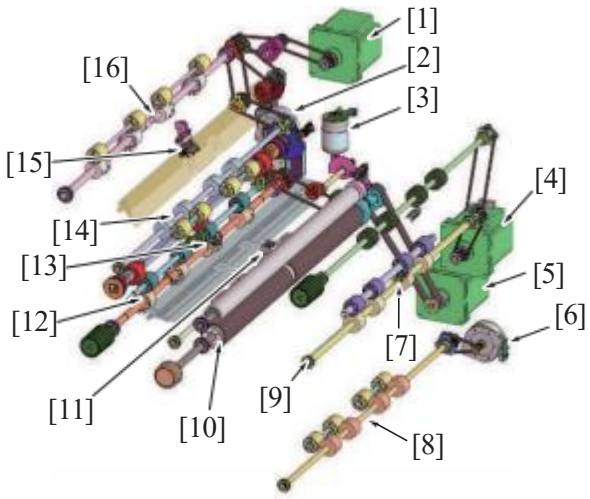
- The front door open detect switch is installed on the right front side of the finisher section. The front door open/close detection sensor is installed on the top of the front door open detect switch.
- The front door open detect switch and the front door open/close detection sensor detect the open/close of the front door.
- Open the front door, the warning screen will display on the control panel. All the setting operations and jobs are disabled while the warning screen is displayed. The printing job is interrupted, and the paper being transported causes paper misfeed. The warning screen can be cancelled by closing the door.



[1]	Actuator	[2]	Front door open/close detection sensor (PS55)
[3]	Front door open detect switch (SW1)	[4]	Front door

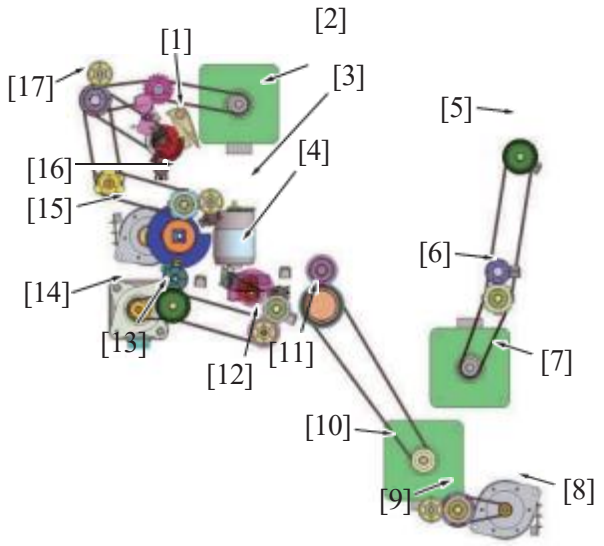
6.4 TRANSPORT SECTION

6.4.1 Configuration



[1]	Sub tray discharge motor (M18)	[2]	Receiving roller retraction motor (M10)
[3]	Route change gate motor (M4)	[4]	FNS entry transport motor (M20)
[5]	ZU discharge motor (M21)	[6]	SD discharge motor (M16)
[7]	FNS entrance sensor (PS34)	[8]	Saddle section exit roller 2
[9]	FNS entry roller	[10]	Transport roller 2
[11]	FNS middle sensor (PS36)	[12]	Receiving roller
[13]	Main tray exit sensor (PS37)	[14]	Saddle section exit roller 1
[15]	Sub tray exit sensor (PS24)	[16]	Sub tray exit roller

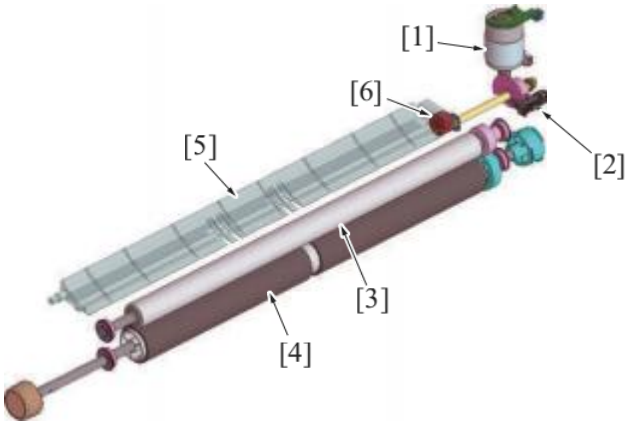
6.4.2 Drive



[1]	Sub tray/JS route change gate	[2]	Sub tray discharge motor (M18)
[3]	Route change gate motor (M4)	[4]	Route change gate
[5]	PI transport roller	[6]	FNS entry roller
[7]	FNS entry transport motor (M20)	[8]	SD discharge motor (M16)
[9]	Saddle section exit roller 2	[10]	ZU discharge motor (M21)
[11]	Transport roller 2	[12]	Saddle section exit roller 1
[13]	Receiving roller	[14]	FNS discharge motor (M17)
[15]	Receiving roller retraction motor (M10)	[16]	Sub tray transport roller
[17]	Sub tray exit roller	-	-

6.4.3 Route change gate

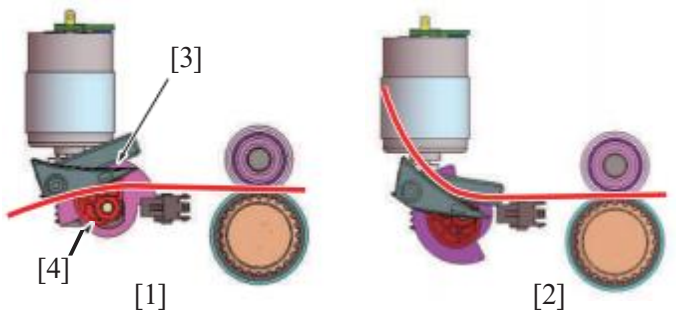
- The route change gateswitches the paper transport path between the main tray and the sub tray.
- The route change gate motor drives to move the route change gate vertically to switch between the paper paths.
- The route change gate home sensor detects the vertical position of the route change gate.



[1]	Route change gate motor (M4)	[2]	Route change gate home sensor (PS21)
[3]	Transport roller 1	[4]	Transport roller 2
[5]	Route change gate	[6]	Cam

(1) Route change gate operation

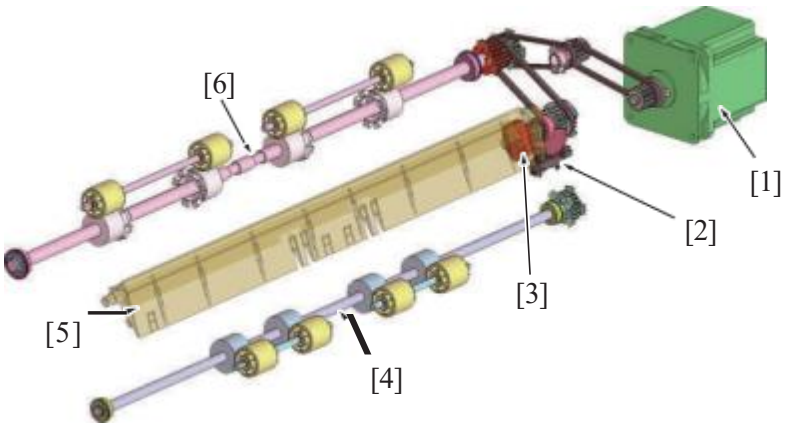
- The cam rotates when the route change gate motor is driving.
- Rotation of the cam moves the route change gate vertically to switch the paper path between the main tray and sub tray.



[1]	Main tray output	[2]	Sub tray output
[3]	Route change gate	[4]	Cam

6.4.4 Sub tray/JS route change gate

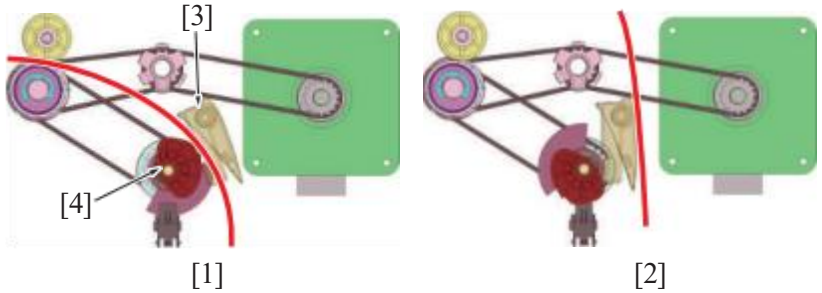
- The sub tray/JS route change gateswitches the path for transporting paper to either the sub tray or the optional job separator (JS-602).
- The sub tray discharge motor drives to move the sub tray/JS route change gate horizontally to switch between the paper paths.
- The sub tray/JS route change gate home sensor detects the horizontal position of the sub tray/JS route change gate.



[1]	Sub tray discharge motor (M18)	[2]	Sub tray/JS route change gate home sensor (PS23)
[3]	Cam	[4]	Sub tray transport roller
[5]	Sub tray/JS route change gate	[6]	Sub tray exit roller

(1) Sub tray/JS route change gate operation

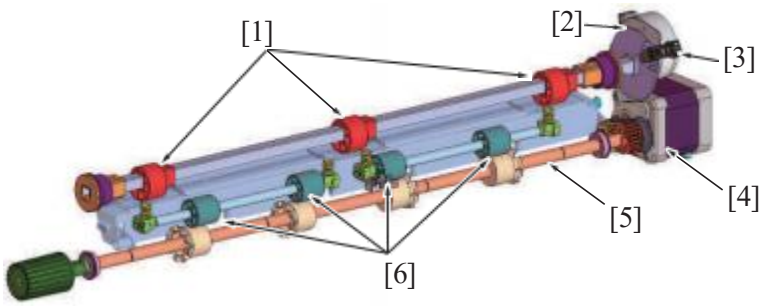
- The cam rotates when the sub tray discharge motor is driving.
- The cam rotates to move the sub tray/JS route change gate horizontally to switch the paper paths between the sub tray and the job separator.
- The sub tray discharge motor drives the sub tray section exit roller. The normal and reverse rotation of the sub tray discharge motor switches between discharging to the sub tray and driving the sub tray/JS route changing gate.



[1]	Sub tray output	[2]	Job separator output
[3]	Sub tray/JS route change gate	[4]	Cam

6.4.5 Receiving roller section up/down function

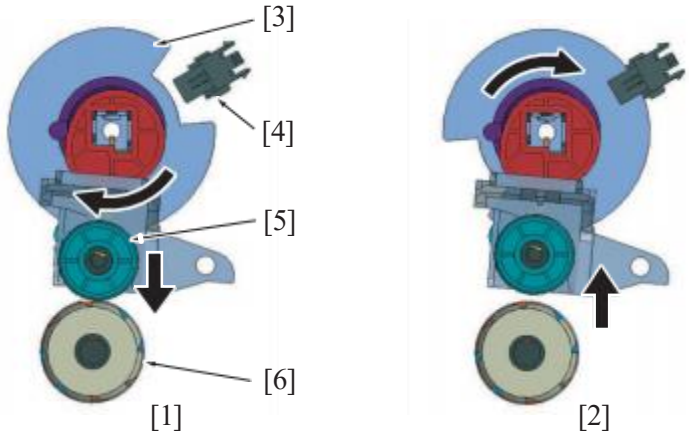
- The up/down movement of the receiving cam switches the timing of transporting the paper to the alignment section.
- The up/down operations of the receiving cam are driven by the receiving roller retraction motor.
- The position of the receiving cam is detected by the receiving roller retraction sensor.
- The cam rotates to raise or lower the receiving roll to pressure and release the receiving roller.



[1]	Receiving com	[2]	Receiving roller retraction motor (M10)
[3]	Receiving roller retraction sensor (PS22)	[4]	FNS discharge motor (M17)
[5]	Receiving roller	[6]	Receiving roll

(1) Receiving roller pressure and release

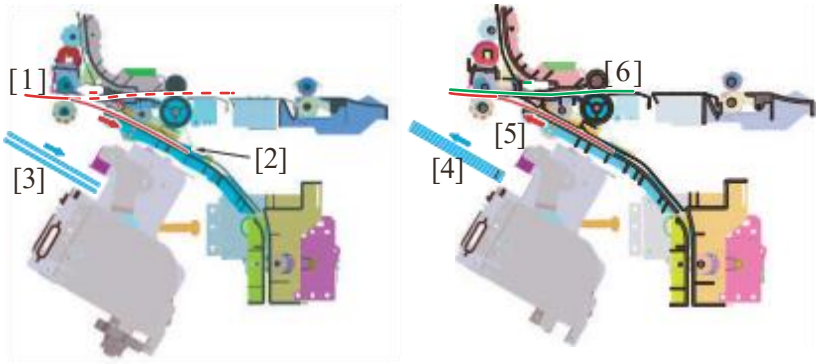
- When the receiving roll is pressed against the receiving roller, the paper is transported to the alignment section by the receiving roller.
- When the receiving roll is released from the receiving roller, the paper is in a standby state along the transport path.
- The detection board that is installed on the same shaft as the cam rotates, which changes the state of the receiving roller retraction sensor. Thus,the position of the receiving roll can be determined.
- The receiving roll is determined to be pressing against the receiving roller when the receiving roller retraction sensor is unblocked. The receiving roll is determined to be in the release state when the sensor is blocked.



[1]	Receiving roller pressure	[2]	Receiving roller release
[3]	Cam (detection plate)	[4]	Receiving roller retraction sensor (PS22)
[5]	Receiving roll	[6]	Receiving roller

6.4.6 Buffer control

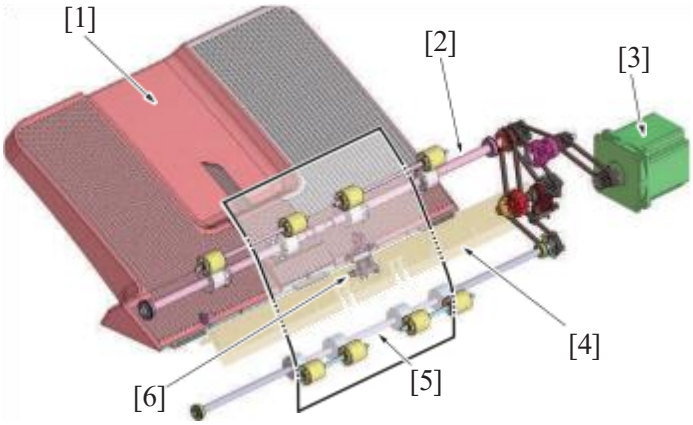
- The receiving roller section up/down mechanism is provided to eliminate the time loss for the next sheet of paper and achieve high productivity during the offset and staple operations.
- This allows handling a print job without reducing the paper transport speed even under the condition where the preceding sets of sheets are being aligned and stapled.
- The first sheet of paper that is transported during the paper batch alignment is switched back toward the saddle exit direction temporarily.
- After paper sheets are aligned and discharged, the first sheet of paper is transported together with the arrived second sheet to the alignment section.



[1]	First sheet	[2]	First sheet (switchback)
[3]	Paper batch (transported to the alignment tray)	[4]	Aligned paper sheets
[5]	First sheet	[6]	Second sheet

6.4.7 Sub tray output

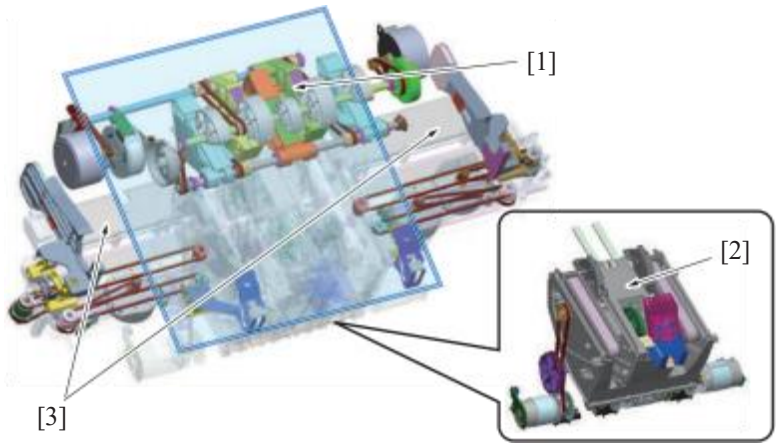
- The sub tray by the sub tray section exit roller and sub tray transport roller drive to discharge paper that is transported with the sub tray/JS route changing gate to the sub tray.
- The sub tray discharge motor drives the sub tray section roller and sub tray transport roller.



[1]	Sub tray	[2]	Sub tray exit roller
[3]	Sub tray discharge motor (M18)	[4]	Sub tray/JS route change gate
[5]	Sub tray transport roller	[6]	Sub tray exit sensor (PS24)

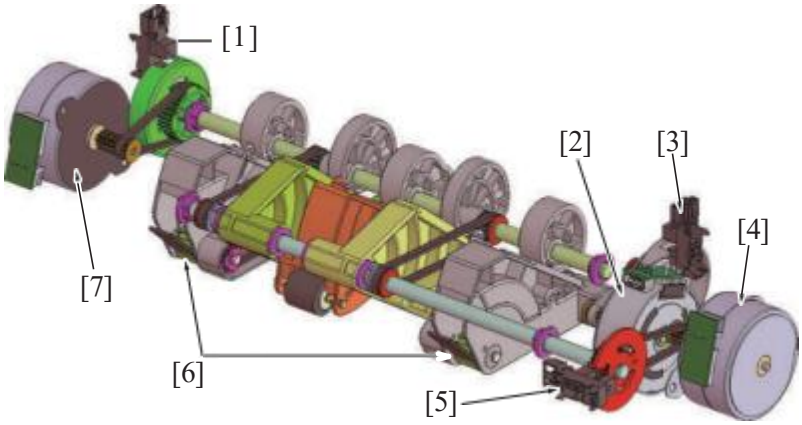
6.5 ALIGNMENT SECTION

6.5.1 Configuration



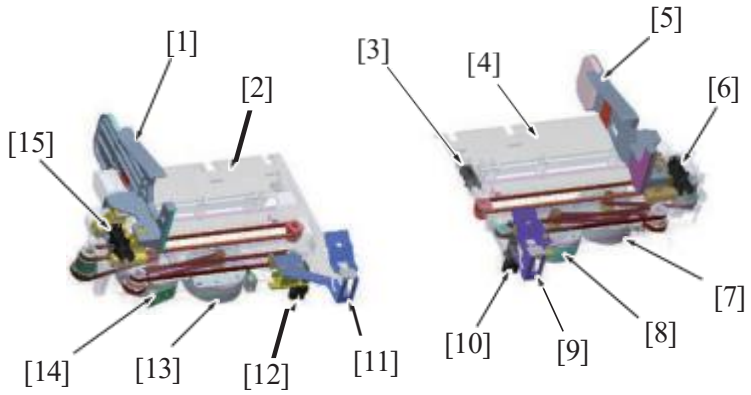
[1]	Upper paddle section	[2]	Exit section
[3]	Alignment tray section	-	-

(1) Upper paddle section



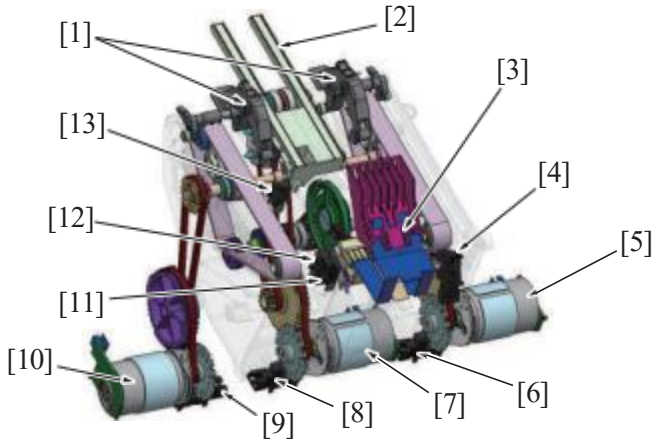
[1]	Paddle up/down home sensor (PS27)	[2]	FNS paddle motor (M9)
[3]	Upper paddle home sensor (PS25)	[4]	Arm drive motor (M8)
[5]	Arm home sensor (PS26)	[6]	Upper paddle
[7]	Paddle up/down motor (M7)	-	-

(2) Alignment tray section



[1]	Alignment plate/Fr	[2]	Alignment tray/Fr
[3]	Alignment tray paper detection sensor (PS32)	[4]	Alignment tray/Rr
[5]	Alignment plate/Rr	[6]	Alignment plate home sensor/Rr (PS6)
[7]	Alignment motor/Rr (M13)	[8]	Side stopper guide motor/Rr (M11)
[9]	Trailing edge stopper /Rr	[10]	Trailing edge stopper sensor/Rr (PS7)
[11]	Trailing edge stopper /Fr	[12]	Trailing edge stopper sensor/Fr (PS10)
[13]	Trailing edge stopper motor/Fr (M12)	[14]	Alignment motor/Fr (M14)
[15]	Alignment plate home sensor/Fr (PS9)	-	-

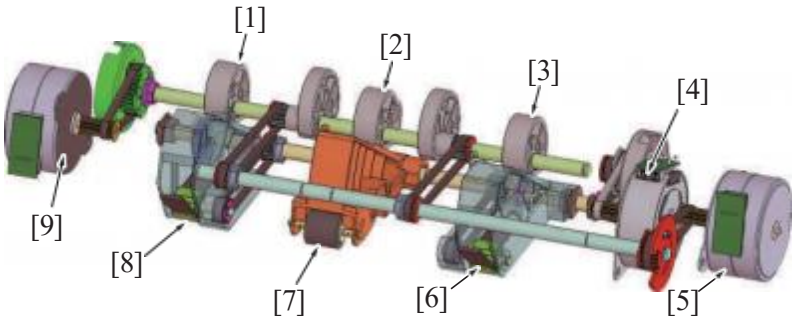
(3) Exit section



[1]	Gripper	[2]	Stack support plate
[3]	Trailing edge stopper/C	[4]	Gripper home sensor (PS3)
[5]	Pre-eject drive motor (M2)	[6]	Pre-eject encoder sensor (PS2)
[7]	Stacker plate drive motor (M3)	[8]	Stacker plate encoder sensor (PS4)
[9]	Gripper motor sensor (PS1)	[10]	Bundle eject motor (M1)
[11]	Trailing edge stopper home sensor (PS31)	[12]	Stacker plate home sensor (PS30)
[13]	Stacker plate position sensor (PS29)	-	-

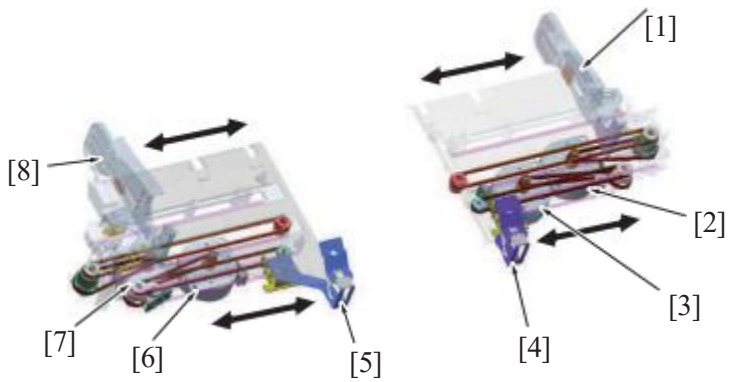
6.5.2 Drive

(1) Upper paddle



[1]	Paddle press cam	[2]	Paper press cam
[3]	Paddle press cam	[4]	FNS paddle motor (M9)
[5]	Arm drive motor (M8)	[6]	Upper paddle
[7]	Paper press roll	[8]	Upper paddle
[9]	Paddle up/down motor (M7)	-	-

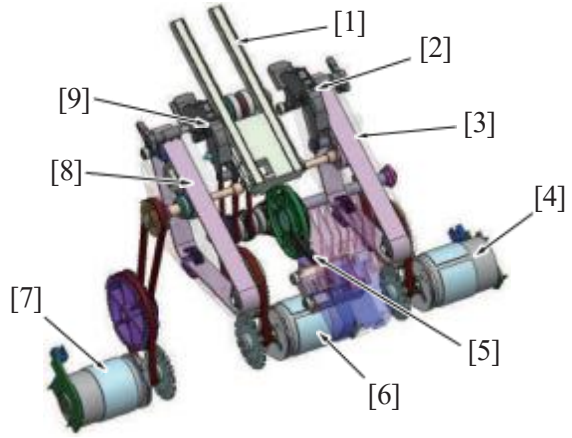
(2) Alignment tray section



[1]	Alignment plate/Rr	[2]	Alignment motor/Rr (M13)

[3]	Side stopper guide motor/Rr (M11)	[4]	Trailing edge stopper /Rr
[5]	Trailing edge stopper /Fr	[6]	Trailing edge stopper motor/Fr (M12)
[7]	Alignment motor/Fr (M14)	[8]	Alignment plate/Fr

(3) Exit section

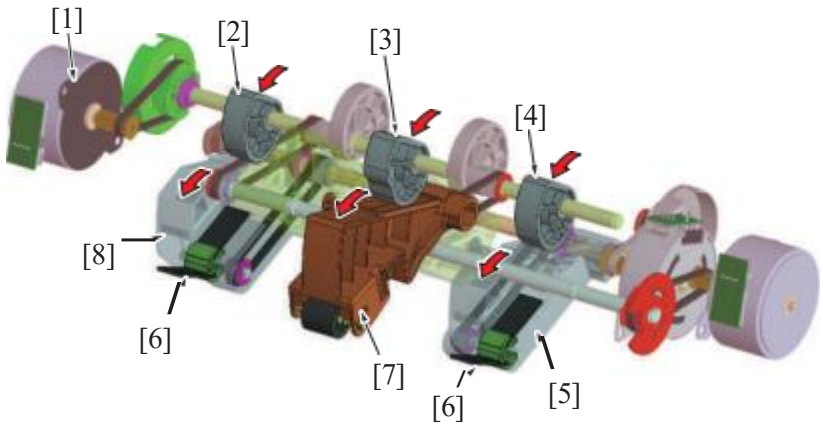


[1]	Stack support plate	[2]	Gripper
[3]	Gripper drive belt	[4]	Pre-eject drive motor (M2)
[5]	Trailing edge stopper/Cdrive arm	[6]	Stacker plate drive motor (M3)
[7]	Bundle eject motor (M1)	[8]	Gripper drive belt
[9]	Gripper	-	-

6.5.3 Paper transport control

(1) Upper paddle control

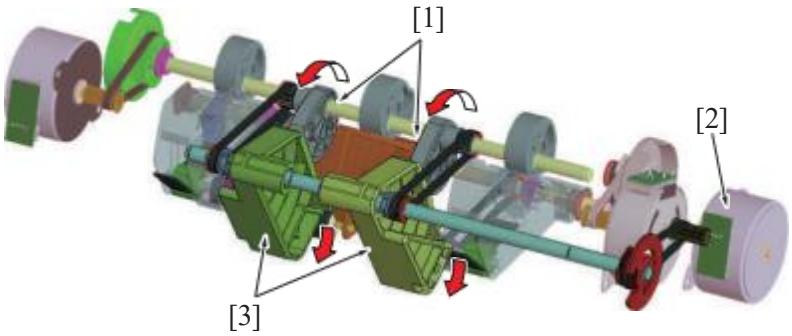
- Paper that has been transported from the finisher is transported to the alignment section.
- The transported paper is temporarily stored in the alignment section due to gravity-induced dropping. However, the paper press guide and upper paddle are driven to reliably transport the paper to the alignment section.
- Paddle up/down motor drives and rotates the paper press cam and paddle press cam to lower the paper press guide and the upper paddle assy.
- After the upper paddle assy is lowered, the FNS paddle motor is driven to rotate the upper paddle.
- The vertical operation is repeated for each sheet of paper to transport paper to the alignment section.



[1]	Paddle up/down motor (M7)	[2]	Paddle press cam
[3]	Paper press cam	[4]	Paddle press cam
[5]	Upper paddle assy	[6]	Upper paddle
[7]	Paper press guide	[8]	Upper paddle assy

(2) Trailing edge paper press control

- A trailing edge paper press guide is also provided in addition to the paper press guide and the upper paddle assy.
- This component is used to reliably lower the trailing edge of transported paper to the alignment section.
- The arm drive motor drives to rotate the belt and the trailing edge paper press cam.
- Cam rotation lowers the trailing edge paper press guide.

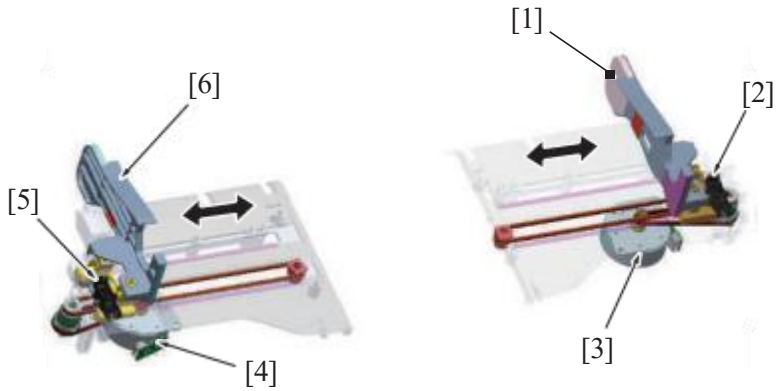


[1]	Trailing edge paper press cam	[2]	Arm drive motor (M8)
[3]	Trailing edge paper press guide	-	-

6.5.4 Paper alignment control

(1) Alignment plate

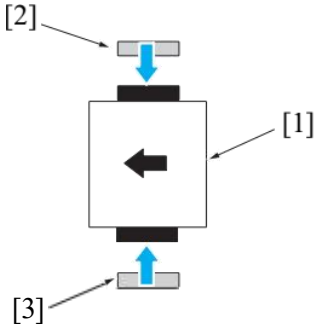
- The alignment plate/Fr and alignment plate/Rr align the paper in the width orientation and shift paper sheets.
- The alignment motor and drive belt drives the alignment plates.
- The alignment plates move by the forward and reverse rotation of the alignment motor.
- Alignment plate/Fr and alignment plate/Rr are each equipped with a drive motor, which allows them to operate independently.



[1]	Alignment plate/Rr	[2]	Alignment plate home sensor/Rr (PS6)
[3]	Alignment motor/Rr (M13)	[4]	Alignment motor/Fr (M14)
[5]	Alignment plate home sensor/Fr (PS9)	[6]	Alignment plate/Fr

(a) Alignment operation

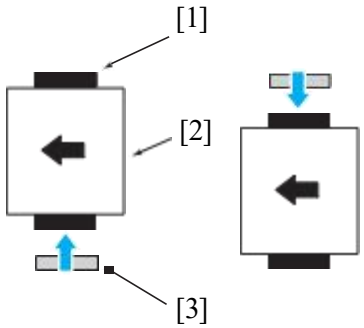
- The alignment motor/Fr rotates to move the alignment plate/Fr via the drive belt.
- The alignment plate home sensor/Fr detects the home position of the alignment plate/F.
- The alignment motor/Rr rotates to move the alignment plate/Rr via the drive belt.
- The alignment plate home sensor/Rr detects the home position of the alignment plate/Rr.
- The sheets are placed between the alignment plates/Fr and /Rr corresponding to the paper width so that their both ends are aligned.



(b) Shift operation

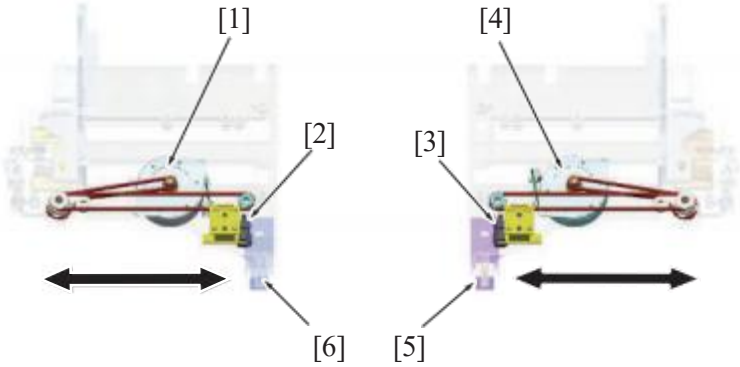
- When offset is selected as finishing option, the alignment plates are moved to shift the sets of paper. Paper is discharged to the center of the main tray at normal printing and stapling.

- Depending on the width of paper, the alignment plate Fr (alignment plate Rr) pushes the sets of paper to the rear side (front side) from one side so that the sets of the paper are shifted.
- The sheets are shifted by alternatively repeating the above operation.



(2) Trailing edge stopper

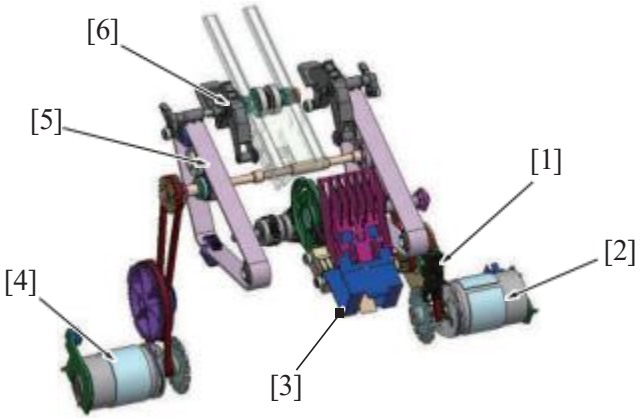
- The trailing edge stopper/Fr and trailing edge stopper/Rr align paper in the feed orientation.
- The trailing edge stopper motor drives the trailing edge stoppers.
- Trailing edge stopper/Fr and the trailing edge stopper/Rr shift according to the paper width before starting a job, to hold the trailing edge of the paper.
- For 2-point staple jobs, the trailing edge stoppers/Fr and /Rr are retracted to the position where they do not interfere with the stapler.
- After the job is completed,the trailing edge stopper motor reverses the rotation to return the trailing edge stopper to the home position.



[1]	Trailing edge stopper motor/Fr (M12)	[2]	Trailing edge stopper sensor/Fr (PS10)
[3]	Trailing edge stopper sensor/Rr (PS7)	[4]	Side stopper guide motor/Rr (M11)
[5]	Trailing edge stopper /Rr	[6]	Trailing edge stopper /Fr

6.5.5 Paper exit control

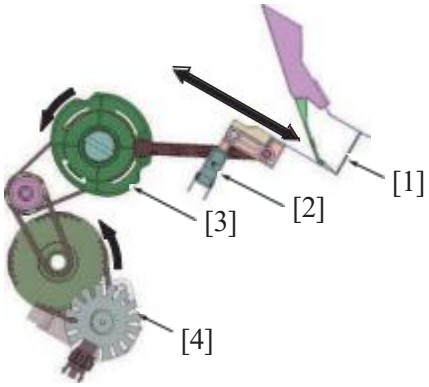
- The trailing edge stopper/C and gripper discharge paper that is processed with the alignment plates, to the output tray.
- The gripper grips the trailing edges of the sets of paper in the alignment tray and transports them to the paper exit position.
- The gripper releases the sets of paper to discharge them to the main tray. The gripper is moved to the home position and brought into a standby state.
- At the same time, the trailing edge stopper/C presses the trailing edge of paper in the alignment tray.



[1]	Gripper home sensor (PS3)	[2]	Pre-eject drive motor (M2)
[3]	Trailing edge stopper/C	[4]	Bundle eject motor (M1)
[5]	Paper transport belt	[6]	Gripper

(1) Trailing edge stopper/C operation

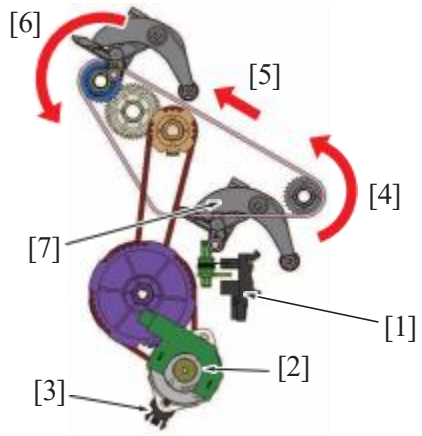
- When the pre-eject drive motor rotates, the trailing edge stopper moves from the home position to the paper exit position to discharge paper to the main tray.
- When the drive gear makes one turn, the stopper moves from the paper exit position to the home position and is brought into a standby state.
- The trailing edge stopper home sensor detects the home position.



[1]	Trailing edge stopper/C	[2]	Trailing edge stopper home sensor (PS31)
[3]	Drive gear	[4]	Pre-eject drive motor (M2)

(2) Gripper operation

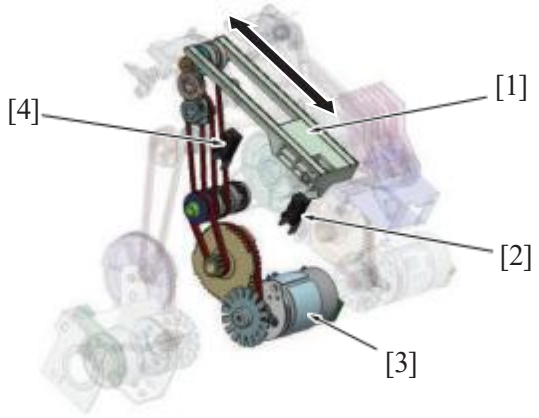
- The bundle eject motor rotates to turn the paper transport belt. It rotates the gripper that has been fixed to the paper transport belt.
- The gripper home position is detected by the gripper home sensor.
- The gripper stays at the home position and rotates at the position [4] shown in the illustration to grip the trailing edge of paper. Paper is transported with the gripper griping the trailing edge of the paper [5]. The gripper rotates at the position [6] in the illustration to release the paper. After the paper transport belt makes one turn, the gripper returns to the home position [7] and is brought into the standby state.



[1]	Gripper home sensor (PS3)	[2]	Bundle eject motor (M1)
[3]	Gripper motor sensor (PS1)	[4]	Gripper position (gripping the paper)
[5]	Gripper position (transporting the paper)	[6]	Gripper position (release the paper)
[7]	Gripper home position	-	-

6.5.6 Stack support plate control

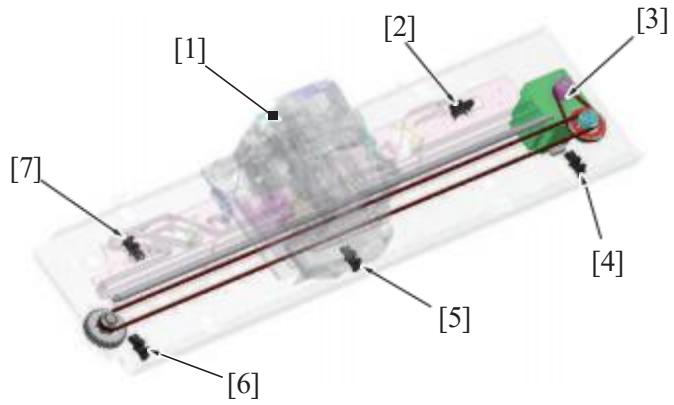
- When the paper is transported to the alignment section, the paper may go off the alignment tray depending on the paper size or the printing direction which may cause the paper to be misaligned.
- In order to prevent the paper from being off the alignment tray, the stacker support plate is installed.
- The stacker plate drive motor drives to protract the stacker plate via a gear.
- When the specified period of time has passed after the process above is finished, the stacker plate drive motor is driven to retract the stacker support plate.
- The stacker plate home sensor detects the home position of the stacker plate. The stacker plate position sensor detects the upper limit position of the stacker support plate.



[1]	Stack support plate	[2]	Stacker plate home sensor (PS30)
[3]	Stacker plate drive motor (M3)	[4]	Stacker plate position sensor (PS29)

6.6 STAPLER SECTION

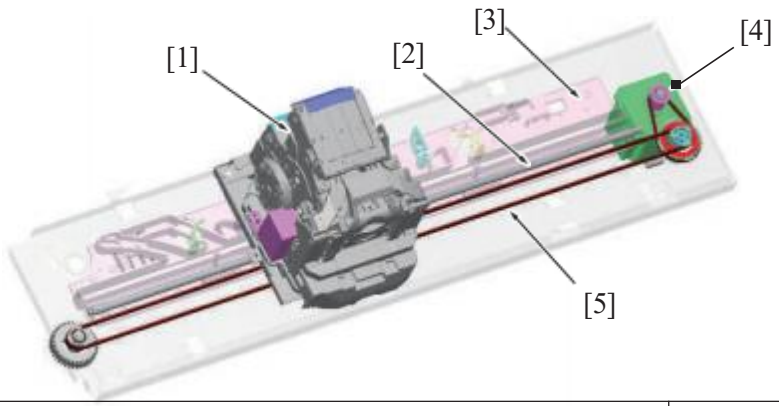
6.6.1 Configuration



[1]	Stapler unit	[2]	Wide flat limit sensor/Rr (PS19)
[3]	Stapler movement motor (M19)	[4]	Flat staple position sensor/Rr (PS18)
[5]	Stapler center position sensor (PS20)	[6]	Flat staple position sensor/Fr (PS52)
[7]	Wide flat limit sensor/Fr (PS53)	-	-

6.6.2 Drive

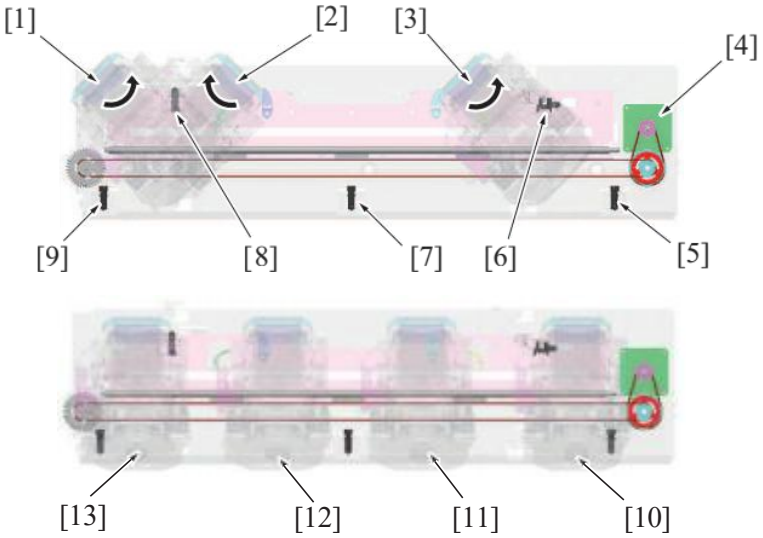
- Rotation of the stapler movement motor drives the belt, and moves the stapler unit that is attached to the belt back and forth along the shaft.



[1]	Stapler unit	[2]	Shaft
[3]	Slide guide plate	[4]	Stapler movement motor (M19)
[5]	Drive belt	-	-

6.6.3 Stapler position detection

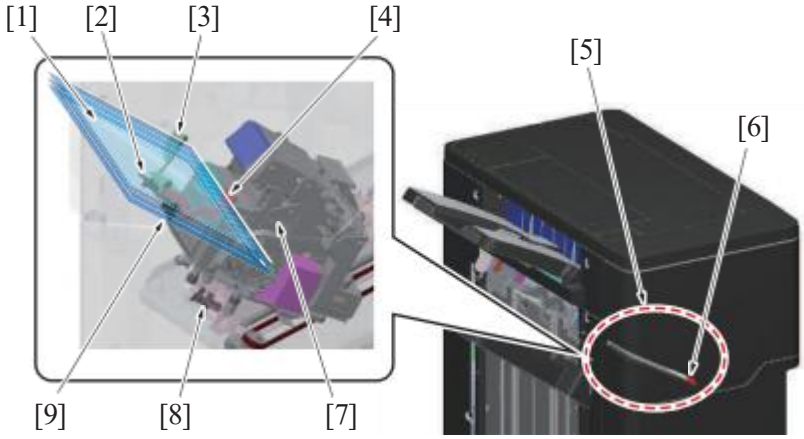
- The flat staple position sensor/Fr detects the home position/manual staple position of the stapler.
- The flat staple position sensor/Rr detects the corner rear (parallel) staple position of the stapler.
- The corner staple position sensor/Rr detects the corner rear staple position of the stapler.
- The corner staple position sensor/Fr detects the corner front stapler position of the stapler/replacement position of the staple cartridge.
- The staple position of the stapler is detected by the rotation amount of the stapler movement motor with reference to the stapler home sensor and the stapler center position sensor.



[1]	Stapler unit (manual staple position)	[2]	Stapler unit (staple cartridge replacement position)
[3]	Stapler unit (corner rear staple position)	[4]	Stapler movement motor (M19)
[5]	Flat staple position sensor/Rr (PS18)	[6]	Wide flat limit sensor/Rr (PS19)
[7]	Stapler center position sensor (PS20)	[8]	Wide flat limit sensor/Fr (PS53)
[9]	Flat staple position sensor/Fr (PS52)	[10]	Stapler unit (corner rear (parallel) staple position)
[11]	Stapler unit (2-staple position)	[12]	Stapler unit (2-staple position)
[13]	Stapler unit (home position)	-	-

6.6.4 Manual staple mechanism

- When no paper batch has been inserted into the slit, the paper set detection levers 1 and 2 suppress the actuator. The manual staple sensor remains in a position where it is blocked.
- When the paper batch is correctly inserted into the slit, the paper batch pushes the paper set detection levers 1 and 2. Thus, the actuator becomes operable.
- The spring force activates the actuator, and the manual staple sensor is unblocked.
- If the paper batch is not inserted correctly into the slit, either the paper set detection lever 1 or 2 suppresses the actuator. The manual staple sensor remains blocked.
- When the manual staple sensor is unblocked, the machine determines that the paper batch has been set. Thus, the manual stapling is executed after a predetermined time.



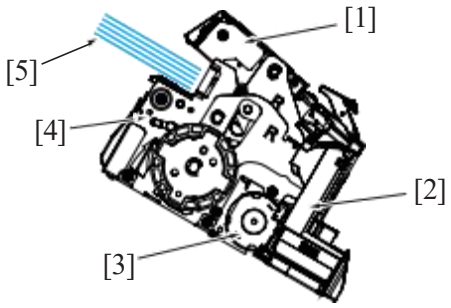
[1]	Paper batch	[2]	Actuator

[3]	Paper set detection lever 1	[4]	Paper set detection lever 2
[5]	Paper batch insertion slit	[6]	Status LED

[7]	Stapler unit	[8]	Flat staple position sensor/Fr (PS52)
[9]	Manual staple sensor (PS54)	-	-

6.6.5 Staple control

- The stapling operation is performed by the side stapler motor.
- In the stapling operation, the stapler motor drives the clincher side to press the paper. Then, the staple is pushed out from the stapler side and bent at the clincher side.
- A staple cut mechanism is provided to the clincher side, by which the excessive part of the staple will be cut off. The cut off parts of the staple are accumulated in the staple waste box.



[1]	Stapler (clincher side)	[2]	Staple waste box
[3]	Stapler motor (M5)	[4]	Stapler (stapler side)
[5]	Paper	-	-

(1) Stapling operation
- After completing the alignment operation of the alignment plate, the stapler motor performs the stapling operation.
- The stapling operation is completed when the stapler position sensor in the stapler detects the home position and turn ON.

(2) Clogged staple detection
- During stapling operation, staple clogging is determined if the stapler position sensor does not turn ON after a specified period of time since it turns OFF. Thus, the stapler motor stops.

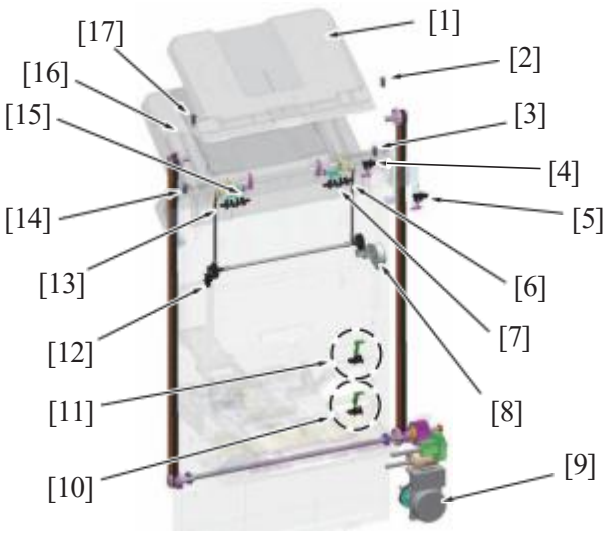
(3) Cartridge detection
- The staple empty detect sensor in the staple detects the presence of a cartridge or the incorrect setting of a cartridge.
- When no cartridge is set or it is set incorrectly, the main body displays the error message on its display panel.

(4) Staple detection control
- When the amount of staples decreases to 16% or less, a staple near empty warning is detected and a message appears on the machine control panel.
- When the staples run out,the staple empty sensor turns ON. An error message appears on the machine control panel.
- When both of the self-priming sensor and the staple empty sensor turn OFF, the staples are fed until the self-priming sensor turns ON again. If the self-priming sensor does not turn ON even after the staple feeding exceeds the predetermined number of times, the machine determines that no staple is remained. A message appears on the panel.

(5) Staple waste box full detection
- When the staple waste box goes full, the machine detects a staple waste full state, and a message appears on the machine control panel.
- Discard the staple waste from the staple waste box, and open and close the front door of the finisher. So that, the warning is cleared.

6.7 OUTPUT TRAY SECTION

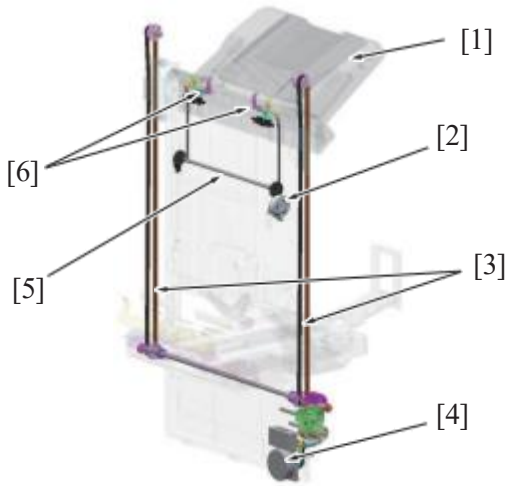
6.7.1 Configuration



[1]	Sub tray	[2]	Sub tray full sensor/out (PS39)
[3]	Main tray upper sensor/in (PS40)	[4]	Main tray empty sensor (PS13)
[5]	Main tray middle position sensor (PS51)	[6]	Main tray lift up detection sensor/Rr (PS17)
[7]	Main tray lift down detection sensor/Rr (PS15)	[8]	Paper delivery control motor (M15)
[9]	Main tray up/down motor (M6)	[10]	Main tray full detection sensor (PS12) (*1)
[11]	Main tray full detection sensor (PS12) (*2)	[12]	Paper delivery control home sensor (PS11)
[13]	Main tray lift up detection sensor/Fr (PS16)	[14]	Main tray upper sensor/out (PS38)
[15]	Main tray lift down detection sensor/Fr (PS14)	[16]	Main tray
[17]	Sub tray full sensor/in (PS41)	-	-

- *1: Installation position for the CPF-810H sensor
- *2: Installation position for the CPF-810X sensor

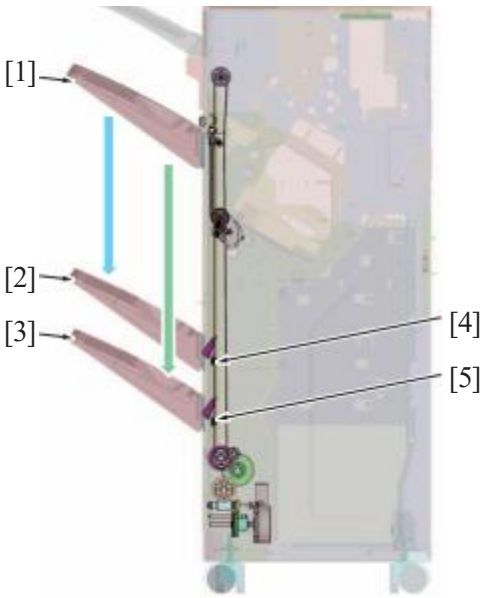
6.7.2 Drive



[1]	Main tray	[2]	Paper delivery control motor (M15)
[3]	Main tray drive belt	[4]	Main tray up/down motor (M6)
[5]	Paper detection lever driveshaft	[6]	Paper surface detect lever

6.7.3 Main tray up/down mechanism

- Rotation of the main tray up/down motor drives the main tray drive belt to lift and lower the main tray.
- The lower limit position of the main tray (full detection position) is different between the CPF-810H and CPF-810X models.

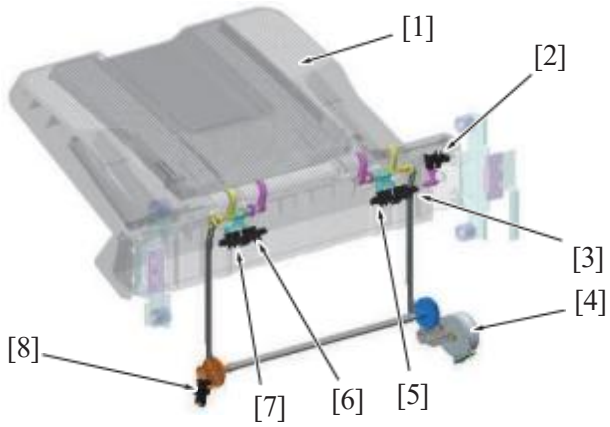


[1]	Main tray: Home position	[2]	Main tray: Main tray full position (*1)
[3]	Main tray: Main tray full position (*2)	[4]	Main tray full detection sensor (PS12) (*1)
[5]	Main tray full detection sensor (PS12) (*2)	-	-

- *1: CPF-810X
- *2: CPF-810H

6.7.4 Main tray paper detection

- The main tray empty sensor, the main tray lift up detection sensor, and the main tray lift down detection sensor keep the distance between the upper surface of the paper ejected to the main tray and the exit port constant, thereby eliminating any unevenness in the paper ejected.
- The main tray empty sensor detects the upper limit position of the main tray.
- The main tray lift up detection sensors (Fr and Rr) indicate the lifting of the main tray.
- The main tray lift down detection sensors (Fr and Rr) indicate the lowering of the main tray.
- Depending on the operation of the paper detection lever, the machine detects that the main tray lift up/down sensor turns ON/OFF.
- The paper delivery control motor drives the paper detection lever. The paper delivery control home sensor detects the home position of the paper detection lever.
- The paper detection lever is operated each time a sheet of paper is discharged. This operation is used to confirm the alignment of discharged paper and the discharge state of the main tray.

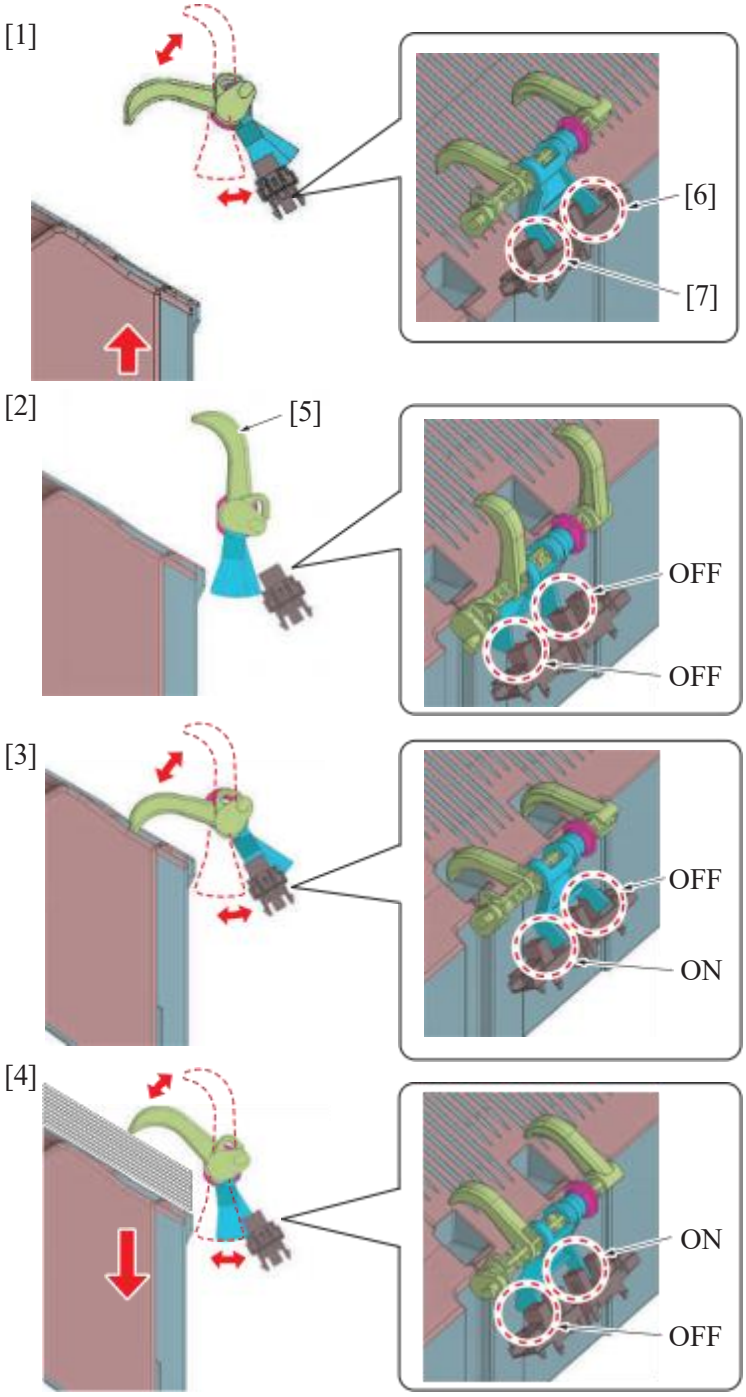


[1]	Main tray	[2]	Main tray empty sensor (PS13)
[3]	Main tray lift up detection sensor/Rr (PS17)	[4]	Paper delivery control motor (M15)
[5]	Main tray lift down detection sensor/Rr (PS15)	[6]	Main tray lift down detection sensor/Fr (PS14)
[7]	Main tray lift up detection sensor/Fr (PS16)	[8]	Paper delivery control home sensor (PS11)

(1) Main tray operation

- The paper detection lever and main tray empty sensor confirm the paper load status of the main tray and main tray position (height) when the printing starts.
- The paper detection lever is operated to confirm the state of the main tray lift detection sensor.

- When the main tray lift up detection sensor turns ON and the main tray empty sensor turns OFF, the main tray is lift up until the main tray paper detection sensor turns ON.
- The paper detection lever returns to the home position. The machine waits for the discharged paper.
- After the paper is discharged into the main tray, the paper detection lever is operated to confirm the load status of the main tray. At this time, if the main tray lift down detection sensor turns ON, the main tray is lowered to a predetermined height. If this sensor is off, the lower operation is not performed.
- This paper detection lever is driven for each sheet of discharged paper to confirm the load status of the main tray.
- After the printing completes the paper detection lever returns to the home position.
- The main tray operation (lifting) is not performed as long as there is a subsequent print instruction even if the discharged paper is removed.

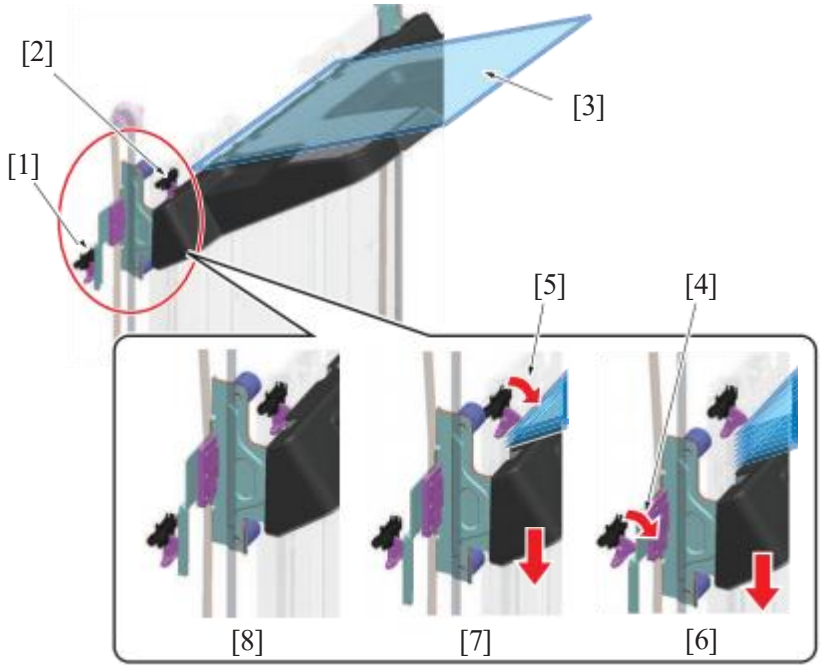


[1]	Main tray lift up state	[2]	Finisher stop state
[3]	Check of main tray paper load status (no discharged paper)	[4]	Main tray paper load status (with discharged paper)
[5]	Paper detection lever (home position)	[6]	Main tray lift down detection sensor/Fr (OFF state)
[7]	Main tray lift up detection sensor/Fr (ON state)	-	-

6.7.5 Main tray position detection mechanism

- The main tray empty sensor and main tray intermediate position sensor are provided. These sensors detect the loading status of the main tray when the main power turns ON or the machine awakes from the sleep mode.

- When the main tray is at the upper limit position, the main tray empty sensor is blocked, thereby detecting that the main tray is empty.
- When the main tray is near the upper limit, the main tray empty sensor is unblocked and the main tray intermediate position sensor is blocked. The machine detects that a small amount of paper is loaded. In this case, the main tray paper removal warning will not be displayed on the control panel.
- When paper is loaded in the main tray, the main tray empty sensor and the main tray middle position sensor are unblocked. In this case, the main tray paper removal warning will be displayed on the control panel.



[1]	Main tray middle position sensor (PS51)	[2]	Main tray empty sensor (PS13)
[3]	Paper	[4]	Main tray middle position sensor: Blocked -> Unblocked
[5]	Main tray empty sensor: Blocked -> Unblocked	[6]	Paper present: Main tray paper removal warning is displayed
[7]	Paper present: Main tray paper removal warning is not displayed	[8]	Paper not present

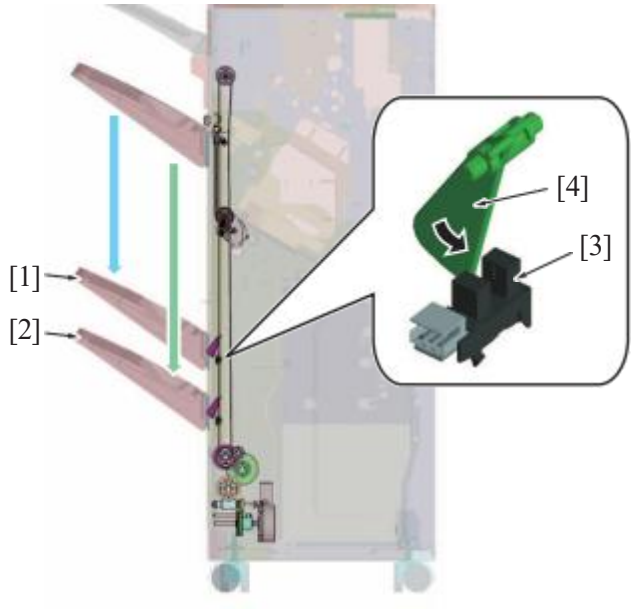
6.7.6 Tray full detection mechanism

(1) Main tray

- The main tray has the paper full detection mechanism.
- When paper full is detected, the warning message appears on the control panel.
- In this state, any main tray related configurations and jobs that use the main tray cannot be performed.

(a) Paper full detection mechanism

- When the machine determines that the paper stack in the main tray exceeds the specified height, the paper detection lever rotates the main tray up/down motor. The main tray is lowered to the specified position.
- When the main tray is lowered to the position of the main tray full detection sensor, the main tray full is determined.

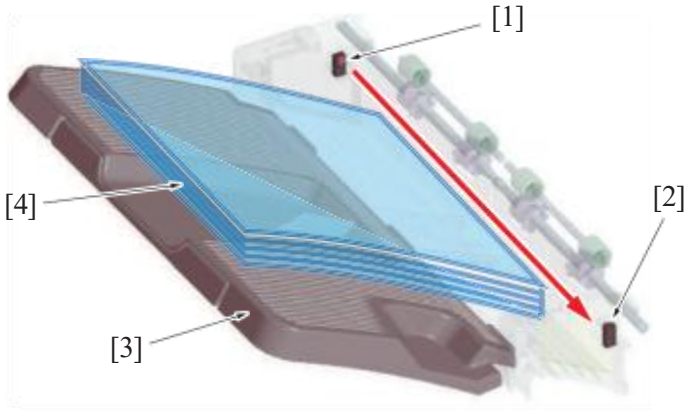


[1]	Main tray (main tray full position) (*1)	[2]	Main tray (main tray full position) (*2)
[3]	Main tray full detection sensor (PS12)	[4]	Actuator

- *1: CPF-810X
- *2: CPF-810H

(2) Sub tray

- When paper is discharged into the sub tray, the stacked paper blocks the sub tray full detection sensor. This blocked state is interpreted as a detection of a full exit tray.
- When the sub tray full is detected, the warning message appears on the control panel.
- In this state, any sub tray configurations and jobs that use the sub tray cannot be performed.



[1]	Sub tray full sensor/out (PS39)	[2]	Sub tray full sensor/in (PS41)
[3]	Sub tray	[4]	Paper

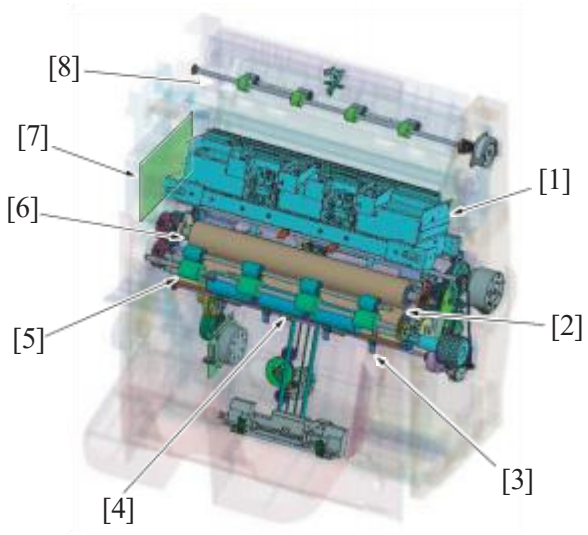
6.8 SADDLE SECTION

6.8.1 Configuration

NOTE

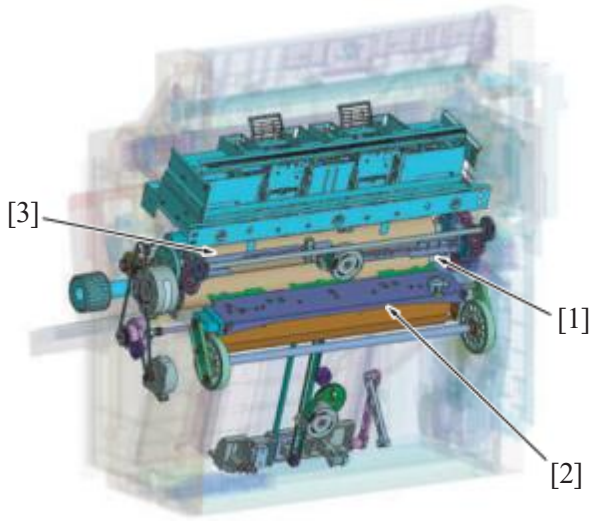
- **CPF-810X only**

Front left side perspective view



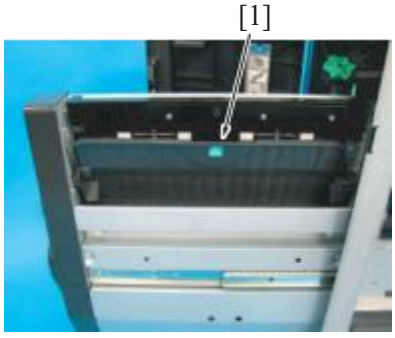
[1]	Staple unit	[2]	Center folding roller 2
[3]	Center folding section lower paddle	[4]	Tri-folding roller
[5]	Saddle tray exit roller	[6]	Center folding roller 1
[7]	SD drive board (SDDB)	[8]	Saddle section paper feed roller

Front right side perspective view



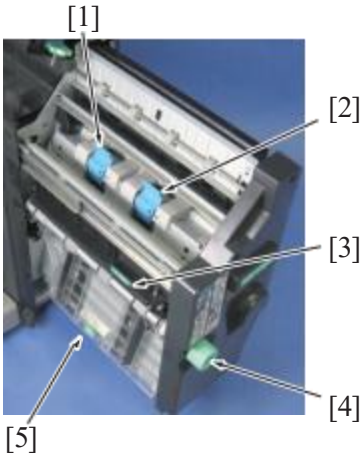
[1]	Center staple alignment plate drive gear/Rr	[2]	Center fold knife
[3]	Center staple alignment plate drive gear/Fr	-	-

Right side view



[1]	Jam removal cover (transport section)	-	-

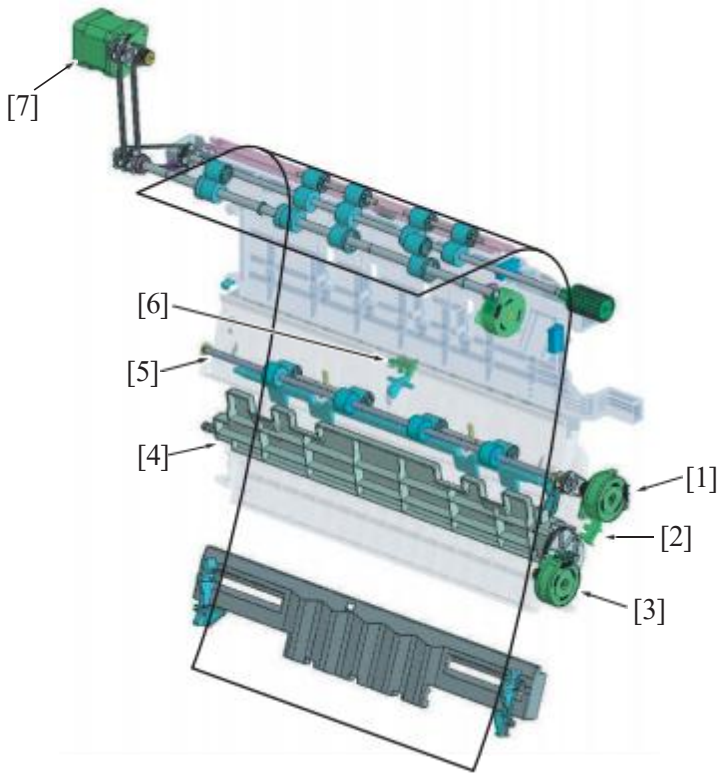
Front left side perspective view



[1]	Staple cartridge/Rr	[2]	Staple cartridge/Fr
[3]	Jam removal cover (exit section)	[4]	Jam removal dial (folding section)
[5]	Jam removal cover (alignment section)	-	-

6.8.2 Transport section

(1) Drive



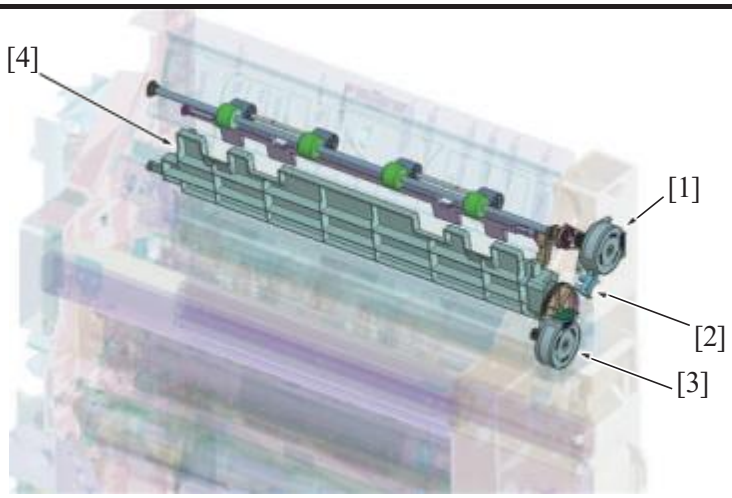
[1]	SD transport motor (M101)	[2]	Curl cover detection sensor (PS102)
[3]	Paper discharge control motor (M102)	[4]	Curl cover
[5]	SD transport roller	[6]	SD entrance sensor (PS101)
[7]	FNS discharge motor (M3) (finisher section)	-	-

(2) Paper transport

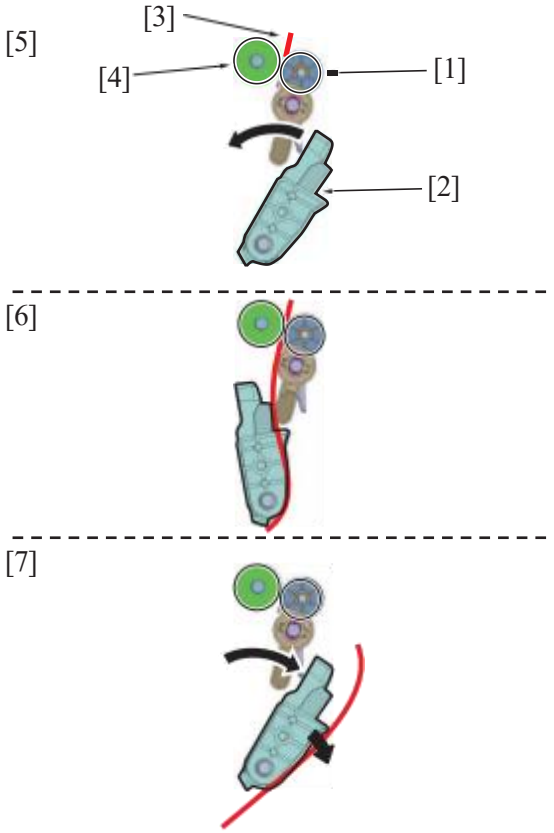
- The FNS discharge motor rotates reversely to transport the paper from the finisher transport section into the saddle unit.
- The paper then is transported to the alignment section by SD transport roller.
- The SD transport roller rotates when the SD transport motor is driven.

(3) Curl cover

- The paper is transported to the alignment section one–by-one. A paper which is curled may cause paper misfeed at the entrance of the saddle stitcher.
- In order to prevent this paper misfeed, the curl cover is installed so that each paper is transported to the alignment section without fail.
- The curl cover is operated by the paper discharge control motor. Paper receiving opens/closes the feeding port inside the saddle unit entrance when the paper discharge control motor rotates in forward/reverse direction.



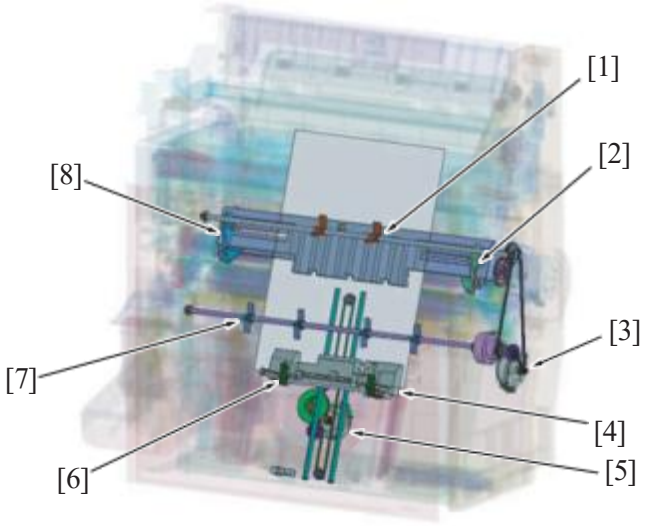
[1]	SD transport motor (M101)	[2]	Curl cover detection sensor (PS102)
[3]	Paper discharge control motor (M102)	[4]	Curl cover



[1]	SD transport roll	[2]	Curl cover
[3]	Paper	[4]	SD transport roller
[5]	Paper transportation from within the finisher	[6]	Curl cover operation
[7]	Next paper standby (moves curl cover to the home position)	-	-

6.8.3 Alignment section

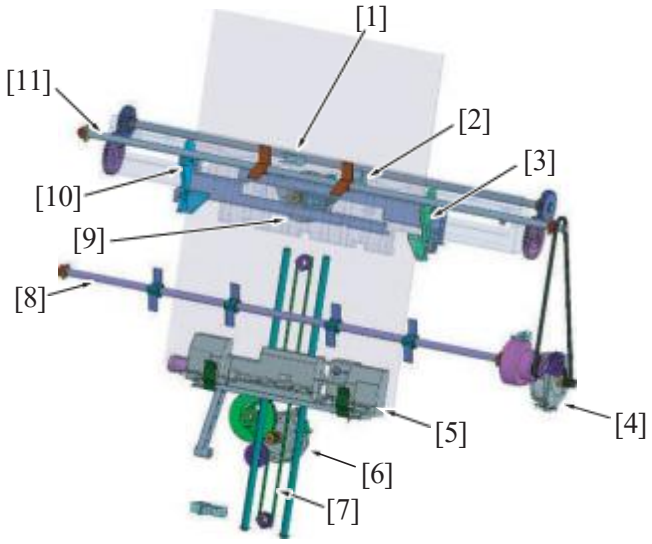
(1) Drive



[1]	Center folding section upper paddle	[2]	Alignment plate/Fr
[3]	SD paddle motor (M107)	[4]	Stopper guide
[5]	Stopper drive motor (M104)	[6]	Paper grip
[7]	Center folding section lower paddle	[8]	Alignment plate/Rr

(2) Alignment

- It aligns the paper transported to the alignment section.
- The paper CD alignment is conducted by the alignment plate/Fr and the alignment plate/Rr.
- The paper FD alignment is conducted by the stopper guide, center folding section upper paddle and center folding section lower paddle.



[1]	Center staple/foldstacker paper detect sensor (PS103)	[2]	Alignment home sensor (PS104)
[3]	Alignment plate/Fr	[4]	SD paddle motor (M107)
[5]	Stopper guide	[6]	Stopper drive motor (M104)
[7]	Stopper guide drive belt	[8]	Center folding section lower paddle
[9]	Alignment motor (M103)	[10]	Alignment plate/Rr
[11]	Center folding section upper paddle	-	-

(a) Alignment operation

- Alignment plates follow the forward and reverse rotation of alignment motor.
- When the saddle exit sensor of the finisher detects the leading edge of the paper, the alignment motor starts rotating in the direction to close the alignment plate, and the alignment plate/Fr and the alignment plate/Rr stop at the position where it is slightly wider than the paper width.

- When the specified period of time has passed after the SD entrance sensor detects the trailing edge of the paper, the alignment motor rotates in forward/reverse direction to do oscillation of the alignment plate to align paper.

- The oscillation of the alignment plate is conducted each time a sheet of paper is transported, and the alignment plate is shifted to the standby position after the alignment operation is finished.
- The home position of the alignment plate is detected by the alignment home sensor.

(b) Stopper guide operation

- The stopper drive motor rotates in forward/reverse direction to operate the stopper guide drive belt, and moves the stopper guide up/down.
- The stopper guide moves up after the leading edge of the paper passes the main tray exit sensor.
- The stopper guide stops at a position where the length of paper that has been transported.
- The stopper guide stops the paper to align paper edges.

(c) Paddle operation

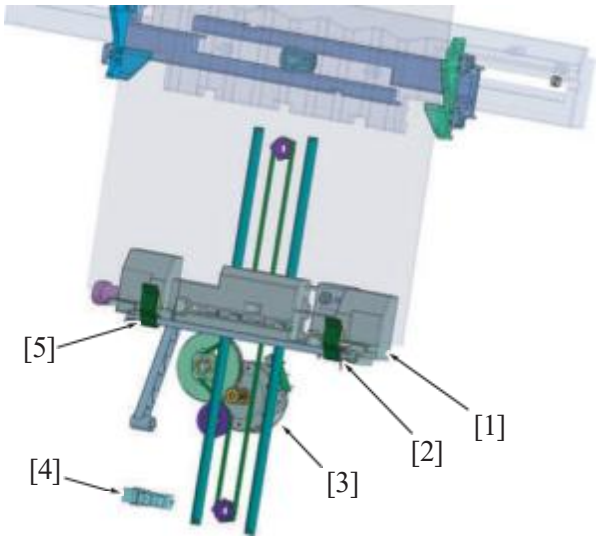
- The center folding section upper paddle and the center folding section lower paddle are installed in order to receive the transported paper to the alignment section without fail.
- The up/down paddle is driven by the SD paddle motor. The up/down paddle is driven when the specified period of time has passed after the leading edge of the paper passed the saddle exit sensor of the finisher.
- The up/down paddle stops after the paper trailing edge passes the finisher's main tray exit sensor and the paddle rotates for the specified number of times.

(3) Stopper guide

- At the stopper guide, paper is aligned in the FD direction. Paper conveyed to the aligning section is conveyed to the specified position.
- The exit grip holds the paper when shifting it to the specified position and when stapling papers.
- The alignment section, staple position and other positions (center folding, center staple, tri-folding) have their own up/down stop positions. They are controlled by the pulse number of the stopper drive motor.

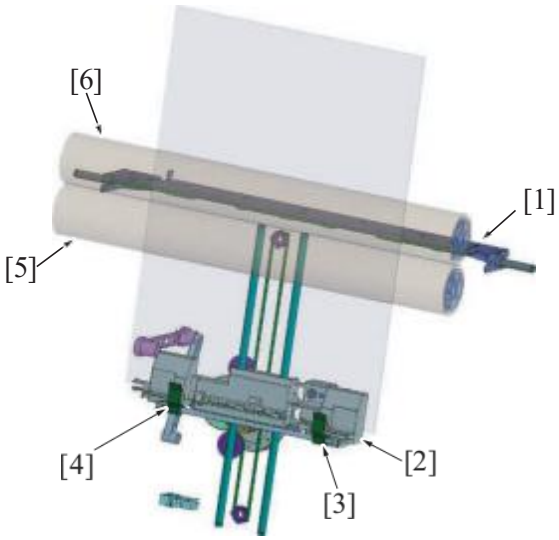
(a) Stopper operation

- The stopper drive motor moves the stopper guide up and down in accordance with the paper size.
- The stopper home sensor detects the home position of stopper guide.



[1]	Stopper guide	[2]	Exit grip/Fr
[3]	Stopper drive motor (M104)	[4]	Stopper home sensor (PS106)
[5]	Exit grip/Rr	-	-

(b) Stopper control



[1]	Center folding knife assy	[2]	Stopper guide
[3]	Exit grip/Fr	[4]	Exit grip/Rr
[5]	Center folding roller 2	[6]	Center folding roller 1

Folding mode

- After a specified period of time since the last sheet of paper was aligned, the stopper solenoid is turned ON and the sheets of paper are held in place.
- After the sheets are held in place, the stopper drive motor rotates to move the stopper guide down and lower the sheets to the folding position.

Saddle stitching mode

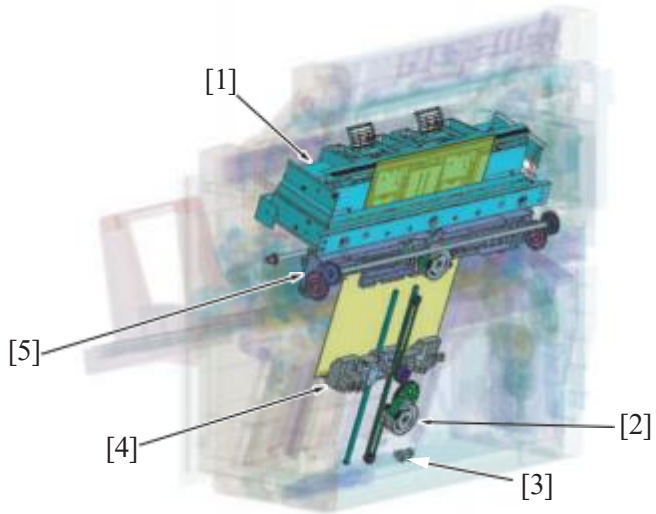
- After a specified period of time since the last sheet of paper was aligned, the stopper solenoid is turned ON and the sheets of paper are held in place.
- After the sheets are held in place, the stopper drive motor rotates to move the stopper guide down and lower the sheets to the center staple position.
- After a specified period of time since stapling operation was completed, the alignment motor opens the alignment plates and the stopper drive motor starts rotating to move the stopper guide further down and lower the paper to the folding position.

Tri-folding mode

- After a specified period of time since the last sheet of paper was aligned, the stopper solenoid is turned ON and the sheets of paper are held in place.
- After the sheets are held in place, the stopper drive motor rotates to move the stopper guide down and lower the sheets to the 1st folding position in the tri-folding.

6.8.4 Stapler

(1) Drive

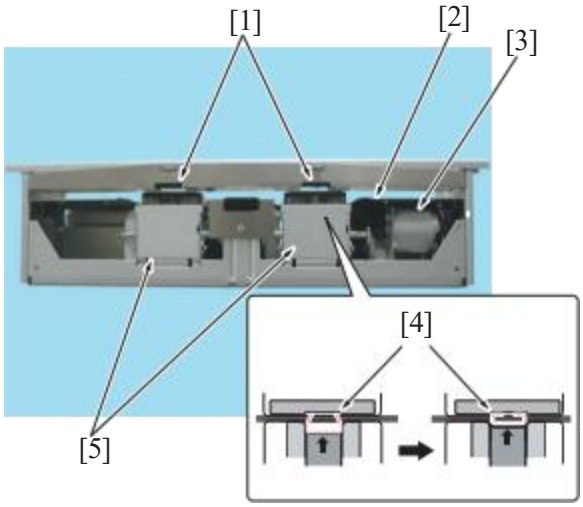


[1]	Stapler unit	[2]	Stopper drive motor (M104)

[3]	Stopper home sensor (PS106)	[4]	Stopper guide
[5]	Alignment tray	-	-

(2) Stapling operation

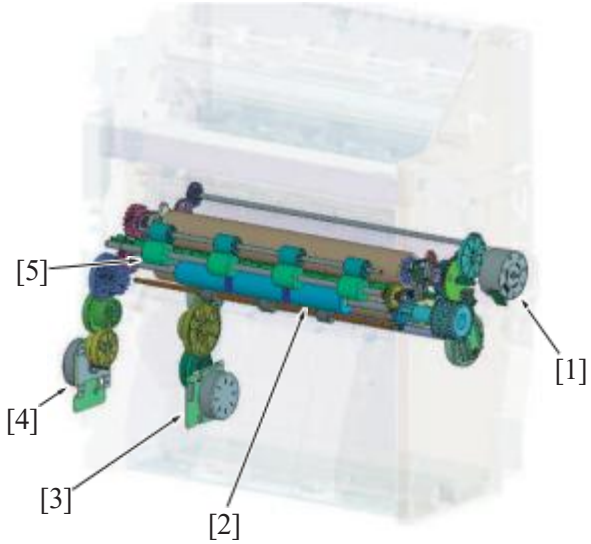
- The stapling operation is performed by the staple motor in the stapler.
- The drive gear pushes out the pressed portion of the paper toward the clincher to hold the paper, and then the pin will be pushed out.
- When the pin penetrates the paper batch, the pin will be bent to staple the paper batch at the clincher section.



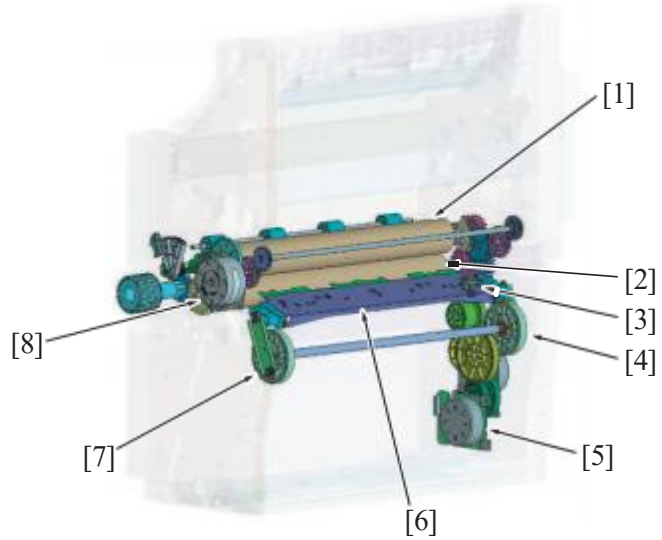
[1]	Clincher	[2]	Drive gear
[3]	Stapler motor	[4]	Staple
[5]	Stapler	-	-

6.8.5 Folding/Saddle stitching

(1) Drive



[1]	Center fold guide motor (M106)	[2]	Tri-folding roller
[3]	Center fold knife motor (M109)	[4]	Center fold roller motor (M105)
[5]	Saddle tray exit roller	-	-



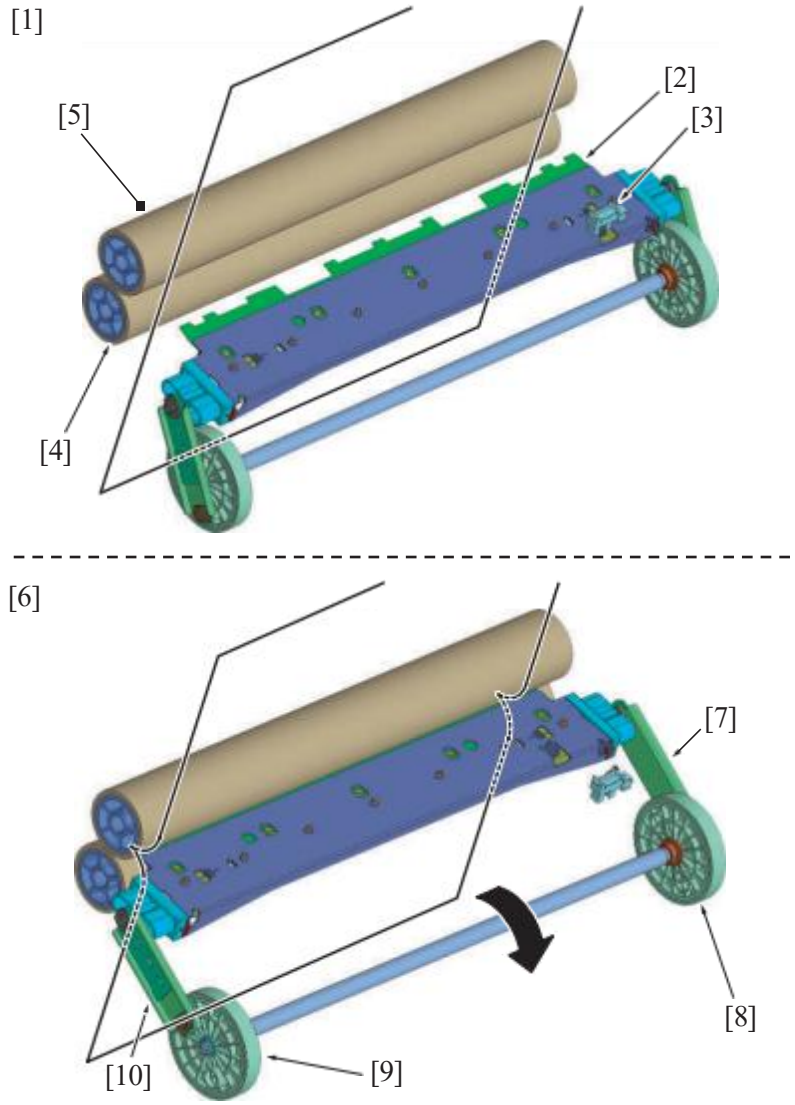
[1]	Center folding roller 1	[2]	Center folding roller 2
[3]	Center fold knife home sensor (PS108)	[4]	Fold drive gear/Rr
[5]	Center fold knife motor (M109)	[6]	Center folding knife assy
[7]	Fold drive gear/Fr	[8]	Center fold guide motor (M106)

(2) Folding knife

- The center fold knife motor drives the folding knife.
- The folding knife is used for the 1st folding in the center folding/center staple/tri-folding mode.

(a) Folding knife operation

- The center fold knife motor rotates the crankshaft a half turn via the gear, and pushes the paper to the nip section with the folding knife.
- The folding rollers draw and fold the paper.
- The position of the stopper guide controls the folding position.



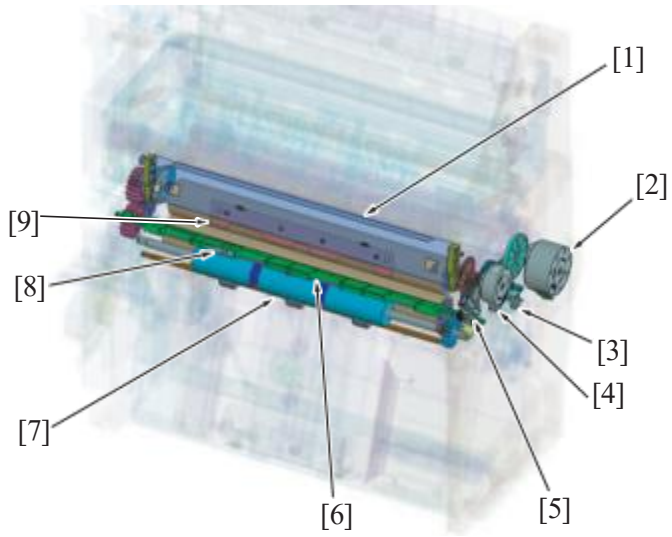
[1]	Before folding	[2]	Folding knife
[3]	Center fold knife home sensor (PS108)	[4]	Center folding roller 2
[5]	Center folding roller 1	[6]	Folding operation
[7]	Crank shaft/Rr	[8]	Fold knife assy drive gear/Rr
[9]	Fold knife assy drive gear/Fr	[10]	Crank shaft/Fr

(b) Folding knife control

- The center fold knife motor turns ON and sticks out the folding knife to the paper after a specified period of time since the stopper guide stops at the folding position.
- The center fold knife motor stops when the folding knife reciprocates after fold operation is completed and the center fold knife home sensor turns OFF.

6.8.6 Tri-folding

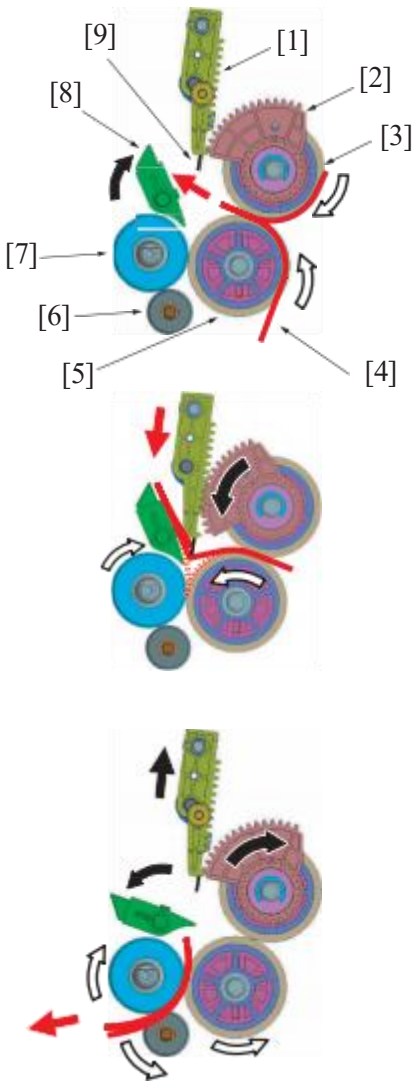
(1) Drive



[1]	Tri-folding knife assy	[2]	Center fold guide motor (M106)
[3]	Guide home sensor (PS107)	[4]	Tri-folding guide motor (M108)
[5]	Tri-folding gate home sensor (PS111)	[6]	Tri-folding gate
[7]	Tri-folding roller	[8]	Fold exit sensor (PS112)
[9]	Tri-folding knife	-	-

(2) Tri-folding operation

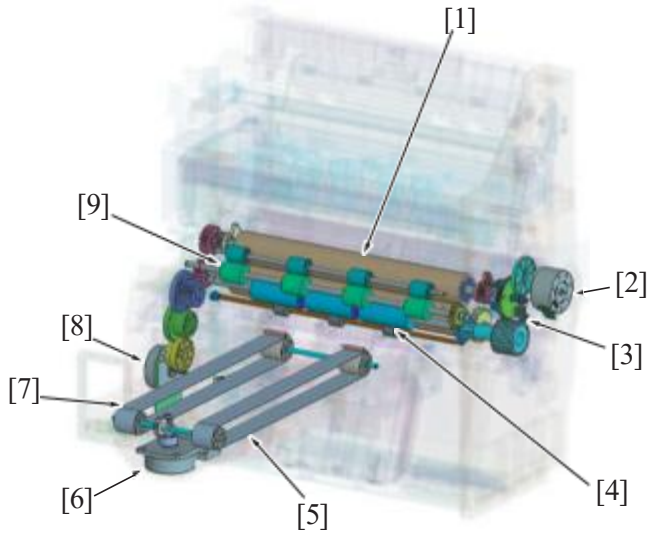
1. When the center fold guide motor drives, the tri-folding gate rotates. The leading edge of the paper to which the first fold was applied at the center folding section, will be transported to the tri-folding path.
2. When the tri-folding guide motor drives, the tri-folding knife assy drive gear rotates to move down the tri-folding knife assy. The paper to which the first fold is applied at the center folding section will be pushed out to the tri-folding roller.
3. The paper is pulled into the tri-folding roller to tri-fold the paper.
4. When tri-folding is finished, the tri-folding gate will return to the home position. The home position of the tri-folding gate is detected by the tri-folding gate home sensor.



[1]	Tri-folding knife assy	[2]	Tri-folding knife assy drive gear
[3]	Center folding roller 1	[4]	Paper
[5]	Center folding roller 2	[6]	Tri-folding roll
[7]	Tri-folding roller	[8]	Tri-folding gate
[9]	Tri-folding knife	-	-

6.8.7 Exit section

(1) Drive



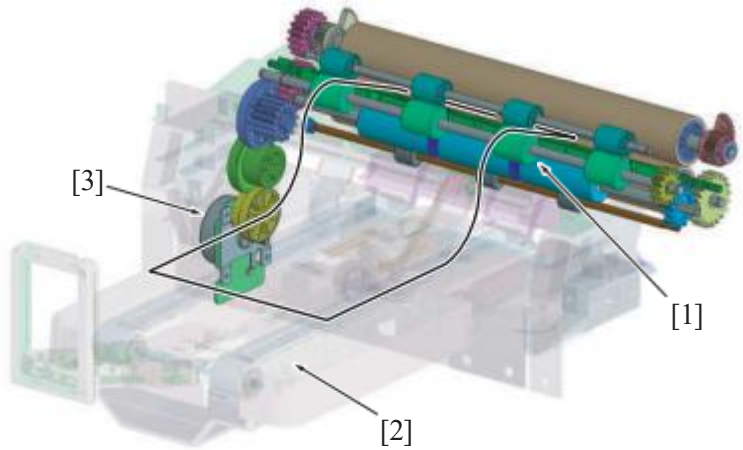
[1]	Center folding roller 1	[2]	Center fold guide motor (M106)
[3]	Tri-folding gate home sensor (PS111)	[4]	Tri-folding roller
[5]	Paper transport belt/Fr	[6]	Paper transport belt motor (M134)
[7]	Paper transport belt/Rr	[8]	Center fold roller motor (M105)
[9]	Saddle tray exit roller	-	-

(2) Paper exit

- Center folded, center stapled, or tri-folded paper is discharged to the saddle tray.
- The paper that is center folded and center stapledis sent though the upper route, and the tri-folded paper is sent through the lower route to be discharged.
- The paper is discharged by driving the saddle tray exit roller and the tri-fold roller. Both rollers are driven by the center fold roller motor.

(a) Paper exit for center folding/center staple

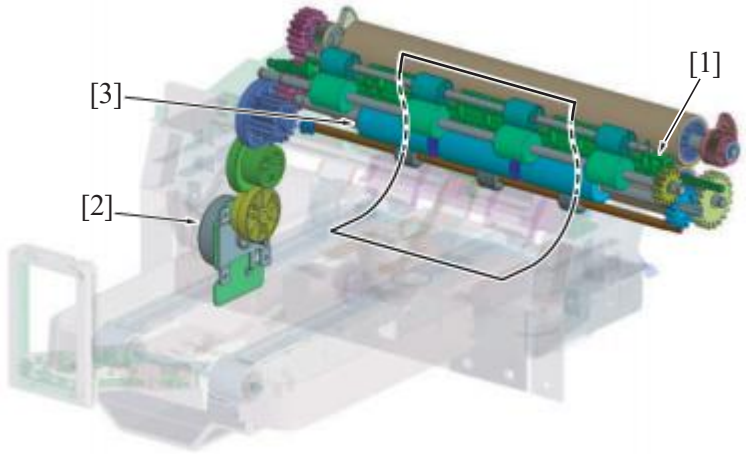
- The center fold roller motor is driven after the center folding or the center staple, and discharges the paper to the saddle tray by the saddle tray exit roller.



[1]	Saddle tray exit roller	[2]	Saddle tray
[3]	Center fold roller motor (M105)	-	-

(b) Paper exit for tri-folding

- Since the paper is tri-folded by the tri-folding roller, the paper is transported through the lower route.



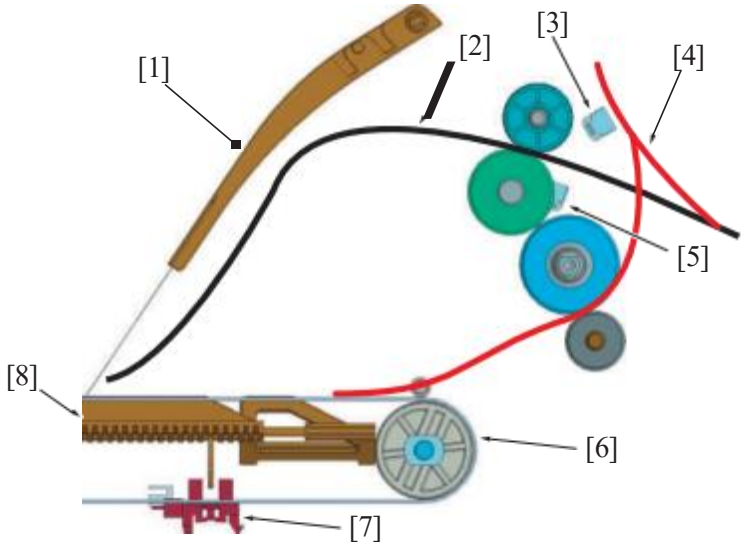
[1]	Tri-folding gate	[2]	Center fold roller motor (M105)
[3]	Tri-folding roller	-	-

(3) Paper transport belt

- The paper transport belt transports the processed paper to the leading edge of the tray. Besides, the paper transport belt drives to prevent paper jams at the trailing edge of the tray.

(a) Transport operation

- After the leading edge of paper passes the fold exit sensor for a predetermined amount of time, the paper transport belt motor rotates to drive the paper transport drive belt. As the paper exit pathis different for center folding and tri-folding, the start and stop timings of the belt differ.
- The exit tray is equipped with an SD exit full sensor to detect paper at the exit port. When there is no paper at the exit port, the belt is driven until the leading edge of paper reaches the exit port. When there is any paper at the exit port, the belt is driven after the leading edge of paper reaches the port.



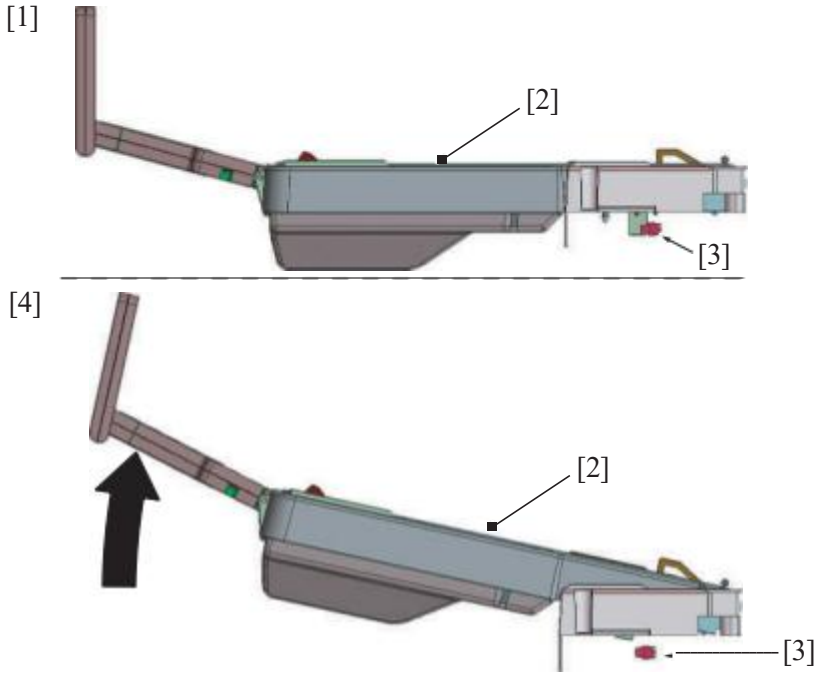
[1]	Paper press	[2]	Paper path for center folding and center staple
[3]	Fold exit sensor (center folding/center staple position)	[4]	Paper path for tri-folding
[5]	Fold exit sensor (tri-folding position)	[6]	Paper transport drive belt
[7]	SD exit full sensor (PS135)	[8]	Exit tray full detection actuator

(b) Exit tray upper limit detection

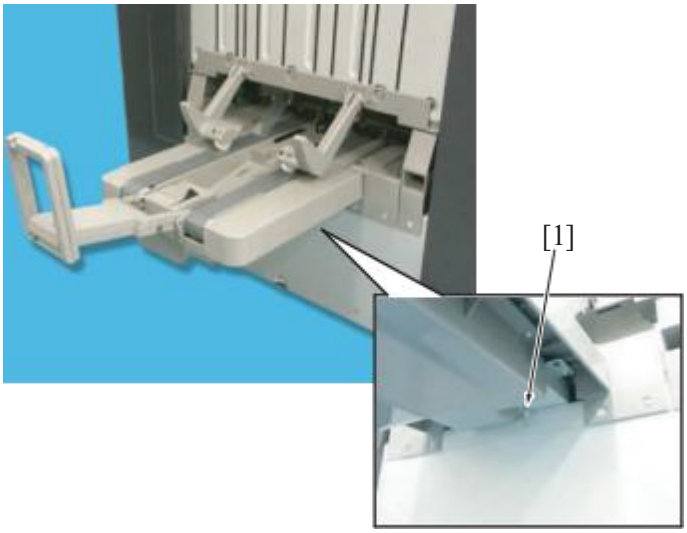
- The exit tray is equipped with an SD exit tray limit sensor to detect the load of paper in the exit tray.
- The counter starts after the SD exit tray limit sensor turns on. The finisher is stopped after the counter reaches a predetermined number, which functions as the exit tray upper limit.
- When the printing in different modes continues for some time, the mode that produces the smallest load amount is used to detect the upper limit.

(c) Paper transport belt forced drive mechanism

- Lift the leading edge of the exit tray, and thus the paper transport drive belt can be manually driven. This operation will cause the paper in the exit port to move to the leading edge of the exit tray.
- The normal exit tray is secured with screws. Remove the single exit tray lock screw at the rear of the exit tray to lift this exit tray.



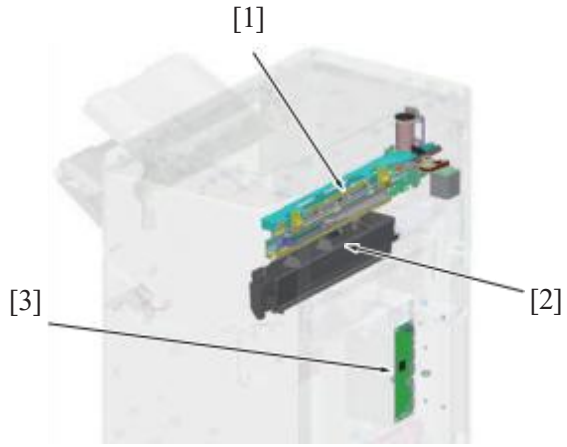
[1]	Exit tray normal position	[2]	Exit tray
[3]	SD exit tray lift sensor (PS143)	[4]	Exit tray lifting state



[1]	Exit tray lock screw	-	-

6.9 CPK-810XP

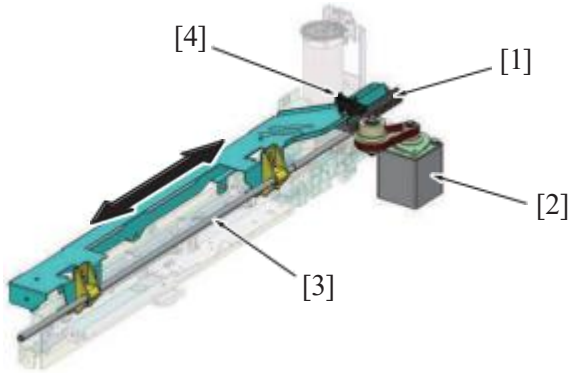
6.9.1 Configuration



[1]	Punch unit	[2]	Punch dust box
[3]	Punch control board (PKCB)	-	-

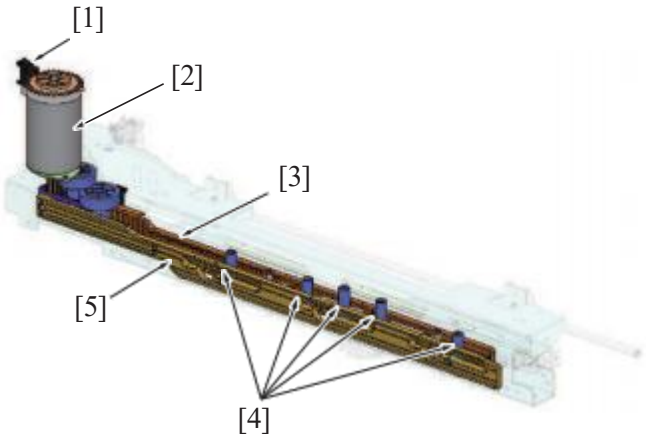
6.9.2 Drive

(1) Punch shift section



[1]	Punch oscillating assy gear	[2]	Punch oscillating motor (M302)
[3]	Punch oscillating assy moving shaft	[4]	Punch oscillating home sensor (PS303)

(2) Punch section

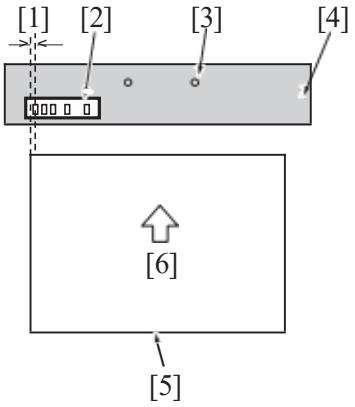


[1]	Punch motor sensor (PS306)	[2]	Punch drive motor (M301)
[3]	Punch blade drive guide 1	[4]	Punch blade
[5]	Punch blade drive guide 2	-	-

6.9.3 Punch standby position movement control

- When the power turns ON, the punch oscillating motor rotates until the punch oscillating home sensor turns ON to move the punch unit to the home position.
- When the punch mode is selected, one of the five sensors corresponding to the paper size detects the paper and moves the punch unit. After the job completes, the punch unit returns to the home position.
- If not use the punch mode, the punch oscillation section is driven to a predetermined position that will not cause a paper jam.

<Example: A4 size>

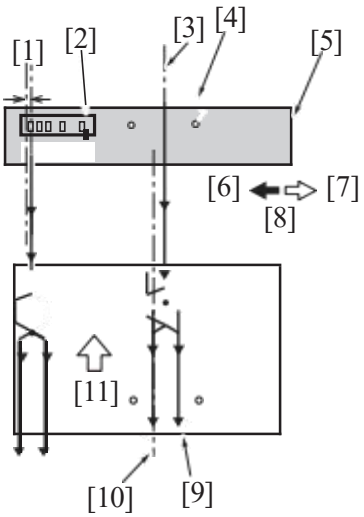


[1]	Distance of movement from the paper edge	[2]	Paper size detect board (PSDTB)
[3]	Punch blade	[4]	Punch unit
[5]	Paper	[6]	Direction of the paper transport

6.9.4 Punch position correction control

- The following procedure is used to correct the position of the punch unit that is positioned internally from the side edge of paper. So that, the center of paper can be punched at any time. By oscillation of the punch unit back and forth while paper is transported, the punch position correction is performed.
  - When a predetermined period of time has lapsed after the FNS entrance sensor detects the paper leading edge, the punch drive motor starts running. The punch unit moves from the front to the rear.
  - When the paper size detect board detects the side edge of paper and moves a predetermined distance, it will stop at the center of the paper. Thus the punch unit moves to the position.
  - After the punching operation, the punch unit moves to the standby position.

<Example: A4 size>



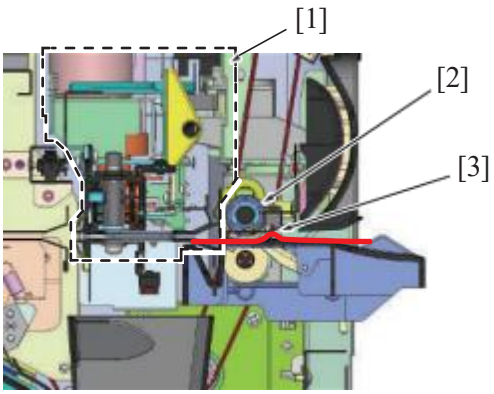
[1]	Side edge position	[2]	Paper size detect board (PSDTB)
[3]	Punch blade center	[4]	Punch blade
[5]	Punch unit	[6]	Front side
[7]	Rear side	[8]	Direction of punch unit movement

[9]	Paper	[10]	Center of paper
[11]	Paper transfer direction	-	-

6.9.5 Punch control

(1) Registration loop control

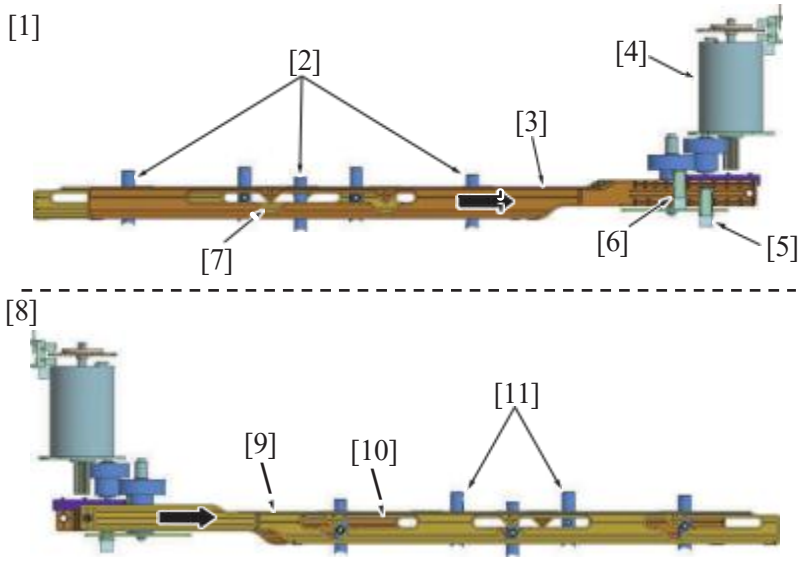
- The FNS entry transport motor (finisher section) is temporarily stopped at a predetermined time after the exit sensor of the main body detects the leading edge of the paper. Thus the paper is pressed against the FNS entry roller (finisher section) forming a loop to correct the bend. When the specified time has passed, the FNS entry transport motor turns ON to restart conveying the paper.



[1]	Punch kit	[2]	FNS entrance roller (finisher section)
[3]	Loop formation	-	-

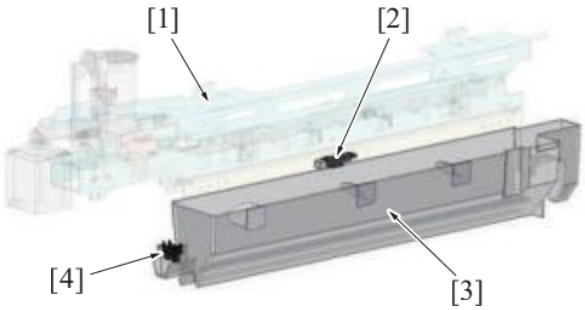
(2) Punch control

- Transmitting the start signal from the main body, the FNS entry transport motor (finisher section) rotates.
- In the punch mode, the FNS entry transport motor stops temporarily at a predetermined time after the FNS entrance sensor (finisher section) detects the trailing edge of the paper.
- At the same time, the punch drive motor is driven to move the punch blade drive guide 1 and 2 horizontally. The punch blade drive guide has slots to shift punch blades up and down. Punch blades moving down conduct the punch operation. The punch motor is stopped and the punch operation is completed when the punch position sensor turns ON.
- The FNS entry transport motor rotates again to convey the paper a specified period of time after it stops temporarily.



[1]	Right side view	[2]	Punch blade (for 3 holes)
[3]	Punch blade drive guide 1	[4]	Punch drive motor (M301)
[5]	Punch position sensor (PS307)	[6]	Punch home sensor (PS301)
[7]	Punch drive plate (for 2 holes)	[8]	Left side view
[9]	Punch blade drive guide 2	[10]	Punch drive plate (for 3 holes)
[11]	Punch blade (for 2 holes)	-	-

6.9.6 Punch dust box control



[1]	Punch kit	[2]	Punch hole scraps box full sensor (PS302)
[3]	Punch dust box	[4]	Punch scraps box set sensor (PS28: finisher section)

(1) Punch scraps box full sensor

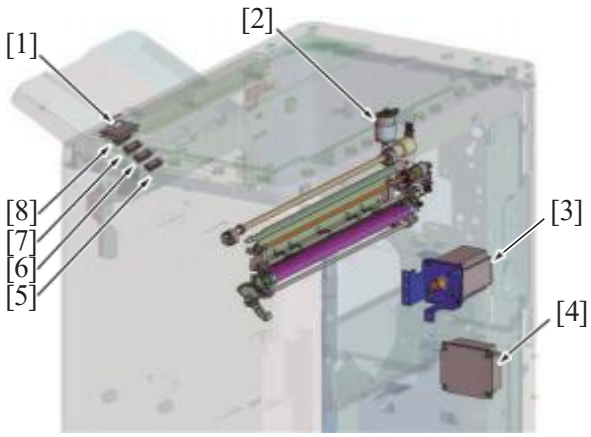
- Punch dust produced by the punch operation drops into the punch dust box. When the punch dust box becomes full of punch dust, the punch hole scraps box full sensor turns on. So, the punch dust box full information is sent to the main body.

(2) Punch scraps box detection

- The punch scraps box set sensor detects the punch dust box set state. When the punch dust box is not located, the punch scraps box set sensor turns on and sends the no punch dust box information to the main body.

6.10 CPK-810Z

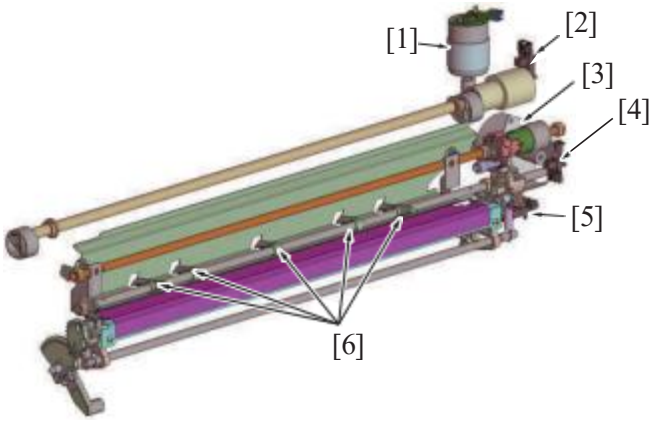
6.10.1 Configuration



[1]	ZU relay board (ZURB)	[2]	Pressure motor (M502)
[3]	ZU transport motor (M500)	[4]	ZU drive board (ZUDB)
[5]	Upper limit sensor/4 (PS506)	[6]	Upper limit sensor/3 (PS505)
[7]	Upper limit sensor/2 (PS504)	[8]	Upper limit sensor/1 (PS503)

6.10.2 Drive

(1) 2nd folding

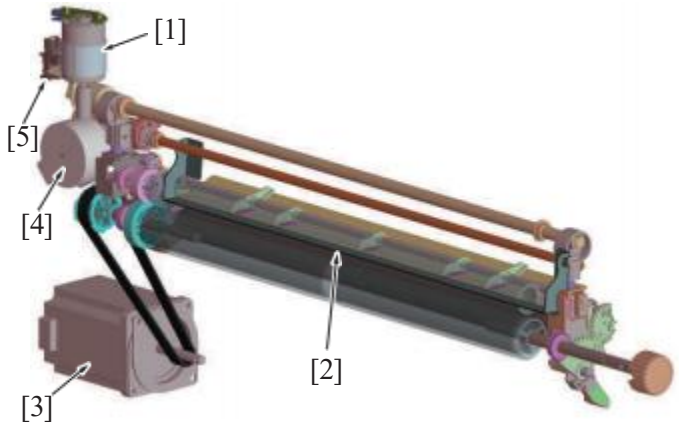


[1]	Pressure motor (M502)	[2]	Pressure cam home sensor (PS502)
[3]	Folding guide motor (M501)	[4]	Guide home sensor (PS500)
[5]	Chopper home sensor (PS501)	[6]	Folding claw

(2) 1st folding/transport

NOTE

- **The dedicated ZU transport motor is required for the finisher when the Z-folding unit is installed.**
- **At time of set-up, make sure to replace the ZU discharge motor that is attached to the finisher with the supplied ZU transport motor. However, it is not necessary to install the ZU transport motor if the post inserter is already installed.**

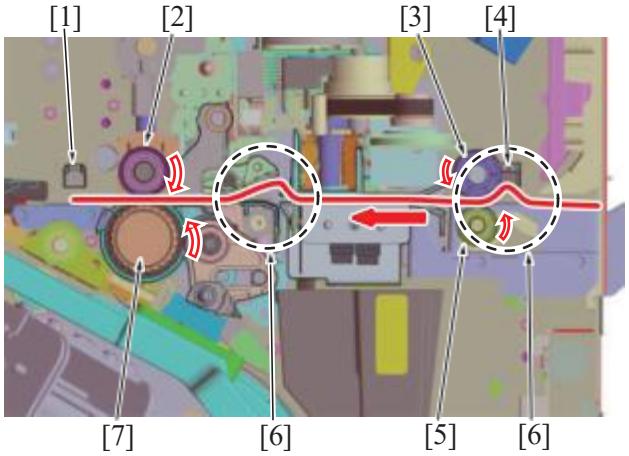


[1]	Pressure motor (M502)	[2]	Folding guide
[3]	ZU transport motor (M500)	[4]	Folding guide motor (M501)
[5]	Pressure cam home sensor (PS502)	-	-

6.10.3 2nd folding mechanism

(1) FNS middle sensor downstream from paper transport

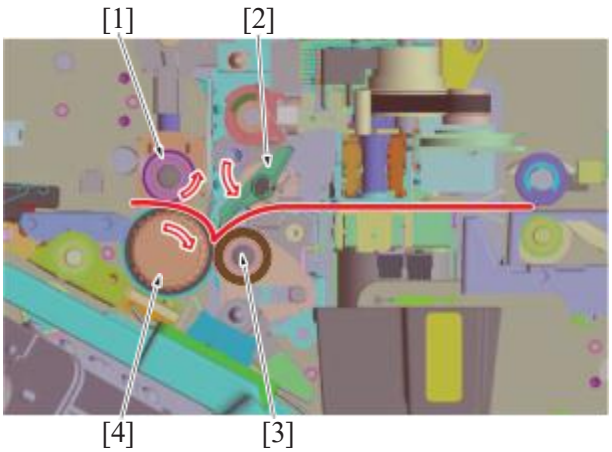
- To correct the skew of the transported paper, a loop is formed at the FNS entry roller and front of the transport roller. When a predetermined amount of time elapses after the paper passes the FNS entrance sensor, the transport roller is driven to transport paper.
- Paper that is transported to the finisher passes through the transport roller in the finisher and until it reaches the FNS middle sensor.
- The transport roller is temporarily stopped after the transport roller is rotated for specified times.



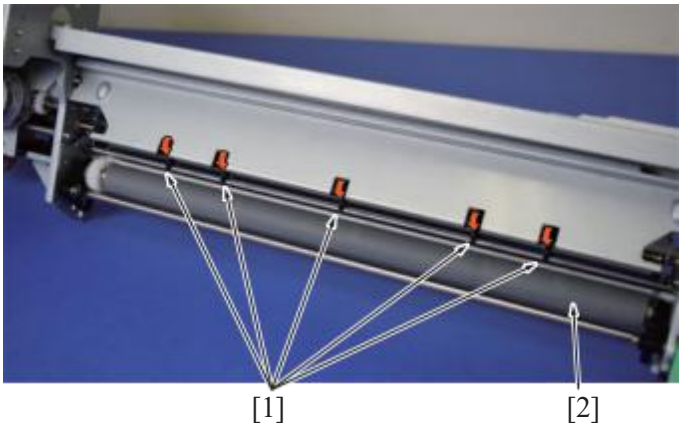
[1]	FNS middle sensor (PS36: finisher section)	[2]	Transport roller 1 (finisher section)
[3]	FNS entrance roller 1 (finisher section)	[4]	FNS entrance sensor (PS34) (finisher section)
[5]	FNS entrance roller 2 (finisher section)	[6]	Location of loop creation
[7]	Transport roller 2 (finisher section)	-	-

(2) 1st folding from the FNS middle sensor

- The folding guide motor drives to lower the folding clip and transport the paper downward.
- At the same time, the transport roller rotates in reverse to transport paper downward.
- The transport roller 2 and the Z-fold roller drive to fold paper that has been transported downward.



[1]	Transport roller 1 (finisher section)	[2]	Folding claw
[3]	Z-fold roller	[4]	Transport roller 2 (finisher section)

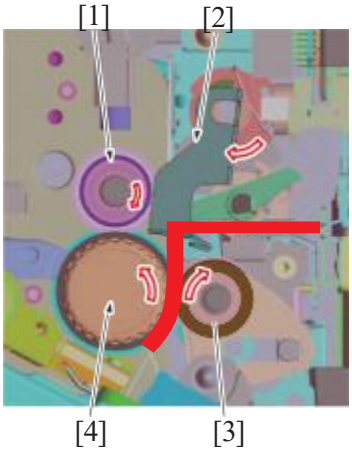


[1]	Folding claw	[2]	Z-fold roller

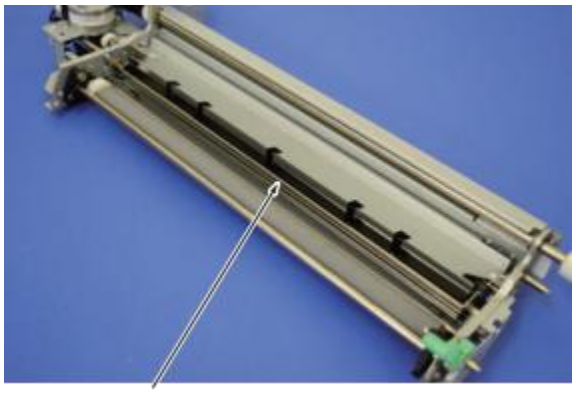
6.10.4 1st folding mechanism

(1) 1st folding

- 2nd folds are performed with the transport roller and folding guide.
- The folding guide drives to support the 2nd folding process. The 2nd folding is performed with the transport roller.



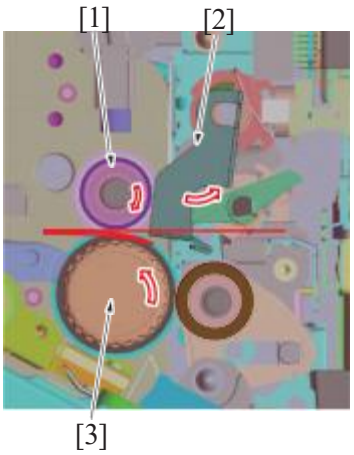
[1]	Transport roller 1 (finisher section)	[2]	Folding guide
[3]	Z-fold roller	[4]	Transport roller 2 (finisher section)



[1]	Folding guide	-	-

(2) Transport

- The Z-folded paper is transported to the finisher.
- When the Z-folded paper is transported, the folding guide returns to the home position at the same time.



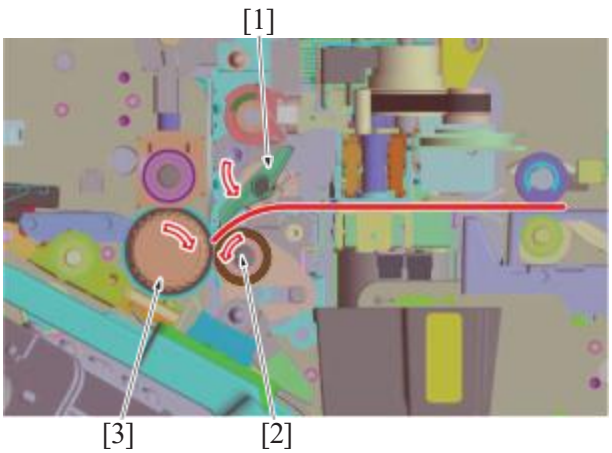
[1]	Transport roller 1 (finisher section)	[2]	Folding guide
[3]	Transport roller 2 (finisher section)	-	-

6.10.5 Double-folding mechanism

- A mechanism to double-fold paper for which a Z-fold cannot be performed is provided.
- When the paper has a size of $8^1/_2$x14, selecting Z-fold on the control panel will result in paper being double-folded instead of Z-folded.

(1) Transport roller downstream from the paper transport (Z-fold roller)

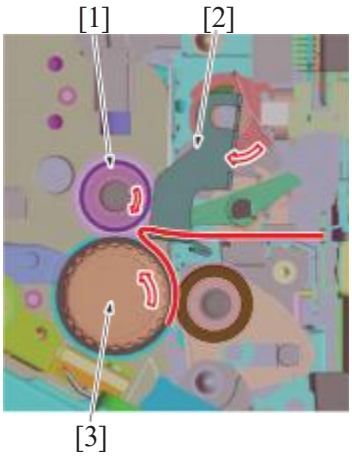
- When the double-fold operation starts, the folding guide motor is driven to lower the folding claw.
- Paper that is transported to the finisher is transported to the transport roller and Z-fold roller by the lowered folding claw.



[1]	Folding claw	[2]	Z-fold roller
[3]	Transport roller 2 (finisher section)	-	-

(2) Paper transport downstream from the double-fold section

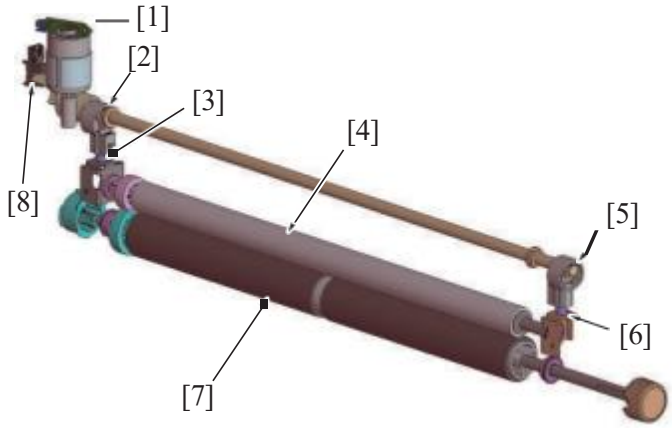
- Double-folding is performed with the transport roller and folding guide.
- The folding guide drives to support the double-folding process. The double-folding is performed with the transport roller.
- Control equivalent to that for the double-folding mechanism is performed.



[1]	Transport roller 1 (finisher section)	[2]	Folding guide
[3]	Transport roller 2 (finisher section)	-	-

6.10.6 Transport roller pressure change

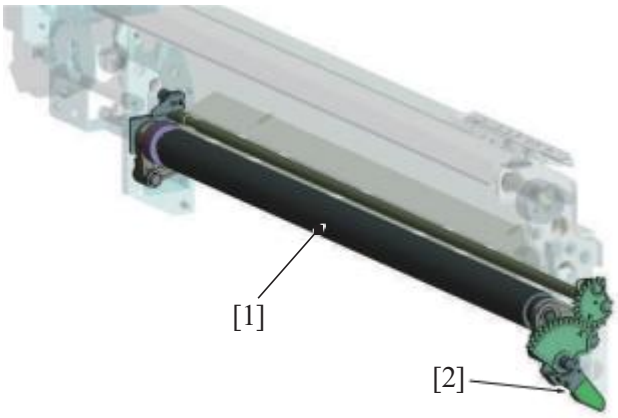
- The transport roller in the finisher transports paper during the Z-fold process. In this scenario, the normal transport roller pressure may be too weak to produce folds reliably.
- The transport roller pressure can be changed to enable reliable production of folds.
- Rotation of the pressure cam that is installed in the Z-fold unit moves the transport roller 1 vertically. This movement changes the transport roller pressure via the pressure spring.
- The pressure motor drives the pressure cam. The press home sensor controls the position of the pressure cam.



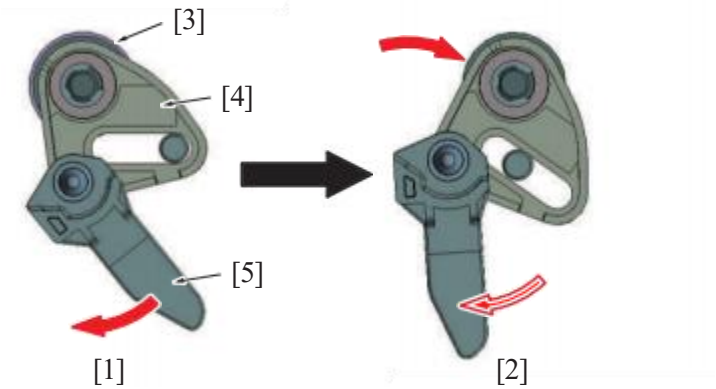
[1]	Pressure motor (M502)	[2]	Pressure cam/Rr
[3]	Pressure spring/Rr	[4]	Transport roller 1 (finisher section)
[5]	Pressure cam/Fr	[6]	Pressure spring/Fr
[7]	Transport roller 2 (finisher)	[8]	Pressure cam home sensor (PS502)

6.10.7 Z-fold pressure release mechanism

- A Z-fold roller pressure release mechanism is provided to enable the removal of jams in the Z-fold unit.
- Operation of the pressure release lever rotates the cam is rotated, and thus releases the Z-fold roller from the transport roller 2 in the finisher.



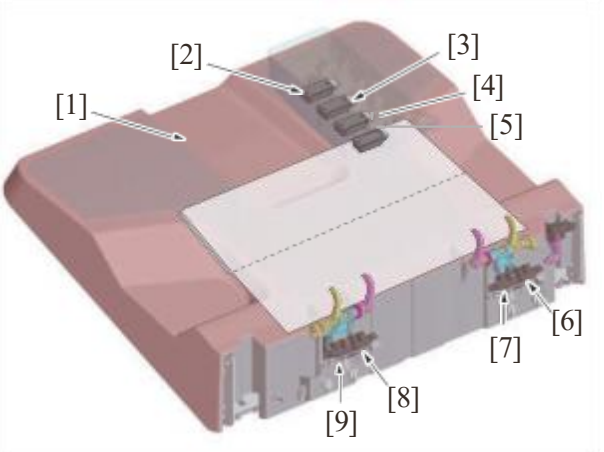
[1]	Z-fold roller	[2]	Pressure release lever

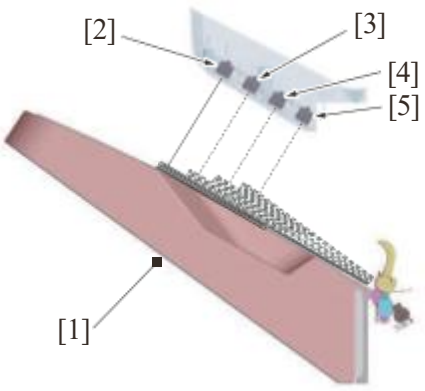


[1]	Before release	[2]	After release
[3]	Z-fold roller	[4]	Pressure release cam
[5]	Pressure release lever	-	-

6.10.8 Z-fold paper detection

- The upper limit sensor detects the Z-folded paper.
- When paper is discharged from the Z-fold section, the thickness of paper is different at the leading edge and trailing edge. The main tray upper sensor in the finisher cannot detect the Z-folded area. For this reason, the Z-folding upper limit sensor detects paper thickness (height).
- The main tray is lowered in accordance with the paper thickness (height).
- The upper limit sensor only makes detections for paper that is discharged from the Z-fold section. For normal paper discharge scenarios (including staple and punch operations), the finisher main tray upper sensor detects paper for the main tray.
- Four sensors are installed in the upper limit sensor, and the thickness (height) of the paper can be detected depending on the paper size.





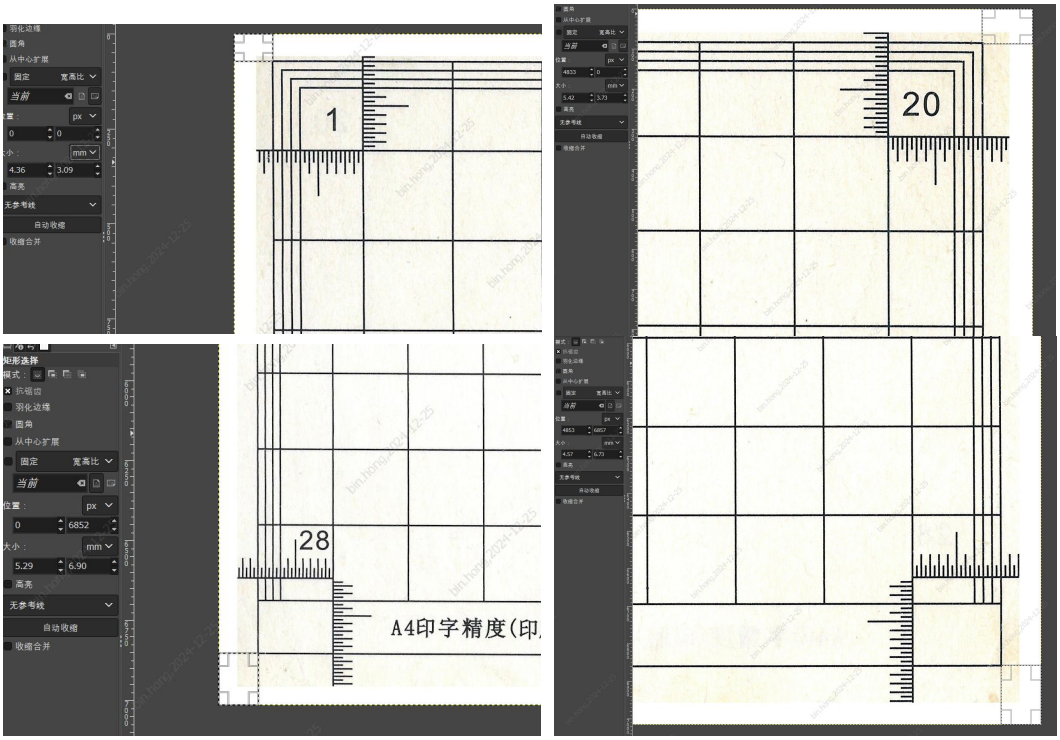
[1]	Main tray	[2]	Upper limit sensor/1 (PS503)
[3]	Upper limit sensor/2 (PS504)	[4]	Upper limit sensor/3 (PS505)
[5]	Upper limit sensor/4 (PS506)	[6]	Main tray lift up detection sensor/Rr (PS17: finisher section)

[7]	Main tray lift down detection sensor/Rr (PS15: finisher section)	[8]	Main tray lift down detection sensor/Fr (PS14: finisher section)
[9]	Main tray lift up detection sensor/Fr (PS16: finisher section)	-	-

Appendix1: Method for Adjusting Scanning Image Offset

FB Adjustment Method

1. On the panel, click sequentially: Security Management (password required) → Maintenance Mode (password required, default password: **36) → Scanner Diagnostics → Scanner Manual Alignment. Record the current settings (to facilitate subsequent calculation of calibration values, all values can be set to 0) and restart the machine.
2. Prepare a standard A4 grid paper original for printing.
3. Place the original from step 2 on the FB platen and initiate an A4 600 DPI scan to obtain the image.
4. Use image software (such as PS or the open-source GIMP) to measure the data and set the calibration values.



Measure the distances from the four corner points to the edges and organize them into the following table:

Top-Left Corner Distance to Top Edge	Top-Left Corner Distance to Left Edge	Top-Right Corner Distance to Top Edge	Top-Right Corner Distance to Right Edge	Bottom-Left Corner Distance to Bottom Edge	Bottom-Left Corner Distance to Left Edge	Bottom-Right Corner Distance to Bottom Edge	Bottom-Right Corner Distance to Right Edge	Top Margin	Left Margin	Bottom Margin	Right Margin	Vertical Magnification	Horizontal Magnification	Skew
LT	LL	RT	RR	LB	LL2	RB	RR2	(LT+RT)/2)	(LL+LL2)/2	(LB+RB)/2	(RR+RR2)/2	((297-top margin+bottom margin)/287-1)*1000	((210-left margin+right margin)/200-1)*1000	RR-RR2
3.09	4.36	3.73	5.42	6.9	5.29	6.73	4.57	3.41	4.825	6.815	4.995	-0.784	0.9	0.85

Since the distance between the grid boundaries and the edges of the original document is 5 mm, the adjustment value for the top margin can be calculated as -1.6 mm (a negative value indicates the image shifts downward, while a positive value shifts it upward; each adjustment of 1 step represents an offset of 0.1 mm). The adjustment value for the left margin is -0.2 mm (a negative value indicates the image shifts to the right, while a positive value shifts it to the left; each adjustment of 1 step represents an offset of 0.1 mm). The adjustment value for FB vertical magnification is 1 (a value less than 0 reduces the vertical size, while a value greater than 0 enlarges it; each adjustment of 1 step represents a magnification or reduction of 0.001 times). The adjustment value for FB horizontal magnification is -1 (a value less than 0 reduces the horizontal size, while a value greater than 0 enlarges it; each adjustment of 1 step represents a magnification or reduction of 0.001 times). Finally, based on the table above, calculate the values to be set on the panel (note: the table below shows the calibration values when the current settings are all 0; if the current settings are non-zero, the current values must be added):

FB top margin	FB left margin	FB Vertical Magnification	FB Horizontal Magnification
-16	-2	1	-1

5.Restart the machine and capture the image again to verify whether the image is centered. If it is not yet perfectly centered, return to step 3 to continue adjustments.

ADF Adjustment Method

1. The margin adjustment method for the ADF is the same as that for the FB. However, note that the adjustment direction for the left margin is opposite to that of the FB (for ADF: a positive value shifts the image to the right; for FB: a negative value shifts the image to the right). The meanings of the settings displayed on the panel are as follows:

Sub-scan 1 - Side	Sub-scan 2 - Side	Main Scan (Front)	Main Scan (Back)	Original Document Scaling	Back Side Paper Orientation Scaling
Front Top Margin	Back Top Margin	Front Left Margin	Back Left Margin	Front Vertical Magnification	Back Vertical Magnification

2. The adjustment range for ADF skew is -5 to +5. For a normal machine (regardless of the current parameter setting), the skew amount of the scanned image (refer to FB adjustment method Step 4 for measuring the skew amount) should fall within the range of [-0.4mm, 0.4mm]. If it exceeds this range, please first check whether the original document was placed correctly in the ADF.

The exact relationship between changing one unit in the interface and the corresponding adjustment in the skew amount is unknown (it is likely machine-dependent). Only the adjustment direction is known: increasing the value rotates the image clockwise (reducing the top-right margin, increasing the bottom-right margin), while decreasing the value rotates the image counterclockwise (increasing the top-right margin, reducing the bottom-right margin).

Due to the inherently small values involved, multiple measurements should be taken and averaged. The skew is considered properly adjusted when, at a specific setting, some images show a positive skew amount while others show a negative skew amount.

Appendix 2: Precautions for Data Board Replacement

After replacing the data board spare part, it is necessary to enter maintenance mode to restore the data. The procedure is as follows:
Enter Maintenance Mode (default password: **36), then navigate sequentially: Machine → Scanner Diagnostics → ADF Parameter Settings → Save Data.